2025 Windrose Technology Inc Maintenance Manual

This maintenance manual provides Windrose information on the specifications, diagnostics, circuits, repairs, and maintenance services.

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1.1 How to Use This Manual

1.1.1 General Description

1.1.1.1 Overview

The Service Manual for WH12 Series Vehicles is developed to ensure that the maintenance technicians can gain a comprehensive understanding of Windrose commercial vehicles, and maintenance technicians' vehicle identification and maintenance abilities can be enhanced. This manual introduces the maintenance and repair of Windrose commercial vehicles in a systematic manner, especially the common fault phenomena, fault detection methods, removal and installation steps, technical requirements of maintenance, etc. of the powertrain, chassis, frame and body interiors and exteriors.

Please carefully read this manual when maintaining the Windrose commercial vehicles. You should be familiar with the performance and principles of the vehicles, and perform maintenance following the steps and standards described in this manual to ensure the safety and effectiveness of the maintenance.

Windrose will provide updates and revisions to this manual as needed.Your suggestions and corrections would be appreciated.

Keep in mind that the information in this manual may differ from the actual situation as Windrose commercial vehicles have been improved continuously.

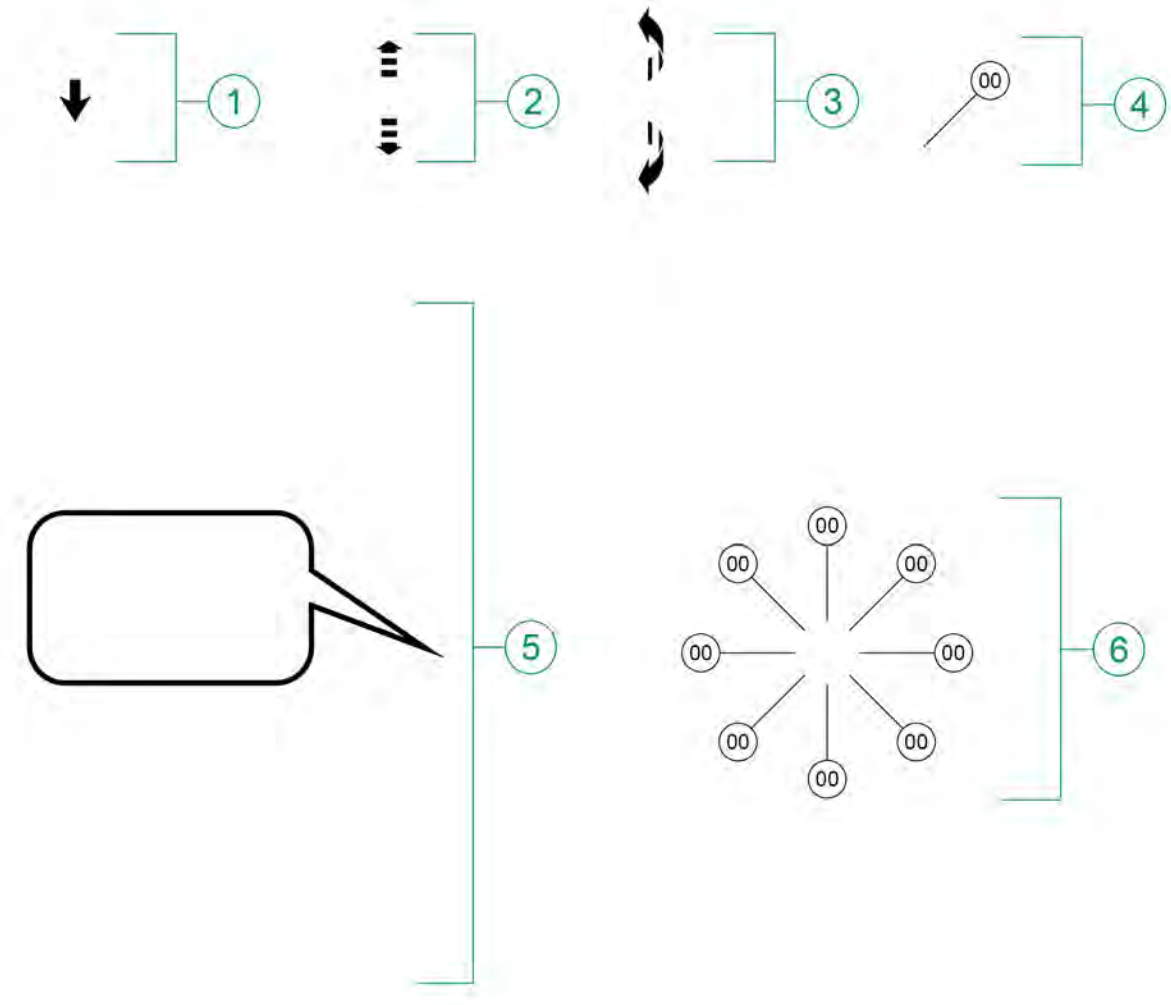
1.1.2 Maintenance Information Instructions

1.1.2.1 Definition of Abbreviations Used in the Manual

English abbreviation	Description
IP	Instrument panel
BTMS	Battery thermal management system
CMS	Camera monitor system
VTDR	Vehicle traveling data recorder
T-GW	TBOX and gateway
SSM	Sleeper switch module
GSM	Gear shift module
DCM	Door control module
AVAS	Acoustic vehicle alerting system
UDS	Unified diagnostic service
TPMS	Tire pressure monitoring system
TESD	Tire emergency safety device
TWI	Tire wear indicator
ACC	Adaptive cruise control
AEB	Automatic emergency braking
LKA	Lane keeping assist
LCC	Lane centering control
LDW	Lane departure warning
BSD	Blind spot detection
DOW	Door open warning
TSR	Traffic sign recognition
CSW	Curve speed warning
IHBC	Intelligent high beam control
EHPS	Electro-hydraulic power steering
ABS	Anti-lock braking system
EBD	Electronic brake force distribution
ESC	Electronic stability control
EBS	Electronic braking system
HSA	Hill-start assist
ASR	Acceleration slip regulation
EPB	Electronic parking brake
ECAS	Electronically controlled air suspension
CDC	Cockpit domain control unit
BDCU	Body domain control unit
NFC	NFC antenna (card swipe)
AR-HUD	Augmented reality head-up display

English abbreviation	Description
IVI	In-vehicle infotainment
CAR	Car control screen
IPC	Instrument panel cluster
PWC	Phone wireless charging
DMS	Driver monitoring system
ESCL	Electronic steering column lock
SJB_UP	Body Intelligent Power Distribution Box
SJB_UN	Chassis Intelligent Power Distribution Box
IBS	Intelligent battery sensor
NCM	Ternary lithium battery
LFP	Lithium iron phosphate battery
VDC	Power Domain Controller
MCU	Electric Drive Axle Control Unit
TCU	Transmission Control Unit

1.1.2.2 Description of Arrow Symbols Used in This Manual



Legend

1. Indication arrow
2. Moving direction arrow
3. Rotation direction arrow
4. Part number notation
5. Partial enlargement frame
6. Fastener removal and installation sequence notation

1.2 Identification Information

1.2.1 Vehicle Identification Number

1.2.1.1 Vehicle Identification

Printing position of vehicle identification number (VIN)

The vehicle identification number (VIN) is engraved near the centerline of the front axle at the outer side of the frame right side member.



1.2.1.2 VIN Deciphering

Composition of Vehicle VIN Deciphering:

The VIN deciphering is made up of World Manufacturer Identifier（WMI）、Vehicle Description Section（VDS）、Check Digit（CD）and the Vehicle Indicator Section（VIS）is composed of four parts (17 digits in total).

Taking the Vehicle Identification Number 1W94RBCD8RR698001 as an example, the meaning represented by each digit is shown in the following table:

Position	Definition	Character	Explain
1-3	World Manufacturer Identifier	1W9	Windrose Technology Inc
4-8	Vehicle Description Section	4RBCD	Vehicle Configuration
9	Check Digit	8	Check Digit
10	Model Year	R	The Year 2024
11	Plant of Manufacture	R	Windrose Technology Inc
12-14	WMI	698	Assigned by SAE
15-17	Sequentially Assigned	001	Serial Number

1st~3rd Digit- World Manufacturer Identifier（WMI）

The first section (1st-3rd digit) of the vehicle identification number, where:

1W9——Windrose Technology Inc.

4st~8rd Digit- Vehicle Description Section

There are three types in total,Respectively4RBCD、4RBCF、4RACC,The explanations are as shown in the following table:

Positions 4 -8	4RBCD	4RBCF	4RACC
Make	Windrose Technology	Windrose Technology	Windrose Technology
Line or model	Tractor	Tractor	Tractor

Positions 4 -8	4RBCD	4RBCF	4RACC
series	5325	5325	5325
Engine Type	780kW，peak power	1040kW，peak power	520kW，peak power
GVWR Class	8	8	8
8=Greater than 14968 kg. (33,001 lbs. and over)			
Chassis	3 Axles	3 Axles	2 Axles
Cab Type	Sleeper Cab	Sleeper Cab	Sleeper Cab
Brake System	Air braking system	Air braking system	Air braking system

9th Digit - Check Digit

This digit is calculated by the manufacturer based on the remaining 16-digit code via a certain formula; It may be a number from 0 to 9 or letter "X",to verify the authenticity of the VIN, so as to ensure the uniqueness and validity of the VIN.

10th Digit- Model Year

Indicate the year.

Year	Code	Year	Code	Year	Code	Year	Code
2005	5	2014	E	2023	P	2032	2
2006	6	2015	F	2024	R	2033	3
2007	7	2016	G	2025	S	2034	4
2008	8	2017	H	2026	T	2035	5
2009	9	2018	J	2027	V	2036	6
2010	A	2019	K	2028	W	2037	7
2011	B	2020	L	2029	X	2038	8
2012	C	2021	M	2030	Y	2039	9
2013	D	2022	N	2031	1		

11th Digit- Plant of Manufacture

Indicate the assembly plant.

Code	Assembly Plant
R	Windrose Technology Inc

12st~14rd Digit- WMI

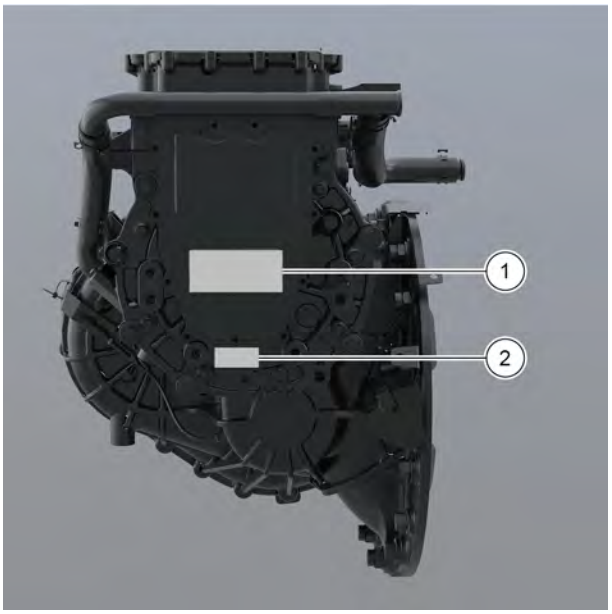
698,Assigned by SAE。

15st~17rd Digit- Sequentially Assigned

A 3-digit number to indicate the production sequence number of the vehicle.

1.2.1.3 Motor Nameplate Identification

Nameplate Location and Content



1. Location of motor nameplate

2. Location of motor SN

1.2.1.4 Vehicle Environmental Sign, Nameplate and VIN

Vehicle Nameplate

1. The nameplate is located on the right sliding door frame (C-pillar) of the vehicle.

2. The nameplate bears the full name of the manufacturer, the date of manufacture, the vehicle identification number (VIN), the maximum allowable gross mass of the fully loaded vehicle, the vehicle type, the axle load, the tire model, the rim size, the tire pressure, and the statement.



Vehicle Emission Control Information (VECI) Label

1. The vehicle emission control information (VECI) label is affixed to the right sliding door frame (C-pillar) of the vehicle.

2. The vehicle emission control information (VECI) label contains the title, full name of the manufacturer, trademark, date of manufacture, emission control system, maximum allowable gross mass of the fully loaded vehicle, vehicle family name, vehicle category and statement.



Zero-emission Power label

1. The zero-emission power label is located on the right sliding door frame (C-pillar) of the vehicle.

2. The zero-emission power label includes the title, name of manufacturer, trademark, date of manufacture, powertrain family name, model code and statement.



1.3 Vehicle Specifications

1.3.1 Specifications

1.3.1.1 Vehicle Appearance Dimension and Information

Vehicle Appearance Diagram



Parameter Name/Model			Parameter
Mass of vehicle with NCM 3 motor (lbs)			23,700
Mass of vehicle with LFP 3 motor (lbs)			26,092
Gross mass of NCM 3 motor (lbs)			55,116
Gross mass of LFP 3 motor (lbs)			55,116
Axle load distribution	No load	NCM 3 motor front/ intermediate and rear axle (lbs)	11,244/12,456
		LFP 3 motor front/ intermediate and rear axle (lbs)	12,236/13,856

Parameter Name/Model			Parameter
	Full load	NCM 3 motor front/ intermediate and rear axle (lbs)	15,432/39,683
		LFP 3 motor front/ intermediate and rear axle (lbs)	15,432/39,683
Seating capacity (person)			2
Outline dimension		Length (in)	318.9
		Width (in)	88.39
		Height (in)	154.9
Wheelbase (in)			183+51
Tread		Wheel (in)	80/74/74
Minimum ground clearance (full load) (in)			9.25
Minimum turning diameter (by center of front outer wheel trajectory) (ft)			64
Vehicle passing angle (full load)		Approach angle (°)	18
		Departure angle (°)	26
Maximum speed (full load, on level, well-maintained road) (mph)			75
Maximum gradeability (driving at constant speed on fully loaded, dry, hard road) (%)			3 motor 25; 4 motor 30
Parking slope (full load, forward & reverse directions) (%)			12
Maximum driving range (miles)			416
Exterior noise of accelerating vehicle (dB(A))			20 mph 73.9dBA, 25 mph 73.3dBA, 30 mph 75.5dBA

1.4 Lift the Vehicle

1.4.1 Description and Operation

1.4.1.1 Vehicle Lifting and Jacking

Note the Condition of Vehicle When jacking

1. Principle: Be sure to jack the vehicle in no-load state; Never jack the vehicle in loaded state.
2. The center of gravity of the vehicle will shift after removal of drive motor, high voltage battery box and other heavier parts. Make sure the vehicle supported properly to prevent the vehicle from overturning.

Precautions for Using Jack and Jack Stands

1. Be sure to follow the instructions in this manual for safe operation.
2. Never attempt to lift the tire with a crowbar so as to avoid damaging the wheels and tires.
3. Park the vehicle on level road surface and pull the parking brake.
4. Be sure to block the wheel on the other end of the diagonal that connects this wheel with the jacking position.
5. Use a jack with a rubber pad to jack the vehicle.

caution

If required, after jacking the vehicle with a jack, support the vehicle using a jack stands with rubber pad.

1.5 Warning and Precautions

1.5.1 Warning and Precautions

1.5.1.1 Warnings and Precautions

Definitions of "Warning", "Caution" and "Tip"

"Warning", "Caution" and "Tip", both general and specific, are used for the diagnosis and repair procedures in this service manual. This manual, developed by Windrose, aims to provide repair information to help after-sales service technicians in diagnosis and repair of the systems so as to ensure normal operation of the vehicle. However, certain procedures may pose danger to technicians if they do not operate using the methods recommended herein.

"Warning", "Caution", and "Tip" are given to prevent the above-mentioned dangers from happening, but not all dangers are foreseeable. This kind of information is prominently displayed in the service manual. This kind of information is prepared to avoid the following conditions:

– Serious injury to personnel.

– Vehicle damage.

– Unnecessary vehicle repairs.

– Unnecessary replacement of parts.

– Improper repair or replacement of vehicle components.

Definition of "Warning"

"Warning" indicates that you must or you are prohibited to take measures as necessary. If the "Warning" is ignored, the following consequences may occur:

– Serious injury to personnel.

– Serious personal injury to the driver and/or passengers in the vehicle, in case the vehicle is not repaired properly.

Definition of "Caution"

"Caution" indicates that you must pay special attention to necessary or prohibited measures. If "Caution" is ignored, the following consequences may occur:

– Vehicle damage.

– Unnecessary vehicle repairs.

– Unnecessary replacement of parts.

– Abnormal operation or performance of the maintained systems or components.

– Damage to related systems or parts.

– Damage to fasteners, basic tools or special tools.

– Leakage of coolant, lubricant or other major fluids.

Definition of "Tip"

"Tip" states or emphasizes the necessity of employing diagnosis or repair procedures, aiming to:

– Define procedures.

– Provide additional information for completing a procedure.

– Describe the reason for operation as per the recommended procedures.

– Provide information that facilitate the completion of the procedures in a more efficient manner.

– Provide technicians with previous experiences to make the procedure easier.

Precautions for Charging

warning !

1. High voltage and large current may be induced in the high voltage system during charging. Please strictly follow the operation procedures, otherwise there may be risk of electric shock. Read throughout the charging section carefully before charging.
2. If you have been implanted with a pacemaker or cardiovascular defibrillator, note the following while charging:
   - Do not stay in the vehicle;
   - Do not enter the vehicle.
3. Before charging, check the skin and shell of the charging cable are damaged; If so, please contact the authorized dealer of the vehicle for repair or replacement. use damaged charging cables.
4. minors are prohibited to use the charging plug because it is a high voltage electrical device. minors are prohibited to operate during charging.
5. Make sure the charging port and charging plug are free of water, other debris, rust or corrosion. If there is water or rust on the charging port or charging plug, do not charge avoid short circuit or electric shock, or even death.
6. Keep the power supply equipment, the vehicle to be charged, the charging cable and the charging plug away from rain, snow and water. Do not place them close to the fire source.
7. If there is moisture near the charging port during charging, disconnect the power supply and then the plug at the power supply end while ensuring safety (do not touch the metal sheet of the charging plug with your hands or other body parts, so as not to cause safety accidents in case the charging system is faulty),unplug charging plug at the vehicle end. Wear insulating gloves if necessary, and contact the authorized dealer of the vehicle as soon as possible for testing and confirmation.
8. If the vehicle has been exposed to wet conditions before charging, please dry the body near the charging port before opening the charging port for charging. Make sure there is no residual moisture in the charging socket and its vicinity.
9. When the charging system is working, do not use the charging device in an environment where gasoline, coatings and flammable items are used or stored, as sparks may be generated in the charging system.
10. Please keep the charging port dry and clean during charging, and take corresponding measures if necessary.
11. In case the weather changes (strong wind, rain or snow) abruptly during charging, check the charging plug is secure and dry; do not touch the charging cable and the body when encountering lightning.
12. Corresponding protective measures should be taken during minors. Children and other non-related personnel should be prevented from approaching the charging vehicle and charging cable as much as possible.
13. When charging, do not squeeze the charging cable to avoid electric shock or fire.
14. When charging, do not place the charging cable in the vehicle.
15. When charging, the charging cable must be kept away from fire source.
16. Note the following when charging:
   - Do not touch the metal part of the charging port and charging plug;
   - Do not touch the electric vehicle and any devices if electric sparks appear in an electric vehicle or on-board charger. Failure to do so will result in an electric shock, or even cause death or injury.
17. The ambient temperature of the vehicle is recommended to be 32*F - 95*F during charging of the vehicle. Do not charge the vehicle under low or high temperatures(it is not recommended to charge the vehicle out these parameters).
18. Do not charge the vehicle under direct sunlight and other high temperature environment in summer.
19. During charging, make sure the charging cable extends in a natural manner and do not hang the charging cable in the air.
20. When any unusual smell or smoke is detected on the vehicle, immediately disconnect the power supply in a safe manner.
21. Do not plug and unplug the charging plug with wet hands or standing in places with water, liquid, and snow. This may result in serious injury or death.
22. When removing the charging plug, you should hold the insulating part of the plug, Do not drag or pull the charging cable.
23. Do not remove or modify the charging port without permission.
24. Please read the operation manual on the charging equipment carefully before fast charging, and make sure

the fast charging plug is connected and locked. Failure to do so will cause malfunction of the vehicle or charging equipment.

25. Minors are prohibited from charging the vehicle.

26. Do not plug and unplug the fast charging plug without permission during charging.

27. Charging or stop of charging should be performed in strict accordance with the operating procedures indicated on the DC charging instructions.

28. If smoke or unusual odors are detected at the charging port or abnormality is found inside of the vehicle, you should press the emergency stop button on the DC charging pile in time to stop charging, evacuate the personnel around the vehicle and follow the on-site procedures.

29. Before fast charging, check for any debris, dust, water, etc. inside the fast charging socket (including the jack). If any, do not charge. Remove debris and dust inside the fast charging socket (including the jack) and dry the socket. The charging cannot proceed until the charging socket is made clean and dry.

30. Before fast charging, check the fast charging socket jack is damaged, ablated or discolored. In case any of the above phenomena is found, do not charge and contact an authorized dealer.

31. To prevent the charging system from malfunctioning, please note the following:

– Close the protective cover of the vehicle charging socket and then the charging port cover;

– Avoid collisions with the charging plug;

– Avoid crushing the charging cable;

– Do not pull or entangle the charging cable;

– Do not place the charging cable near a heat sources.

32. After charging is completed, close the charging socket protective cover and the charging port cover.

33. Before starting the vehicle, make sure the charging plug is removed from the charging port.

34. As the fast charging plug is heavy, you should plug and unplug vertically as carefully as possible to prevent damage to the vehicle or the charging equipment.

35. The charging may stop if you accidentally touch the fast charging plug button during fast charging. When this occurs, you need to pull out the charging plug and recharge.

Precautions for Maintenance Safety

warning !

1. The maintenance personnel should have received training on high voltage safety and passed relevant Courses by Windrose or an authorized partner.

2. The maintenance operator should not wear metal jewelry, such as watches and rings, and should not have metal objects in the pockets of work clothes, such as keys, metal shell pens, mobile phones, and coins.

3. The maintenance should be carried out in a dry environment by personnel who are kept dry as well.

4. The maintenance technician should ensure facilities and tools are in good condition, prior to starting work.

5. At least two people should be present when carrying out maintenance on the high voltage system of the vehicle. They can provide proper safety procedures and provide first aid and contact authorities if an incedent occurs.

6. Random access to high voltage components on the vehicle is not allowed in non-assembly or non-repair period.

7. Do not carry out maintenance in an environment with explosive, flammable, corrosive gases, steam, etc. Otherwise, it may cause fire, explosion and other accidents.

8. When maintaining the all-in-one controller, it must stop running, the low voltage power supply must be disconnected, and the high voltage must be cut off after 10 minutes (when the capacitor discharge of the MCU and between the positive and negative power supplies of other high voltage load end finishes). Otherwise it may cause personal injury.

9. The mounting bolts and lead connecting bolts must be tightened to appropriate torque. Otherwise, the MCU may face abnormality in use, causing personal injury and equipment damage.

10. If an abnormality is found in the vehicle when it is re-inspected after maintenance, stop operation in time and check the equipment. Otherwise, it may impose a risk of personnel injury or equipment damage.

11. When parking or storing the vehicle is to be maintained and under maintenance, keep away from environments.

Warning for Vehicle Lifting

warning !

To avoid vehicle damage, serious personal injury, and even death, when disassembling main components from the vehicle and supporting the vehicle with a lift, a jack stand shall be used to support the vehicle at the position where the component is to be removed.

Warning for Handling Anti-lock Braking System Components

warning !

Certain parts of the ABS cannot be repaired alone, and attempting to remove or disconnect certain system parts may result in personal injury and/or improper system operation. Therefore, only components that are approved for removal and installation can be repaired.

Warning for Equipment Permitted for Repair After Collision

warning !

To avoid personal injury from exposure to toxic fumes generated in (zinc oxide) metal arc welding or plating when grinding/cutting any type of metal or sheet moulded parts, it is essential to work in a well-ventilated area and wear approved respirators, goggles, earplugs, welder gloves and protective clothing.

Lock Out Tag Out

warning !

When a technician is inspecting the reported faulty condition, the vehicle shall be locked out and tagged out by the repairing technician and may not be operated.

Warning for Disconnecting Battery

warning !

Before repairing any electrical components, confirm that the power supply of the start switch is in "OFF" mode, and all electrical loads are "OFF (turned off)" unless otherwise stated in the operating procedures. If tools or equipment can easily contact exposed live electrical terminals, disconnect the battery negative cable. Failure to follow of these safety instructions may result in personal injury and/or damage to the vehicle and vehicle components.

Warning for Brake Dust

warning !

The following operations are not permitted when the wheel brake components are repaired:

- Cleaning of the wheel brake components with dry brush or compressed air.

warning !

Certain models or after-sales brake components added may contain fibers which may be mixed in the dust and once inhaled will seriously damage human body. The dust accumulated on the brake components must be removed using a damp cloth.

Warning for Replacement of Brake Air Pipe

warning !

Install and fix the brake air pipe with care during replacement, and be sure to use the correct fasteners, otherwise the brake air pipe and the brake system may be damaged and thus cause personal injury.

Warning for Inhalation of R-134a

warning !

Do not inhale A/C refrigerant R-134a and lubricating oil vapour or mist, because they can irritate your eyes, nose and pharynx when exposed to them. Work in a well-ventilated area. When discharging R-134a from the A/C system, use repair equipment (R-134a recovery equipment) certified to meet the requirements of SAEJ2210. In the event of accidental fluid discharge in the system, the work area must be ventilated before repair works are continued. For additional information on health and safety, please contact the refrigerant and lubricant manufacturers.

Warning for Cracks on Windows

warning !

Follow the state and federal DOT guidelines for window damage and replacement.

Warning for Handling of Window and Metal Plate

warning !

When disposing any glass or metal plate with sharp edges or burrs, wear approved goggles and gloves so as to reduce the risk of personal injury.

Warning for Road Test

warning !

Test the vehicle on the road in accordance with traffic regulations while ensuring safety. Never try any operation that may endanger vehicle control. Violating the above safety instructions will cause serious personal injury and damage to the vehicle.

Precautions Regarding Removal of Exterior Label

caution

When removing labels/nameplates, use plastic flat-edged tools to avoid damage to paints.

Precautions Regarding Fasteners

caution

Please use appropriate fasteners at the correct position. The number of the component to replace the fastener must be correct. For fasteners that need to be replaced or the fasteners that require the use of thread-locking adhesives or sealant, it is particularly specified in the repair procedures that, paints, lubricants, or corrosion inhibitors shall not be applied on fasteners or fastener attachment surfaces, unless otherwise noted. The coatings may affect the torque and clamping force of the fastener, thus damaging the fastener. When installing fasteners, you must follow the correct tightening sequence and tightening torque to avoid damage to parts and systems.

Precautions Regarding Disposing Electrostatic Discharge Sensitive Components

caution

Electrostatic discharge (ESD) can damage many solid-state electrical components. Components that are susceptible to electrostatic discharge are not always marked with an electrostatic discharge symbol, hence you must take care when disposing electrical components. Please observe the following safety instructions to avoid damage from electrostatic discharge:

- Before repairing any electronic components, disconnect the power line, and touch a metal ground point to discharge static electricity in your body (especially after sliding on a vehicle seat).
- Do not touch the exposed terminals which may be connected to a circuit that can be easily damaged by electrostatic discharge.
- When repairing the connector, do not touch the exposed terminals with tools.
- Do not remove components from the protective casing unless required.
- The following operations are not allowed unless specifically required by diagnostic procedures:
  - axle or ground components or connectors.
  - Connect the test equipment probe to the component or the connector. When using the test probe, connect the ground lead at first.

Before opening the protective casing of the component, ground it first. Do not place solid components on a metal workbench or on top of a radio and other electrical equipment.

Precautions Regarding Avoiding Twist or Bend When Installing Hoses

caution

The inlet and outlet hoses shall not be twisted during the installation process, and the hoses shall not be bent or deformed to facilitate installation, otherwise components may be damaged.

Precautions Regarding Damage to Machined Surfaces

caution

Do not cut, scratch or damage the sealing surface. If the sealing surface is a machined surface, it may be damaged, resulting in leakage.

Precautions Regarding Power System Control Module and Electrostatic Discharge

caution

Do not touch the connector pins or welded components on the circuit board to prevent damage to the electronic control module on the vehicle as a result of electrostatic discharge.

Precautions Regarding Use of Scan Tool

caution

Before diagnosing the vehicle, you must pay attention to the following conditions, otherwise the control module may be damaged.

- The software version of the scan tool and terminals must be up to date.
- The vehicle battery must be fully charged with a voltage of 12-14V.
- The scan tool and terminal cables must be securely connected.
- When programming the control module, the battery charger must not be connected to the battery.

Precautions Regarding Steering Wheel in Steering Limit Position

caution

The steering wheel shall not be set to the steering limit position for more than 5s, otherwise the steering motor may be damaged.

Precautions Regarding Test Probe

caution

Do not insert test equipment probes (digital multimeter, etc.) into the harness connector or fuse box terminals. A majority of the terminals will be deformed as a result of the diameter of the test probes, leading to poor contact and system failure. Thus, special tools must be used to detect the terminals from the front. Never use a paper clip or other substitutes to detect the terminals.

caution

When using special tools to test the components, make sure that the selected terminal test adapter matches the size of the connector terminal. Do not choose the terminal test adapter visually, since the hole of certain connector terminals may be larger than the actual terminal in the hole. The use of large terminal test adapter can damage the terminals.

Precautions Regarding Damage to Edges of Windows

caution

To avoid damage to vehicle window due to impact of exposed edges, the window must be 1 mm (0.025 in.) lower than the sheet metal surface.

1.6 Health and Safety

1.6.1 Description and Operation

1.6.1.1 Note

A number of operations related to vehicle maintenance and repair are dangerous, and can affect personal safety or health. This section specifies partial of the relevant hazardous operations, materials and equipment, and corresponding safety regulations to avoid these hazards.

However, this section does not include all matters related to health and safety, therefore all operations and procedures as well as the disposing of materials shall be executed on the basis of ensuring safety and health. Before using any product, you should read the instructions for use of products provided by the manufacturer or supplier.

1.6.1.2 Acid and Alkali

The acid and alkali include corrosive sodium carbonate and sulfuric acid.

They are used for cleaning of batteries and other materials.

They can irritate or erode eyes, skin, sense of smell and throat, or burn human body and damage ordinary protective clothing.

In order to prevent acid or alkali from splashing onto your eyes, skin and clothing, you should wear suitable protective clothing, gloves and goggles. Also, you should not inhale relevant sprays.

Washing equipment, such as eye wash bottles, shower heads, and soap, shall be provided in the vicinity, so that you can use them immediately whenever a spill occurs. Warning marks indicating eye damage shall be placed at a conspicuous location.

1.6.1.3 A/C Refrigerant

If A/C refrigerant gets in your skin, it may cause frostbite.

The instructions provided by the manufacturer must be followed. Avoid exposed skin from directly contacting the refrigerant. You must wear appropriate goggles and protective gloves when operating.

If the refrigerant gets in your skin or eyes, immediately wash the affected area with water. Use suitable rinsing solution to wash your eyes. Do not rub, and seek medical assistance as needed.

A/C Refrigerant—Operations to be Avoided

Do not store refrigerant in a place exposed to sunlight or heat sources.

– When filling refrigerant, do not place the refrigerant bottles upright, and their valves shall be facing downward.

– Do not expose refrigerant bottles to frost and snow.

– Do not drop the refrigerant bottle.

– Under no circumstances should the refrigerant be discharged directly into the atmosphere.

– Do not mix refrigerants, such as R12 (dichlorodifluoromethane) and R-134a (tetrafluoroethane).

1.6.1.4 Adhesives and Sealants

Cautions Regarding the Use of Adhesive/Sealant

Before using the adhesive/sealant, you must clean the surface of the position to be applied with adhesive/sealant and wipe it with a special cleaning agent to ensure the bonding effect. Do not allow room temperature curing sealant to enter the blind threaded hole, otherwise a hydraulic locking effect will be generated from the fastener during tightening, causing damage to the fastener and other components and making it impossible to obtain the correct clamping force when the fastener is used for tightening. Under such circumstance, the sealing effect may be weakened, making it impossible for the fastener to play the role of tightening correctly. Then the components will be loosened or separated, which will cause serious damage to the parts.

Health & safety

The materials used in adhesives/sealants contain harmful substances. Long-term exposure to them can cause acute and chronic poisoning, occupational and skin diseases and other diseases. When applying adhesive/sealant, use a ventilation device to maintain ventilation in the workplace; Wear protective gloves, masks, protective clothing, etc. during operation. Wash your hands carefully after work, and keep the workplace clean, tidy, and sanitary.

– Waste adhesive/sealant or solvent-contaminated waste shall be removed in a timely manner and shall not be accumulated for a long time.

– Generally, the products shall be stored in a non-smoking area, and care shall be taken when using them. Use an applicator or container for construction as much as possible.

Repair by Adhesives/Sealants

Generally, in the event of a failure or accident, the vehicle body will be deformed, the steel plate will be cracked, and welding spots will be falling off. Sometimes, the chassis and other assembly components may be damaged locally, resulting in the falling off and destruction of certain adhesive/

sealant products. In the process of vehicle repair, adhesives with same performance shall be selected according to the material and functional requirements of the components. The adhesives/sealants that can be used in the process of vehicle repair are listed below.

Body Repair

If adhesives applied on the vehicle body fall off or are cracked as a result of deformation or cracking of body interior trims and steel plates, during the repair process, the positions applied with adhesives shall be made up with new adhesives.

– First you should remove the adhesives on the surface of the body using a knife, and the remaining adhesives can be wiped with alcohol;

– Use a special cleaning agent to wipe the area applied with adhesives so that no impurities such as residual adhesive is kept on the surface applied with adhesives.

– Then apply repair adhesive on the original position that is applied with adhesives to ensure the effect of bonding and sealing.

Parts Repair

If certain interior trim parts and other positions are damaged, repair shall be carried out through bonding and sealing. Before applying the sealant, clean the bonding surface so that the bonding effect will not be affected by burrs and cracks.

1.6.1.5 Asbestos

Inhaling asbestos dust can cause lung damage and eventually lead to cancer.

Wet the asbestos dust waste during disposal, place it in a sealed container and mark clearly on the surface of the container for convenient and safe disposal. If you want to try cutting or drilling on materials containing asbestos, you should wet the materials and then use only hand tools or low-speed power tools.

1.6.1.6 Battery Acid

The gas released during charging is explosive. Never use open fire near the charged battery or the battery that has recently been charged.

Good ventilation must be maintained.

1.6.1.7 Chemical Materials

Solvents, sealants, adhesives, coatings, resin foams, battery acid fluids, coolant, lubricants, greases and other chemical materials should be used, stored and handled with great care. They may be toxic, harmful, corrosive, irritating or highly flammable, and may produce peculiar smell and dust with high level of danger.

The effects of long-term overexposure to the chemical environment may be immediate or chronic, transient or permanent, cumulative, superficial, life-threatening, or the lifespan may be affected.

Chemical Materials—Operations to be Executed

– Carefully read and follow the warnings and cautions specified on the raw material container, as well as any accompanying leaflets, posters, or other instructions for use. The health and safety information form for the raw material can be obtained from the manufacturer.

– In case of contact with the chemical material, refer to the MSDS sheet for proper safety instructions and procedures.

– Strictly follow the working procedure instructions and wear protective clothing to avoid direct contact with skin and eyes.

– During the process of handling chemical materials, you must wash yourself before taking a break, eating, smoking, or using toilet facilities.

– Keep the work area clean and tidy and do not spill chemical materials.

Chemical Materials—Operations to be Avoided

– Unless specified by the manufacturer, the chemical materials shall not be mixed at will; Certain chemicals will form other toxic or harmful chemicals, or release other toxic and harmful gases when mixed and may lead to other accidents such as explosions.

– Do not spray chemical materials in an enclosed environment.

– Unless specified by the manufacturer, the chemicals materials should not be heated, as certain chemical materials are highly flammable, and others may release toxic and harmful gases.

– Do not leave the container of chemical materials open, because emitted gases from the container may accumulate to such an extent that toxicity, harm or explosion may occur. Some gases are heavier than air and thus they can accumulate in an enclosed space.

– Do not put chemical materials in unlabeled containers.

– Do not use chemical materials to clean your hands and clothing. Chemicals, especially solvents and fuels, can make the skin dry, cause allergies, skin inflammation or directly absorb toxic and harmful substances through the skin, affecting health.

– Do not use empty containers to store other chemical materials at will, unless the containers have been cleaned under supervision.

– Do not sniff or smell chemical materials at will. Short-term exposure to high concentrations of gas may still cause poisoning or injury.

1.6.1.8 Dust

Powder, ash and dust may be irritating, harmful or toxic. Do not inhale powdered chemical materials and raising dust

resulted from dry friction operations. In the condition of poor ventilation, wear protective equipment such as breathing mask to prevent inhalation of dust.

Fine dust of flammable substances may lead to hazards such as explosion. Avoid explosions and fire sources.

1.6.1.9 Electric Shock

Improper use of electrical equipment without conforming to the instructions for use or misuse of equipment in good condition can both cause electric shock.

Electrical equipment must be maintained within the specified time and tested frequently. Faulty equipment should be marked and preferably moved outside the work area.

Wires, cables, plugs, and sockets shall not be worn, twisted, cut, cracked, or damaged in other ways. The electrical equipment and wires shall not come into contact with water.

Ensure that electrical equipment is protected by appropriate fuse.

It is forbidden to misuse electrical equipment, and do not use equipment with any hazard that may lead to a fault, otherwise personal safety may be affected.

Ensure that the cables of mobile electrical equipment will not be pinched and damaged.

Basic first aid training must be performed for specialized electrical operators.

In the event of an electric shock:

– Turn off the power supply before touching the victim.

– If the power supply cannot be turned off, disconnect the power of the victim with dry insulator material.

– If you have received specialized first aid training, perform on-site first aid immediately.

– Seek medical assistance.

1.6.1.10 Fiber Isolation

It refers to isolation of noise and sound.

The fibrous nature of the surface and sharp edges can cause skin allergy.

During the operation, the operating procedure instructions shall be followed and you must wear gloves to avoid excessive skin contact with the fibers.

1.6.1.11 Fire

A large number of materials related to vehicle repair are extremely flammable. Some materials can produce toxic and harmful gases after ignition.

Follow fire safety regulations when storing and handling flammable materials or solvents, especially near electrical equipment or welding operations.

Before using electrical and welding equipment, confirm that there are no hazards of fire.

When welding or using heating equipment, a suitable fire extinguisher should be prepared around the work area.

1.6.1.12 First Aid

Legal requirements shall be complied with, and it's better to provide personnel who have received specialized training in first aid in the workplace.

If something splashes into your eyes, wash with water for at least 10 minutes.

If your skin is contaminated, wash the contaminated area with soap and water.

If you have frostbite, immerse the affected area in ice or cold water.

Persons who inhale toxic gases should be immediately transferred to a place with fresh air. If adverse reactions continue to occur, they should be immediately sent to the hospital for medical assistance.

If you accidentally swallow certain liquids, inform the physician of the information on the container or label. Do not induce vomiting unless instructed to do so by the label.

1.6.1.13 Polyurethane Foam

Cured foam is used as cushion pad material for seats and trims.

Follow the manufacturer's instructions.

Assemblies that have not gone through chemical actions are irritating and may be harmful to the skin and eyes. Thus, you should wear gloves and goggles during operation.

People with chronic respiratory diseases, asthma, bronchial problems, etc., or those with hereditary allergies should not handle or approach uncured substances.

The spare part, vapor or spray mist of uncured assemblies can cause direct irritation and allergic reactions and can be toxic and harmful.

Do not breathe vapor or spray mist. These materials must be used in a well-ventilated area with breathing protections. Do not remove the mask immediately after spraying, which means you should wait for the vapor and spray mist to completely dissipate before you remove the mask.

The burning of uncured assemblies and cured foam will produce toxic and harmful gases. During foam operations, it is prohibited to smoke and use open flames and electrical equipment unless the vapor and the spray mist are completely removed. Thermal cutting of foam materials or other special foam materials should be performed in a well-ventilated environment.

1.6.1.14 General Tools and Equipment Used in Workshop

It is importance to always keep all tools and equipment in good working condition and operate them correctly in use.

Only use tools for the intended use. The load on cranes, jacks, axle, chassis bracket, or slings and other equipment should not exceed the maximum limit load they can withstand. Damages caused by overloading may not emerge immediately and but they can cause serious accidents when they are used for the next time.

Do not use tools or equipment that have been damaged or in poor working condition, especially some high speed equipment such as grinding wheels. Damaged grinding wheel can shatter without warning and cause serious injury.

Wear appropriate personal protective equipment (PPE) when grinding wheels, chisels or blasting equipment.

Wear an appropriatepersonal protective equipment (PPE) when using sandblasting equipment, handling asbestos-containing materials, or using spraying equipment.

A ventilation equipment that is capable to control the content of dust, spray and soot in the environment should be provided.

1.6.1.15 Noises

Extremely high level noises may be heard when performing certain operations, which may result in hearing damage. In this case, you should wear appropriate hearing protection device.

1.7 Noise, Vibration and Abnormal Noise

1.7.1 Description and Operation

1.7.1.1 Diagnostic Information and Procedures

Wind/Air Noise

Note

When the technician checks the faulty position, the assistant should drive the vehicle, otherwise, it may cause personal injury.

To accurately determine the location of wind noise, it is necessary to test drive in the vehicle. Generally speaking, wind noise comes from major and minor leakages, and if the leakage is not eliminated during repair process, the only way is to reduce rather than eliminate the wind noise.

During test drive, the maintenance personnel should carry the following tools to help diagnose the exact location of wind noise:

- Echometer
- Masking tape
- Caulking strip
- Marker pen
- Screwdriver

Carry out road test in accordance with the following procedures:

- Select a route in which straight streets run in east, south, west, and north directions.
- Select a street with less traffic or reduced noise to avoid affecting the test.
- Conduct road tests under a speed at which the customer thinks the noise is the most obvious or the noise is heard. It is strictly forbidden to exceed the legal speed limit.
- Wind noise heard in the following situations is deemed as exterior wind noise.
  - Wind noise can be heard when driving immediately after lowering the window.
  - The wind noise disappears immediately when pasting the tape to individual trim sealing strips and gaps.
- Interior wind noise is attributable to air escaping from the vehicle. Adopt the following methods to eliminate the noise:
  - Paste tape to the pressure relief valve on the body door lock post once the location of leakage is detected. Air pressure can immediately establish in the vehicle, intensifying the wind noise.
  - Confirm the location of leakage using a echometer.
  - Paste masking tape to temporarily repair the leakage.
  - Keep performing the road test to check if the wind noise is completely eliminated or check for other locations of leakage.
  - After confirming all locations of leakage through road test, return to the repair workshop to carry out permanent repair using professional, reasonable positioning methods and sealing materials.

Vibration

Most of the high speed vibrations are caused by the loss of wheel dynamic balance. If vibrations maintain after dynamic balance, possible causes include:

- The tire is out of round
- The rim is out of round
- There is hardness deviation in tires

All causes of vibrations cannot be detected by measuring the free runout of tires and wheels. The three causes as mentioned above are called load radial runout. The faulty vehicle must be repaired by replacing the original tire and wheel assemblies with known tire and wheel assemblies in good condition.

Low speed vibrations that occur at a speed below 64 km/h are usually caused by runout. High speed vibrations that occur at a speed above 64 km/h are usually caused by unbalance or runout.

Correction of Uneven Tires

Generally two ways can be used to correct tires that has been properly balanced but still vibrate. One way is to use an automatic machine tool to mount the tires on the machine tool and remove a small amount of rubber from the high points on the tread on the left and right sides of the tire by means of grinding. Corrections of tires in this way are usually permanent. Standardized operations will not have a noticeable impact on the appearance of the tire and the service life of the tire tread. It is not advisable to repair tires using edged machine tools during corrections of tires, as this will shorten the service life of the tires and cannot tackle the root of the problem.

Another way is to remove the tire and rotate the tire 180° on the rim. This method can be used only when the cause of vibration is determined, i.e., the tire and wheel assembly through diagnosis and confirmation. Vibrations can occur in intact wheel assembly when using this method.

Abnormal Sound

The door squeaks in use

Check whether the door hinge lacks lubrication.

– Operate the door back and forth and listen carefully whether the door squeaks

– Lubricate the door hinge with rust remover and apply grease.

1.7.1.2 Repair Guidance

Wind/Air Noise

Exterior wind noise

Seal the clearance (if any) on the vehicle with special sealing strip.

Vibration

On-board balancing of wheels and tires

On-board balancing can correct vibrations caused by unbalanced brake disc.

1. When performing dynamic balancing on the vehicle, it is forbidden to remove the balance weight installed during wheel dynamic balancing under the vehicle.
2. If the balance weight to be added for dynamic balancing weighs above 25 g (1 lb), two balance weights can be installed on the inner rim and the outer rim respectively.

Under-car balancing of wheels and tires

Carry out wheel dynamic balancing using an electronic under-car balancing machine. The dynamic balancing machine is easy to use and can be use for both static balancing and dynamic balancing. Unlike on-board balancing, the under-car balancing machine cannot be used for correction of unbalanced brake discs. The under-car balancing can overcome this weakness by fixing the wheels to the balancing machine and passing a cone through the back of the center hole rather than through the wheel nut hole.

Directional assembly of wheels and tires

Wheels and tires are assembled in the factory by matching the radially thick position of the tire (also known as the high point) to the position on wheel with minimum radius (also known as the low point).

The high point of the tire is initially marked with red paint or a label is attached to the outer wall of the tire when leaving the factory.

The low point of the wheel is at the position the valve core.

Before removing the tire from the wheel, mark the position of the valve core on the tire to restore the tire to its original position.

Abnormal Sound

Repair of Abnormal Sounds Abnormal sounds mainly arise from relative movement between vehicle parts which actually should not exist. Three ways can be adopted to repair abnormal sounds:

– Securely fasten the parts to eliminate relative movement during driving.

– Separate the parts so that the parts do not contact each other while working.

– Isolate the parts so that they do not make abnormal sounds during movement. Uniform, low-friction surfaces can eliminate viscous sliding between parts.

1.8 Water Leakage

1.8.1 Description and Operation

1.8.1.1 Diagnostic Information and Procedures

Diagnosis of Water Leakage

caution

Repair cannot proceed until all positions with water leakage are detected. Random repair can only temporarily plug the leakage position, possibly increasing the difficulty in future repairs. Continue to carry out local tests within overall range to detect all positions with water leakage.

The repair of body water leakage should be performed through proper tests and diagnosis. Repair water leakage by adjusting incorrectly positioned parts and using appropriate repair materials. In the first place, determine the circumstances in which the water leakage may occur. For example, water leakage only occurs when the vehicle is parked on a slope. Second, if an approximate leakage position is found, use a water hose or breather hose to determine the exact leakage point. If the leakage position is not obvious, use a rain test bench to determine the exact leakage position. This may involve the removal of partial interior trim panels or partial parts.

Preparation for Water Leakage Test

– The vehicle is designed to operate under normal environmental conditions.

– The design criteria for the sealing materials and parts have taken into account the sealing strength required for natural environmental factors. However, these specifications cannot take into account all human conditions.

– The water leakage test procedures are related to natural environment and can determine the driving performance of the vehicle under normal conditions.

– The first step of diagnosing leakage is to determine the conditions under which leakage occurs. If the approximate leakage position can be identified, isolate the exact water inlet using a water hose or breather hose. The repair of leakage may involve the removal of partial trim panels or parts.

– Leakage in doors or windows may not be necessarily attributable to poor sealing of the sealing strip. Perhaps the water leakage in these positions can be repaired through adjustment at these positions.

Water Hose Test

Note

Do not use a water hose with a nozzle.

1. Arrange an assistant and let it enter the vehicle to determine the exact leakage position.
2. Carry out detection beginning from the bottom of the window.
3. Slowly move the hose upwards until it passes through the entire roof.

Breather Pipe Test

Note

Breather hose test is only applicable to fully cured adhesives. The adhesive layer may be damaged, increasing leakage points when applying this method.

1. Dilute the liquid cleaner in a certain percentage and fill it in a spray bottle to spray it onto the edge of the window. Spray at the bottom in the first place, and then gradually spray the entire roof in a bottom-up manner.

   Note

   The pressure of compressed air should not exceed 205 kPa (29.75 psi).

2. Let an assistant enter the vehicle while carrying an air hose.
3. Ask the assistant to aim the compressed air at the suspicious leakage position. If leakage is detected at a position, the liquid cleaner will turn to bubbles at the leakage position.

1.8.1.2 Repair Guidance

Repair of Water Leakage in Body

The repair of leakage may involve the removal of certain trim panels or parts depending on the leakage position.

1. Cut the adhesive applied to the seam in the leakage position from inside or outside the vehicle.
2. Clear and remove all old adhesive residues from the leakage position.
3. Apply sealant to the body and seams at the leakage position that have been cleaned.
4. Wait a few hours for the seam adhesive to fully cure.
5. Detect if the leakage persists.
6. Install the removed trim parts.

Repair of Water Leakage in Fixed Windows

The repair of leakage may involve the removal of certain trim panels or parts depending on the leakage position.

1. Determine the exact position of water leakage
2. If leakage is found on the edge of the front windshield, apply special seam adhesive to repair the leakage or replace the front windshield with new one that has been sealed.
3. If leakage is found on the side of a fixed window, apply special adhesive or replace the window with a new one that has been sealed.

1.9 Power Down of the High-Voltage System

1.9.1 Power Down of the High-Voltage System

1.9.1.1 High Voltage Removal from Inside the Vehicle

warning !

1. Be sure to wear appropriate personal protective equipment when touching any high voltage components;

2. Do not touch the high voltage battery components even though the high voltage system has been deactivated. Be sure to wear appropriate personal protective equipment if it is necessary to operate the high voltage battery components;

3. If any damage is found in the high voltage components, be sure to wrap the damaged parts with the insulation tapes.

1. Park the vehicle, apply the EPB.

2. Open the trim cover plate on the lower left of the instrument panel, find and disconnect the low voltage maintenance disconnection connector, and the vehicle will automatically cut off the high voltage system.



1.9.1.2 High Voltage Removal from Outside the Vehicle

warning !

1. Be sure to wear appropriate personal protective equipment when touching any high voltage components;

2.Do not touch the high voltage battery components even though the high voltage system has been deactivated. Be sure to wear appropriate personal protective equipment if it is necessary to operate the high voltage battery components;

3. If any damage is found in the high voltage components, be sure to wrap the damaged parts with the insulation tapes.

1. Park the vehicle, apply the EPB.

2. Open the door.

3. Open the front flip cover plate.

4. Find the low voltage MSD in the engine compartment and remove it, and the vehicle will deactivate the high voltage system automatically.



1.10 After-sales Service Information

1.10.1 After-sales Service Information

1.10.1.1 After-sales Service Information

Category	Information
Windrose Service Hotline	(844)420-3495
Windrose Service Contact Unit	Windrose Technology Inc.
Windrose Service Contact Address	415 S Murphy Sunnyvale, CA, 94086
Windrose Service Official Website URL	https://windrose.tech/
Display name	FirstRespondingSafety@windrose.tech

1.11 Calibration Procedure

1.11.1 Calibration Procedure

1.11.1.1 Front View Intelligent Camera Calibration Procedure

Objective

- After the vehicle leaves the factory, if it is necessary to perform calibration on the front view intelligent camera again, such as when the windshield is replaced or the front view intelligent camera is replaced, it is recommended to use the ONL after-sales calibration procedure.
- The ONL after-sales calibration of the front view intelligent camera is carried out through dynamic driving on the road. The front view intelligent camera recognizes the lane markings and takes them as a reference to achieve the calibration of the installation tolerance of the front view intelligent camera.
- If the calibration is not performed after the front view intelligent camera is reinstalled, it will affect the accuracy of image recognition.

The Following Principles Should Be Followed While Driving

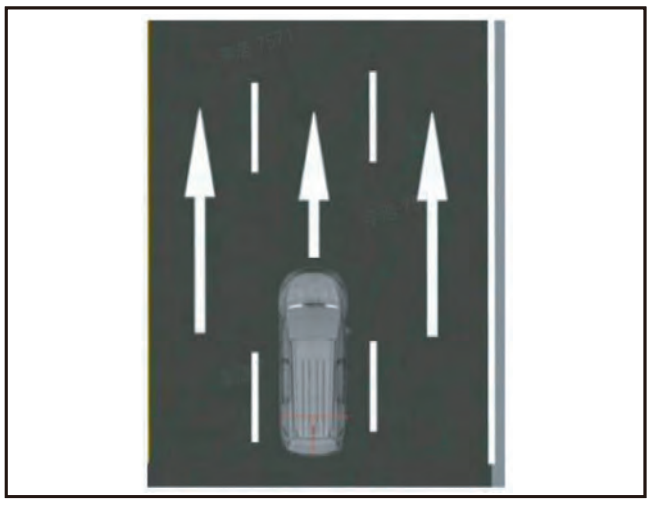
- The vehicle speed should be no less than 22 mph (the recommended vehicle speed is between 22 mph and 35 mph).
- Don't turn the steering wheel by a large margin (||yaw rate|| < 0.008 rad/s).
- Keep driving smoothly before and after changing lanes.
- Don't change lanes frequently.

Requirements For Lanes And Driving Environments

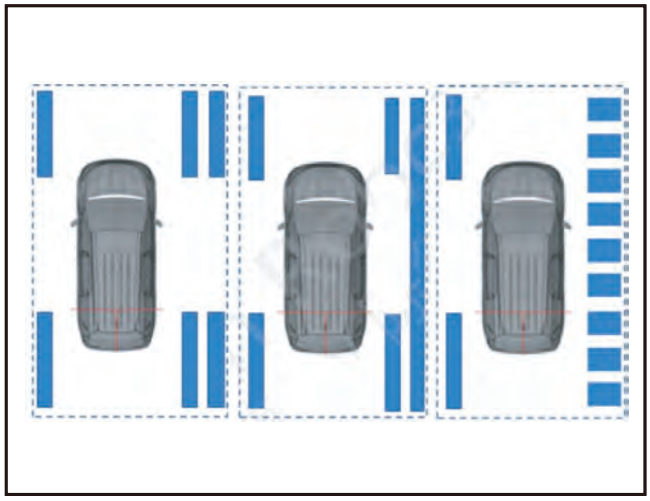
1. The lane on which the vehicle is traveling should be straight and flat, without slopes or turns.
2. Avoid performing calibration in traffic-congested areas and make sure that the lane markings are not blocked by adjacent vehicles.
3. Avoid performing calibration under adverse weather conditions (such as rain, snow, fog, etc.).

Requirements For The ONL After-Sales Calibration Scenarios Of The front view intelligent camera

1. The calibration test scenario must include two adjacent lanes of equal width. The lane markings can be either solid lines or dashed lines, but they should be clearly visible, as shown in the following figure.



2. Try to avoid the types of lanes shown in the following figure as much as possible.



The ONL After-sales Calibration Process for the front view intelligent camera.

The ONL after-sales calibration can be achieved through the UDS diagnostic service (RoutineControl $31). The host computer sends diagnostic instructions to the ECU of the front view intelligent camera to trigger the calibration mode. After the calibration is completed, the parameters will be written into the ECU and will be used after the next power-on.

After the calibration is completed, obtain the calibration results and parameters through diagnostic service instructions as follows:

– The online calibration time of ONL is 1 to 5 minutes, depending on the road conditions.

– It is impossible to exit the ONL mode before the ONL calibration is completed. If the power is turned off during the process, it will be regarded as a failed end of the ONL calibration, and no new calibration parameters will be written into the ECU.

– There are the following diagnostic service instructions:

1. RoutineControl $31: Send the calibration command (ONL/EOL) under 3212.

2. RoutineControl $31: 3213 Report the current working status (INIT/NORMAL/ONLING/EOLING).

3. RoutineControl $31: 3214 Report the currently used parameters.

4. RoutineControl $31: 3215 Report the new parameters after calibration is completed.

Step 1: Ensure the correct installation of the front view intelligent camera and its covering parts, and check the condition of the vehicle.

Step 2: Establish communication between the diagnostic device (or calibration computer) and the vehicle. Open the calibration service through the diagnostic equipment. Click "ONL Calibration" in the diagnostic device and send the calibration instruction to start the calibration.

Step 3: Drive the vehicle according to the above requirements and complete the automatic calibration function according to the prompts on the diagnostic device.

Step 4: The diagnostic device prompts "Calibration completed".

Step 5: Return to the ONL mode.

Step 6: The system will automatically write the new calibration parameters into the ECU.

Step 7: Are there any new calibration parameters?

– Yes： Next step

– No： The ONL calibration fails.

Step 8: The ONL calibration is successful.

1.11.1.2 Side MMW Radar Calibration Procedure

Notice

The reinstalled left and right radars should be calibrated before they can be used normally.

Calibration Description

Recalibration should be performed in the event of radar replacement, vehicle collision, etc. in the aftermarket. The recalibration is generally performed through dynamic calibration so that the radar can detect real surrounding environment during driving, determine the horizontal deviation between radar normal and vehicle driving axis by means of self-learning, and keep the deviation within the permissible range via algorithm compensation, thereby ensuring the calibrated radar is in compliance with relevant functional requirements.

Calibration Platform

- Radar to be calibrated.
- Scan tool.
- Calibrated vehicle.
- Specially designed, dedicated calibration runway.

Calibration Error

The dynamic calibration error of radar includes measurement error, radar installation error, and error due to left and right skirt installation:

- Prior to calibration after the radar is installed on the bracket, the angle of the radar antenna axis relative to the calibrated vehicle axis should be within the allowable error range of the design installation angle (±3°);
- Both the horizontal and vertical installation errors of the radar relative to the body should be less than ±1mm;
- The horizontal inaccuracy of active calibration should be less than ±0.5°.

Vehicle Requirements

The vehicle should meet the following requirements when carrying out radar calibration:

- Four-wheel alignment has been completed before radar calibration;
- The tire pressure on the vehicle is correct;
- The vehicle is unloaded when performing calibration;
- The radar and covering parts or left and right side skirts are installed correctly, check the oil, tire pressure, seat, etc. and ensure the safety of driving;
- After the calibration is completed, no significant changes in body weight are allowed, as this will cause the deflection of the vehicle's driving axis (for example, the modification of the vehicle, the installation of liquefier tank, etc. after calibration will result in angle changes in vertical direction of the driving axis).

Environmental Requirements

When performing radar calibration, the environmental requirements are as follows:

- The surface of the radar is clean, and free of covering such as snow or mud;
- Do not calibrate in extreme rain and snow weather;
- The metal guardrail should be mounted on the left side in the driving direction, and it should be 150m long and straight, to avoid the interference of other moving targets;
- The surface of the driving road should be smooth without unevenness, snow, ice, mud and other road conditions that affect driving stability.

Vehicle Driving Behavior Requirements

When the dynamic driving calibration begins, the vehicle must be driven under the conditions specified in the following table to ensure the completion of the dynamic driving calibration;

Restrictions	Recommended Value	Allowable Tolerance	Remark
Radar lateral guardrail	6 ft	+/-1.5 ft	/
Guardrail height	27 in	+/- .39 in	It is recommended to be at the same height as the radar installation
Constant linear movement speed	25 mph	/	18-37 mph
Longitudinal acceleration	0m/s²	±0.5m/s²	/
Yaw rate	0rad/s	±0.01rad/s	/

Calibration Procedure

Step 1: Make sure the radar and covering parts or the left and right side skirts are properly installed and check the condition of the vehicle.

Step 2: Establish communication between the scan tool (or calibration computer) and the vehicle, start the calibration beginning with diagnosis of the diagnostic equipment, and click "Start Dynamic Driving Calibration" in the scan tool to issue a calibration instruction for start of calibration. The ADU should be used for relevant conversions after the scan tool issues check commands.

Step 3: Maintain communication between the scan tool and the vehicle, and drive the vehicle in accordance with the driving behavior requirements, within a single power-on/ignition cycle of the radar, until the calibration progress bar displays 100% in the scan tool.

Step 4: Generally, the calibration progress should show 100% within 3 minutes.

Step 5: If the calibration fails, Check the calibration environment, installation location, and driving behavior are in compliance with relevant requirements. If compliance with relevant requirements are confirmed, repeat the above steps.

Step 6: The calibration ends when the calibrations on radars on both sides are successful.

1.11.1.3 Forward MMW Radar Calibration Procedure

Notice

The reinstalled front radars should be calibrated before they can be used normally.

Calibration Description

The forward millimeter-wave MMW radar after-sales service is generally performed through dynamic calibration. The automatic calibration is to measure the deviation angle between the radar axis and the body driving axis in horizontal and vertical directions based on the static object in the area around the vehicle (correction area) during straight driving of the vehicle, for the purpose of software compensation, thereby allowing the radar detection deviation to stay within the allowable range.

Correction Configuration

- Vehicle equipped with millimeter-wave radar.
- The radar can obtain yaw rate information.
- The radar can obtain acceleration information.
- The vehicle keeps driving in a straight line.
- The vehicle driving speed must be above 25 mph.
- The radar installation deviation should be ≦±3° (horizontal) or ≦±2.4° (vertical).

Calibration Procedure

Step 1: Make sure the radar and covering parts or bumpers are properly installed and check the condition of the vehicle.

Step 2: Establish communication between the scan tool (or calibration computer) and the vehicle, start the calibration beginning with diagnosis of the diagnostic equipment, and click "Start Dynamic Driving Calibration" in the scan tool to issue a calibration instruction for start of calibration.

Step 3: Maintain communication between the scan tool and the vehicle, and drive the vehicle in accordance with the driving behavior requirements, within a single power-on/ignition cycle of the radar, until the calibration progress bar displays 100% in the scan tool.

Step 4: Generally, the calibration progress should show 100% within 3 minutes.

Step 5: If the calibration fails, Check the calibration environment, installation location, and driving behavior are in compliance with relevant requirements. If compliance with relevant requirements are confirmed, repeat the above steps.

Step 6: The calibration ends when the radar calibration is successful.

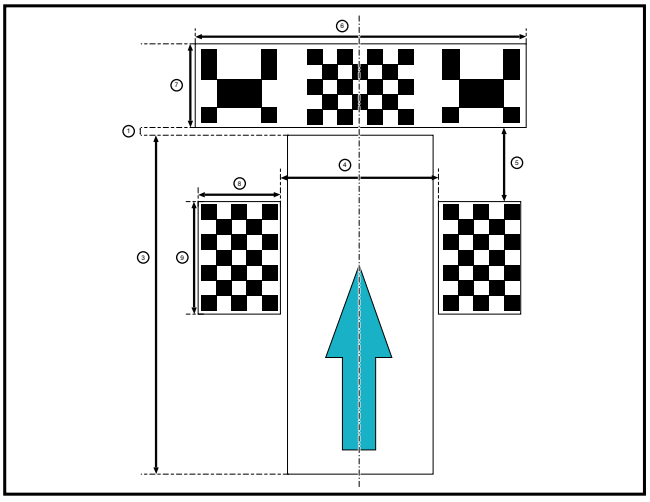
1.11.1.4 AVM Calibration Procedure

Preparation for Equipment and Site

- Calibration cloth (3 in front, left, and right).
- Level ground.
- There is no light source that can cause the camera to be exposed by reflection or direct light

Arrangement of Vehicles and Calibration Equipment

Park the vehicle on calibration site and adjust the calibration cloth as required.



- ① Distance between front calibration cloth and vehicle: 1.5 ft
- ⑥ Lateral distance of front calibration cloth: 21.5 ft
- ⑦ Longitudinal distance of front calibration cloth: 6 ft
- ⑤ Distance between front calibration cloth and left/right calibration cloth: 5 ft
- ⑧ Width of left/right calibration cloth: 6 ft
- ⑨ Length of left/right calibration cloth: 8 ft
- ④ Distance from left/right calibration cloth: 10 ft

Note

The black grid on the three pieces of cloth is a square of edge length 1 ft. Align the edges (or the white edges of equal width) of the outermost black grids when aligning the cloth; A white edge of width 0.5 ft should be reserved at the edge of the three calibration cloths.

Precautions

1. Make sure the calibration patterns are visible through the camera and the position requirements stipulated in the calibration scheme are met;
2. The site should be free of reflections. If the photo is not clear due to reflection, use shielding cloth or shade to ensure that the black and white grids are clear;
3. If the calibration fails, export the corresponding photos and logs and send them to the manufacturer for analysis;

Calibration Procedure

1. "IVI Screen Menu" > "Factory Settings" > "AVM Function Debugging" > "270° AVM Debugging Interface" to select Open;
2. Click AVM icon on the main interface of the CAR screen to activate AVM;
3. When clicking "Calibration" button, the automatic calibration will start. You can wait for the automatic calibration to end, or manually click "End Calibration" to stop the current calibration;
4. When the calibration process (including calibration succeeded, calibration failed, and manual stop of calibration) ends, you should operate "Turn Off AVM", "Turn On AVM", and "Initialize AVM" to display the screen again. Then you can operate "Calibration" again according to the process same as step 1;
5. It is determined that the calibration is successfully if the 2D/3D function can be used normally, the splicing accuracy meets the requirements, and the calibration cloth is not misplaced from the perspective of the screen;
6. Click "Hide Debug" button to collapse the control bar, and click this button again to expand it. Prevent the debug button from blocking the picture and affecting the observation;
7. Click "Close Debug Interface" to exit the calibration interface, or re-enter the factory settings interface to open it;
8. Click "Collect Fusion Image" to collect the AVM fusion image (including the car model);
9. Click "Collect Left Image" to collect the left image, save it to path /sdcard/AvmDataCollect/LeftImage, and name it "cameraId" + "_id_Image_" + "Current System Boot Timestamp" + "Serial Number".
10. Click "Collect Front Image" to collect the front image, save it to path /sdcard/AvmDataCollect/FrontImage, and name it "cameraId" + "_id_Image_" + "Current System Boot Timestamp" + "Serial Number".
11. Click "Collect Right Image" to collect the right image, save it to path /sdcard/AvmDataCollect/RightImage, and name it "cameraId" + "_id_Image_" + "Current System Boot Timestamp" + "Serial Number".
12. Click "Collect Back Image" to collect the back image, save it to path /sdcard/AvmDataCollect/BackImage, and name it "cameraId" + "_id_Image_" + "Current System Boot Timestamp" + "Serial Number".
13. Click "Collect Four-way Image" to collect the left, front, right, and back images simultaneously, save them in respective directory, and name them "special_" + "cameraId" + "_id_Image_frame_" + "Serial Number" beginning with "special_";

    For example:

    - Rear view: special_0_id_Image_frame_1.yuyv
    - Right view: special_5_id_Image_frame_1.yuyv
    - Front view: special_7_id_Image_frame_1.yuyv
    - Left view: special_8_id_Image_frame_1.yuyv

    cameraId mapping rules:

- cameraId =0 refers to AVM back image
- cameraId =5 refers to AVM right image
- cameraId =7 refers to AVM front image
- cameraId =8 refers to AVM left image

Exporting Image Collection Footage

You can export or clear the footage by unzipping the "Attachment Script" file and executing the corresponding script.

Note

Select a practical dual male USB cable, and insert one end into the USB flash drive socket of the device host, and the other end into the computer. Concurrently, switch the current mode to ADB. Otherwise, the script cannot be executed normally.

Exporting steps:

Click "Export AVM Collection Footage" in "AVM Image Collection Export Script" to export the file.

Click "Clear AVM Collection Footage" in "AVM Image Collection Export Script" to clear the export file.

1.11.1.5 Headlamp Light Adjustment

Preparation for Equipment and Site

– Tools: 10# hexagon socket and 8# hexagon socket, with a total length not exceeding 150mm.

– Tape measure or laser rangefinder (electronic ruler).

– Site: Dark site where the ground is level and flat, vehicles can enter, and the reference center of the headlamp is be at least 10m away from the screen.

– Test screen: Thick white paper or white wall (in order to facilitate the observation of light shape, the test screen shall be more than 2m wider than the vehicle).

Vehicle Preparation

– Inflate the tire in accordance with the full load pressure specified in the technical conditions of the vehicle.

– Replenish sufficient water and lubricating oil on the vehicle, and prepare all accessories and tools (spare tires, tools, etc.) for vehicle test.

– Place a 75kg load on driver seat to simulate driver seat occupation.

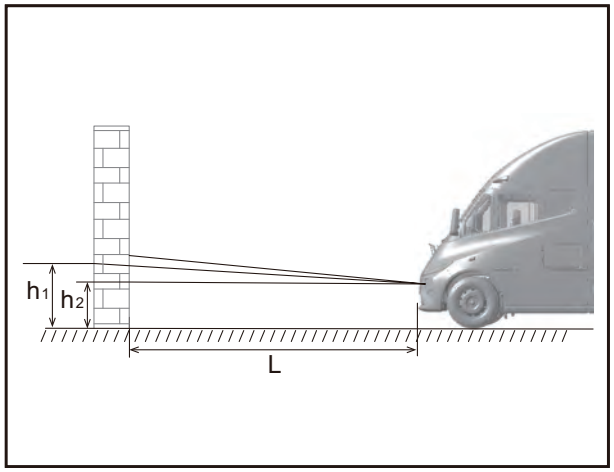
– Before measuring, make sure the vehicle is at natural standstill state, drive the vehicle to travel backwards for at least one wheel circumference and then forward over the same distance.

– Make sure the outer cover of the lamps is clean.

– Start the vehicle.

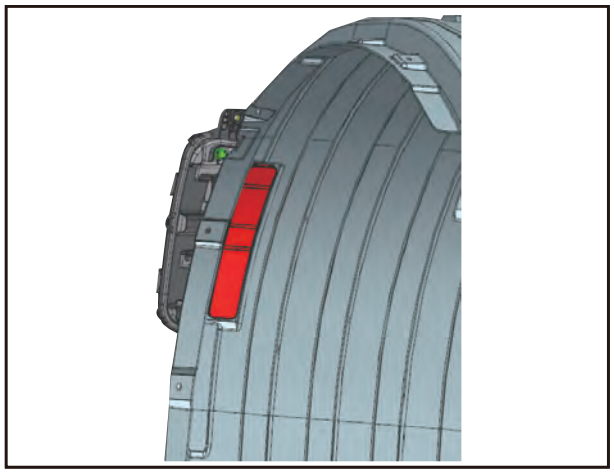
Light Measurement

1. Park the vehicle as shown in the figure with the distance L between the reference center of the headlamp and the screen being 10m.

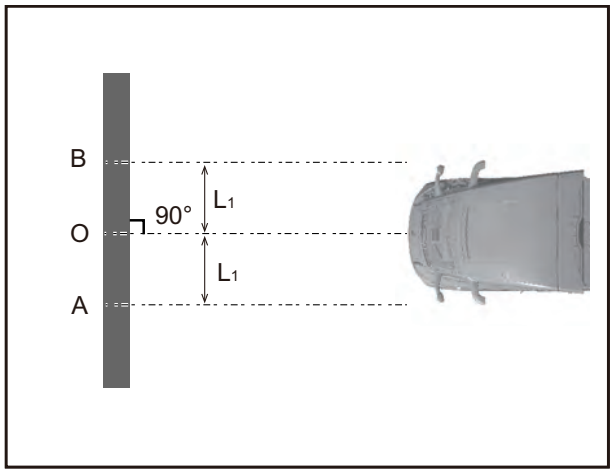


2. Adjust the low beam to the maximum highest on CAR screen.

3. Remove the wheel housing plug.

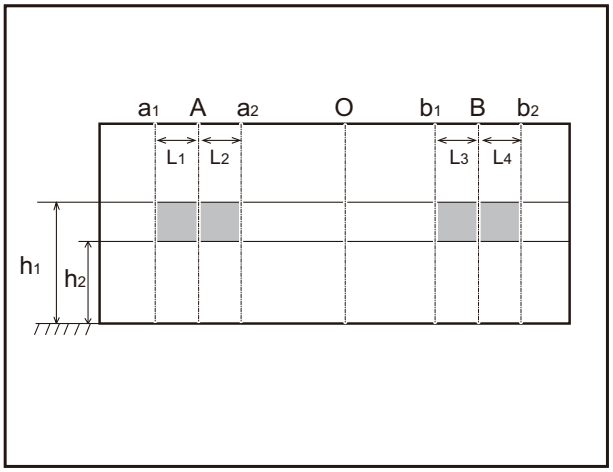


4. Draw O-line, A-line, and B-line on the screen.



– A and B lines: Parallel to O line, where L1 is 39.5 in (low beam) or 40.25 in (high beam).

5. Draw A1, A2, B1, B2, h1, and h2 lines on the screen to form a green box as shown in the figure after completing drawing of all lines.



• A1 and A2 lines: Parallel to line A, where L2 is 6.69 in and L3 is 13.75 in;

• B1 and B2 lines: Parallel to line B, where L4 is 6.69 in and L5 is 13.75 in;

• H1 and H2 lines: Horizontal lines parallel to the ground, where H1 is 33.7 in (low beam) or 35.55 in (high beam), and H2 is 23.86 in (low beam) or 25.28 in (high beam).

Light Adjustment

caution

To make it easier to observe the effect of light adjustment, you can block the light from one side side when adjusting the light on the other side. The light adjustment method on the left and right sides is the same. After the debugging is completed, the height of the left and right lights should be consistent.

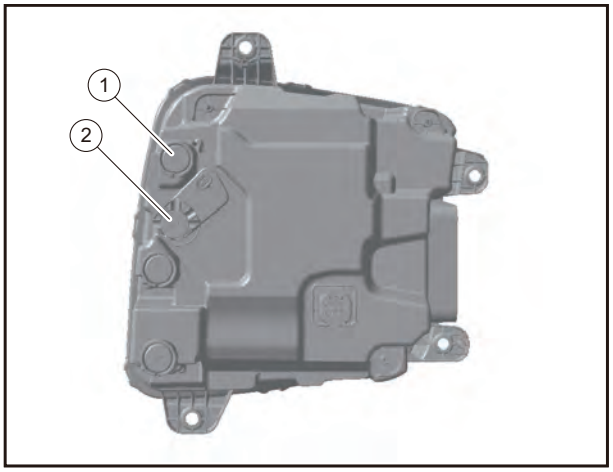
Note

The left headlamp is taken as an example hereby. The light adjustment method of the left headlamp is the same as that of the right headlamp.

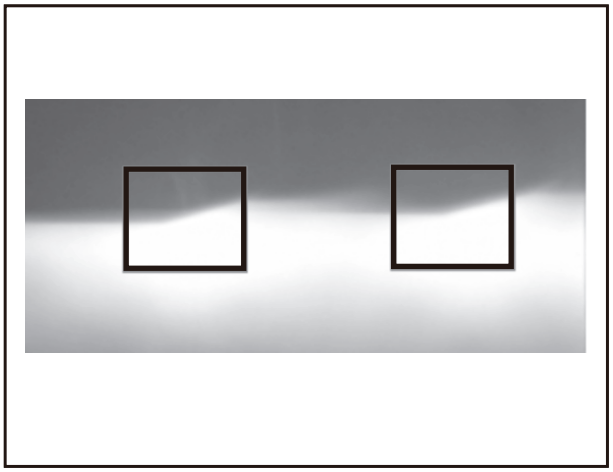
1. Low beam adjustment

1. Turn on the low beam.

2. Insert the 10# hexagon socket into the low beam dimming port ①, rotate the handle ① clockwise to adjust the light to the upper left, and turn the handle ① counterclockwise to adjust the light to the lower right; Insert the 8# hexagon socket into the low beam dimming port ②, rotate the handle ② clockwise to adjust the light downward, and turn the handle ② counterclockwise to adjust the light upward;



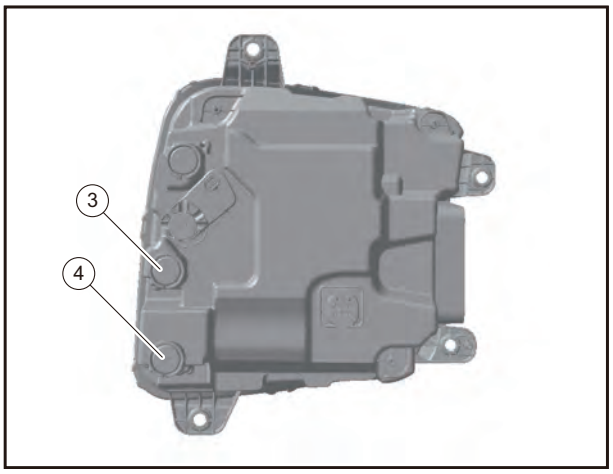
3. If the turning point of the low beam cut-off line is in the frame, it indicates the completion of dimming.



2. High beam adjustment

1. Turn on the high beam;

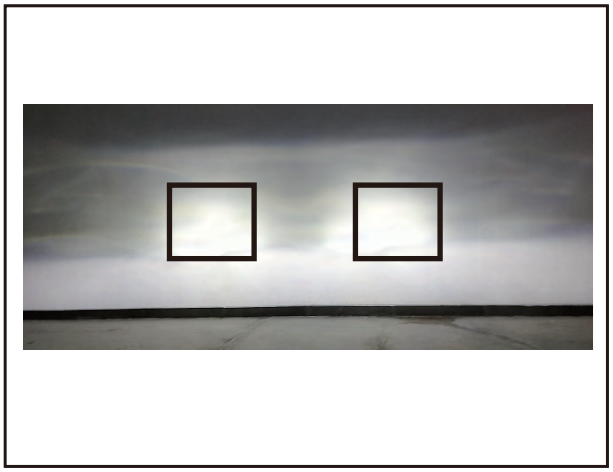
2. Insert the 10# hexagon socket into the high beam dimming port ③, rotate the handle ③ clockwise to adjust the light to the upper left, and turn the handle ③ counterclockwise to adjust the light to the lower right; Insert the 10# hexagon socket into the higih beam dimming port ④, rotate the handle ④ clockwise to adjust the light downward, and turn the handle ④ counterclockwise to adjust the light upward;



3. If the brightest point of the high beam is in the frame, it indicates the completion of dimming.

caution

After the adjustment of the high and low beams is completed, the brightest point of the high beam should be higher than the turning point of the low beam cut-off line.



1.11.1.6 TCU Self-Learning Program

Operation Process

Step 1: Check if the vehicle meets the following conditions?

– Vehicle status is READY

– Brake opening is 0

– Throttle opening is 0

– Handbrake pulled up

-Yes: Next step

-No: Adjust vehicle status.

Step 2: Connect the diagnostic instrument and click on the "TCU self-learning instruction".

Step 3: axle self-learning in TCU1.

Step 4: 1-file self-learning.

Step 5: Is the target gear met?

-Yes: Next step

-No: After restarting the vehicle power-on operation, perform the self-learning process again. If it fails after three attempts, report the fault and exit the self-learning program.

Step 6: Explore the tolerance position and record the actual position.

Step 7: 2-file self-learning.

Step 8: Is the target gear met?

-Yes: Next step

-No: After restarting the vehicle power-on operation, perform the self-learning process again. If it fails after three attempts, report the fault and exit the self-learning program.

Step 9: Explore the tolerance position and record the actual position.

Step 10: Gear position check.

Step 11: Parameters are written to EEPROM.

Step 12: Send the self-learning completion flag.

Step 13: End of self-learning.

Step 14: TCU2 rear axle self-learning.

Step 15: 1 file self-learning.

Step 16: Is the target gear satisfied?

-Yes: Next step

-No: After restarting the vehicle power-on operation, perform the self-learning process again. If it fails after three attempts, report the fault and exit the self-learning program.

Step 17: Explore the tolerance position and record the actual position.

Step 18: 2-file self-learning.

Step 19: Is the target gear met?

-Yes: Next step

-No: After restarting the vehicle power-on operation, perform the self-learning process again. If it fails after three attempts, report the fault and exit the self-learning program.

Step 20: Explore the tolerance position and record the actual position.

Step 21: Gear position check.

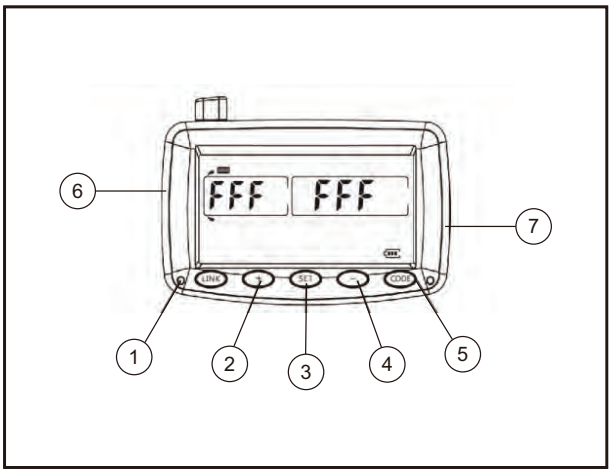
Step 22: Parameters are written to the EEPROM.

Step 23: Send the self-learning completion flag.

Step 24: End of self-learning.

1.11.1.7 Tire Pressure Calibration Procedure

Introduction to Preparation of Calibration Tools and Related Functions



- ①: Indicator
- ②: Select tires
- ③: Upload function button
- ④: Select tires
- ⑤: Activate the sensor
- ⑥: Power switch
- ⑦: 12–24V charging interface

Description of Buttons on Calibration Tool

On/off: Turn the switch on the left to turn on the tool. The calibration tool goes into screen off and sleeping state if there is no operation within 3 minutes after power-on. Press any button to wake up the calibration tool.

Setting Standard Pressure (Note: Confirm Standard Tire Pressure Before Individual Operations)

1. Press and hold the LINK button on the left, press upward the power button on the left to turn on the tool, go into the interface for adjusting the standard pressure value, and press the "+" or "-" button according to the actual pressure standard to adjust. After the adjustment is completed, press and hold the LINK button for 3 seconds to save and return to the main interface.

2. After setting of the calibration tool is completed, power on the vehicle, walk to the right rear tire position of the vehicle (near the installation position of the tire pressure CAN module host), press and hold the SET button in the middle of the device for two seconds and upload information to the tire pressure CAN module host.

Sensor Detection Operation

1. Walk to the tire and press the "CODE" button on the rightmost of the calibration tool to enter the detection mode, and the display will show "Id LF"; Place the display of the calibration tool close to the tire sensor (generally near the valve, with the calibration tool be kept no more than 7.87 in from the tire); After reading the code, a long "Be" sound will be heard and the tire data will be shown: The six-digit ID code, temperature and pressure display in turn.

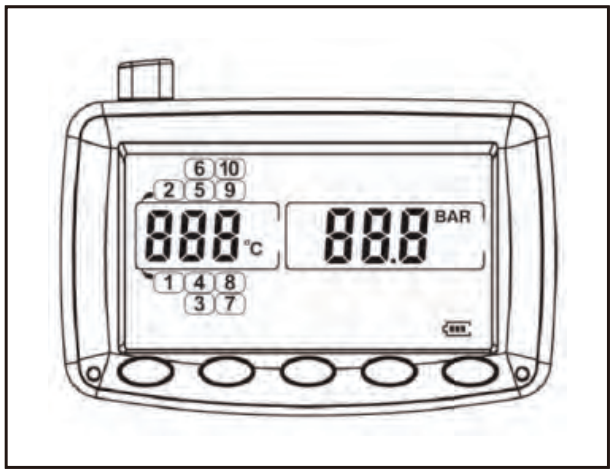
2. When the code reading fails, a short "Be-Be" sound will be heard with "Id Err" displayed, and then the screen will automatically return to standby state. In this case, you can readjust the position and reactivate.

Instructions for Calibration

1. Walk to the tire and press "+" button on the calibration tool to select the corresponding tire position. Concurrently, press the "CODE" button on the rightmost of the calibration tool to enter the code matching mode with "Id LF" displayed on the screen; Place the display of the calibration tool close to the tire sensor (generally near the valve, with the calibration tool be kept no more than 7.87 in from the tire); After reading the code, a long "Be" sound will be heard and the tire data will be shown: ID code, pressure and temperature under normal conditions, with black dots appeared on the corresponding position of the tire. If code reading is successful, continue to press the "+" button to select the corresponding tire position for the purpose of activating the sensor.

caution

There are 10 tires in total. Thus you should make sure data showing black dots on 10 tires is shown on the calibration tool. Considering that crosstalk is easy to occur in side-by-side tires after the sensor is activated, you should manually insert the equipment into the inner tube as far as possible when activating the inside tire and keep as far away as possible from the outer valve (7.87 in - 15.74 in) when activating the outside tire.



Corresponding number	Vehicle location
1 (driver seat)	Left side of input shaft
2	Right side of input shaft
3	Left outside of output shaft
4	Left inside of output shaft

Corresponding number	Vehicle location
5	Right inside of output shaft
6	Right outside of third shaft
7	Left outside of third shaft
8	Left inside of third shaft
9	Right inside of third shaft
10	Right outside of third shaft

2. When the code reading fails, a short "Be-Be" sound will be heard with "Id Err" displayed, and then the screen will automatically return to standby state.

Uploading Data Read by Calibration Tool to CAN-based Tire Pressure Host

Locate the tire pressure CAN receiver installed on the vehicle (the host is near the inside of the right rear tire), stand on the right rear tire and press the middle upload button "SET" (about 1 second), and the calibration tool will upload the entire set of tire data to CAN receiver. The LCD flashes during the upload process, and after the uploading is completed, the calibration tool will display FINISH, and you can Check the tire pressure data on the instrument panel is updated.

caution

Make sure the data showing black dots on 10 tires is shown on the calibration tool. 8.3BAR=120 psi means that the current standard pressure is set to 120 psi.

1.11.1.8 Yaw Rate Sensor Calibration Procedure

Yaw Rate Sensor Calibration Scene

• Replace the slew rate sensor.

• Replace the EBS ECU.

Vehicle Calibration Requirements

• Keep the wheels straight.

Calibration Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Automatically identify or select Windrose - Select corresponding model - Click the special function - Calibrate yaw rate on the scan tool.

Step 4: Operate following the prompts on the scan tool interface.

Step 5: Calibration is completed.

1.11.1.9 Steering Angle Sensor Calibration Procedure

Steering Angle Sensor Calibration Scene

• Replace the steering angle sensor.

• Replace the EBS ECU.

Vehicle Calibration Requirements

• Keep the wheels straight.

Calibration Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Automatically identify or select Windrose - Select corresponding model - Click the special function - Calibrate steering angle on the scan tool.

Step 4: Operate following the prompts on the scan tool interface.

Step 5: Calibration is completed.

1.11.1.10 EPB Angle Zeroing Procedure

EPB Angle Zeroing Scene

• Replace the parking solenoid valve.

Vehicle Calibration Requirements

• The vehicle should be parked on level road.

Calibration Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Automatically identify or select Windrose on the scan tool - Select corresponding model - Click the special function - Angle zeroing.

Step 4: Operate following the prompts on the scan tool interface.

Step 5: Calibration is completed.

1.11.1.11 ECAS Calibration Procedure

Calibration Device

– Computer: Laptop running with WIN7 or higher operating system;

– CAN adapter: Special USB-CAN adapter

Connect the USB port of the computer and the OBD port of the vehicle through the adapter and adapter cable to communicate with ECAS ECU. The adapter cable is designed with three DB9 adapters that are compatible with CAN cables. Select appropriate adapters with adapter 9-pin interfaces according to the CAN pin definition of the OBD on real vehicles.

Function of ECAS Calibration Software

– Upon completion of installation of the ECAS, calibrate its initial height, including the normal height, the height upper limit and the height lower limit;

– Diagnose faults; Modify ECU parameter configuration;

– The auxiliary detection of ECAS EOL covers detection of ECAS solenoid valve movement, detection of height sensor installation and detection of signal, etc.

Software Startup

Connect the computer to ECU via a diagnostic cable, turn on the main power and key power, and then run the calibration software.

Software Main Interface

After the software is successfully connected to the ECAS ECU, you can read the power supply voltage, software version, fault information, etc. on the interface.

Parameter Configuration

Options: Modify Individual Parameters or Modify All Parameters are available as needed. The parameter value determines the structure configuration and function settings of ECAS. The parameters can be exported from the prototype or pre-documented and imported into a new ECU during configuration. Parameter configuration should be completed by specially trained calibrators.

Modification of Individual Parameters

1. Click "System" menu to select "Parameters", or directly click the button icon in the shortcut bar to enter the parameter configuration interface.
2. Click "Read From ECU" button to read current parameters in ECU and check the current value of the specified parameter. To modify the value of the specified parameter, you can directly enter the value in the blank of "Parameter Value", and then click "Write Into ECU" button. You will be prompted to enter a verification code during writing (the last four characters of ROOT code when registering the license).

Modification of All Parameters

You can import or export all ECU parameters via "ECU Replacement" function. In addition to the general parameters displayed on "Parameter Interface", CAN bus configuration, axle load information, default height characteristic parameters, etc. are included. Data bulk load or exporting calibration data for backup can be achieved through "ECU Replacement". After importing, click "ECU Reset" on the shortcut button bar to allow parameters to come into effect. You will be prompted to enter a verification code during importing.

Fault Inspection

Upon completion of parameter configuration and ECU reset, wait for more than 8 seconds to observe the calibration software interface and check if there is a fault prompt.

If a fault occurs, determine the type of fault according to the current fault information read through the calibration software, and eliminate the fault step by step.

After troubleshooting, click "ECU Reset", wait for more than 8 seconds again, and confirm that there is no DTC before proceeding to the next step for detection of solenoid valve and height sensor as well as height calibration.

Solenoid Valve and Sensor Control Detection

caution

The chassis may suddenly go up and down during lifting test and calibration. Thus, in this process, make sure the installation personnel is in a safe position!!!

Run the ECAS calibration software, click the "System" menu after successful connection, and select "Inflate/Deflate Solenoid Valve" to enter the detection interface.

Select the installed airbag for testing. Operation method: Select the front axle airbag, left rear airbag, right rear airbag and other airbags separately on the interface, and click Inflate or Deflate to observe the shape and pressure change of the corresponding airbag are correct, and Check the solenoid valve channels are normal and whether the left and right pipelines are falsely connected. Check the air pressure value is normal and whether the connectors of the air pressure sensor (if any) are connected correctly.

During inflation or deflation of the solenoid valve, observe the value of height sensor changes towards the correct direction and Check the height sensor is reversed while the chassis is rising or lowering;

caution

Calibrate "Lifting test" function of software. It disables the solenoid valve automatically when failed to prevent damages to the circuit as a result of short circuit.

Height Sensor Misconnection Detection

caution

The chassis may suddenly go up and down during lifting test and calibration. Thus, in this process, make sure the installation personnel is in a safe position!!!

Unplug the height sensor and observe the fault information on the main interface of the calibration software is correct. For example, after unplugging the left rear height sensor, refresh the main interface to see if the corresponding DTC appears in "Current Fault" window. (For ECAS with height sensors mounted on the left and right sides of the rear axle)

caution

Lock the vehicle during diagnosis of ECAS!

Automatic control and regulation may occur in ECAS during the diagnosis, causing sudden movement of the vehicle.

Height Calibration

caution

The chassis may suddenly go up and down during lifting test and calibration. Thus, in this process, make sure the installation personnel is in a safe position!!!

Principle of height calibration:

– Before calibration, park the vehicle with normal tire pressure on level ground.

– The calibration is generally performed on unloaded vehicle, making it difficult to descend during calibration. For this reason, it is necessary to release the handbrake once, or calibrate with the vehicle loaded.

– After the calibration is completed, difference in the air pressure of the left and right airbags may be detected or even the unilateral airbag may be collapsed on the unloaded vehicle following road test and movement. This is generally attributed to the distribution error of left and right weight on the suspension. It returns to normal if the air pressure in left and right airbags is close after vehicle loading.

– In addition, the difference in left and right air pressure may be present after the running-in of the vehicle. If the difference remains significant after loading, re-correct the zero point of the swing rod, or re-calibrate as necessary.

Height calibration process:

1. Select "Calibrate Height Sensor" option: In the shortcut menu bar on the main interface, click shortcut button of "Calibrate Height Sensor" to enter the calibration. Two calibration methods are available: three-point height calibration (normal height, upper limit height and lower limit height calibration) and single-point height calibration (limited to normal height calibration; upper limit height and lower limit height are automatically calculated and written by calibration software on the basis of a new normal height according to the default upper and lower limit offset in ECU).

2. : Select the airbag to be adjusted, inflate and deflate it to normal height: After adjusting the airbag to normal position, visually check that the swing rod is level, and confirm the height value (2nd generation sensor: 270-330TT; 1st generation sensor 190-240TT). No specific requirements are imposed on the difference in left and right height values. Make sure the difference is not more than 20TT when the swing rod maintains level through visual inspection.

   caution

   When two height sensors are available, the height adjustment on left and right must be selected simultaneously.

   After the swing rod is leveled, fix it, and click to save the normal height. (When single-point calibration is selected, the upper limit and lower limit calibration will be automatically completed; When three-point calibration is selected, after the normal height is saved, you should raise the suspension to maximum height and save the upper limit height, and then lower the suspension to the minimum height and save the upper limit and lower limit height)

3. Fill in the real height value of chassis or airbag: If the automobile factory makes a request for writing the real current normal height, upper limit height, and lower limit height simultaneously when saving the height, you should fill in the corresponding height value (mm) in the pop-up window for filling. This function is only available in V1.3.2.5 and above version calibration software.

4. Click "End Calibration" to exit the calibration process. Click "ECU Reset" button in the shortcut menu bar to allow the new height to come into effect.

1.11.1.12 BDCU Software Diagnosis Procedure

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

— Yes: Next step

— No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "BDCU" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "BDCU" repair or replacement.

Step 12: End.

1.11.1.13 CDC Software Diagnosis Procedure

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

— Yes: Next step

— No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "CDC" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "CDC" repair or replacement.

Step 12: End.

1.11.1.14 CMU1 Software Diagnosis Procedures

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

— Yes: Next step

— No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "CMU1" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "CMU1" repair or replacement.

Step 12: End.

1.11.1.15 CMU2 Software Diagnosis Procedures

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

— Yes: Next step

— No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "CMU2" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "CMU2" repair or replacement.

Step 12: End.

1.11.1.16 CMU3 Software Diagnosis Procedures

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

— Yes: Next step

— No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "CMU3" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "CMU3" repair or replacement.

Step 12: End.

1.11.1.17 CMU4 Software Diagnosis Procedures

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

- Yes: Next step
- No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "CMU4" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "CMU4" repair or replacement.

Step 12: End.

1.11.1.18 HUD Software Diagnosis Procedure

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

- Yes: Next step
- No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "HUD" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "HUD" repair or replacement.

Step 12: End.

1.11.1.19 IPC Software Diagnosis Procedure

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

- Yes: Next step
- No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "IPC" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "IPC" repair or replacement.

Step 12: End.

1.11.1.20 SSM Software Diagnosis Procedure

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

- Yes: Next step
- No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "SSM" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "SSM" repair or replacement.

Step 12: End.

1.11.1.21 TPMS Software Diagnosis Procedure

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

— Yes: Next step

— No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "TPMS" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "TPMS" repair or replacement.

Step 12: End.

1.11.1.22 AC Software Diagnosis Procedure

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

— Yes: Next step

— No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "AC" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "AC" repair or replacement.

Step 12: End.

1.11.1.23 VDC Software Diagnosis Procedure

Diagnosis Procedure

Step 1: Perform vehicle power-on operations.

Step 2: Connect the scan tool to the DLC.

Step 3: Click "Traditional Diagnosis" in scan tool.

Step 4: Select the corresponding Windrose vehicle in scan tool.

Step 5: Check the VIN identified by the scan tool in the interface is consistent with the vehicle model?

— Yes: Next step

— No: Manually enter the VIN

Step 6: Click OK following the prompts on the interface of the scan tool.

Step 7: Select "System Topology" on the interface of the scan tool.

Step 8: Click "VDC" on the interface of the scan tool.

Step 9: Select "Special Function".

Step 10: Codes, reset, relearning and other special options will be displayed on the interface of the scan tool.

Step 11: Learn from the actual scenes of "VDC" repair or replacement.

Step 12: End.

2.1 Vehicle Inspection

2.1.1 Description and Operation

2.1.1.1 Inspections Items During Vehicle Operation

Operation of Horn

The horn shall be pressed occasionally to ensure that the horn is working properly, and all button positions shall be checked.

Operation of Braking System

When braking, pay attention to abnormal noises from the braking system, increased brake pedal stroke, or repetitive braking deviations. In addition, if the brake warning lamp is illuminated or flashing, it indicates that certain parts of the braking system may be failed.

Alignment of Tires and Vehicle

Pay attention to vibrations of steering wheel or seats when driving at normal road speeds. If the steering wheel or seats vibrate, it indicates that a wheel shall be balanced. In addition, if off-tracking is found of the vehicle running on a straight road, it indicates that the tire pressure shall be adjusted or the wheel alignment should be performed.

Operation of Steering System

Pay attention to changes in steering operations. If it is difficult to turn the steering wheel or there is a larger free travel, or abnormal sounds are heard when turning or parking, inspection shall be carried out. It is necessary to occasionally observe the light pattern of the headlamp in the event of focusing, and make adjustment if the beam focusing of the headlamp is incorrect.

2.1.1.2 Inspections Items During Refueling

If a system (except for the windshield washer) loses fuel, it indicates that the system fails, and it shall be inspected and repaired immediately.

Inspection of Coolant Level and Condition

Check the coolant level in the expansion tank, add coolant if necessary, check the coolant, and replace dirty coolant.

Inspection of Washer Fluid Level

Check the washer fluid level in the tank and add washer fluid if necessary.

2.1.1.3 Inspection Items At Least Once a Week

Tyre Inspection

Maintenance instructions: Check the tires for abnormal wear or damage and the wheels for damage, check the pressure of cold tires and the spare tires for vehicles equipped with spare tires, and maintain the recommended pressure indicated on the tire label.

Maintenance interval: Check at least once a week, and increase the frequency of inspection according to the actual situation.

2.1.1.4 Inspection Items At Least Once a Month

Air Pressure Inspection of Tires and Wheels

Check the tires for abnormal wear or damage and the wheels for damage, check the pressure of cold tires and the spare tires for vehicles equipped with spare tires, and maintain the recommended pressure indicated on the tire label.

Operation of Lamps

Check the operations of license plate lamps,headlamps (including high and low beams), tail lamps,stop lamps, turn signal lamps, backup lamps, and hazard warning lamps.

Inspection of Oil Leakage

After the vehicle has been parked for a certain period of time, check whether there is water, oil or other liquids on the ground under the vehicle. It is normal for the A/C system to drip after use. If leakage of other liquids is found, investigate the cause and troubleshoot immediately.

2.1.1.5 Inspection Items At Least Twice a Year

Lubrication of Door and Window Sealing Strip

Apply a thin layer of silicone-based grease to the sealing strip with a clean rag.

2.1.1.6 Inspection Items At Least Once a Year

Condition and Operation of Seat Belt

Check the harness system, including braided straps, latches, lock plates, retractors, guide rings and fixtures.

Body Lubrication and Maintenance

Lubricate all door hinges and hydraulic locks.

Cooling System

Check the coolant. If the coolant is too dirty or rusty, you should drain and flush the cooling system and refill with new coolant. Maintain proper coolant concentration to ensure proper freezing, boiling and corrosion performances and operating temperatures. Check the hoses and replace hoses

that are cracked, swollen, or aged. Tighten the clamps, and clean the outside of the radiator and the A/C system condenser as well as the filler cap. Carry out pressure test the cooling system to ensure that the system is functioning properly.

2.2 Maintenance and Service

2.2.1 Contents of Maintenance and Service

2.2.1.1 Maintenance Provisions

caution

If you have any questions about how to maintain your vehicle, please contact a Windrose authorized service station directly for help.

It is necessary to carry out routine maintenance and regular maintenance on the vehicle, which can ensure the normal use, efficiency, reliability of the vehicle and a good ride experience, and reduce the possible maintenance costs incurred.

For the routine maintenance items that can be completed by the user himself according to the manual, the user can complete the routine maintenances in accordance with the relevant instructions of this manual.

The systems installed on the vehicle are sophisticated and there are strict after-sales service requirements for new energy vehicles in accordance with national laws and regulations. Therefore, Windrose recommends that you should complete the regular maintenance of the vehicle at Windrose authorized service station.

caution

Please keep regular maintenance records as the basis for the "warranty".

2.2.1.2 First Maintenance

The first maintenance should be completed at an authorized maintenance service station after 6 months or 5,000km based on the vehicle model, and the users are requested to supervise the operation of the service station. The specific maintenance contents and technical requirements are as follows:

Vehicle Inspection

1. Check according to the Windrose Service Manual.
2. Check the date of sales and driving mileage of the vehicle are within the specified range.

High Voltage Battery System

1. Check the high voltage battery box and clean the box body to ensure that there is no obvious dust and the connector is not blocked.
2. Check that the high voltage battery connecting wire connector is firmly connected, and the skin insulation layer is not damaged.
3. Check that the fixing bolts of the high voltage battery box are free of looseness and falling off, and the box body is not deformed.
4. The surface and inside of the charging socket/charging gun are dry and free of dust and other foreign matters, and the cover plate is sealed reliably.
5. Check the terminals of the charging socket are yellow, blackened or ablated.
6. Check the SOC of battery packs is abnormal and confirm the battery fault feedback.
7. Check the maximum voltage, minimum voltage, average voltage, maximum differential voltage, maximum temperature, minimum temperature, average temperature and maximum temperature difference of the high voltage battery pack.
8. Carry out charging test on the vehicle in locked and sleeping state. After the vehicle is powered off and fall into sleeping state, insert the charging gun into the charging port to wake up the vehicle and read the charging current and charging power on the charging pile.

Electric Drive Axle System

1. Check the lubricating oil in electric drive axle.
2. Check the high voltage cables of the electric drive axle MCU, the low voltage harness of MCU and TCU and the harness of sensors are firm, whether the harness is damaged, and whether the fixing is protected in place.
3. Check the cooling water pipe and interface of the electric drive axle are leaking, bending, and whether the clamp is loose.
4. Check the insulation, ground wire, and low voltage connectors of the electric drive axle motor and MCU are normal.
5. Check the fastening bolts of the electric drive axle reducer, controller, motor and other axle parts for looseness, the filling and drain plugs for looseness and oil leakage, and the wheel side and reducer for oil leakage.
6. Connect the diagnostic device to read and record the operating parameters of the electric drive axle.

Motor Control System

1. Check the low voltage harness and connector terminals of the controller are loose and whether they are properly sealed.

2. Disconnect the high voltage and check whether the insulation resistance, harness, and ground of the MCU are normal.
3. Check the heat dissipation of the MCU is normal.
4. Connect the diagnostic device to read and record the operating parameters of the MCU.

PDU All-in-one System

1. Check the high voltage harnesses and aviation connectors are firmly connected, and whether the fixing protection is in place.
2. Check the low voltage harness and connector are firmly connected and fix the harness.
3. Check the insulation resistance value is normal.
4. Check the cooling water line and interface are leaking, bending, and whether the clamp is loose.
5. Check the ground cable is secure.

Electro-hydraulic Steering System

1. Check the clearance of the steering tie rod ball joint and cotter pins and tighten the fixing bolts of each component.
2. Check the electric steering pump is working properly, and the connecting wire and connector should be firmly connected.
3. Check the steering wheel locking bolts and steering shaft locking bolts are tightened reliably.
4. Check the steering fluid level or change the steering fluid and clean the filter element.
5. Check and lubricate the steering tie rod ball joint.
6. Check the steering free clearance is normal.
7. Check the oil pipe clamp is loose, and whether there is oil leakage.
8. Read and record the operating parameters of the electric power steering motor controller.

Electric Air Compressor System

1. Check the air filter element of the electric air compressor and purge and clean the air filter element.
2. Check the high voltage harness is damaged or falsely connected, and tighten the screws of the fixing bracket of the electric air compressor.
3. Check the insulation resistance of the air compressor and the high voltage harness is normal.
4. Check the dryer, condenser, four-circuit protection valve, and serpentine pipe for air leakage.
5. Read and record the operating parameters of the electric air compressor.

Battery Cooling System

1. Check the liquid level of the expanding tank for abnormalities.
2. Turn on "Left Battery Compressor" and "Right Battery Compressor" on the maintenance switch interface, read the data of battery and battery thermal management system, and check whether the refrigeration function is normal.
3. Check that the battery cooling system is filled up to standard without leakage or missing.
4. Check the battery cooling system, pipelines and control systems, connecting wires and connectors are firmly connected, whether the skin insulation layer is not damaged, and check related pipelines for faults and interferences.
5. Check the battery cooling water pump is working properly and whether the coolant filter is clogged with impurities.

Brake system

1. Check the effectiveness of the parking brake system.
2. Check the free travel of brake pedal.
3. Check the brake pipeline, front and rear axle modules, and electronic parking modules for air leakage.
4. Check the wear of the brake linings.
5. Check the tightening of the brake system bolts.
6. Drain the air reservoir (replace the drying tank if a large amount of water is detected in the air reservoir twice).

Chassis System

1. Check the airbag installation and tightening and check for wear.
2. Check the suspension height and the airbag for air leakage.
3. Check the shock absorber for oil leakage.
4. Check and fasten the bolts of the shock absorber fixing bracket and the shock absorber.
5. Check and fasten the bolts of the fastening limit block bracket.
6. Check and fasten the bolts of the X-shaped control arm, longitudinal thrust rod assembly, and thrust rod bracket.
7. Check and fasten the nuts of U-bolts.

8. Check and fasten the fixing bolts of height valve.
9. Check the brake air circuit for air leakage.
10. Check the air reservoir for air leakage.
11. Check the air pipe connected to the trailer for air leakage.
12. Read and record the EBS\ECAS\EPB DTCs.

Cab System

1. Check the front cover opens properly and smoothly.
2. Check the wipers, washers, rearview mirrors, window regulators, awning sunshade, front windshield shades, etc. are working properly.
3. Check the steering wheel, IVI, seat, etc. are working properly.
4. Check the door can open and close normally.
5. Check the left and right side wall trim panels, boarding steps, fenders, etc. are loose.

Electrical System

1. Check the fastening of the battery power line and ground wire.
2. Check the low voltage battery capacity.
3. Check the working condition of DC/DC and whether it can charge the low voltage battery normally.
4. Check various lamps, indicators, instrument and IVI systems are working properly.
5. Read and record vehicle DTCs and operating data.
6. Check the harness for scratches, interferences, open circuit and short circuit, and the harness should be kept away from the heat source.
7. Check the connection of the harnesses and the connectors of the electrical appliances.
8. Check the fuses, relays, lamps, and other electrical components are working properly.
9. Check the self-test of the electronic control system is normal and whether the system is faulty.
10. Check the modules are loose, and whether the connectors and pole ares tightly fastened.

A/C System

1. Check the A/C system is working properly.
2. Blow the A/C filter element.

Fifth Wheel System

1. Check the fifth wheel for damage, bending, omission, or cracks, etc.
2. Check the fifth wheel is functioning properly.
3. Check the mounting bolts that fix the fifth wheel.
4. Check the wear of the fifth wheel wear ring, lock hook, fifth wheel panel and trailer traction pin, and replace it if the wear is out of tolerance in a timely manner.
5. Check the filling of the grease.

2.2.1.3 Regular Maintenance

The regular inspection should be completed at an authorized maintenance service station based on the vehicle model, and the users are requested to supervise the operation of the service station. The specific maintenance contents and technical requirements are as follows:

Vehicle Inspection

1. Check according to the Windrose Service Manual.
2. Check the date of sales and driving mileage of the vehicle are within the specified range.

High Voltage Battery System

1. Check the high voltage battery box and clean the box body to ensure that there is no obvious dust and the connector is not blocked.
2. Check that the high voltage battery connecting wire connector is firmly connected, and the skin insulation layer is not damaged.
3. Check that the fixing bolts of the high voltage battery box are free of looseness and falling off, and the box body is not deformed.
4. The surface and inside of the charging socket/charging gun are dry and free of dust and other foreign matters, and the cover plate is sealed reliably.
5. Check the terminals of the charging socket are yellow, blackened or ablated.
6. Check the SOC of battery packs is abnormal and confirm the battery fault feedback.
7. Check the maximum voltage, minimum voltage, average voltage, maximum differential voltage, maximum temperature, minimum temperature, average temperature and maximum temperature difference of the high voltage battery pack.

8. Carry out charging test on the vehicle in locked and sleeping state. After the vehicle is powered off and fall into sleeping state, insert the charging gun into the charging port to wake up the vehicle and read the charging current and charging power on the charging pile.
9. The SOC of high voltage battery should be calibrated once per month; In case the vehicle has been parked for more than 3 weeks, SOC calibration should be performed at least once.
10. High voltage battery calibration method: Use the high voltage battery until its SOC becomes 20%–25%; Fully charge the high voltage battery; Use the high voltage battery until its SOC becomes 40%–60%.

Electric Drive Axle System

1. Change the lubricating oil in electric drive axle.
2. Check the high voltage cables of the electric drive axle MCU, the low voltage harness of MCU and TCU and the harness of sensors are firm, whether the harness is damaged, and the fixing is protected in place.
3. Check the cooling water pipe and interface of the electric drive axle are leaking, bending, and whether the clamp is loose.
4. Check the insulation, ground wire, and low voltage connectors of the electric drive axle motor and MCU are normal.
5. Check the fastening bolts of the electric drive axle reducer, controller, motor and other axle parts for looseness, the filling and drain plugs for looseness and oil leakage, and the wheel side and reducer for oil leakage.
6. Connect the diagnostic device to read and record the operating parameters of the electric drive axle.

Motor Control System

1. Check the low voltage harness and connector terminals of the controller are loose and whether they are properly sealed.
2. Disconnect the high voltage and check whether the insulation resistance, harness, and ground of the MCU are normal.
3. Check the heat dissipation of the MCU is normal.
4. Connect the diagnostic device to read and record the operating parameters of the MCU.

PDU All-in-one System

1. Check the high voltage harnesses and aviation connectors are firmly connected, and whether the fixing protection is in place.
2. Check the low voltage harness and connector are firmly connected and fix the harness.
3. Check the insulation resistance value is normal.
4. Check the cooling water line and interface are leaking, bending, and whether the clamp is loose.
5. Check the ground cable is secure.

Electro-hydraulic Steering System

1. Check the clearance of the steering tie rod ball joint and cotter pins and tighten the fixing bolts of each component.
2. Check the electric steering pump is working properly, and the connecting wire and connector should be firmly connected.
3. Check the steering wheel locking bolts and steering shaft locking bolts are tightened reliably.
4. Change the steering fluid level or the steering fluid and clean the filter element.
5. Check and lubricate the steering tie rod ball joint.
6. Check the steering free clearance is normal.
7. Check the oil pipe clamp is loose, and whether there is oil leakage.
8. Read and record the operating parameters of the electric power steering motor controller.

Electric Air Compressor System

1. Replace the air filter element of the electric air compressor.
2. Check the high voltage harness is damaged or falsely connected, and tighten the screws of the fixing bracket of the electric air compressor.
3. Check the insulation resistance of the air compressor and the high voltage harness is normal.
4. Check the dryer, condenser, four-circuit protection valve, and serpentine pipe for air leakage.
5. Read and record the operating parameters of the electric air compressor.

Battery Cooling System

1. Check the liquid level of the expanding tank for abnormalities.

2. Turn on "Left Battery Compressor" and "Right Battery Compressor" on the maintenance switch interface, read the data of battery and battery thermal management system, and check whether the refrigeration function is normal.
3. Change the battery cooling system coolant.
4. Check the battery cooling system, pipelines and control systems, connecting wires and connectors are firmly connected, the skin insulation layer is not damaged, and check related pipelines for faults and interferences.
5. Check the battery cooling water pump is working properly and the coolant filter is clogged with impurities.

Brake system

1. Check the effectiveness of the parking brake system.
2. Check the free travel of brake pedal.
3. Check the brake pipeline, front and rear axle modules, and electronic parking modules for air leakage.
4. Replace the brake lining.
5. Check the tightening of the brake system bolts.
6. Drain the air reservoir (replace the drying tank if a large amount of water is detected in the air reservoir twice).

Chassis System

1. Check the airbag installation and tightening and check for wear.
2. Check the suspension height and the airbag for air leakage.
3. Check the shock absorber for oil leakage.
4. Check and fasten the bolts of the shock absorber fixing bracket and the shock absorber.
5. Check and fasten the bolts of the fastening limit block bracket.
6. Check and fasten the bolts of the X-shaped control arm, longitudinal thrust rod assembly, and thrust rod bracket.
7. Check and fasten the nuts of U-bolts.
8. Check and fasten the fixing bolts of height valve.
9. Check the brake air circuit for air leakage.
10. Check the air reservoir for air leakage.
11. Check the air pipe connected to the trailer for air leakage.
12. Read and record the EBS\ECAS\EPB DTCs.

Cab System

1. Check the front cover opens properly and smoothly.
2. Check the wipers, washers, rearview mirrors, window regulators, awning sunshade, front windshield shades, etc. are working properly.
3. Check the steering wheel, IVI, seat, etc. are working properly.
4. Check the door can open and close normally.
5. Check the left and right side wall trim panels, boarding steps, fenders, etc. are loose.

Electrical System

1. Check the fastening of the battery power line and ground wire.
2. Check the low voltage battery capacity.
3. Check the working condition of DC/DC and whether it can charge the low voltage battery normally.
4. Check various lamps, indicators, instrument and IVI systems are working properly.
5. Read and record vehicle DTCs and operating data.
6. Check the harness for scratches, interferences, open circuit and short circuit, and the harness should be kept away from the heat source.
7. Check the connection of the harnesses and the connectors of the electrical appliances.
8. Check the fuses, relays, lamps, and other electrical components are working properly.
9. Check the self-test of the electronic control system is normal and whether the system is faulty.
10. Check the modules are loose, and whether the connectors and pole ares tightly fastened.

A/C System

1. Check the A/C system is working properly.
2. Replace the A/C filter element.

Fifth Wheel System

1. Check the fifth wheel for damage, bending, omission, or cracks, etc.
2. Check the fifth wheel is functioning properly.
3. Check the mounting bolts that fix the fifth wheel.
4. Check the wear of the fifth wheel wear ring, lock hook, fifth wheel panel and trailer traction pin, and replace it if the wear is out of tolerance in a timely manner.
5. Change the grease.

2.2.2 Specifications

2.2.2.1 Fluid Capacity

Application	Specification	Capacity
Final drive fluid (3 motor)	GL-5 (75W/90), Extended Life	16.5L (intermediate axle) + 11.5L (rear axle)
Final drive fluid (4 motor)	GL-5 (75W/90), Extended Life	16.5L (intermediate axle) + 16.5L (rear axle)
Motor electronically controlled antifreeze (3 motor)	Ethylene glycol antifreeze -45°C	30L (reference value, add on request)
Motor electronically controlled antifreeze (four motors)	Ethylene glycol antifreeze -45°C	35L (reference value, add on request)
Battery antifreeze (NCM lithium)	Ethylene glycol antifreeze -45°C	37L (reference value, add on request)
Battery antifreeze (LFP)	Ethylene glycol antifreeze -45°C	27L (reference value, add on request)
Steering gear hydraulic oil	ATF3	4L
A/C Refrigerant	HFC-134a	850g±50g

2.2.3 Maintenance Cycle

2.2.3.1 Maintenance Schedule

Normal Use of Vehicle

The maintenance items given in the maintenance schedule are conducive to:

– The delivery of goods under the restrictions indicated on the tire label attached to the edge of the driver door.

– The driving on appropriate roads and under legal operating restrictions.

Regular Maintenance Schedule (Tractor)

caution

The maintenance interval or mileage given, whichever comes first in the regular maintenance schedule shall prevail.

warning !

The user should use special after-sales fluids and accessories designated by the OEM. Otherwise, paid services will be provided by OEM as to damages caused by violating the rules.

Maintenance Item	Maintenance Interval							
	Every 15,000km/12 Months	Every 50000km/6 Months	Every 60000km/6 Months	Every 60000km/24 Months	Every 80000km/12 Months	Every 300000km/12 Months	Every 40,000km	Every 500000km
Dryer		●						
Air filter element		●						
Steering fluid reservoir filter element		●					●	
Power steering fluid		●			●			
Gear oil								●
A/C filter element	●							
Coolant				●				
Electric drive axle final drive						●		
Air compressor air filter element			●					
Drying tank			●					

2.2.4 Quality Warranty Statement

2.2.4.1 Quality Warranty Statement

Windrose will warrant to the ultimate purchaser and each subsequent purchaser that the new vehicle, including all parts of its emission control system, meets three conditions:

1.It is designed, built, and equipped so it conforms at the time of sale to the ultimate purchaser with the requirements of 40CFR Part 1037.120 as well as with all applicable regulations adopted by the California Air Resourcers Board pursuant to its authority in chapters 1 and 2, Part 5, division 26 of the Health and Safety Code.

2.It is free from defects in materials and workmanship that could cause the vehicle to fail to conform to the regulated requirements or could cause failure of a warranted part during the applicable warranty period.

3.The powertrain is identical in all material respects to the zero-emission powertrain as described in the related powertrain application for certification.

Additional items:

– For emissions-related warranty (5 years or 100,000 miles) under “powertrain” list main components that need to be covered – motor, inverter, HV battery charging system, batteries and thermal management.

– The emission-related warranty covers all components whose failure would increase a vehicle's emissions of air conditioning refrigerants.

– Windrose warrants that its vehicles are (1) designed, built and equipped with tires that conform, at the time of sale, with requirements of vehicle manufacturers whose vehicles are designed to meet applicable 2014 and later, U.S. Environmental Protection Agency and National Highway Traffic and Safety Administration greenhouse gas and fuel efficiency standards, and (2) those tires are free from defects in material and workmanship which cause the vehicle to fail to conform with the vehicle manufacturer’s requirements for a period of 2 years or 24,000 miles, whichever occurs first.

3.1 Mechanical Fault Diagnosis

3.1.1 Mechanical Fault Diagnosis Overview

3.1.1.1 Overview

Mechanical diagnosis is to troubleshoot faults in vehicle, analyze and make judgments in accordance with relevant technical standards with the use of special tools, instrument, equipment and software for the purpose of investigating the cause of the fault and confirming the location of the fault. In general, the fault diagnosis of vehicles is performed through intuitive experience and instrument and equipment. With the development of vehicle technology, especially the application of electronic technology and computer technology in vehicles, the fault diagnosis methods of vehicles have been developed from observation, hearing, smelling, touching, isolation, testing, comparison and other traditional experiences to the use of information technology-based complete, modern fault diagnosis technology systems for vehicles with the digital, integrated and intelligent diagnostic equipment as the auxiliary means.

This section aims to analyze and eliminate common faults found during driving so as to make it easier for maintenance personnel to quickly find and eliminate the source of the fault.

3.1.1.2 Precautions

Cautions Regarding Mechanical Fault Diagnosis

warning !

1. Park the vehicle on level ground or in a well-ventilated operation room.
2. Apply the parking brake and turn off the ignition switch to prevent the vehicle from slipping during maintenance.
3. Do not operate under the vehicle when it is lifted only with a jack or lift. Unless the vehicle is parked on a sturdy tripod or bracket suitable for lifting the vehicle. Place wedges at the wheels to prevent the wheels from rolling when the tires are not off the ground.
4. During maintenance, ensure safety and do not damage parts or operate in violation of regulations.

3.1.2 Integrated Vehicle Faults

3.1.2.1 Noises and Abnormal Sounds in Vehicle

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	Abnormal noise in steering system	Refer to Diagnosis of Abnormal Sounds in Steering System - Abnormal Sounds in Steering System
2	Abnormal sound in brake	Refer to Diagnosis of Abnormal Sounds in Brake - Abnormal Sounds in Brake

3.1.2.2 Tire Wear

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	Axle steering occurs when the left and right wheelbases of the vehicle are not the same, which aggravates the tire wear and even leads to tire eating.	Check the dimensional error of the frame, air spring, front axle, rear axle and other parts on regular basis. When the dimensional errors reaches a certain level, the left and right wheelbase will not be equal.
2	Tire wear caused by changes in wheel alignment angle as a result of overloading	Increase the tightness of the front hub bearing
3	Significant fluctuations in toe-in of the wheels also result in wear	In the event of tire eating caused by wheel camber and kingpin inclination that are out of tolerance, the front axle assembly should be replaced
4	Abnormal tire friction caused by steerable wheel oscillation	Strictly control the toe-in of steering wheels
5	The unevenness of steel rim end face is out of tolerance	Replace the steel rim with qualified flatness or process the plane of the steel rim to make it qualified
6	Overloaded tires	Avoid severe overloading of the vehicle
7	The tire pressure is too high, resulting in crown wear	Deflate tires with high air pressure to keep the air pressure within the specified range
8	Tire rotation is not performed in time	Replace the tires in a timely manner
9	Overloaded tires lead to deformation or runout of steel rim end face, and the runout of steel rim end face also causes runout of tire end face	Reduce wheel radial runout, end face runout, imbalance of mass distribution, etc.
10	Severe overloading of front axle leads to great deformation of front axle	In the event of rigid deformation of front axle, the front axle should be replaced

Step	Diagnostic Content	Measure
11	Frequent and violent starts, braking, high-torque drive, and stops	Develop correct driving habits and avoid frequent and violent starts, braking, high-torque drive and stops
12	Insufficient tire inflation pressure or severe overload	Avoid severe overloading of the vehicle
13	Inferior quality of parts, such as steering knuckle bushing deformation, serious wear, excessive clearance between kingpin and steering knuckle bushing, loose front axle hub bearing, loose rear axle hub bearing, etc.	Replace inferior parts
14	The steel rim is out of round or eccentric, and the outer tire is repaired due to damage	Replace the reinforced rim

3.1.2.3 Insufficient Air Pressure Throughout the Vehicle

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	The inflation pump connecting pipe is broken	Weld or replace the inflation pump connecting pipe
2	The inflation pump is faulty	Repair or replace the inflation pump

3.1.2.4 Steering Wheel Shaking at High Speeds

Fault Description:

The vehicle is unstable or swings, or even the steering wheel shakes at high speeds or at a certain high speed.

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	The front wheel alignment angle is inaccurate and the toe-in is excessive	Check whether the front wheel alignment angle and toe-in meet the requirements; If not, adjust them
2	Deformed front spokes, unequal number of tire bolts, too low front tire pressure or tire repair, etc. result in unbalance	Jack the front axle to test the wheels and check the dynamic balance of the wheels and whether the tires are deformed to a large extent. If necessary, replace the wheel with a one with good quality for comparative test
3	The drive system parts are loosely installed	Tighten drive system components

Step	Diagnostic Content	Measure
4	The steering drive shaft is bent, dynamic unbalance occurs and the front axle is deformed	Check whether the front axle and frame are deformed and whether the steering drive shaft is bent, and perform dynamic balance on the drive shaft when possible
5	Shock absorber fault	Replace the shock absorber

3.1.2.5 Driving Deviation

Fault Description:

Check for driving deviation as follows: Generally during driving, center the steering wheel, and then take your hands off the steering wheel to see if the vehicle is driving in a straight line. If not, it can be determined that the vehicle is deviating from the road.

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	Inconsistent left and right tire pressures	Inflate under-inflated tires
2	Inaccurate alignment of the front wheels. The front wheel camber, kingpin angles or kingpin inclination are not equal	Both small toe-in or negative toe-in can cause driving deviation. When this occurs, go to a professional maintenance station for testing

3.1.3 Frame and Suspension Faults

3.1.3.1 Diagnosis of Faults in Frame and Suspension

Fault Description 1:

The front bottom contacts the ground or the riding height is low.

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	Suspension components are damaged	Check the suspension components for damage
2	The air spring is faulty	Check the dynamic suspension

Fault Description 2:

The vehicle leans to one side.

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	Front and rear suspension components	Check the front and rear suspensions
2	The air spring is faulty	Check the air spring

3.1.4 Wheel and Tire Faults

3.1.4.1 Diagnosis of Driving Deviation

Fault Description:

When the vehicle is deviating to one side, the driver should hold the steering wheel with both hands or apply force on other side of the steering wheel to ensure normal driving. Otherwise it is easy for the vehicle to deviate from the driving direction.

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	Unqualified or worn tires are used, or the tires on both sides are of different sizes; The air pressure in tires on both sides is not equal, or the tire one side is severely worn	Rotate tires to ensure consistent tire pressure
2	The front hub bearing is not properly adjusted, causing it to be too tight or too loose. The front wheel alignment angle on both sides is different or changes; The front axle is bent and deformed	Adjust the front hub bearing; Correct the front axle to restore to correct front wheel alignment angle; Adjust the toe-in to correct value
3	One side of the frame is broken; The frame is deformed	Repair the frame and correct the deformation
4	The rear axle housing is bent and deformed or broken	Correct or replace the rear axle housing
5	The rear axle is misaligned with the frame	Check and adjust the position of the rear axle relative to the frame
6	Extreme eccentricity	Note eccentric load and load deflection during driving

3.1.4.2 Diagnosis of Front Wheel Vibrations

Fault Description:

The front wheels vibrate to left and right or bump vertically during driving. This will have a great impact on the vehicle speed, making it uncomfortable to sit in the vehicle.

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	Tire pressure is inconsistent; Tires are not of the same size; Severe wear	Check and adjust the tire pressure; Replace the tires with new ones
2	Wheel dynamic unbalance	Carry out dynamic balance test on the wheel assembly to control the unbalance within the allowable range

Step	Diagnostic Content	Measure
3	The front wheel hub bearing is damaged or loose	Check and adjust the tightness of the front wheel hub bearing of the vehicle, and replace the damaged hub bearing
4	Incorrect front wheel alignment	Adjust the front wheel alignment and toe-in

3.1.5 Steering System Faults

3.1.5.1 Diagnosis of Steering Wheel Shaking

Fault Description:

The shaking steering wheel and vibrating front wheels can cause the car front end to shake while driving, and the driver has to slow down in serious condition.

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	There is air in steering hydraulic system	Discharge air from the hydraulic system
2	Dirt is clogged in the hydraulic pipeline	Remove dirt from the hydraulic pipeline system
3	Mechanical system is faulty	Check and eliminate mechanical faults in power steering system

3.1.5.2 Diagnosis of Abnormal Sounds in Steering System

Fault Description:

The abnormal sounds heard in the steering system while driving or high speed driving mainly come from the steering gear, electric steering pump, etc.

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	There is air in steering hydraulic system	Discharge air from the steering hydraulic system
2	The electric steering pump is damaged	Check and repair the electric steering pump
3	The steering control mechanism is damaged	Clean or repair the steering gear
4	Mechanical collision sounds in steering system	Adjust or repair the steering transmission mechanism

3.1.6 Brake System Faults

3.1.6.1 Diagnosis of Braking Deviation

Fault Description:

Braking deviation is a phenomenon that the vehicle deviates to one side while driving as the left and right braking effects on the same axle are not uniform. Braking deviation occurs when applying brake or emergency brake; When the car brakes, it may drift. Minor deviation is allowed, but serious deviation may cause accidents.

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	Uneven braking force of wheel brakes	Adjust the wheel brakes uniformly as far as possible
2	Unequal exposure of left and right brake chamber push rods	Adjust the brake chamber push rod to ensure consistency between the left and right brake chamber push rods
3	Inconsistent left and right tire pressures	Inflate the tires to ensure consistent tire pressure
4	A wheel friction plate is contaminated by oil or the friction plates are of inconsistent model	Replace the inconsistent friction plates and remove the oil
5	The frame is deformed or the vehicle is heavily eccentric	Correct the frame to keep the vehicle load balanced

3.1.6.2 Diagnosis of Brake Failure

Fault Description:

Obvious insufficient deceleration is found when depressing the brake pedal to slow down or stop. The vehicle cannot stop quickly when applying emergency brake, and the braking time and braking distance are extended. No tire drag traces are found or the tire drag traces are extremely short during inspection on a parked vehicle

Fault Diagnosis and Troubleshooting

Check for possible causes of the fault one by one according to the following steps. Diagnose in a simple-to-complex progressive manner to effectively save time. Directly skip specific steps concerning the causes that are obviously impossible through analysis. This diagnostic step is used for reference only.

Step	Diagnostic Content	Measure
1	The brake pedal free travel is too large	Adjust the free stroke of the brake pedal to the specified value
2	The air pressure of the air reservoir is insufficient	Adjust the air pressure of the brake pipeline to the specified value
3	The brake system is leaking or the pipeline is clogged	Check whether the pipeline between the brake valve and the brake air pump is subject to air leakage, and replace the air pressure pipe if necessary
4	The brake valve is improperly adjusted or working poorly	Adjust or replace the brake valve
5	The wheel brake is improperly adjusted or poorly working	Adjust or replace the wheel brake

3.1.7 Vehicle Body Faults

3.1.7.1 Note

In the process of body repair, professional and technical personnel may use sheet metal repair machines, welding machines and various grinding and cutting tools to ensure that the vehicle can be restored to the original level in terms of geometric dimensions and usability. However, sometimes, you may not be able to find the faults in the driving system and assembly mounts that can lead to serious consequences when repairing an accident vehicle. Therefore, in addition to the necessary inspections of geometrical dimensions, special attention must be paid to the following components.

3.1.7.2 Fault Inspection

1. Check that the steering mechanism and steering rod system can be operated correctly within the number of turns of the steering wheel, and visually check for bent or cracked parts.
2. Check the wheels and tires for damage, concentric rotation and imbalance. Check the tire pattern and sidewall for cuts/ check the tire pressure.
3. After body repair, carry out a road test to ensure the driving ability of the vehicle, and finally hand over the vehicle to users.

3.1.7.3 Body Fault Assessment

Slight pits can be repaired without damaging the paint finish. It can be removed from inside the pit using a special lever tool (pressure tool). When performing this kind of repair, it requires that the technician has extensive experience in using special tools and sufficient knowledge about the materials, and is capable to identify faults and use correct repair methods. The pit should meet the following requirements:

The pits should be limited to body positions that are easily accessible from both sides, as this repair method is rarely used for double-skinned parts or enclosed sections.

Satisfactory repair results can be achieved for slight shallow pits with small deformation radius. This method is particularly applicable to damages caused by hail, or during parking or transportation.

In case the diameter of the pit is less than 50mm, and the extent of damage can be assessed according to the size of the pit.

caution

The deformation of material in the center of the pit must not exceed the deformation limit.

4.1 Integrated E-axle Device

4.1.1 Quality Warranty Statement

4.1.1.1 Emission Quality Warranty Statement

– For emissions-related warranty (5 years or 100,000 miles) under “powertrain” list main components that need to be covered – motor, inverter, HV battery charging system, batteries and thermal management.

– The emission-related warranty covers all components whose failure would increase a vehicle's emissions of air conditioning refrigerants.

4.1.2 specifications

4.1.2.1 Fastener Specifications

Fastener name	Specifications	Range Of Torque
		Metric System (ft-lb)
The grounding wire fixing bolt connecting the integrated axle and the frame assembly	M8	(11 ft-lb +/- .5 ft-lb) ft-lb

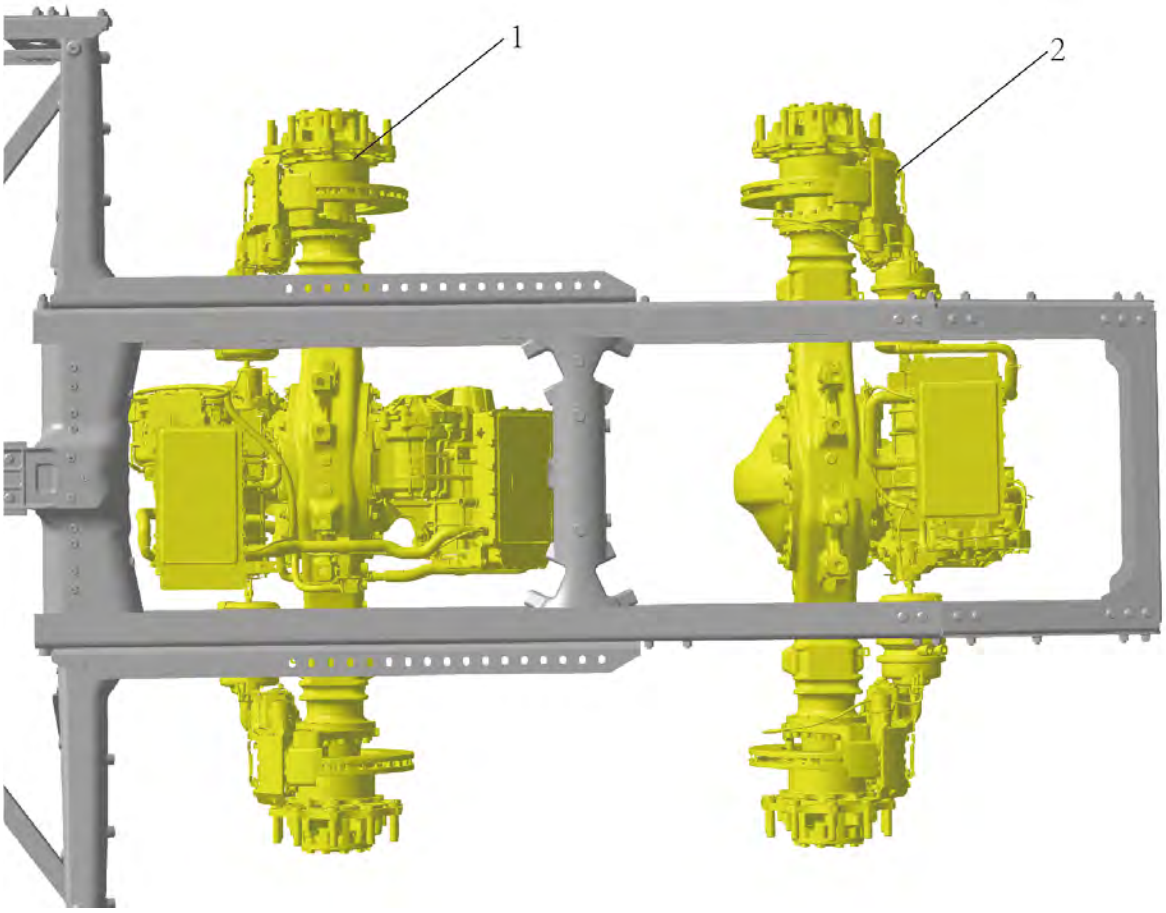
4.1.2.2 Technical Parameters

Drive Motor

Item	General Parameters
Manufacturer	Jiangsu Maxwell Industries Co., Ltd.
Type	Permanent magnetic synchronous motor
Continuous power	170kW
Peak power	260kW
Continuous torque	184 lb·ft
Peak torque	405lb·ft
Speed range	0-11,000 r/min
Insulation grade	H
Cooling method	Water cooling
Protection rating	IP67
Weight	60 kg
System efficiency	97.4%

4.1.3 Decomposition Diagram

4.1.3.1 Decomposition Diagram



1. Axle Electric Drive Assy
2. Axle Electric Drive Assy

4.1.4 Inspect

4.1.4.1 Inspection of Electric Drive System

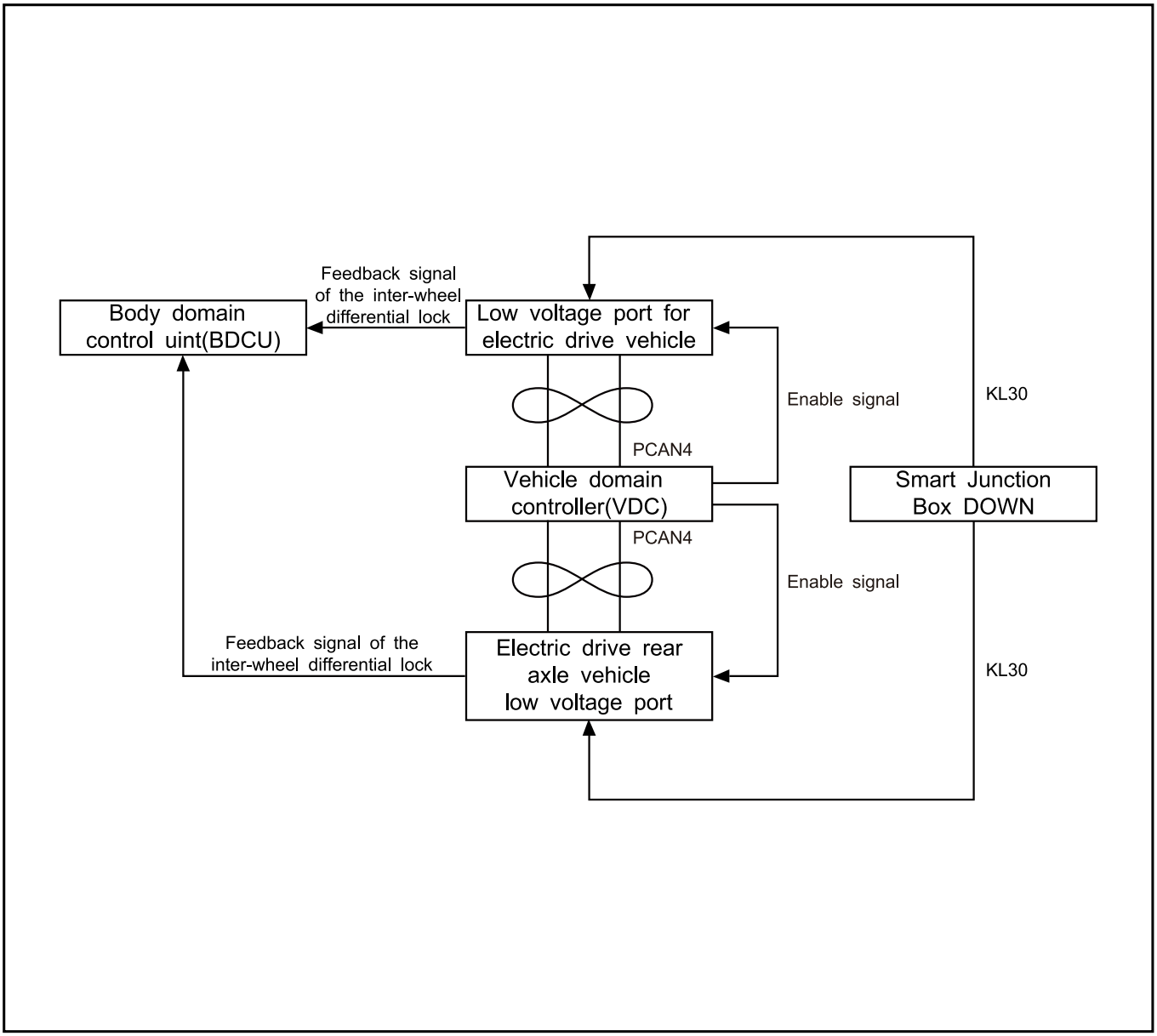
Before starting the vehicle, check whether the relevant data displayed on the instrument cluster is normal. If the data is abnormal, do not drive the vehicle. Instead, record the system fault type and related data, and report the information to the Windrose authorized service station.

caution

If the high voltage battery or motor system fails, please contact a Windrose authorized service station for repair in time.

4.1.5 System Schematic Diagram

4.1.5.1 Electrical Schematic Diagram



4.1.6 Diagnostic Information and Steps

4.1.6.1 Diagnosis Description

Before diagnosing faults in the integrated axle device, it is important to understand and familiarize oneself with the working principle of the integrated axle device, and then begin system diagnosis. This will help determine the correct fault diagnosis steps when a fault occurs, and more importantly, it will help determine whether the situation described by the customer belongs to normal operation. Any fault diagnosis of integrated axle devices should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

4.1.6.2 Routine Inspection

• Check for aftermarket installation devices that may affect the operation of the integrated axle device system, ensuring that these devices do not affect the operation of the integrated axle device system.

• Inspect system components that are easily accessible or visible to make sure they are not visibly damaged or have conditions that could cause failure.

4.1.6.3 DTC Confirmation

1.Connect the diagnostic instrument to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Restart the vehicle.

3. Read the fault code of the control system again to confirm whether the system has a fault code output.

– Yes:Diagnose based on the output fault code.

– No:Perform intermittent fault checks, refer to Inspection Of Intermittent Fault

4.1.6.4 Inspection Of Intermittent Faults

caution

- Clear DTC.
- Conduct mock tests.
- Check and shake the wiring harness, connector box terminals.

When the fault cannot be confirmed by DTC inspection, the fault phenomenon only occasionally occurs in use. This should confirm all circuits and components that may cause the failure. In many cases, the fault location can be quickly and efficiently identified by performing the basic checks shown in the flowchart below. Especially for faults such as poor contact of wiring harness connectors. Fault Definition: This fault is not currently occurring, but historical DTC records indicate that this fault has occurred. Or the customer has reported the fault to be repaired, but because the fault is not related to the DTC, the fault symptoms cannot be reproduced at this time.

Diagnostic Steps:

Step 1	Check the battery voltage.

A. Perform vehicle power-up operation.

B. Measure the voltage of the battery.

C. According to the measured values, the corresponding diagnostic step is entered.

Result	To Step
22 V - 27.4 V	Yes
Less than 22 V	No

No

Check the main battery. Refer to Inspection Of Main Battery

Yes

Step 2	Visual physical inspection.

Performing this step is an important means to preliminarily determine the location of the fault:

- Check the wiring harness is damaged, whether there are wear, broken skin and other faults.
- Check the wiring harness is improperly arranged. It is strictly forbidden to close the wiring harness to high voltage or high current devices.
- Check the positive and negative cables of the battery are connected reliably and whether there are any phenomena such as looseness, oxidation and corrosion.

Next Step

Step 3	Check the wiring harness, connectors.

A. Many intermittent failures are caused by wire harness and connector movement caused by vibration, twisting, uneven road or component operation.

B. If the circuit resistance is too high, the component may not work properly. Use the diagnostic instrument to force the actuator to drive. If it can't work normally, Check the relevant circuit has line faults such as excessive resistance.

Next Step

Step 4	Reproduce the fault and record the data of the control unit with the instrument.

A. Connect the vehicle fault diagnosis instrument, and use the data recording function of the fault diagnosis instrument to record the data when intermittent faults occur on the road test vehicle. After pressing the button of the vehicle data logger, the control module data can be recorded in the event of intermittent failure, which can be used to identify the failure location.

B. Another diagnostic method is to connect the digital multimeter to the suspicious circuit while the vehicle is running. The abnormal reading value of the digital multimeter may indicate the fault location.

Next Step

Step 5	The fault LED illuminates intermittently, but the system has no fault code set.

The following conditions may cause the fault LED to illuminate intermittently, but the system will not set a DTC:

- Electromagnetic interference caused by abnormally working relays, solenoid valves or switches controlled by the control module.
- Accessories that are not original or after-market, such as car phones, alarms, lights or radios, are not installed correctly.
- The fault indicator control circuit is intermittently shorted to ground.
- The control module ground point is loose.

Next Step

Step 6	Other checks.

Check the charging system for the following conditions:

- Is the output voltage of the high and low voltage charging system correct? If the DCDC1 output voltage is not around 27.5 V and the DCDC2 output voltage is not around 30.5 V, repair the charging system.

Next Step

Step 7	Go to the fault symptom table.

4.1.6.5 List Of Diagnostic Trouble Codes (DTCs)

MCU1

Fault Code	Fault Description	Exclusion Method
P220400	24V undervoltage fault	Refer to MCU1 Power Fault
B111717	High battery voltage	
B111716	Low battery voltage	
U012287	Communication with the VCU is lost	Refer to MCU1 Communication Fault
U015687	missing CDCU	
U019887	VCAN bus-off	
U008E88	PCAN4 BusOff	
P220500	The hardware overvoltage is faulty	Refer to MCU1 Internal Fault
P220600	Busbar level 3 undervoltage fault	
P220700	Compensates for excessive fault of weak magnetic current regulation	
P220800	The controller output software overcurrent level 2 fault	
P220900	The controller output software overcurrent level 3 fault	
P220A00	The controller output hardware overcurrent fault is level-three	

Fault Code	Fault Description	Exclusion Method
P221800	The driver temperature sensor plug has poor contact	
P221900	Motor housing temperature sensor open circuit fault	
P221A00	Rotatory fault	
P221B00	Motor overspeed 2 alarm	
P221C00	Motor overspeed 3 alarm	
P221D00	Motor stall fault	
P221E00	EEPROM read and write failure	
P221F00	Total hardware failure	
P221400	Motor controller overtemperature level 2 fault	Refer to MCU1 Overheating Fault
P221500	Motor controller overtemperature level 3 fault	
P221600	Motor overtemperature level 2 fault	
P221700	Motor overtemperature level 3 fault	
P220000	Bus Overvoltage Level 2 Fault	Refer to MCU1 High Voltage Circuit Fault
P220100	Bus Overvoltage Level 3 Fault	
P220200	Bus level 2 undervoltage fault	
P220300	Bus level 3 undervoltage fault	
P220B00	The U-phase current sensor is faulty	
P220C00	The V-phase current sensor is faulty	
P220D00	W phase current Sensor Open Circuit fault (reserved)	
P220E00	U-phase current sensor zero drift too large fault	
P220F00	V phase current sensor zero drift too large fault	
P221000	W phase current sensor zero drift too large fault (reserved)	
P221100	U-phase fault	
P221200	V-phase fault	
P221300	W-phase fault	

MCU2

Fault Code	Fault Description	Exclusion Method
P230400	24V undervoltage fault	Refer to MCU2 Power Fault
B111717	High battery voltage	
B111716	Low battery voltage	

Fault Code	Fault Description	Exclusion Method
U012287	Communication with the VCU is lost	Refer to MCU2 Communication Fault
U015687	missing CDCU	
U019887	VCAN bus-off	
U008E88	PCAN4 BusOff	
P230500	The hardware overvoltage is faulty	Refer to MCU2 Internal Fault
P230600	Busbar level 3 undervoltage fault	
P230700	Compensates for excessive fault of weak magnetic current regulation	
P230800	The controller output software overcurrent level 2 fault	
P230900	The controller output software overcurrent level 3 fault	
P230A00	The controller output hardware overcurrent fault is level-three	
P231800	The driver temperature sensor plug has poor contact	
P231900	Motor housing temperature sensor open circuit fault	
P231A00	Rotatory fault	
P231B00	Motor overspeed 2 alarm	
P231C00	Motor overspeed 3 alarm	
P231D00	Motor stall fault	
P231E00	EEPROM read and write failure	
P231F00	Total hardware failure	
P231400	Motor controller overtemperature level 2 fault	Refer to MCU2 Overheating Fault
P231500	Motor controller overtemperature level 3 fault	
P231600	Motor overtemperature level 2 fault	
P231700	Motor overtemperature level 3 fault	
P230000	Bus Overvoltage Level 2 Fault	Refer to MCU2 High Voltage Circuit Fault
P230100	Bus Overvoltage Level 3 Fault	
P230200	Bus level 2 undervoltage fault	
P230300	Bus level 3 undervoltage fault	
P230B00	The U-phase current sensor is faulty	
P230C00	The V-phase current sensor is faulty	
P230D00	W phase current Sensor Open Circuit fault (reserved)	
P230E00	U-phase current sensor zero drift too large fault	

Fault Code	Fault Description	Exclusion Method
P230F00	V phase current sensor zero drift too large fault	
P231000	W phase current sensor zero drift too large fault (reserved)	
P231100	U-phase fault	
P231200	V-phase fault	
P231300	W-phase fault	

MCU3

Fault Code	Fault Description	Exclusion Method
P240400	24V undervoltage fault	Refer to MCU3 Power Fault
B111717	High battery voltage	
B111716	Low battery voltage	
U012287	Communication with the VCU is lost	Refer to MCU3 Communication Fault
U015687	Lost Communication With CDCU	
U019887	VCAN bus-off	
U008E88	PCAN4 BusOff	
P240500	The hardware overvoltage is faulty	Refer to MCU3 Internal Fault
P240600	Busbar level 3 undervoltage fault	
P240700	Compensates for excessive fault of weak magnetic current regulation	
P240800	The controller output software overcurrent level 2 fault	
P240900	The controller output software overcurrent level 3 fault	
P240A00	The controller output hardware overcurrent fault is level-three	
P241800	The driver temperature sensor plug has poor contact	
P241900	Motor housing temperature sensor open circuit fault	
P241A00	Rotatory fault	
P241B00	Motor overspeed 2 alarm	
P241C00	Motor overspeed 3 alarm	
P241D00	Motor stall fault	
P241E00	EEPROM read and write failure	
P241F00	Total hardware failure	
P241400	Motor controller overtemperature level 2 fault	Refer to MCU3 Overheating Fault

Fault Code	Fault Description	Exclusion Method
P241500	Motor controller overtemperature level 3 fault	
P241600	Motor overtemperature level 2 fault	
P241700	Motor overtemperature level 3 fault	
P240000	Bus Overvoltage Level 2 Fault	Refer to MCU3 High Voltage Circuit Fault
P240100	Bus Overvoltage Level 3 Fault	
P240200	Bus level 2 undervoltage fault	
P240300	Bus level 3 undervoltage fault	
P240B00	The U-phase current sensor is faulty	
P240C00	The V-phase current sensor is faulty	
P240D00	W phase current Sensor Open Circuit fault (reserved)	
P240E00	U-phase current sensor zero drift too large fault	
P240F00	V phase current sensor zero drift too large fault	
P241000	W phase current sensor zero drift too large fault (reserved)	
P241100	U-phase fault	
P241200	V-phase fault	
P241300	W-phase fault	

MCU4

Fault Code	Fault Description	Exclusion Method
P250400	24V undervoltage fault	Refer to MCU4 Power Fault
B111717	High battery voltage	
B111716	Low battery voltage	
U012287	Communication with the VCU is lost	Refer to MCU4 Communication Fault
U015687	missing CDCU	
U019887	VCAN bus-off	
U008E88	PCAN4 BusOff	
P250500	The hardware overvoltage is faulty	Refer to MCU4 Internal Fault
P250600	Busbar level 3 undervoltage fault	
P250700	Compensates for excessive fault of weak magnetic current regulation	
P250800	The controller output software overcurrent level 2 fault	
P250900	The controller output software overcurrent level 3 fault	

Fault Code	Fault Description	Exclusion Method
P250A00	The controller output hardware overcurrent fault is level-three	
P251800	The driver temperature sensor plug has poor contact	
P251900	Motor housing temperature sensor open circuit fault	
P251A00	Rotatory fault	
P251B00	Motor overspeed 2 alarm	
P251C00	Motor overspeed 3 alarm	
P251D00	Motor stall fault	
P251E00	EEPROM read and write failure	
P251F00	Total hardware failure	
P251400	Motor controller overtemperature level 2 fault	Refer to MCU4 Overheating Fault
P251500	Motor controller overtemperature level 3 fault	
P251600	Motor overtemperature level 2 fault	
P251700	Motor overtemperature level 3 fault	
P250000	Bus Overvoltage Level 2 Fault	Refer to MCU4 High Voltage Circuit Fault
P250100	Bus Overvoltage Level 3 Fault	
P250200	Bus level 2 undervoltage fault	
P250300	Bus level 3 undervoltage fault	
P250B00	The U-phase current sensor is faulty	
P250C00	The V-phase current sensor is faulty	
P250D00	W phase current Sensor Open Circuit fault (reserved)	
P250E00	U-phase current sensor zero drift too large fault	
P250F00	V phase current sensor zero drift too large fault	
P251000	W phase current sensor zero drift too large fault (reserved)	
P251100	U-phase fault	
P251200	V-phase fault	
P251300	W-phase fault	

TCU

Fault Code	Fault Description	Exclusion Method
B111717	High battery voltage	Refer to TCU Power Fault
B111716	Low battery voltage	

Fault Code	Fault Description	Exclusion Method
U012287	Communication with VCU was lost	Refer to TCU Communication Fault
U012A87	Loss of communication with MCU (TCU can receive life signals from MCU1-4 on the bus)	
U012B87	Loss of communication with MCU (TCU can receive life signals from MCU1-4 on the bus)	
U012D87	Loss of communication with MCU (TCU can receive life signals from MCU1-4 on the bus)	
U008E88	PCAN4 BusOff	
U012E87	CDCUCommunication exception	
U012F87	TDWCommunication exception	
P270300	First and second gear position sensor open circuit failure	Refer to TCU Internal Fault
P270301	First and second gear position sensor to power short circuit fault	
P270302	First and second gear position sensor to ground short-circuit fault	
P270303	The first and second gear position sensor signal exceeds the upper limit	
P270304	The first and second gear position sensor signal exceeds the lower limit	
P270305	The output shaft speed sensor is open faulty	
P270306	The output shaft speed sensor short-circuits the power supply	
P270307	The output shaft speed sensor is short circuit to the ground	
P270308	The output shaft speed sensor signal exceeds the upper limit	
P27031E	Reverse second shift failed	
P27031F	Second shift in 1st gear failed	
P270320	Second gear failed	
P270348	Shift power supply harness positive and negative connection	
P270349	Shift actuator stuck	
P270350	The shift motor current sensor is faulty	
P270351	The MCU1 motor has abnormal overspeed in the drive gear	

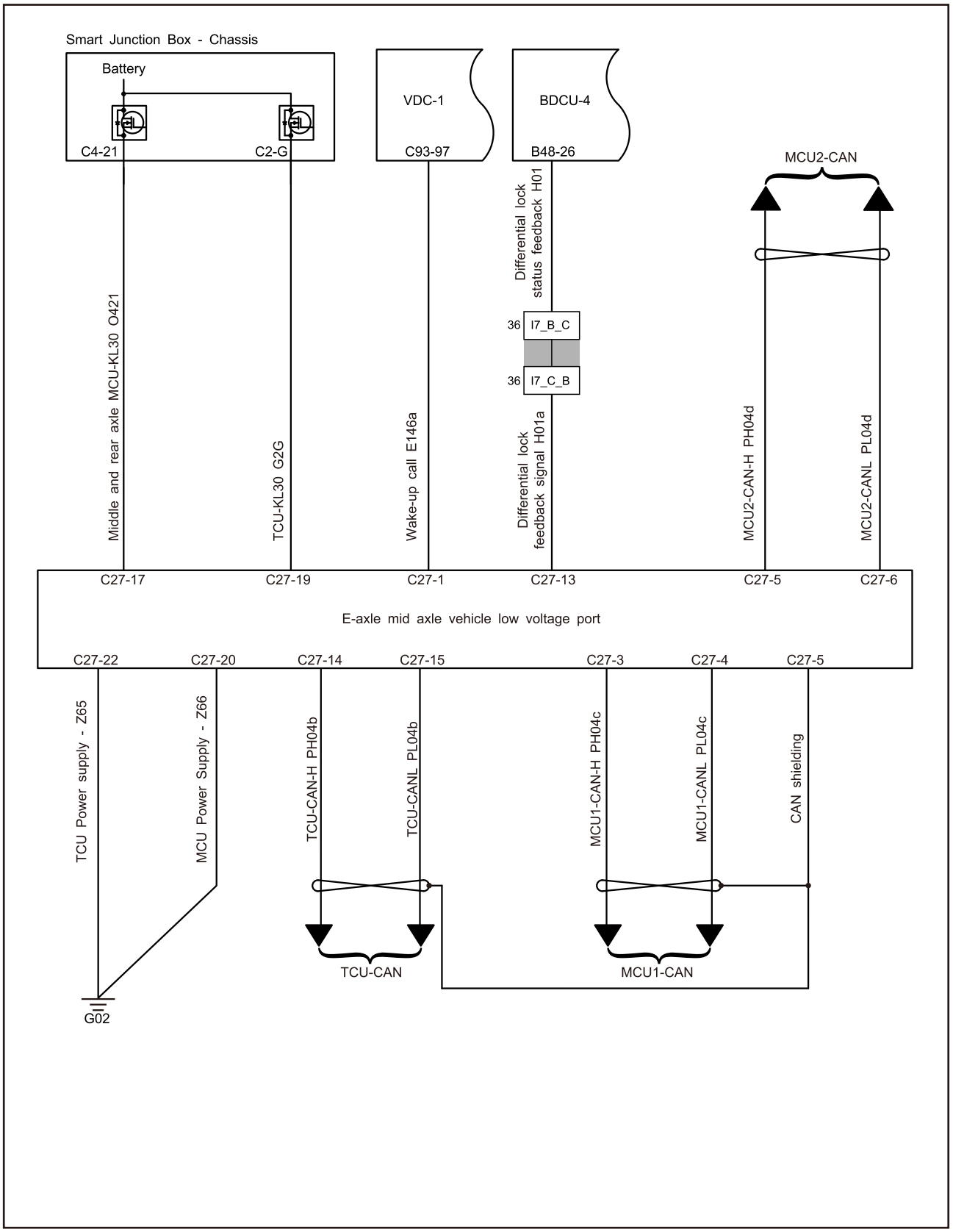
Fault Code	Fault Description	Exclusion Method
P270352	The MCU4 motor has abnormal overspeed in the drive gear	
P270353	Velocity ratio anomaly	
P270354	Abnormal shift	
P270355	Shift motor open circuit fault	
P270356	The shift motor is short circuit to the power supply	
P270357	Shift motor to ground short circuit fault	
P270358	The 5V power supply to the position sensor is abnormal	
P270359	The 8V power supply to the tachometer is abnormal	
P270360	The temperature of the control board is too high	

4.1.6.6 MCU1 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P220400	24V undervoltage fault	24V power supply voltage <9V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Low voltage interface of electric drive medium axle vehicle
B111717	High battery voltage	Detected that the power supply voltage > 32V lasts for 5s	
B111716	Low battery voltage	Detected that the power supply voltage <18V lasted for 30s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides MCU1?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power supply and grounding harness of the low-voltage interface of the electric drive medium axle vehicle.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

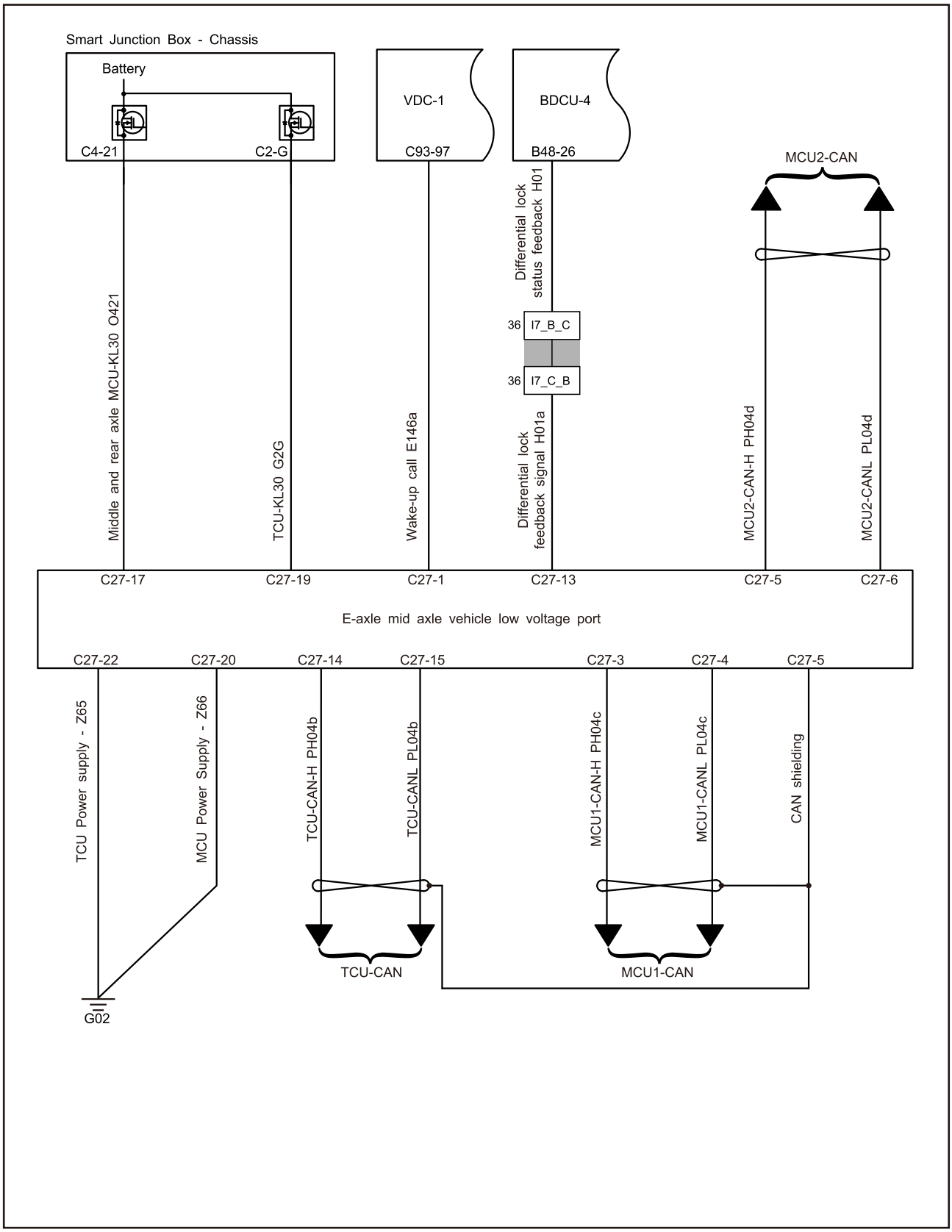
Step 7:Clear and confirm DTC.

4.1.6.7 MCU1 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012287	Communication with the VCU is lost	MCU cannot receive messages sent by VCU for 1800ms (ID:0x18017427))	1.Wiring harness 2. Electric drive mid-axle vehicle low-voltage interface
U015687	missing CDCU	MCU cannot receive messages sent by CDVCU for 500ms (ID:0x18FEC1EEx)	
U019887	VCAN bus-off	MCU fails to receive messages sent by T-BOX for 500ms (ID:0x18FEE6EEx)	
U008E88	PCAN4 BusOff	DTC is recorded after 8 BUSOFFs	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 5:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 6:Clear and confirm DTC.

4.1.6.8 MCU1 Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P220500	The hardware overvoltage is faulty	Hardware bus overvoltage signal is valid	1. Electric drive mid-axle vehicle low-voltage interface
P220600	Busbar level 3 undervoltage fault	The driver board hardware detects a fault and issues a hardware signal	
P220700	Compensates for excessive fault of weak magnetic current regulation	The maximum value of the weak magnetic current compensation is greater than 500A	
P220800	The controller output software overcurrent level 2 fault	The maximum current is greater than 680A	
P220900	The controller output software overcurrent level 3 fault	Current greater than 720A	
P220A00	The controller output hardware overcurrent fault is level-three	The hardware circuit detects that the current is too high and a fault occurs	
P221800	The driver temperature sensor plug has poor contact	The driver temperature sensor plug has poor contact	
P221900	Motor housing temperature sensor open circuit fault	The motor temperature sensor plug has poor contact	
P221A00	Rotatory fault	The resolver connector is loose and not plugged in tightly, triggering the driver protection	
P221B00	Motor overspeed 2 alarm	Motor speed > 11000rpm	
P221C00	Motor overspeed 3 alarm	Motor speed > 11300rpm	
P221D00	Motor stall fault	The controller output torque is greater than 275NM, and the operating frequency is less than 1Hz for more than 2s (speed within 15rpm);	
P221E00	EEPROM read and write failure	Abnormality in reading and writing drive parameters	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P221F00	Total hardware failure	Controller hardware failure detected	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive medium axle vehicle.

Step 4:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 5:Clear and confirm DTC.

4.1.6.9 MCU1 Overheating Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P221400	Motor controller overtemperature level 2 fault	Controller temperature > 167°F	1. Electric drive mid-axle vehicle low-voltage interface
P221500	Motor controller overtemperature level 3 fault	Controller temperature > 185°F	
P221600	Motor overtemperature level 2 fault	Controller temperature > 284°F	
P221700	Motor overtemperature level 3 fault	Controller temperature > 302°F	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any fault codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 7:Clear and confirm DTC.

4.1.6.10 MCU1 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P220000	Bus Overvoltage Level 2 Fault	Bus voltage > 920V	1. High voltage wiring harness 2. Electric drive mid-axle vehicle low-voltage interface
P220100	Bus Overvoltage Level 3 Fault	Bus voltage > 950V	
P220200	Bus level 2 undervoltage fault	Bus voltage < 520V and MCU is in the open state	
P220300	Bus level 3 undervoltage fault	Bus voltage < 500V and MCU is in the open state	
P220B00	The U-phase current sensor is faulty	The U-phase Hall plug is loose, triggering the driver protection	
P220C00	The V-phase current sensor is faulty	The V-phase Hall plug is loose, triggering the driver protection	
P220D00	W phase current Sensor Open Circuit fault (reserved)	The W-phase Hall plug is loose, triggering the driver protection	
P220E00	U-phase current sensor zero drift too large fault	U-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P220F00	V phase current sensor zero drift too large fault	V-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P221000	W phase current sensor zero drift too large fault (reserved)	W-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P221100	U-phase fault	The motor U phase line connection is abnormal	
P221200	V-phase fault	The motor V phase line connection is abnormal	
P221300	W-phase fault	The motor W phase line connection is abnormal	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage wiring harness of the low-voltage interface of the electric drive mid axle vehicle.

Step 4:Check the internal insulation detection circuit of the low-voltage interface of the electric drive medium axle vehicle.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

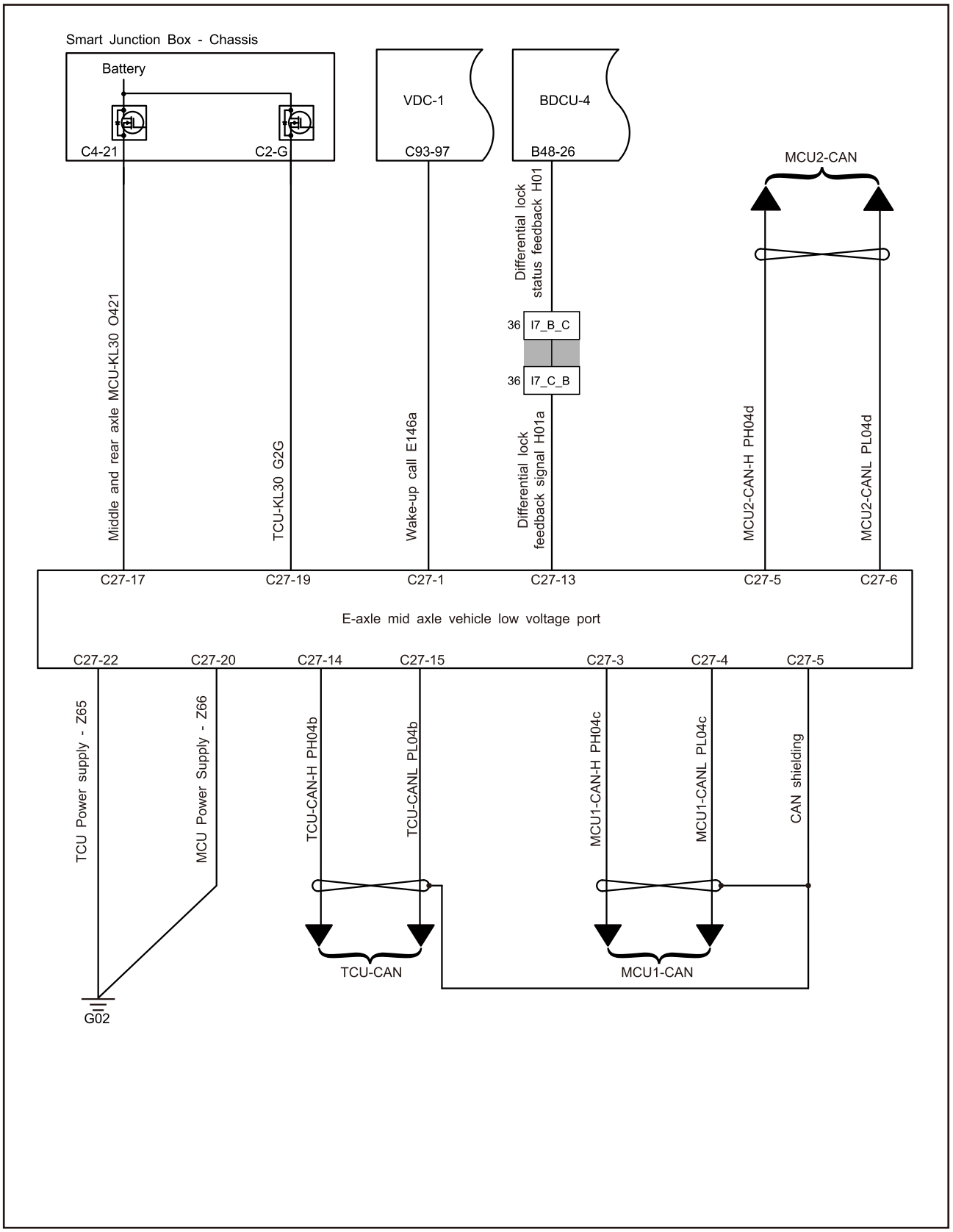
Step 7:Clear and confirm DTC.

4.1.6.11 MCU2 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Ttrigger Conditions	Faulty Part
P230400	24V undervoltage fault	24V power supply voltage <9V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Low voltage interface of electric drive medium axle vehicle
B111717	High battery voltage	Detected that the power supply voltage > 32V lasts for 5s	
B111716	Low battery voltage	Detected that the power supply voltage <18V lasted for 30s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides MCU2?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power supply and grounding harness of the low-voltage interface of the electric drive medium axle vehicle.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

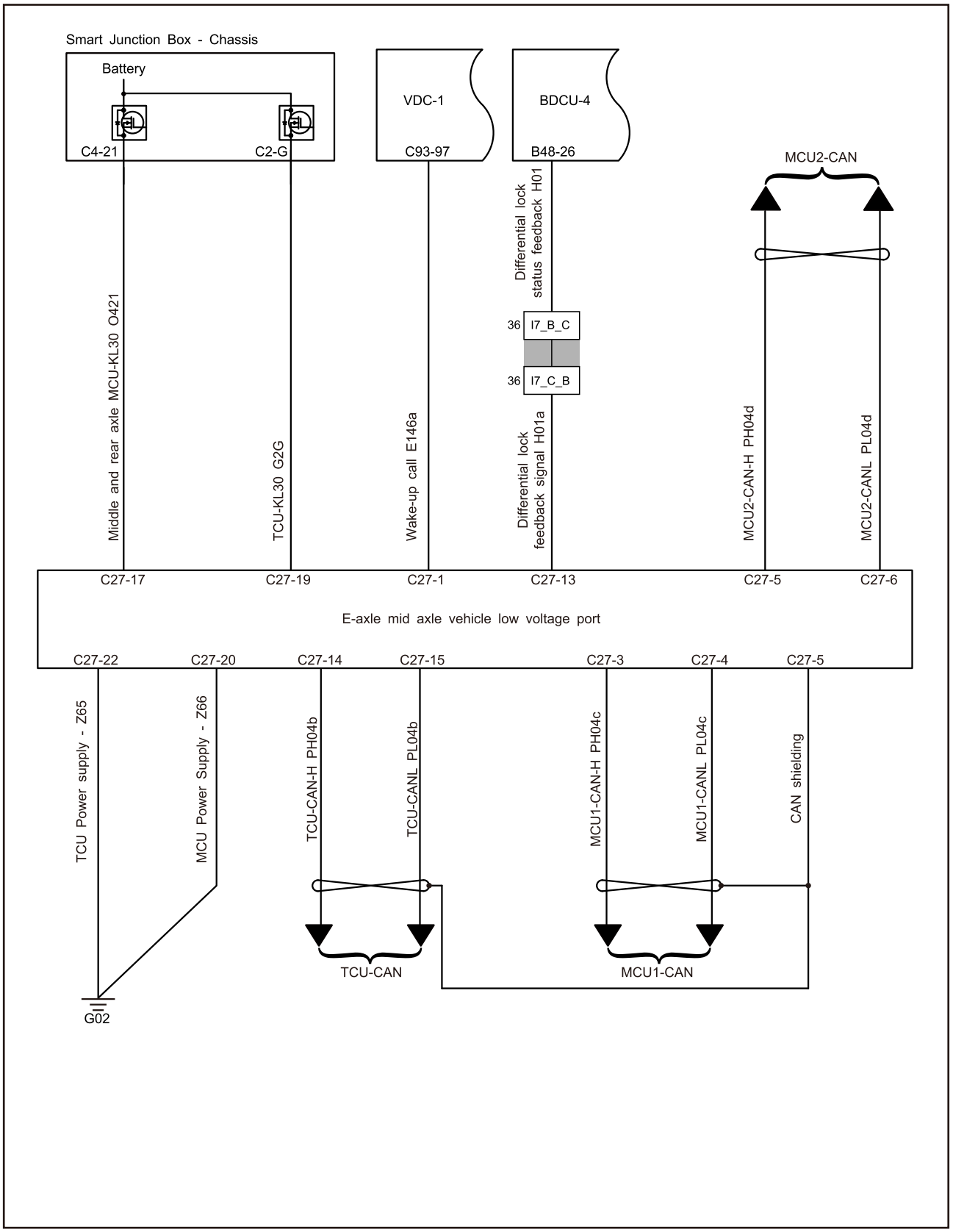
Step 7:Clear and confirm DTC.

4.1.6.12 MCU2 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012287	Communication with the VCU is lost	MCU cannot receive messages sent by VCU for 1800ms (ID: 0x18017427))	1.Wiring harness 2. Electric drive mid-axle vehicle low-voltage interface
U015687	Communication with the CDCU is lost	MCU cannot receive messages sent by CDVCU for 500ms (ID:0x18FEC1EEx)	
U019887	VCAN bus-off	MCU fails to receive messages sent by T-BOX for 500ms (ID:0x18FEE6EEx)	
U008E88	PCAN4 BusOff	DTC is recorded after 8 BUSOFFs	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 5:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 6:Clear and confirm DTC.

4.1.6.13 MCU2 Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Ttrigger Conditions	Faulty Part
P230500	Hardware overvoltage fault	Hardware bus overvoltage signal is valid	1. Electric drive mid-axle vehicle low-voltage interface
P230600	Busbar level 3 undervoltage fault	The driver board hardware detects a fault and issues a hardware signal	
P230700	Compensates for excessive fault of weak magnetic current regulation	The maximum value of the weak magnetic current compensation is greater than 500A	
P230800	The controller output software overcurrent level 2 fault	The maximum current is greater than 680A	
P230900	The controller output software overcurrent level 3 fault	Current greater than 720A	
P230A00	The U-phase current sensor is faulty	The hardware circuit detects that the current is too high and a fault occurs	
P231800	The driver temperature sensor plug has poor contact	The driver temperature sensor plug has poor contact	
P231900	Motor housing temperature sensor open circuit fault	The motor temperature sensor plug has poor contact	
P231A00	Rotatory fault	The resolver connector is loose and not plugged in tightly, triggering the driver protection	
P231B00	Motor overspeed 2 alarm	Motor speed > 11000rpm	
P231C00	Motor overspeed 3 alarm	Motor speed > 11300rpm	
P231D00	Motor stall fault	The controller output torque is greater than 275NM, and the operating frequency is less than 1Hz for more than 2s (speed within 15rpm);	
P231E00	EEPROM read and write failure	Abnormality in reading and writing drive parameters	
P231F00	Total hardware failure	Controller hardware failure detected	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive medium axle vehicle.

Step 4:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 5:Clear and confirm DTC.

4.1.6.14 MCU2 Overheating Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P231400	Motor controller overtemperature level 2 fault	Controller temperature > 167℉	1. Electric drive mid-axle vehicle low-voltage interface
P231500	Motor controller overtemperature level 3 fault	Controller temperature > 185℉	
P231600	Motor overtemperature level 2 fault	Controller temperature > 284℉	
P231700	Motor overtemperature level 3 fault	Controller temperature > 302℉	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any fault codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 7:Clear and confirm DTC.

4.1.6.15 MCU2 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P230000	Bus Overvoltage Level 2 Fault	Bus voltage > 920V	1. High voltage wiring harness 2. Electric drive mid-axle vehicle low-voltage interface
P230100	Bus Overvoltage Level 3 Fault	Bus voltage > 950V	
P230200	Bus level 2 undervoltage fault	Bus voltage < 520V and MCU is in the open state < 520V and MCU is in the open state	
P230300	Bus level 3 undervoltage fault	Bus voltage < 500V and MCU is in the open state	
P230B00	The U-phase current sensor is faulty	The U-phase Hall plug is loose, triggering the driver protection	
P230C00	The V-phase current sensor is faulty	The V-phase Hall plug is loose, triggering the driver protection	
P230D00	W phase current Sensor Open Circuit fault (reserved)	The W-phase Hall plug is loose, triggering the driver protection	
P230E00	U-phase current sensor zero drift too large fault	U-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P230F00	V phase current sensor zero drift too large fault	V-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P231000	W phase current sensor zero drift too large fault (reserved)	W-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P231100	U-phase fault	The motor U phase line connection is abnormal	
P231200	V-phase fault	The motor V phase line connection is abnormal	
P231300	W-phase fault	The motor W phase line connection is abnormal	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage wiring harness of the low-voltage interface of the electric drive mid axle vehicle.

Step 4:Check the internal insulation detection circuit of the low-voltage interface of the electric drive medium axle vehicle.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

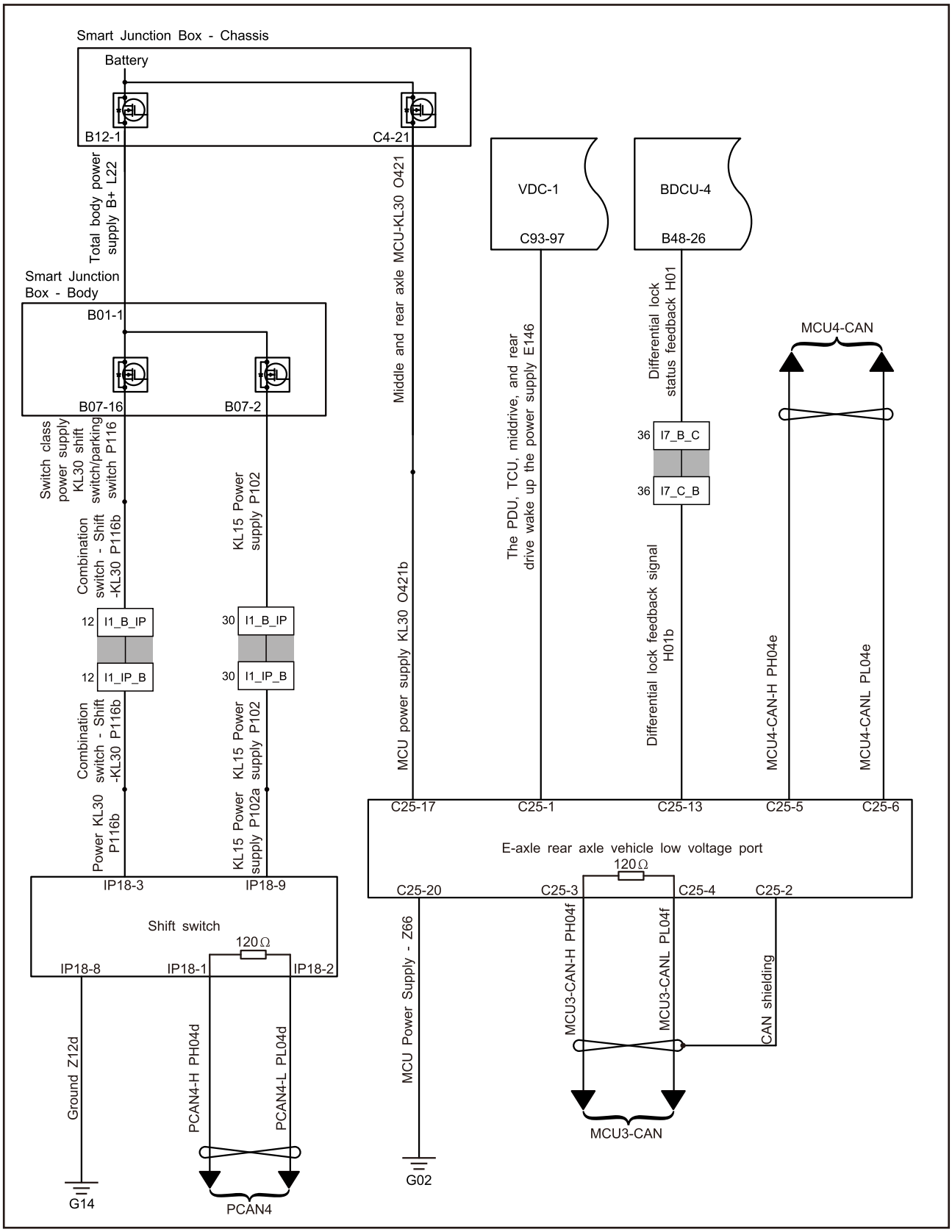
Step 7:Clear and confirm DTC.

4.1.6.16 MCU3 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P240400	24V undervoltage fault	24V power supply voltage <9V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Low voltage interface of electric drive rear axle vehicle
B111717	High battery voltage	Detected that the power supply voltage > 32V lasts for 5s	
B111716	Low battery voltage	Detected that the power supply voltage <18V lasted for 30s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides MCU3?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power supply and grounding harness of the low-voltage interface of the electric drive rear axle vehicle.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

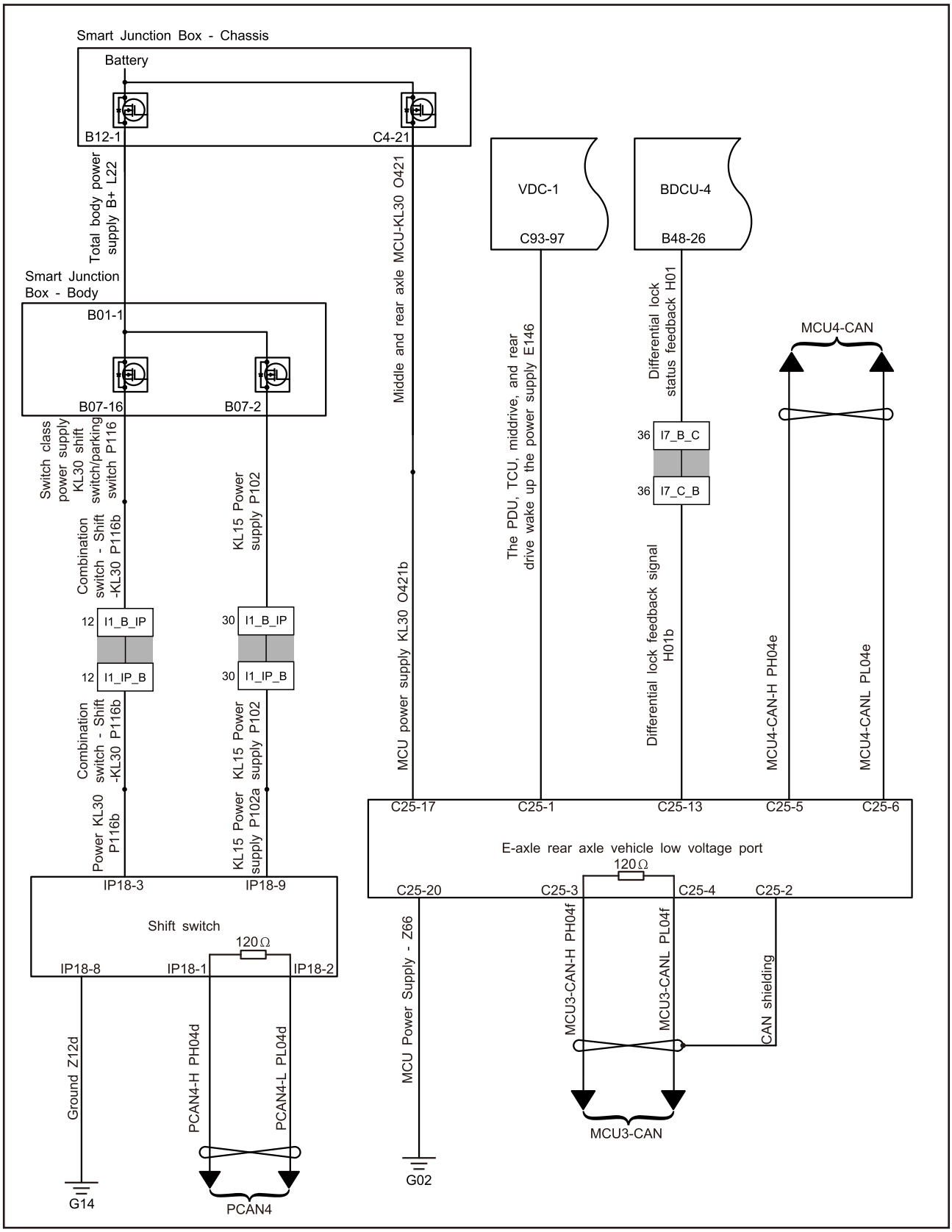
Step 7:Clear and confirm DTC.

4.1.6.17 MCU3 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012287	Communication with the VCU is lost	MCU cannot receive messages sent by VCU for 1800ms (ID: 0x18017427))	1.Wiring harness 2. Electric drive rear axle vehicle low-voltage interface
U015687	Communication with the CDCU is lost	MCU cannot receive messages sent by CDVCU for 500ms (ID:0x18FEC1EEx)	
U019887	Communication with the T-BOX is lost	MCU fails to receive messages sent by T-BOX for 500ms (ID:0x18FEE6EEx)	
U008E88	PCAN4 BusOff	DTC is recorded after 8 BUSOFFsC	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 5:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

Step 6:Clear and confirm DTC.

4.1.6.18 MCU3 Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger conditions	Faulty Part
P240500	The hardware overvoltage is faulty	Hardware bus overvoltage signal is valid	1. Electric drive rear axle vehicle low-voltage interface
P240600	Busbar level 3 undervoltage fault	The driver board hardware detects a fault and issues a hardware signal	
P240700	Compensates for excessive fault of weak magnetic current regulation	The maximum value of the weak magnetic current compensation is greater than 500A	
P240800	The controller output software overcurrent level 2 fault	The maximum current is greater than 680A	
P240900	The controller output software overcurrent level 3 fault	Current greater than 720A	
P240A00	The controller output hardware overcurrent fault is level-three	The hardware circuit detects that the current is too high and a fault occurs	
P241800	The driver temperature sensor plug has poor contact	The driver temperature sensor plug has poor contact	
P241900	Motor housing temperature sensor open circuit fault	The motor temperature sensor plug has poor contact	
P241A00	Rotatory fault	The resolver connector is loose and not plugged in tightly, triggering the driver protection	
P241B00	Motor overspeed 2 alarm	Motor speed > 11000rpm	
P241C00	Motor overspeed 3 alarm	Motor speed > 11300rpm	
P241D00	Motor stall fault	The controller output torque is greater than 275NM, and the operating frequency is less than 1Hz for more than 2s (speed within 15rpm);	
P241E00	EEPROM read and write failure	Abnormality in reading and writing drive parameters	

DTC Code	Description	DTC Trigger conditions	Faulty Part
P241F00	Total hardware failure	Controller hardware failure detected	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 4:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

Step 5:Clear and confirm DTC.

4.1.6.19 MCU3 Overheating Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P241400	Motor controller overtemperature level 2 fault	Controller temperature > 167°F	1. Electric drive rear axle vehicle low-voltage interface
P241500	Motor controller overtemperature level 3 fault	Controller temperature > 185°F	
P241600	Motor overtemperature level 2 fault	Controller temperature > 284°F	
P241700	Motor overtemperature level 3 fault	Controller temperature > 302°F	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any fault codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

Step 7:Clear and confirm DTC.

4.1.6.20 MCU3 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P240000	Bus Overvoltage Level 2 Fault	Bus voltage > 920V	1. High voltage wiring harness 2. Electric drive rear axle vehicle low-voltage interface
P240100	Bus Overvoltage Level 3 Fault	Bus voltage > 950V	
P240200	Bus level 2 undervoltage fault	Bus voltage < 520V and MCU is in the open state	
P240300	Bus level 3 undervoltage fault	Bus voltage < 500V and MCU is in the open state	
P240B00	The U-phase current sensor is faulty	The U-phase Hall plug is loose, triggering the driver protection	
P240C00	The V-phase current sensor is faulty	The V-phase Hall plug is loose, triggering the driver protection	
P240D00	W phase current Sensor Open Circuit fault (reserved)	The W-phase Hall plug is loose, triggering the driver protection	
P240E00	U-phase current sensor zero drift too large fault	U-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P240F00	V phase current sensor zero drift too large fault	V-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P241000	W phase current sensor zero drift too large fault (reserved)	W-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P241100	U-phase fault	The motor U phase line connection is abnormal	
P241200	V-phase fault	The motor V phase line connection is abnormal	
P241300	W-phase fault	The motor W phase line connection is abnormal	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage wiring harness of the low-voltage interface of the electric drive rear axle vehicle.

Step 4:Check the internal insulation detection circuit of the low-voltage interface of the electric drive rear axle vehicle.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

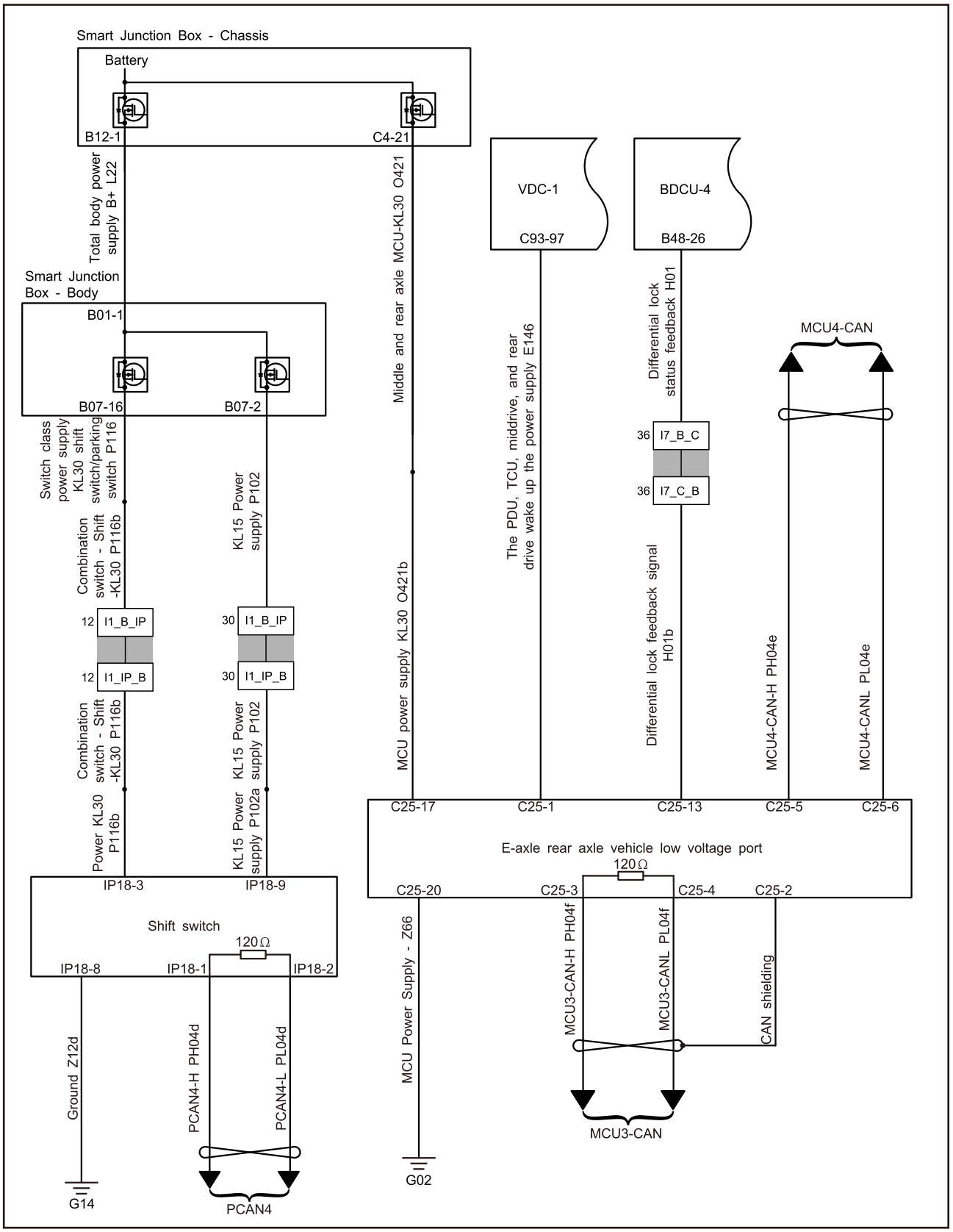
Step 7:Clear and confirm DTC.

4.1.6.21 MCU4 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P250400	24V undervoltage fault	24V power supply voltage <9V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Low voltage interface of electric drive rear axle vehicle
B111717	High battery voltage	Detected that the power supply voltage > 32V lasts for 5s	
B111716	Low battery voltage	Detected that the power supply voltage <18V lasted for 30s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides MCU3?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power supply and grounding harness of the low-voltage interface of the electric drive rear axle vehicle.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

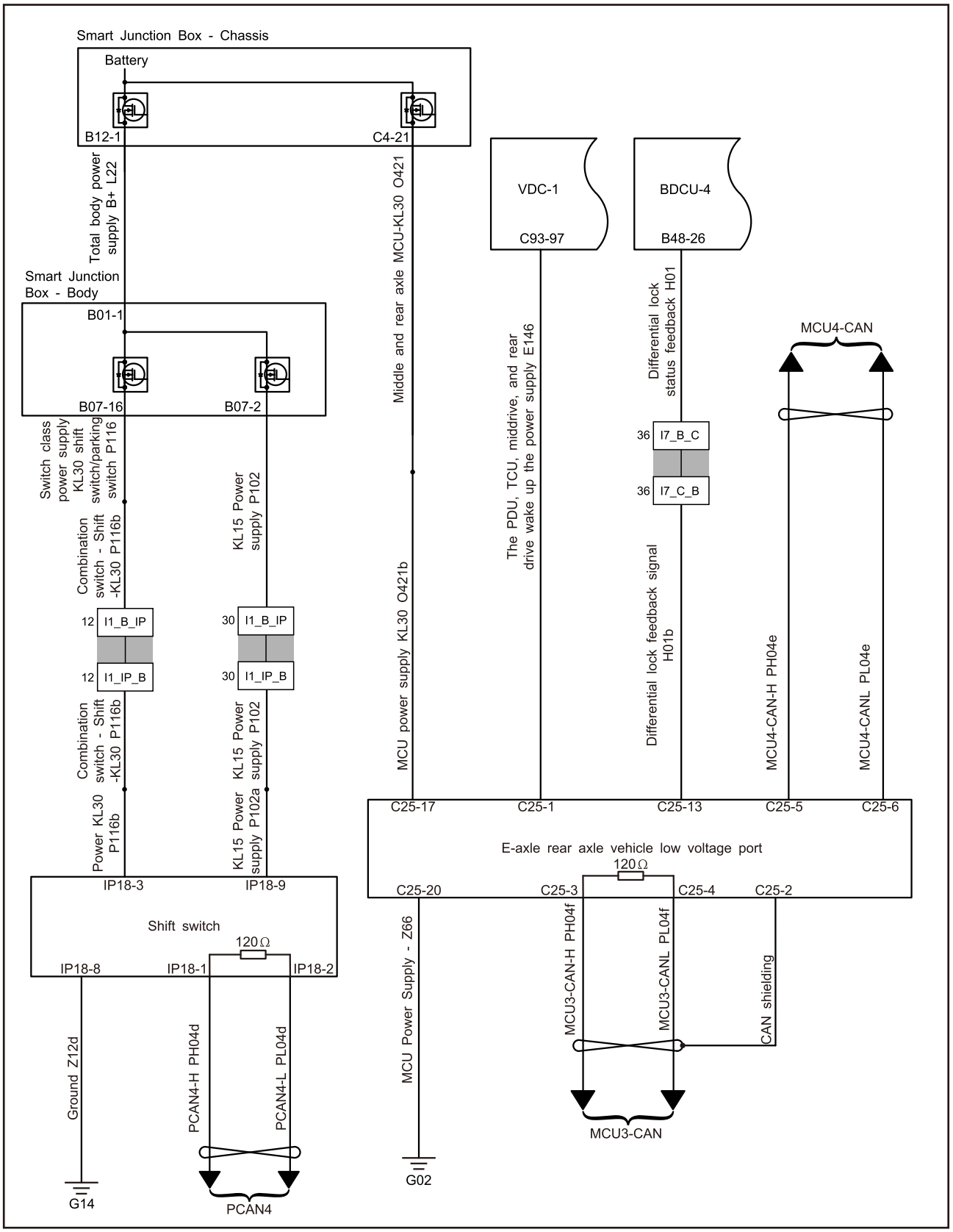
Step 7:Clear and confirm DTC.

4.1.6.22 MCU4 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012287	Communication with the VCU is lost	MCU cannot receive messages sent by VCU for 1800ms (ID: 0x18017427))	1.Wiring harness 2. Electric drive rear axle vehicle low-voltage interface
U015687	Communication with the CDCU is lost	MCU cannot receive messages sent by CDVCU for 500ms (ID:0x18FEC1EEx)	
U019887	Communication with the T-BOX is lost	MCU fails to receive messages sent by T-BOX for 500ms (ID:0x18FEE6EEx)	
U008E88	PCAN4 BusOff	DTC is recorded after 8 BUSOFFs	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 5:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

Step 6:Clear and confirm DTC.

4.1.6.23 MCU4 Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P250500	The hardware overvoltage is faulty	Hardware bus overvoltage signal is valid	1. Electric drive rear axle vehicle low-voltage interface
P250600	Busbar level 3 undervoltage fault	The driver board hardware detects a fault and issues a hardware signal	
P250700	Compensates for excessive fault of weak magnetic current regulation	The maximum value of the weak magnetic current compensation is greater than 500A	
P250800	The controller output software overcurrent level 2 fault	The maximum current is greater than 680A	
P250900	The controller output software overcurrent level 3 fault	Current greater than 720A	
P250A00	The controller output hardware overcurrent fault is level-three	The hardware circuit detects that the current is too high and a fault occurs	
P251800	The IGBT temperature sensor is faulty	The driver temperature sensor plug has poor contact	
P251900	Motor housing temperature sensor open circuit fault	The motor temperature sensor plug has poor contact	
P251A00	Rotatory fault	The resolver connector is loose and not plugged in tightly, triggering the driver protection	
P251B00	Motor overspeed 2 alarm	Motor speed > 11000rpm	
P251C00	Motor overspeed 3 alarm	Motor speed > 11300rpm	
P251D00	Motor stall fault	The controller output torque is greater than 275NM, and the operating frequency is less than 1Hz for more than 2s (speed within 15rpm);	
P251E00	The EEPROM reads and writes are faulty	Abnormality in reading and writing drive parameters	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P251F00	Total hardware failure	Controller hardware failure detected	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 4:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

Step 5:Clear and confirm DTC.

4.1.6.24 MCU4 Overheating Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P251400	Motor controller overtemperature level 2 fault	Controller temperature > 167°F	1. Electric drive rear axle vehicle low-voltage interface
P251500	Motor controller overtemperature level 3 fault	Controller temperature > 185°F	
P251600	Motor overtemperature level 2 fault	Controller temperature > 284°F	
P251700	Motor overtemperature level 3 fault	Controller temperature > 302°F	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any fault codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

Step 7:Clear and confirm DTC.

4.1.6.25 MCU4 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P250000	Bus Overvoltage Level 2 Fault	Bus voltage > 920V	1. High voltage wiring harness 2. Electric drive rear axle vehicle low-voltage interface
P250100	Bus Overvoltage Level 3 Fault	Bus voltage > 950V	
P250200	Bus level 2 undervoltage fault	Bus voltage < 520V and MCU is in the open state	
P250300	Bus level 3 undervoltage fault	Bus voltage < 500V and MCU is in the open state	
P250B00	The U-phase current sensor is faulty	The U-phase Hall plug is loose, triggering the driver protection	
P250C00	The V-phase current sensor is faulty	The V-phase Hall plug is loose, triggering the driver protection	
P250D00	W phase current Sensor Open Circuit fault (reserved)	The W-phase Hall plug is loose, triggering the driver protection	
P250E00	U-phase current sensor zero drift too large fault	U-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P250F00	V phase current sensor zero drift too large fault	V-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P251000	W phase current sensor zero drift too large fault (reserved)	W-phase current Hall abnormality, zero bias over limit, main cycle normal detection, only power-on detection once	
P251100	U-phase fault	The motor U phase line connection is abnormal	
P251200	V-phase fault	The motor V phase line connection is abnormal	
P251300	W-phase fault	The motor W phase line connection is abnormal	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage wiring harness of the low-voltage interface of the electric drive rear axle vehicle.

Step 4:Check the internal insulation detection circuit of the low-voltage interface of the electric drive rear axle vehicle.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive rear axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive rear axle vehicle. Refer to Replacement Of Integrated axle - Rear axle

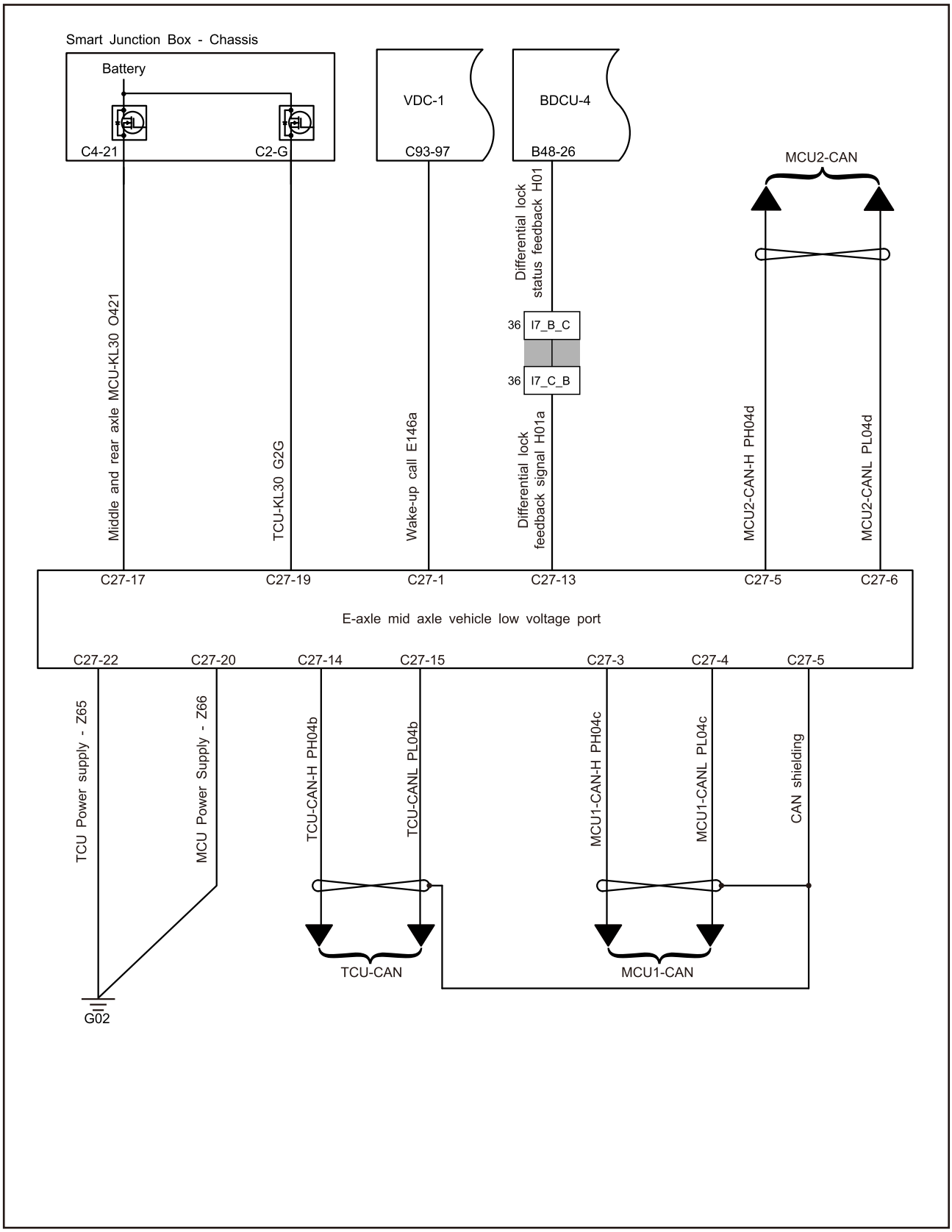
Step 7:Clear and confirm DTC.

4.1.6.26 TCU Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	The TCU power supply overvoltage	TCU supply voltage higher than 32V for a period of time (about 200ms)	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Low voltage interface of electric drive medium axle vehicle
B111716	The TCU supply undervoltage	TCU supply voltage below 18V for a period of time (about 200ms)	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides TCU?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power supply and grounding harness of the low-voltage interface of the electric drive medium axle vehicle.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

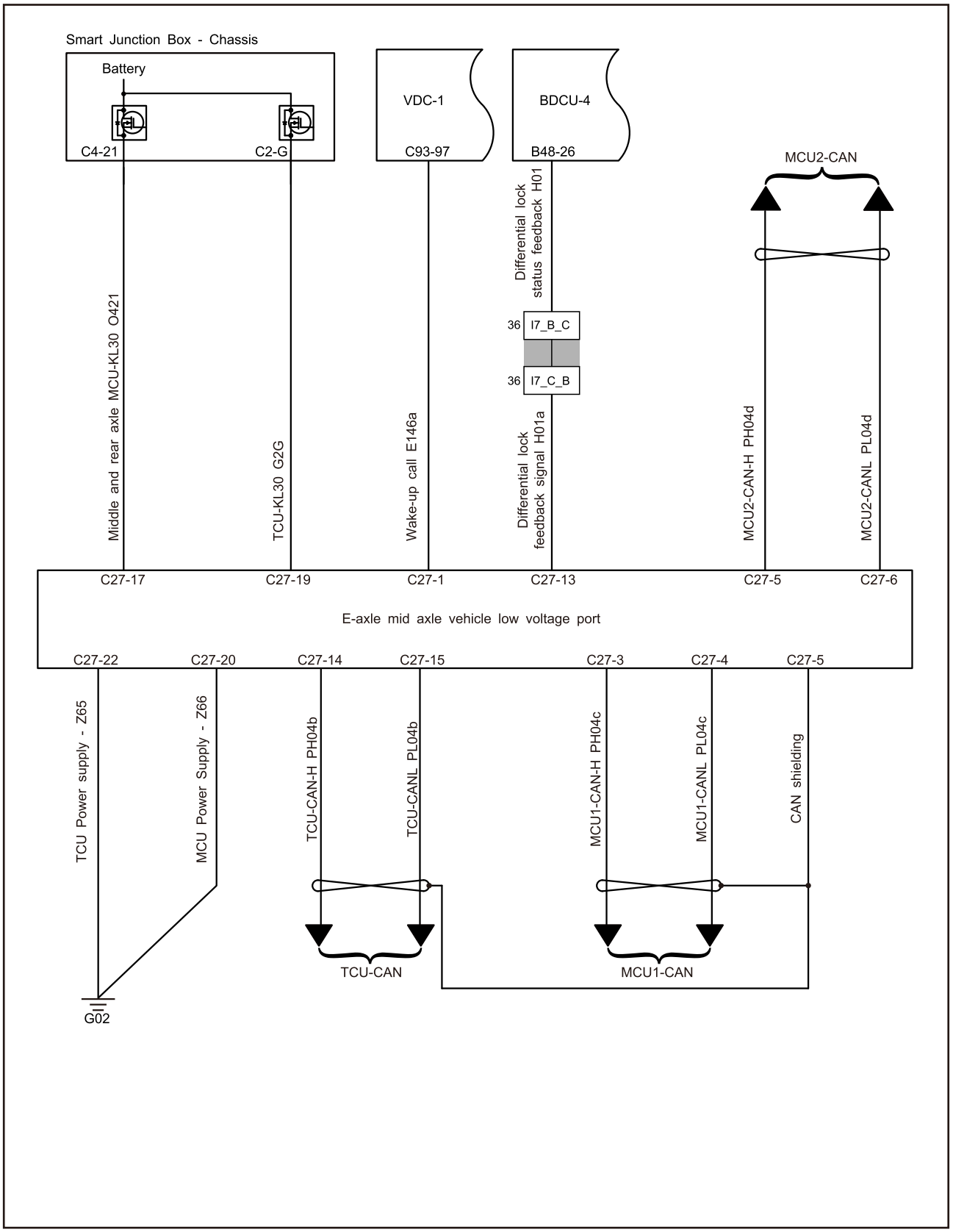
Step 7:Clear and confirm DTC.

4.1.6.27 TCU Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012287	Communication with VCU was lost	VDC Counter signal lost or unchanged for 500ms (detection message ID:0x18010327)	1.Wiring harness 2. Electric drive mid-axle vehicle low-voltage interface
U012A87	Loss of communication with MCU (TCU can receive life signals from MCU1-4 on the bus)	VDC Counter signal lost or unchanged for 500ms (detection message ID:0x18012774)	
U012B87	Loss of communication with MCU (TCU can receive life signals from MCU1-4 on the bus)	VDC Counter signal lost or unchanged for 500ms (detection message ID:0x18012775)	
U012D87	Loss of communication with MCU (TCU can receive life signals from MCU1-4 on the bus)	VDC Counter signal lost or unchanged for 500ms (detection message ID:0x18012777))	
U008E88	PCAN4 BusOff	The DTC was recorded after eight busoffs	
U012E87	The CDCU communication is abnormal	CDCU communication remains unchanged for 500ms (Detection message ID:0x18FEC1EE)	
U012F87	TDW communication is abnormal	GSW does not change for 500ms(Check packet ID:0x18FEE6EE)	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 5:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 6:Clear and confirm DTC.

4.1.6.28 TCU Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P270300	First and second gear position sensor open circuit failure	1, the sensor 5V power supply is normal; 2, position voltage <0.1V; 3, last 200ms	1. Electric drive mid-axle vehicle low-voltage interface
P270301	First and second gear position sensor to power short circuit fault	1, the sensor 5V power supply is normal; 2, position voltage >4.9; 3, last 200ms	
P270302	First and second gear position sensor to ground short-circuit fault	1, the sensor 5V power supply is normal; 2, position voltage <0.1V; 3, last 200ms	
P270303	The first and second gear position sensor signal exceeds the upper limit	1, the sensor power supply is normal; 2, sensor voltage >4500mv; 3, last 1000ms;	
P270304	The first and second gear position sensor signal exceeds the lower limit	1, the sensor power supply is normal; 2, sensor voltage <500mv; 3, last 1000ms;	
P270305	The output shaft speed sensor is open faulty	1, the sensor 8V power supply is normal; 2, sensor AD signal voltage <2.5V; 3, output shaft speed value =0rpm; 4, last 200ms;	
P270306	The output shaft speed sensor short-circuits the power supply	1, the sensor 8V power supply is normal; 2, sensor AD signal voltage > 3.3V; 3, output shaft speed value =0rpm; 4, last 200ms;	
P270307	The output shaft speed sensor is short circuit to the ground	1, the sensor 8V power supply is normal; 2, sensor AD signal voltage <0.25V; 3, output shaft speed value =0rpm; 4, last 200ms;	
P270308	The output shaft speed sensor signal exceeds the upper limit	1, the sensor 8V power supply is normal; 2, speed value greater than 120km*1.2; 3, last 200ms;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P27031E	Reverse second shift failed	In a single shift cycle, the number of shift failures >=5	
P27031F	Second shift in 1st gear failed	In a single shift cycle, the number of shift failures >=5	
P270320	Second gear failed	In a single shift cycle, the number of shift failures >=5	
P270348	Shift power supply harness positive and negative connection	1. When shifting, the actual motion direction of the shifting motor is opposite to the theoretical position (request 1 gear but actually hang 2 gear direction); 2, last 200ms	
P270349	Shift actuator stuck	1. Take off the block card for 5s	
P270350	The shift motor current sensor is faulty	1, displacement sensor change rate >1V 2, shifting motor current <1.5A; 3, duty cycle ≥30; 4, last 1000ms	
P270351	The MCU1 motor has abnormal overspeed in the drive gear	1, the actual motor speed >11000rpm for 200ms 2. Driving in gear	
P270352	The MCU4 motor has abnormal overspeed in the drive gear	1, the actual motor speed >11000rpm for 200ms 2. Driving in gear	
P270353	Velocity ratio anomaly	In gear, | actual output shaft speed - theoretical output shaft speed |>50rpm for 1000ms	
P270354	Abnormal shift	During a power-on process, if the internal gear of TCU is inconsistent with the current requested gear of the VDC for more than 5 times during driving, it is judged to be abnormal gear removal	
P270355	Shift motor open circuit fault	1, the shift motor power supply is normal; 2, duty cycle > 10, current less than 200mA; 3, last 1000ms;	
P270356	The shift motor is short circuit to the power supply	/	
P270357	Shift motor to ground short circuit fault	1, the shift motor power supply is normal; 2, duty cycle > 10, current less than 200mA; 3, last 1000ms;	
P270358	The 5V power supply to the position sensor is abnormal	1, 5V voltage sampling greater than 5.5V or less than 4.5V; 2, continuous 100ms;	
P270359	The 8V power supply to the tachometer is abnormal	1, 8V voltage sampling is greater than 9V or less than 7V 2, continuous 100ms;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P270360	The temperature of the control board is too high	The sampled temperature is greater than 75 ° C	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive medium axle vehicle.

Step 4:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 5:Clear and confirm DTC.

4.1.7 Dismantling and Installation

4.1.7.1 Replacement of Integrated axle - Intermediate Axle

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

5 Perform power-off of high voltage system.

6 Jack the rear end of the vehicle.

7 Drain coolant from the power system.

8 Removal the fifth wheel assembly.

9 Remove the corrugated plate.

10 Remove the drive wheel (front left).

11 Removal the rear wheel housing left front assembly.

12 Remove the rear air spring assembly - 260 (left front).

13 Remove the shock absorber assembly (rear).

14 Remove the rear air spring assembly - 280 (left front).

15 Remove the longitudinal thrust rod assembly.

16 Remove the rear spring U-bolt.

17 Remove the balance beam (left).

18 Remove the drive wheel (right front)

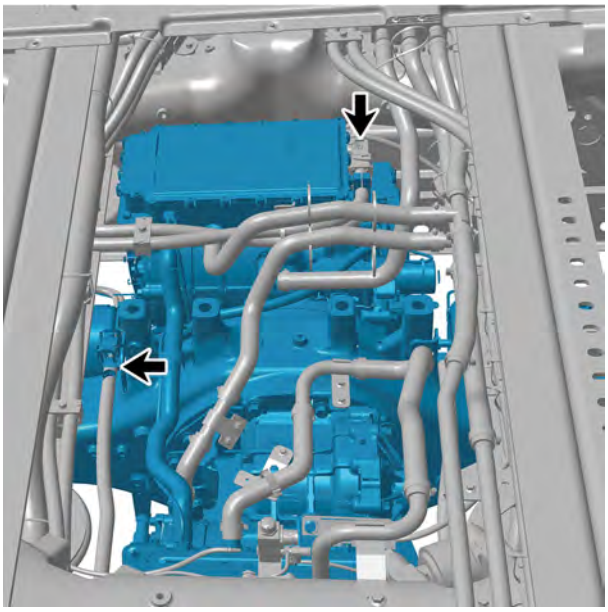
19 Remove the rear wheel housing right front assembly.

20 Remove the rear air spring assembly - 260 (right front).

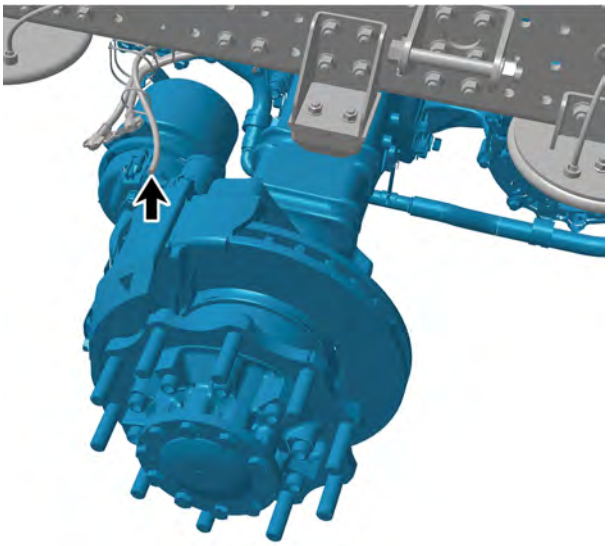
21 Remove the rear air spring assembly - 280 (right front).

22 Remove the balance beam (right).

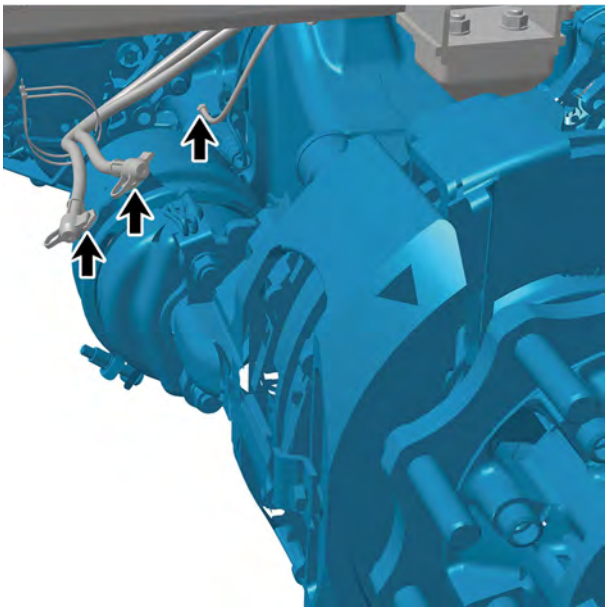
23 Remove the X-shaped control arm assembly (front).



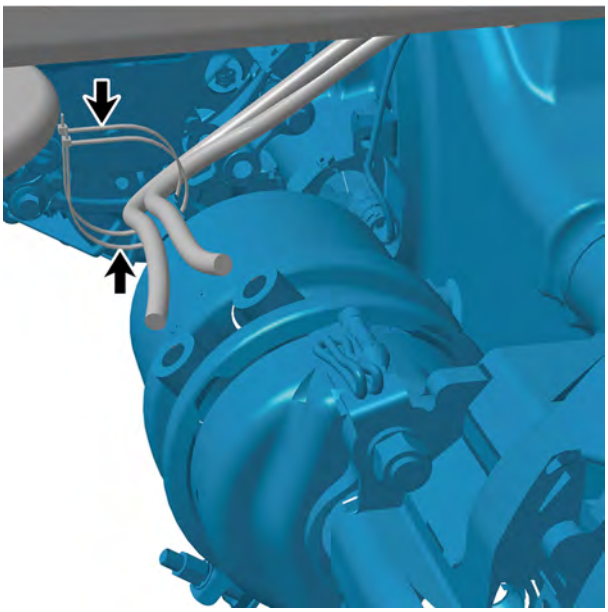
24 Disconnect the 2 harness connectors of the integrated axle - intermediate axle.



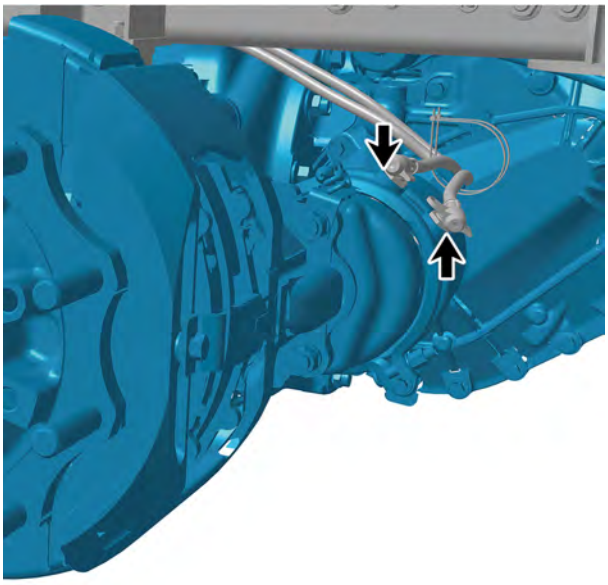
25 Disconnect the 1 harness connectors of the integrated axle - intermediate axle.



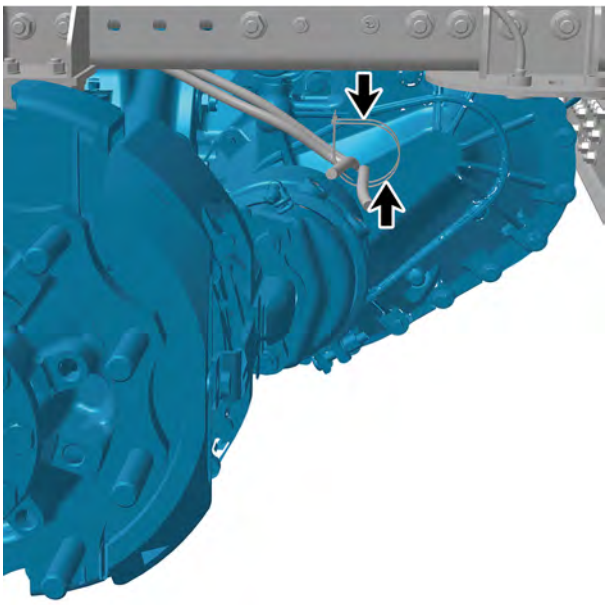
26 Disconnect the 3 air pipes of the integrated axle - intermediate axle.



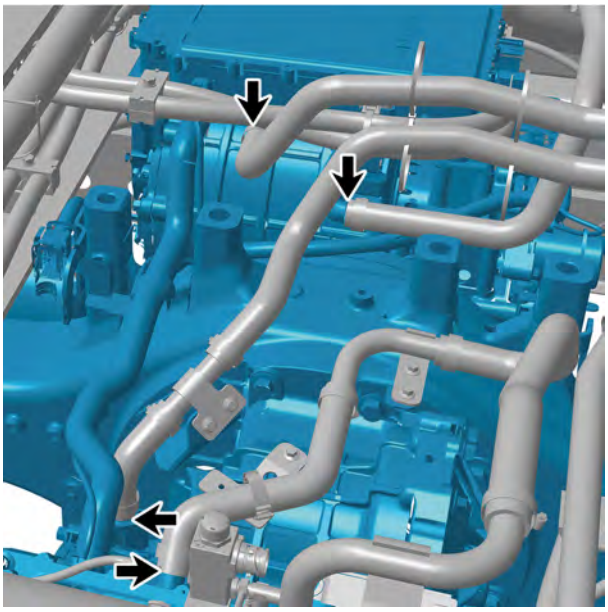
27 Remove the 2 straps.



28 Disconnect the 2 air pipes of the integrated axle - intermediate axle.



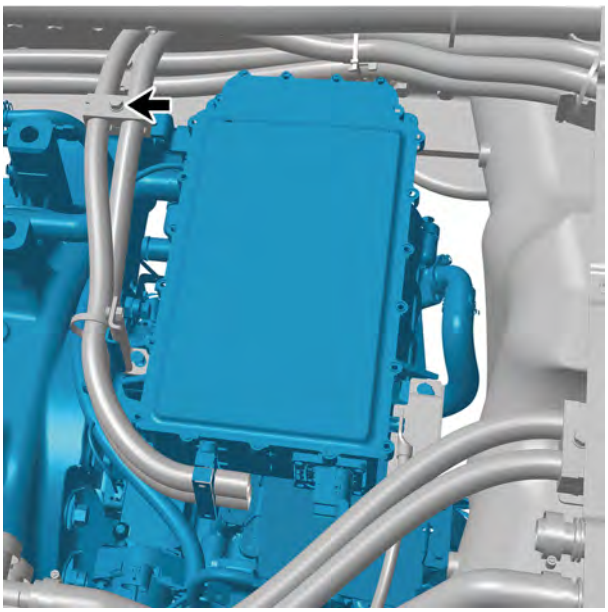
29 Remove the 2 straps.



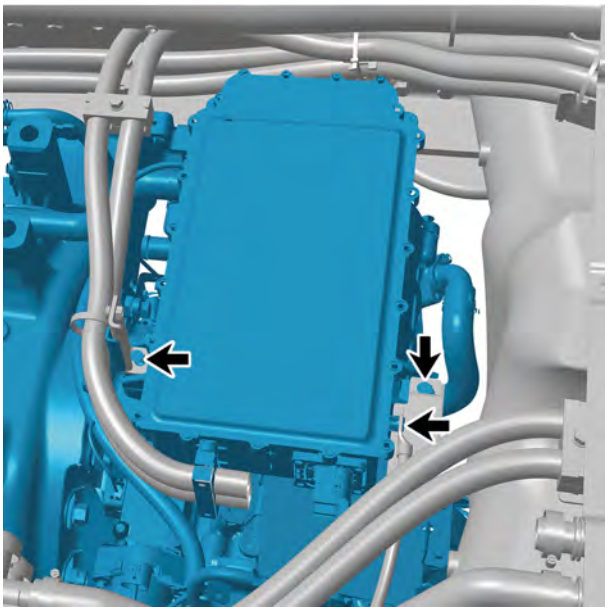
30 Disconnect the 4 water pipes of the integrated axle - intermediate axle.

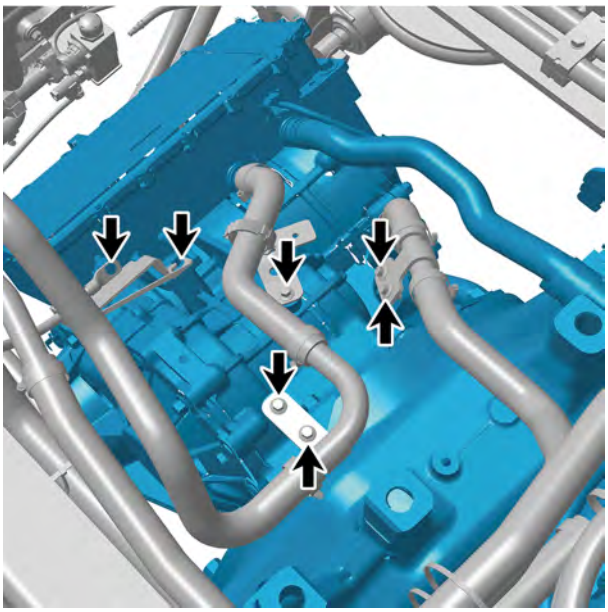
caution

Use a clean container to receive the discharged coolant.

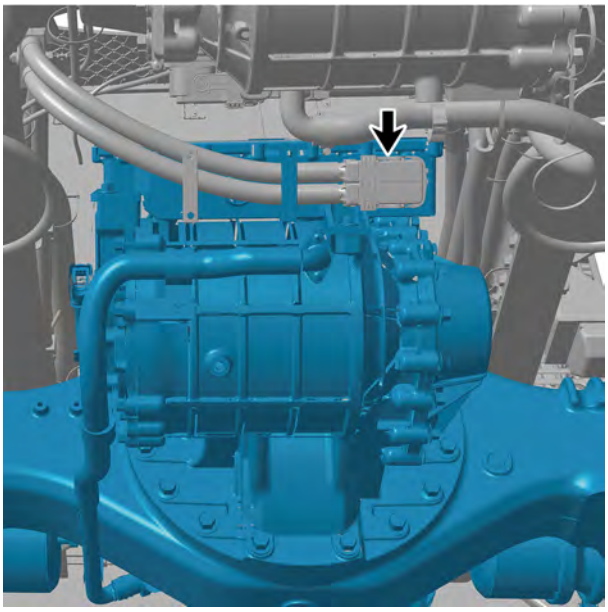


31 Remove 1 fixing bolt of the high-voltage wire harness clamp on the integrated electric axle-intermediate axle.

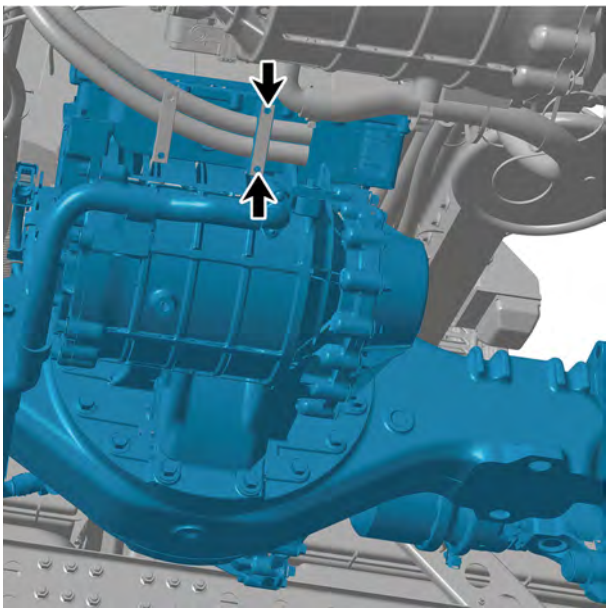




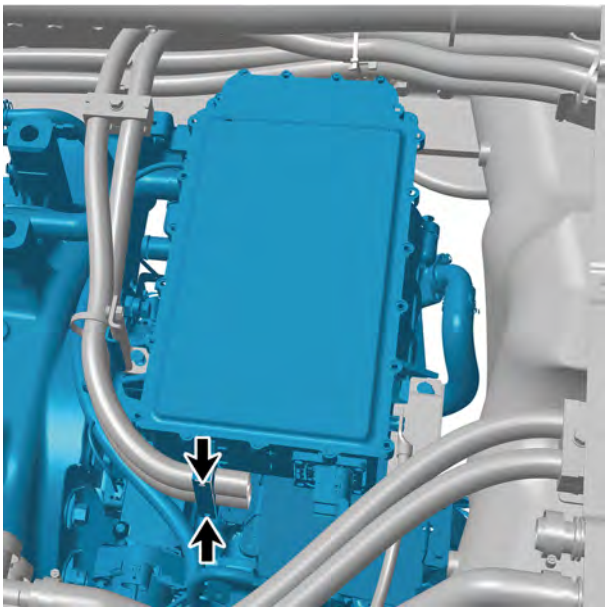
32 Remove 10 fixing bolts on the integrated electric axle-intermediate axle.



33 Disconnect 1 wire harness connector of the integrated electric axle-intermediate axle.

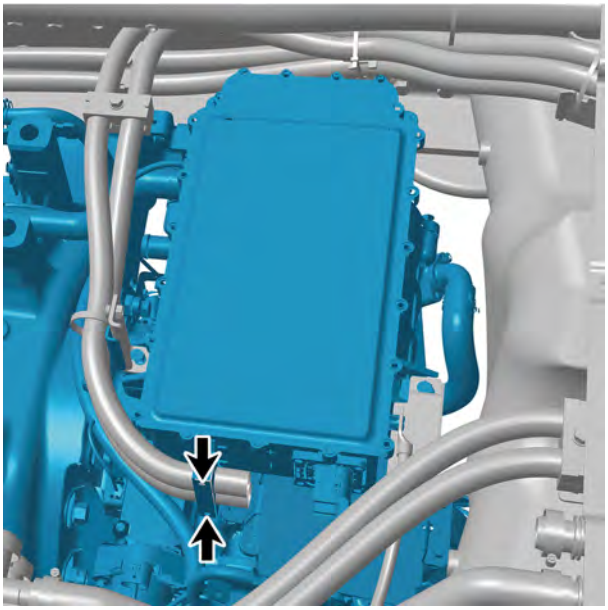


34 Remove 2 fixing bolts of the fixed clamp for the high-voltage wire harness of the integrated electric axle-intermediate axle.



35 Using a lifting platform or other tools to remove the integrated axle - intermediate axle.

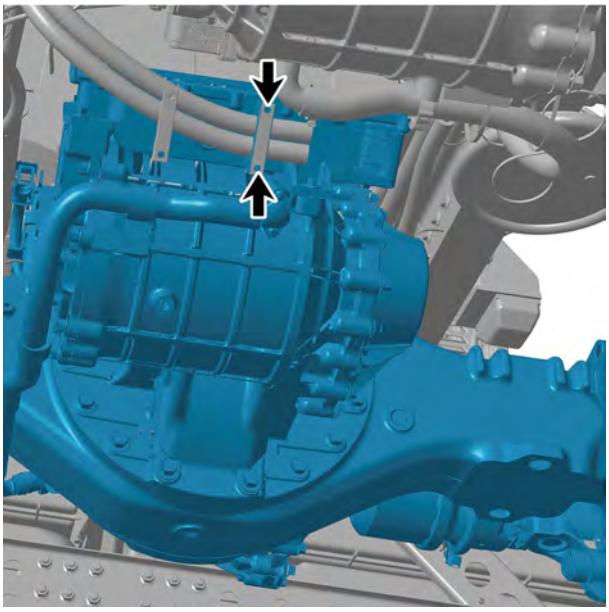
Installation Procedures

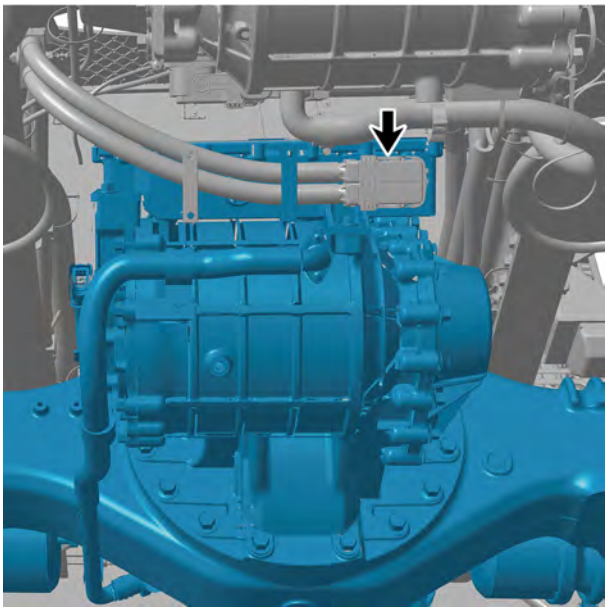


1 Use a lifting platform or other tools to move the integrated axle - intermediate axle to the installation position.

2 Install two fixing bolts of the fixed clamp for the high-voltage wire harness on the integrated electric axle-intermediate axle.

Torque: (12 ft-lb +/- .36) ft-lb

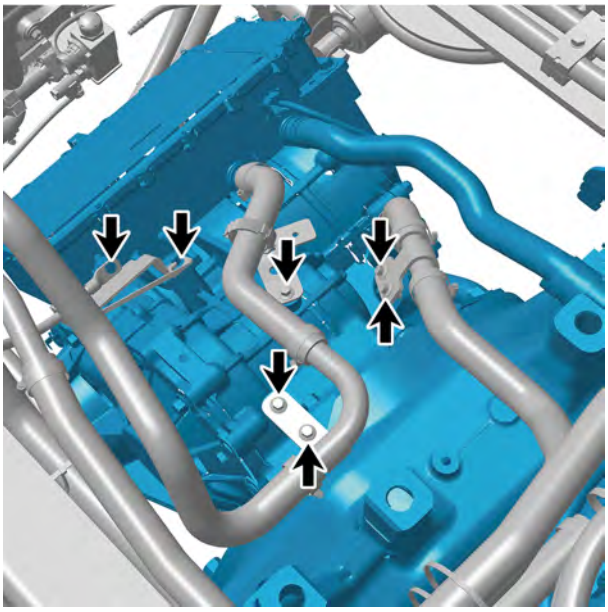


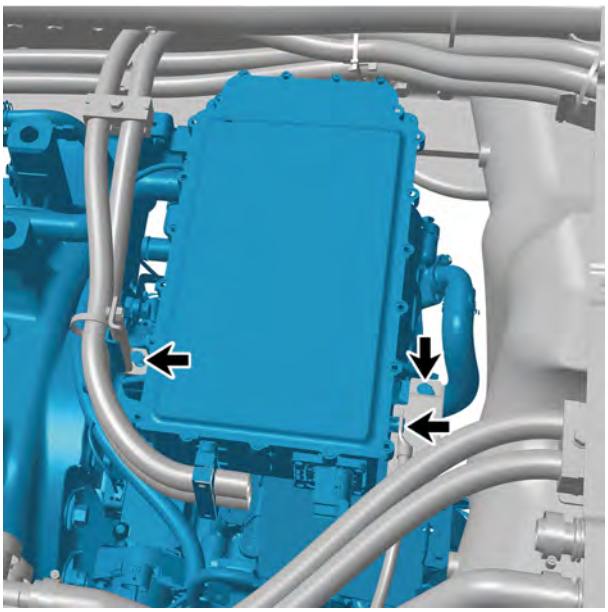


3 Connect one wire harness connector of the integrated electric axle-intermediate axle.

caution

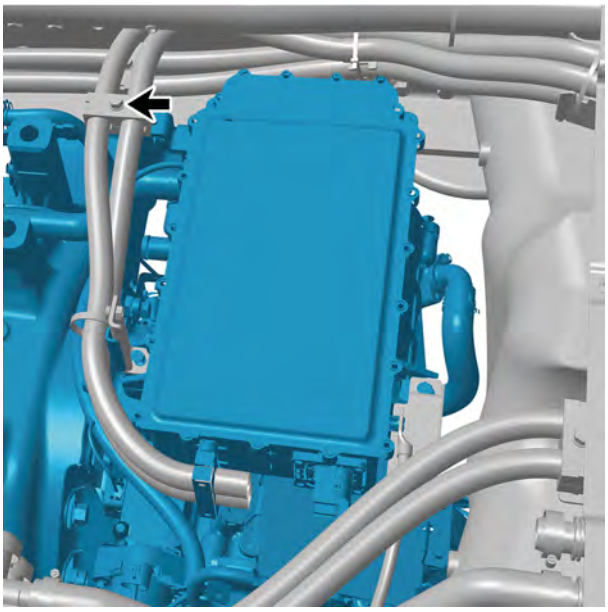
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".





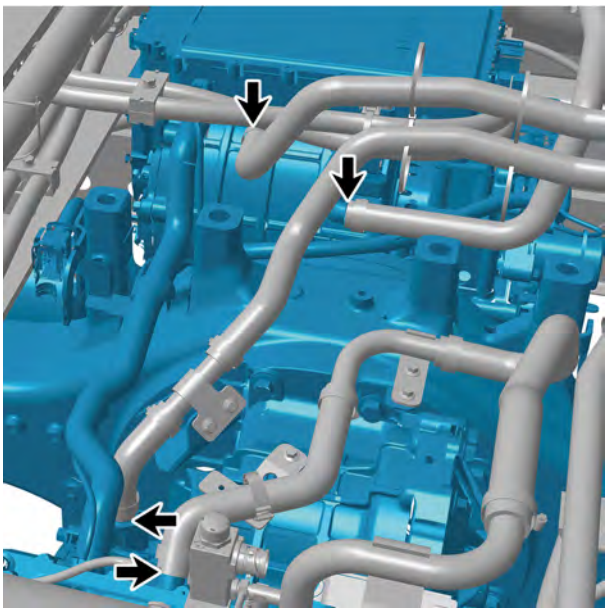
4 Install ten fixing bolts of the integrated electric axle-intermediate axle.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb

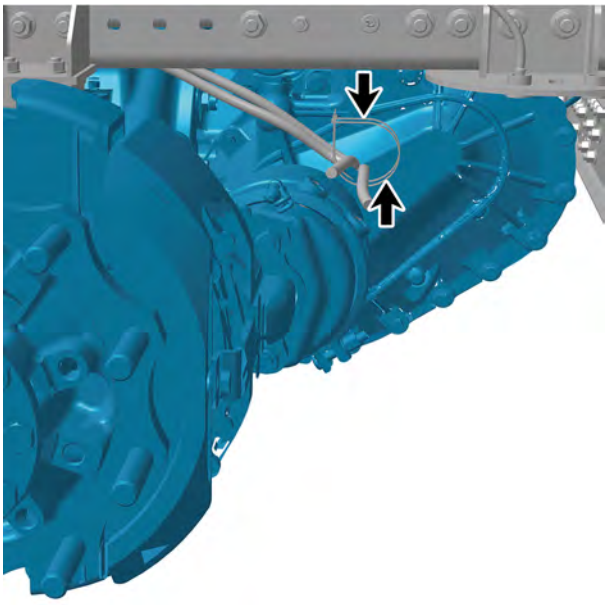


5 Install one fixing bolt of the high-voltage wire harness clamp on the integrated electric axle-intermediate axle.

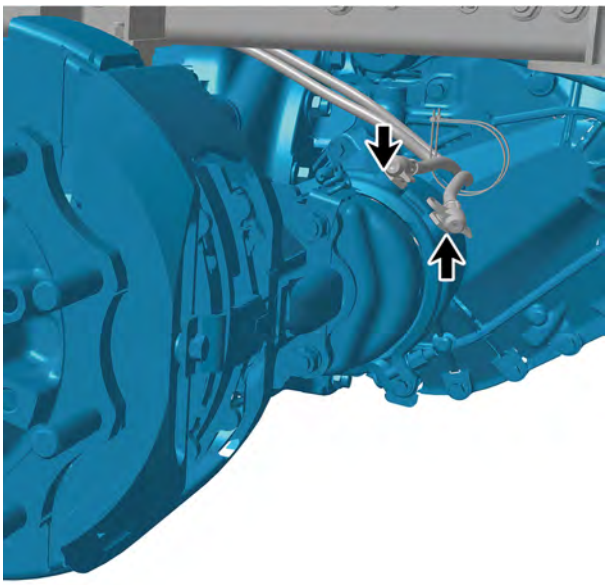
Torque:(9 ft-lb +/- .5 ft-lb) ft-lb



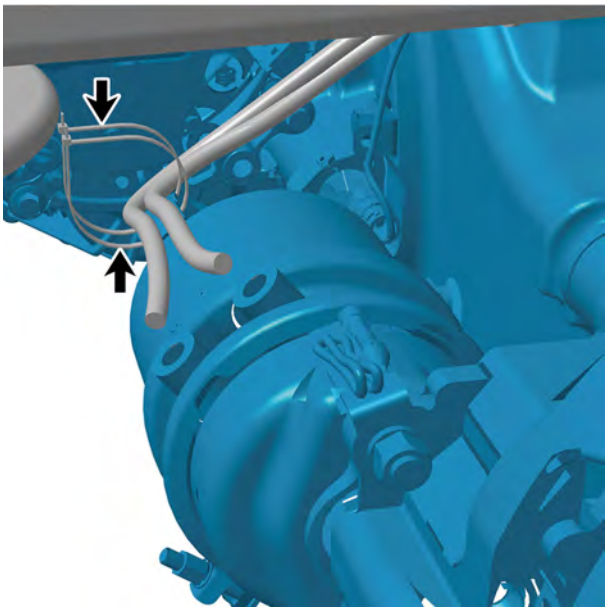
6 Connect the 4 water pipes of the integrated axle - intermediate axle.



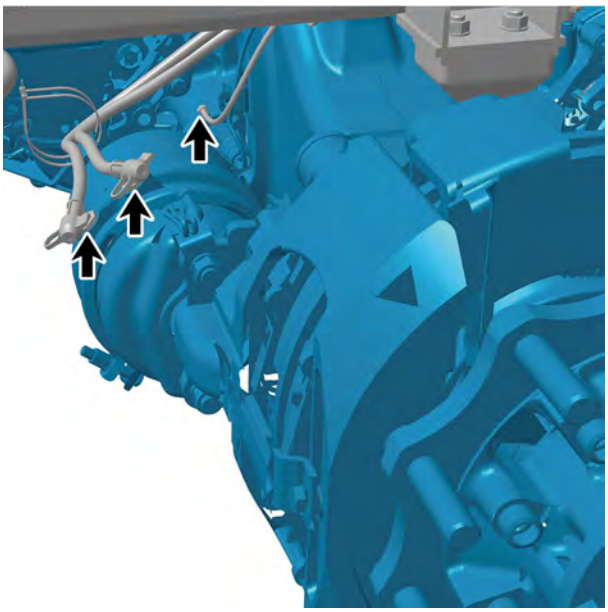
7 Install the 2 straps.



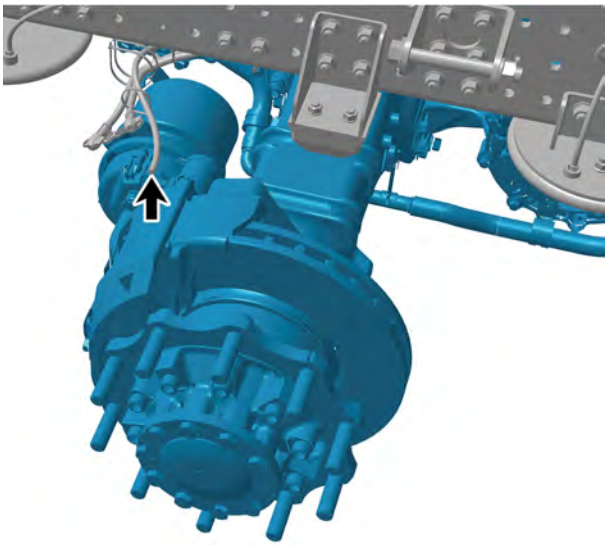
8 Connect the 2 air pipes of the integrated axle - intermediate axle.



9 Install the 2 straps.



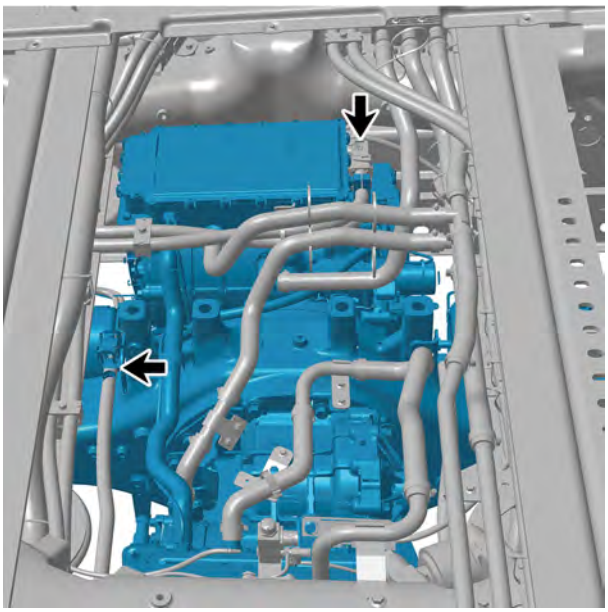
10 Connect the 3 air pipes of the integrated axle - intermediate axle.



11 Connect 1 harness connector of the integrated axle - intermediate axle.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



12 Connect 2 harness connector of the integrated axle - intermediate axle.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

13 Install the X-shaped control arm assembly (front).

14 Install the balance beam (right).

15 Install the rear air spring assembly - 280 (right front).

16 Install the rear air spring assembly - 260 (right front).

17 Install the rear wheel housing right front assembly.

18 Install the drive wheel (right front).

19 Install the balance beam (left).

20 Install the rear spring U-bolt.

21 Install the longitudinal thrust rod assembly.

22 Install the rear air spring assembly - 280 (left front).

23 Install the shock absorber assembly (rear).

24 Install the rear air spring assembly - 260 (left front).

25 Install the rear wheel housing left front assembly.

26 Install the drive wheel (left front).

27 Install the corrugated plate.

28 Install the fifth wheel assembly.

29 Fill coolant in the power system.

30 Lower the rear end of the vehicle.

31 Perform power-on of the high voltage system.

32 Connect the battery negative cable.

33 Close the front flip cover plate.

34 Close the door.

4.1.7.2 Replacement of Integrated axle - Rear Axle

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

5 Perform power-off of high voltage system.

6 Jack the rear end of the vehicle.

7 Drain coolant from the power system.

8 Remove the rear wheel housing upper body.

9 Remove the drive wheel (rear left).

10 Remove the height adjustment device assembly (left).

11 Remove the rear left wheel housing middle body assembly.

12 Remove the rear left wheel housing rear body assembly.

13 Remove the rear air spring assembly - 260 (rear left).

14 Remove the shock absorber assembly (rear).

15 Remove the rear air spring assembly - 280 (rear left).

16 Remove the longitudinal thrust rod assembly.

17 Remove the rear spring U-bolt.

18 Remove the rear spring U-bolt 2.

19 Remove the balance beam (left).

20 Remove the drive wheel (rear right).

21 Remove the height adjustment device assembly (right).

22 Remove the rear right wheel housing middle body assembly.

23 Remove the rear right wheel housing rear body assembly.

24 Remove the rear air spring assembly - 260 (rear right).

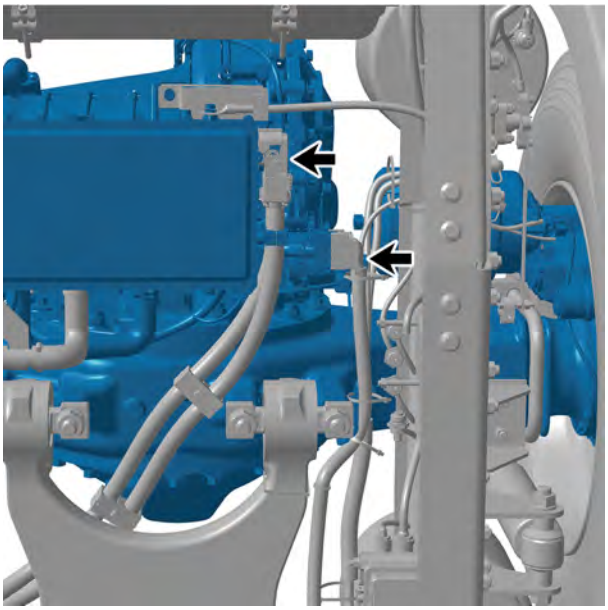
25 Remove the rear air spring assembly - 280 (rear right).

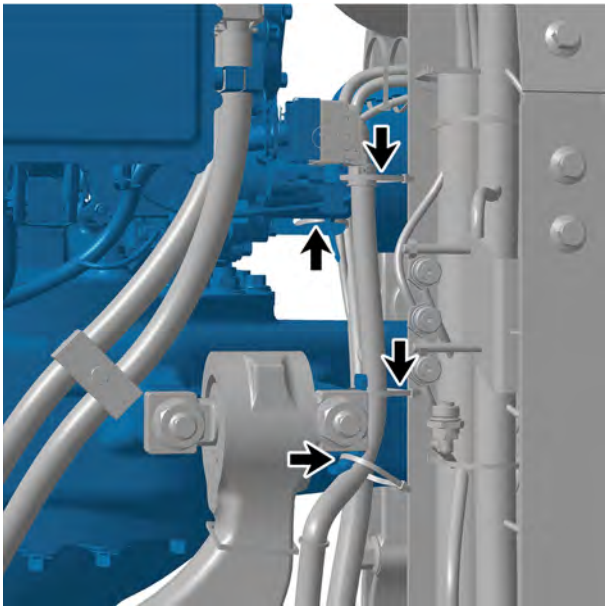
26 Remove the balance beam (right).

27 Remove the dual channel module assembly.

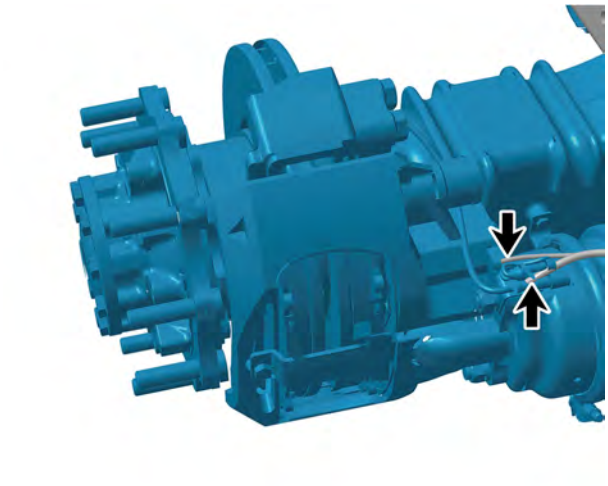
28 Remove the X-shaped control arm assembly (rear).

29 Disconnect the 2 harness connectors of the integrated axle - rear axle.

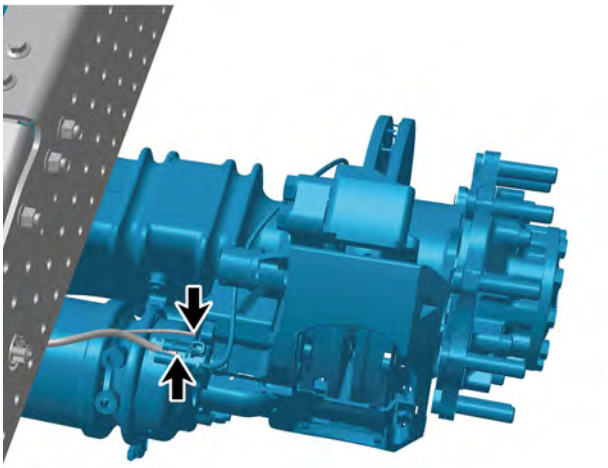




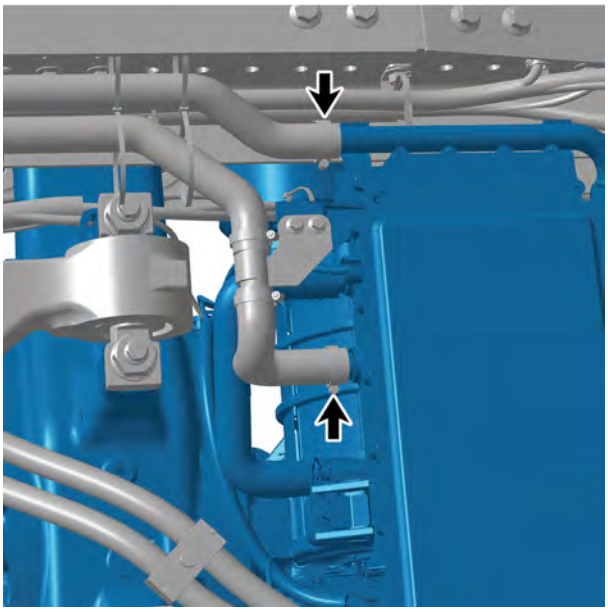
30 Remove the 4 straps of the integrated axle - rear axle.



31 Disconnect the 2 harness connectors of the integrated axle - rear axle.



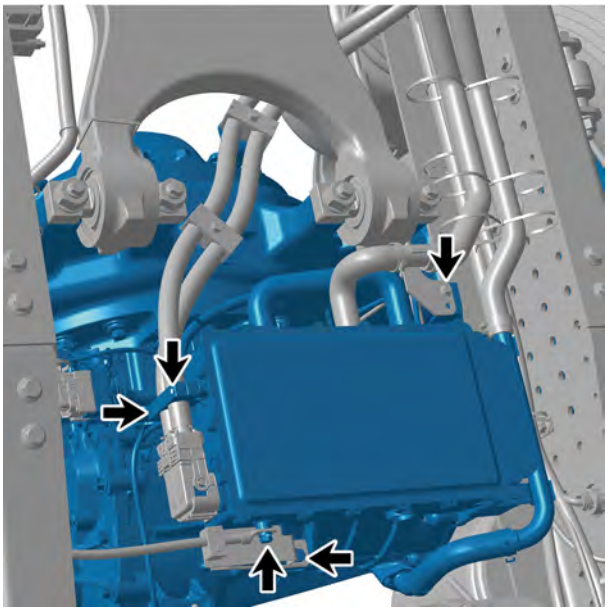
32 Disconnect the 2 harness connectors of the integrated axle - rear axle.



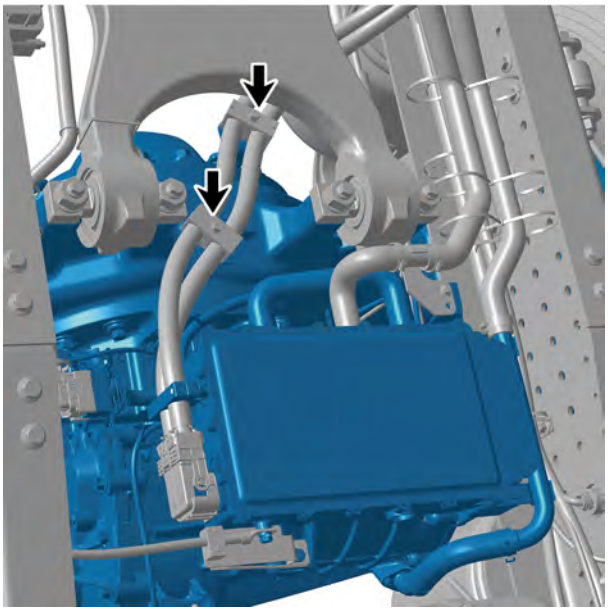
33 Remove the 2 fixing bolts of the integrated axle - rear axle.

caution

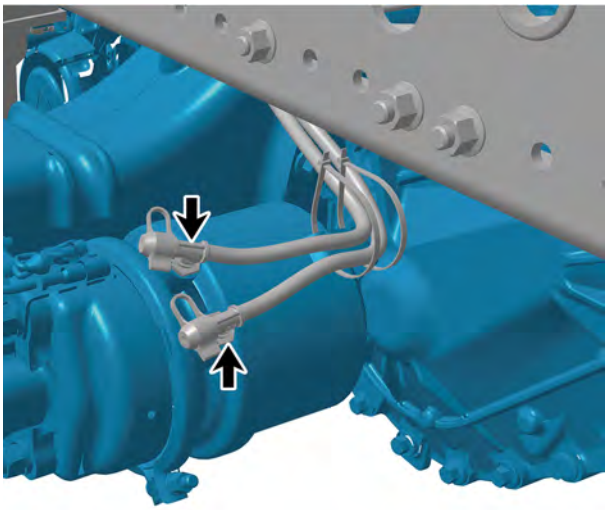
Use a clean container to receive the discharged coolant.



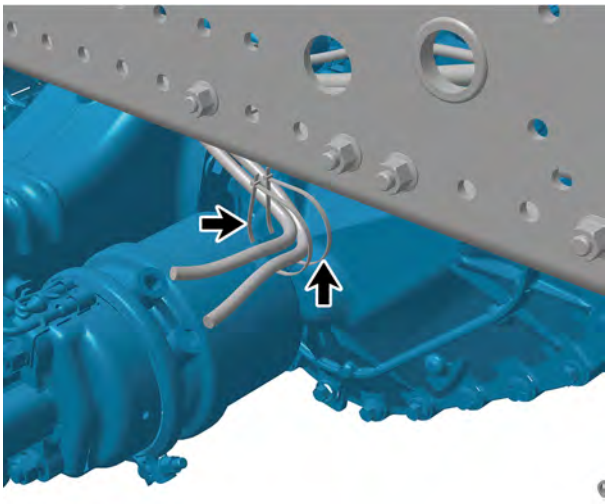
34 Remove the 5 fixing bolts of the integrated electric axle - the rear axle.



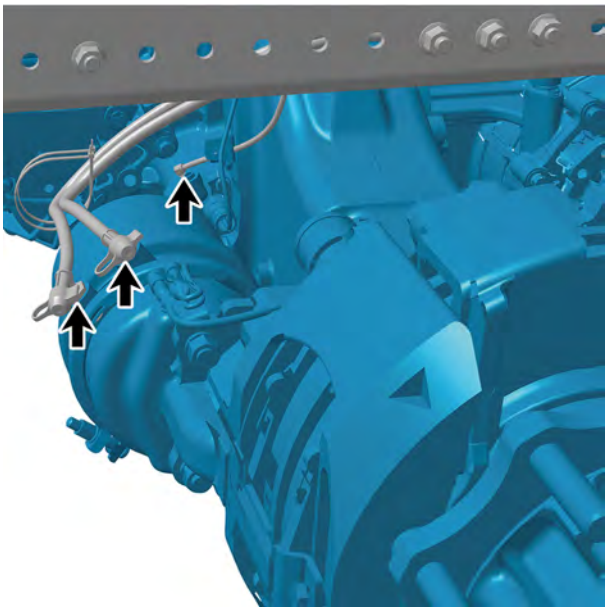
35 Remove the 2 fixing bolts of the high-voltage wire harness clamp on the integrated electric axle - the rear axle.



39 Disconnect the 2 air pipes of the integrated axle - rear axle.



40 Remove the 2 straps of the integrated axle - rear axle.



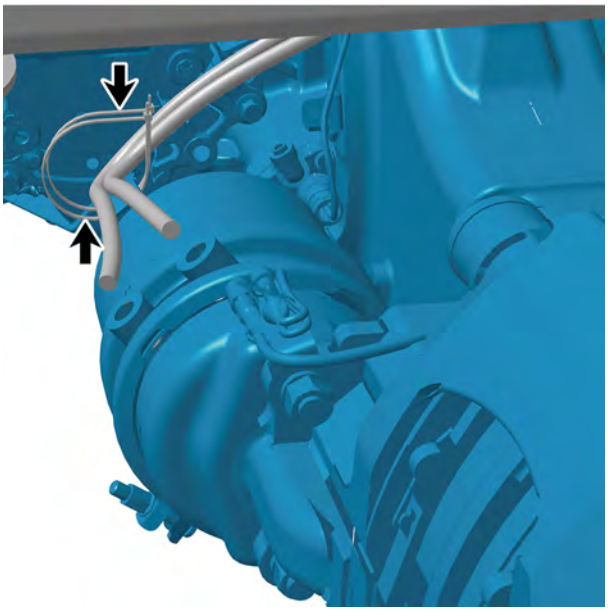
41 Disconnect the 3 pipelines of the integrated axle - rear axle.



42 Remove the 2 straps of the integrated axle - rear axle.

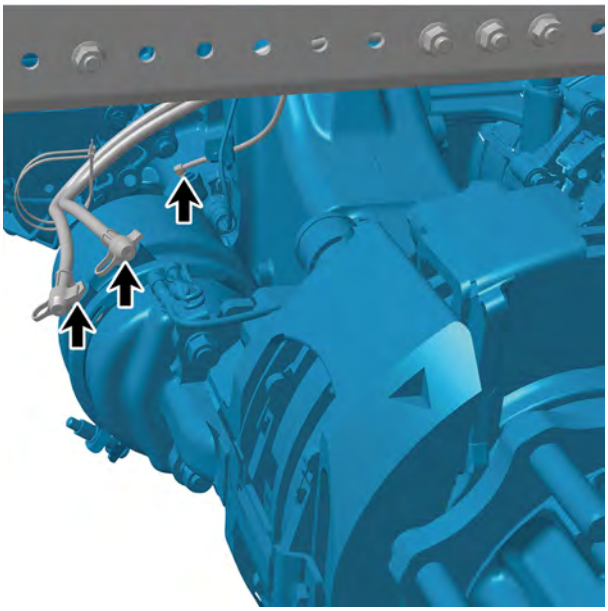
43 Use a lifting platform or other tools to remove the integrated axle - rear axle.

Installation Procedures

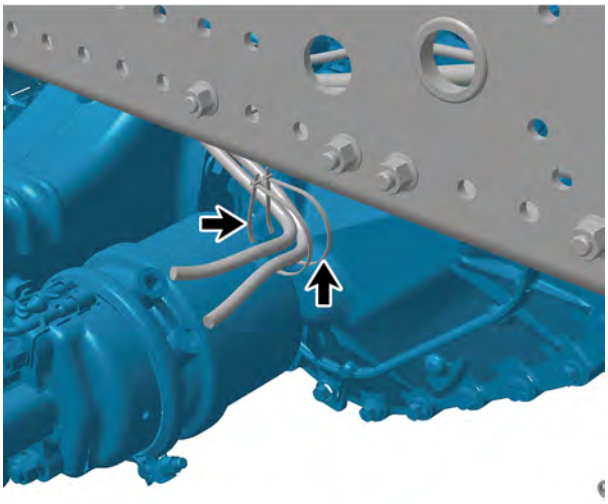


1 Use a lifting platform or other tools to move the integrated axle - rear axle to the installation position.

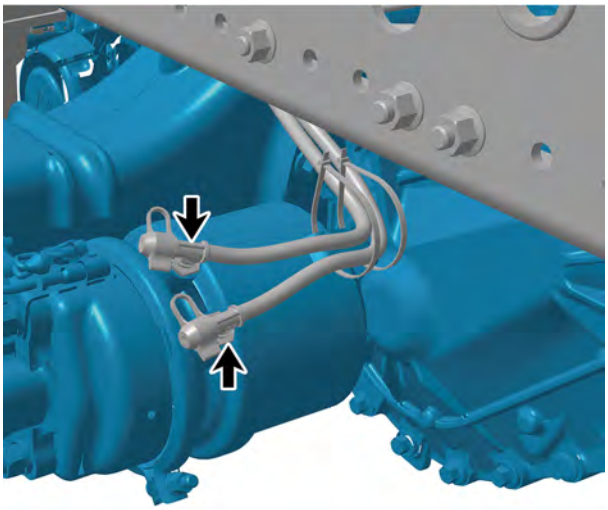
2 Install the 2 straps of the integrated axle - rear axle.



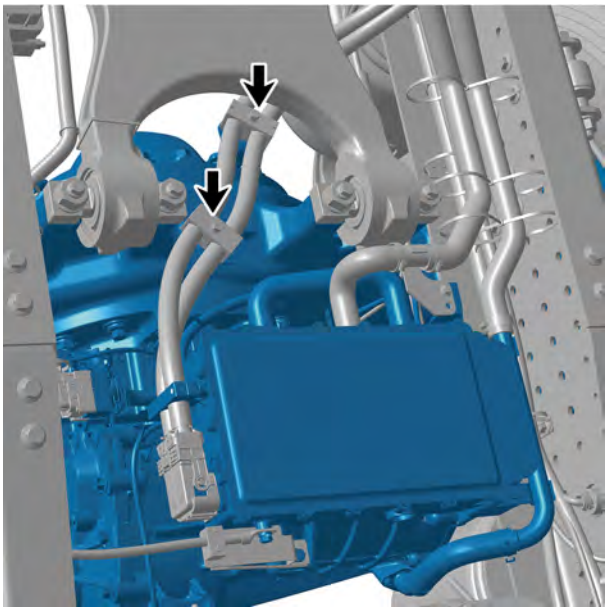
3 Connect the 3 air pipes of the integrated axle - rear axle.



4 Install the 2 straps of the integrated axle - rear axle.

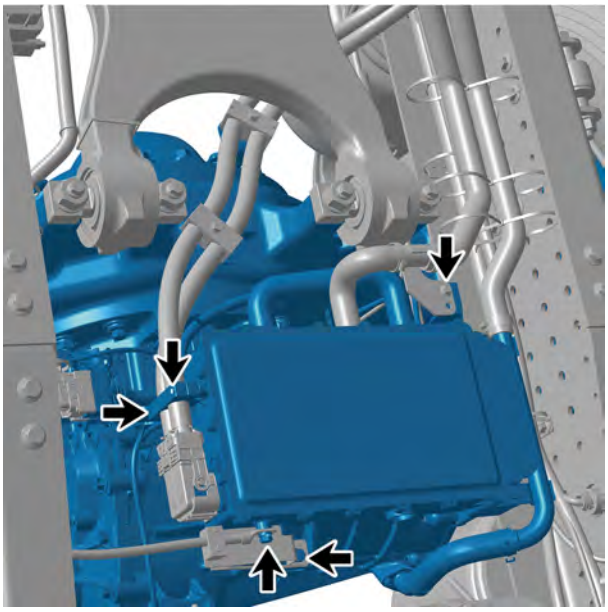


5 Connect the 2 air pipes of the integrated axle - rear axle.



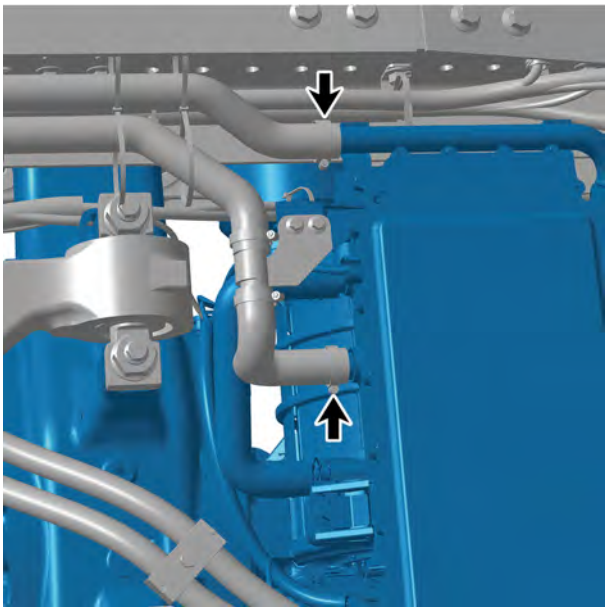
9 Install the 2 fixing bolts of the high-voltage wire harness clamp on the integrated electric axle - the rear axle.

Torque: (9 ft-lb +/- .5 ft-lb) ft-lb

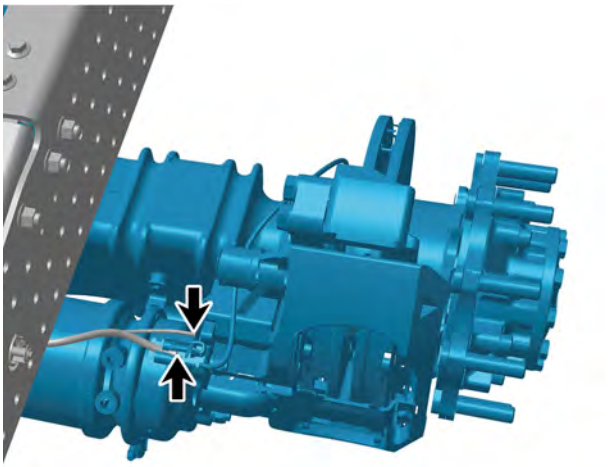


10 Install the 5 fixing bolts of the integrated electric axle - the rear axle.

Torque: (9 ft-lb +/- .5 ft-lb) ft-lb



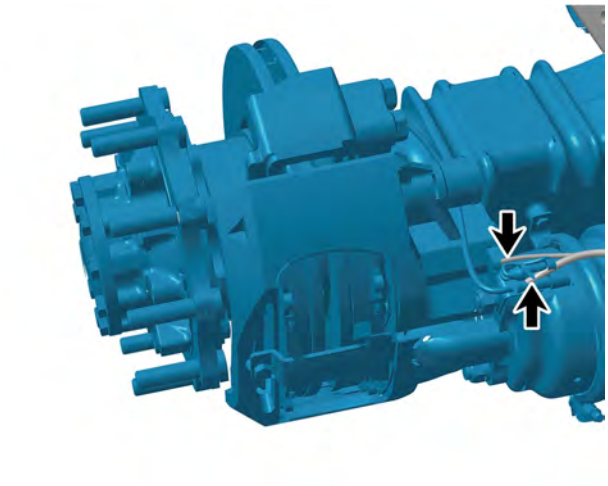
11 Connect the 2 water pipes of the integrated axle - rear axle.



12 Connect 2 harness connector of the integrated axle - rear axle.

caution

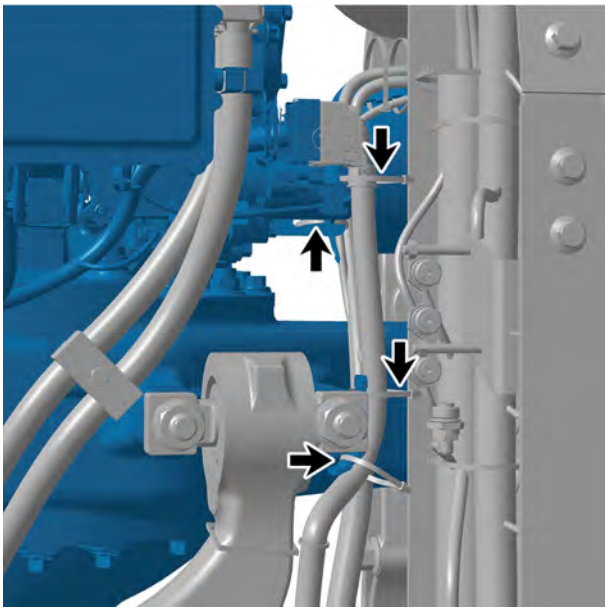
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



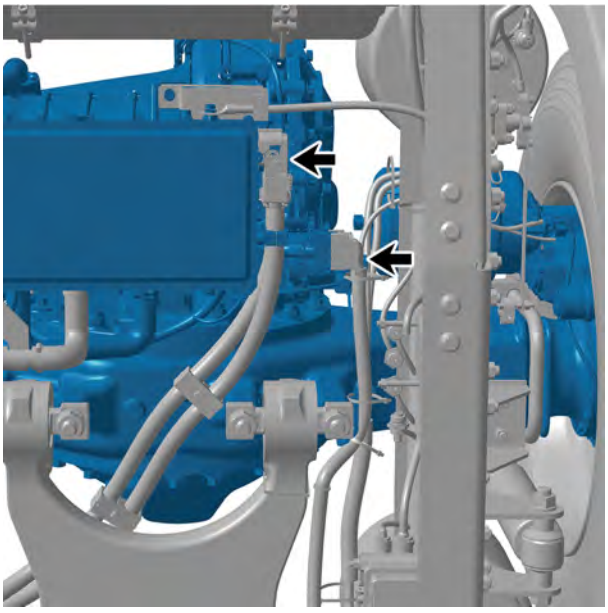
13 Connect 2 harness connector of the integrated axle - rear axle.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



14 Install the 4 straps of the integrated axle - rear axle.



15 Connect 2 harness connector of the integrated axle - rear axle.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

16 Install the X-shaped control arm assembly (rear).

17 Install the dual channel module assembly.

18 Install the balance beam (right).

19 Install the rear air spring assembly - 280 (rear right).

20 Install the rear air spring assembly - 260 (rear right).

21 Install the rear right wheel housing rear body assembly.

22 Install the rear right wheel housing middle body assembly.

23 Install the height adjustment device assembly (right).

24 Install the drive wheel (rear right).

25 Install the balance beam (left).

26 Install the rear spring U-bolt 2.

27 Install the rear spring U-bolt.

28 Install the longitudinal thrust rod assembly.

29 Install the rear air spring assembly - 280 (rear left).

30 Install the shock absorber assembly (rear).

31 Install the rear air spring assembly - 260 (rear left).

32 Install the rear left wheel housing rear body assembly.

33 Install the rear left wheel housing middle body assembly.

34 Install the height adjustment device assembly (left).

35 Install the drive wheel (rear left).

36 Install the rear wheel housing upper body.

37 Fill coolant in the power system.

38 Lower the rear end of the vehicle.

39 Perform power-on of the high voltage system.

40 Connect the battery negative cable.

41 Close the front flip cover plate.

42 Close the door.

caution

After replacing the parts, it is necessary to recalibrate the height.

4.2 Differential Lock Solenoid Valve Device

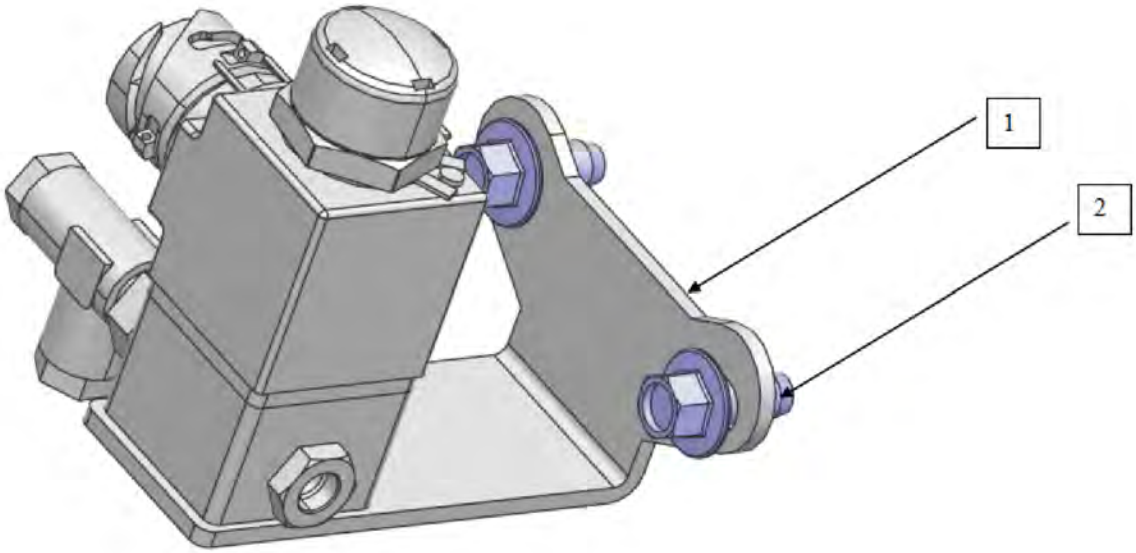
4.2.1 Specifications

4.2.1.1 Fastener Specifications

Fastener name	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolt connecting the differential lock solenoid valve to the pipe beam	M8	(9 ft-lb +/- .5 ft-lb) ft-lb

4.2.2 Decomposition Diagram

4.2.2.1 Decomposition Diagram



1. Differential Lock Solenoid Device
2. Hexagon Flange Bolt

4.2.3 Dismantling and Installation

4.2.3.1 Replacement of the Differential Lock Solenoid Valve

Removal Procedures

1 Release air pressure from the brake system.

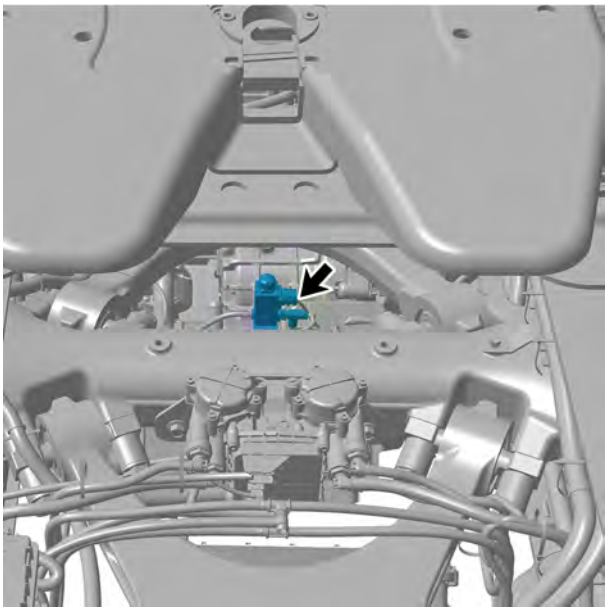
2 Open the door.

3 Open the front flip cover plate.

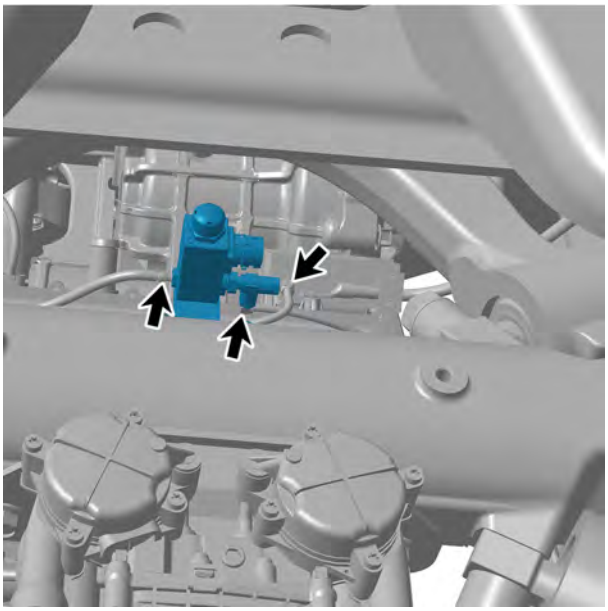
4 Disconnect the battery negative cable.

caution

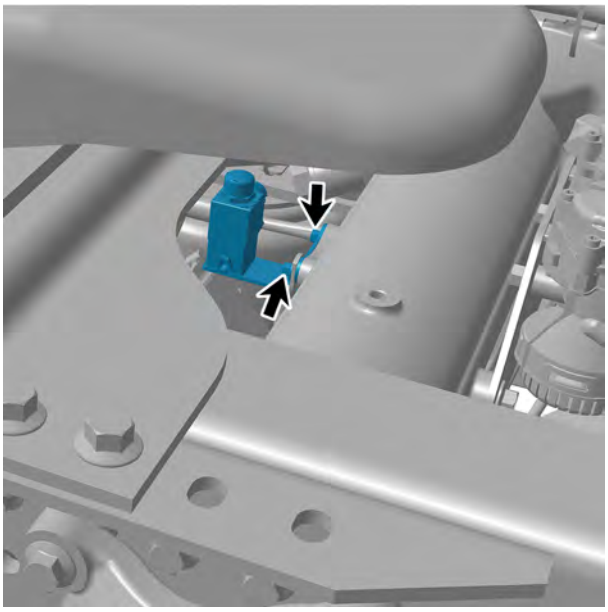
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



5 Disconnect 1 harness connector of the differential lock solenoid valve assembly with bracket.



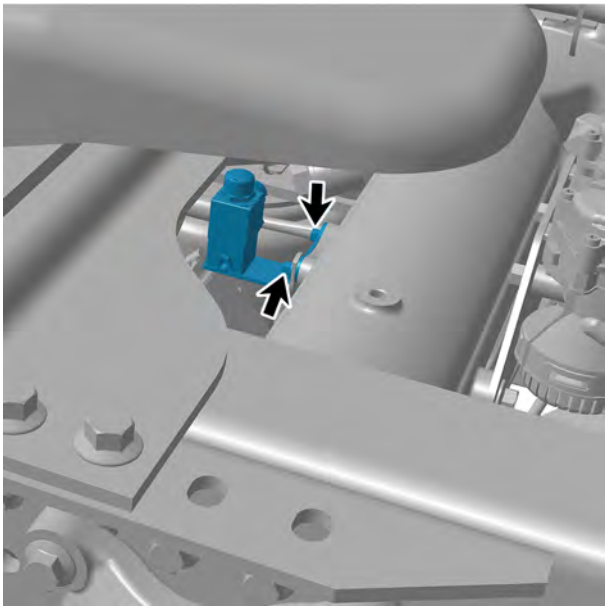
6 Disconnect the 3 air pipes of the differential lock solenoid valve assembly with bracket.



7 Remove the 2 fixing bolts of the differential lock solenoid valve assembly with bracket.

8 Detach the differential lock solenoid valve.

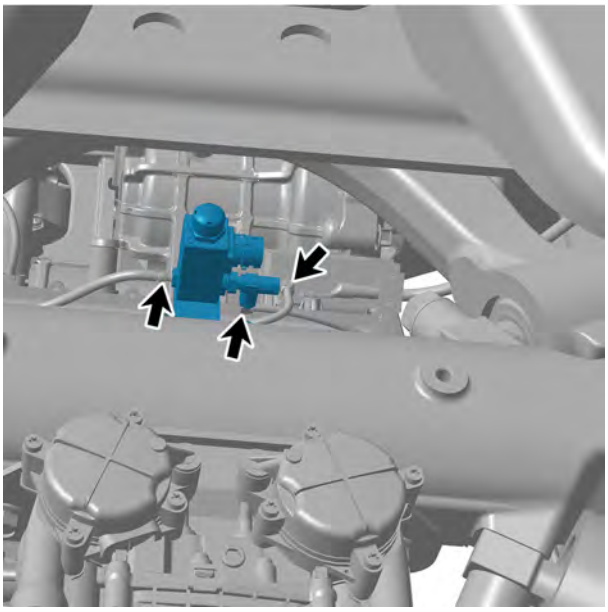
Installation Procedures



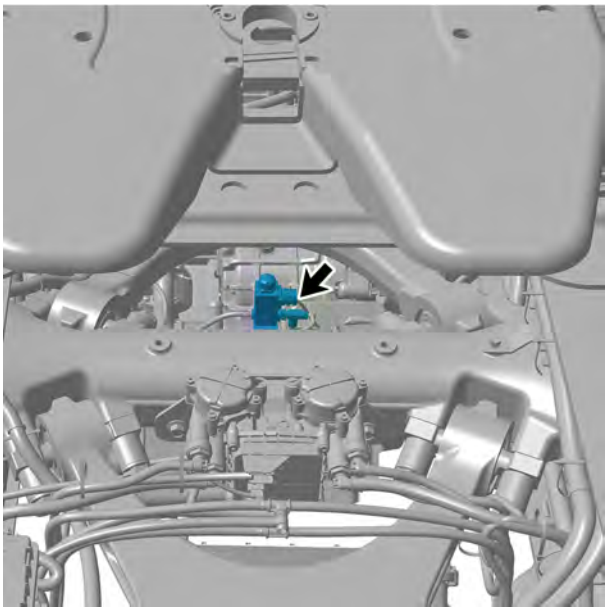
1 Move the differential lock solenoid valve assembly with bracket to the installation position.

2 Install the 2 fixing bolts of the differential lock solenoid valve assembly with bracket.

Torque: (11 ft-lb +/- .5 ft-lb) ft-lb



3 Connect the 3 air pipes of the differential lock solenoid valve assembly with bracket.



4 Connect 1 harness connector of the differential lock solenoid valve assembly with bracket.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

4.3 Power Battery Device

4.3.1 Description and Operation

4.3.1.1 Description and Operation

Accident

1. Handle traffic accidents in accordance with relevant provisions of State Local and Federal law on Road Traffic Safety.
2. Notify the vehicle after-sales service specialist. It is prohibited to reuse the vehicle before the after-sales department issues the battery safety judgment results.
3. If repair or painting is required after collision of the vehicle, it must be performed at an authorized dealer of the vehicle, and it is prohibited to remove the vehicle without permission. Before painting, remove the high voltage battery, high voltage harness, MCU and other high voltage components. This is because the service life of the high voltage battery can be affected when it is exposed to the higher temperature painting workshop. In addition, the high voltage battery on the vehicle may bring potential safety hazards to maintenance personnel who have not received professional training in maintenance of electric vehicles.

Catching Fire

1. Immediately turn off the emergency high voltage switch and low voltage power supply, and notify the manufacturer's after-sales personnel.
2. Do not touch the leaking electrolyte with your hands; If your skin or eyes come into contact with the electrolyte, rinse immediately with plenty of water, and seek medical attention immediately to avoid injury.

Falling in Water or Immersion in Water

1. Do not power on the vehicle.
2. Contact the service personnel.

Recovery and Tracing of High Voltage Battery

1. Car owners and enterprises shall dispose of batteries in accordance with the Interim Measures for the Management of Recovery and Utilization of New Energy Vehicle High Voltage Battery and the Interim Regulations on the Management of Recovery, Utilization and Tracing of New Energy Vehicle High Voltage Battery.
2. If repair or replacement of the high voltage battery is required, the owner of a new energy vehicle should send the new energy vehicle to an after-sales service organization recognized by our company with corresponding capabilities for repair and replacement.
3. When the new energy vehicle is eligible for scrapping, it should be sent to a company engaged in recovery and disassembly of scrapped vehicles approved by our company for removal of the high voltage battery.
4. The owner of high voltage battery (battery leasing and other operating enterprises) should hand over the waste high voltage batteries to a recycling service outlet approved by our company.
5. Do not disassemble, remove or discard the high voltage batteries without permission. Do not hand over waste high voltage batteries to other units or individuals. You will be held responsible for any environmental pollution or safety accidents caused by removing, disassembling or discarding high voltage batteries without permission.

Environmental Pollution

1. The electrode material of the waste battery in the environment will go through hydrolysis, decomposition, oxidation and other chemical reactions with the substances in the environment, producing heavy metal ions, strong alkali and negative electrode carbon dust which will result in heavy metal, alkali and dust pollutions.
2. The electrolyte of waste batteries in the environment can go through hydrolysis, decomposition, combustion and other chemical reactions, producing HF, arsenic-containing compounds and phosphorus-containing compounds, which will lead to fluorine and arsenic pollutions.
3. The solvent of waste batteries undergoes hydrolysis, combustion, decomposition and other chemical reactions, producing small molecule organic compounds such as formaldehyde, methanol, acetaldehyde, ethanol, or formic acid, which are easily soluble in water and can cause water pollution.
4. Other substances in the battery can cause organic matter and fluorine pollutions when they are in the environment.
5. When using the battery, some harmful substances produced after side reactions, including the products of solvent decomposition such as propylene, glycol, ethylene, and ethanol, the by-products generated via reaction between electrolyte and positive electrode such as HF, LiF, (CH2OCO2Li)2CH3OCO2Li, CH4, CO, and CH3OH, the products of side reaction between the negative electrode and the electrolyte, and additives added in the pretreatment process of electrode can directly or indirectly cause environmental pollution.

Harm to Human Health

1. Ingestion of harmful components in batteries can cause severe chemical burns to the mouth, esophagus, gastrointestinal tract, which will lead to upper respiratory tract and lung allergies. If you have ingested harmful ingredients, do not induce vomiting and do not eat or drink. Instead, you should seek medical attention immediately.
2. Skin contact and absorption of harmful components such as ethylene carbonate, diethyl carbonate, and dimethyl carbonate in battery packs may cause local inflammation or skin allergies and/or chemical burns.
3. Eye contact with the harmful components of the battery pack may cause severe allergies and chemical burns.

4.3.2 Specifications

4.3.2.1 Fastener Specifications

Fastener name	Specifications	Range Of Torque
		Metric System (ft-lb)
NCM-The fixing bolts connecting the battery pack assembly (AVIC 161Ah) to the battery mounting bracket	M14	147.5 ft-lb +/- 7 ft-lb
NCM-The fixing bolts connecting the battery pack assembly (AVIC 161Ah) to the frame assembly	M8	18 ft-lb +/- 2 ft-lb

4.3.2.2 Technical Parameters

High Voltage Battery (NCM Lithium Battery)

Item	Parameter
Working environment temperature (*)	-30 - 55
Working environment relative humidity (%)	5 ~ 95
Rated capacity (Ah)	644
Nominal voltage (V)	754.8
Working voltage range (V)	571.2~887.4
SOC working range (%)	2~97
SOC at delivery (%)	50
Thermal management mode	Liquid cooling, liquid heating
Battery pack module	4P, 1P204S
Rated storage energy (kWh)	486.09
Battery model	EV-CALB-755161
Main features	Ternary lithium battery
Charging mode	DC charging
Charging current (A)	644
Charging voltage (V)	887.4
Manufacturer	Huating (Hefei) Hybrid Technology Co., Ltd.

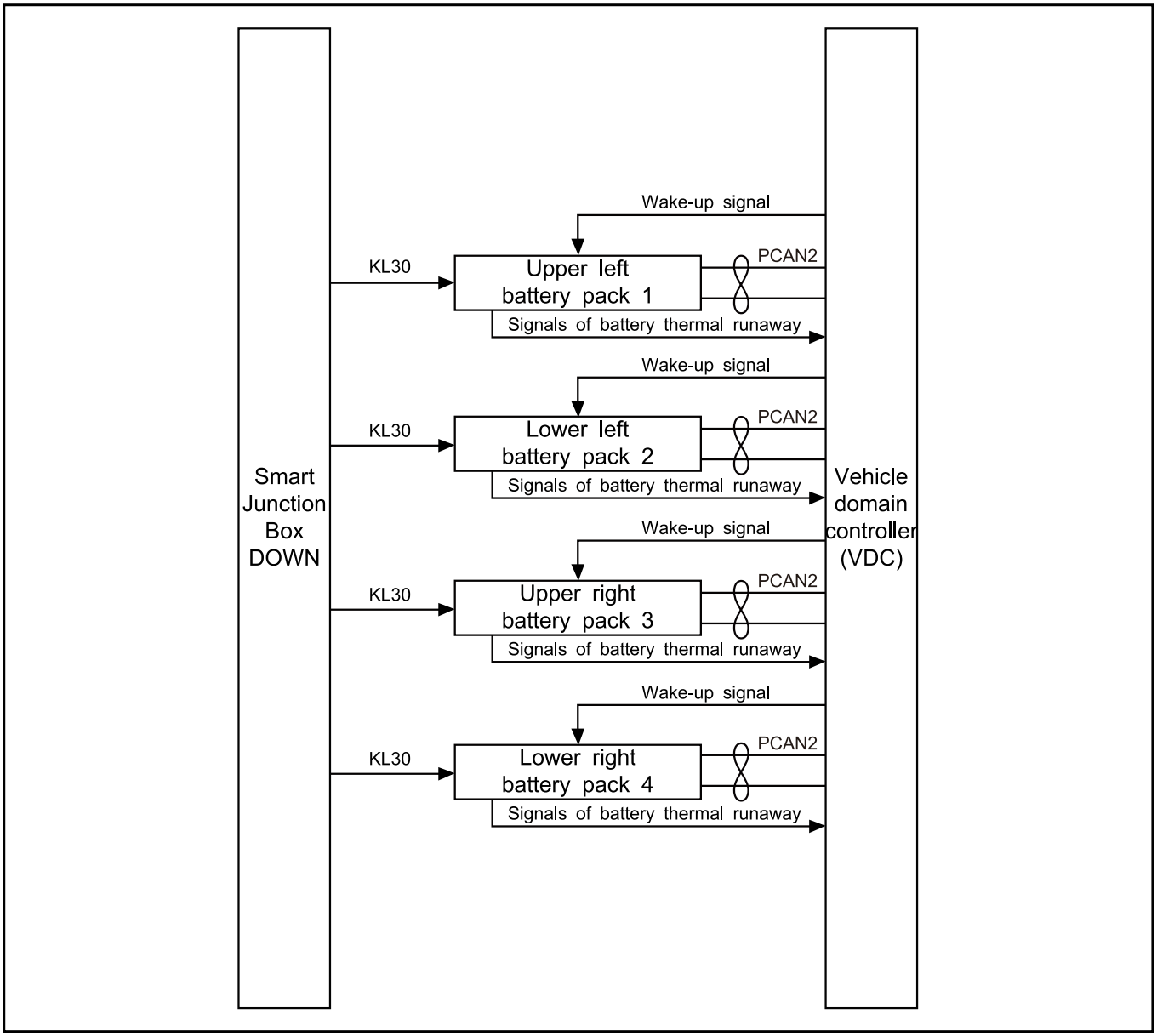
High Voltage Battery (LFP Battery)

Item	Parameter
Working environment temperature (*)	-22 - 122
Working environment relative humidity (%)	5 ~ 95
Rated capacity (Ah)	920
Nominal voltage (V)	766.4
Working voltage range (V)	595~868.7
SOC working range (%)	2~100
SOC at delivery (%)	50

Item	Parameter
Thermal management mode	Liquid cooling, liquid heating
Battery pack module	4P, 1P238S
Rated storage energy (kWh)	705.2
Battery model	EV-CALB-766230
Main features	Lithium iron phosphate battery
Charging mode	DC charging
Charging current (A)	920
Charging voltage (V)	868.7
Manufacturer	Huating (Hefei) Hybrid Technology Co., Ltd.

4.3.3 System Schematic Diagram

4.3.3.1 Electrical Schematic Diagram



4.3.4 Diagnostic Information and Steps

4.3.4.1 Diagnosis Description

Before diagnosing faults in the power battery system, refer to Description And OperationUnderstanding and familiarizing oneself with the working principle of the power battery device before starting system diagnosis can help determine the correct fault diagnosis steps in the event of a malfunction, and more importantly, it can help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of the power battery device should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

4.3.4.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the power battery system, ensuring that these devices do not affect the operation of the power battery system.
- Inspect system components that are easily accessible or visible to make sure they are not visibly damaged or have conditions that could cause failure.

4.3.4.3 DTC Confirmation

1.Connect the diagnostic instrument to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Restart the vehicle.

3. Read the malfunction code of the control system again to confirm whether the system has a malfunction code output.

– Yes:Diagnose based on the output malfunction code.

– No:Perform intermittent malfunction checks, refer to Inspection Of Intermittent Fault

4.3.4.4 List Of Diagnostic Trouble Codes (DTCs)

CMU1

Fault Code	Fault Description	Exclusion Method
B111716	The CMU supply voltage limit is too low - battery pack	Refer to CMU1 Power Fault
B111717	The CMU supply voltage limit is too high - battery pack	
P168400	The supply voltage of the CMU is too low - the battery pack	
P168500	The supply voltage of the CMU is too high - the battery pack	
U012287	VDC communication is lost - battery pack	Refer to CMU1 Communication Fault
U008C88	PCAN2 BusOff- battery pack	
U015687	CDCU communication lost - battery pack	
U019887	T-BOX communication is lost - battery pack	
P163900	The internal communication of the CMU is abnormally faulty	Refer to CMU1 Internal Fault
P166600	The CMU storage state is faulty	
P166700	Failure of temperature acquisition	

Fault Code	Fault Description	Exclusion Method
P16A100	The CMU passive equalization function is faulty	
P160200	The battery temperature limit is too high	Refer to CMU1 Temperature Abnormality
P160500	The temperature is too low	
P163500	The temperature is too high	
P163A00	The temperature difference is too large	
P166900	The temperature difference is too large	
P168300	The temperature is too low	
P161500	The total voltage is too low	Refer to CMU1 High Voltage Circuit Fault
P161600	The total voltage is too high	
P163600	The discharge current is too large	
P166A00	The feedback current is too large	
P163700	High voltage interlock fault	Refer to CMU1 High Voltage Interlock Fault
P160300	Limit undervoltage of the unit	Refer to CMU1 Individual Voltage Abnormality
P160400	The voltage limit of the unit is overvoltage	
P163300	The cell voltage is too low	
P163400	The cell voltage is too high	
P163800	The voltage dropout of the cell is too large	
P166800	The loose set of the single sampling line is faulty	
P166B00	The voltage dropout of the cell is too large	
P166C00	The cell voltage is too low	
P166D00	The cell voltage is too high	
P160100	Battery pack fire alarm	Refer to CMU1 Thermal Runaway Signal Fault

CMU2

Fault Code	Fault Description	Exclusion Method
B111716	The CMU supply voltage limit is too low - battery pack	Refer to CMU2 Power Fault
B111717	The CMU supply voltage limit is too high - battery pack	
P178400	The supply voltage of the CMU is too low - the battery pack	

Fault Code	Fault Description	Exclusion Method
P178500	The supply voltage of the CMU is too high - the battery pack	
U012287	VDC communication is lost - battery pack	Refer to CMU2 Communication Fault
U008C88	PCAN2 BusOff- battery pack	
U015687	CDCU communication lost - battery pack	
U019887	T-BOX communication is lost - battery pack	
P173900	The internal communication of the CMU is abnormally faulty	Refer to CMU2 Internal Fault
P176600	The CMU storage state is faulty	
P176700	Failure of temperature acquisition	
P17A100	The CMU passive equalization function is faulty	
P170200	The battery temperature limit is too high	Refer to CMU2 Temperature Abnormality
P170500	The temperature is too low	
P173500	The temperature is too high	
P173A00	The temperature difference is too large	
P176900	The temperature difference is too large	
P178300	The temperature is too low	
P171500	The total voltage is too low	Refer to CMU2 High Voltage Circuit Fault
P171600	The total voltage is too high	
P173600	The discharge current is too large	
P176A00	The feedback current is too large	
P173700	High voltage interlock fault	Refer to CMU2 High Voltage Interlock Fault
P170300	Limit undervoltage of the unit	Refer to CMU2 Individual Voltage Abnormality
P170400	The voltage limit of the unit is overvoltage	
P173300	The cell voltage is too low	
P173400	The cell voltage is too high	
P173800	The voltage dropout of the cell is too large	
P176800	The loose set of the single sampling line is faulty	
P176B00	The voltage dropout of the cell is too large	
P176C00	The cell voltage is too low	

Fault Code	Fault Description	Exclusion Method
P176D00	The cell voltage is too high	
P170100	Battery pack fire alarm	Refer to CMU2 Thermal Runaway Signal Fault

CMU3

Fault Code	Fault Description	Exclusion Method
B111716	The CMU supply voltage limit is too low - battery pack	Refer to CMU3 Power Fault
B111717	The CMU supply voltage limit is too high - battery pack	
P1 8 8400	The supply voltage of the CMU is too low - the battery pack	
P1 8 8500	The supply voltage of the CMU is too high - the battery pack	
U012287	VDC communication is lost - battery pack	Refer to CMU3 Communication Fault
U008C88	PCAN2 BusOff- battery pack	
U015687	CDCU communication lost - battery pack	
U019887	T-BOX communication is lost - battery pack	
P183900	The internal communication of the CMU is abnormally faulty	Refer to CMU3 Internal Fault
P186600	The CMU storage state is faulty	
P186700	Failure of temperature acquisition	
P18A100	The CMU passive equalization function is faulty	
P180200	The battery temperature limit is too high	Refer to CMU3 Temperature Abnormality
P180500	The temperature is too low	
P183500	The temperature is too high	
P183A00	The temperature difference is too large	
P186900	The temperature difference is too large	
P188300	The temperature is too low	
P181500	The total voltage is too low	Refer to CMU3 High Voltage Circuit Fault
P181600	Over voltage	
P183600	The discharge current is too large	
P186A00	The feedback current is too large	
P183700	High voltage interlock fault	Refer to CMU3 High Voltage Interlock Fault

Fault Code	Fault Description	Exclusion Method
P180300	Limit undervoltage of the unit	Refer to CMU3 Individual Voltage Abnormality
P180400	The voltage limit of the unit is overvoltage	
P183300	The cell voltage is too low	
P183400	The cell voltage is too high	
P183800	The voltage dropout of the cell is too large	
P186800	The loose set of the single sampling line is faulty	
P186B00	The voltage dropout of the cell is too large	
P186C00	The cell voltage is too low	
P186D00	The cell voltage is too high	
P180100	Battery pack fire alarm	Refer to CMU3 Thermal Runaway Signal Fault

CMU4

Fault Code	Fault Description	Exclusion Method
B111716	The CMU supply voltage limit is too low - battery pack	Refer to CMU4 Power Fault
B111717	The CMU supply voltage limit is too high - battery pack	
P168400	The supply voltage of the CMU is too low - the battery pack	
P168500	The supply voltage of the CMU is too high - the battery pack	
U012287	VDC communication is lost - battery pack	Refer to CMU4 Communication Fault
U008C88	PCAN2 BusOff- battery pack	
U015687	CDCU communication lost - battery pack	
U019887	T-BOX communication is lost - battery pack	
P193900	The internal communication of the CMU is abnormally faulty	Refer to CMU4 Internal Fault
P196600	The CMU storage state is faulty	
P196700	Failure of temperature acquisition	
P19A100	The CMU passive equalization function is faulty	

Fault Code	Fault Description	Exclusion Method
P190200	The battery temperature limit is too high	Refer to CMU4 Temperature Abnormality
P190500	The temperature is too low	
P193500	The temperature is too high	
P193A00	The temperature difference is too large	
P196900	The temperature difference is too large	
P198300	The temperature is too low	
P191500	The total voltage is too low	Refer to CMU4 High Voltage Circuit Fault
P191600	The total voltage is too high	
P193600	The discharge current is too large	
P196A00	The feedback current is too large	
P193700	High voltage interlock fault	Refer to CMU4 High Voltage Interlock Fault
P190300	Limit undervoltage of the unit	Refer to Abnormal Voltage Of CMU4 Unit
P190400	The voltage limit of the unit is overvoltage	
P193300	The cell voltage is too low	
P193400	The cell voltage is too high	
P193800	The voltage dropout of the cell is too large	
P196800	The loose set of the single sampling line is faulty	
P196B00	The voltage dropout of the cell is too large	
P196C00	The cell voltage is too low	
P196D00	The cell voltage is too high	
P190100	Battery pack fire alarm	Refer to CMU4 Thermal Runaway Signal Fault

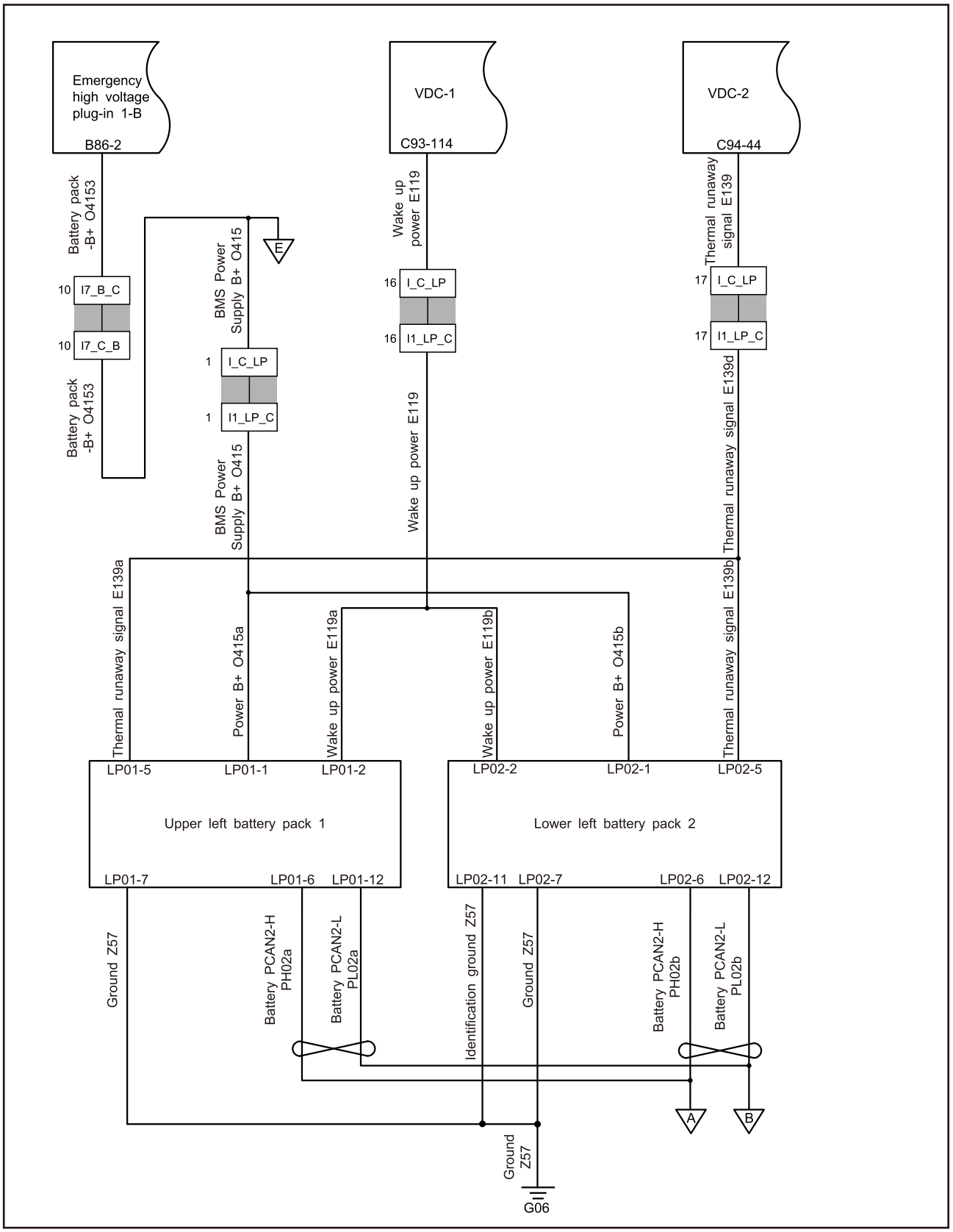
4.3.4.5 CMU1 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111716	The CMU supply voltage limit is too low - battery pack	BATT24V <9V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Upper left battery pack 1
B111717	The CMU supply voltage limit is too high - battery pack	BATT24V > 36	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P168400	The supply voltage of the CMU is too low - the battery pack	BATT24V < 18V	
P168500	The supply voltage of the CMU is too high - the battery pack	BATT24V > 32V	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides CMU1?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the power and grounding harness of the upper left battery pack 1.

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper left battery pack 1.

Step 6:Replace the upper left battery pack 1. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah)

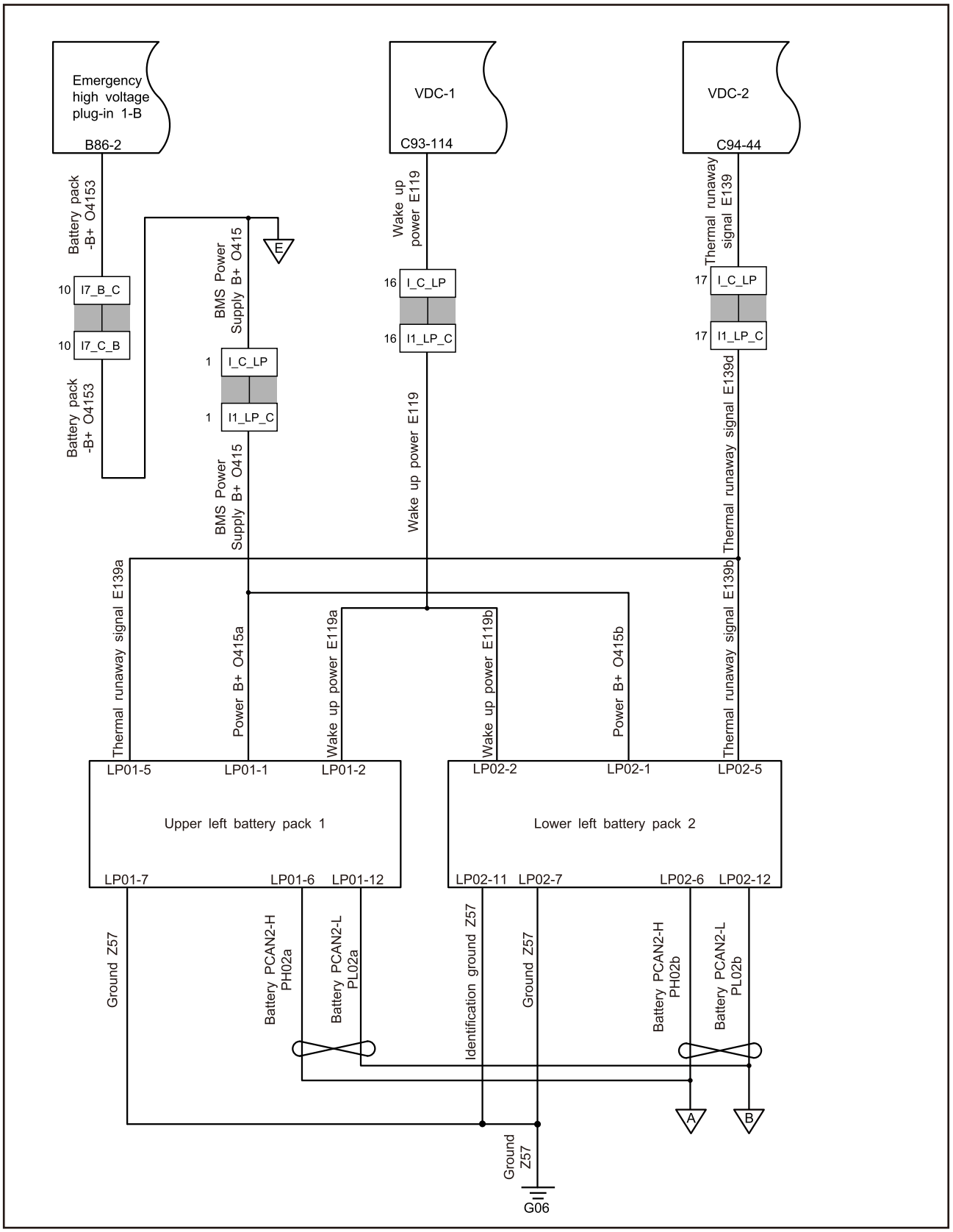
Step 7:Clear and confirm DTC.

4.3.4.6 CMU1 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012287	VDC communication is lost - battery pack	VDC_TO_CMU/0x10016827x lost for more than 20s	1.Wiring harness 2. Upper left battery pack 1
U008C88	PCAN2 BusOff-battery pack	CMU BusOff	
U015687	CDCU communication lost - battery pack	CDCU_VDHR/0x18FEC1EExlost for more than 5s	
U019887	T-BOX communication is lost - battery pack	TGW_TD_Time/0x18FEE6EExlost for more than 5s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN2 bus communication harness. Refer to Inspection Of PCAN2 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the upper left battery pack 1.

Step 5:Replace the upper left battery pack 1. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah)

Step 6:Clear and confirm DTC.

4.3.4.7 CMU1 Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P163900	The internal communication of the CMU is abnormally faulty	Communication error with the CMU's internal capture chip	1. Upper left battery pack 1
P166600	The CMU storage state is faulty	The CMU storage state is faulty	
P166700	Failure of temperature acquisition	Failure of temperature acquisition	
P16A100	The CMU passive equalization function is faulty	The CMU passive equalization function is faulty	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the upper left battery pack 1.

Step 4:Replace the upper left battery pack 1. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah)

Step 5:Clear and confirm DTC.

4.3.4.8 CMU1 Temperature Abnormality

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P160200	The battery temperature limit is too high	Tmax ≥ 140°F	1. Upper left battery pack 1
P160500	The temperature is too low	Tmin < -22°F	
P163500	The temperature is too high	Tmax ≥ 131°F	
P163A00	The temperature difference is too large	ΔT≥77°F	
P166900	The temperature difference is too large	ΔT≥68°F	
P168300	The temperature is too low	Tmin < -13°F	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check whether the vehicle has any malfunction codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper left battery pack 1.

Step 6:Replace the upper left battery pack 1. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.9 CMU1 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P161500	The total voltage is too low	Tmin>15℃ PackVokt≤530.4V(2.6V * 204) 0℃ < Tmin≤15℃ PackVokt≤469.2V(2.3V * 204) Tmin≤0℃ PackVokt≤387.6V(1.9V * 204)	1. High voltage wiring harness 2. Upper left battery pack 1
P161600	The total voltage is too high	PackVokt≥877.2V (4.3V * 204)	
P163600	The discharge current is too large	I >1.2*Check the pulse discharge ammeter+30A	
P166A00	The feedback current is too large	I >1.2*Check back the charge current meter+30A	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage harness of the upper left battery pack 1.

Step 4:Check the insulation detection circuit inside the upper left battery pack 1.

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper left battery pack 1.

Step 6:Replace the upper left battery pack 1. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.10 CMU1 High Voltage Interlock Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P163700	High voltage interlock malfunction	The battery high-voltage interlock signal status is abnormal	1. High voltage wiring harness 2. High-voltage interlocking wiring harness 3. Upper left battery pack 1

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage wiring harness of each high-voltage component.

Step 4:Check the high-voltage interlock harness of each high-voltage component.

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper left battery pack 1.

Step 6:Replace the upper left battery pack 1. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.11 CMU1 Individual Voltage Abnormality

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P160300	Limit undervoltage of the unit	Tmin > 59°F Vmin≤2.2V 32°F < Tmin≤59°F Vmin≤2.0V Tmin≤32°F Vmin≤1.8V	1. Upper left battery pack 1
P160400	The voltage limit of the unit is overvoltage	Vmax≥4.4V	
P163300	The cell voltage is too low	Tmin>59°F Vmin≤2.6V 32°F < Tmin≤59°F Vmin≤2.3V Tmin≤32°F Vmin≤1.9V	
P163400	The cell voltage is too high	Vmax≥4.37V	
P163800	The voltage dropout of the cell is too large	ΔV≥650mV	
P166800	The loose set of the single sampling line is faulty	The fault flag of single collection disconnection is 1	
P166B00	The voltage dropout of the cell is too large	ΔV≥500mv	
P166C00	The cell voltage is too low	Tmin>59°F Vmin≤3.28V 32°F < Tmin≤59°F Vmin≤3.19V Tmin≤32°F Vmin≤2.21V	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P166D00	The cell voltage is too high	Vmax≥4.316v	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the upper left battery pack 1.

Step 4:Replace the upper left battery pack 1. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah)

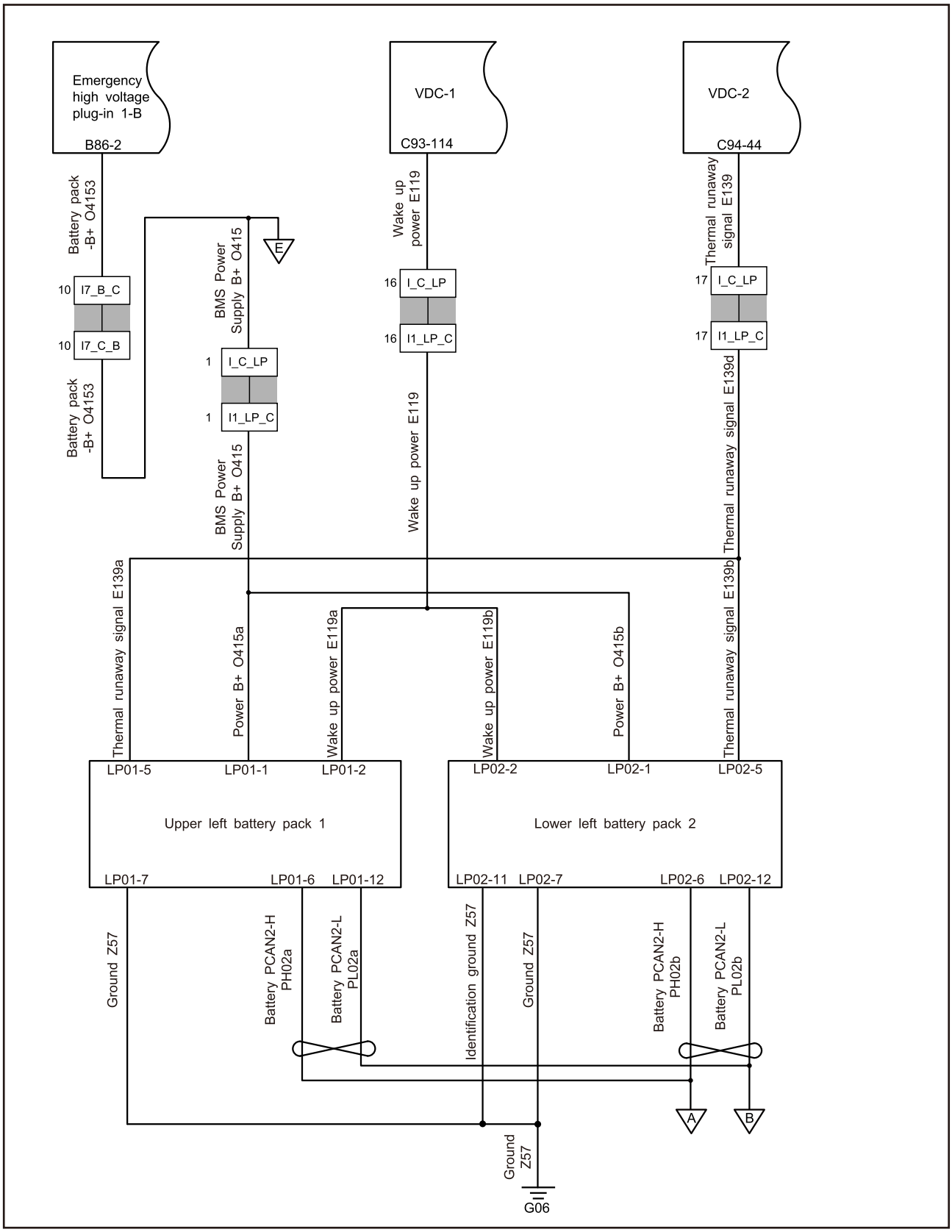
Step 5:Clear and confirm DTC.

4.3.4.12 CMU1 Thermal Runaway Signal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P160100	Battery pack fire alarm	The thermal runaway fault flag in the packet is 1 or the VDC receives the CMU thermal runaway wake-up hardwire signal	1.Wiring harness 2. Upper left battery pack 1

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if the vehicle is experiencing thermal runaway?

– Yes:
A. Stop vehicle charging operations immediately.
B. Park the vehicle in a suitable temperature environment and let it sit.
C. Execute the operation to release the high voltage system.
D. Check vehicle thermal management system malfunction codes.

– No: Next step

Step 4:Check the thermal runaway signal harness of the upper left battery pack 1.

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper left battery pack 1.

Step 6:Replace the upper left battery pack 1. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah)

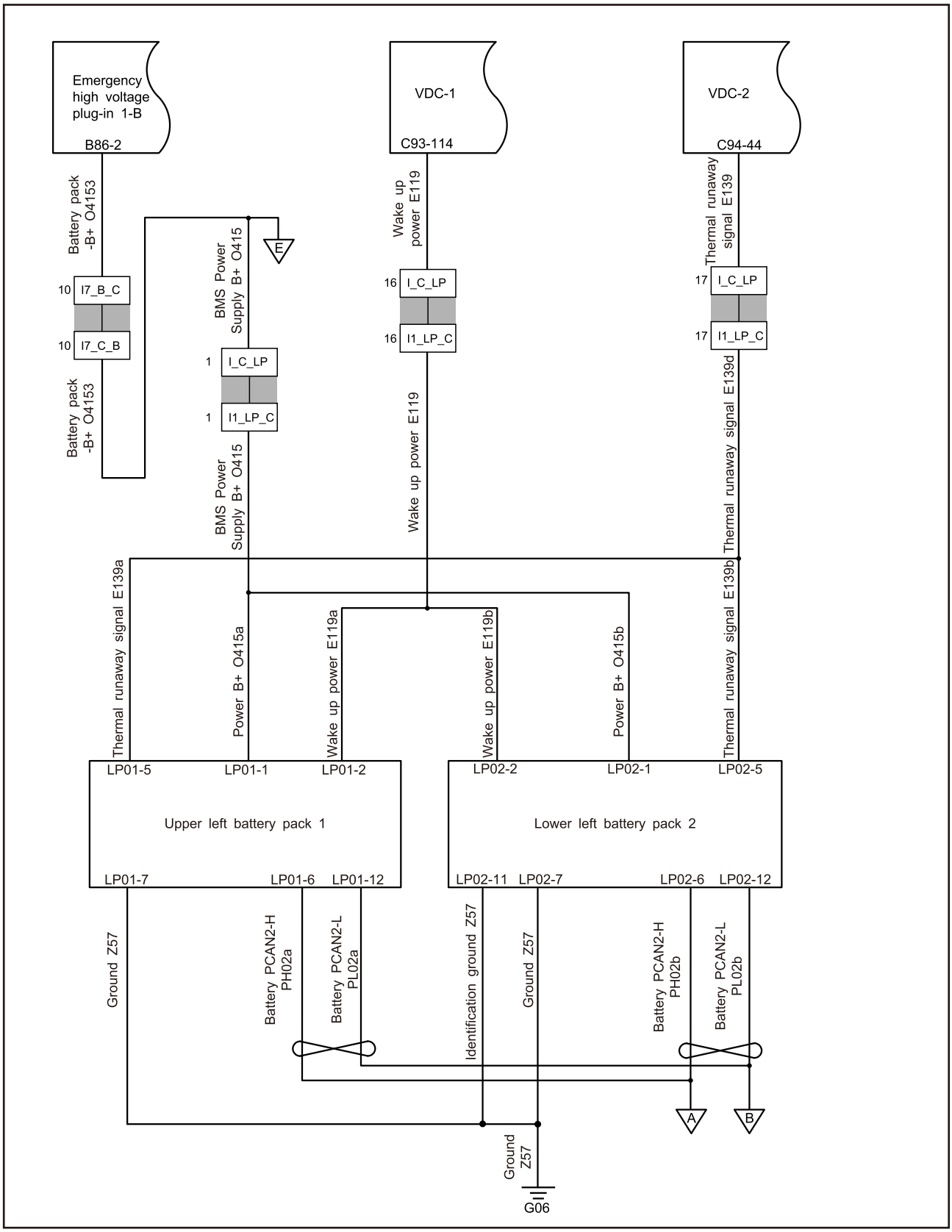
Step 7:Clear and confirm DTC.

4.3.4.13 CMU2 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111716	The CMU supply voltage limit is too low - battery pack	BATT24V <9V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Lower left battery pack 2
B111717	The CMU supply voltage limit is too high - battery pack	BATT24V > 36	
P178400	The supply voltage of the CMU is too low - the battery pack	BATT24V < 18V	
P178500	The supply voltage of the CMU is too high - the battery pack	BATT24V > 32V	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides CMU2?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the power and grounding harness of the lower left battery pack 2.

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower left battery pack 2.

Step 6:Replace the lower left battery pack 2. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

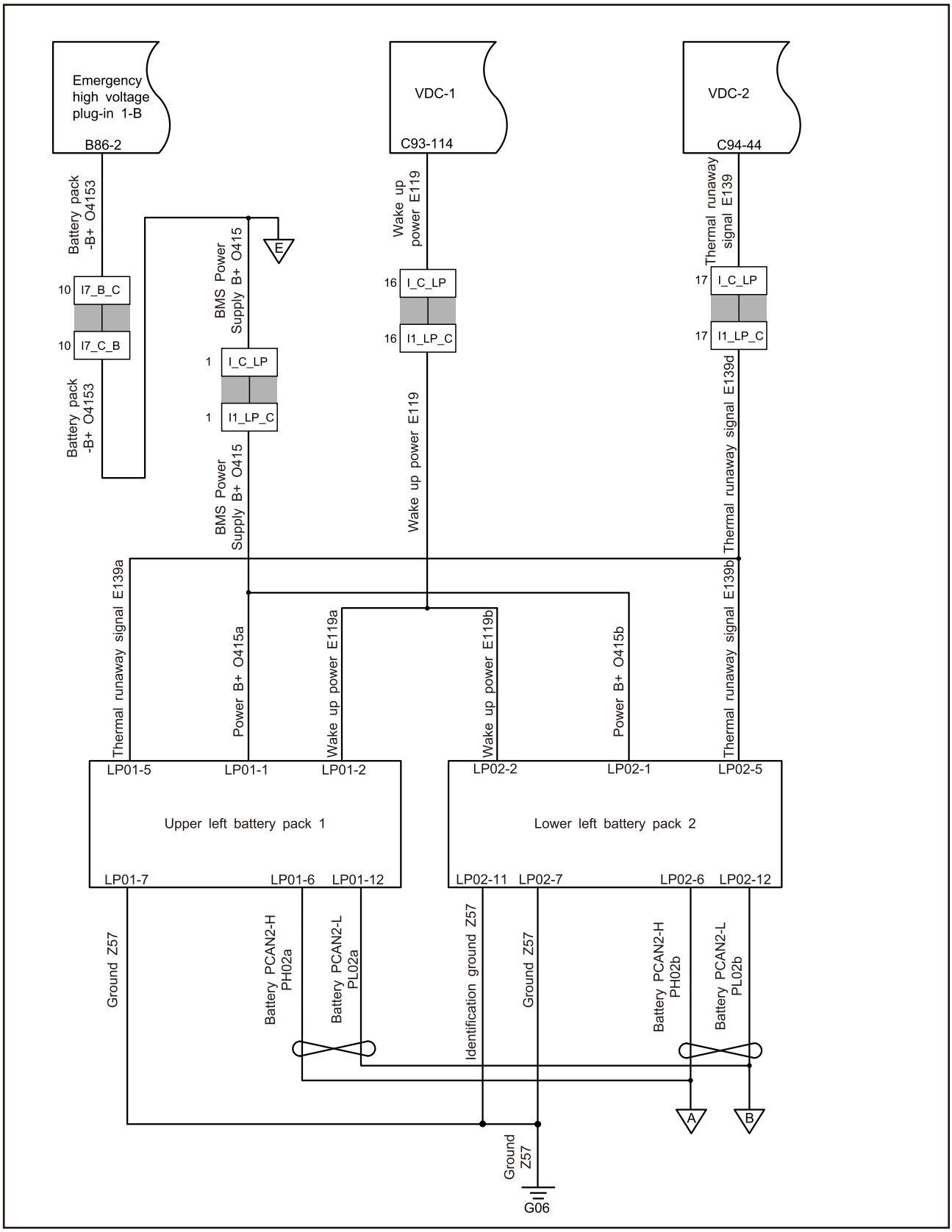
Step 7:Clear and confirm DTC.

4.3.4.14 CMU2 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012287	VDC communication is lost - battery pack	VDC_TO_CMU/0x10016827x lost for more than 20s	1.Wiring harness 2. Lower left battery pack 2
U008C88	PCAN2 BusOff-battery pack	CMU BusOff	
U015687	CDCU communication lost - battery pack	CDCU_VDHR/0x18FEC1EExlost for more than 5s	
U019887	T-BOX communication is lost - battery pack	TGW_TD_Time/0x18FEE6EExlost for more than 5s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN2 bus communication harness. Refer to Inspection Of PCAN2 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the lower left battery pack 2.

Step 5:Replace the lower left battery pack 2. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

Step 6:Clear and confirm DTC.

4.3.4.15 CMU2 Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P173900	The internal communication of the CMU is abnormally faulty	Communication error with the CMU's internal capture chip	1. Lower left battery pack 2
P176600	The CMU storage state is faulty	The CMU storage state is faulty	
P176700	Failure of temperature acquisition	Failure of temperature acquisition	
P17A100	The CMU passive equalization function is faulty	The CMU passive equalization function is faulty	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the lower left battery pack 2.

Step 4:Replace the lower left battery pack 2. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

Step 5:Clear and confirm DTC.

4.3.4.16 CMU2 Temperature Abnormality

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P170200	The battery temperature limit is too high	Tmax ≥ 140°F	1. Lower left battery pack 2
P170500	The temperature is too low	Tmin < -22°F	
P173500	The temperature is too high	Tmax ≥ 131°F	
P173A00	The temperature difference is too large	ΔT≥77°F	
P176900	The temperature difference is too large	ΔT≥68°F	
P178300	The temperature is too low	Tmin < -13°F	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check if the vehicle has any malfunction codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower left battery pack 2.

Step 6:Replace the lower left battery pack 2. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.17 CMU2 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P171500	The total voltage is too low	Tmin>59°F PackVokt≤530.4V(2.6V * 204) 32°F < Tmin≤59°F PackVokt≤469.2V(2.3V * 204) Tmin≤32°F PackVokt≤387.6V(1.9V * 204)	1. High voltage wiring harness 2. Lower left battery pack 2
P171600	The total voltage is too high	PackVokt≥877.2V (4.3V * 204)	
P173600	The discharge current is too large	I >1.2*Check the pulse discharge ammeter+30A	
P176A00	The feedback current is too large	I >1.2*Check back the charge current meter+30A	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high voltage harness of the lower left battery pack 2.

Step 4:Check the internal insulation detection circuit of the lower left battery pack 2.

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower left battery pack 2.

Step 6:Replace the lower left battery pack 2. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.18 CMU2 High Voltage Interlock Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P173700	High voltage interlock malfunction	The battery high-voltage interlock signal status is abnormal	1. High voltage wiring harness 2. High-voltage interlocking wiring harness 3. Lower left battery pack 2

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check the high-voltage wiring harness of each high-voltage component.

Step 4:Check the high-voltage interlock harness of each high-voltage component.

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower left battery pack 2.

Step 6:Replace the lower left battery pack 2. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.19 CMU2 Individual Voltage Abnormality

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P170300	Limit undervoltage of the unit	Tmin > 59°F Vmin≤2.2V 32°F < Tmin≤59°F Vmin≤2.0V Tmin≤32°F Vmin≤1.8V	1. Lower left battery pack 2
P170400	The voltage limit of the unit is overvoltage	Vmax≥4.4V	
P173300	The cell voltage is too low	Tmin>59°F Vmin≤2.6V 32°F < Tmin≤59°F Vmin≤2.3V Tmin≤32°F Vmin≤1.9V	
P173400	The cell voltage is too high	Vmax≥4.37V	
P173800	The voltage dropout of the cell is too large	ΔV≥650mV	
P176800	The loose set of the single sampling line is faulty	The fault flag of single collection disconnection is 1	
P176B00	The voltage dropout of the cell is too large	ΔV≥500mv	
P176C00	The cell voltage is too low	Tmin>59°F Vmin≤3.28V 32°F < Tmin≤59°F Vmin≤3.19V Tmin≤32°F Vmin≤2.21V	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P176D00	The cell voltage is too high	Vmax≥4.316v	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the lower left battery pack 2.

Step 4:Replace the lower left battery pack 2. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

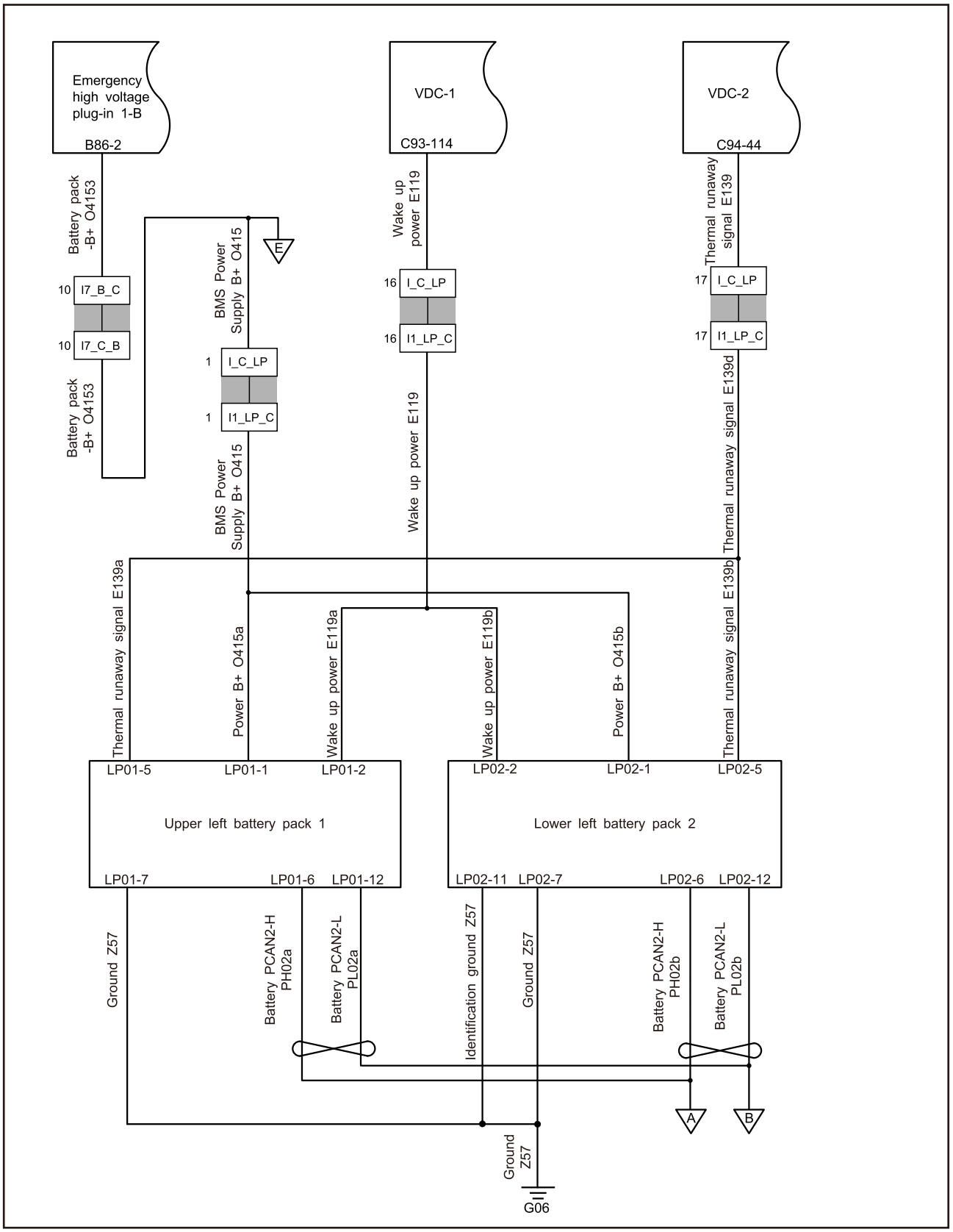
Step 5:Clear and confirm DTC.

4.3.4.20 CMU2 Thermal Runaway Signal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P170100	Battery pack fire alarm	The thermal runaway fault flag in the packet is 1 or the VDC receives the CMU thermal runaway wake-up hardwire signal	1.Wiring harness 2. Lower left battery pack 2

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if the vehicle is experiencing thermal runaway?

– Yes:
A. Stop vehicle charging operations immediately.
B. Park the vehicle in a suitable temperature environment and let it sit.
C. Execute the operation to release the high voltage system.
D. Check vehicle thermal management system malfunction codes.

– No: Next step

Step 4:Check the lower left battery pack 2 thermal runaway signal harness.

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower left battery pack 2.

Step 6:Replace the lower left battery pack 2. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

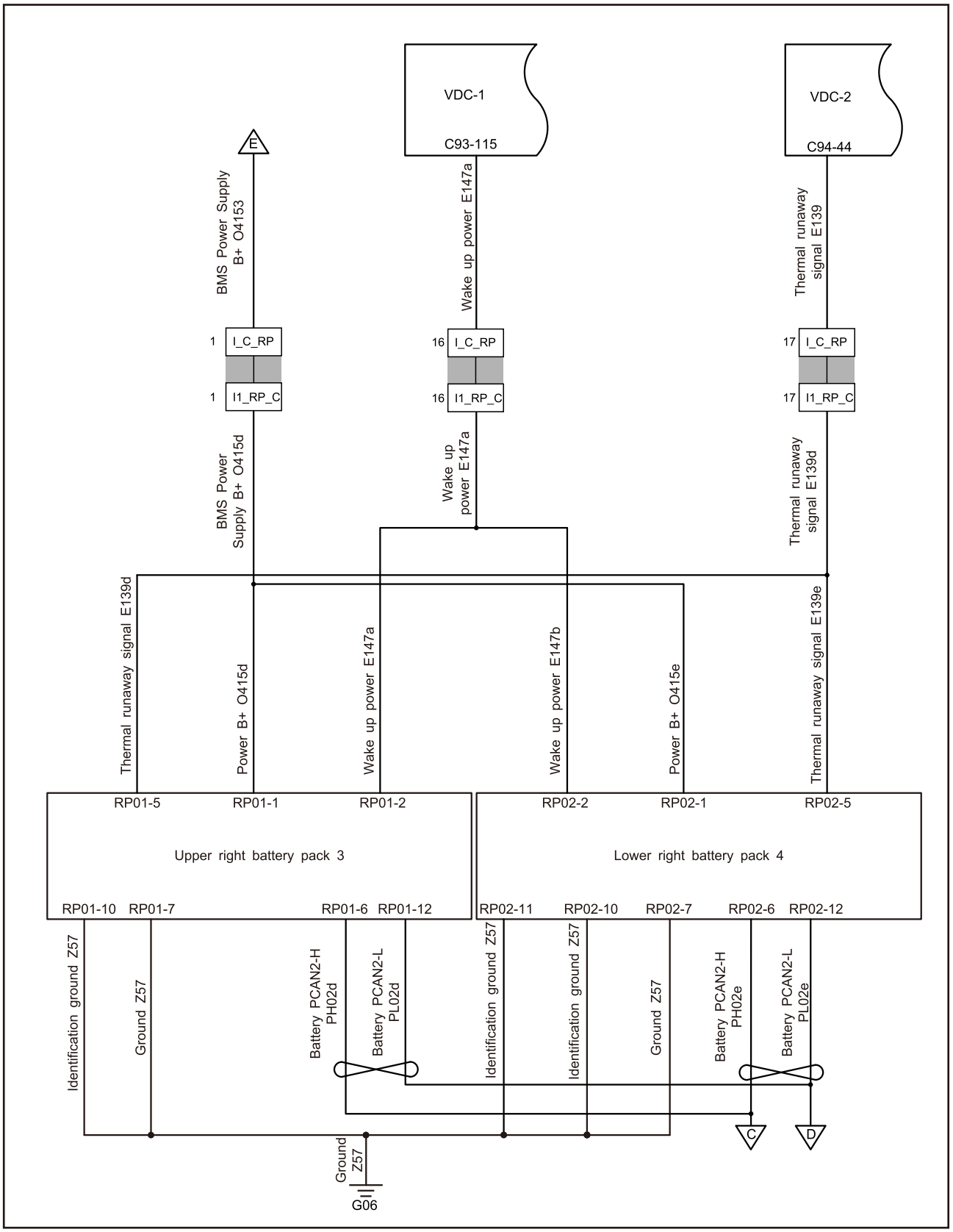
Step 7:Clear and confirm DTC.

4.3.4.21 CMU3 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC trigger Conditions	Faulty Part
B111716	The CMU supply voltage limit is too low - battery pack	BATT24V <9V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Upper right battery pack 3
B111717	The CMU supply voltage limit is too high - battery pack	BATT24V > 36	
P1 8 8400	The supply voltage of the CMU is too low - the battery pack	BATT24V < 18V	
P1 8 8500	The supply voltage of the CMU is too high - the battery pack	BATT24V > 32V	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides CMU3?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the power and grounding harness of the upper right battery pack 3.

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper right battery pack 3.

Step 6:Replace the upper right battery pack 3. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

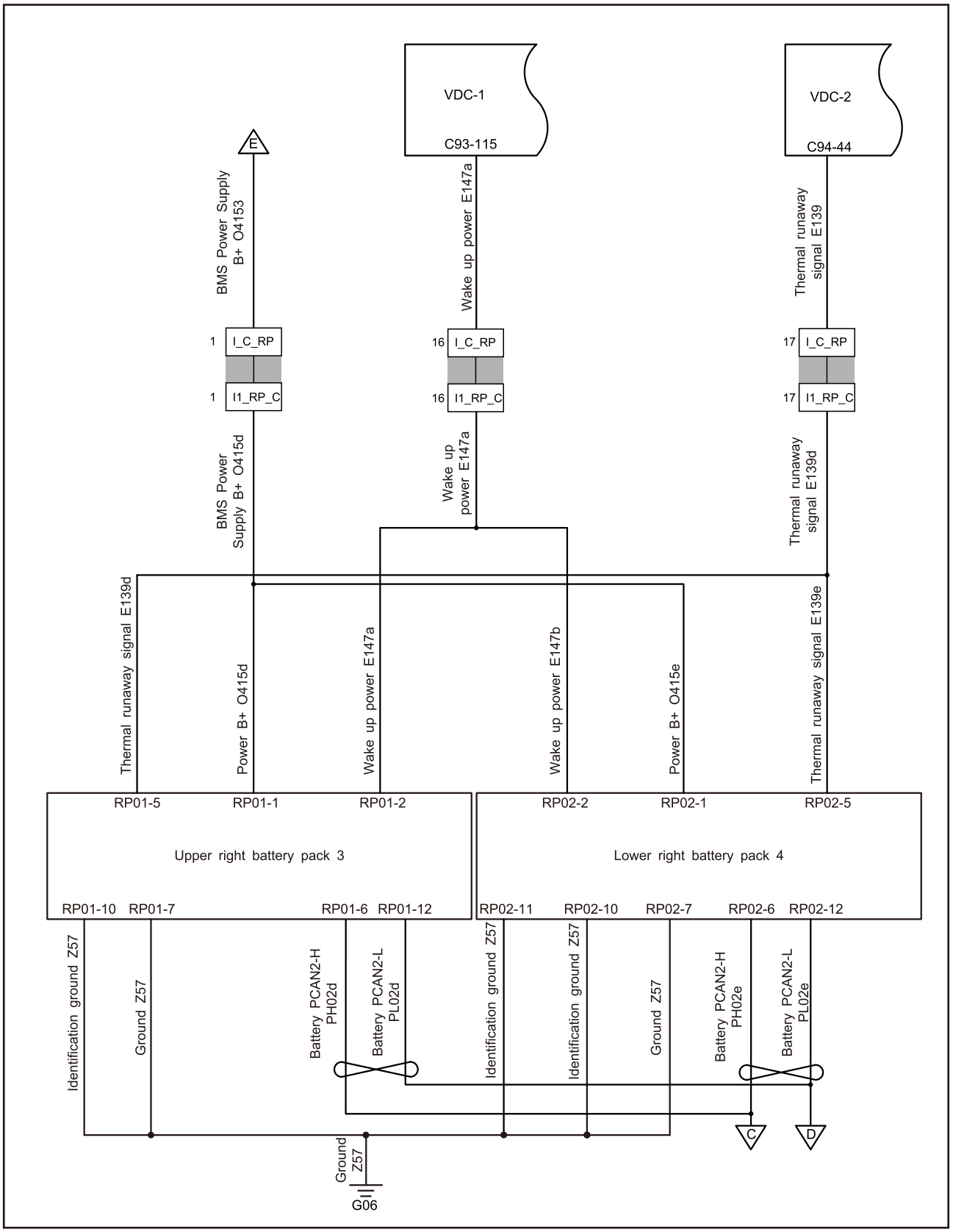
Step 7:Clear and confirm DTC.

4.3.4.22 CMU3 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012287	VDC communication is lost - battery pack	VDC_TO_CMU/0x10016827x lost for more than 20s	1.Wiring harness 2. Upper right battery pack 3
U008C88	PCAN2 BusOff-battery pack	CMU BusOff	
U015687	CDCU communication lost - battery pack	CDCU_VDHR/0x18FEC1EExlost for more than 5s	
U019887	T-BOX communication is lost - battery pack	TGW_TD_Time/0x18FEE6EExlost for more than 5s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN2 bus communication harness. Refer to Inspection Of PCAN2 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the upper right battery pack 3.

Step 5:Replace the upper right battery pack 3. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

Step 6:Clear and confirm DTC.

4.3.4.23 CMU3 Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P183900	The internal communication of the CMU is abnormally faulty	Communication error with the CMU's internal capture chip	1. Upper right battery pack 3
P186600	The CMU storage state is faulty	The CMU storage state is faulty	
P186700	Failure of temperature acquisition	Failure of temperature acquisition	
P18A100	The CMU passive equalization function is faulty	The CMU passive equalization function is faulty	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the upper right battery pack 3.

Step 4:Replace the upper right battery pack 3. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

Step 5:Clear and confirm DTC.

4.3.4.24 CMU3 Temperature Abnormality

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P180200	The battery temperature limit is too high	Tmax ≥ 140°F	1. Upper right battery pack 3
P180500	The temperature is too low	Tmin < -22°F	
P183500	The temperature is too high	Tmax ≥ 131°F	
P183A00	The temperature difference is too large	ΔT≥77°F	
P186900	The temperature difference is too large	ΔT≥68°F	
P188300	The temperature is too low	Tmin < -13°F	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check whether the vehicle has any malfunction codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper right battery pack 3.

Step 6:Replace the upper right battery pack 3. Refer to Replacement Of NCM Battery Pack Assembly 3 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.25 CMU3 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P181500	The total voltage is too low	Tmin>59℉ PackVokt≤530.4V(2.6V * 204) 32℉ < Tmin≤15℃ PackVokt≤469.2V(2.3V * 204) Tmin≤32℉ PackVokt≤387.6V(1.9V * 204)	1. High voltage wiring harness 2. Upper right battery pack 3
P181600	The total voltage is too high	PackVokt≥877.2V (4.3V * 204)	
P183600	The discharge current is too large	I >1.2*Check the pulse discharge ammeter+30A	
P186A00	The feedback current is too large	I >1.2*Check back the charge current meter+30A	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage harness of the upper right battery pack 3.

Step 4:Check the insulation detection circuit inside the upper right battery pack 3.

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper right battery pack 3.

Step 6:Replace the upper right battery pack 3. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.26 CMU3 High Voltage Interlock Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P183700	High voltage interlock malfunction	The battery high-voltage interlock signal status is abnormal	1. High voltage wiring harness 2. High-voltage interlocking wiring harness 3. Upper right battery pack 3

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage wiring harness of each high-voltage component.

Step 4:Check the high-voltage interlock harness of each high-voltage component.

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper right battery pack 3.

Step 6:Replace the upper right battery pack 3. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.27 CMU3 Individual Voltage Abnormality

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P180300	Limit undervoltage of the unit	Tmin > 59°F Vmin≤2.2V 32°F < Tmin≤59°F Vmin≤2.0V Tmin≤32°F Vmin≤1.8V	1. Upper right battery pack 3
P180400	The voltage limit of the unit is overvoltage	Vmax≥4.4V	
P183300	The cell voltage is too low	Tmin>59°F Vmin≤2.6V 32°F < Tmin≤59°F Vmin≤2.3V Tmin≤32°F Vmin≤1.9V	
P183400	The cell voltage is too high	Vmax≥4.37V	
P183800	The voltage dropout of the cell is too large	ΔV≥650mV	
P186800	The loose set of the single sampling line is faulty	The fault flag of single collection disconnection is 1	
P186B00	The voltage dropout of the cell is too large	ΔV≥500mv	
P186C00	The cell voltage is too low	Tmin>59°F Vmin≤3.28V 32°F < Tmin≤59°F Vmin≤3.19V Tmin≤32°F Vmin≤2.21V	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P186D00	The cell voltage is too high	Vmax≥4.316v	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the upper right battery pack 3.

Step 4:Replace the upper right battery pack 3. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

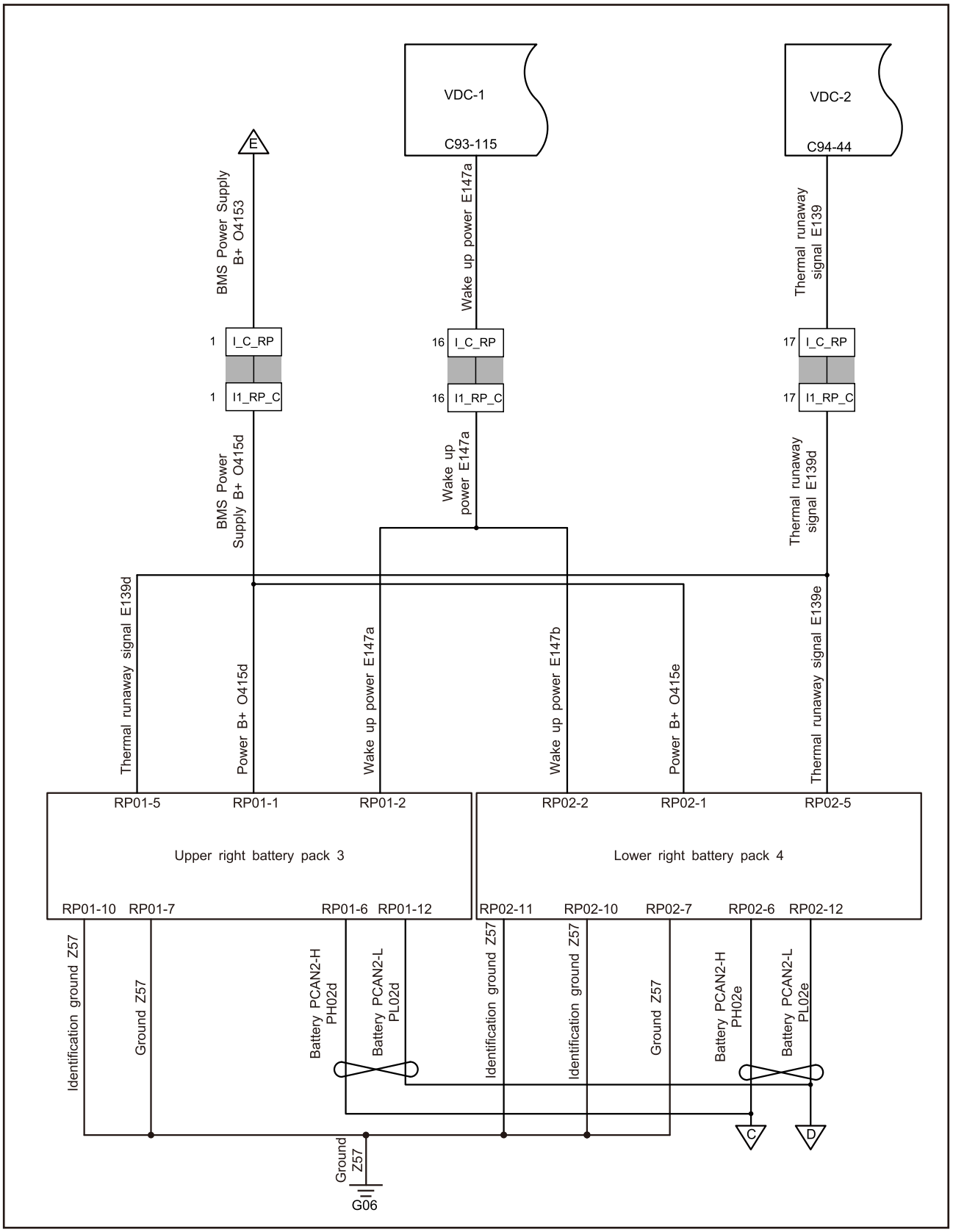
Step 5:Clear and confirm DTC.

4.3.4.28 CMU3 Thermal Runaway Signal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P180100	Battery pack fire alarm	The thermal runaway fault flag in the packet is 1 or the VDC receives the CMU thermal runaway wake-up hardwire signal	1.Wiring harness 2. Upper right battery pack 3

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if the vehicle is experiencing thermal runaway?

– Yes:
A. Stop vehicle charging operations immediately.
B. Park the vehicle in a suitable temperature environment and let it sit.
C. Execute the operation to release the high voltage system.
D. Check vehicle thermal management system malfunction codes.

– No: Next step

Step 4:Check the thermal runaway signal harness of the upper right battery pack 3.

Step 5:Rewrite the configuration code, reload the software, and upgrade the upper right battery pack 3.

Step 6:Replace the upper right battery pack 3. Refer to Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah)

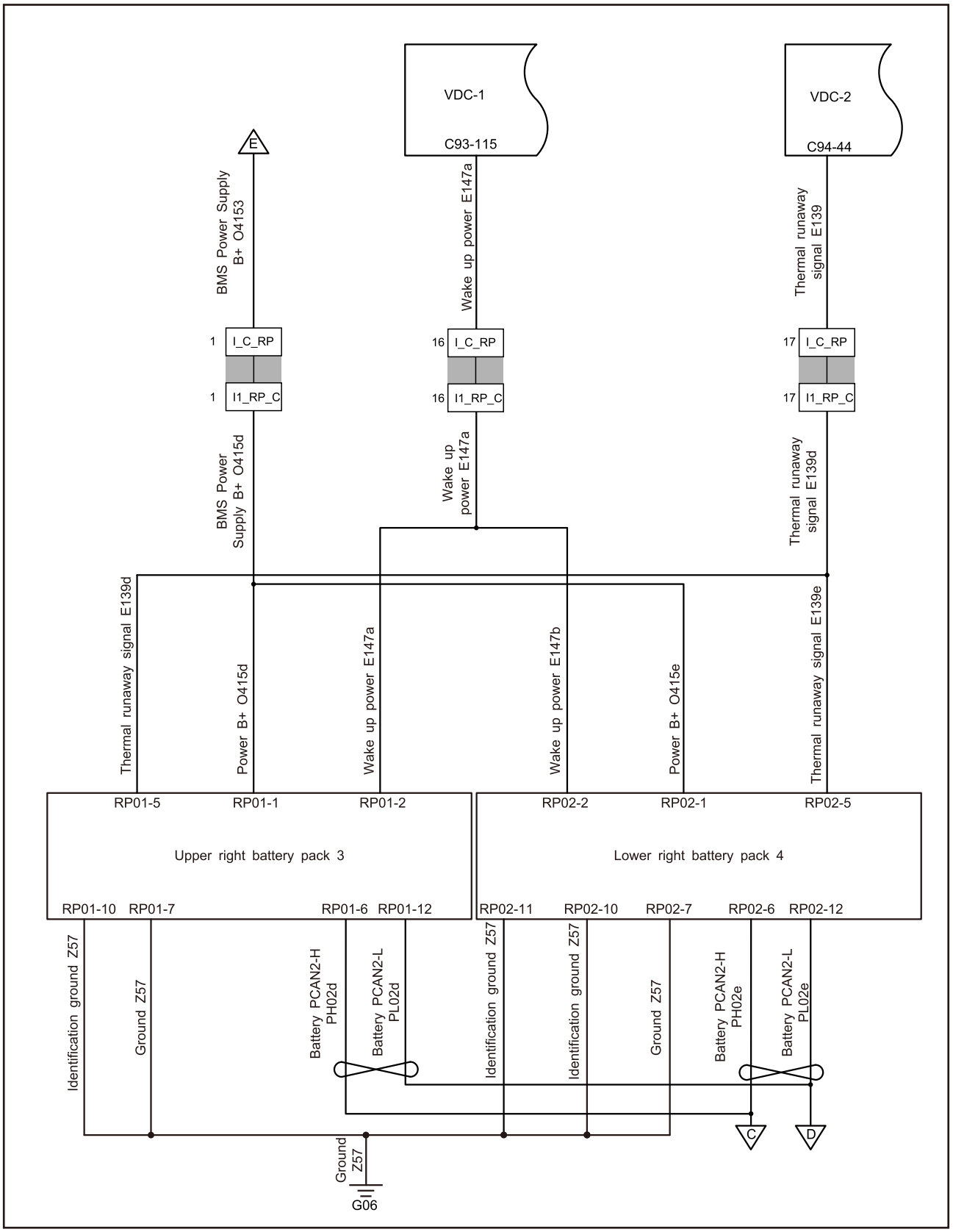
Step 7:Clear and confirm DTC.

4.3.4.29 CMU4 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC trigger Conditions	Faulty Part
B111716	The CMU supply voltage limit is too low - battery pack	BATT24V <9V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Lower right battery pack 4
B111717	The CMU supply voltage limit is too high - battery pack	BATT24V > 36	
P168400	The supply voltage of the CMU is too low - the battery pack	BATT24V < 18V	
P168500	The supply voltage of the CMU is too high - the battery pack	BATT24V > 32V	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides CMU4?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power and grounding harness of the lower right battery pack 4.

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower right battery pack 4.

Step 6:Replace the lower right battery pack 4. Refer to Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

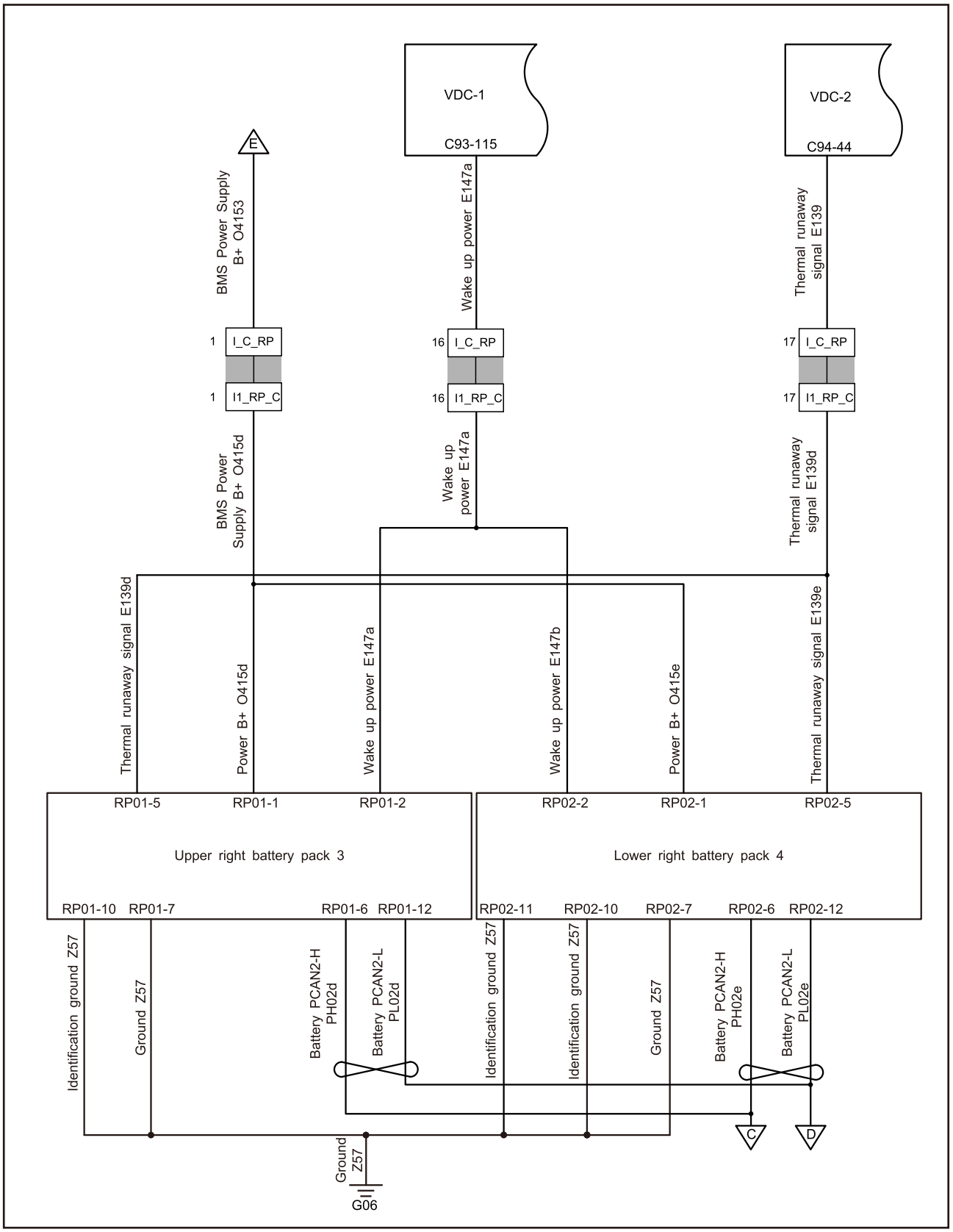
Step 7:Clear and confirm DTC.

4.3.4.30 CMU4 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012287	VDC communication is lost - battery pack	VDC_TO_CMU/0x10016827x lost for more than 20s	1.Wiring harness 2. Lower right battery pack 4
U008C88	PCAN2 BusOff-battery pack	CMU BusOff	
U015687	CDCU communication lost - battery pack	CDCU_VDHR/0x18FEC1EExlost for more than 5s	
U019887	T-BOX communication is lost - battery pack	TGW_TD_Time/0x18FEE6EExlost for more than 5s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN2 bus communication harness. Refer to Inspection Of PCAN2 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the lower right battery pack 4.

Step 5:Replace the lower right battery pack 4. Refer to Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

Step 6:Clear and confirm DTC.

4.3.4.31 CMU4 Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P193900	The internal communication of the CMU is abnormally faulty	Communication error with the CMU's internal capture chip	1. Lower right battery pack 4
P196600	The CMU storage state is faulty	The CMU storage state is faulty	
P196700	Failure of temperature acquisition	Failure of temperature acquisition	
P19A100	The CMU passive equalization function is faulty	The CMU passive equalization function is faulty	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the lower right battery pack 4.

Step 4:Replace the lower right battery pack 4. Refer to Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

Step 5:Clear and confirm DTC.

4.3.4.32 CMU4 Temperature Abnormality

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P190200	The battery temperature limit is too high	Tmax ≥ 140°F	1. Lower right battery pack 4
P190500	The temperature is too low	Tmin < -22°F	
P193500	The temperature is too high	Tmax ≥ 131°F	
P193A00	The temperature difference is too large	ΔT≥77°F	
P196900	The temperature difference is too large	ΔT≥68°F	
P198300	The temperature is too low	Tmin < -13°F	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any malfunction codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower right battery pack 4.

Step 6:Replace the lower right battery pack 4. Refer to Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.33 CMU4 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P191500	The total voltage is too low	Tmin>59°F PackVokt≤530.4V(2.6V * 204) 32°F < Tmin≤59°F PackVokt≤469.2V(2.3V * 204) Tmin≤32°F PackVokt≤387.6V(1.9V * 204)	1. High voltage wiring harness 2. Lower right battery pack 4
P191600	The total voltage is too high	PackVokt≥877.2V (4.3V * 204)	
P193600	The discharge current is too large	I >1.2*Check the pulse discharge ammeter+30A	
P196A00	The feedback current is too large	I >1.2*Check back the charge current meter+30A	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage harness of the lower right battery pack 4.

Step 4:Check the insulation detection circuit inside the lower right battery pack 4.

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower right battery pack 4.

Step 6:Replace the lower right battery pack 4. Refer to Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.34 CMU4 High Voltage Interlock Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P193700	High voltage interlock malfunction	The battery high-voltage interlock signal status is abnormal	1. High voltage wiring harness 2. High-voltage interlocking wiring harness 3. Lower right battery pack 4

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-voltage wiring harness of each high-voltage component.

Step 4:Check the high-voltage interlock harness of each high-voltage component.

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower right battery pack 4.

Step 6:Replace the lower right battery pack 4. Refer to Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.4.35 Abnormal Voltage Of CMU4 Unit

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P190300	Limit undervoltage of the unit	Tmin > 59°F Vmin≤2.2V 32°F < Tmin≤59°F Vmin≤2.0V Tmin≤32°F Vmin≤1.8V	1. Lower right battery pack 4
P190400	The voltage limit of the unit is overvoltage	Vmax≥4.4V	
P193300	The cell voltage is too low	Tmin>59°F Vmin≤2.6V 32°F < Tmin≤59°F Vmin≤2.3V Tmin≤32°F Vmin≤1.9V	
P193400	The cell voltage is too high	Vmax≥4.37V	
P193800	The voltage dropout of the cell is too large	ΔV≥650mV	
P196800	The loose set of the single sampling line is faulty	The fault flag of single collection disconnection is 1	
P196B00	The voltage dropout of the cell is too large	ΔV≥500mv	
P196C00	The cell voltage is too low	Tmin>59°F Vmin≤3.28V 32°F < Tmin≤59°F Vmin≤3.19V Tmin≤32°F Vmin≤2.21V	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P196D00	The cell voltage is too high	Vmax≥4.316v	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the lower right battery pack 4.

Step 4:Replace the lower right battery pack 4. Refer to Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

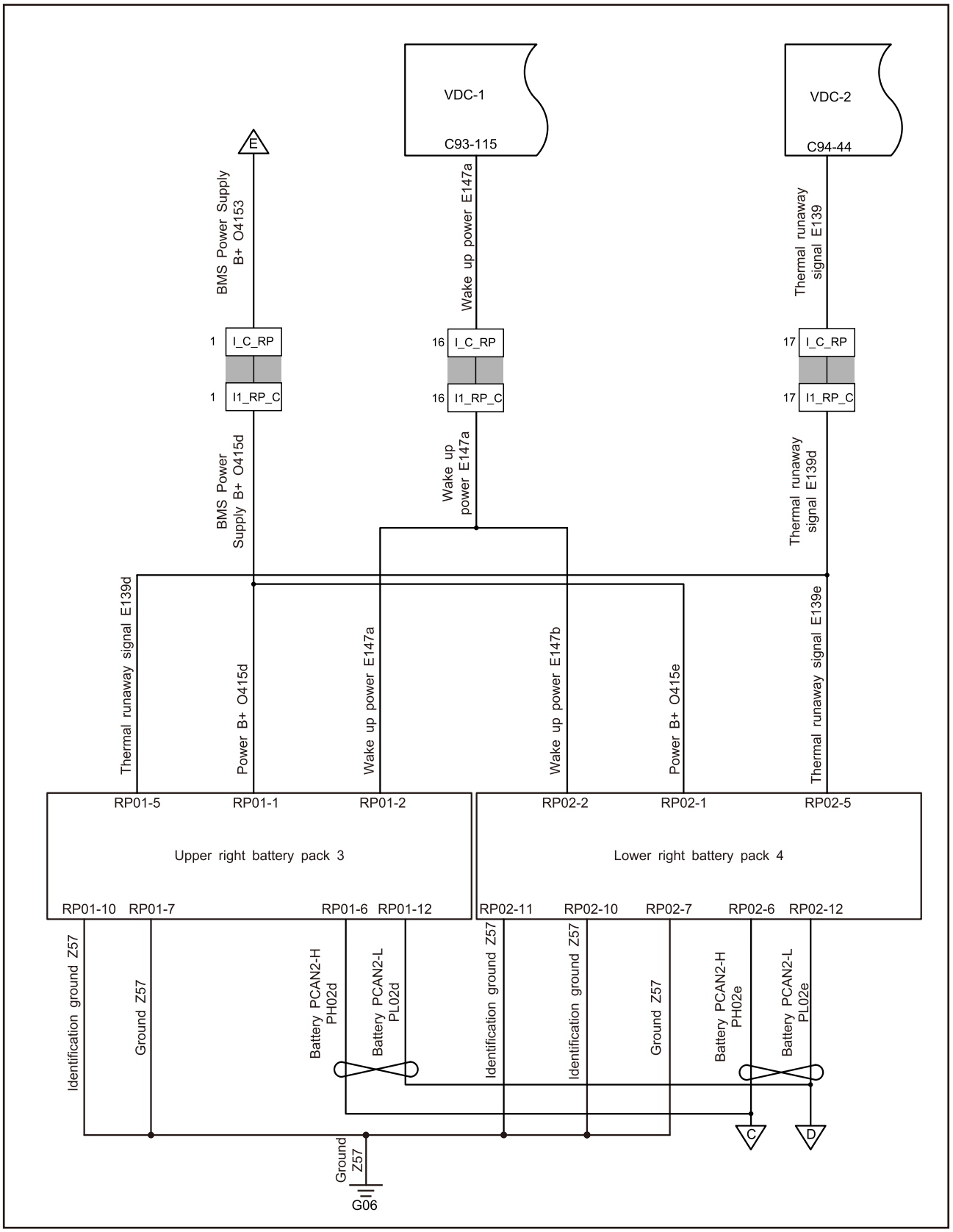
Step 5:Clear and confirm DTC.

4.3.4.36 CMU4 Thermal Runaway Signal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P190100	Battery pack fire alarm	The thermal runaway fault flag in the packet is 1 or the VDC receives the CMU thermal runaway wake-up hardwire signal	1.Wiring harness 2. Lower right battery pack 4

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if the vehicle is experiencing thermal runaway?

– Yes:
A. Stop vehicle charging operations immediately.
B. Park the vehicle in a suitable temperature environment and let it sit.
C. Execute the operation to release the high voltage system.
D. Check vehicle thermal management system malfunction codes.

– No: Next step

Step 4:Check the thermal runaway signal harness of the lower right battery pack 4.

Step 5:Rewrite the configuration code, reload the software, and upgrade the lower right battery pack 4.

Step 6:Replace the lower right battery pack 4. Refer to Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

Step 7:Clear and confirm DTC.

4.3.5 Dismantling and Installation

4.3.5.1 Replacement of NCM-battery Pack Assembly 1 (CALB 161Ah).

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Jack the front end of the vehicle.

6 Jack the rear end of the vehicle.

7 Drain coolant from battery thermal management system.

8 Remove the left side wall lower trim panel assembly.

9 Remove the side wall upper mounting bracket assembly 2.

10 Remove the left side wall mounting bracket 1.

11 Remove the left side wall mounting bracket 2.

12 Remove the left side wall lower trim panel mounting frame assembly.

13 Remove the left skirt plate assembly.

14 Use the high voltage battery lifting platform to support the high voltage battery.

15 Remove the bottom front left inclined beam.

16 Remove the bottom middle inclined beam 1.

17 Remove the bottom middle cross beam.

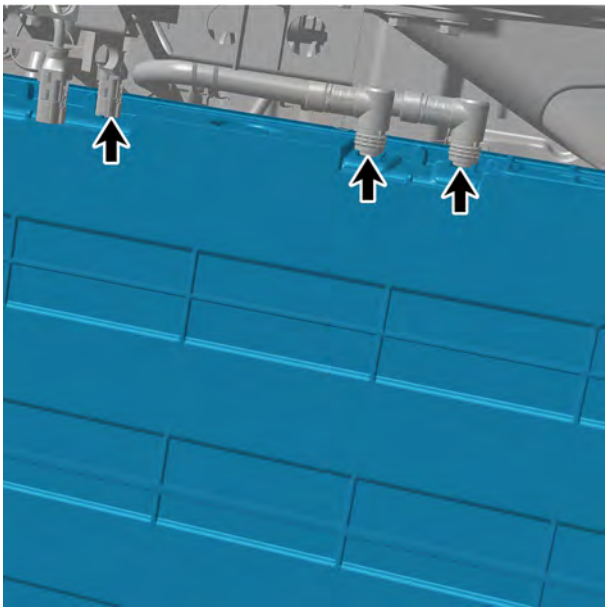
18 Remove the bottom rear left inclined beam.

19 Remove the bottom middle inclined beam bracket 2.

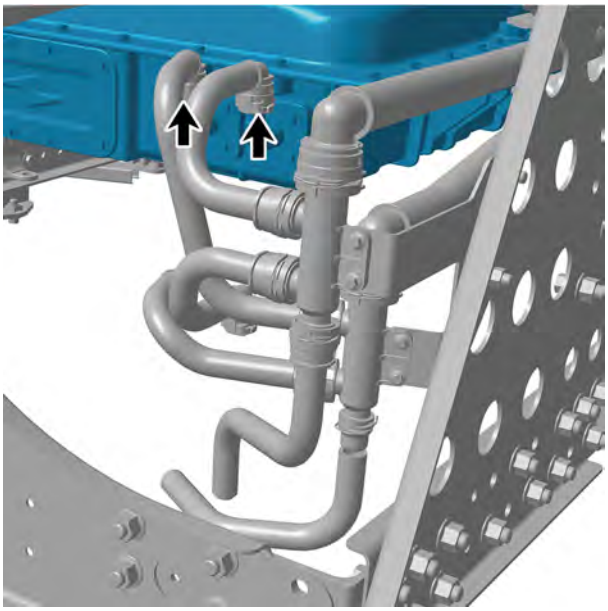
20 Remove the outer battery bracket double hole (NCM).

21 Remove the outer battery mount (NCM).

22 Remove the NCM-battery pack assembly 2 (CALB 161Ah).



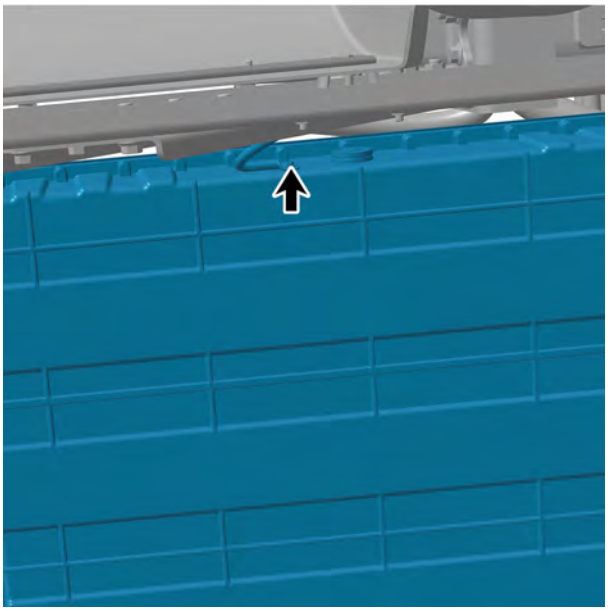
23 Disconnect the 3 harness connectors of the NCM-battery pack assembly 1 (CALB 161Ah).



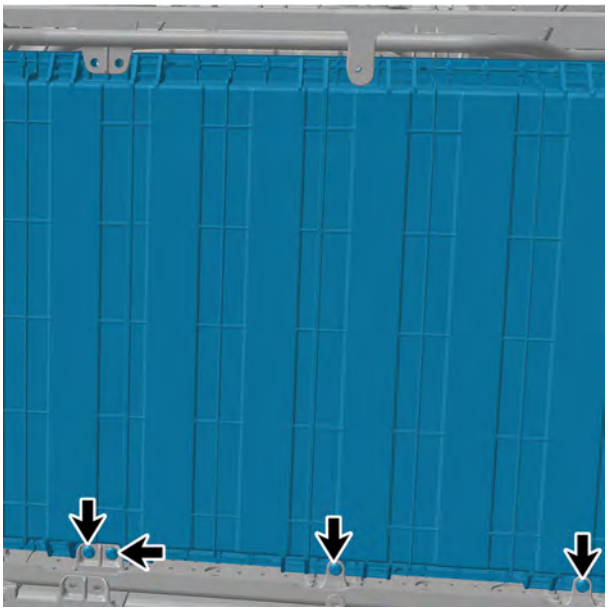
24 Disconnect the 2 water pipes of the NCM-battery pack assembly 1 (CALB 161Ah).

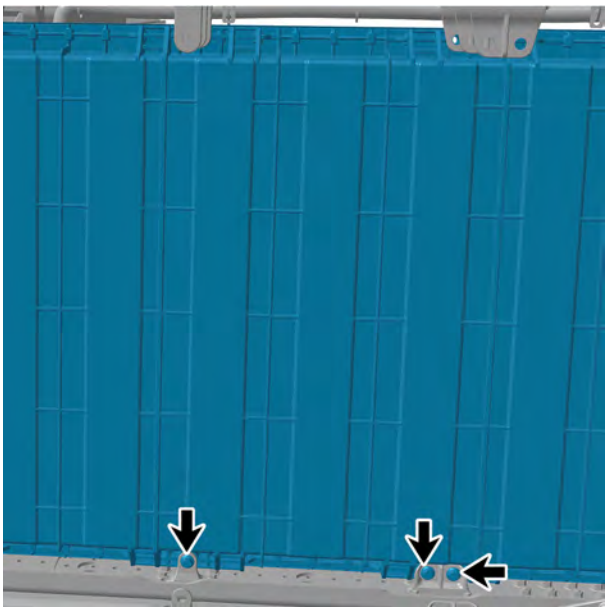
caution

Use a clean container to receive the discharged coolant.



25 Remove 1 fixing bolt of the ground harness.

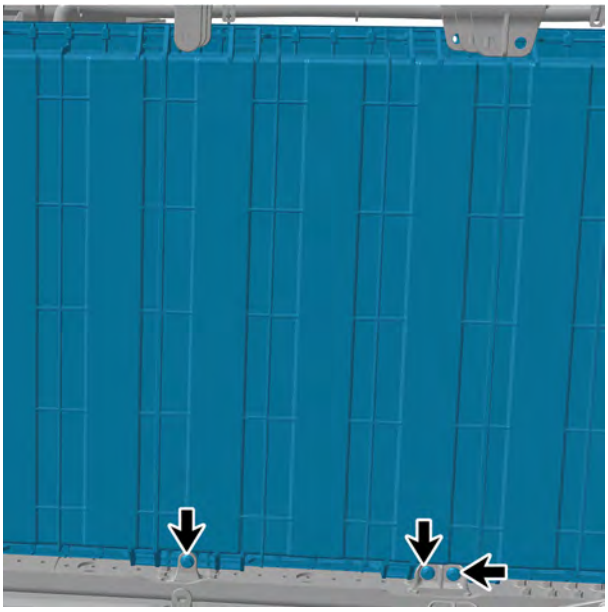


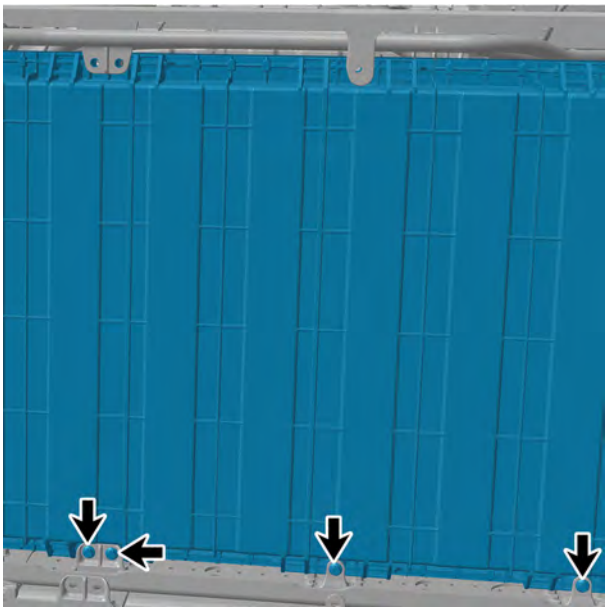


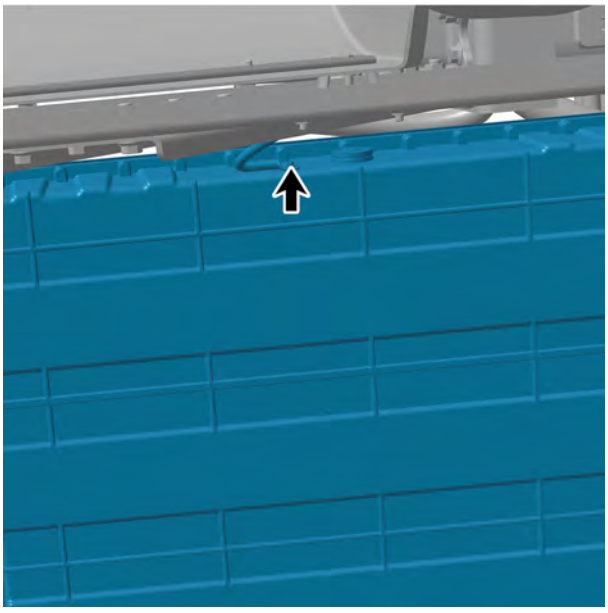
26 Jack the NCM-battery pack assembly 1 (CALB 161Ah).

27 Remove the 7 fixing bolts and nuts of the NCM-battery pack assembly 1 (CALB 161Ah) and detach the NCM-battery pack assembly 1 (CALB 161Ah).

Installation Procedures







1 Use the high voltage battery lifting platform to support the high voltage battery, and move the NCM-battery pack assembly 1 (CALB 161Ah) to the installation position.

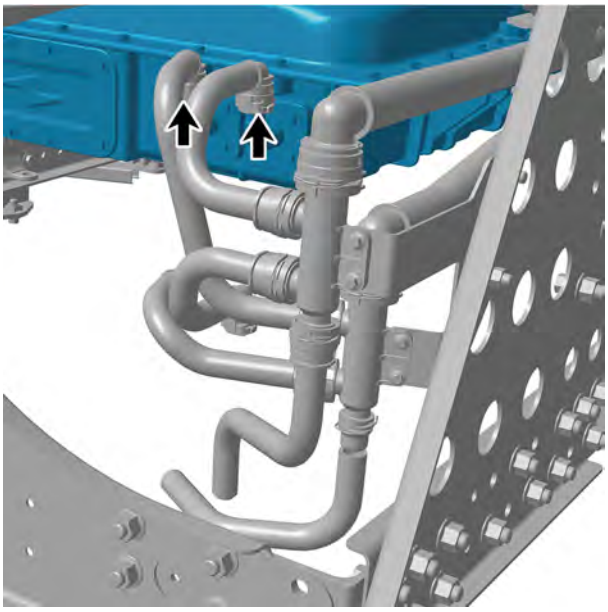
2 Jack the NCM-battery pack assembly 1 (CALB 161Ah).

3 Install the 7 fixing bolts and nuts of the NCM-battery pack assembly 1 (CALB 161Ah).

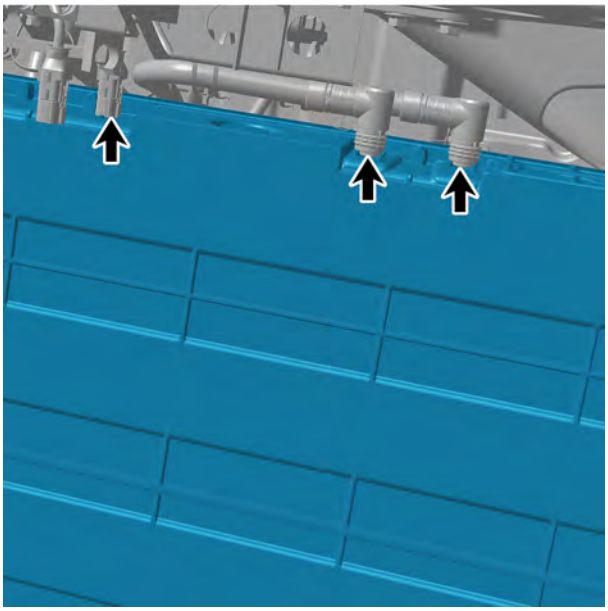
Torque:(148 ft-lb +/- 7 ft-lb) ft-lb

4 Install 1 fixing bolt of the ground harness.

Torque: (18.5 ft-lb +/- 2 ft-lb) ft-lb



5 Connect the 2 water pipes of the NCM-battery pack assembly 1 (CALB 161Ah).



6 Connect the 3 harness connectors of the NCM-battery pack assembly 1 (CALB 161Ah).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

7 Install the NCM-battery pack assembly 2 (CALB 161Ah).

8 Install the outer battery mount (NCM).

9 Install the outer battery bracket double hole (NCM).

10 Install the bottom middle inclined beam bracket 2.

11 Install the bottom rear left inclined beam.

12 Install the bottom middle cross beam.

13 Install the bottom middle inclined beam 1.

14 Install the bottom front left inclined beam.

15 Install the left skirt plate assembly.

16 Install the left side wall lower trim panel mounting frame assembly.

17 Install the left side wall mounting bracket 2.

18 Install the left side wall mounting bracket 1.

19 Install the side wall upper mounting bracket assembly 2.

20 Install the left side wall lower trim panel assembly.

21 Fill coolant in the battery thermal management system.

22 Lower the rear end of the vehicle.

23 Lower the front end of the vehicle.

24 Perform power-on of the high voltage system.

25 Connect the battery negative cable.

26 Close the front flip cover plate.

27 Close the door.

4.3.5.2 Replacement of NCM-battery Pack Assembly 2 (CALB 161Ah).

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Jack the front end of the vehicle.

6 Jack the rear end of the vehicle.

7 Drain coolant from battery thermal management system.

8 Remove the left side wall lower trim panel assembly.

9 Remove the side wall upper mounting bracket assembly 2.

10 Remove the left side wall mounting bracket 1.

11 Remove the left side wall mounting bracket 2.

12 Remove the left side wall lower trim panel mounting frame assembly.

13 Remove the left skirt plate assembly.

14 Use the high voltage battery lifting platform to support the high voltage battery.

15 Remove the bottom front left inclined beam.

16 Remove the bottom middle inclined beam 1.

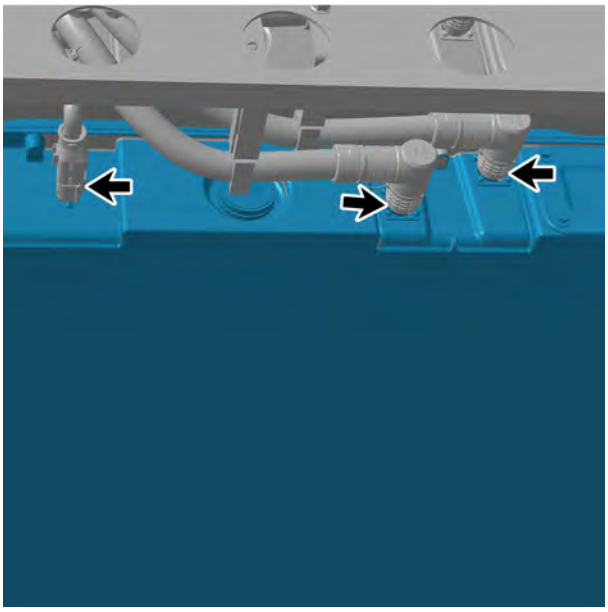
17 Remove the bottom middle cross beam.

18 Remove the bottom rear left inclined beam.

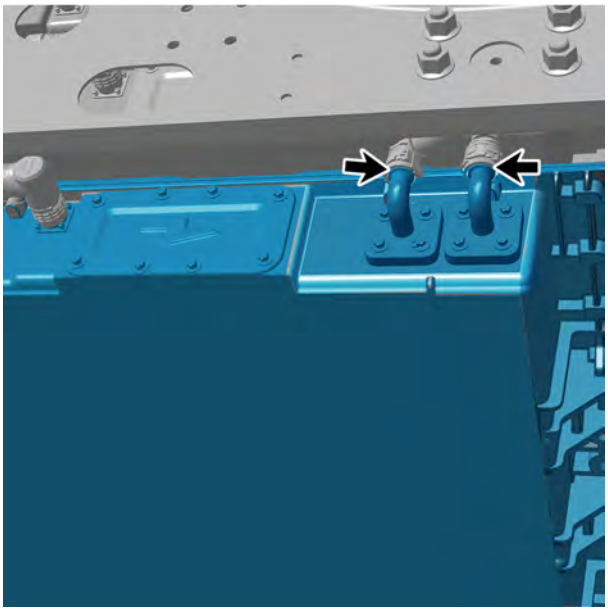
19 Remove the bottom middle inclined beam bracket 2.

20 Remove the outer battery bracket double hole (NCM).

21 Remove the outer battery mount (NCM).



22 Disconnect the 3 harness connectors of the NCM-battery pack assembly 2 (CALB 161Ah).

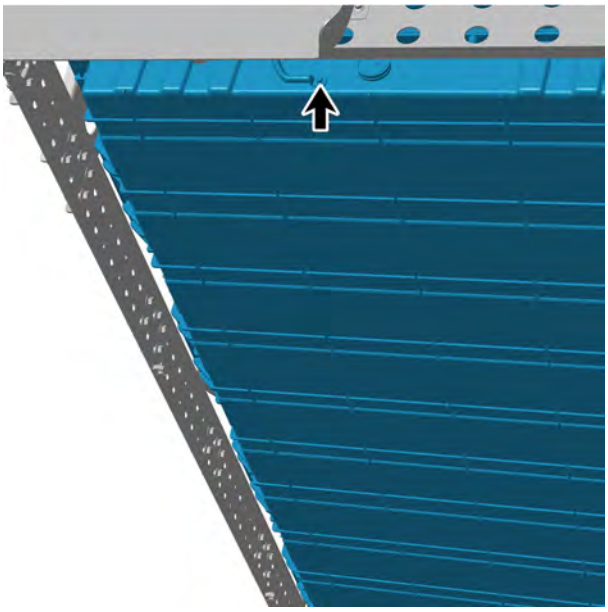


23 Disconnect the 2 water pipes of the NCM-battery pack assembly 2 (CALB 161Ah).

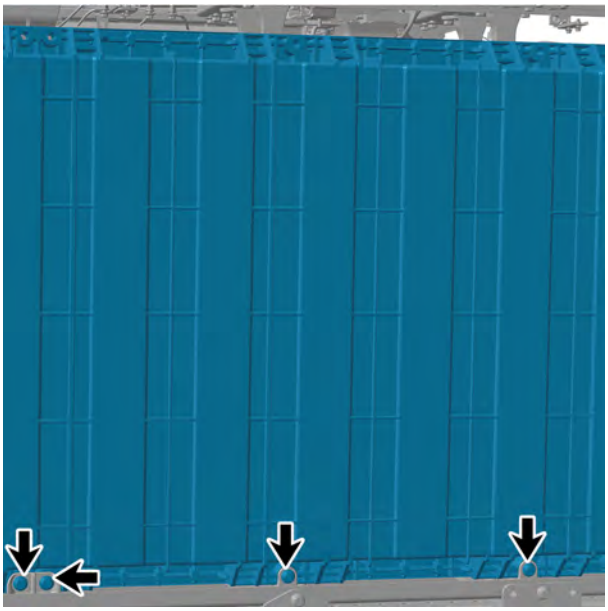
caution

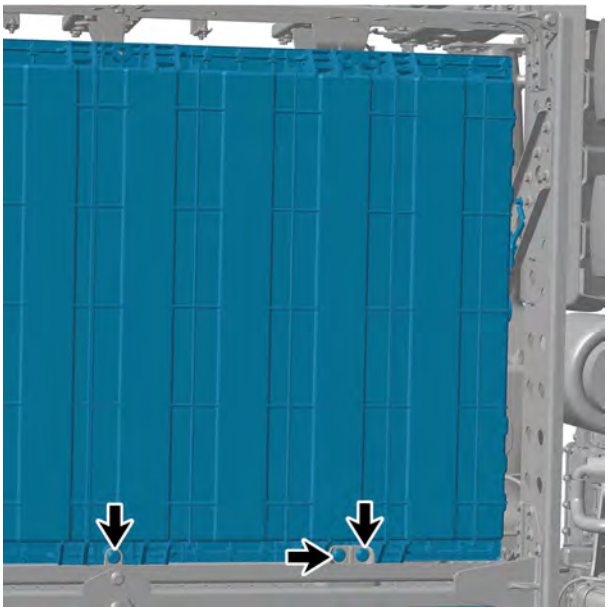
Use a clean container to receive the discharged coolant.

24 Jack the NCM-battery pack assembly 2 (CALB 161Ah).

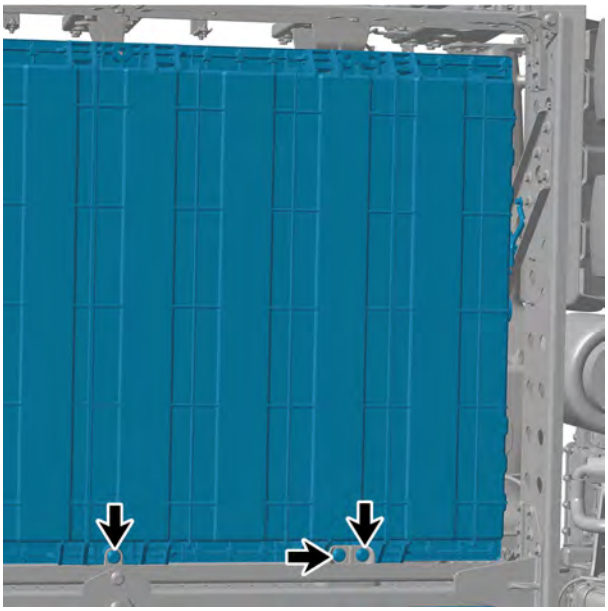


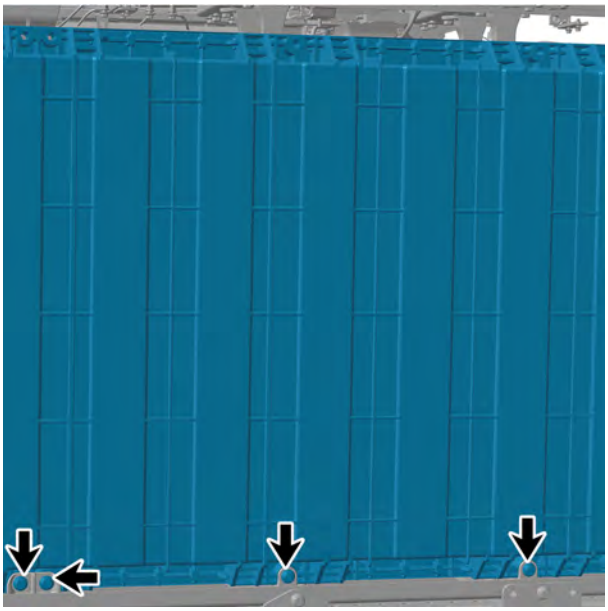
25 Remove 1 fixing bolt of the ground harness.





26 Remove the 7 fixing bolts and nuts of the NCM-battery pack assembly 2 (CALB 161Ah) and detach the NCM-battery pack assembly 2 (CALB 161Ah).





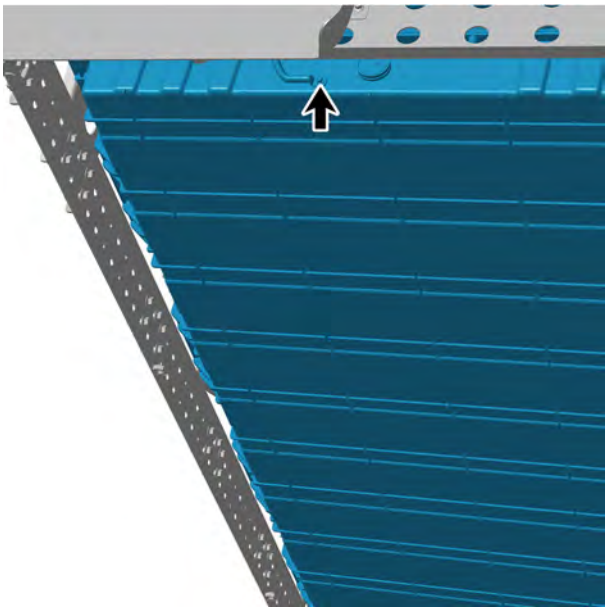
Installation Procedures

1 Use the high voltage battery lifting platform to support the high voltage battery, and move the NCM-battery pack assembly 2 (CALB 161Ah) to the installation position.

2 Jack the NCM-battery pack assembly 2 (CALB 161Ah).

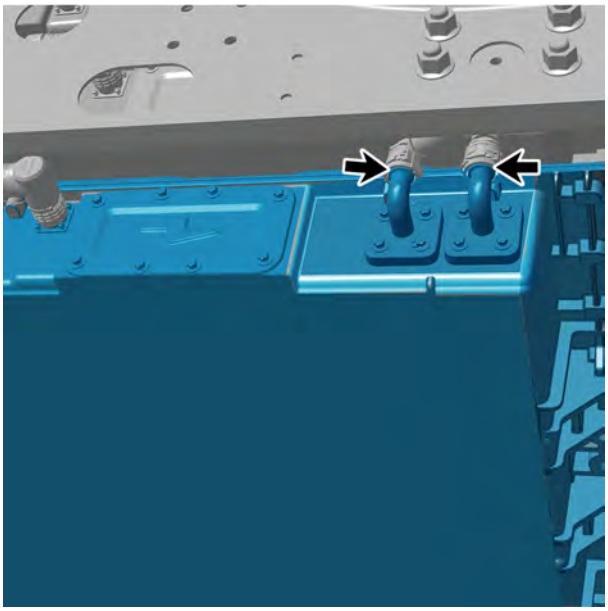
3 Install the 7 fixing bolts and nuts of the NCM-battery pack assembly 2 (CALB 161Ah).

Torque: (148 ft-lb +/- 7 ft-lb) ft-lb

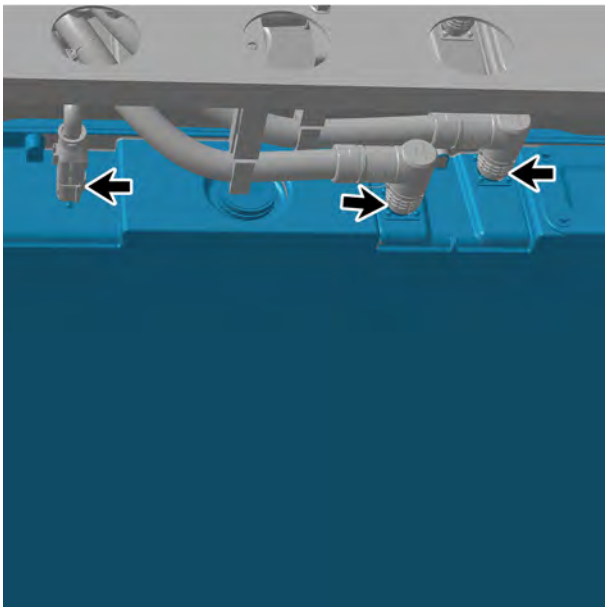


4 Install 1 fixing bolt of the ground harness.

Torque:(18 ft-lb +/- 2 ft-lb) ft-lb



5 Connect the 2 water pipes of the NCM-battery pack assembly 2 (CALB 161Ah).



6 Connect the 3 harness connectors of the NCM-battery pack assembly 2 (CALB 161Ah).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

7 Install the outer battery mount (NCM).

8 Install the outer battery bracket double hole (NCM).

9 Install the bottom middle inclined beam bracket 2.

10 Install the bottom rear left inclined beam.

11 Install the bottom middle cross beam.

12 Install the bottom middle inclined beam 1.

13 Install the bottom front left inclined beam.

14 Install the left skirt plate assembly.

15 Install the left side wall lower trim panel mounting frame assembly.

16 Install the left side wall mounting bracket 2.

17 Install the left side wall mounting bracket 1.

18 Install the side wall upper mounting bracket assembly 2.

19 Install the left side wall lower trim panel assembly.

20 Fill coolant in the battery thermal management system.

21 Lower the rear end of the vehicle.

22 Lower the front end of the vehicle.

23 Perform power-on of the high voltage system.

24 Connect the battery negative cable.

25 Close the front flip cover plate.

26 Close the door.

4.3.5.3 Replacement of NCM-Battery Pack Assembly 3 (CALB 161Ah).

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Jack the front end of the vehicle.

6 Jack the rear end of the vehicle.

7 Drain coolant from battery thermal management system.

8 Remove the lamp (upper).

9 Remove the lamp (lower).

10 Remove the boarding step body assembly.

11 Remove the right side wall lower trim panel assembly.

12 Remove the right skirt plate assembly.

13 Use the high voltage battery lifting platform to support the high voltage battery.

14 Remove the bottom front right inclined beam.

15 Remove the bottom middle inclined beam 1.

16 Remove the bottom middle cross beam.

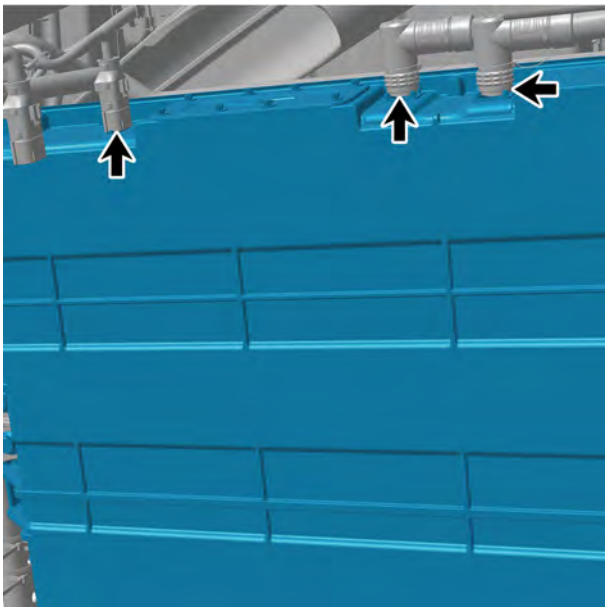
17 Remove the bottom rear left inclined beam.

18 Remove the bottom middle inclined beam bracket 2.

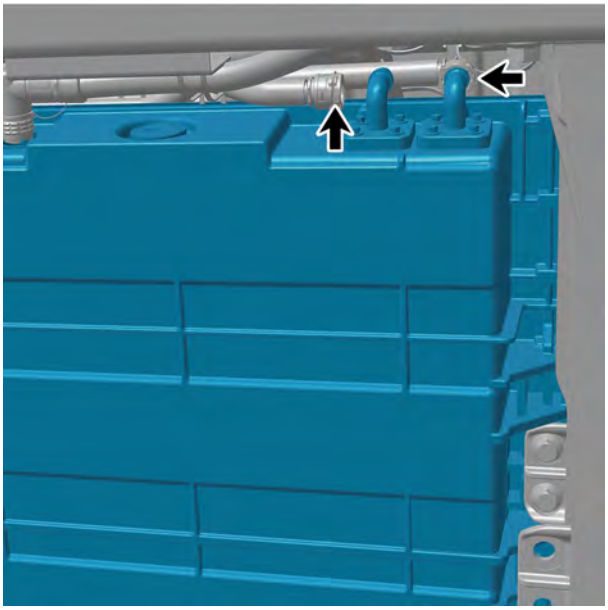
19 Remove the outer battery bracket double hole (NCM).

20 Remove the outer battery mount (NCM).

21 Remove the NCM-battery pack assembly 4 (CALB 161Ah).



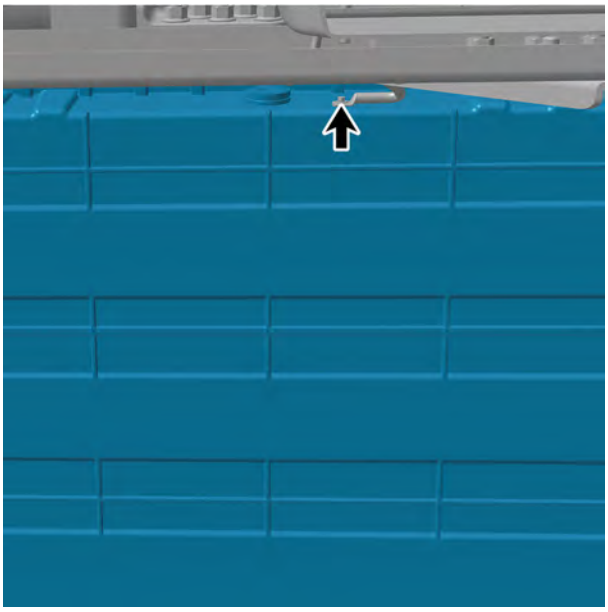
23 Disconnect the 3 harness connectors of the NCM-battery pack assembly 3 (CALB 161Ah).



24 Disconnect the 2 water pipes of the NCM-battery pack assembly 3 (CALB 161Ah).

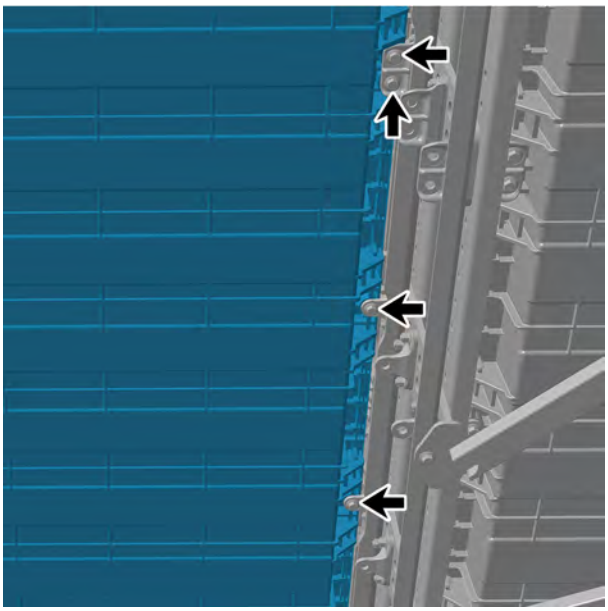
caution

Use a clean container to receive the discharged coolant.

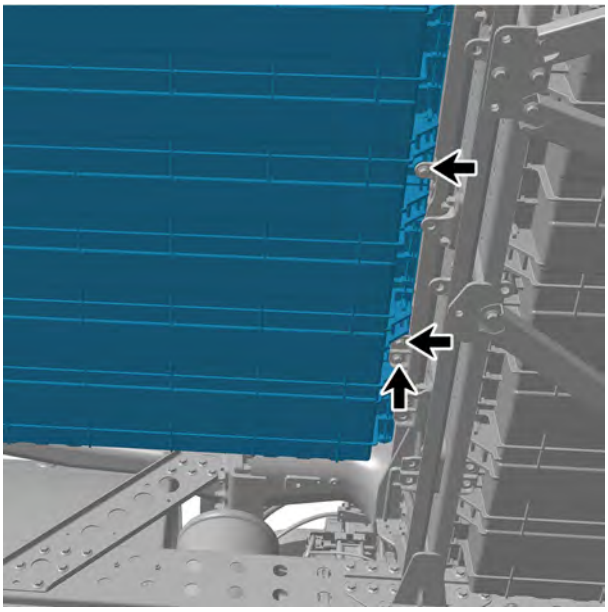


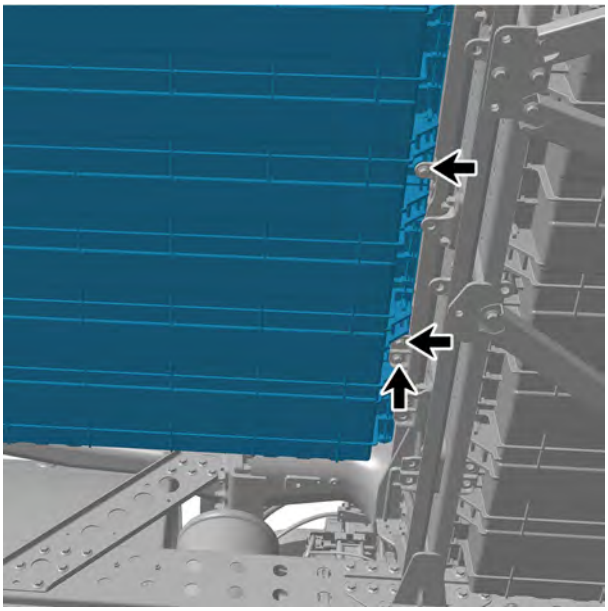
25 Remove 1 fixing bolt of the ground harness.

26 Jack the NCM-battery pack assembly 3 (CALB 161Ah).



27 Remove the 7 fixing bolts and nuts of the NCM-battery pack assembly 3 (CALB 161Ah) and detach the NCM-battery pack assembly 3 (CALB 161Ah).





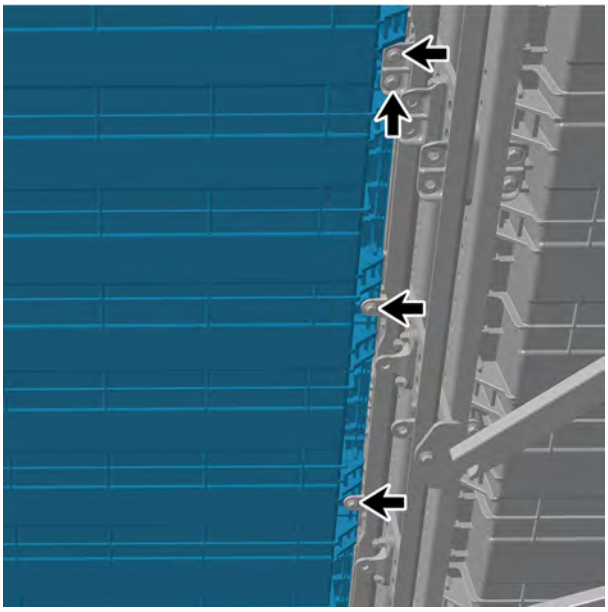
Installation Procedures

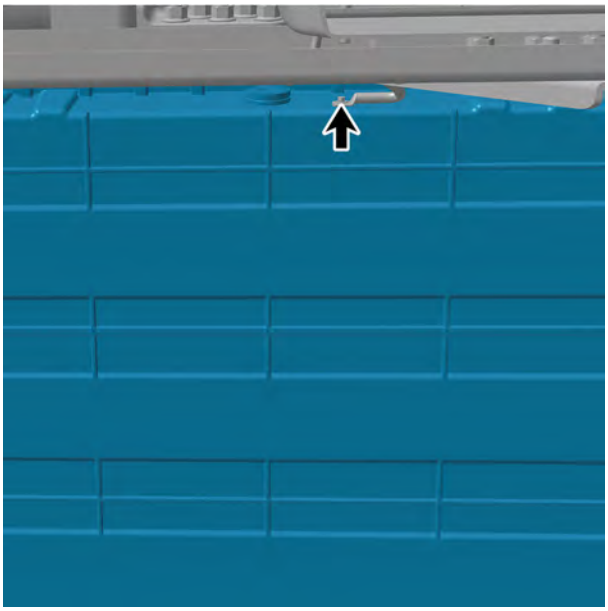
1 Use the high voltage battery lifting platform to support the high voltage battery, and move the NCM-battery pack assembly 3 (CALB 161Ah) to the installation position.

2 Jack the NCM-battery pack assembly 3 (CALB 161Ah).

3 Install the 7 fixing bolts and nuts of the NCM-battery pack assembly 3 (CALB 161Ah).

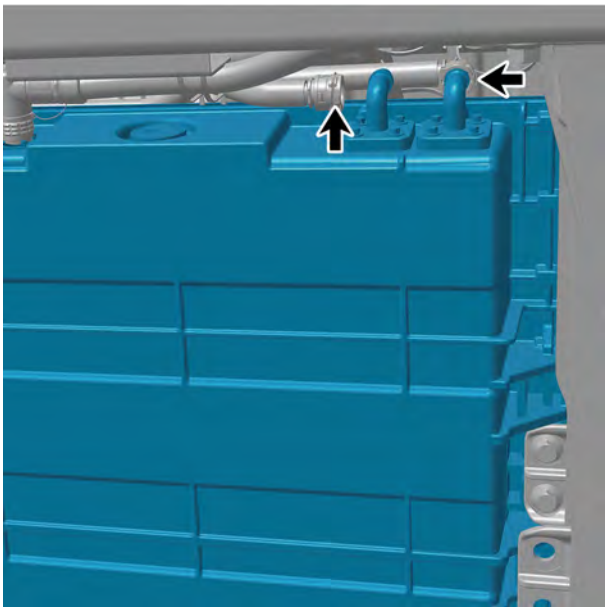
Torque: (148 ft-lb +/- 7 ft-lb) ft-lb



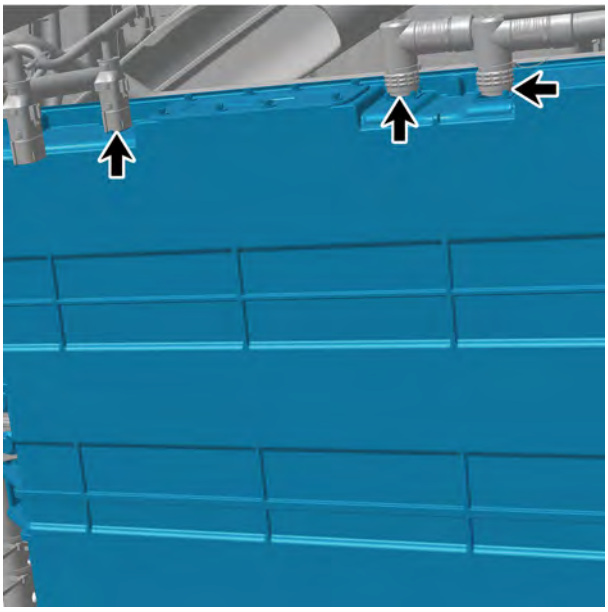


4 Install 1 fixing bolt of the ground harness.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb



5 Connect the 2 water pipes of the NCM-battery pack assembly 3 (CALB 161Ah).



6 Connect the 3 harness connectors of the NCM-battery pack assembly 3 (CALB 161Ah).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

8 Install the NCM-battery pack assembly 4 (CALB 161Ah).

9 Install the outer battery mount (NCM).

10 Install the outer battery bracket double hole (NCM).

11 Install the bottom middle inclined beam bracket 2.

12 Install the bottom rear left inclined beam.

13 Install the bottom middle cross beam.

14 Install the bottom middle inclined beam 1.

15 Install the bottom front right inclined beam.

16 Install the right skirt plate assembly.

17 Attach the right side wall lower trim panel assembly.

18 Install the boarding step body assembly.

19 Install the lamp (lower).

20 Install the lamp (upper).

21 Fill coolant in the battery thermal management system.

22 Lower the rear end of the vehicle.

23 Lower the front end of the vehicle.

24 Perform power-on of the high voltage system.

25 Connect the battery negative cable.

26 Close the front flip cover plate.

27 Close the door.

4.3.5.4 Replacement of NCM-battery Pack Assembly 4 (CALB 161Ah).

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Jack the front end of the vehicle.

6 Jack the rear end of the vehicle.

7 Drain coolant from battery thermal management system.

8 Remove the lamp (upper).

9 Remove the lamp (lower).

10 Remove the boarding step body assembly.

11 Remove the right side wall lower trim panel assembly.

12 Remove the right skirt plate assembly.

13 Use the high voltage battery lifting platform to support the high voltage battery.

14 Remove the bottom front right inclined beam.

15 Remove the bottom middle inclined beam 1.

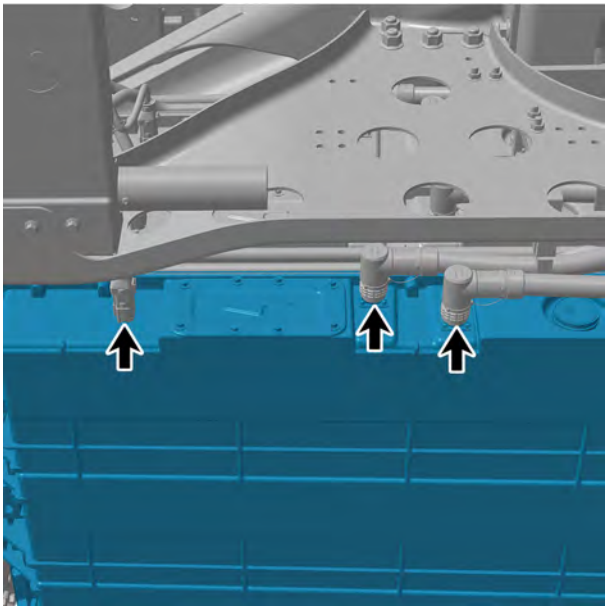
16 Remove the bottom middle cross beam.

17 Remove the bottom rear left inclined beam.

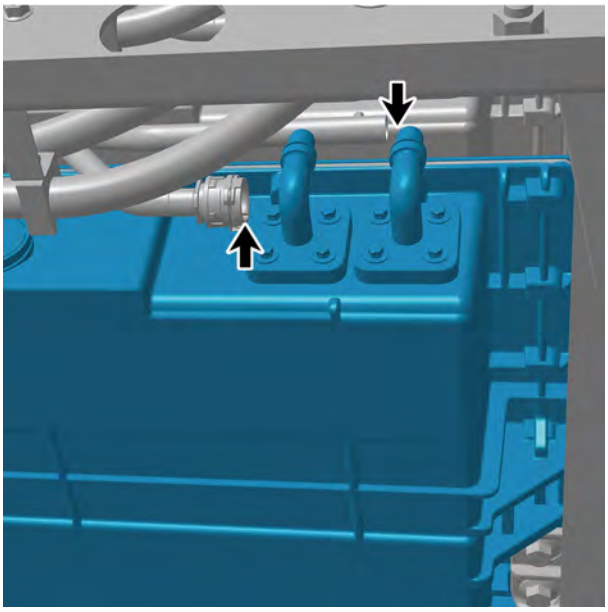
18 Remove the bottom middle inclined beam bracket 2.

19 Remove the outer battery bracket double hole (NCM).

20 Remove the outer battery mount (NCM).



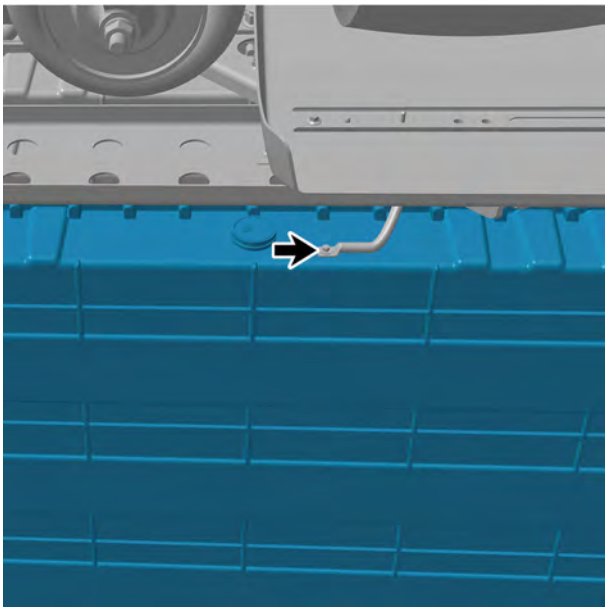
21 Disconnect the 3 harness connectors of the NCM-battery pack assembly 4 (CALB 161Ah).



22 Disconnect the 2 water pipes of the NCM-battery pack assembly 4 (CALB 161Ah).

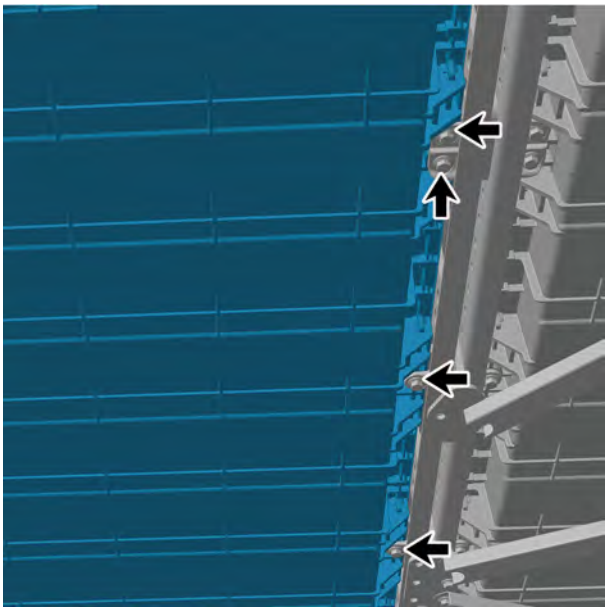
caution

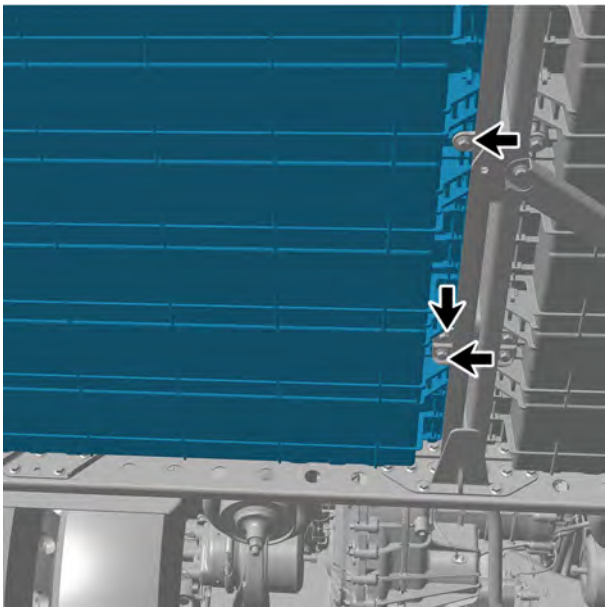
Use a clean container to receive the discharged coolant.



23 Remove 1 fixing bolt of the ground harness.

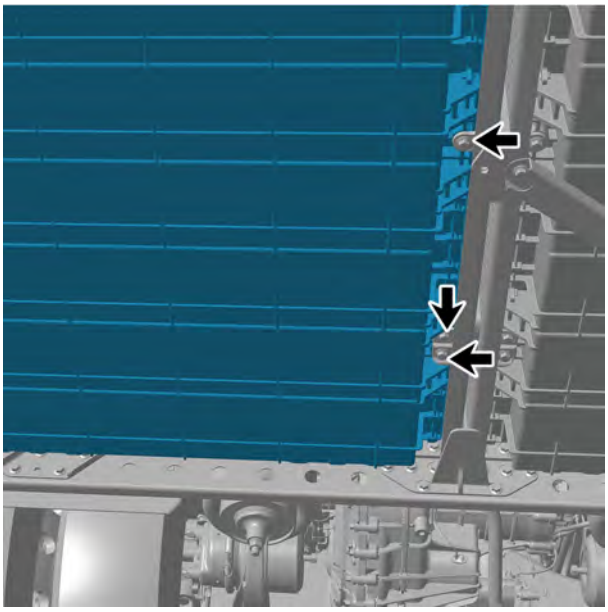
24 Jack the NCM-battery pack assembly 4 (CALB 161Ah).

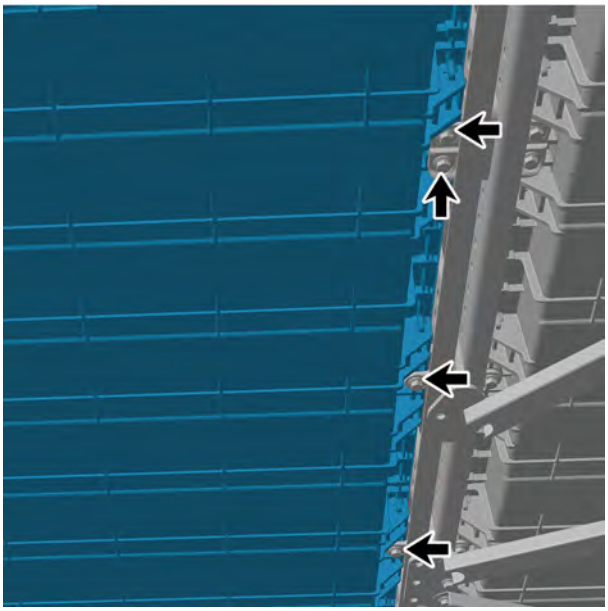


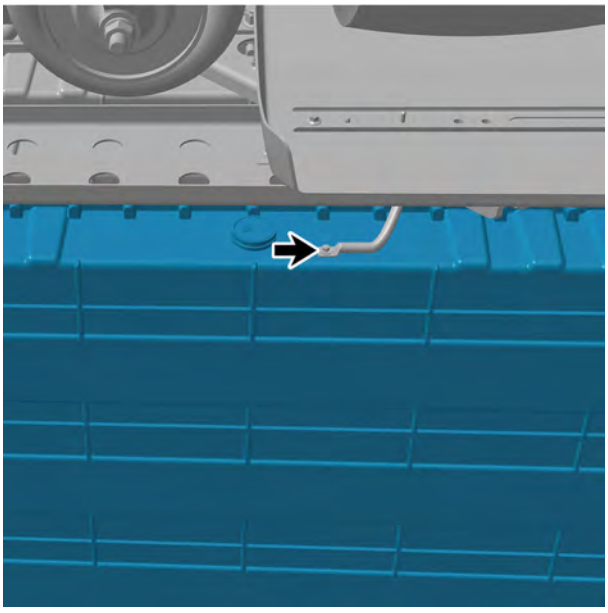


25 Remove the 7 fixing bolts and nuts of the NCM-battery pack assembly 4 (CALB 161Ah) and detach the NCM-battery pack assembly 4 (CALB 161Ah).

Installation Procedures







1 Use the high voltage battery lifting platform to support the high voltage battery, and move the NCM-battery pack assembly 4 (CALB 161Ah) to the installation position.

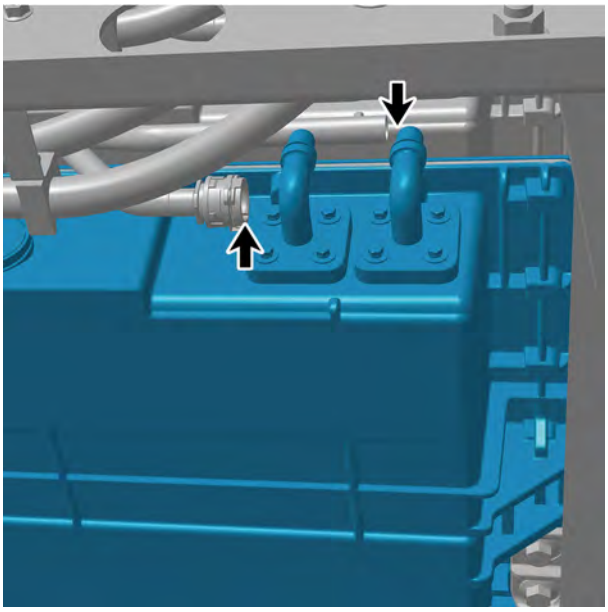
2 Jack the NCM-battery pack assembly 4 (CALB 161Ah).

3 Install the 7 fixing bolts and nuts of the NCM-battery pack assembly 4 (CALB 161Ah).

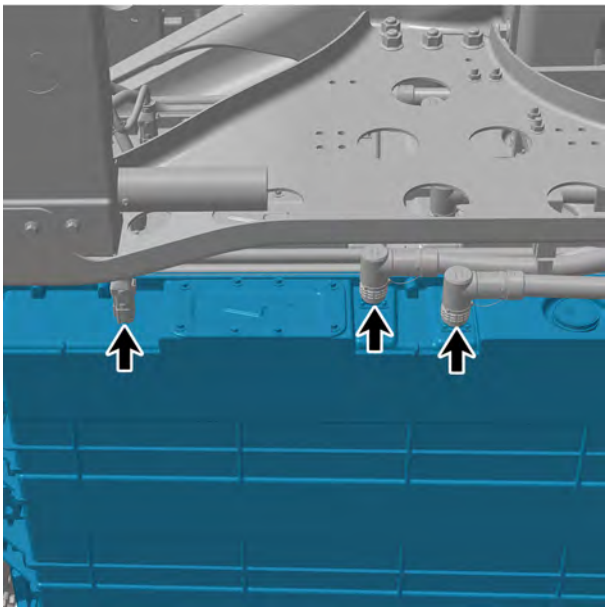
Torque:(148 ft-lb +/- 7 ft-lb) ft-lb

4 Install 1 fixing bolt of the ground harness.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb



5 Connect the 2 water pipes of the NCM-battery pack assembly 4 (CALB 161Ah).



6 Connect the 3 harness connectors of the NCM-battery pack assembly 4 (CALB 161Ah).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

7 Install the outer battery mount (NCM).

8 Install the outer battery bracket double hole (NCM).

9 Install the bottom middle inclined beam bracket 2.

10 Install the bottom rear left inclined beam.

11 Install the bottom middle cross beam.

12 Install the bottom middle inclined beam 1.

13 Install the bottom front right inclined beam.

14 Install the right skirt plate assembly.

15 Attach the right side wall lower trim panel assembly.

16 Install the boarding step body assembly.

17 Install the lamp (lower).

18 Install the lamp (upper).

19 Fill coolant in the battery thermal management system.

20 Lower the rear end of the vehicle.

21 Lower the front end of the vehicle.

22 Perform power-on of the high voltage system.

23 Connect the battery negative cable.

24 Close the front flip cover plate.

25 Close the door.

4.4 Power System Cooling Device

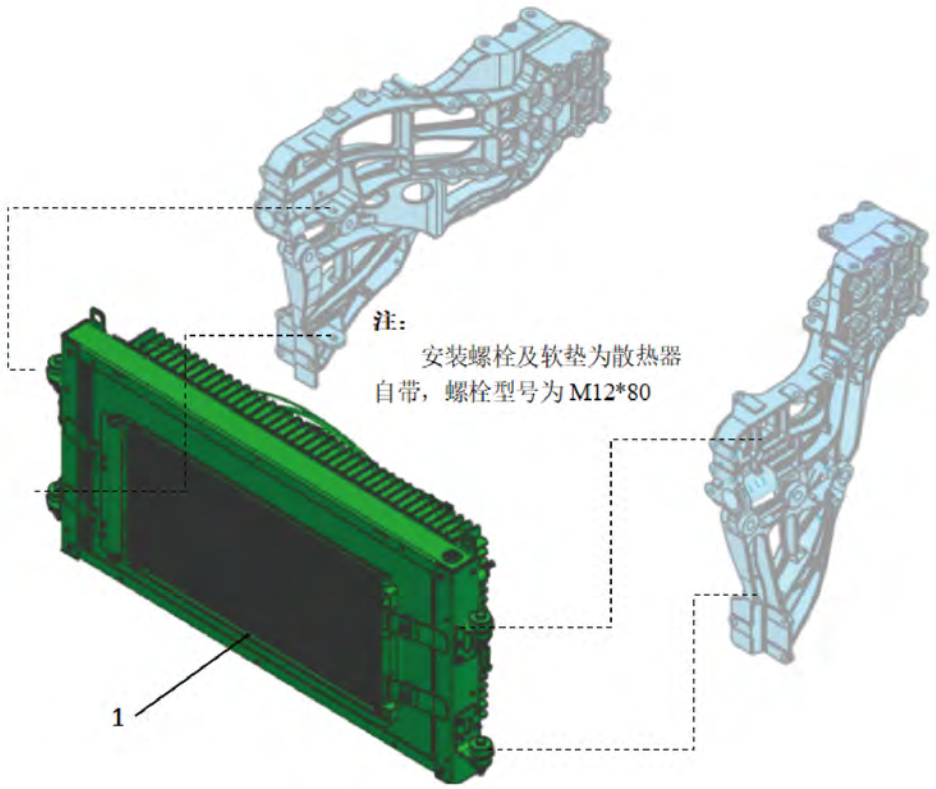
4.4.1 Specifications

4.4.1.1 Fastener Specifications

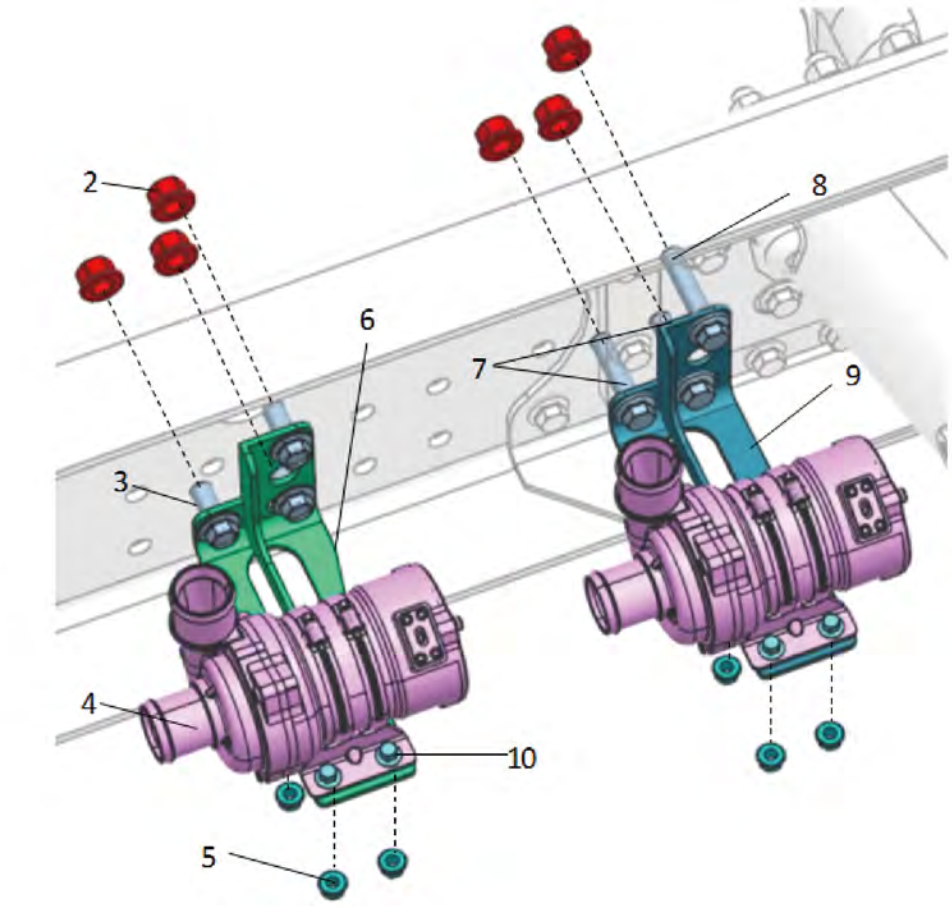
Fastener name	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolt connecting the fixed bracket of the water pump and the electronic water pump	M8	18 ft-lb +/- 2 ft-lb
The fixing nut connecting the fixed bracket of the water pump and the electronic water pump	M8	18 ft-lb +/- 2 ft-lb
Fixed bolts connecting the expansion tank (plastic) to the rear integrated frame (unit) (plastic)	M10	28 ft-lb - 38 ft-lb
The fixing bolts connecting the front-end module and the front connecting beam	M12	66 ft-lb +/- 3.5 ft-lb

4.4.2 Decomposition Diagram

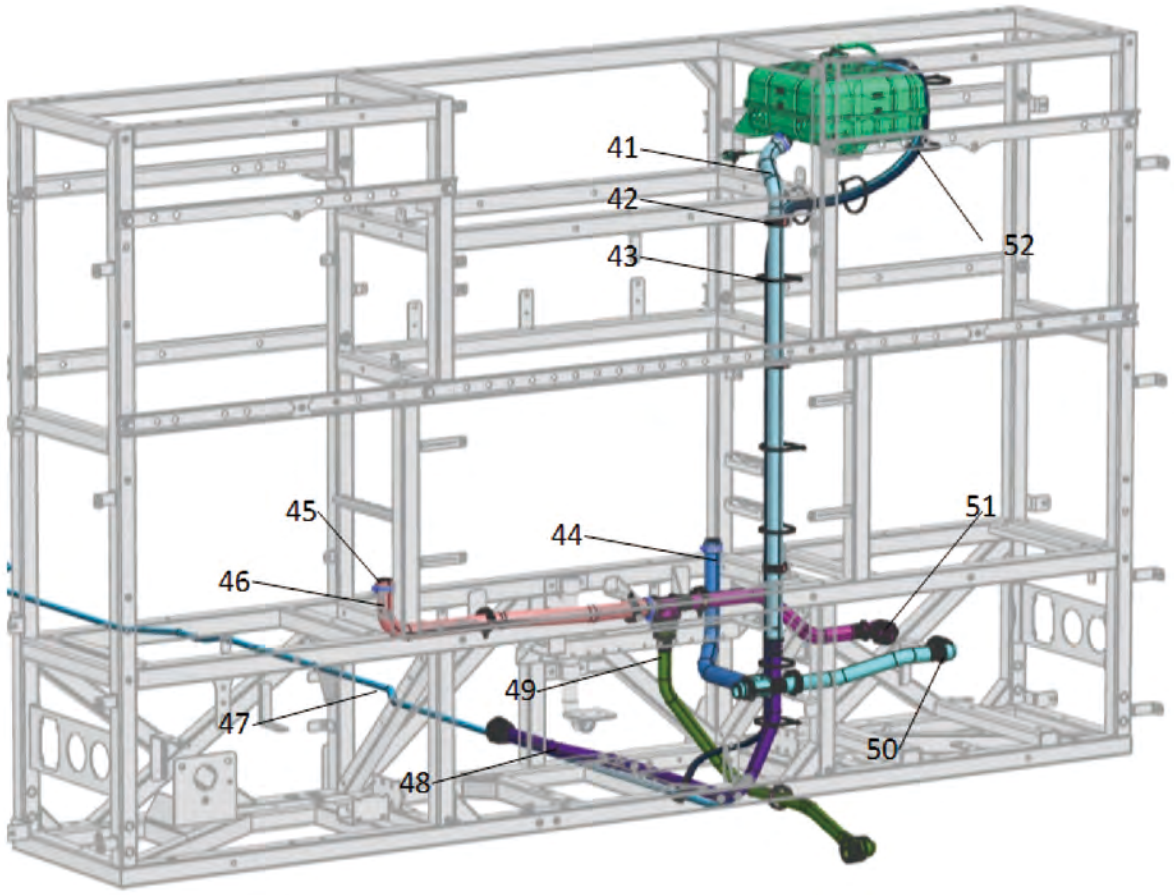
4.4.2.1 Decomposition Diagram



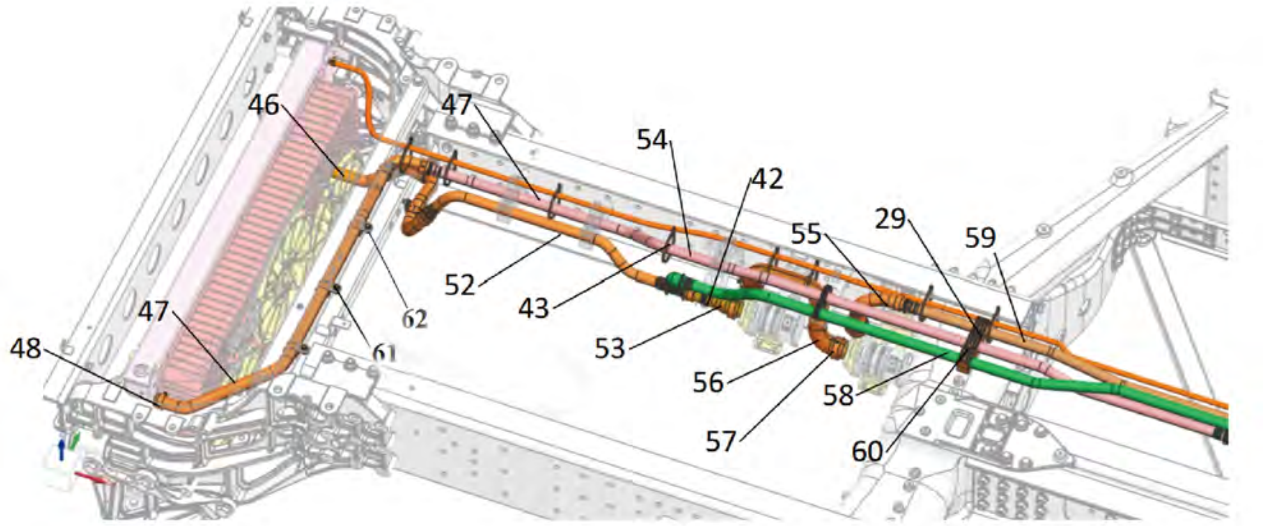
1. FRont end Module



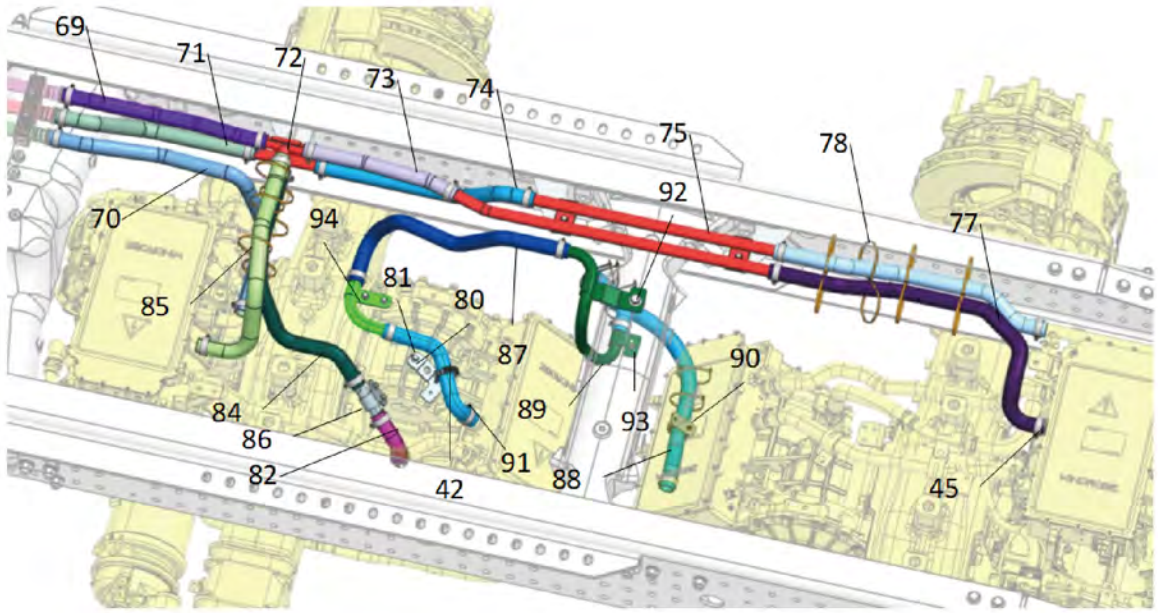
2. Hexagon Flange Lock Nut_all Metal
3. Hexagon Flange Bolt
4. Electronic Water Pump
5. Hexagon Flange Lock Nut_all Metal
6. Water Pump Fixing Bracket(Front)
7. Hexagon Flange Bolt
8. Hexagon Flange Bolt
9. Water Pump Fixing Bracket(Back)
10. Hexagon Flange Bolt



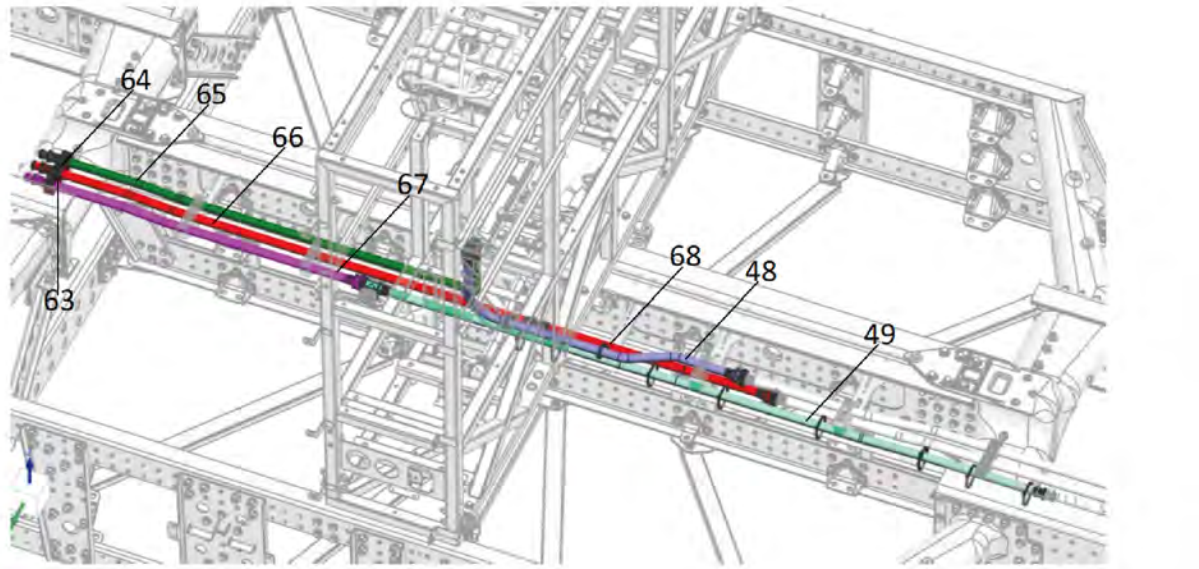
41. Water Refill Hose
42. One-hole Fixing Clamp
43. Cable Ties 1
44. Pdu Water Outlet Hose
45. Hose Hoop-type b and Type c
46. Pdu Water Inlet Hose
47. Long Exhaust Pipe(l=5350)
48. Water Refill Hose 2
49. PDU & Water outlet Hose of the Air Pump
50. Water Inlet Hose of the Air Pump
51. Water Outlet Hose of the Air Pump
52. Front end Module Outlet Nylon Pipe



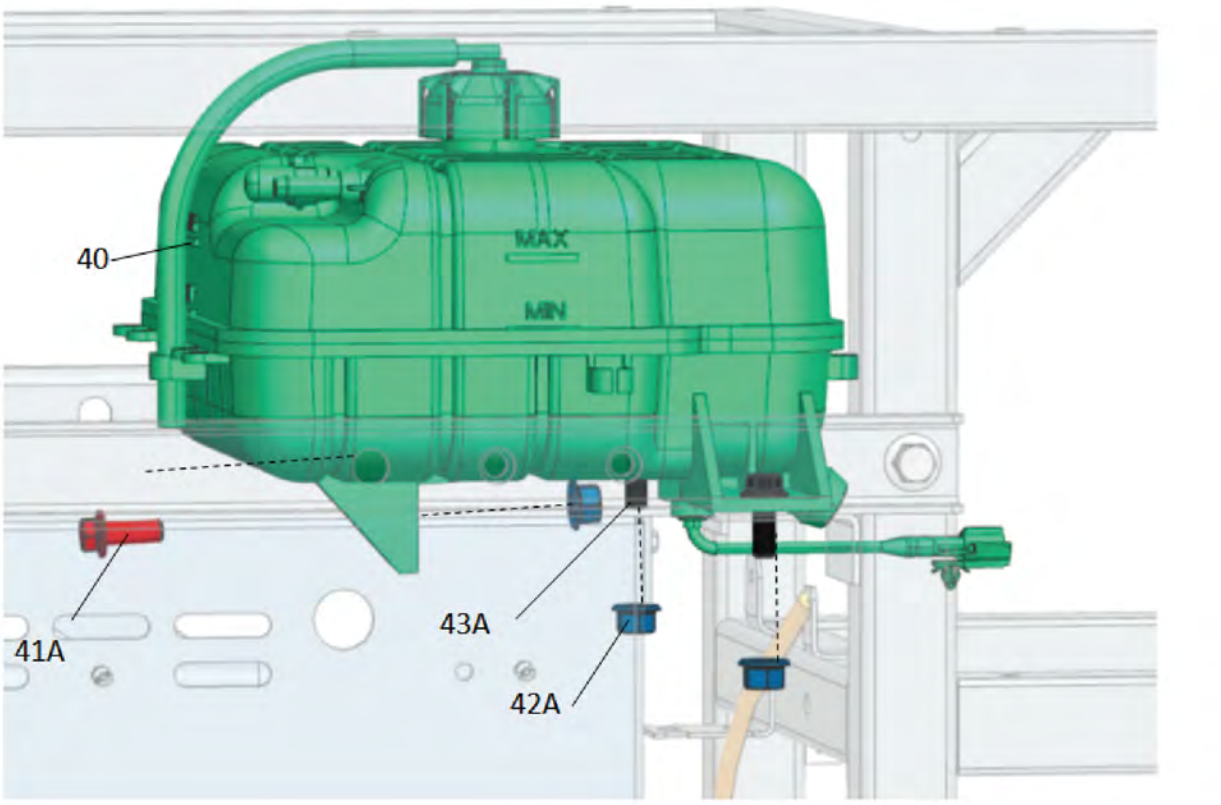
29.	Three-hole Fixing Clamp	55.	Rear Water Pmp Otlet Hse
42.	One-hole Fixing Clamp	56.	Hose Btween Pmps
43.	Cable Ties 1	57.	Hose Hop-type b and Tpe c
46.	Pdu Water Inlet Hose	58.	Hydrating nylon tube
47.	Long Exhaust Pipe(l=5350)	59.	Water Pump Out Nylon Pipe
48.	Water Refill Hose 2	60.	Hexagon Flange Bolt
52.	Front end Module Outlet Nylon Pipe	61.	Hose Clamp 1
53.	Front Pump - Water Inlet Hose	62.	Hexagon Flange Bolt



42.	One-hole Fixing Clamp	82.	M2 Water Hose (With Protective Bra
45.	Hose Hoop-type b and Type c	84.	Water Outlet Rubber Hose of M2 & MCU2 (With Protective Braiding)
69.	Mcu2 Outlet Hose(With Protective b	85.	Mcu1 Water Inlet Hose (With Protec
70.	M1 Water Inlet Hose 1 (With Protec	86.	Transition Straight Through Hard p
71.	Middle and Rear Axle Return Water	87.	Mcu2 Connects to M3 House 1(With p
72.	Combination Tee Hard Pipe	88.	Mcu2 Connects to M3 House 2 (With
73.	M3 Water Inlet Hose 1(With Protect	89.	Mcu2 and M3 Connects Haerd Pipes
74.	Middle and Rear Axle Return Waterr	90.	M3 Water Inlet Hose Support
75.	Middle and Rear Axle Combination h	91.	Mcu2 Outlet Hose(With Protective b
77.	M3 Water Inlet Hose 2 (With Protec	92.	Hexagon Flange Bolt
78.	Uble Hole Nylon Cable Tie (Gtb-3	93.	Hexagon Flange Bolt
80.	Middle axle Mcu2 Hose Fixing Bra	94.	Hard Mcu2 Outlet Pipe



48. Water Refill Hose 2
49. Water Outlet Hose of PDU & Air Pump
63. Hexagon Flange Bolt
64. Three-hole Fixing Clamp
65. M1 Water Inlet Hose
66. Front-end Module Water Inlet Nylon
67. Water Inlet Nylon Tube 1 of M & MCU
68. Fixed Thread Rolling Strip(t120rh



40. Expansion Tank (Plastic)
41A. Hexagon Flange Bolt
42A. Hexagon Flange Lock Nut_all Metal
43A. Hexagon Flange Bolt

4.4.3 Inspect

4.4.3.1 Inspection of Coolant

After the coolant temperature drops, check the coolant level in the reservoir is between the MIN to MAX marks; If the coolant is insufficient, the warning lamp on the instrument cluster will be illuminated to remind you to add coolant.

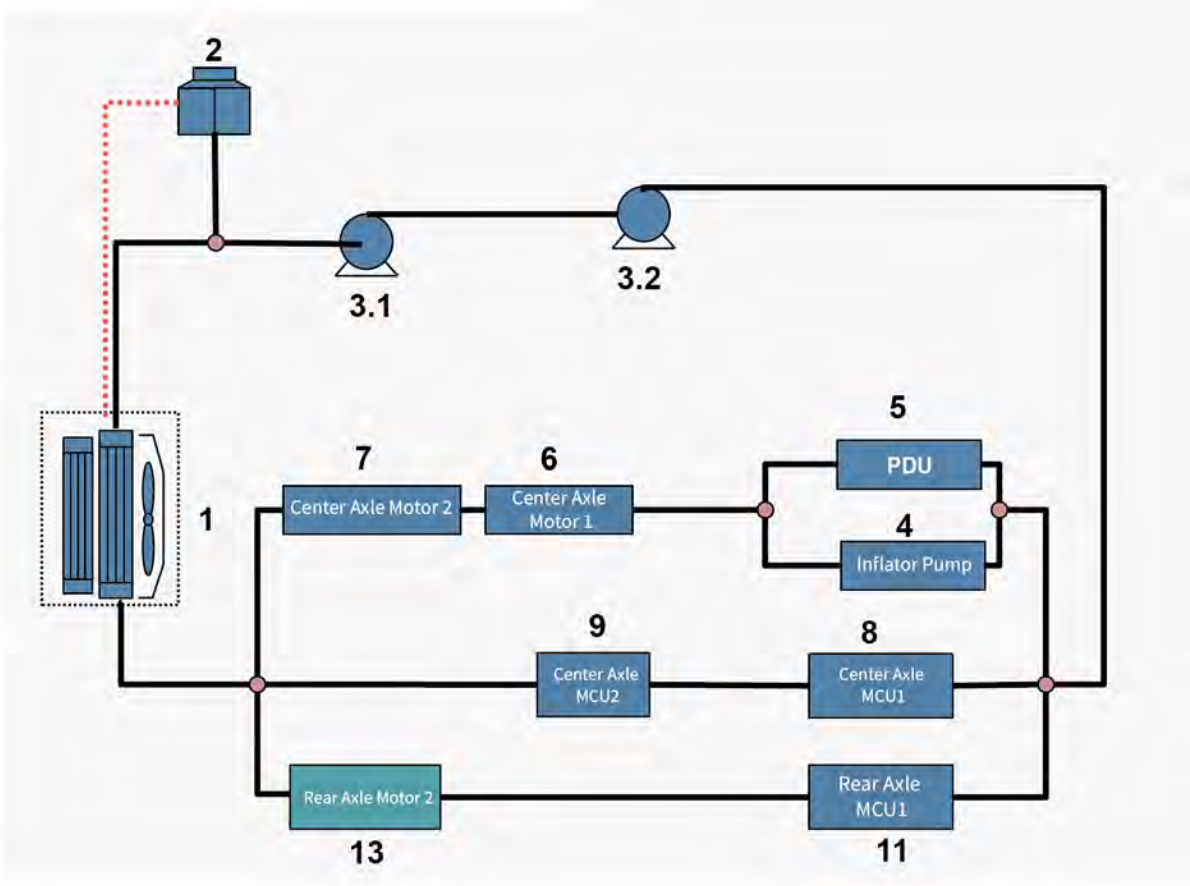
If the coolant has suspended matter, sediment or discoloration, replace it with new coolant immediately.

Regularly check the freezing point of the coolant to ensure that it meets the requirements of the local environment and replace it regularly.

4.4.4 The Working Principle of the System

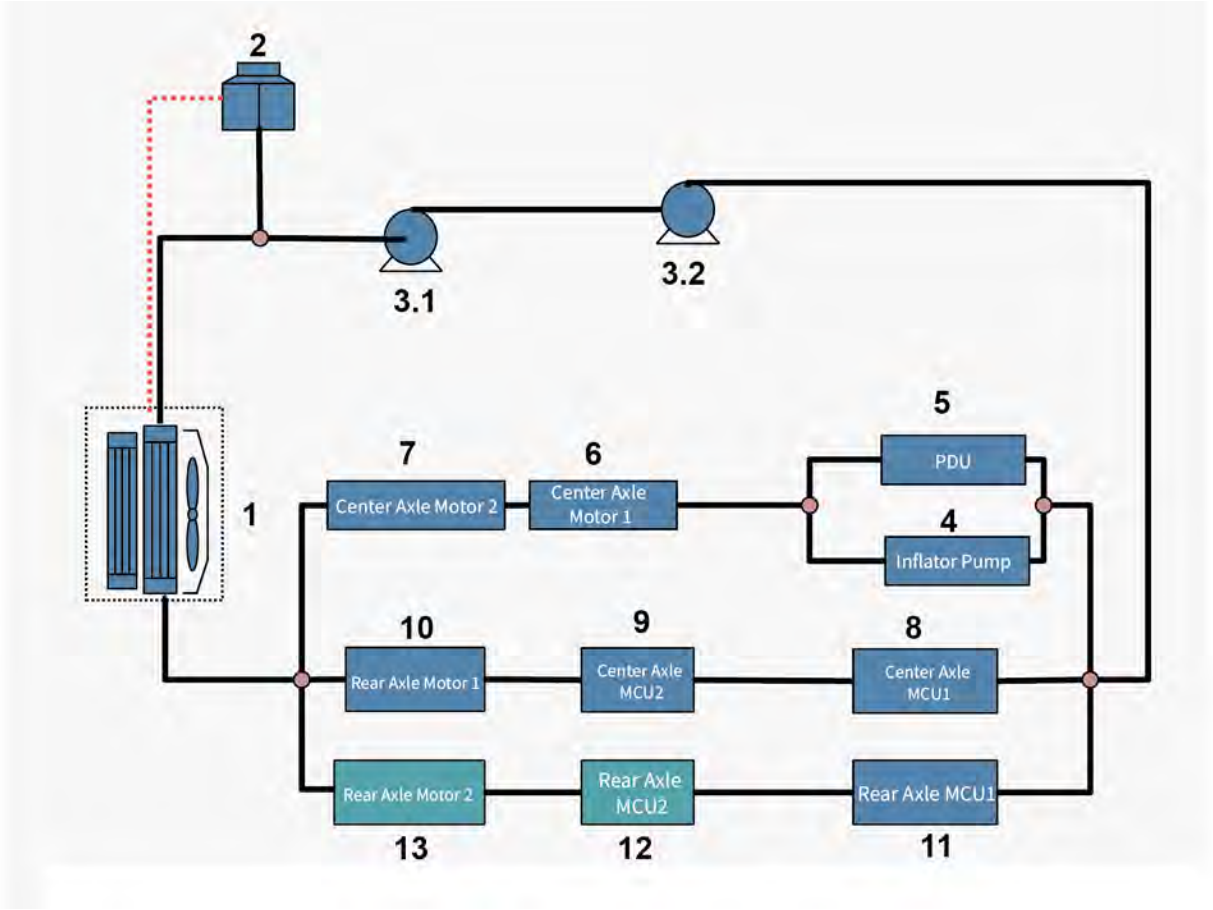
4.4.4.1 System Working Principle

Three-motor Cooling Solution



1. Front end module total
2. Expansion tank
3. Electronic water pump
4. Inflation pump
5. PDU
6. Intermediate axle motor 1
7. Intermediate axle motor 2
8. Intermediate axle MCU1
9. Intermediate axle MCU2
11. Intermediate axle motor 1
13. Rear axle motor 2

Four-motor Cooling Solution



1. Front end module total
2. Expansion tank
3. Electronic water pump
4. Inflation pump
5. PDU
6. Intermediate axle motor 1
7. Intermediate axle motor 2
8. Intermediate axle MCU1
9. Intermediate axle MCU2
10. Intermediate axle motor 1
11. Rear axle MCU1
12. Rear axle MCU2
13. Rear axle motor 2

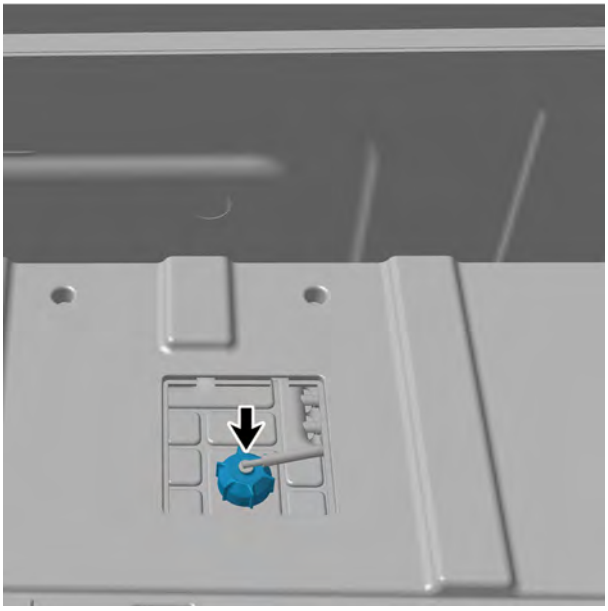
4.4.5 Dismantling and Installation

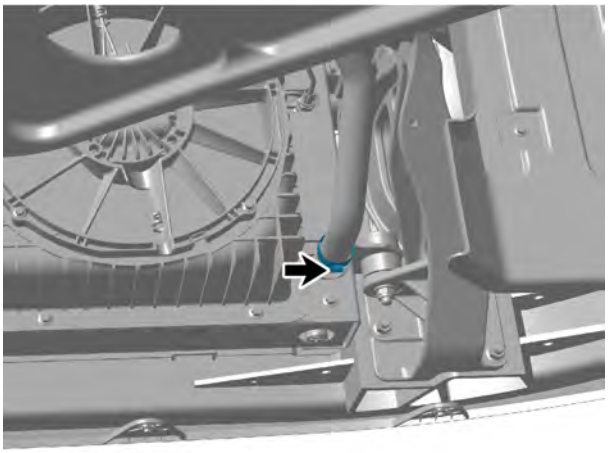
4.4.5.1 Change of Power System Coolant

Removal Procedures

1 Remove the back integrated bracket upper cover plate filler cap.

2 Detach the filler cap.

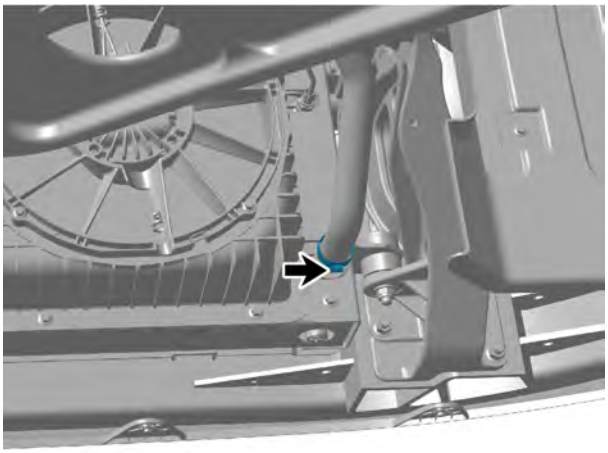




3 Disengage 1 clamp and disconnect the pipeline.

4 Drain coolant from the power system.

Installation Procedures

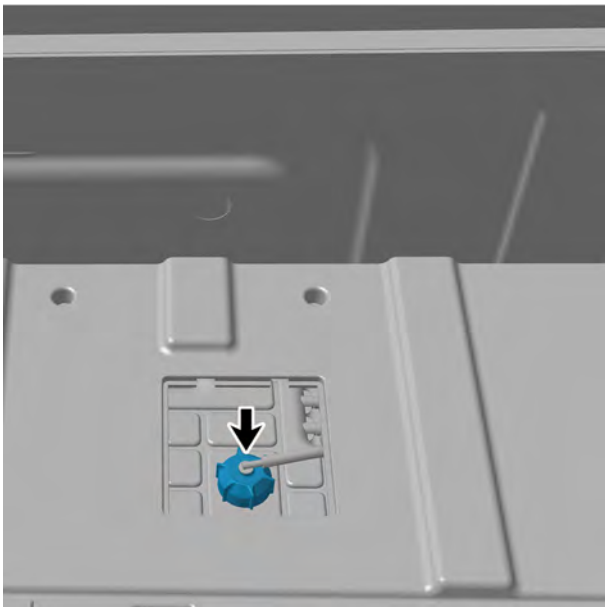


1 Connect the pipeline and attach 1 clamp.

2 Fill coolant in the power system.

caution

1. The coolant must meet the requirements of the national standards, and the coolant of same model cannot be mixed. It is recommended to use coolant with a freezing point 14* F lower than the minimum temperature in local area.

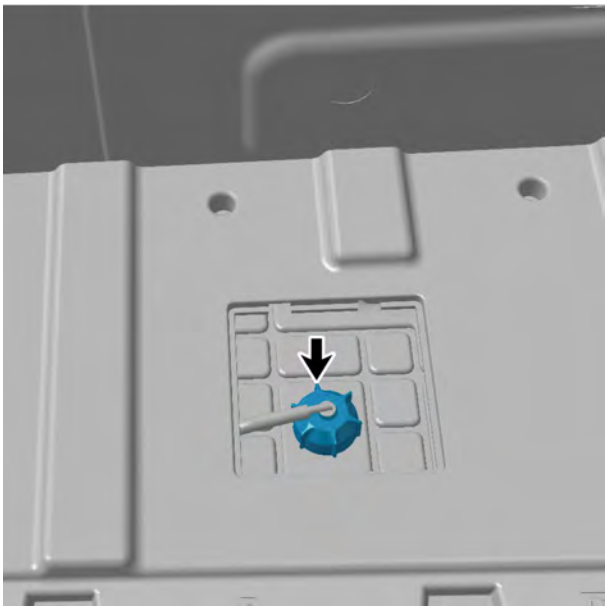


3 Install the filler cap.

4 Install the back integrated bracket upper cover plate filler cap.

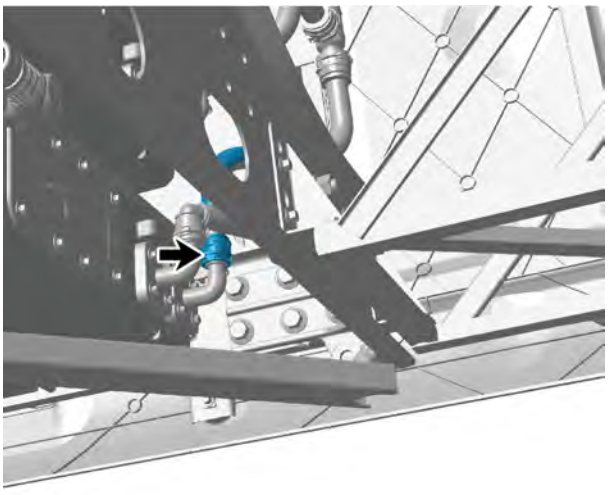
4.4.5.2 Change of Battery Thermal Management System Coolant

Removal Procedures



1 Remove the back integrated bracket upper cover plate filler cap.

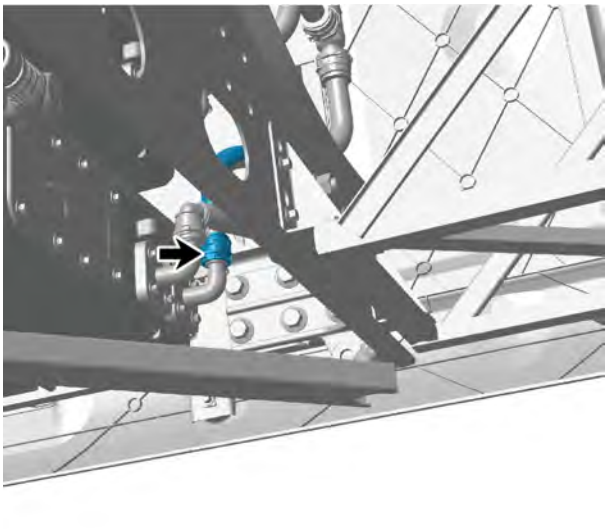
2 Detach the filler cap.



3 Disengage the pipeline.

4 Drain coolant from battery thermal management system.

Installation Procedures



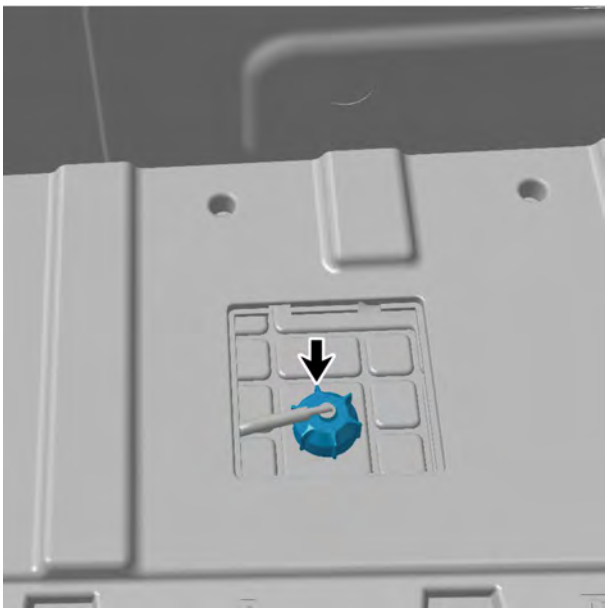
1 Connect the pipeline.

2 Fill coolant in the battery thermal management system.

caution

1. The coolant must meet the requirements of the national standards, and the coolant of same model cannot be mixed. It is recommended to use coolant with a freezing point 14* F lower than the minimum temperature in local area.

2. Add coolant to the auxiliary water tank until the level is between the MIN and MAX marks. When filling coolant, the air in the coolant cavity must be discharged. For this reason, you should open the air release valve (if any) on the radiator (water tank), slowly add the coolant to prevent air blockage, and wait for 2 to 3 minutes to completely discharge air. The coolant should be filled into the bottom of the water filling port or liquid level inspection port of the radiator.



3 Install the filler cap.

4 Install the back integrated bracket upper cover plate filler cap.

4.4.5.3 Replacement of Front End Module

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Recycle A/C refrigerant.

5 Drain coolant from the power system.

6 Remove the engine compartment trim panel body.

7 Remove the through-type lamp.

8 Remove the front MMW radar shield.

9 Remove the forward MMW radar.

10 Remove the front MMW radar adapter bracket.

11 Remove the left cover plate of the corner radar.

12 Remove the right cover plate of the corner radar.

13 Remove the front bumper assembly.

14 Remove the electric horn assembly - low-pitch.

15 Remove the electric horn assembly - high-pitch.

16 Remove the sealing cross beam.

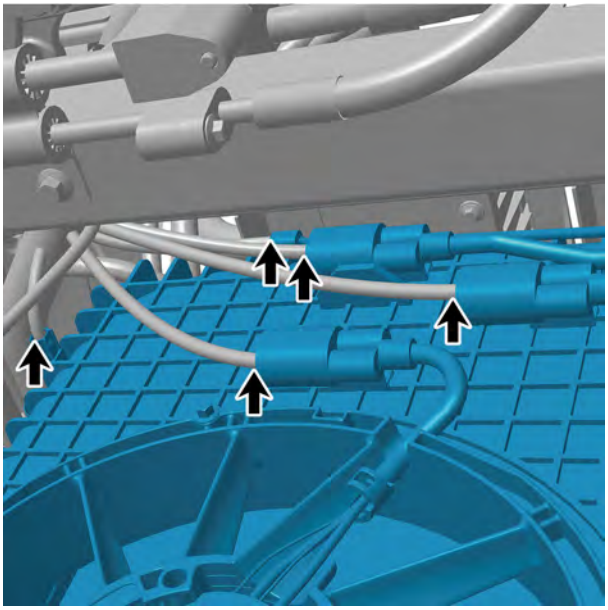
17 Remove the MMW radar bracket.

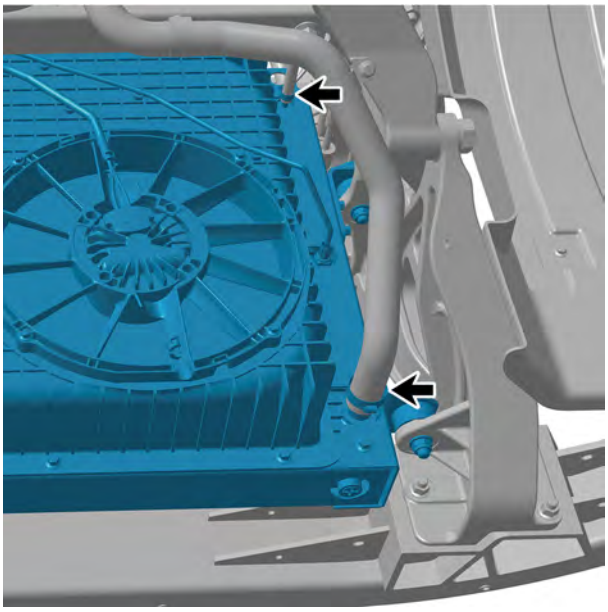
18 Remove the front lower protection assembly.

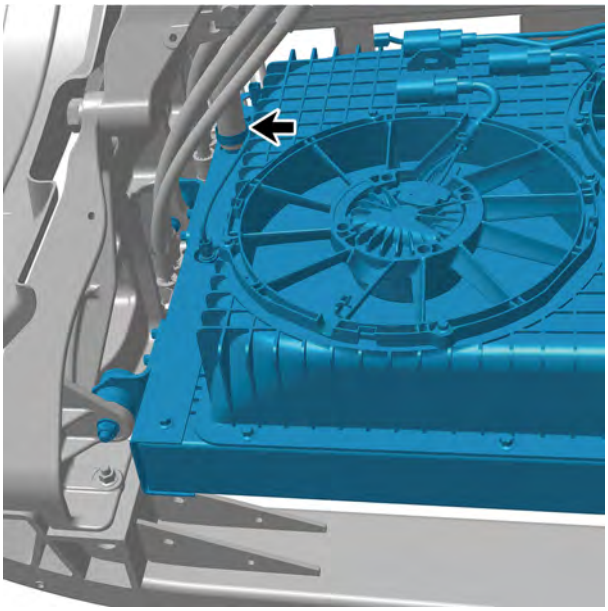
19 Remove the deflector assembly.

20 Remove the condenser.

21 Disconnect the 5 harness connectors of the front end module.



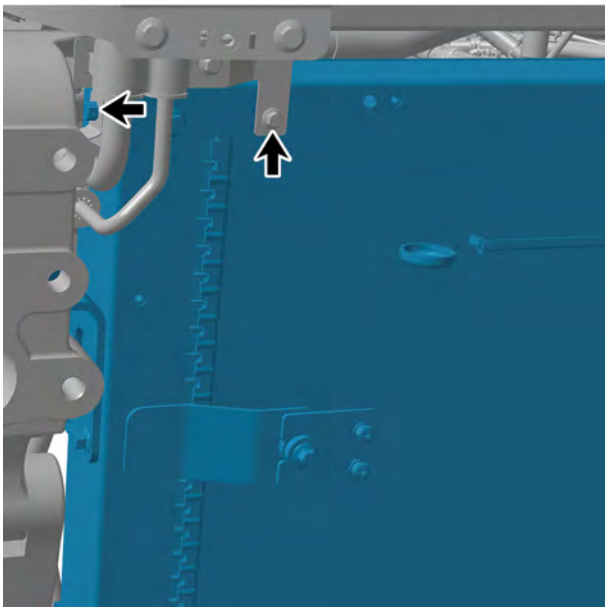




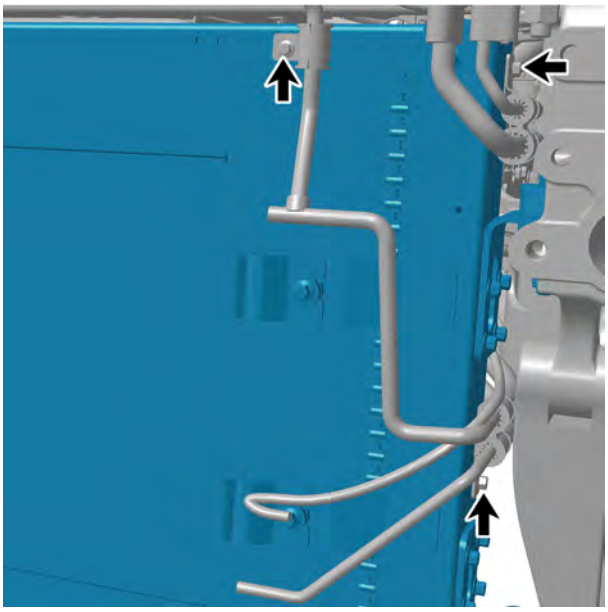
22 Disconnect the 3 water pipes of the front end module.

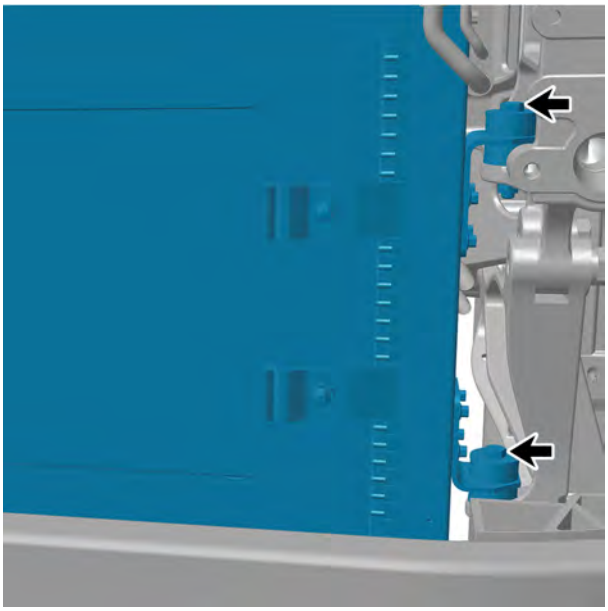
caution

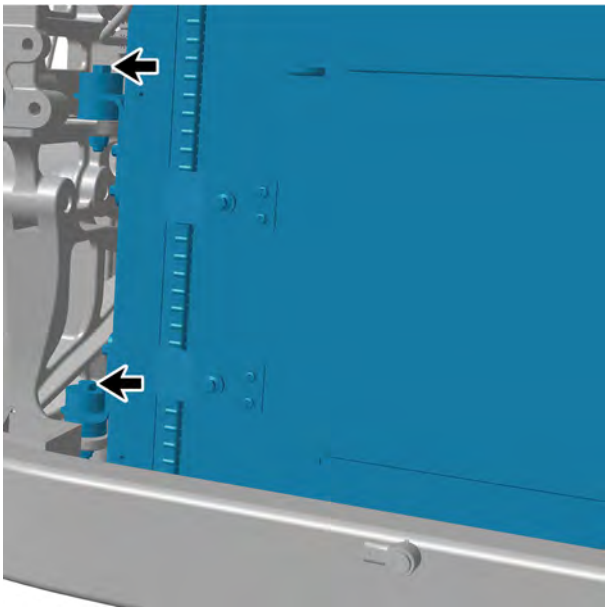
Use a clean container to receive the discharged coolant.



23 Remove the 5 clamp fixing bolts of the front end module.



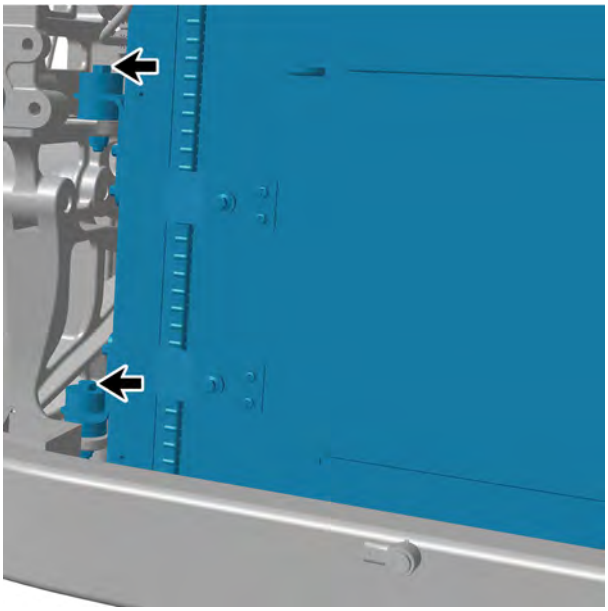


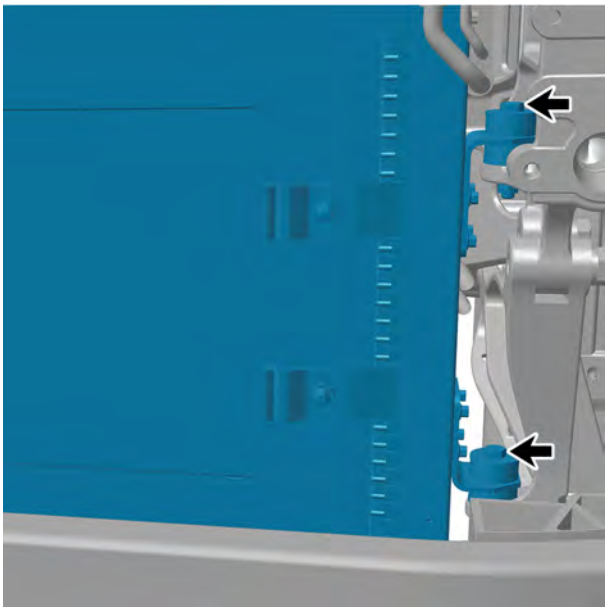


24 Remove the 4 fixing bolts of the front end module and detach the front end module.

caution

Due to the heavy weight of the front end module, it shall be removed with the help of an assistant.





Installation Procedures

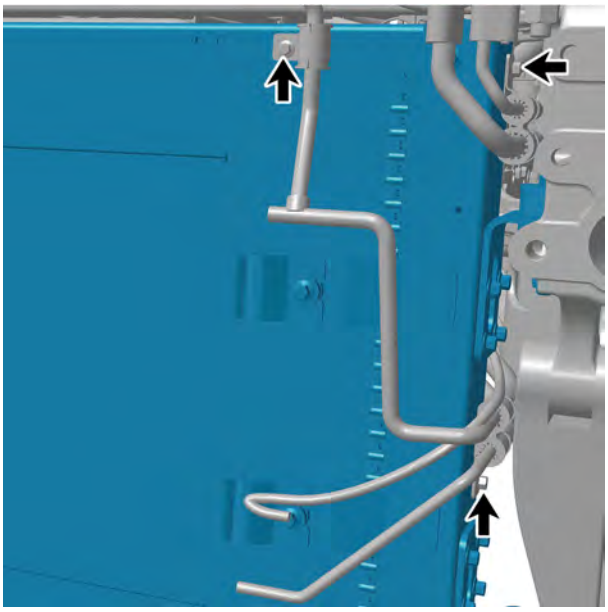
1 Move the front end module to the installation position.

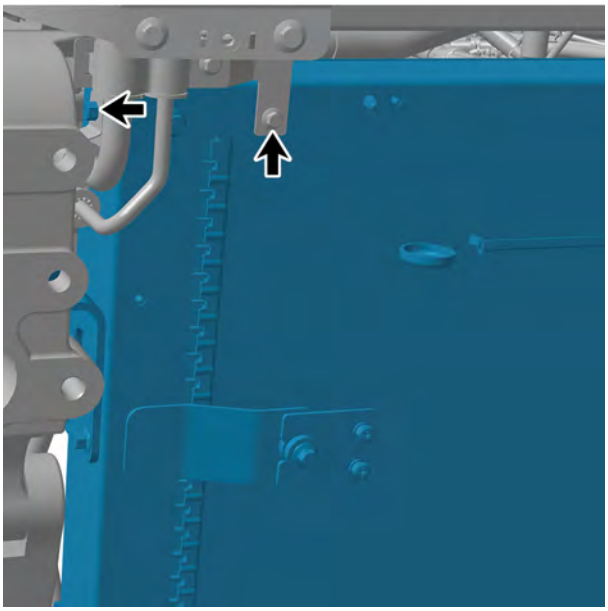
caution

Due to the heavy weight of the front end module, it shall be moved to the installation position with the help of an assistant.

2 Install the 4 fixing bolts of the front end module.

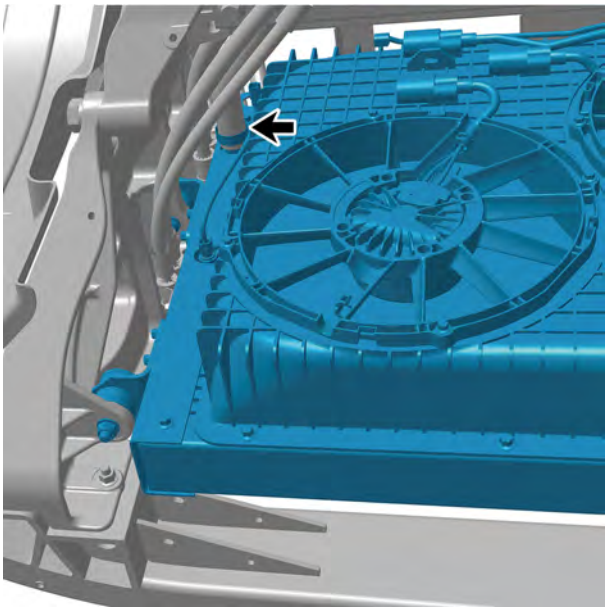
Torque:(66 ft-lb +/-3.5 ft-lb) ft-lb



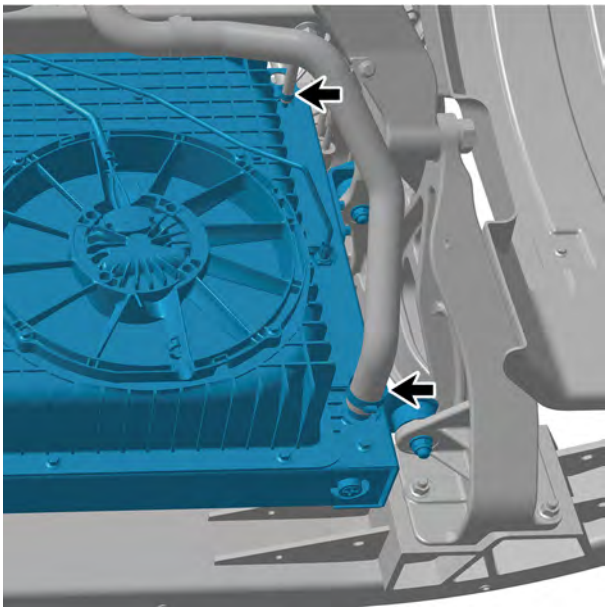


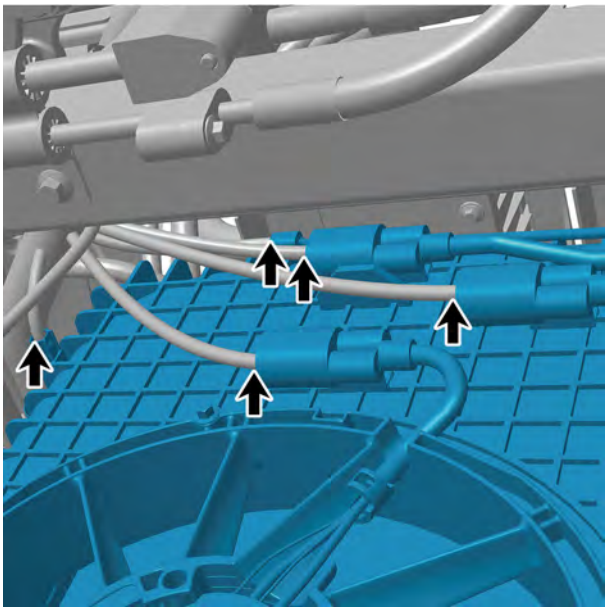
3 Install the 5 clamp fixing bolts of the front end module.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb



4 Connect the 3 water pipes of the front end module.





5 Connect the 5 harness connectors of the front end module.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

6 Install the condenser.

7 Install the deflector assembly.

8 Install the front lower protection assembly.

9 Install the MMW radar bracket.

10 Install the sealing cross beam.

11 Install the electric horn assembly - high-pitch.

12 Install the electric horn assembly - low-pitch.

13 Install the front bumper assembly.

14 Install the right cover plate of the corner radar.

15 Install the left cover plate of the corner radar.

16 Install the front MMW radar adapter bracket.

17 Install the forward MMW radar.

18 Install the front MMW radar shield.

19 Install the through-type lamp.

20 Install the engine compartment trim panel body.

21 Fill coolant in the power system.

22 Fill with A/C refrigerant.

23 Connect the battery negative cable.

24 Close the front flip cover plate.

25 Close the door.

4.4.5.4 Replacement of Electronic Water Pump

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

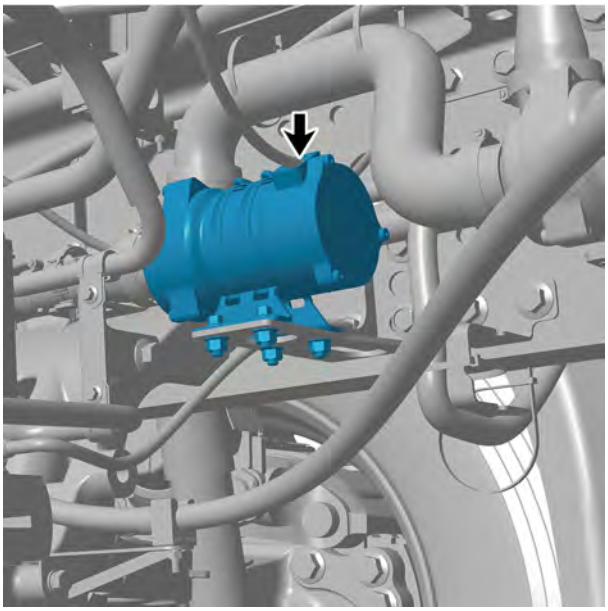
3 Disconnect the battery negative cable.

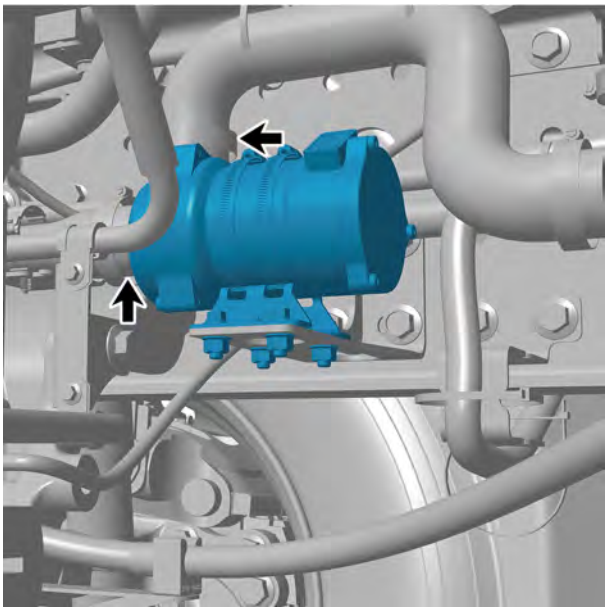
caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Drain coolant from the power system.

5 Disconnect 1 harness connector of the electronic water pump.

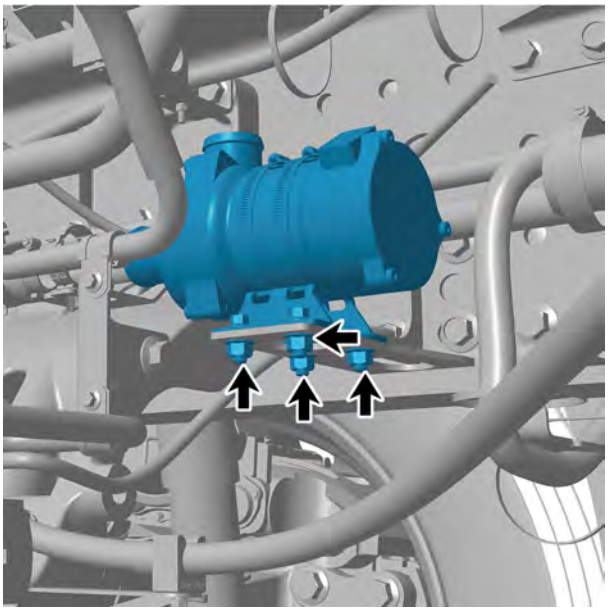




6 Disconnect the 2 water pipes of the electronic water pump.

caution

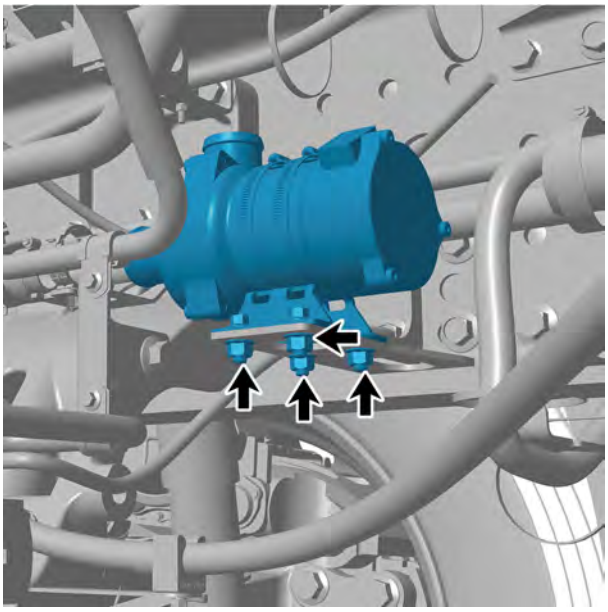
Use a clean container to receive the discharged coolant.



7 Remove the 4 fixing bolts and nuts of the electronic water pump.

8 Remove the electronic water pump.

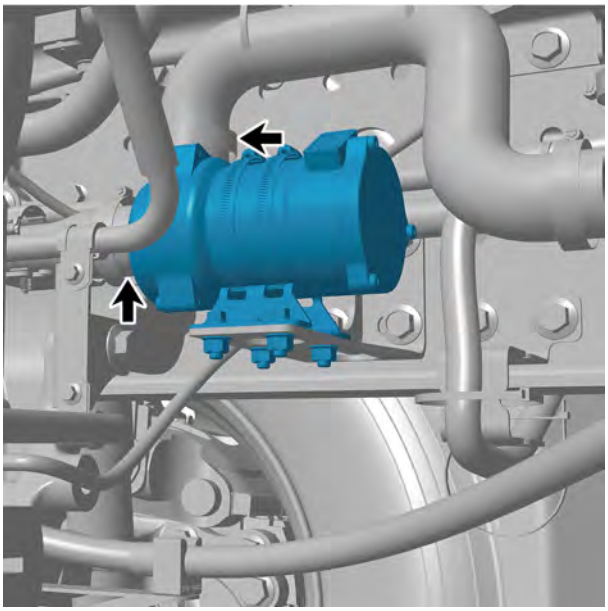
Installation Procedures



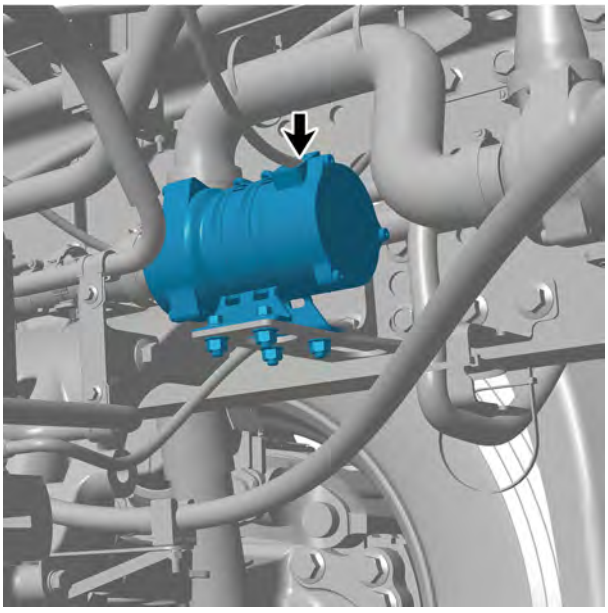
1 Move the electronic water pump to the installation position.

2 Install the 4 fixing bolts and nuts of the electronic water pump.

Torque:(18 ft-lb +/- 2 ft-lb) ft-lb



3 Connect the 2 water pipes of the electronic water pump.



4 Connect 1 harness connector of the electronic water pump.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Fill coolant in the power system.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

4.5 Battery Thermal Management Device

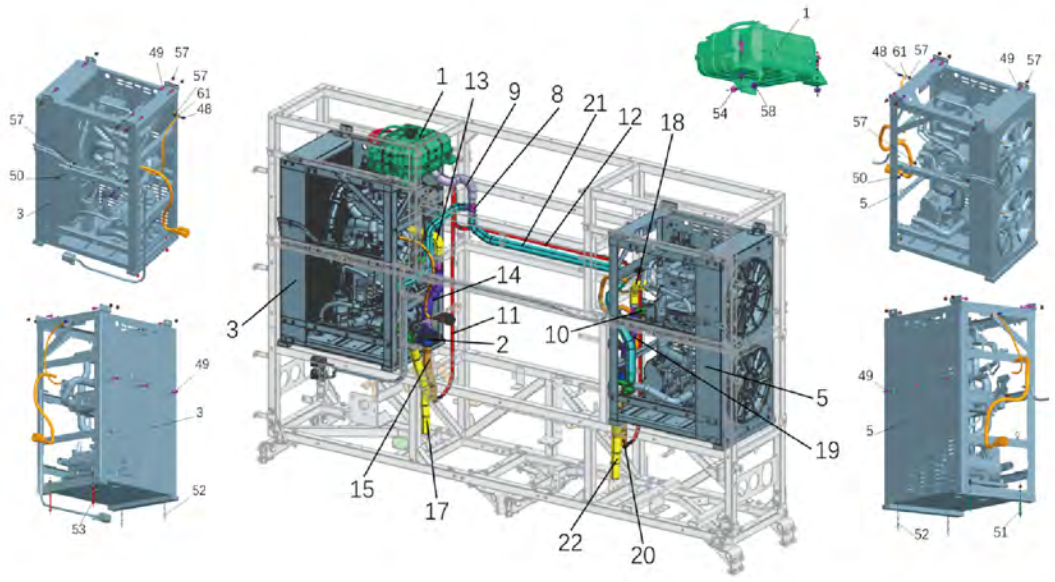
4.5.1 Specifications

4.5.1.1 Fastener Specifications

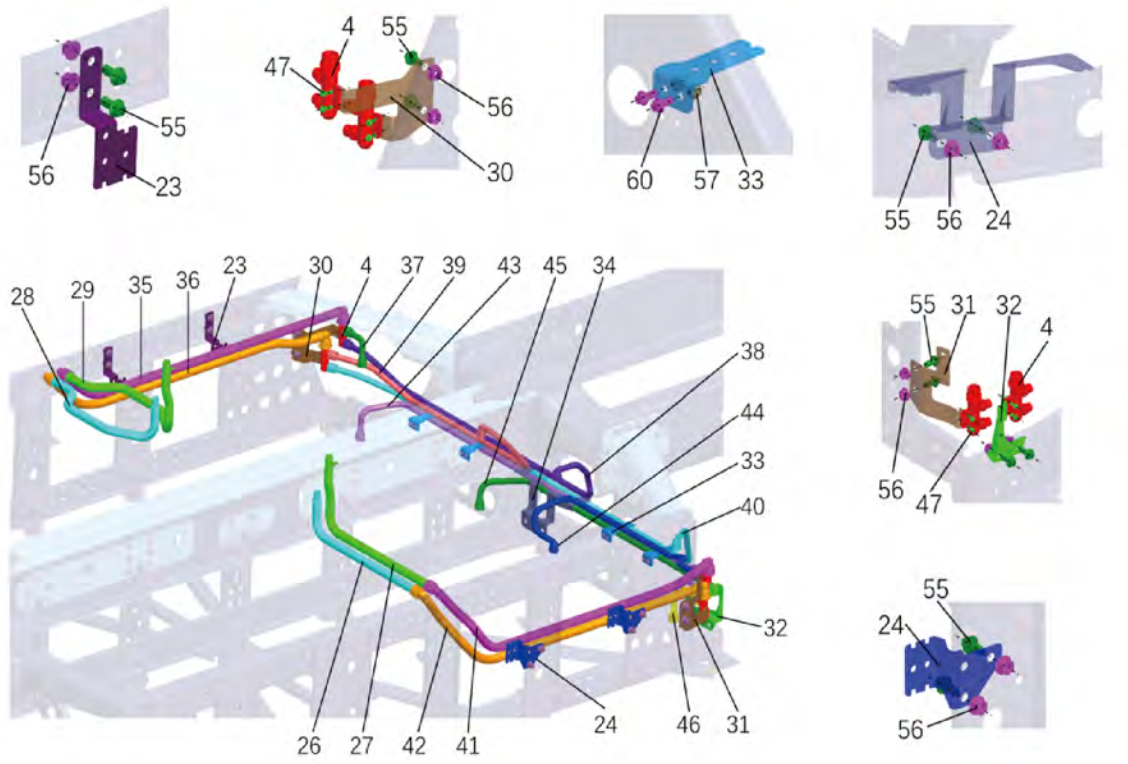
Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
Fixed bolts connecting the bottom of the thermal management unit to the integrated framework	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
Fixed nuts connecting the bottom of the thermal management unit to the integrated framework	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
Fixed bolts connecting the side of the thermal management unit to the integrated frame	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
The fixing bolt connecting the left battery pack connector bracket to the frame assembly	M14	103 ft-lb +/- 7 ft-lb
The fixing nut connecting the left battery pack connector bracket to the frame assembly	M14	103 ft-lb +/- 7 ft-lb
Fixed bolts for the connection between the expansion tank (plastic) and the integrated frame	M10	52 ft-lb
The fixing nut for the fixed connection between the expansion tank (plastic) and the integrated frame	M8	52 ft-lb

4.5.2 Decomposition Diagram

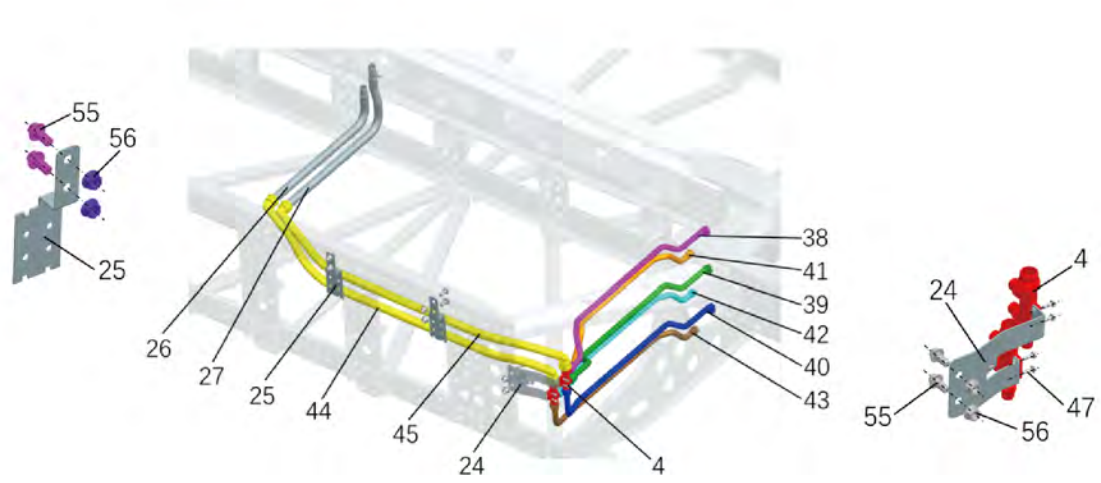
4.5.2.1 Decomposition Diagram



1.	Expansion Tank (Plastic)	19.	Right Water Filter Inlet Hose
2.	Water Filter	20.	Right Water Filter Outlet Hose
3.	Thermal Management Unit-lh	21.	Right Unit Water Replenishment Hos
5.	Thermal Management Unit-rh	22.	Right Unit Inlet Hose
8.	Tee Joint (t25)	48.	Hexagon Flange Bolt
9.	Expansion Kettle Water Outlet Hose	49.	Hexagon Flange Bolt
10.	Wptc Water Outlet Hose	50.	Hexagon Flange Bolt
11.	Left Unit Exhaust Hose	51.	Hexagon Flange Bolt
12.	Right Unit Exhaust Hose	52.	Hexagon Flange Bolt
13.	Left Chiller Water Outlet Hose	53.	Hexagon Flange Bolt
14.	Left Water Filter Inlet Hose	54.	Hexagon Flange Bolt
15.	Left Water Filter Outlet Hose	57.	Hexagon Flange Lock Nut_all Metal
17.	Left Unit Inlet Hose	58.	Hexagon Flange Lock Nut_all Metal
18.	Right Chiller Water Outlet Hose	61	Inside and Out Teeth Serrated Lock



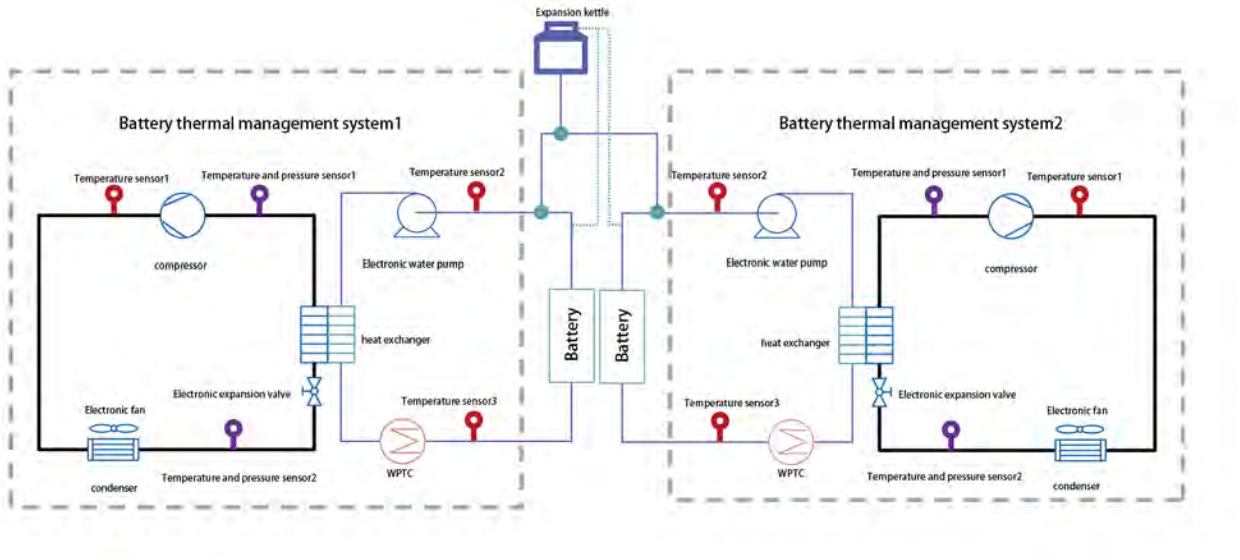
4. Three-way Joint for Battery Piping
23. Fixed Bracket for the Piping of the Left Battery Pack
24. Right Battery Pack Line Fixing Bra
26. Right Unit Inlet Nylon Pipe
27. Right Unit Water Outlet Nylon Pipe
28. Left Unit Inlet Nylon Pipe
29. Left Unit Water Outlet Nylon Pipe
30. Left Battery Pack Connector Fixing
31. Right Battery Pack Connector Fixin 1
32. Right Battery Pack Connector Fixin 2
33. Battery Pack Pipeline Fixing Brack 1
34. Battery Pack Pipeline Fixing Brack 2
35. Water Inlet Nylon Tube of the Upper Battery Pack
36. Water Outlet Nylon Tube of the Upper Battery Pack
37. Left 1 Battery Pack Water Inlet Ny
38. Right 1 Battery Pack Water Inlet n
39. Left 1 Battery Pack Water Outlet n
40. Right 1 Battery Pack Water Outlet
41. Water Inlet Nylon Tube of the Lower Battery Pack
42. Water Outlet Nylon Tube of the Lower Battery Pack
43. Left 2 Battery Pack Water Inlet Ny
44. Right 2 Battery Pack Water Inlet n
45. Left 2 Battery Pack Water Outlet n
46. Right 2 Battery Pack Water Outlet
47. Hexagon Flange Bolt
55. Hexagon Flange Bolt
56. Hexagon Flange Nut
57. Hexagon Flange Lock Nut_all Metal
60. Hexagon Flange Bolt



4.	Battery Pipeline 4-Way Connector	41.	Right 1 Battery Pack Water Outlet
24.	Right Battery Pack Connector Fixin	42.	Right 2 Battery Pack Water Outlet
25.	Right Battery Pack Line Fixing Bra	43.	Right 3 Battery Pack Water Outlet
26.	Right Unit Inlet Nylon Pipe	44.	Right Battery Pack Water Outlet Ny
27.	Right Unit Water Outlet Nylon Pipe	45.	Right Battery Pack Water Inlet Nyl
38.	Right 1 Battery Pack Water Inlet n	47.	Hexagon Flange Bolt
39.	Right 2 Battery Pack Water Inlet n	55.	Hexagon Flange Bolt
40.	Right 3 Battery Pack Water Inlet n	56.	Hexagon Flange Nut

4.5.3 The Working Principle of the System

4.5.3.1 System Working Principle



4.5.4 Dismantling and Installation

4.5.4.1 Replacement of the Thermal Management Unit (left)

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

5 Perform power-off of high voltage system.

6 Drain coolant from battery thermal management system.

7 Remove the back integrated bracket side cover plate assembly (left).

8 Remove the back integrated bracket side cover plate assembly (right).

9 Remove the back integrated bracket middle cover plate assembly.

10 Remove the back integrated bracket upper cover plate filler cap.

11 Remove the back integrated bracket upper cover plate.

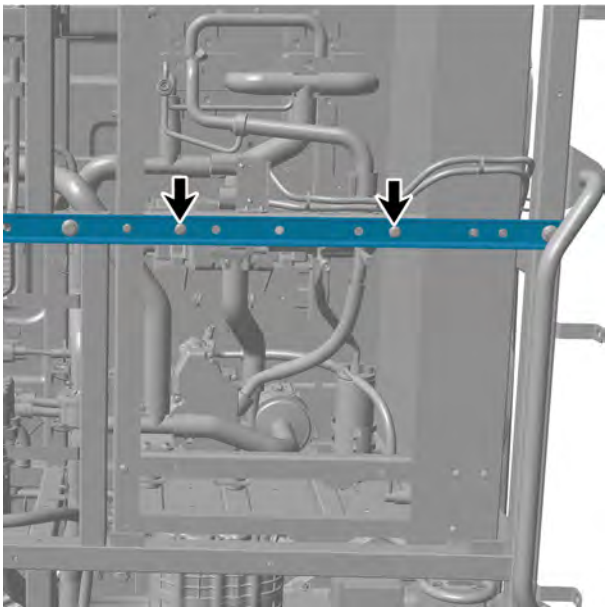
12 Remove the left deflector lower body.

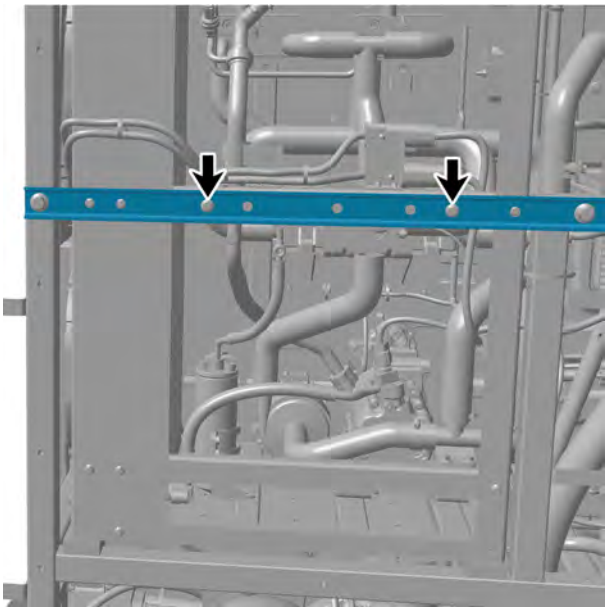
13 Remove the expansion tank (plastic) (left).

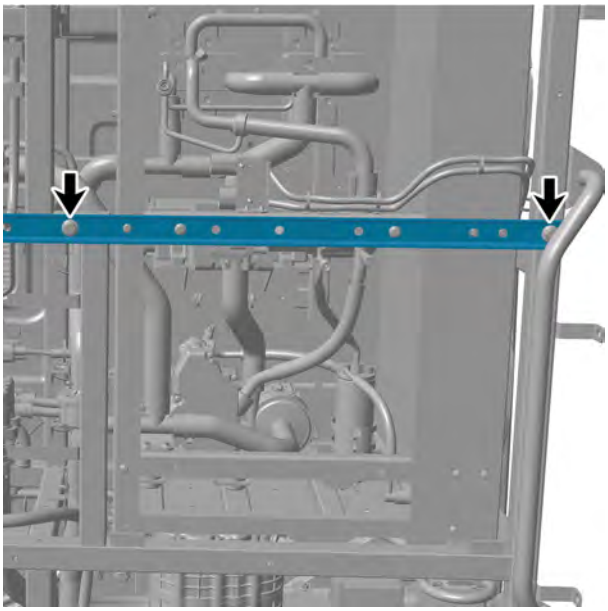
14 Remove the water filter.

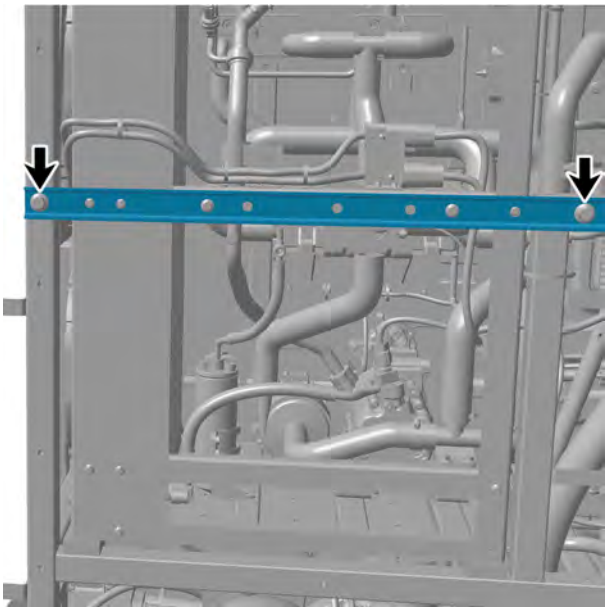
15 Remove the rear working lamp.

16 Remove the 4 fixing bolts of the bracket.

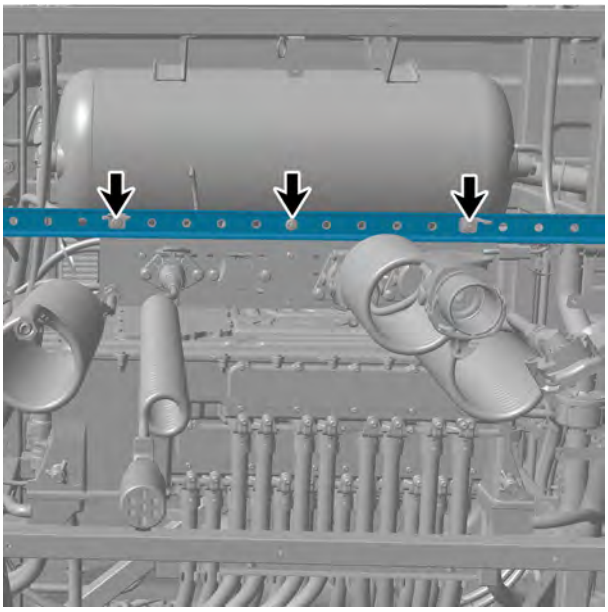




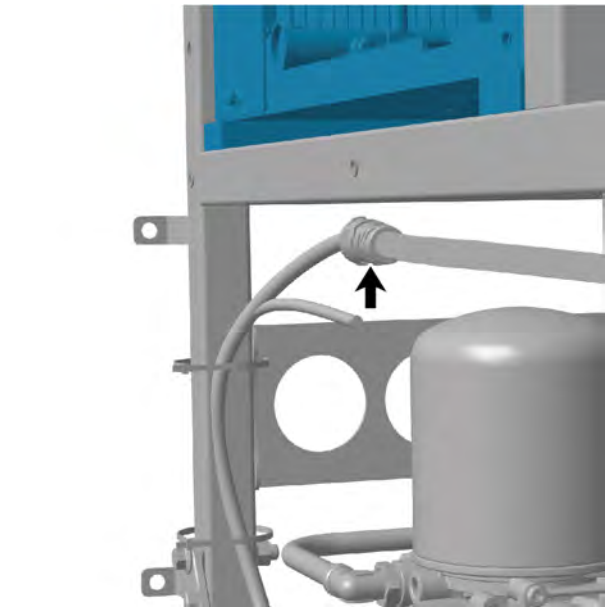




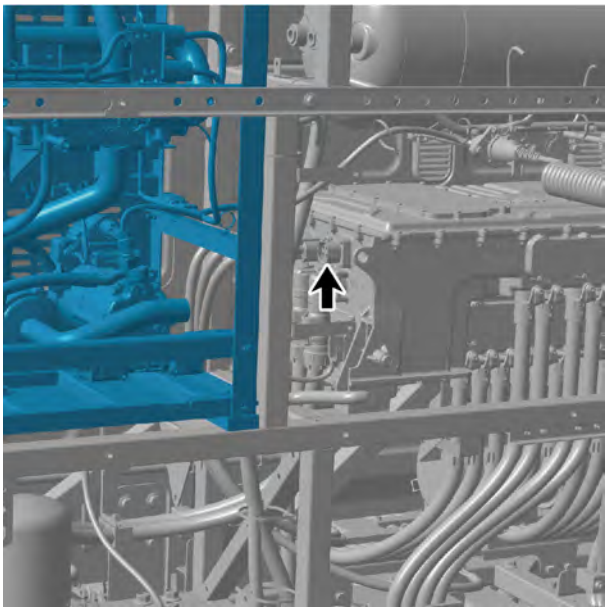
17 Remove the 4 fixing bolts of the bracket.

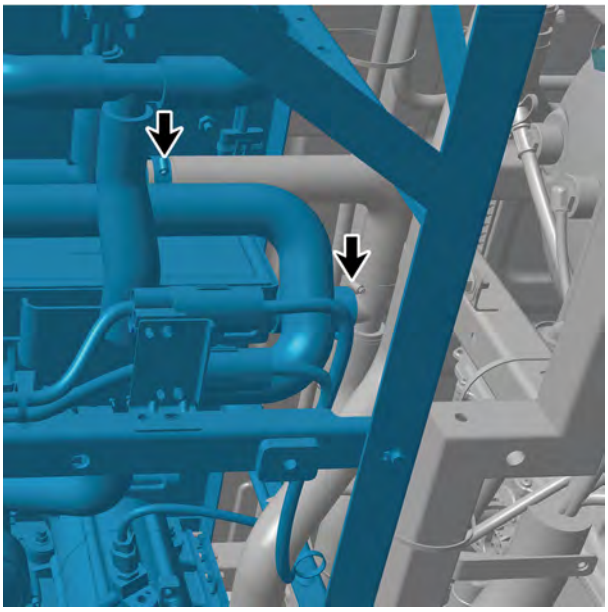


18 Remove the 3 fixing nuts of the bracket.



19 Disconnect the 2 harness connectors of the thermal management unit (left).

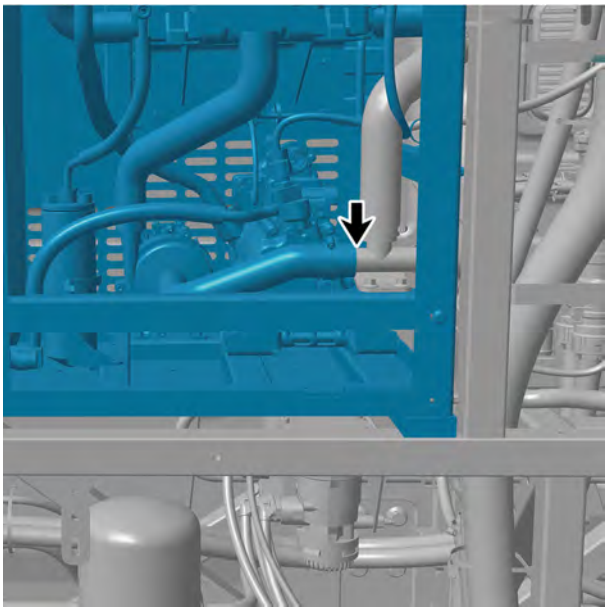


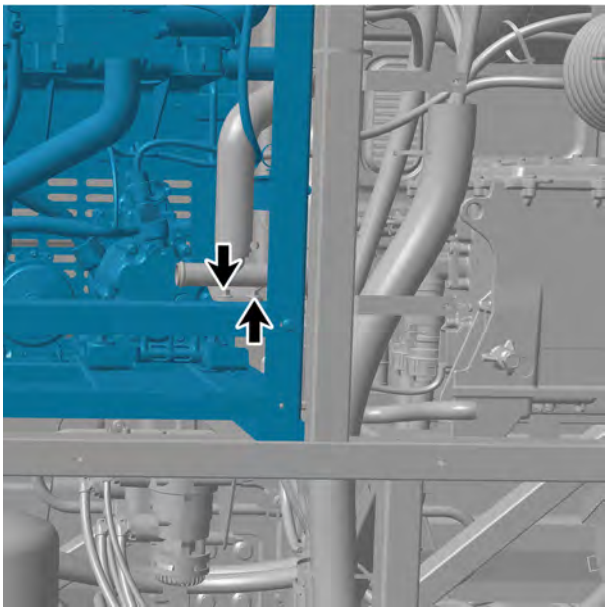


20 Disconnect the 3 water pipes of the thermal management unit (left).

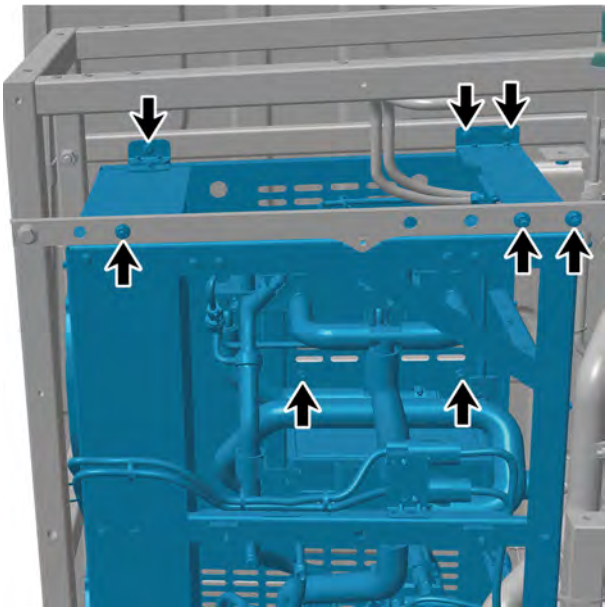
caution

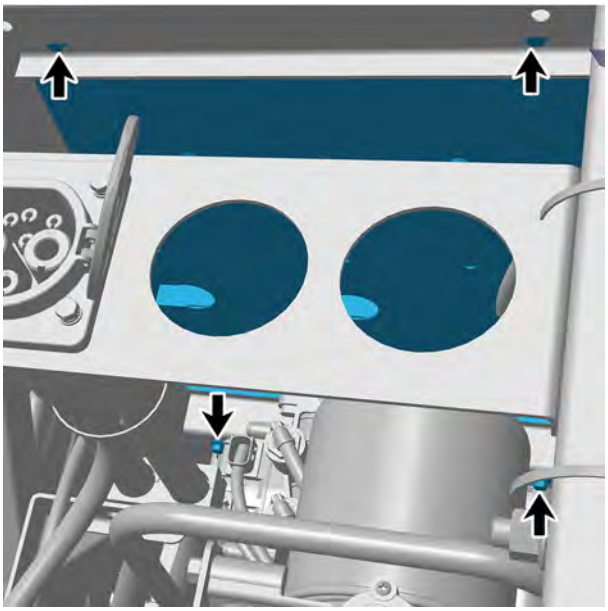
Use a clean container to receive the discharged coolant.





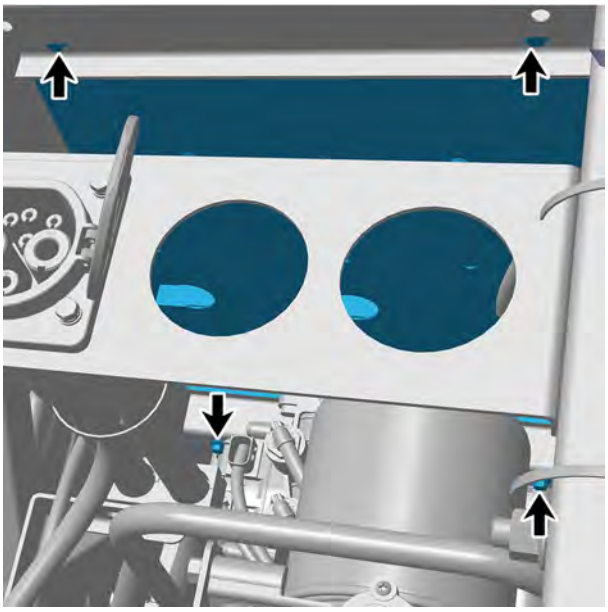
21 Remove the 2 fixing bolts of the water pipe.

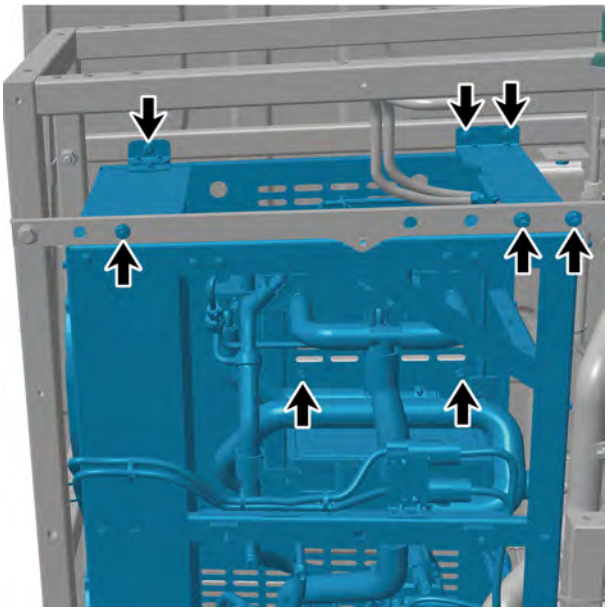


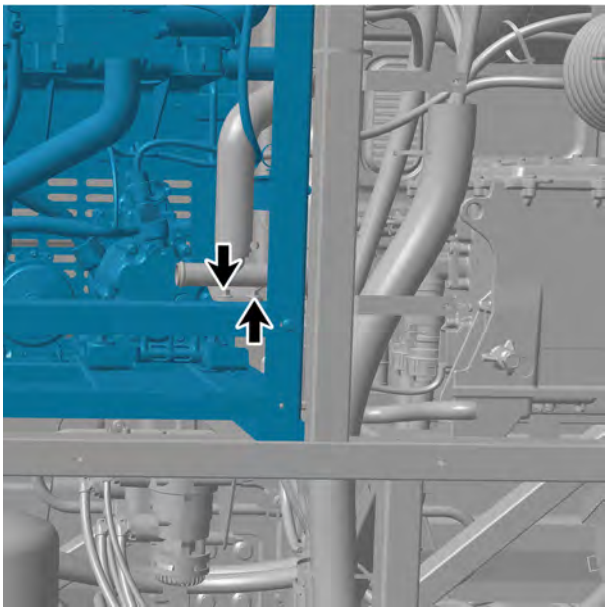


22 Remove the 12 fixing bolts and nuts of the thermal management unit (left) and detach the thermal management unit (left).

Installation Procedures







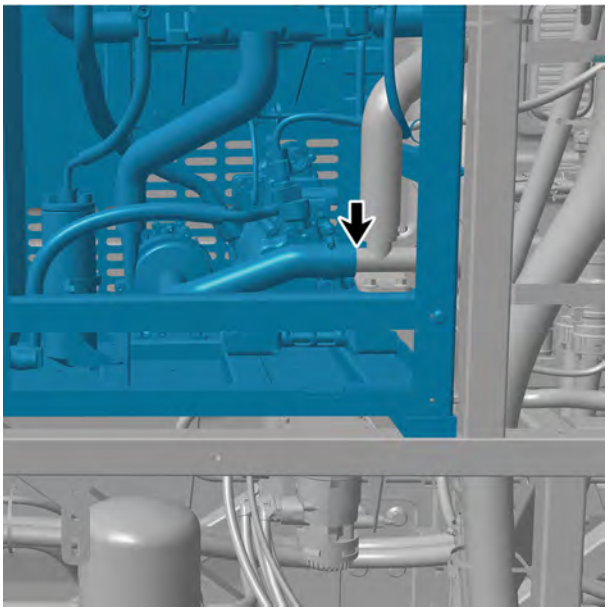
1 Move the thermal management unit (left) to the installation position.

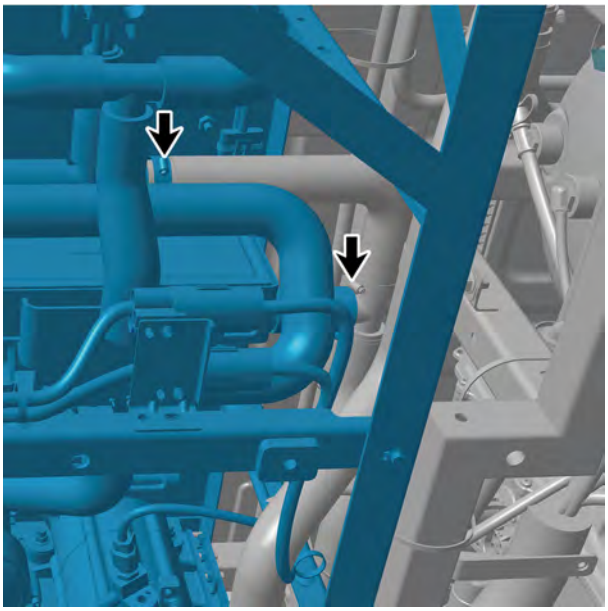
2 Install the 12 fixing bolts and nuts of the thermal management unit (left).

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb

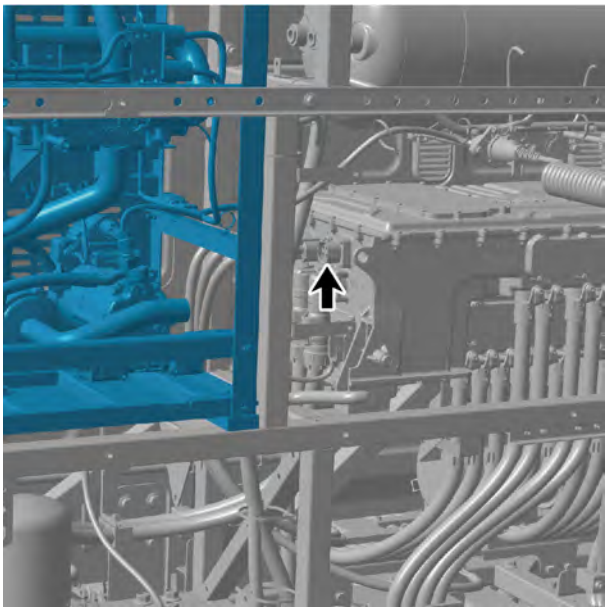
3 Install the 2 fixing bolts of the water pipe.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb





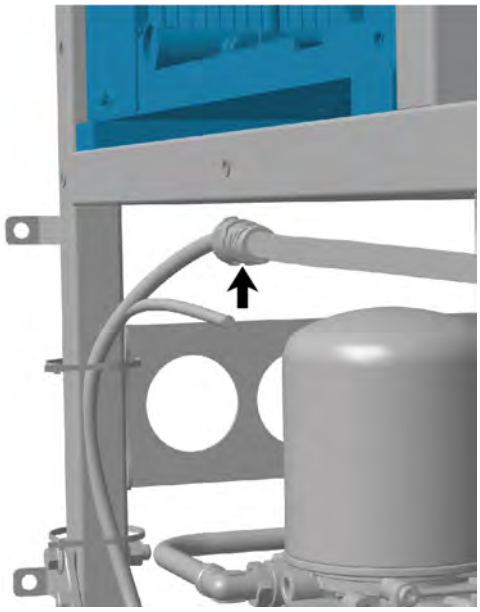
4 Connect the 3 water pipes of the thermal management unit (left).

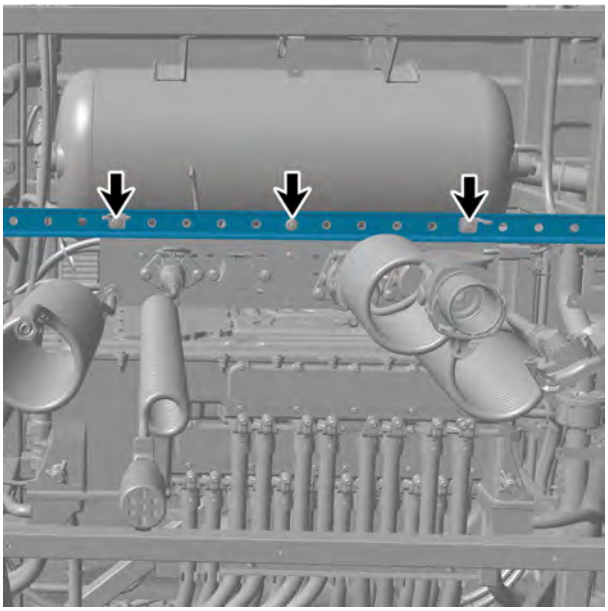


5 Connect the 2 harness connectors of the thermal management unit (left).

caution

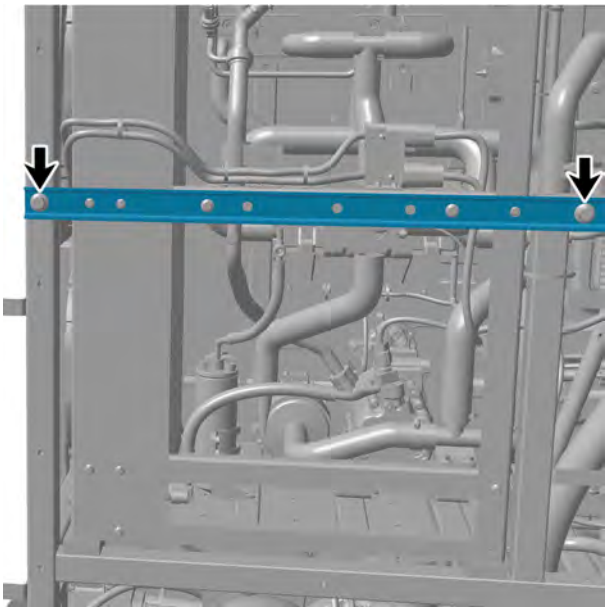
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".





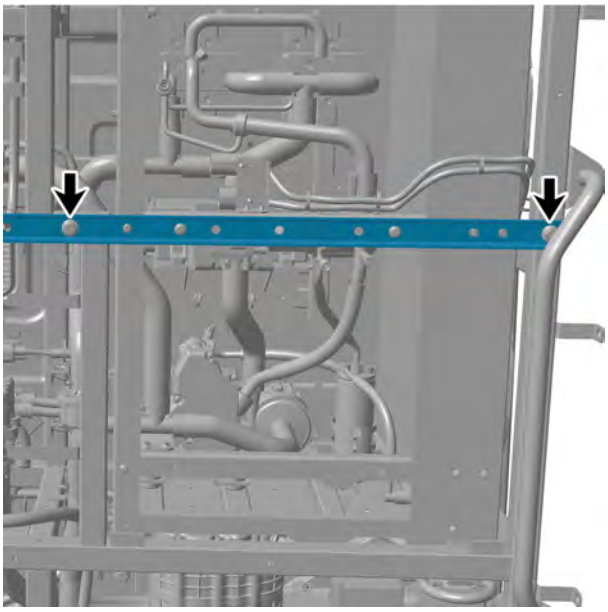
6 Install the 3 fixing nuts of the bracket.

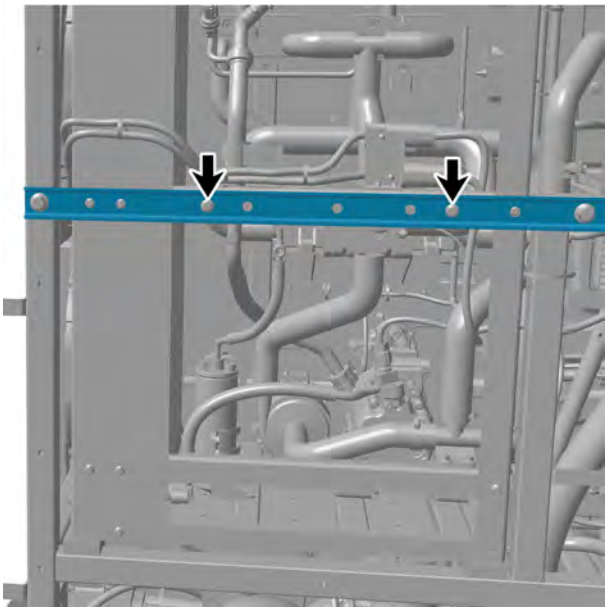
Torque: (18 ft-lb +/- 2ft-lb) ft-lb

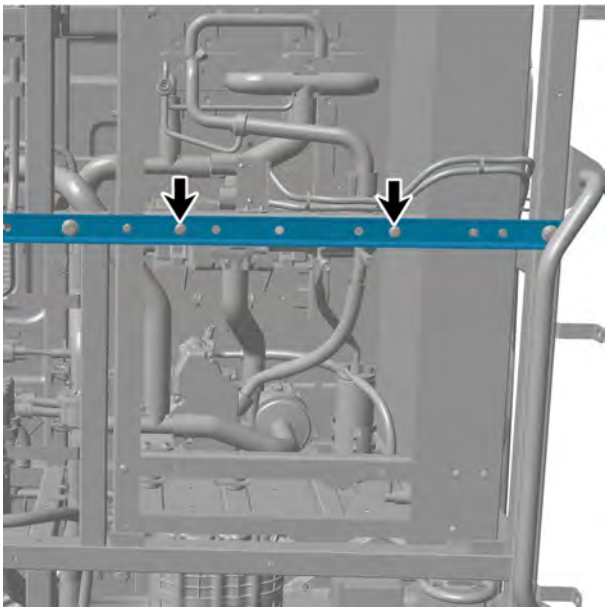


7 Install the 4 fixing bolts of the bracket.

Torque: (88 ft-lb +/- 6 ft-lb) ft-lb







8 Install the 4 fixing bolts of the bracket.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb

9 Install the rear working lamp.

10 Install the water filter.

11 Install the expansion tank (plastic) (left).

12 Install the left deflector lower body.

13 Install the back integrated bracket upper cover plate.

14 Install the back integrated bracket upper cover plate filler cap.

15 Install the back integrated bracket middle cover plate assembly.

16 Install the back integrated bracket side cover plate assembly (right).

17 Install the back integrated bracket side cover plate assembly (left).

18 Fill coolant in the battery thermal management system.

19 Perform power-on of the high voltage system.

20 Connect the battery negative cable.

21 Close the front flip cover plate.

22 Close the door.

4.6 Multi-in-One Power Distribution Device

4.6.1 Specifications

4.6.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
Fixed bolts connecting the multi in one power distribution assembly to the integrated frame	M12	(62 ft-lb +/- 6ft-lb) ft-lb
The fixing nut connecting the multi in one power distribution assembly and the integrated frame	M12	(62 ft-lb +/- 6ft-lb) ft-lb
The fixing bolt of the grounding wire harness on the multi in one power distribution assembly	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
The fixing bolt connecting the high-voltage harness clamp to the high-voltage harness	M10	(22 ft-lb +/- 2 ft-lb) ft-lb

4.6.1.2 Technical Parameters

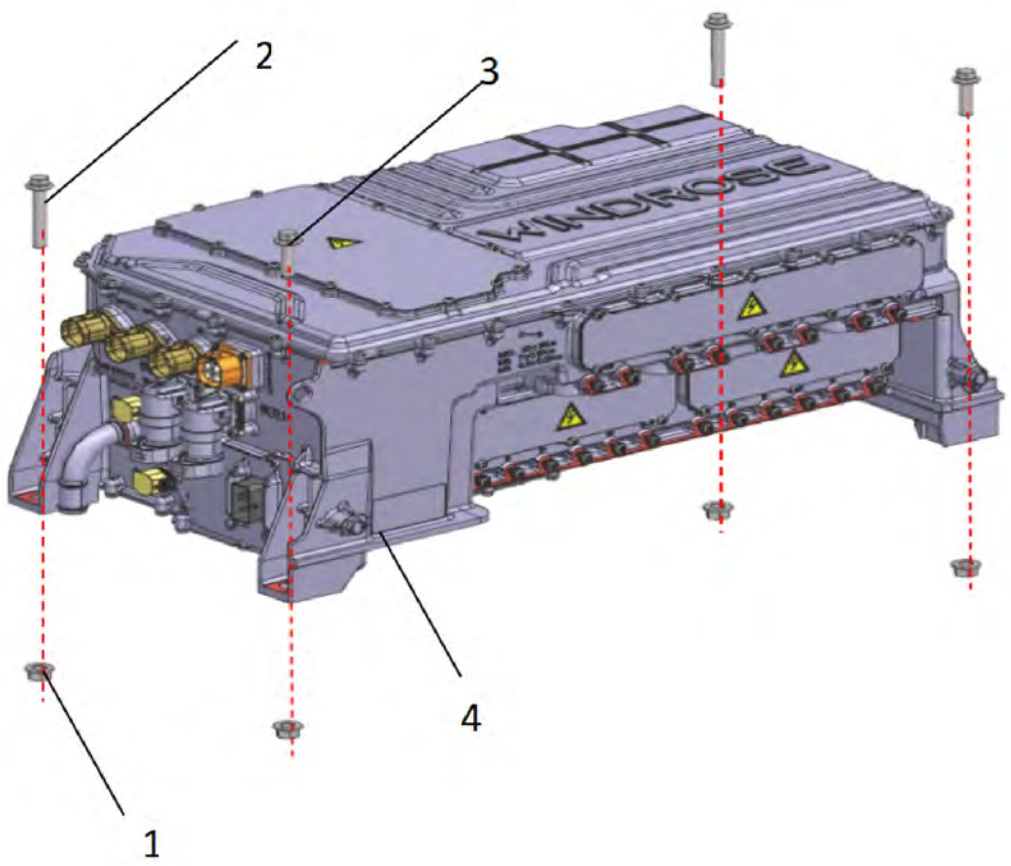
DC/DC

Item	Parameter	Remark
Rated input voltage	750Vdc	/
Input voltage range	500~950Vdc	/
Maximum input current	14A	/
Auxiliary power input voltage	16~32Vdc	10~36V, communicable
Output rated voltage	27.5±0.3Vde (adjustable within 30Vdc)	It can respond to 30Vdc
Output rated current	218A	/
Peak output current	240A	6min
Rated output power	6000W	/
Peak output power	6600W	6min
Output efficiency	95.50%	/
Stabilized voltage precision	±1%	/
Stabilized current precision	±1%	/
Power regulation	±1%	/
Load regulation	±2%	/
Temperature coefficient	±0.02%/℃	/

Item	Parameter	Remark
Output ripple and noise	≤300mVp-p	Bandwidth limited to 20MHz, 10uF electrolytic capacitor and 0.1uF film capacitor connected in parallel at the test end; 25℃
Output rise time	<500ms	/
On/off overshoot amplitude	≤±5%	/
On/off output delay	≤1s	/
Dynamic response overshoot	▲V: ≤+5%	/
Dynamic response recovery time	≤5ms	30%~80%~30% load change
Output current limiting characteristic	Constant current 240A	/

4.6.2 Decomposition Diagram

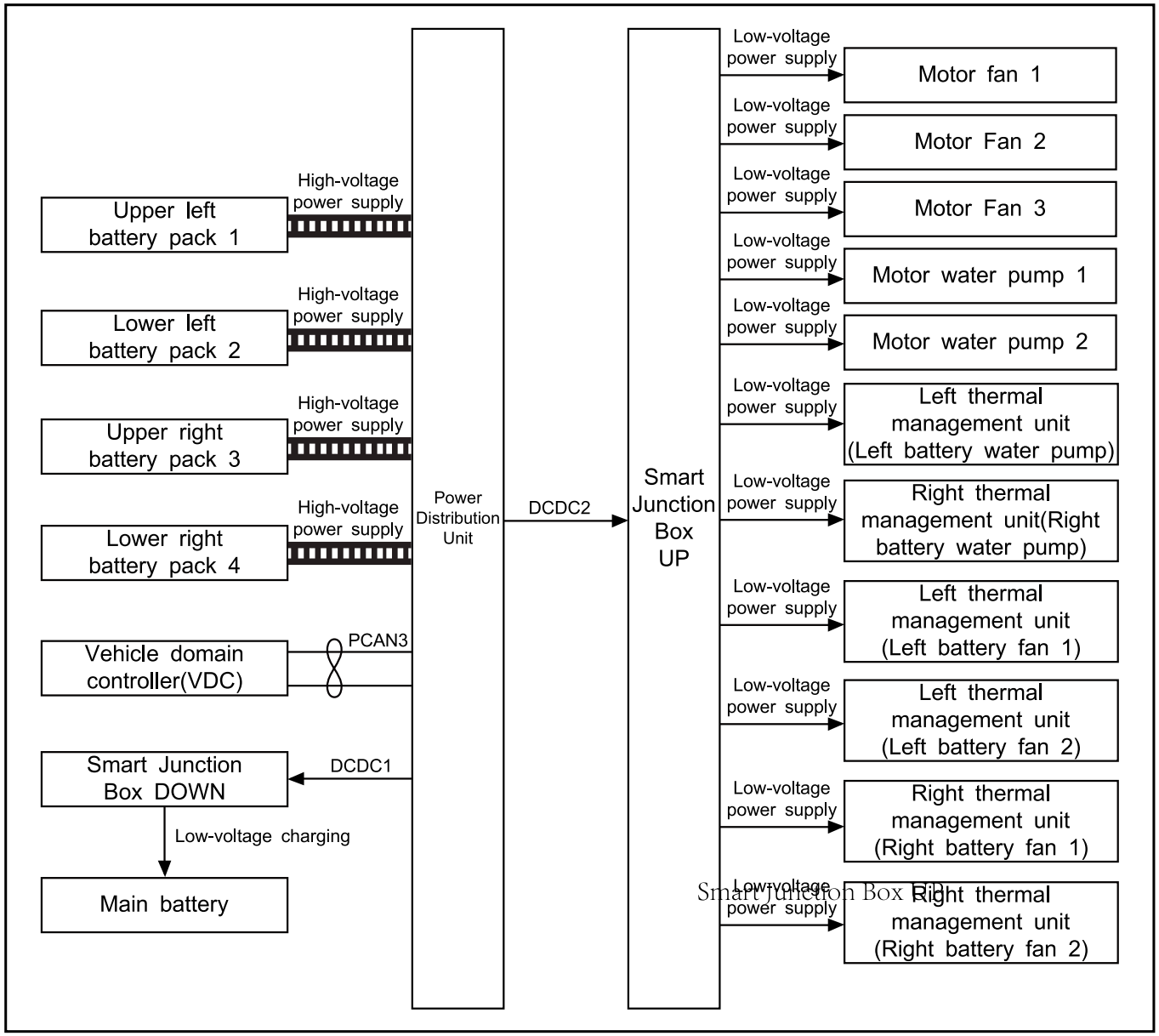
4.6.2.1 Decomposition Diagram



1. Hexagon Flange Nut
2. Hexagon Flange Bolt
3. Hexagon Flange Bolt
4. Auxiliary Drive All-in-One Assy

4.6.3 System Schematic Diagram

4.6.3.1 Electrical Schematic Diagram



Smart Junction Box FIL

4.6.4 Diagnostic Information and Steps

4.6.4.1 Diagnosis Description

Before diagnosing faults in multi in one power distribution equipment, Understanding and familiarizing oneself with the working principle of multi in one power distribution equipment before starting system diagnosis can help determine the correct fault diagnosis steps in the event of a fault, and more importantly, it can help determine whether the situation described by the customer belongs to normal operation. Any fault diagnosis of multi in one power distribution equipment should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

4.6.4.2 Routine Inspection

- Check the after-sales installation devices that may affect the operation of the multi in one power distribution system to ensure that these devices do not affect the operation of the multi in one power distribution system.
- Inspect system components that are easily accessible or visible to make sure they are not visibly damaged or have conditions that could cause failure.

4.6.4.3 DTC Confirmation

1.Connect the diagnostic instrument to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Restart the vehicle.

3. Read the fault code of the control system again to confirm whether the system has a fault code output.

– Yes:Diagnose based on the output fault code.

– No:Perform intermittent fault checks, refer to Inspection Of Intermittent Fault

4.6.4.4 List Of Diagnostic Trouble Codes (DTCs)

DCDC1

Fault Code	Fault Description	Exclusion Method
P1D0C00	The auxiliary power supply overvoltage	Refer to DCDC1 Power Fault
P1D0D00	Secondary power supply undervoltage	
P1D0E00	Low pressure KL30	
P1D0F00	Low pressure KL30	
P1D0B00	Communication exception	Refer to DCDC1 Communication Fault
P1D0500	Hardware overvoltage	Refer to DCDC1 Internal Fault
P1D0600	Hardware overflows	
P1D0700	KB fault	
P1D0800	Threshold fault	
P1D0900	Short circuit protection	
P1D0A00	The DCDC is overheated	Refer to DCDC1 Overheating Fault
P1D0200	The DCDC output overvoltage	Refer to DCDC1 Low-voltage Charging System Fault
P1D0300	The DCDC output undervoltage	
P1D0400	The DCDC output overflows	
P1D0000	The input voltage of the DCDC is too high	Refer to DCDC1 High Voltage Circuit Fault
P1D0100	DCDC input undervoltage	

DCDC2

Fault Code	Fault Description	Exclusion Method
P1E0C00	The auxiliary power supply overvoltage	Refer to DCDC2 Power Fault
P1E0D00	Secondary power supply undervoltage	
P1E0E00	Low pressure KL30	
P1E0F00	Low pressure KL30	
P1E0B00	Communication exception	Refer to DCDC2 Communication Fault
P1E0500	Hardware overvoltage	Refer to Internal Fault Of DCDC2
P1E0600	Hardware overflows	
P1E0700	KB fault	
P1E0800	Threshold fault	
P1E0900	Short circuit protection	
P1E0A00	The DCDC is overheated	Refer to DCDC2 Overheating Fault
P1E0200	The DCDC output overvoltage	Refer to DCDC2 Low-voltage Power Supply Sstem Fault
P1E0300	The DCDC output undervoltage	
P1E0400	The DCDC output overflows	
P1E0000	The input voltage of the DCDC is too high	Refer to DCDC2 High Voltage Circuit Fault
P1E0100	DCDC input undervoltage	

PDU

Fault Code	Fault Description	Exclusion Method
P260700	KL30 voltage is too low when the main drive circuit is powered on	Refer to PDU Power Fault
P260811	The main contactor of the main drive circuit is closed abnormally	
P260F00	KL30 is too low when the auxiliary drive circuit is powered on	
P261011	Auxiliary drive circuit main contactor closing abnormal fault	
P261D00	Battery voltage is out of controller range fault	
P261F11	KL30 undervoltage fault	
P262011	KL30 overvoltage fault	
P262211	Intranet BusOff Fault	Refer to PDU Communication Fault
P262311	Intranet DCDC communication alarm	
P262411	Intranet TM1 communication alarm	
P262511	Intranet TM2 communication alarm	
P260000	Main contactor adhesion fault in main drive circuit	Refer to Internal Fault Of PDU
P260100	Reverse voltage difference fault when the main drive circuit is powered on	

Fault Code	Fault Description	Exclusion Method
P260200	Main drive circuit power-on pre-charge timeout fault	
P260300	The rear end of the main drive circuit is completely short-circuited.	
P260400	Incomplete short circuit fault at the rear end of the main drive circuit	
P260500	Incomplete short circuit fault at the rear secondary of the main drive circuit	
P260600	Main drive circuit with speed power-on fault	
P260900	Auxiliary drive circuit main contactor adhesion fault	
P260A00	Auxiliary drive circuit power-on reverse voltage difference fault	
P260B00	Auxiliary drive circuit power-on pre-charge timeout fault	
P260C00	The rear end of the auxiliary drive circuit is completely short-circuited	
P260D00	Incomplete short circuit fault at the rear end of the auxiliary drive circuit	
P260E00	Secondary incomplete short circuit fault at the rear end of the auxiliary drive circuit	
P261100	PTC1 contactor adhesion fault	
P261200	PTC2 contactor adhesion fault	
P261300	TOP1 contactor adhesion failure	
P261400	TOP2 contactor adhesion failure	
P261500	FAST1 contactor adhesion fault	
P261600	FAST2 contactor adhesion fault	
P261711	PTC1 closing abnormal fault	
P261811	PTC2 closing abnormal fault	
P261911	TOP1 closing abnormal fault	
P261A11	TOP2 closing abnormal fault	
P261B11	FAST1 closing abnormality fault	
P261C11	FAST2 closing abnormality fault	
P261E00	Main negative contactor disconnect/ battery feed	
P262100	Compilation failure	

APU

Fault Code	Fault Description	Exclusion Method
U015687	missing CDCU	Refer to APU Communication Fault
U019887	VCAN bus-off	
U012287	Lost Communication with VDC	
U008D88	PCAN3 BusOff	
P1C0000	EPS hardware overcurrent fault	Refer to APU Reports EHPS Related Fault
P1C0100	EPS drive upper axle failure	
P1C0200	EPS drive lower axle failure	
P1C0300	EPS drive undervoltage fault	
P1C0400	EPS hardware overvoltage fault	
P1C0500	EPS bus overvoltage fault	
P1C0600	EPS bus undervoltage fault	
P1C0700	EPS resolver failure	
P1C0800	EPS phase failure	
P1C0900	EPS AC zero drift is too large	
P1C0A00	EPS Hall disconnection	
P1C0B00	EPS three-phase current verification error	
P1C0C00	EPSKL30 low voltage power supply undervoltage	
P1C0D00	EPSKL30 low voltage power supply overvoltage	
P1C0E00	EPS module over temperature fault	
P1C0F00	EPS motor over temperature fault	
P1C1000	EPS motor overspeed failure	
P1C1100	EPS speed deviation is too large	
P1C1200	EPS active discharge timeout	
P1C1300	EPS parameter tuning failed	
P1C1410	EPS jam alarm	
P1C1510	EPS bus voltage overvoltage drop power	
P1C1610	EPS bus voltage undervoltage alarm	
P1C1710	EPS motor temperature sensor is disconnected	
P1C1810	EPS module over temperature alarm	
P1C1910	EPS motor over temperature alarm	
P1C1A10	EPS control overload alarm	
P1C1B10	EPS motor overload alarm	
P1C1C10	EPS motor overspeed alarm	

Fault Code	Fault Description	Exclusion Method
P1C1D11	EPS motor temperature sensor 1 is offline	
P1C1E11	EPS motor temperature sensor 2 is offline	
P1C1F11	EPSU phase current zero drift fault	
P1C2011	EPSV phase current zero drift fault	
P1C2111	EPSW phase current zero drift fault	
P1C2211	EPSU phase Hall wire disconnection	
P1C2311	EPSV phase Hall wire disconnection	
P1C2411	EPSW phase Hall disconnection	
P1C2500	EPSCompilation failure	
P1C2600	EPS EEPROM read and write failure	
P1C2700	ACM hardware overcurrent fault	Refer to APU Reports Air Compressor Related Fault
P1C2800	ACM driver upper axle failure	
P1C2900	ACM drive lower axle fault	
P1C2A00	ACM driver undervoltage fault	
P1C2B00	ACM hardware overvoltage fault	
P1C2C00	ACM bus overvoltage fault	
P1C2D00	ACM bus undervoltage fault	
P1C2E00	ACM resolver failure	
P1C2F00	ACM phase failure	
P1C3000	ACM AC zero drift is too large	
P1C3100	ACM Hall disconnection	
P1C3200	ACM three-phase current verification error	
P1C3300	ACM KL30 low voltage power supply undervoltage	
P1C3400	ACM KL30 Low Voltage Power Supply Overvoltage	
P1C3500	ACM module over temperature fault	
P1C3600	ACM motor over temperature fault	
P1C3700	ACM Motor Overspeed Fault	
P1C3800	ACM speed deviation too large	
P1C3900	ACM Active Discharge Timeout	
P1C3A00	ACM parameter tuning failed	
P1C3B10	ACM stall alarm	
P1C3C10	ACM bus voltage overvoltage drop power	
P1C3D10	ACM bus voltage undervoltage alarm	

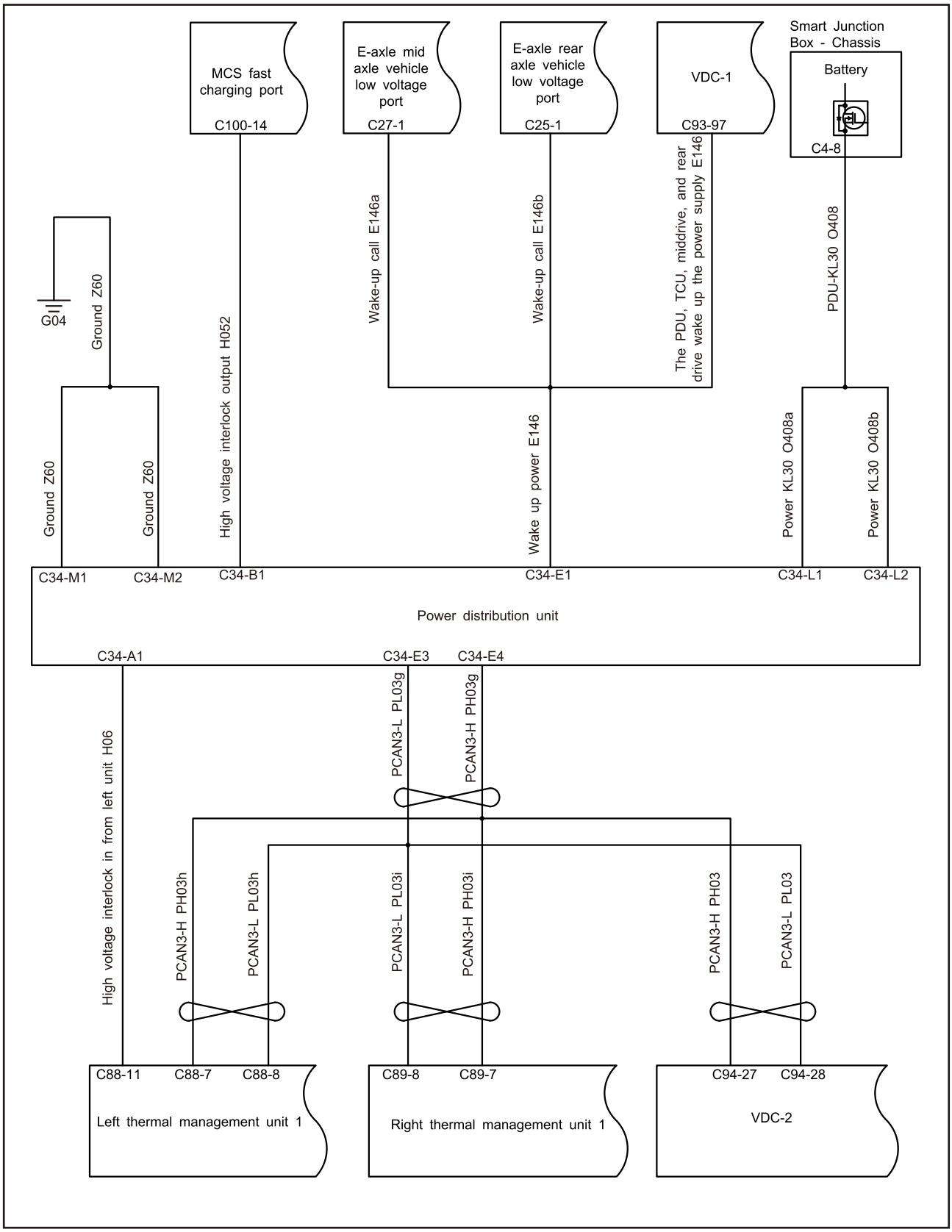
Fault Code	Fault Description	Exclusion Method
P1C3E10	ACM motor temperature sensor disconnected	
P1C3F10	ACM module over temperature alarm	
P1C4010	ACM motor over temperature alarm	
P1C4110	ACM control overload alarm	
P1C4210	ACM motor overload alarm	
P1C4310	ACM Motor Overspeed Alarm	
P1C4411	ACM motor temperature sensor 1 is offline	
P1C4511	ACM motor temperature sensor 2 is offline	
P1C4611	U phase current zero drift fault	
P1C4711	V phase current zero drift fault	
P1C4811	W phase current zero drift fault	
P1C4911	U phase Hall wire disconnection	
P1C4A11	V phase Hall wire disconnection	
P1C4B11	W phase Hall disconnection	
P1C4C00	Compilation failure	
P1C4D00	EEPROM read and write failure	

4.6.4.5 DCDC1 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1D0C00	The auxiliary power supply overvoltage	The auxiliary power supply voltage is greater than 13V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Power distribution unit
P1D0D00	Secondary power supply undervoltage	The auxiliary power supply voltage is less than 9V	
P1D0E00	Low pressure KL30	The KL30 voltage is greater than 37V	
P1D0F00	Low pressure KL30	The KL30 voltage is less than 9V	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power failure codes besides DCDC1?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the power distribution unit power supply and grounding harness.

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

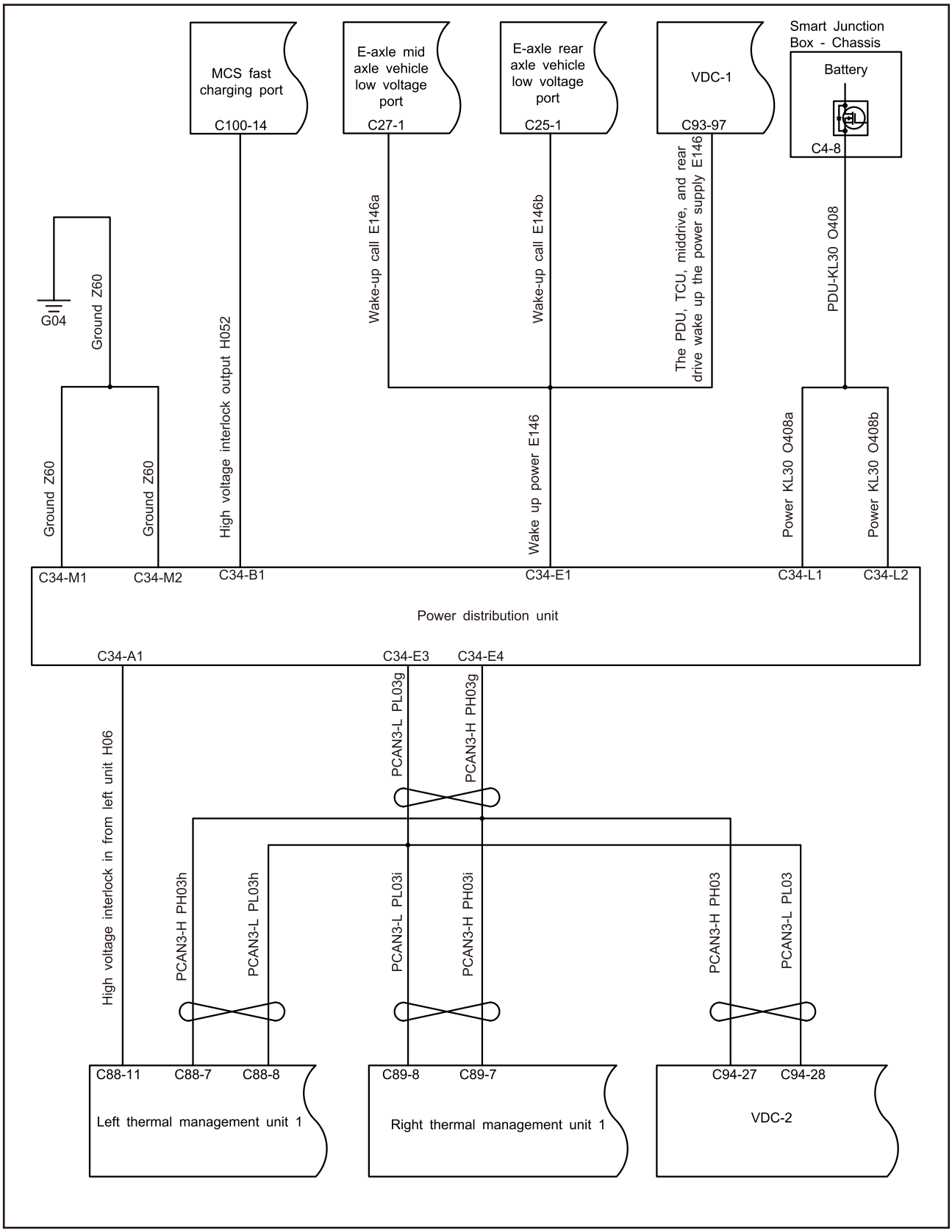
Step 7:Clear and confirm DTC.

4.6.4.6 DCDC1 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1D0B00	Communication exception	30s The correct packet frame was not received	1.Wiring harness 2. Power distribution unit

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN3 bus communication harness. Refer to Inspection of PCAN3 bus network integrity

Step 4:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 5:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 6:Clear and confirm DTC.

4.6.4.7 DCDC1 Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1D0500	Hardware overvoltage	Comparator equivalent voltage greater than 37V	1. Power distribution unit
P1D0600	Hardware overflows	Comparator equivalent current greater than 350A	
P1D0700	KB fault	The correct KB correction factor was not read	
P1D0800	Threshold fault	The correct fault threshold was not read. Procedure	
P1D0900	Short circuit protection	The output voltage is lower than 4V and the output current is greater than 180A	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the power distribution unit.

Step 4:Replace the power distribution unit. Refer to Replacement of Multi in One Power Distribution Assembly

Step 5:Clear and confirm DTC.

4.6.4.8 DCDC1 Overheating Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1D0A00	The DCDC is overheated	The primary temperature of DCDC is greater than 239℉. Or the secondary side temperature of DCDC is greater than 239℉; Or the ambient temperature is greater than 239℉	1. Power distribution unit

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any fault codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

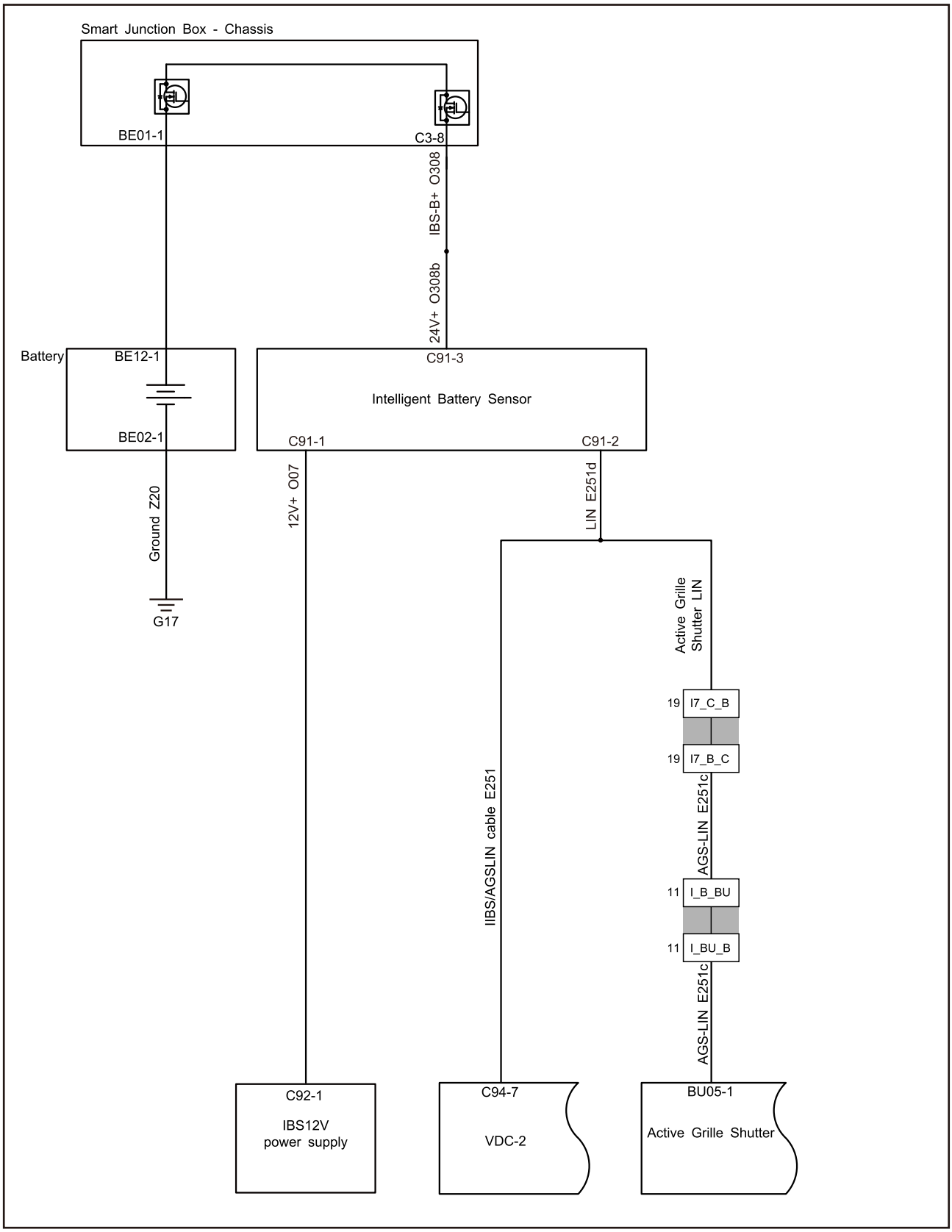
Step 7:Clear and confirm DTC.

4.6.4.9 DCDC1 Low-voltage Charging System Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1D0200	The DCDC output overvoltage	The output voltage is greater than 32V	1. Main battery 2. Wiring harness 3. Power distribution unit
P1D0300	The DCDC output undervoltage	The output voltage is lower than 18V	
P1D0400	The DCDC output overflows	The output current is greater than 200A	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the main battery. Refer to Inspection Of The Main Battery

Step 4:Check the low-voltage charging circuit of the power distribution unit (integrated DCDC).

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 7:Clear and confirm DTC.

4.6.4.10 DCDC1 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1D0000	The input voltage of the DCDC is too high	The input voltage is greater than 960V	1. High voltage wiring harness 2. Power distribution unit
P1D0100	DCDC input undervoltage	The input voltage is lower than 480V	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power distribution unit high-voltage harness.

Step 4:Check the internal insulation detection circuit of the power distribution unit.

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

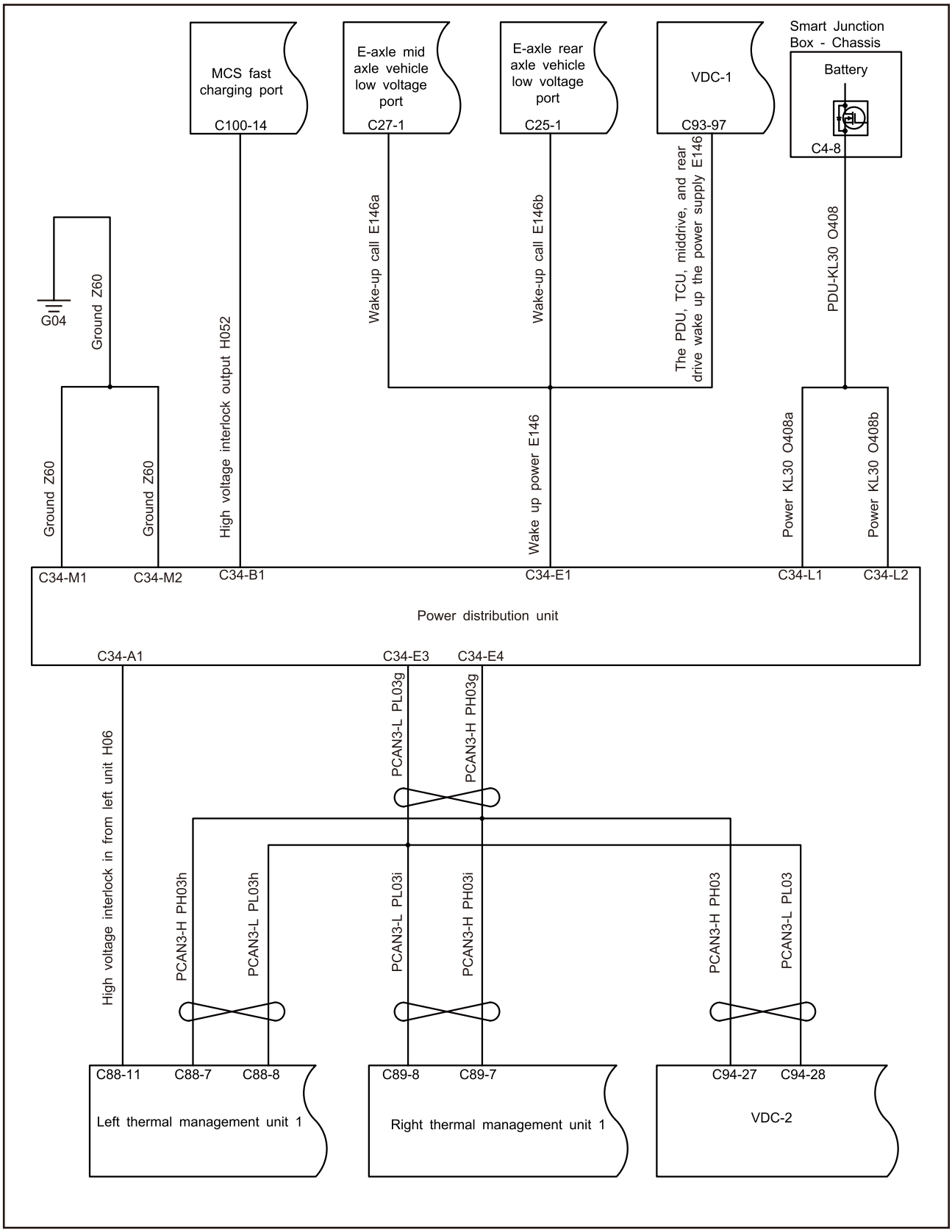
Step 7:Clear and confirm DTC.

4.6.4.11 DCDC2 Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1E0C00	The auxiliary power supply overvoltage	The auxiliary power supply voltage is greater than 13V	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Power distribution unit
P1E0D00	Secondary power supply undervoltage	The auxiliary power supply voltage is less than 9V	
P1E0E00	The KL30 is overpressurized	The KL30 voltage is greater than 37V	
P1E0F00	Low pressure KL30	The KL30 voltage is less than 9V	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides DCDC2?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the power distribution unit power supply and grounding harness.

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

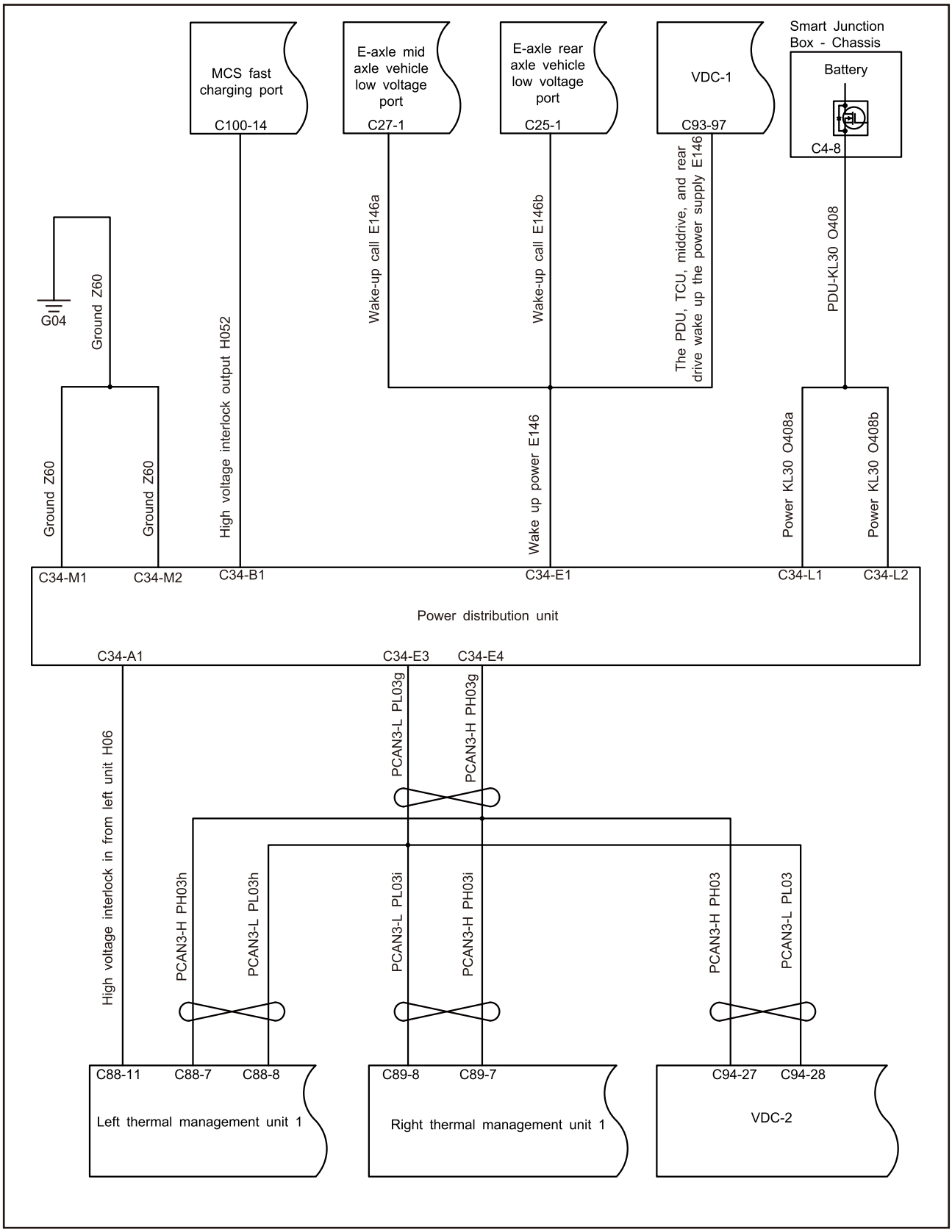
Step 7:Clear and confirm DTC.

4.6.4.12 DCDC2 Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1E0B00	Communication exception	30s The correct packet frame was not received	1.Wiring harness 2. Power distribution unit

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN3 bus communication harness. Refer to Inspection Of PCAN3 Bus Network Integrity

Step 4:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 5:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 6:Clear and confirm DTC.

4.6.4.13 Internal Fault Of DCDC2

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1E0500	Hardware overvoltage	Comparator equivalent voltage greater than 37V	1. Power distribution unit
P1E0600	Hardware overflows	Comparator equivalent current greater than 350A	
P1E0700	KB fault	The correct KB correction factor was not read	
P1E0800	Threshold fault	The correct fault threshold was not read. Procedure	
P1E0900	Short circuit protection	The output voltage is lower than 4V and the output current is greater than 180A	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the power distribution unit.

Step 4:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 5:Clear and confirm DTC.

4.6.4.14 DCDC2 Overheating Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1E0A00	The DCDC is overheated	The primary temperature of DCDC is greater than 239℉. Or the secondary side temperature of DCDC is greater than 239℉; Or the ambient temperature is greater than 239℉	1. Power distribution unit

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any malfunction codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

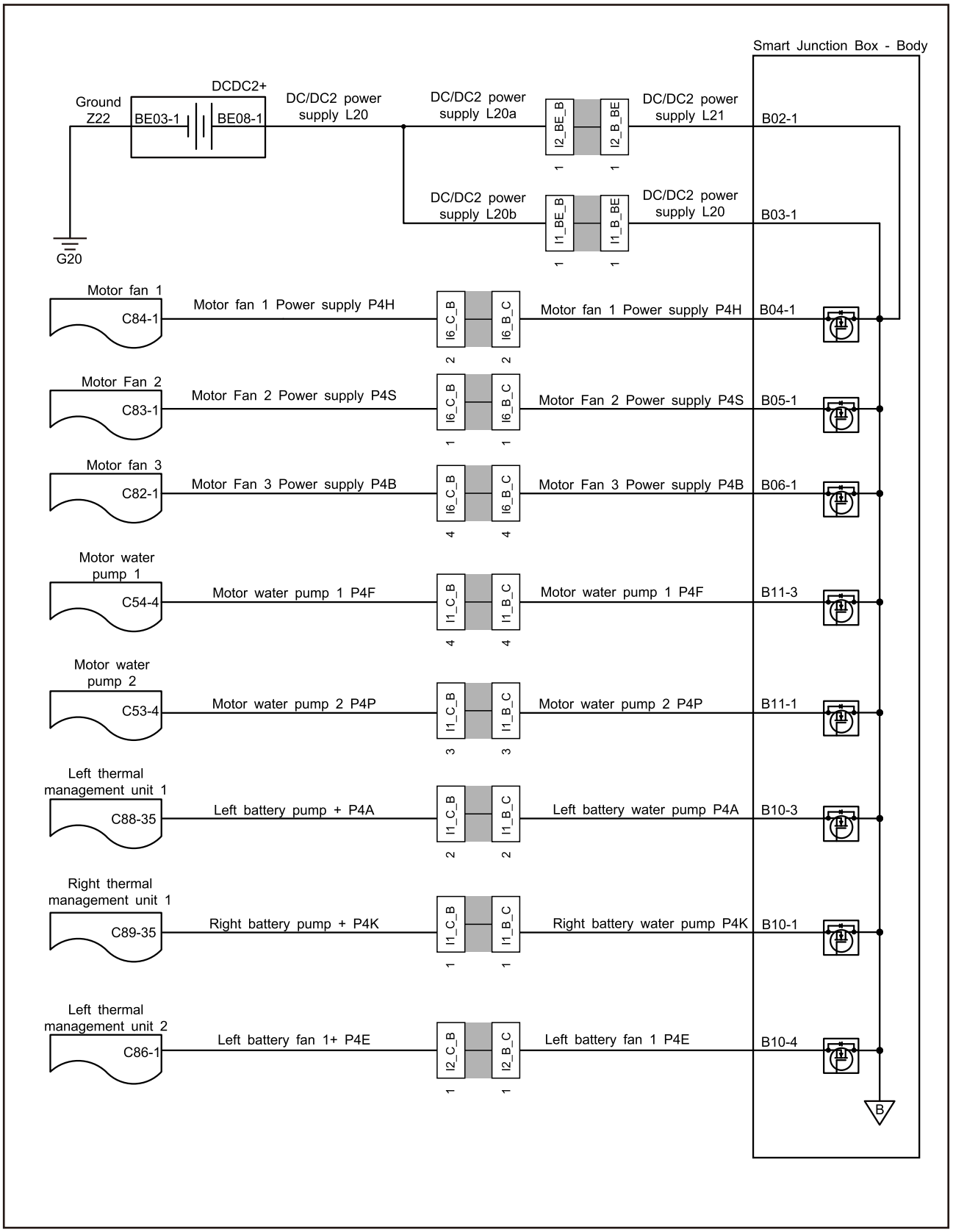
Step 7:Clear and confirm DTC.

4.6.4.15 DCDC2 Low-voltage Power Supply Sstem Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1E0200	The DCDC output overvoltage	The output voltage is greater than 32V	1.Wiring harness 2.Power distribution unit
P1E0300	The DCDC output undervoltage	The output voltage is lower than 18V	
P1E0400	The DCDC output overflows	The output current is greater than 200A	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the low-voltage power supply line of the thermal management unit of the power distribution unit (integrated DCDC).

Step 4:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 5:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 6:Clear and confirm DTC.

4.6.4.16 DCDC2 High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1E0000	The input voltage of the DCDC is too high	The input voltage is greater than 960V	1. High voltage wiring harness 2. Power distribution unit
P1E0100	DCDC input undervoltage	The input voltage is lower than 480V	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power distribution unit high-voltage harness.

Step 4:Check the internal insulation detection circuit of the power distribution unit.

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 7:Clear and confirm DTC.

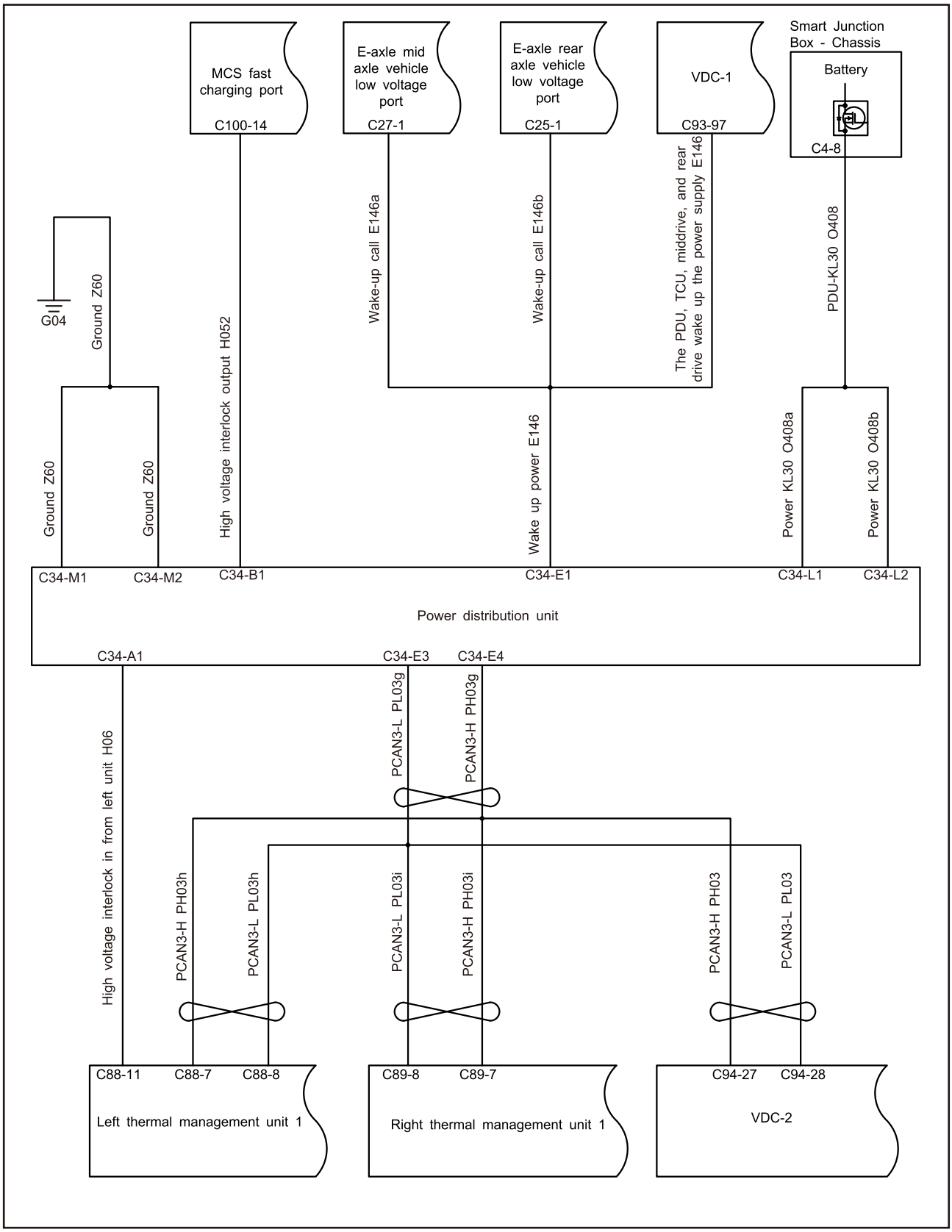
4.6.4.17 PDU Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P260700	KL30 voltage is too low when the main drive circuit is powered on	(1) The power-on state is ready to power on (state 1); (2) The power-on state is ready to close the main connection (state 3); (3) The KL30 voltage is less than the fault threshold (8.6V for 12V system and 15.7V for 24V system); Meet ((1) OR (2)) ADN (3)	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Power distribution unit
P260811	The main contactor of the main drive circuit is closed abnormally	(1) There is a closing command and the power-on is completed; (2) The absolute value of the voltage difference between the front-end voltage and the rear-end voltage exceeds 20V for 50ms continuously; (3) No loop intranet communication failure; (4) KL30 voltage is lower than the fault threshold (6V for 12V system, 12V for 24V system). Meet (1)AND(((2) AND (3)) OR (4))	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P260F00	KL30 is too low when the auxiliary drive circuit is powered on	(1) The power-on state is ready to power on (state 1); (2) The power-on state is ready to close the main connection (state 3); (3) The KL30 voltage is less than the fault threshold (8.6V for 12V system and 15.7V for 24V system); Meet ((1) OR (2)) ADN (3)	
P261011	Auxiliary drive circuit main contactor closing abnormal fault	(1) Main contactor closing command; (2) The absolute value of the voltage difference between the front-end voltage and the rear-end voltage exceeds 20V for 50ms continuously; (3) No loop intranet communication failure; (4) KL30 voltage is lower than the fault threshold (6V for 12V system, 12V for 24V system). Meet (1)AND(((2) AND (3))OR(4))	
P261D00	Battery voltage is out of controller range fault	(1) The power-on status of the main circuit is ready for power-on; (2) The power-on status of the auxiliary circuit is ready for power-on; (3) The power-on status of the upper circuit is ready for power-on; (4) The power-on status of the BMS circuit is the main connection closed state; (5) After the high-voltage power-on is successful, the front-end voltage is less than the battery voltage lower limit - 10V and greater than the battery voltage upper limit + 10V.. (6) When the high-voltage power-on is unsuccessful, the front-end voltage is less than the battery voltage lower limit. Meet ((1)OR(2)OR(3)OR(4))AND((5)OR(6))	
P261F11	KL30 undervoltage fault	(1) 24V control power supply:Voltage below 18V; 2) 12V control power supply:hardware trigger voltage is lower than 8.6V	
P262011	KL30 overvoltage fault	(1) 24V control power supply:voltage higher than 32V; (2) 12V control power supply:voltage higher than 18V; Meet (1) OR (2)	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides PDU?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the power distribution unit power supply and grounding harness.

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

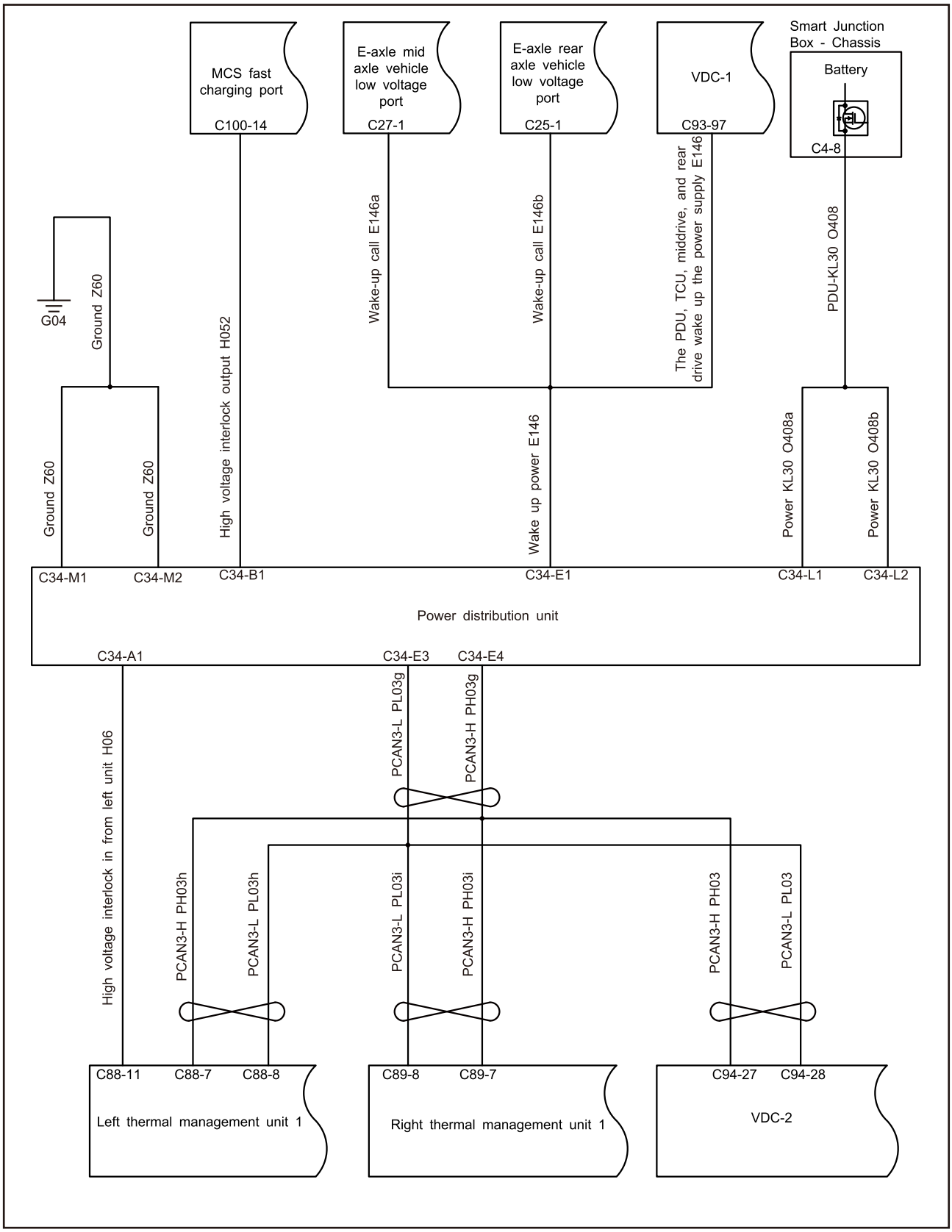
Step 7:Clear and confirm DTC.

4.6.4.18 PDU Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P262211	Intranet BusOff Fault	(1) CanA control register Boff bit is 1 (Can high and low are short-circuited)	1.Wiring harness 2.Power distribution unit
P262311	Intranet DCDC communication alarm	(1) The intranet is interrupted from receiving DCDC messages, which lasts for 3 seconds.	
P262411	Intranet TM1 communication alarm	(1) The intranet is interrupted from receiving TM1 messages, which lasts for 3 seconds.	
P262511	Intranet TM2 communication alarm	(1) The intranet is interrupted from receiving TM2 messages, which lasts for 3 seconds.	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN3 bus communication harness. Refer to Inspection Of PCAN3 Bus Network Integrity

Step 4:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 5:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 6:Clear and confirm DTC.

4.6.4.19 Internal Fault Of PDU

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P260000	Main contactor adhesion fault in main drive circuit	Sticky detection command: (1) Sticky detection enable is turned on; (2) There is no internal network fault in the main circuit; (3) There is no adhesion fault in the contactor; (4) The loop state machine is in the state of preparing for pre-charging power-on or preparing for controlling power-down. If the above conditions are met, adhesion detection is performed.	1. Power distribution unit
P260100	Reverse voltage difference fault when the main drive circuit is powered on	(1) The power-on state is ready to power on; (2) The power-on state is ready to power on; Meet (1) AND (2)	
P260200	Main drive circuit power-on pre-charge timeout fault	(1)The power-on state is slow charging state (state 2). And the heartbeat update of the main drive circuit intranet is normal during fault judgment; (2) The voltage difference between the front and rear ends of the main connection is not less than 15V for 100ms continuously; (3) The front-end voltage is not greater than the undervoltage point for 100ms continuously; Meet (1) AND ((2) OR (3))	
P260300	The rear end of the main drive circuit is completely short-circuited.	(1) The detection enable is turned on and the power-on state is slow charging state 2; (2) The heartbeat of the main circuit intranet communication message is normal; (3) The slow-charging contactor is closed for a period of time (depending on the voltage, the time varies); (4) The voltage at the rear end of the slow-charging contactor is still lower than a certain value (50V); Meet (1) AND (2) AND (3) AND (4)	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P260400	Incomplete short circuit fault at the rear end of the main drive circuit	(1) The detection enable is turned on and the power-on state is slow charging state 2; (2) The heartbeat of the main circuit intranet communication message is normal; (3) The slow-charging contactor is closed for a period of time (350ms); (4) The voltage at the rear end of the slow-charging contactor is still lower than a certain value (41% of the front-end voltage); Meet (1) AND (2) AND (3) AND (4)	
P260500	Incomplete short circuit fault at the rear secondary of the main drive circuit	(1) The detection enable is turned on and the power-on state is slow charging state 2; (2) The heartbeat of the main circuit intranet communication message is normal; (3) The slow-charging contactor is closed for a period of time (800ms); (4) The voltage at the rear end of the slow-charging contactor is still lower than a certain value (81% of the front end voltage); Meet (1) AND (2) AND (3) AND (4)	
P260600	Main drive circuit with speed power-on fault	(1) There is a power-on command; (2) The power-on status is powering on; (3)Not one-button power-on andNon-panel control (4) TM speed greater than 500rpm Meet (1) AND (2) AND (3) AND(4)	
P260900	Auxiliary drive circuit main contactor adhesion fault	Sticky detection command: (1) Sticky detection enable is turned on; (2) There is no internal network fault in the main circuit; (3) There is no adhesion fault in the contactor; (4) The loop state machine is in the state of preparing for pre-charging power-on or preparing for controlling power-down. If the above conditions are met, adhesion detection is performed.	
P260A00	Auxiliary drive circuit power-on reverse voltage difference fault	(1) The power-on state is ready to power on (state 1); (2) The power-on state is ready to power on; (3) The voltage at the front end of the contactor is greater than the undervoltage point; Meet (1) AND (2) AND (3)	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P260B00	Auxiliary drive circuit power-on pre-charge timeout fault	(1) The power-on state is slow charging (state 2); (2) The voltage difference between the front and rear ends of the main connection is not less than 15V for 100ms continuously; (3) The front-end voltage is not greater than the undervoltage point for 100ms continuously; Meet (1) AND ((2) OR (3))	
P260C00	The rear end of the auxiliary drive circuit is completely short-circuited	(1) The detection enable is turned on and the power-on state is slow charging state 2; (2) The heartbeat of the main circuit intranet communication message is normal; (3) The slow-charging contactor is closed for a period of time (depending on the voltage, the time varies); (4) The voltage at the rear end of the slow-charging contactor is still lower than a certain value (50V); Meet (1) AND (2) AND (3) AND (4)	
P260D00	Incomplete short circuit fault at the rear end of the auxiliary drive circuit	(1) The detection enable is turned on and the power-on state is slow charging state 2; (2) The heartbeat of the main circuit intranet communication message is normal; (3) The slow-charging contactor is closed for a period of time (300ms); (4) The voltage at the rear end of the slow-charging contactor is still lower than a certain value (41% of the front-end voltage); Meet (1) AND (2) AND (3) AND (4)	
P260E00	Secondary incomplete short circuit fault at the rear end of the auxiliary drive circuit	(1) The detection enable is turned on and the power-on state is slow charging state 2; (2) The heartbeat of the main circuit intranet communication message is normal; (3) The slow-charging contactor is closed for a period of time (750ms); (4) The voltage at the rear end of the slow-charging contactor is still lower than a certain value (81% of the front end voltage); Meet (1) AND (2) AND (3) AND (4)	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P261100	PTC1 contactor adhesion fault	Sticky detection command: (1) Adhesion detection is enabled; (2) The state of the state machine of the circuit where the contactor is located is:power-on completed; (3) There is no adhesion fault in the contactor; (4) Once the circuit is powered on, a sticking test is performed; If the above conditions are met, adhesion detection is performed.	
P261200	PTC2 contactor adhesion fault	Sticky detection command: (1) Adhesion detection is enabled; (2) The state of the state machine of the circuit where the contactor is located is:power-on completed; (3) There is no adhesion fault in the contactor; (4) Once the circuit is powered on, a sticking test is performed; If the above conditions are met, adhesion detection is performed.	
P261300	TOP1 contactor adhesion failure	Sticky detection command: (1) Adhesion detection is enabled; (2) The state of the state machine of the circuit where the contactor is located is:power-on completed; (3) There is no adhesion fault in the contactor; (4) Once the circuit is powered on, a sticking test is performed; If the above conditions are met, adhesion detection is performed.	
P261400	TOP2 contactor adhesion failure	Sticky detection command: (1) Adhesion detection is enabled; (2) The state of the state machine of the circuit where the contactor is located is:power-on completed; (3) There is no adhesion fault in the contactor; (4) Once the circuit is powered on, a sticking test is performed; If the above conditions are met, adhesion detection is performed.	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P261500	FAST1 contactor adhesion fault	Sticky detection command: (1) Adhesion detection is enabled; (2) The state of the state machine of the circuit where the contactor is located is:power-on completed; (3) There is no adhesion fault in the contactor; (4) Once the circuit is powered on, a sticking test is performed; If the above conditions are met, adhesion detection is performed.	
P261600	FAST2 contactor adhesion fault	Sticky detection command: (1) Adhesion detection is enabled; (2) The state of the state machine of the circuit where the contactor is located is:power-on completed; (3) There is no adhesion fault in the contactor; (4) Once the circuit is powered on, a sticking test is performed; If the above conditions are met, adhesion detection is performed.	
P261711	PTC1 closing abnormal fault	(1) Contactor closing command; (2) The absolute value of the voltage difference between the front-end voltage and the rear-end voltage exceeds 20V for 50ms continuously; (3) No loop intranet communication failure; (4) KL30 voltage is lower than the fault threshold (6V for 12V system, 12V for 24V system). Meet (1)AND(((2) AND (3)) OR (4))	
P261811	PTC2 closing abnormal fault	(1) Contactor closing command; (2) The absolute value of the voltage difference between the front-end voltage and the rear-end voltage exceeds 20V for 50ms continuously; (3) No loop intranet communication failure; (4) KL30 voltage is lower than the fault threshold (6V for 12V system, 12V for 24V system). Meet (1)AND(((2) AND (3)) OR (4))	
P261911	TOP1 closing abnormal fault	(1) Contactor closing command; (2) The absolute value of the voltage difference between the front-end voltage and the rear-end voltage exceeds 20V for 50ms continuously; (3) No loop intranet communication failure; (4) KL30 voltage is lower than the fault threshold (6V for 12V system, 12V for 24V system). Meet (1)AND(((2) AND (3)) OR (4))	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P261A11	TOP2 closing abnormal fault	(1) Contactor closing command; (2) The absolute value of the voltage difference between the front-end voltage and the rear-end voltage exceeds 20V for 50ms continuously; (3) No loop intranet communication failure; (4) KL30 voltage is lower than the fault threshold (6V for 12V system, 12V for 24V system). Meet (1)AND(((2) AND (3)) OR (4))	
P261B11	FAST1 closing abnormality fault	(1) Contactor closing command; (2) The absolute value of the voltage difference between the front-end voltage and the rear-end voltage exceeds 20V for 50ms continuously; (3) No loop intranet communication failure; (4) KL30 voltage is lower than the fault threshold (6V for 12V system, 12V for 24V system). Meet (1)AND(((2) AND (3)) OR (4))	
P261C11	FAST2 closing abnormality fault	(1) Contactor closing command; (2) The absolute value of the voltage difference between the front-end voltage and the rear-end voltage exceeds 20V for 50ms continuously; (3) No loop intranet communication failure; (4) KL30 voltage is lower than the fault threshold (6V for 12V system, 12V for 24V system). Meet (1)AND(((2) AND (3)) OR (4))	
P261E00	Main negative contactor disconnect/ battery feed	(1) Any circuit of the main, auxiliary, upper and air conditioner is powered on; (2) The front-end voltage is 20V lower than the undervoltage point for 200ms. Meet (1)AND(2)	
P262100	Compilation failure	The length of the function code structure is inconsistent with the defined length	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the power distribution unit.

Step 4:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

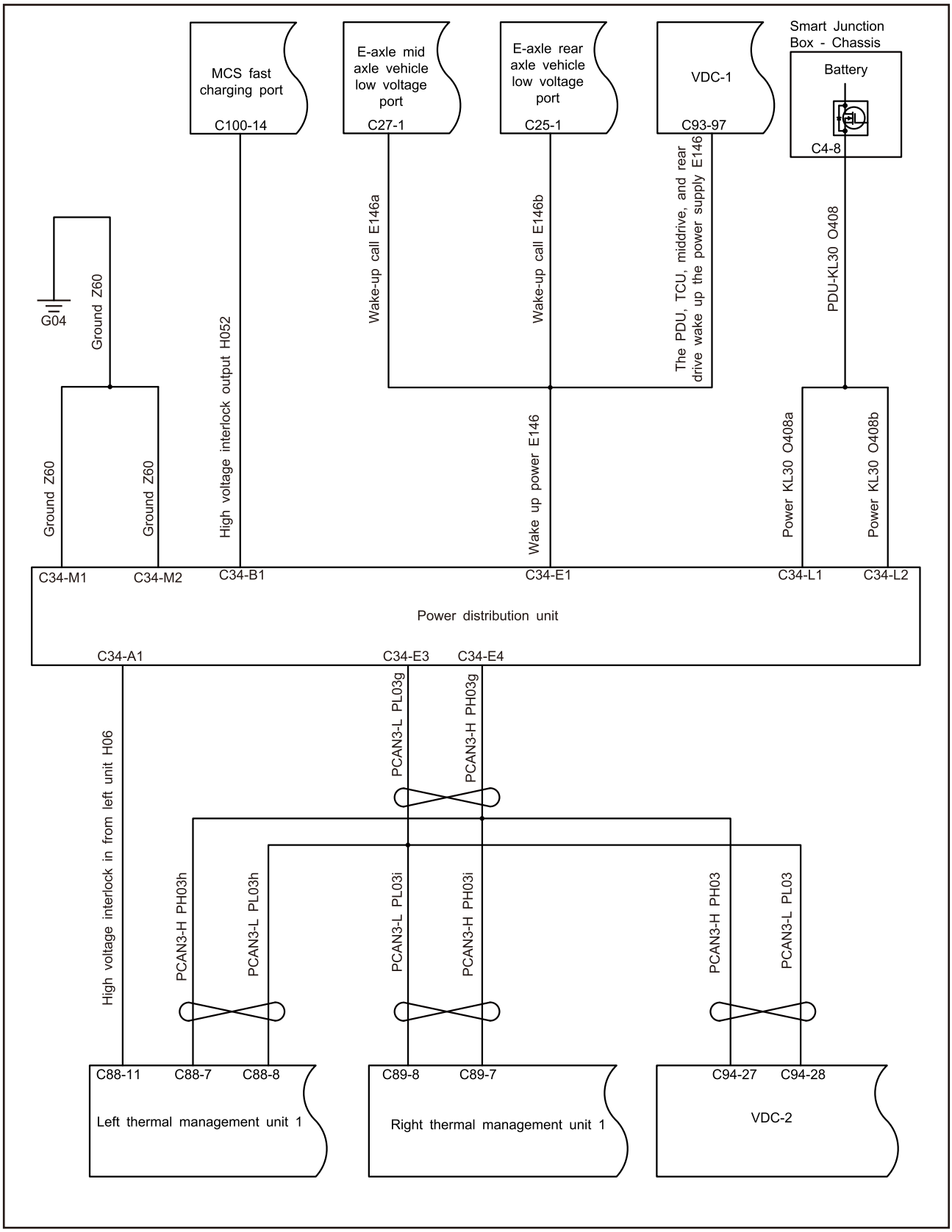
Step 5:Clear and confirm DTC.

4.6.4.20 APU Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U015687	Lost Communications with CDCU	1) In communication control mode; 2) No CDCU message with ID 0x18FEC1EE is received; 3) Lasts for 5 seconds;	1.Wiring harness 2.Power distribution unit
U019887	VCAN bus-off	1) In communication control mode; 2) No T-BOX message with ID 0x18FEE6EE is received; 3) Lasts for 5 seconds;	
U012287	Lost Communication with VDC	1) In communication control mode; 2) Failure to receive the VDC message with ID 0x18017827; 3) Lasts for 5 seconds;	
U008D88	PCAN3 BusOff	(1) Can control register Boff bit is 1 (Can high and low are short-circuited)	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN3 bus communication harness. Refer to Inspection Of PCAN3 Bus Network Integrity

Step 4:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 5:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 6:Clear and confirm DTC.

4.6.4.21 APU Reports EHPS Related Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C0000	EPS hardware overcurrent fault	Output current exceeds the hardware overcurrent trigger point:88A;	1.Wiring harness 2.EHPS 3.Power distribution unit
P1C0100	EPS drive upper axle failure	The hardware driver upper axle Fault signal trigger is effective;	
P1C0200	EPS drive lower axle failure	The hardware-driven axle Fault signal trigger is effective;	
P1C0300	EPS drive undervoltage fault	The hardware driver undervoltage Fault signal trigger is valid;	
P1C0400	EPS hardware overvoltage fault	The bus voltage exceeds the hardware overvoltage trigger point:800V;	
P1C0500	EPS bus overvoltage fault	1) Bus voltage > bus overvoltage fault trigger point:750V (F10-00 setting)	
P1C0600	EPS bus undervoltage fault	1) Bus voltage < bus undervoltage fault trigger point:350V (set in F10-01) for 1s; 2) Or, bus voltage < (bus undervoltage fault trigger point - 100V) 3) And, the run command is valid;	
P1C0700	EPS resolver failure	Within 100ms, when measuring angle, DOS and LOT are both low level and reach 60%	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C0800	EPS phase failure	Phase loss during operation:If any of the conditions 1 or 2 is met, the operating condition 1 is reported: 1) Output phase loss detection during operation is enabled (F10-17) 2) Operating frequency>0.8Hz; 3) The controller is in operation; 4) The three-phase maximum current effective value/ minimum current effective value ≥11, and the three-phase maximum current effective value>12.2% base current; 5) Condition 4) is judged once every 5 switching cycles, and it is met for 5 consecutive times, and a phase loss fault is reported. Operating condition 2: 1) The output AC voltage is greater than the rated voltage & the output AC current effective value is less than 1/40 base current, 2) The operating frequency of the synchronous motor type is less than 1/4 of the rated frequency of the motor, and there is no frequency requirement for the asynchronous motor; 3) If 1) and 2 are met at the same time, the fault counter is +1, otherwise -1; if the fault counter is ≥10, a phase loss fault is reported. Power-on phase loss detection:Meet all the following conditions for 4ms 1) The controller is powered on at low voltage for the first time; 2) When the tube is turned on for the first time, UV, VW, and WU three-phase pulses are sent respectively for phase sequence phase loss detection. PS:Base current = Min (0.5 times the maximum current of the motor, 0.25 times the maximum current of the controller)	
P1C0900	EPS AC zero drift is too large	200ms after power-on: 1) The controller is in shutdown state, and the back electromotive force amplitude is less than 0.85 times the bus voltage; 2) The three-phase current is sampled 50 times (2ms/ time) continuously, and the average value is calculated, which is greater than 15.6% of the AD full-scale current value; 3) If condition 2 is met for 3 consecutive tests, a zero	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
		drift fault is reported;	
P1C0A00	EPS Hall disconnection	1) The input voltage of the Hall AD port is greater than 3.1V; 2) The cumulative time exceeds 1s;	
P1C0B00	EPS three-phase current verification error	1) The sum of the three-phase sampled current exceeds the threshold (determined by hardware)	
P1C0C00	EPSKL30 low voltage power supply undervoltage	1) Battery voltage ≤ undervoltage point (12V) and lasts for 100ms	
P1C0D00	EPSKL30 low voltage power supply overvoltage	Battery voltage ≥ overvoltage point (36V)	
P1C0E00	EPS module over temperature fault	The maximum module temperature is ≥ the module over-temperature fault trigger point:85°C (F10-02) and lasts for 20ms	
P1C0F00	EPS motor over temperature fault	1) Motor temperature ≥ motor overtemperature fault trigger point:150℃ (F10-07), and lasts for 500ms; 2) And, motor overtemperature detection is enabled (F10-06);	
P1C1000	EPS motor overspeed failure	1) In the running state; 2) The motor speed exceeds 3500rpm (F10-12); 3) Lasts for 100ms; 4) Overspeed fault detection is enabled (F10-10)	
P1C1100	EPS speed deviation is too large	1) Speed control mode and in operation; 2) The deviation between the current motor speed frequency and the target speed frequency is greater than the speed deviation detection threshold (F10-15); ; 3) The deviation lasts for more than 3 seconds; 4) The speed deviation detection is enabled (F10-14)	
P1C1200	EPS active discharge timeout	1) Active discharge duration is greater than 3s and voltage is greater than 36V 2) Or, motor speed exceeds 15rpm	
P1C1300	EPS parameter tuning failed	(1) Tuning timeout:stator resistance tuning 20s, magnetic pole position tuning 4s, resolver zero position 80s, back EMF tuning 80s; (2) Or, the resolver pole pair number does not match the motor pole pair number;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C1410	EPS jam alarm	1) In the running state; 2) Frequency < 1Hz 3) Current exceeds 1.5 times the rated value; 4) The above three conditions are met at the same time and maintained for 10s;	
P1C1510	EPS bus voltage overvoltage drop power	1) When the bus voltage is ≥ the bus overvoltage point -20V, the power will be reduced; 2) When the bus voltage is greater than the bus overvoltage, the power will be reduced to 0;	
P1C1610	EPS bus voltage undervoltage alarm	1) When the bus voltage is less than or equal to the bus undervoltage point +20V, the power will be reduced; 2) When the bus voltage is less than the bus undervoltage point, the power will be reduced to 0;	
P1C1710	EPS motor temperature sensor is disconnected	All the set motor temperature sensors are offline	
P1C1810	EPS module over temperature alarm	1) Module temperature ≥ module over-temperature reset point:80℃ (F10-03), start to reduce power; 2) Module temperature > module over-temperature point 85℃ (F10-02), power is reduced to 0; 3) And, controller over-temperature power reduction is enabled, F10-04;	
P1C1910	EPS motor over temperature alarm	1) When the motor temperature is ≥ the motor overtemperature reset point:140°C (F10-08), the power starts to be reduced; 2) When the motor temperature is greater than the motor overtemperature point 150°C (F10-07), the power is reduced to 0; 3) And, the controller overtemperature power reduction is enabled, F10-09;	
P1C1A10	EPS control overload alarm	1) When the output current exceeds 1.2 times the rated current of the inverter, it is judged as overload; 2) The overload time is obtained by looking up the table according to different current coefficients;	
P1C1B10	EPS motor overload alarm	1) When the output current exceeds 1.2 times the rated current of the motor, it is judged as overloaded; 2) The overload time is obtained by looking up the table according to different current coefficients;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C1C10	EPS motor overspeed alarm	1) In the running state; 2) When the motor speed exceeds the overspeed power reduction threshold (F10-13), the power reduction starts; 3) When the motor speed exceeds the overspeed detection threshold of 10000rpm (F10-12), the power is reduced to 0; 4) When the motor overspeed power reduction is enabled, F10-11	
P1C1D11	EPS motor temperature sensor 1 is offline	1) The temperature sampling value voltage is greater than the offline detection threshold voltage:PT1000 voltage threshold:3.25V PT100 voltage threshold:3.25V NTC voltage threshold: 3.15V 2) And, it lasts for 100ms;	
P1C1E11	EPS motor temperature sensor 2 is offline	1) The temperature sampling value voltage is greater than the offline detection threshold voltage:PT1000 voltage threshold:3.25V PT100 voltage threshold:3.25V NTC voltage threshold: 3.15VV 2) And, it lasts for 100ms;	
P1C1F11	EPSU phase current zero drift fault	1) The controller is in shutdown state and not in uncontrolled rectification state; 2) Continuously sample the U-phase current 32 times (2ms/time), calculate the average value, which is greater than 8.6% of the Hall maximum current value; 3) If condition 2 is met for 5 consecutive tests, a zero drift fault is reported;	
P1C2011	EPSV phase current zero drift fault	1) The controller is in shutdown state and not in uncontrolled rectification state; 2) Continuously sample the U-phase current 32 times (2ms/time), calculate the average value, which is greater than 8.6% of the Hall maximum current value; 3) If condition 2 is met for 5 consecutive tests, a zero drift fault is reported;	
P1C2111	EPSW phase current zero drift fault	1) The controller is in shutdown state and not in uncontrolled rectification state; 2) Continuously sample the W phase current 32 times (2ms/time), calculate the average value, which is greater than 8.6% of the Hall maximum current value; 3) If condition 2 is met for 5 consecutive tests, a zero drift fault is reported;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C2211	EPSU phase Hall wire disconnection	1) The input voltage of the Hall AD port is greater than 3.1V; 2) The cumulative time exceeds 1s;	
P1C2311	EPSV phase Hall wire disconnection	1) The input voltage of the Hall AD port is greater than 3.1V; 2) The cumulative time exceeds 1s;	
P1C2411	EPSW phase Hall disconnection	1) The input voltage of the Hall AD port is greater than 3.1V; 2) The cumulative time exceeds 1s;	
P1C2500	EPSCompilation failure	The length of the function code structure is inconsistent with the defined length	
P1C2600	EPS EEPROM read and write failure	EEPROM read and Disconnection and interruption events occur during parameter reading and writingfailure	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any malfunction codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Check the high-voltage harness of the battery pack.

Step 6:Check the internal insulation detection circuit of the battery pack.

Step 7:Check the EHPS three-phase input harness.

Step 8:Rewrite the configuration code, reload the software, and upgrade the EHPS.

Step 9:Replace the EHPS. Refer to Replacement Of Integrated EHPS Assembly

Step 10:Rewrite the configuration code, reload the software, and upgrade the power distribution unit.

Step 11:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 12:Clear and confirm DTC.

4.6.4.22 APU Reports Air Compressor Related Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C2700	ACM hardware overcurrent fault	Output current exceeds the hardware overcurrent trigger point:88A;	1.Wiring harness 2. Air compressor 3. Power distribution unit
P1C2800	ACM driver upper axle failure	The hardware driver upper axle Fault signal trigger is effective;	
P1C2900	ACM drive lower axle fault	The hardware-driven axle Fault signal trigger is effective;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C2A00	ACM driver undervoltage fault	The hardware driver undervoltage Fault signal trigger is valid;	
P1C2B00	ACM hardware overvoltage fault	The bus voltage exceeds the hardware overvoltage trigger point:800V;	
P1C2C00	ACM bus overvoltage fault	1) Bus voltage > bus overvoltage fault trigger point:750V (F10-00 setting)	
P1C2D00	ACM bus undervoltage fault	1) Bus voltage < bus undervoltage fault trigger point:350V (set in F10-01) for 1s; 2) Or, bus voltage < (bus undervoltage fault trigger point - 100V) 3) And, the run command is valid;	
P1C2E00	ACM resolver failure	Within 100ms, when measuring angle, DOS and LOT are both low level and reach 60%	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C2F00	ACM phase failure	Phase loss during operation:If any of the conditions 1 or 2 is met, the operating condition 1 is reported: 1) Output phase loss detection during operation is enabled (F10-17) 2) Operating frequency>0.8Hz; 3) The controller is in operation; 4) The three-phase maximum current effective value/ minimum current effective value ≥11, and the three-phase maximum current effective value>12.2% base current; 5) Condition 4) is judged once every 5 switching cycles, and it is met for 5 consecutive times, and a phase loss fault is reported. Operating condition 2: 1) The output AC voltage is greater than the rated voltage & the output AC current effective value is less than 1/40 base current, 2) The operating frequency of the synchronous motor type is less than 1/4 of the rated frequency of the motor, and there is no frequency requirement for the asynchronous motor; 3) If 1) and 2 are met at the same time, the fault counter is +1, otherwise -1; if the fault counter is ≥10, a phase loss fault is reported. Meet all the following conditions for 4ms 1) The controller is powered on at low voltage for the first time; 2) When the tube is turned on for the first time, UV, VW, and WU three-phase pulses are sent respectively for phase sequence phase loss detection. PS: Base current = Min (0.5 times the maximum current of the motor, 0.25 times the maximum current of the controller)	
P1C3000	ACM AC zero drift is too large	200ms after power-on: 1) The controller is in shutdown state, and the back electromotive force amplitude is less than 0.85 times the bus voltage; 2) The three-phase current is sampled 50 times (2ms/ time) continuously, and the average value is calculated, which is greater than 15.6% of the AD full-scale current value; 3) If condition 2 is met for 3 consecutive tests, a zero	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
		drift fault is reported;	
P1C3100	ACM Hall disconnection	1) The input voltage of the Hall AD port is greater than 3.1V; 2) The cumulative time exceeds 1s;	
P1C3200	ACM three-phase current verification error	1) The sum of the three-phase sampled current exceeds the threshold (determined by hardware)	
P1C3300	ACM KL30 low voltage power supply undervoltage	1) Battery voltage ≤ undervoltage point (12V) and lasts for 100mss	
P1C3400	ACM KL30 Low Voltage Power Supply Overvoltage	Battery voltage ≥ overvoltage point (36V)	
P1C3500	ACM module over temperature fault	The maximum module temperature is ≥ the module over-temperature fault trigger point:85°C (F10-02) and lasts for 20ms	
P1C3600	ACM motor over temperature fault	1) Motor temperature ≥ motor overtemperature fault trigger point:150℃ (F10-07), and lasts for 500ms; 2) And, motor overtemperature detection is enabled (F10-06);	
P1C3700	ACM Motor Overspeed Fault	1) In the running state; 2) The motor speed exceeds 3500rpm (F10-12); 3) Lasts for 100ms; 4) Overspeed fault detection is enabled (F10-10)	
P1C3800	ACM speed deviation too large	1) Speed control mode and in operation; 2) The deviation between the current motor speed frequency and the target speed frequency is greater than the speed deviation detection threshold (F10-15); 3) The deviation lasts for more than 3 seconds; 4) The speed deviation detection is enabled (F10-14)	
P1C3900	ACM Active Discharge Timeout	1) Active discharge duration is greater than 3s and voltage is greater than 36V 2) Or, motor speed exceeds 15rpm	
P1C3A00	ACM parameter tuning failed	(1) Tuning timeout:stator resistance tuning 20s, magnetic pole position tuning 4s, resolver zero position 80s, back EMF tuning 80s; (2) Or, the resolver pole pair number does not match the motor pole pair number;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C3B10	ACM stall alarm	1) In the running state; 2) Frequency < 1Hz 3) Current exceeds 1.5 times the rated value; 4) The above three conditions are met at the same time and maintained for 10s;	
P1C3C10	ACM bus voltage overvoltage drop power	1) When the bus voltage is ≥ the bus overvoltage point -20V, the power will be reduced; 2) When the bus voltage is greater than the bus overvoltage, the power will be reduced to 0;	
P1C3D10	ACM bus voltage undervoltage alarm	1) When the bus voltage is less than or equal to the bus undervoltage point +20V, the power will be reduced; 2) When the bus voltage is less than the bus undervoltage point, the power will be reduced to 0;	
P1C3E10	ACM motor temperature sensor disconnected	All the set motor temperature sensors are offline	
P1C3F10	ACM module over temperature alarm	1) Module temperature ≥ module over-temperature reset point:80℃ (F10-03), start to reduce power; 2) Module temperature > module over-temperature point 85℃ (F10-02), power is reduced to 0; 3) And, controller over-temperature power reduction is enabled, F10-04;	
P1C4010	ACM motor over temperature alarm	1) When the motor temperature is ≥ the motor overtemperature reset point:140°C (F10-08), the power starts to be reduced; 2) When the motor temperature is greater than the motor overtemperature point 150°C (F10-07), the power is reduced to 0; 3) And, the controller overtemperature power reduction is enabled, F10-09;	
P1C4110	ACM control overload alarm	1) When the output current exceeds 1.2 times the rated current of the inverter, it is judged as overload; 2) The overload time is obtained by looking up the table according to different current coefficients;	
P1C4210	ACM motor overload alarm	1) When the output current exceeds 1.2 times the rated current of the motor, it is judged as overloaded; 2) The overload time is obtained by looking up the table according to different current coefficients;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C4310	ACM Motor Overspeed Alarm	1) In the running state; 2) When the motor speed exceeds the overspeed power reduction threshold (F10-13), the power reduction starts; ; 3) When the motor speed exceeds the overspeed detection threshold of 10000rpm (F10-12), the power is reduced to 0; 4) When the motor overspeed power reduction is enabled, F10-11	
P1C4411	ACM motor temperature sensor 1 is offline	1) The temperature sampling value voltage is greater than the offline detection threshold voltage:PT1000 voltage threshold:3.25V PT100 voltage threshold:3.25V NTC voltage threshold: 3.15V 2) And, it lasts for 100ms;	
P1C4511	ACM motor temperature sensor 2 is offline	1) The temperature sampling value voltage is greater than the offline detection threshold voltage:PT1000 voltage threshold:3.25V PT100 voltage threshold:3.25V NTC voltage threshold: 3.15V 2) And, it lasts for 100ms;	
P1C4611	U phase current zero drift fault	1) The controller is in shutdown state and not in uncontrolled rectification state; 2) Continuously sample the U-phase current 32 times (2ms/time), calculate the average value, which is greater than 8.6% of the Hall maximum current value; 3) If condition 2 is met for 5 consecutive tests, a zero drift fault is reported;	
P1C4711	V phase current zero drift fault	1) The controller is in shutdown state and not in uncontrolled rectification state; 2) Continuously sample the U-phase current 32 times (2ms/time), calculate the average value, which is greater than 8.6% of the Hall maximum current value; 3) If condition 2 is met for 5 consecutive tests, a zero drift fault is reported;	
P1C4811	W phase current zero drift fault	1) The controller is in shutdown state and not in uncontrolled rectification state; 2) Continuously sample the W phase current 32 times (2ms/time), calculate the average value, which is greater than 8.6% of the Hall maximum current value; 3) If condition 2 is met for 5 consecutive tests, a zero drift fault is reported;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P1C4911	U phase Hall wire disconnection	1) The input voltage of the Hall AD port is greater than 3.1V; 2) The cumulative time exceeds 1s;	
P1C4A11	V phase Hall wire disconnection	1) The input voltage of the Hall AD port is greater than 3.1V; 2) The cumulative time exceeds 1s;	
P1C4B11	W phase Hall disconnection	1) The input voltage of the Hall AD port is greater than 3.1V; 2) The cumulative time exceeds 1s;	
P1C4C00	Compilation failure	The length of the function code structure is inconsistent with the defined length	
P1C4D00	EEPROM read and write failure	EEPROM read and Disconnection and interruption events occur during parameter reading and writingfailure	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any malfunction codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Check the high-voltage harness of the battery pack.

Step 6:Check the internal insulation detection circuit of the battery pack.

Step 7:Check the three-phase wiring harness of the air compressor.

Step 8:Replace the air compressor. Refer to Replacement Of Air Compressor Assembly

Step 9:Rewrite the configuration code, reload the software, and upgrade the power distribution unit.

Step 10:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 11:Clear and confirm DTC.

4.6.5 Dismantling and Installation

4.6.5.1 Replacement of the All-in-one Power Distribution Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

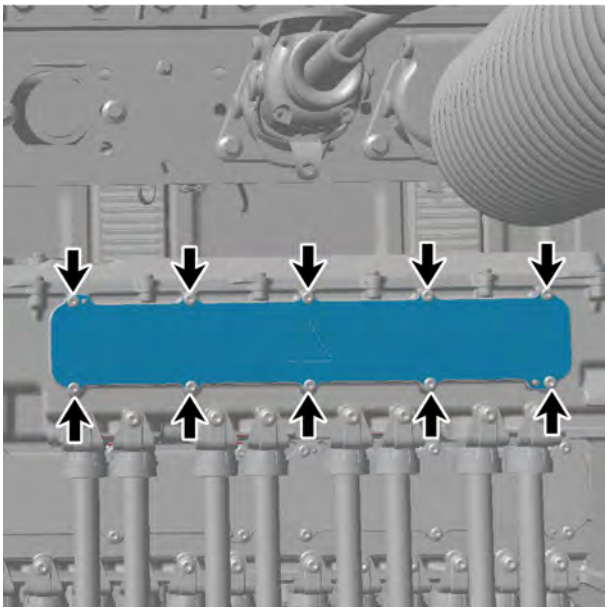
5 Drain coolant from the power system.

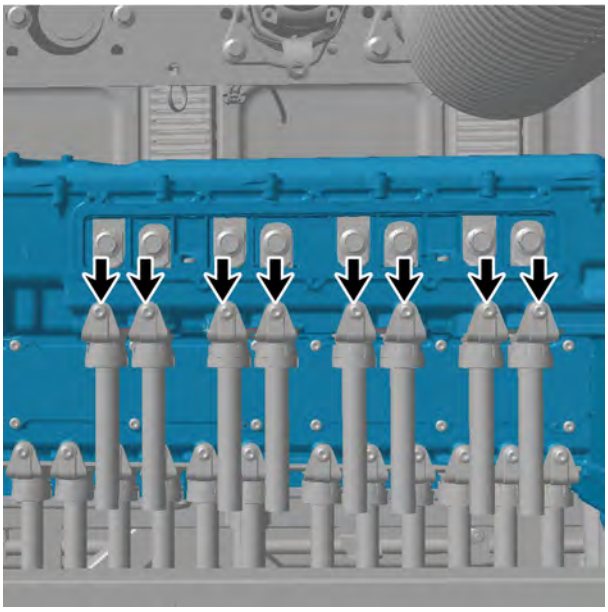
6 Remove the back integrated bracket side cover plate assembly (left).

7 Remove the back integrated bracket side cover plate assembly (right).

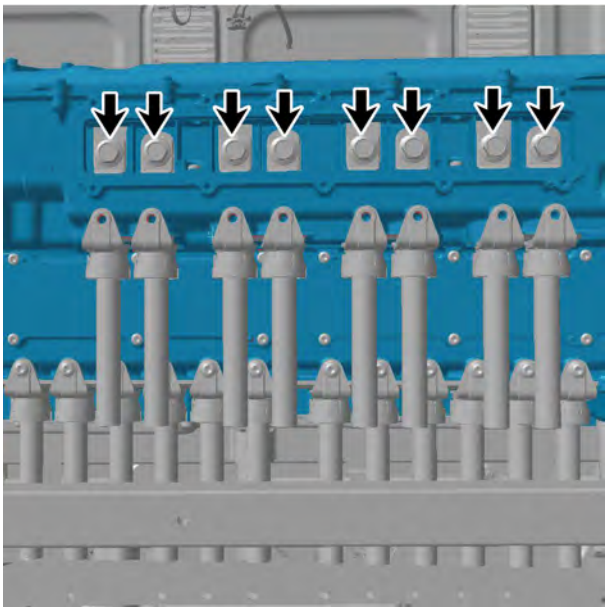
8 Remove the back integrated bracket middle cover plate assembly.

9 Remove the 10 fixing screws of the cover plate and detach the cover plate.

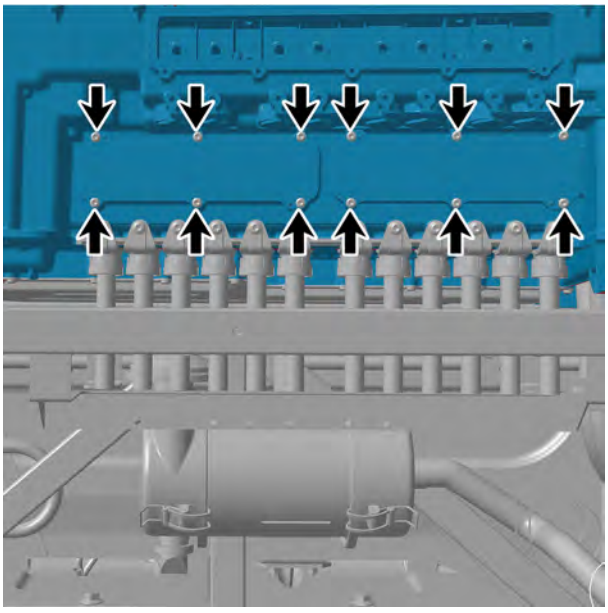




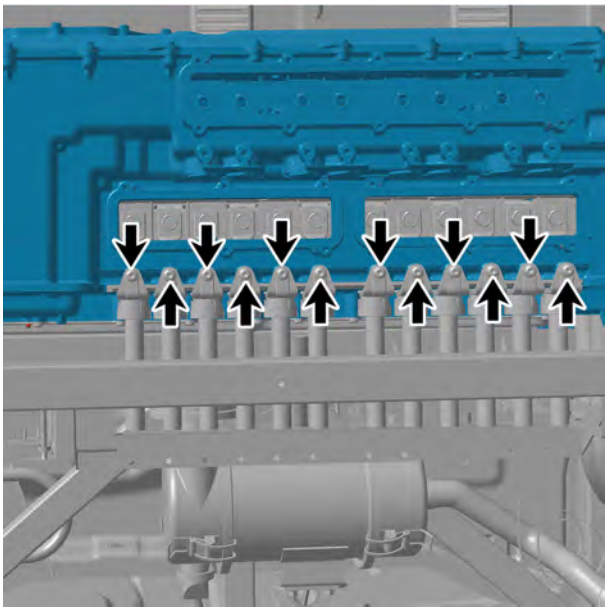
10 Remove the 8 fixing screws of the harness.



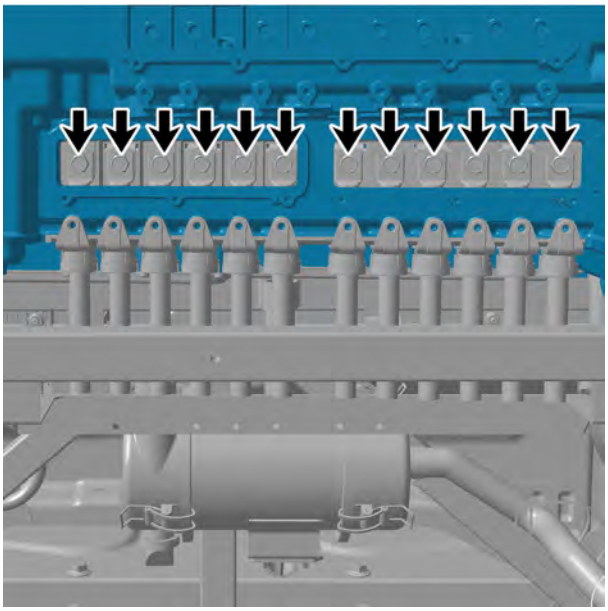
11 Remove the 8 fixing bolts of the harness.



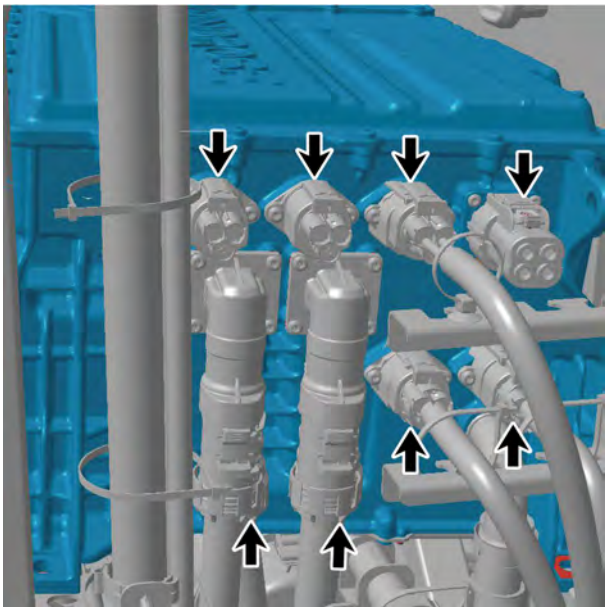
12 Remove the 12 fixing screws of the cover plate and detach the 2 cover plates.



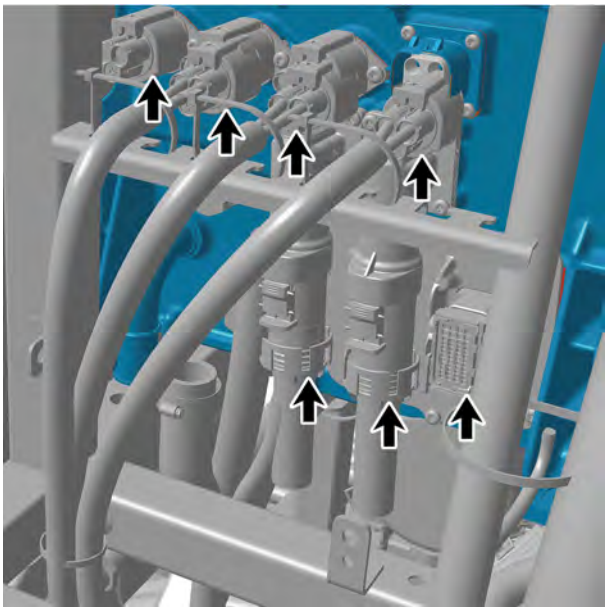
13 Remove the 12 fixing screws of the harness.

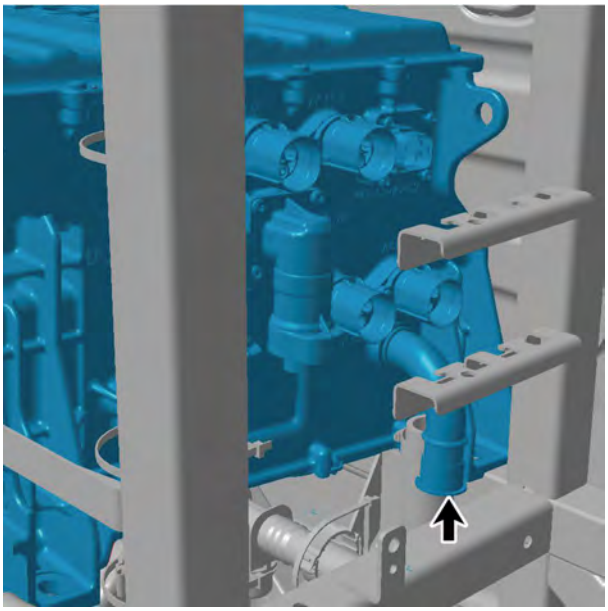


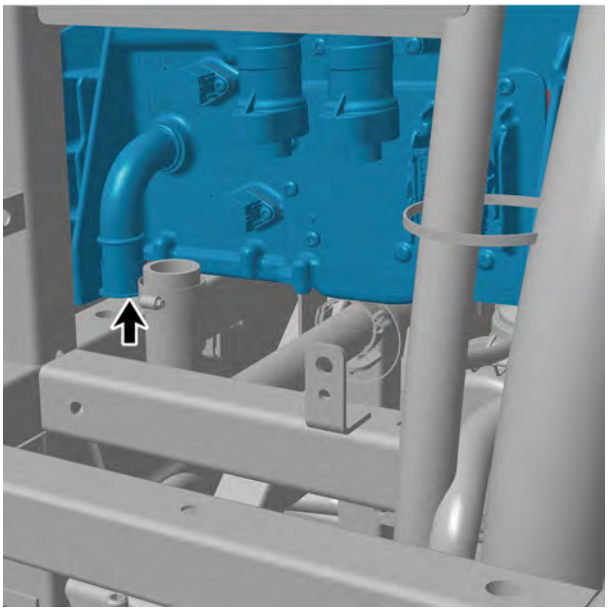
14 Remove the 12 fixing bolts of the harness.



15 Disconnect the 15 harness connectors of the all-in-one power distribution assembly.



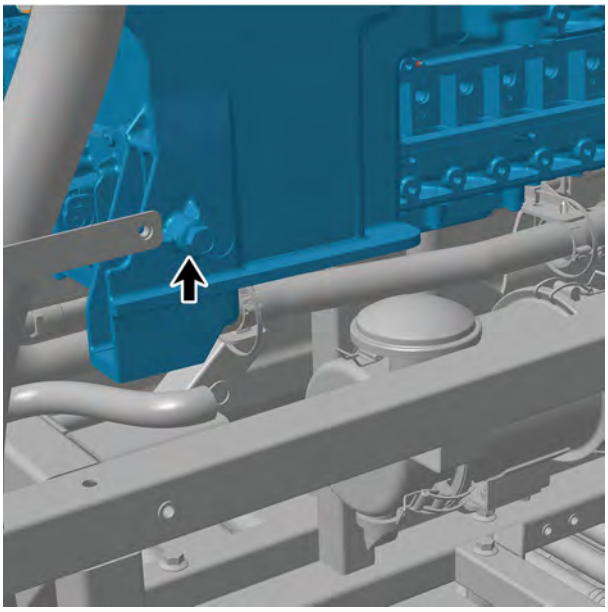




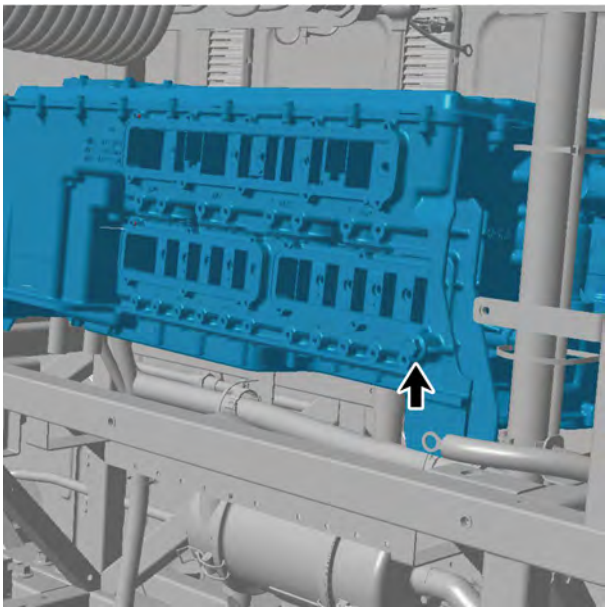
16 Disconnect the 2 water pipes.

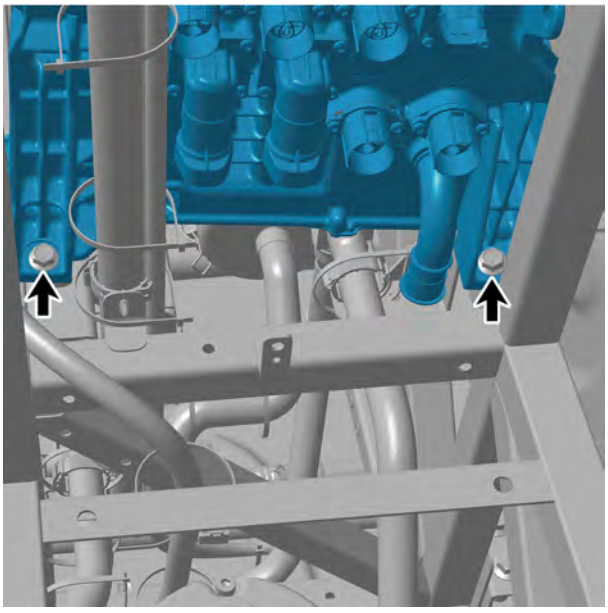
caution

Use a clean container to receive the discharged coolant.

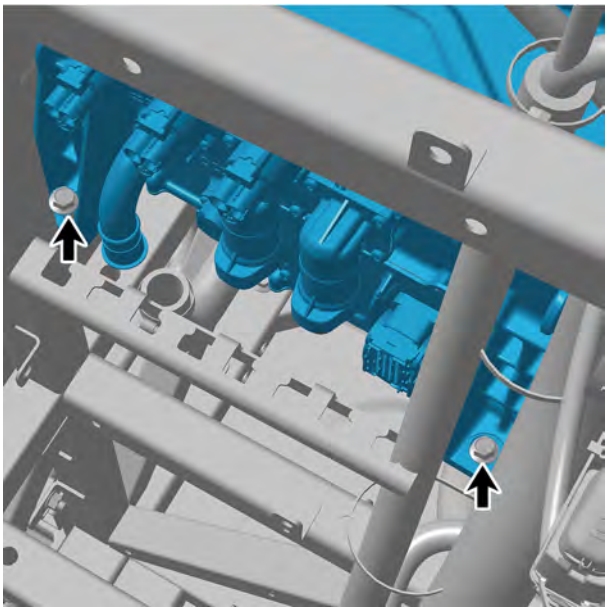


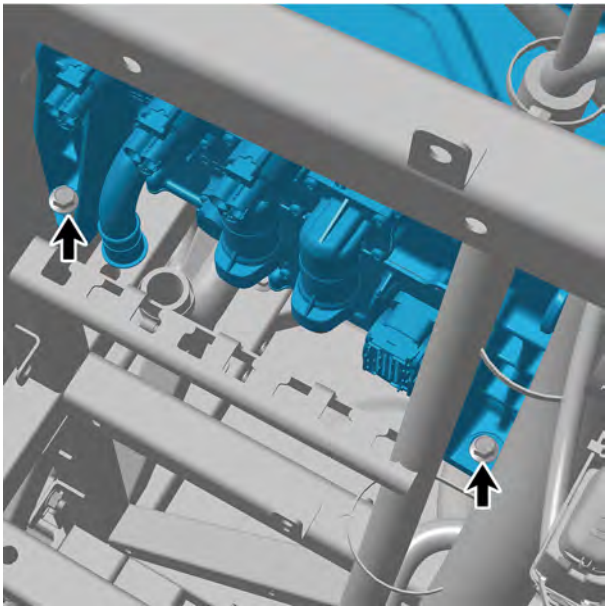
17 Remove 2 fixing bolt of the ground harness.





18 Remove the 4 fixing bolts of the all-in-one power distribution assembly and detach the all-in-one power distribution assembly.



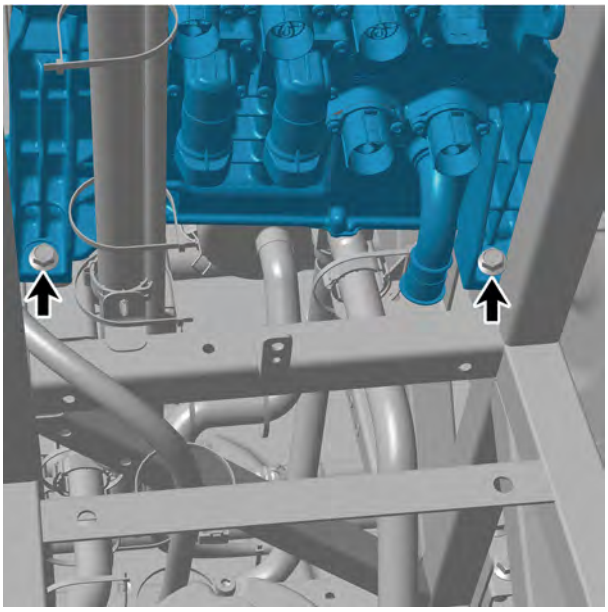


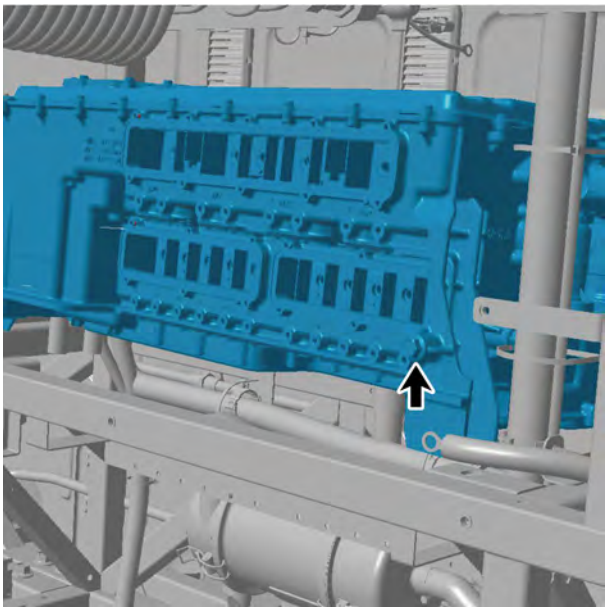
Installation Procedures

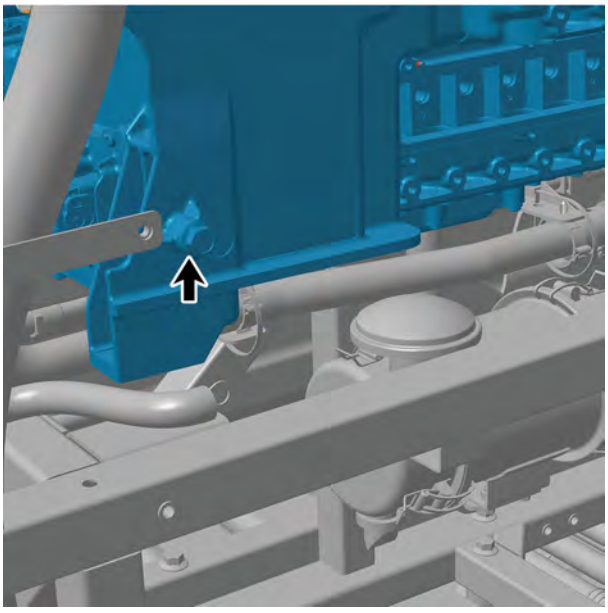
1 Move the all-in-one power distribution assembly to the installation location.

2 Install the 4 fixing bolts of the all-in-one power distribution assembly.

Torque:62 ft-lb +/- 6 ft-lb

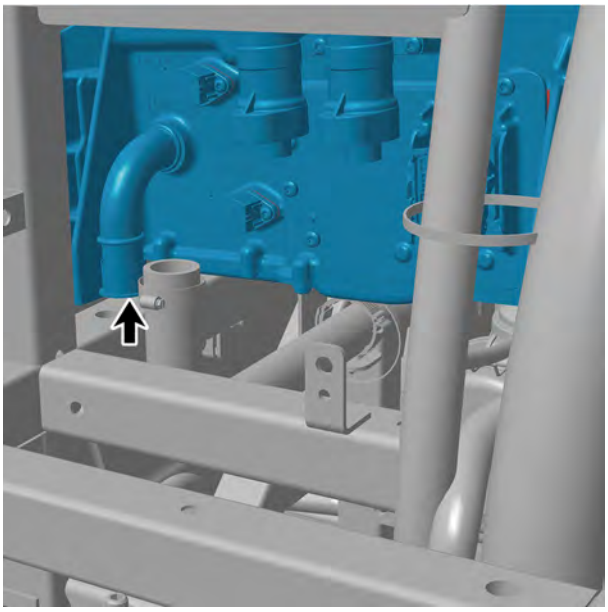


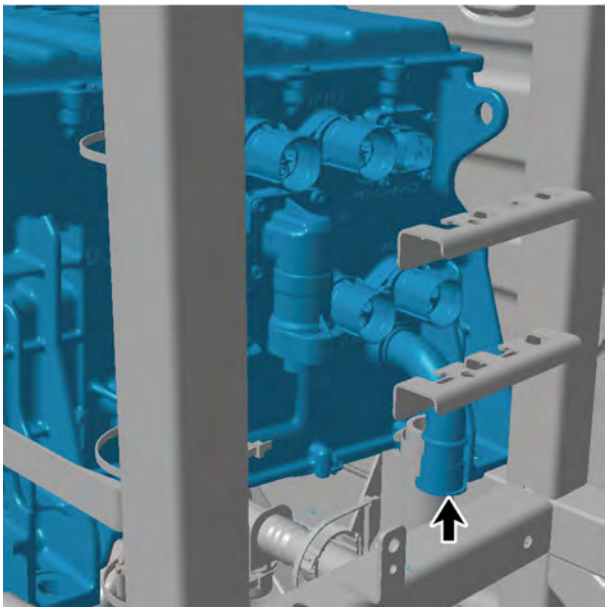




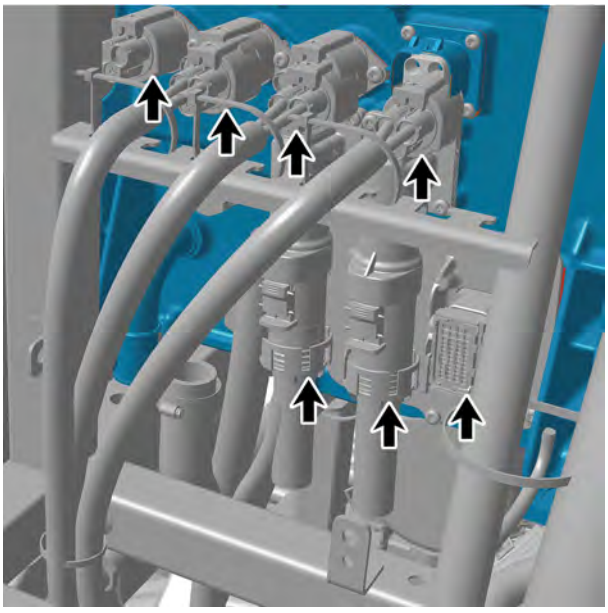
3 Install 2 fixing bolt of the ground harness.

Torque:(18 ft-lb +/- 2ft-lb) ft-lb





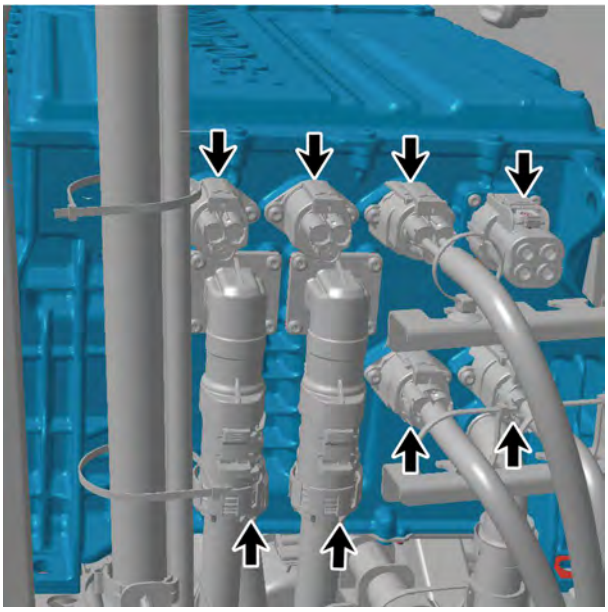
4 Connect the 2 water pipes.

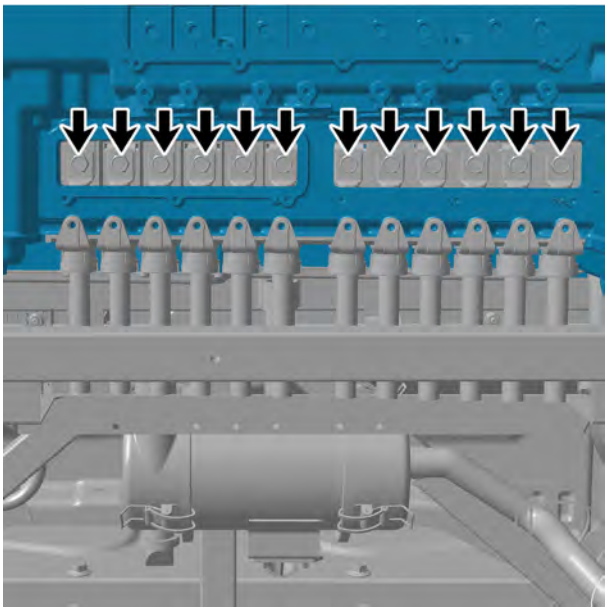


5 Connect the 15 harness connectors of the all-in-one power distribution assembly.

caution

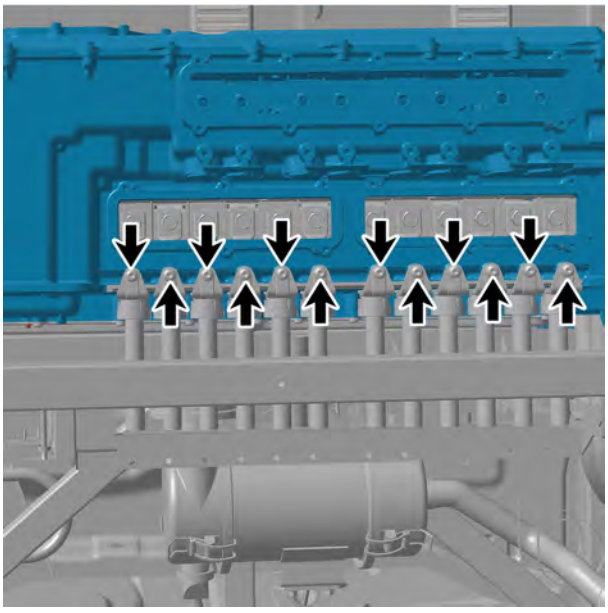
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



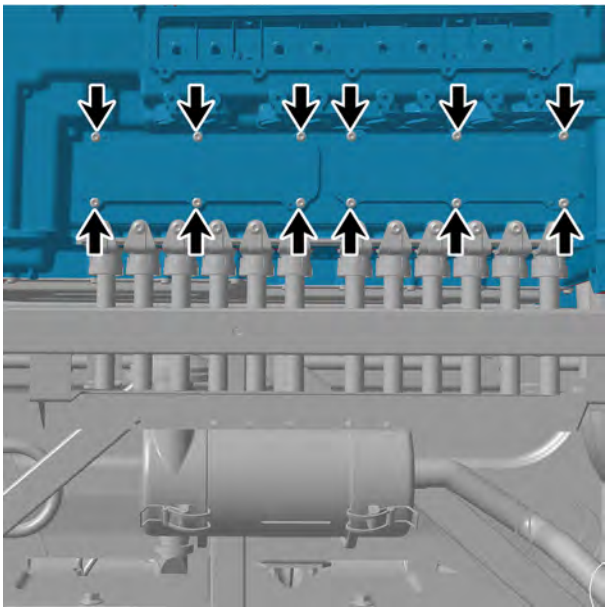


6 Install the 12 fixing bolts of the harness.

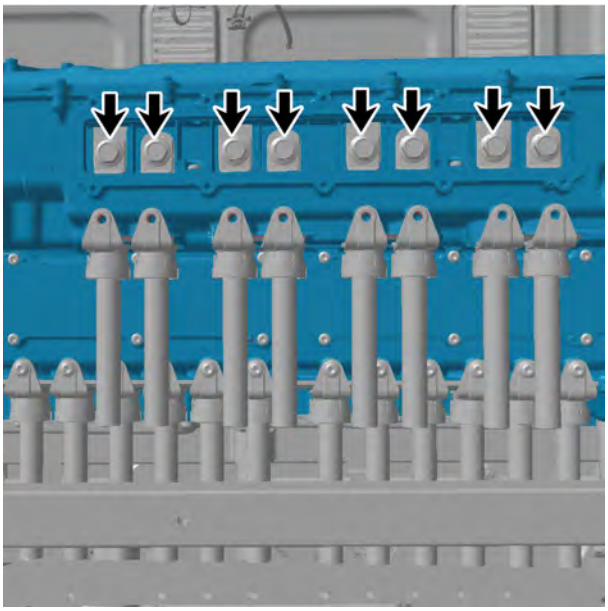
Torque: (22 ft-lb +/- 2 ft-lb) ft-lb



7 Install the 12 fixing screws of the harness.

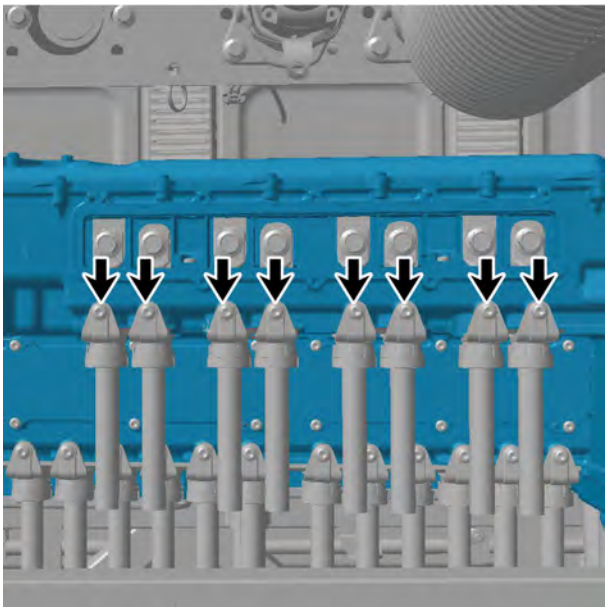


8 Install the 12 fixing screws of the cover plate.

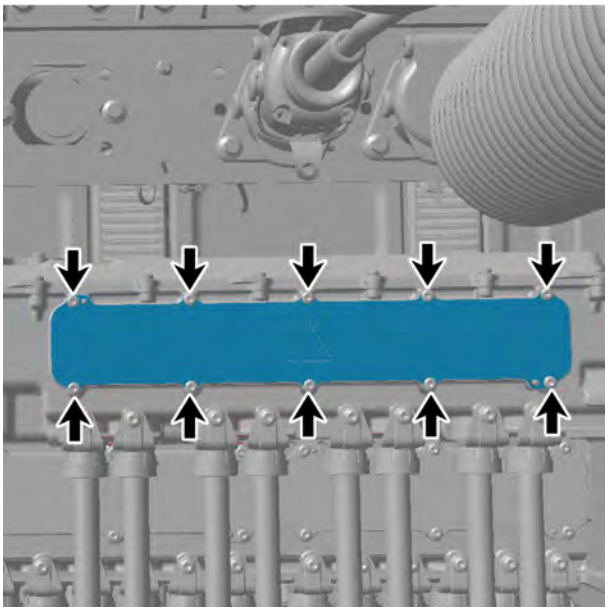


9 Install the 8 fixing bolts of the harness.

Torque: (22 ft-lb +/- 2 ft-lb) ft-lb



10 Install the 8 fixing screws of the harness.



11 Install the 10 fixing screws of the cover plate.

12 Install the back integrated bracket middle cover plate assembly.

13 Install the back integrated bracket side cover plate assembly (right).

14 Install the back integrated bracket side cover plate assembly (left).

15 Fill coolant in the power system.

16 Perform power-on of the high voltage system.

17 Connect the battery negative cable.

18 Close the front flip cover plate.

19 Close the door.

4.7 Vehicle-mounted Charging Device

4.7.1 Dismantling and Installation

4.7.1.1 Replacement of MCS Charging Socket Assembly

Removal procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Remove the left deflector lower body.

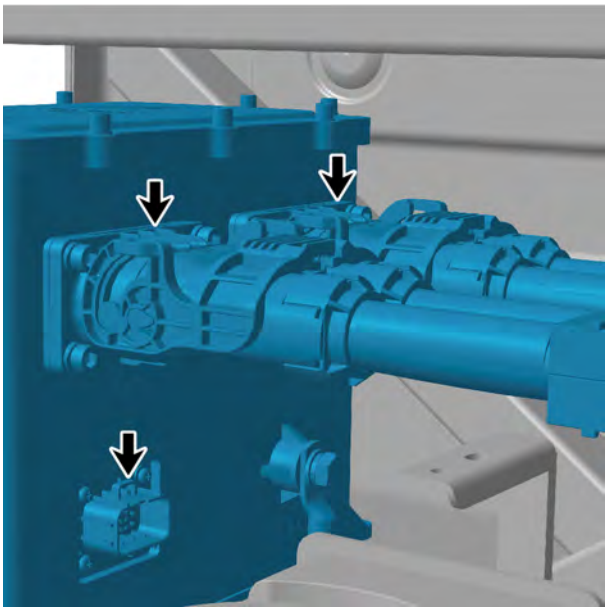
6 Remove the left charging cover plate assembly.

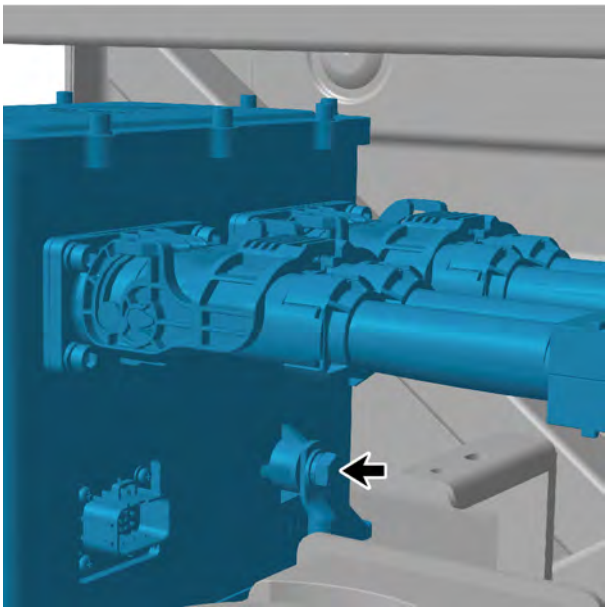
7 Remove the back integrated bracket side cover plate assembly (left).

8 Remove the back integrated bracket side cover plate assembly (right).

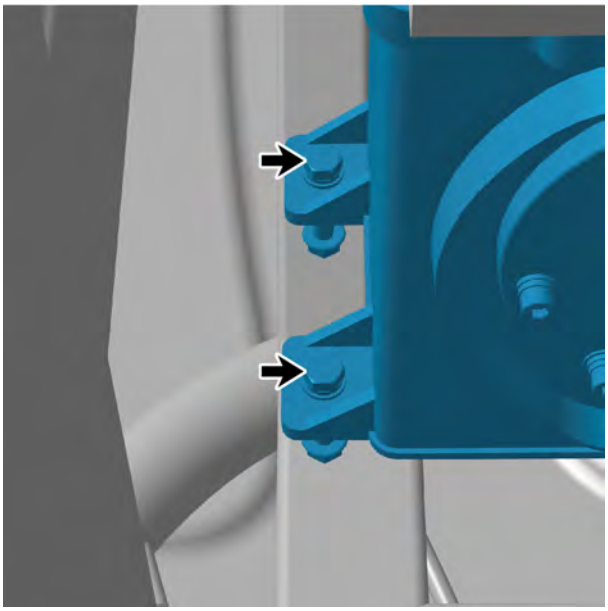
9 Remove the back integrated bracket middle cover plate assembly.

10 Disconnect 3 harness connectors of the MCS charging socket assembly.

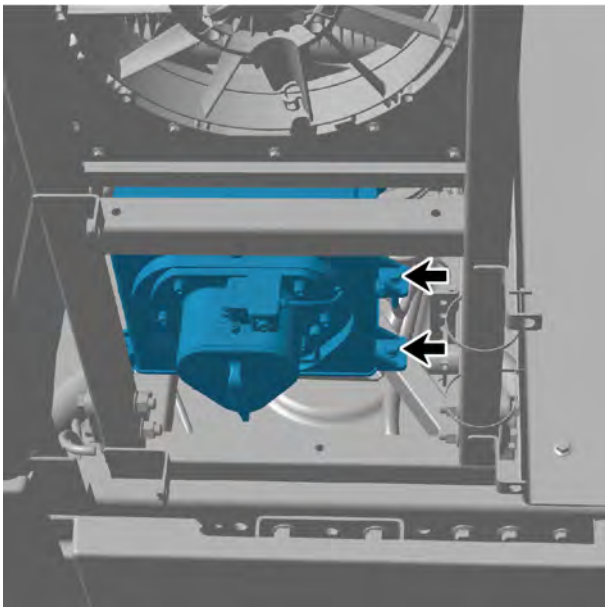


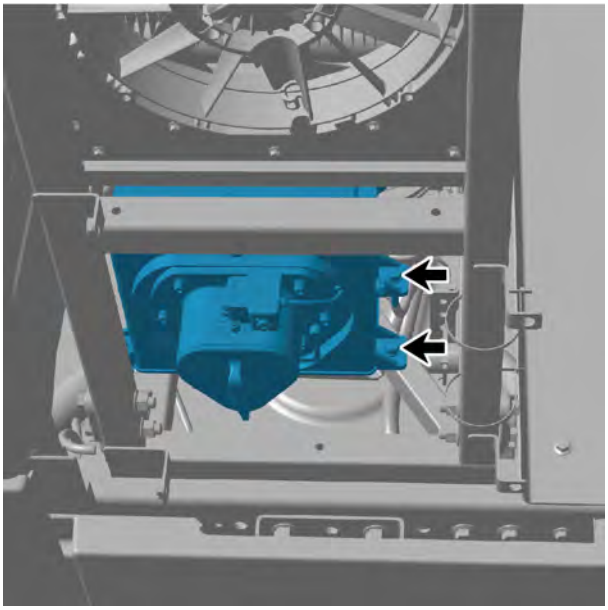


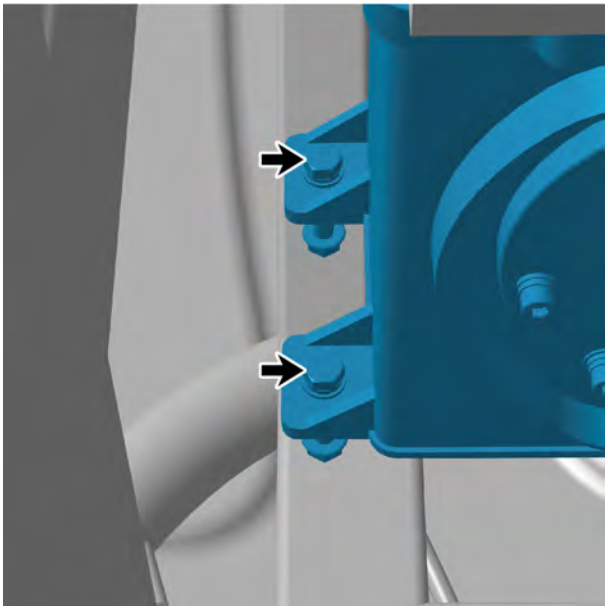
11 Remove 1 ground harness fixing bolt of the MCS charging socket assembly harness clip.



12 Remove 4 fixing bolts of the MCS charging socket assembly.





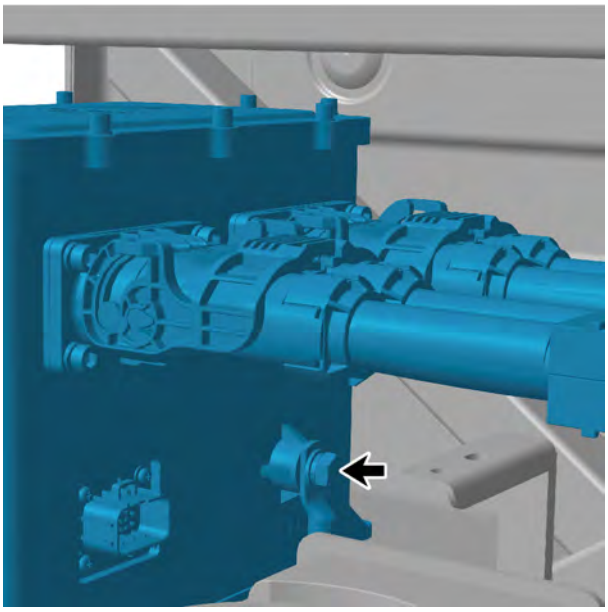


13 Remove the MCS charging socket assembly.

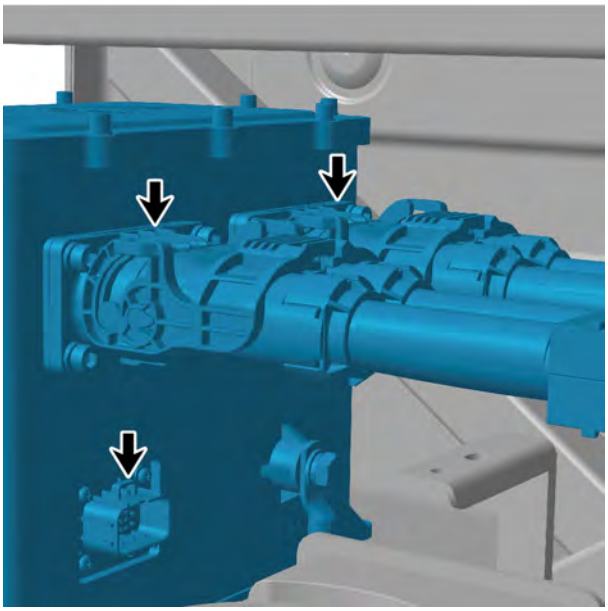
Installation procedures

1 Move the MCS charging socket assembly to the mounting position.

2 Install 4 fixing bolts of the MCS charging socket assembly.



3 Install 1 ground harness fixing bolt of the MCS charging socket assembly harness clip.



4 Connect 3 harness connectors of the MCS charging socket assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the back integrated bracket middle cover plate assembly.

6 Install the back integrated bracket side cover plate assembly (right).

7 Install the back integrated bracket side cover plate assembly (left).

8 Install the left charging cover plate assembly.

9 Install the left deflector lower body.

10 Perform power-on of the high voltage system.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

4.8 High-Voltage Cable and Connector Device

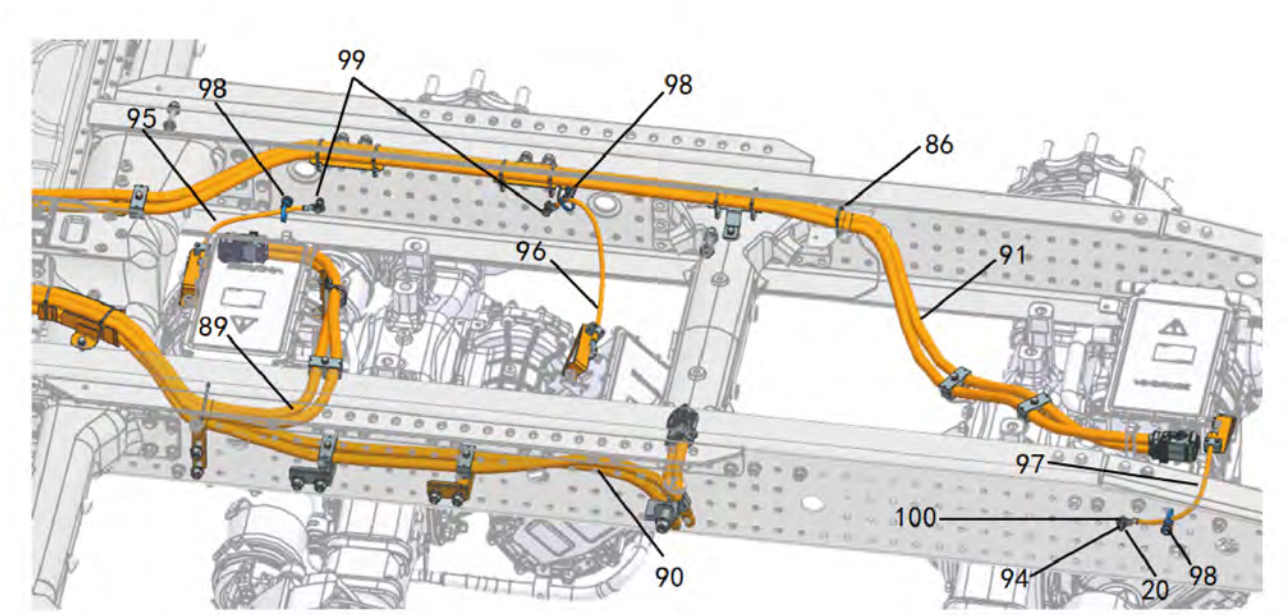
4.8.1 Specifications

4.8.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolt connecting the air conditioning compressor assembly to the high-voltage cable	M5	4 ft-lb +/- .75 ft-lb
The fixing bolt connecting the electric oil pump and the high-voltage cable	M6	6 ft-lb +/- .75 ft-lb
The fixing bolt for connecting the grounding terminal and the vehicle frame.	M8	17 ft-lb +/- 2 ft-lb

4.8.2 Decomposition Diagram

4.8.2.1 Decomposition Diagram



20.	Hexagon Flange Nut	95.	Electric Drive axle Harness 1
86.	Cable Ties 1	96.	Electric Drive axle Harness 2
89.	Motor Power Cable Assembly I	97.	Electric Drive axle Harness 4
90.	Motor Power Cable Assembly II	98.	Mountable Head Ties
91.	Motor Power Cable Assembly IV	99.	Hexagon Head Bolt Assy
94.	Tapered Locking Washer	10-0.	Hexagon Head Bolt Assy

5.1 Intelligent Driving Device

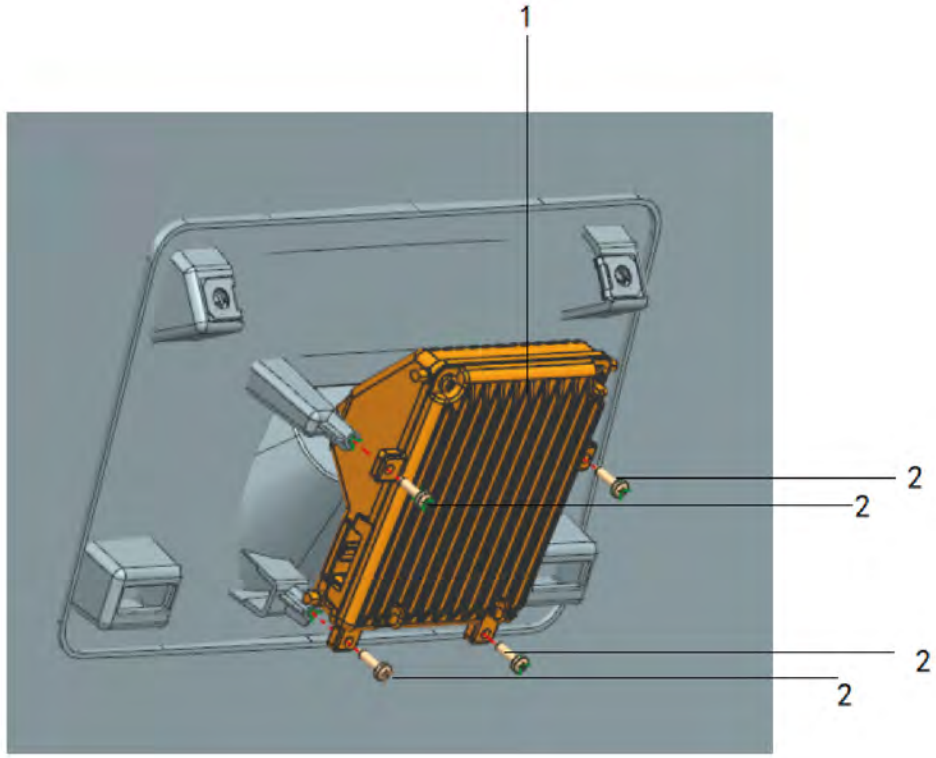
5.1.1 Specifications

5.1.1.1 Fastener Specifications

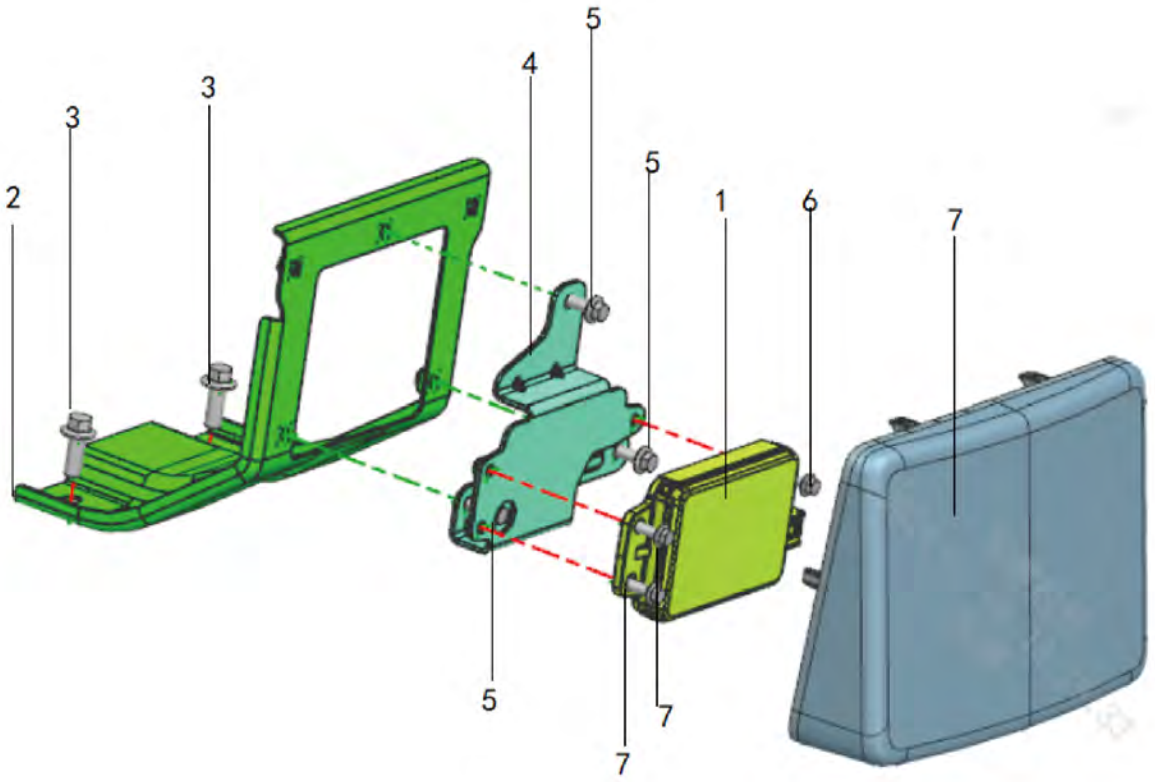
Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolt connecting the front millimeter wave radar adapter bracket to the millimeter wave radar bracket	M6	7 ft-lb +/- .75 ft-lb
The fixing bolt connecting the millimeter wave radar bracket to the front lower protection assembly	M8	17 ft-lb +/- 1.5 ft-lb
The fixing bolt connecting the forward millimeter wave radar and the forward millimeter wave radar adapter bracket	M5	4 ft-lb +/- .75 ft-lb
Rubber cushion assembly connecting side millimeter wave radar and side skirt assembly	M8	9 ft-lb +/- .75 ft-lb

5.1.2 Decomposition Diagram

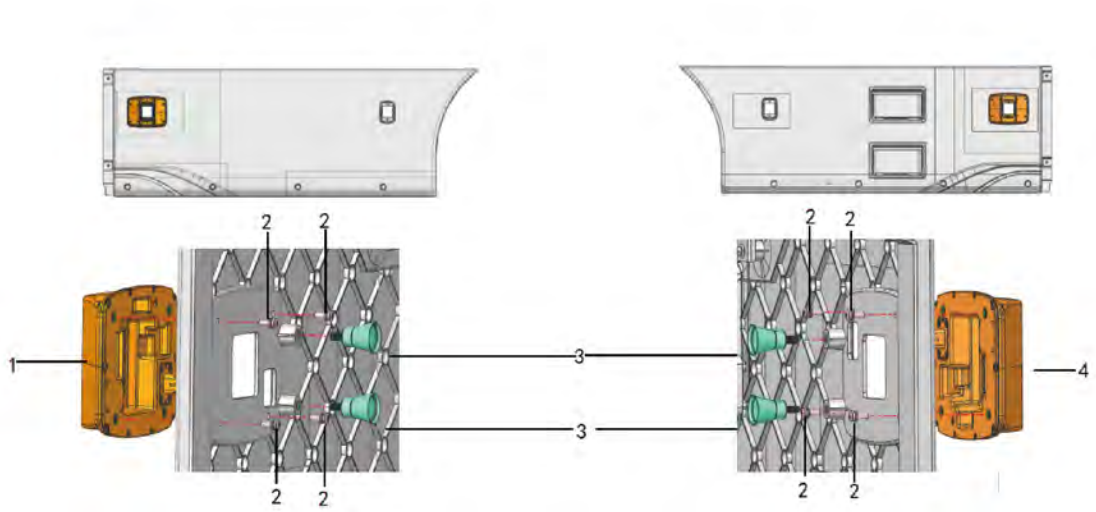
5.1.2.1 Decomposition Diagram



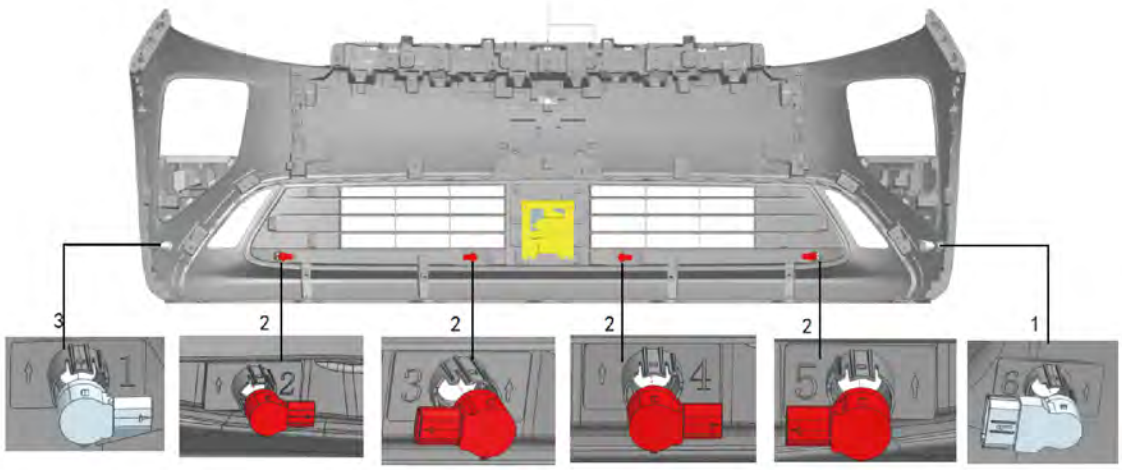
1. Front View Intelligent Camera
2. Self-Tapping Screw



1. Front Millimeter-Wave Radar
2. Bracket for Front Millimeter Wave Radar
3. Hexagon Flange Bolt
4. Adapter Brkt-Front Millimeter Wave Radar
5. Hexagon Flange Bolt
6. Hexagon Flange Bolt
7. Cover-Front Millimeter Wave Radar



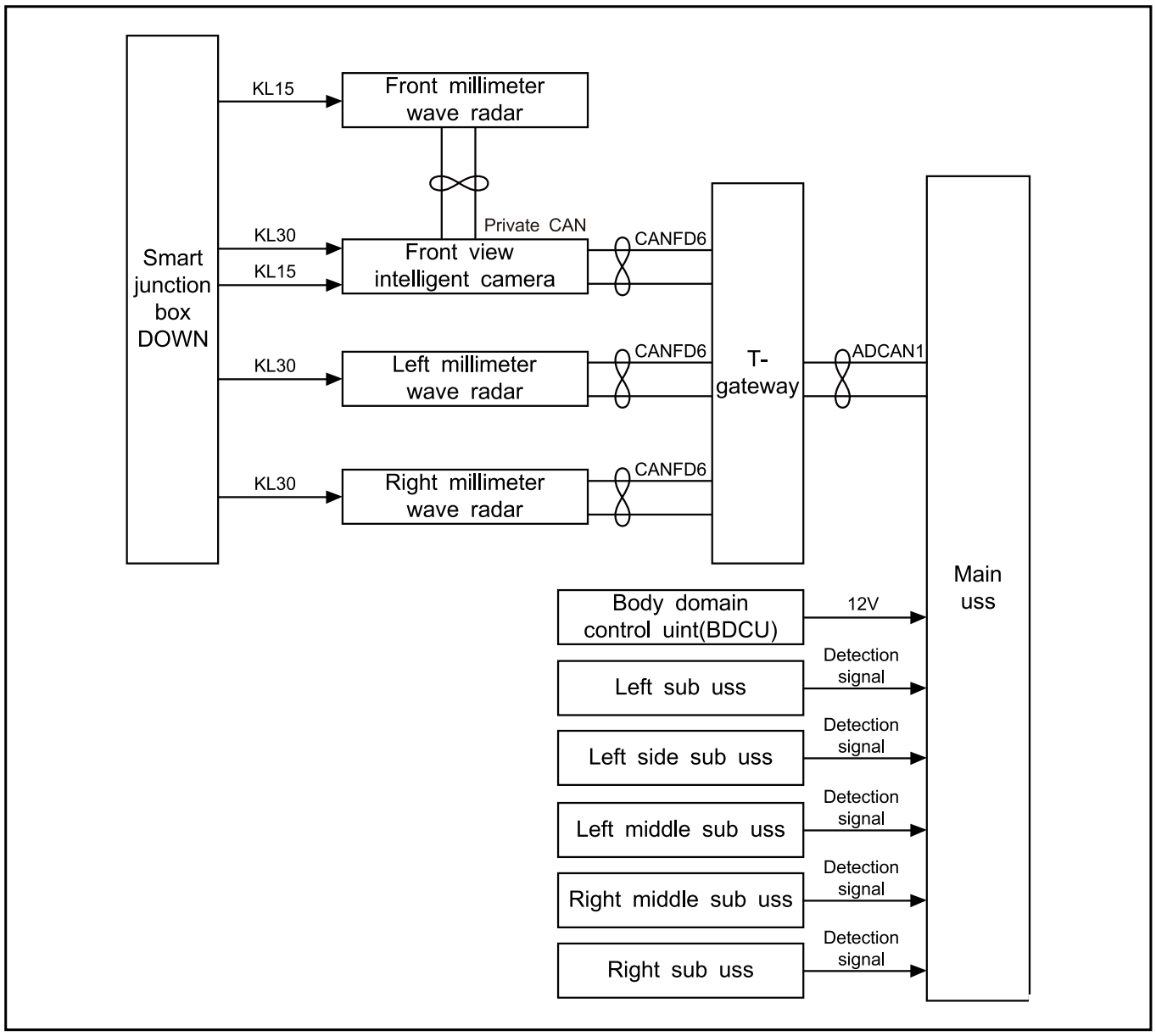
1. Left Millimeter Wave Radar
2. Cross Recessed Pan Head Screw Assy
3. Rubber Buffer
4. Right Millimeter Wave Radar



1. Main Ultrasonic radar (Snow white)
2. Sub Ultrasonic Radar (Matte black)
3. Sub Ultrasonic Radar (Snow white)

5.1.3 System Schematic Diagram

5.1.3.1 Electrical Schematic Diagram



5.1.4 Diagnostic Information and Steps

5.1.4.1 Diagnosis Description

Understanding and familiarizing oneself with the working principle of intelligent driving devices before diagnosing their faults, and then starting system diagnosis, can help determine the correct fault diagnosis steps when a fault occurs, and more importantly, it can help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of intelligent driving devices should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

5.1.4.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the intelligent driving device system, ensuring that these devices do not affect the operation of the intelligent driving device system.
- Inspect system components that are easily accessible or visible to make sure they are not visibly damaged or have conditions that could cause failure.

5.1.4.3 Fault Symptom Table

Symptom	Suspected malfunctiony project	Measures
The radar keeps ringing when the vehicle is driving in an open area or does not sound when encountering obstacles while driving	1. The radar probe is covered by foreign objects	Check if the surface of the radar probe is covered by foreign objects.
	2. The paint coating on the surface of the radar probe is too thick	Check if the paint coating on the surface of the radar probe is too thick.
	3. Incorrect installation position of radar probe	Reinstall the radar probe.
	4. Radar probe malfunction	Check the radar probe and replace it if necessary. Refer to Replacement of Main USS (snowy white).Replacement of Sub USS (matte black). Replacement of Left Side USS (snowy white)
After turning on the panoramic image, the CAR screen does not display the image	1. The panoramic camera is obstructed or damaged	Clean or replace the panoramic camera.
	2. Panoramic camera wiring harness malfunction	Check the wiring harness between the panoramic camera and CDC.
	3. LVDS signal harness fault between CAR screen and CDC	Check the LVDS signal harness between the CAR screen and CDC.
	4. CAR screen	Refer to Replacement Of CAR screen

5.1.4.4 DTC Confirmation

1.Connect the diagnostic instrument to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Restart the vehicle.

3. Read the malfunction code of the control system again to confirm whether the system has a malfunction code output.

– Yes:Diagnose based on the output malfunction code.

– No:Perform intermittent malfunction checks, refer to Inspection Of Intermittent Faults

5.1.4.5 List Of Diagnostic Trouble Codes (DTCs)

CAMF

Fault Code	Fault Description	Exclusion Method
B111717	High battery voltage	Refer to Front View Intelligent Camera Power Fault
B111716	Low battery voltage	
U019887	Lost Communication With TGW	Refer to Front View Intelligent Camera Communication Fault
U014087	Lost Communication With BDCU	
U019987	Lost Communication With DCM	
U015687	Lost Communication With CDCU	
U012287	Lost Communication With VDC	
U012187	Lost Communication With EBS	
U013087	Lost Communication With EPS	
U013287	Lost Communication With ECAS	
U012887	Lost Communication With EPB	
U007888	CANFD6 BusOff	
U122000	Invalid data received from CDCU	
U122100	Invalid data received from EPS	
C180008	VDC Performance Abnormal	
C180108	EBS Performance Abnormal	
U122208	EPS Performance Abnormal	
U122344	ADCU Internal failure	Refer to Internal Fault Of Front View Intelligent Camera
U122C00	Front View Intelligent Camera State Error	
U122D00	Front Radar State Error	
C180202	Brake Switch Signal Error	Refer to Brake Pedal Switch Fault
C180302	Vehicle Speed Signal Error	Refer to Vehicle Speed Signal Fault
C180702	Left-Front Wheel Speed Signal Error	
C180802	Right-Front Wheel Speed Signal Error	
C180902	Left-Rear Wheel Speed Signal Error	
C180A02	Right-Rear Wheel Speed Signal Error	
C180402	Yaw Rate Signal Error	Refer to Front View Intelligent Camera Reports Other System Fault
C180502	Lateral Acceleration Signal Error	
C180602	Longitudinal Acceleration Signal Error	
C180B02	Master Cylinder Pressure Signal Error	
C180C02	Road Grade Signal Error	
U122402	Absoluted Steering Angle Signal Error	
U122502	Steering Speed Signal Error	
C180D02	Steering Torque Signal Error	
U122602	Motor Torque Signal Error	
U122702	Motor Speed Signal Error	
U122A02	Gear State Signal Error	
C180F02	Meter Vehicle Speed Signal Error	

MMWRL

Fault Code	Fault Description	Exclusion Method
B111717	Power supply voltage above threshold	Refer to Left Millimeter Wave Radar Power Fault
B111716	Power supply voltage below threshold	
U007888	right radar calibrated fault	Refer to Left Millimeter Wave Radar Communication Fault
U019887	VCAN bus-off	
U019987	Lost Communication with DCM	
U012187	missing EBS	
U015687	missing CDCU	
U220900	CANFD6 Network Management limps home.	
U012287	lost comunication with VDC	
U11E000	CDCU_ADCUSET data invalid	Refer to Left Millimeter Wave Radar Reports CDC-Related Fault
C140000	left radar calibrated fault	Perform side millimeter wave radar calibration, refer to Side MMW Radar Calibration Procedure

MMWRR

Fault Code	Fault Description	Exclusion Method
B111717	Power supply voltage above threshold	Refer to Right Millimeter Wave Radar Power Fault
B111716	Power supply voltage below threshold	
U007888	right radar calibrated fault	Refer to Right Millimeter Wave Radar Communication Fault
U019887	VCAN bus-off	
U019987	Lost Communication with DCM	
U012187	missing EBS	
U015687	missing CDCU	
U220900	CANFD6 Network Management limps home	
U012287	lost comunication with VDC	
U120000	CDCU_ADCUSET data invalid	Refer to Right Millimeter Wave Radar Reports CDC-Related Fault
C160000	CDCU_ADCUSET data invalid	IG-ON,The counter or check value is incorrect for five consecutive periods about 0x18FF1B41 Side MMW Radar Calibration Procedure

USS

Fault Code	Fault Description	Exclusion Method
B111717	Battery Voltage Too High	Refer to Main Uss Power Fault
B111716	Battery Voltage Tool low	
U007488	Enter the CAN Bus-off for twice in a row	Refer to Main Uss Communication Fault

Fault Code	Fault Description	Exclusion Method
U012287	The VDC message related to vehicle speed (with the ID of 0x18FEF100) has been lost for a duration of 10 times the cycle, which is 10 * 100	
U019887	Losting the TGW gear message lasts 10 times the cycle:10 x 100	
U015687	Losting the soft switch CDCU message (0x18FF1B41)lasts 10 times the cycle:10 x 200	
U012887	Losting the EPB message (0x18FE1250)lasts 10 times the cycle:10 x 100	
U014087	The BDCU temperature message (0x18E0FF21) is lost for 5S	
C121209	Front Right Sensor signal line failure short-circuit to GND or OC	Refer to Right Sub Uss Fault
C121306	Front Right Sensor signal line failure short-circuit to Ubat	
C12140C	Front Right Sensor ringing time failure	
C120309	Front Left Sensor signal line failure short-circuit to GND or oc	Refer to Left Sub Uss Fault
C120406	Front Left Sensor signal line failure short-circuit to Ubat	
C12050C	Front Left Sensor ringing time failure	
C120609	Front Left Center Sensor signal line failure short-circuit to GND or oc	Refer to Left Middle Sub Uss Fault
C120706	Front Left Center Sensor signal line failure short-circuit to Ubat	
C12080C	Front Left Center Sensor ringing time failure	
C120909	Front Righ Center Sensor signal line failure short-circuit to GND or oct	Refer to Right Middle Sub Uss Fault
C121006	Front Right Center Sensor signal line failure short-circuit to Ubat	
C12110C	Front Right Center Sensor ringing time failure	
C120009	Front Left Side Sensor signal line failure short-circuit to GND or oc	Refer to Left Side Sub Uss Fault
C120106	Front Left Side Sensor signal line failure short-circuit to Ubat	

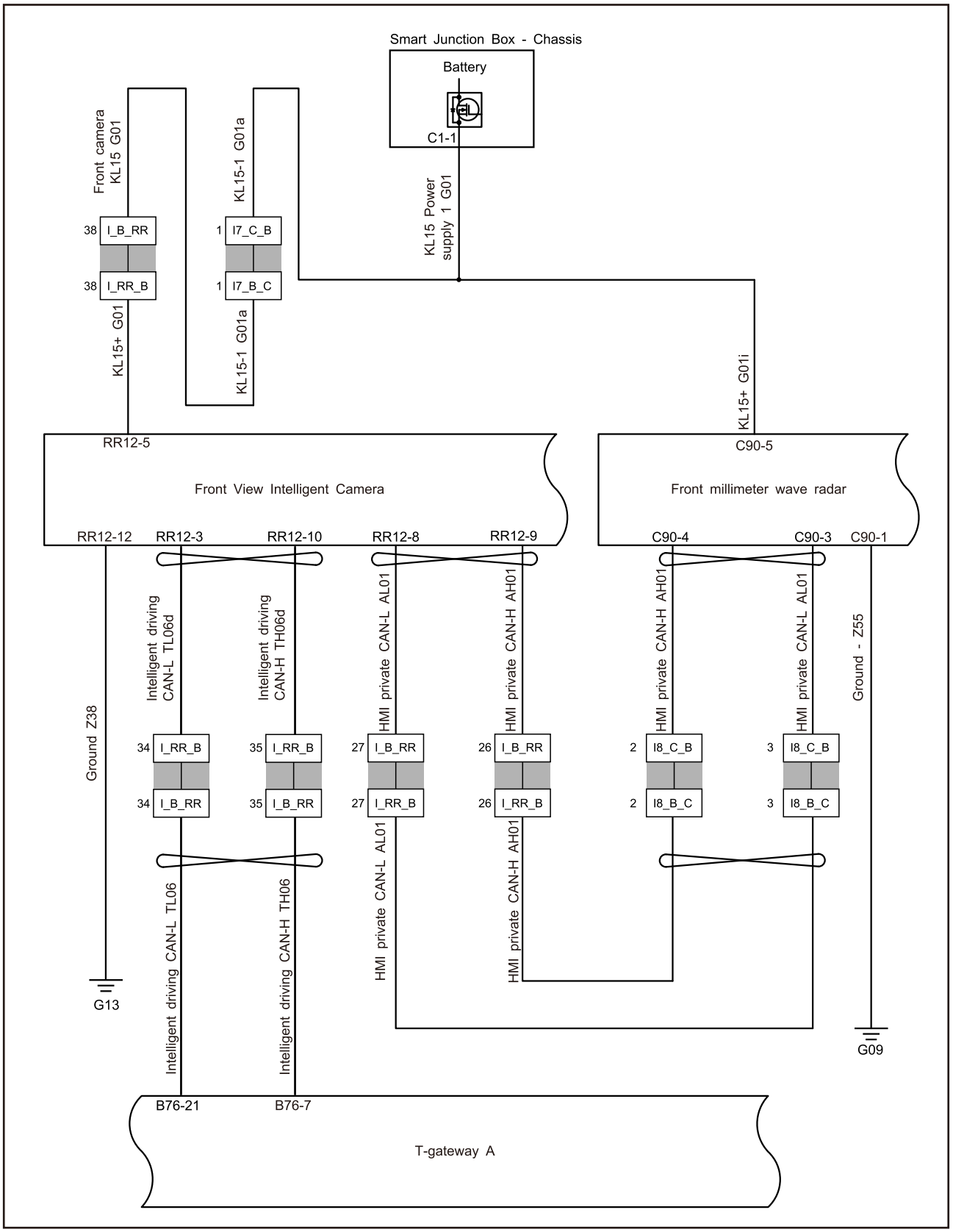
Fault Code	Fault Description	Exclusion Method
C12020C	Front Left Side Sensor ringing time failure	
C121509	Front Right Side Sensor signal line failure short-circuit to GND or oc	Refer to Main Uss Signal Circuit Fault
C121606	Front Right Side Sensor signal line failure short-circuit to Ubat	
C12170C	Front Right Side Sensor ringing time failure	

5.1.4.6 Front View Intelligent Camera Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	High battery voltage	Voltage > 32 V, t > 5000ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Front view intelligent camera
B111716	Low battery voltage	Voltage < 18V, t > 30s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power failure codes besides the Front view intelligent camera?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power and grounding harness of the front view intelligent camera.

Step 5:Rewrite the configuration code, reload the software, and upgrade the front view intelligent camera.

Step 6:Replace the front view intelligent camera. Refer to Replacement Of Forward Looking Intelligent Camera

Step 7:Clear and confirm DTC.

5.1.4.7 Front View Intelligent Camera Communication Fault

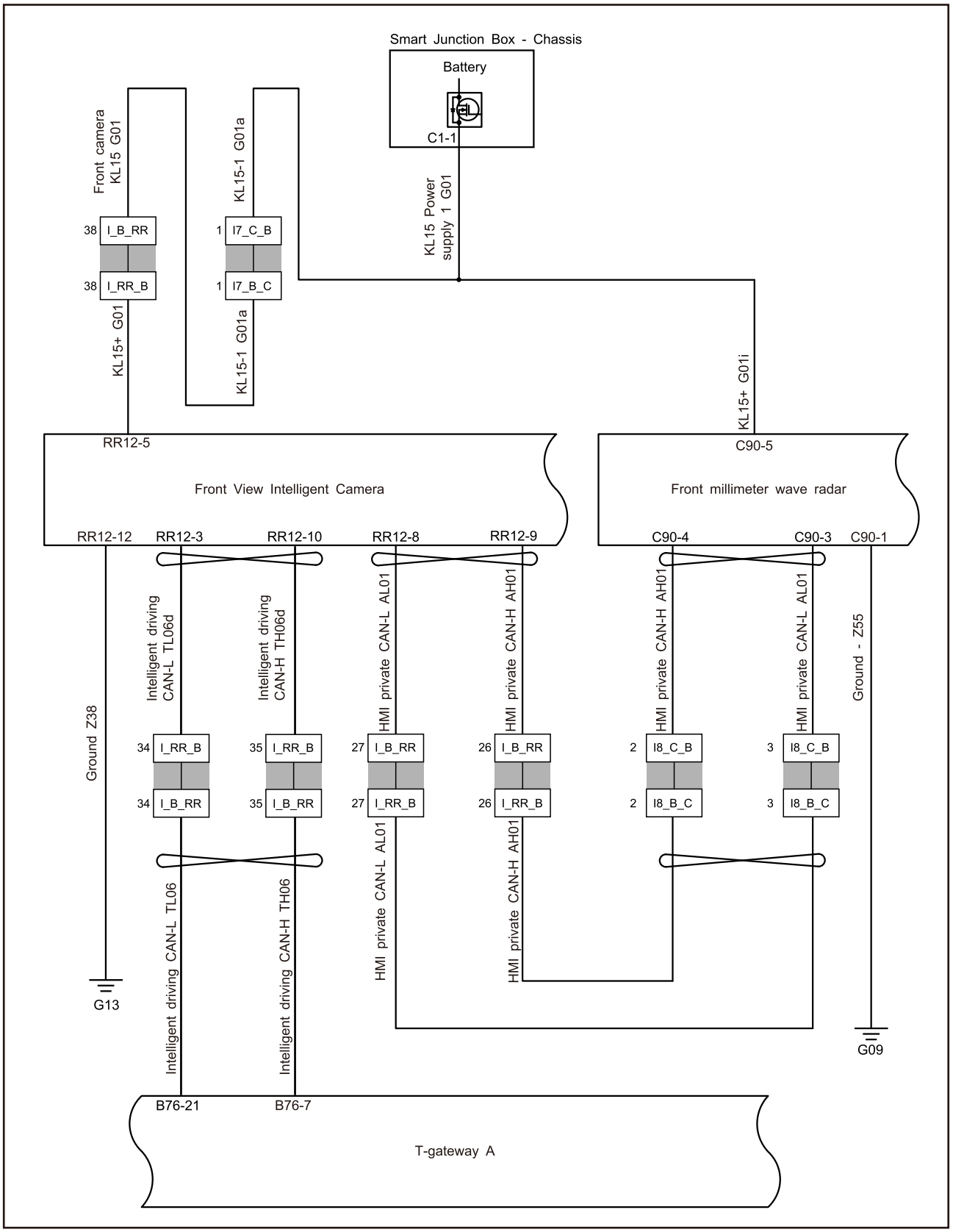
1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U019887	Lost Communication With TGW	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)Any of the following monitoring messages is missing , t > 5000ms ID :0x18FEE6EE	1.Wiring harness 2.Front view intelligent camera
U014087	Lost Communication With BDCU	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)Any of the following monitoring messages is missing , t > 1000ms ID:0xCFDCC21.0x14FD1721.0x18FF6121	
U019987	Lost Communication With DCM	(1) 10 seconds after power on initialization (2)CAN not in busoff state ((3)Any of the following monitoring messages is missing , t > 1000ms ID:0x18FDA54F	
U015687	Lost Communication With CDCU	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)Any of the following monitoring messages is missing , t > 1000ms ID:0x18FF0C41.0x18FF6341.0x18FF1B41.0x18FEA-E41.0x18FEC1EE.0x18FF6017	
U012287	Lost Communication With VDC	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)Any of the following monitoring messages is missing , t > 1000ms ID:0x18F01127.0xCF00400.0x18F06A27.0x18FE-F100.0x18F00F27.0x18011727	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012187	Lost Communication With EBS	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)Any of the following monitoring messages is missing , t > 1000ms ID:0x18F0010B.0x18FDC40B.0x18F0090B.0x8FE6E0-B.0x18FEAD0B	
U013087	Lost Communication With EPS	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)Any of the following monitoring messages is missing , t > 1000ms ID:0x18FF0513.0x18FF0613	
U013287	Lost Communication With ECAS	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)Any of the following monitoring messages is missing , t > 1000ms ID:0x18FE582F	
U012887	Lost Communication With EPB	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)Any of the following monitoring messages is missing , t > 1000ms ID:0x18FE1250.0xCF01350	
U007888	CANFD6 BusOff	(1) 10 seconds after power on initialization (2)The Bus Off counter is equal to 8	
U122000	Invalid data received from CDCU	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)Monitoring message 0x18FF6341 CDCUStatus reporting status error (4)The rolling counter or check sum in any of the following monitoring message is invalid, t > 2000ms ID:0x18FF0C41.0x18FF1B41.0x18FF6341	
U122100	Invalid data received from EPS	(1) 10 seconds after power on initialization (2)CAN not in busoff state (3)The rolling counter or check sum in any of the following monitoring message is invalid, t > 500ms ID:0x18FF0513.0x18FF0613	
C180008	VDC Performance Abnormal	Detected low control performance valid (1)ADAS system torque control command error percentage is too large and has accumulated for more than a certain period of time Returned Operational State Error valid (1) 10 seconds after power on initialization (2) ID 0x18F06A27 VDC Status reporting error status	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C180108	EBS Performance Abnormal	Detected low control performance valid (1)In a driving cycle, the ADAS system detects that the deceleration command response time is too long and accumulates a certain number of times. Returned Operational State Error valid (1) 10 seconds after power on initialization (2) ID 0x18F0010B EBSRedWarningSignal or ABS_EBSamberWarningState condition established (3)ID 0x18FF6121 TPMS_F_TireStatusTOCAMF or TPMS_F_TireBurstEmDeviceConnectStatusTOCAMF condition established	
U122208	EPS Performance Abnormal	Detected low control performance valid (1)ADAS system detects that the steering angle control command error is too large for a period of time and the vehicle deviates from the lane centerline. Returned Operational State Error valid (1) 10 seconds after power on initialization (2) ID 0x18FF0513 EHPS_SysState reporting error status	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check the CANFD6 bus communication harness. Refer to Inspection of CANFD6 bus network integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the front view intelligent camera.

Step 5:Replace the front view intelligent camera. Refer to Replacement Of Forward Looking Intelligent Camera

Step 6:Clear and confirm DTC.

5.1.4.8 Internal Fault Of Front View Intelligent Camera

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U122344	ADCU Internal failure	(1)RAM fault, t > 500ms (2)ROM fault, t > 500ms (3)ADC fault, t > 500ms (4)EEPROM fault, t > 500ms (5)CPU load > 95% , t > 500ms	1. Front view intelligent camera
U122C00	front view intelligent camera State Error	(1) 10 seconds after power on initialization (2)Detected status error information by camera, t > 1000ms (3)Detected internal fault information by camera, t > 1000ms (4)Detected not calibrated information by camera, t > 1000ms	
U122D00	Front Radar State Error	(1) 10 seconds after power on initialization (2)Detected status error information by radar, t > 1000ms (3)Detected internal fault information by radar, t > 1000ms (4)Detected not calibrated information by radar, t > 1000ms	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the front view intelligent camera.

Step 4:Replace the front view intelligent camera. Refer to Replacement Of Forward Looking Intelligent Camera

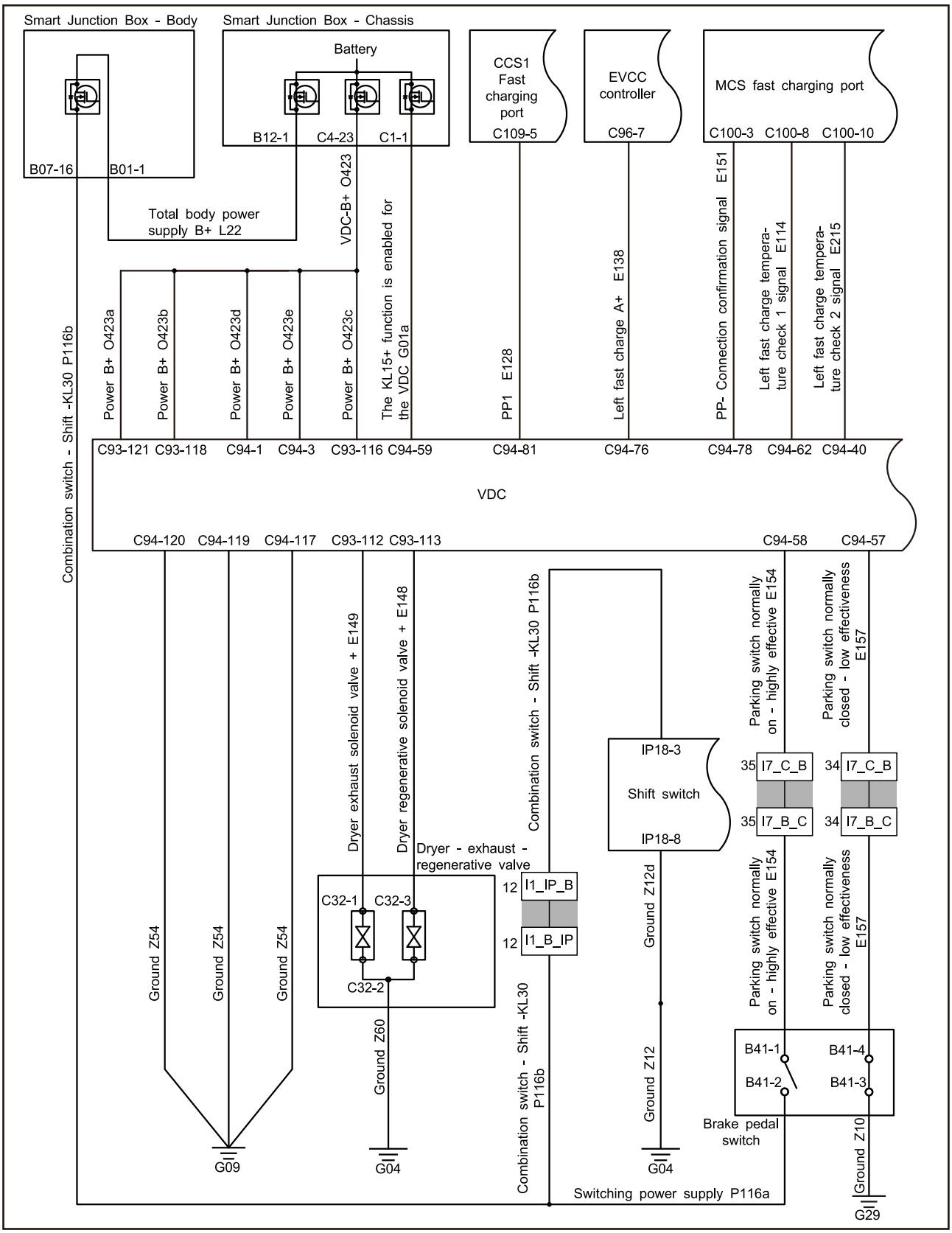
Step 5:Clear and confirm DTC.

5.1.4.9 Brake Pedal Switch Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C180202	Brake Switch Signal Error	(1) 10 seconds after power on initialization (2)Detected brake switch signal error , t > 1000ms	1. Brake pedal switch 2. Wiring harness 3. Front view intelligent camera

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the relevant circuits of the brake pedal switch. Refer to Brake Pedal Switch Fault

Step 4:Check the CANFD6 bus communication harness. Refer to Inspection Of CANFD6 Bus Network Integrity

Step 5:Check the CANFD7 bus communication harness. Refer to Inspection Of CANFD7 Bus Network Integrity

Step 6:Rewrite the configuration code, reload the software, and upgrade the front view intelligent camera.

Step 7:Replace the front view intelligent camera. Refer to Replacement Of Forward Looking Intelligent Camera

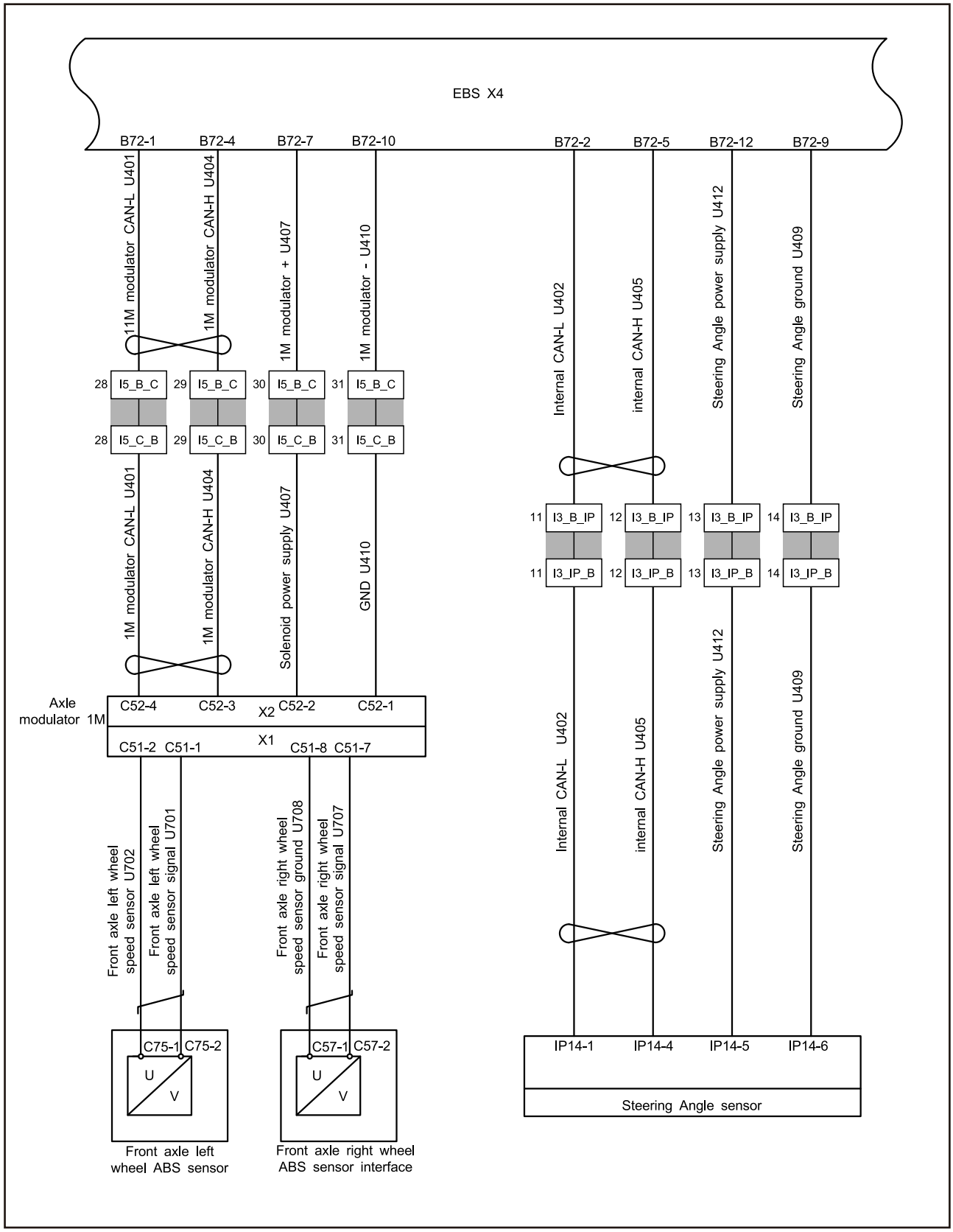
Step 8:Clear and confirm DTC.

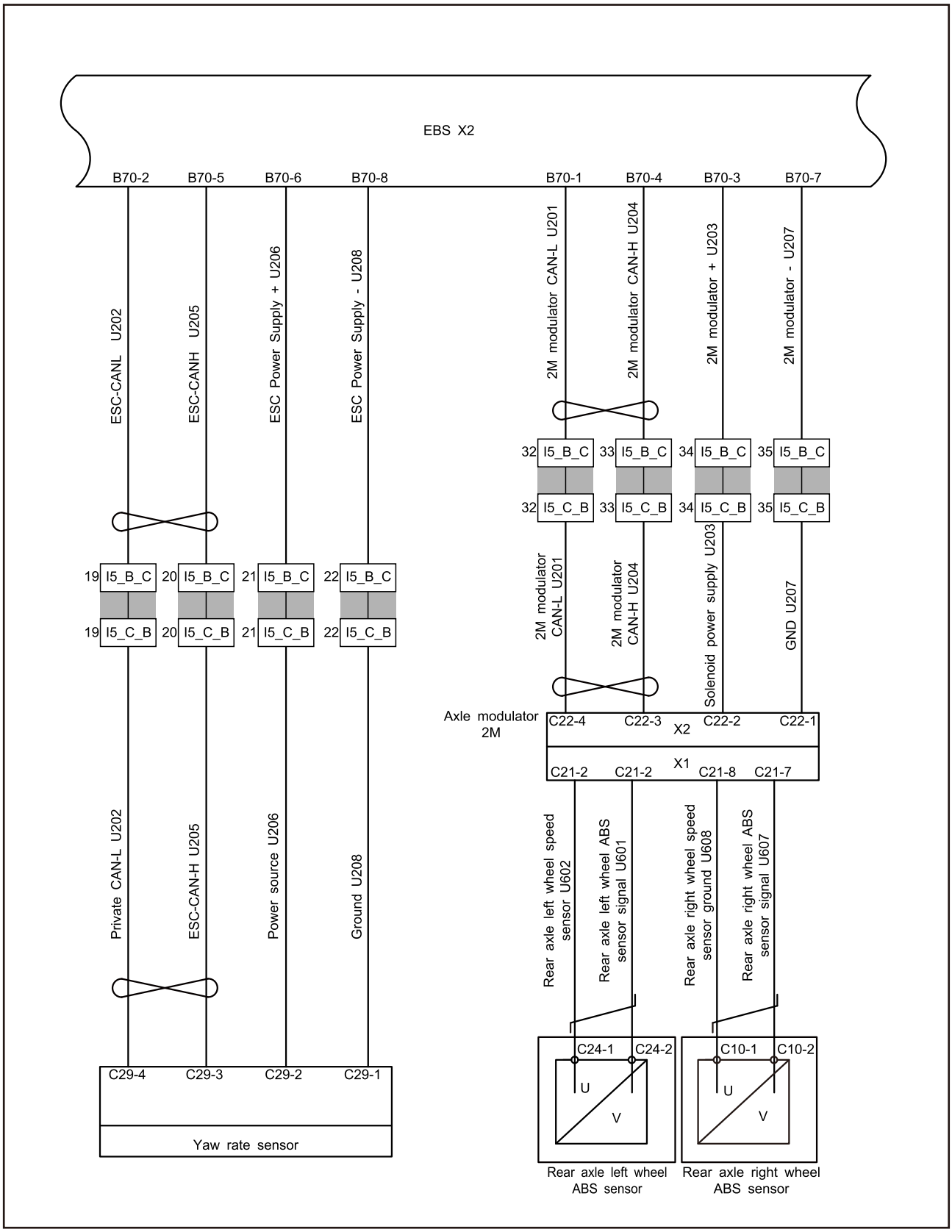
5.1.4.10 Vehicle Speed Signal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C180302	Vehicle Speed Signal Error	(1) 10 seconds after power on initialization (2)Detected vehilcle speed signal out of range , t > 1000ms (3)Detected Rationality Fault flag valid , t > 500ms	1. Front axle left wheel ABS sensor 2. Front axle right wheel ABS sensor 3. Rear axle left wheel ABS sensor 4. Rear axle right wheel ABS sensor 5. Vehicle axle modulator 1M 6. Axle modulator 2M 7. Wiring harness 8. EBS 9. Front view intelligent camera
C180702	Left-Front Wheel Speed Signal Error	(1) 10 seconds after power on initialization (2)Detected left-front wheel speed signal out of range , t > 500ms (3)Detected Rationality Fault flag valid , t > 500ms	
C180802	Right-Front Wheel Speed Signal Error	(1) 10 seconds after power on initialization (2)Detected right-front wheel speed signal out of range , t > 500ms (3)Detected Rationality Fault flag valid , t > 500ms	
C180902	Left-Rear Wheel Speed Signal Error	(1) 10 seconds after power on initialization (2)Detected left-rear wheel speed signal out of range , t > 500ms (3)Detected Rationality Fault flag valid , t > 500ms	
C180A02	Right-Rear Wheel Speed Signal Error	(1) 10 seconds after power on initialization (2)Detected right-rear wheel speed signal out of range , t > 500ms (3)Detected Rationality Fault flag valid , t > 500ms	

2.Circuit Diagram


EBS X4
B72-1
B72-4
B72-7
B72-10
B72-2
B72-5
B72-12
B72-9
11M modulator CAN-L U401
1M modulator CAN-H U404
1M modulator + U407
1M modulator - U410
Internal CAN-L U402
internal CAN-H U405
Steering Angle power supply U412
Steering Angle ground U409
28 I5_B_C
29 I5_B_C
30 I5_B_C
31 I5_B_C
28 I5_C_B
29 I5_C_B
30 I5_C_B
31 I5_C_B
11 I3_B_IP
12 I3_B_IP
13 I3_B_IP
14 I3_B_IP
11 I3_IP_B
12 I3_IP_B
13 I3_IP_B
14 I3_IP_B
1M modulator CAN-L U401
1M modulator CAN-H U404
Solenoid power supply U407
GND U410
Axle modulator 1M
C52-4
C52-3
X2
C52-2
C52-1
C51-2
C51-1
X1
C51-8
C51-7
Front axle left wheel speed sensor U702
Front axle left wheel speed sensor signal U701
Front axle right wheel speed sensor ground U708
Front axle right wheel speed sensor signal U707
C75-1
C75-2
C57-1
C57-2
U
V
Front axle left wheel ABS sensor
Front axle right wheel ABS sensor interface
IP14-1
IP14-4
IP14-5
IP14-6
Steering Angle sensor



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the front axle left wheel ABS sensor, front axle right wheel ABS sensor, and axle modulator 1M.

Step 4:Check the wiring harness between the rear axle left wheel ABS sensor, rear axle right wheel ABS sensor, and axle modulator 2M.

Step 5:Check the wiring harness between axle modulator 1M, axle modulator 2M, and EBS.

Step 6:Check the CAN8 bus communication harness. Refer to Inspection Of CAN8 Bus Communication Harness

Step 7:Check the CANFD6 bus communication harness. Refer to Inspection Of CANFD6 Bus Network Integrity

Step 8:While ensuring safety, drive the vehicle and observe whether the speedometer changes with the speed of the vehicle?

- Yes: Next.
- No: Replace the faulty ABS sensor. Refer to Replacement Of Single Channel Module Assembly.Replacement Of Dual Channel Module Assembly

Step 9:Rewrite the configuration code, reload the software, and upgrade the front view intelligent camera.

Step 10:Replace the front view intelligent camera. Refer to Replacement Of Forward Looking Intelligent Camera

Step 11:Clear and confirm DTC.

5.1.4.11 Front View Intelligent Camera Reports Other System Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C180402	Yaw Rate Signal Error	(1)10 s after power on initialization. (2)Detected yaw rate signal out of range , t > 500ms (3)Detected Rationality Fault flag valid , t > 500ms	1. Front view intelligent camera
C180502	Lateral Acceleration Signal Error	(1)10 s after power on initialization. (2)Detected lateral acceleration signal out of range , t > 500ms (3)Detected Rationality Fault flag valid , t > 500ms	
C180602	Longitudinal Acceleration Signal Error	(1)10 s after power on initialization. (2)Detected longitudinal acceleration signal out of range , t > 500ms (3)Detected Rationality Fault flag valid , t > 500ms	
C180B02	Master Cylinder Pressure Signal Error	(1)10 s after power on initialization. ((2)Detected that the pressure signal of eithcer front axle or rear axle out of range at the same time, t >500ms	
C180C02	Road Grade Signal Error	(1)10 s after power on initialization. (2)Detected road grade signal out of range , t > 1000ms	
U122402	Absoluted Steering Angle Signal Error	(1)10 s after power on initialization. (2)Detected absoluted steering angle signal out of range , t > 500ms (3)Detected Rationality Fault flag valid , t > 500ms	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U122502	Steering Speed Signal Error	(1)10 s after power on initialization. (2)Detected steering speed signal out of range , t > 500ms	
C180D02	Steering Torque Signal Error	(1)10 s after power on initialization. (2)Detected steering torque signal out of range , t > 500ms	
U122602	Motor Torque Signal Error	(1)10 s after power on initialization. (2)Detected motor torque signal out of range , t > 500ms	
U122702	Motor Speed Signal Error	(1)10 s after power on initialization. (2)Detected motor speed signal out of range , t > 500ms	
U122A02	Gear State Signal Error	(1)10 s after power on initialization. (2)Detected gear state signal error , t > 1000ms	
C180F02	Meter Vehicle Speed Signal Error	(1)10 s after power on initialization. (2)Detected meter vehicle speed signal out of range , t > 1000ms (3)Detected Rationality Fault flag valid , t > 500ms	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other system fault codes on the vehicle?

- Yes: Prioritize troubleshooting other system failures.
- No: Next

Step 4:Rewrite the configuration code, reload the software, and upgrade the front view intelligent camera.

Step 5:Replace the front view intelligent camera. Refer to Replacement Of Forward Looking Intelligent Camera

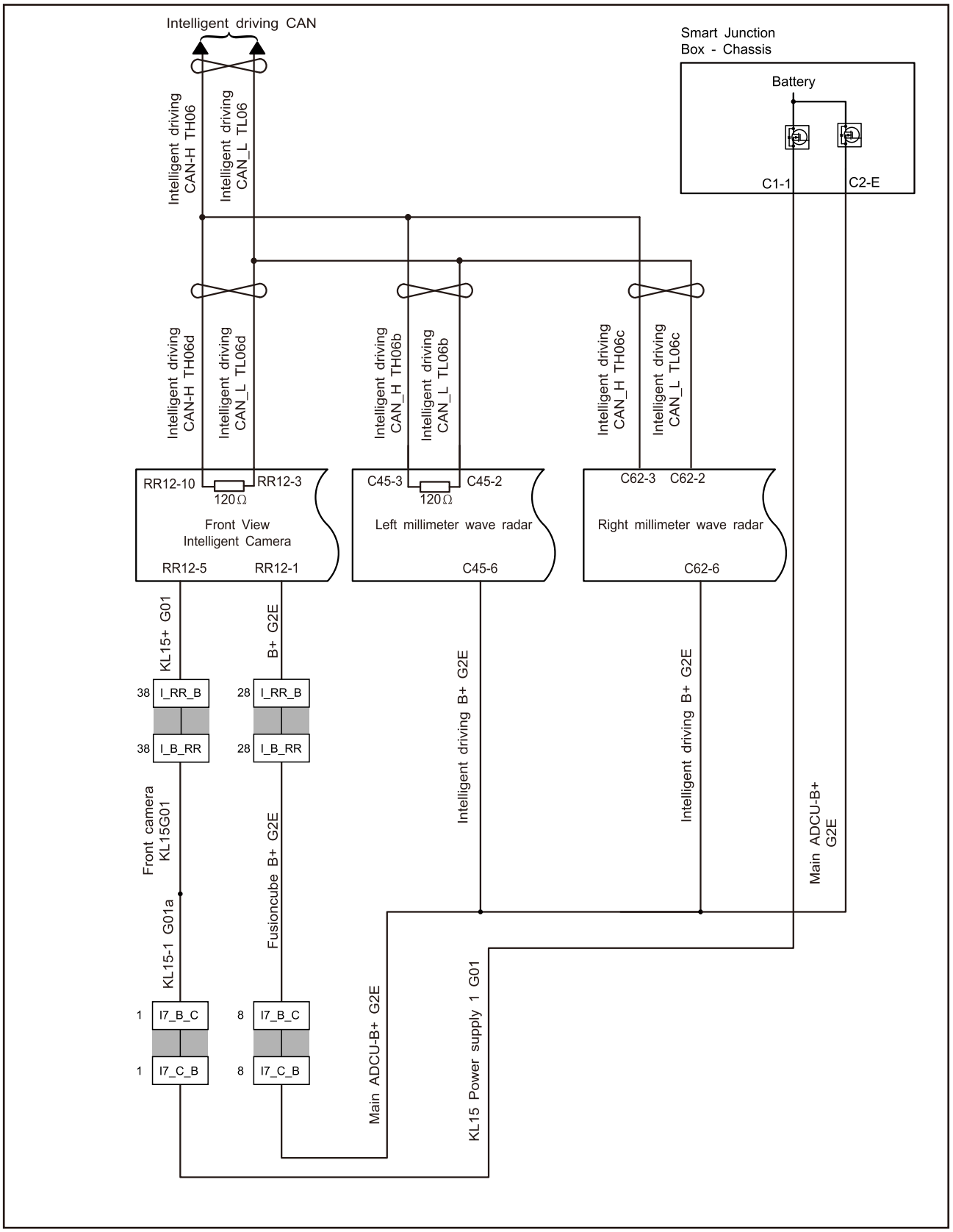
Step 6:Clear and confirm DTC.

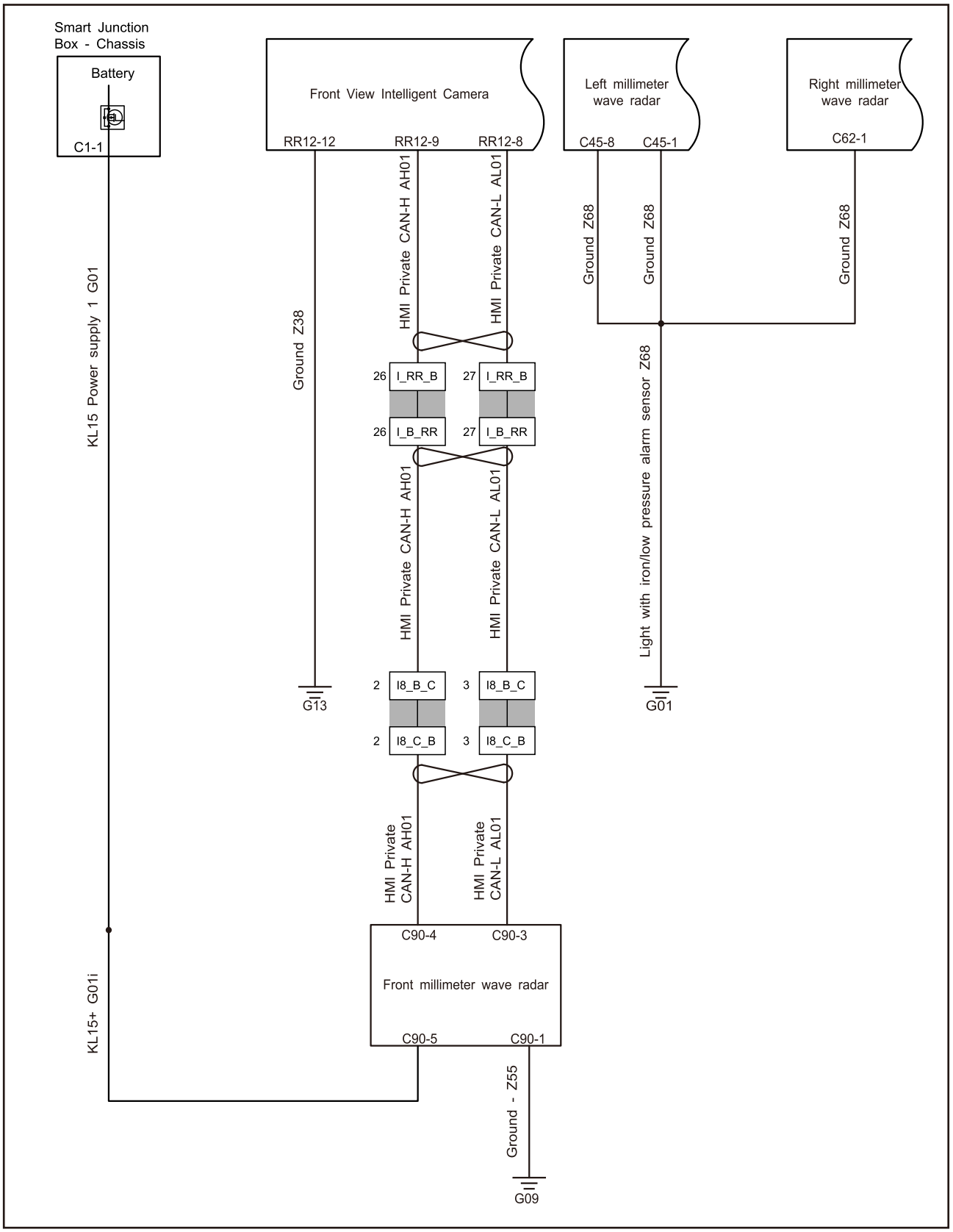
5.1.4.12 Left Millimeter Wave Radar Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	Power supply voltage above threshold	Power supply voltage greater than or equal to 33V,t>= 5000ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Left millimeter wave radar
B111716	Power supply voltage below threshold	Power supply voltage less than or equal to 17V,t>=30s	

2.Circuit Diagram


Intelligent driving CAN
Smart Junction Box - Chassis
Battery
C1-1
C2-E
Intelligent driving CAN-H TH06
Intelligent driving CAN_L TL06
Intelligent driving CAN-H TH06d
Intelligent driving CAN_L TL06d
Intelligent driving CAN_H TH06b
Intelligent driving CAN_L TL06b
Intelligent driving CAN_H TH06c
Intelligent driving CAN_L TL06c
RR12-10
RR12-3
120Ω
C45-3
C45-2
120Ω
C62-3
C62-2
Front View Intelligent Camera
Left millimeter wave radar
Right millimeter wave radar
RR12-5
RR12-1
C45-6
C62-6
KL15+ G01
B+ G2E
38 I_RR_B
38 I_B_RR
28 I_RR_B
28 I_B_RR
Intelligent driving B+ G2E
Intelligent driving B+ G2E
Main ADCU-B+ G2E
Front camera KL15G01
KL15-1 G01a
Fusioncube B+ G2E
1 I7_B_C
1 I7_C_B
8 I7_B_C
8 I7_C_B
Main ADCU-B+ G2E
KL15 Power supply 1 G01



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power failure codes besides the left millimeter wave radar?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next

Step 4:Check the left millimeter wave radar power supply and grounding harness.

Step 5:Reload the software, and upgrade the left millimeter wave radar.

Step 6:Replace the left millimeter wave radar. Refer to Replacement of MMWRL

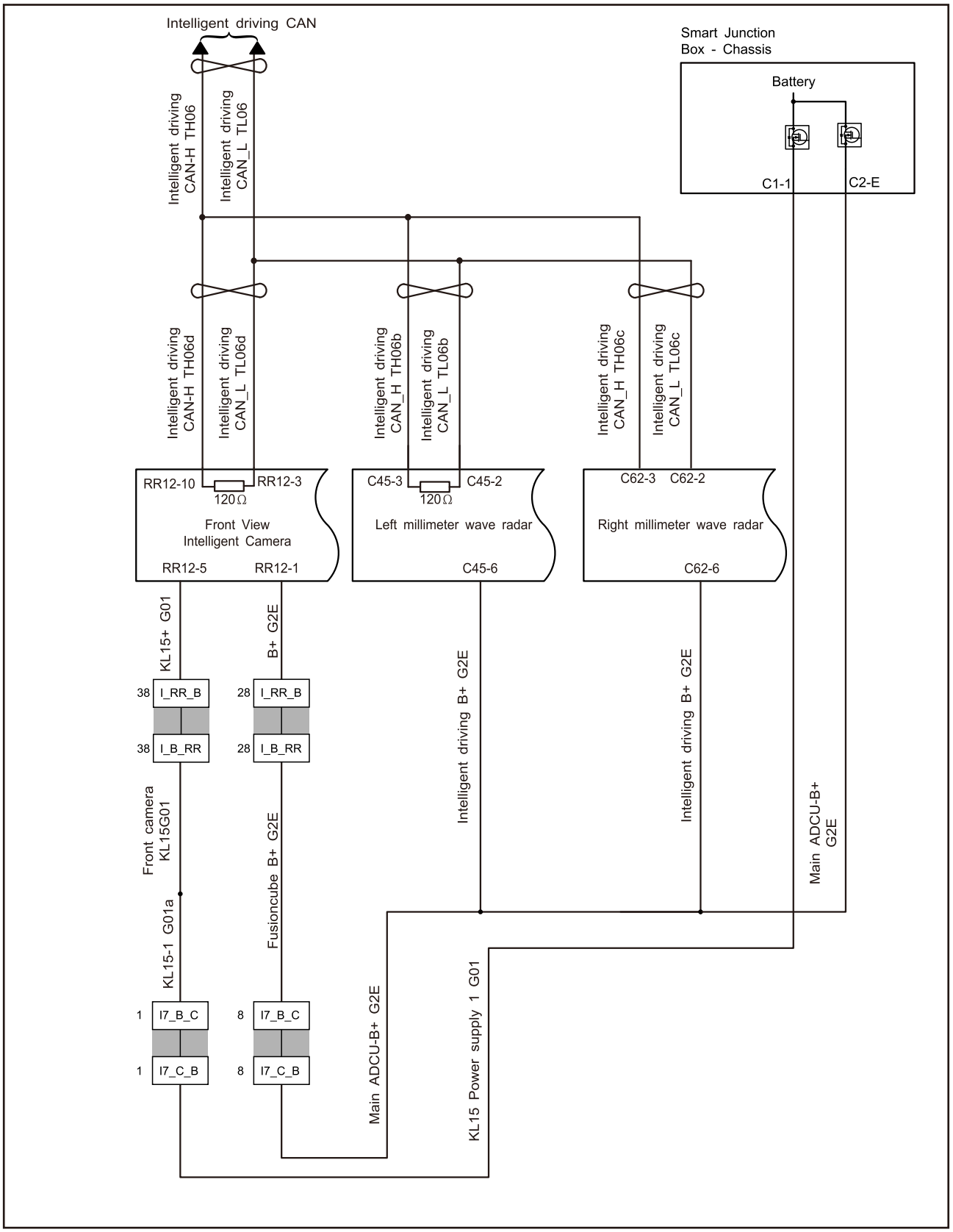
Step 7:Clear and confirm DTC.

5.1.4.13 Left Millimeter Wave Radar Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007888	Main_CAN Bus-OFF	IG-ON,The voltage is 9V-16V, 8 consecutive detections of Bus-Off, only for transmission	1.Wiring harness 2. Left millimeter wave radar
U019887	lost comunication with T-BOX	IG-ON,CAN busoff does not occur.The voltage is 9V-16V,can not receive (0x18FEE6EE)more than 5s	
U019987	lost comunication with DCM	IG-ON,CAN busoff does not occur.The voltage is 9V-16V,can not receive (0x18FDA54F)more than 5s	
U012187	lost comunication with EBS	IG-ON,CAN busoff does not occur.The voltage is 9V-16V,can not receive (0x08FE6E0B or 0x18F0090B) more than 1s	
U015687	lost comunication with CDCU	IG-ON,CAN busoff does not occur.The voltage is 9V-16V,can not receive (0x18FF1B41 or 0x18FEC1EE) more than 5s	
U220900	CANFD6 Network Management limps home	IG-ON,after entering limphome and record tLimpHomeDTC more than 2s	
U012287	lost comunication with VDC	IG-ON,CAN busoff does not occur.The voltage is 9V-16V,can not receive (0x0x18F00F27 or 00x18F06A27)) more than 5s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the CANFD6 bus communication harness. Refer to Inspection Of CANFD6 Bus Network Integrity

Step 4:Reload the software, and upgrade the left millimeter wave radar.

Step 5:Replace the left millimeter wave radar. Refer to Replacement of MMWRL

Step 6:Clear and confirm DTC.

5.1.4.14 Left Millimeter Wave Radar Reports CDC-Related Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U11E000	CDCU_ADCUSET data invalid	IG-ON,The counter or check value is incorrect for five consecutive periods about 0x18FF1B41	1. Sensor 2. CDC 3. Left millimeter wave radar

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check all the related sensors on CDC.

Step 4:Check the CANFD6 bus communication harness. Refer to Inspection Of CANFD6 Bus Network Integrity

Step 5:Check the CANFD5 BusOff communication harness. Refer to Inspection Of CANFD5 BusOff Network Integrity

Step 6:Reload the software, and upgrade the left millimeter wave radar.

Step 7:Replace the left millimeter wave radar. Refer to Replacement of MMWRL

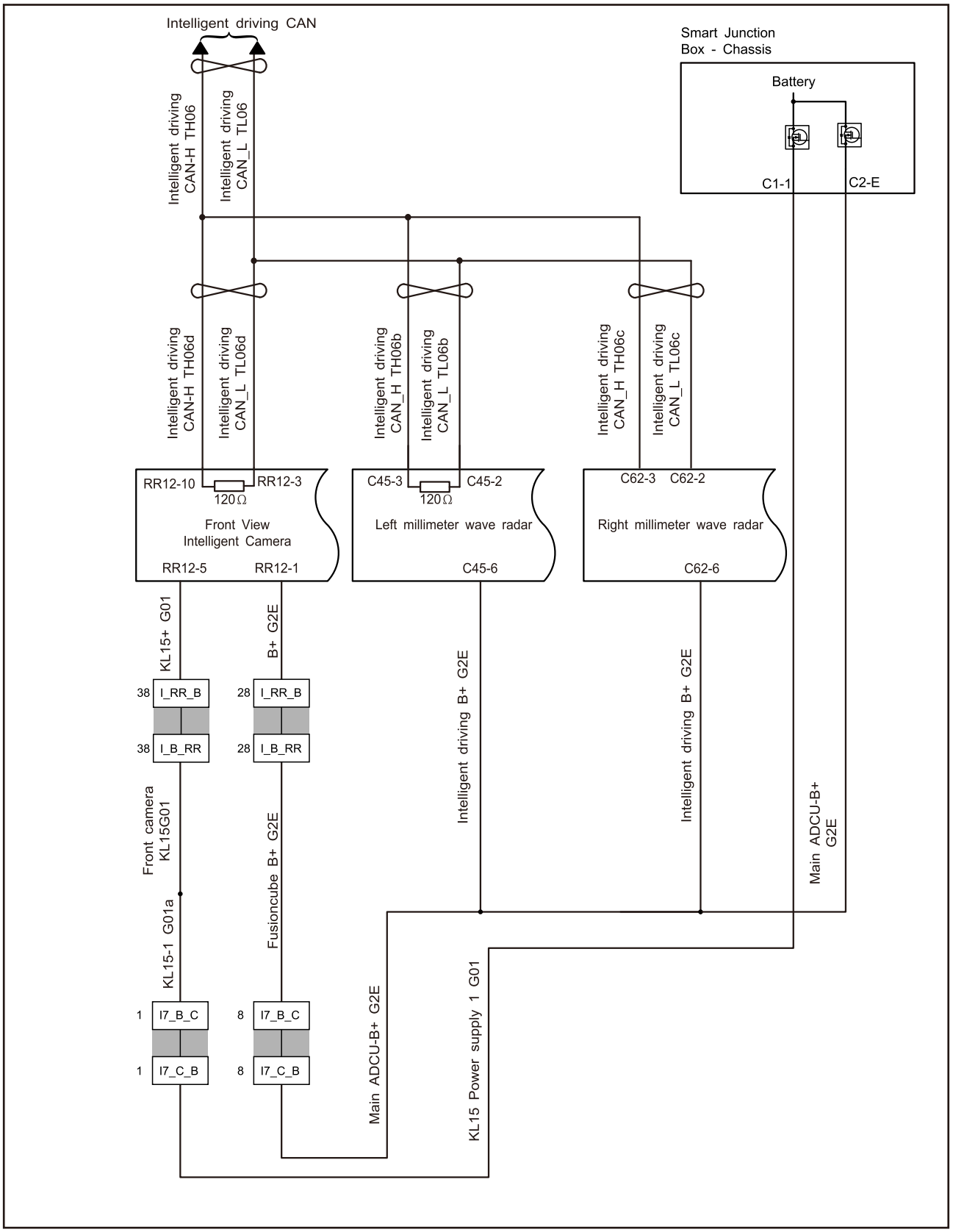
Step 8:Clear and confirm DTC.

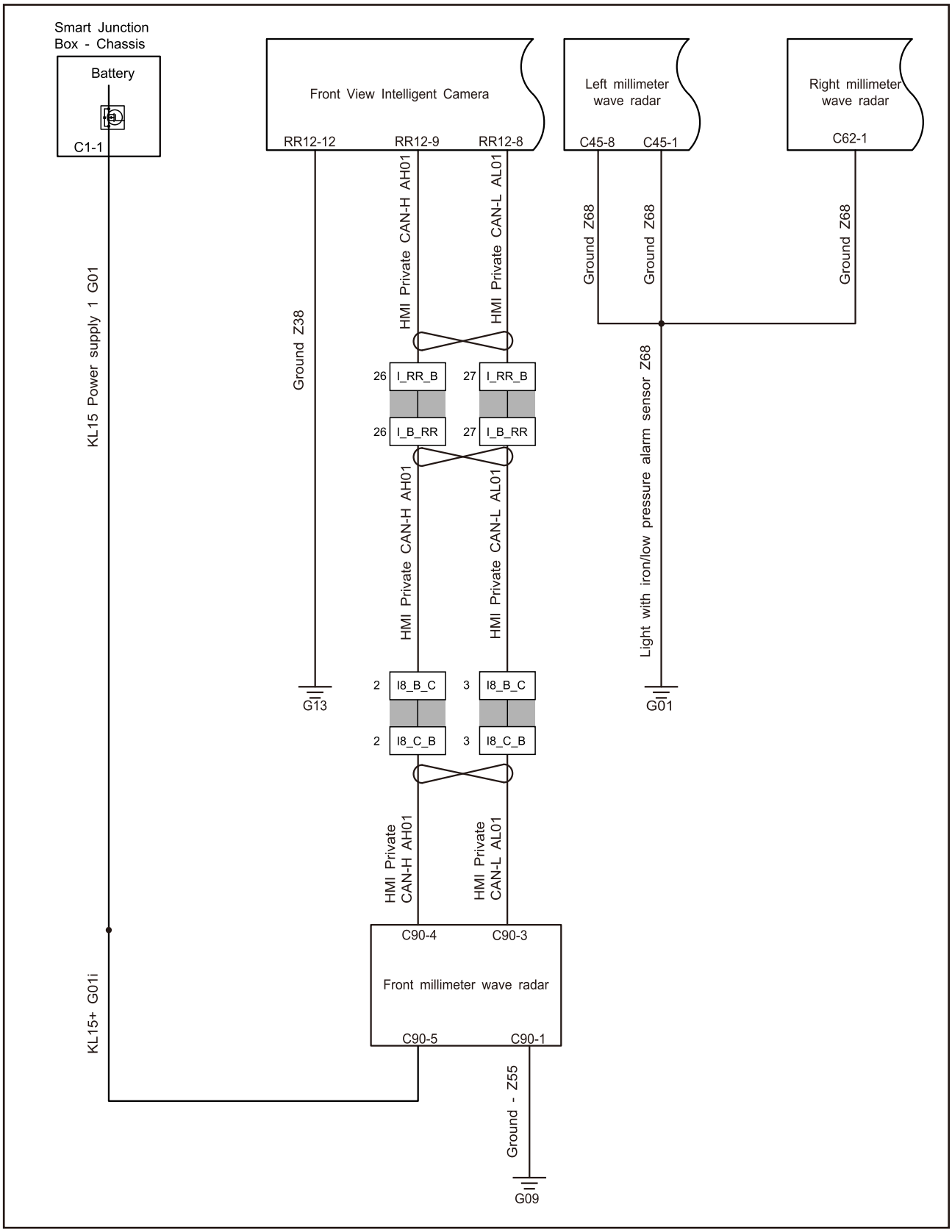
5.1.4.15 Right Millimeter Wave Radar Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	Power supply voltage above threshold	Power supply voltage greater than or equal to 33V,t>= 5000mss	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Right millimeter wave radar
B111716	Power supply voltage below threshold	Power supply voltage less than or equal to 17V,t>=30s	

2.Circuit Diagram


Intelligent driving CAN
Smart Junction Box - Chassis
Battery
C1-1
C2-E
Intelligent driving CAN-H TH06
Intelligent driving CAN_L TL06
Intelligent driving CAN-H TH06d
Intelligent driving CAN_L TL06d
Intelligent driving CAN_H TH06b
Intelligent driving CAN_L TL06b
Intelligent driving CAN_H TH06c
Intelligent driving CAN_L TL06c
RR12-10
RR12-3
120Ω
C45-3
C45-2
120Ω
C62-3
C62-2
Front View Intelligent Camera
Left millimeter wave radar
Right millimeter wave radar
RR12-5
RR12-1
C45-6
C62-6
KL15+ G01
B+ G2E
38 I_RR_B
38 I_B_RR
28 I_RR_B
28 I_B_RR
Intelligent driving B+ G2E
Intelligent driving B+ G2E
Main ADCU-B+ G2E
Front camera KL15G01
KL15-1 G01a
Fusioncube B+ G2E
1 I7_B_C
1 I7_C_B
8 I7_B_C
8 I7_C_B
Main ADCU-B+ G2E
KL15 Power supply 1 G01



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power failure codes besides the right millimeter wave radar?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next

Step 4:Check the power supply and grounding harness of the millimeter wave radar on the right side.

Step 5:Reload the software, and upgrade the millimeter wave radar on the right side.

Step 6:Replace the right millimeter wave radar. Refer to Replacement of MMWRR

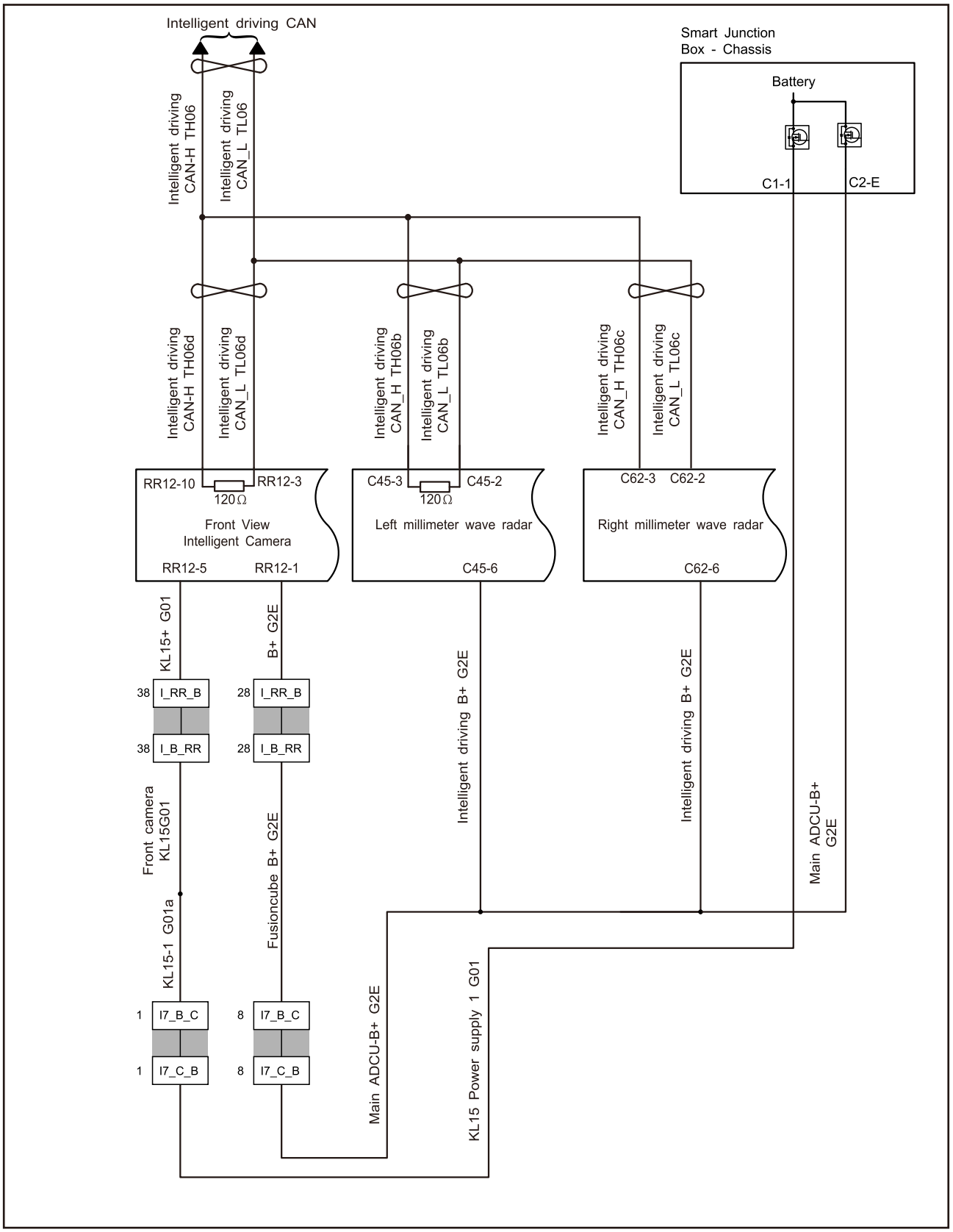
Step 7:Clear and confirm DTC.

5.1.4.16 Right Millimeter Wave Radar Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007888	right radar calibrated fault	Radar uncalibrated or failed	1.Wiring harness 2. Right millimeter wave radar
U019887	VCAN bus-off	IG-ON,The voltage is 9V-16V, 8 consecutive detections of Bus-Off, only for transmission	
U019987	lost comunication with T-BOX	IG-ON,CAN busoff does not occur.The voltage is 9V-16V,can not receive (0x18FEE6EE)more than 5s	
U012187	lost comunication with DCM	IG-ON,CAN busoff does not occur.The voltage is 9V-16V,can not receive (0x18FDA54F)more than 5s	
U015687	lost comunication with CDCU	IG-ON,CAN busoff does not occur.The voltage is 9V-16V,can not receive (0x18FF1B41 or 0x18FEC1EE) more than 5s	
U220900	CANFD6 Network Management limps home	IG-ON,after entering limphome and record tLimpHomeDTC more than 2s	
U012287	lost comunication with VDC	IG-ON,CAN busoff does not occur.The voltage is 9V-16V,can not receive (0x0x18F00F27 or 00x18F06A27)) more than 5s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the CANFD6 bus communication harness. Refer to Inspection Of CANFD6 Bus Network Integrity

Step 4:Reload the software, and upgrade the millimeter wave radar on the right side.

Step 5:Replace the right millimeter wave radar. Refer to Replacement of MMWRR

Step 6:Clear and confirm DTC.

5.1.4.17 Right Millimeter Wave Radar Reports CDC-Related Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U120000	CDCU_ADCUSET data invalid	IG-ON,The counter or check value is incorrect for five consecutive periods about 0x18FF1B41	1. Sensor 2. CDC 3. Right millimeter wave radar

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check all the related sensors on CDC.

Step 4:Check the CANFD6 bus communication harness. Refer to Inspection Of CANFD6 Bus Network Integrity

Step 5:Check the CANFD5 BusOff communication harness. Refer to Inspection Of CANFD5 BusOff Network Integrity

Step 6:Reload the software, and upgrade the millimeter wave radar on the right side.

Step 7:Replace the right millimeter wave radar. Refer to Replacement of MMWRR

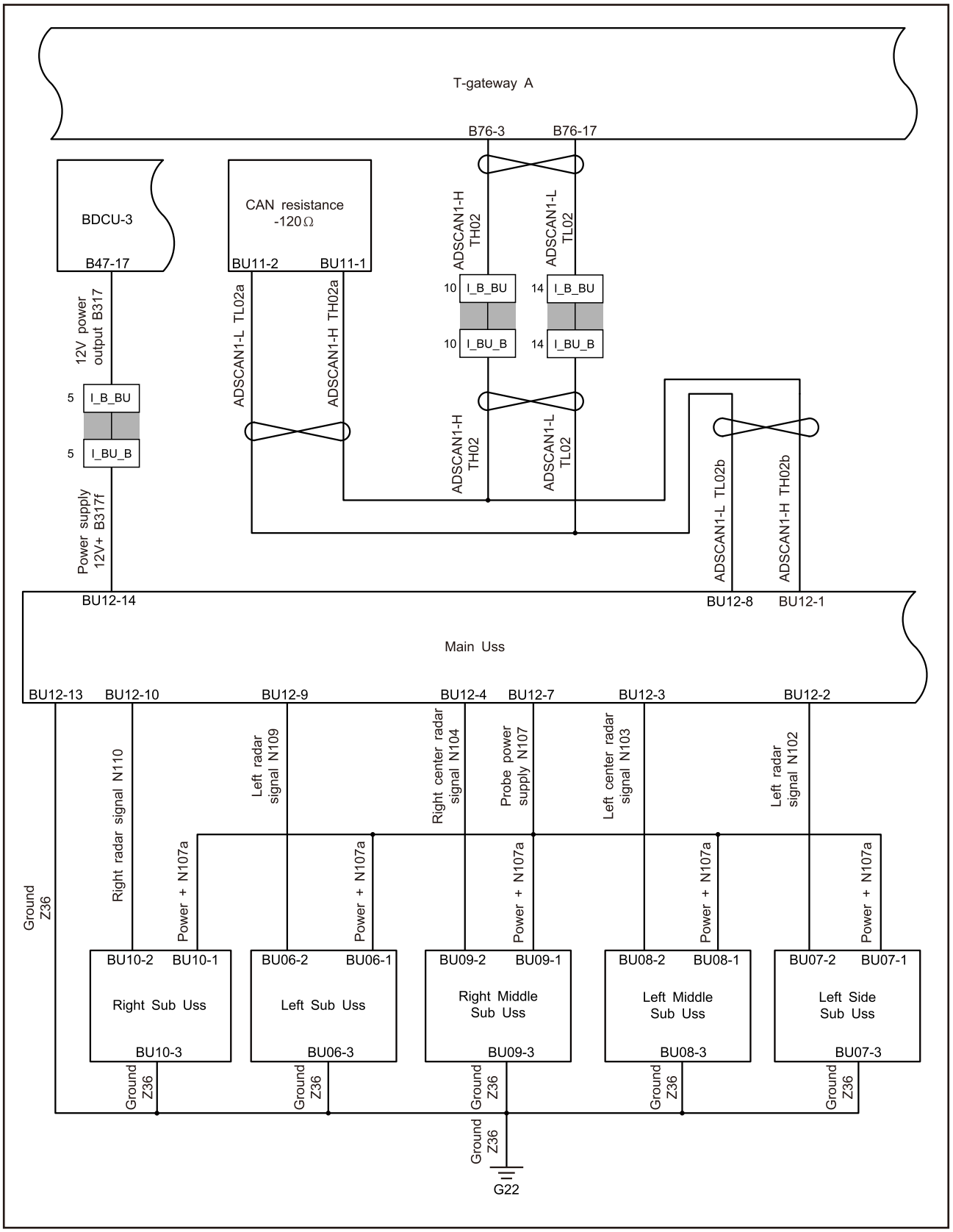
Step 8:Clear and confirm DTC.

5.1.4.18 Main Uss Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	Battery Voltage Too High	Supply Voltage above 16V more than 5000ms, KL15 ON	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Main Uss
B111716	Battery Voltage Tool low	Supply Voltage under 9V more than 5000ms, KL15 ON	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power failure codes besides the main uss?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC Low-voltage Charging System Malfunction

– No: Next

Step 4:Check the power supply and grounding harness of the main uss.

Step 5:Reload the software, and upgrade the main uss.

Step 6:Replace the main uss. Refer to Replacement of Main USS (snowy white)

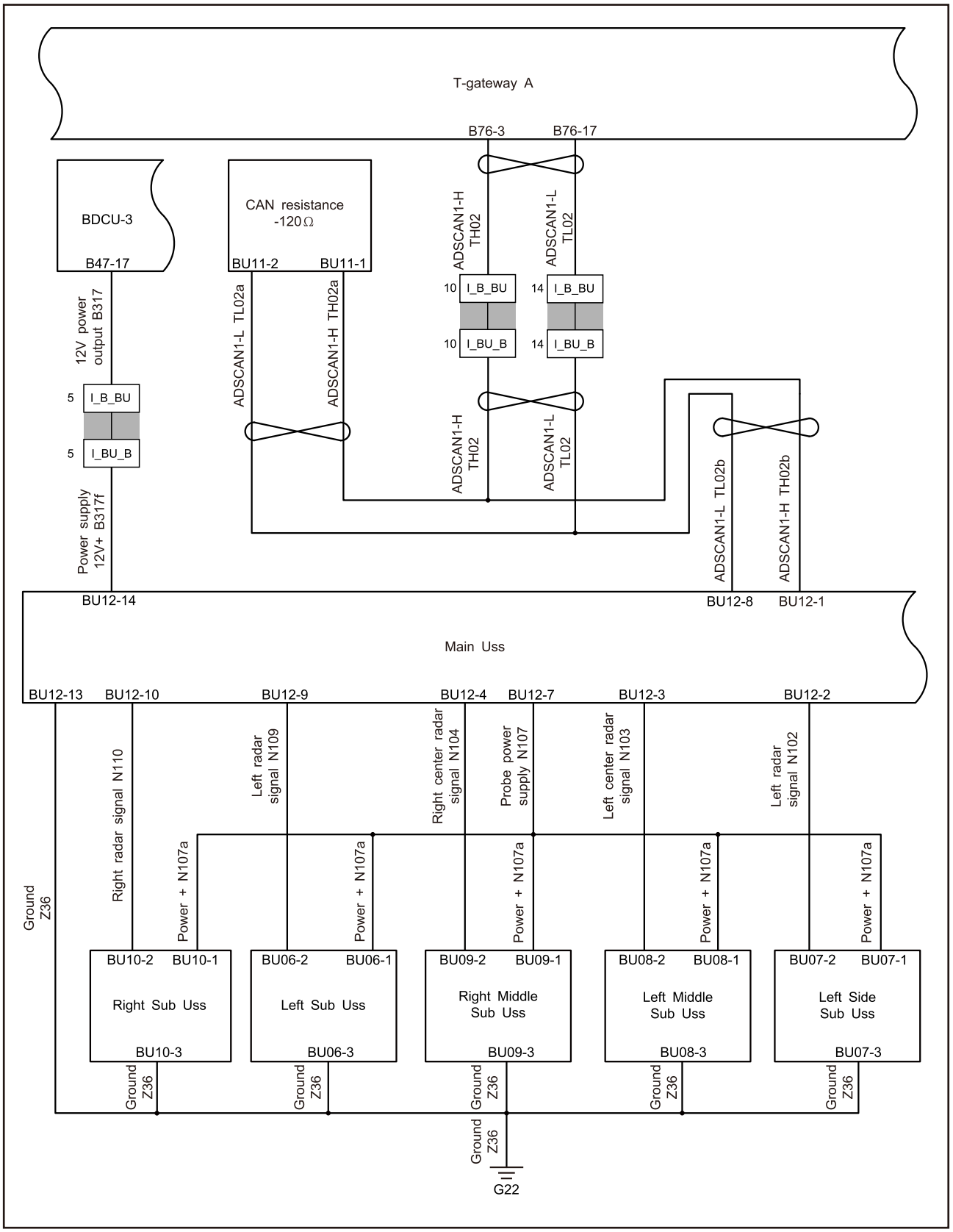
Step 7:Clear and confirm DTC.

5.1.4.19 Main Uss Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007488	Enter the CAN Bus-off for twice in a row	Enter the CAN Bus-off for twice in a row	1.Wiring harness 2.Main uss
U012287	The VDC message related to vehicle speed (with the ID of 0x18FEF100) has been lost for a duration of 10 times the cycle, which is 10 * 100	The VDC message related to vehicle speed (with the ID of 0x18FEF100) has been lost for a duration of 10 times the cycle, which is 10 * 100	
U019887	Losting the TGW gear message lasts 10 times the cycle:10 x 100	Losting the TGW gear message lasts 10 times the cycle:10 x 100	
U015687	Losting the soft switch CDCU message (0x18FF1B41)lasts 10 times the cycle:10 x 200	Losting the soft switch CDCU message(0x18FF1B41) lasts 10 times the cycle:10 x 200	
U012887	Losting the EPB message (0x18FE1250)lasts 10 times the cycle:10 x 100	Losting the EPB message(0x18FE1250)lasts 10 times the cycle:10 x 100	
U014087	The BDCU temperature message	The BDCU temperature message	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the ADCAN1 bus communication harness. Refer to Replacement Of ADCAN1 Bus Network Integrity

Step 4:Reload the software, and upgrade the main uss.

Step 5:Replace the main uss. Refer to Replacement of Main USS (snowy white)

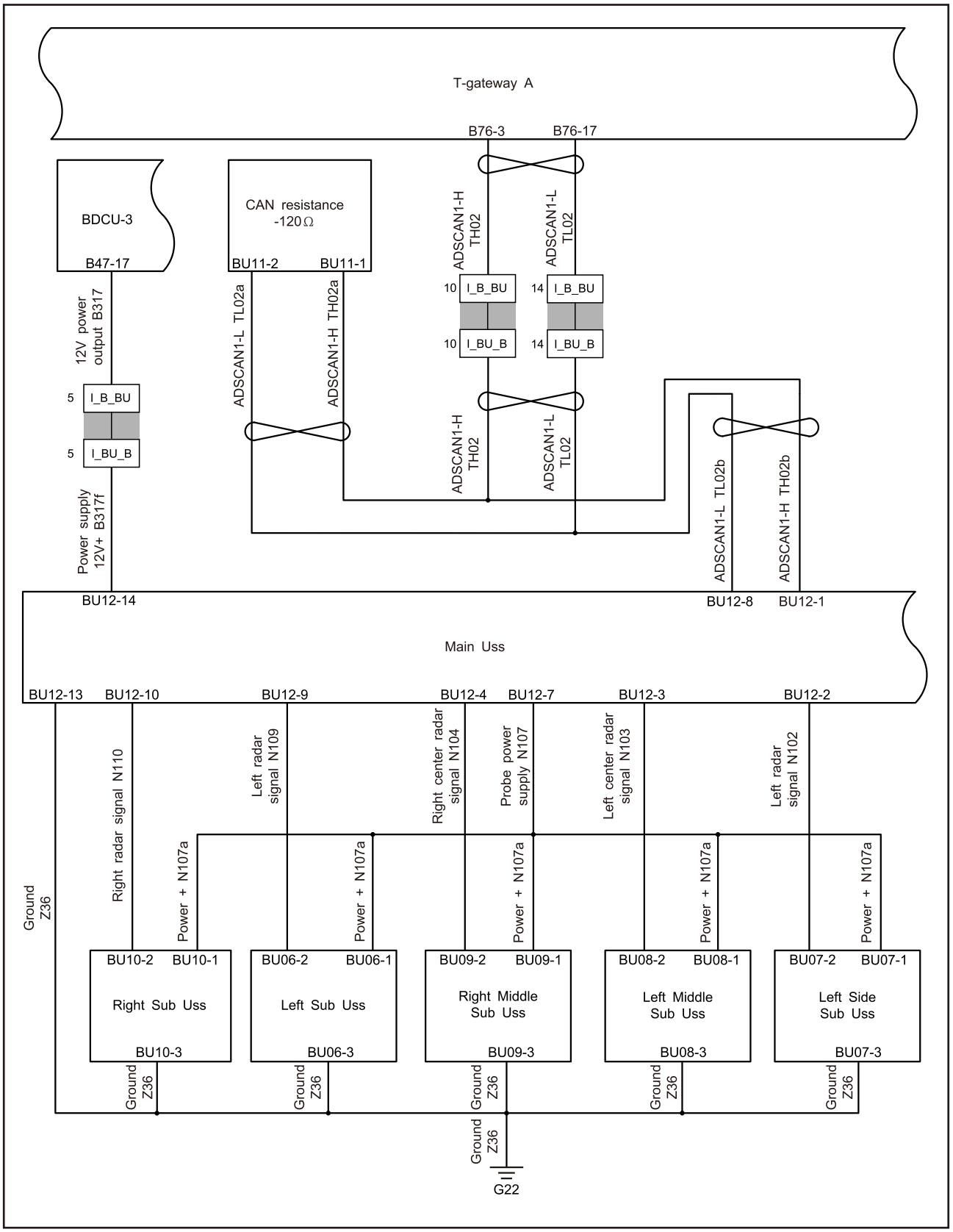
Step 6:Clear and confirm DTC.

5.1.4.20 Main Uss Signal Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C121509	Front Right Side Sensor signal line failure short-circuit to GND or oc	Front Right Side Sensor signal line failure short-circuit to GND or oc	1.Wiring harness 2.Main uss
C121606	Front Right Side Sensor signal line failure short-circuit to Ubat	Front Right Side Sensor signal line failure short-circuit to Ubat	
C12170C	Front Right Side Sensor ringing time failure	Front Right Side Sensor ringing time failure	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Clean the surface of the main uss.

Step 4:Check the wiring harness between the main uss and other ultrasonic slave radars.

Step 5:Reload the software, and upgrade the main uss.

Step 6:Replace the main uss. Refer to Replacement of Main USS (snowy white)

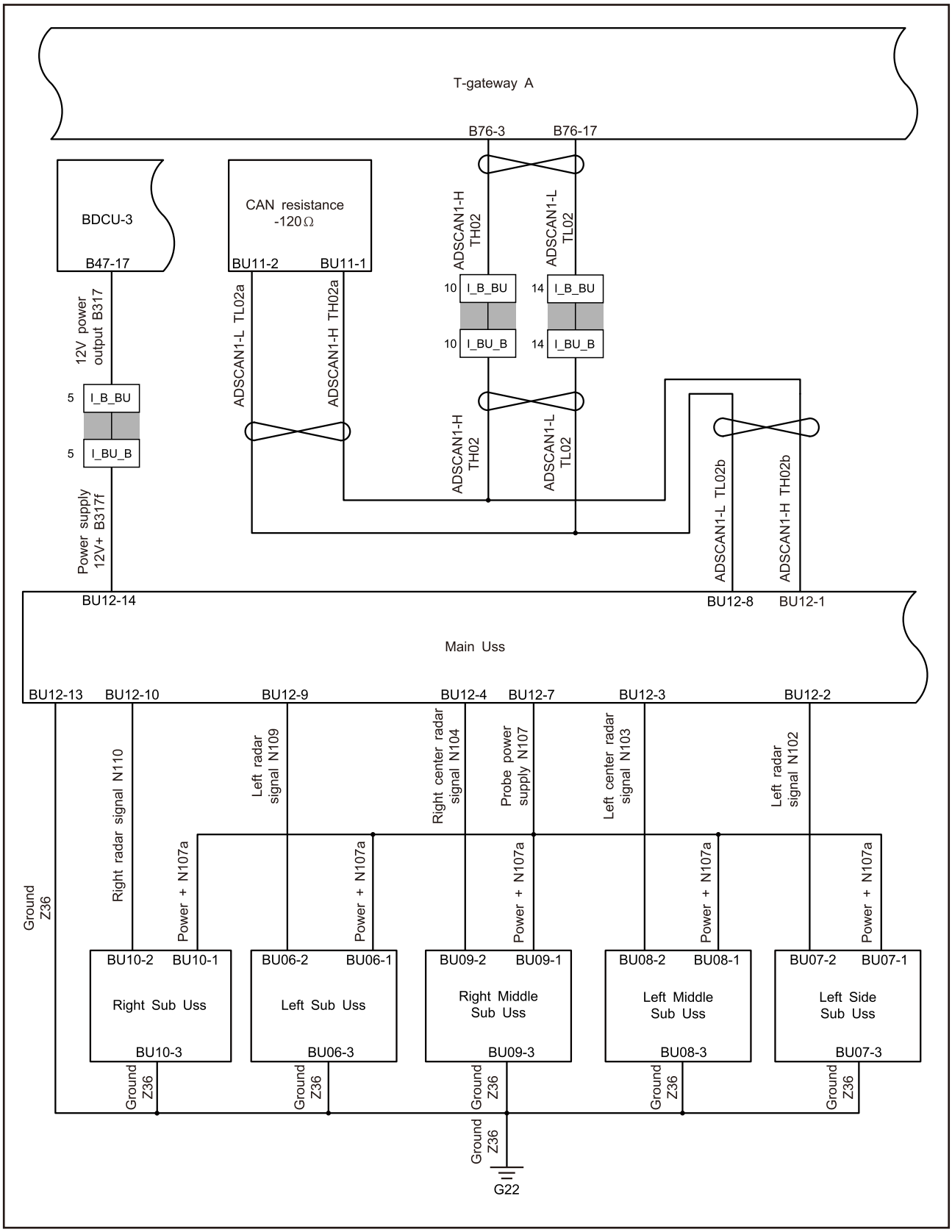
Step 7:Clear and confirm DTC.

5.1.4.21 Left Sub Uss Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C120309	Front Left Sensor signal line failure short-circuit to GND or oc	Front Left Sensor signal line failure short-circuit to GND or oc	1.Wiring harness 2.Main uss 3.Left sub uss
C120406	Front Left Sensor signal line failure short-circuit to Ubat	Front Left Sensor signal line failure short-circuit to Ubat	
C12050C	Front Left Sensor ringing time failure	Front Left Sensor ringing time failure	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Clean the left sub uss surface.

Step 4:Check the wiring harness between the left sub uss and the main uss.

Step 5:Check if the working voltage of the left sub uss meets 9-16V?

- Yes: Next step
- No: Replace the left sub uss. Refer to Replacement of Sub USS (matte black)

Step 6:Reload the software, and upgrade the main uss.

Step 7:Replace the main uss. Refer to Replacement of Main USS (snowy white)

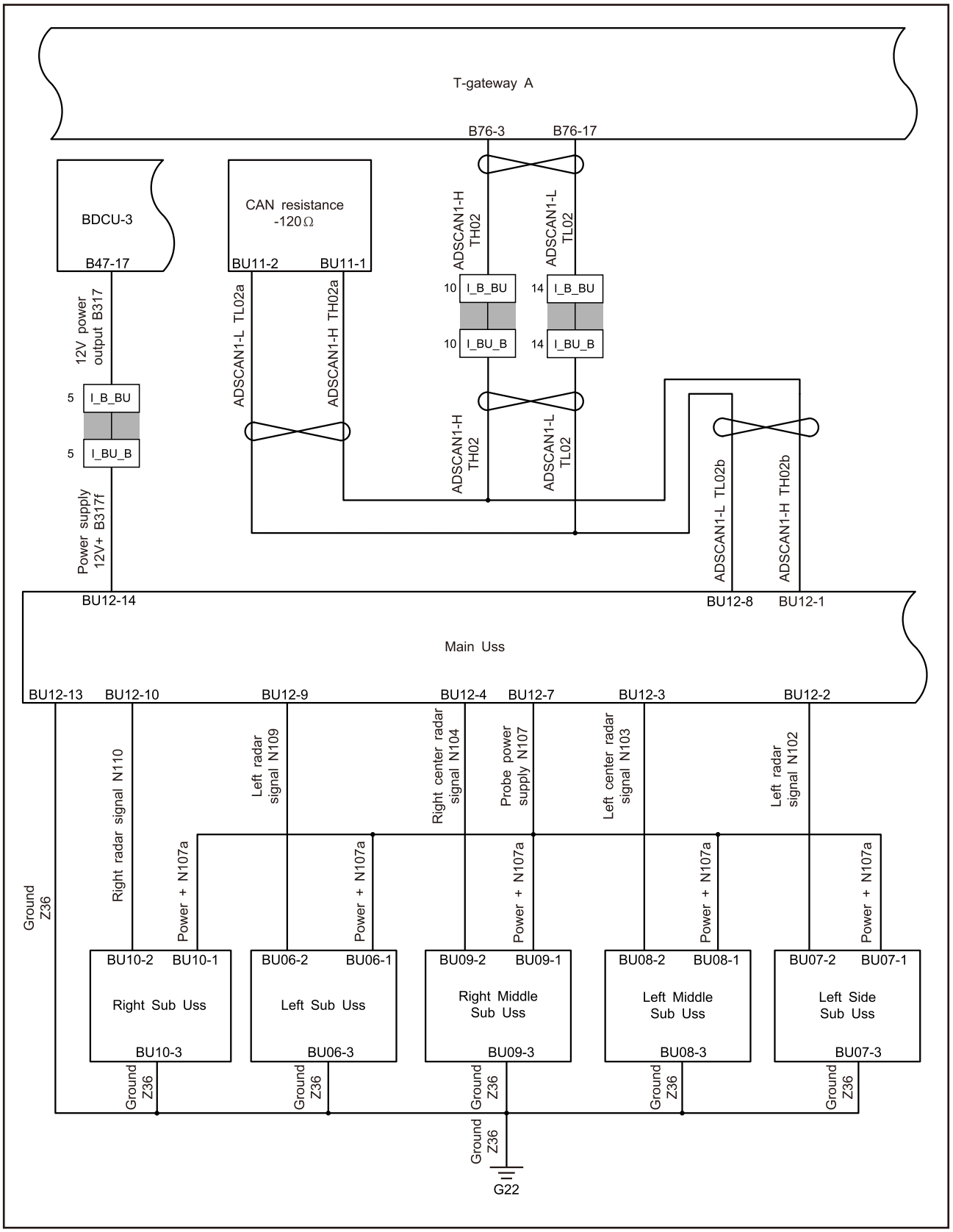
Step 8:Clear and confirm DTC.

5.1.4.22 Left Middle Sub Uss Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C120609	Front Left Center Sensor signal line failure short-circuit to GND or oc	Front Left Center Sensor signal line failure short-circuit to GND or oc	1. Wiring harness 2. Main uss 3. Left middle sub uss
C120706	Front Left Center Sensor signal line failure short-circuit to Ubat	Front Left Center Sensor signal line failure short-circuit to Ubat	
C12080C	Front Left Center Sensor ringing time failure	Front Left Center Sensor ringing time failure	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Clean the left middle sub uss surface.

Step 4:Check the wiring harness between the left middle sub uss and the main uss.

Step 5:Check if the working voltage of the left middle sub uss meets 9-16V?

- Yes: Next step
- No: Replace the left middle sub uss. Refer to Replacement of Sub USS (matte black)

Step 6:Reload the software, and upgrade the main uss.

Step 7:Replace the main uss. Refer to Replacement of Main USS (snowy white)

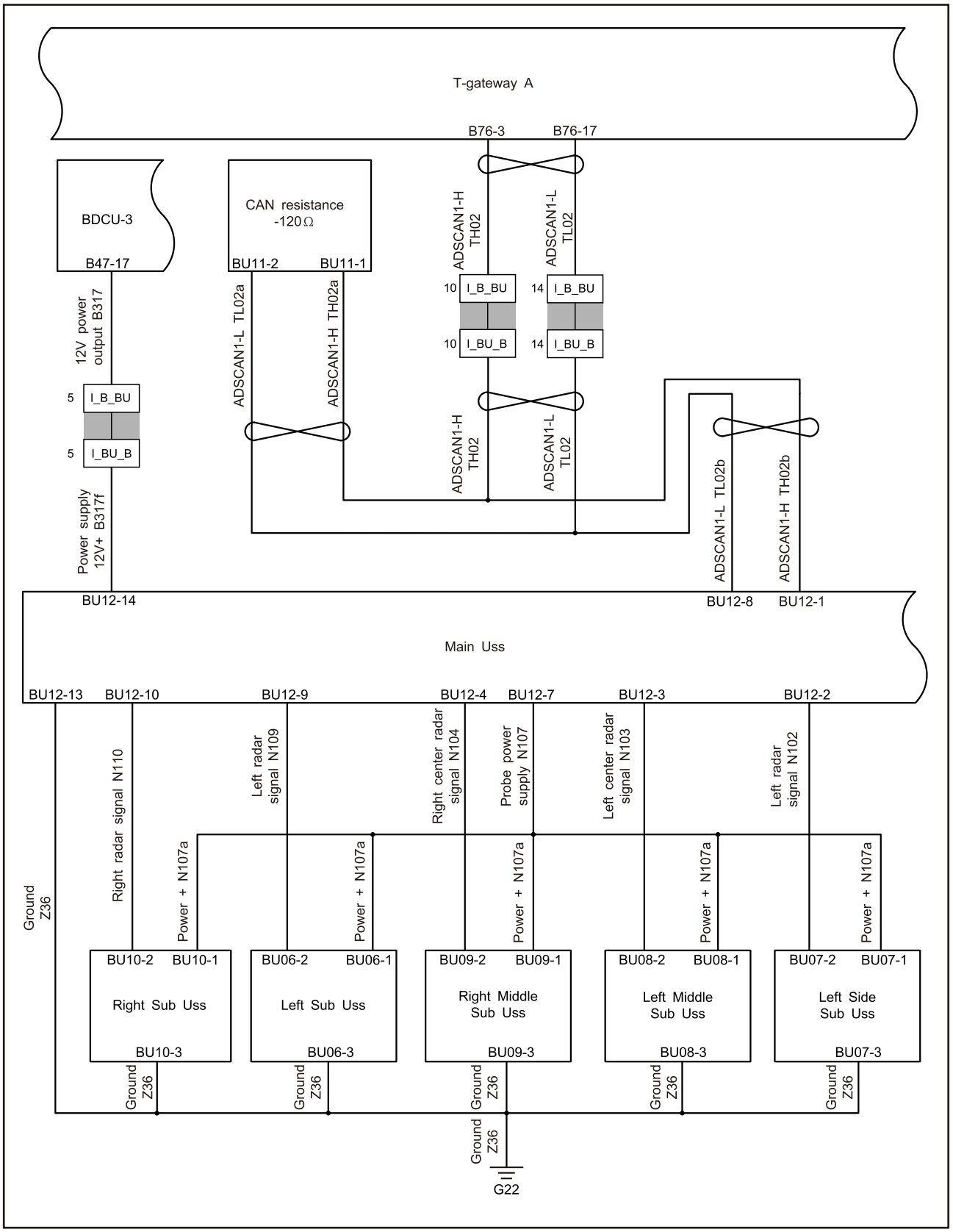
Step 8:Clear and confirm DTC.

5.1.4.23 Right Middle Sub Uss Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C120909	Front Righ Center Sensor signal line failure short-circuit to GND or oct	Front Righ Center Sensor signal line failure short-circuit to GND or oct	1. Wiring harness 2. Main uss 3. Right middle sub uss
C121006	Front Right Center Sensor signal line failure short-circuit to Ubat	Front Right Center Sensor signal line failure short-circuit to Ubat	
C12110C	Front Right Center Sensor ringing time failure	Front Right Center Sensor ringing time failure	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Clean the surface of the right middle sub uss.

Step 4:Check the wiring harness between the right middle sub uss and the main uss.

Step 5:Check if the working voltage of the right middle sub uss meets 9-16V?

- Yes: Next step
- No: Replace the right middle sub uss. Refer to Replacement of Sub USS (matte black)

Step 6:Reload the software, and upgrade the main uss.

Step 7:Replace the main uss. Refer to Replacement of Main USS (snowy white)

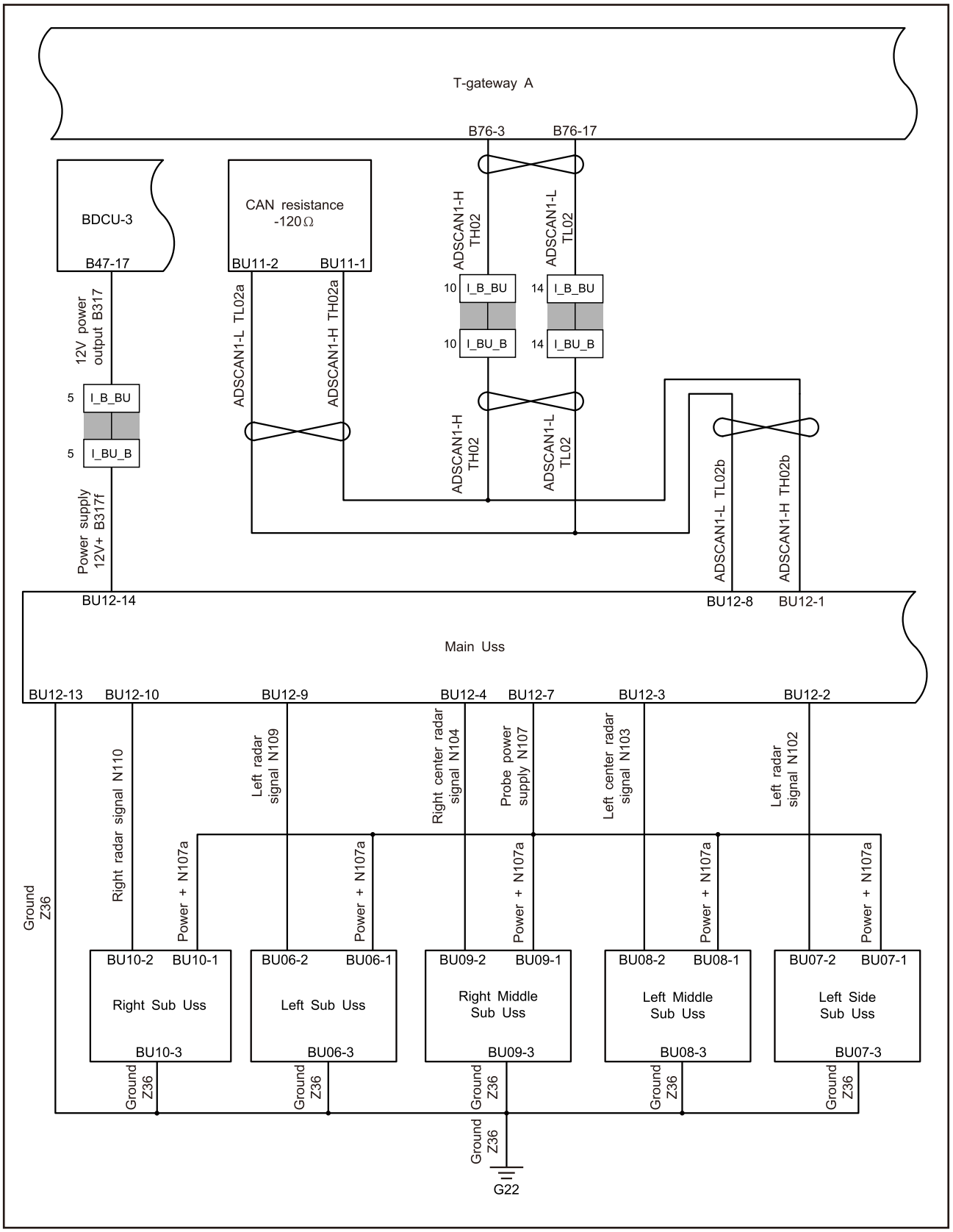
Step 8:Clear and confirm DTC.

5.1.4.24 Left Side Sub Uss Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C120009	Front Left Side Sensor signal line failure short-circuit to GND or oc	Front Left Side Sensor signal line failure short-circuit to GND or oc	1. Wiring harness 2. Left side sub uss 3. Main uss
C120106	Front Left Side Sensor signal line failure short-circuit to Ubat	Front Left Side Sensor signal line failure short-circuit to Ubat	
C12020C	Front Left Side Sensor ringing time failure	Front Left Side Sensor ringing time failure	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Clean the left side sub uss surface.

Step 4:Check the wiring harness between the main uss and the left side sub uss.

Step 5:Check if the working voltage of the left side sub uss meets 9-16V?

- Yes: Next step
- No: Replace the left side sub uss. Refer to Replacement of Left Side USS (snowy white)

Step 6:Reload the software, and upgrade the main uss.

Step 7:Replace the main uss. Refer to Replacement of Main USS (snowy white)

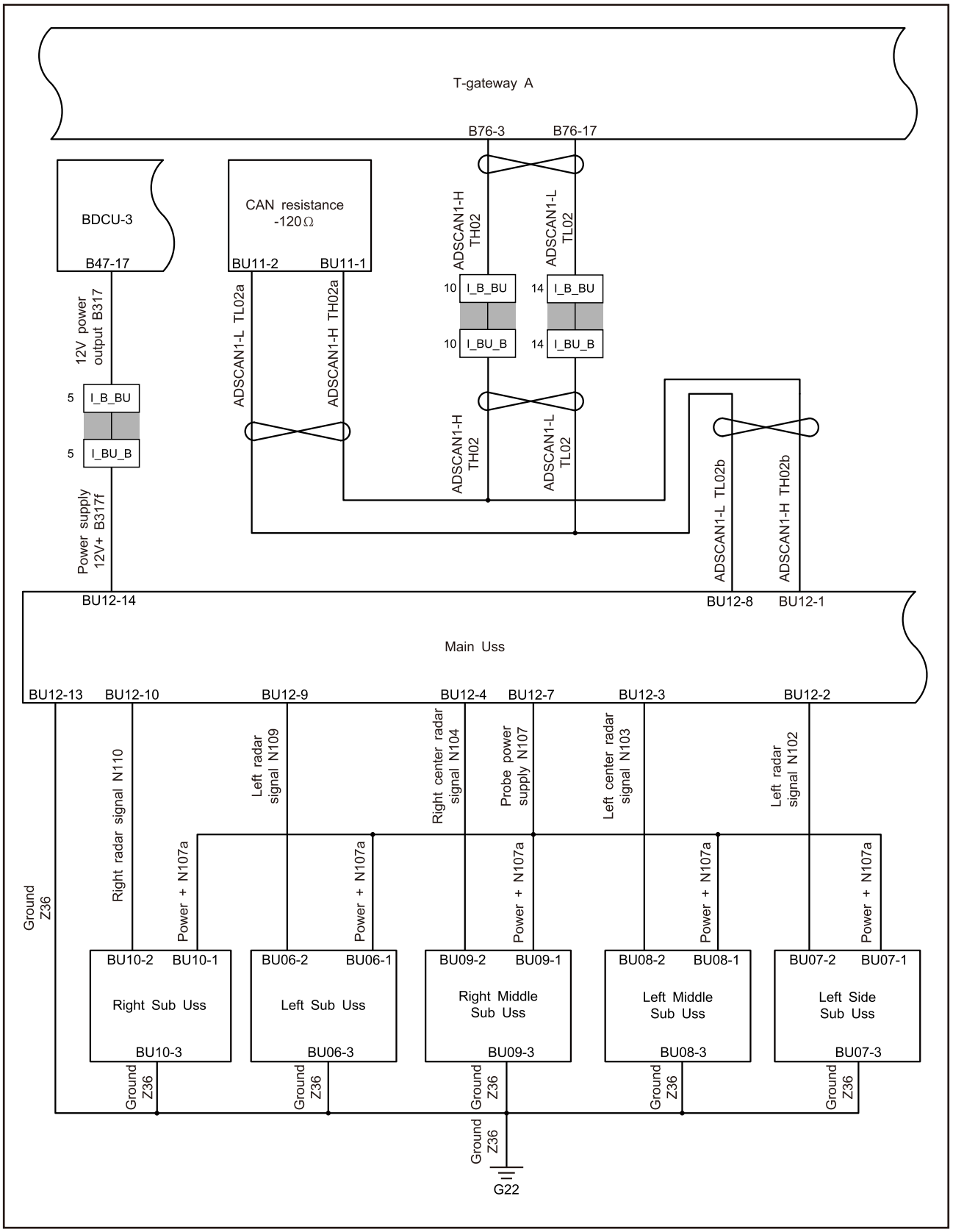
Step 8:Clear and confirm DTC.

5.1.4.25 Right Sub Uss Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C121209	Front Right Sensor signal line failure short-circuit to GND or OC	Front Right Sensor signal line failure short-circuit to GND or OC	1. Wiring harness 2. Right sub uss 3. Main uss
C121306	Front Right Sensor signal line failure short-circuit to Ubat	Front Right Sensor signal line failure short-circuit to Ubat	
C12140C	Front Right Sensor ringing time failure	Front Right Sensor ringing time failure	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Clean the right sub uss surface.

Step 4:Check the wiring harness between the right sub uss and the main uss.

Step 5:Check if the working voltage of the right sub uss meets 9-16V?

- Yes: Next
- No: Replace the right sub uss. Refer to Replacement of Sub USS (matte black)

Step 6:Reload the software, and upgrade the main uss.

Step 7:Replace the main uss. Refer to Replacement of Main USS (snowy white)

Step 8:Clear and confirm DTC.

5.1.4.26 Inspection Of CANFD6 Bus Network Integrity

Step 1	Check the CANFD6 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD6(H) and CANFD6(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the CANFD6 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD6 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD6 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
CANFD6 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD6 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the CANFD6 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the CANFD6 bus.

C. Measure the CANFD6 bus resistance between each module and the front view intelligent camera in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of CANFD6 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the CANFD6 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the CANFD6 bus.

Yes

Step 7	Disconnect the modules on the CANFD6 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the CANFD6 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

5.1.4.27 ADCAN1 Bus Network Integrity Check

Step 1	Check the ADCAN1 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
ADCAN1(H) and ADCAN1(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the ADCAN1 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
ADCAN1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
ADCAN1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
ADCAN1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
ADCAN1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the ADCAN1 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the ADCAN1 bus.

C. Measure the ADCAN1 bus resistance between each module and the T-gateway sequentially to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the resistance of ADCAN1 bus to ground is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the ADCAN1 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the ADCAN1 bus.

Yes

Step 7	Disconnect the modules on the ADCAN1 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the ADCAN1 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

5.1.5 Dismantling and Installation

5.1.5.1 Replacement of Front View Intelligent Camera

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

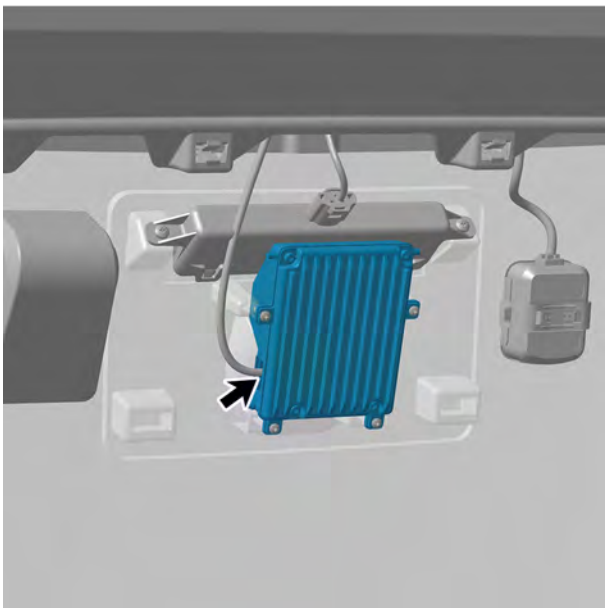
3 Disconnect the battery negative cable.

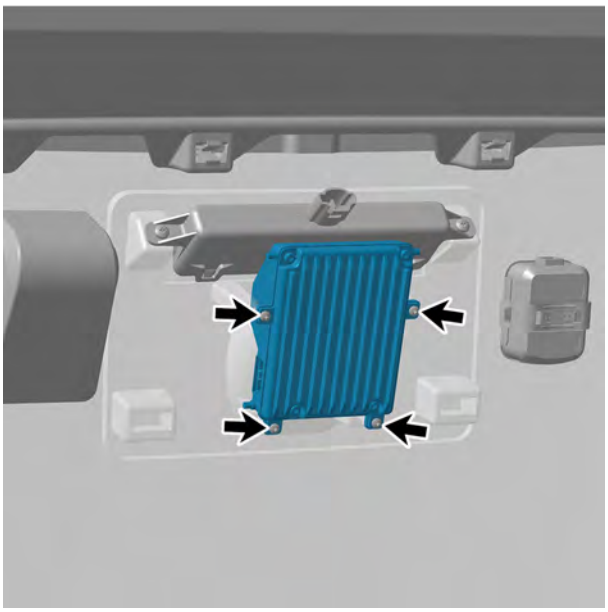
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the front camera trim cover assembly.

5 Disconnect 1 harness connector of the front view intelligent camera.

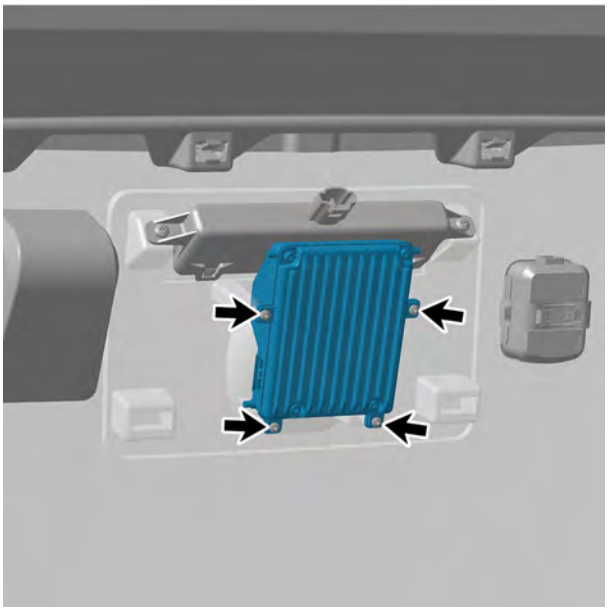




6 Remove 4 fixing screws of the front view intelligent camera.

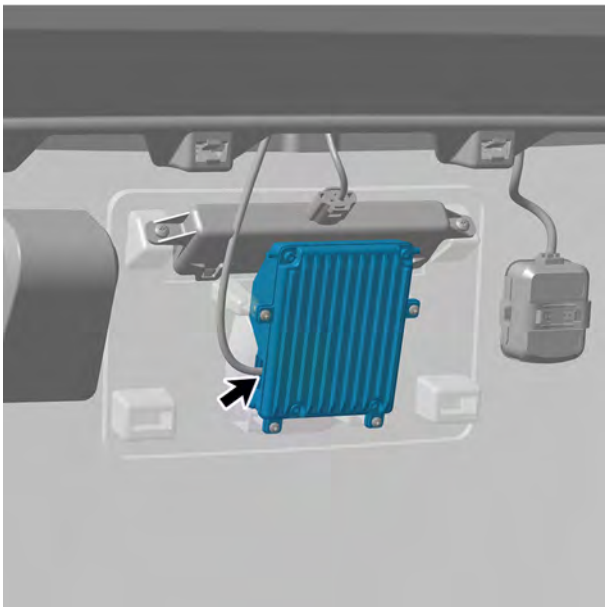
7 Remove the front view intelligent camera.

Installation Procedures



1 Move the front view intelligent camera to the mounting position.

2 Install 4 fixing screws of the front view intelligent camera.



3 Connect 1 harness connector of the front view intelligent camera.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the front camera trim cover assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

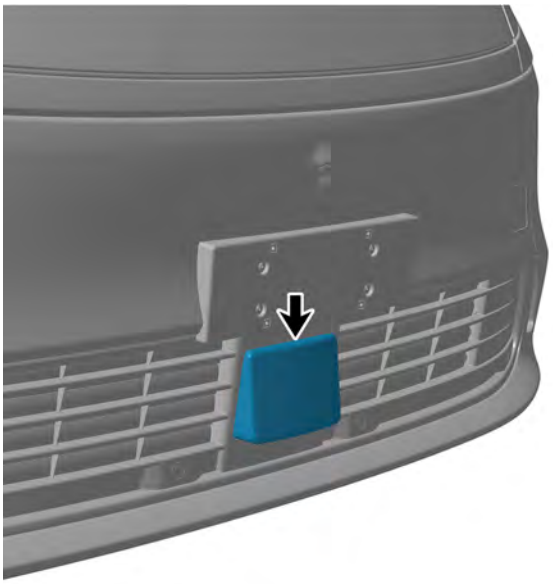
7 Close the door.

caution

After part replacement, it is necessary to recalibrate the camera.

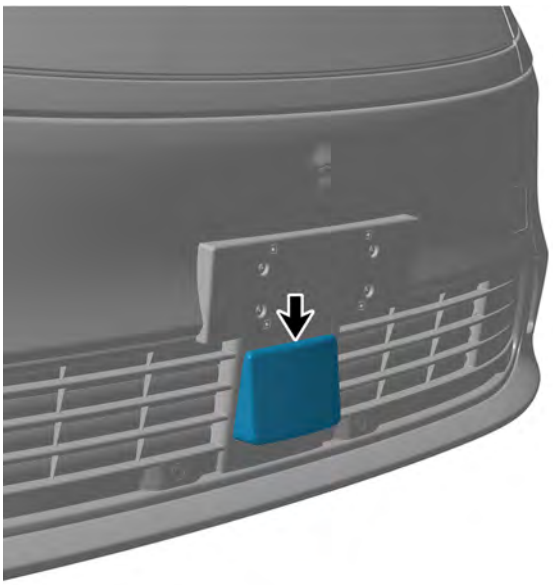
5.1.5.2 Replacement of Front Millimeter Wave Radar Shield

Removal Procedures



1 Pry off the Front Millimeter Wave Radar shield.

Installation Procedures



1 Install theFront Millimeter Wave Radar shield.

5.1.5.3 Replacement of Front Millimeter Wave Radar

Removal Procedures

1 Open the door.

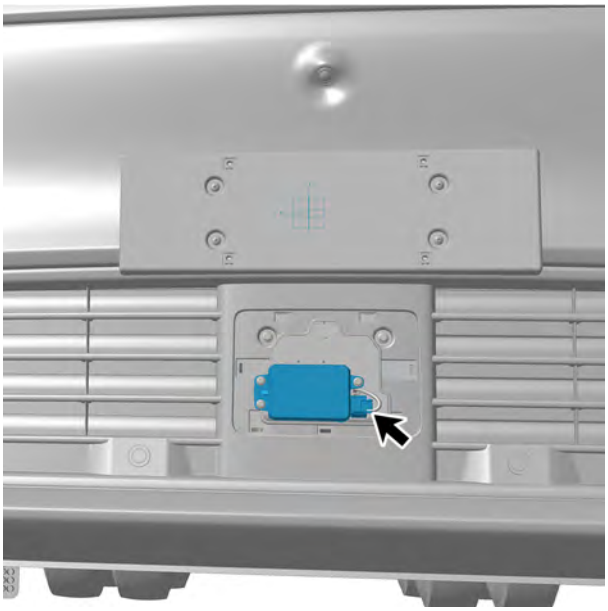
2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

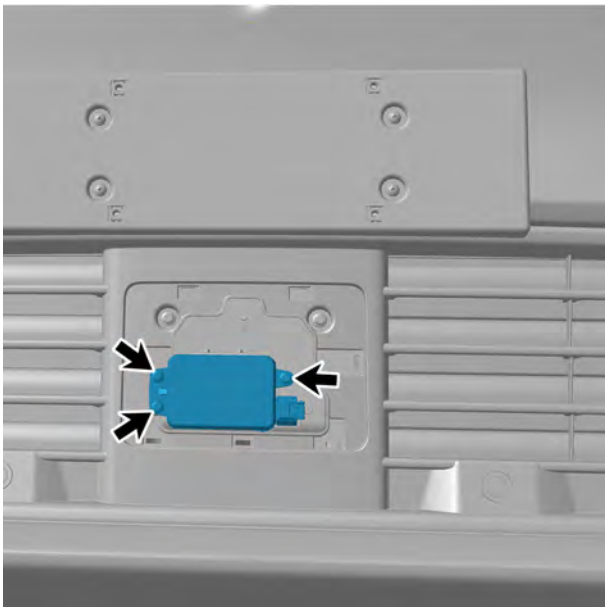
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the Front millimeter wave radar radar shield.



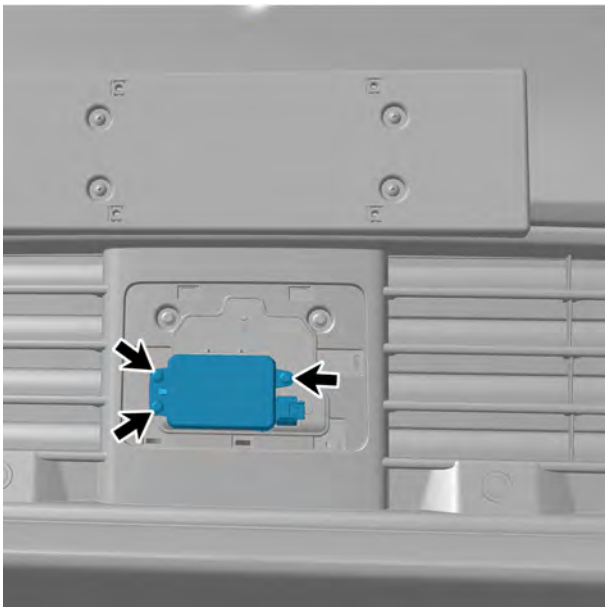
5 Disconnect 1 harness connector of the Front millimeter wave radar.



6 Remove 3 fixing bolts of the Front millimeter wave radar.

7 Remove the Front millimeter wave radar.

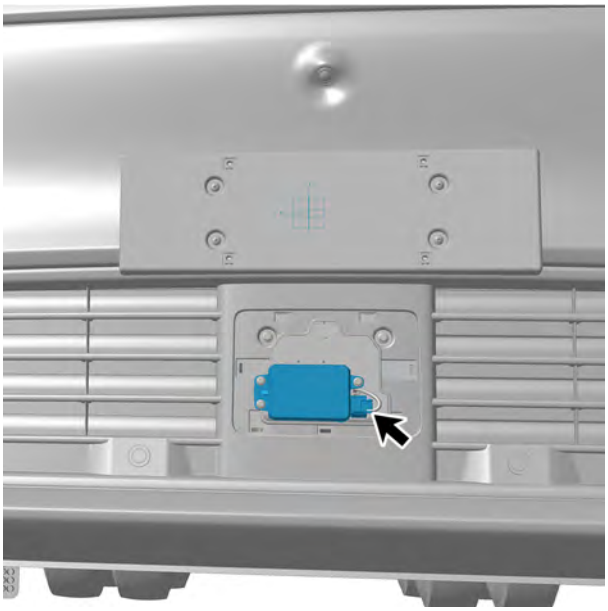
Installation Procedures



1 Move the Front millimeter wave radar to the mounting position.

2 Install 3 fixing bolts of the Front millimeter wave radar.

Torque:(4 ft-lb +/- .75 ft-lb) ft-lb



3 Connect 1 harness connector of the Front millimeter wave radar.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the Front millimeter wave radar radar shield.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

caution

After part replacement, it is necessary to recalibrate the radar.

5.1.5.4 Replacement of MMWRL

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

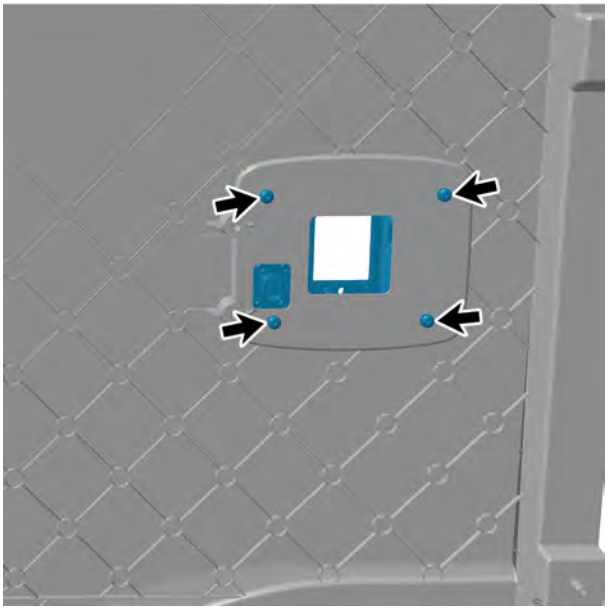
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left side wall lower trim panel assembly.

5 Remove the left skirt plate assembly.

6 Remove 4 fixing screws of the MMWRL.

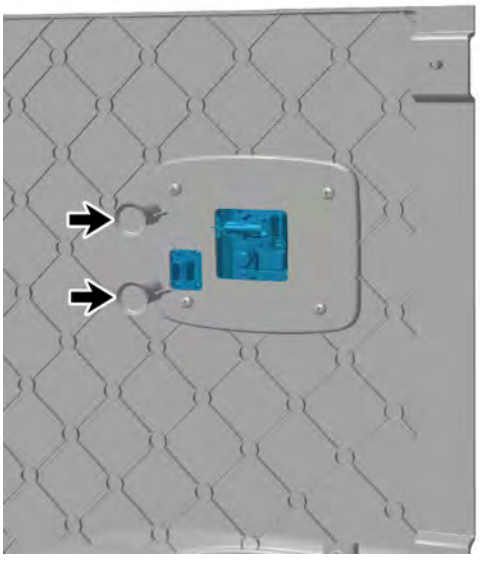
7 Remove the MMWRL.

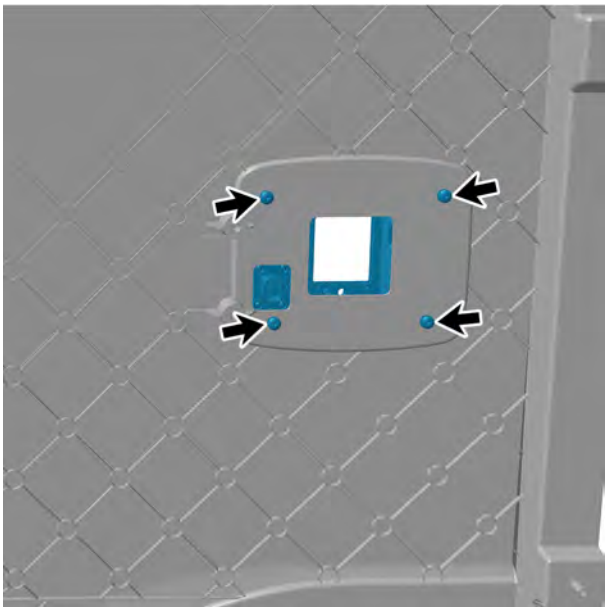


Installation Procedures

1 Move the MMWRL to the mounting position.

2 Install the rubber buffer pad and then install the four fixing screws of the millimeter wave radar on the left side.





3 Install the left skirt plate assembly.

4 Install the left side wall lower trim panel assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

caution

After part replacement, it is necessary to recalibrate the radar.

5.1.5.5 Replacement of MMWRR

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

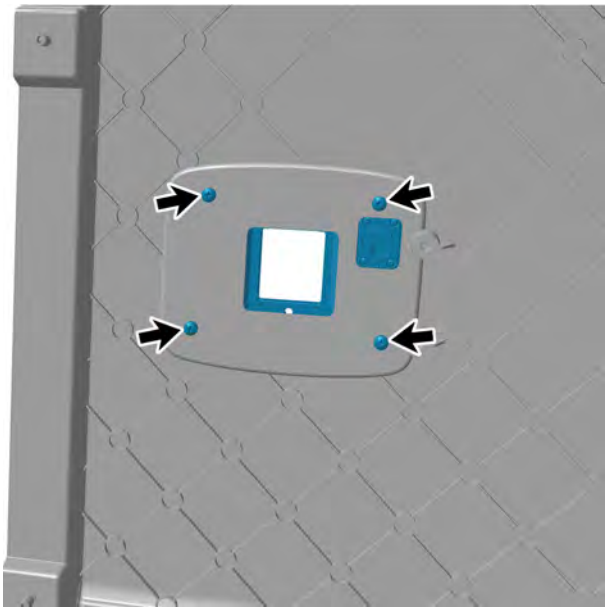
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right side wall lower trim panel assembly.

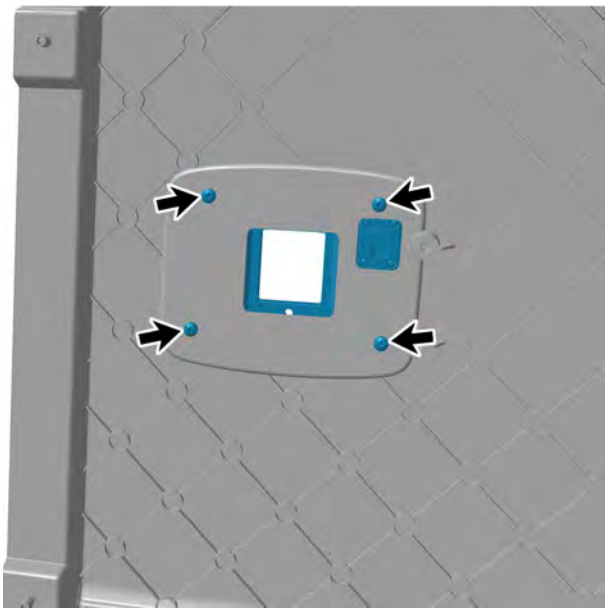
5 Remove the right skirt plate assembly.



6 Remove 4 fixing screws of the MMWRR.

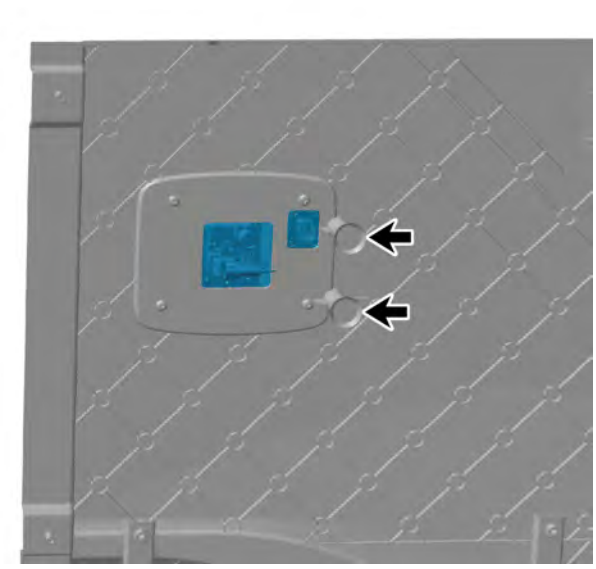
7 Remove the MMWRR.

Installation Procedures



1 Move the MMWRR to the mounting position.

2 Install the rubber buffer pad and then install the four fixing screws of the millimeter wave radar on the right side.



3 Install the right skirt plate assembly.

4 Attach the right side wall lower trim panel assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

caution

After part replacement, it is necessary to recalibrate the radar.

5.1.5.6 Replacement of Main USS (snowy white)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

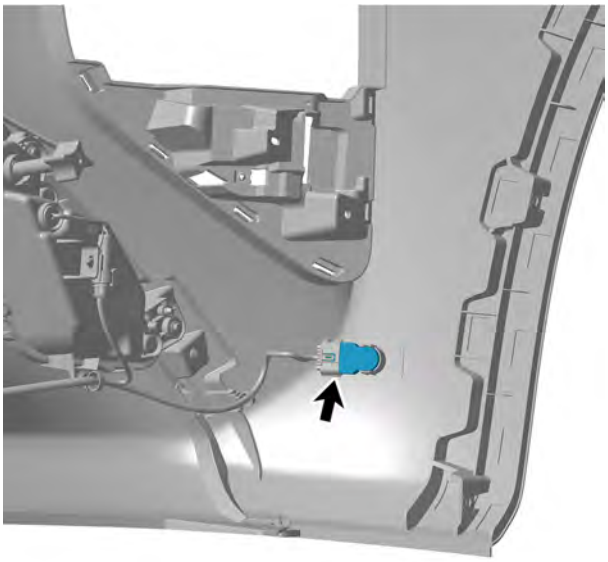
7 Remove the forward MMW radar.

8 Remove the front MMW radar adapter bracket.

9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

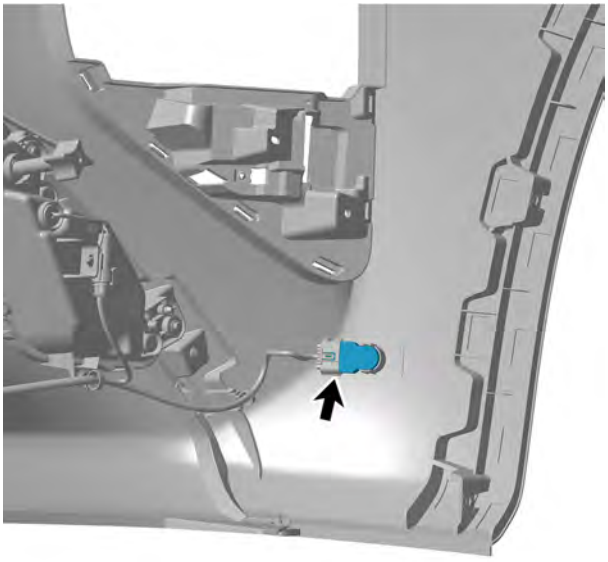
11 Remove the front bumper assembly.



12 Disconnect 1 harness connector of the USS (snowy white).

13 Remove the USS (snowy white).

Installation Procedures



1 Move the Main USS (snowy white)to the mounting position.

2 Connect 1 harness connector of the USS (snowy white).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Install the front bumper assembly.

4 Install the right cover plate of the corner radar.

5 Install the left cover plate of the corner radar.

6 Install the front MMW radar adapter bracket.

7 Install the forward MMW radar.

8 Install the front MMW radar shield.

9 Install the through-type lamp.

10 Install the engine compartment trim panel body.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

5.1.5.7 Replacement of Sub USS (matte black)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the front MMW radar adapter bracket.

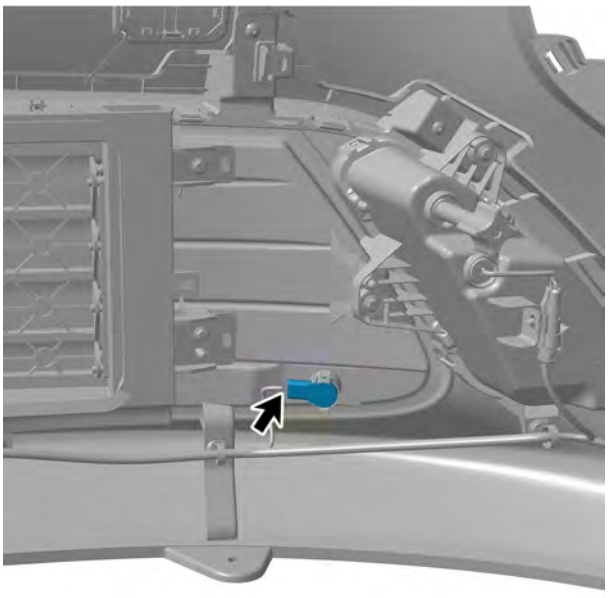
9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Remove the right intake grille assembly.

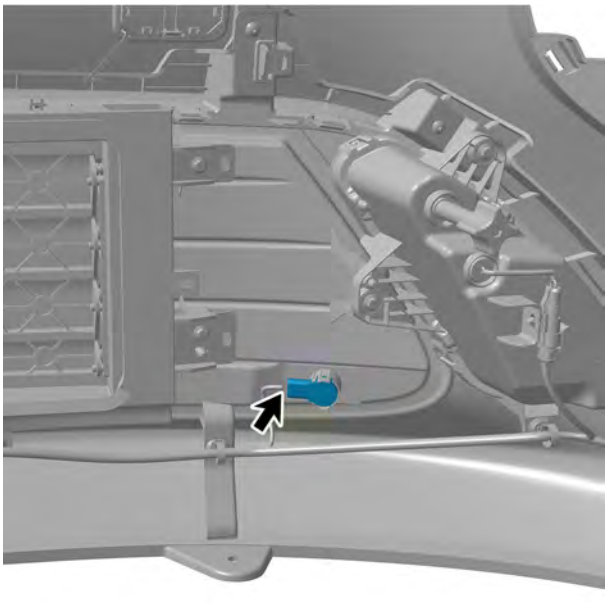
13 Remove the left intake grille assembly.



14 Disconnect 1 harness connector of the Sub USS (matte black).

15 Remove the Sub USS (matte black).

Installation Procedures



1 Move the Sub USS (matte black) to the mounting position.

2 Connect 1 harness connector of the Sub USS (matte black).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Install the right intake grille assembly.

4 Install the left intake grille assembly.

5 Install the front bumper assembly.

6 Install the right cover plate of the corner radar.

7 Install the left cover plate of the corner radar.

8 Install the front MMW radar adapter bracket.

9 Install the forward MMW radar.

10 Install the front MMW radar shield.

11 Install the through-type lamp.

12 Install the engine compartment trim panel body.

13 Connect the battery negative cable.

14 Close the front flip cover plate.

15 Close the door.

5.1.5.8 Replacement of Left Side USS (snowy white)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the front MMW radar adapter bracket.

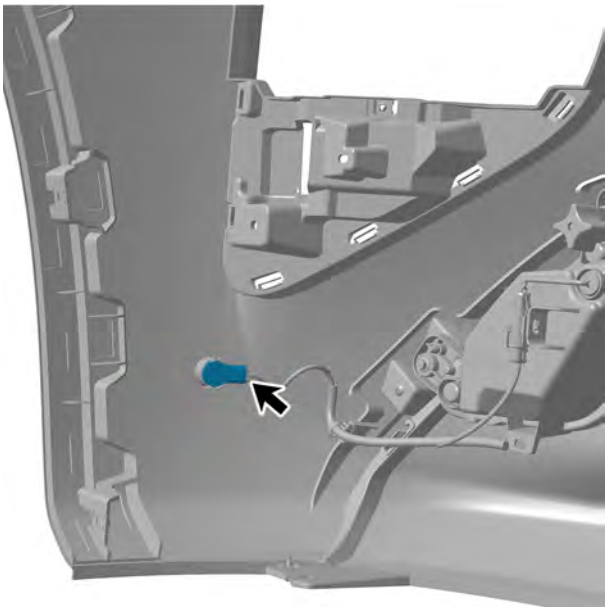
9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

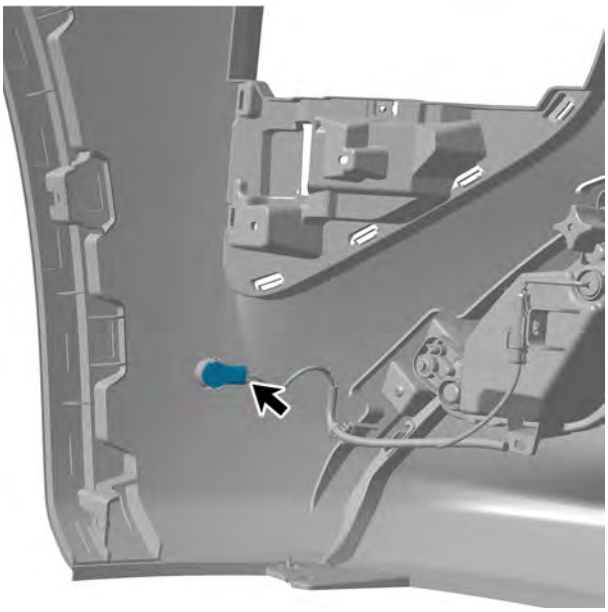
11 Remove the front bumper assembly.

12 Disconnect 1 harness connector of the left side USS (snowy white).

13 Remove the left side USS(snowy white).



Installation Procedures



1 Move the left side USS(snowy white) to the mounting position.

2 Connect 1 harness connector of the left side USS(snowy white).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Install the front bumper assembly.

4 Install the right cover plate of the corner radar.

5 Install the left cover plate of the corner radar.

6 Install the front MMW radar adapter bracket.

7 Install the forward MMW radar.

8 Install the front MMW radar shield.

9 Install the through-type lamp.

10 Install the engine compartment trim panel body.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

5.2 Intelligent Cockpit Device

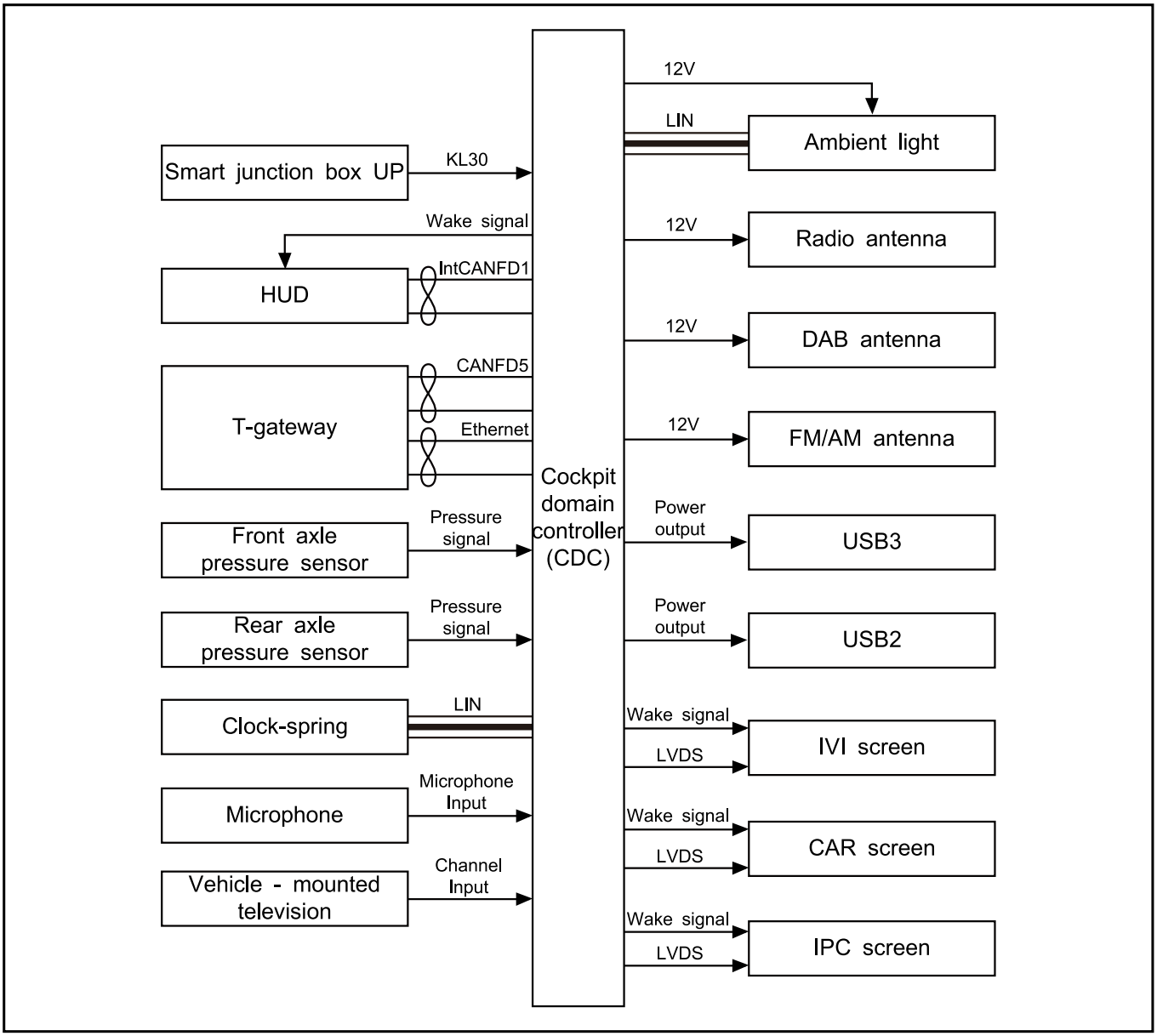
5.2.1 Specifications

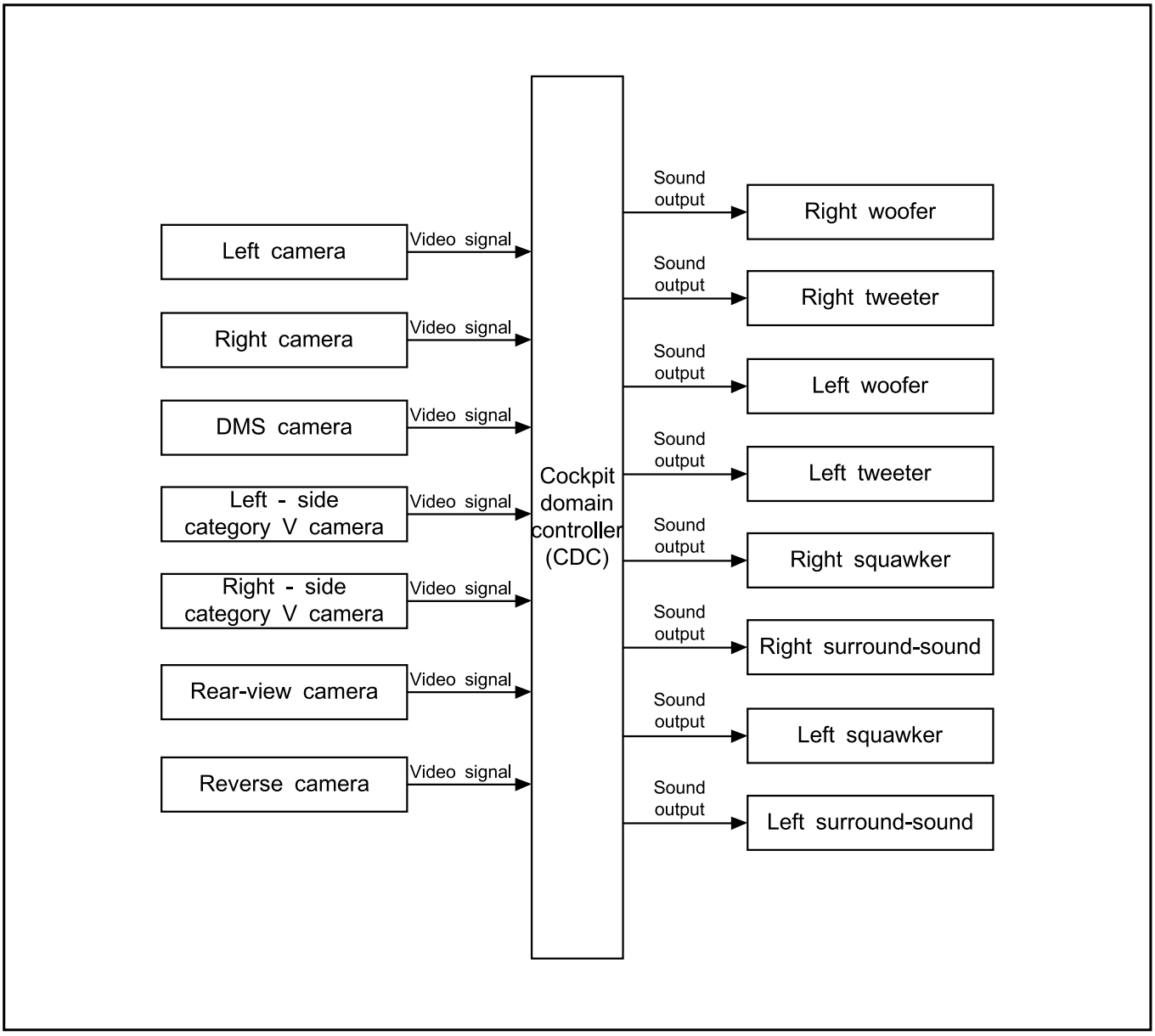
5.2.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
Fixed bolts connecting IVI screen bracket and tube beam assembly	M6	6.5 ft-lb +/- .75
The fixing bolts connecting the CAR screen bracket and the pipe beam assembly	M6	6.5 ft-lb +/- .75
The fixing bolts connecting the cockpit domain controller to the cockpit domain controller bracket	M6	6.5 ft-lb +/- .75
The fixing bolt connecting the cockpit domain controller bracket to the lower left instrument panel controller bracket	M6	6.5 ft-lb +/- .75
Speaker - fixing bolt for connecting bass and bass speaker bracket	M5	6.5 ft-lb +/- .75
The fixing bolt connecting the bass speaker bracket to the floor sheet metal	M6	6.5 ft-lb +/- .75
AR-HUDFixed bolts connected to the pipe beam assembly	M6	6.5 ft-lb +/- .75
The fixing bolt connecting the glass antenna amplifier to the inner panel assembly of the front windshield crossbeam	M6	6.5 ft-lb +/- .75
Fixed bolts connecting the reversing camera to the integrated frame	M8	18 ft-lb +/- 2 ft-lb

5.2.2 System Schematic Diagram

5.2.2.1 Electrical Schematic Diagram




Left camera
Right camera
DMS camera
Left - side category V camera
Right - side category V camera
Rear-view camera
Reverse camera
Video signal
Cockpit domain controller (CDC)
Sound output
Right woofer
Right tweeter
Left woofer
Left tweeter
Right squawker
Right surround-sound
Left squawker
Left surround-sound

5.2.3 Diagnostic Information and Steps

5.2.3.1 Diagnosis Description

Understanding and familiarizing oneself with the working principle of the intelligent cockpit device before diagnosing its faults, and then starting system diagnosis, can help determine the correct fault diagnosis steps when a fault occurs, and more importantly, it can help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of intelligent cockpit devices should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

5.2.3.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the intelligent cockpit device system, ensuring that these devices do not affect the operation of the intelligent cockpit device system.
- Inspect system components that are easily accessible or visible to make sure they are not visibly damaged or have conditions that could cause failure.

5.2.3.3 Fault Symptom Table

Symptom	Suspected Faulty Project	Measures
The speaker is silent	1. IVI screen setting mute mode	Release the mute mode.
	2. Speaker wiring harness fault	Check the wiring harness between the tweeter, subwoofer, mid-range speaker, and CDC.
	3. Speaker fault	Check the high-frequency speaker, low-frequency speaker, and mid-range speaker, and replace them if necessary. Refer to Replacement Of Speaker - Tweeter.Replacement Of Speaker - Woofer (Left) .Replacement of Speaker - Woofer (Right) .Replacement Of Speaker - squawker
	4. CDC fault	Replace CDC. Refer to Replacement Of Cockpit Domain Controller
IVI screen cannot be turned on/off or displays no signal	1. IVI screen power grounding harness fault	Check the IVI screen power grounding harness. Refer to IVI Screen Power Supply Circuit Fault
	2. IVI screen wake-up signal harness fault	Check the wake-up signal harness between the IVI screen and CDC.
	3. IVI screen LVDS signal harness fault	Check the LVDS signal harness between the IVI screen and CDC.
	4. IVI screen fault	Replace the IVI screen. Refer to Replacement Of IVI Screen
	5. CDC fault	Replace CDC. Refer to Replacement Of Cockpit Domain Controller
CAR screen cannot be turned on/off or displays no signal	1. CAR screen power grounding harness fault	Check the grounding harness of the CAR screen power supply. Refer to CAR Screen Power Supply Circuit Fault

Symptom	Suspected Faulty Project	Measures
	2. CAR screen wake-up signal harness fault	Check the wake-up signal harness between the CAR screen and CDC.
	3. CAR screen LVDS signal harness fault	Check the LVDS signal harness between the CAR screen and CDC.
	4. CAR screen fault	Replace the CAR screen. Refer to Replacement Of CAR Screen
	5. CDC fault	Replace CDC. Refer to Replacement Of Cockpit Domain Controller
IPC screen cannot turn on/off or display no signal	1. IPC screen power grounding harness fault	Check the IPC screen power grounding harness. Refer to IPC Screen Power Fault
	2. IPC screen wake-up signal harness fault	Check the wake-up signal harness between the IPC screen and CDC.
	3. IPC screenLVDS signal harness fault	Check the LVDS signal harness between the IPC screen and CDC.
	4. IPC screen fault	Replace the IPC screen. Refer to Replacement Of IPC Screen
	5. CDC fault	Replace CDC. Refer to Replacement Of Cockpit Domain Controller
The voice assistant is not working	1. Microphone voice input signal harness fault	Check the wiring harness between the microphone and CDC.
	2. Microphone fault	Replace the microphone. Refer to Replacement Of Microphone Array MIC
	3. CDC fault	Replace CDC. Refer to Replacement Of Cockpit Domain Controller

5.2.3.4 DTC Confirmation

1.Connect the diagnostic instrument to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Restart the vehicle.

3. Read the fault code of the control system again to confirm the system has a fault code output.

- Yes:Diagnose based on the output fault code.
- No:Perform intermittent fault checks, refer to Inspection Of Intermittent Fault

5.2.3.5 List Of Diagnostic Trouble Codes (DTCs)

CDC

Fault Code	Fault Description	Exclusion Method
B111716	Low Voltage	Refer to CDC Power Fault
B111717	Over voltage	
U018787	Lost communication with CMS	Refer to CDC Communication Fault
U018887	Lost communication with CMS_R	
U01B287	Lost communication with AR_HUD	

Fault Code	Fault Description	Exclusion Method
U014087	Lost communication with BDCU	
U019987	Lost Communication with DCM	
U019887	Lost Communication with T-BOX	
U012287	Lost Communication with VDC	
U013287	Lost Communication with ECAS	
U019A87	Lost Communication with VTDR	
U012887	Lost Communication with EPB	
U012187	Lost Communication with EBS	
U012787	Lost Communication with TPMS_F	
U016487	Lost communication with A/C	
U014187	Lost communication with AVAS	
U015787	Lost communication with ADCU	
U015788	Lost communication with CAMF	
U026687	Lost communication with MMWR_L1	
U026487	Lost communication with USS	
U013087	Lost communication with EPS	
U007788	CANFD5 BusOff	
U008588	IntCANFD1 BusOff	
U220400	CANFD5 network management is in a limp home state.	
U238084	SQI insufficient	Refer to Internal Fault Of CDC
U238208	The Ethernet MDIO chip is abnormal	
U120487	There is no communication on the IntLIN1 network.	Refer to CDC LIN Communication Fault
U238108	Unexpected Ethernet connection loss	Refer to CDC Ethernet Fault
U230C12	Ethernet signal line short circuit	
U230C13	Ethernet signal line open circuit	

IPC

Fault Code	Fault Description	Exclusion Method
B111717	IP display ICD overvoltage	Refer to IPC Screen Power Fault
B111716	IP displays ICD low voltage	
U007688	CANFD4 BusOff	Refer to IPC Screen Communication Fault
U014087	missing BDCU	
U012287	missing VDC	
U015687	missing CDCU	
U012187	missing EBS	
U013087	missing EPS	
B260009	IP Display Dimming module status	Refer to IPC Screen Internal Fault
B260103	IPC Display not received backlight value	

Fault Code	Fault Description	Exclusion Method
B260209	IPC Display TFT failure	
B260404	IPC Display OSD failure	
B260303	IPC Display video signal connect failure	Refer to IPC Screen LVDS Signal Fault

HUD

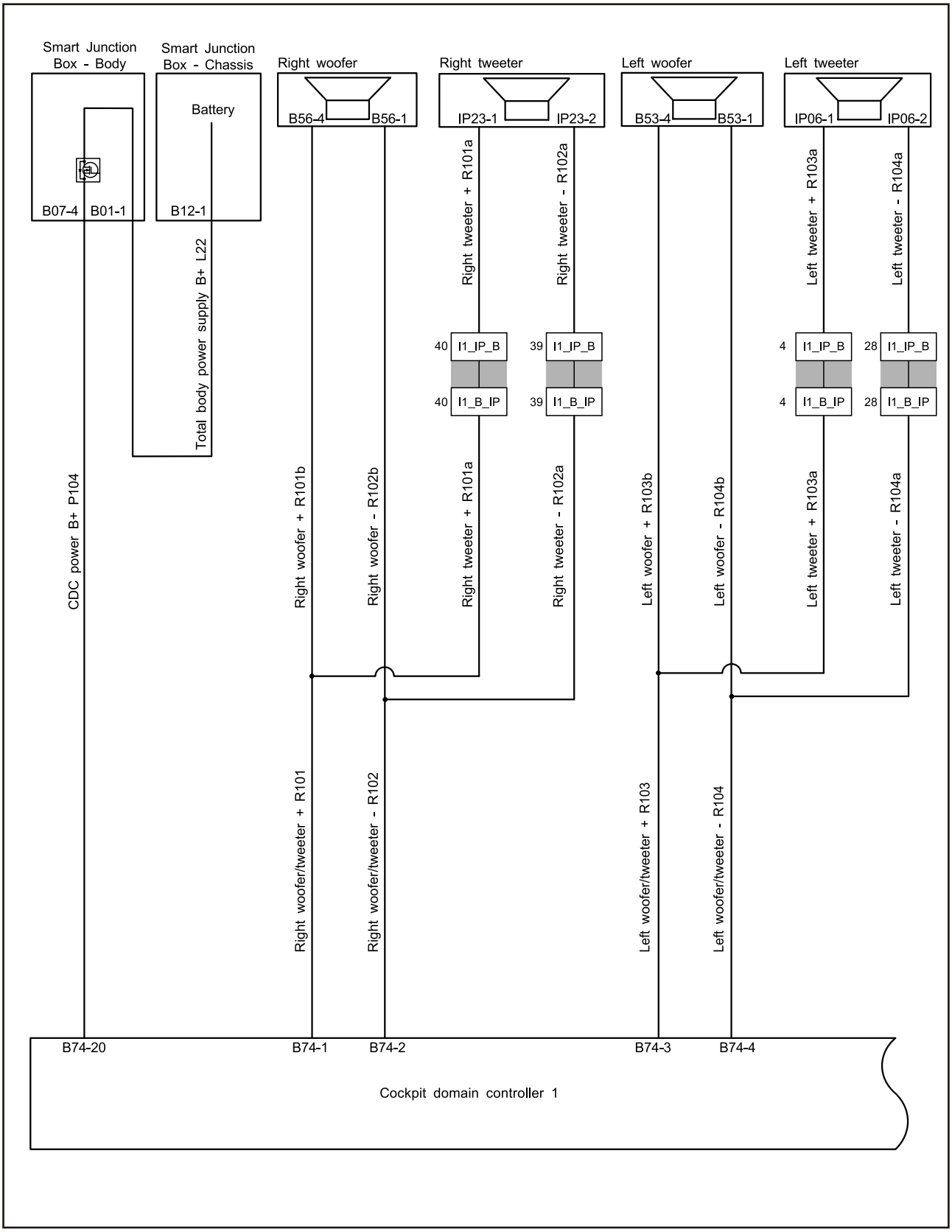
Fault Code	Fault Description	Exclusion Method
B111717	High voltage of HUD	Refer to HUD Power Fault
B111716	Low Voltage of HUD	
U015687	Communication timeout with CDCU	Refer to HUD Communication Fault
U014087	Communication timeout with BDCU	
U012287	Communication timeout with VDC	
U015788	Communication timeout with CAMF	
U019887	Communication timeout with TGW	
U008588	CANFD bus closed	
U026887	Communication timeout with MMWR_R	
U026687	Communication timeout with MMWR_L	
B2A0001	High temperature malfunction	Refer to HUD Internal Fault

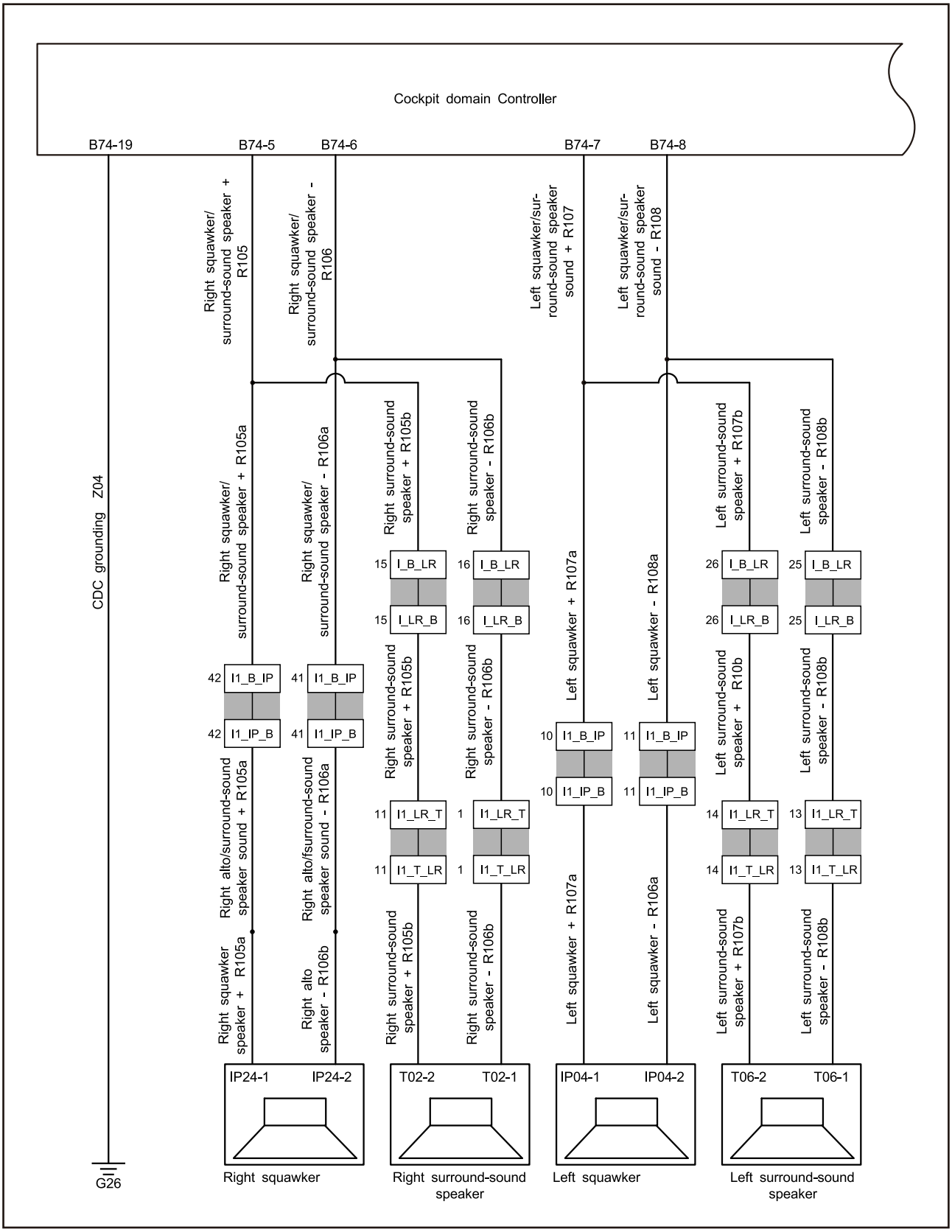
5.2.3.6 CDC Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111716	Low Voltage	Voltage<16V,t>500ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Cockpit domain controller
B111717	Over voltage	Voltage > 32V, t > 500ms	

2.Circuit Diagram


Smart Junction Box - Body
Smart Junction Box - Chassis
Right woofer
Right tweeter
Left woofer
Left tweeter
Battery
B07-4
B01-1
B12-1
B56-4
B56-1
IP23-1
IP23-2
B53-4
B53-1
IP06-1
IP06-2
Total body power supply B+ L22
CDC power B+ P104
Right woofer + R101b
Right woofer - R102b
Right tweeter + R101a
Right tweeter - R102a
Left woofer + R103b
Left woofer - R104b
Left tweeter + R103a
Left tweeter - R104a
40 I1_IP_B
40 I1_B_IP
39 I1_IP_B
39 I1_B_IP
4 I1_IP_B
4 I1_B_IP
28 I1_IP_B
28 I1_B_IP
Right woofer/tweeter + R101
Right woofer/tweeter - R102
Left woofer/tweeter + R103
Left woofer/tweeter - R104
B74-20
B74-1
B74-2
B74-3
B74-4
Cockpit domain controller 1



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides CDC?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power and grounding harness of the cockpit domain controller.

Step 5:Rewrite the configuration code, reload the software, and upgrade the cockpit domain controller.

Step 6:Replace the cockpit domain controller. Refer to Replacement Of Cockpit Domain Controller

Step 7:Clear and confirm DTC.

5.2.3.7 CDC Communication Fault

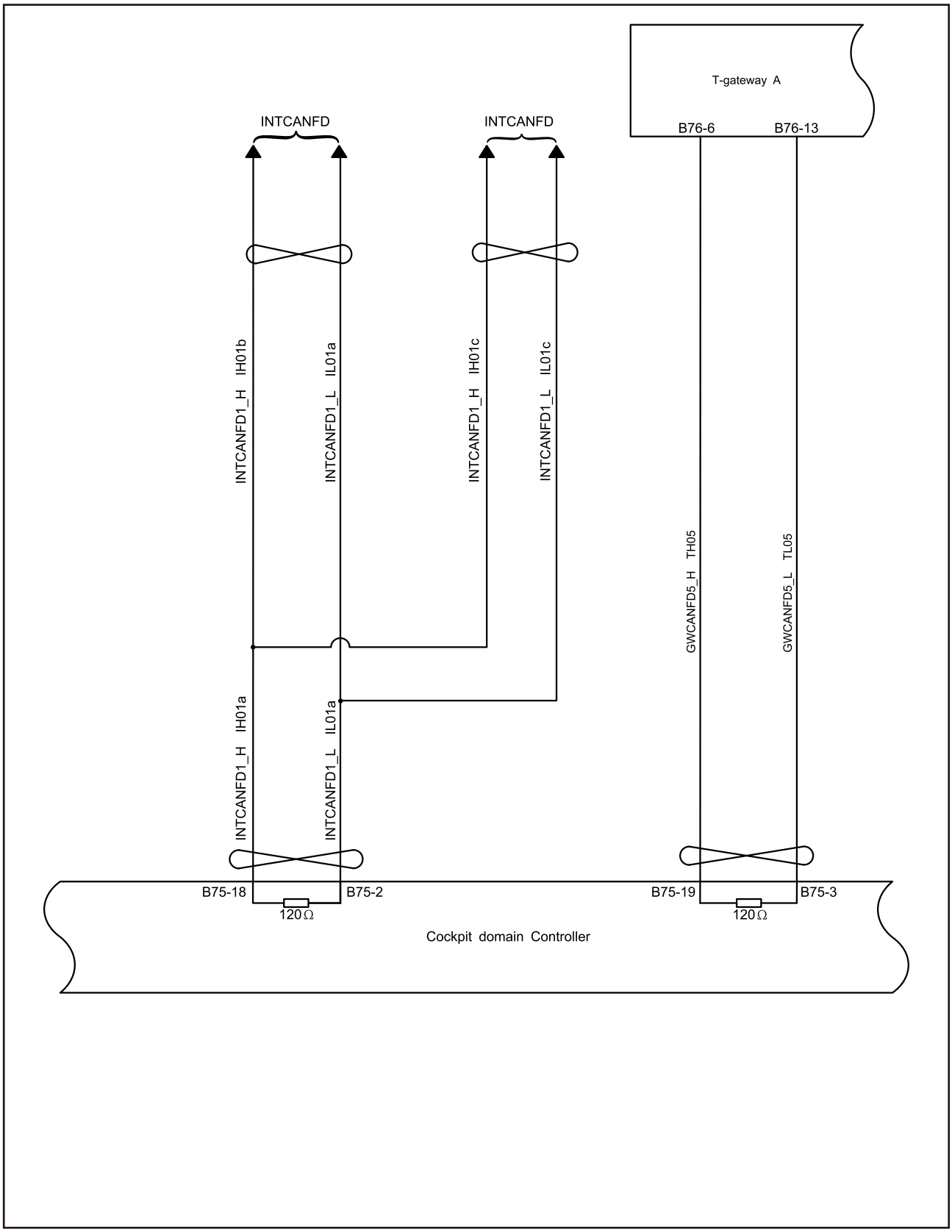
1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U018787	Lost communication with CMS	1. The message 0x18FF0351x sent by CMS-L cannot be detected for 10 consecutive times on the CANFD5 network(10 *Cycle)(Cycle = 50ms) 2.Within the diagnostic voltage range	1.Wiring harness 2. Cockpit domain controller
U018887	Lost communication with CMS_R	1.The message 0x18FF035Cx sent by CMS-R cannot be detected for 10 consecutive times on the CANFD5 network (10 *Cycle)(Cycle = 50ms) 2.Within the diagnostic voltage range	
U01B287	Lost communication with AR_HUD	1.The message 0x18FF0028x sent by AR_HUD cannot be detected for 10 consecutive times on the CANFD1 network (10 *Cycle)(Cycle = 100ms) 2.Within the diagnostic voltage range	
U014087	Lost communication with BDCU	1.The message 0x18FF0C21x sent by BDCU cannot be detected for 10 consecutive times on the CANFD5 network (10 *Cycle)(Cycle = 200ms) 2.Within the diagnostic voltage range	
U019987	Lost Communication with DCM	1.The message 0x18FDA54Fx sent by DCM cannot be detected for 10 consecutive times on the CANFD5 network(10 *Cycle)(Cycle = 100ms) 2.Within the diagnostic voltage range	
U019887	Lost Communication with T-BOX	No relevant node message was found. 2.Within the diagnostic voltage range	
U012287	Lost Communication with VDC	1.The message 0x18F00F27x sent by VDC cannot be detected for 10 consecutive times on the CANFD5 network (10 *Cycle)(Cycle = 100ms) 2.Within the diagnostic voltage range	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U013287	Lost Communication with ECAS	1.The message 0x0CFE5A2FX sent by ECAS cannot be detected for 10 consecutive times on the CANFD5 network (10 *Cycle)(Cycle = 100ms) 2.Within the diagnostic voltage range	
U019A87	Lost communication with VTDR	No relevant node message was found. 2.Within the diagnostic voltage range	
U012887	Lost Communication with EPB	1.The message 0x1CECFF50x sent by EPB cannot be detected for 5 consecutive times on the CANFD5 network (Cycle = 1000ms) 2.Within the diagnostic voltage range	
U012187	missing EBS	1.The message 0x18FE4F0Bx sent by EBS cannot be detected for 10 consecutive times on the CANFD5 network (10 *Cycle)(Cycle =100ms)) 2.Within the diagnostic voltage range	
U012787	Lost communication with TPMS	1.The message 0x18FEF433x sent by TPMS_f cannot be detected for 10 consecutive times on the CANFD5 network (10 *Cycle)(Cycle = 500ms) 2.Within the diagnostic voltage range	
U016487	Lost communication with A/C	1.The message 0x18FF0B19x sent by AC cannot be detected for 10 consecutive times on the CANFD5 network(10 *Cycle)(Cycle = 100ms) 2.Within the diagnostic voltage range	
U014187	Lost communication with AVAS	1.The message 0x18FF0E57xx sent by AVAS cannot be detected for 10 consecutive times on the CANFD5 network(10 *Cycle)(Cycle = 100ms) 2.Within the diagnostic voltage range	
U015787	Lost communication with ADCU	1.The message 0x18FF3531x sent by ADCU cannot be detected for 10 consecutive times on the CANFD5 network(10 *Cycle)(Cycle = 100ms) 2.Within the diagnostic voltage range	
U015788	Lost communication with CAMF	1.The message 0x18FF4B31x sent by CAMF cannot be detected for 10 consecutive times on the CANFD5 network(10 *Cycle)(Cycle = 100ms) 2.Within the diagnostic voltage range	
U026687	Lost communication with MMWR_L1	No relevant node message was found. 2.Within the diagnostic voltage range	
U026487	Lost communication with USS	No relevant node message was found. 2.Within the diagnostic voltage range	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U013087	missing EPS	1.Message 0x18FF0513x sent by EPS cannot be detected continuously for 500ms on CANFD5 network (Cycle = 10ms) 2.Within the diagnostic voltage range	
U007788	CANFD5 BusOff	Detecting CANFD5 bus communication faults (with more than 5 times of busoff recovery)	
U008588	IntCANFD1 BusOff	Detecting communication faults on the IntCANFD1 bus (with more than 5 times of busoff recovery)	
U220400	CANFD5 network management is in a limp home state.	Detecting that CANFD5 network management is in a limp home state	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the IntCANFD bus communication harness. Refer to Inspection Of IntCANFD Bus Network Integrity

Step 4:Check the CANFD5 BusOff communication harness. Refer to Inspection Of CANFD5 BusOff Network Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the cockpit domain controller.

Step 6:Replace the cockpit domain controller. Refer to Replacement Of Cockpit Domain Controller

Step 7:Clear and confirm DTC.

5.2.3.8 Internal Fault Of CDC

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U238084	SQI insufficient	SQI below the threshold occurs 20 times within 60s	1. Cockpit domain controller
U238208	The Ethernet MDIO chip is abnormal	Unable to read SWITCH chip register	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the cockpit domain controller.

Step 4:Replace the cockpit domain controller. Refer to Replacement Of Cockpit Domain Controller

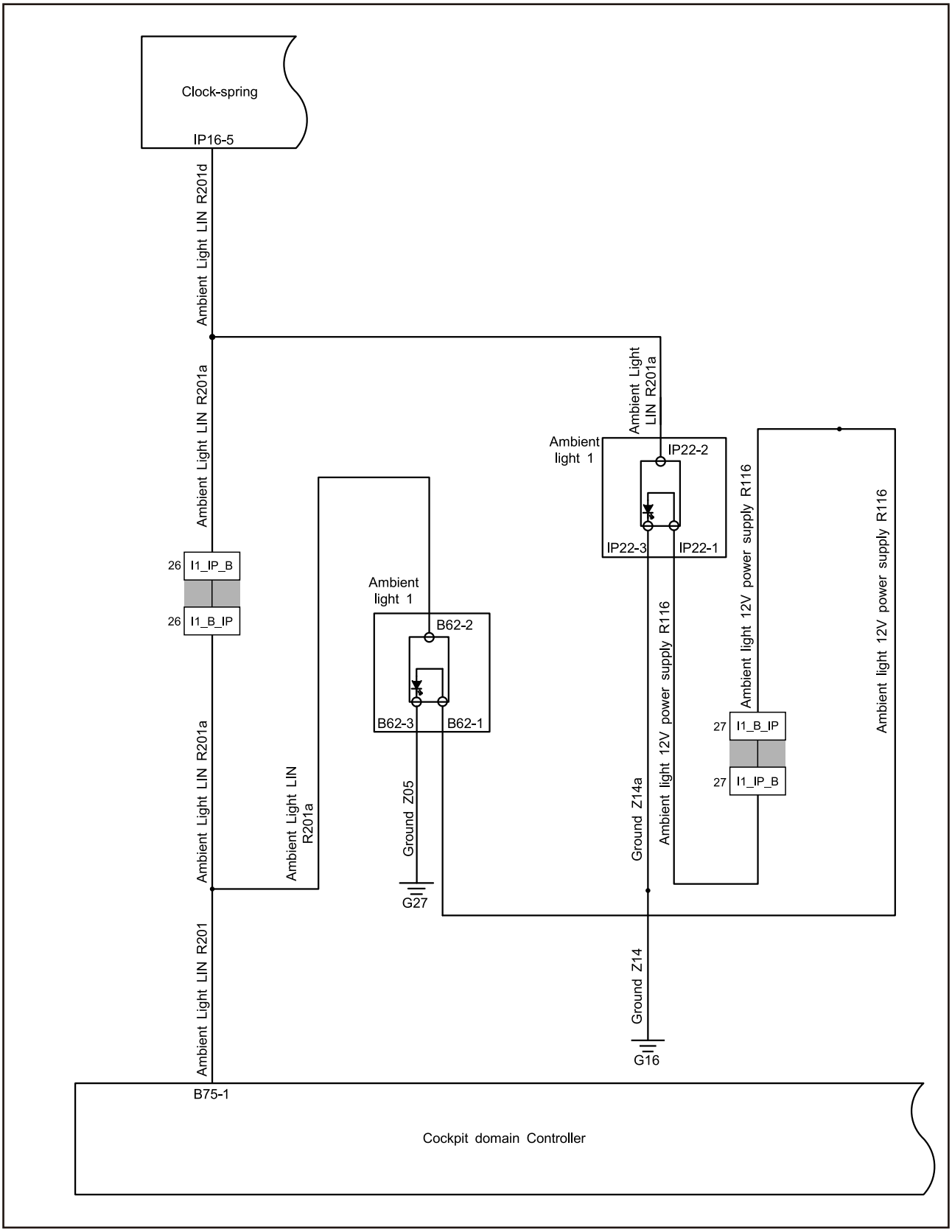
Step 5:Clear and confirm DTC.

5.2.3.9 CDC LIN Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U120487	There is no communication on the IntLIN1 network.	Detecting LIN bus communication faults	1.Wiring harness 2. Ambient light 3. Clock spring 4. Cockpit domain controller

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the LIN communication harness between the cabin domain controller and the ambient light and clock spring.

Step 4:Rewrite the configuration code, reload the software, and upgrade the cockpit domain controller.

Step 5:Replace the cockpit domain controller. Refer to Replacement Of Cockpit Domain Controller

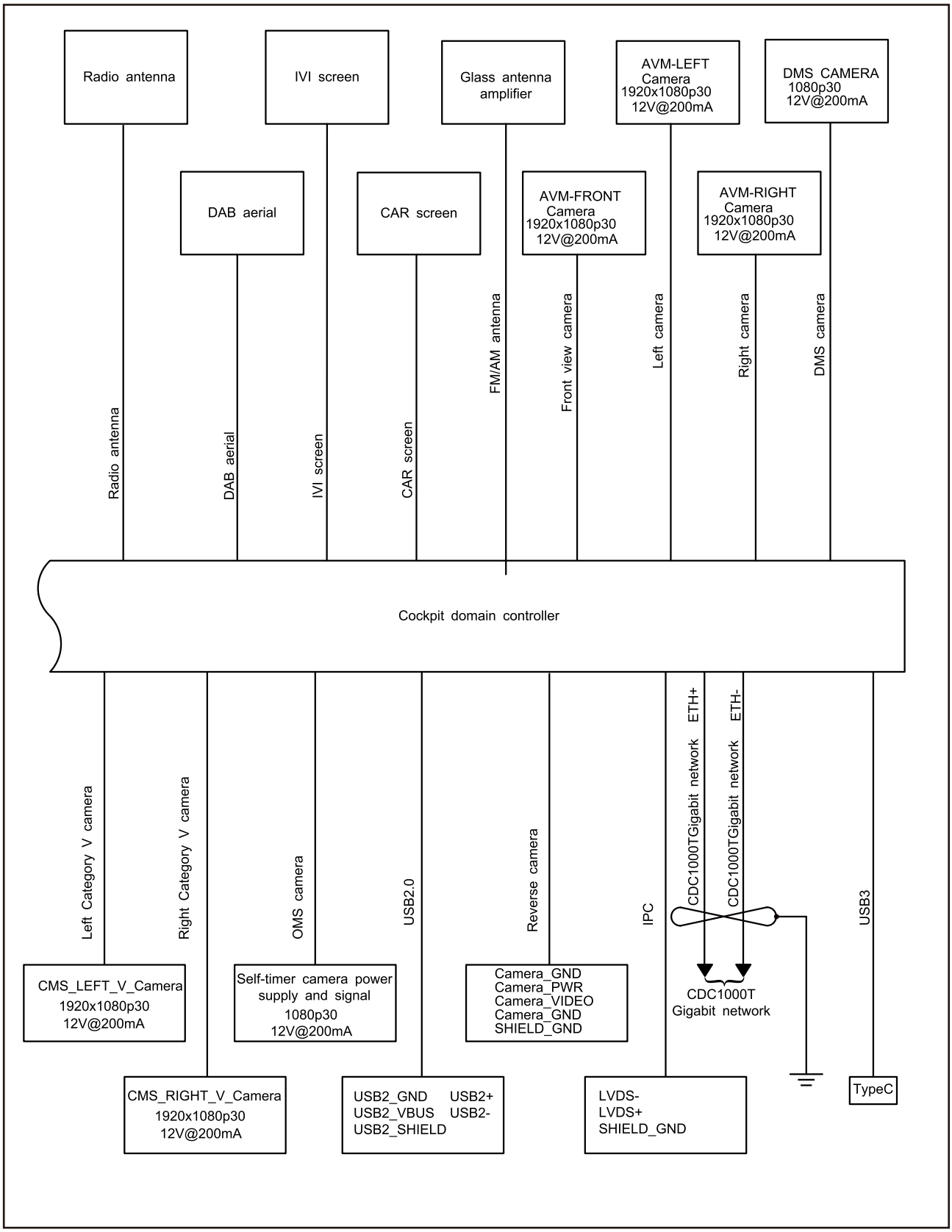
Step 6:Clear and confirm DTC.

5.2.3.10 CDC Ethernet Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U238108	Unexpected Ethernet connection loss	If the current link status of the Ethernet port is not link-Up, the counter increases by 1. If the current link status is not link-Up for 10 consecutive times, a fault is reported	1.Wiring harness 2. Cockpit domain controller
U230C12	Ethernet signal line short circuit	-	
U230C13	Ethernet signal line open circuit	-	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the Ethernet harness of the cockpit domain controller.

Step 4:Rewrite the configuration code, reload the software, and upgrade the cockpit domain controller.

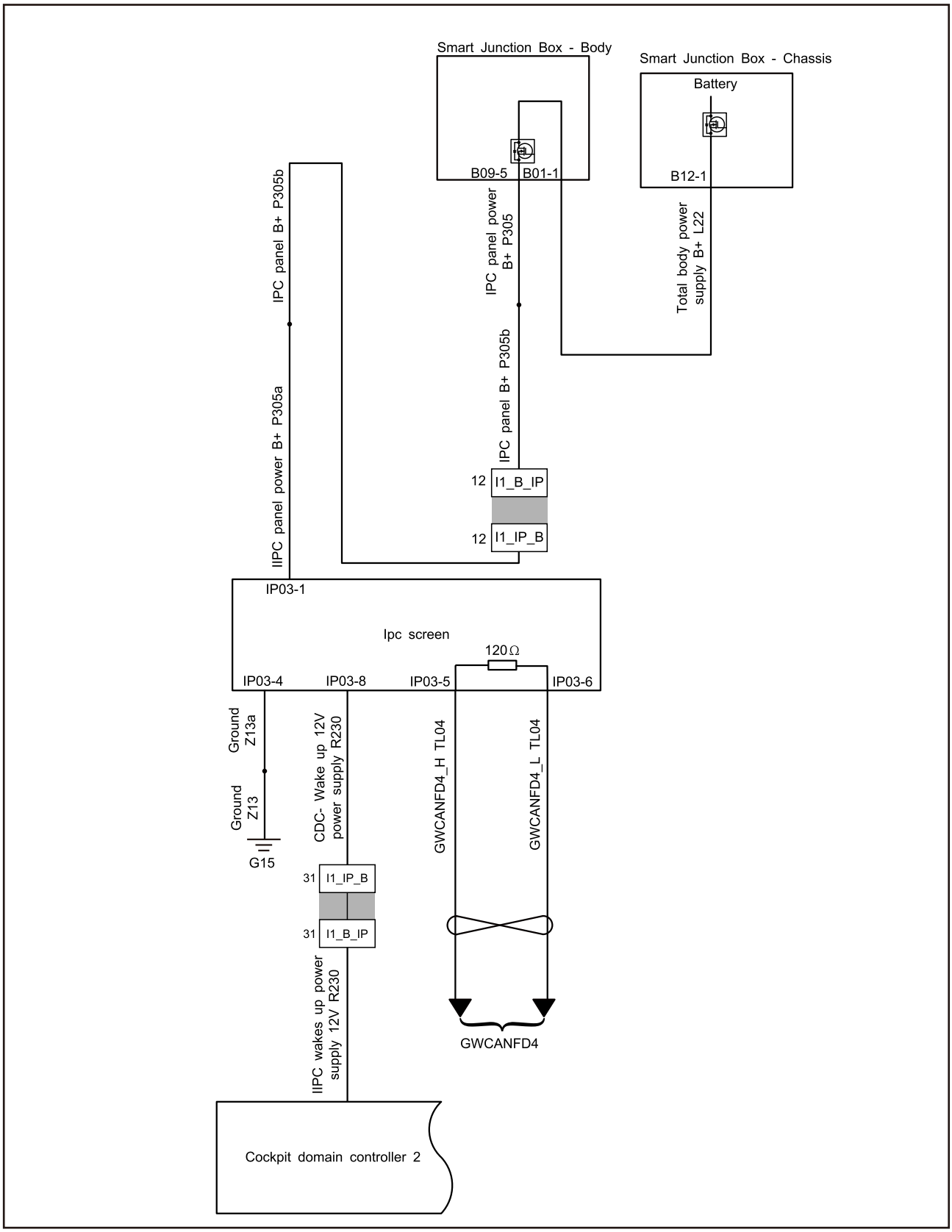
Step 5:Replace the cockpit domain controller. Refer to Replacement Of Cockpit Domain Controller

5.2.3.11 IPC Screen Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	IP display ICD overvoltage	Voltage>32V, t > 500ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.IPC screen
B111716	IP displays ICD low voltage	Voltage>9V, t > 500ms	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides IPC?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the IPC screen power and grounding harness.

Step 5:Rewrite the configuration code, reload the software, and upgrade the IPC screen.

Step 6:Replace the IPC screen. Refer to Replacement Of IPC Screen

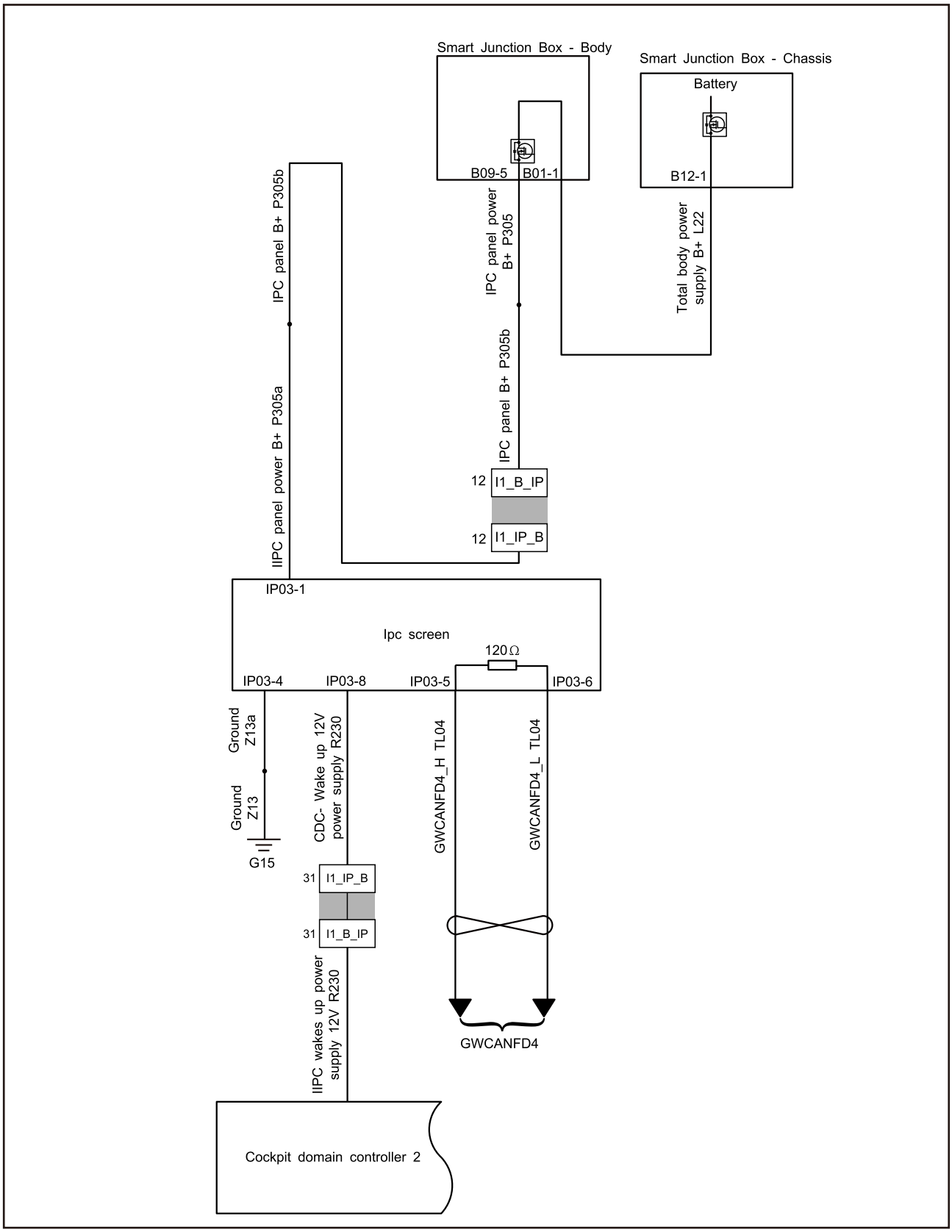
Step 7:Clear and confirm DTC.

5.2.3.12 IPC Screen Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007688	CANFD4 BusOff	Bus shutdown fault	1.Wiring harness 2. IPC screen
U014087	missing BDCU	BDCU node 0x18FE4021x has been continuously lost for more than 10 cycles (Cycle<100ms, take 500ms)	
U012287	missing VDC	VDC Node 0x18011727x has been continuously lost for more than 10 cysles(1000ms)	
U015687	missing CDCU	CDCU Node 0x18FF5A41x has been continuously lost for more than 10 cysles(2000ms)	
U012187	missing EBS	EBS Node 0x18F0010BX has been continuously lost for more than 10 cysles(1000ms)	
U013087	missing EPS	EPS(EHPS1) Node 0x18FF0513X has been continuously lost for more than 50 cysles (Cycle<100ms, take 500ms)	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the CANFD4 BusOff communication harness. Refer to Inspection of CANFD4 BusOff Network integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the IPC screen.

Step 5:Replace the IPC screen. Refer to Replacement Of IPC Screen

Step 6:Clear and confirm DTC.

5.2.3.13 IPC Screen Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B260009	IP Display Dimming module status	Test dimming module short circuit, open circuit or over current more than 150ms	1. IPC screen
B260103	IPC Display not received backlight value	After power on for 10s received a value of 0	
B260209	IPC Display TFT failure	TFT fail for more than 150ms	
B260404	IPC Display OSD failure	ROHM IC fail Pin fault and MCU dectect System fail signal Enabling for 170ms	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code, reload the software, and upgrade the IPC screen.

Step 4:Replace the IPC screen. Refer to Replacement Of IPC Screen

Step 5:Clear and confirm DTC.

5.2.3.14 IPC Screen LVDS Signal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B260303	IPC Display video signal connect failure	LOCK signal connect fail more than 5000ms	1.Wiring harness 2. Cockpit domain controller 3. IPC screen

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the video signal harness between the cockpit domain controller and the IPC screen.

Step 4:Rewrite the configuration code, reload the software, and upgrade the IPC screen.

Step 5:Replace the IPC screen. Refer to Replacement Of IPC Screen

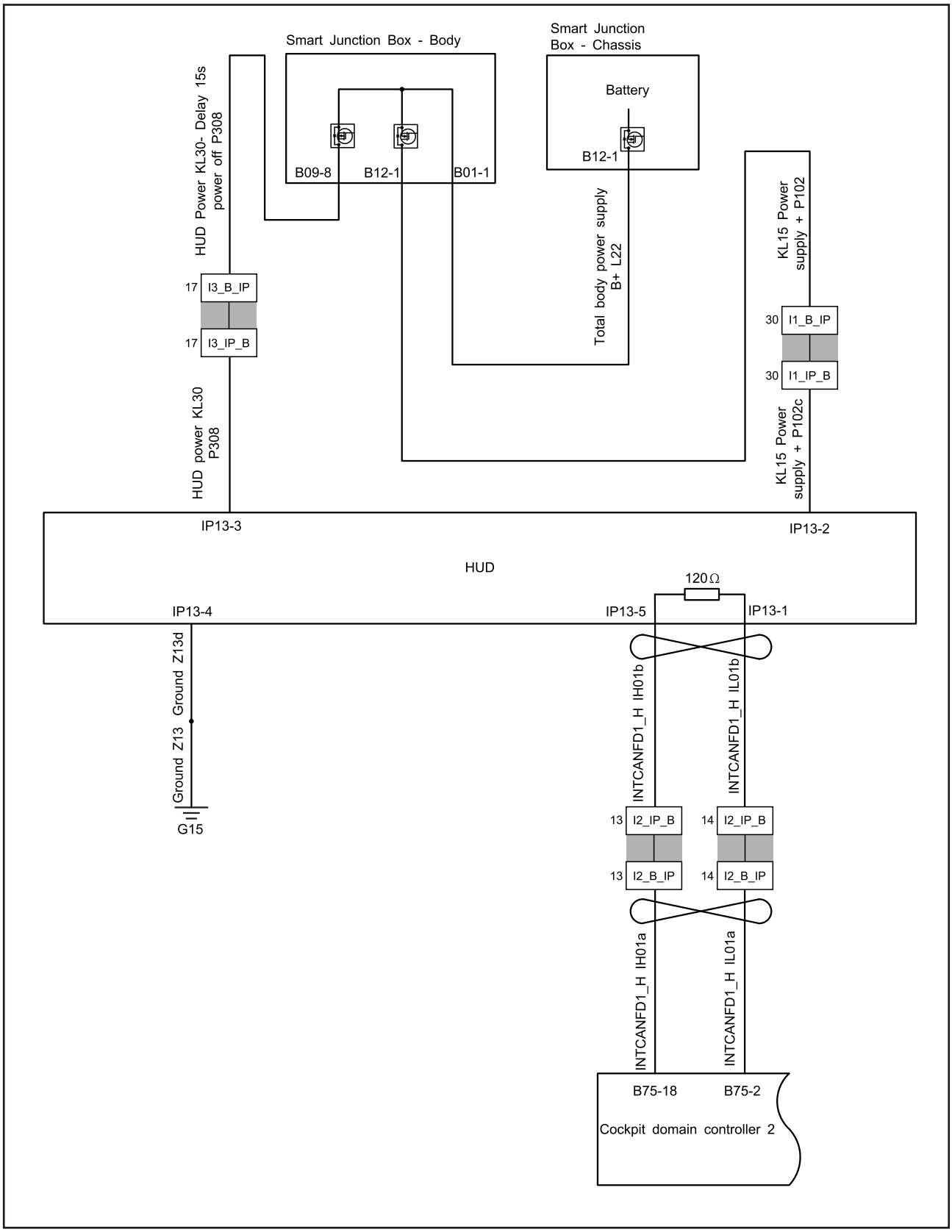
Step 6:Clear and confirm DTC.

5.2.3.15 HUD Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	High voltage of HUD	Voltage > 32V, t > 500ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.HUD
B111716	Low Voltage of HUD	Voltage < 18V, t > 30s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides HUD?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the HUD power and grounding harness.

Step 5:HUD rewrite configuration code, software reload, upgrade.

Step 6:Replace the HUD. Refer to Replacement Of AR-HUD

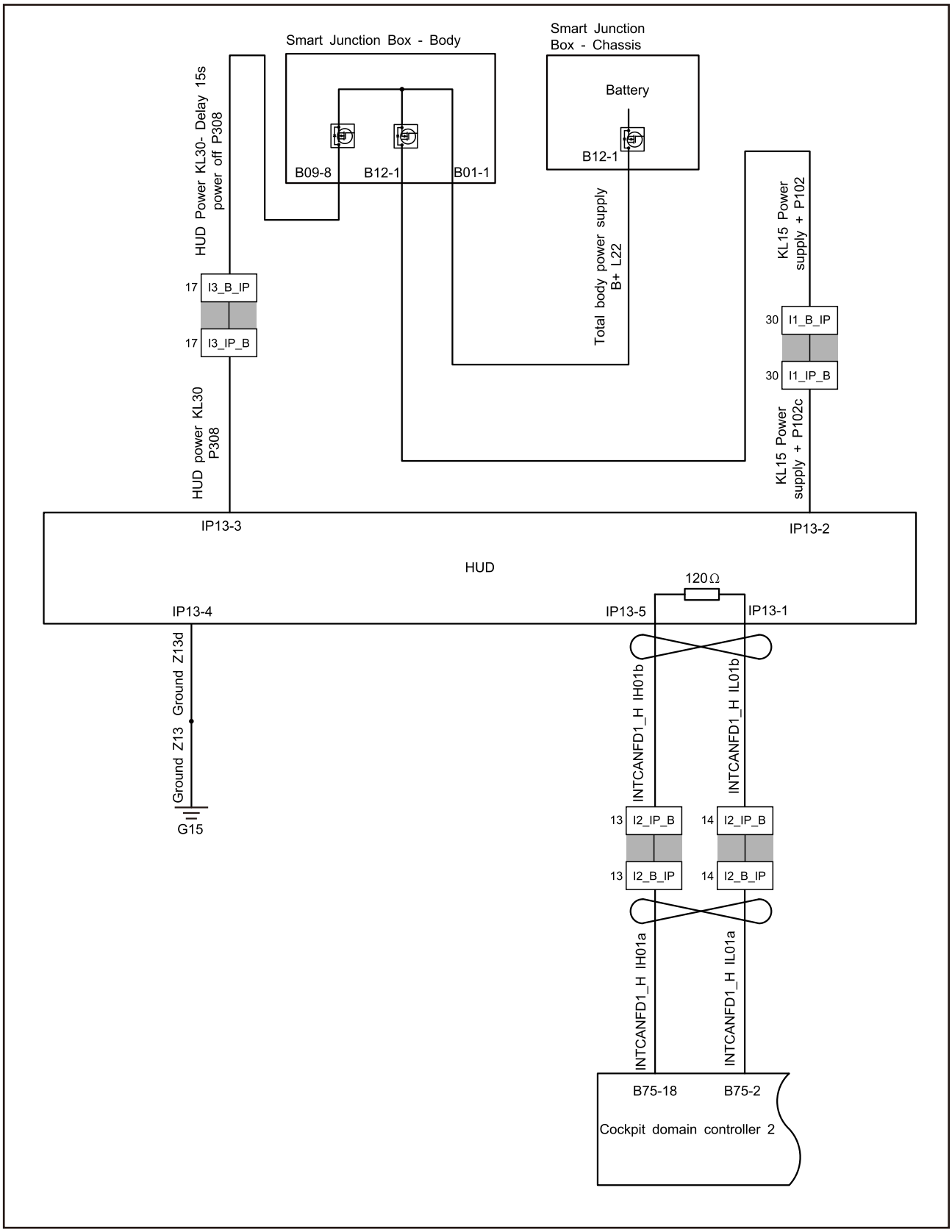
Step 7:Clear and confirm DTC.

5.2.3.16 HUD Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U015687	Communication timeout with CDCU	0x18FF0741x, Node continuously lost for more than 10 cycles (1s);0x18FEC1EEx node continuously lost for more than 5000ms;0x18FF6441x, Node continuously lost for more than 10 cycles (2s);Any node that meets the requirements is sufficient	1.Wiring harness 2.HUD
U014087	Communication timeout with BDCU	0x18FE4021x Nodes are continuously lost for more than 500ms	
U012287	Communication timeout with VDC	0x18011727x,0x18FEF100x Nodes are continuously lost for more than 10 cycles (1 second)	
U015788	Communication timeout with CAMF	0x18FF3531x 0x18FF4031x 0x18FF4731x 0x18FF4B31x 0x18FF4131x, node continuously lost for more than 10 cycles (1s); 0x0CF02FA0x,0x0CFF552Ax, node continuously lost for more than 500ms, any node that meets the requirements is sufficient	
U019887	Communication timeout with TGW	0x18FEE6EEx node continuously lost for more than 5000ms	
U008588	CANFD bus closed	Record one BUS off for 8 consecutive time	
U026887	Communication timeout with MMWR_R	0x18FF4263x, node lost continuously for more than 10 cycles (1s)	
U026687	Communication timeout with MMWR_L	0x18FF4361x, Node continuously lost for more than 10 cycles (1s))	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the IntCANFD bus communication harness. Refer to Inspection Of IntCANFD Bus Network Integrity

Step 4:HUD rewrite configuration code, software reload, upgrade.

Step 5:Replace the HUD. Refer to Replacement Of AR-HUD

Step 6:Clear and confirm DTC.

5.2.3.17 HUD Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B2A0001	High temperature malfunction	The temperature protection value exceeds 102 ° C and lasts for more than 10 sampling cycles	1.HUD

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:HUD rewrite configuration code, software reload, upgrade.

Step 5:Replace the HUD. Refer to Replacement Of AR-HUD

Step 6:Clear and confirm DTC.

5.2.3.18 IntInspection Of CANFD1 Bus Network Integrity

Step 1	Check the terminal resistance of IntCANFD1 bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
IntCANFD1 (H) and IntCANFD1 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the IntCANFD1 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
IntCANFD1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
IntCANFD1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
IntCANFD1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
IntCANFD1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the IntCANFD1 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the IntCANFD1 bus.

C. Measure the IntCANFD1 bus resistance between each module and the cabin domain controller in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the resistance of IntCANFD1 bus to ground is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the IntCANFD1 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the IntCANFD1 bus.

Yes

Step 7	Disconnect the modules on the IntCANFD1 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the IntCANFD1 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

5.2.4 Dismantling and Installation

5.2.4.1 Replacement of IVI Screen

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

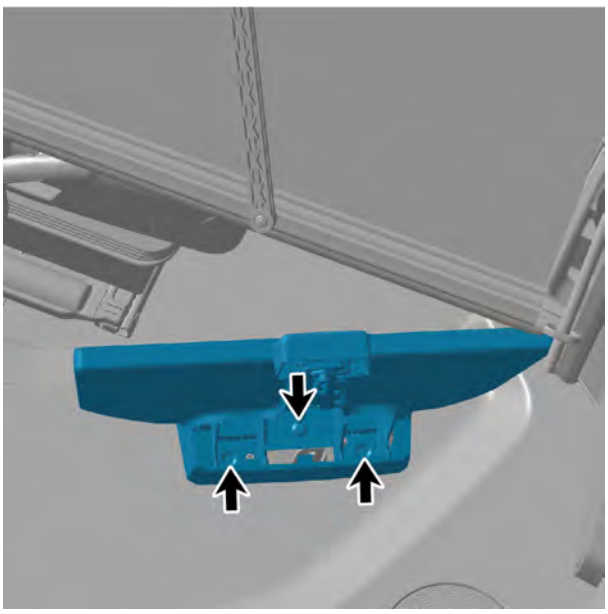
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the DMS camera bracket.

5 Remove the DMS camera.

6 Disconnect 3 harness connectors of the IVI screen.

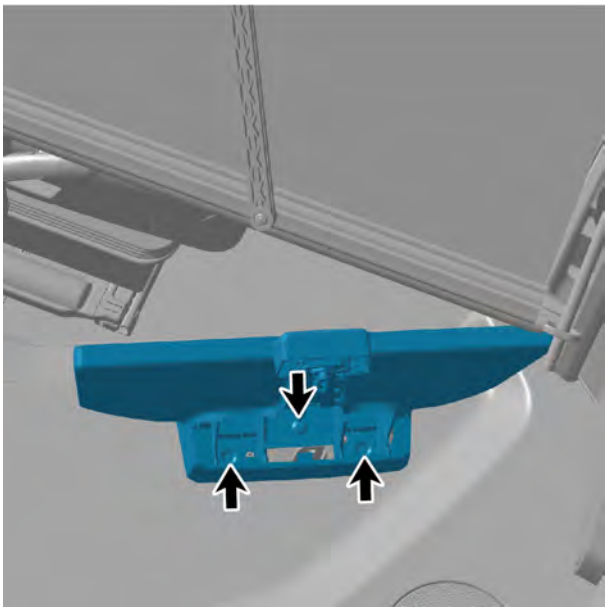




7 Remove 3 fixing bolt of the IVI screen.

8 Remove the IVI screen.

Installation Procedures



1 Move the IVI screen to the mounting position.

2 Install 3 fixing bolt of the IVI screen.

Torque:(6.5 ft-lb +/- .75 ft-lb) ft-lb



3 Connect 3 harness connectors of the IVI screen.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the DMS camera.

5 Install the DMS camera bracket.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

5.2.4.2 Replacement of IPC Screen

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

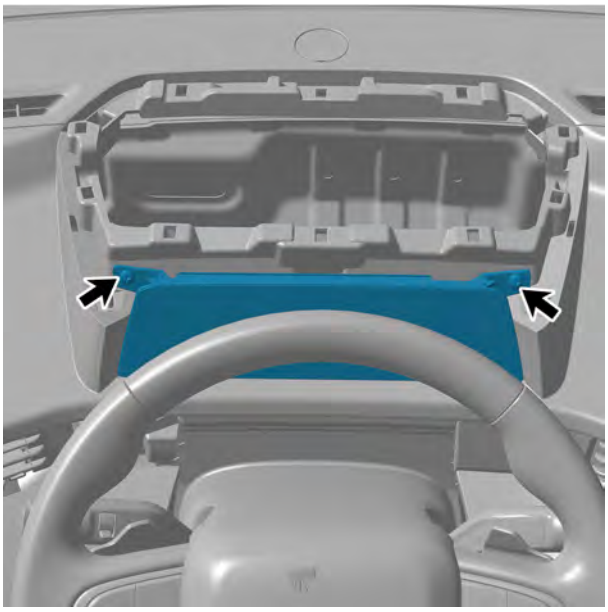
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

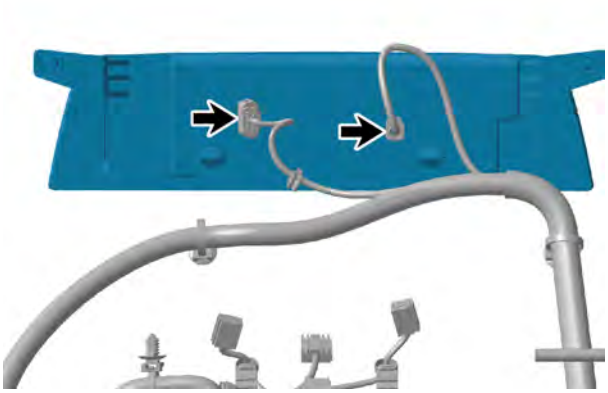
4 Remove the IP brim assembly.

5 Remove 2 fixing screws of the IPC screen.



6 Disconnect 2 harness connectors of the IPC screen.

7 Remove the IPC screen.



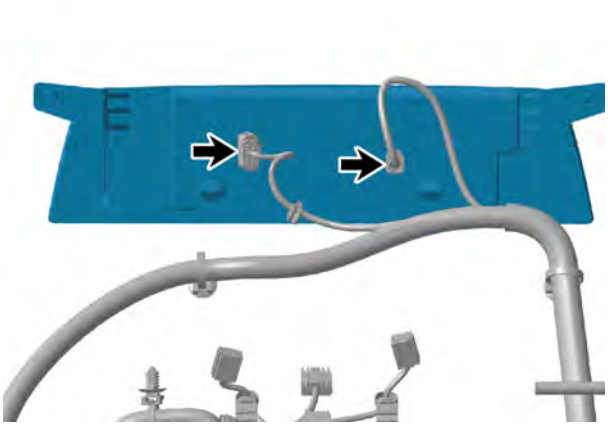
Installation Procedures

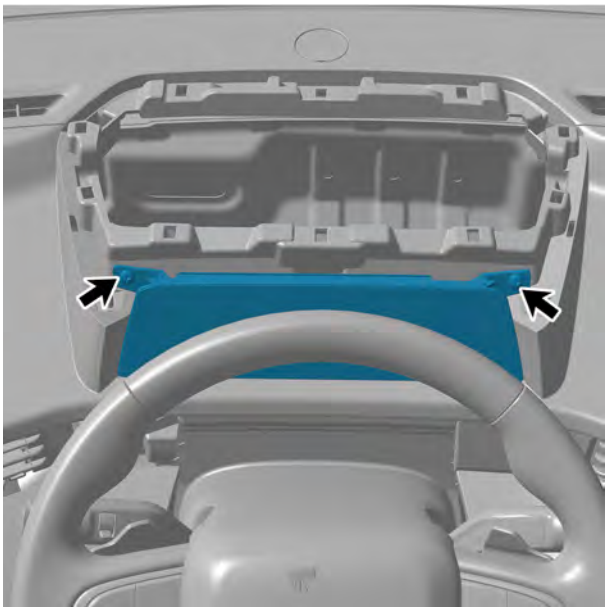
1 Move the IPC screen to the mounting position.

2 Connect 2 harness connectors of the IPC screen.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".





3 Install 2 fixing screws of the IPC screen.

4 Install the IP brim assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

caution

After replacing the IPC, it is necessary to connect a scan tool for flashing.

5.2.4.3 Replacement of CAR Screen

Removal Procedures

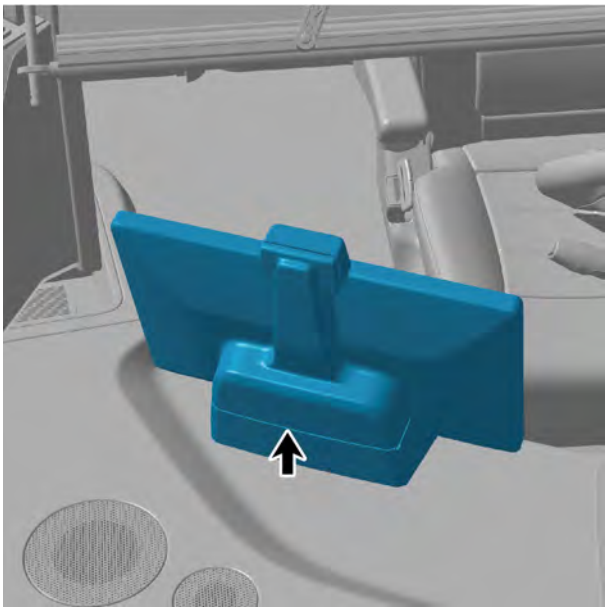
1 Open the door.

2 Open the front flip cover plate.

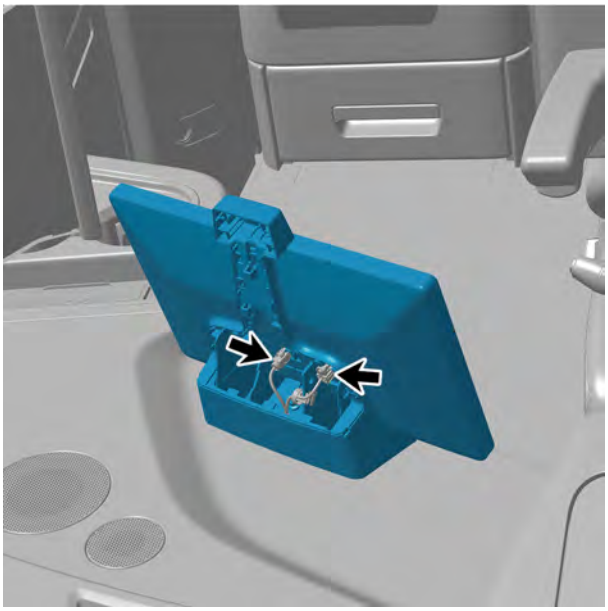
3 Disconnect the battery negative cable.

caution

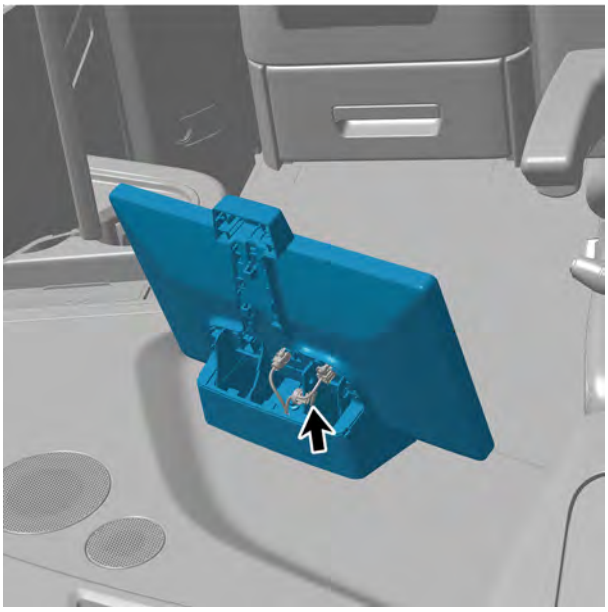
power down the high-voltage system before disconnecting the negative pole of the storage battery.



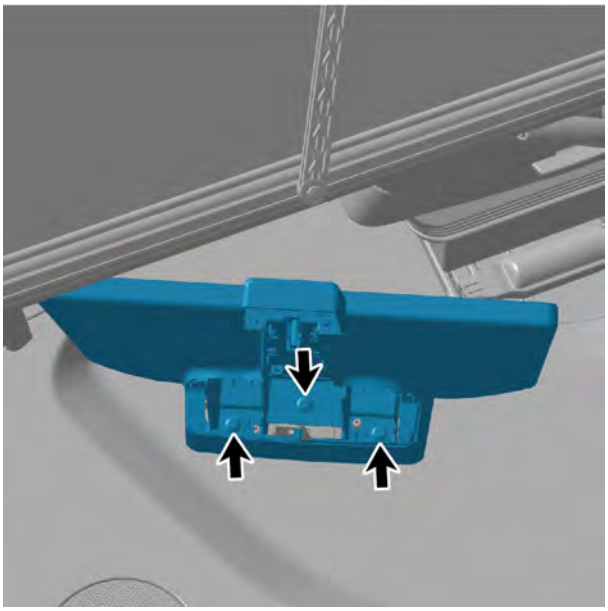
4 Remove the plug cover on the rear shell of the CAR screen.



5 Disconnect 2 harness connectors of the CAR screen.



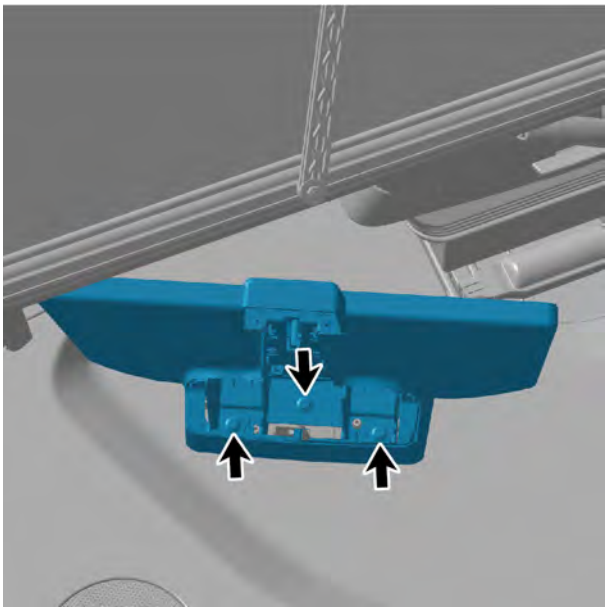
6 Disengage 1 clip of the IP harness.



7 Remove 1 fixing bolt of the CAR screen.

8 Remove the CAR screen.

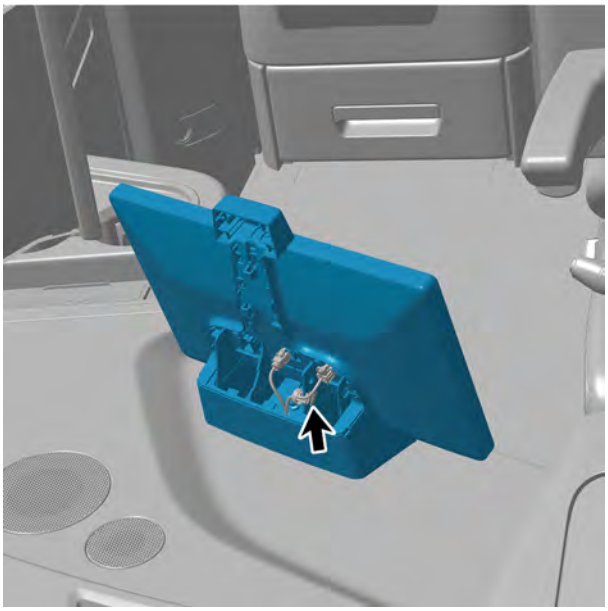
Installation Procedures



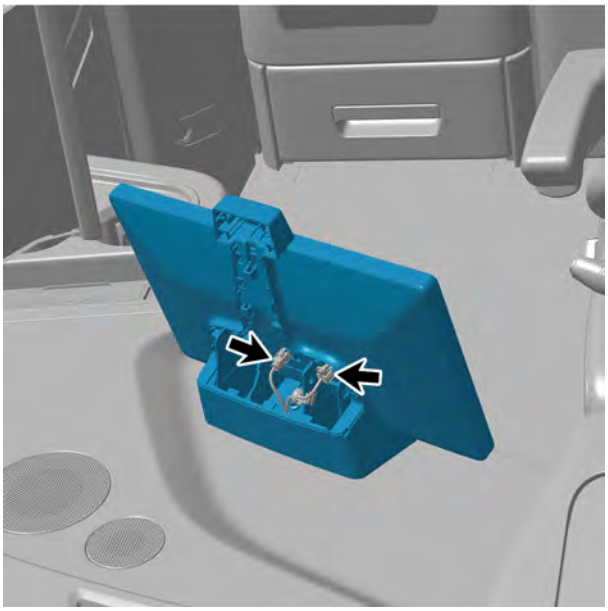
1 Move the CAR screen to the mounting position.

2 Install 1 fixing bolt of the CAR screen.

Torque:(6.5 ft-lb +/- .75 ft-lb) ft-lb



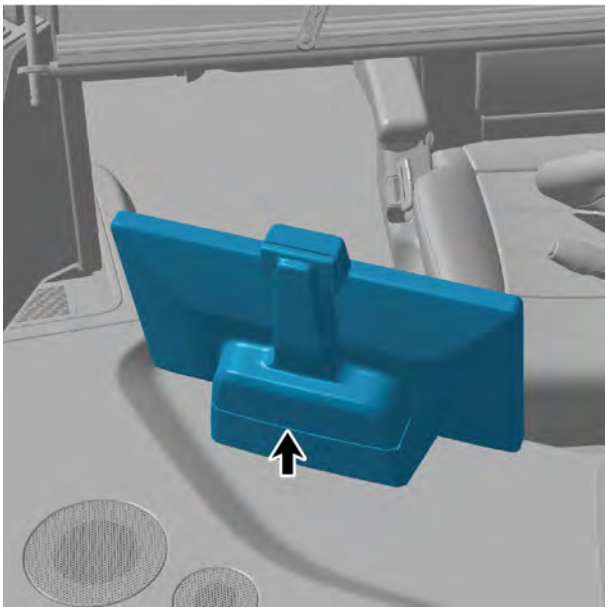
3 Install 1 clip of the IP harness.



4 Connect 2 harness connectors of the CAR screen.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



5 Install the plug cover on the rear shell of the CAR screen.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

5.2.4.4 Replacement of CDCU

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the front USB interface.

6 Remove the IP left access cover plate assembly.

7 Remove the left switch panel assembly.

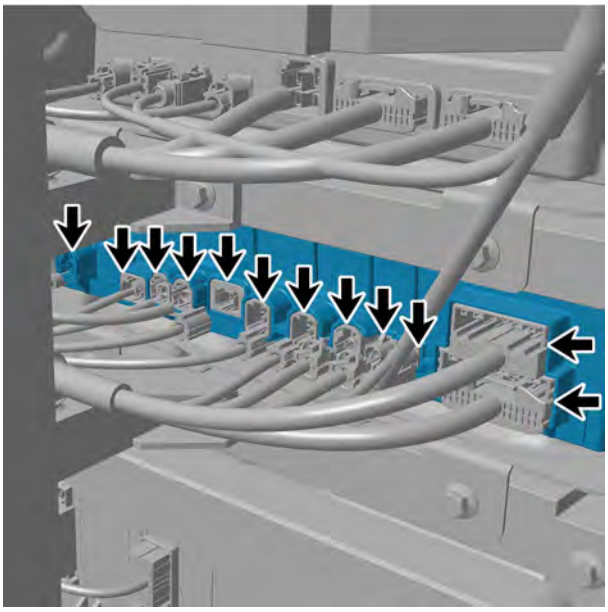
8 Remove the left switch panel lower trim panel assembly.

9 Remove the IP left lower trim panel assembly.

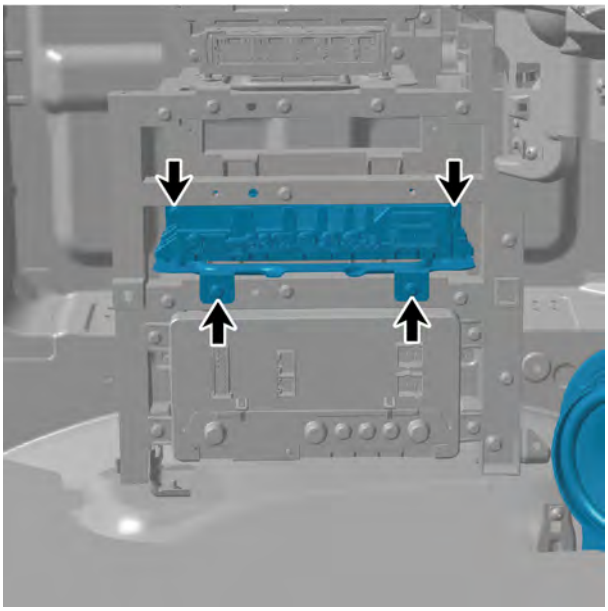
10 Remove the VTDR.

11 Remove the VTDR bracket.

12 Remove the left lower fixing bracket.



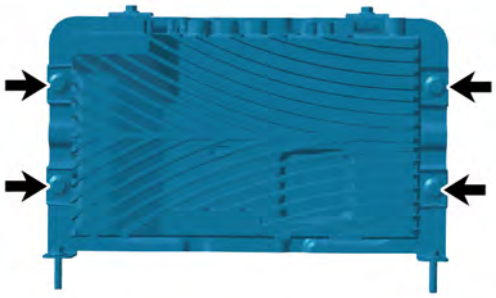
13 Disconnect 12 harness connectors of the CDCU.

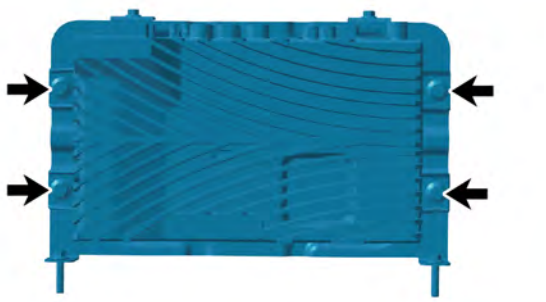


14 Remove 4 fixing bolts of the CDCU with bracket, and remove the CDCU with bracket.

15 Remove 4 fixing bolts of the CDCU.

16 Remove the CDCU.



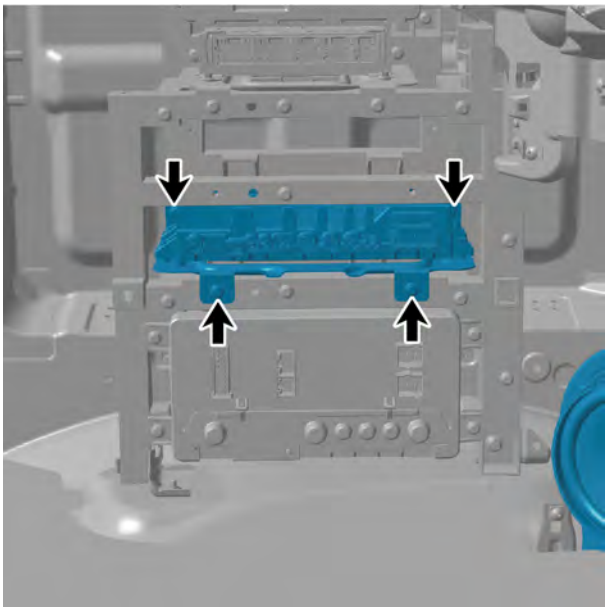


Installation Procedures

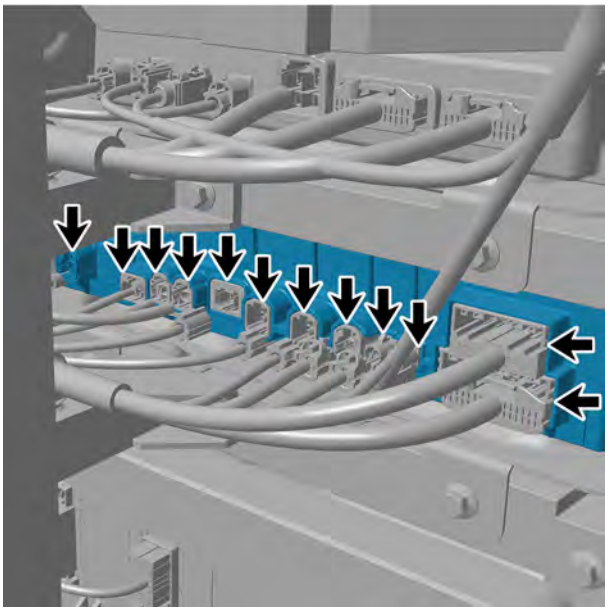
1 Move the CDCU to the mounting position.

2 Install 4 fixing bolts of the CDCU.

Torque: (6.5 ft-lb +/- .75 ft-lb) ft-lb



3 Install the CDCU with bracket, and install 4 fixing bolts of the CDCU with bracket.



4 Connect 12 harness connectors of the CDCU.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the left lower fixing bracket.

6 Install the VTDR bracket.

7 Install the VTDR.

8 Install the IP left lower trim panel assembly.

9 Install the left switch panel lower trim panel assembly.

10 Install the left switch panel assembly.

11 Install the IP left access cover plate assembly.

12 Install the IP left upper trim panel assembly.

13 Install the front USB interface.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

caution

After replacement of CDCU, it is necessary to connect a scan tool for flashing, read and write the VIN, vehicle model settings, and read the PN and certificate status; If there is no certificate or if the certificate is abnormal, read the VIN SN, UIN, certificate request information CSR, and perform PKI certificate flashing; After writing of the certificate, read the certificate status and certificate serial number (according to the latest PKI specifications), and write the configuration word.

5.2.4.5 Replacement of Speaker - Low Pitch (left)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

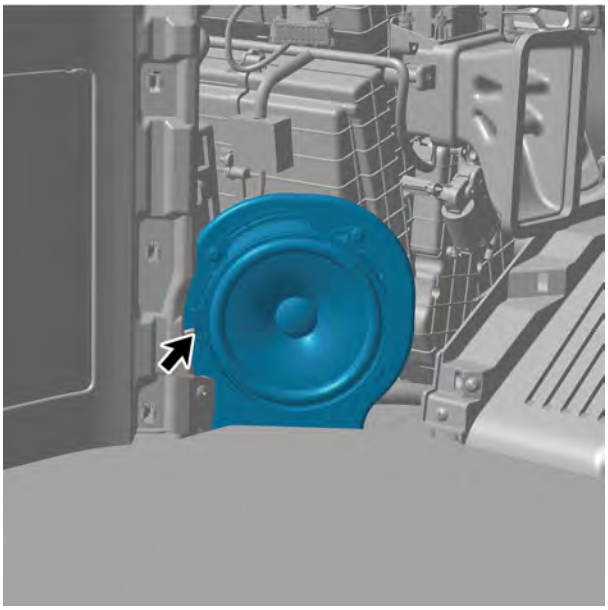
3 Disconnect the battery negative cable.

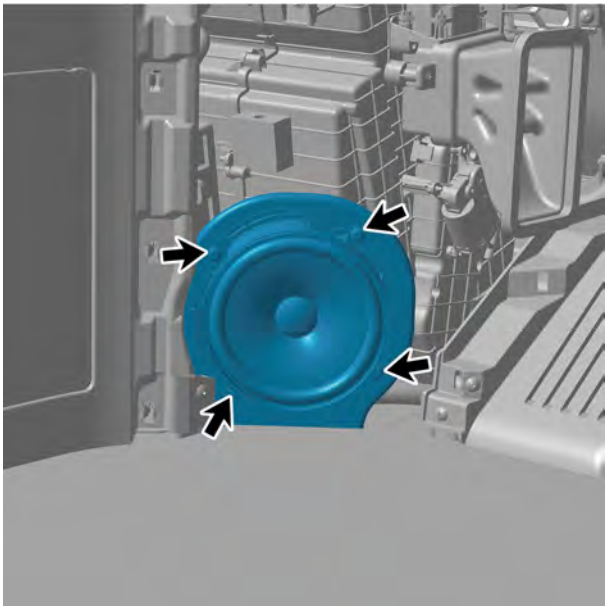
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left access cover plate assembly.

5 Disconnect 1 harness connector of the speaker - low pitch (left).

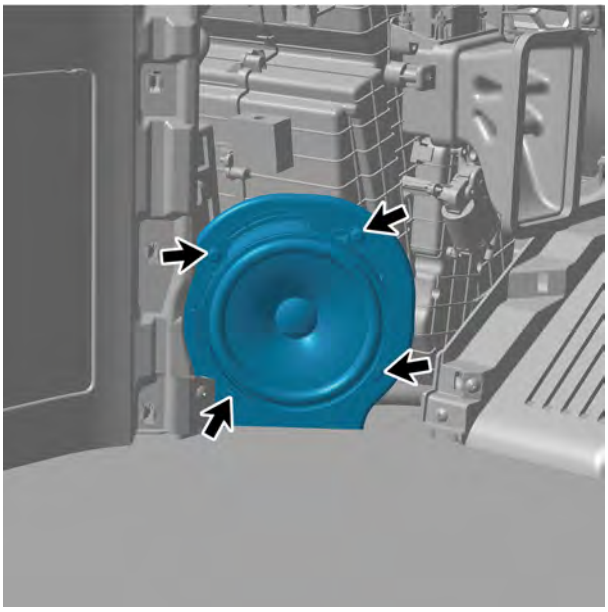




6 Remove 4 fixing screws of the speaker - low pitch (left).

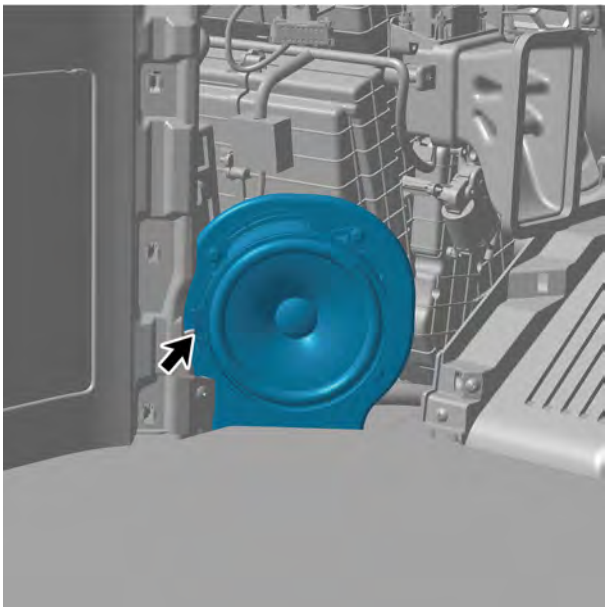
7 Remove the speaker - low pitch (left).

Installation Procedures



1 Move the speaker - low pitch (left) to the mounting position.

2 Install 4 fixing screws of the speaker - low pitch (left).



3 Connect 1 harness connector of the speaker - low pitch (left).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the IP left access cover plate assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

5.2.4.6 Replacement of Speaker - Low Pitch (right)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

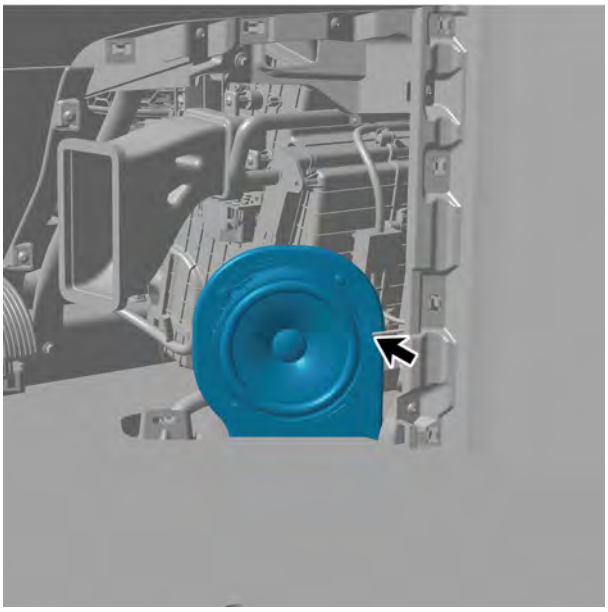
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

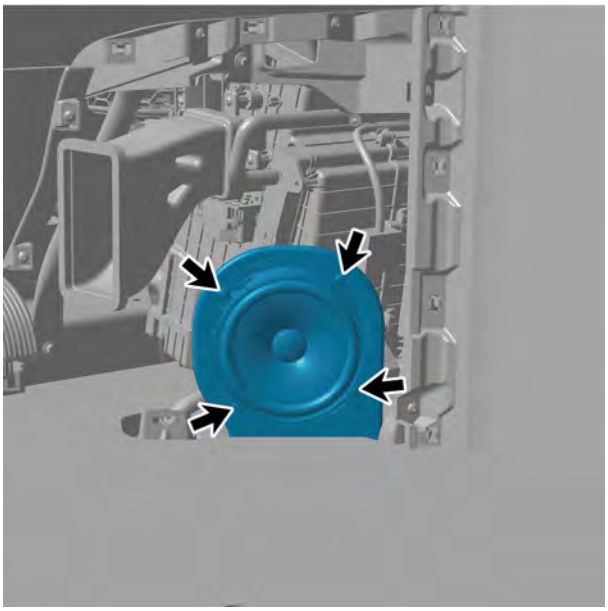
4 Remove the IP right access cover plate assembly.

5 Disconnect 1 harness connector of the speaker - low pitch (right).

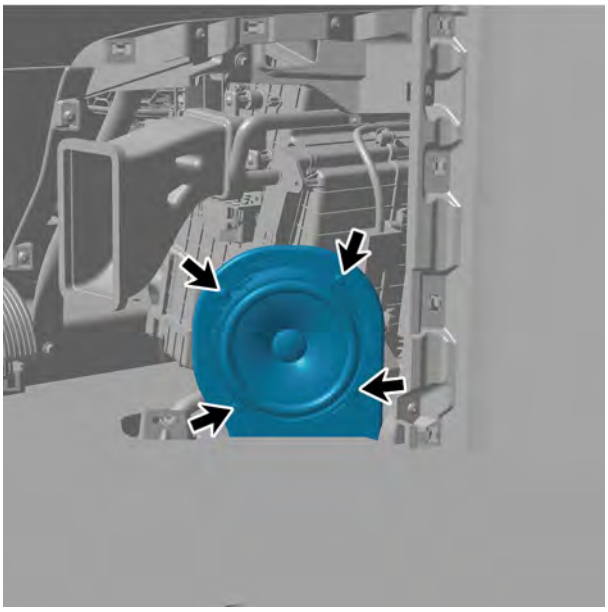


6 Remove 4 fixing screws of the speaker - low pitch (right).

7 Remove the speaker - low pitch (right).

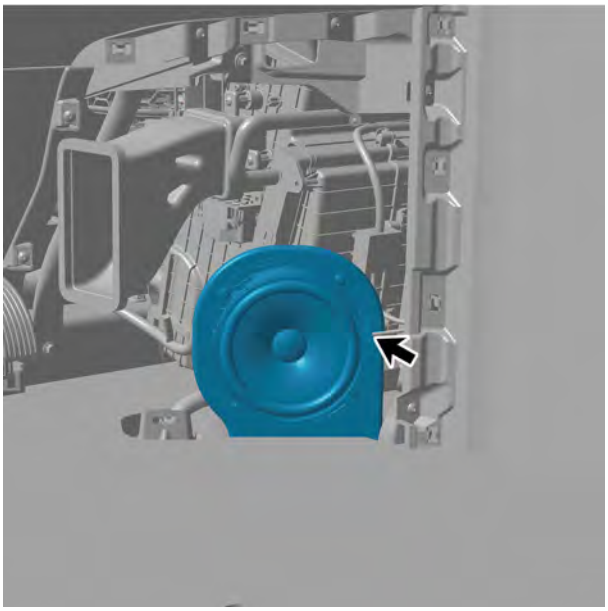


Installation Procedures



1 Move the speaker - low pitch (right) to the mounting position.

2 Install 4 fixing screws of the speaker - low pitch (right).



3 Connect 1 harness connector of the speaker - low pitch (right).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the IP right access cover plate assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

5.2.4.7 Replacement of Speaker - Medium Pitch

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

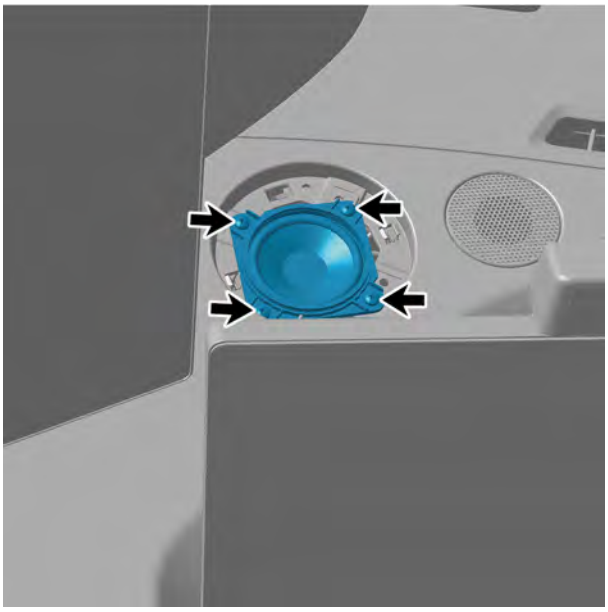
3 Disconnect the battery negative cable.

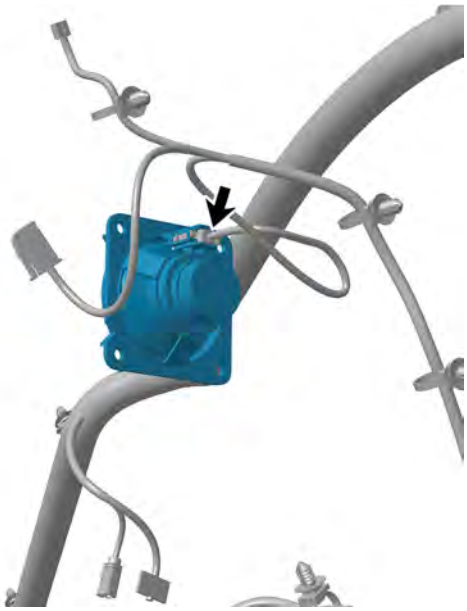
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP squawker cover assembly.

5 Remove 4 fixing screws of the speaker - medium pitch.

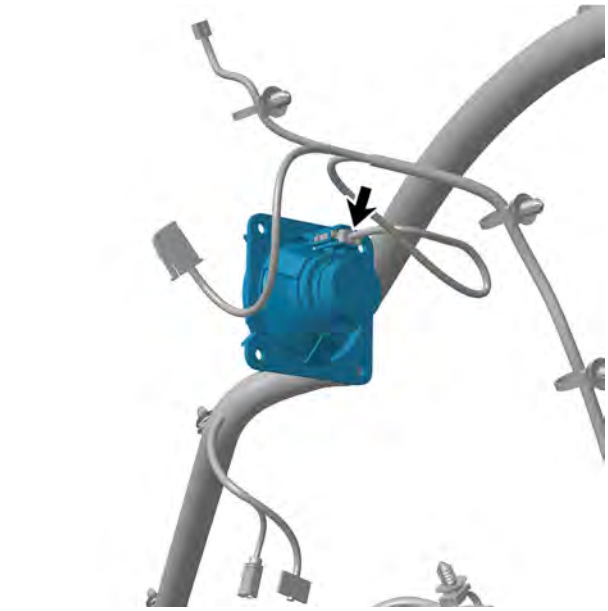




6 Disconnect 1 harness connector of the speaker - medium pitch.

7 Remove the speaker - medium pitch.

Installation Procedures

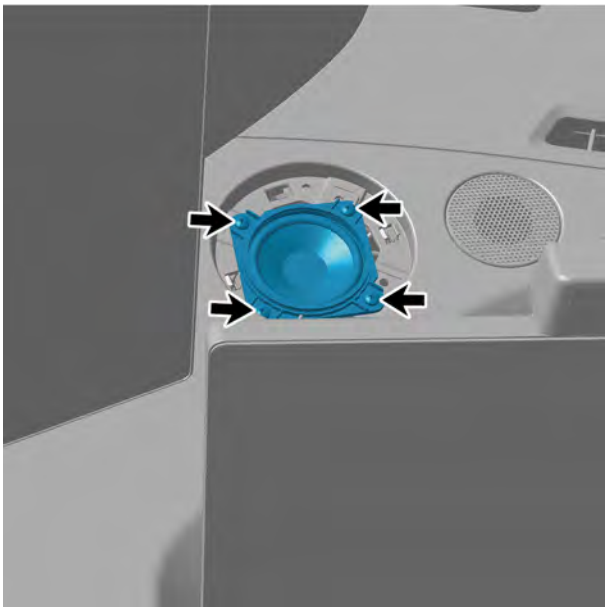


1 Move the speaker - medium pitch to the mounting position.

2 Connect 1 harness connector of the speaker - medium pitch.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install 4 fixing screws of the speaker - medium pitch.

4 Install the IP squawker cover assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

5.2.4.8 Replacement of Speaker - High Pitch

Removal Procedures

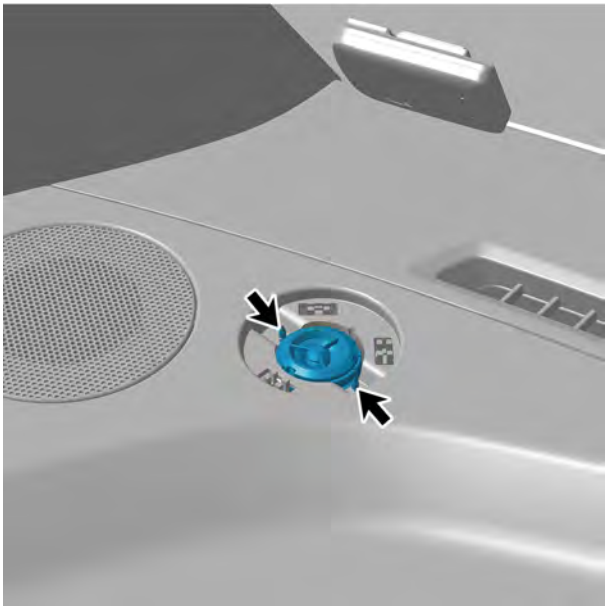
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

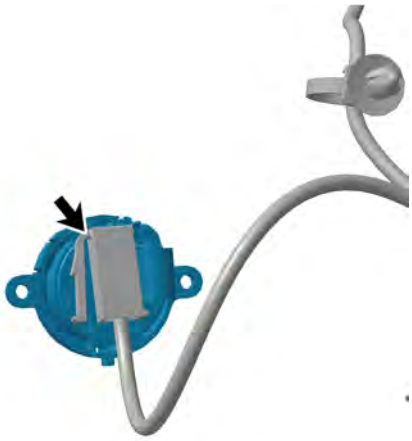
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Remove the IP high-pitch speaker cover assembly.

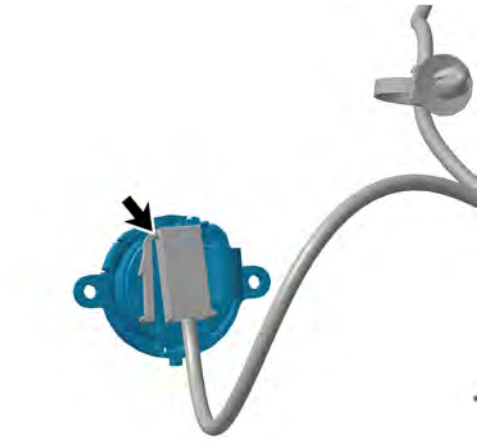
5 Remove 2 fixing screws of the speaker - high pitch.



6 Disconnect 1 harness connector of the speaker - high pitch.

7 Remove the speaker - high pitch.

Installation Procedures

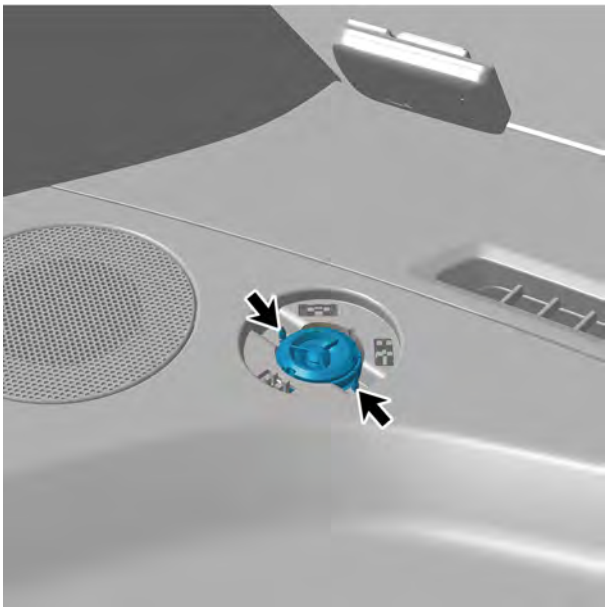


1 Move the speaker - high pitch to the mounting position.

2 Connect 1 harness connector of the speaker - high pitch.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install 2 fixing screws of the speaker - high pitch.

4 Install the IP high-pitch speaker cover assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

5.2.4.9 Replacement of Full Frequency Speaker (left)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left speaker cover.

5 Remove 4 fixing screws of the full frequency speaker (left).



6 Disconnect 1 harness connector of the full frequency speaker (left).

7 Remove the full frequency speaker (left).



Installation Procedures



1 Move the full frequency speaker (left) to the mounting position.

2 Connect 1 harness connector of the full frequency speaker (left).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install 4 fixing screws of the full frequency speaker (left).

4 Install the left speaker cover.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

5.2.4.10 Replacement of Full Frequency Speaker (right)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right speaker cover.

5 Remove 4 fixing screws of the full frequency speaker (right).



6 Disconnect 1 harness connector of the full frequency speaker (right).

7 Remove the full frequency speaker (right).



Installation Procedures



1 Move the full frequency speaker (right) to the mounting position.

2 Connect 1 harness connector of the full frequency speaker (right).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install 4 fixing screws of the full frequency speaker (right).

4 Install the right speaker cover.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

5.2.4.11 Replacement of Microphone Array MIC

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

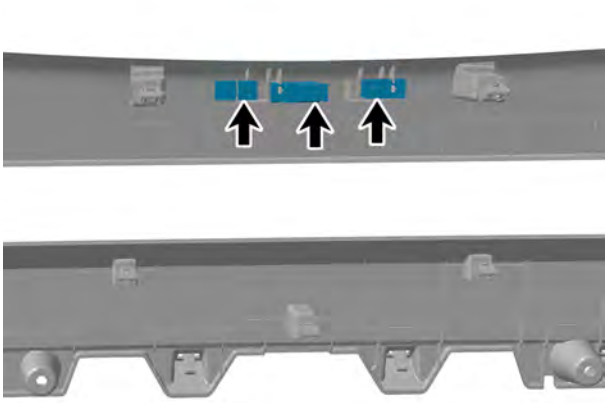
5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

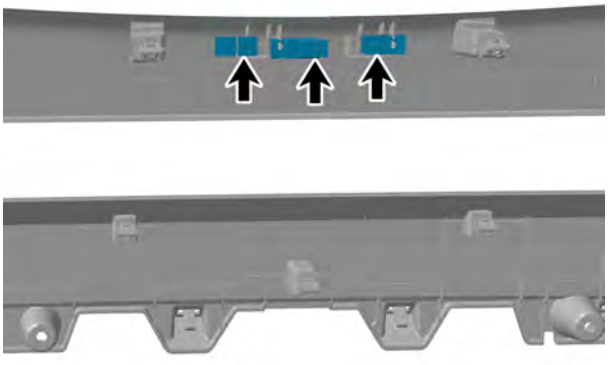
8 Remove the sunshade cover plate assembly.

9 Remove the microphone array MIC.



Installation Procedures

1 Install the microphone array MIC.



2 Install the sunshade cover plate assembly.

3 Install the front camera trim cover assembly.

4 Install the sunshade rail assembly.

5 Install the right A-pillar protective plate assembly.

6 Install the left A-pillar protective plate assembly.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

5.2.4.12 Replacement of DVR Camera

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

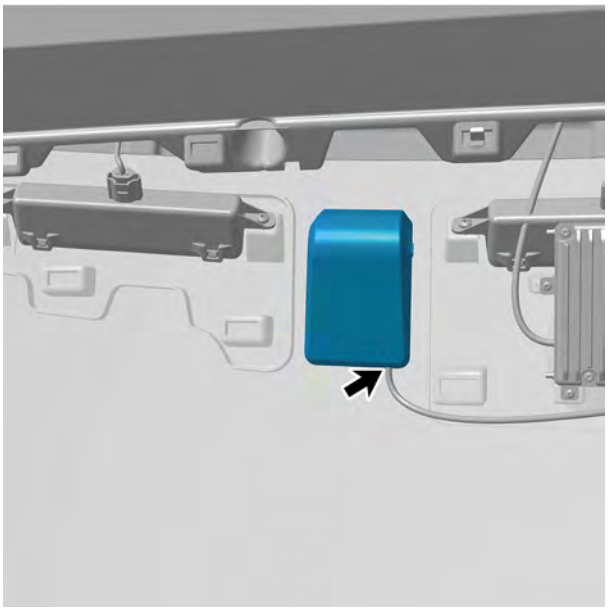
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

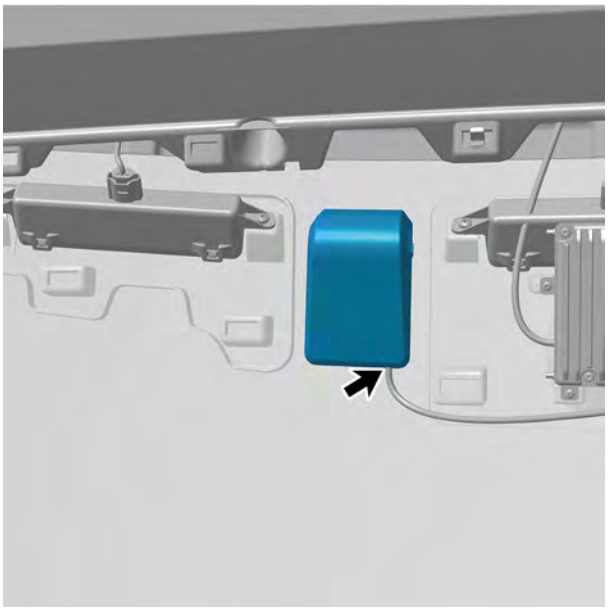
4 Remove the front camera trim cover assembly.

5 Disconnect 1 harness connector of the DVR camera.

6 Remove the DVR camera.



Installation Procedures



1 Move the DVR camera to the mounting position.

caution

Before installing the DVR camera, the front windshield should be cleaned thoroughly first.

2 Connect 1 harness connector of the DVR camera.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Install the front camera trim cover assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

5.2.4.13 Replacement of Selfie Camera

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

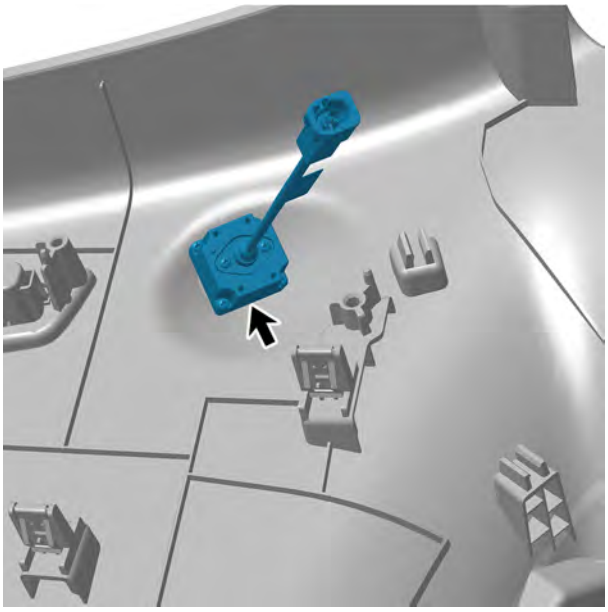
4 Remove the left A-pillar protective plate assembly.

5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

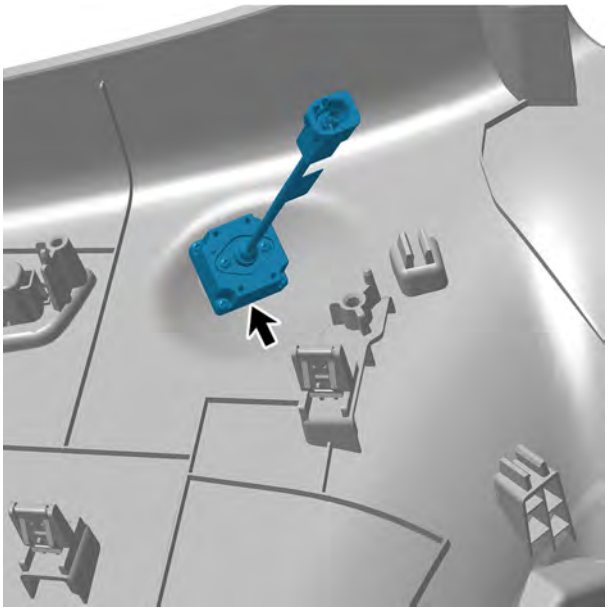
8 Remove the sunshade cover plate assembly.



9 Remove the selfie camera bracket.

10 Remove the selfie camera.

Installation Procedures



1 Install the selfie camera.

2 Install the selfie camera bracket.

3 Install the sunshade cover plate assembly.

4 Install the front camera trim cover assembly.

5 Install the sunshade rail assembly.

6 Install the right A-pillar protective plate assembly.

7 Install the left A-pillar protective plate assembly.

8 Connect the battery negative cable.

9 Close the front flip cover plate.

10 Close the door.

5.2.4.14 Replacement of DMS Camera

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

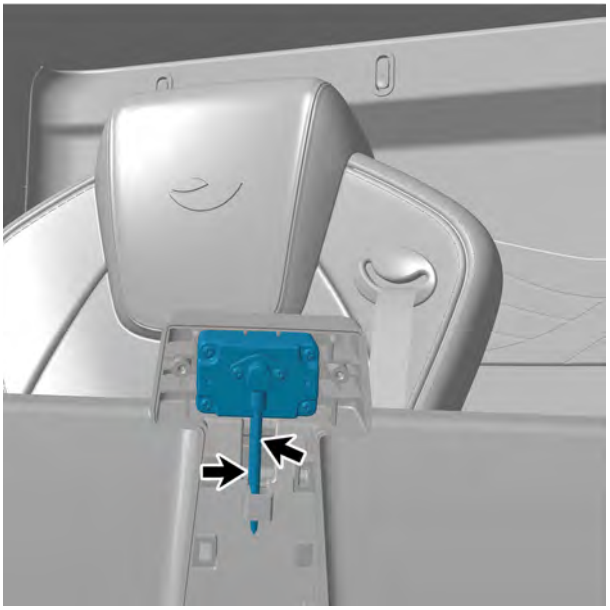
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

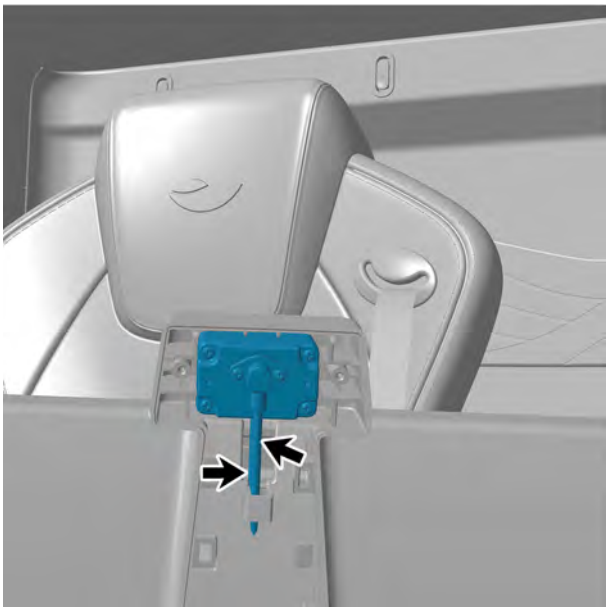
4 Remove the DMS camera bracket.

5 Disconnect 2 harness connector of the DMS camera.

6 Remove the DMS camera.



Installation Procedures



1 Move the DMS camera to the mounting position.

2 Connect 2 harness connector of the DMS camera.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Install the DMS camera bracket.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

5.2.4.15 Replacement of AR-HUD

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the ip brim assy.

5 Remove the ivi screen.

6 Remove the car screen.

7 Remove the ipc screen.

8 Remove the upr cover- lh camera brkt.

9 Remove the camera monitor screen.

10 Remove the base-lh display brkt.

11 Remove the upr cover- rh camera brkt.

12 Remove the camera monitor screen-rh.

13 Remove the base-rh display brkt.

14 Remove the a-pillar guard assy-lh.

15 Remove the a-pillar guard assy-rh.

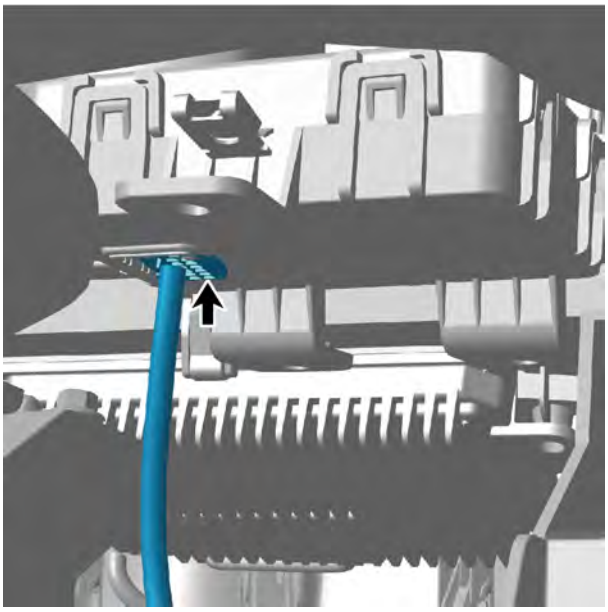
16 Remove the assembly of the instrument panel trim panel assy- lowerr lh.

17 Remove the front side enclosure assy-lh.

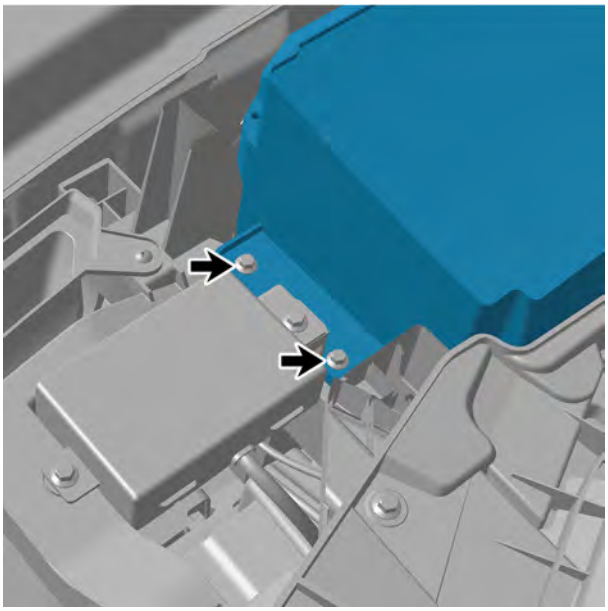
18 Remove the assembly of the cover assy-steering under column guard.

19 Remove the front side enclosure assy-rh.

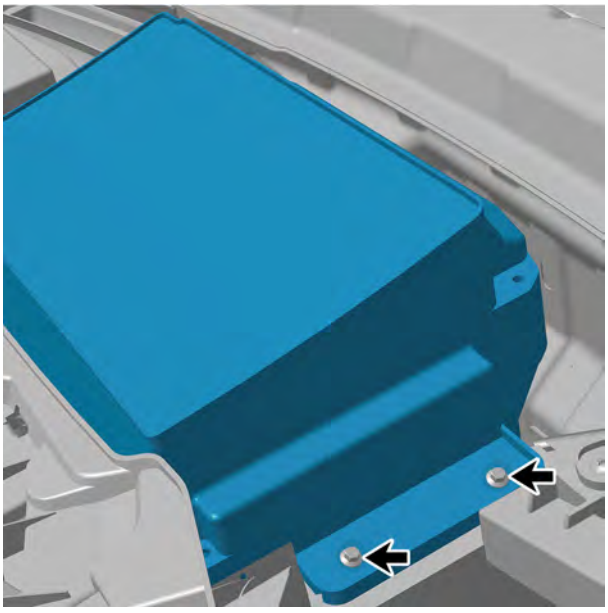
20 Remove the ontology assy on the dashboard.



21 Disconnect one wire harness connector of the NFC antenna.

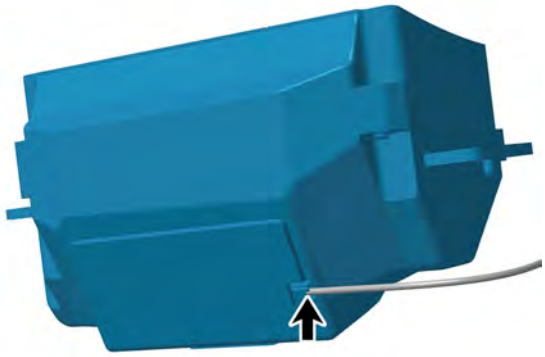


22 Remove 4 fixing bolts of the AR-HUD.



23 Disconnect 1 harness connector of the AR-HUD.

24 Remove the AR-HUD.



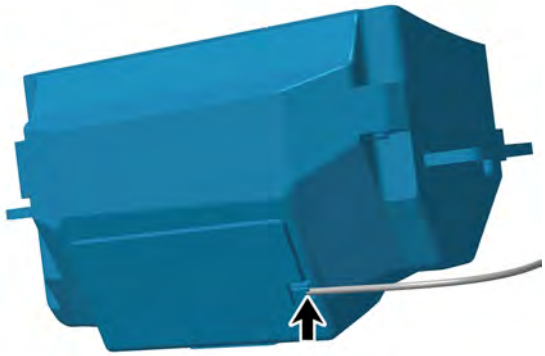
Installation Procedures

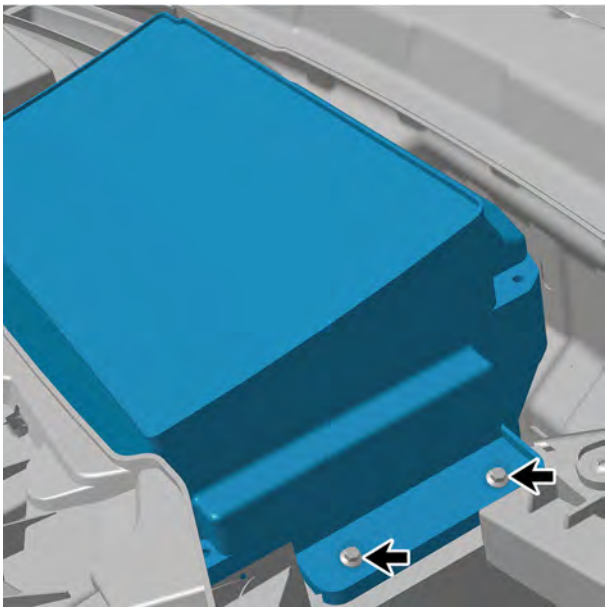
1 Move the AR-HUD to the mounting position.

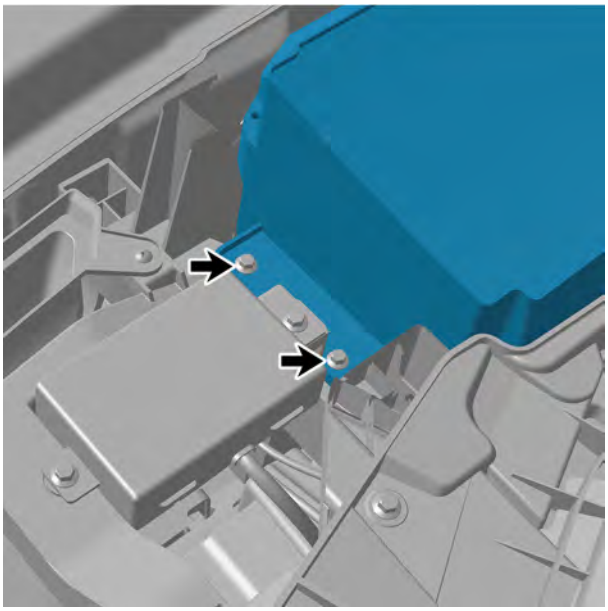
2 Connect 1 harness connector of the AR-HUD.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

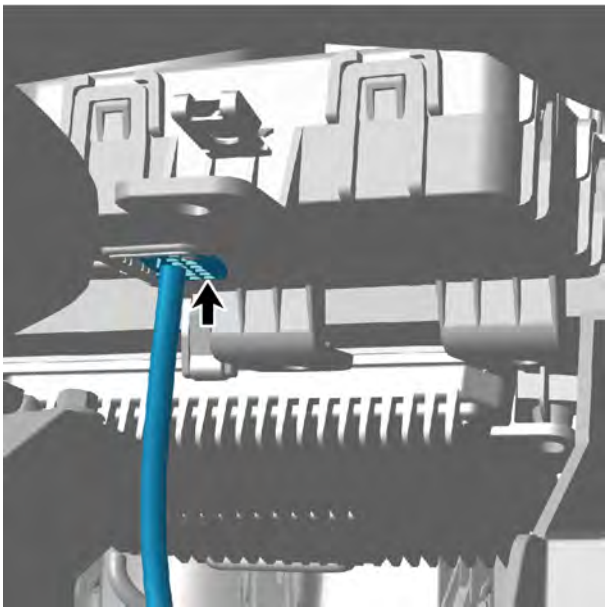






3 Install 4 fixing bolts of the AR-HUD.

Torque:(6.5 ft-lb +/- .75 ft-lb) ft-lb



4 Connect one wire harness connector of the NFC antenna.

5 Install the ontology assy on the dashboard.

6 Install the front side enclosure assy-rh.

7 Install the assembly of the cover assy-steering under column guard.

8 Install the front side enclosure assy-lh.

9 Install the assembly of the instrument panel trim panel assy- lowerr lh.

10 Install the a-pillar guard assy-rh.

11 Install the a-pillar guard assy-lh.

12 Install the base-rh display brkt.

13 Install the camera monitor screen-rh.

14 Install the upr cover- rh camera brkt.

15 Install the base-lh display brkt.

16 Install the camera monitor screen.

17 Install the upr cover- lh camera brkt.

18 Install the ipc screen.

19 Install the car screen.

20 Install the ivi screen.

21 Install the ip brim assy.

22 Connect the battery negative cable.

23 Close the front flip cover plate.

24 Close the door.

caution

After replacing the AR-HUD, it is necessary to connect a scan tool for flashing, and write the configuration word.

5.2.4.16 Replacement of Rear View Camera

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

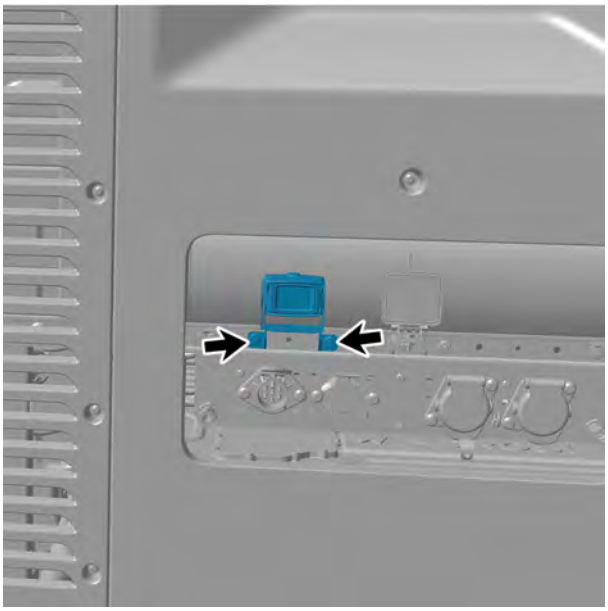
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



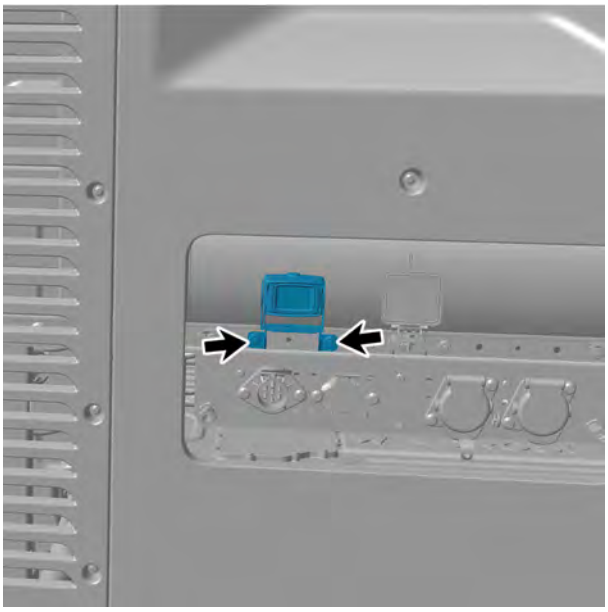
4 Disconnect 1 harness connector of the rear view camera.



5 Remove 2 fixing nuts of the rear view camera.

6 Remove the rear view camera.

Installation Procedures



1 Move the rear view camera to the mounting position.

2 Install 2 fixing nuts of the rear view camera.

Torque:(18 ft-lb +/- 2ft-lb) ft-lb



3 Connect 1 harness connector of the rear view camera.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

6.1 Vehicle Body Mounting Connection Device

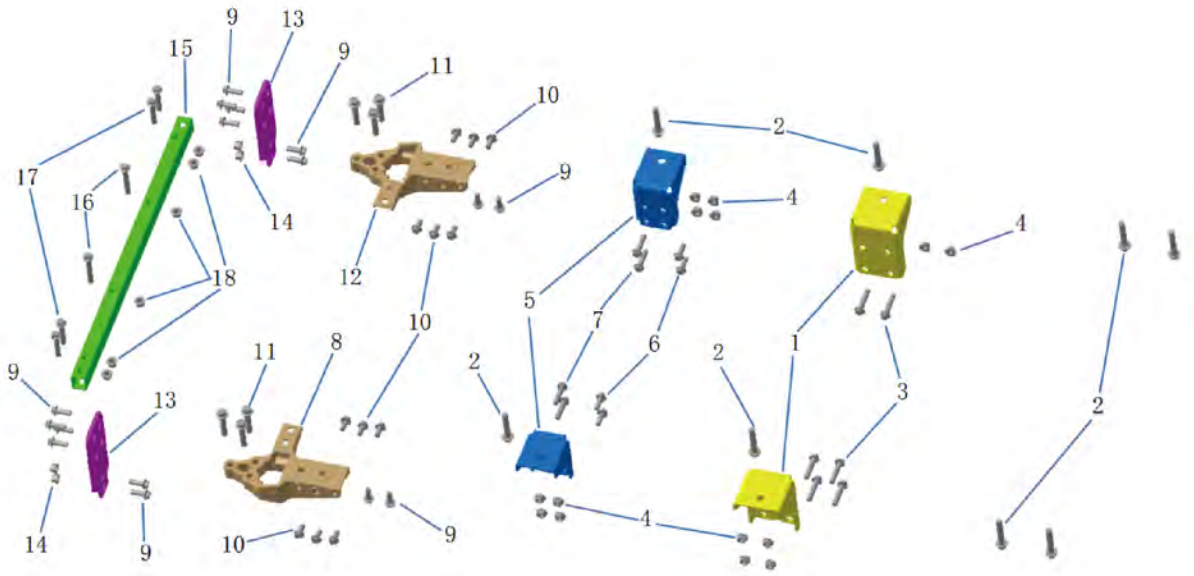
6.1.1 Specifications

6.1.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting suspension bracket two to the frame assembly	M14	147 ft-lb +/- 7 ft-lb
The fixing nut connecting suspension bracket two to the frame assembly	M14	147 ft-lb +/- 7 ft-lb
The fixing bolts connecting the suspension bracket three to the frame assembly	M14	147 ft-lb +/- 7 ft-lb
The fixing bolt connecting the left side of the fourth suspension of the vehicle body to the integrated frame	M16	228.5ft-lb +/- 7 ft-lb (Kesai New 1262)
The fixing bolt connecting the right side of the fourth suspension of the vehicle body to the integrated frame	M16	228.5ft-lb +/- 7 ft-lb (Kesai New 1262)
The fixing bolt connecting the fourth suspension support rod of the vehicle body to the frame assembly	M14	147 ft-lb +/- 7 ft-lb
The fixing bolt connecting the fourth suspension support rod assembly of the vehicle body and the fourth suspension of the vehicle body	M14	147 ft-lb +/- 7 ft-lb
The fixing nut connecting the fourth suspension support rod assembly of the vehicle body and the fourth suspension of the vehicle body	M14	147 ft-lb +/- 7 ft-lb

6.1.2 Decomposition Diagram

6.1.2.1 Decomposition Diagram



1.	Suspunsion Bracket Two Assy	10.	Hexagon Flange Bolt
2.	Hexagon Flange Bolt	11.	Hexagon Flange Bolt
3.	Hexagon Flange Bolt	12.	Body Fourth Suspension Lh
4.	Hexagon Flange Nut	13.	Plate Rr Wall Mounting
5.	Suspunsion Bracket Three Assy	14.	Hexagon Flange Lock Nut_all Metal
6.	Hexagon Flange Bolt	15.	Body Fourth Suspension Support Rod Assy
7.	Hexagon Flange Bolt	16.	Hexagon Flange Bolt
8.	Body Fourth Suspension Rh	17.	Hexagon Flange Bolt
9.	Hexagon Flange Bolt	18.	Hexagon Flange Lock Nut_all Metal

6.2 Bumper Device

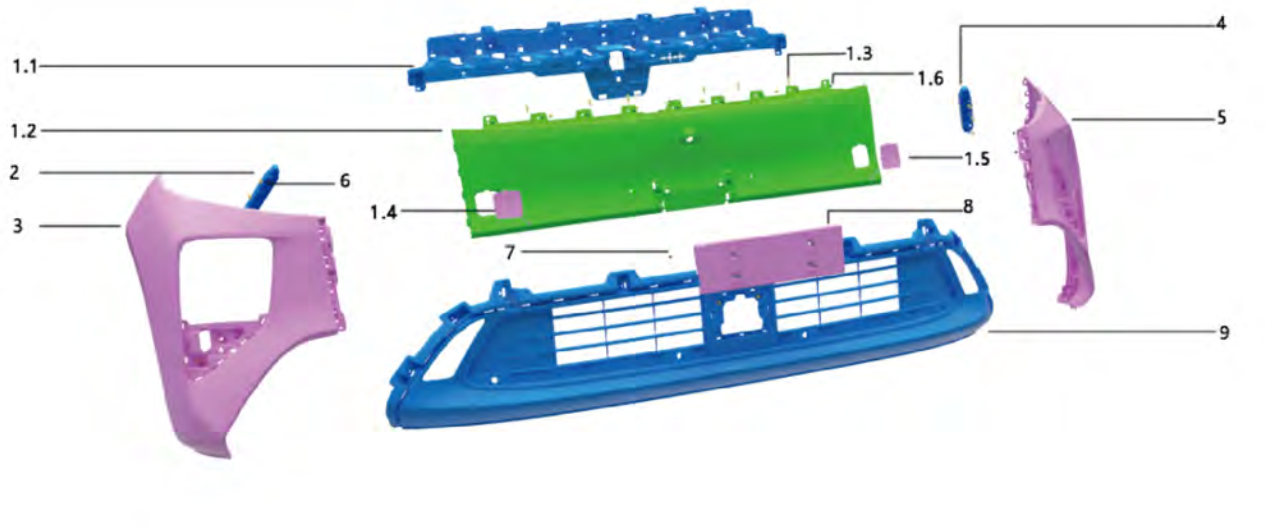
6.2.1 Specifications

6.2.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolts connecting the left bumper mounting frame and the upper body assembly of the left bumper	M6	4.5 ft-lb +/- .75 ft-lb

6.2.2 Decomposition Diagram

6.2.2.1 Decomposition Diagram



1.1. The Main Body Skeleton Assy on the Bumper
1.2. Body Assy on the Middle Bumper
1.3. Hexagon Flange Bolt
1.4. Right Bumper Tow Hook Cover
1.5. Left Bumper Tow Hook Cover
1.6. Self-Tapping Screw
2. Brkt-Bumper Mounts-rh
3. Body Assy on the Right Bumper
4. Brkt-Bumper Mounts-Lh
5. Body Assy on the Left Bumper
6. Hexagon Flange Bolt
7. Self-Tapping Screw
8. License Plate Mounting Plate Assy
9. Body Assy Under Bumper

6.2.3 Dismantling and Installation

6.2.3.1 Replacement of Bumper Middle Body Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the MMWR adapter bracket.

9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Remove the license plate mounting plate assembly.

13 Remove the left intake grille assembly.

14 Remove the right intake grille assembly.

15 Remove the GASM harness module.

16 Remove the USS (snowy white).

17 Remove the auxiliary USS (matte black).

18 Remove the auxiliary USS (snowy white).

19 Remove the Bluetooth antenna (front).

20 Remove the blinding camera (front view).

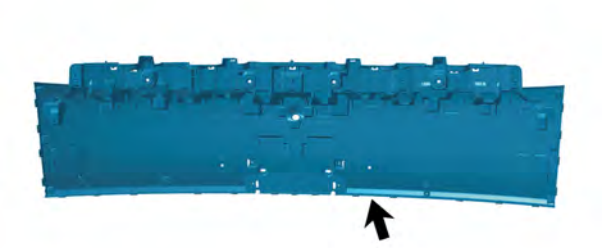
21 Remove the front lower blinding camera bracket.

22 Remove the bumper lower body assembly.

23 Remove the left bumper upper body assembly.

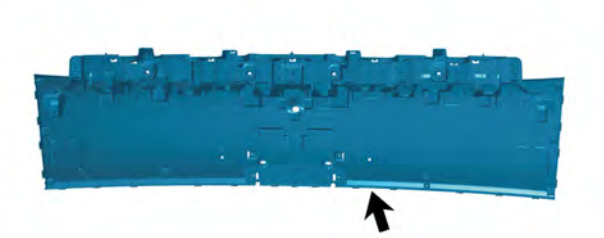
24 Remove the right bumper upper body assembly.

25 Remove the bumper middle body assembly.



Installation Procedures

1 Install the bumper middle body assembly.



2 Install the right bumper upper body assembly.

3 Install the left bumper upper body assembly.

4 Install the bumper lower body assembly.

5 Install the front lower blinding camera bracket.

6 Install the blinding camera (front view).

7 Install the Bluetooth antenna (front).

8 Install the auxiliary USS (snowy white).

9 Install the auxiliary USS (matte black).

10 Install the USS (snowy white).

11 Install the GASM harness module.

12 Install the right intake grille assembly.

13 Install the left intake grille assembly.

14 Install the license plate mounting plate assembly.

15 Install the front bumper assembly.

16 Install the right cover plate of the corner radar.

17 Install the left cover plate of the corner radar.

18 Install the MMWR adapter bracket.

19 Install the forward MMW radar.

20 Install the front MMW radar shield.

21 Install the through-type lamp.

22 Install the engine compartment trim panel body.

23 Connect the battery negative cable.

24 Close the front flip cover plate.

25 Close the door.

6.2.3.2 Replacement of Middle Bumper Upper Body Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the MMWR adapter bracket.

9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Remove the license plate mounting plate assembly.

13 Remove the left intake grille assembly.

14 Remove the right intake grille assembly.

15 Remove the GASM harness module.

16 Remove the USS (snowy white).

17 Remove the auxiliary USS (matte black).

18 Remove the auxiliary USS (snowy white).

19 Remove the Bluetooth antenna (front).

20 Remove the blinding camera (front view).

21 Remove the front lower blinding camera bracket.

22 Remove the bumper lower body assembly.

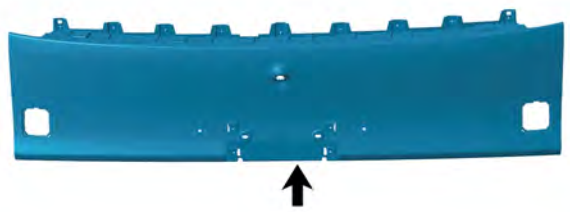
23 Remove the left bumper upper body assembly.

24 Remove the right bumper upper body assembly.

25 Remove the bumper middle body assembly.

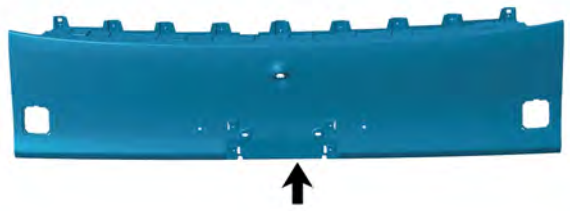
26 Remove the bumper upper body frame assembly.

27 Remove the middle bumper upper body assembly.



Installation Procedures

1 Install the middle bumper upper body assembly.



2 Install the bumper upper body frame assembly.

3 Install the bumper middle body assembly.

4 Install the right bumper upper body assembly.

5 Install the left bumper upper body assembly.

6 Install the bumper lower body assembly.

7 Install the front lower blinding camera bracket.

8 Install the blinding camera (front view).

9 Install the Bluetooth antenna (front).

10 Install the auxiliary USS (snowy white).

11 Install the auxiliary USS (matte black).

12 Install the USS (snowy white).

13 Install the GASM harness module.

14 Install the right intake grille assembly.

15 Install the left intake grille assembly.

16 Install the license plate mounting plate assembly.

17 Install the front bumper assembly.

18 Install the right cover plate of the corner radar.

19 Install the left cover plate of the corner radar.

20 Install the MMWR adapter bracket.

21 Install the forward MMW radar.

22 Install the front MMW radar shield.

23 Install the through-type lamp.

24 Install the engine compartment trim panel body.

25 Connect the battery negative cable.

26 Close the front flip cover plate.

27 Close the door.

6.2.3.3 Replacement of Left Bumper Upper Body Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the MMWR adapter bracket.

9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Remove the license plate mounting plate assembly.

13 Remove the left intake grille assembly.

14 Remove the right intake grille assembly.

15 Remove the GASM harness module.

16 Remove the USS (snowy white).

17 Remove the auxiliary USS (matte black).

18 Remove the auxiliary USS (snowy white).

19 Remove the Bluetooth antenna (front).

20 Remove the blinding camera (front view).

21 Remove the front lower blinding camera bracket.

22 Remove the bumper lower body assembly.

23 Remove 4 fixing screws of the left bumper upper body assembly.

24 Remove the left bumper upper body assembly.



Installation Procedures



1 Move the left bumper upper body assembly to the mounting position.

2 Install 4 fixing screws of the left bumper upper body assembly.

3 Install the bumper lower body assembly.

4 Install the front lower blinding camera bracket.

5 Install the blinding camera (front view).

6 Install the Bluetooth antenna (front).

7 Install the auxiliary USS (snowy white).

8 Install the auxiliary USS (matte black).

9 Install the USS (snowy white).

10 Install the GASM harness module.

11 Install the right intake grille assembly.

12 Install the left intake grille assembly.

13 Install the license plate mounting plate assembly.

14 Install the front bumper assembly.

15 Install the right cover plate of the corner radar.

16 Install the left cover plate of the corner radar.

17 Install the MMWR adapter bracket.

18 Install the forward MMW radar.

19 Install the front MMW radar shield.

20 Install the through-type lamp.

21 Install the engine compartment trim panel body.

22 Connect the battery negative cable.

23 Close the front flip cover plate.

24 Close the door.

6.2.3.4 Replacement of Bumper Lower Body Aassembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the MMWR adapter bracket.

9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Remove the license plate mounting plate assembly.

13 Remove the left intake grille assembly.

14 Remove the right intake grille assembly.

15 Remove the GASM harness module.

16 Remove the USS (snowy white).

17 Remove the auxiliary USS (matte black).

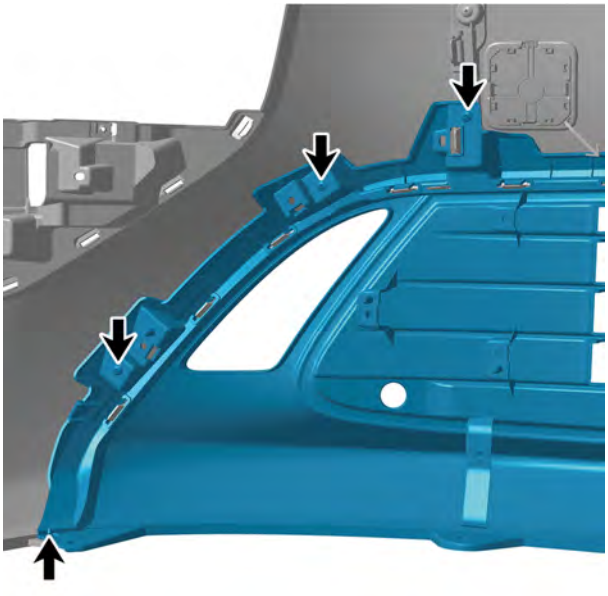
18 Remove the auxiliary USS (snowy white).

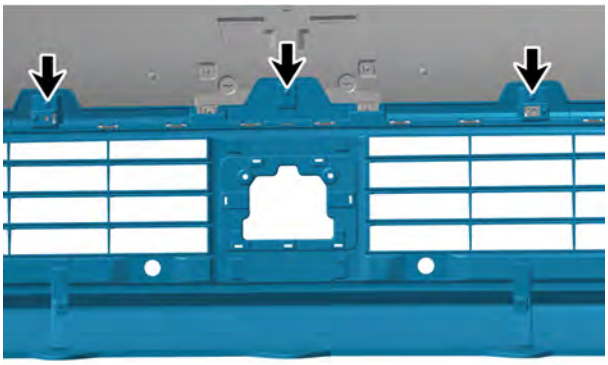
19 Remove the Bluetooth antenna (front).

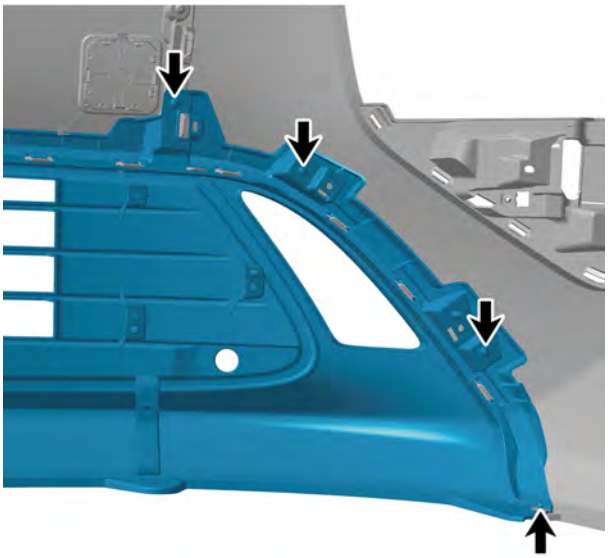
20 Remove the blinding camera (front view).

21 Remove the front lower blinding camera bracket.

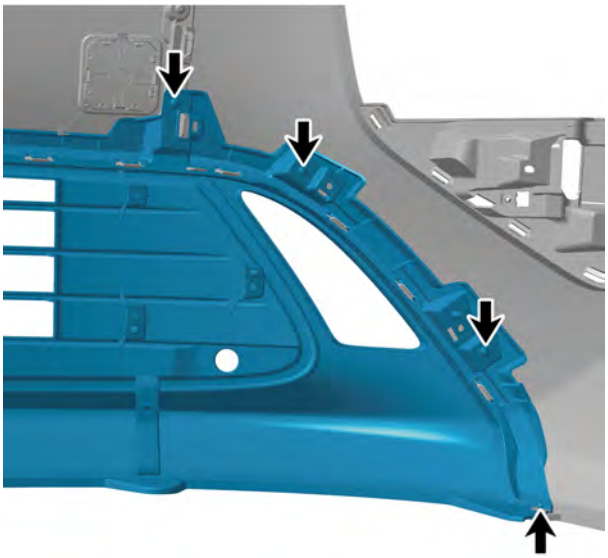
22 Remove 11 fixing screws of the bumper lower body assembly, and remove the bumper lower body assembly.

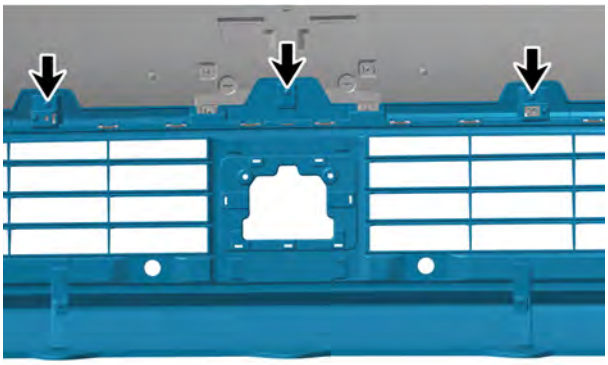


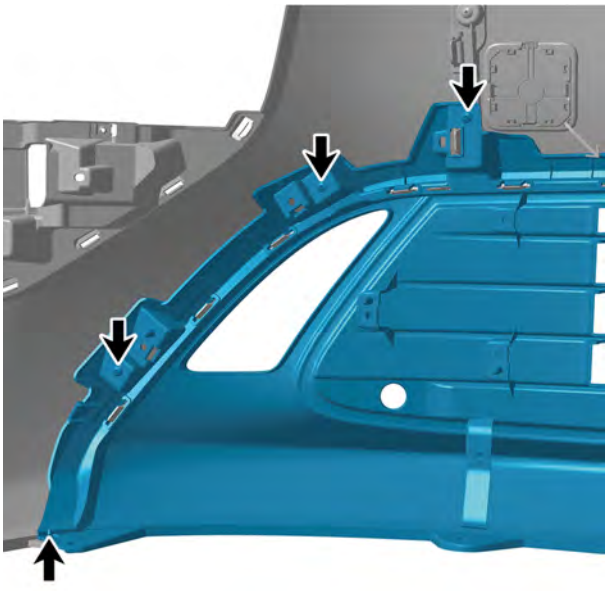




Installation Procedures







1 Move the bumper lower body assembly to the mounting position.

2 Install 11 fixing screws of the bumper lower body assembly.

3 Install the front lower blinding camera bracket.
4 Install the blinding camera (front view).
5 Install the Bluetooth antenna (front).
6 Install the auxiliary USS (snowy white).
7 Install the auxiliary USS (matte black).
8 Install the USS (snowy white).
9 Install the GASM harness module.
10 Install the right intake grille assembly.
11 Install the left intake grille assembly.
12 Install the license plate mounting plate assembly.
13 Install the front bumper assembly.
14 Install the right cover plate of the corner radar.
15 Install the left cover plate of the corner radar.
16 Install the MMWR adapter bracket.
17 Install the forward MMW radar.
18 Install the front MMW radar shield.
19 Install the through-type lamp.
20 Install the engine compartment trim panel body.
21 Connect the battery negative cable.
22 Close the front flip cover plate.
23 Close the door.

6.3 Front Lower Protection Device

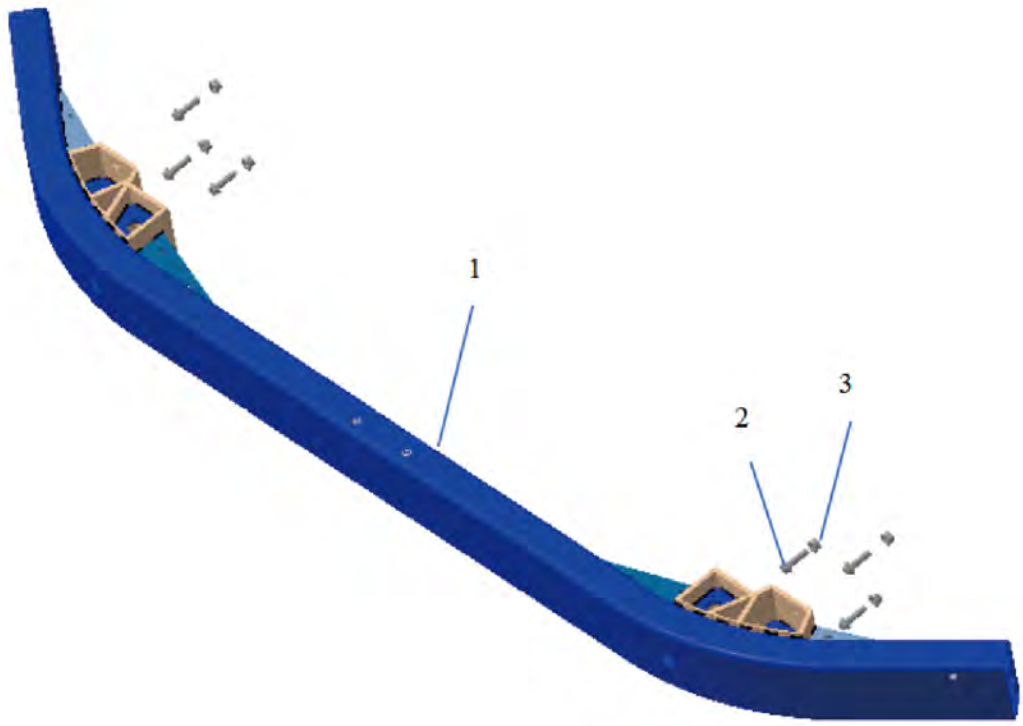
6.3.1 specifications

6.3.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolt connecting the front lower protection assembly and the left front connecting beam	M10	37 ft-lb +/- 3.5 ft-lb
The fixing nut connecting the front lower protection assembly and the left front connecting beam	M8	18.5 ft-lb +/- 2 ft-lb

6.3.2 Decomposition Diagram

6.3.2.1 Decomposition Diagram



1. Fl Protection Assy
2. Hexagon Flange Bolt
3. Hexagon Flange Self-Locking Nut

6.3.3 Dismantling and Installation

6.3.3.1 Replacement of Front Lower Protection Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

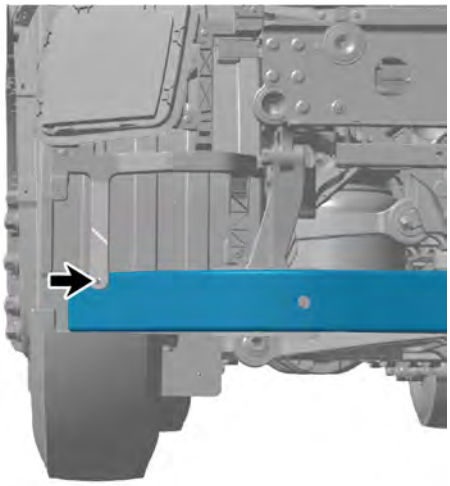
8 Remove the front MMW radar adapter bracket.

9 Remove the left cover plate of the corner radar.

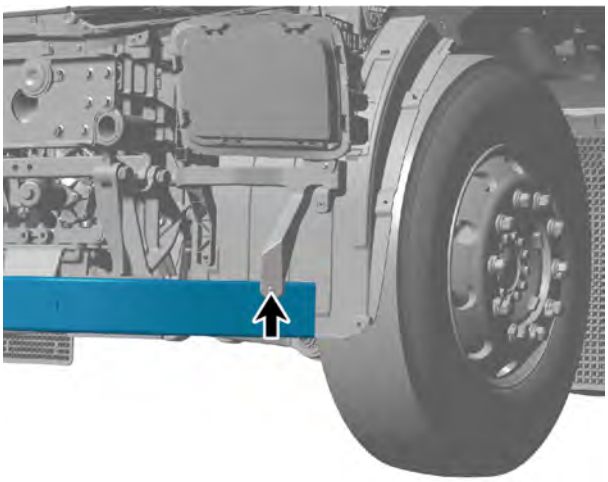
10 Remove the right cover plate of the corner radar.

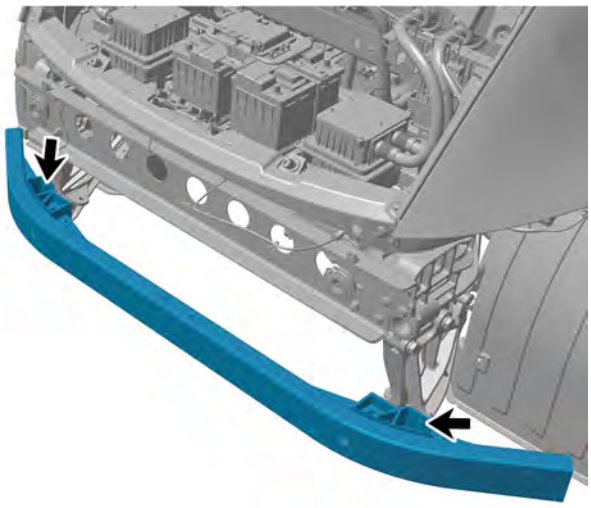
11 Remove the front bumper assembly.

12 Remove the MMW radar bracket.



13 Remove 2 fixing bolts connecting the front lower protection assembly to the headlamp bracket.

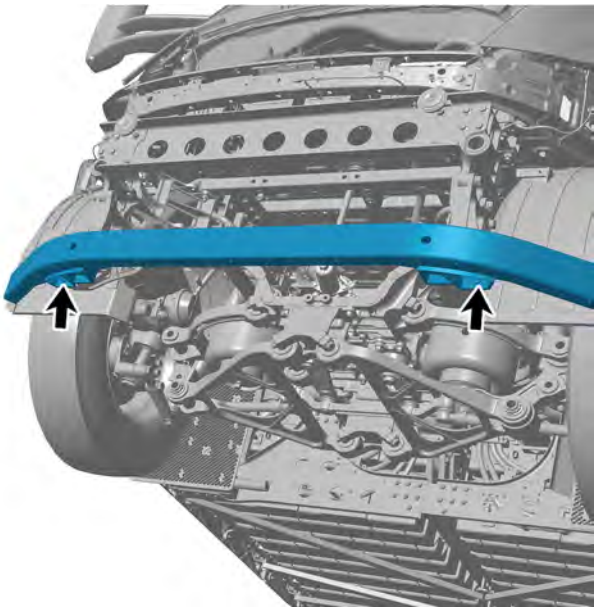


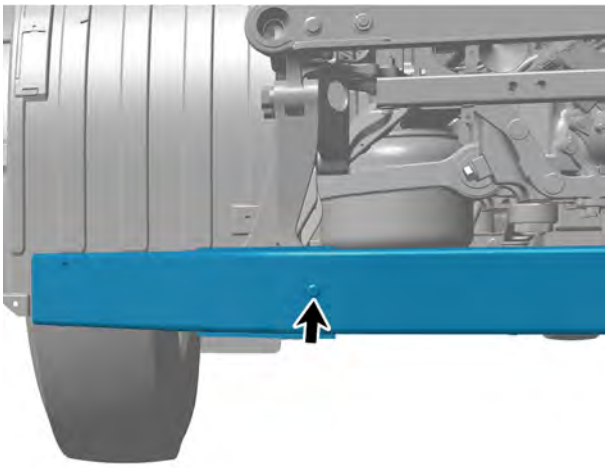


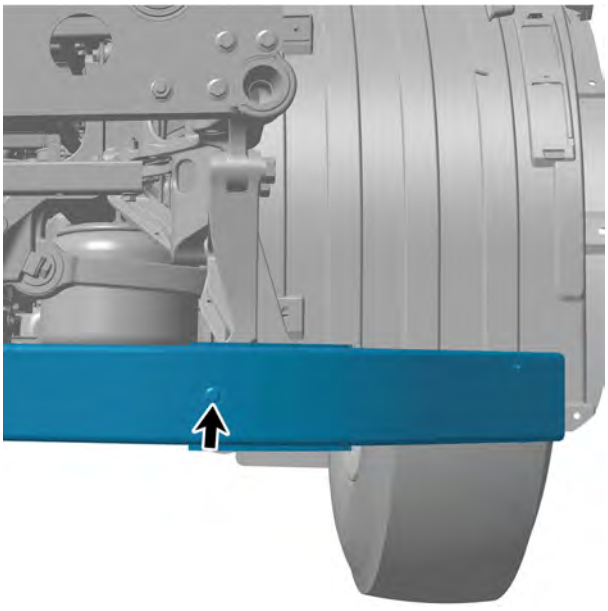
14 Remove 6 fixing bolts of the front lower protection assembly, and remove the front lower protection assembly.

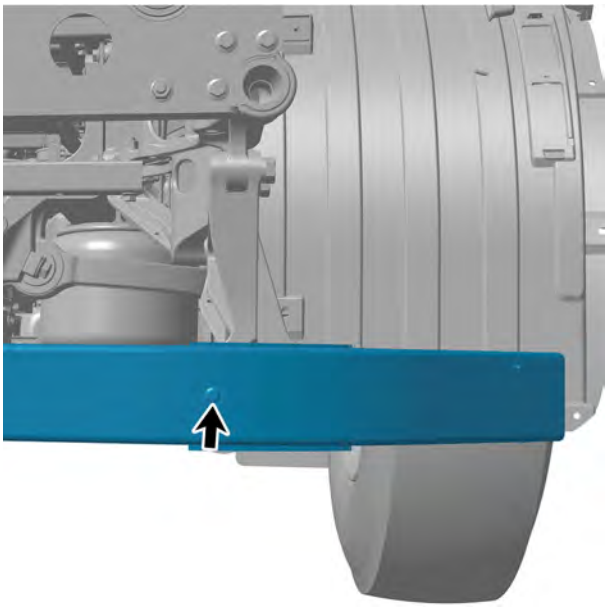
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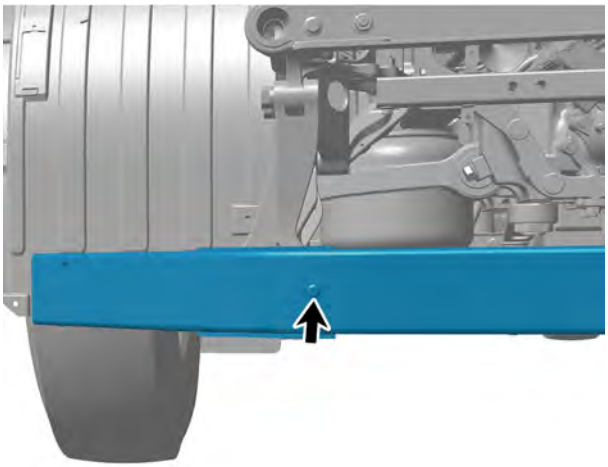
Due to the heavy weight of the front lower protection assembly, it shall be removed with the help of an assistant.











Installation Procedures

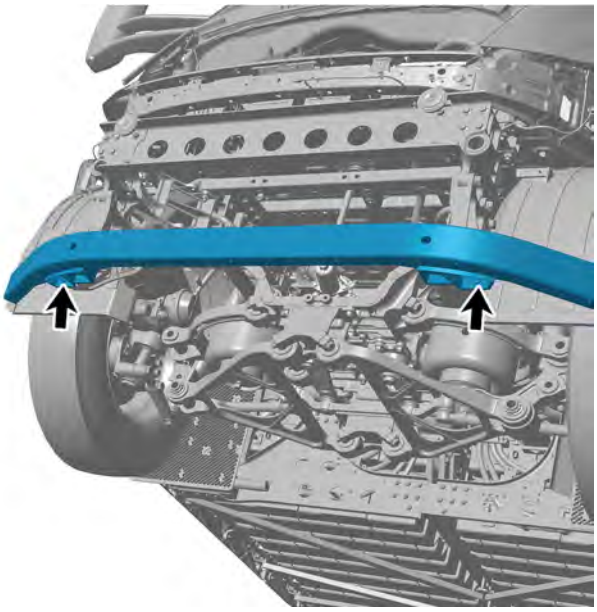
1 Move the front lower protection assembly to the mounting position.

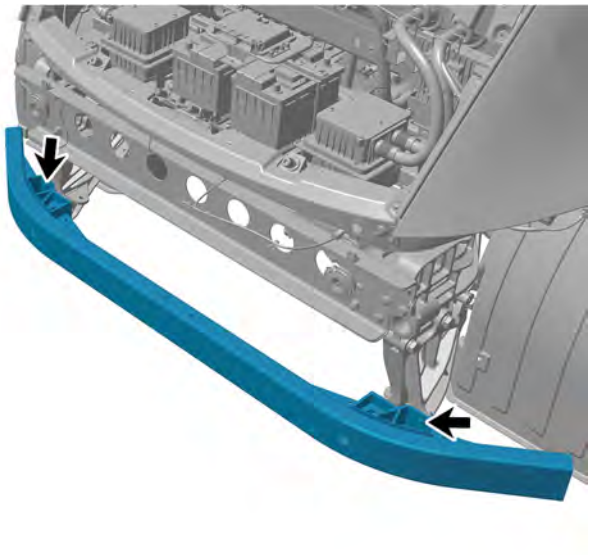
caution

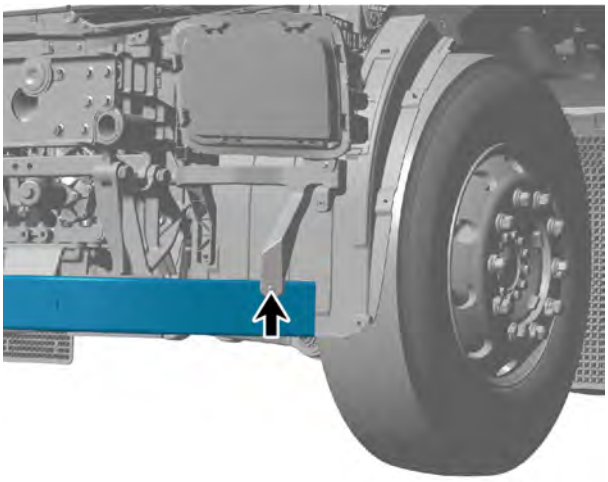
Due to the heavy weight of the front lower protection assembly, it shall be moved to the mounting position with the help of an assistant.

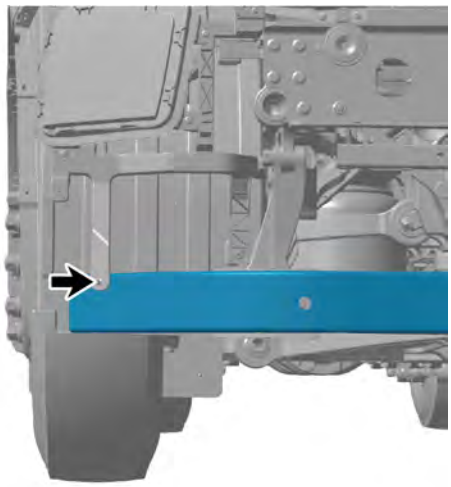
2 Install 6 fixing bolts of the front lower protection assembly.

Torque:(44 ft-lb - 59 ft-lb)ft-lb









3 Install 2 fixing bolts connecting the front lower protection assembly to the headlamp bracket.
Torque: (17 ft-lb +/- 2 ft-lb) ft-lb

4 Install the MMW radar bracket.
5 Install the front bumper assembly.
6 Install the right cover plate of the corner radar.
7 Install the left cover plate of the corner radar.
8 Install the MMW radar bracket.
9 Install the forward MMW radar.
10 Install the front MMW radar shield.
11 Install the through-type lamp.
12 Install the engine compartment trim panel body.
13 Connect the battery negative cable.
14 Close the front flip cover plate.
15 Close the door

6.4 Body-in-White Device

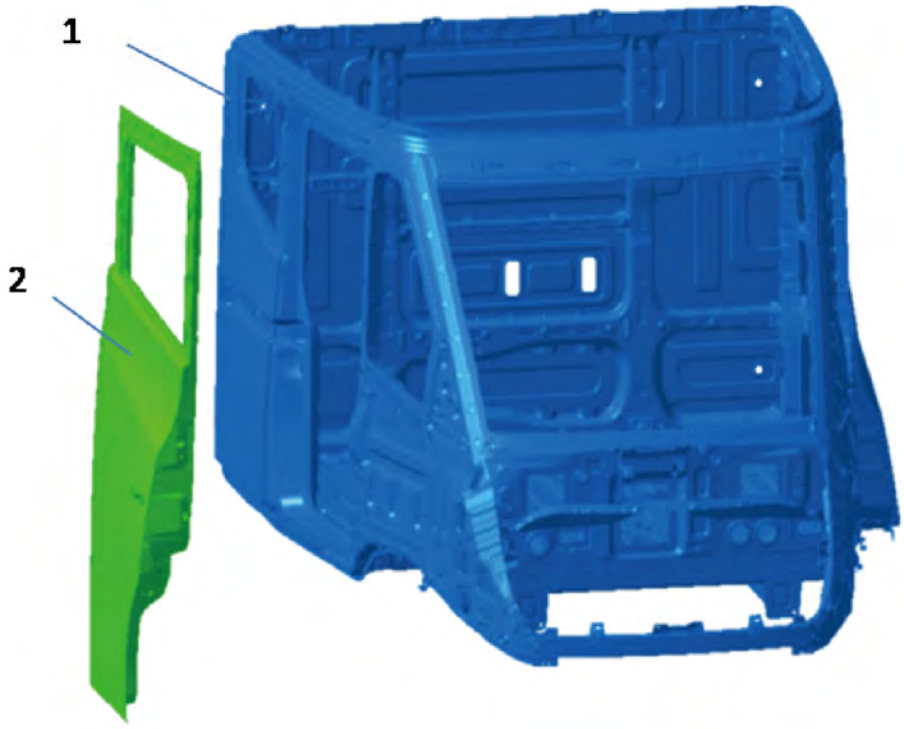
6.4.1 Specifications

6.4.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolts connecting the white body assembly and the front connecting beam	M16	229 ft-lb +/- 7 ft-lb
The fixing bolts connecting the white body assembly and the suspension bracket three assemblies	M16	229 ft-lb +/- 7 ft-lb
The fixing bolts connecting the white body assembly and the suspension bracket two assemblies	M16	229 ft-lb +/- 7 ft-lb
The fixing bolts connecting the white body assembly and the air conditioning pipeline	M6	6.5 ft-lb +/- .75 ft-lb
The fixing bolt of the grounding wire harness connecting the white body assembly and the frame assembly	M10	37 ft-lb +/- 3.5 ft-lb

6.4.2 Decomposition Diagram

6.4.2.1 Decomposition Diagram



1. Slide Door Assy
2. Slide Door Assy

6.4.3 Sheet Metal and Painting

6.4.3.1 Colored Paint Information

S/N	Color	Supplier
1	Snowy white	Shanghai Kinlita Chemical Co., Ltd.

6.4.3.2 Sheet Metal

Removal

1. Remove all relevant panels and components related to replacement parts.
2. Remove the sealant and anti-corrosion materials if necessary.
3. Locate, mark, and drill all factory solder joints connecting the components to be replaced.
4. Remove damaged components to be replaced.
5. Remove residual materials.

Installation

1. Pre-treat the mating surface as necessary.
2. Select the correct welding method based on the welding form of the original vehicle. Employ shielded welding in areas where resistance welding is inconvenient. If plug welding is chosen, drill holes for plug welding seams on the new part, and determine the diameter and spacing of the plug welding holes based on the original solder joints.
3. Temporarily place the new part on the vehicle.
4. Assemble and fix the new part with a correction support (correctly position the maintenance panel).
5. Regularly measure the position of the new part to ensure its assembly dimensions are correct.
6. Perform corresponding welding.
7. Clean all welding surfaces.
8. Apply primer.
9. Apply sealant and anti-corrosion materials if necessary.
10. Install all relevant panels and components.

6.4.3.3 Painting

Painting Procedure

The painting procedure for rigid surfaces after sheet metal repair is similar to the painting process for rigid surfaces, except that the following steps are added after grinding the primer and before applying the base coat:

1. Scrape coating of poly-putty base.
2. Grinding of poly-putty base.
3. Dust blowing, degreasing, cleaning.
4. Scrape coating of fill-in putty.
5. Surface sanding of old paint film.
6. Cleaning, degreasing, and covering of unpainted areas.

6.4.4 Dismantling and Installation

6.4.4.1 Replacement of BIW Assembly

Removal Procedures

1 Release air pressure from the brake system.
2 Open the door.
3 Open the front flip cover plate.
4 Disconnect the battery negative cable.
5 Perform power-off of high voltage system.
6 Recycle A/C refrigerant.
7 Jack the front end of the vehicle.
8 Drain coolant from the power system.
9 Drain coolant from battery thermal management system.
10 Remove the left front wheel housing body.
11 Remove the right front wheel housing body.
12 Remove the left front wheel housing rear body.
13 Remove the right front wheel housing rear body.
14 Remove the roof deflector body.
15 Remove the roof deflector middle bracket.
16 Remove the left deflector upper body.
17 Remove the roof deflector mounting bracket.
18 Remove the left deflector lower body.
19 Remove the upper deflector mounting bracket.
20 Remove the right deflector upper body.
21 Remove the right deflector lower body.
22 Remove the back integrated bracket side cover plate assembly (left).
23 Remove the back integrated bracket side cover plate assembly (right).
24 Remove the back integrated bracket middle cover plate assembly.
25 Remove the back integrated bracket upper cover plate filler cap.
26 Remove the back integrated bracket upper cover plate.
27 Remove the engine compartment trim panel body.
28 Remove the through-type lamp.
29 Remove the front MMW radar shield.
30 Remove the forward MMW radar.
31 Remove the front MMW radar adapter bracket.
32 Remove the left cover plate of the corner radar.

33 Remove the right cover plate of the corner radar.

34 Remove the front bumper assembly.

35 Remove the left physical exterior rearview mirror assembly.

36 Remove the primary wiper arm blade assembly (nozzle and hose).

37 Remove the front windshield cover plate assembly.

38 Remove the left fender trim strip.

39 Remove the left fender assembly.

40 Remove the left front combination lamp.

41 Remove the left headlamp.

42 Remove the left headlamp bracket.

43 Remove the right triangular cover plate assembly.

44 Remove the right fender trim strip.

45 Remove the right fender assembly.

46 Remove the right front combination lamp.

47 Remove the right headlamp.

48 Remove the right headlamp bracket.

49 Remove the left side wall lower trim panel assembly.

50 Remove the side wall upper mounting bracket assembly 2.

51 Remove the left side wall mounting bracket 1.

52 Remove the left side wall mounting bracket 2.

53 Remove the left side wall lower trim panel mounting frame assembly.

54 Remove the lamp (upper).

55 Remove the lamp (lower).

56 Remove the boarding step body assembly.

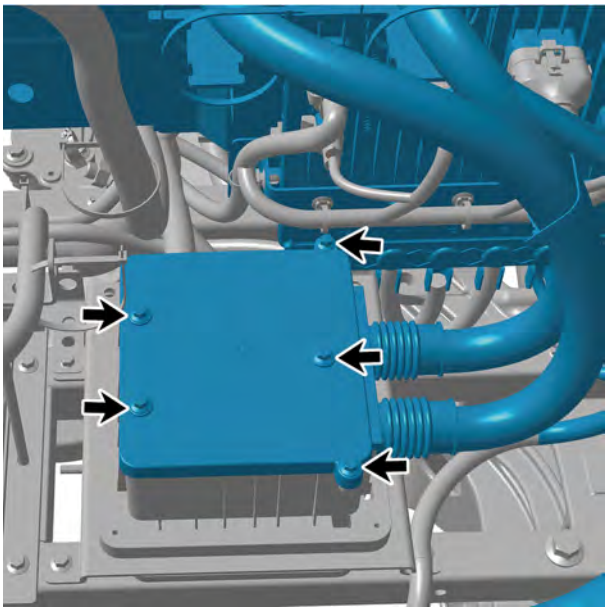
57 Remove the boarding step bracket.

58 Remove the upper wheel housing connecting bracket.

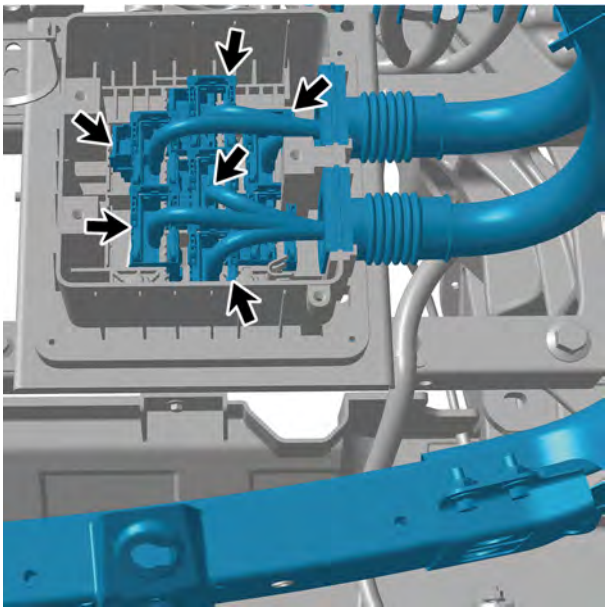
59 Remove the lower wheel housing connecting bracket.

60 Remove the boarding step tubular beam.

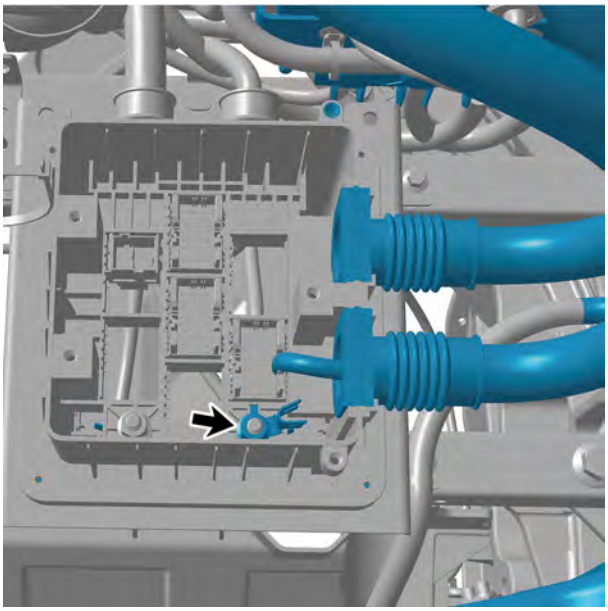
61 Remove the frame main truss.



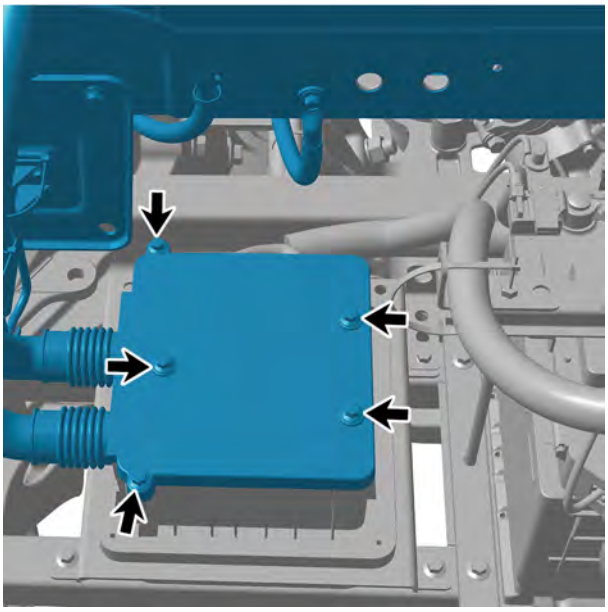
62 Remove 5 fixing bolts of Left Junction Box cover plate, and open Left Junction Box.



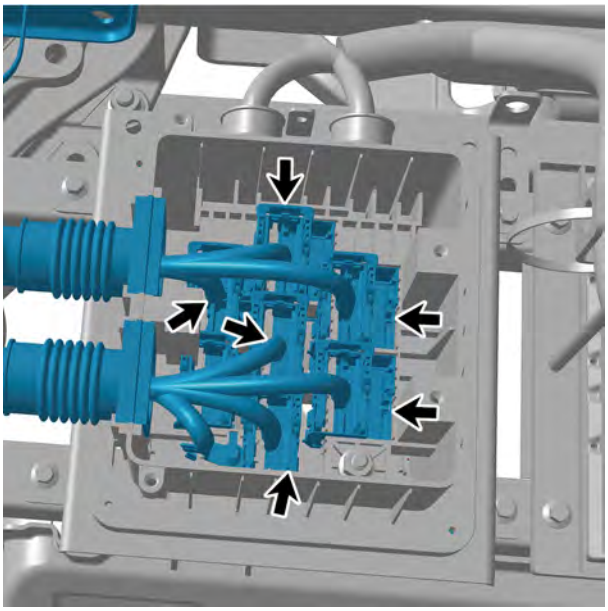
63 Disconnect 6 harness connectors of Left Junction Box.



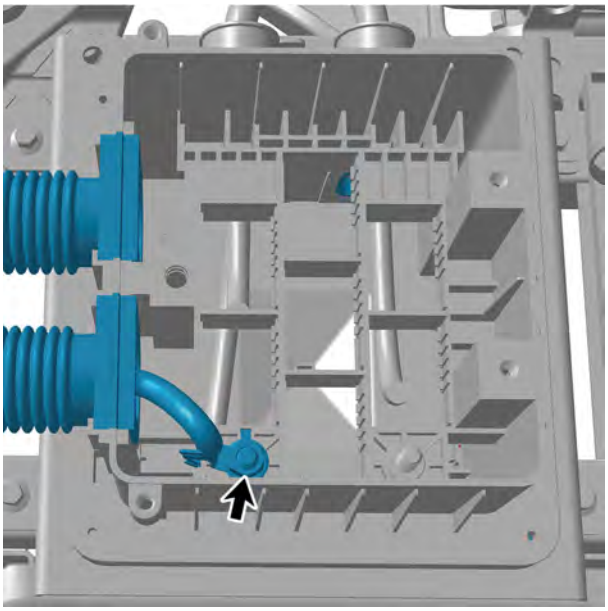
64 Remove 1 fixing nut of Left Junction Box ground harness, and disconnect Left Junction Box ground harness.



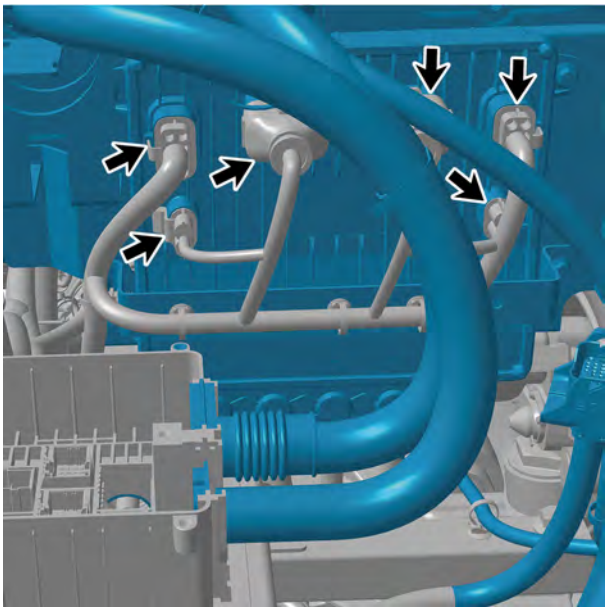
65 Remove 5 fixing bolts of Right Junction Box cover plate, and open Right Junction Box.



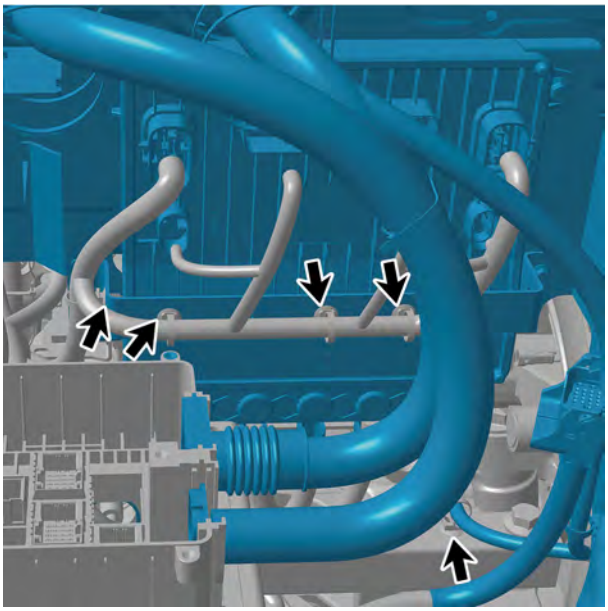
66 Disconnect 6 harness connectors of Right Junction Box.



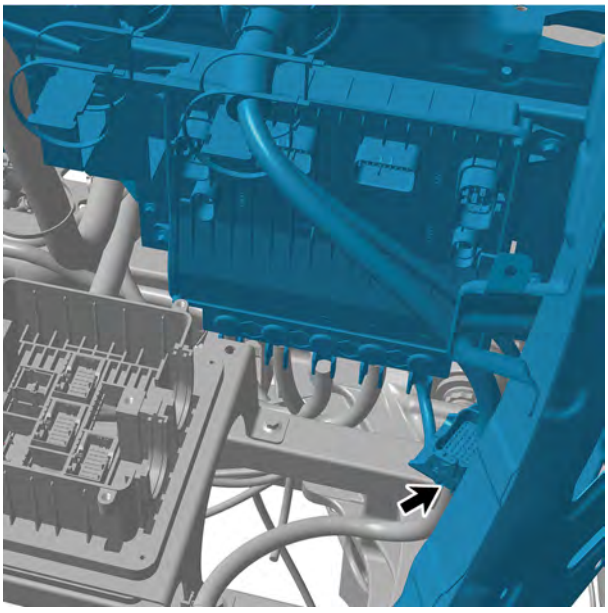
67 Remove 1 fixing nut of Right Junction Box ground harness, and disconnect Right Junction Box ground harness.



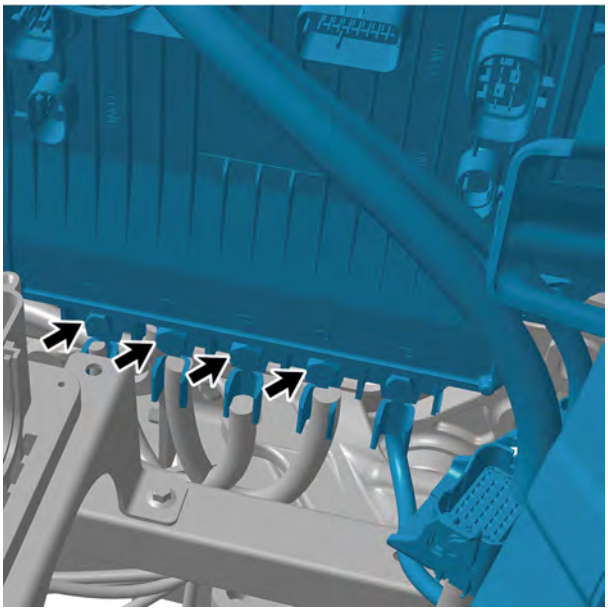
68 Disconnect 6 harness connectors of the SJB_UN.



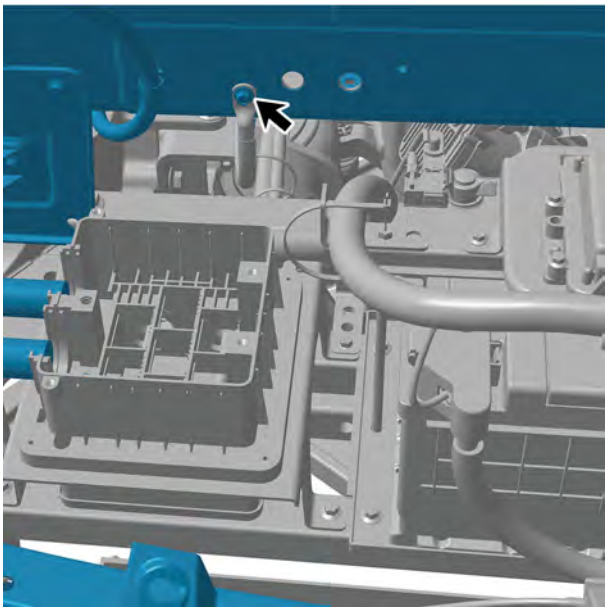
69 Disengage 5 harness clips.



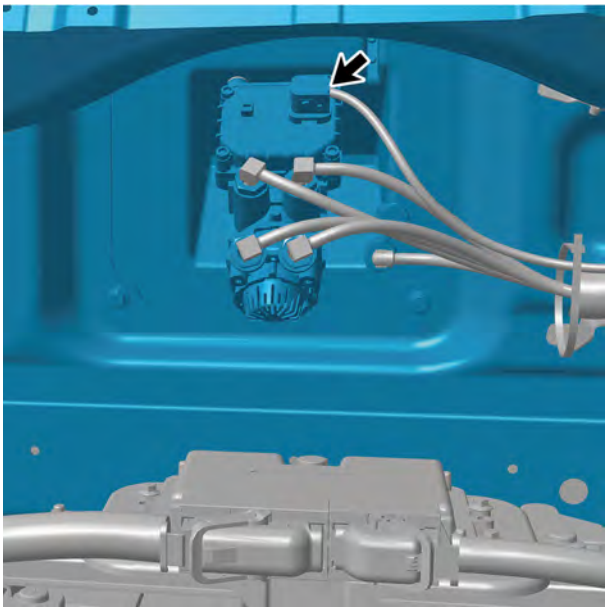
70 Disconnect 1 harness connector.



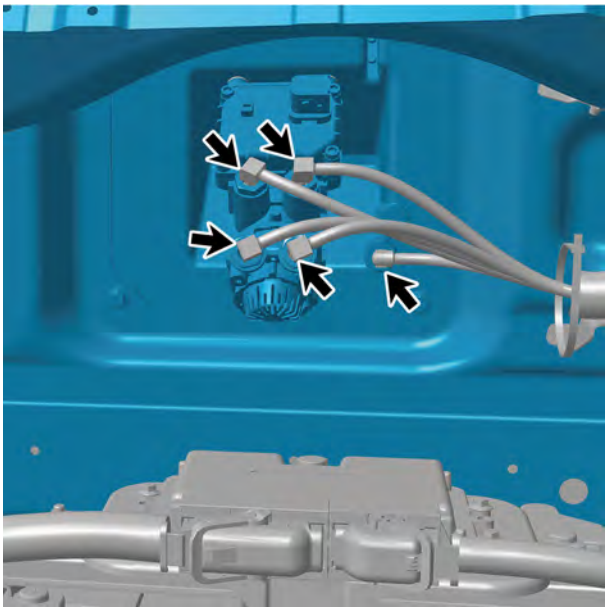
71 Remove the 4 fixing bolts of the harness.



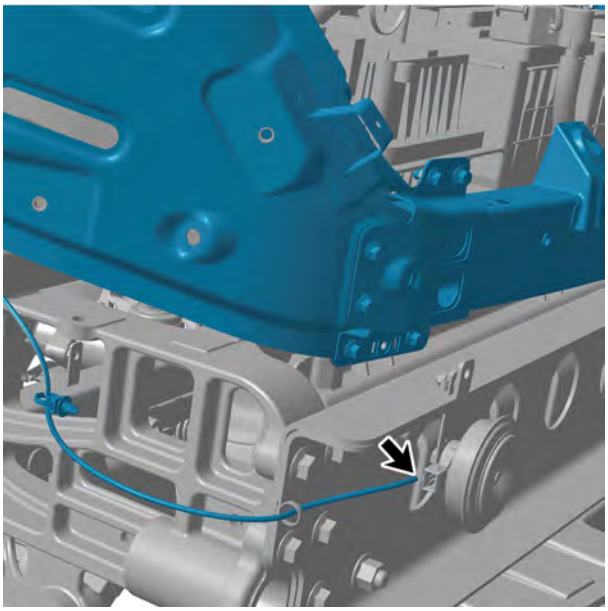
72 Remove 1 fixing bolt of the BIW assembly ground harness (at Right Junction Box).



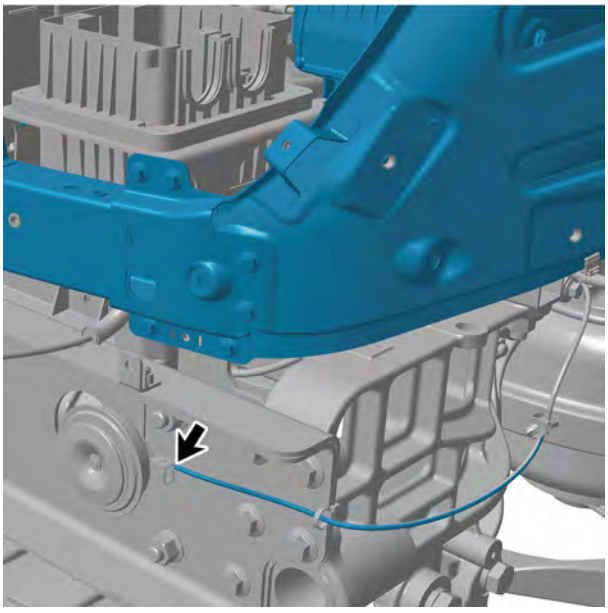
73 Disconnect 1 harness connector.



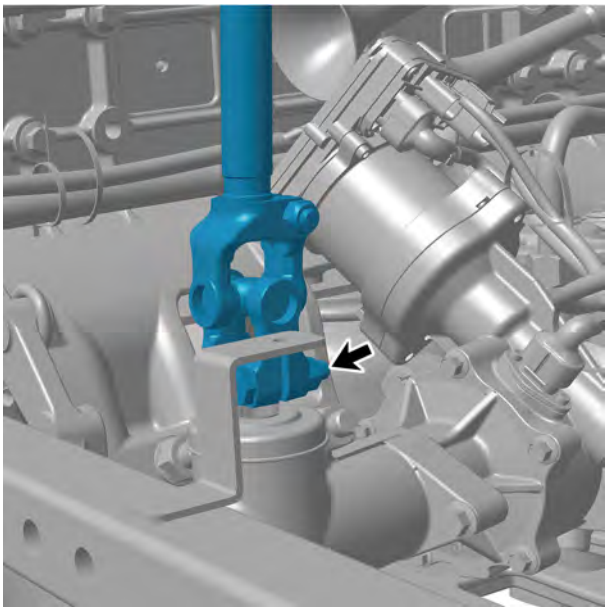
74 Disconnect 5 brake air pipes of the brake signal transmitter.



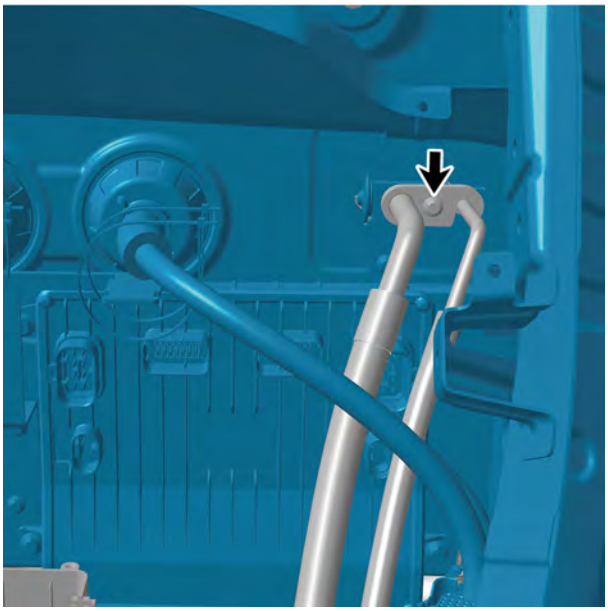
75 Disconnect 1 harness connector of the electric horn - high pitch.



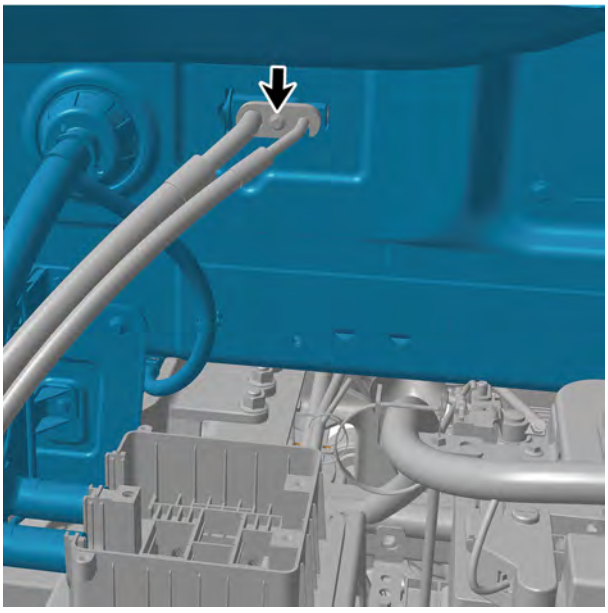
76 Disconnect 1 harness connector of the electric horn - low pitch.



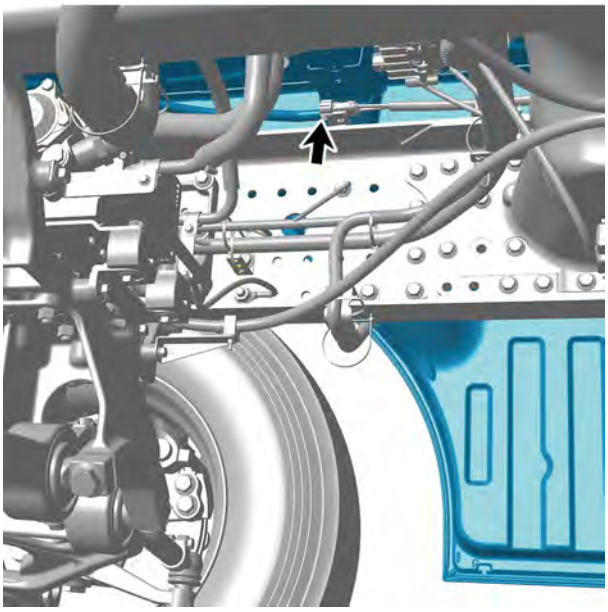
77 Remove 1 fixing bolt of the steering drive shaft, and disconnect the steering drive shaft from the integrated EHPS assembly.



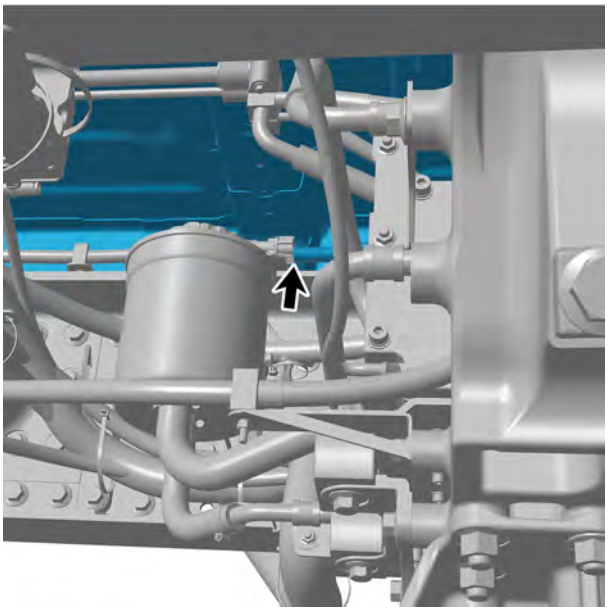
78 Remove 1 fixing bolt of the A/C high/low pressure pipe (left), and disconnect the A/C high/low pressure pipe (left).



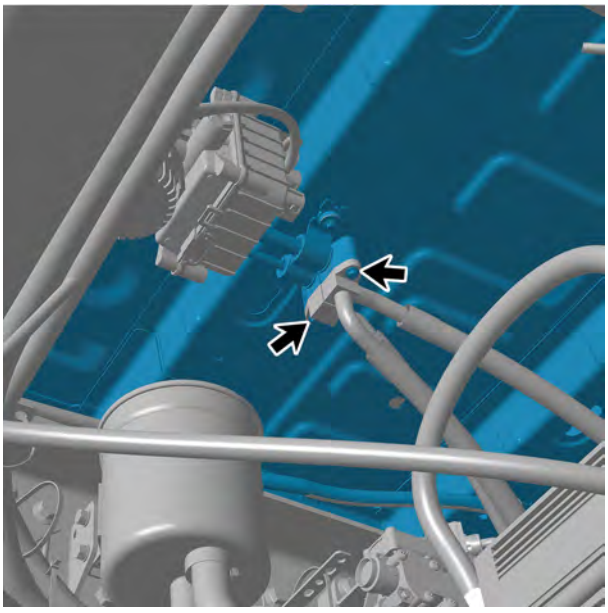
79 Remove 1 fixing bolt of the A/C high/low pressure pipe (right), and disconnect the A/C high/low pressure pipe (right).



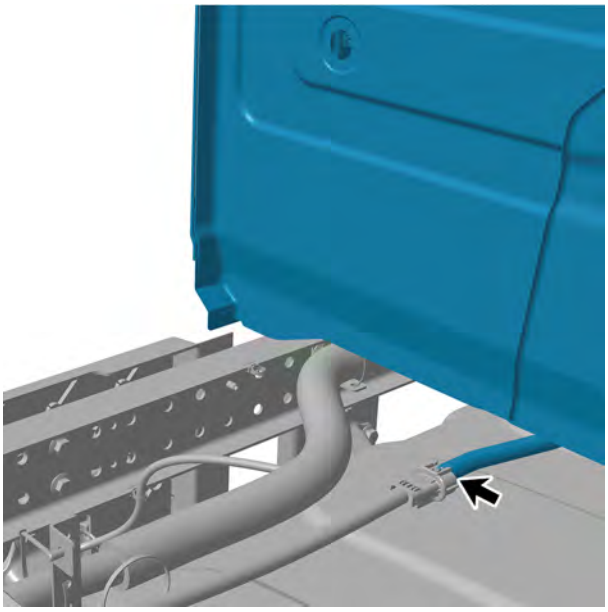
80 Disconnect 1 high voltage harness connector at the bottom of the BIW assembly.



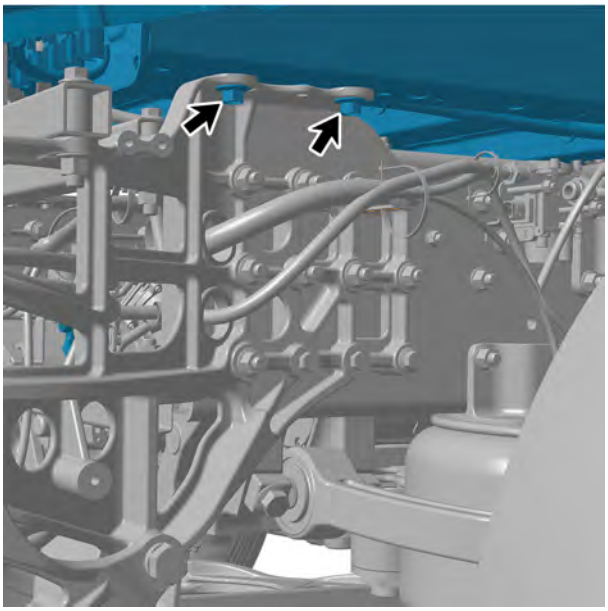
81 Disconnect 1 high voltage harness connector at the bottom of the BIW assembly.



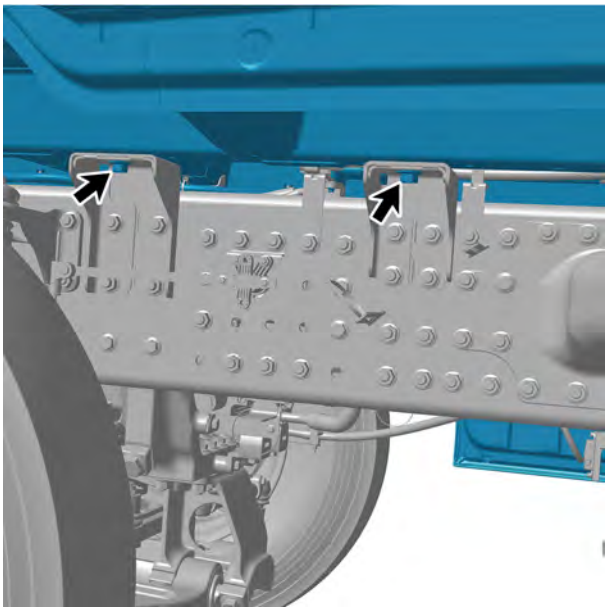
82 Remove 2 fixing bolts, and disconnect the A/C pipeline at the bottom of the BIW assembly.



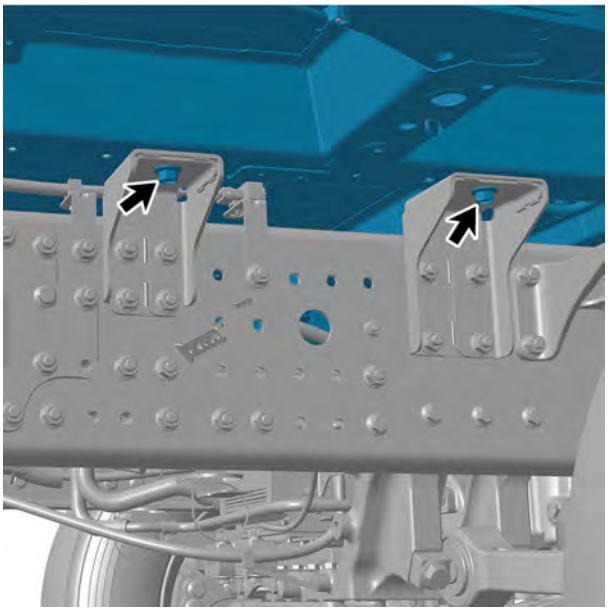
83 Disconnect 1 high voltage harness connector at the rear of the BIW assembly.



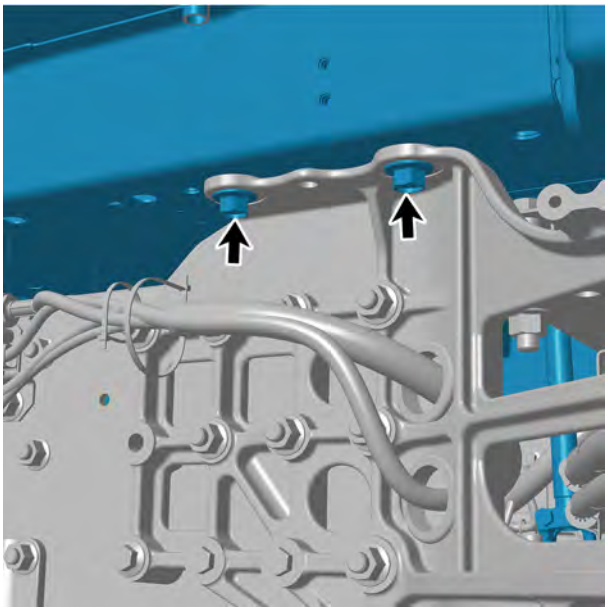
84 Remove 2 fixing bolts connecting the BIW assembly to the left front joint beam.



85 Remove 2 fixing bolts connecting the BIW assembly to the mounting bracket II and III assembly.



86 Remove 2 fixing bolts connecting the BIW assembly to the mounting bracket II and III assembly.



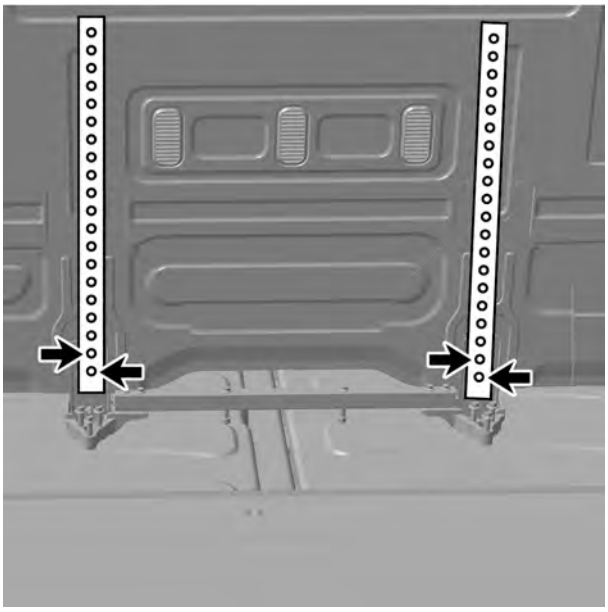
87 Remove 2 fixing bolts connecting the BIW assembly to the right front joint beam.

88 Disconnect the strap clip of the BIW assembly front wall harness, clean the harness, and separate it from the cab.

89 Pre-install the cab lifting tool.

90 Remove 2 bolt (left upper) of the rear wall mounting plate (left).

91 Remove 2 bolt (right upper) of the rear wall mounting plate (right).

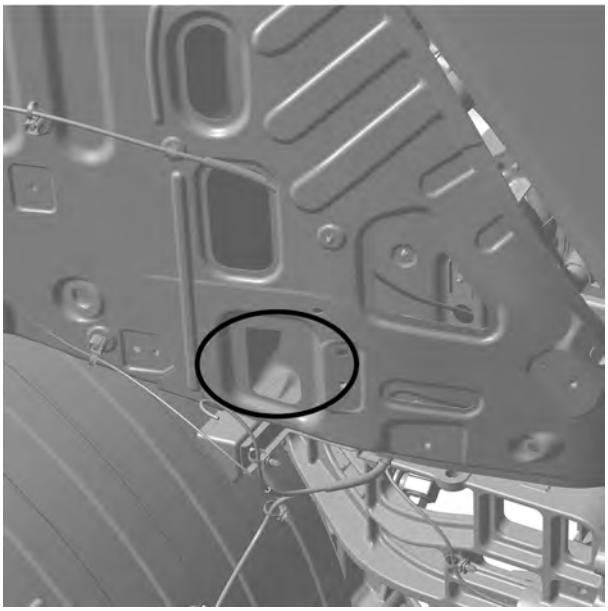


92 Add a spacer block between the rear enclosure mounting plate and the lifting tool, and install the lifting bracket at the rear part of the white body assembly.

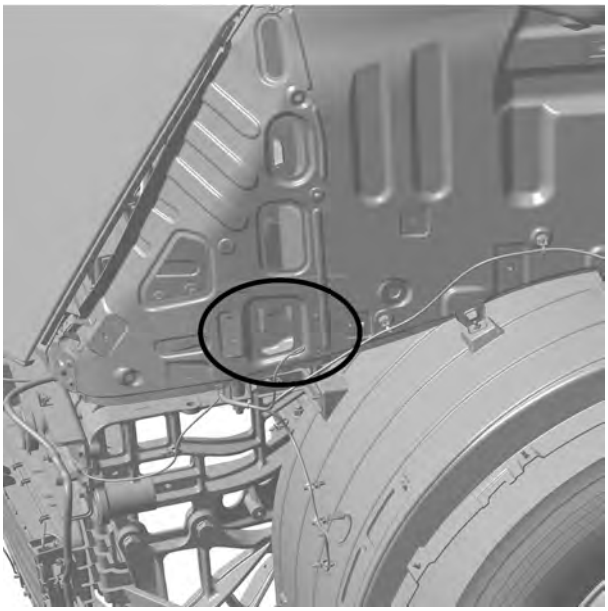
warning !

It is necessary to use the lifting tools provided or permitted by Windrose.

The lifting tool should maintain a distance of 5 to 10 centimeters from the rear enclosure of the vehicle body.



93 Install the lifting tool at the lifting points of the white body assembly (the lifting points are located at the left and right lower sides of the front part of the white body assembly).



94 Adjust the lifting tool to the appropriate position to keep the BIW assembly stable.

95 Lift the BIW assembly.

96 Place the BIW assembly on the storage bracket.

97 Separate the lifting bracket from the BIW assembly.

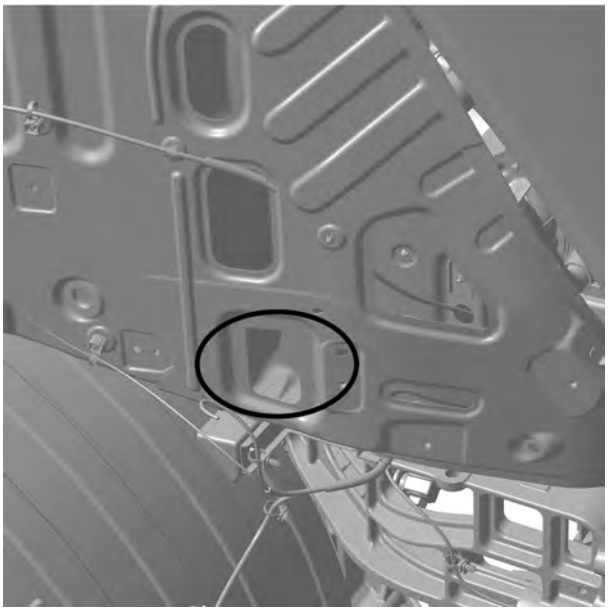
98 Remove the BIW assembly.

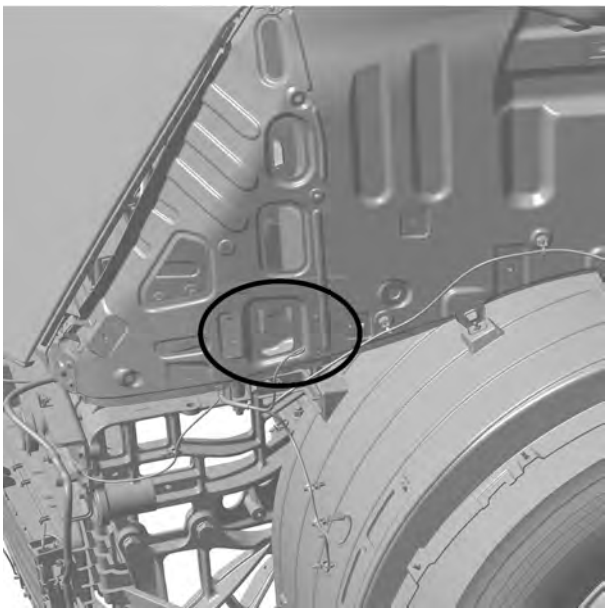
Installation Procedures

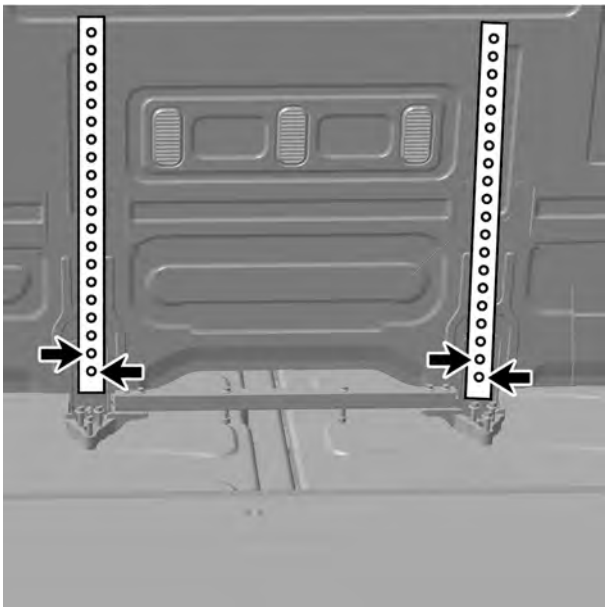
1 Move the BIW assembly to the mounting position.

2 Pre-install the cab lifting tool.

3 Install the lifting tool at the lifting points of the white body assembly (the lifting points are located at the left and right lower sides of the front part of the white body assembly).







4 Add a spacer block between the rear enclosure mounting plate and the lifting tool, and install the lifting bracket at the rear part of the white body assembly.

warning !

It is necessary to use the lifting tools provided or permitted by Windrose.

The lifting tool should maintain a distance of 5 to 10 centimeters from the rear enclosure of the vehicle body.

5 Adjust the lifting tool to the appropriate position to keep the BIW assembly stable.

6 Lift the BIW assembly.

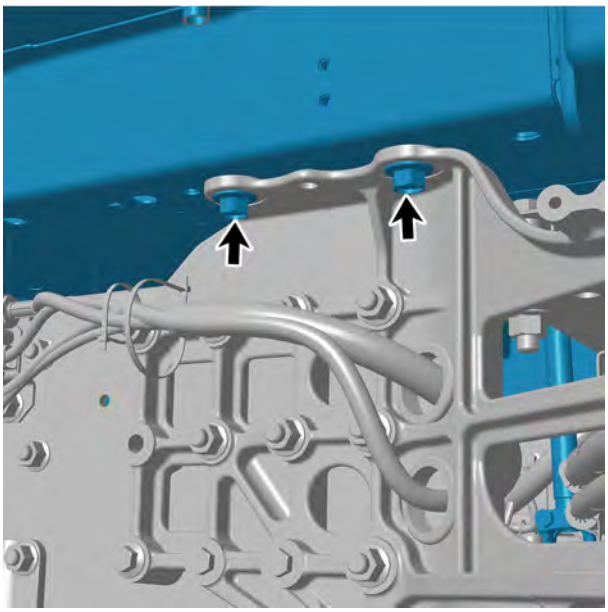
7 Place the BIW assembly on the mounting position.

8 Separate the lifting bracket from the BIW assembly.

9 Install 2 bolt (right upper) of the rear wall mounting plate (right).

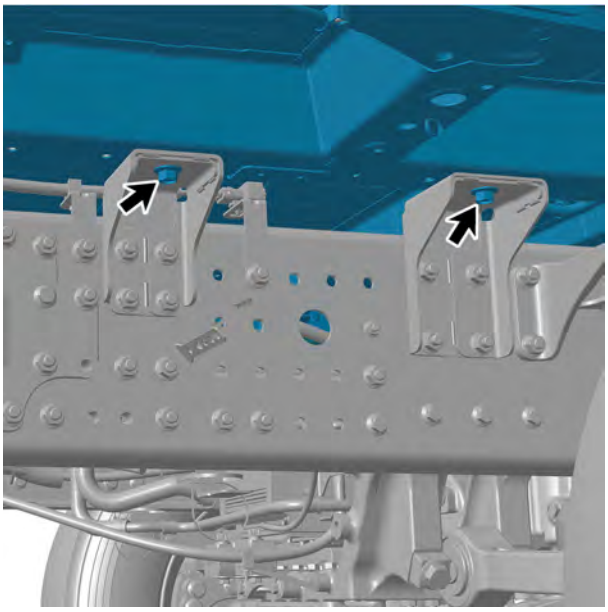
10 Install 2 bolt (left upper) of the rear wall mounting plate (left).

11 Connect the strap clip of the BIW assembly front wall harness.



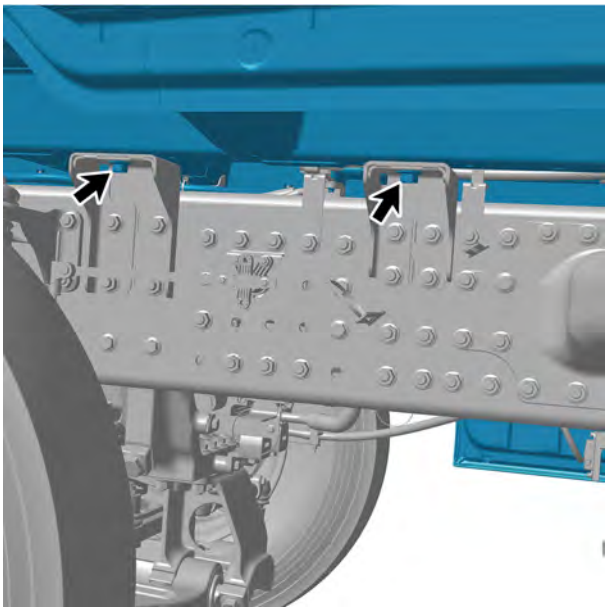
12 Install 2 fixing bolts connecting the BIW assembly to the right front joint beam.

Torque: (229 ft-lb +/- 7 ft-lb) ft-lb



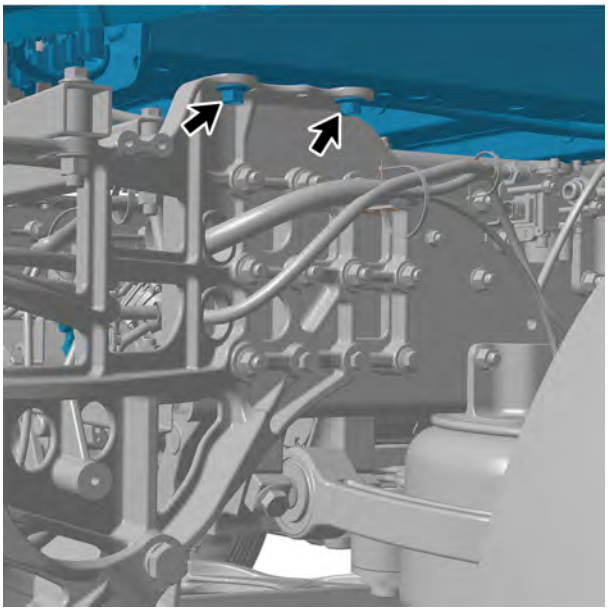
13 Install 1 fixing bolt connecting the BIW assembly to the mounting bracket II and III assembly.

Torque: (229 ft-lb +/- 7 ft-lb) ft-lb



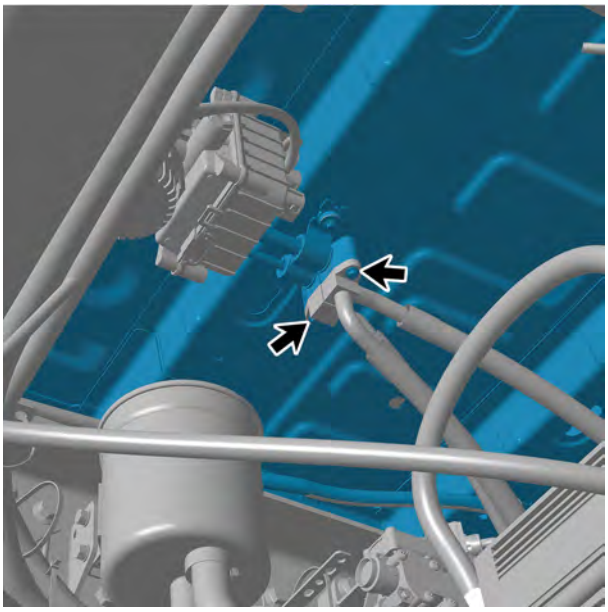
14 Install 1 fixing bolt connecting the BIW assembly to the mounting bracket II and III assembly.

Torque: (229 ft-lb +/- 7 ft-lb) ft-lb



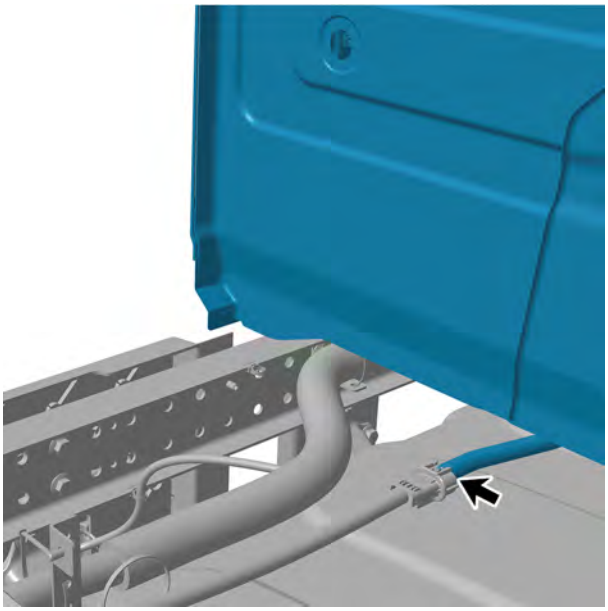
15 Install 2 fixing bolts connecting the BIW assembly to the left front joint beam.

Torque: (229 ft-lb +/- 7 ft-lb) ft-lb



16 Install 2 fixing bolts, and connect one A/C pipeline at the bottom of the BIW assembly.

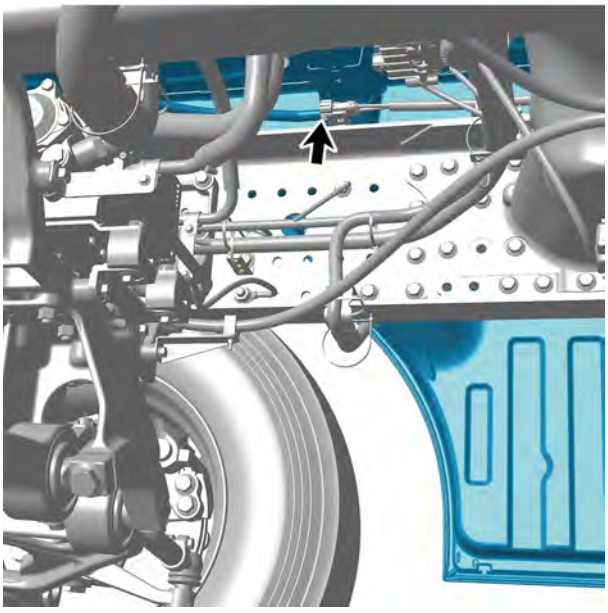
Torque:(6.5 ft-lb +/- .75 ft-lb) ft-lb



17 Connect 1 high voltage harness connector at the bottom of the BIW assembly.

caution

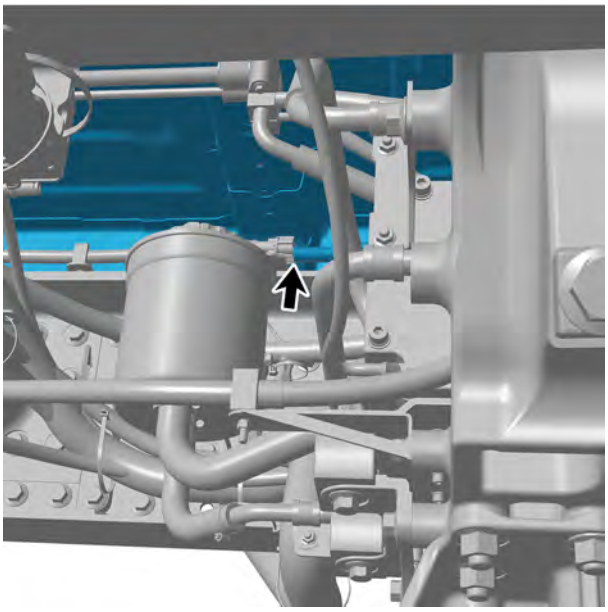
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



18 Connect 1 high voltage harness connector at the bottom of the BIW assembly.

caution

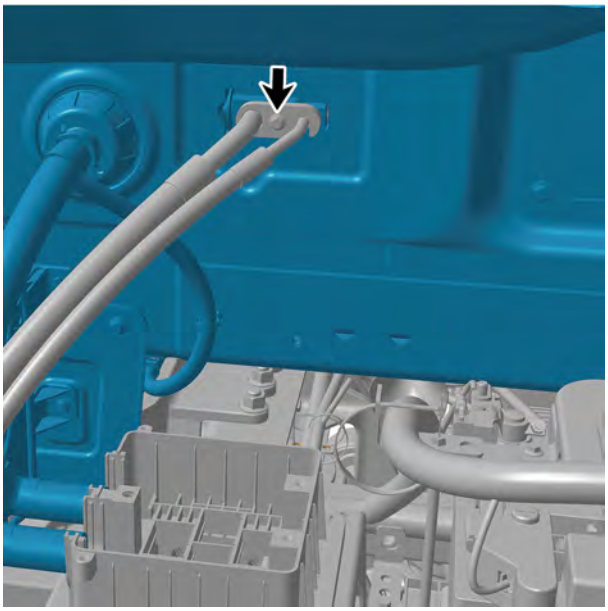
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



19 Connect 1 high voltage harness connector at the bottom of the BIW assembly.

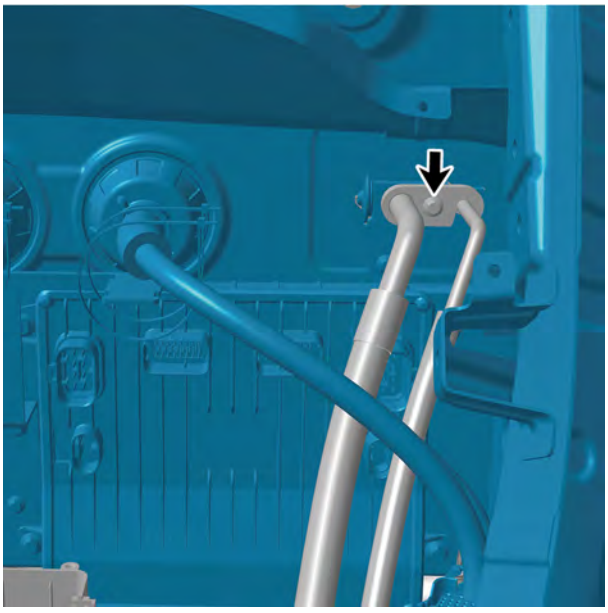
caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



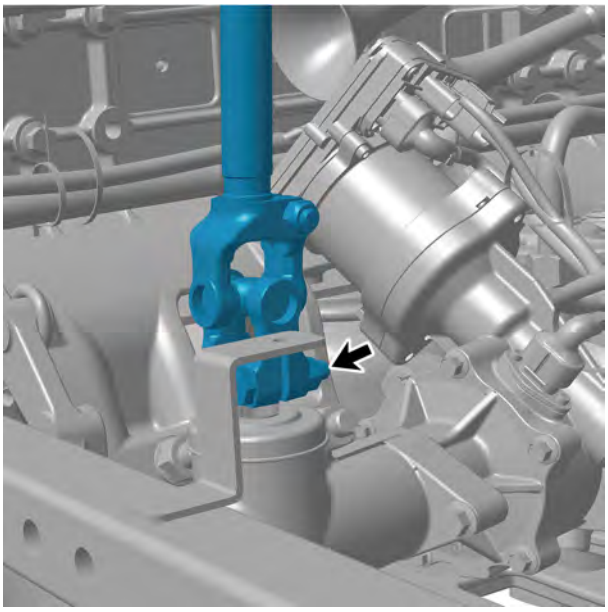
20 Install 1 fixing bolt of the A/C high/low pressure pipe (right), and connect the A/C high/low pressure pipe (right).

Torque:(6.5 ft-lb +/- .75 ft-lb) ft-lb



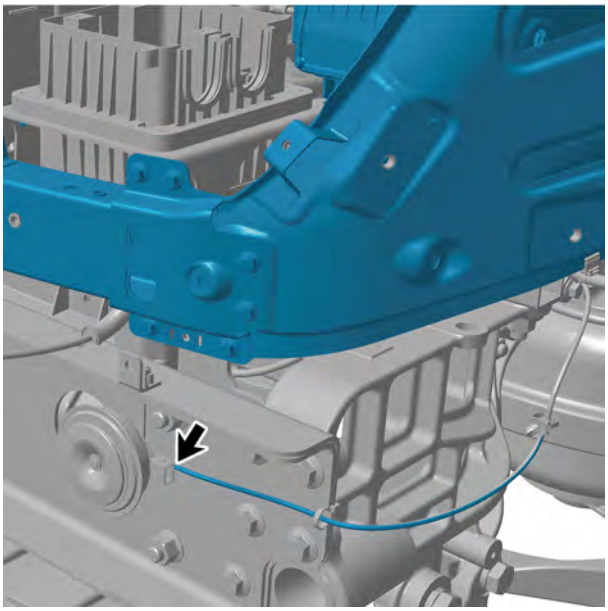
21 Install 1 fixing bolt of the A/C high/low pressure pipe (left), and connect the A/C high/low pressure pipe (left).

Torque: (6.5 ft-lb +/- .75 ft-lb) ft-lb



22 Install 1 fixing bolt of the steering drive shaft, and connect the steering drive shaft to the integrated EHPS assembly.

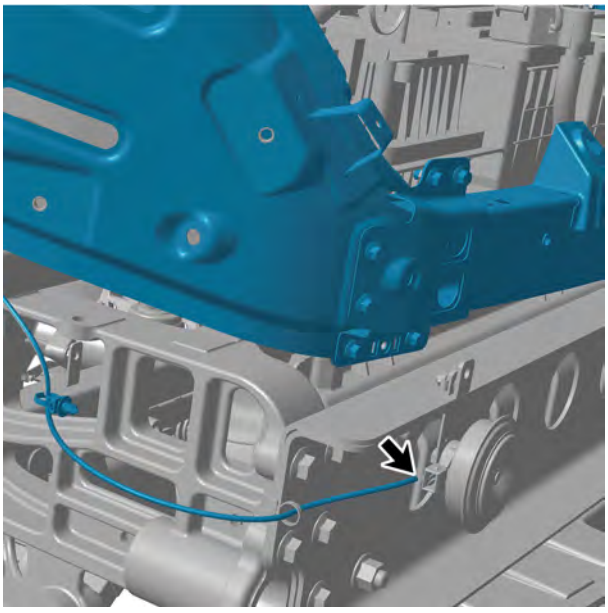
Torque:(39 ft-lb +/- 5 ft-lb) ft-lb



23 Connect 1 harness connector of the electric horn - high pitch.

caution

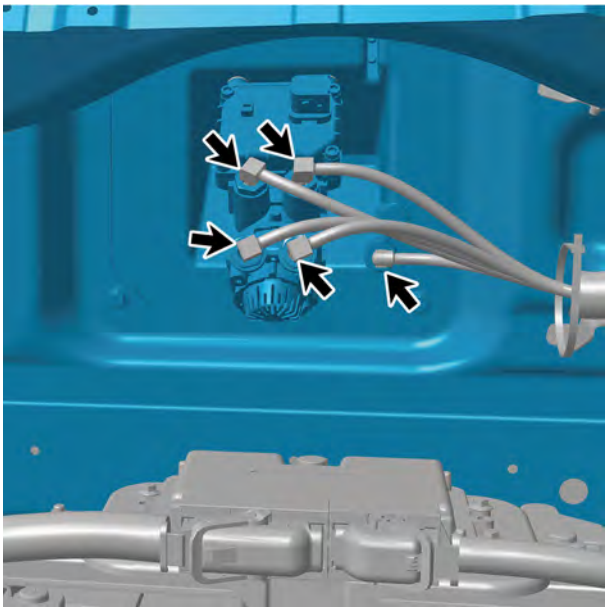
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



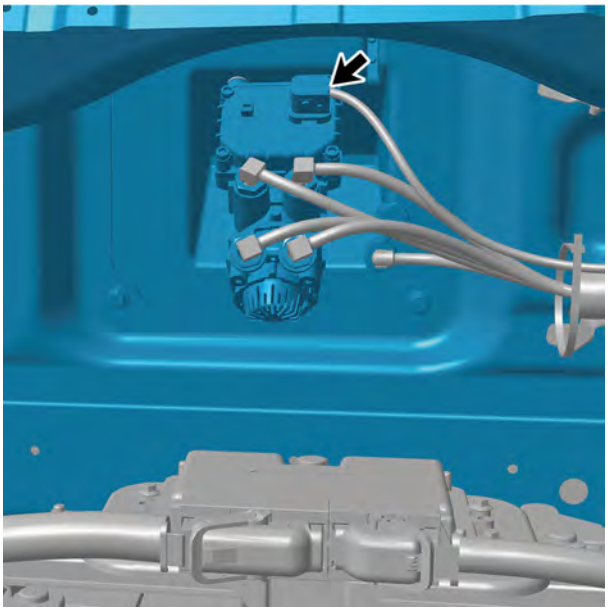
24 Connect 1 harness connector of the electric horn - low pitch.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



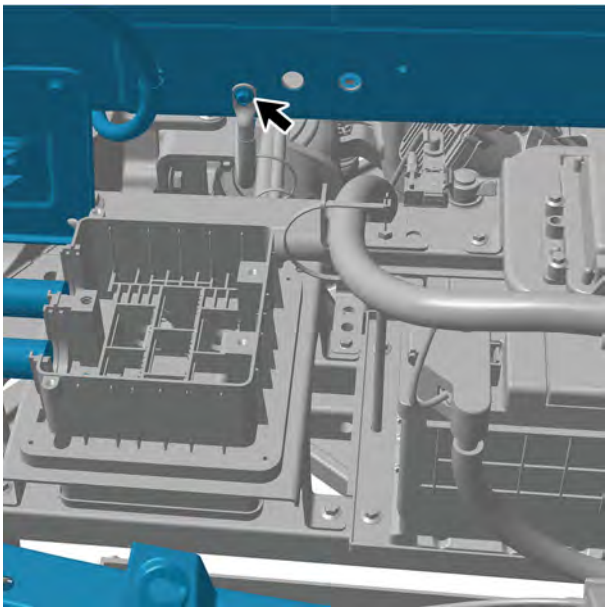
25 Connect 5 brake air pipes of the brake signal transmitter.



26 Connect 1 harness connector.

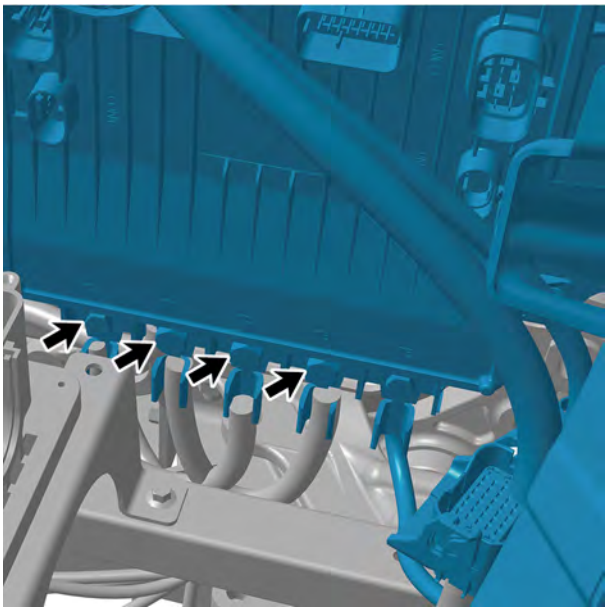
caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



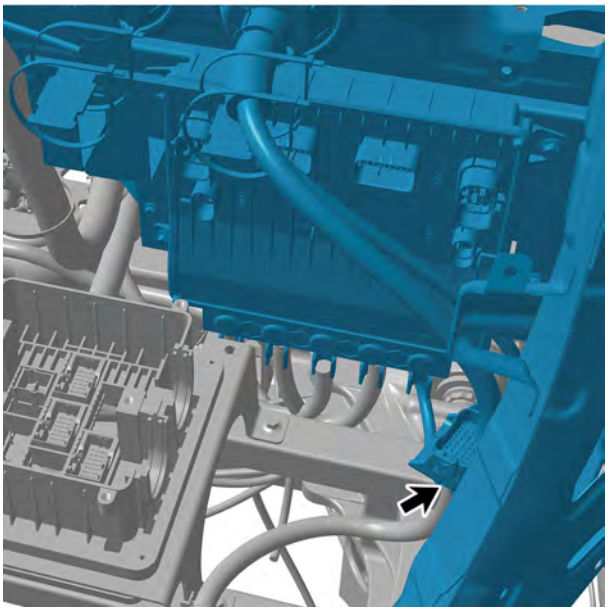
27 Install 1 fixing bolt of the BIW assembly ground harness (at Right Junction Box).

Torque:(37 ft-lb +/- 4 ft-lb) ft-lb



28 Install the 4 fixing bolts of the harness.

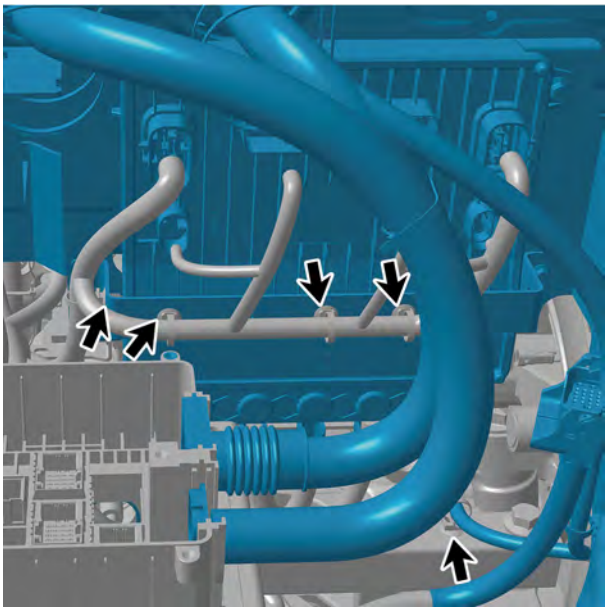
Torque:(18 ft-lb +/- 2 ft-lb) ft-lb



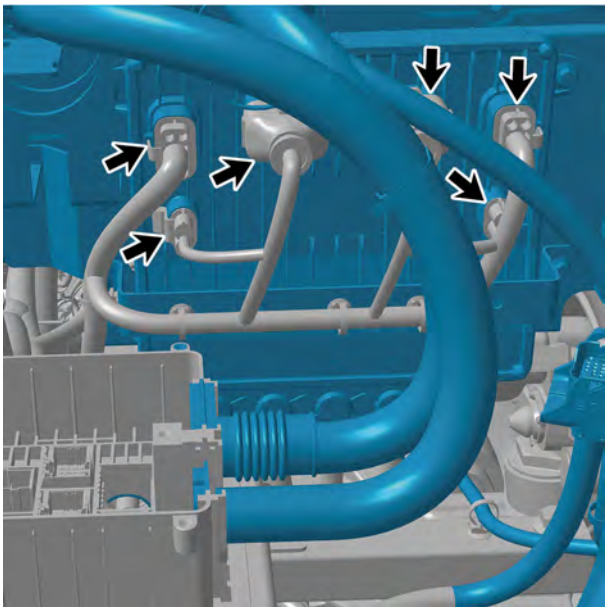
29 Connect 1 harness connector.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



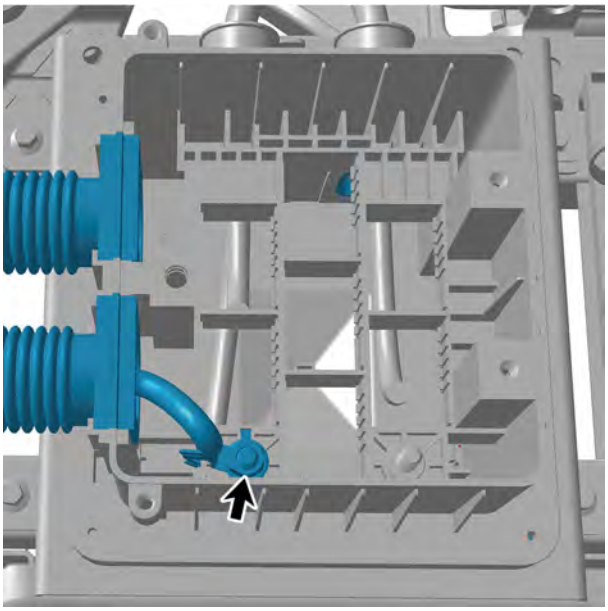
30 Install 5 harness clips.



31 Connect 6 harness connector.

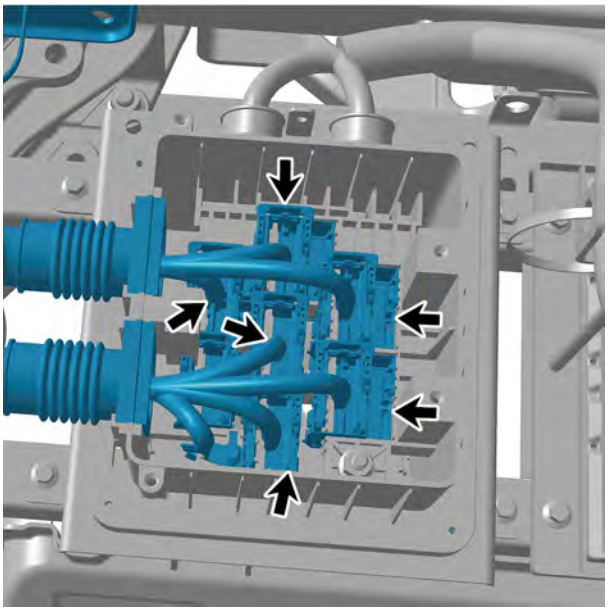
caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



32 Install 1 fixing nut of Right Junction Box ground harness, and connect Right Junction Box ground harness.

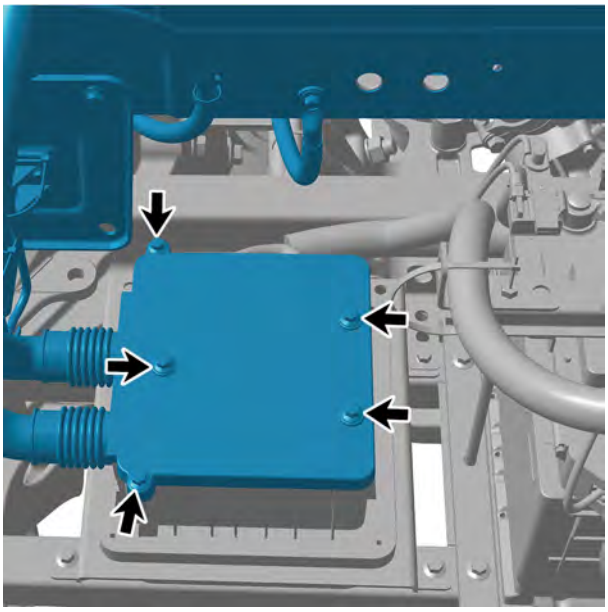
Torque: (18 ft-lb +/- 2 ft-lb) ft-lb



33 Connect 6 harness connectors of Right Junction Box.

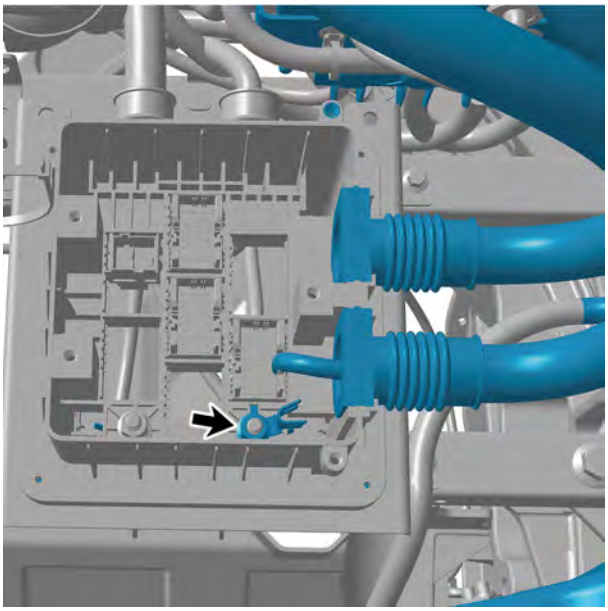
caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



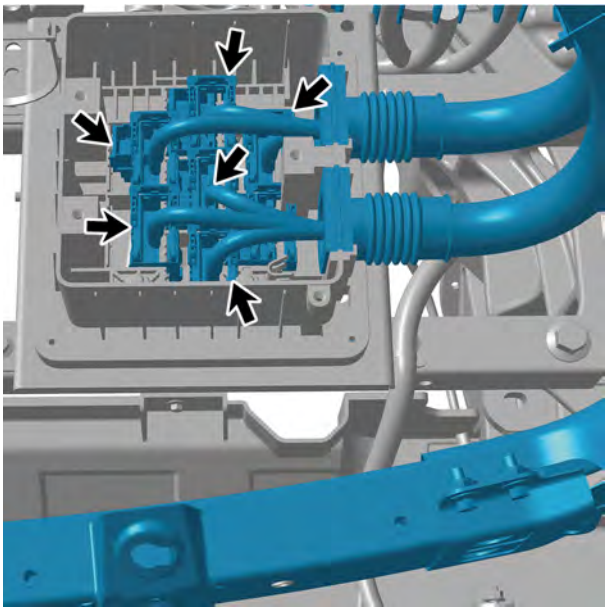
34 Install 5 fixing bolts of Right Junction Box cover plate, and close Right Junction Box.

Torque:(4 ft-lb +/- .75 ft-lb) ft-lb



35 Install 1 fixing nut of Left Junction Box ground harness, and connect Left Junction Box ground harness.

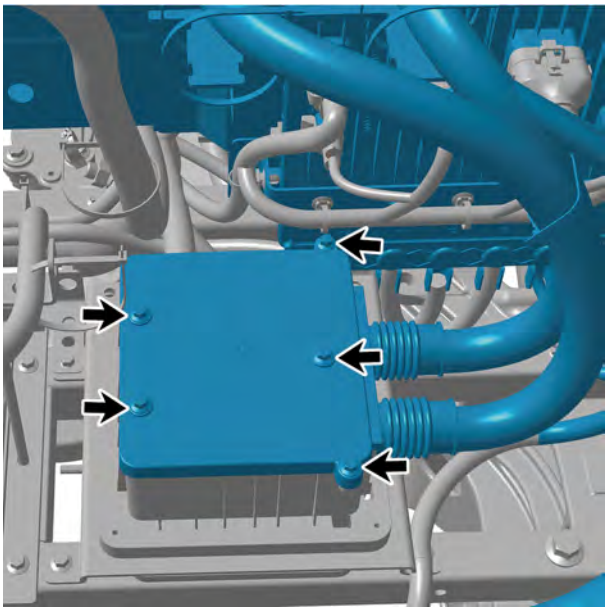
Torque: (18 ft-lb +/- 2 ft-lb) ft-lb



36 Connect 6 harness connectors of Left Junction Box.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



37 Install 5 fixing bolts of Left Junction Box cover plate, and close Left Junction Box.
Torque: (4 ft-lb +/- .75 ft-lb) ft-lb

38 Install the frame main truss.
39 Install the boarding step tubular beam.
40 Install the lower wheel housing connecting bracket.
41 Install the upper wheel housing connecting bracket.
42 Install the boarding step bracket.
43 Install the boarding step body assembly.
44 Install the lamp (lower).
45 Install the lamp (upper).
46 Install the left side wall lower trim panel mounting frame assembly.
47 Install the left side wall mounting bracket 2.
48 Install the left side wall mounting bracket 1.
49 Install the side wall upper mounting bracket assembly 2.
50 Install the left side wall lower trim panel assembly.
51 Install the right headlamp bracket.
52 Install the right headlamp.
53 Install the right front combination lamp.
54 Install the right fender assembly.
55 Install the right fender trim strip.
56 Install the right triangular cover plate assembly.
57 Install the left headlamp bracket.
58 Install the left headlamp.
59 Install the left front combination lamp.
60 Install the left fender assembly.
61 Install the left fender trim strip.

62 Install the front windshield cover plate assembly.

63 Install the primary wiper arm blade assembly (nozzle and hose).

64 Install the left physical exterior rearview mirror assembly.

65 Install the front bumper assembly.

66 Install the right cover plate of the corner radar.

67 Install the left cover plate of the corner radar.

68 Install the front MMW radar adapter bracket.

69 Install the forward MMW radar.

70 Install the front MMW radar shield.

71 Install the through-type lamp.

72 Install the engine compartment trim panel body.

73 Install the back integrated bracket upper cover plate.

74 Install the back integrated bracket upper cover plate filler cap.

75 Install the back integrated bracket middle cover plate assembly.

76 Install the back integrated bracket side cover plate assembly (right).

77 Install the back integrated bracket side cover plate assembly (left).

78 Install the right deflector lower body.

79 Install the right deflector upper body.

80 Install the upper deflector mounting bracket.

81 Install the left deflector lower body.

82 Install the deflector mounting bracket.

83 Install the left deflector upper body.

84 Install the roof deflector middle bracket.

85 Install the roof deflector body.

86 Install the right front wheel housing rear body.

87 Install the left front wheel housing rear body.

88 Install the right front wheel housing body.

89 Install the left front wheel housing body.

90 Fill coolant in the battery thermal management system.

91 Fill coolant in the power system.

92 Lower the front end of the vehicle.

93 Fill with A/C refrigerant.

94 Perform power-on of the high voltage system.

95 Connect the battery negative cable.

96 Close the front flip cover plate.

97 Close the door.

6.4.4.2 Replacement of Sliding Door Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right side wall lower trim panel assembly.

5 Remove the cable cover plate.

6 Remove the door protective plate assembly.

7 Remove the right body waterproof membrane (I).

8 Remove the right body waterproof membrane (II).

9 Remove the towing chain harness assembly.

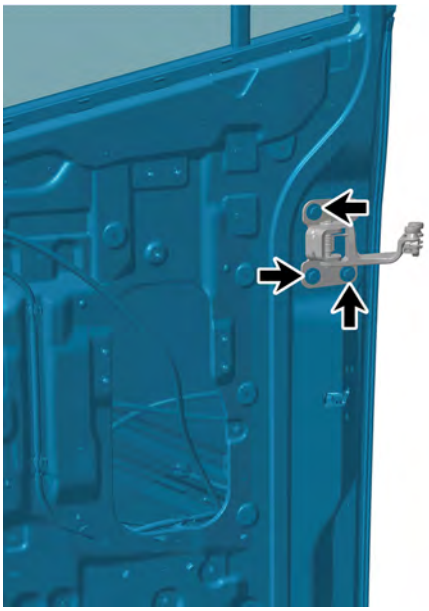
10 Remove the ground lock assembly.

11 Remove 2 fixing bolts connecting the sliding door assembly to the upper hinge assembly.

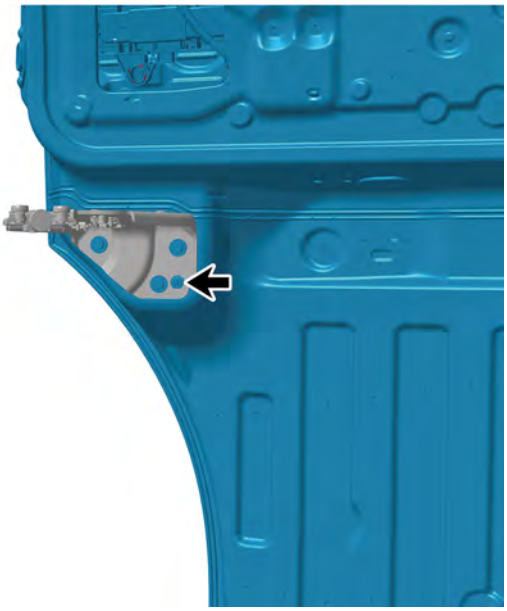




12 Remove 1 fixing nut connecting the sliding door assembly to the middle hinge assembly.



13 Remove 3 fixing bolts connecting the sliding door assembly to the middle hinge assembly.



14 Remove 1 fixing nut connecting the sliding door assembly to the lower hinge assembly.



15 Remove 3 fixing bolts connecting the sliding door assembly to the lower hinge assembly.

16 Remove the sliding door assembly.

caution

Due to the heavy weight of the sliding door assembly, it shall be removed with the help of an assistant.

Installation Procedures



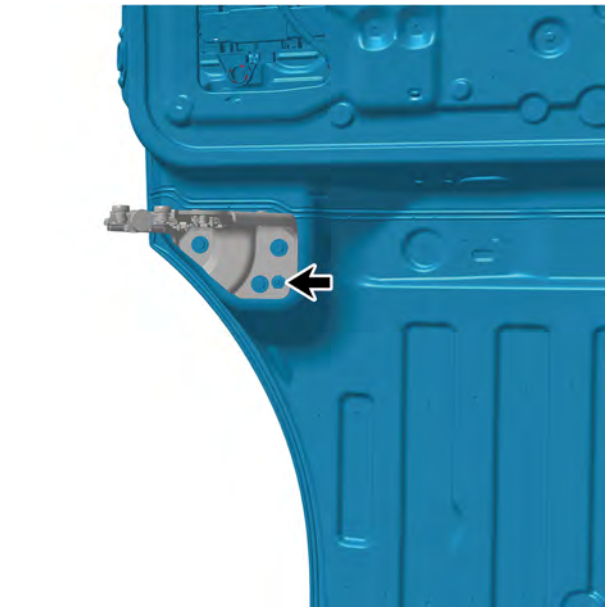
1 Move the sliding door assembly to the mounting position.

caution

Due to the heavy weight of the sliding door assembly, it shall be moved to the mounting position with the help of an assistant.

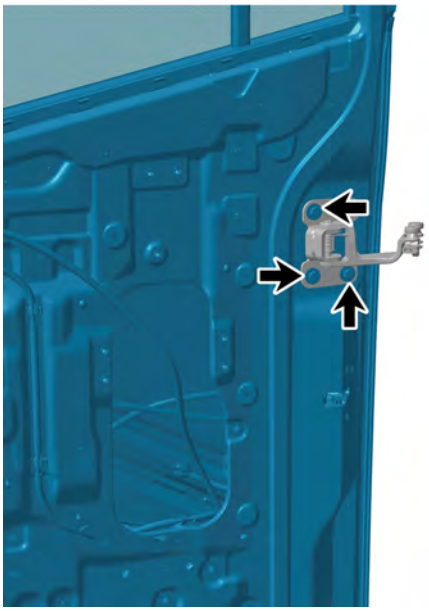
2 Install 3 fixing bolts connecting the sliding door assembly to the lower hinge assembly.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb



3 Install 1 fixing nut connecting the sliding door assembly to the lower hinge assembly.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb



4 Install 3 fixing bolts connecting the sliding door assembly to the middle hinge assembly.

Torque:(18 ft-lb +/- 2 ft-lb) ft-lb



5 Install 1 fixing nut connecting the sliding door assembly to the middle hinge assembly.

Torque:(18 ft-lb +/- 2 ft-lb) ft-lb



6 Install 2 fixing bolts connecting the sliding door assembly to the upper hinge assembly.
Torque:(18 ft-lb +/- 2 ft-lb) ft-lb

7 Install the ground lock assembly.

8 Install the towing chain harness assembly.

9 Install the right body waterproof membrane (II).

10 Install the right body waterproof membrane (I).

11 Install the door protective plate assembly.

12 Install the cable cover plate.

13 Attach the right side wall lower trim panel assembly.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

6.5 Toolbox Device

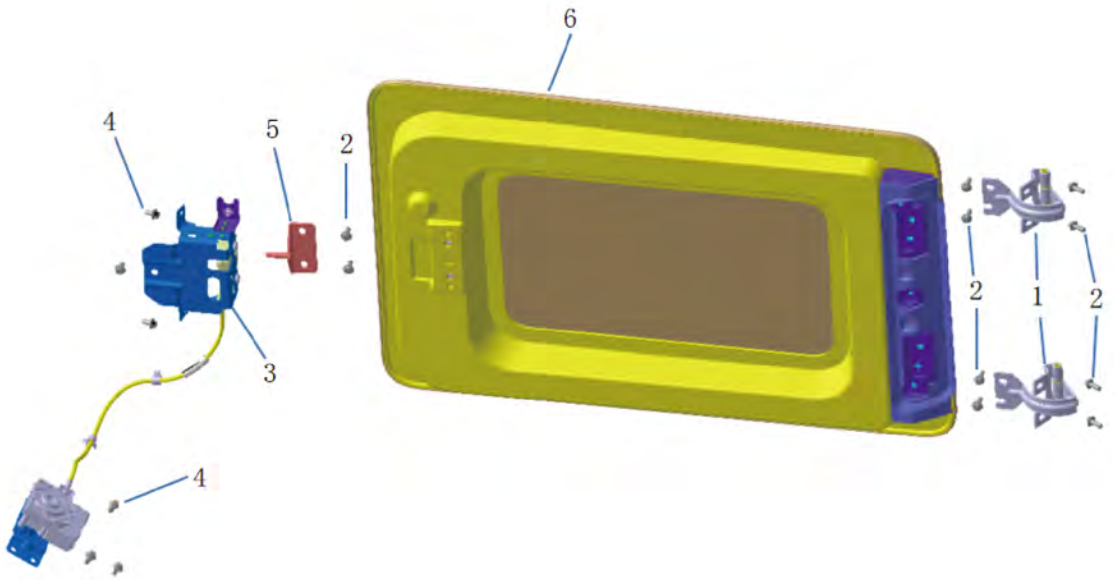
6.5.1 Specifications

6.5.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolts connecting the toolbox assembly to the vehicle body	M6	6.5 ft-lb +/- .75 ft-lb

6.5.2 Decomposition Diagram

6.5.2.1 Decomposition Diagram



1.	Hinge-Toolbox	4.	Hexagon Flange Bolt
2.	Hexagon Flange Bolt	5.	Striker-Toolbox
3.	Lock-Toolbox	6.	Toolbox Assy

6.5.3 Dismantling and Installation

6.5.3.1 Replacement of Toolbox Lock Front End (with cable)

Removal Procedures

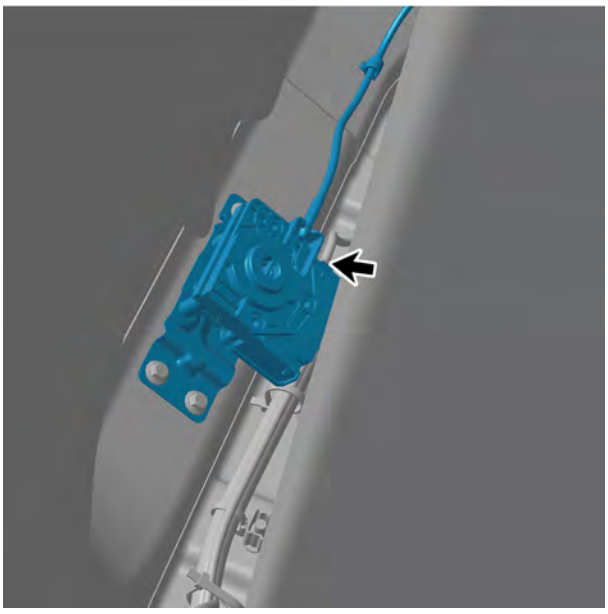
1 Open the door.

2 Open the front flip cover plate.

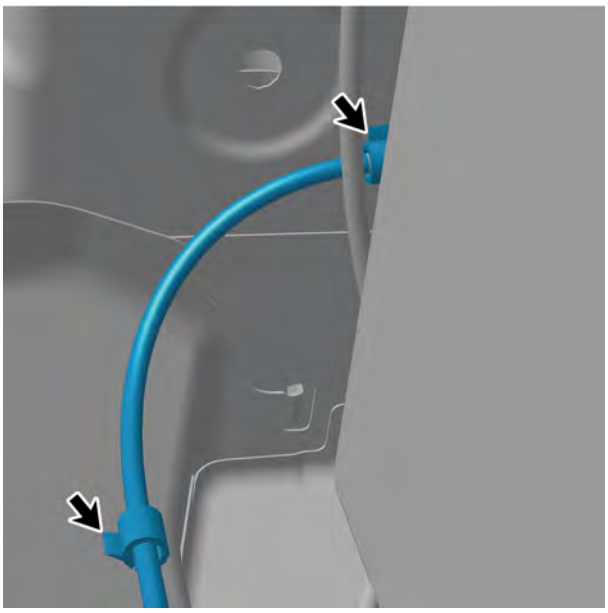
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



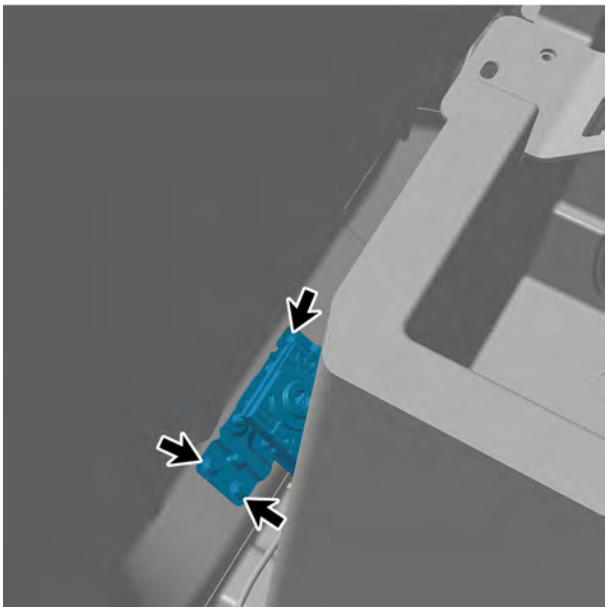
4 Open the sleeper mat assembly and disconnect one harness connector of the toolbox lock front end (with cable).



5 Disengage 2 fixing clips of the cable.

6 Disengage the cable.

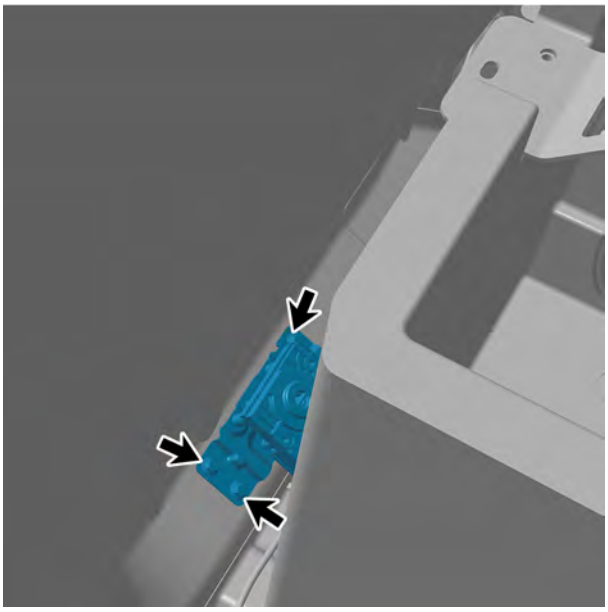




7 Remove 3 fixing bolts of the toolbox lock front end (with cable).

8 Remove the toolbox lock front end (with cable).

Installation Procedures

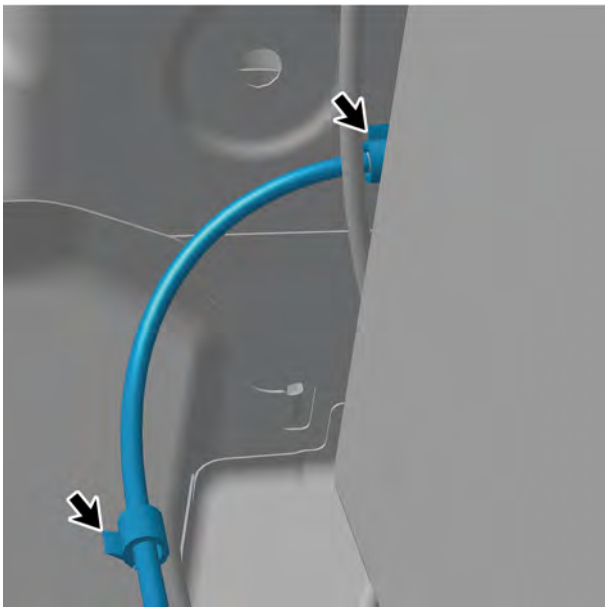


1 Move the toolbox lock front end (with cable) to the mounting position.

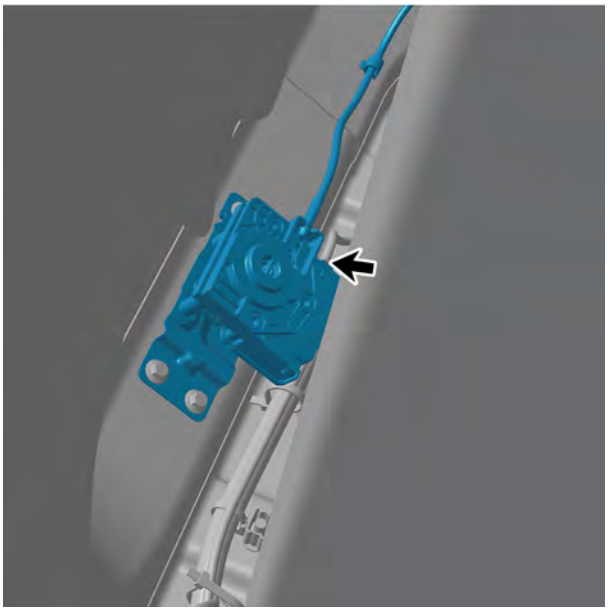
2 Install 3 fixing bolts of the toolbox lock front end (with cable).

3 Connect the cable.





4 Install 2 fixing clips of the cable.



5 Connect one harness connector of the toolbox lock front end (with cable).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

6 Connect the battery negative cable.

7 Close the front flip cover plate.

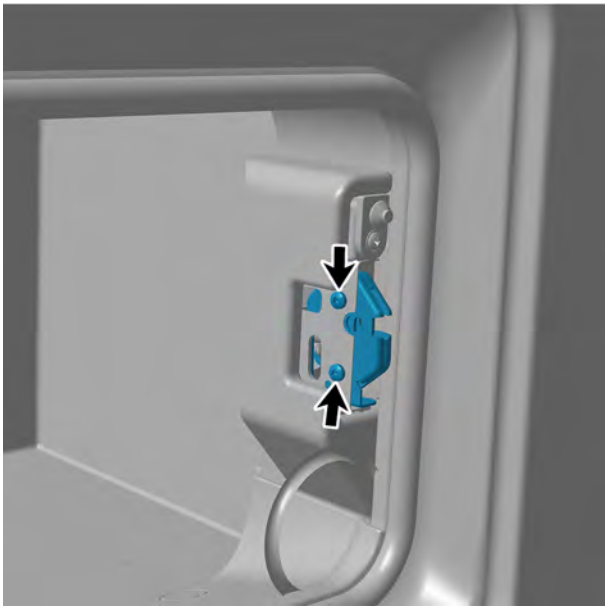
8 Close the door.

6.5.3.2 Replacement of Toolbox Lock Back End

Removal Procedures

1 Open the door.

2 Remove 2 fixing screws of the toolbox lock back end.



3 Disengage the cable.

4 Remove the toolbox lock back end.

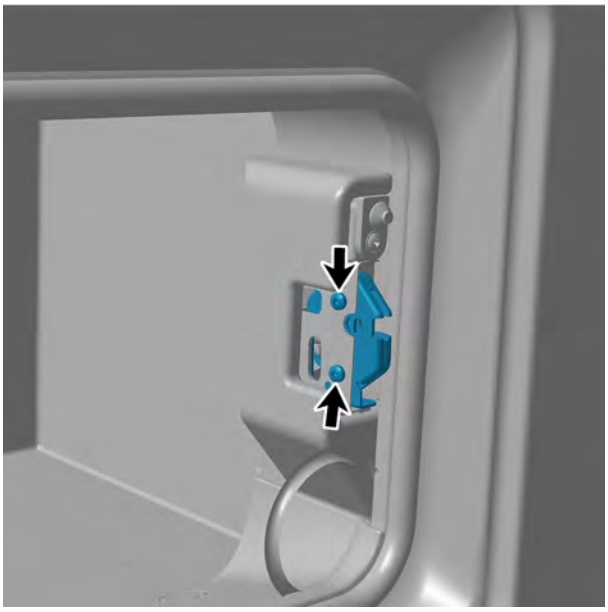


Installation Procedures

1 Move the toolbox lock back end to the mounting position.

2 Connect the cable.





3 Install 2 fixing screws of the toolbox lock back end.

4 Close the door.

6.5.3.3 Replacement of Toolbox Assembly

Removal Procedures

1 Open the door.

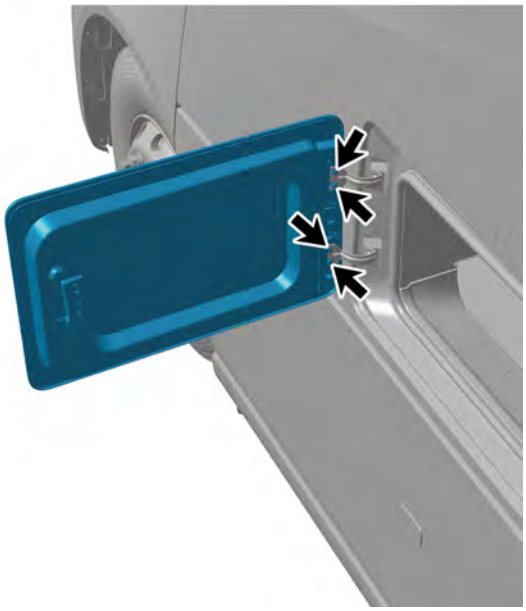
2 Remove the toolbox lock catch.

3 Remove 4 fixing bolts of the toolbox assembly.

4 Remove the toolbox assembly.



Installation Procedures



1 Move the toolbox assembly to the mounting position.

2 Install 4 fixing bolts of the toolbox assembly.

Torque: 6 ft-lb +/- .75 ft-lb

3 Install the toolbox lock catch.

4 Close the door.

6.6 Side Skirt Panel Device

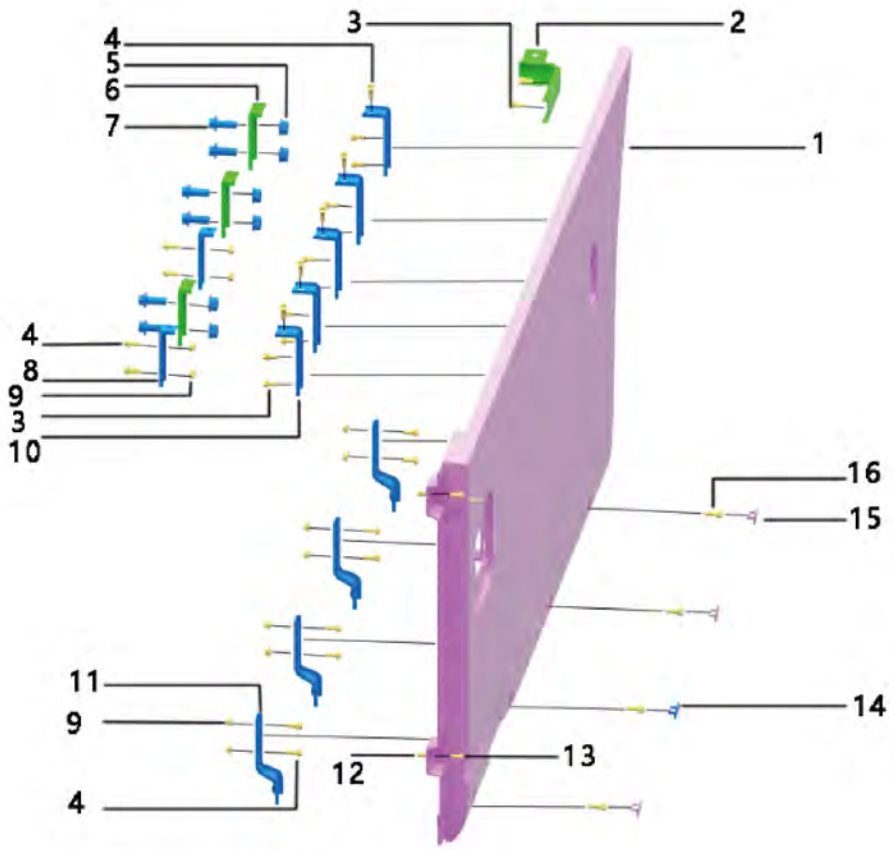
6.6.1 specifications

6.6.1.1 Fastener Specifications

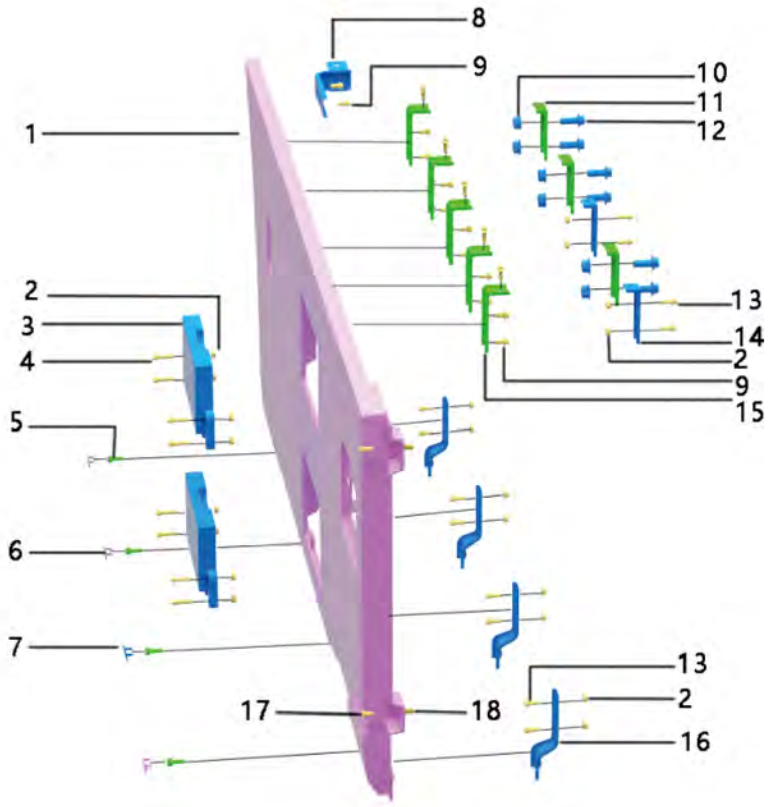
Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolt connecting the left skirt assembly and the frame assembly	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
The fixing bolt connecting the left skirt assembly and the skirt lower mounting bracket	M6	(4.5 ft-lb +/- .75 ft-lb) ft-lb
The fixing bolt connecting the right side skirt assembly and the skirt lower mounting bracket	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
The fixing bolt connecting the right side skirt assembly and the skirt lower mounting bracket	M6	(4.5 ft-lb +/- .75 ft-lb) ft-lb
The fixing nut connecting the right side skirt assembly and the right front assembly of the rear wheel cover	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
The fixing bolt connecting the right side skirt assembly to the bracket on the skirt	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
The fixing nut connecting the left skirt assembly and the left front assembly of the rear wheel cover	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
The fixing bolt connecting the left skirt assembly to the bracket on the skirt	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
The fixing bolt connecting the rear step assembly and the side skirt assembly	M8	(18 ft-lb +/- 2 ft-lb) ft-lb

6.6.2 Decomposition Diagram

6.6.2.1 Decomposition Diagram



1.	Skirt Assy-Lh	9.	Hexagon Flange Nut
2.	Brkt-Lh Rr Wheel Arch Attachment	10.	Upr Attach Brkt-Skirt
3.	Hexagon Flange Bolt	11.	Brkt-Skrit Lower
4.	Hexagon Flange Bolt	12.	Riveted Nut
5.	Hexagon Flange Nut	13.	Hexagon Flange Bolt
6.	Skrit Bracket	14.	Pulg-Side Skirt Trim
7.	Hexagon Flange Bolt	15.	Pulg-Side Skirt Trim
8.	Brkt-Skrit Upper	16.	Hexagon Head Bolt Assy



1. Skrit Plate-Rh
2. Hexagon Flange Nut
3. Rear Step Assy
4. Hexagon Flange Bolt
5. Hexagon Head Bolt Assy
6. Pulg-Side Skirt Trim
7. Pulg-Side Skirt Trim
8. Brkt-Rh Rr Wheel Arch Attachment
9. Hexagon Flange Bolt
10. Hexagon Flange Nut
11. Skrit Bracket
12. Hexagon Flange Bolt
13. Hexagon Flange Bolt
14. Brkt-Skrit Upper
15. Upr Attach Brkt-Skirt
16. Brkt-Skrit Lower
17. Hexagon Flange Bolt
18. Riveted Nut

6.6.3 Dismantling and Installation

6.6.3.1 Replacement of Left Skirt Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

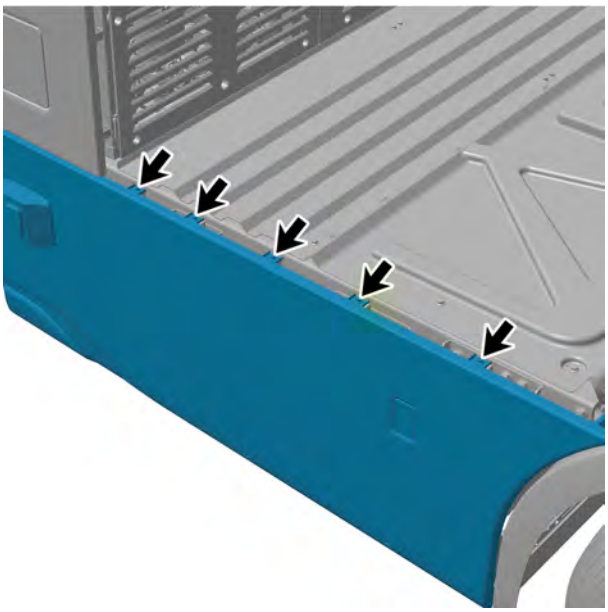
3 Disconnect the battery negative cable.

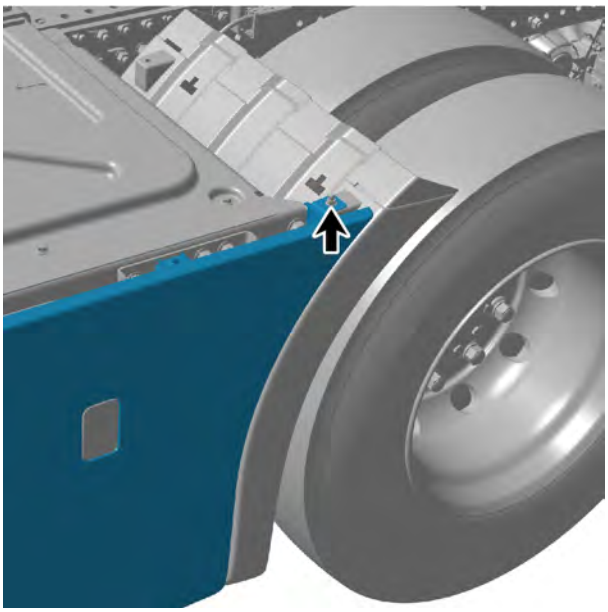
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

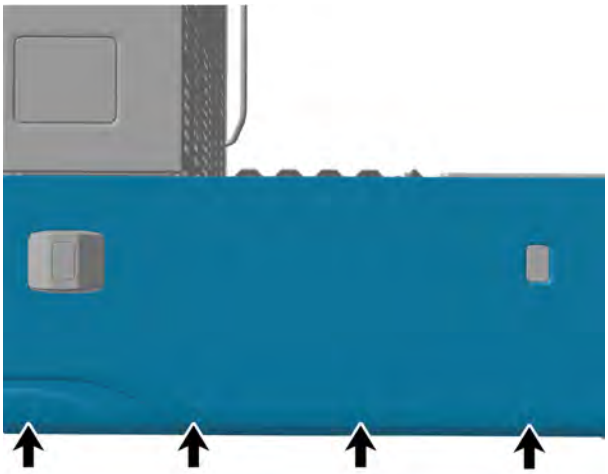
4 Remove the left side wall lower trim panel assembly.

5 Remove 5 fixing bolts of the left skirt plate assembly.

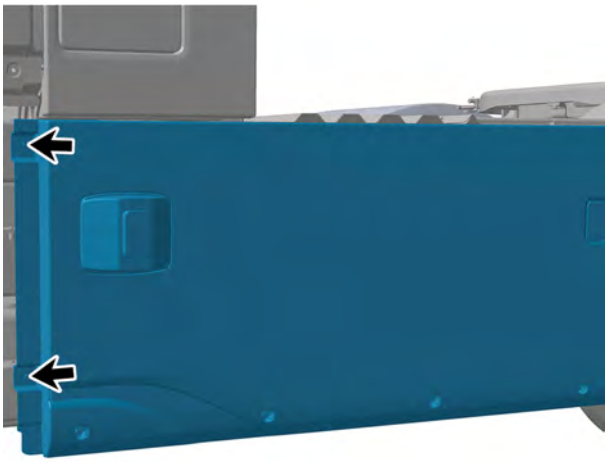




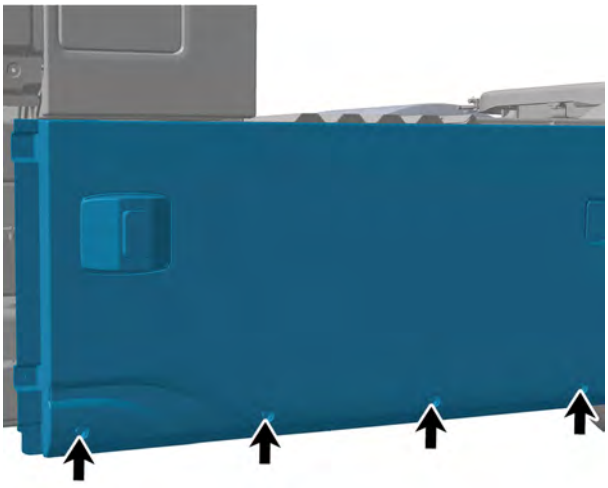
6 Remove 1 fixing nut of the left skirt plate assembly.



7 Remove 4 protection covers.



8 Remove 2 fixing bolts of the left skirt plate assembly.



9 Remove 4 fixing bolts of the left skirt plate assembly.



10 Disconnect 3 harness connectors of the left skirt plate assembly.

11 Remove the left skirt plate assembly.

Installation Procedures

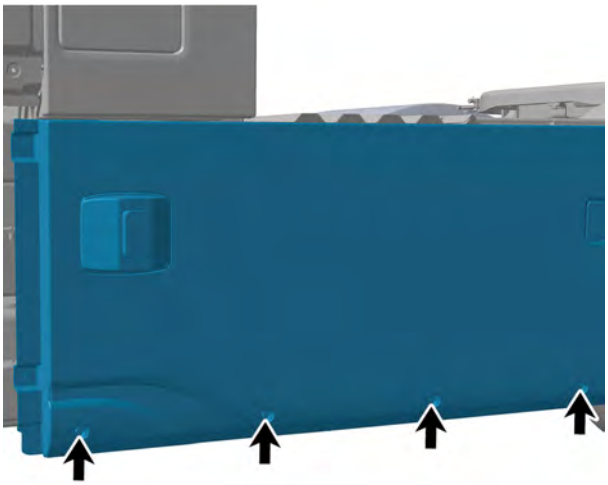


1 Move the left skirt plate assembly to the mounting position.

2 Connect 3 harness connectors of the left skirt plate assembly.

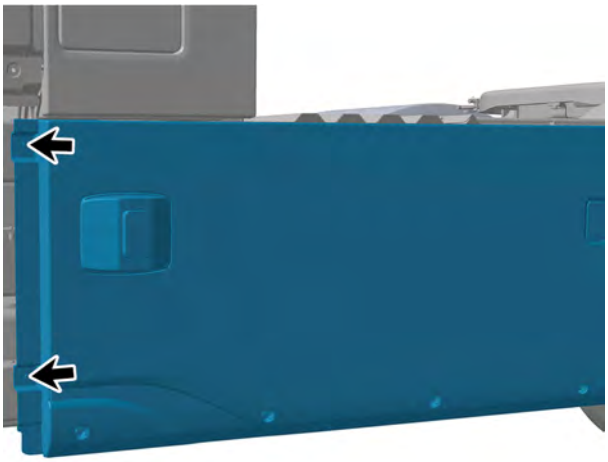
caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



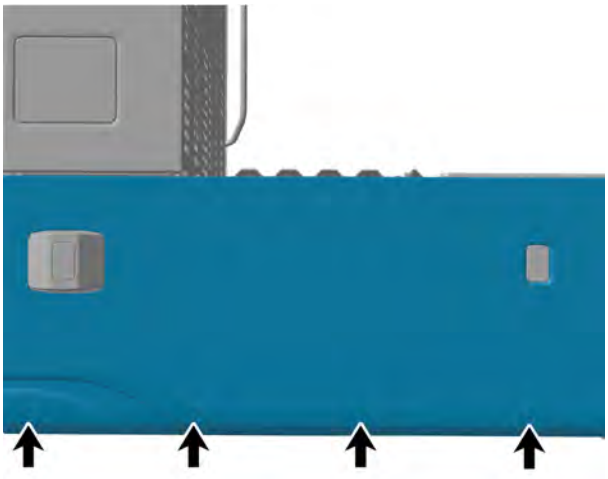
3 Install 4 fixing bolts of the left skirt plate assembly.

Torque:(18 ft-lb +/- 2 ft-lb) ft-lb

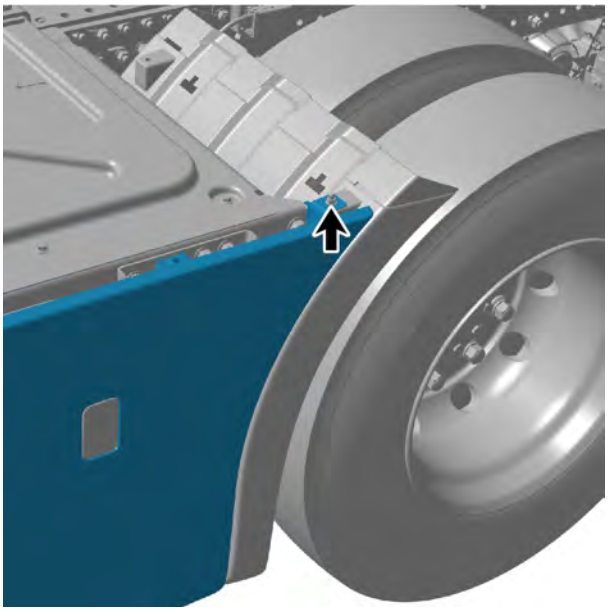


4 Install 2 fixing bolts of the left skirt plate assembly.

Torque: (4.5 ft-lb +/- .75 ft-lb) ft-lb

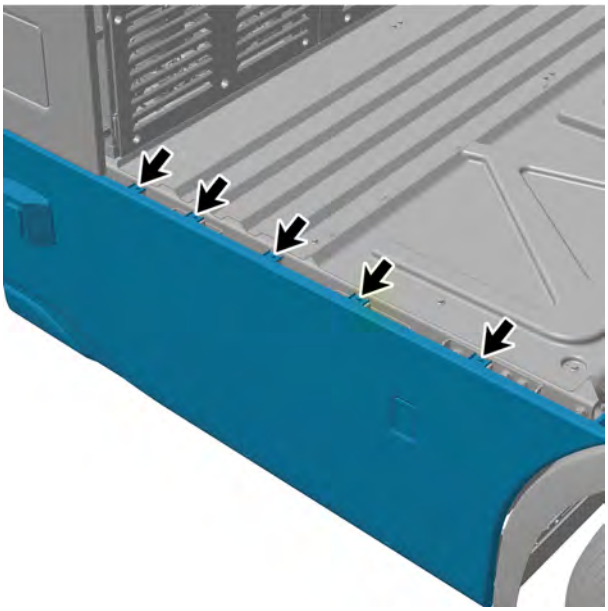


5 Install 4 protection covers.



6 Install 1 fixing nut of the left skirt plate assembly.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb



7 Install 5 fixing bolts of the left skirt plate assembly.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb

8 Install the left side wall lower trim panel assembly.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

6.6.3.2 Replacement of Right Skirt Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

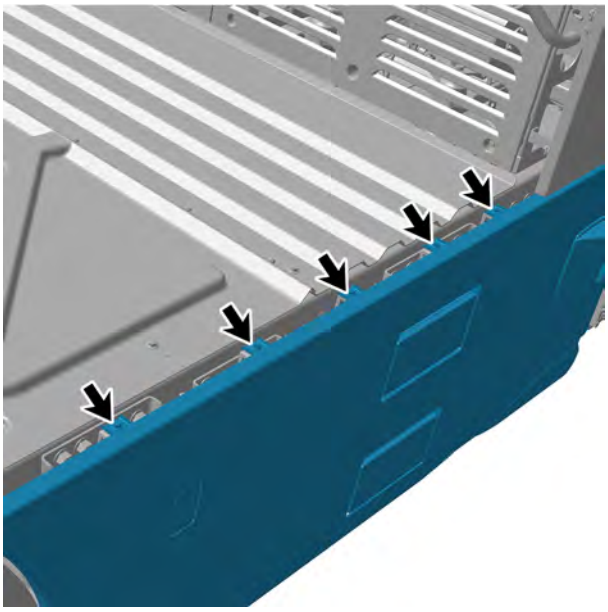
3 Disconnect the battery negative cable.

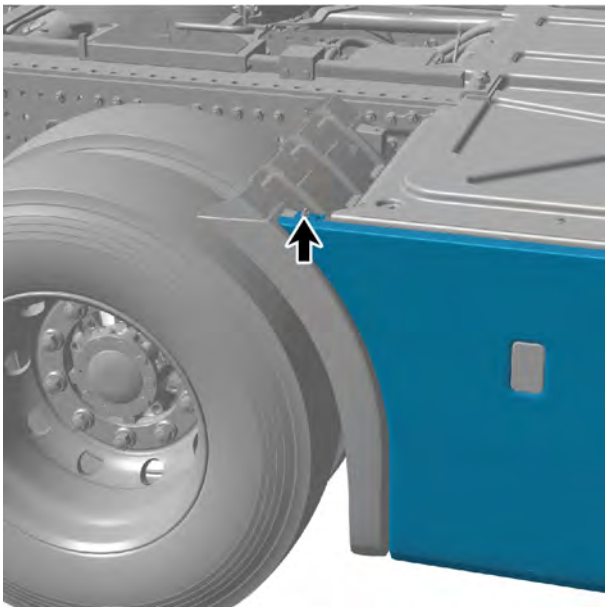
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

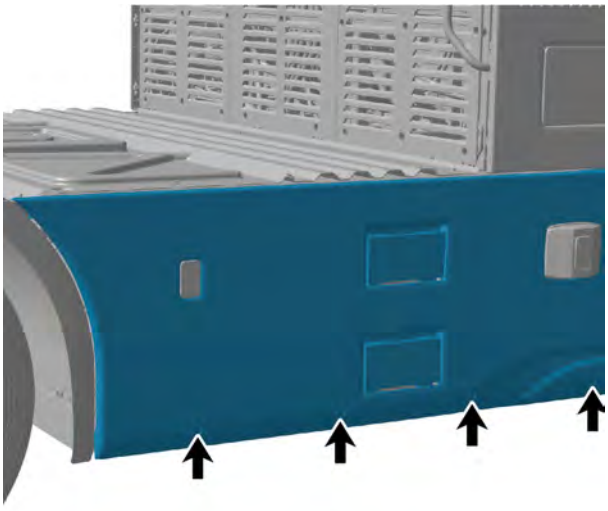
4 Remove the right side wall lower trim panel assembly.

5 Remove 5 fixing bolts of the right skirt plate assembly.

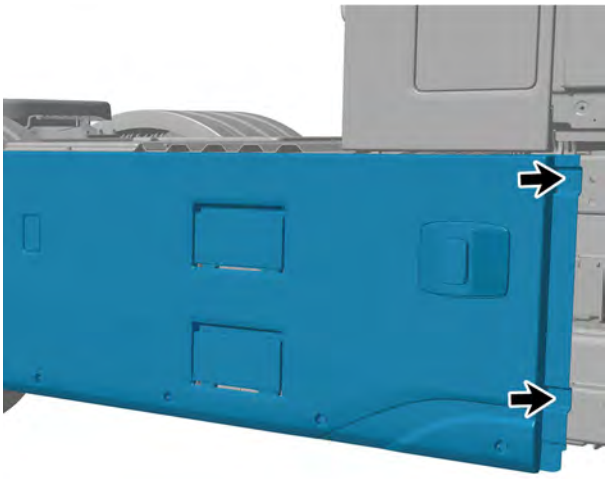




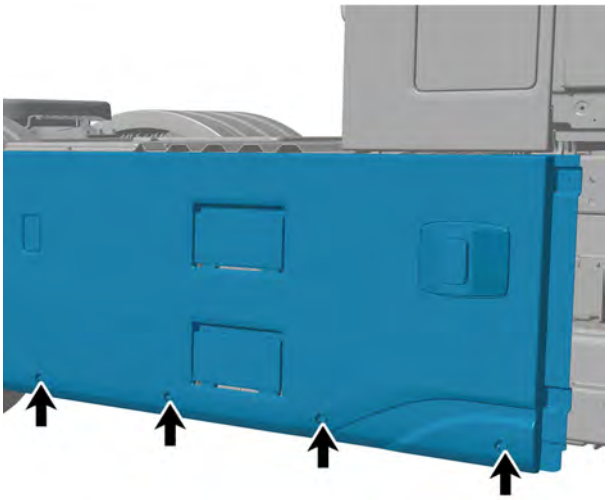
6 Remove 1 fixing nut of the right skirt plate assembly.



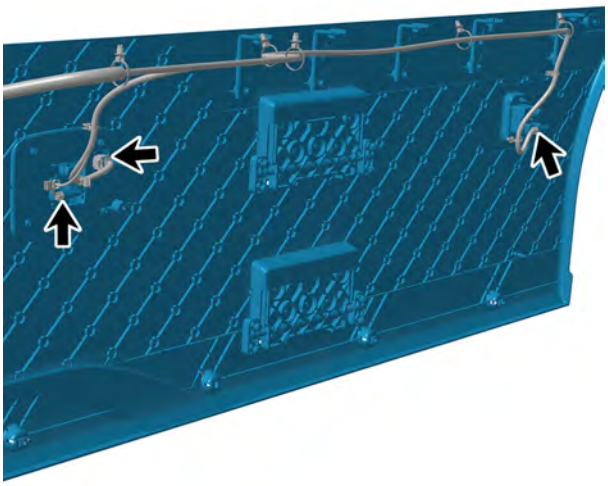
7 Remove 4 protection covers.



8 Remove 2 fixing bolts of the right skirt plate assembly.



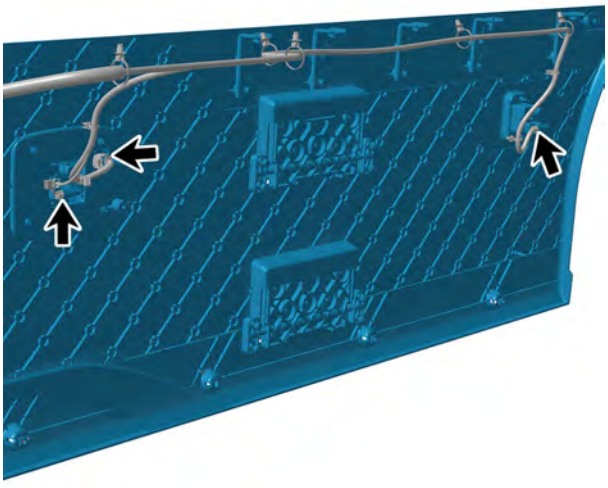
9 Remove 4 fixing bolts of the right skirt plate assembly, and detach the right skirt plate assembly.



10 Disconnect 3 harness connectors of the right skirt plate assembly.

11 Remove the right skirt plate assembly.

Installation Procedures

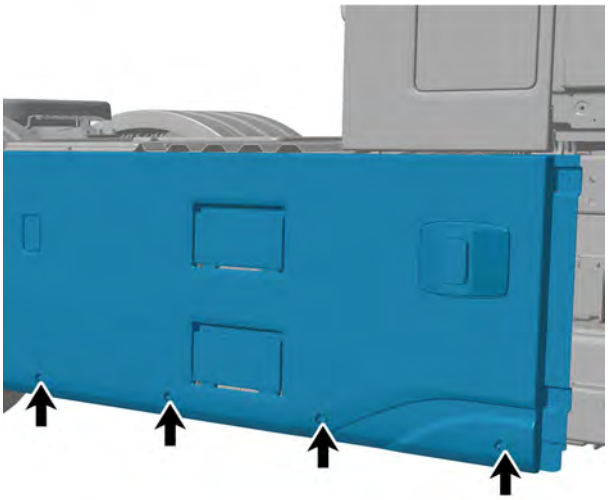


1 Move the right skirt plate assembly to the mounting position.

2 Connect 3 harness connectors of the right skirt plate assembly.

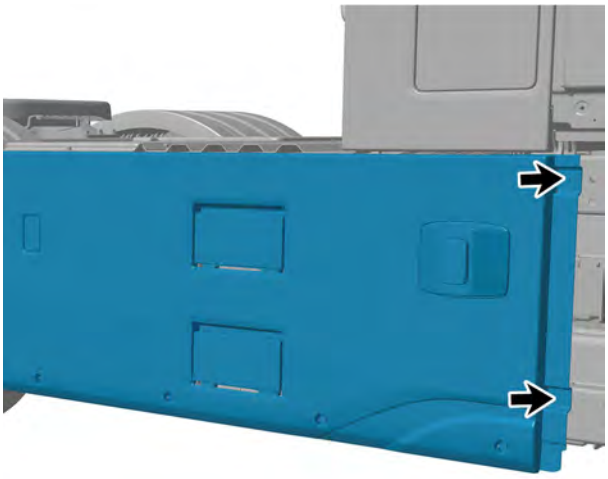
caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



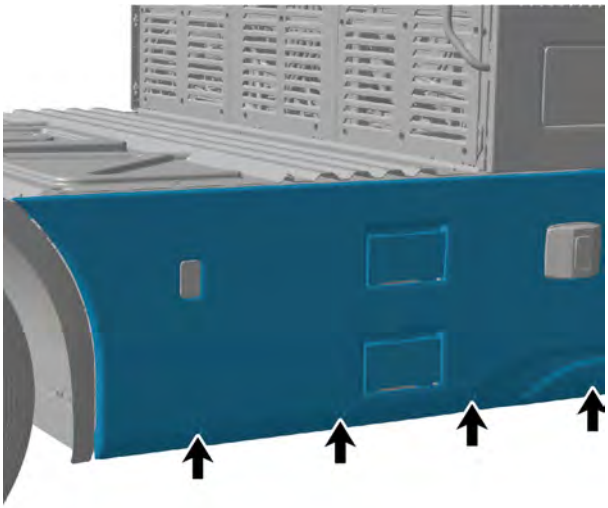
3 Connect the right skirt plate assembly, and install 4 fixing bolts of the right skirt plate assembly.

Torque: (18 ft-lb +/- 2 ft-lb) ft-lb

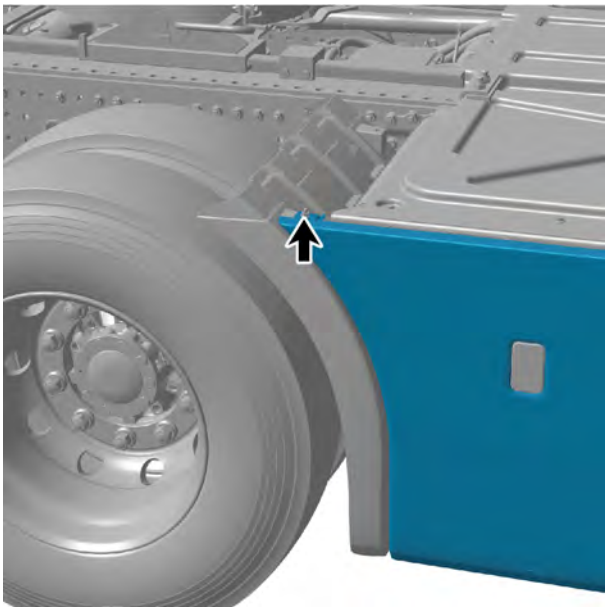


4 Install 2 fixing bolts of the right skirt plate assembly.

Torque: (4.5 ft-lb +/- .75 ft-lb) ft-lb

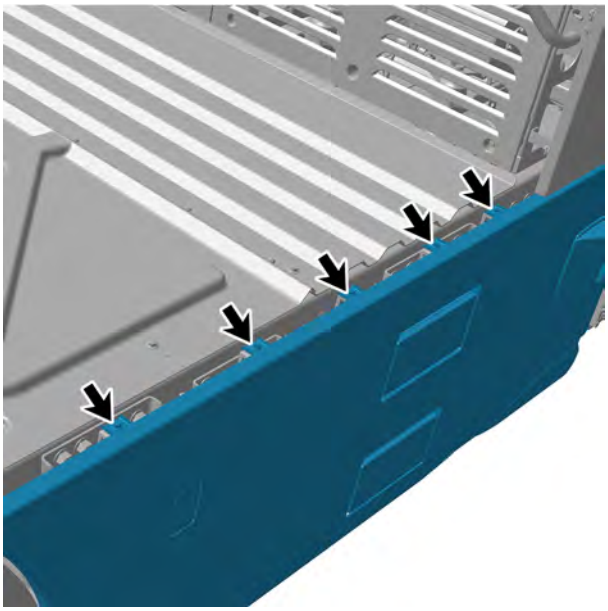


5 Install 4 protection covers.



6 Install 1 fixing nut of the right skirt plate assembly.

Torque:(18 ft-lb +/- 2 ft-lb) ft-lb



7 Install 5 fixing bolts of the right skirt plate assembly.

Torque:(18 ft-lb +/- 2 ft-lb) ft-lb

8 Attach the right side wall lower trim panel assembly.

9 Connect the battery negative cable.

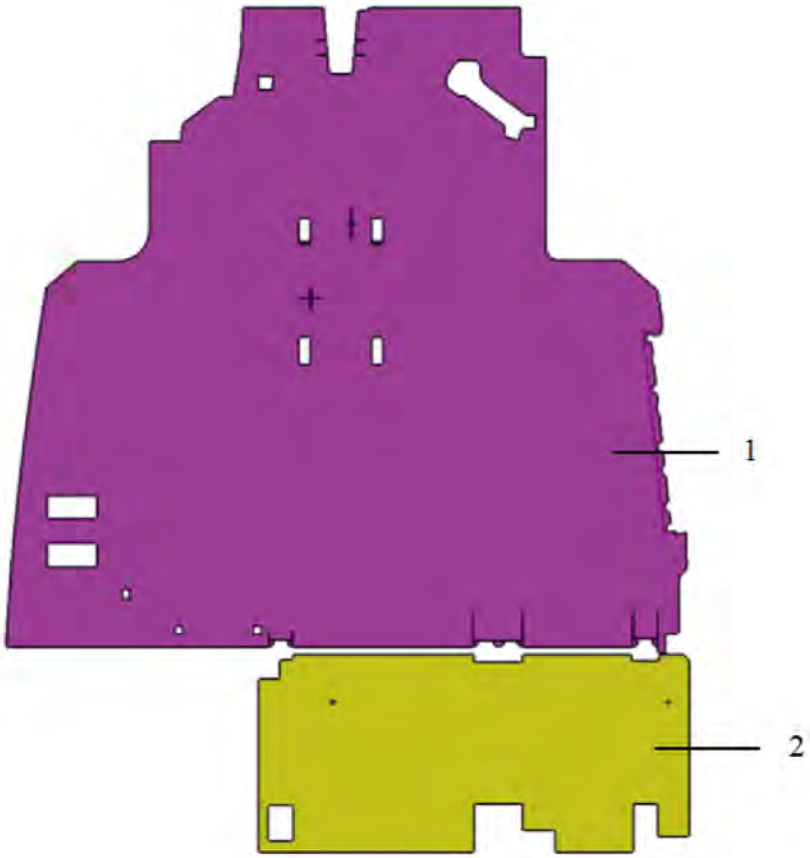
10 Close the front flip cover plate.

11 Close the door.

6.7 Carpet Device

6.7.1 Decomposition Diagram

6.7.1.1 Decomposition Diagram



1. Carpet-frt
2. Carpet-Rr

6.7.2 Dismantling and Installation

6.7.2.1 Replacement of Front Carpet

Removal Procedures

1 Release air pressure from the brake system.
2 Open the door.
3 Open the front flip cover plate.
4 Disconnect the battery negative cable.
5 Perform power-off of high voltage system.
6 Recycle A/C refrigerant.
7 Remove the wiper arm assy.
8 Remove the assembly of the front windshield cover.
9 Remove the dab decorative cove.
10 Remove the steering wheel assy.
11 Remove the cover-combination switch-lor.
12 Remove the ip brim assy.
13 Remove the IVI screen.
14 Remove the CAR screen.
15 Remove the IPC screen.
16 Remove the upr cover- lh camera brkt.
17 Remove the camera monitor screen.
18 Remove the base-lh display brkt.
19 Remove the upr cover- rh camera brkt.
20 Remove the camera monitor screen-rh.
21 Remove the base-rh display brkt.
22 Remove the a-pillar guard assy-lh.
23 Remove the a-pillar guard assy-rh.
24 Remove the assembly of the instrument panel trim panel assy- lowerr lh.
25 Remove the front side enclosure assy-lh.
26 Remove the cover assy-dashboard-lh frt.
27 Remove the trim assy on the switch panel-lh.
28 Remove the switch panel lower trim assy-lh.
29 Remove the vehicle travelling data recorder.
30 Remove the instrument panel trim panel assy- upper lh.
31 Remove the air vent decorative plate assy-lh.
32 Remove the assembly of the cover assy-steering under column guard.
33 Remove the front side enclosure assy-rh.
34 Remove the cover assy-dashboard-rh frt.

35 Remove the switch panel assy-rh.

36 Remove the lower switch panel assy-rh.

37 Remove the storage box assy-rh.

38 Remove the air vent decorative plate assy-rh.

39 Remove the ontology assy on the dashboard.

40 Remove the trim assy-dashboard-lh frt.

41 Remove the lor trim assy-dashboard-rh frt.

42 Remove the decorative plate assy-dashboard-rh frt.

43 Remove the cover assy-defrost frt.

44 Remove the ontology assy under the dashboard.

45 Remove the AR-HUD.

46 Remove the fixing bracket-lh.

47 Remove the smart appliance box.

48 Remove the cockpit domain controller.

49 Remove the cockpit domain controller bracket.

50 Remove the Tbox-gw.

51 Remove the Tbox-gw bracket.

52 Remove the EBS controller assy.

53 Remove the EBS bracket.

54 Remove the body domain control unit.

55 Remove the controller bracket assy.

56 Remove the cross car beam pole.

57 Remove the cross car beam assy.

58 Remove the right foot blowing duct assembly.

59 Remove the storage box bracket assembly.

60 Remove the HVAC assembly (including PTC) - front right.

61 Remove the left foot blowing duct assembly.

62 Remove the HVAC assembly (including PTC) - front left.

63 Remove the speaker - low pitch (left).

64 Remove the speaker - low pitch (right).

65 Remove the low-pitch speaker bracket - left.

66 Remove the low-pitch speaker bracket - right.

67 Remove the steering column fixing bracket 1.

68 Remove the steering column fixing bracket 2.

69 Remove the brake signal transmitter assembly.

70 Remove the brake pedal assembly.

71 Remove the accelerator pedal assembly.

72 Remove the kettle holder.

73 Remove the kettle holder bracket assembly.

74 Remove the sleeper mat assembly.

75 Remove the rear A/C lower air duct.

76 Remove the fire extinguisher.

77 Remove the left middle side wall lower trim panel assembly.

78 Remove the left middle side wall middle trim panel assembly.

79 Remove the toolbox left trim panel assembly.

80 Remove the 120V receptacle.

81 Remove the vehicle power supply (12V).

82 Remove the interior temperature sensor (rear).

83 Remove the toolbox trim panel assembly.

84 Remove the toolbox sill molding assembly.

85 Remove the toolbox lamp.

86 Remove the toolbox lamp bracket.

87 Remove the sleeper toolbox.

88 Remove the electric sliding door switch.

89 Remove the right B-pillar upper protective plate assembly.

90 Remove the right sill molding assembly.

91 Remove the driver seat assembly.

92 Remove the front carpet.



Installation Procedures



1 Install the front carpet.

2 Install the driver seat assembly.

3 Install the right sill molding assembly.

4 Install the right B-pillar upper protective plate assembly.

5 Install the electric sliding door switch.

6 Install the sleeper toolbox.

7 Install the toolbox lamp bracket.

8 Install the toolbox lamp.

9 Install the toolbox sill molding assembly.

10 Install the toolbox trim panel assembly.

11 Install the interior temperature sensor (rear).

12 Install the vehicle power supply (12V).

13 Install the 120V receptacle.

14 Install the toolbox left trim panel assembly.

15 Install the left middle side wall middle trim panel assembly.

16 Install the left middle side wall lower trim panel assembly.

17 Install the fire extinguisher.

18 Install the rear A/C lower air duct.

19 Install the sleeper mat assembly.

20 Install the kettle holder bracket assembly.

21 Install the kettle holder.

22 Install the accelerator pedal assembly.

23 Install the brake pedal assembly.

24 Install the brake signal transmitter assembly.

25 Install the steering column fixing bracket 2.

26 Install the steering column fixing bracket 1.

27 Install the low-pitch speaker bracket - right.

28 Install the low-pitch speaker bracket - left.

29 Install the speaker - low pitch (right).

30 Install the speaker - low pitch (left).

31 Install the HVAC assembly (including PTC) - front left.

32 Install the left foot blowing duct assembly.

33 Install the HVAC assembly (including PTC) - front right.

34 Install the storage box bracket assembly.

35 Install the right foot blowing duct assembly.

36 Install the cross car beam assy.

37 Install the cross car beam pole.

38 Install the controller bracket assy.

39 Install the body domain control unit.

40 Install the EBS bracket.

41 Install the EBS controller assy.

42 Install the Tbox-gw bracket.

43 Install the Tbox-gw.

44 Install the cockpit domain controller bracket.

45 Install the cockpit domain controller.

46 Install the smart appliance box.

47 Install the fixing bracket-lh.

48 Install the AR-HUD.

49 Install the ontology assy under the dashboard.

50 Install the cover assy-defrost frt.

51 Install the decorative plate assy-dashboard-rh frt.

52 Install the lor trim assy-dashboard-rh frt.

53 Install the trim assy-dashboard-lh frt.

54 Install the ontology assy on the dashboard.

55 Install the air vent decorative plate assy-rh.

56 Install the storage box assy-rh.

57 Install the lower switch panel assy-rh.

58 Install the switch panel assy-rh.

59 Install the cover assy-dashboard-rh frt.

60 Install the front side enclosure assy-rh.

61 Install the assembly of the cover assy-steering under column guard.

62 Install the air vent decorative plate assy-lh.

63 Install the instrument panel trim panel assy- upper lh.

64 Install the vehicle travelling data recorder.

65 Install the switch panel lower trim assy-lh.

66 Install the trim assy on the switch panel-lh.

67 Install the cover assy-dashboard-lh frt.

68 Install the front side enclosure assy-lh.

69 Install the assembly of the instrument panel trim panel assy- lowerr lh.

70 Install the a-pillar guard assy-rh.

71 Install the a-pillar guard assy-lh.

72 Install the base-rh display brkt.

73 Install the camera monitor screen-rh.

74 Install the upr cover- rh camera brkt.

75 Install the base-lh display brkt.

76 Install the camera monitor screen.

77 Install the upr cover- lh camera brkt.

78 Install the IPC screen.

79 Install the CAR screen.

80 Install the IVI screen.

81 Install the ip brim assy.

82 Install the cover-combination switch-lor.

83 Install the steering wheel assy.

84 Install the dab decorative cove.

85 Install the assembly of the front windshield cover.

86 Install the wiper arm assy.

87 Fill with A/C refrigerant.

88 Perform power-on of the high voltage system.

89 Connect the battery negative cable.

90 Close the front flip cover plate.

91 Close the door.

6.7.2.2 Replacement of Rear Carpet

Removal Procedures

1 Open the door.

2 Remove the sleeper mat assembly.

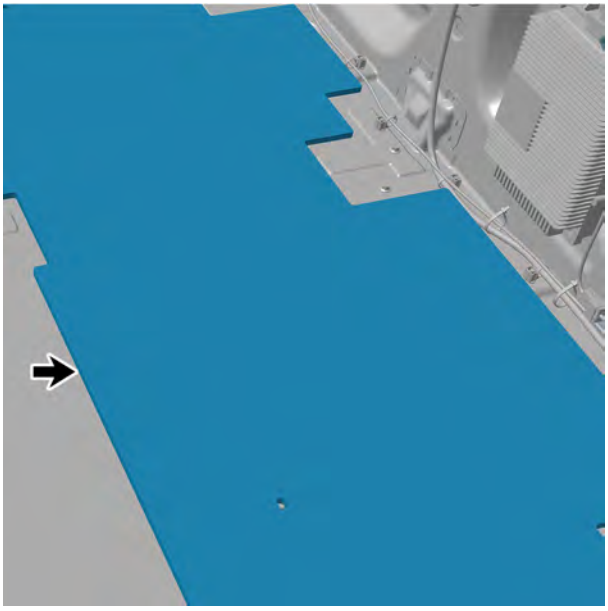
3 Remove the rear seat assembly.

4 Remove the seat rear storage box.

5 Remove the right drawer assembly.

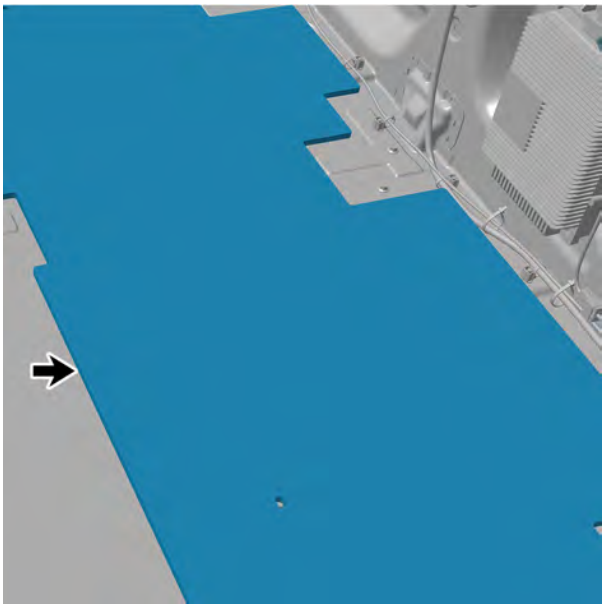
6 Remove the middle drawer assembly.

7 Remove the rear carpet.



Installation Procedures

1 Install the rear carpet.



2 Install the middle drawer assembly.

3 Install the right drawer assembly.

4 Install the seat rear storage box.

5 Install the rear seat assembly.

6 Install the sleeper mat assembly.

7 Close the door.

6.8 Full Vehicle Glass Device

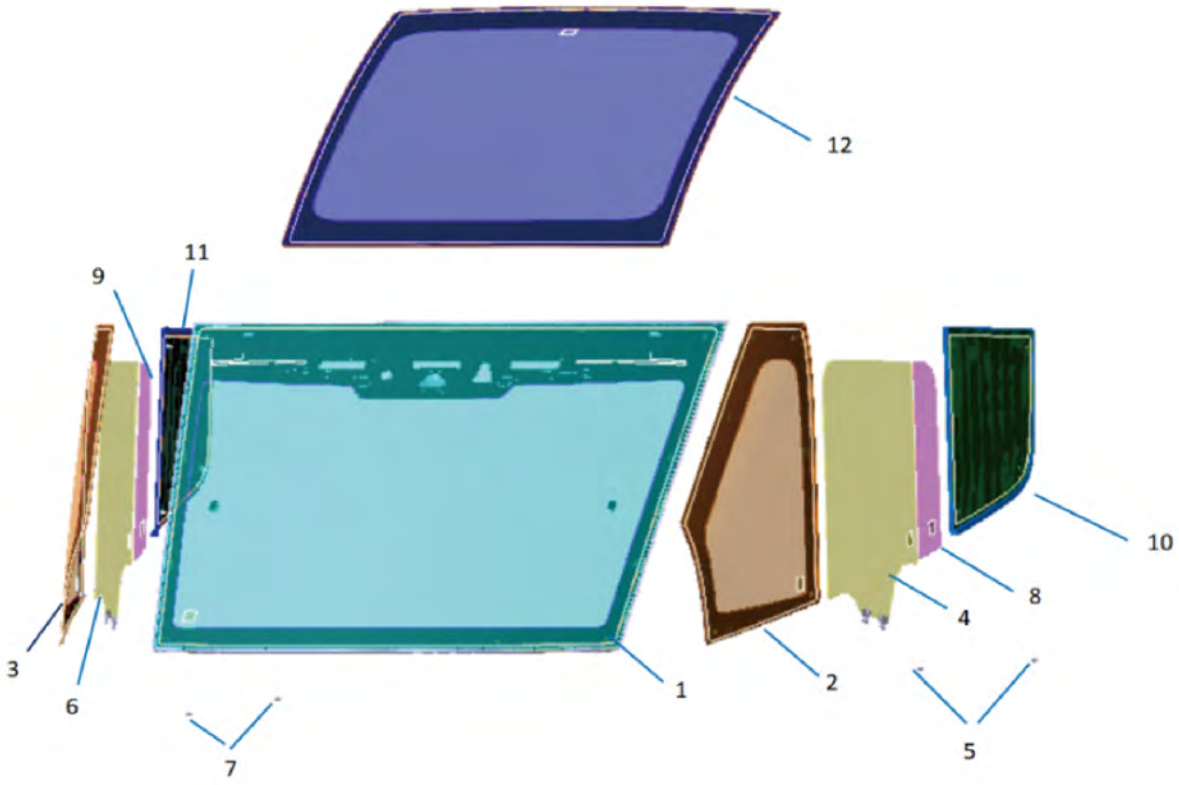
6.8.1 Specifications

6.8.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the lifting glass assembly and the door trim body	M6	(6.5 +/- .75) ft lbs

6.8.2 Decomposition Diagram

6.8.2.1 Decomposition Diagram



1.	Windsheld Assy-Frt	7.	Hexagon Flange Bolt
2.	Front Quarter Glass Assy-Lh	8.	Rear Quarter Glass Assy-Lh
3.	Front Quarter Glass Assy-Rh	9.	Rear Quarter Glass Assy-Rh
4.	Front Glass Assy-Lh	10.	Quarter Window Glass on the Left Rear Side Panel
5.	Hexagon Flange Bolt	11.	Right Rear Quarter Window Glass
6.	Front Glass Assy-Rh	12.	Fixed Glass Roof Assy

6.8.3 Dismantling and Installation

6.8.3.1 Replacement of Front Windshield Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the left physical exterior rearview mirror assembly.

6 Remove the left front wheel housing body.

7 Remove the primary wiper arm blade assembly (nozzle and hose).

8 Remove the front windshield cover plate assembly.

9 Remove the left fender trim strip.

10 Remove the left fender assembly.

11 Remove the left A-pillar outer trim assembly.

12 Remove the right triangular cover plate assembly.

13 Remove the right front wheel housing body.

14 Remove the right fender trim strip.

15 Remove the right fender assembly.

16 Remove the right A-pillar outer trim assembly.

17 Remove the roof sealing strip.

18 Remove the front camera trim cover assembly.

19 Remove the Identification lamp.

20 Remove the DVR camera.

21 Remove the front view intelligent camera.

22 Remove the RLS.



23 Clear away the glass debris inside and outside the vehicle.

caution

Do not sweep debris, or score or scratch the vehicle body.

24 Use an extended straight screwdriver to thread through the windshield sealant.

caution

Install the floor mat, driver seat cover, sleeper protective cover, and other protective measures inside the cab.

25 Extend the wire rope through the glass adhesive, pull out the joint of the wire rope at the other end, and cooperate with the personnel inside and outside the cab to pull the two ends of the wire rope and cut the glass adhesive.

caution

Before using the wire rope to pull and cut glass sealant, the wire rope shall be wrapped around a wooden stick before operation to avoid hand injury. Personnel working at heights outside the cab must take necessary safety precautions.

26 Remove the front windshield assembly using the suction cup.

caution

Wear goggles and cut resistant gloves when removing glass. Damaged glass can be removed using a rubber hammer and cutting knife.

Installation Procedures



1 Move the front windshield assembly to the mounting position.

2 Clean the bonding surfaces of the window frame and glass separately with activated cleaning agents.

caution

Dry for 3 minutes after cleaning.

3 Use a clean degreased cotton or brush to evenly and thinly apply the bottom coat of polyurethane glass adhesive to the pre bonding area of the body sheet metal.

caution

After coating, let it dry for at least 30 seconds.

4 Apply polyurethane glass adhesive evenly to the glass bonding position.

caution

The glue nozzle of the glue gun needs to be cut with an art knife according to the standard.

5 Attach the glass suction cup to the outer curved surface of the glass, align one of the clips with the corresponding body sheet metal hole, then align the diagonal clips with the corresponding sheet metal hole, and evenly press the entire circumference to ensure that the locating clips are effectively engaged with the body sheet metal.

caution

To ensure that the glass is not damaged, two people need to simultaneously grab the suction cup for operation.

6 Install the RLS.

7 Install the front view intelligent camera.

8 Install the DVR camera.

9 Install the Identification lamp.

10 Install the front camera trim cover assembly.

11 Install the roof sealing strip.

12 Install the right A-pillar outer trim assembly.

13 Install the right fender assembly.

14 Install the right fender trim strip.

15 Install the right front wheel housing body.

16 Install the right triangular cover plate assembly.

17 Install the left A-pillar outer trim assembly.

18 Install the left fender assembly.

19 Install the left fender trim strip.

20 Install the front windshield cover plate assembly.

21 Install the primary wiper arm blade assembly (nozzle and hose).

22 Install the left front wheel housing body.

23 Install the left physical exterior rearview mirror assembly.

24 Install the engine compartment trim panel body.

25 Connect the battery negative cable.

26 Close the front flip cover plate.

27 Close the door.

6.8.3.2 Replacement of Left Adjustable Window Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the left A-pillar protective plate assembly.

6 Remove the left front side wall protective plate assembly.

7 Remove the front USB interface.

8 Remove the IP left access cover plate assembly.

9 Remove the left switch panel assembly.

10 Remove the left switch panel lower trim panel assembly.

11 Remove the IP left lower trim panel assembly.

12 Remove the left middle side wall lower trim panel assembly.

13 Remove the left middle side wall middle trim panel assembly.

14 Remove the left middle side wall protective plate assembly.

15 Remove the side wall clothes rail assembly.

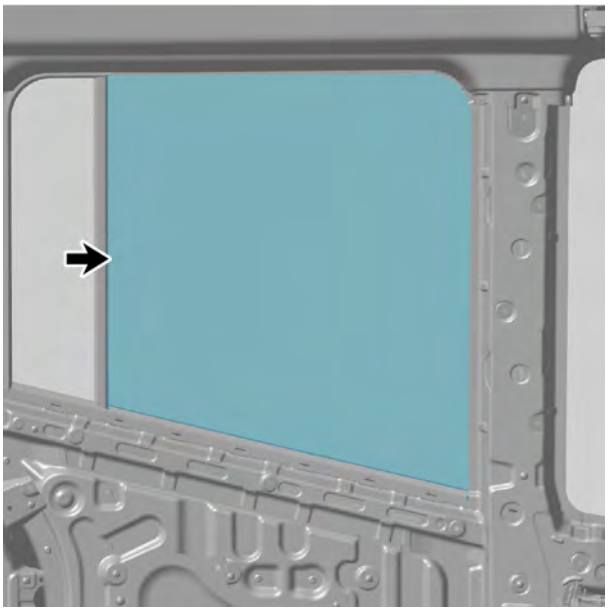
16 Remove the left rear side wall protective plate assembly.

17 Remove the left inner weatherstrip assembly.

18 Remove the left outer weatherstrip assembly.

19 Remove the left body waterproof membrane (I).

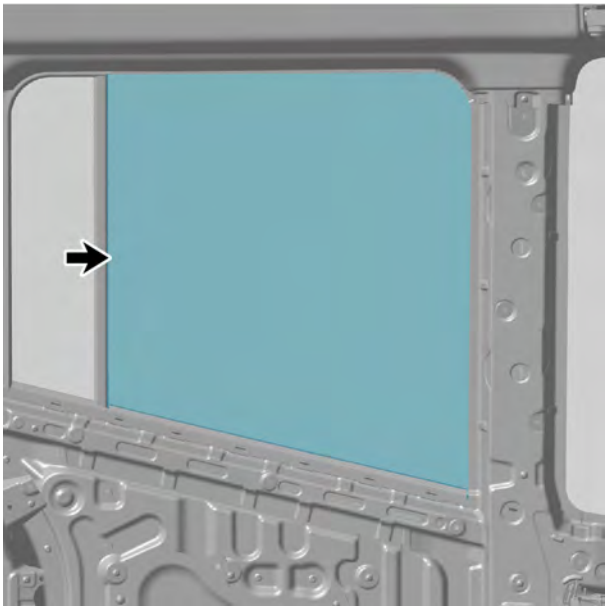
20 Remove the window regulator left lower mounting rail assembly.



21 Remove the left glass run assembly.

22 Remove the left adjustable window assembly.

Installation Procedures



1 Install the left adjustable window assembly.

2 Install the left glass run assembly.

3 Install the window regulator left lower mounting rail assembly.

4 Install the left body waterproof membrane (I).

5 Install the left outer weatherstrip assembly.

6 Install the left inner weatherstrip assembly.

7 Install the left rear side wall protective plate assembly.

8 Install the side wall clothes rail assembly.

9 Install the left middle side wall protective plate assembly.

10 Install the left middle side wall middle trim panel assembly.

11 Install the left middle side wall lower trim panel assembly.

12 Install the IP left lower trim panel assembly.

13 Install the left switch panel lower trim panel assembly.

14 Install the left switch panel assembly.

15 Install the IP left access cover plate assembly.

16 Install the front USB interface.

17 Install the left front side wall protective plate assembly.

18 Install the left A-pillar protective plate assembly.

19 Install the IP left upper trim panel assembly.

20 Connect the battery negative cable.

21 Close the front flip cover plate.

22 Close the door.

6.8.3.3 Replacement of Right Adjustable Window Assembly

Removal Procedures

1 Open the door.

2 Remove the cable cover plate.

3 Remove the door protective plate assembly.

4 Remove the right inner weatherstrip assembly.

5 Remove the right outer weatherstrip assembly.

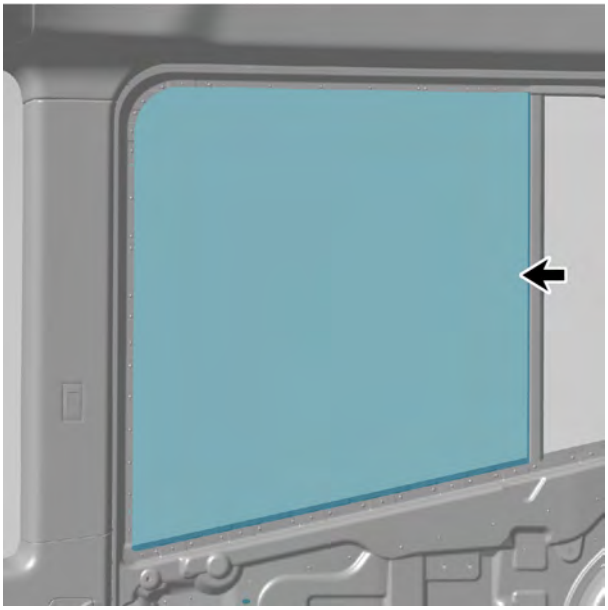
6 Remove the right body waterproof membrane (I).

7 Remove the right body waterproof membrane (II).

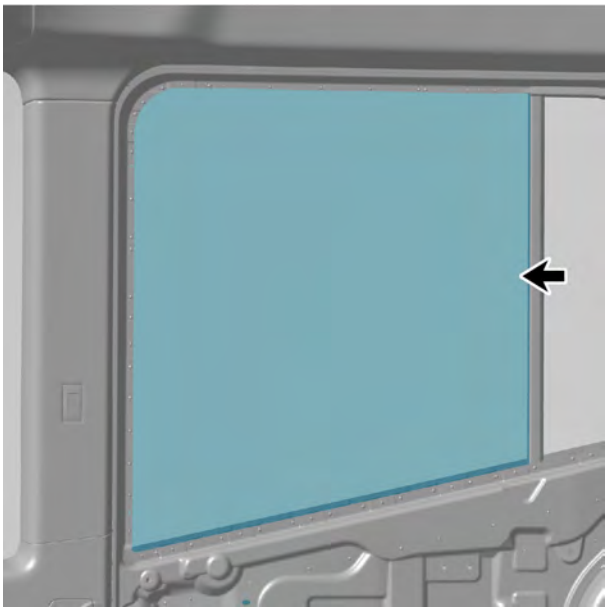
8 Remove the window regulator right lower mounting rail assembly.

9 Remove the right glass run assembly.

10 Remove the right adjustable window assembly.



Installation Procedures



1 Install the right adjustable window assembly.

2 Install the right glass run assembly.

3 Install the window regulator right lower mounting rail assembly.

4 Install the right body waterproof membrane (II).

5 Install the right body waterproof membrane (I).

6 Install the right outer weatherstrip assembly.

7 Install the right inner weatherstrip assembly.

8 Install the door protective plate assembly.

9 Install the cable cover plate.

10 Close the door.

6.8.3.4 Replacement of Left Front Triangular Window Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

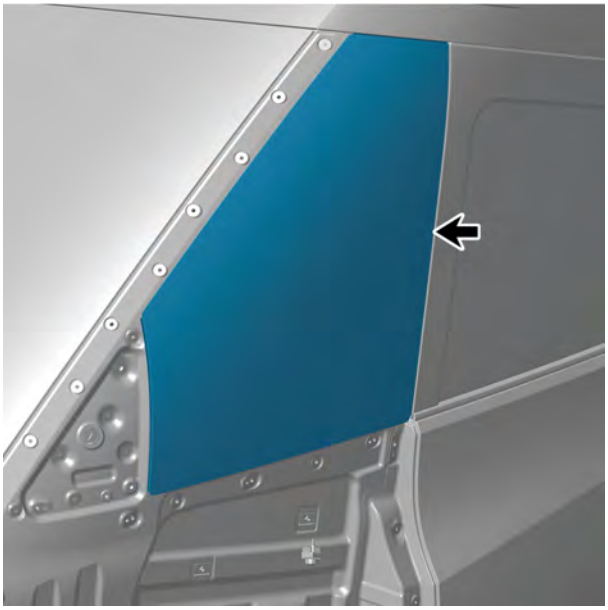
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the left physical exterior rearview mirror assembly.

6 Remove the left front wheel housing body.

7 Remove the primary wiper arm blade assembly (nozzle and hose).



8 Remove the front windshield cover plate assembly.

9 Remove the left fender trim strip.

10 Remove the left fender assembly.

11 Remove the left A-pillar outer trim assembly.

12 Clear away the glass debris inside and outside the vehicle.

caution

Do not sweep debris, or score or scratch the vehicle body.

13 Use an extended straight screwdriver to thread through the windshield sealant.

caution

Install the floor mat, driver seat cover, sleeper protective cover, and other protective measures inside the cab.

14 Extend the wire rope through the glass adhesive, pull out the joint of the wire rope at the other end, and cooperate with the personnel inside and outside the cab to pull the two ends of the wire rope and cut the glass adhesive.

caution

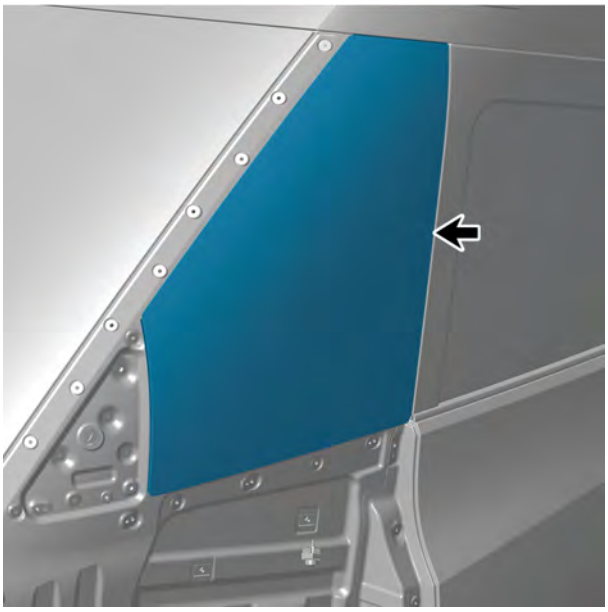
Before using the wire rope to pull and cut glass sealant, the wire rope shall be wrapped around a wooden stick before operation to avoid hand injury. Personnel working at heights outside the cab must take necessary safety precautions.

15 Remove the left front triangular window assembly using the suction cup.

caution

Wear goggles and cut resistant gloves when removing glass. Damaged glass can be removed using a rubber hammer and cutting knife.

Installation Procedures



1 Move the left front triangular window assembly to the mounting position.

2 Clean the bonding surfaces of the window frame and glass separately with activated cleaning agents.

caution

Dry for 3 minutes after cleaning.

3 Use a clean degreased cotton or brush to evenly and thinly apply the bottom coat of polyurethane glass adhesive to the pre bonding area of the body sheet metal.

caution

After coating, let it dry for at least 30 seconds.

4 Apply polyurethane glass adhesive evenly to the glass bonding position.

caution

The glue nozzle of the glue gun needs to be cut with an art knife according to the standard.

5 Attach the glass suction cup to the outer curved surface of the glass, align one of the clips with the corresponding body sheet metal hole, then align the diagonal clips with the corresponding sheet metal hole, and evenly press the entire circumference to ensure that the locating clips are effectively engaged with the body sheet metal.

caution

To ensure that the glass is not damaged, two people need to simultaneously grab the suction cup for operation.

6 Install the left A-pillar outer trim assembly.

7 Install the left fender assembly.

8 Install the left fender trim strip.

9 Install the front windshield cover plate assembly.

10 Install the left front wheel housing body.

11 Install the primary wiper arm blade assembly (nozzle and hose).

12 Install the left physical exterior rearview mirror assembly.

13 Install the engine compartment trim panel body.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

6.8.3.5 Replacement of Right Front Triangular Window Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the right triangular cover plate assembly.

6 Remove the right front wheel housing body.

7 Remove the primary wiper arm blade assembly (nozzle and hose).

8 Remove the front windshield cover plate assembly.

9 Remove the right fender trim strip.

10 Remove the right fender assembly.

11 Remove the right A-pillar outer trim assembly.



12 Clear away the glass debris inside and outside the vehicle.

caution

Do not sweep debris, or score or scratch the vehicle body.

13 Use an extended straight screwdriver to thread through the windshield sealant.

caution

Install the floor mat, driver seat cover, sleeper protective cover, and other protective measures inside the cab.

14 Extend the wire rope through the glass adhesive, pull out the joint of the wire rope at the other end, and cooperate with the personnel inside and outside the cab to pull the two ends of the wire rope and cut the glass adhesive.

caution

Before using the wire rope to pull and cut glass sealant, the wire rope shall be wrapped around a wooden stick before operation to avoid hand injury. Personnel working at heights outside the cab must take necessary safety precautions.



15 Remove the right front triangular window assembly using the suction cup.

caution

Wear goggles and cut resistant gloves when removing glass. Damaged glass can be removed using a rubber hammer and cutting knife.

Installation Procedures

1 Move the right front triangular window assembly to the mounting position.

2 Clean the bonding surfaces of the window frame and glass separately with activated cleaning agents.

caution

Dry for 3 minutes after cleaning.

3 Use a clean degreased cotton or brush to evenly and thinly apply the bottom coat of polyurethane glass adhesive to the pre bonding area of the body sheet metal.

caution

After coating, let it dry for at least 30 seconds.

4 Apply polyurethane glass adhesive evenly to the glass bonding position.

caution

The glue nozzle of the glue gun needs to be cut with an art knife according to the standard.

5 Attach the glass suction cup to the outer curved surface of the glass, align one of the clips with the corresponding body sheet metal hole, then align the diagonal clips with the corresponding sheet metal hole, and evenly press the entire circumference to ensure that the locating clips are effectively engaged with the body sheet metal.

caution

To ensure that the glass is not damaged, two people need to simultaneously grab the suction cup for operation.

6 Install the right A-pillar outer trim assembly.

7 Install the right fender assembly.

8 Install the right fender trim strip.

9 Install the front windshield cover plate assembly.

10 Install the right front wheel housing body.

11 Install the primary wiper arm blade assembly (nozzle and hose).

12 Install the right triangular cover plate assembly.

13 Install the engine compartment trim panel body.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

6.8.3.6 Replacement of Left Rear Quadrangle Window Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the front USB interface.

6 Remove the IP left access cover plate assembly.

7 Remove the left switch panel assembly.

8 Remove the left switch panel lower trim panel assembly.

9 Remove the IP left lower trim panel assembly.

10 Remove the left middle side wall lower trim panel assembly.

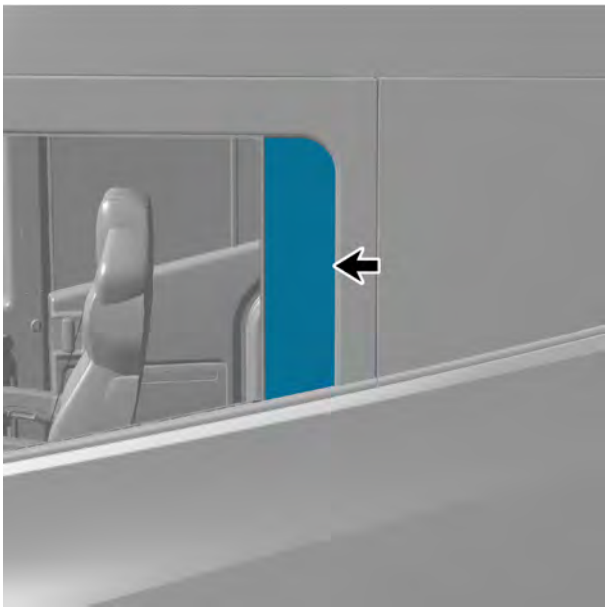
11 Remove the left middle side wall middle trim panel assembly.

12 Remove the left body waterproof membrane (I).

13 Remove the window regulator left lower mounting rail assembly.

14 Remove the left glass run assembly.

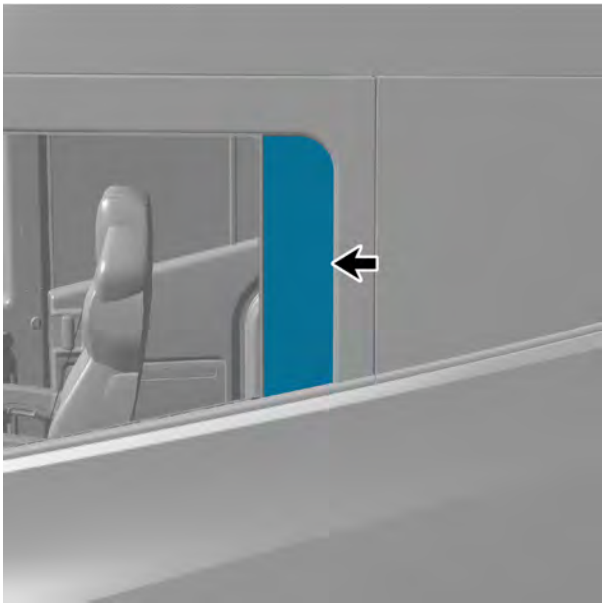
15 Remove the window regulator left mounting rail assembly.



16 Remove the left quadrangle window sealing strip.

17 Remove the left rear quadrangle window assembly.

Installation Procedures



1 Install the left rear quadrangle window assembly.

2 Install the left quadrangle window sealing strip.

3 Install the window regulator left mounting rail assembly.

4 Install the left glass run assembly.

5 Install the window regulator left lower mounting rail assembly.

6 Install the left body waterproof membrane (I).

7 Install the left middle side wall middle trim panel assembly.

8 Install the left middle side wall lower trim panel assembly.

9 Install the IP left lower trim panel assembly.

10 Install the left switch panel lower trim panel assembly.

11 Install the left switch panel assembly.

12 Install the IP left access cover plate assembly.

13 Install the front USB interface.

14 Install the IP left upper trim panel assembly.

15 Connect the battery negative cable.

16 Close the front flip cover plate.

17 Close the door.

6.8.3.7 Replacement of Right Rear Quadrangle Window Assembly

Removal Procedures

1 Open the door.

2 Remove the cable cover plate.

3 Remove the door protective plate assembly.

4 Remove the right body waterproof membrane (I).

5 Remove the right body waterproof membrane (II).

6 Remove the window regulator right lower mounting rail assembly.

7 Remove the right glass run assembly.

8 Remove the window regulator right mounting rail assembly.

9 Remove the right quadrangle window sealing strip.

10 Remove the right rear quadrangle window assembly.



Installation Procedures



1 Install the right rear quadrangle window assembly.

2 Install the right quadrangle window sealing strip.

3 Install the window regulator right mounting rail assembly.

4 Install the right glass run assembly.

5 Install the window regulator right lower mounting rail assembly.

6 Install the right body waterproof membrane (II).

7 Install the right body waterproof membrane (I).

8 Install the door protective plate assembly.

9 Install the cable cover plate.

10 Close the door.

6.8.3.8 Replacement of Awning Glass Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

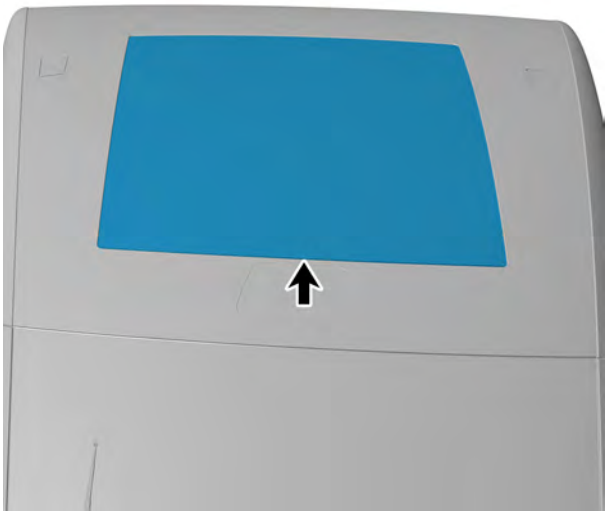
5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

8 Remove the sunshade cover plate assembly.

9 Remove the left ceiling lamp.



10 Remove the right ceiling lamp.

11 Remove the middle ceiling assembly.

12 Remove the awning sunshade assembly.

13 Clear away the glass debris inside and outside the vehicle.

caution

Do not sweep debris, or score or scratch the vehicle body.

14 Use an extended straight screwdriver to thread through the windshield sealant.

caution

Install the floor mat, driver seat cover, sleeper protective cover, and other protective measures inside the cab.

15 Extend the wire rope through the glass adhesive, pull out the joint of the wire rope at the other end, and cooperate with the personnel inside and outside the cab to pull the two ends of the wire rope and cut the glass adhesive.

caution

Before using the wire rope to pull and cut glass sealant, the wire rope shall be wrapped around a wooden stick before operation to avoid hand injury. Personnel working at heights outside the cab must take necessary safety precautions.

16 Remove the awning glass assembly using the suction cup.

caution

Wear goggles and cut resistant gloves when removing glass. Damaged glass can be removed using a rubber hammer and cutting knife.

Installation Procedures



1 Move the awning glass assembly to the mounting position.

2 Clean the bonding surfaces of the window frame and glass separately with activated cleaning agents.

caution

Dry for 3 minutes after cleaning.

3 Use a clean degreased cotton or brush to evenly and thinly apply the bottom coat of polyurethane glass adhesive to the pre bonding area of the body sheet metal.

caution

After coating, let it dry for at least 30 seconds.

4 Apply polyurethane glass adhesive evenly to the glass bonding position.

caution

The glue nozzle of the glue gun needs to be cut with an art knife according to the standard.

5 Attach the glass suction cup to the outer curved surface of the glass, align one of the clips with the corresponding body sheet metal hole, then align the diagonal clips with the corresponding sheet metal hole, and evenly press the entire circumference to ensure that the locating clips are effectively engaged with the body sheet metal.

caution

To ensure that the glass is not damaged, two people need to simultaneously grab the suction cup for operation.

6 Install the awning sunshade assembly.

7 Install the middle ceiling assembly.

8 Install the right ceiling lamp.

9 Install the left ceiling lamp.

10 Install the sunshade cover plate assembly.

11 Install the front camera trim cover assembly.

12 Install the sunshade rail assembly.

13 Install the right A-pillar protective plate assembly.

14 Install the left A-pillar protective plate assembly.

15 Connect the battery negative cable.

16 Close the front flip cover plate.

17 Close the door.

6.8.3.9 Replacement of Left Side Wall Quadrangle Window

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the left A-pillar protective plate assembly.

6 Remove the left front side wall protective plate assembly.

7 Remove the front USB interface.

8 Remove the IP left access cover plate assembly.

9 Remove the left switch panel assembly.

10 Remove the left switch panel lower trim panel assembly.

11 Remove the IP left lower trim panel assembly.

12 Remove the left middle side wall lower trim panel assembly.

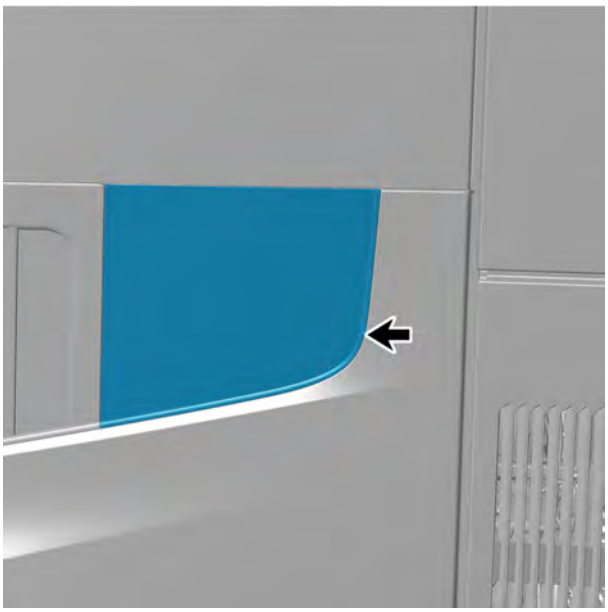
13 Remove the left middle side wall middle trim panel assembly.

14 Remove the left middle side wall protective plate assembly.

15 Remove the side wall clothes rail assembly.

16 Remove the left rear side wall protective plate assembly.

17 Remove the left side wall quadrangle window weatherstrip.



18 Clear away the glass debris inside and outside the vehicle.

caution

Do not sweep debris, or score or scratch the vehicle body.

19 Use an extended straight screwdriver to thread through the windshield sealant.

caution

Install the floor mat, driver seat cover, sleeper protective cover, and other protective measures inside the cab.

20 Extend the wire rope through the glass adhesive, pull out the joint of the wire rope at the other end, and cooperate with the personnel inside and outside the cab to pull the two ends of the wire rope and cut the glass adhesive.

caution

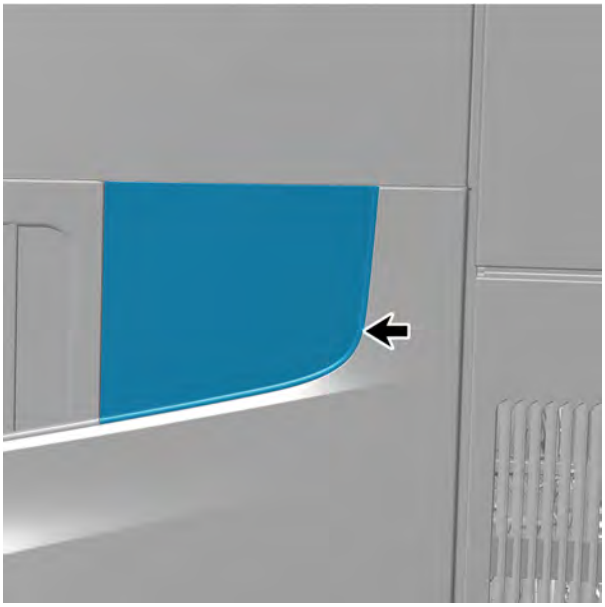
Before using the wire rope to pull and cut glass sealant, the wire rope shall be wrapped around a wooden stick before operation to avoid hand injury. Personnel working at heights outside the cab must take necessary safety precautions.

21 Remove the left side wall quadrangle window using the suction cup.

caution

Wear goggles and cut resistant gloves when removing glass. Damaged glass can be removed using a rubber hammer and cutting knife.

Installation Procedures



1 Move the left side wall quadrangle window to the mounting position.

2 Clean the bonding surfaces of the window frame and glass separately with activated cleaning agents.

caution

Dry for 3 minutes after cleaning.

3 Use a clean degreased cotton or brush to evenly and thinly apply the bottom coat of polyurethane glass adhesive to the pre bonding area of the body sheet metal.

caution

After coating, let it dry for at least 30 seconds.

4 Apply polyurethane glass adhesive evenly to the glass bonding position.

caution

The glue nozzle of the glue gun needs to be cut with an art knife according to the standard.

5 Attach the glass suction cup to the outer curved surface of the glass, align one of the clips with the corresponding body sheet metal hole, then align the diagonal clips with the corresponding sheet metal hole, and evenly press the entire circumference to ensure that the locating clips are effectively engaged with the body sheet metal.

caution

To ensure that the glass is not damaged, two people need to simultaneously grab the suction cup for operation.

6 Install the left side wall quadrangle window weatherstrip.

7 Install the left rear side wall protective plate assembly.

8 Install the side wall clothes rail assembly.

9 Install the left middle side wall protective plate assembly.

10 Install the left middle side wall middle trim panel assembly.

11 Install the left middle side wall lower trim panel assembly.

12 Install the IP left lower trim panel assembly.

13 Install the left switch panel lower trim panel assembly.

14 Install the left switch panel assembly.

15 Install the IP left access cover plate assembly.

16 Install the front USB interface.

17 Install the left front side wall protective plate assembly.

18 Install the left A-pillar protective plate assembly.

19 Install the IP left upper trim panel assembly.

20 Connect the battery negative cable.

21 Close the front flip cover plate.

22 Close the door.

6.8.3.10 Replacement of Right Side Wall Quadrangle Window

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

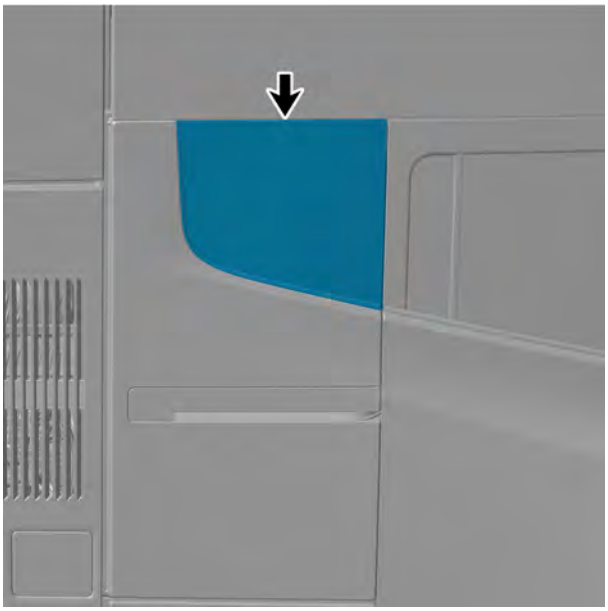
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right sill molding assembly.

5 Remove the door opening sealing strip assembly.

6 Remove the safety hammer fixing bracket.



7 Remove the rear boarding handrail assembly.

8 Remove the SSM.

9 Remove the right rear side wall protective plate assembly.

10 Remove the right side wall quadrangle window weatherstrip.

11 Clear away the glass debris inside and outside the vehicle.

caution

Do not sweep debris, or score or scratch the vehicle body.

12 Use an extended straight screwdriver to thread through the windshield sealant.

caution

Install the floor mat, driver seat cover, sleeper protective cover, and other protective measures inside the cab.

13 Extend the wire rope through the glass adhesive, pull out the joint of the wire rope at the other end, and cooperate with the personnel inside and outside the cab to pull the two ends of the wire rope and cut the glass adhesive.

caution

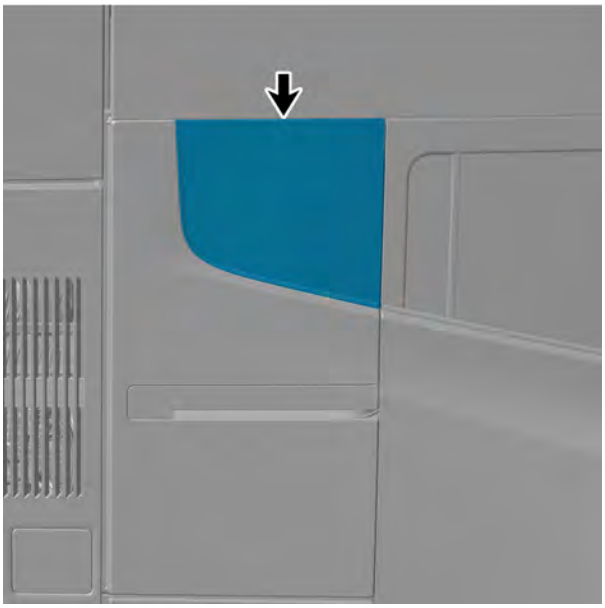
Before using the wire rope to pull and cut glass sealant, the wire rope shall be wrapped around a wooden stick before operation to avoid hand injury. Personnel working at heights outside the cab must take necessary safety precautions.

14 Remove the right side wall quadrangle window using the suction cup.

caution

Wear goggles and cut resistant gloves when removing glass. Damaged glass can be removed using a rubber hammer and cutting knife.

Installation Procedures



1 Move the right side wall quadrangle window to the mounting position.

2 Clean the bonding surfaces of the window frame and glass separately with activated cleaning agents.

caution

Dry for 3 minutes after cleaning.

3 Use a clean degreased cotton or brush to evenly and thinly apply the bottom coat of polyurethane glass adhesive to the pre bonding area of the body sheet metal.

caution

After coating, let it dry for at least 30 seconds.

4 Apply polyurethane glass adhesive evenly to the glass bonding position.

caution

The glue nozzle of the glue gun needs to be cut with an art knife according to the standard.

5 Attach the glass suction cup to the outer curved surface of the glass, align one of the clips with the corresponding body sheet metal hole, then align the diagonal clips with the corresponding sheet metal hole, and evenly press the entire circumference to ensure that the locating clips are effectively engaged with the body sheet metal.

caution

To ensure that the glass is not damaged, two people need to simultaneously grab the suction cup for operation.

6 Install the right side wall quadrangle window weatherstrip.

7 Install the right rear side wall protective plate assembly.

8 Install the SSM.

9 Install the rear boarding handrail assembly.

10 Install the safety hammer fixing bracket.

11 Install the door opening sealing strip assembly.

12 Install the right sill molding assembly.

13 Connect the battery negative cable.

14 Close the front flip cover plate.

15 Close the door.

6.9 A-Pillar Exterior Trim Panel Device

6.9.1 Dismantling and Installation

6.9.1.1 Replacement of Left A-pillar Outer Trim Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the negative cable of the storage battery.

caution

power down the high-voltage system before disconnecting the negative terminal of the storage battery.

4 Remove the a-pillar guard assy-lh.

5 Remove the engine compartment trim panel body.

6 Remove the left physical exterior rearview mirror assembly.

7 Remove the left front wheel housing body.

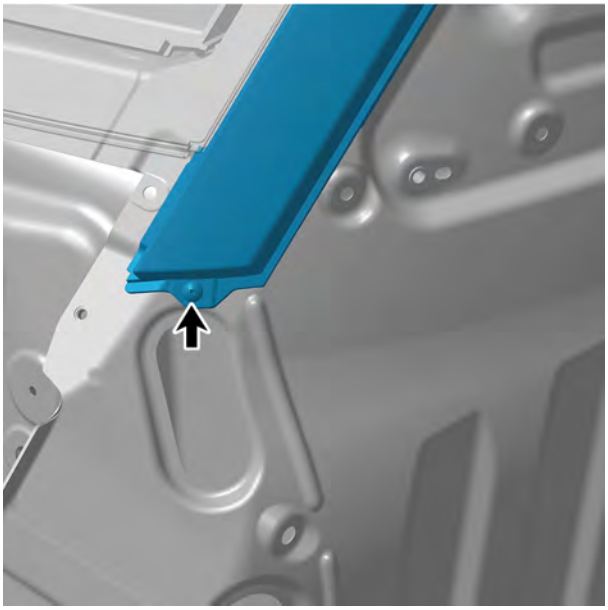
8 Remove the primary wiper arm blade assembly (nozzle and hose).

9 Remove the front windshield cover plate assembly.

10 Remove the left fender trim strip.

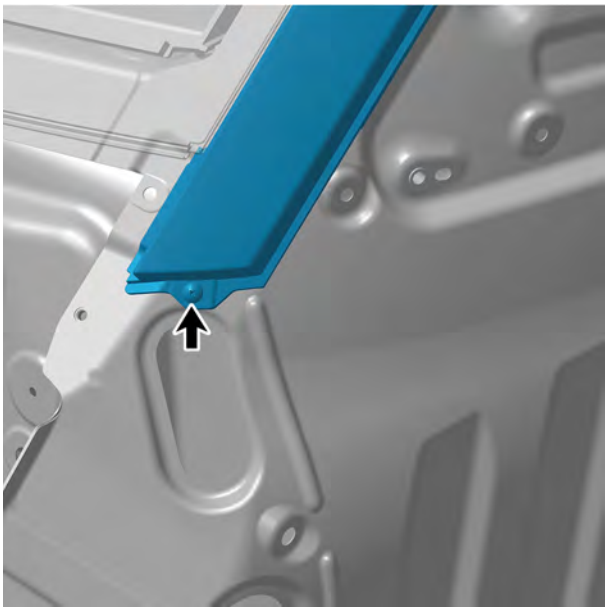
11 Remove the left fender assembly.

12 Remove 1 fixing screw of the left A-pillar outer trim assembly.



13 Remove the left A-pillar outer trim assembly.

Installation Procedures



1 Move the left A-pillar outer trim assembly to the mounting position.

2 Install 1 fixing screw of the left A-pillar outer trim assembly.

3 Install the left fender assembly.

4 Install the left fender trim strip.

5 Install the front windshield cover plate assembly.

6 Install the left front wheel housing body.

7 Install the primary wiper arm blade assembly (nozzle and hose).

8 Install the left physical exterior rearview mirror assembly.

9 Install the engine compartment trim panel body.

10 Install the a-pillar guard assy-lh.

11 Connect the negative cable of the storage battery.

12 Close the front flip cover plate.

13 Close the door.

6.9.1.2 Replacement of Right A-pillar Outer Trim Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the negative cable of the storage battery.

caution

power down the high-voltage system before disconnecting the negative terminal of the storage battery.

4 Remove the a-pillar guard assy-rh.

5 Remove the engine compartment trim panel body.

6 Remove the right triangular cover plate assembly.

7 Remove the right front wheel housing body.

8 Remove the primary wiper arm blade assembly (nozzle and hose).

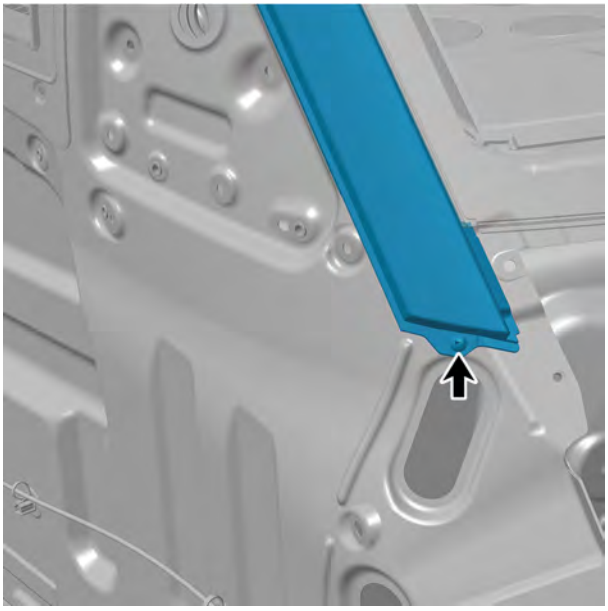
9 Remove the front windshield cover plate assembly.

10 Remove the right fender trim strip.

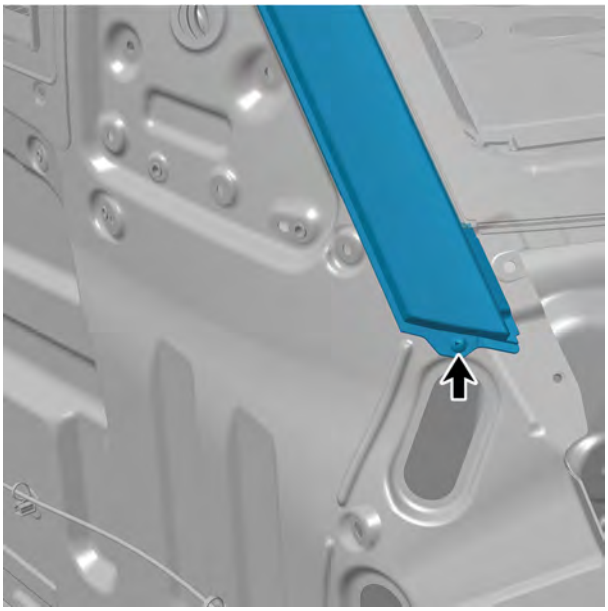
11 Remove the right fender assembly.

12 Remove 1 fixing screw of the right A-pillar outer trim assembly.

13 Remove the right A-pillar outer trim assembly.



Installation Procedures



1 Move the right A-pillar outer trim assembly to the mounting position.

2 Install 1 fixing screw of the right A-pillar outer trim assembly.

3 Install the right fender assembly.

4 Install the right fender trim strip.

5 Install the front windshield cover plate assembly.

6 Install the primary wiper arm blade assembly (nozzle and hose).

7 Install the right front wheel housing body.

8 Install the right triangular cover plate assembly.

9 Install the engine compartment trim panel body.

10 Install the a-pillar guard assy-rh.

11 Connect the negative cable of the storage battery.

12 Close the front flip cover plate.

13 Close the door.

6.10 Roof Cabinet Device

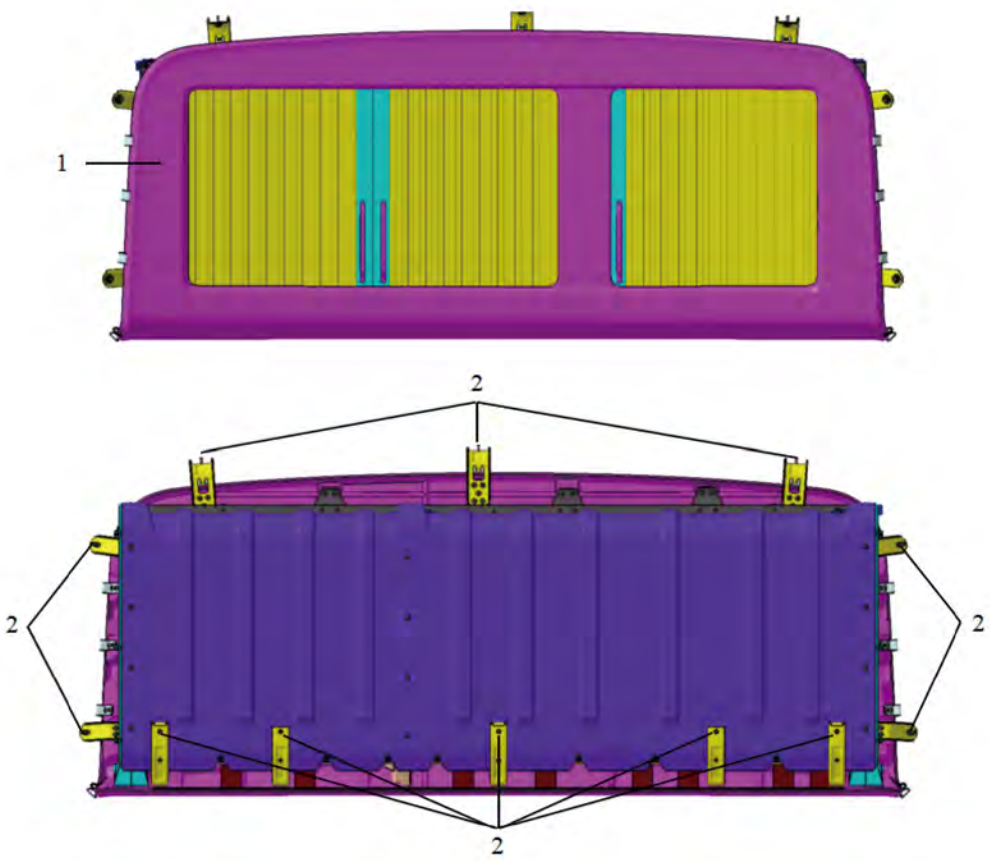
6.10.1 specifications

6.10.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the top cabinet assembly and the top cover assembly	M8	(18.5 +/- 2) ft lbs

6.10.2 Decomposition Diagram

6.10.2.1 Decomposition Diagram



1. Top Cabinet Assy
2. Assembly of Hexagon Head Bolts and Plain Washers

6.10.3 Dismantling and Installation

6.10.3.1 Replacement of Top Cabinet Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

8 Remove the sunshade cover plate assembly.

9 Remove the left ceiling lamp.

10 Remove the right ceiling lamp.

11 Remove the curtain rail assembly.

12 Remove the middle ceiling assembly.

13 Remove the left middle side wall lower trim panel assembly.

14 Remove the left middle side wall middle trim panel assembly.

15 Remove the left B-pillar upper protective plate assembly.

16 Remove the left middle side wall protective plate assembly.

17 Remove the side wall clothes rail assembly.

18 Remove the left rear side wall protective plate assembly.

19 Remove the left speaker cover.

20 Remove the left ceiling assembly.

21 Remove the right sill molding assembly.

22 Remove the door opening sealing strip assembly.

23 Remove the safety hammer fixing bracket.

24 Remove the rear boarding handrail assembly.

25 Remove the SSM.

26 Remove the right rear side wall protective plate assembly.

27 Remove the sleeper reading lamp.

28 Remove the right speaker cover.





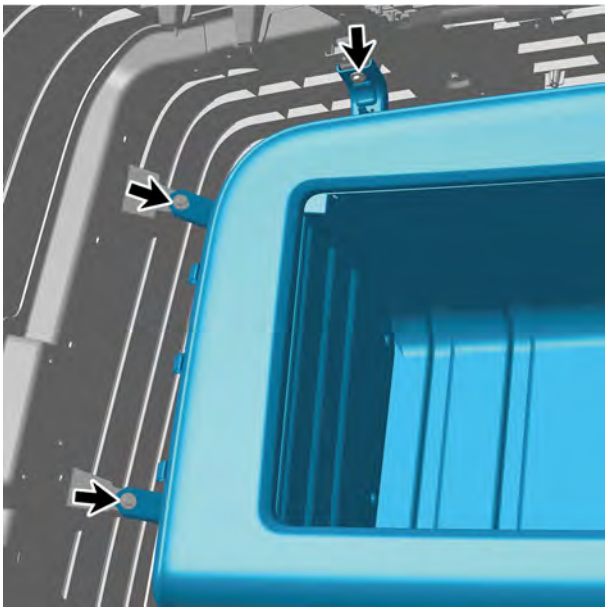
29 Remove the right ceiling assembly.

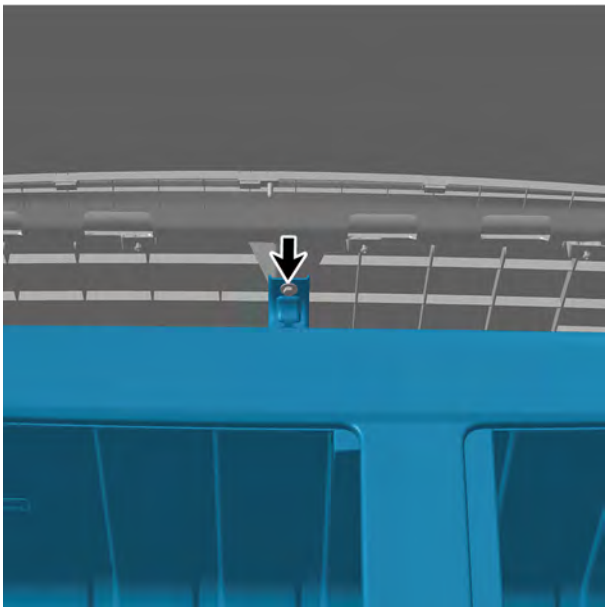
30 Remove the top cabinet lamp.

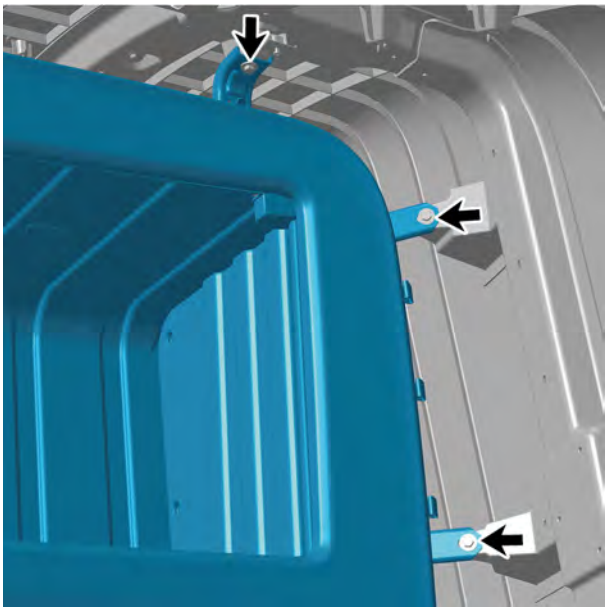
31 Remove 12 fixing bolts of the top cabinet assembly, and remove the top cabinet assembly.

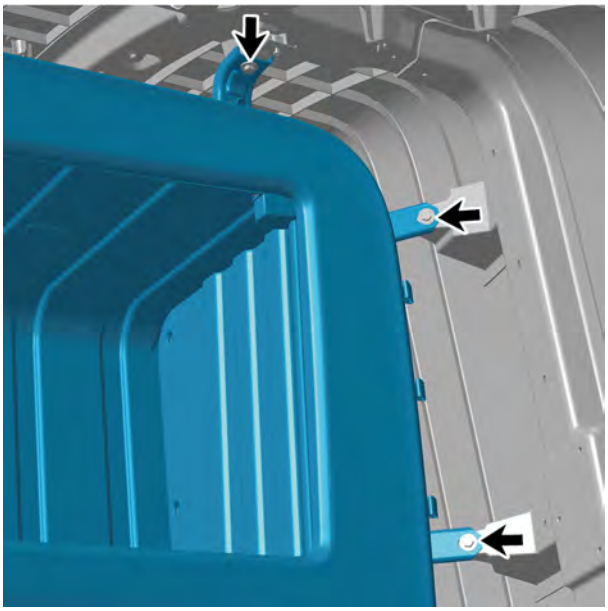
caution

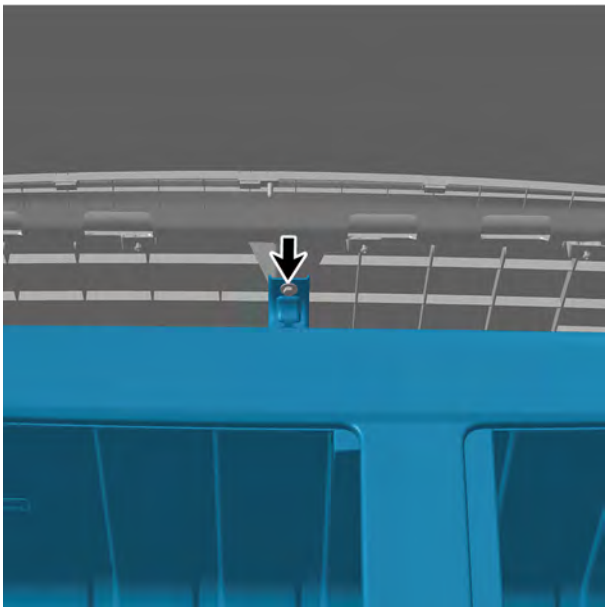
Due to the heavy weight of the top cabinet assembly, it shall be removed with the help of an assistant.











Installation Procedures

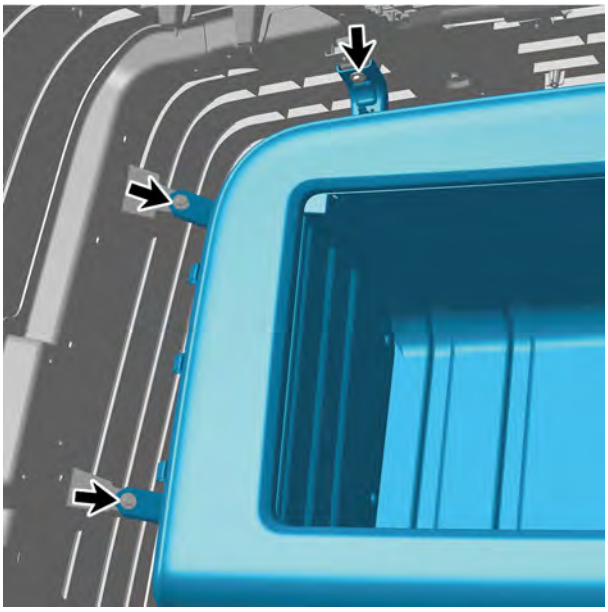
1 Move the top cabinet assembly to the mounting position.

caution

Due to the heavy weight of the top cabinet assembly, it shall be moved to the mounting position with the help of an assistant.

2 Install 12 fixing bolts of the top cabinet assembly.

Torque:(18 ft-lb +/- 2 ft-lb) ft-lb







3 Install the top cabinet lamp.
4 Install the right ceiling assembly.
5 Install the right speaker cover.
6 Install the sleeper reading lamp.
7 Install the right rear side wall protective plate assembly.
8 Install the SSM.
9 Install the rear boarding handrail assembly.
10 Install the safety hammer fixing bracket.
11 Install the door opening sealing strip assembly.
12 Install the right sill molding assembly.
13 Install the left ceiling assembly.
14 Install the left speaker cover.
15 Install the left rear side wall protective plate assembly.
16 Install the side wall clothes rail assembly.
17 Install the left middle side wall protective plate assembly.
18 Install the left B-pillar upper protective plate assembly.
19 Install the left middle side wall middle trim panel assembly.
20 Install the left middle side wall lower trim panel assembly.
21 Install the middle ceiling assembly.
22 Install the curtain rail assembly.
23 Install the right ceiling lamp.
24 Install the left ceiling lamp.
25 Install the sunshade cover plate assembly.
26 Install the front camera trim cover assembly.
27 Install the sunshade rail assembly.
28 Install the right A-pillar protective plate assembly.
29 Install the left A-pillar protective plate assembly.
30 Connect the battery negative cable.
31 Close the front flip cover plate.
32 Close the door.

6.11 Dashboard Device

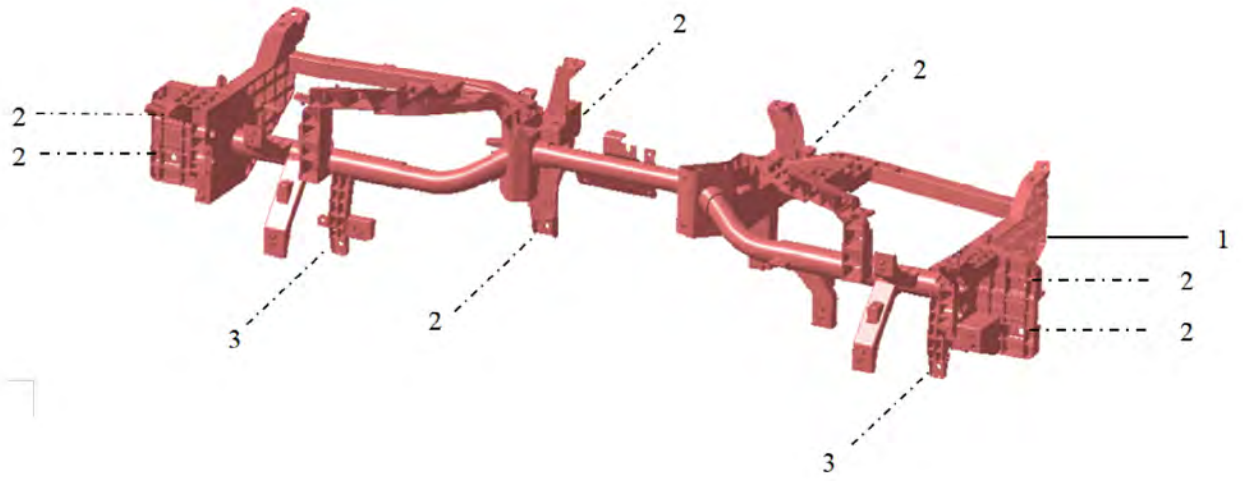
6.11.1 Specifications

6.11.1.1 Fastener Specifications

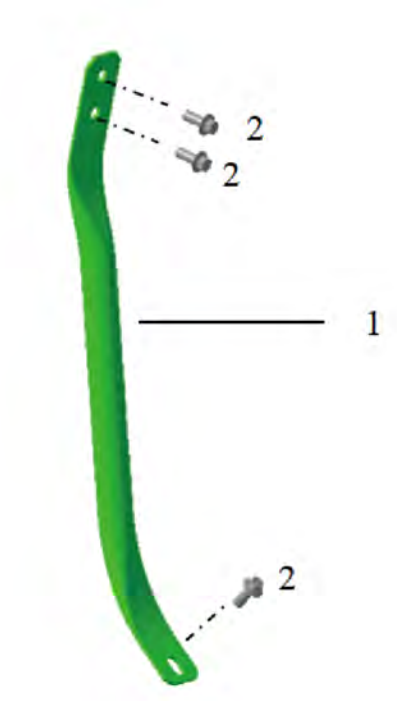
Fastener Specifications	Specifications	Range Of Torque
		Metric System (ft-lb)
The fixing bolts connecting the pipe beam assembly and the white body assembly assembly	M8	(18 ft-lb +/- 2 ft-lb) ft-lb
Fixed bolts connecting the pipe beam assembly and HVAC assembly (including PTC)	M6	(6.5 ft-lb +/- .75 ft-lb) ft-lb
The fixing bolt connecting the left lower trim assembly of the dashboard to the left lower fixing bracket	M6	(6.5 ft-lb +/- .75 ft-lb) ft-lb
The fixing bolt between the right storage box assembly and the storage box bracket assembly	M6	(6.5 ft-lb +/- .75 ft-lb) ft-lb

6.11.2 Decomposition Diagram

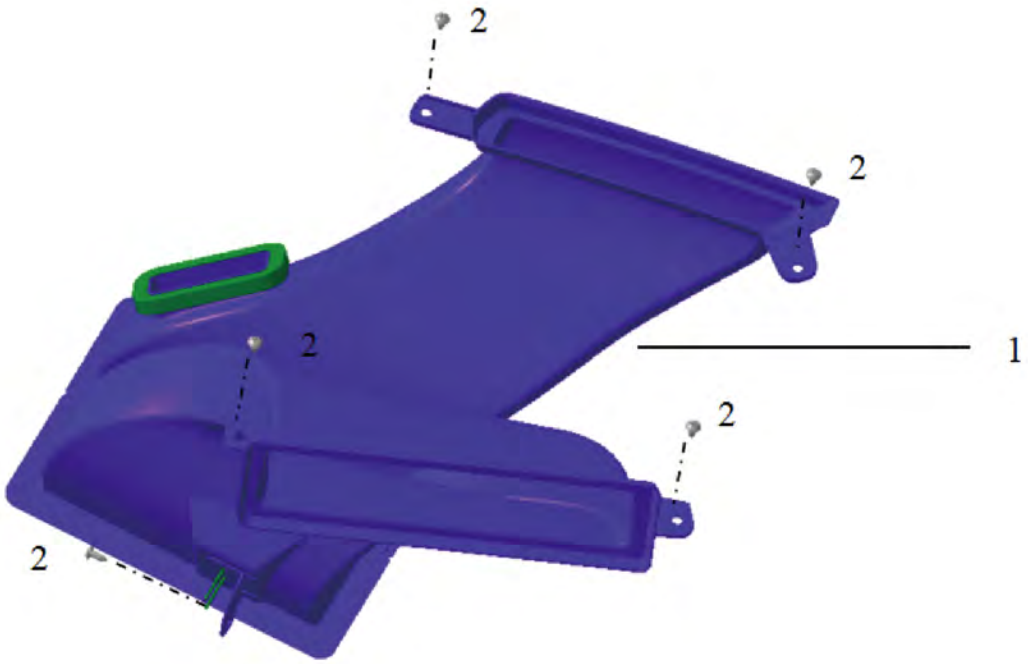
6.11.2.1 Decomposition Diagram



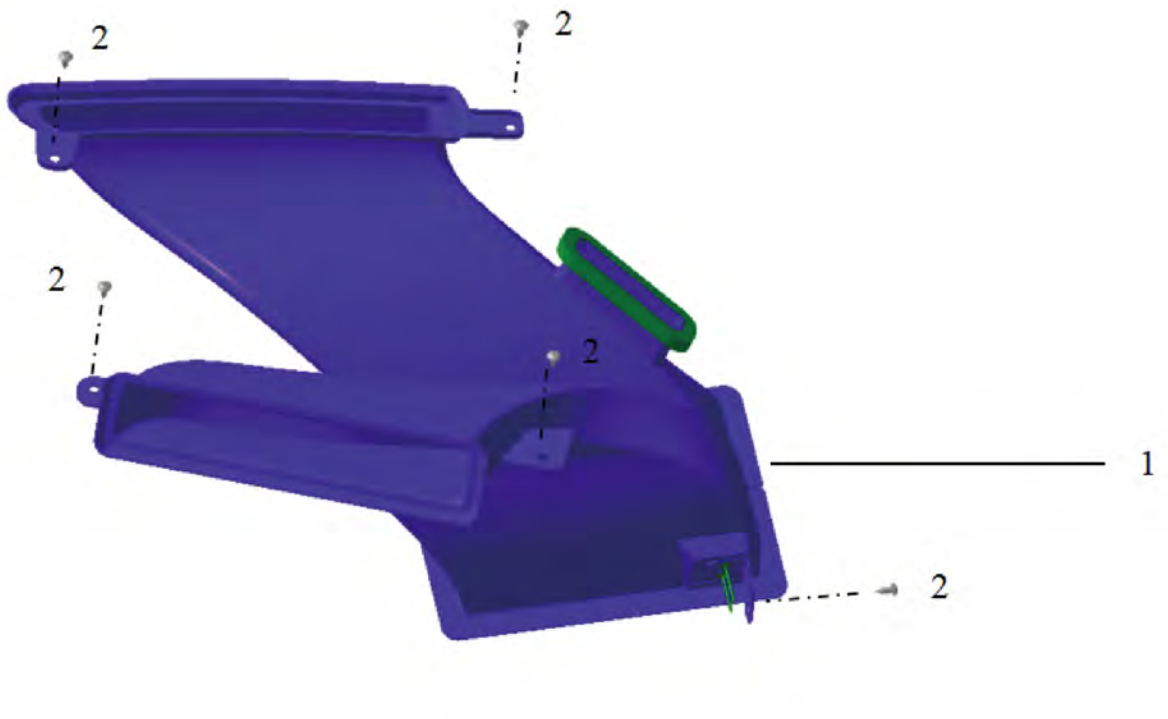
1. Cross Car Beam Assy
2. Hexagon Flange Bolt
3. Hexagon Flange Bolt



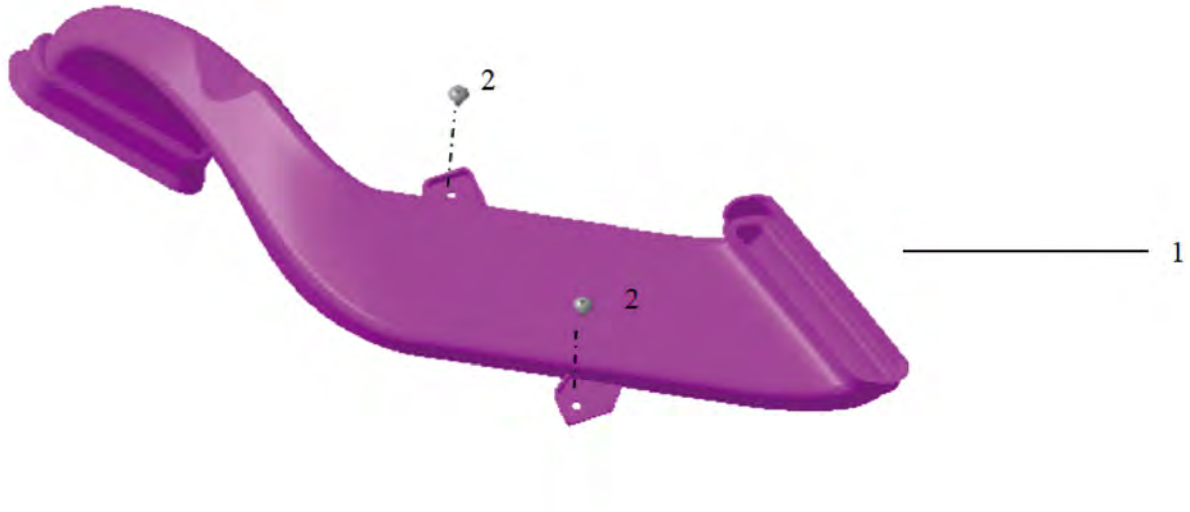
1. Cross Car Beam Pole
2. Hexagon Flange Bolt



1. Front Defrost Air Outlet Assy-Lh
2. Self-Tapping Screw



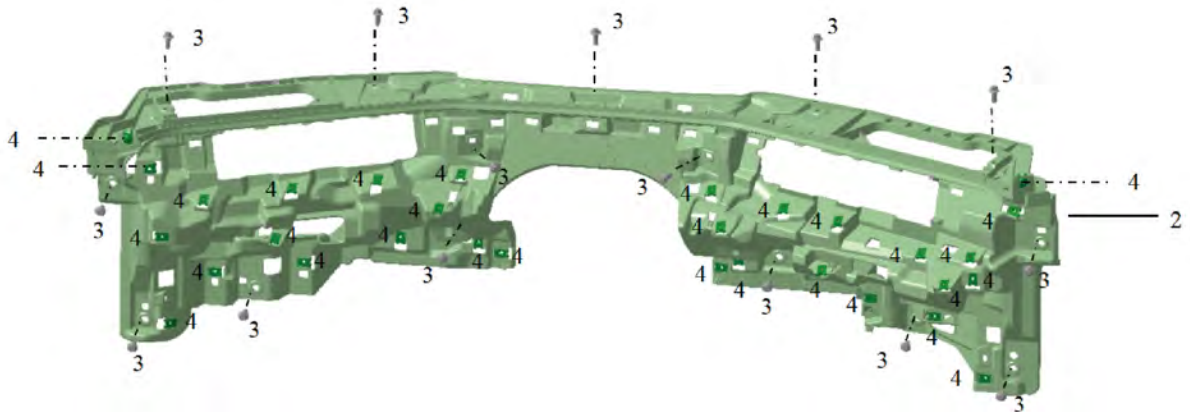
1. Front Defrost Vent Assy-Rh
2. Self-Tapping Screw



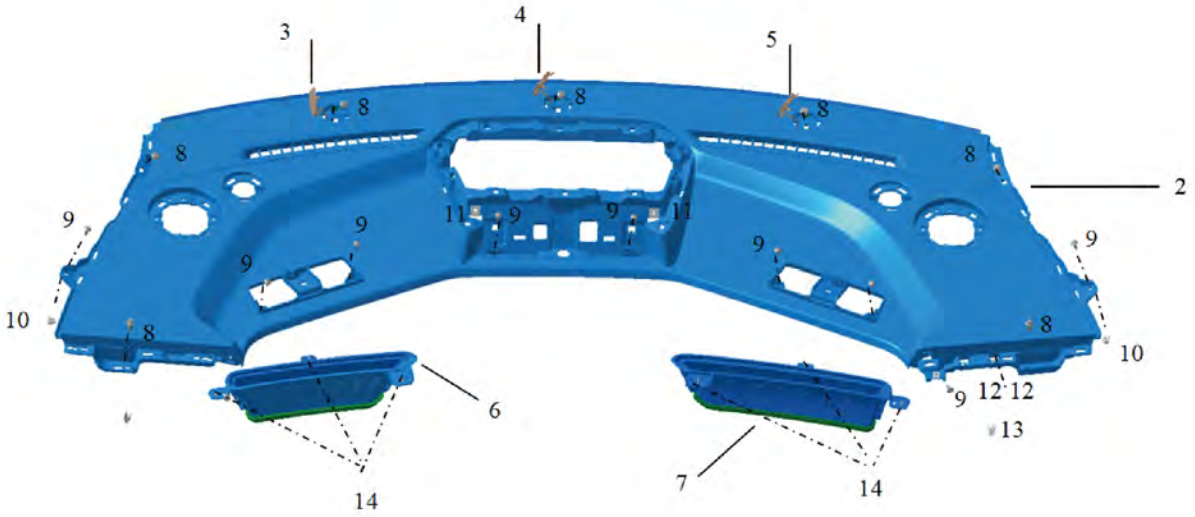
1. Duct Assy-Defrost Rh
2. Self-Tapping Screw



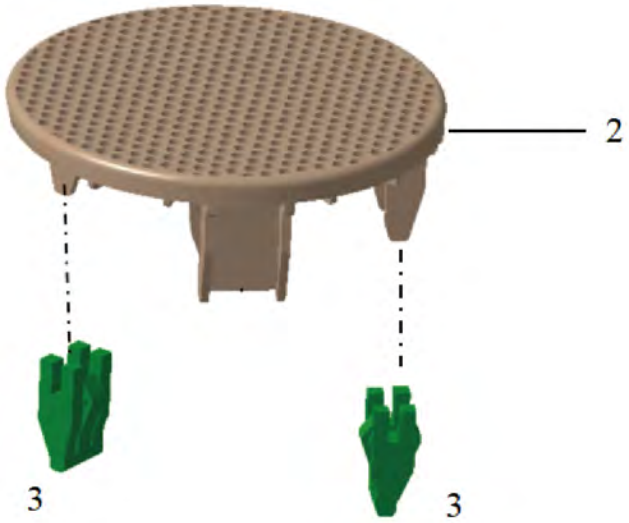
1. Defrost Duct Assy-Lh
2. Self-Tapping Screw



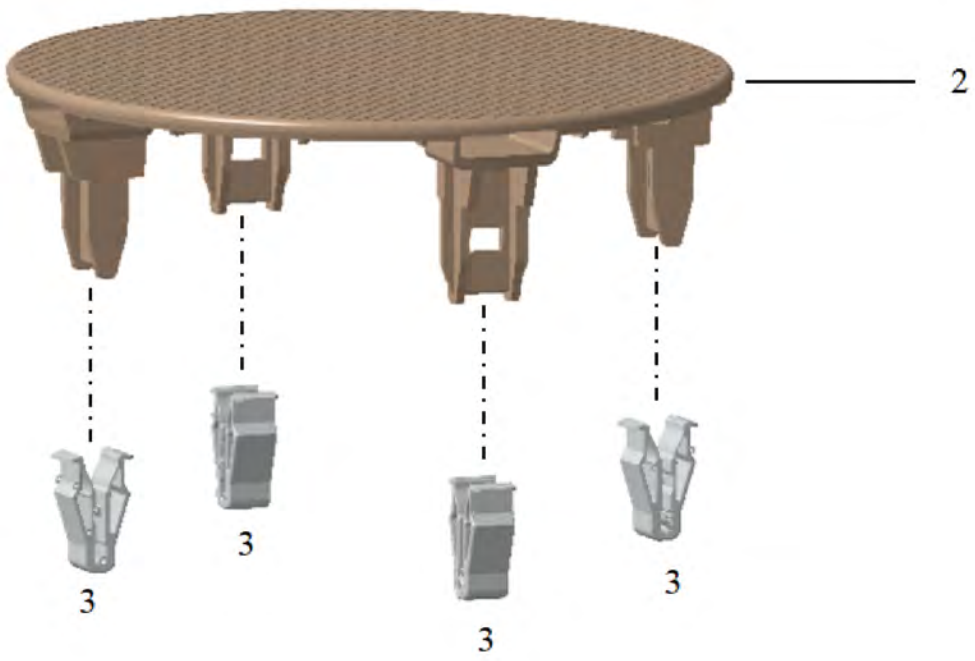
2. Lower Body of the Instrument Panel
3. Hexagon Flange Bolt
4. Reed Nut



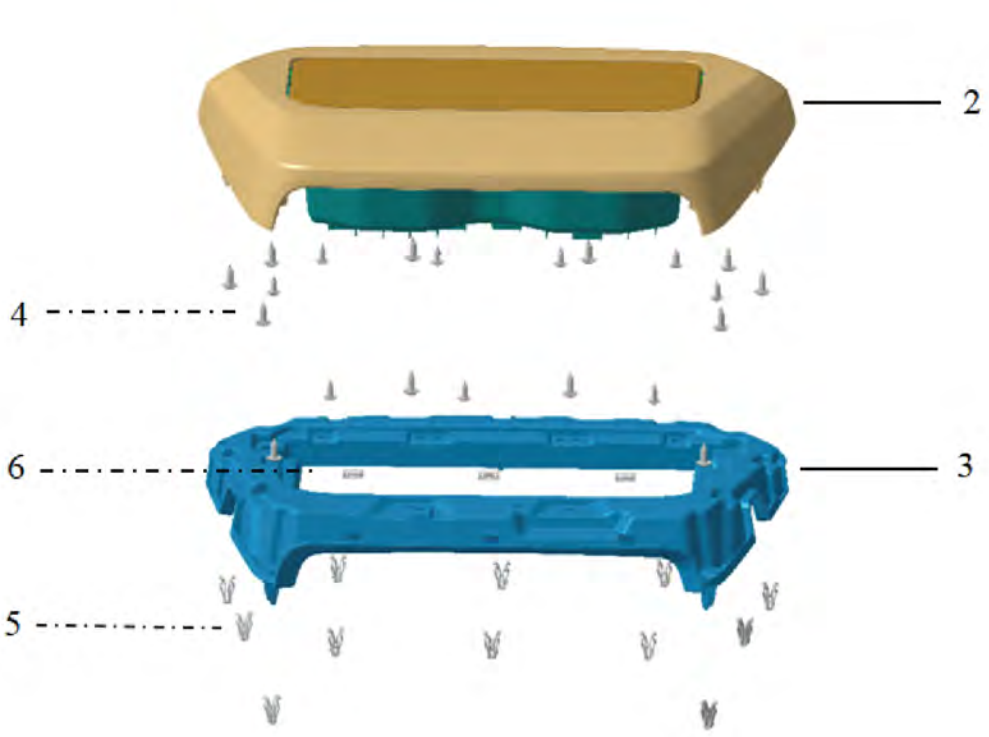
2.	Upper Body of the Instrument Panel	9.	Self-Tapping Screw
3.	Screw Cover on the Left Side of the Instrument Panel	10.	Plastic Nut
4.	Screw Cover in the Middle of the Instrument Panel	11.	Reed Nut
5.	Screw Cover on the Right Side of the Instrument Panel	12.	Reed Nut
6.	Defrost Air Outlet Assembly on the Left Side of the Instrument Panel	13.	Plastic Buckle
7.	Defrost air outlet assembly on the right side of the instrument panel	14.	Self-Tapping Screw
8.	Hexagon Flange Bolt		



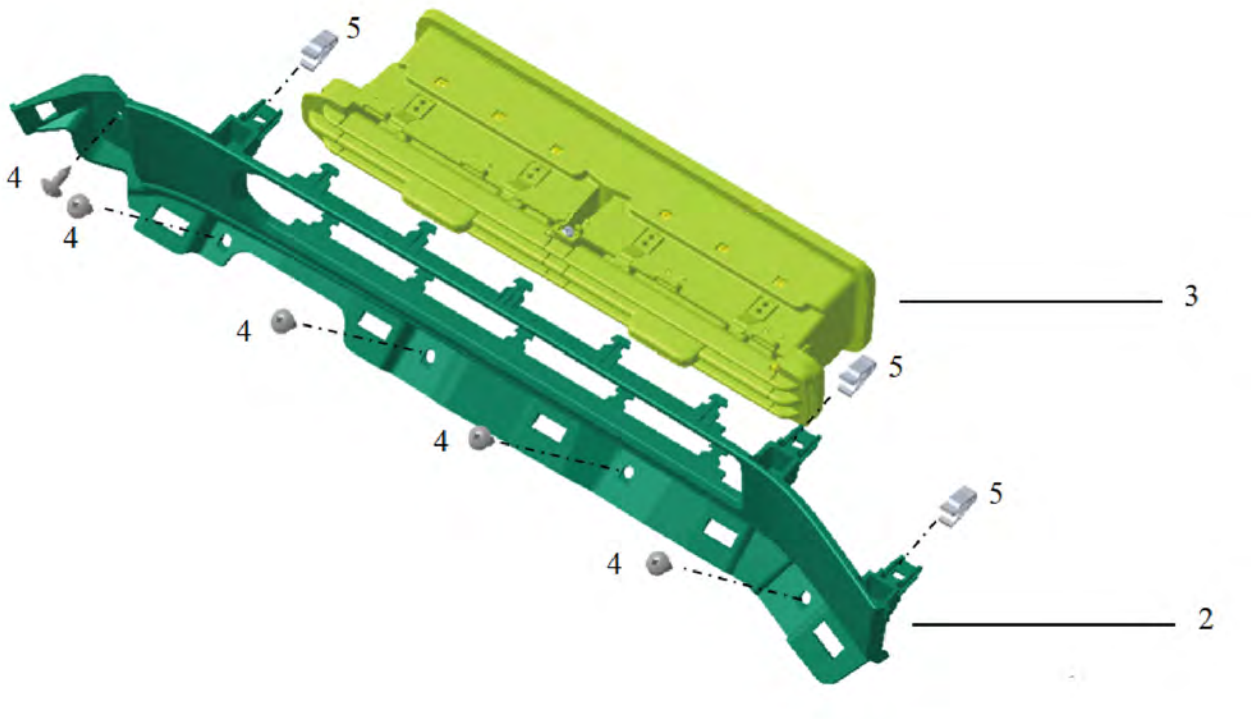
2. Tweeter Speaker Grille of the Instrument Panel
3. Reed Buckle



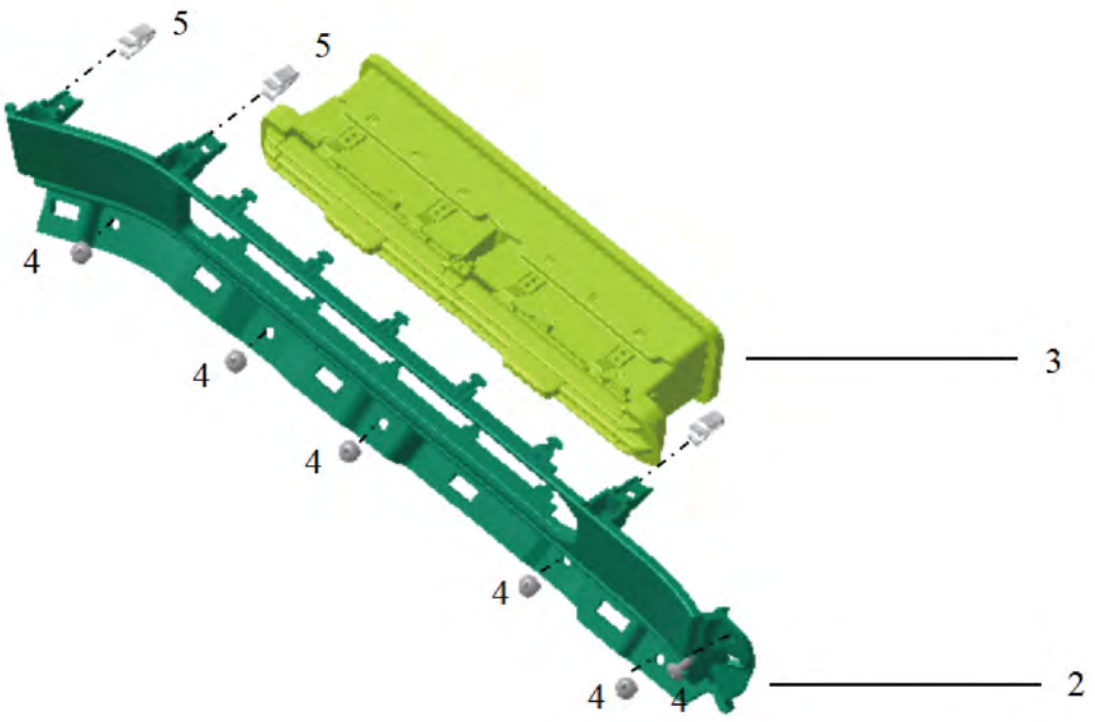
2. Midrange Speaker Grille of the Instrument Panel
3. Plastic Buckle



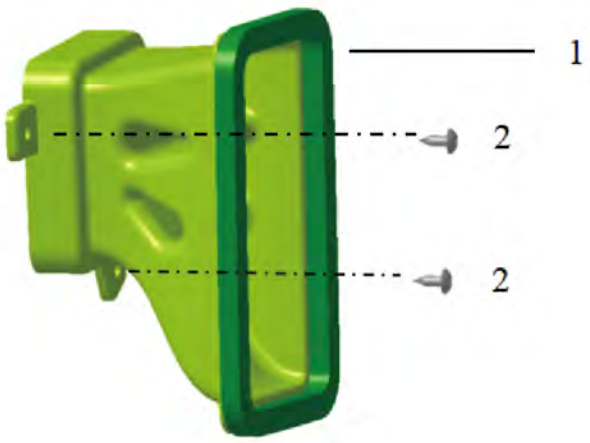
2. Visor Outer Panel Assembly of the Instrument Panel
3. Visor Inner Panel of the Instrument Panel
4. Self-Tapping Screw
5. Plastic Buckle
6. Metal Buckle



2. Decorative Panel of the Left Air Outlet
3. Left Air Outlet Assembly
4. Self-Tapping Screw
5. Plastic Buckle



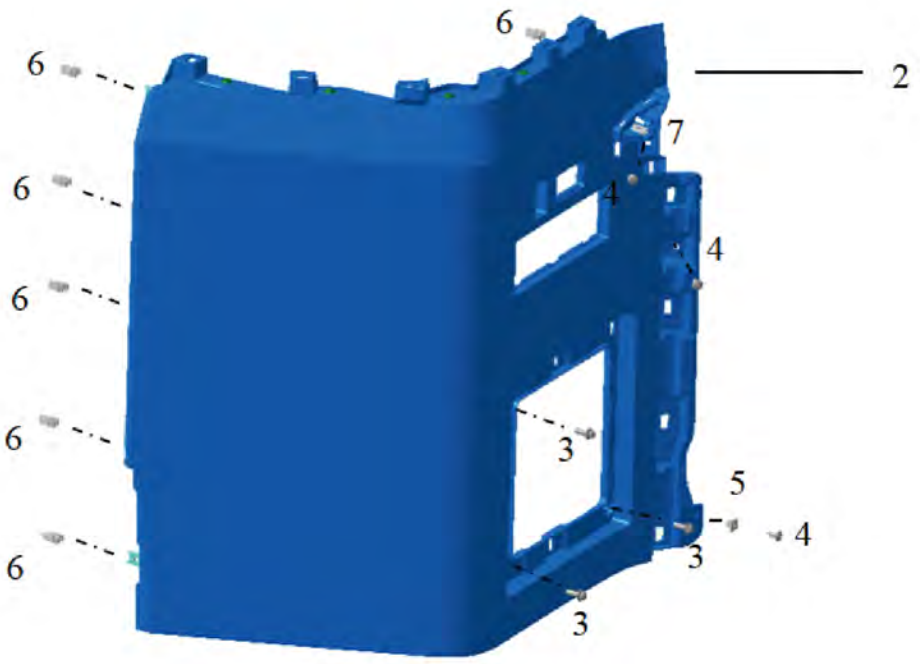
2. Decorative Panel of the Right Air Outlet
3. Right Air Outlet Assembly
4. Self-Tapping Screw
5. Plastic Buckle



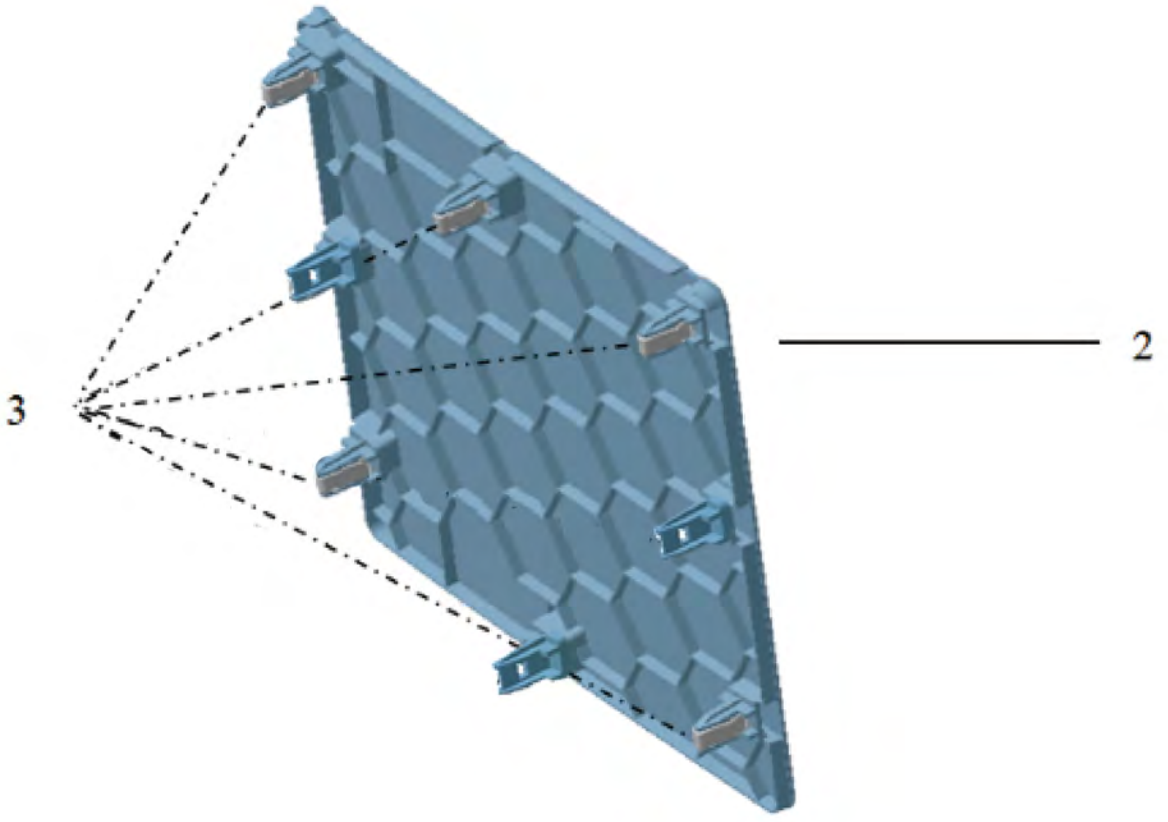
1. Side Blowing Air Duct Assy-Lh
2. Self-Tapping Screw



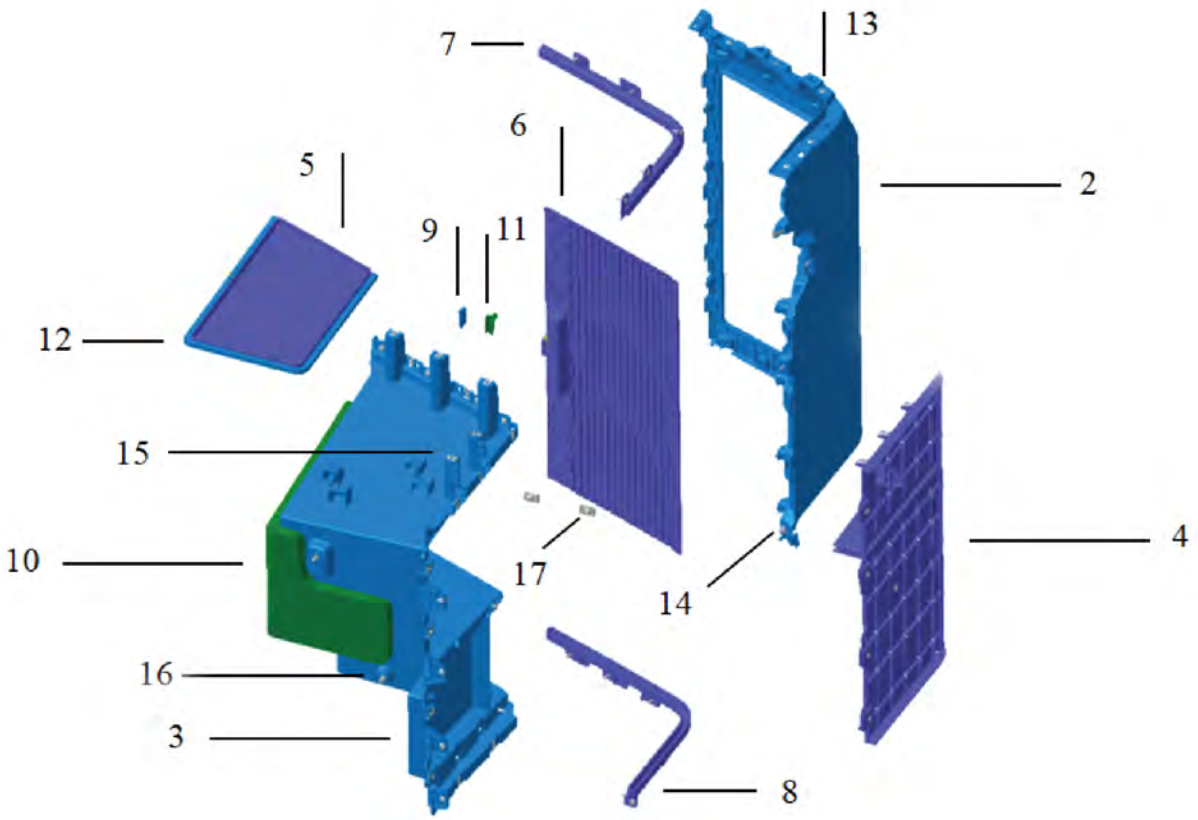
1. Blowing Air Duct Assy-Rh
2. Self-Tapping Screw



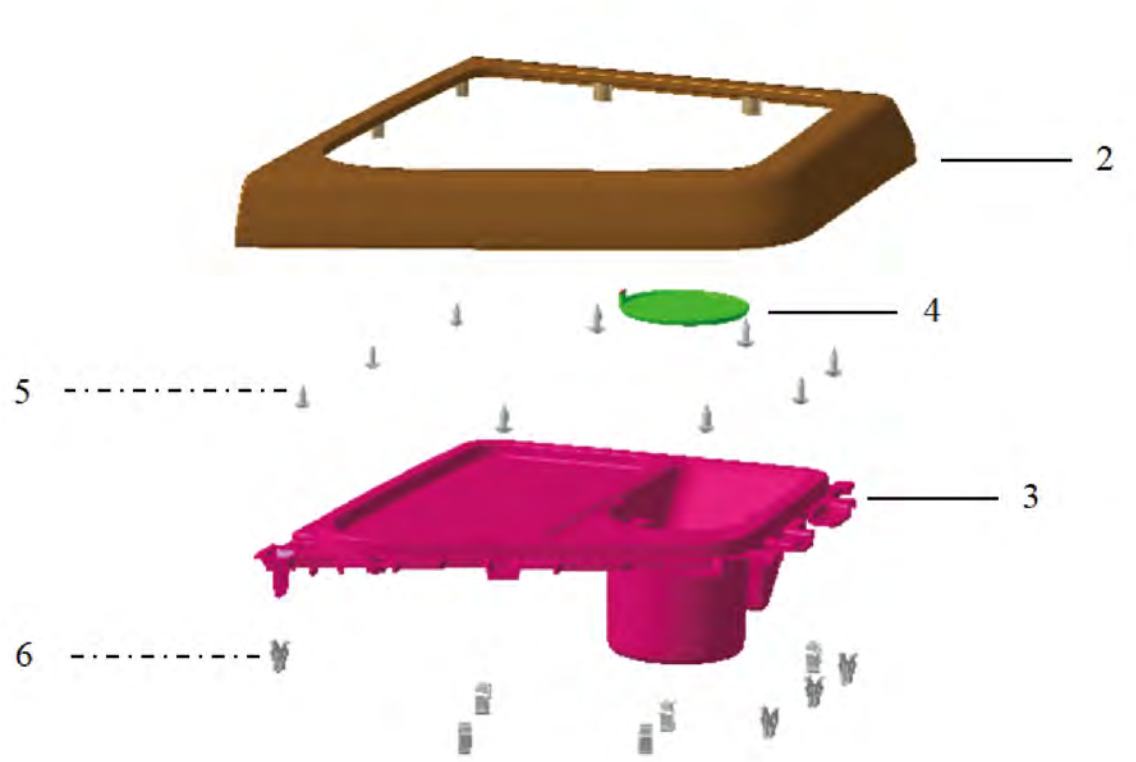
2.	Welded Assembly of the Left Lower Trim Panel of the Instrument Panel	5.	Plastic Nut
3.	Hexagon Flange Bolt	6.	Plastic Buckle
4.	Self-Tapping Screw	7.	Reed Nut



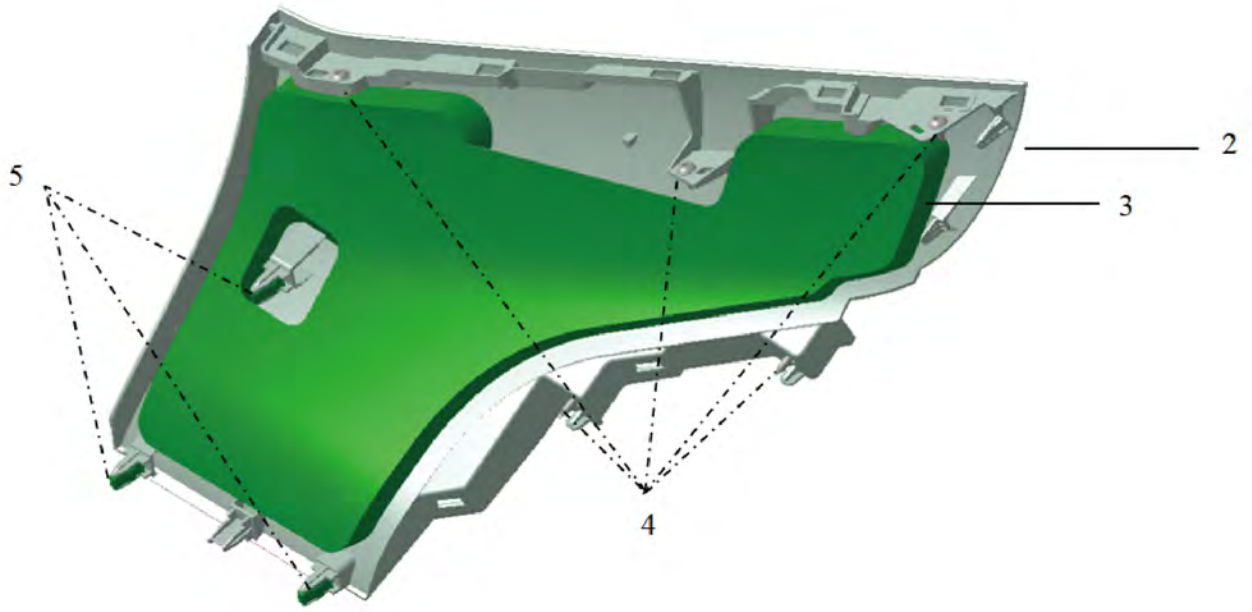
2. Left Access Panel Cover
3. Plastic Buckle



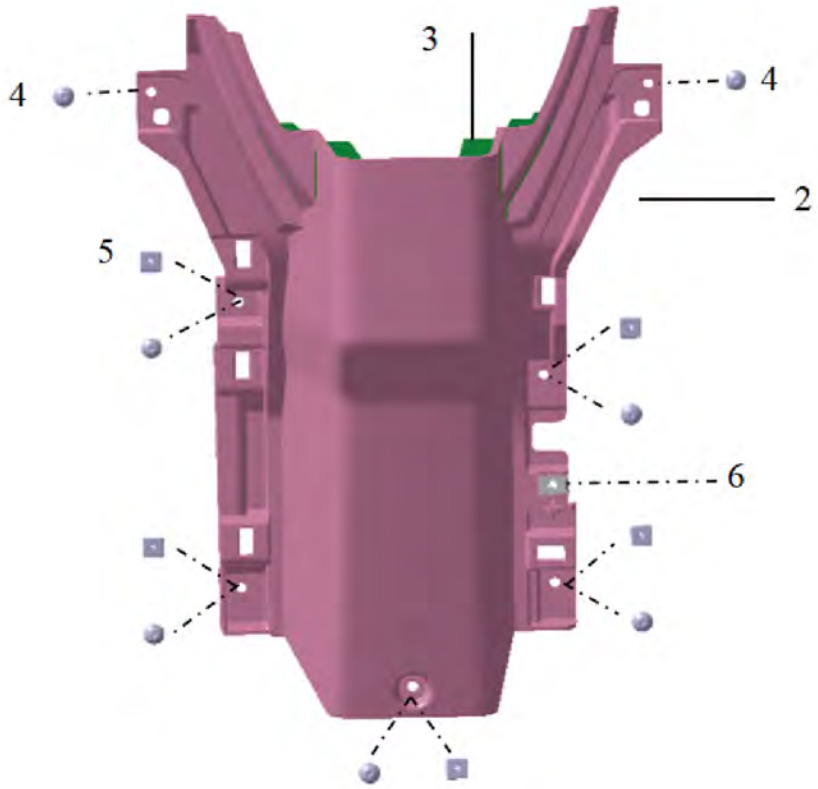
2. Outer Panel of the Storage Box
3. Body of the Storage Box
4. Side Panel of the Storage Box
5. Shelf of the Storage Box
6. Roller Blind of the Storage Box
7. Upper Guide Rail of the Storage Box
8. Lower Guide Rail of the Storage Box
9. Magnet of the Storage Box
10. Sound-Absorbing Cotton of the Storage Box
11. Felt of the Storage Box
12. Rubber Strip of the Storage Box
13. Self-Tapping Screw
14. Plastic Nut
15. Reed Nut
16. Plastic Buckle
17. Reed Nut



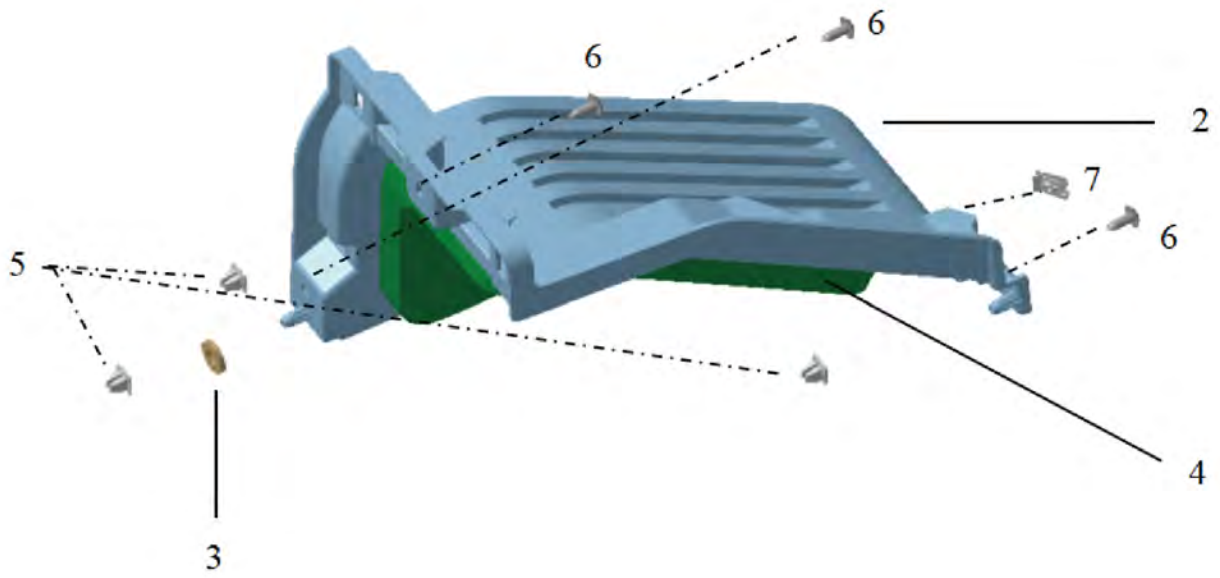
2. Covered Assembly of the Upper Left Trim Panel of the Instrument Panel
3. Cup Holder Trim Panel on the Left Side of the Instrument Panel
4. Cup Holder Mat
5. Self-Tapping Screw
6. Plastic Buckle



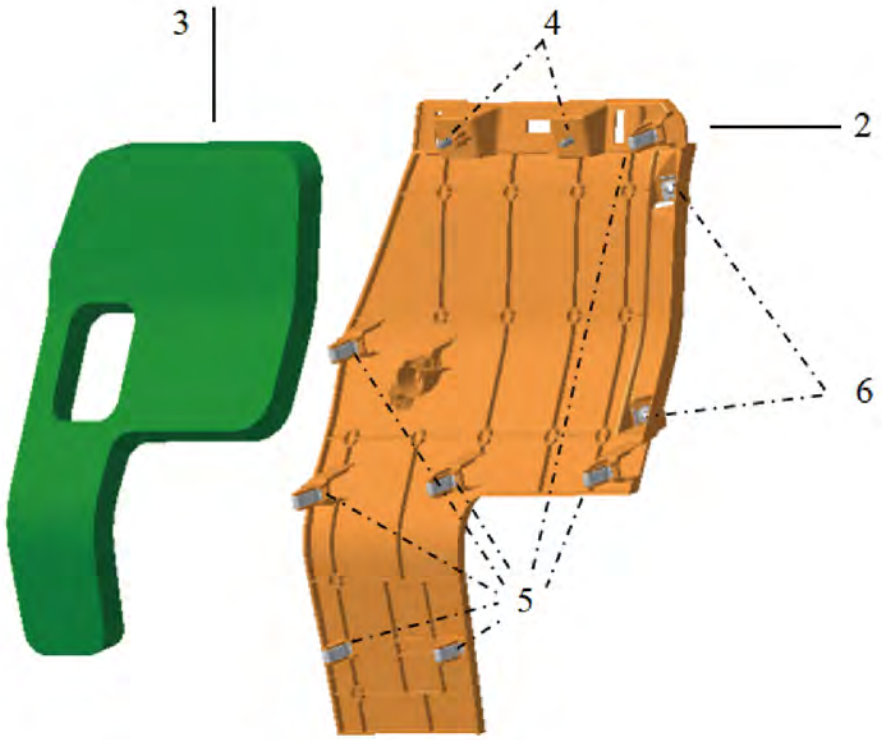
2. Upper Right Trim Panel of the Instrument Panel
3. Sound-Absorbing Cotton of the Upper Right Trim Panel of the Instrument Panel
4. Self-Tapping Screw
5. Plastic Buckle



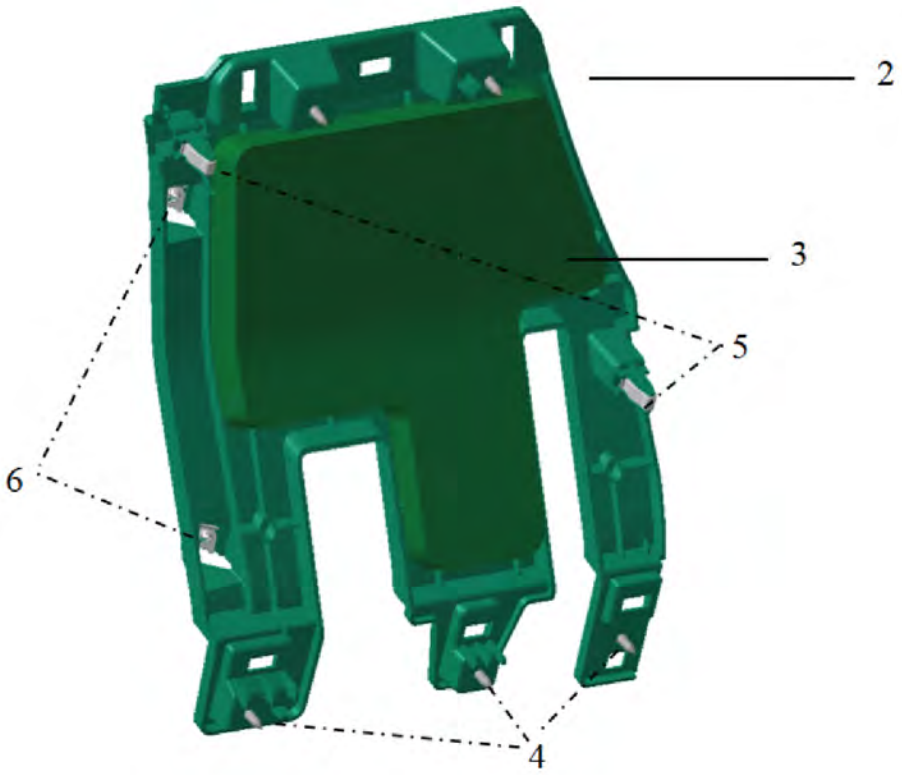
2. Lower Shroud of the Steering Column
3. Sound-Absorbing Cotton of the Lower Shroud of the Steering Column
4. Self-Tapping Screw
5. Plastic Nut
6. Reed Nut



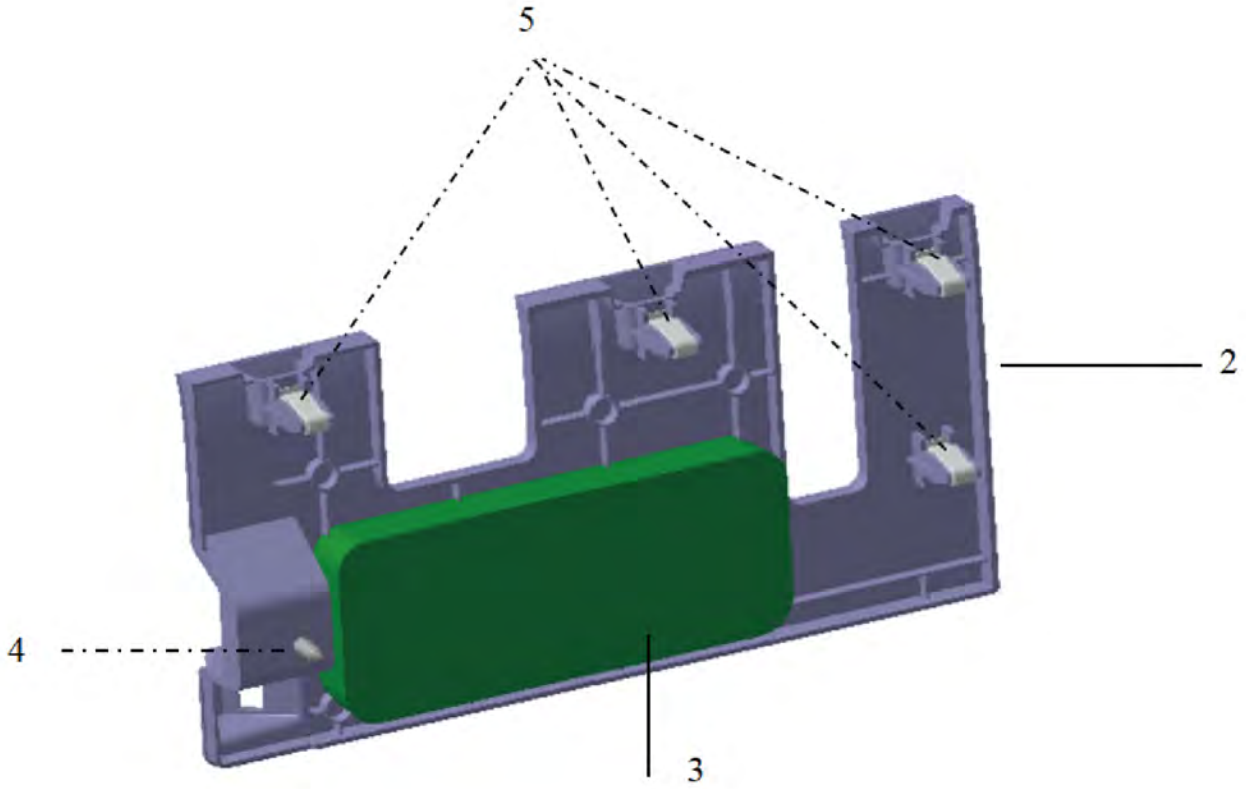
2. Dead Pedal
3. Felt of the Dead Pedal
4. Sponge of the Dead Pedal
5. Plastic Nut
6. Self-Tapping Screw
7. Reed Nut



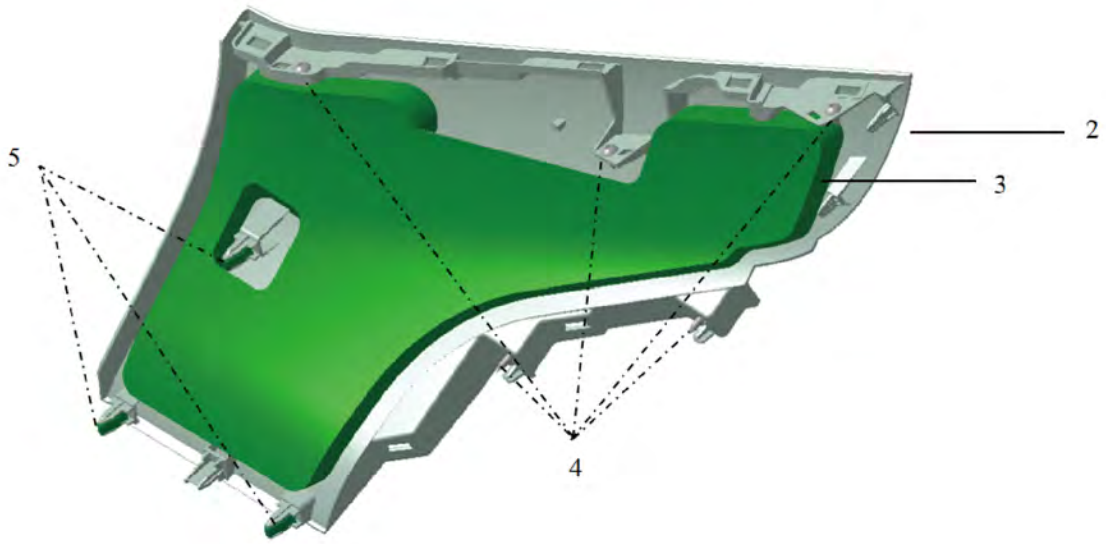
2. Front Left Trim Panel of the Instrument Panel
3. Sound-Absorbing Cotton of the Front Left Trim Panel of the Instrument Panel
4. Self-Tapping Screw
5. Plastic Buckle
6. Reed Nut



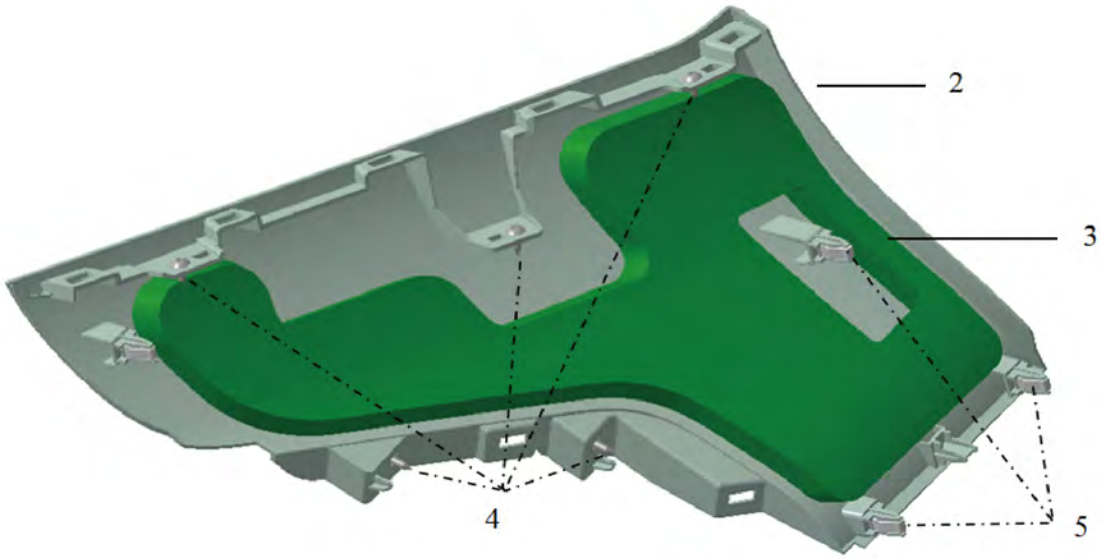
2. Front Upper Right Trim panel of the Instrument Panel
3. Sound-Absorbing Cotton of the Front Upper Right Trim Panel of the Instrument Panel
4. Self-Tapping Screw
5. Plastic Buckle
6. Reed Nut



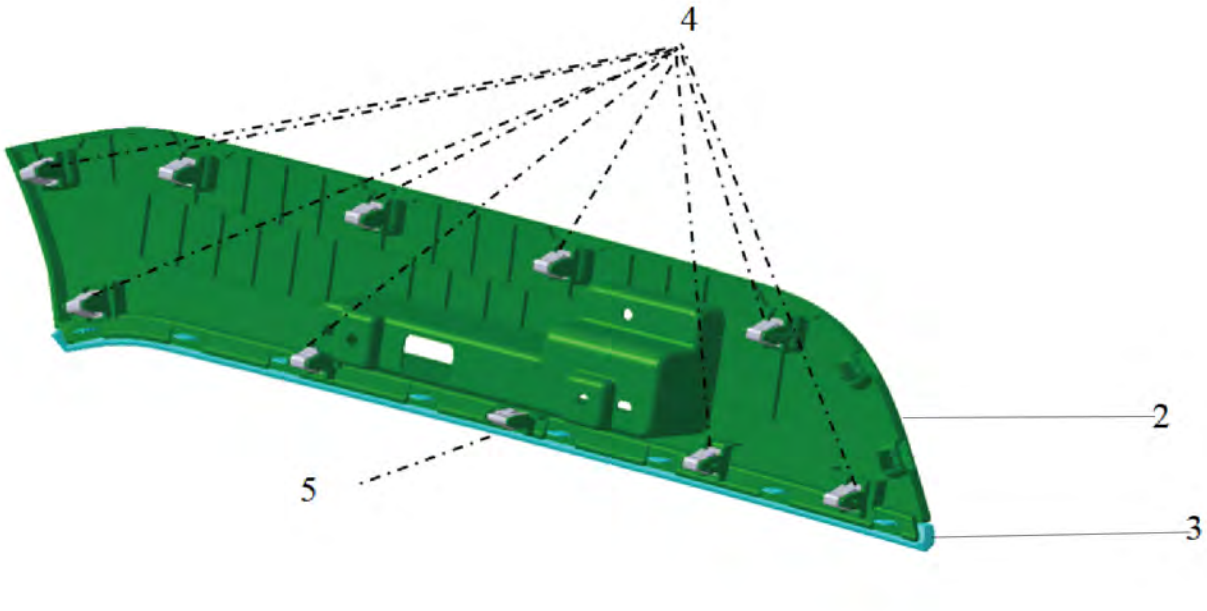
2. Front Lower Right Trim Panel of the Instrument Panel
3. Sound-Absorbing Cotton of the Front Lower Right Trim Panel of the Instrument Panel
4. Self-Tapping Screw
5. Plastic Buckle



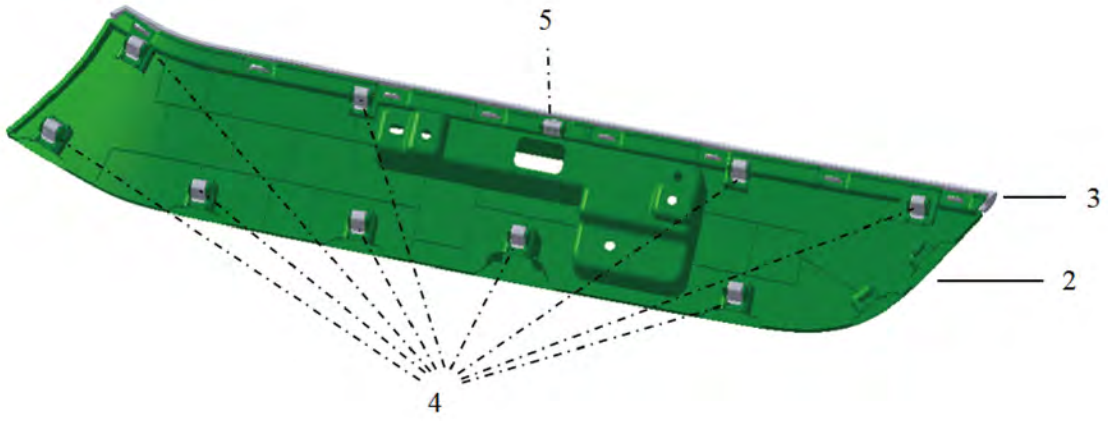
2. Upper Left Trim Panel of the Instrument Panel
3. Sound-Absorbing Cotton of the Upper Left Trim Panel of the Instrument Panel
4. Self-Tapping Screw
5. Plastic Buckle



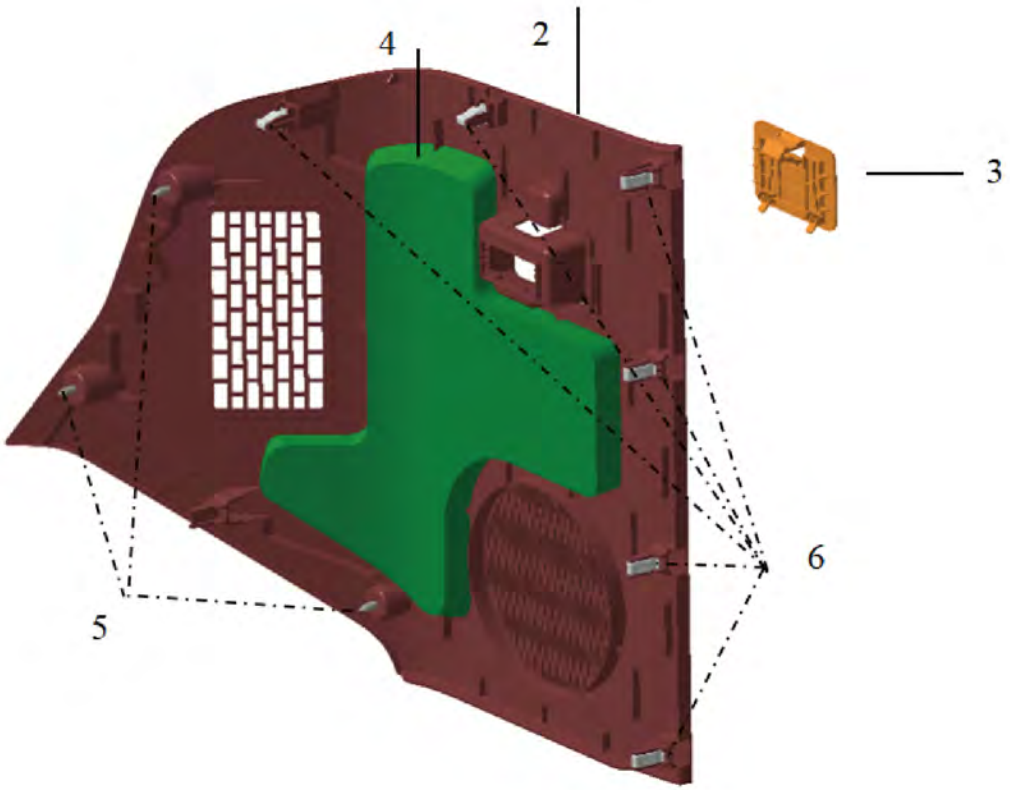
2. Lower Trim Panel of the Right Side Switch Panel
3. Sound-Absorbing Cotton of the Lower Trim Panel of the Right Side Switch Panel
4. Self-Tapping Screw
5. Plastic Buckle



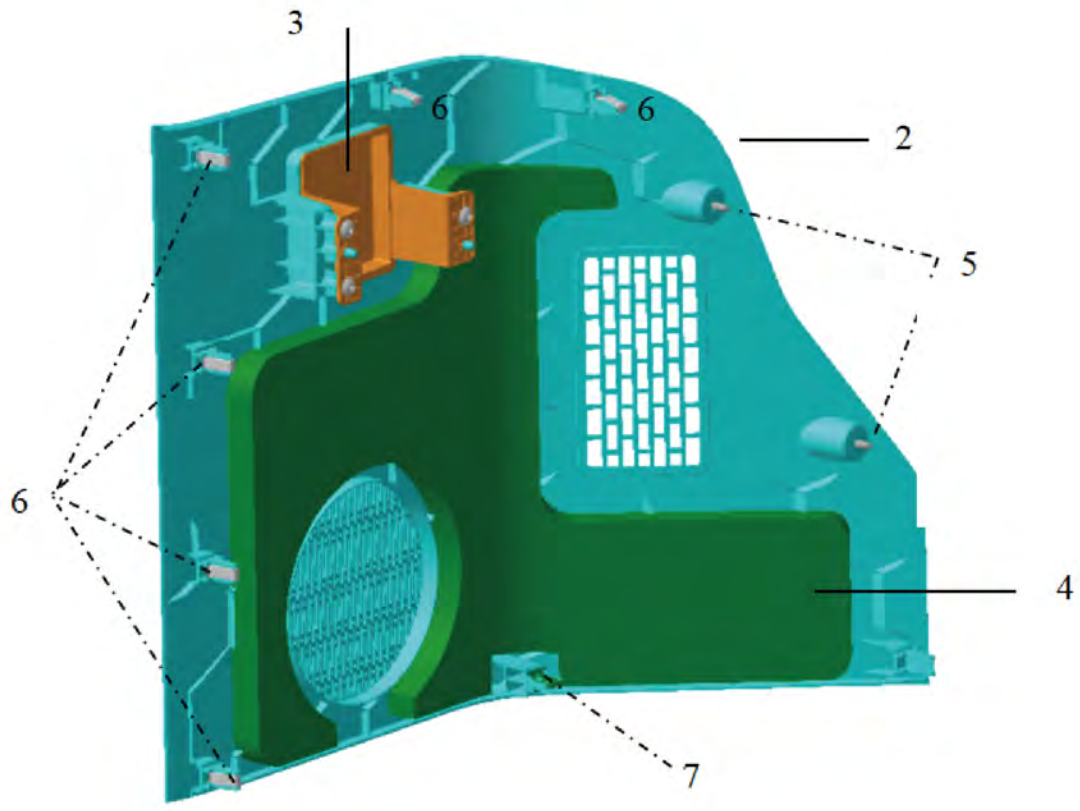
2. Left Side Switch Panel
3. Bright Trim Strip of the Left Side Switch Panel
4. Plastic Buckle
5. Metal Buckle



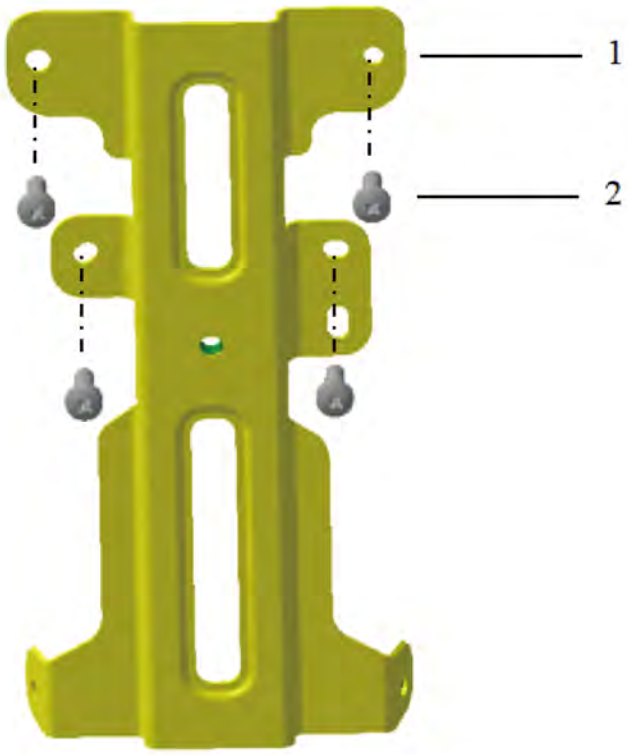
2. Right Side Switch Panel
3. Bright Trim Strip of The Right Side Switch Panel
4. Plastic Buckle
5. Metal Buckle



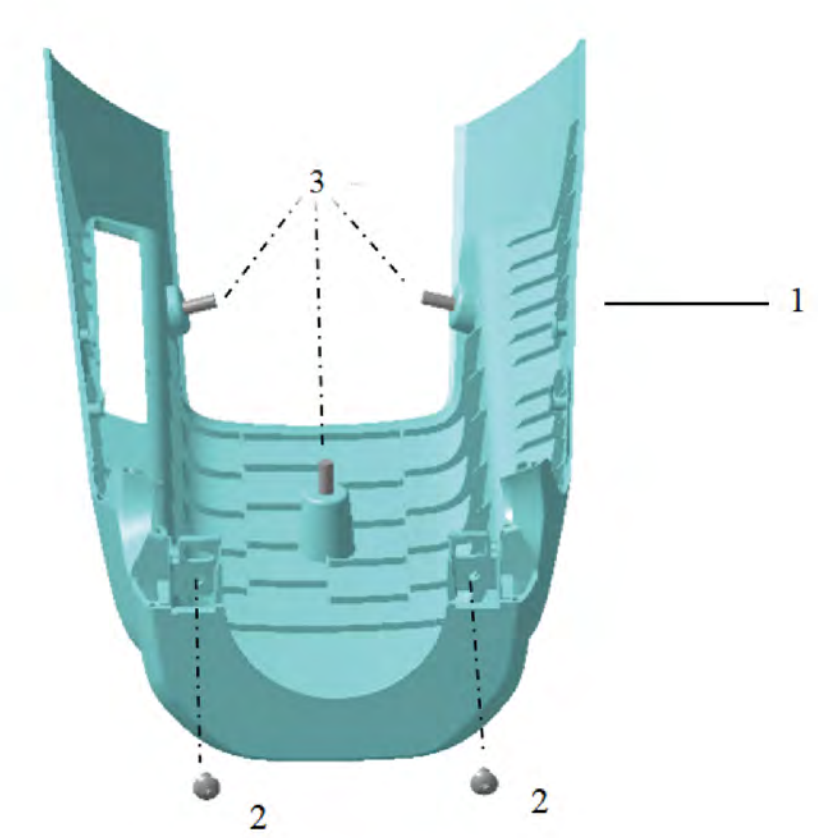
2. Maintenance Cover Plate on the Left Side of the Instrument Panel
3. OBD Cover Plate
4. Sound-Absorbing Cotton of the Maintenance Cover Plate on the Left Side of the Instrument Panel
5. Self-Tapping Screw
6. Plastic Buckle



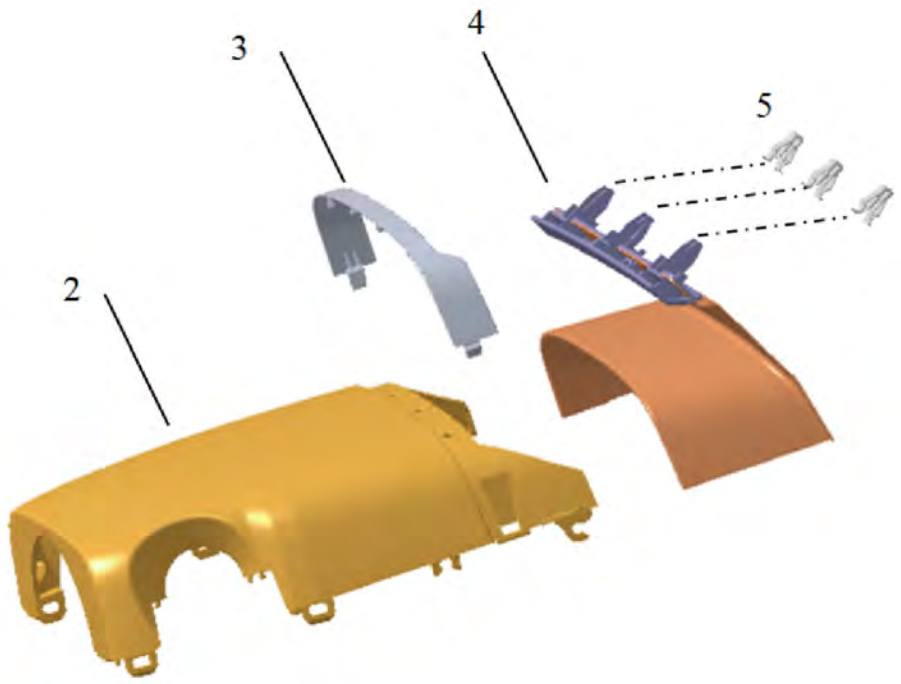
2. Maintenance Cover Plate on The Right Side of the Instrument Panel
3. Fragrance Cover Plate
4. Sound-Absorbing Cotton of the Maintenance Cover Plate on the Right Side of the Instrument Panel
5. Self-Tapping Screw
6. Plastic Buckle
7. Metal Buckle



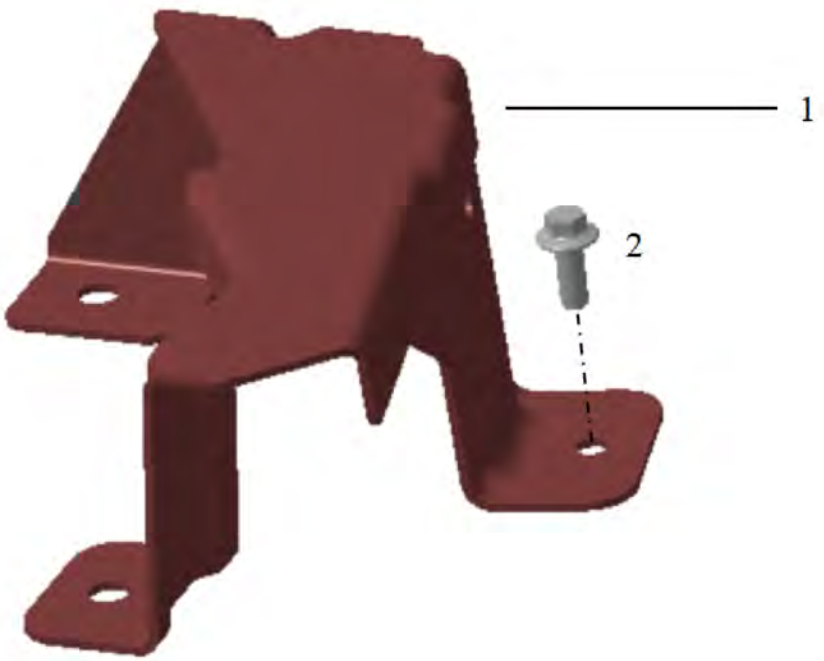
1. Bracket-Under the Combination Switch
2. Cross Recessed Pan Head Machine Screw



1. Cover-Combination Switch-Lor
2. Self-Tapping Screw
3. Cross Recessed Pan Head Machine Screw



2. Upper Protective Cover of the Combination Switch
3. Pressing Strip Under the Protective Cover Flap
4. Assembly of the Pressing Strip Under the Protective Cover Flap
5. Plastic Buckle



1. Storage Box Bracket Assy
2. Hexagon Flange Bolt

6.11.3 Dismantling and Installation

6.11.3.1 Replacement of Tubular Beam Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the wiper arm assy.

5 Remove the assembly of the front windshield cover.

6 Remove the dab decorative cove.

7 Remove the steering wheel assy.

8 Remove the cover-combination switch-lor.

9 Remove the ip brim assy.

10 Remove the IVI screen.

11 Remove the CAR screen.

12 Remove the IPC screen.

13 Remove the upr cover- lh camera brkt.

14 Remove the camera monitor screen.

15 Remove the base-lh display brkt.

16 Remove the upr cover- rh camera brkt.

17 Remove the camera monitor screen-rh.

18 Remove the base-rh display brkt.

19 Remove the a-pillar guard assy-lh.

20 Remove the a-pillar guard assy-rh.

21 Remove the assembly of the instrument panel trim panel assy-lowerr lh.

22 Remove the front side enclosure assy-lh.

23 Remove the cover assy-dashboard-lh frt.

24 Remove the trim assy on the switch panel-lh.

25 Remove the switch panel lower trim assy-lh.

26 Remove the vehicle travelling data recorder.

27 Remove the instrument panel trim panel assy- upper lh.

28 Remove the air vent decorative plate assy-lh.

29 Remove the assembly of the cover assy-steering under column guard.

30 Remove the front side enclosure assy-rh.

31 Remove the cover assy-dashboard-rh frt.

32 Remove the switch panel assy-rh.

33 Remove the lower switch panel assy-rh.

34 Remove the storage box assy-rh.

35 Remove the air vent decorative plate assy-rh.

36 Remove the ontology assy on the dashboard.

37 Remove the trim assy-dashboard-lh frt.

38 Remove the lor trim assy-dashboard-rh frt.

39 Remove the decorative plate assy-dashboard-rh frt.

40 Remove the cover assy-defrost frt.

41 Remove the ontology assy under the dashboard.

42 Remove the AR-HUD.

43 Remove the fixing bracket-lh.

44 Remove the smart appliance box.

45 Remove the cockpit domain controller.

46 Remove the cockpit domain controller bracket.

47 Remove the Tbox-gw.

48 Remove the Tbox-gw bracket.

49 Remove the EBS controller assy.

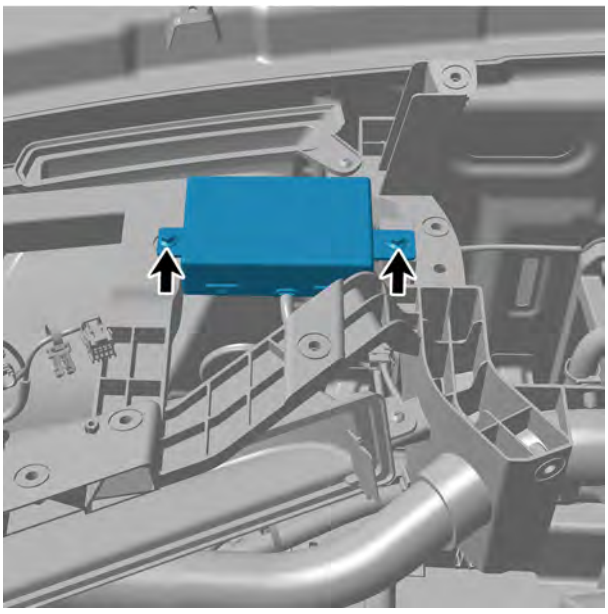
50 Remove the EBS bracket.

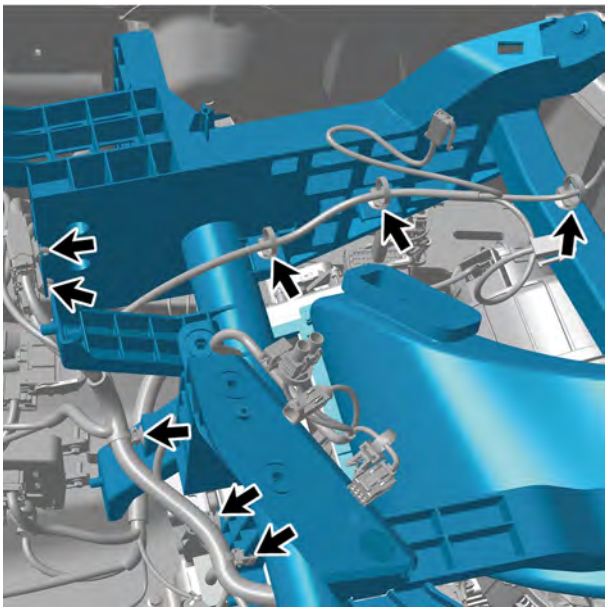
51 Remove the body domain control unit.

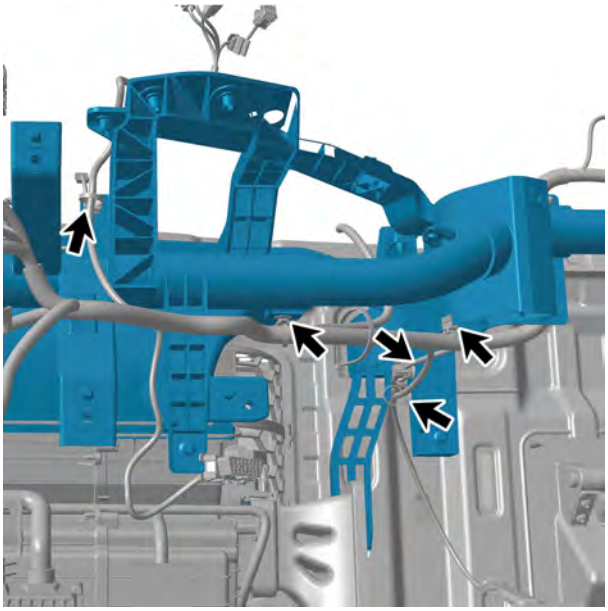
52 Remove the controller bracket assy.

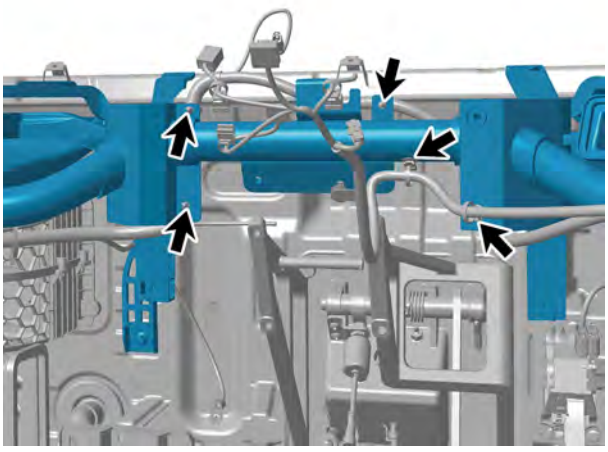
53 Remove the cross car beam pole.

54 Remove 2 fixing bolts connecting the combination antenna to the tubular beam assembly, and move the combination antenna to a safe and suitable location.

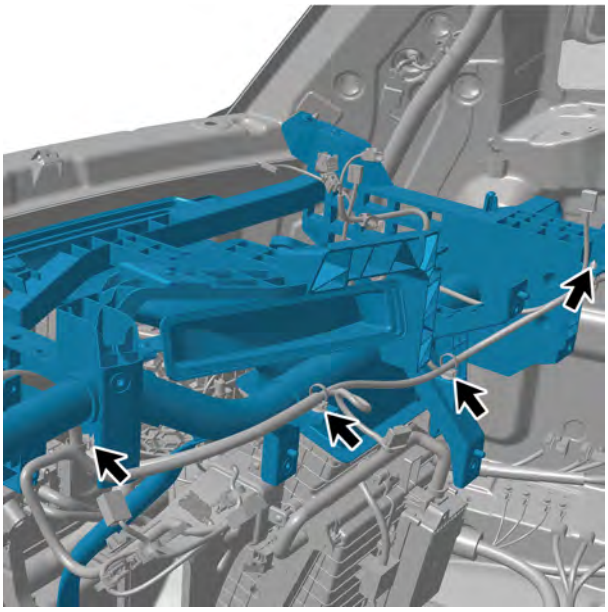


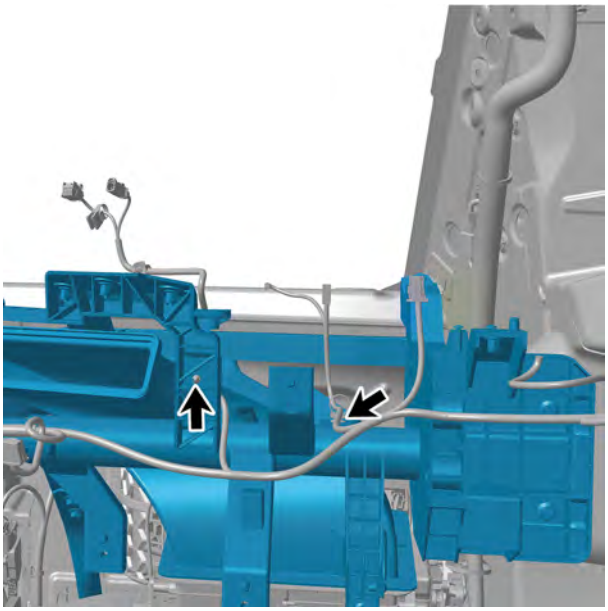


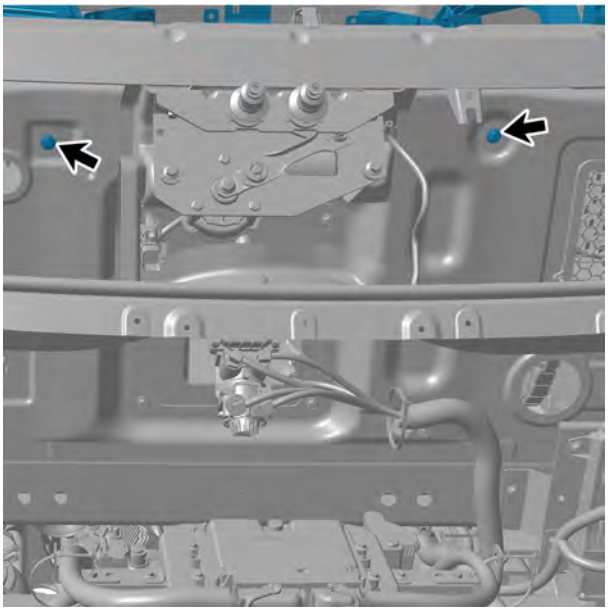




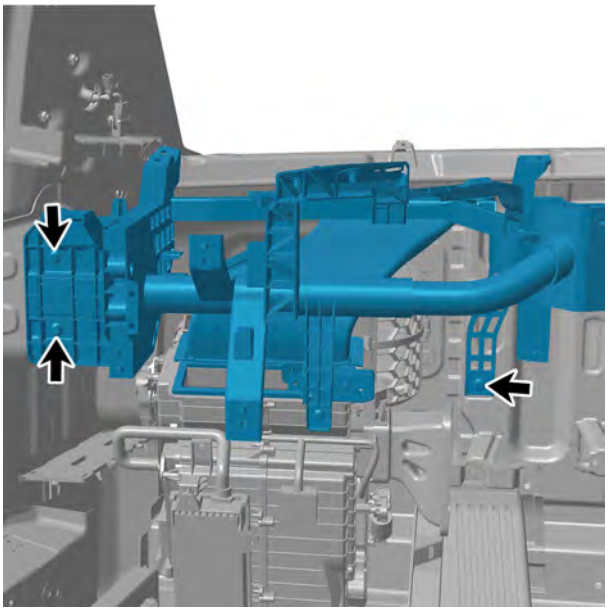
55 Disengage 24 fixing clips of the tubular beam assembly.

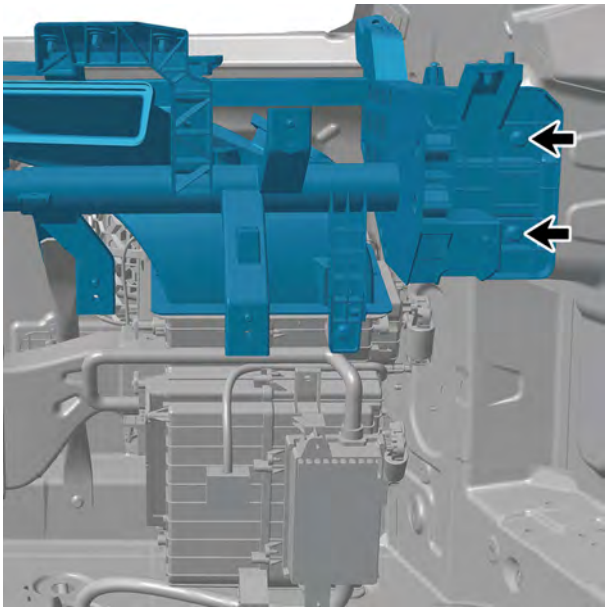


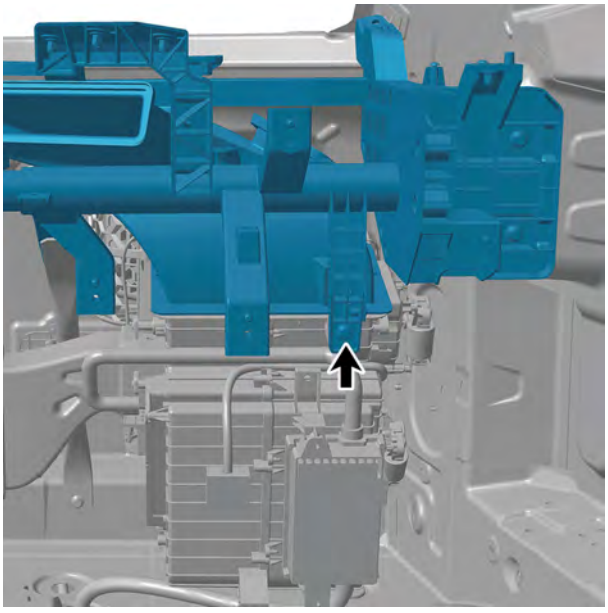




56 Remove 7 fixing bolts of the tubular beam assembly.



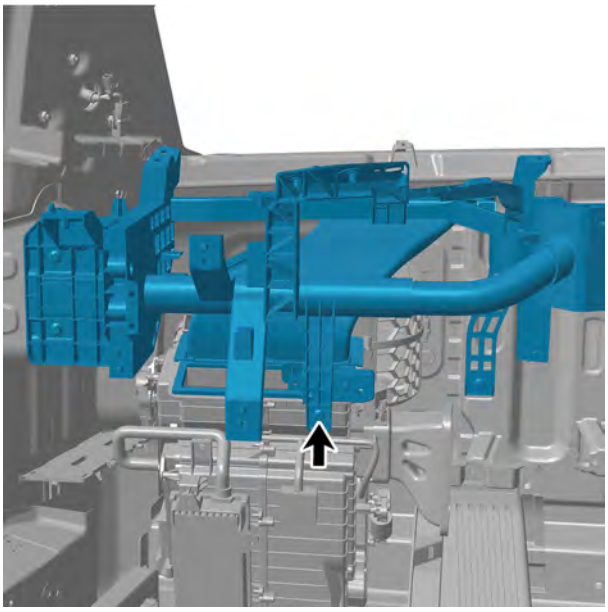


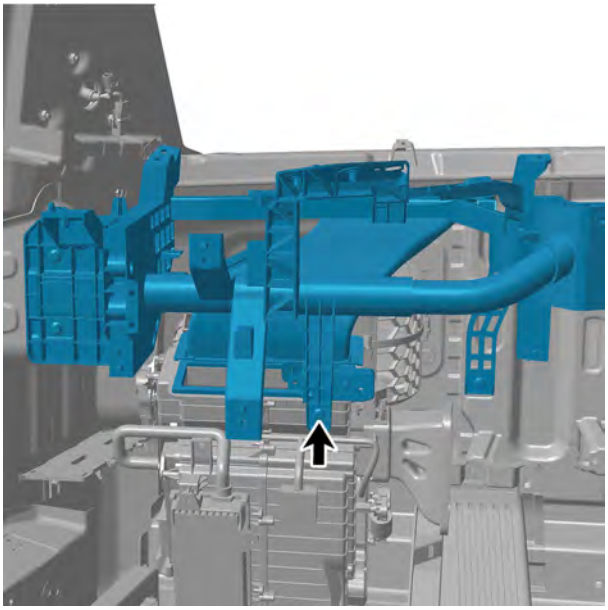


57 Remove 2 fixing bolts of the tubular beam assembly, and remove the tubular beam assembly.

caution

Due to the heavy weight of the tubular beam assembly, it shall be removed with the help of an assistant.





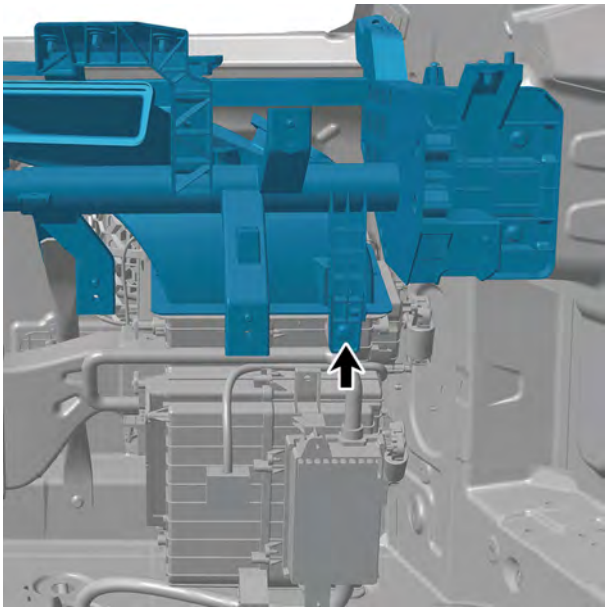
Installation Procedures

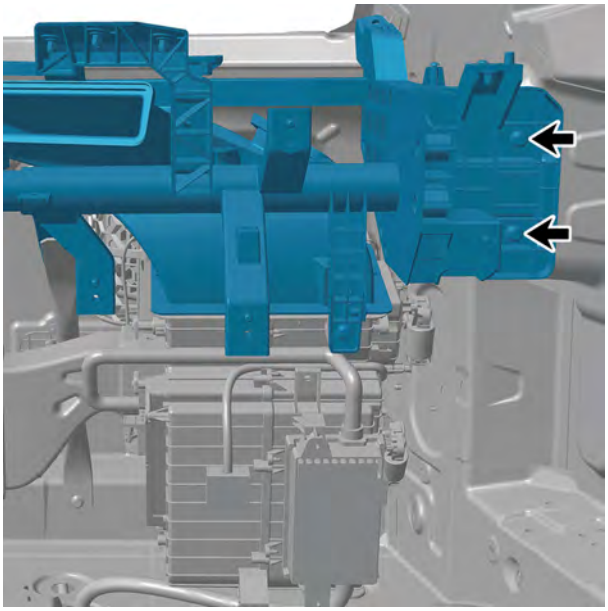
1 Move the tubular beam assembly to the mounting position, and install the 2 fixing bolts of the tubular beam assembly.

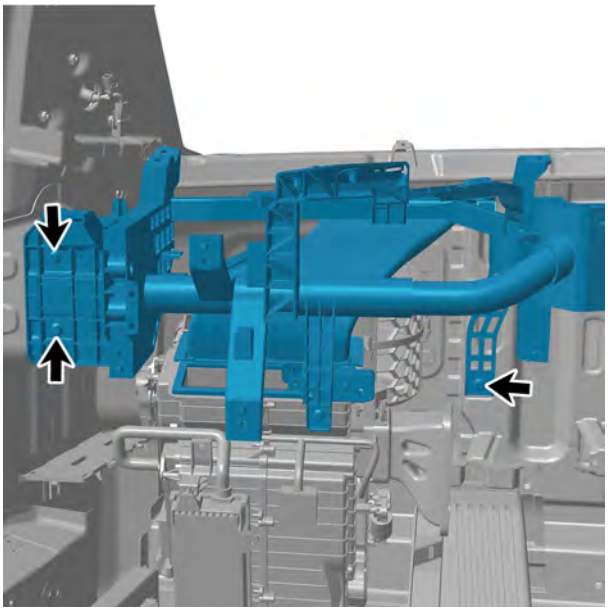
Torque:(6.5 +/- .75) ft lbs

caution

Due to the heavy weight of the tubular beam assembly, it shall be moved to the mounting position with the help of an assistant.

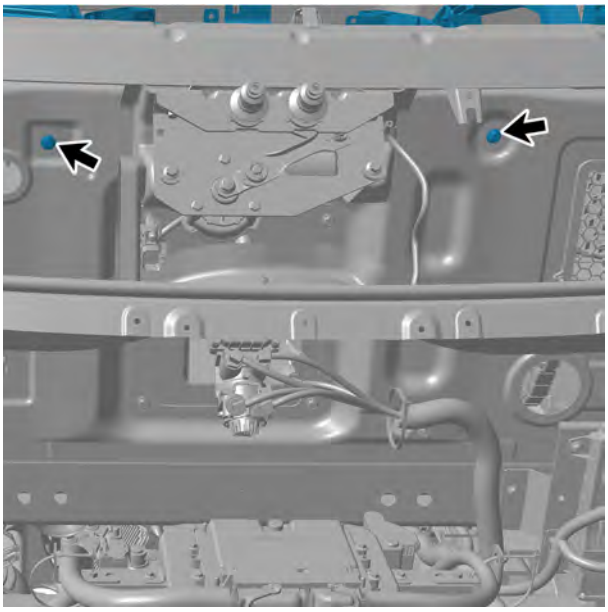


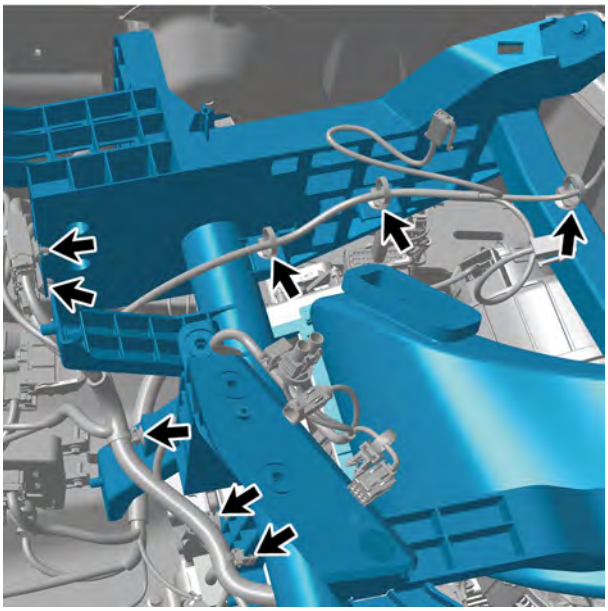


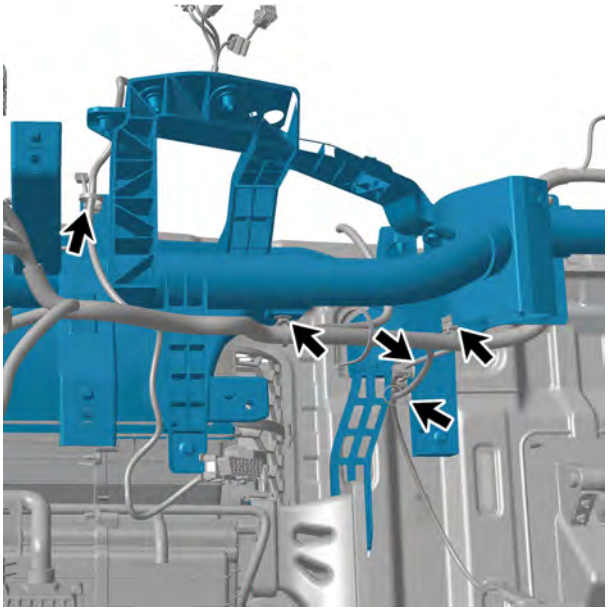


2 Install 7 fixing bolts of the tubular beam assembly.

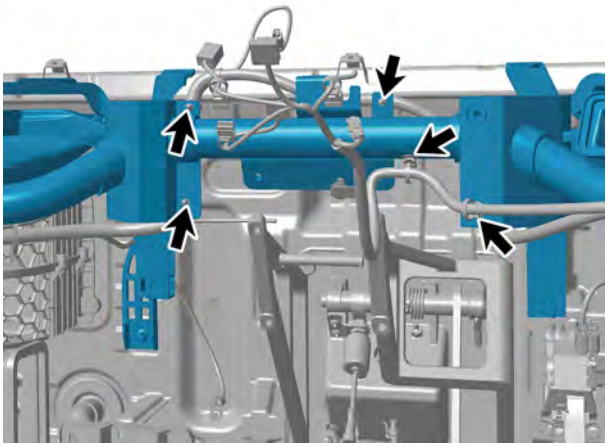
Torque:(18.5 +/- 2) ft lbs

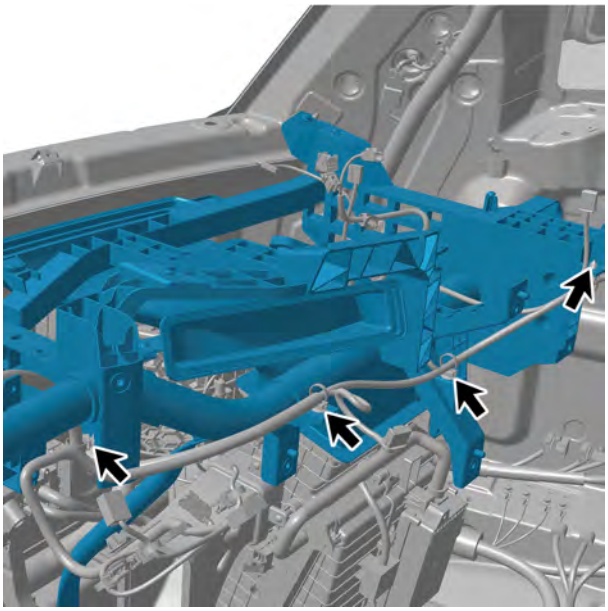


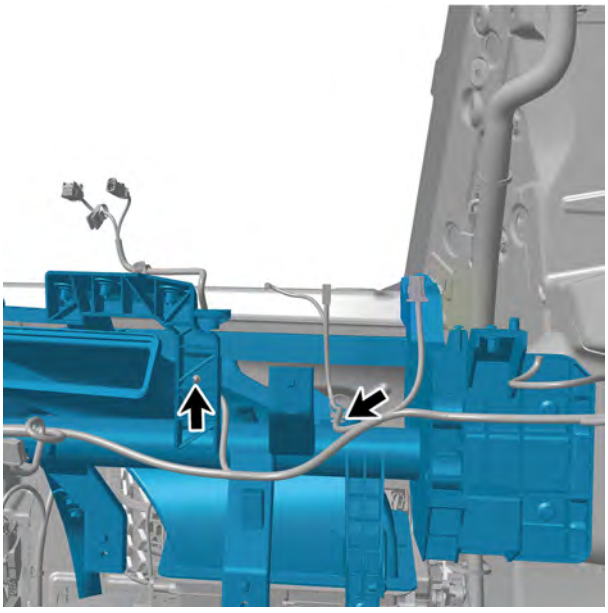


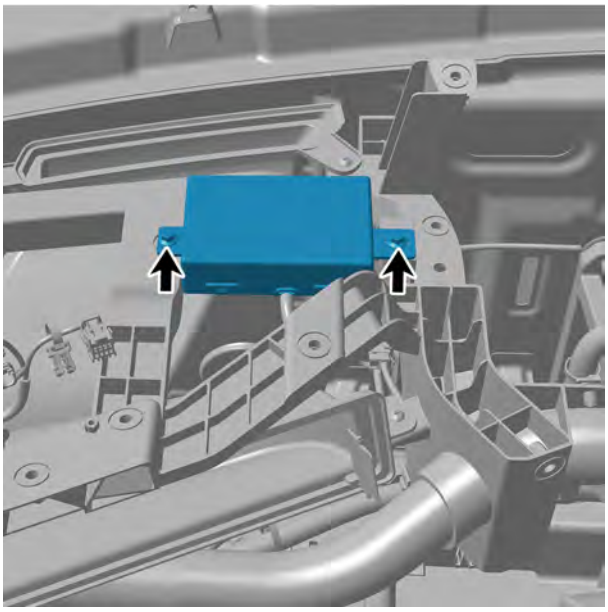


3 Install 24 fixing clips of the tubular beam assembly.









4 Install 2 fixing bolts connecting the combination antenna to the tubular beam assembly.
Torque:(6.5 +/- .75) ft lbs

5 Install the cross car beam pole.
6 Install the controller bracket assy.
7 Install the body domain control unit.
8 Install the EBS bracket.
9 Install the EBS controller assy.
10 Install the Tbox-gw bracket.
11 Install the Tbox-gw.
12 Install the cockpit domain controller bracket.
13 Install the cockpit domain controller.
14 Install the smart appliance box.
15 Install the fixing bracket-lh.
16 Install the AR-HUD.
17 Install the ontology assy under the dashboard.
18 Install the cover assy-defrost frt.
19 Install the decorative plate assy-dashboard-rh frt.
20 Install the lor trim assy-dashboard-rh frt.
21 Install the trim assy-dashboard-lh frt.
22 Install the ontology assy on the dashboard.
23 Install the air vent decorative plate assy-rh.
24 Install the storage box assy-rh.
25 Install the lower switch panel assy-rh.
26 Install the switch panel assy-rh.
27 Install the cover assy-dashboard-rh frt.
28 Install the front side enclosure assy-rh.
29 Install the assembly of the cover assy-steering under column guard.

30 Install the air vent decorative plate assy-lh.

31 Install the instrument panel trim panel assy- upper lh.

32 Install the vehicle travelling data recorder.

33 Install the switch panel lower trim assy-lh.

34 Install the trim assy on the switch panel-lh.

35 Install the cover assy-dashboard-lh frt.

36 Install the front side enclosure assy-lh.

37 Install the assembly of the instrument panel trim panel assy- lowerr lh.

38 Install the a-pillar guard assy-rh.

39 Install the a-pillar guard assy-lh.

40 Install the base-rh display brkt.

41 Install the camera monitor screen-rh.

42 Install the upr cover- rh camera brkt.

43 Install the base-lh display brkt.

44 Install the camera monitor screen.

45 Install the upr cover- lh camera brkt.

46 Install the IPC screen.

47 Install the CAR screen.

48 Install the IVI screen.

49 Install the ip brim assy.

50 Install the cover-combination switch-lor.

51 Install the steering wheel assy.

52 Install the dab decorative cove.

53 Install the assembly of the front windshield cover.

54 Install the wiper arm assy.

55 Connect the battery negative cable.

56 Close the front flip cover plate.

57 Close the door.

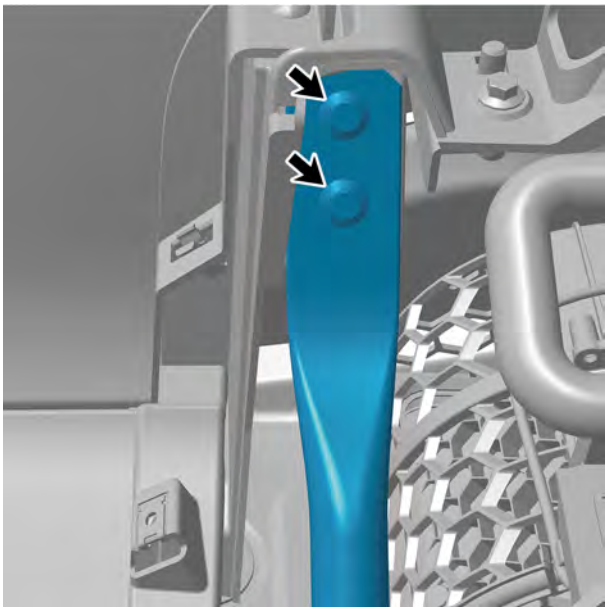
6.11.3.2 Replacement of Tubular Beam Strut

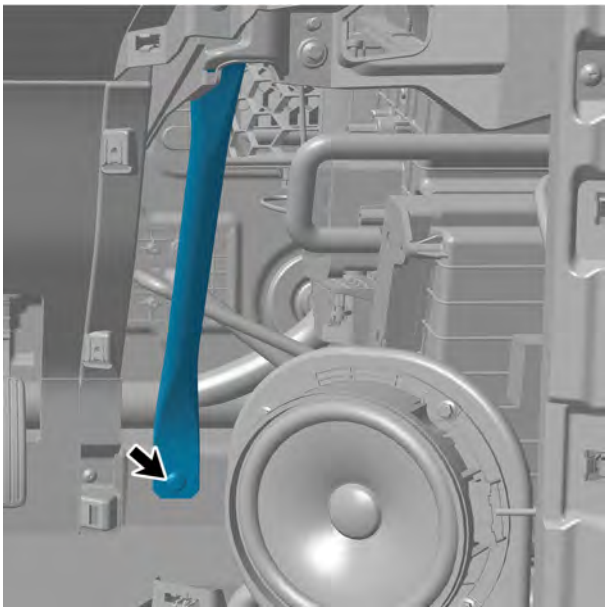
Removal Procedures

1 Open the door.

2 Remove the IP right access cover plate assembly.

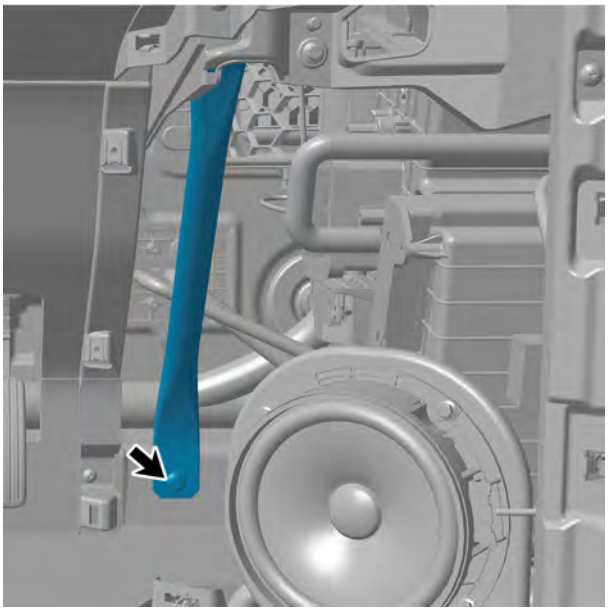
3 Remove the right foot blowing duct assembly.

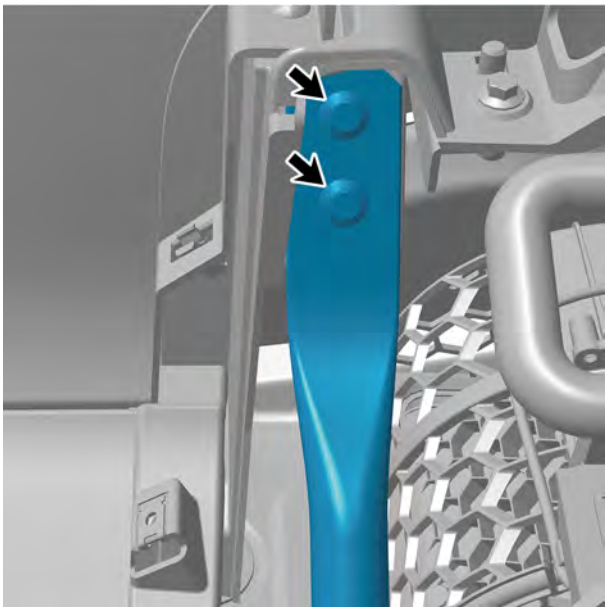




4 Remove 3 fixing bolts of the tubular beam strut, and remove the tubular beam strut.

Installation Procedures





1 Move the tubular beam strut to the mounting position.

2 Install 3 fixing bolts of the tubular beam strut.

Torque:(18.5 +/- 2) ft lbs

3 Install the right foot blowing duct assembly.

4 Install the IP right access cover plate assembly.

5 Close the door.

6.11.3.3 Replacement of Left Defroster Duct Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the wiper arm assy.

5 Remove the assembly of the front windshield cover.

6 Remove the dab decorative cove.

7 Remove the steering wheel assy.

8 Remove the cover-combination switch-lor.

9 Remove the ip brim assy.

10 Remove the IVI screen.

11 Remove the CAR screen.

12 Remove the IPC screen.

13 Remove the upr cover- lh camera brkt.

14 Remove the camera monitor screen.

15 Remove the base-lh display brkt.

16 Remove the upr cover- rh camera brkt.

17 Remove the camera monitor screen-rh.

18 Remove the base-rh display brkt.

19 Remove the a-pillar guard assy-lh.

20 Remove the a-pillar guard assy-rh.

21 Remove the assembly of the instrument panel trim panel assy- lowerr lh.

22 Remove the front side enclosure assy-lh.

23 Remove the cover assy-dashboard-lh frt.

24 Remove the trim assy on the switch panel-lh.

25 Remove the switch panel lower trim assy-lh.

26 Remove the vehicle travelling data recorder.

27 Remove the instrument panel trim panel assy- upper lh.

28 Remove the air vent decorative plate assy-lh.

29 Remove the assembly of the cover assy-steering under column guard.

30 Remove the front side enclosure assy-rh.

31 Remove the cover assy-dashboard-rh frt.

32 Remove the switch panel assy-rh.

33 Remove the lower switch panel assy-rh.

34 Remove the storage box assy-rh.

35 Remove the air vent decorative plate assy-rh.

36 Remove the ontology assy on the dashboard.

37 Remove the trim assy-dashboard-lh frt.

38 Remove the lor trim assy-dashboard-rh frt.

39 Remove the decorative plate assy-dashboard-rh frt.

40 Remove the cover assy-defrost frt.

41 Remove the ontology assy under the dashboard.

42 Remove the AR-HUD.

43 Remove the fixing bracket-lh.

44 Remove the smart appliance box.

45 Remove the cockpit domain controller.

46 Remove the cockpit domain controller bracket.

47 Remove the Tbox-gw.

48 Remove the Tbox-gw bracket.

49 Remove the EBS controller assy.

50 Remove the EBS bracket.

51 Remove the body domain control unit.

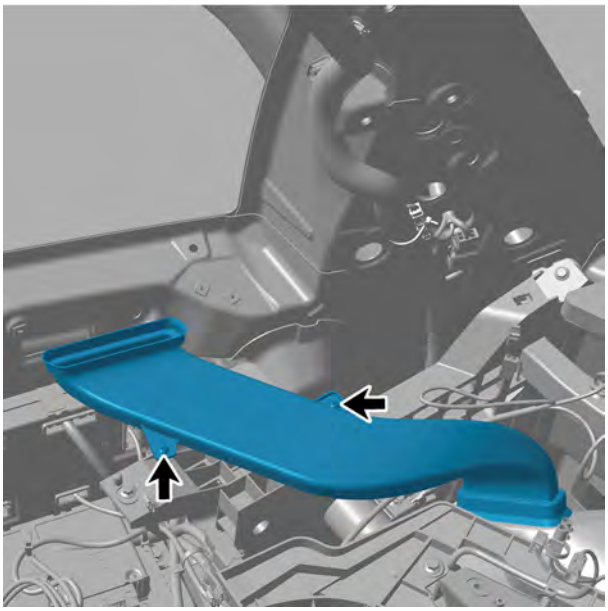
52 Remove the controller bracket assy.

53 Remove the cross car beam pole.

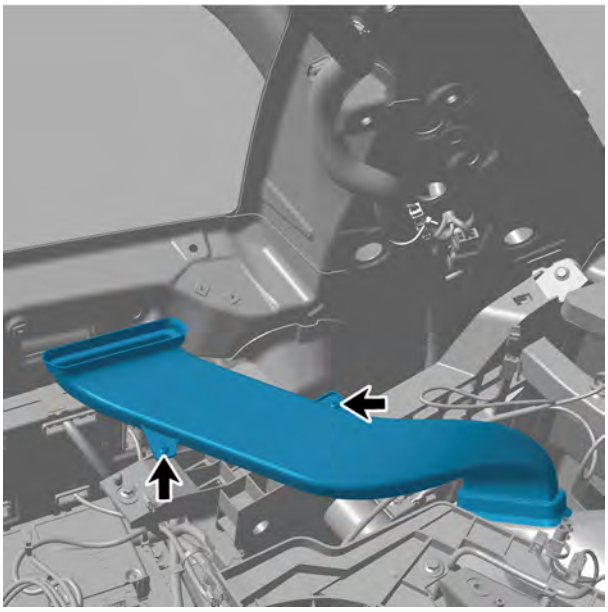
54 Remove the cross car beam assy.

55 Remove 2 fixing screws of the left defroster duct assembly.

56 Remove the left defroster duct assembly.



Installation Procedures



1 Move the left defroster duct assembly to the mounting position.

2 Install 2 fixing screws of the left defroster duct assembly.

3 Install the cross car beam assy.

4 Install the cross car beam pole.

5 Install the controller bracket assy.

6 Install the body domain control unit.

7 Install the EBS bracket.

8 Install the EBS controller assy.

9 Install the Tbox-gw bracket.

10 Install the Tbox-gw.

11 Install the cockpit domain controller bracket.

12 Install the cockpit domain controller.

13 Install the smart appliance box.

14 Install the fixing bracket-lh.

15 Install the AR-HUD.

16 Install the ontology assy under the dashboard.

17 Install the cover assy-defrost frt.

18 Install the decorative plate assy-dashboard-rh frt.

19 Install the lor trim assy-dashboard-rh frt.

20 Install the trim assy-dashboard-lh frt.

21 Install the ontology assy on the dashboard.

22 Install the air vent decorative plate assy-rh.

23 Install the storage box assy-rh.

24 Install the lower switch panel assy-rh.

25 Install the switch panel assy-rh.

26 Install the cover assy-dashboard-rh frt.

27 Install the front side enclosure assy-rh.

28 Install the assembly of the cover assy-steering under column guard.

29 Install the air vent decorative plate assy-lh.

30 Install the instrument panel trim panel assy- upper lh.

31 Install the vehicle travelling data recorder.

32 Install the switch panel lower trim assy-lh.

33 Install the trim assy on the switch panel-lh.

34 Install the cover assy-dashboard-lh frt.

35 Install the front side enclosure assy-lh.

36 Install the assembly of the instrument panel trim panel assy- lowerr lh.

37 Install the a-pillar guard assy-rh.

38 Install the a-pillar guard assy-lh.

39 Install the base-rh display brkt.

40 Install the camera monitor screen-rh.

41 Install the upr cover- rh camera brkt.

42 Install the base-lh display brkt.

43 Install the camera monitor screen.

44 Install the upr cover- lh camera brkt.

45 Install the IPC screen.

46 Install the CAR screen.

47 Install the IVI screen.

48 Install the ip brim assy.

49 Install the cover-combination switch-lor.

50 Install the steering wheel assy.

51 Install the dab decorative cove.

52 Install the assembly of the front windshield cover.

53 Install the wiper arm assy.

54 Connect the battery negative cable.

55 Close the front flip cover plate.

56 Close the door.

6.11.3.4 Replacement of Right Defroster Duct Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the wiper arm assy.

5 Remove the assembly of the front windshield cover.

6 Remove the dab decorative cove.

7 Remove the steering wheel assy.

8 Remove the cover-combination switch-lor.

9 Remove the ip brim assy.

10 Remove the IVI screen.

11 Remove the CAR screen.

12 Remove the IPC screen.

13 Remove the upr cover- lh camera brkt.

14 Remove the camera monitor screen.

15 Remove the base-lh display brkt.

16 Remove the upr cover- rh camera brkt.

17 Remove the camera monitor screen-rh.

18 Remove the base-rh display brkt.

19 Remove the a-pillar guard assy-lh.

20 Remove the a-pillar guard assy-rh.

21 Remove the assembly of the instrument panel trim panel assy- lowerr lh.

22 Remove the front side enclosure assy-lh.

23 Remove the cover assy-dashboard-lh frt.

24 Remove the trim assy on the switch panel-lh.

25 Remove the switch panel lower trim assy-lh.

26 Remove the vehicle travelling data recorder.

27 Remove the instrument panel trim panel assy- upper lh.

28 Remove the air vent decorative plate assy-lh.

29 Remove the assembly of the cover assy-steering under column guard.

30 Remove the front side enclosure assy-rh.

31 Remove the cover assy-dashboard-rh frt.

32 Remove the switch panel assy-rh.

33 Remove the lower switch panel assy-rh.

34 Remove the storage box assy-rh.

35 Remove the air vent decorative plate assy-rh.

36 Remove the ontology assy on the dashboard.

37 Remove the trim assy-dashboard-lh frt.

38 Remove the lor trim assy-dashboard-rh frt.

39 Remove the decorative plate assy-dashboard-rh frt.

40 Remove the cover assy-defrost frt.

41 Remove the ontology assy under the dashboard.

42 Remove the AR-HUD.

43 Remove the fixing bracket-lh.

44 Remove the smart appliance box.

45 Remove the cockpit domain controller.

46 Remove the cockpit domain controller bracket.

47 Remove the Tbox-gw.

48 Remove the Tbox-gw bracket.

49 Remove the EBS controller assy.

50 Remove the EBS bracket.

51 Remove the body domain control unit.

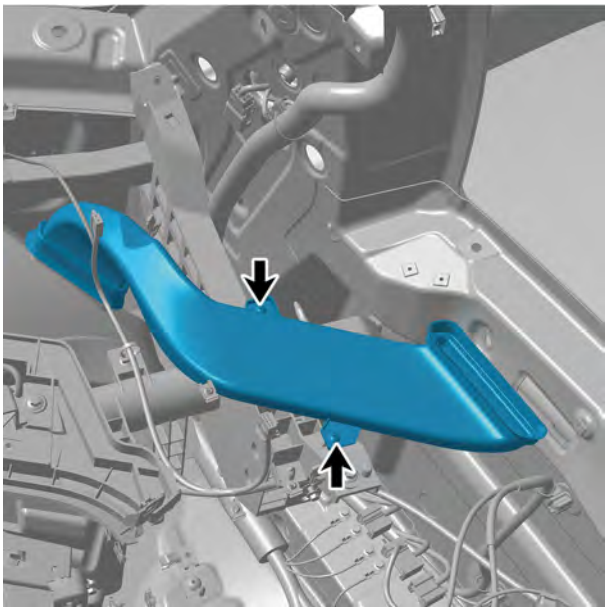
52 Remove the controller bracket assy.

53 Remove the cross car beam pole.

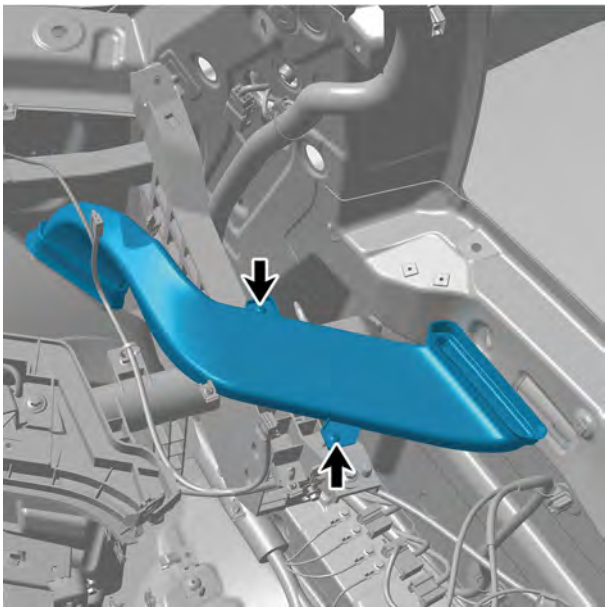
54 Remove the cross car beam assy.

55 Remove 2 fixing screws of the right defroster duct assembly.

56 Remove the right defroster duct assembly.



Installation Procedures



1 Move the right defroster duct assembly to the mounting position.

2 Install 2 fixing screws of the right defroster duct assembly.

3 Install the cross car beam assy.

4 Install the cross car beam pole.

5 Install the controller bracket assy.

6 Install the body domain control unit.

7 Install the EBS bracket.

8 Install the EBS controller assy.

9 Install the Tbox-gw bracket.

10 Install the Tbox-gw.

11 Install the cockpit domain controller bracket.

12 Install the cockpit domain controller.

13 Install the smart appliance box.

14 Install the fixing bracket-lh.

15 Install the AR-HUD.

16 Install the ontology assy under the dashboard.

17 Install the cover assy-defrost frt.

18 Install the decorative plate assy-dashboard-rh frt.

19 Install the lor trim assy-dashboard-rh frt.

20 Install the trim assy-dashboard-lh frt.

21 Install the ontology assy on the dashboard.

22 Install the air vent decorative plate assy-rh.

23 Install the storage box assy-rh.

24 Install the lower switch panel assy-rh.

25 Install the switch panel assy-rh.

26 Install the cover assy-dashboard-rh frt.

27 Install the front side enclosure assy-rh.

28 Install the assembly of the cover assy-steering under column guard.

29 Install the air vent decorative plate assy-lh.

30 Install the instrument panel trim panel assy- upper lh.

31 Install the vehicle travelling data recorder.

32 Install the switch panel lower trim assy-lh.

33 Install the trim assy on the switch panel-lh.

34 Install the cover assy-dashboard-lh frt.

35 Install the front side enclosure assy-lh.

36 Install the assembly of the instrument panel trim panel assy- lowerr lh.

37 Install the a-pillar guard assy-rh.

38 Install the a-pillar guard assy-lh.

39 Install the base-rh display brkt.

40 Install the camera monitor screen-rh.

41 Install the upr cover- rh camera brkt.

42 Install the base-lh display brkt.

43 Install the camera monitor screen.

44 Install the upr cover- lh camera brkt.

45 Install the IPC screen.

46 Install the CAR screen.

47 Install the IVI screen.

48 Install the ip brim assy.

49 Install the cover-combination switch-lor.

50 Install the steering wheel assy.

51 Install the dab decorative cove.

52 Install the assembly of the front windshield cover.

53 Install the wiper arm assy.

54 Connect the battery negative cable.

55 Close the front flip cover plate.

56 Close the door.

6.11.3.5 Replacement of IP Lower Body Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the dab decorative cove.

5 Remove the steering wheel assy.

6 Remove the cover-combination switch-lor.

7 Remove the ip brim assy.

8 Remove the ivi screen.

9 Remove the car screen.

10 Remove the ipc screen.

11 Remove the upr cover- lh camera brkt.

12 Remove the camera monitor screen.

13 Remove the base-lh display brkt.

14 Remove the upr cover- rh camera brkt.

15 Remove the camera monitor screen-rh.

16 Remove the base-rh display brkt.

17 Remove the a-pillar guard assy-lh.

18 Remove the a-pillar guard assy-rh.

19 Remove the assembly of the instrument panel trim panel assy- lowerr lh.

20 Remove the front side enclosure assy-lh.

21 Remove the cover assy-dashboard-lh frt.

22 Remove the trim assy on the switch panel-lh.

23 Remove the switch panel lower trim assy-lh.

24 Remove the vehicle travelling data recorder.

25 Remove the instrument panel trim panel assy- upper lh.

26 Remove the air vent decorative plate assy-lh.

27 Remove the assembly of the cover assy-steering under column guard.

28 Remove the front side enclosure assy-rh.

29 Remove the cover assy-dashboard-rh frt.

30 Remove the switch panel assy-rh.

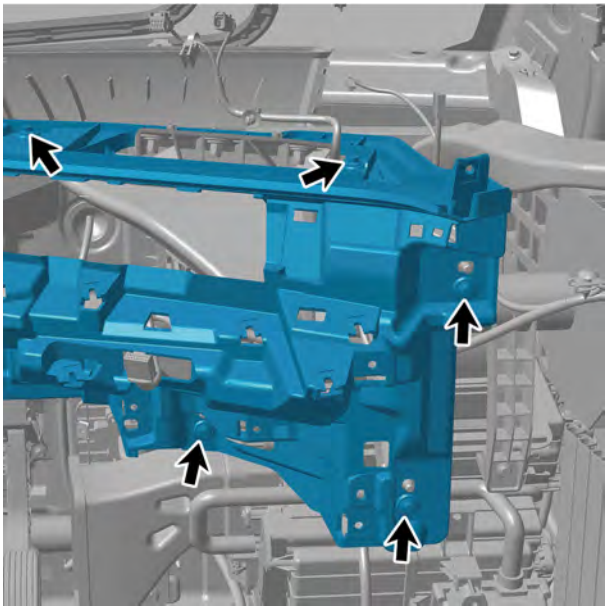
31 Remove the lower switch panel assy-rh.

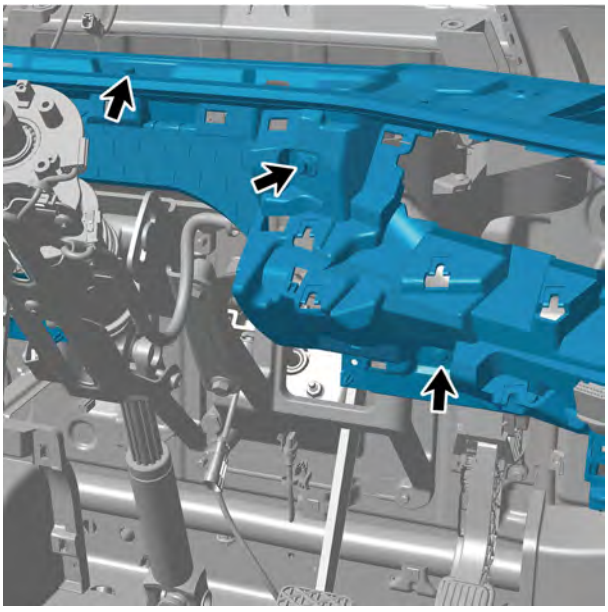
32 Remove the storage box assy-rh.

33 Remove the air vent decorative plate assy-rh.

34 Remove the ontology assy on the dashboard.

35 Remove the trim assy-dashboard-lh frt.



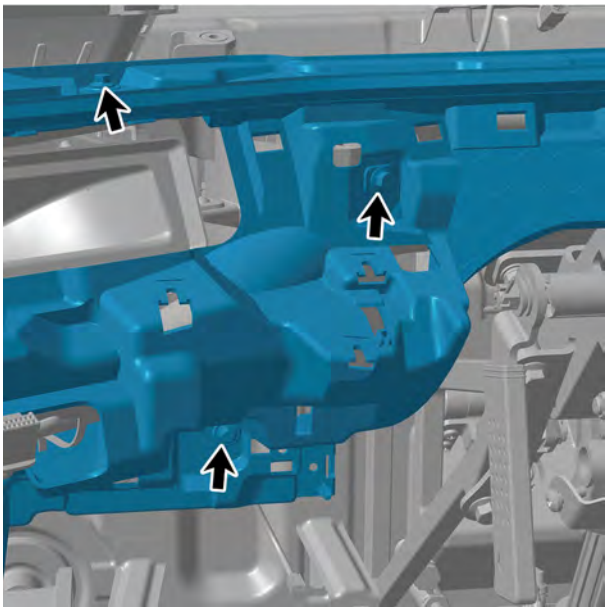


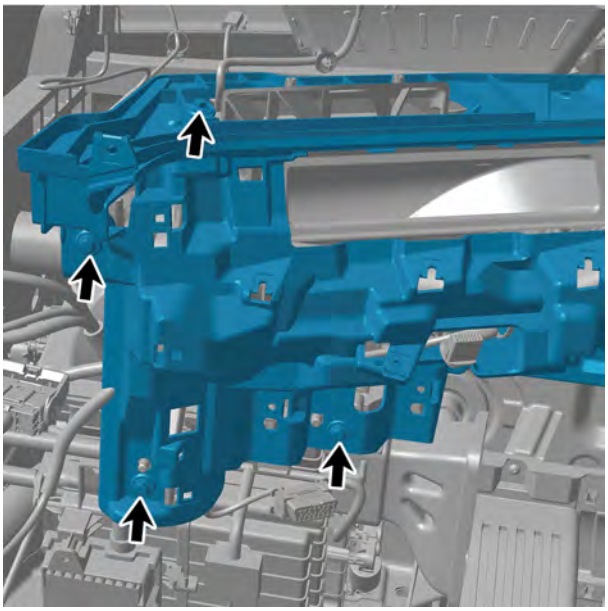
36 Remove the lor trim assy-dashboard-rh frt.

37 Remove the decorative plate assy-dashboard-rh frt.

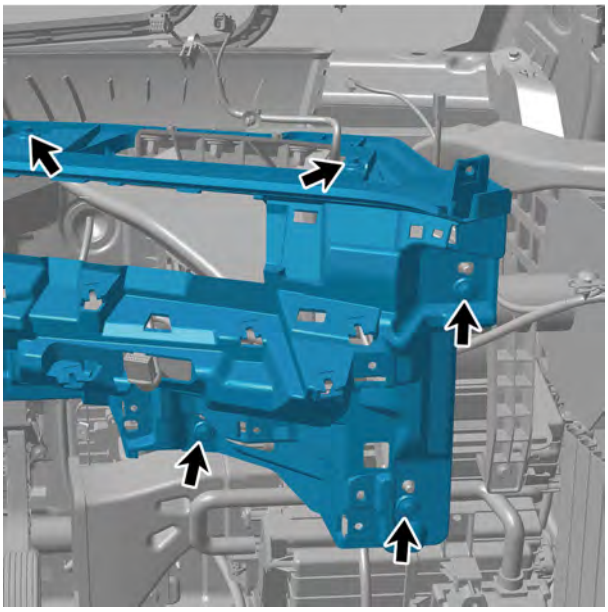
38 Remove the cover assy-defrost frt.

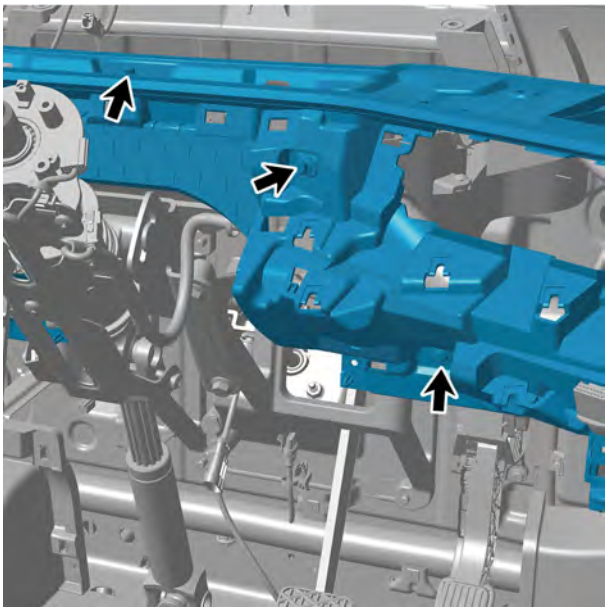
49 Remove 15 fixing bolts of the IP lower body assembly, and remove the IP lower body assembly.

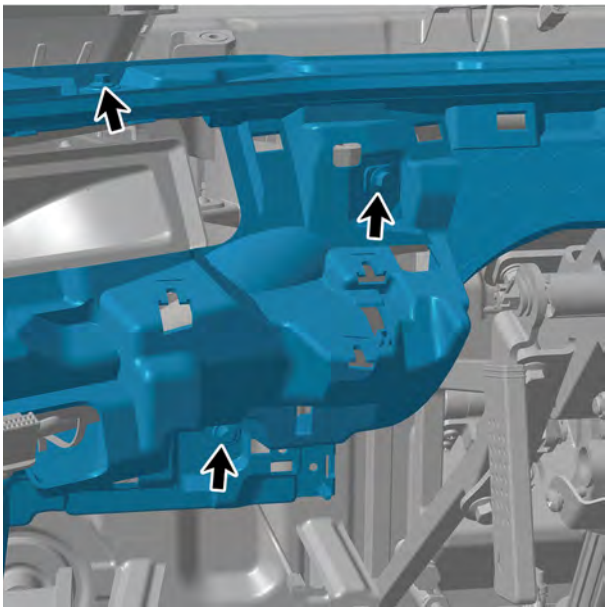




Installation Procedures



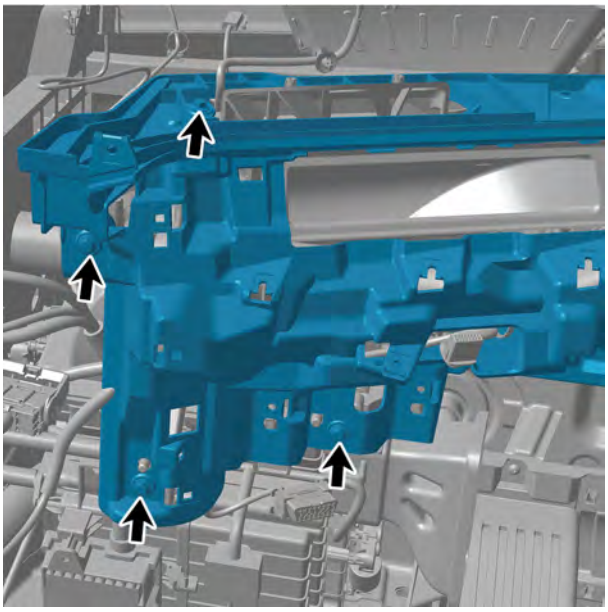




1 Move the IP lower body assembly to the mounting position.

2 Install 15 fixing bolts of the IP lower body assembly.

Torque: (6.5 +/- .75) ft lbs



3 Install the cover assy-defrost frt.

4 Install the decorative plate assy-dashboard-rh frt.

5 Install the lor trim assy-dashboard-rh frt.

6 Install the trim assy-dashboard-lh frt.

7 Install the ontology assy on the dashboard.

8 Install the air vent decorative plate assy-rh.

9 Install the storage box assy-rh.

10 Install the lower switch panel assy-rh.

11 Install the switch panel assy-rh.

12 Install the cover assy-dashboard-rh frt.

13 Install the front side enclosure assy-rh.

14 Install the assembly of the cover assy-steering under column guard.

15 Install the air vent decorative plate assy-lh.

16 Install the instrument panel trim panel assy- upper lh.

17 Install the vehicle travelling data recorder.

18 Install the switch panel lower trim assy-lh.

19 Install the trim assy on the switch panel-lh.

20 Install the cover assy-dashboard-lh frt.

21 Install the front side enclosure assy-lh.

22 Install the assembly of the instrument panel trim panel assy- lowerr lh.

23 Install the a-pillar guard assy-rh.

24 Install the a-pillar guard assy-lh.

25 Install the base-rh display brkt.

26 Install the camera monitor screen-rh.

27 Install the upr cover- rh camera brkt.

28 Install the base-lh display brkt.

29 Install the camera monitor screen.

30 Install the upr cover- lh camera brkt.

31 Install the ipc screen.

32 Install the car screen.

33 Install the ivi screen.

34 Install the ip brim assy.

35 Install the cover-combination switch-lor.

36 Install the steering wheel assy.

37 Install the dab decorative cove.

38 Connect the battery negative cable.

39 Close the front flip cover plate.

40 Close the door.

6.11.3.6 Replacement of IP Upper Body Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the ip brim assy.

5 Remove the ivi screen.

6 Remove the car screen.

7 Remove the ipc screen.

8 Remove the upr cover- lh camera brkt.

9 Remove the camera monitor screen.

10 Remove the base-lh display brkt.

11 Remove the upr cover- rh camera brkt.

12 Remove the camera monitor screen-rh.

13 Remove the base-rh display brkt.

14 Remove the a-pillar guard assy-lh.

15 Remove the a-pillar guard assy-rh.

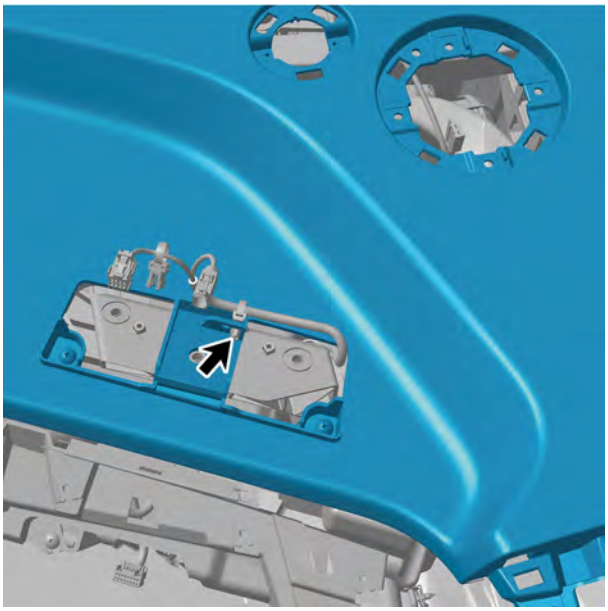
16 Remove the assembly of the instrument panel trim panel assy- lowerr lh.

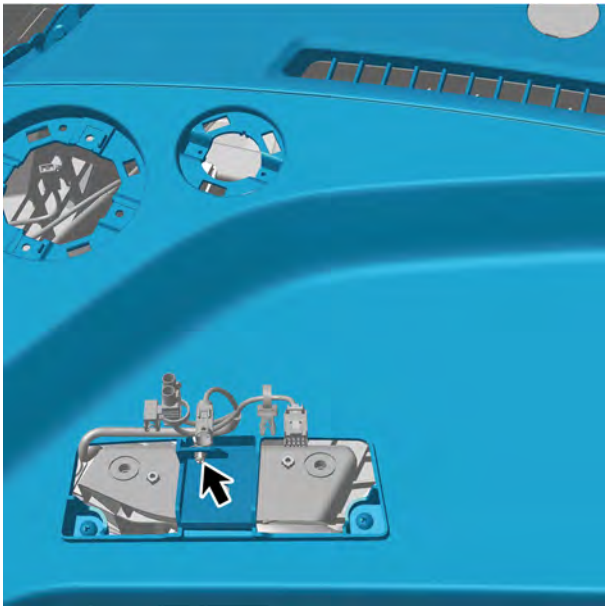
17 Remove the front side enclosure assy-lh.

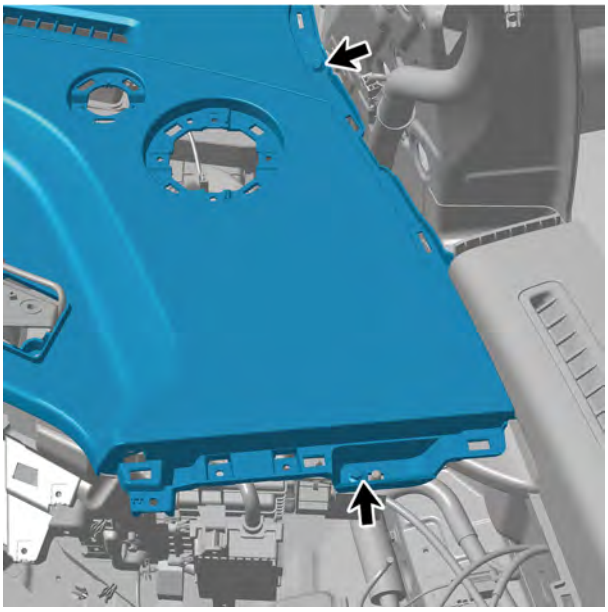
18 Remove the assembly of the cover assy-steering under column guard.

19 Remove the front side enclosure assy-rh.

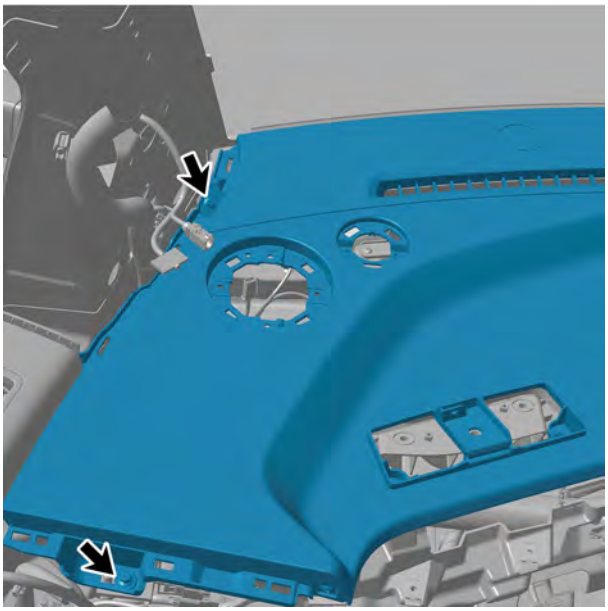
20 Disengage 2 fixing clips of the IP upper body assembly.

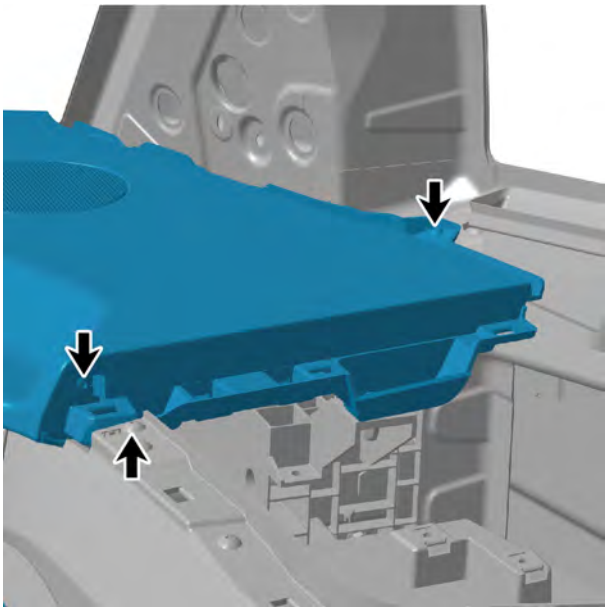






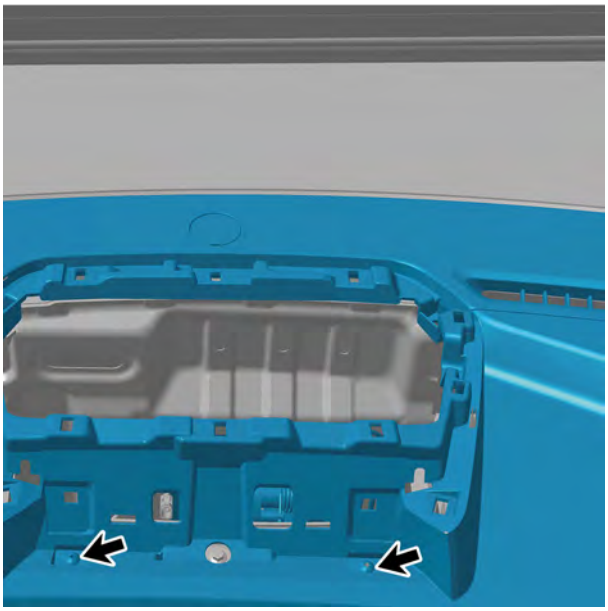
21 Remove 4 fixing bolts of the IP upper body assembly.

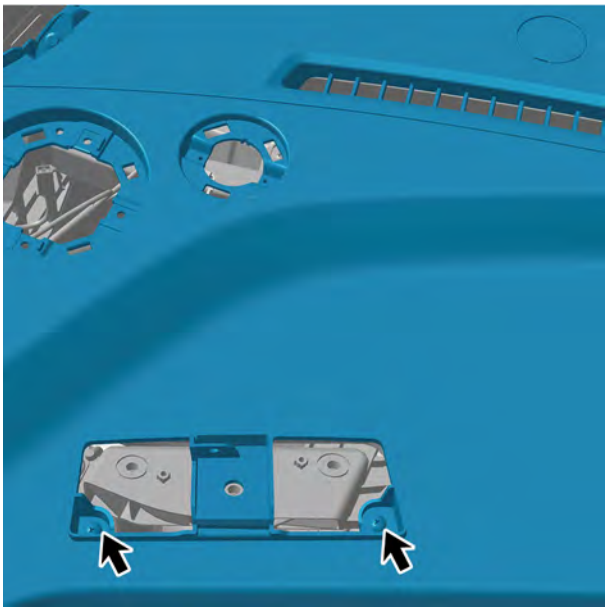


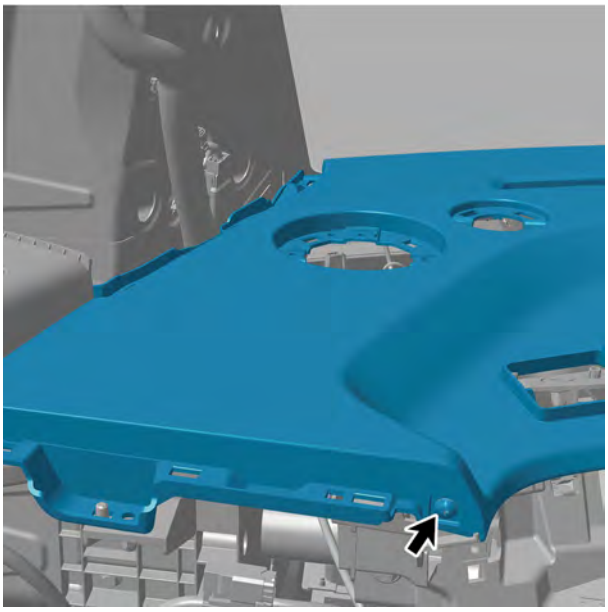


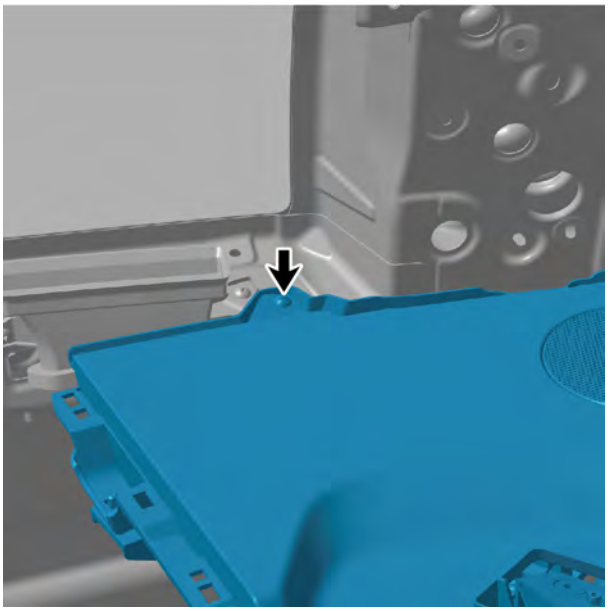
22 Remove 11 fixing screws of the IP upper body assembly.



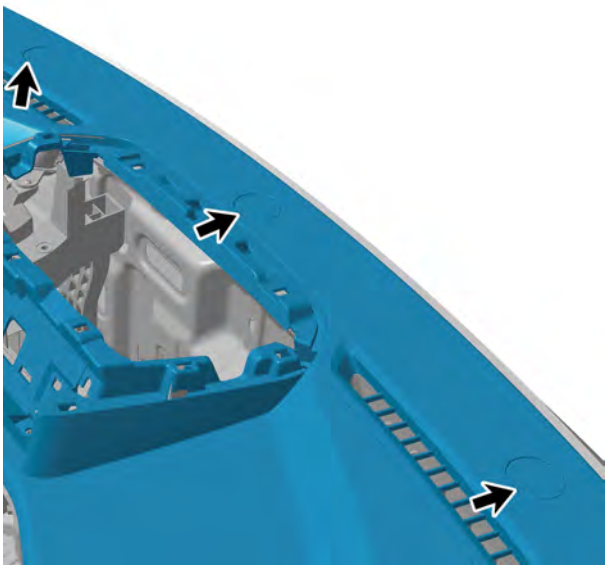


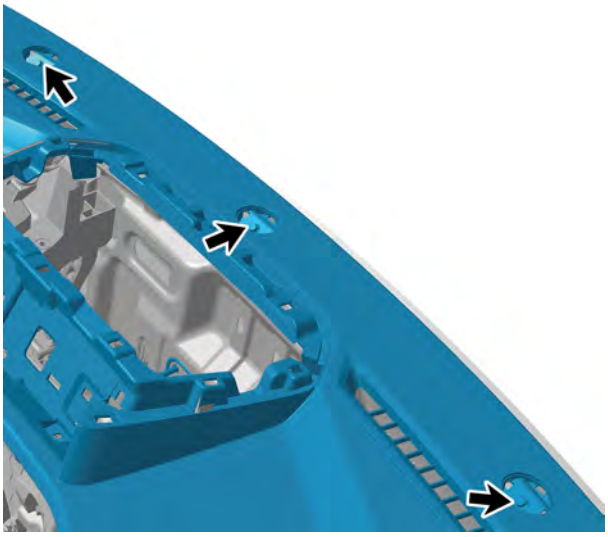






23 Detach 3 protection covers of the IP upper body assembly.

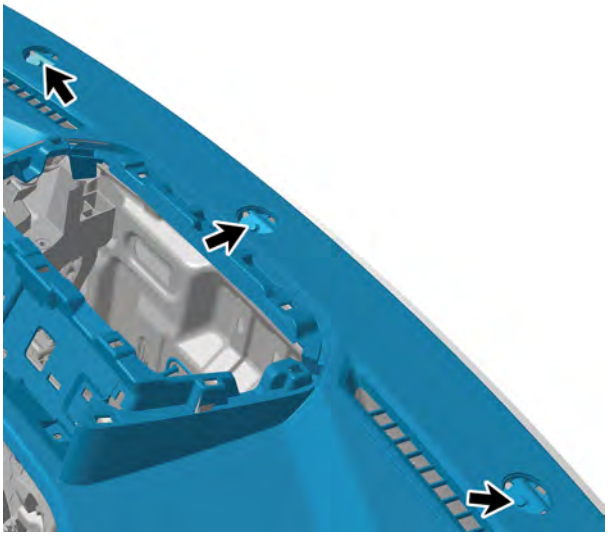




24 Remove 3 fixing bolts of the IP upper body assembly.

25 Remove the IP upper body assembly.

Installation Procedures

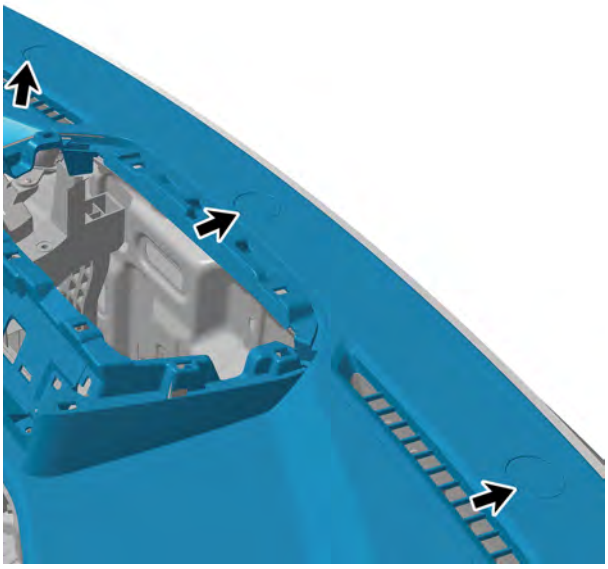


1 Move the IP upper body assembly to the mounting position.

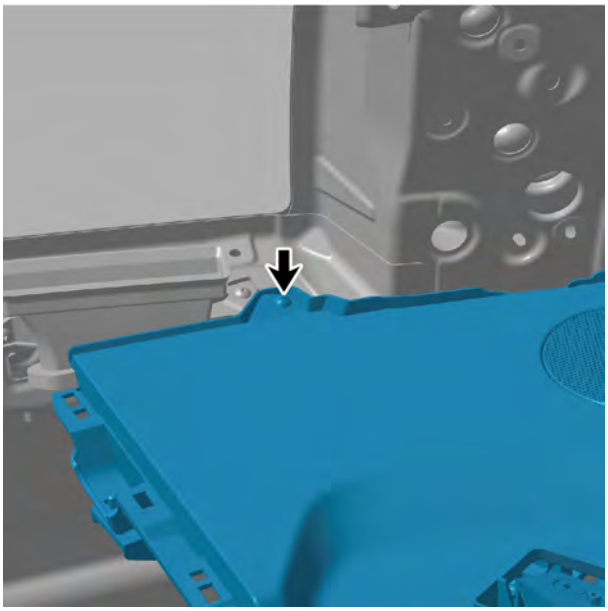
2 Install 3 fixing bolts of the IP upper body assembly.

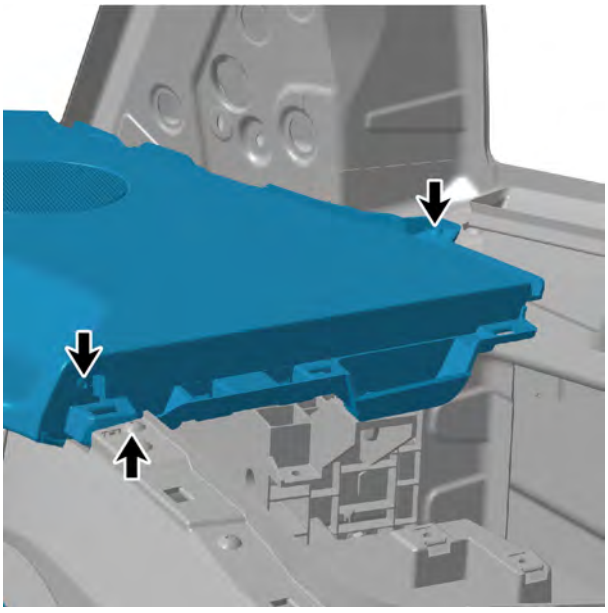
Torque:(6.5 +/- .75) ft lbs

3 Install 3 protection covers of the IP upper body assembly.

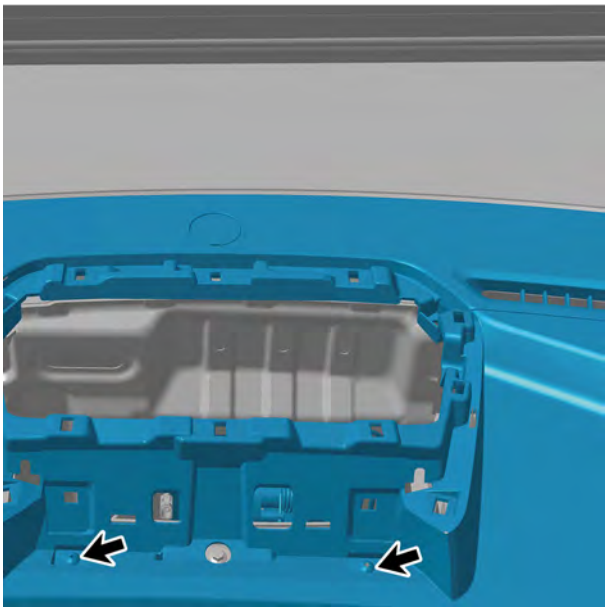


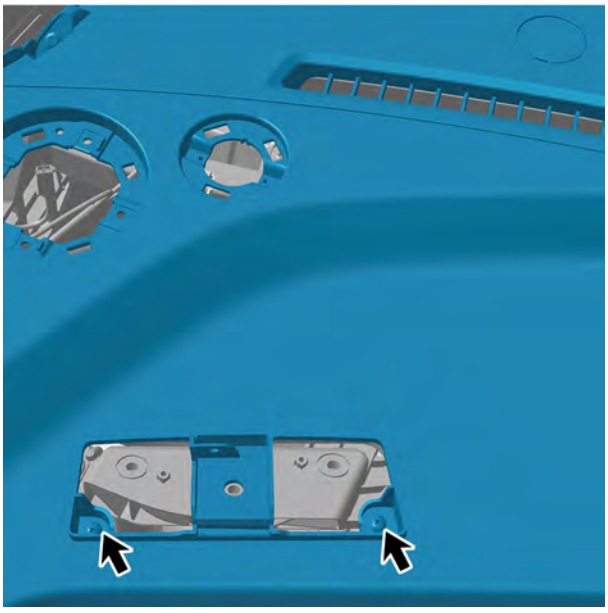
4 Install 11 fixing screws of the IP upper body assembly.

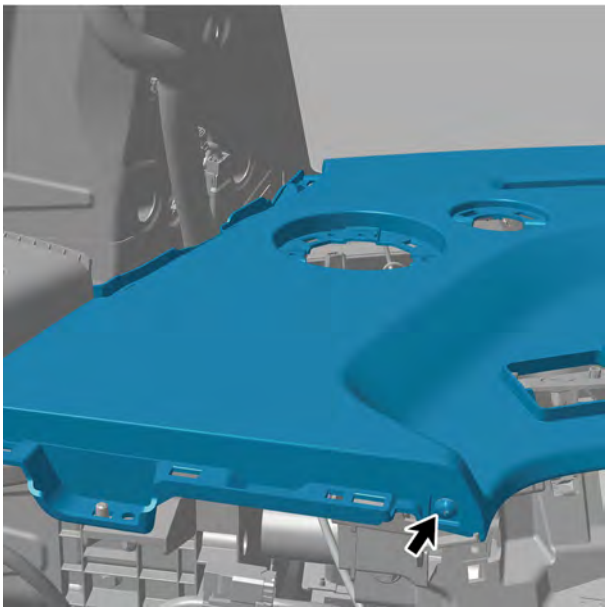


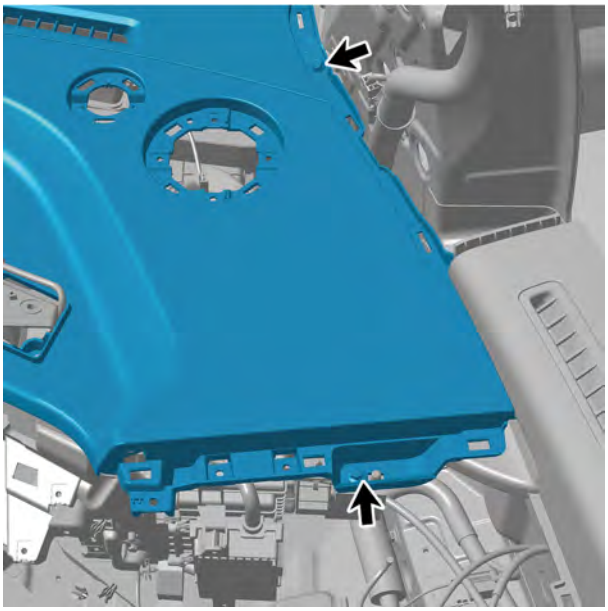


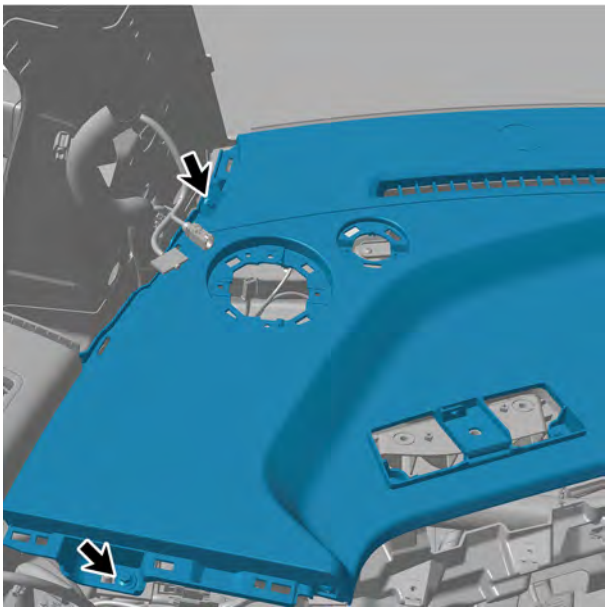






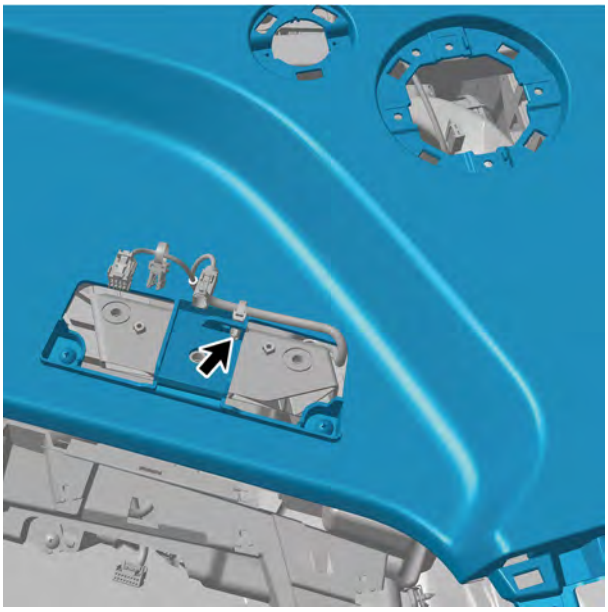


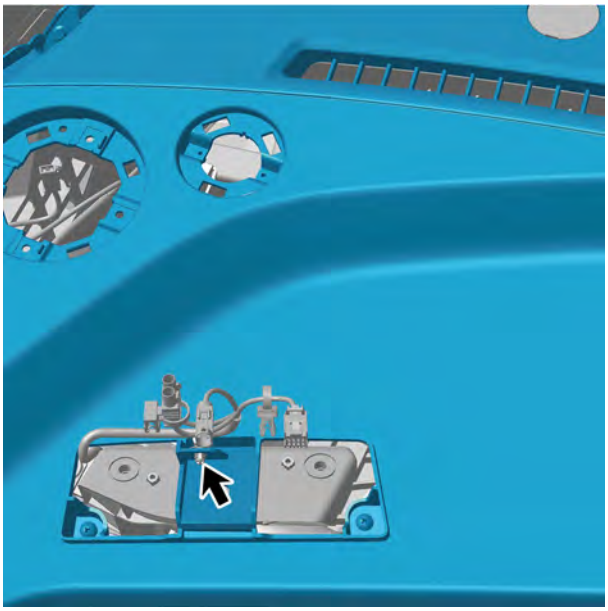




5 Install 4 fixing bolts of the IP upper body assembly.

Torque:(6.5 +/- .75) ft lbs





6 Install 2 fixing clips of the IP upper body assembly.

7 Install the front side enclosure assy-rh.

8 Install the assembly of the cover assy-steering under column guard.

9 Install the front side enclosure assy-lh.

10 Install the assembly of the instrument panel trim panel assy- lowerr lh.

11 Install the a-pillar guard assy-rh.

12 Install the a-pillar guard assy-lh.

13 Install the base-rh display brkt.

14 Install the camera monitor screen-rh.

15 Install the upr cover- rh camera brkt.

16 Install the base-lh display brkt.

17 Install the camera monitor screen.

18 Install the upr cover- lh camera brkt.

19 Install the ipc screen.

20 Install the car screen.

21 Install the ivi screen.

22 Install the ip brim assy.

23 Connect the battery negative cable.

24 Close the front flip cover plate.

25 Close the door.

6.11.3.7 Replacement of IP Brim Assembly

Removal Procedures

1 Open the door.

2 Remove the IP brim assembly.



Installation Procedures



1 Install the IP brim assembly.

2 Close the door.

6.11.3.8 Replacement of Left Vent Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the upr cover assy-combination switch.

5 Remove the vehicle travelling data recorder.

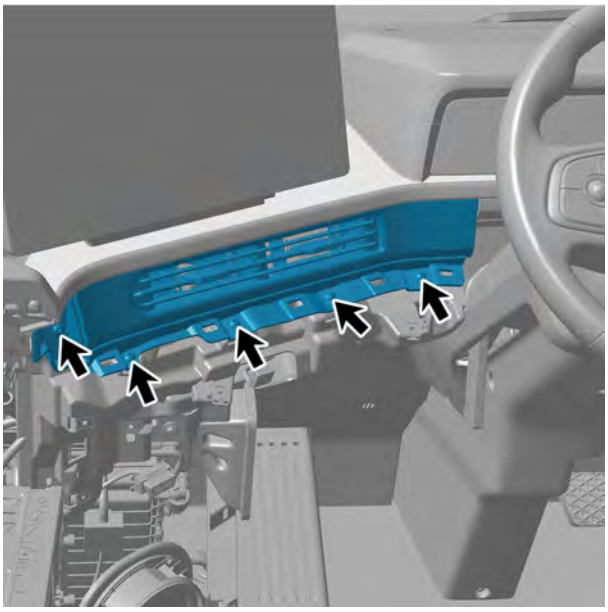
6 Remove the assembly of the instrument panel trim panel assy-lowerr lh.

7 Remove the cover assy-dashboard-lh frt.

8 Remove the trim assy on the switch panel-lh.

9 Remove the switch panel lower trim assy-lh.

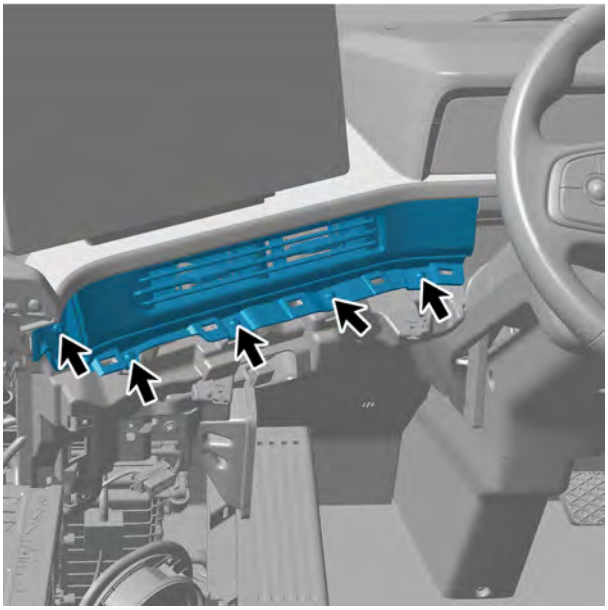
10 Remove the instrument panel trim panel assy-upper lh.



11 Remove 5 fixing screws of the left vent trim panel assembly.

12 Remove the left vent trim panel assembly.

Installation Procedures



1 Move the left vent trim panel assembly to the mounting position.

2 Install 5 fixing screws of the left vent trim panel assembly.

3 Install the instrument panel trim panel assy-upper lh.

4 Install the switch panel lower trim assy-lh.

5 Install the trim assy on the switch panel-lh.

6 Install the cover assy-dashboard-lh frt.

7 Install the assembly of the instrument panel trim panel assy-lowerr lh.

8 Install the vehicle travelling data recorder.

9 Install the upr cover assy-combination switch.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

6.11.3.9 Replacement of Right Vent Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the upr cover assy-combination switch.

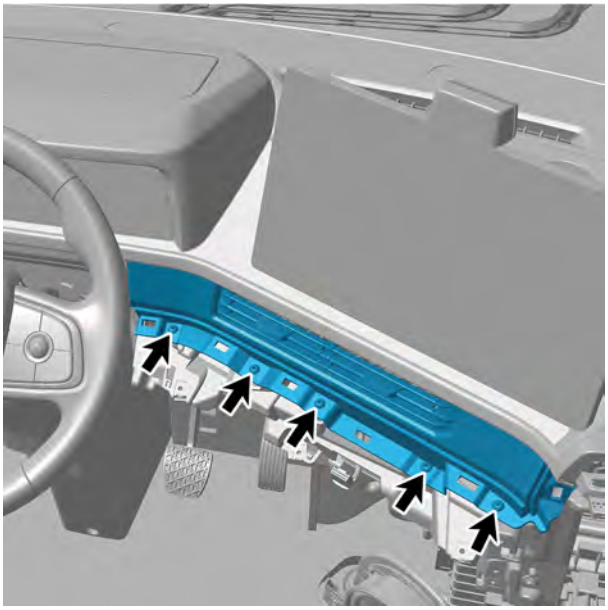
5 Remove the assembly of the cover assy-steering under column guard.

6 Remove the cover assy-dashboard-rh frt.

7 Remove the switch panel assy-rh.

8 Remove the lower switch panel assy-rh.

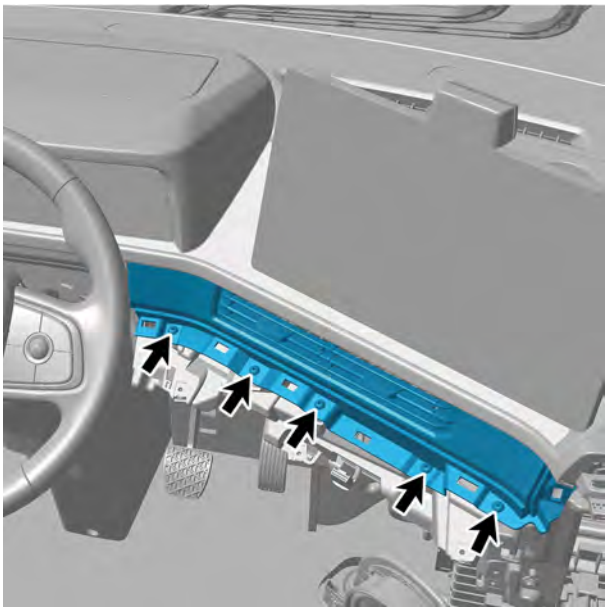
9 Remove the storage box assy-rh.



10 Remove 5 fixing screws of the right vent trim panel assembly.

11 Remove the right vent trim panel assembly.

Installation Procedures



1 Move the right vent trim panel assembly to the mounting position.

2 Install 5 fixing screws of the right vent trim panel assembly.

3 Install the storage box assy-rh.

4 Install the lower switch panel assy-rh.

5 Install the switch panel assy-rh.

6 Install the cover assy-dashboard-rh frt.

7 Install the Assembly of the cover assy-steering under column guard.

8 Install the upr cover assy-combination switch.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

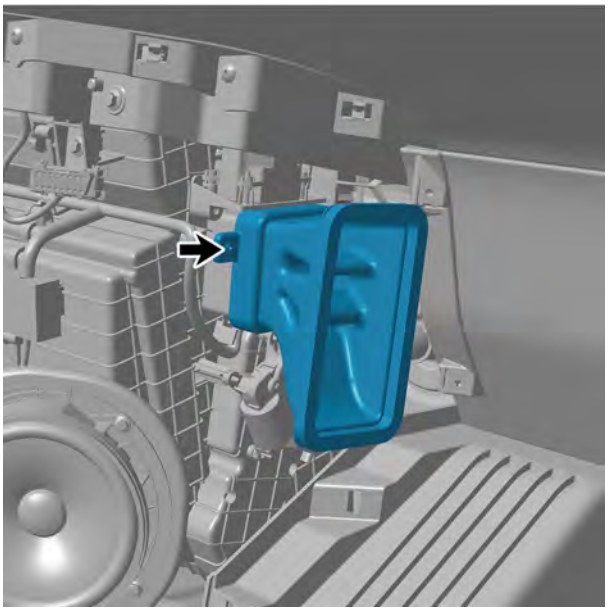
11 Close the door.

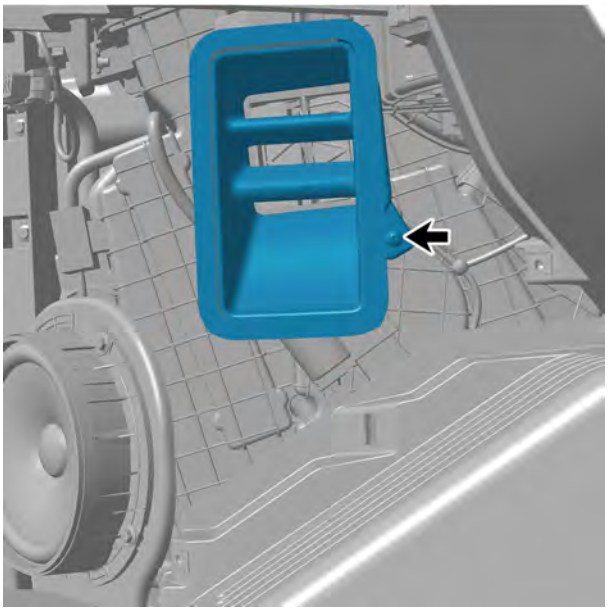
6.11.3.10 Replacement of Left Foot Blowing Duct Assembly

Removal Procedures

1 Open the door.

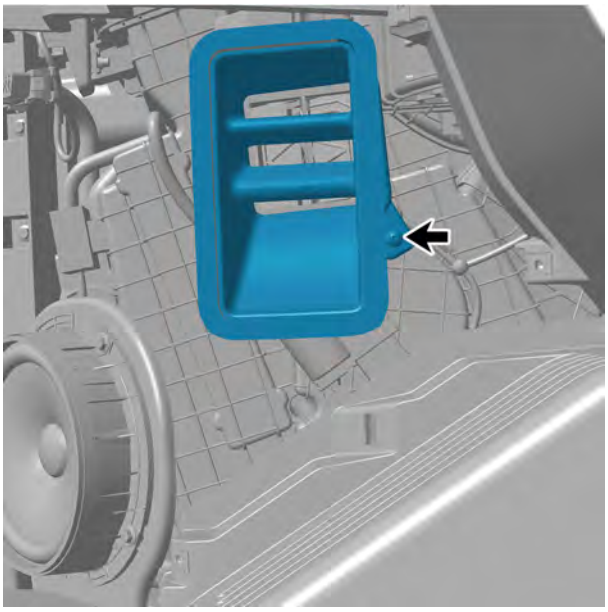
2 Remove the IP left access cover plate assembly.

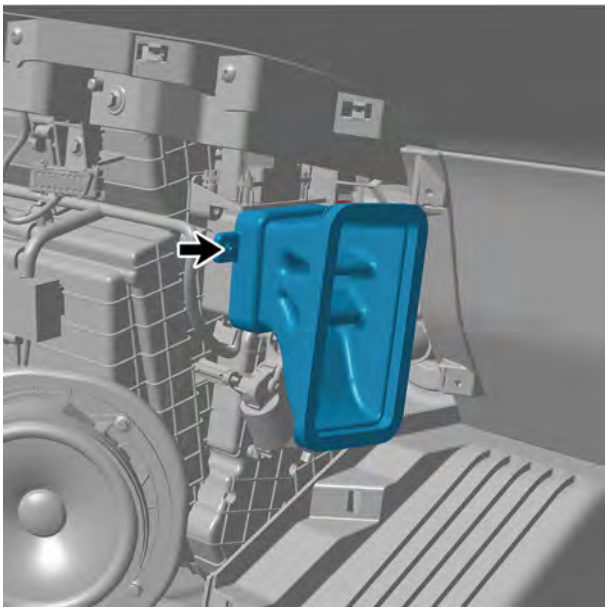




3 Remove 2 fixing screws of the left foot blowing duct assembly, and remove the left foot blowing duct assembly.

Installation Procedures





1 Move the left foot blowing duct assembly to the mounting position.

2 Install 2 fixing screws of the left foot blowing duct assembly.

3 Install the IP left access cover plate assembly.

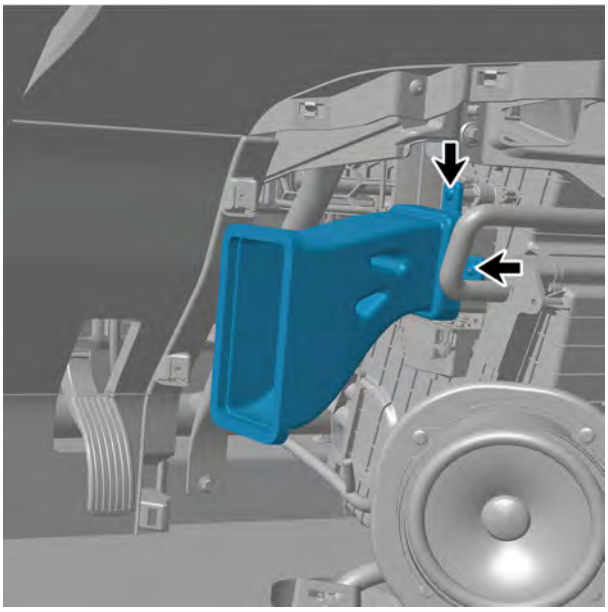
4 Close the door.

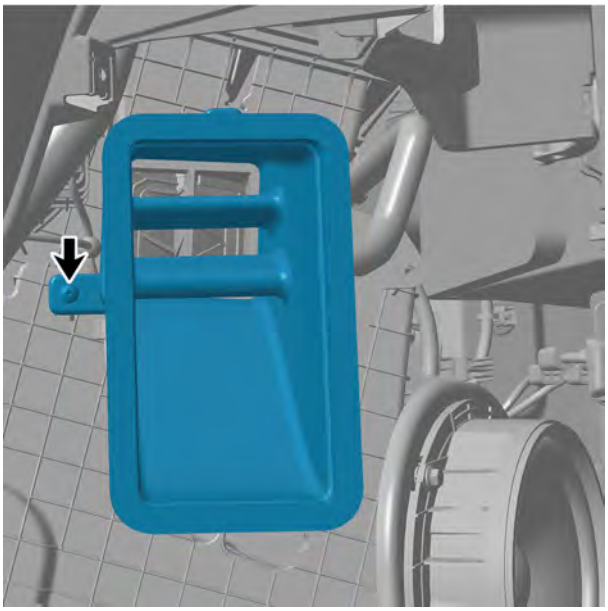
6.11.3.11 Replacement of Right Foot Blowing Duct Assembly

Removal Procedures

1 Open the door.

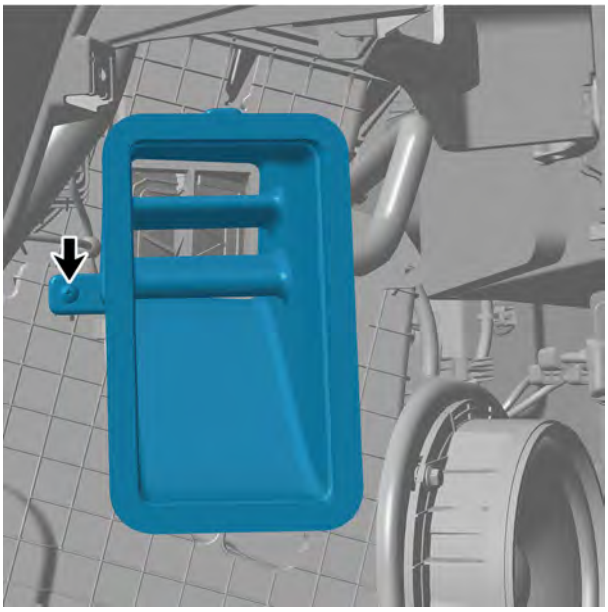
2 Remove the IP right access cover plate assembly.

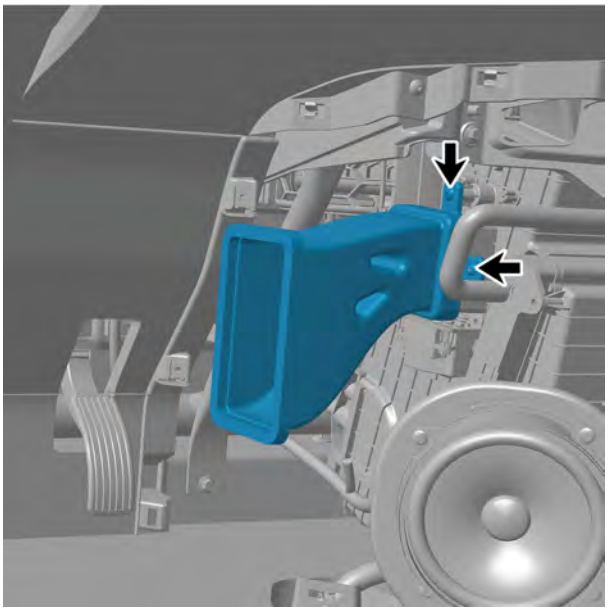




3 Remove 3 fixing screws of the right foot blowing duct assembly, and remove the right foot blowing duct assembly.

Installation Procedures





1 Move the right foot blowing duct assembly to the mounting position.

2 Install 3 fixing screws of the right foot blowing duct assembly.

3 Install the IP right access cover plate assembly.

4 Close the door.

6.11.3.12 Replacement of IP Left Lower Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

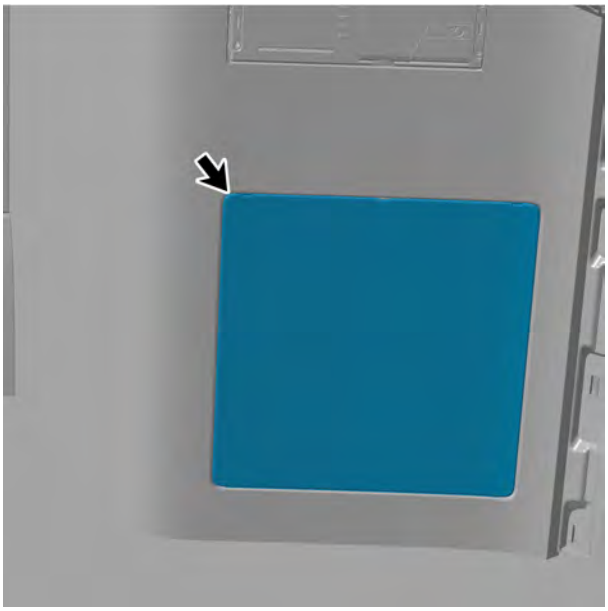
4 Remove the assembly of the instrument panel trim panel assy- lowerr lh.

5 Remove the vehicle travelling data recorder.

6 Remove the cover assy-dashboard-lh frt.

7 Remove the trim assy on the switch panel-lh.

8 Remove the switch panel lower trim assy-lh.

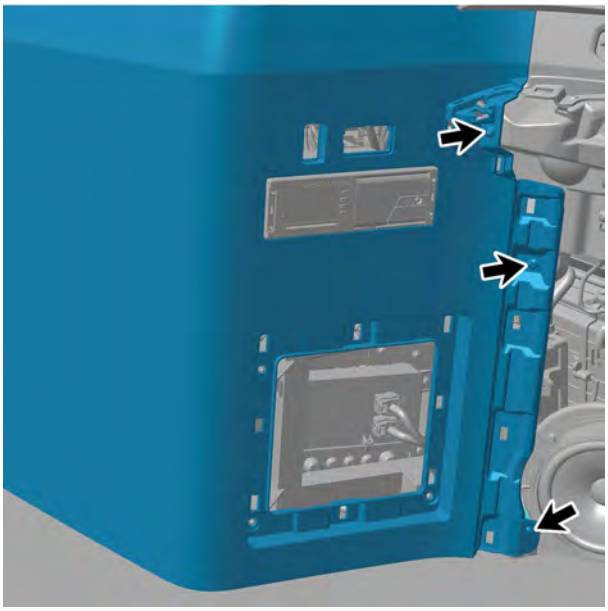


9 Use a small flat-head screwdriver to pry open the cover plate from the three notches at the top.Separate the upper clips.Insert a long - handled clip prying plate into the area where the cover has been pried open. Pry open the clips beneath the cover, and then remove the cover.

caution

The width of the flat - bladed screwdriver should be smaller than that of the notches on the cover. Otherwise, it may scratch the cover, and in severe cases, even damage it.

Before using the flat - bladed screwdriver, wrap the flat tip with cloth tape or a strip of cloth to prevent scratching the cover.



10 Remove 3 fixing screws of the IP left lower trim panel assembly.



11 Remove 3 fixing bolts of the IP left lower trim panel assembly.

12 Remove the IP left lower trim panel assembly.

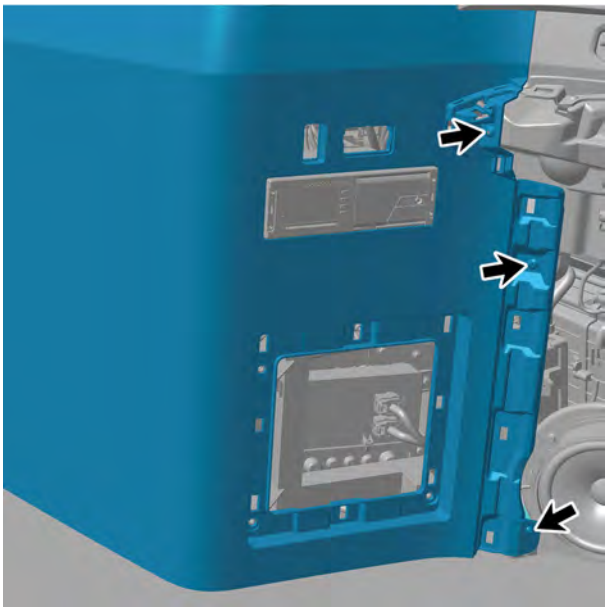
Installation Procedures



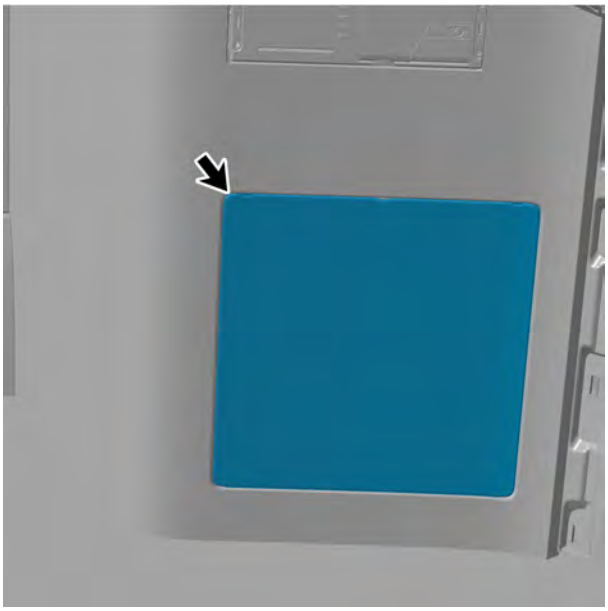
1 Move the IP left lower trim panel assembly to the mounting position.

2 Install 3 fixing bolts of the IP left lower trim panel assembly.

Torque: (6.5 ft-lb +/- .75 ft-lb) ft-lb



3 Install 3 fixing screws of the IP left lower trim panel assembly.



4 Install the cover plate.

5 Install the switch panel lower trim assy-lh.

6 Install the trim assy on the switch panel-lh.

7 Install the cover assy-dashboard-lh frt.

8 Install the vehicle travelling data recorder.

9 Install the assembly of the instrument panel trim panel assy- lowerr lh.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

6.11.3.13 Replacement of Right Storage Box Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

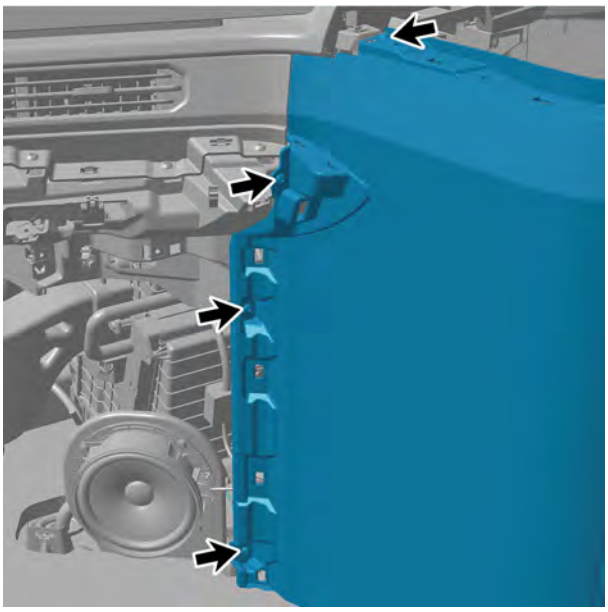
4 Remove the IP right upper trim panel assembly.

5 Remove the IP right access cover plate assembly.

6 Remove the right switch panel assembly.

7 Remove the right switch panel lower trim panel assembly.

8 Remove 4 fixing screws of the right storage box assembly.





9 Remove 3 fixing bolts of the right storage box assembly.

10 Remove the right storage box assembly.

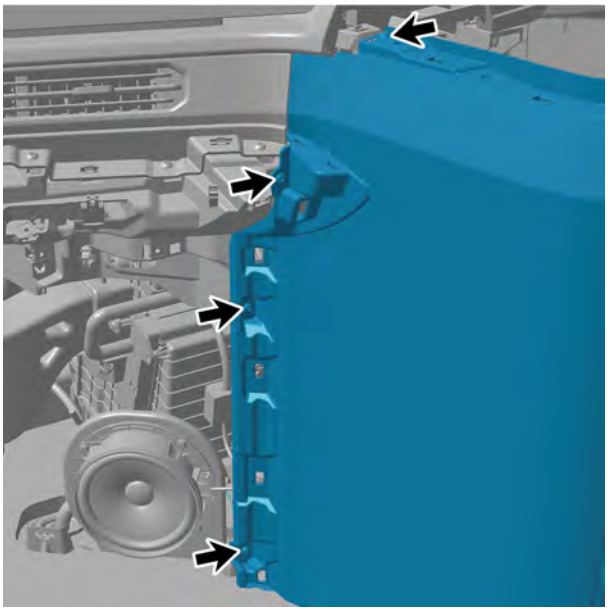
Installation Procedures



1 Move the right storage box assembly to the mounting position.

2 Install 3 fixing bolts of the right storage box assembly.

Torque: (6.5 +/- .75) ft lbs



3 Install 4 fixing screws of the right storage box assembly.

4 Install the right switch panel lower trim panel assembly.

5 Install the right switch panel assembly.

6 Install the IP right access cover plate assembly.

7 Install the IP right upper trim panel assembly.

8 Connect the battery negative cable.

9 Close the front flip cover plate.

10 Close the door.

6.11.3.14 Replacement of IP Left Upper Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Detach the IP left upper trim panel assembly.



5 Disconnect 1 harness connector of the IP left upper trim panel assembly.

6 Remove the IP left upper trim panel assembly.

Installation Procedures



1 Move the IP left upper trim panel assembly to the mounting position.

2 Connect 1 harness connector of the IP left upper trim panel assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install the IP left upper trim panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

6.11.3.15 Replacement of IP Right Upper Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

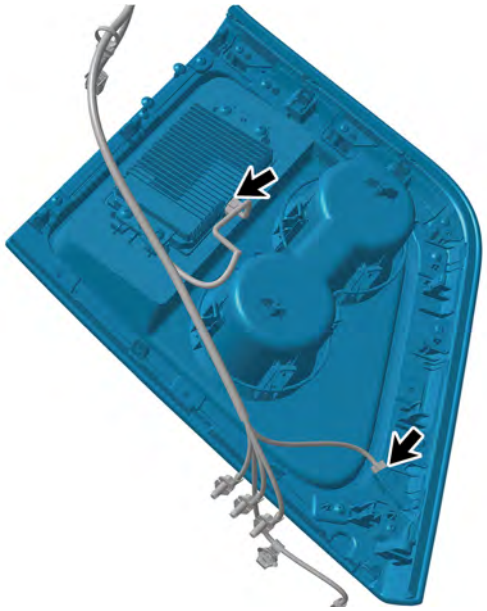
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



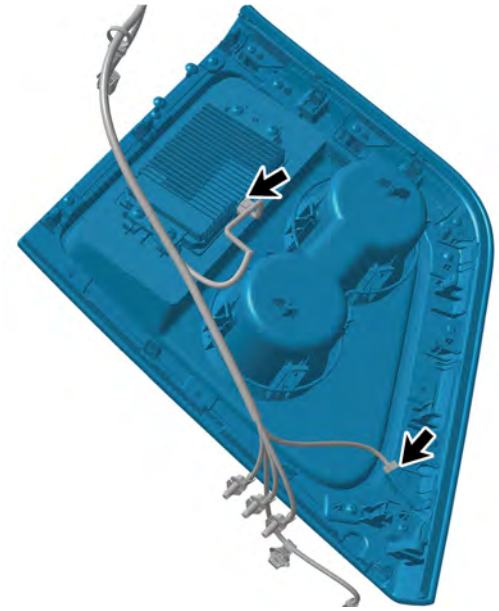
4 Detach the IP right upper trim panel assembly.



5 Disconnect 2 harness connectors of the IP right upper trim panel assembly.

6 Remove the IP right upper trim panel assembly.

Installation Procedures



1 Move the IP right upper trim panel assembly to the mounting position.

2 Connect 2 harness connectors of the IP right upper trim panel assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install the IP right upper trim panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

6.11.3.16 Replacement of Steering Column Lower Shield Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left access cover plate assembly.

5 Remove the left switch panel assembly.

6 Remove the left switch panel lower trim panel assembly.

7 Remove the IP left front trim panel assembly.

8 Remove the IP right access cover plate assembly.

9 Remove the right switch panel assembly.

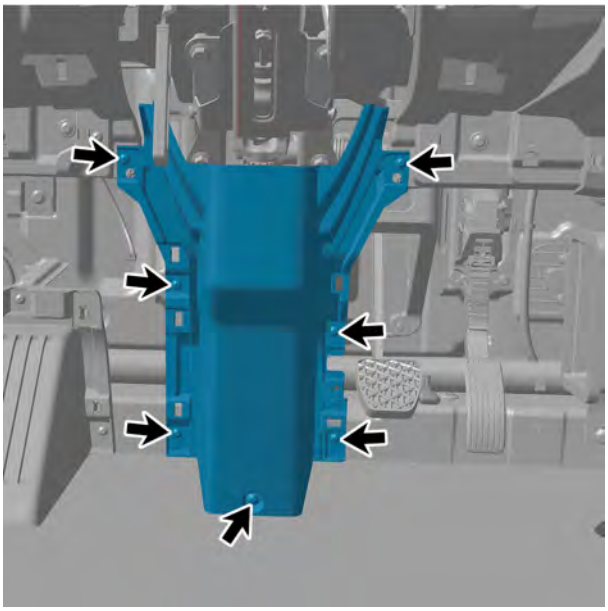
10 Remove the right switch panel lower trim panel assembly.

11 Remove the IP right front lower trim panel assembly.

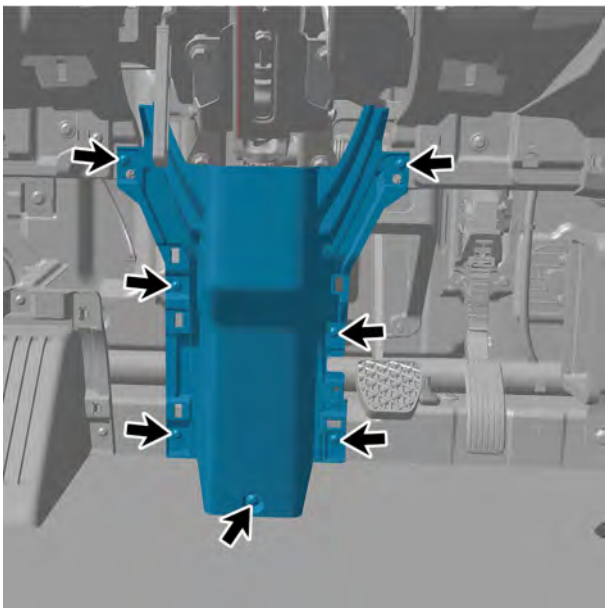
12 Remove the IP right front upper trim panel assembly.

13 Remove 7 fixing screws of the steering column lower shield assembly.

14 Remove the steering column lower shield assembly.



Installation Procedures



1 Move the steering column lower shield assembly to the mounting position.

2 Install 7 fixing screws of the steering column lower shield assembly.

3 Install the IP right front upper trim panel assembly.

4 Install the IP right front lower trim panel assembly.

5 Install the right switch panel lower trim panel assembly.

6 Install the right switch panel assembly.

7 Install the IP right access cover plate assembly.

8 Install the IP left front trim panel assembly.

9 Install the left switch panel lower trim panel assembly.

10 Install the left switch panel assembly.

11 Install the IP left access cover plate assembly.

12 Connect the battery negative cable.

13 Close the front flip cover plate.

14 Close the door.

6.11.3.17 Replacement of Footrest Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left access cover plate assembly.

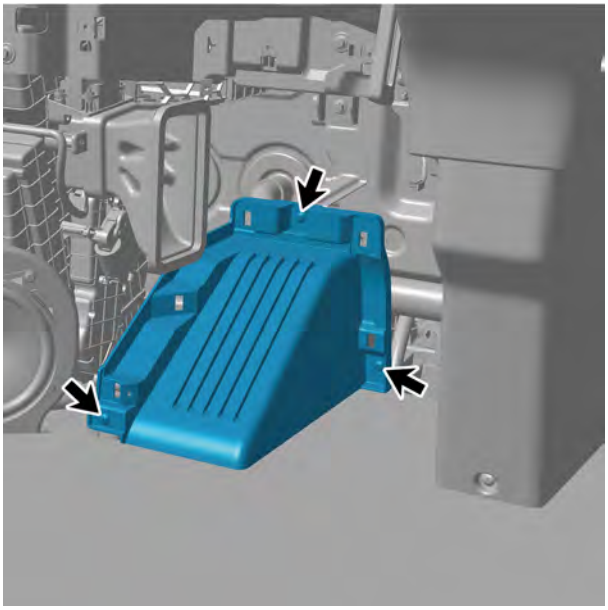
5 Remove the left switch panel assembly.

6 Remove the left switch panel lower trim panel assembly.

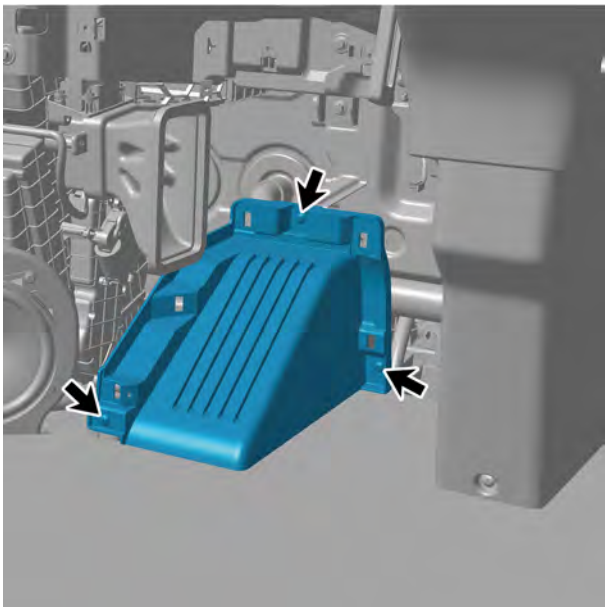
7 Remove the IP left front trim panel assembly.

8 Remove 3 fixing screws of the footrest assembly.

9 Remove the footrest assembly.



Installation Procedures



1 Move the footrest assembly to the mounting position.

2 Install 3 fixing screws of the footrest assembly.

3 Install the IP left front trim panel assembly.

4 Install the left switch panel lower trim panel assembly.

5 Install the left switch panel assembly.

6 Install the IP left access cover plate assembly.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

6.11.3.18 Replacement of IP Left Front Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

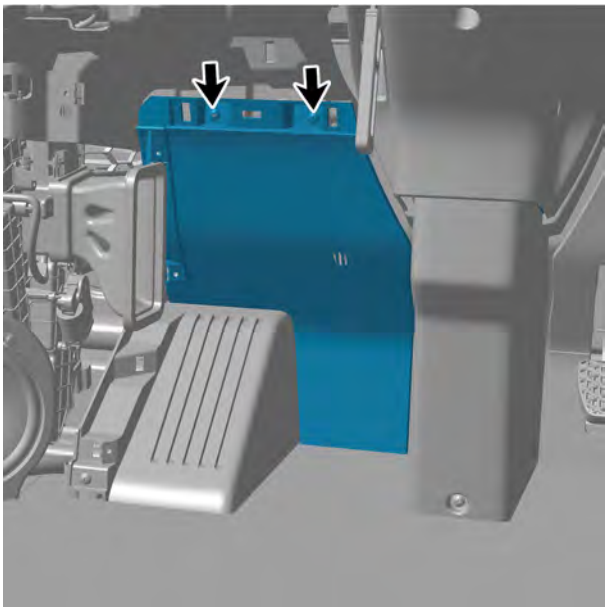
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left access cover plate assembly.

5 Remove the left switch panel assembly.

6 Remove the left switch panel lower trim panel assembly.



7 Remove 2 fixing screws of the IP left front trim panel assembly.

8 Detach the IP left front trim panel assembly.



9 Disconnect 1 harness connector of the IP left front trim panel assembly.

Installation Procedures

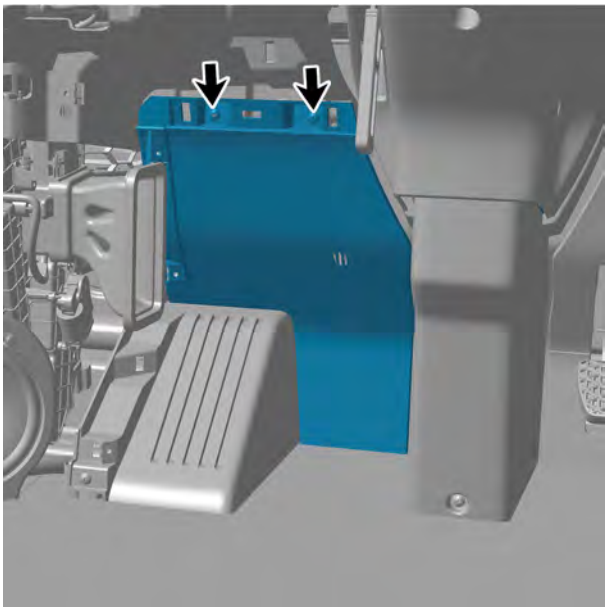


1 Move the IP left front trim panel assembly to the mounting position.

2 Connect 1 harness connector of the interior temperature sensor assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install 2 fixing screws of the IP left front trim panel assembly.

4 Install the left switch panel lower trim panel assembly.

5 Install the left switch panel assembly.

6 Install the IP left access cover plate assembly.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

6.11.3.19 Replacement of IP Right Front Upper Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

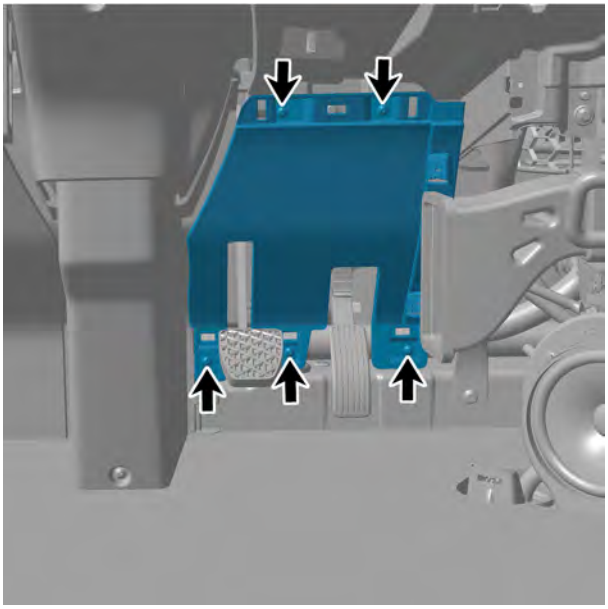
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP right access cover plate assembly.

5 Remove the IP right front lower trim panel assembly.

6 Remove the right switch panel assembly.

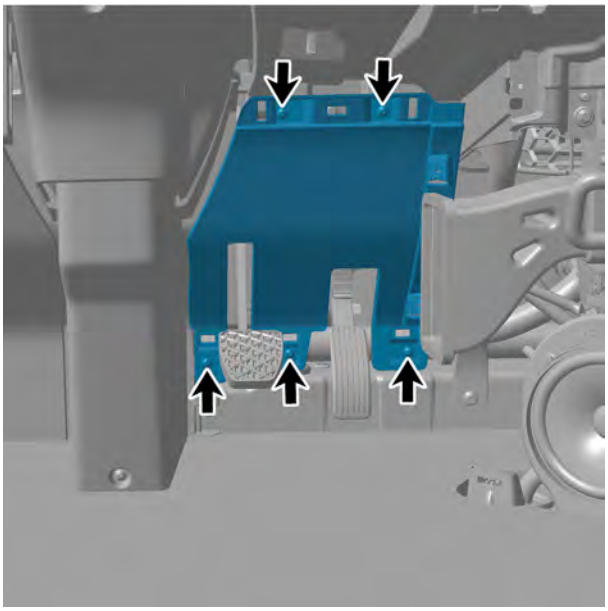
7 Remove the right switch panel lower trim panel assembly.



8 Remove 5 fixing screws of the IP right front upper trim panel assembly.

9 Remove the IP right front upper trim panel assembly.

Installation Procedures



1 Move the IP right front upper trim panel assembly to the mounting position.

2 Install 5 fixing screws of the IP right front upper trim panel assembly.

3 Install the right switch panel lower trim panel assembly.

4 Install the right switch panel assembly.

5 Install the IP right front lower trim panel assembly.

6 Install the IP right access cover plate assembly.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

6.11.3.20 Replacement of IP Right Front Lower Trim Panel Assembly

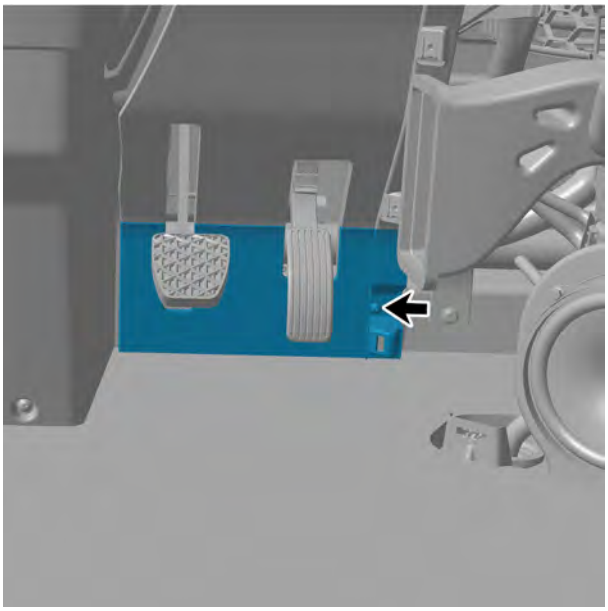
Removal Procedures

1 Open the door.

2 Remove the IP right access cover plate assembly.

3 Remove 1 fixing screw of the IP right front lower trim panel assembly.

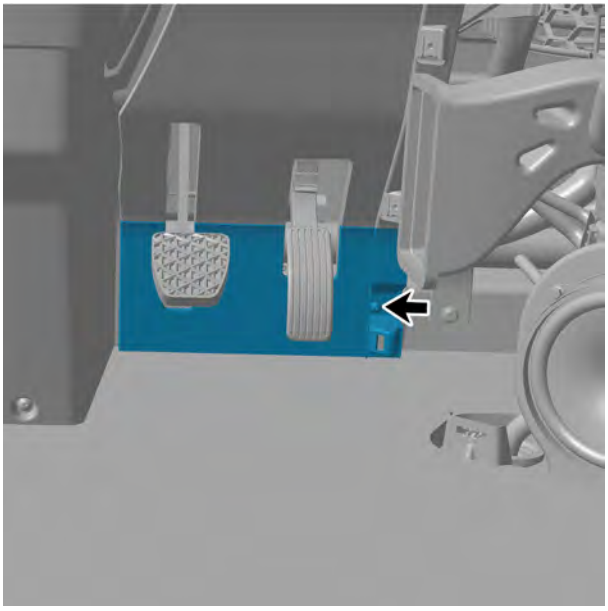
4 Remove the IP right front lower trim panel assembly.



Installation Procedures

1 Move the IP right front lower trim panel assembly to the mounting position.

2 Install 1 fixing screw of the IP right front lower trim panel assembly.



3 Install the IP right access cover plate assembly.

4 Close the door.

6.11.3.21 Replacement of Left Switch Panel Lower Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

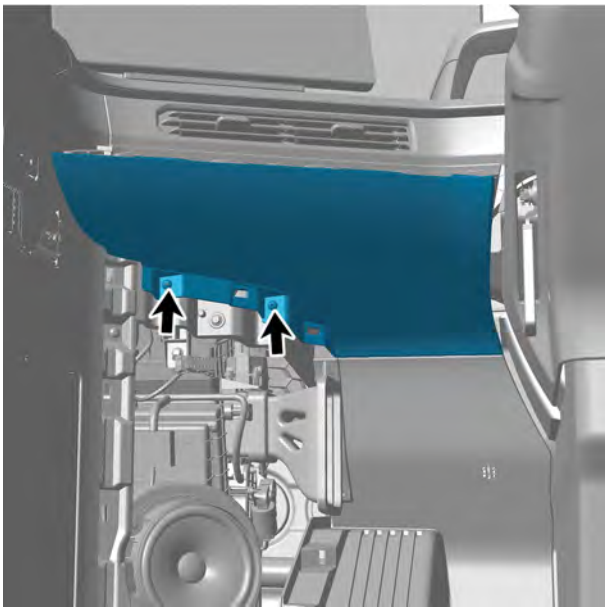
3 Disconnect the battery negative cable.

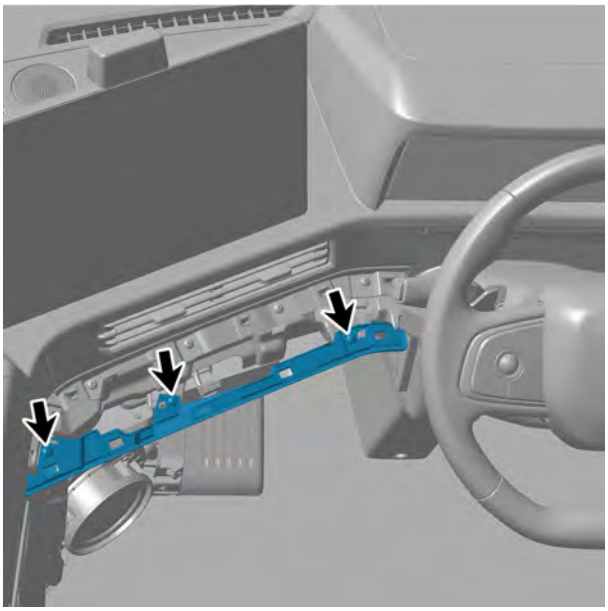
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left access cover plate assembly.

5 Remove the left switch panel assembly.

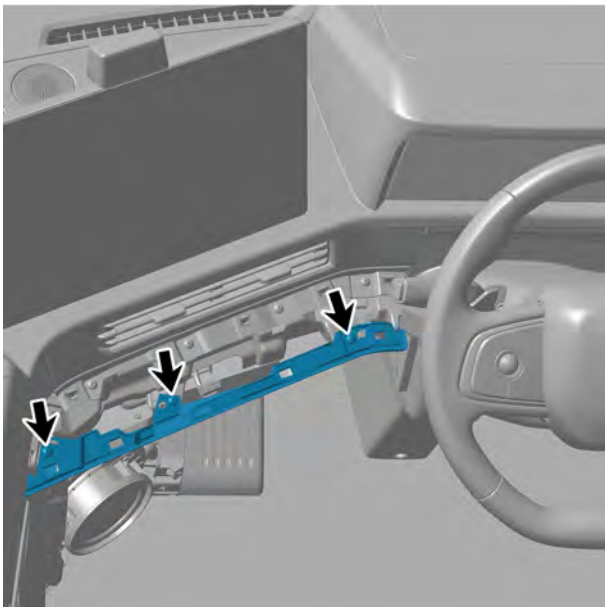


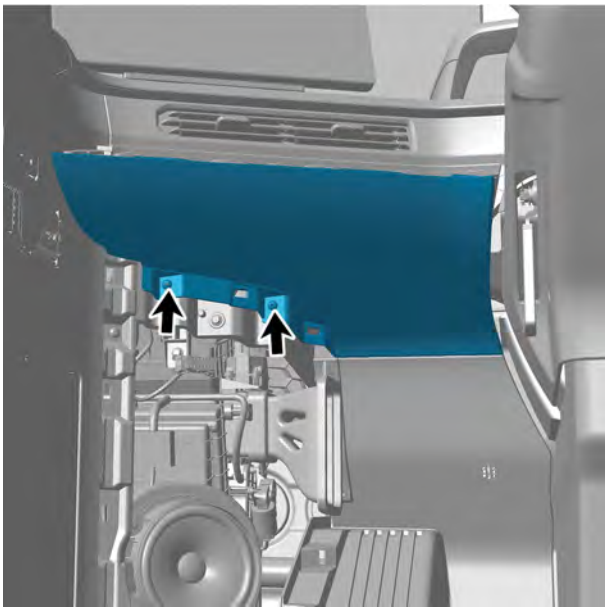


6 Remove 5 fixing screws of the left switch panel lower trim panel assembly.

7 Remove the left switch panel lower trim panel assembly.

Installation Procedures





1 Move the left switch panel lower trim panel assembly to the mounting position.

2 Install 5 fixing screws of the left switch panel lower trim panel assembly.

3 Install the left switch panel assembly.

4 Install the IP left access cover plate assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

6.11.3.22 Replacement of Right Switch Panel Lower Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

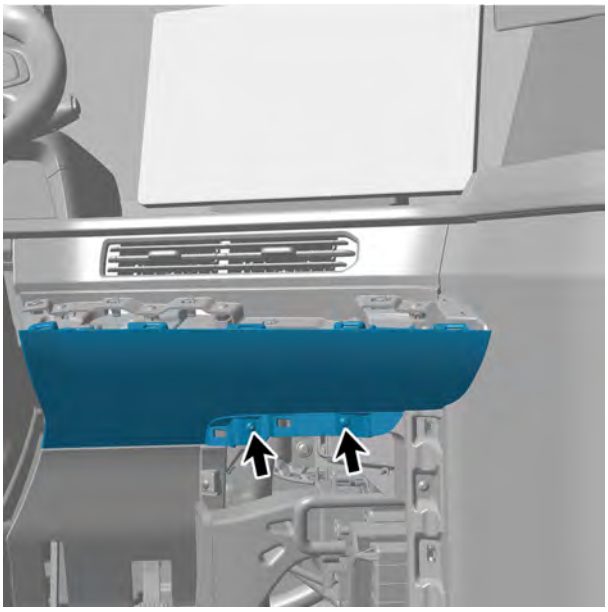
power down the high-voltage system before disconnecting the negative pole of the storage battery.

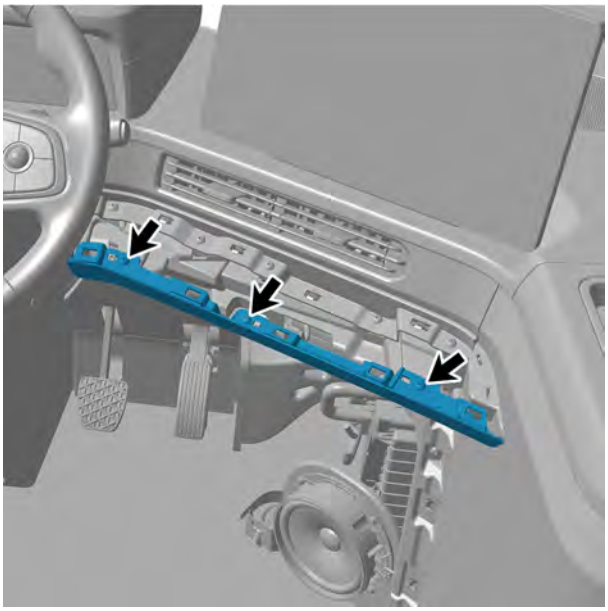
4 Remove the IP right access cover plate assembly.

5 Remove the right switch panel assembly.

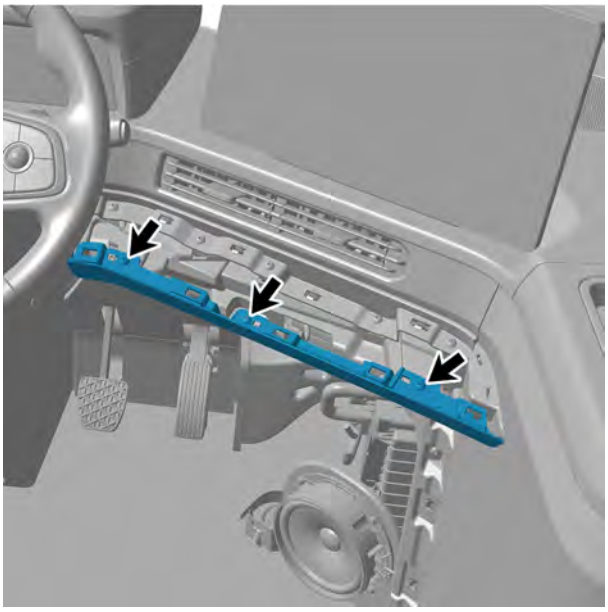
6 Remove 5 fixing screws of the right switch panel lower trim panel assembly.

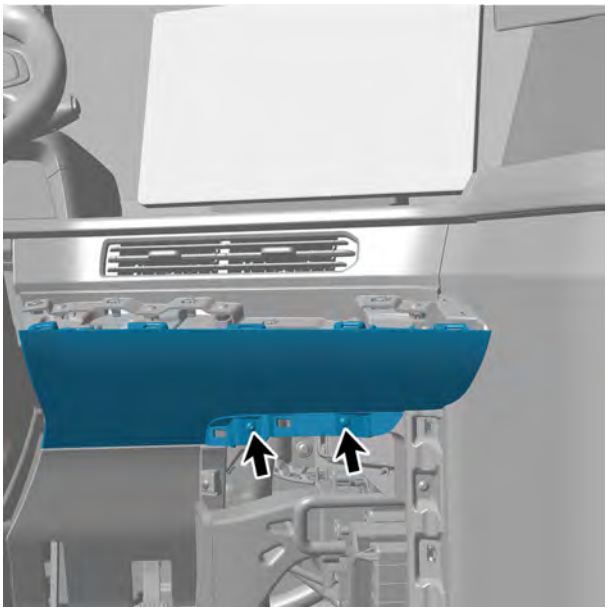
7 Remove the right switch panel lower trim panel assembly.





Installation Procedures





1 Move the right switch panel lower trim panel assembly to the mounting position.

2 Install 5 fixing screws of the right switch panel lower trim panel assembly.

3 Install the right switch panel assembly.

4 Install the IP right access cover plate assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

6.11.3.23 Replacement of Left Switch Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

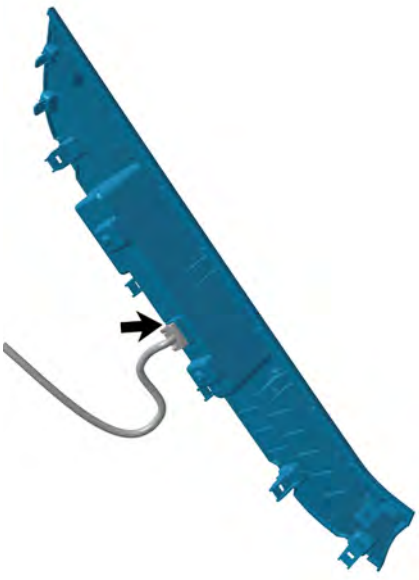
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



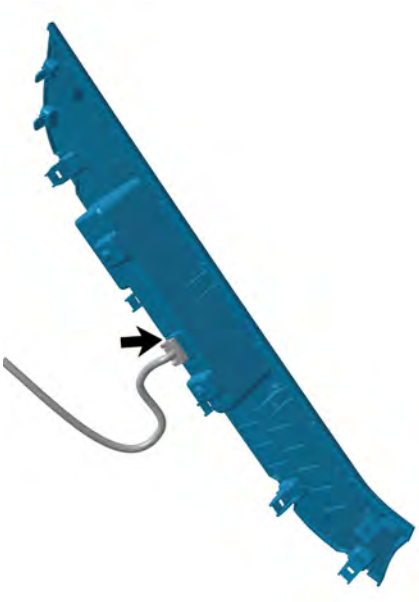
4 Detach the left switch panel assembly.



5 Disconnect 1 harness connector of the left switch panel assembly.

6 Remove the left switch panel assembly.

Installation Procedures



1 Move the left switch panel assembly to the mounting position.

2 Connect 1 harness connector of the left switch panel assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install the left switch panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

6.11.3.24 Replacement of Right Switch Panel Assembly

Removal Procedures

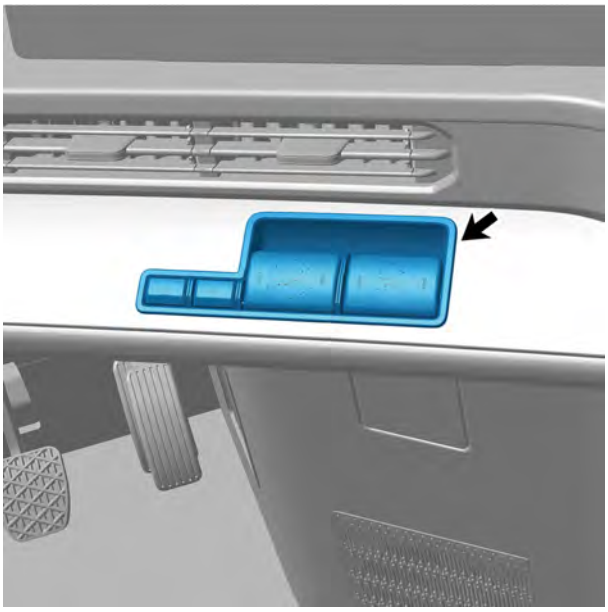
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Detach the right switch panel assembly.



5 Disconnect 1 harness connector of the right switch panel assembly.

6 Remove the right switch panel assembly.

Installation Procedures

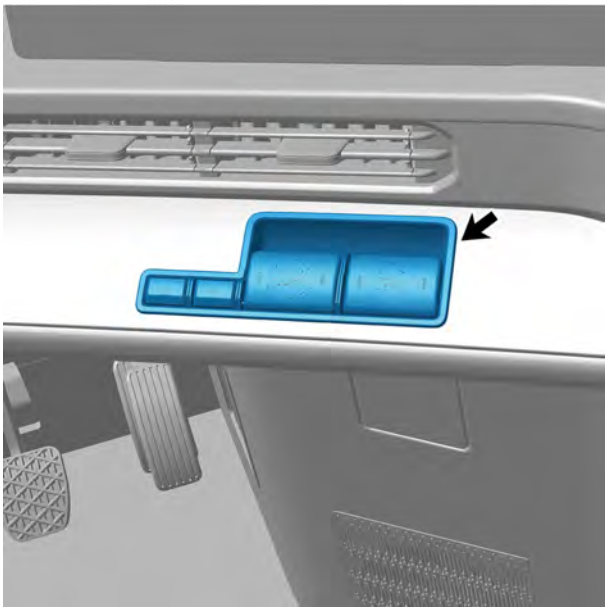


1 Move the right switch panel assembly to the mounting position.

2 Connect 1 harness connector of the right switch panel assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install the right switch panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

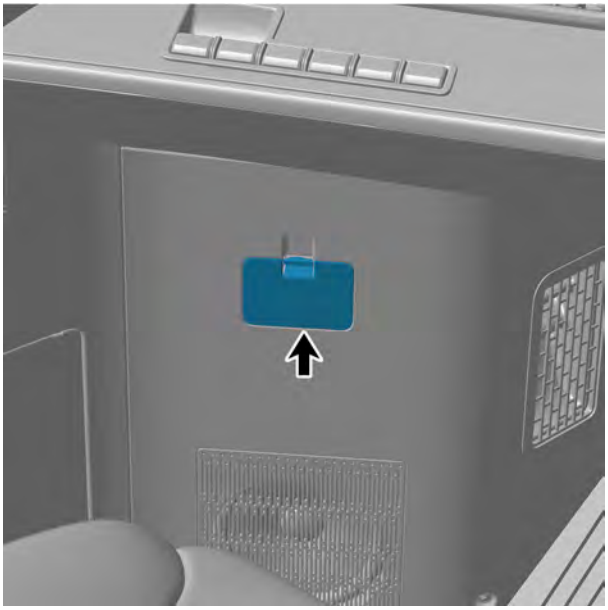
6 Close the door.

6.11.3.25 Replacement of IP Left Access Cover Plate Assembly

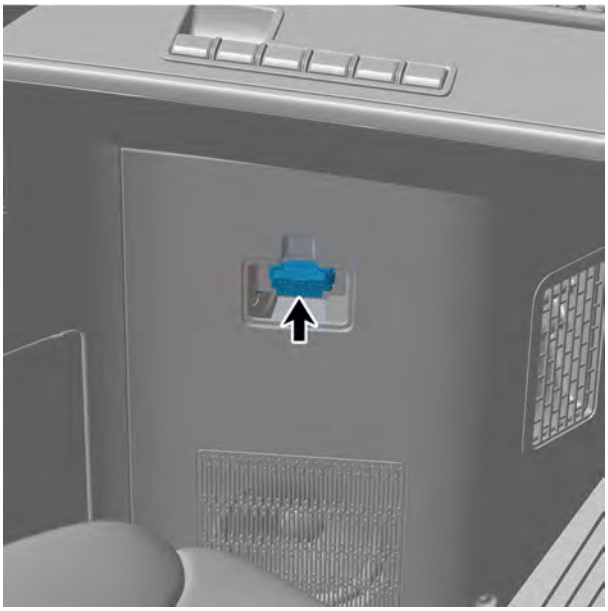
Removal Procedures

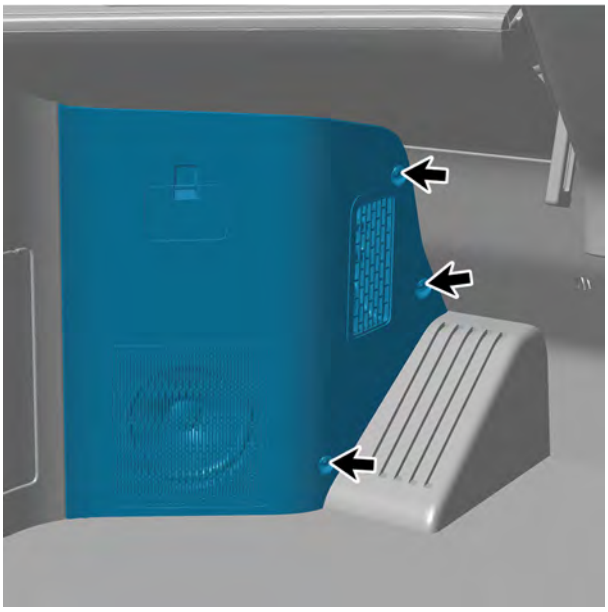
1 Open the door.

2 Remove the OBD cover plate.



3 Detach the OBD harness interface.

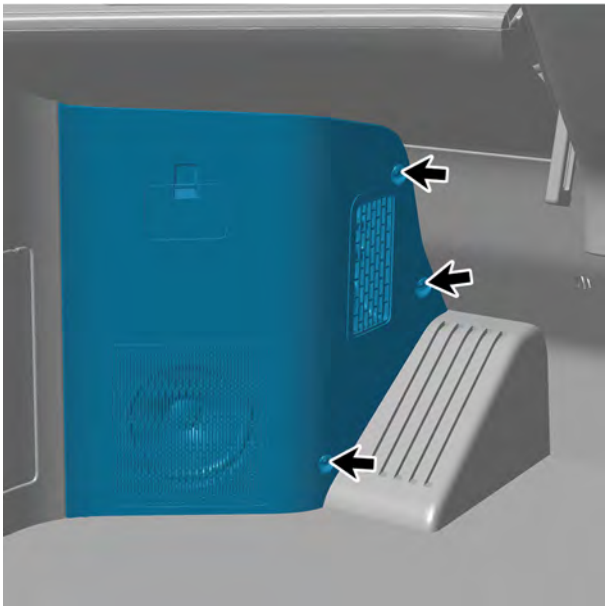




4 Remove 3 fixing screws of the IP left access cover plate assembly.

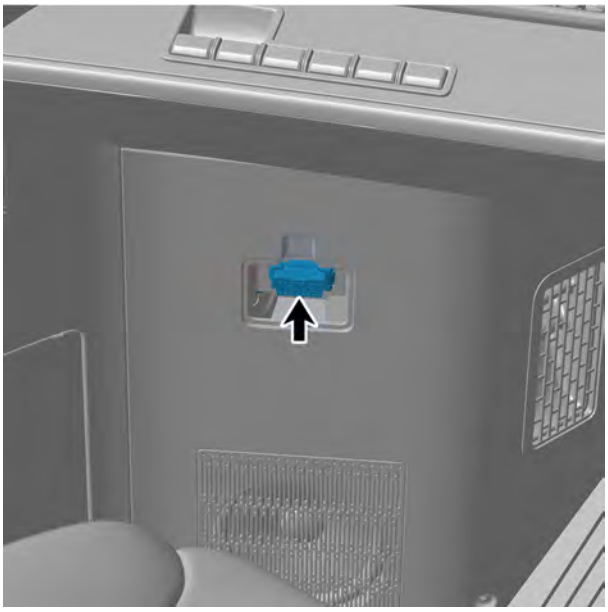
5 Remove the IP left access cover plate assembly.

Installation Procedures

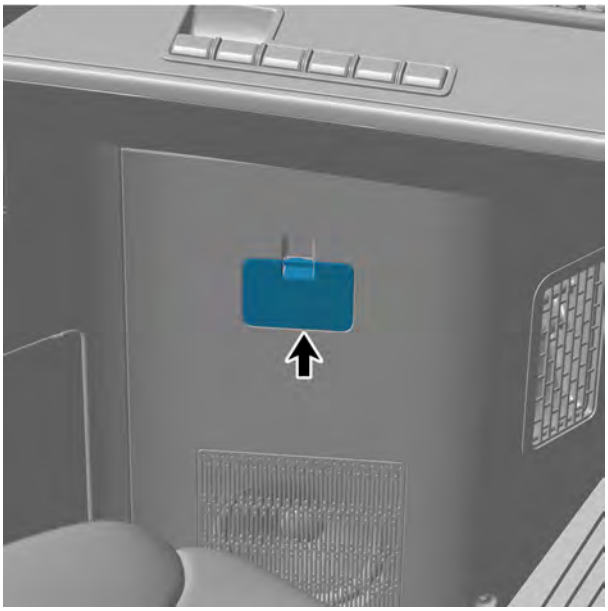


1 Move the IP left access cover plate assembly to the mounting position.

2 Install 3 fixing screws of the IP left access cover plate assembly.



3 Connect the OBD harness interface.

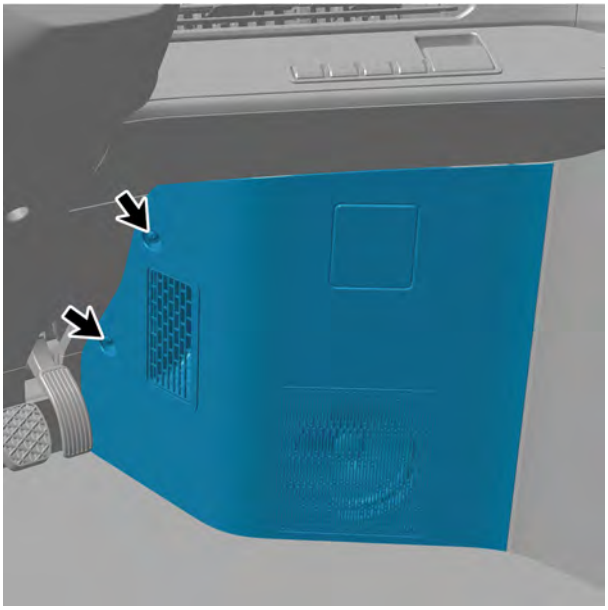


4 Install the OBD cover plate.

5 Close the door.

6.11.3.26 Replacement of IP Right Access Cover Plate Assembly

Removal Procedures

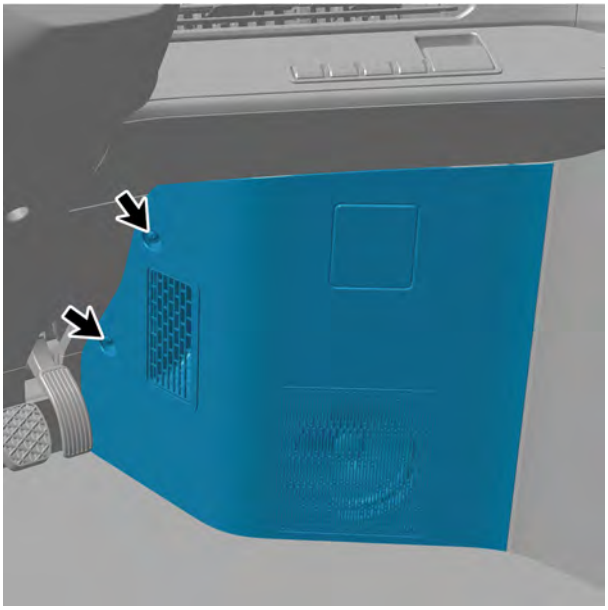


1 Open the door.

2 Remove 2 fixing screws of the IP right access cover plate assembly.

3 Remove the IP right access cover plate assembly.

Installation Procedures



1 Move the IP right access cover plate assembly to the mounting position.

2 Install 2 fixing screws of the IP right access cover plate assembly.

3 Close the door.

6.11.3.27 Replacement of Combination Switch Lower Shield Mounting Bracket

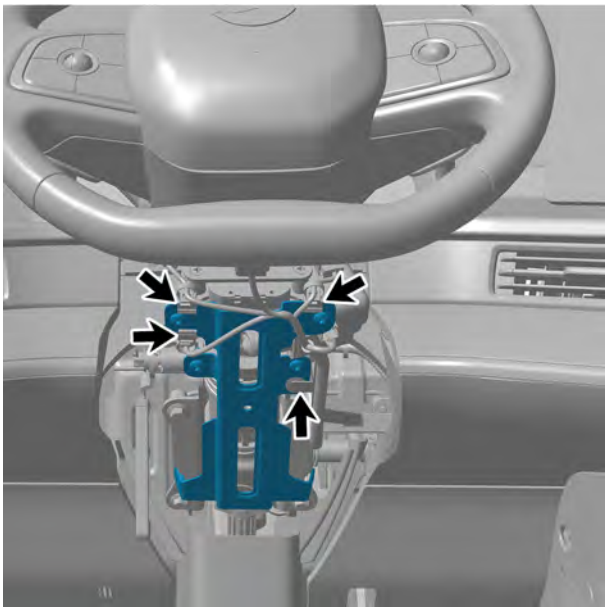
Removal Procedures

1 Open the door.

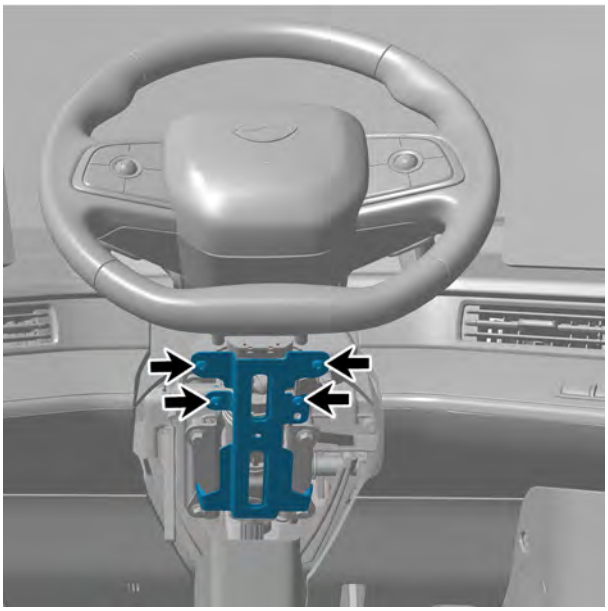
2 Remove the combination switch upper shield assembly.

3 Remove the steering wheel assy.

4 Remove the combination switch lower shield.



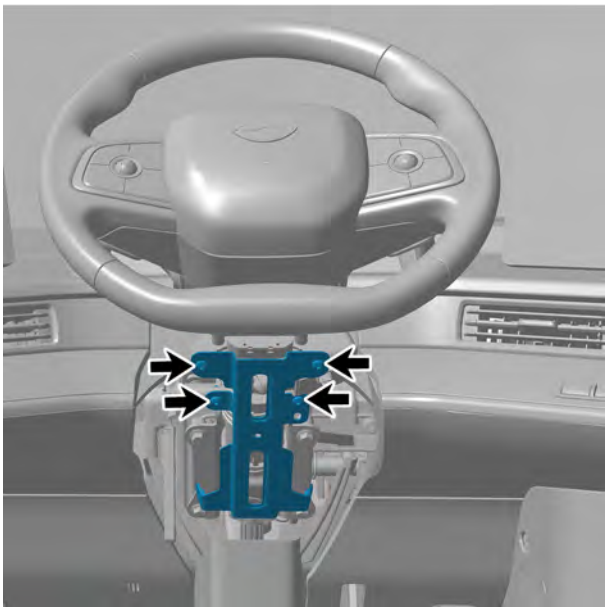
5 Disengage 4 clip of the IP harness.



6 Remove 4 fixing screws of the combination switch lower shield mounting bracket.

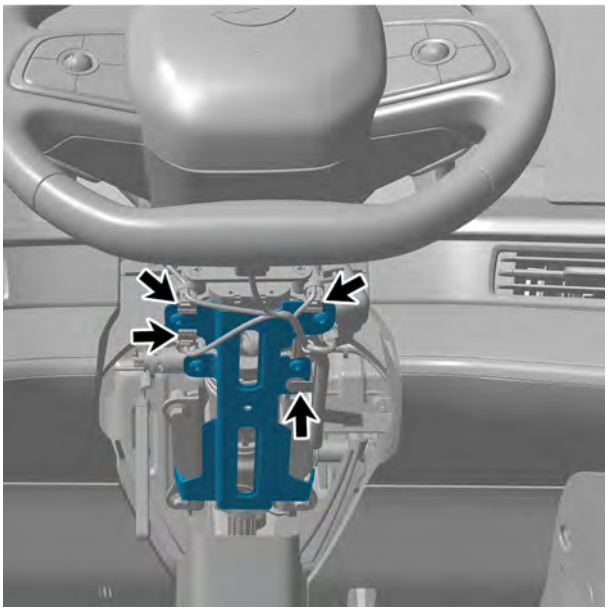
7 Remove the combination switch lower shield mounting bracket.

Installation Procedures



1 Move the combination switch lower shield mounting bracket to the mounting position.

2 Install 4 fixing screws of the combination switch lower shield mounting bracket.



3 Install 4 clip of the IP harness.

4 Install the combination switch lower shield.

5 Install the steering wheel assy.

6 Install the combination switch upper shield assembly.

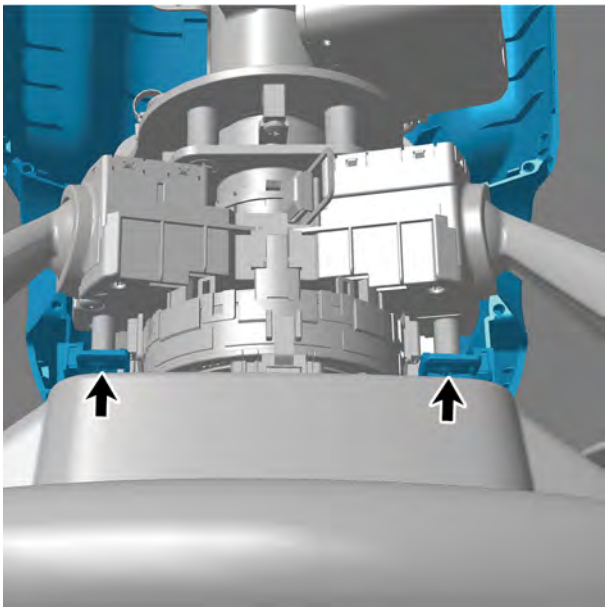
7 Close the door.

6.11.3.28 Replacement of Combination Switch Lower Shield

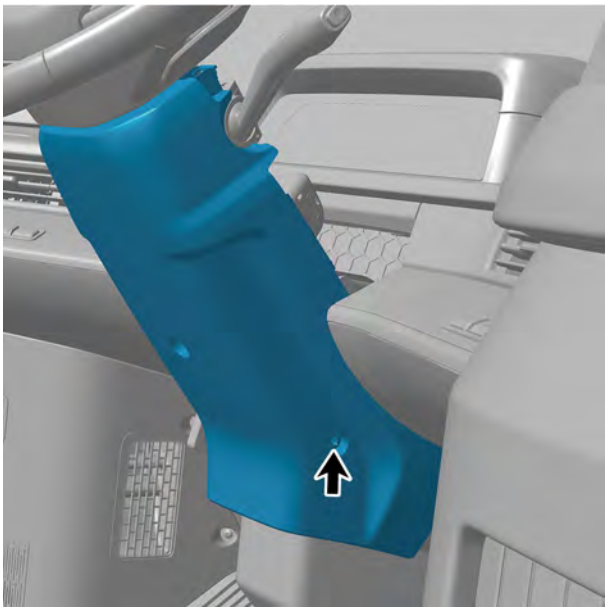
Removal Procedures

1 Open the door.

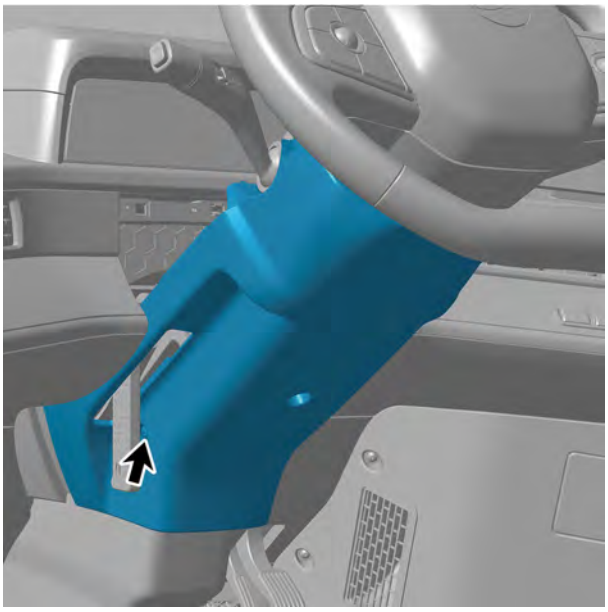
2 Remove the combination switch upper shield assembly.

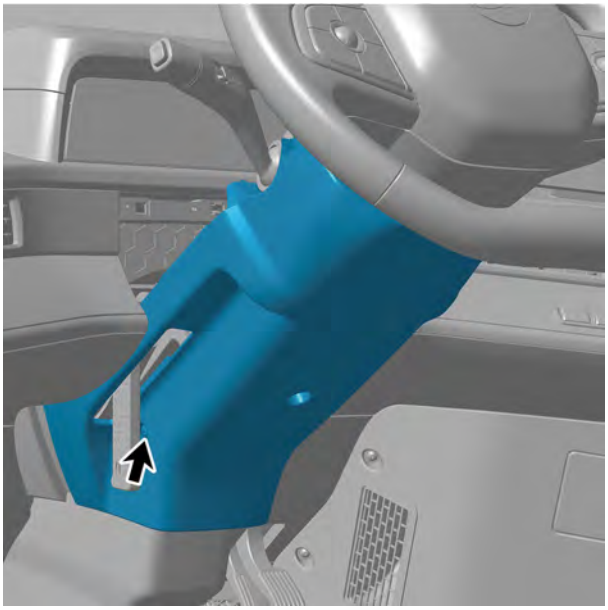






3 Remove 5 fixing screws of the combination switch lower shield, and remove the combination switch lower shield.

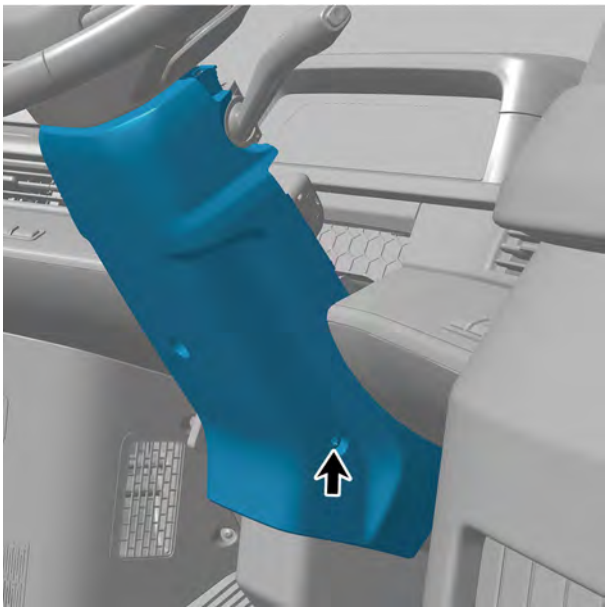




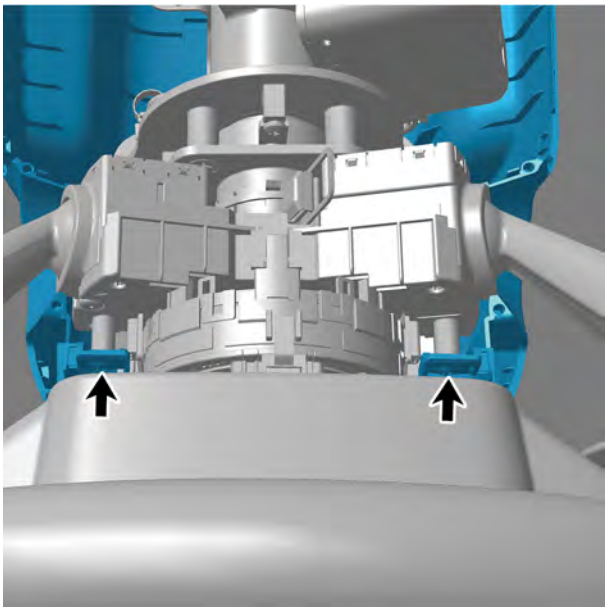
Installation Procedures

1 Move the combination switch lower shield to the mounting position.

2 Install 5 fixing screws of the combination switch lower shield.







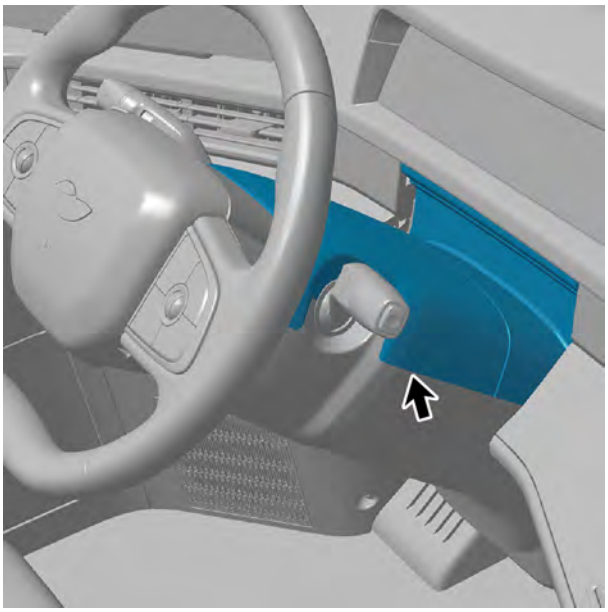
3 Install the combination switch upper shield assembly.

4 Close the door.

6.11.3.29 Replacement of Combination Switch Upper Shield Assembly

Removal Procedures

1 Open the door.



2 Remove the combination switch upper shield assembly.

Installation Procedures

1 Install the combination switch upper shield assembly.



2 Close the door.

6.12 Side Wall Interior Decoration Device

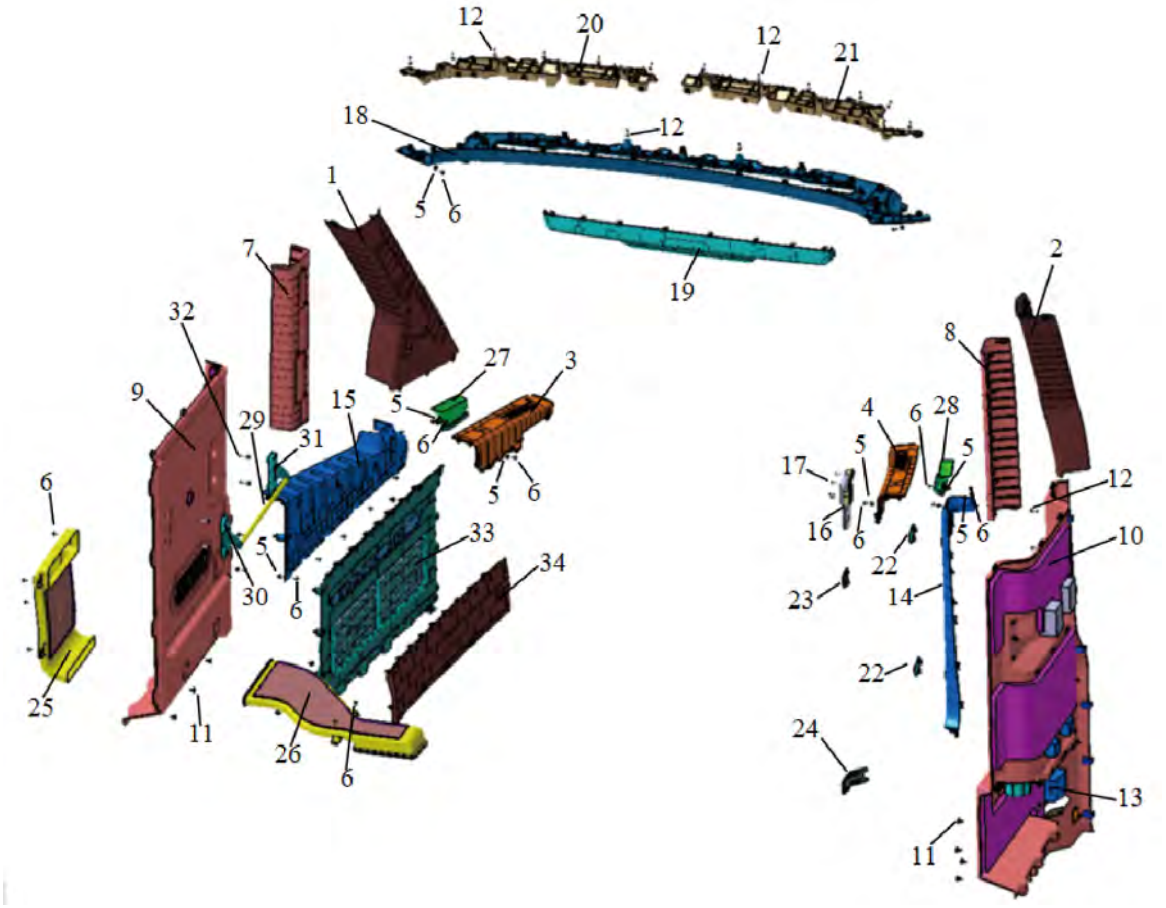
6.12.1 Specifications

6.12.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the left side panel assembly, the side panel clothes drying rod assembly, and the side panel sheet metal is the fixing bolt connecting the left side panel lower decorative panel body assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the right rear side panel assembly and the side panel sheet metal	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the sunshade cover assembly and the sunshade cover installation bracket assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the thermos holder bracket assembly and the white body assembly assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the thermos holder and the thermos holder bracket assembly	M6	(6.5 +/- .75) ft lbs

6.12.2 Decomposition Diagram

6.12.2.1 Decomposition Diagram



1.	A-Pillar Guard Assy-Lh	19.	BCover Assy-Front Camera Decorative
2.	A-Pillar Guard Assy-Rh	20.	Brkt Assy-Sun Blind Cover-Lh
3.	Front Side Enclosure Assy-Lh	21.	Brkt Assy-Sun Blind Cover-Rh
4.	Front Side Enclosure Assy-Rh	22.	Handle Cover-Frt
5.	Plastic Nut Seat	23.	Handle Cover-Rr Upr
6.	Self-Tapping Screw	24.	Handle Cover-Rr Lwr
7.	B-Pillar Upper Guard Plate Assy-Lh	25.	Air Duct-Rear Air Conditioner Upper
8.	B-Pillar Upper Guard Plate Assy-Rh	26.	Air Duct-Rear Air Conditioner Lower
9.	Enclosure Assy-lh Rr	27.	Wind Duct-Lh
10.	Rear Enclosure Plate Assy-Rh	28.	Wind Duct-Rh
11.	Tree Clasp	29.	Side Hanging Rod Assy
13.	Cross Recessed Pan Head Machine Screw	30.	The Bracket of Center Cover
14.	B-Pillar Lower Shield Assy-Rh	31.	Rear Car Pull Strap Body
15.	Center Side Enclosure Assy-Lh	32.	Hexagon Flange Bolt
16.	Safety Hammer	33.	Center Side Enclosure Assy-mid Lh

17. Self-Tapping Screw
18. Sun Blind Cover AAssy
34. Center Side Enclosure Assy-lwr Lh

6.12.3 Dismantling and Installation

6.12.3.1 Replacement of Left A-pillar Protective Plate Assembly

Removal Procedures

1 Open the door.

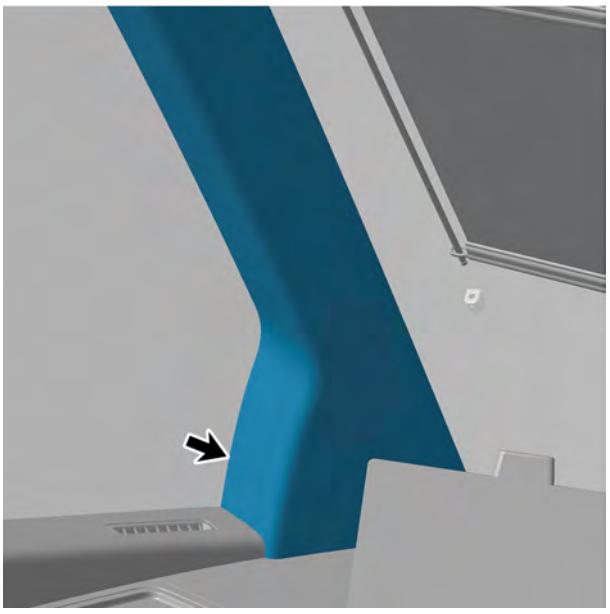
2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

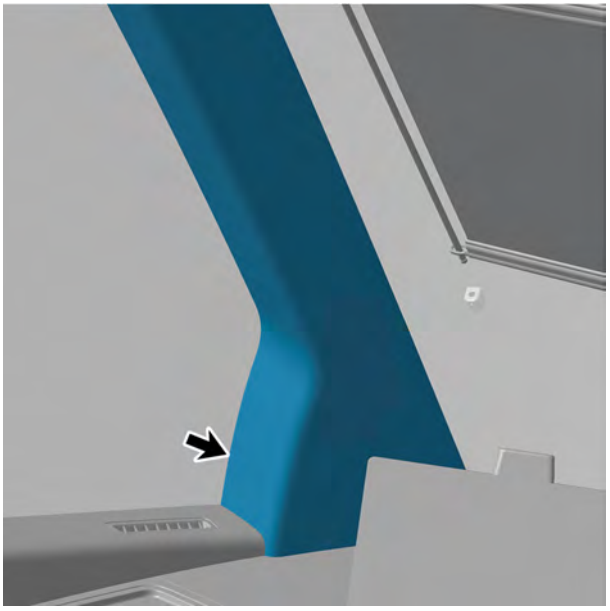
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.



Installation Procedures

1 Install the left A-pillar protective plate assembly.



2 Connect the battery negative cable.

3 Close the front flip cover plate.

4 Close the door.

6.12.3.2 Replacement of Right A-pillar Protective Plate Assembly

Removal Procedures

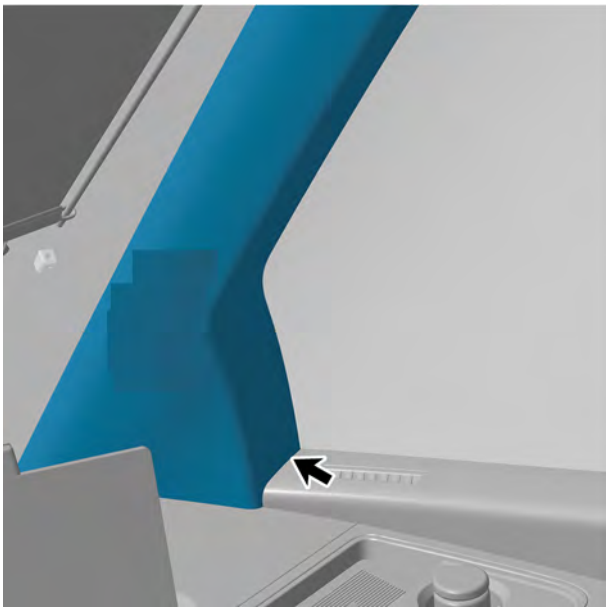
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

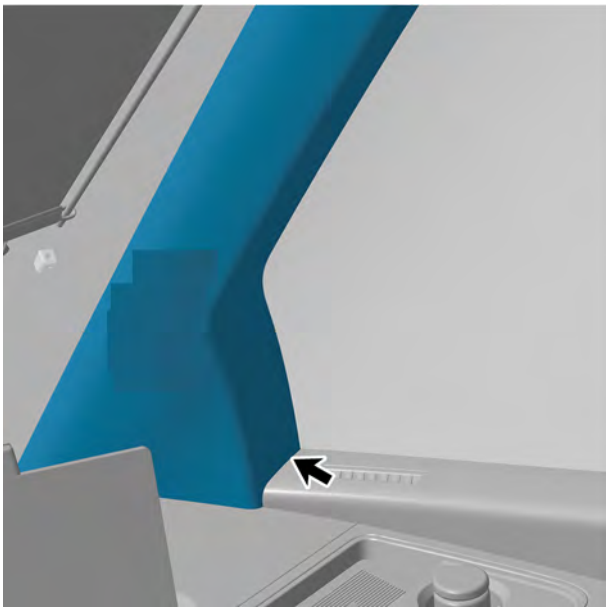
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Remove the right A-pillar protective plate assembly.

Installation Procedures



1 Move the right A-pillar protective plate assembly to the mounting position.

2 Connect the battery negative cable.

3 Close the front flip cover plate.

4 Close the door.

6.12.3.3 Replacement of Left Front Side Wall Protective Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

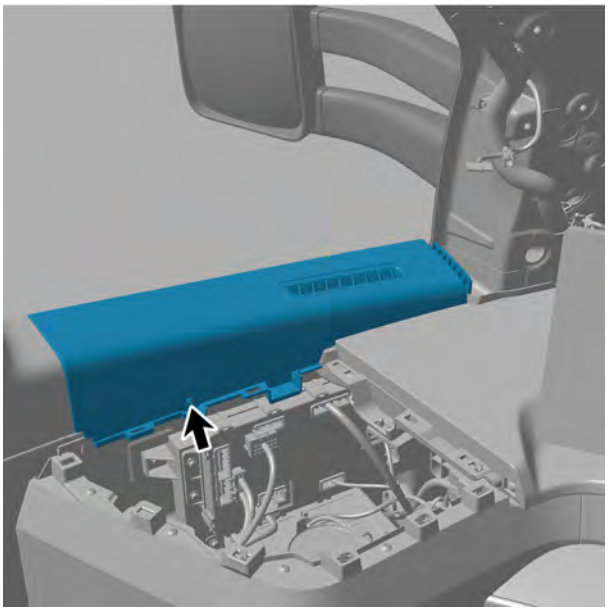
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

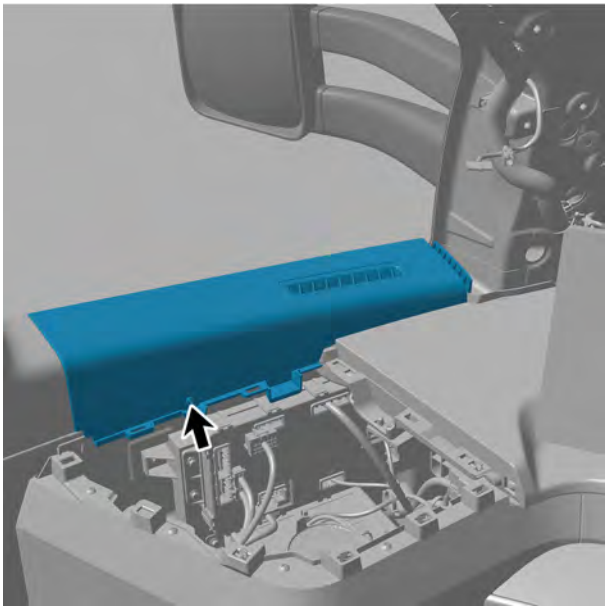
5 Remove the left A-pillar protective plate assembly.



6 Remove 1 fixing screw of the left front side wall protective plate assembly.

7 Remove the left front side wall protective plate assembly.

Installation Procedures



1 Move the left front side wall protective plate assembly to the mounting position.

2 Install 1 fixing screw of the left front side wall protective plate assembly.

3 Install the left A-pillar protective plate assembly.

4 Install the IP left upper trim panel assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

6.12.3.4 Replacement of Right Front Side Wall Protective Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

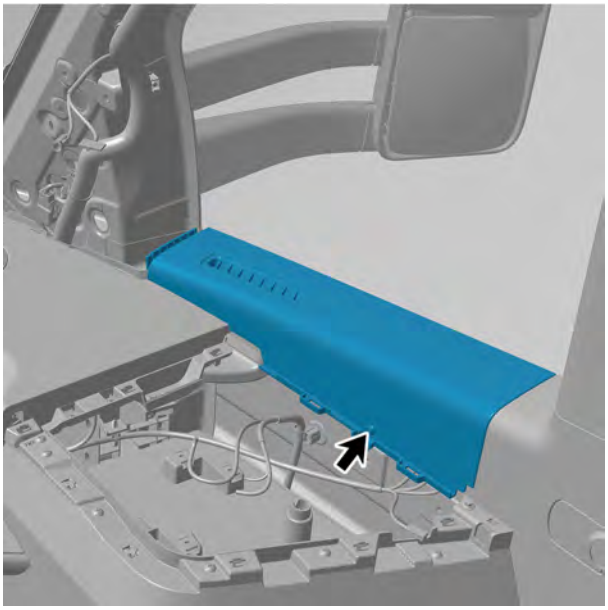
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP right upper trim panel assembly.

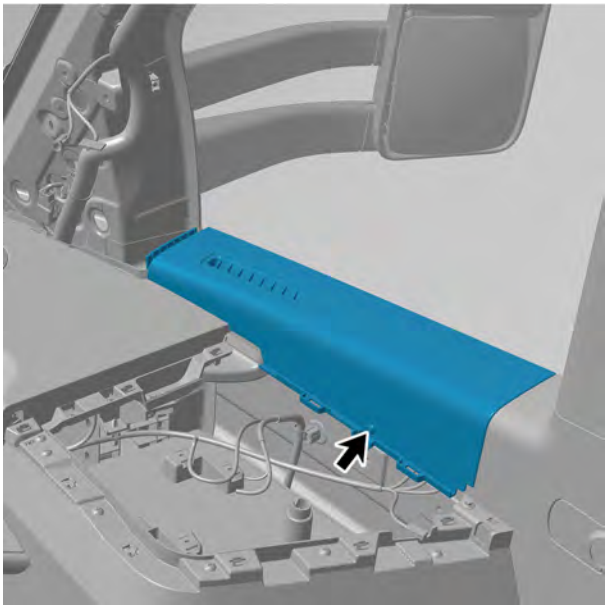
5 Remove the right A-pillar protective plate assembly.

6 Remove 1 fixing screw of the right front side wall protective plate assembly.

7 Remove the right front side wall protective plate assembly.



Installation Procedures



1 Move the right front side wall protective plate assembly to the mounting position.

2 Install 1 fixing screw of the right front side wall protective plate assembly.

3 Install the right A-pillar protective plate assembly.

4 Install the IP right upper trim panel assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

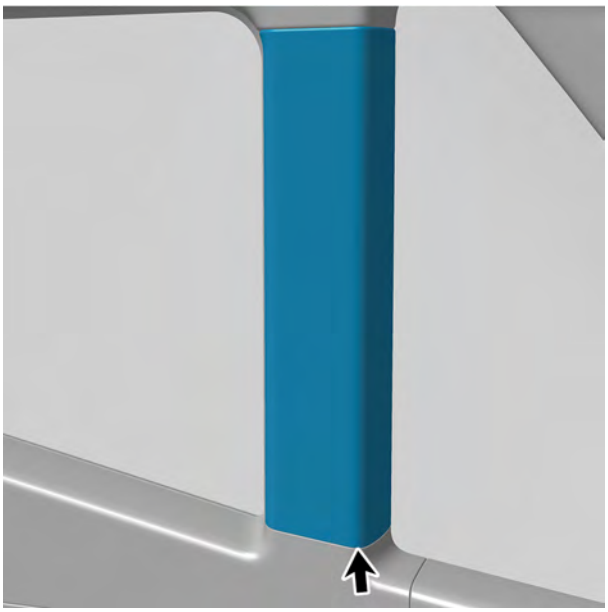
7 Close the door.

6.12.3.5 Replacement of Left B-pillar Upper Protective Plate Assembly

Removal Procedures

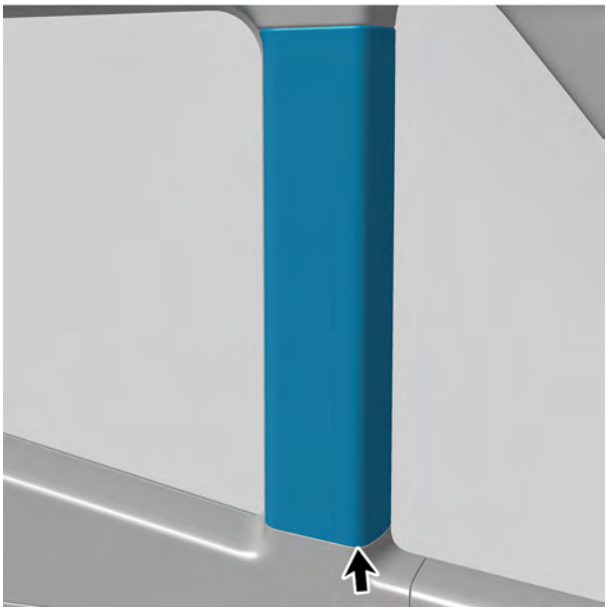
1 Open the door.

2 Remove the left B-pillar upper protective plate assembly.



Installation Procedures

1 Install the left B-pillar upper protective plate assembly.



2 Close the door.

6.12.3.6 Replacement of Right B-pillar Upper Protective Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the electric sliding door switch.

5 Remove the right B-pillar upper protective plate assembly.



Installation Procedures

1 Install the right B-pillar upper protective plate assembly.



2 Install the electric sliding door switch.

3 Connect the battery negative cable.

4 Close the front flip cover plate.

5 Close the door.

6.12.3.7 Replacement of Left Rear Side Wall Protective Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the left A-pillar protective plate assembly.

6 Remove the left front side wall protective plate assembly.

7 Remove the front USB interface.

8 Remove the IP left access cover plate assembly.

9 Remove the left switch panel assembly.

10 Remove the left switch panel lower trim panel assembly.

11 Remove the IP left lower trim panel assembly.

12 Remove the left middle side wall lower trim panel assembly.

13 Remove the left middle side wall middle trim panel assembly.

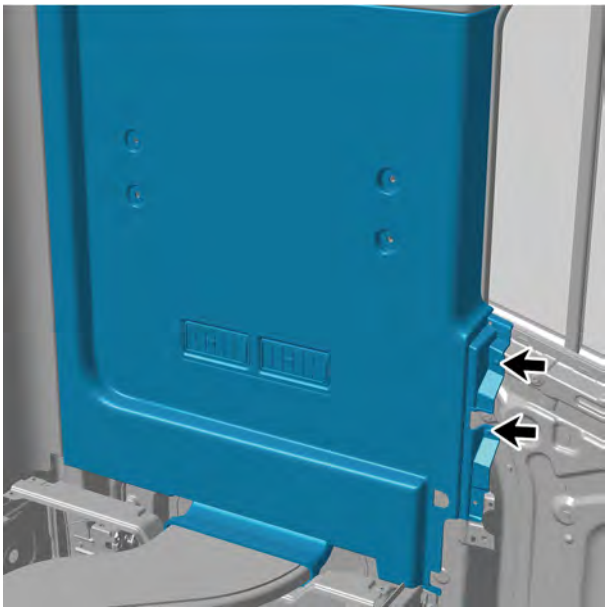
14 Remove the left B-pillar upper protective plate assembly.

15 Remove the left middle side wall protective plate assembly.

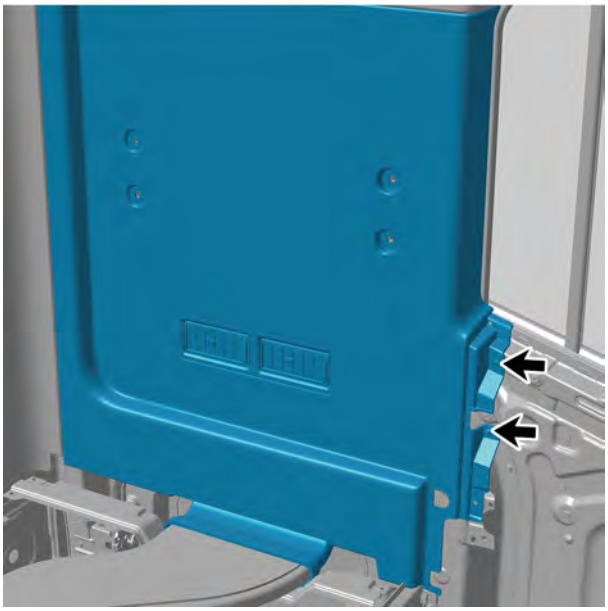
16 Remove the side wall clothes rail assembly.

17 Remove 2 fixing screws of the left rear side wall protective plate assembly.

18 Remove the left rear side wall protective plate assembly.



Installation Procedures



1 Move the left rear side wall protective plate assembly to the mounting position.

2 Install 2 fixing screws of the left rear side wall protective plate assembly.

3 Install the side wall clothes rail assembly.

4 Install the left middle side wall protective plate assembly.

5 Install the left B-pillar upper protective plate assembly.

6 Install the left middle side wall middle trim panel assembly.

7 Install the left middle side wall lower trim panel assembly.

8 Install the IP left lower trim panel assembly.

9 Install the left switch panel lower trim panel assembly.

10 Install the left switch panel assembly.

11 Install the IP left access cover plate assembly.

12 Install the front USB interface.

13 Install the left front side wall protective plate assembly.

14 Install the left A-pillar protective plate assembly.

15 Install the IP left upper trim panel assembly.

16 Connect the battery negative cable.

17 Close the front flip cover plate.

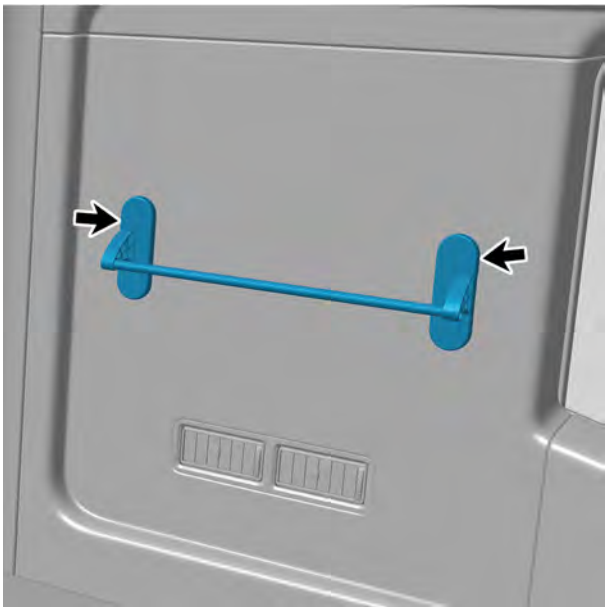
18 Close the door.

6.12.3.8 Replacement of Side Wall Clothes Rail Assembly

Removal Procedures

1 Open the door.

2 Remove the cover plate.





3 Remove 4 fixing bolts of the side wall clothes rail assembly.

4 Remove the side wall clothes rail assembly.

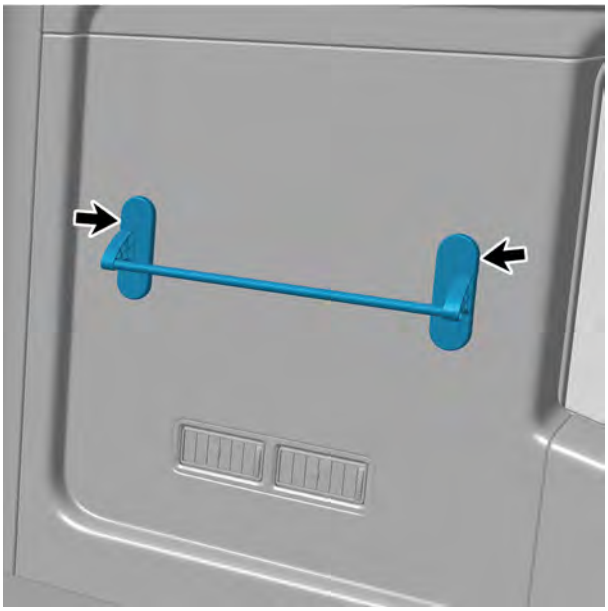
Installation Procedures



1 Move the side wall clothes rail assembly to the mounting position.

2 Install 4 fixing bolts of the side wall clothes rail assembly.

Torque:(18.5 +/- 2) ft lbs



3 Install the cover plate.

4 Close the door.

6.12.3.9 Replacement of Right Rear Side Wall Protective Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right sill molding assembly.

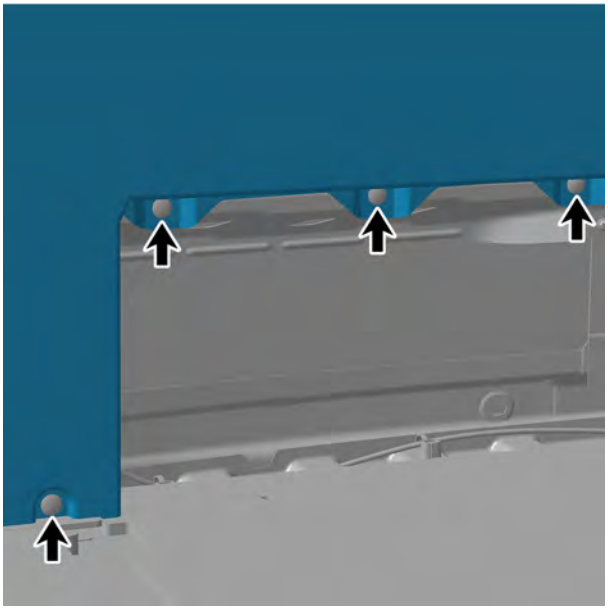
5 Remove the door opening sealing strip assembly.

6 Remove the safety hammer fixing bracket.

7 Remove the rear boarding handrail assembly.

8 Remove the SSM.

9 Remove 4 clips of the right rear side wall protective plate assembly.

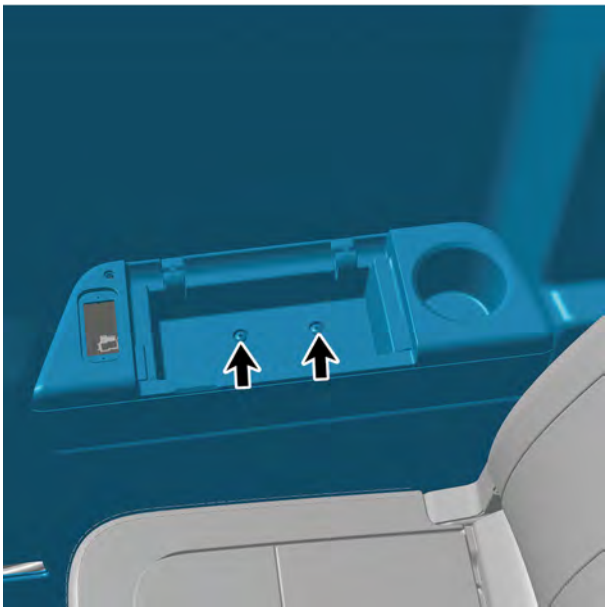




10 Remove 1 fixing screw of the right rear side wall protective plate assembly.



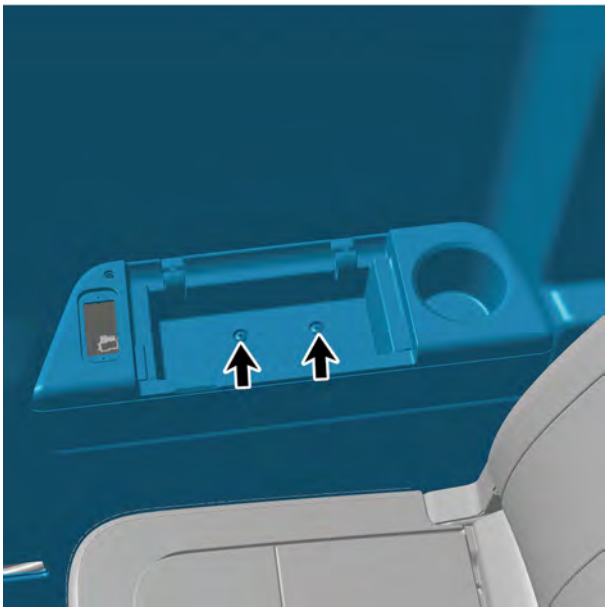
11 Remove 1 fixing bolt of the right rear side wall protective plate assembly.



12 Remove 2 fixing screw of the right rear side wall protective plate assembly.

13 Remove the right rear side wall protective plate assembly.

Installation Procedures



1 Move the right rear side wall protective plate assembly to the mounting position.

2 Install 2 fixing screws of the right rear side wall protective plate assembly.

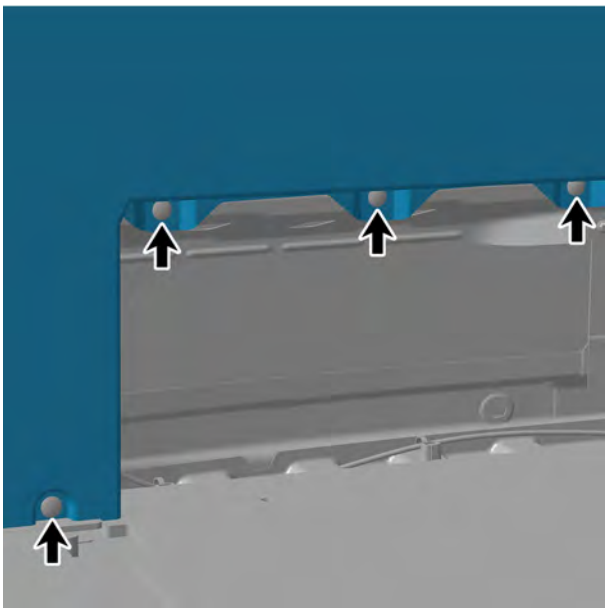


3 Install 1 fixing bolt of the right rear side wall protective plate assembly.

Torque: (6.5 +/- .75) ft lbs



4 Install 1 fixing screws of the right rear side wall protective plate assembly.



5 Install 4 clips of the right rear side wall protective plate assembly.

6 Install the SSM.

7 Install the rear boarding handrail assembly.

8 Install the safety hammer fixing bracket.

9 Install the door opening sealing strip assembly.

10 Install the right sill molding assembly.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

6.12.3.10 Replacement of Right B-pillar Lower Protective Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the electric sliding door switch.

5 Remove the right B-pillar upper protective plate assembly.

6 Remove the right sill molding assembly.

7 Remove the front boarding armrest assembly.

8 Remove the IP right upper trim panel assembly.

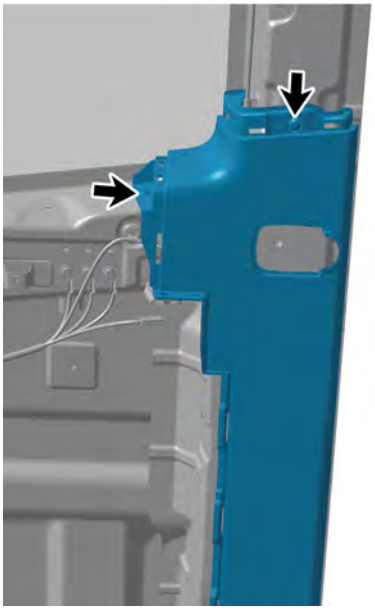
9 Remove the right storage box assembly.

10 Remove the right A-pillar protective plate assembly.

11 Remove the right front side wall protective plate assembly.

12 Remove 2 fixing screws of the right B-pillar lower protective plate assembly.

13 Remove the right B-pillar lower protective plate assembly.



Installation Procedures



1 Move the right B-pillar lower protective plate assembly to the mounting position.

2 Install 2 fixing screws of the right B-pillar lower protective plate assembly.

3 Install the right front side wall protective plate assembly.

4 Install the right A-pillar protective plate assembly.

5 Install the IP right upper trim panel assembly.

6 Install the right storage box assembly.

7 Install the front boarding armrest assembly.

8 Install the right sill molding assembly.

9 Install the right B-pillar upper protective plate assembly.

10 Install the electric sliding door switch.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

6.12.3.11 Replacement of Left Middle Side Wall Protective Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the left A-pillar protective plate assembly.

6 Remove the left front side wall protective plate assembly.

7 Remove the front USB interface.

8 Remove the IP left access cover plate assembly.

9 Remove the left switch panel assembly.

10 Remove the left switch panel lower trim panel assembly.

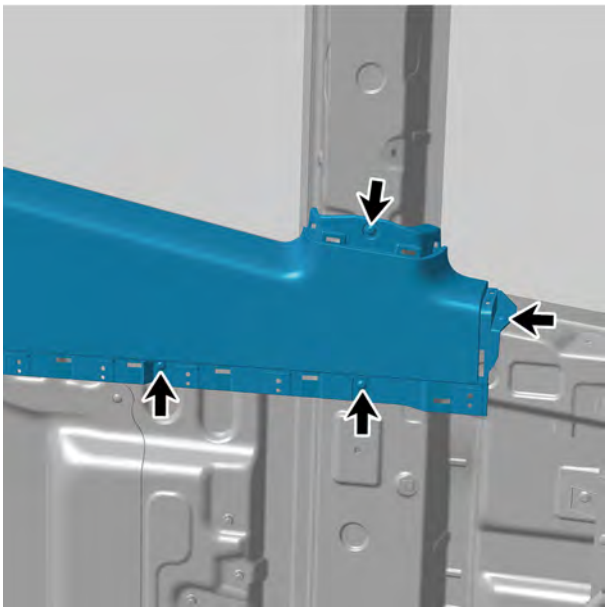
11 Remove the IP left lower trim panel assembly.

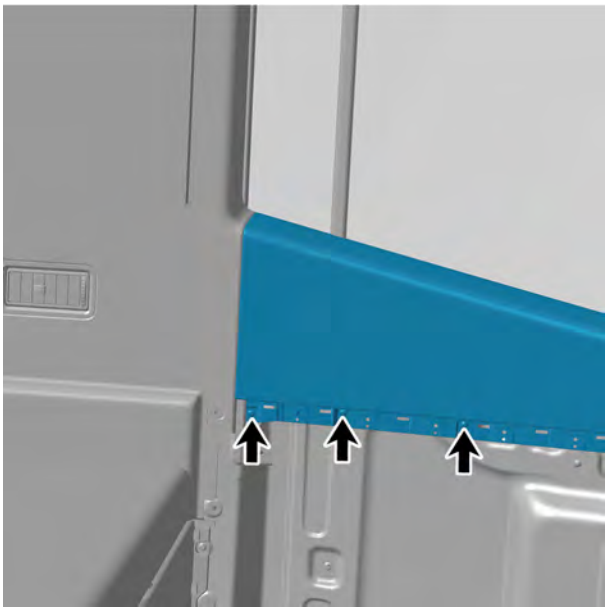
12 Remove the left middle side wall lower trim panel assembly.

13 Remove the left middle side wall middle trim panel assembly.

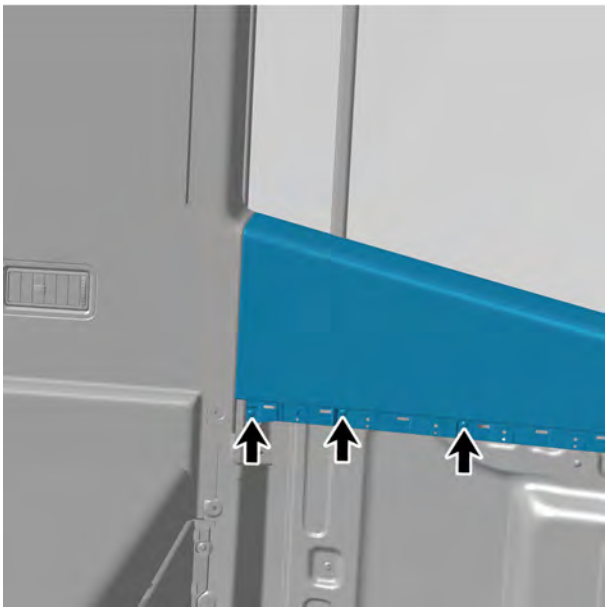
14 Remove the left B-pillar upper protective plate assembly.

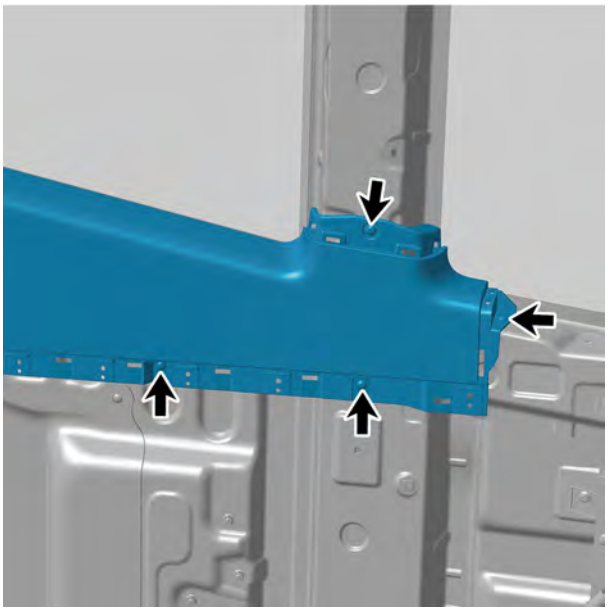
15 Remove 7 fixing screws of the left middle side wall protective plate assembly, and remove the left middle side wall protective plate assembly.





Installation Procedures





1 Move the left middle side wall protective plate assembly to the mounting position.

2 Install 7 fixing screws of the left middle side wall protective plate assembly.

3 Install the left B-pillar upper protective plate assembly.

4 Install the left middle side wall middle trim panel assembly.

5 Install the left middle side wall lower trim panel assembly.

6 Install the IP left lower trim panel assembly.

7 Install the left switch panel lower trim panel assembly.

8 Install the left switch panel assembly.

9 Install the IP left access cover plate assembly.

10 Install the front USB interface.

11 Install the left front side wall protective plate assembly.

12 Install the left A-pillar protective plate assembly.

13 Install the IP left upper trim panel assembly.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

6.12.3.12 Replacement of Left Middle Side Wall Middle Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the front USB interface.

6 Remove the IP left access cover plate assembly.

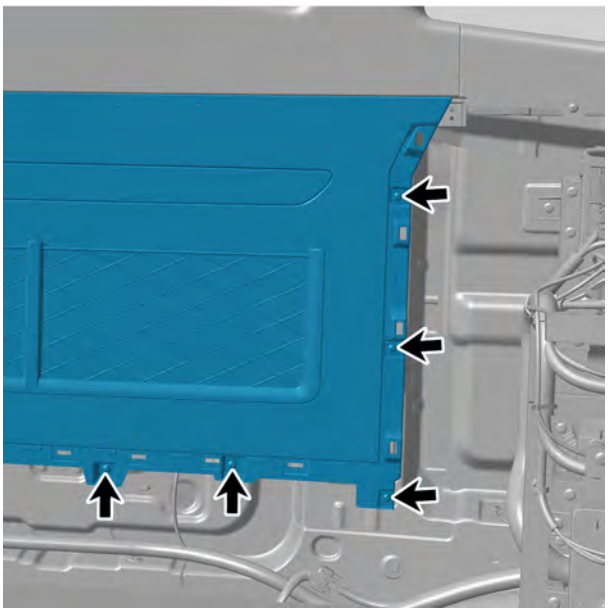
7 Remove the left switch panel assembly.

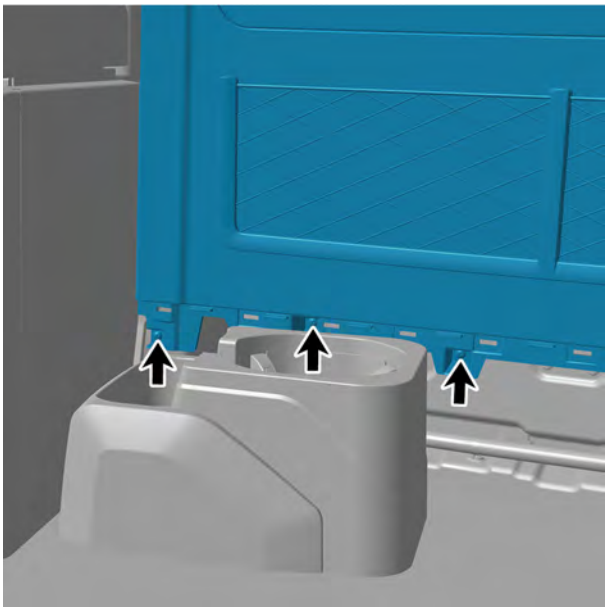
8 Remove the left switch panel lower trim panel assembly.

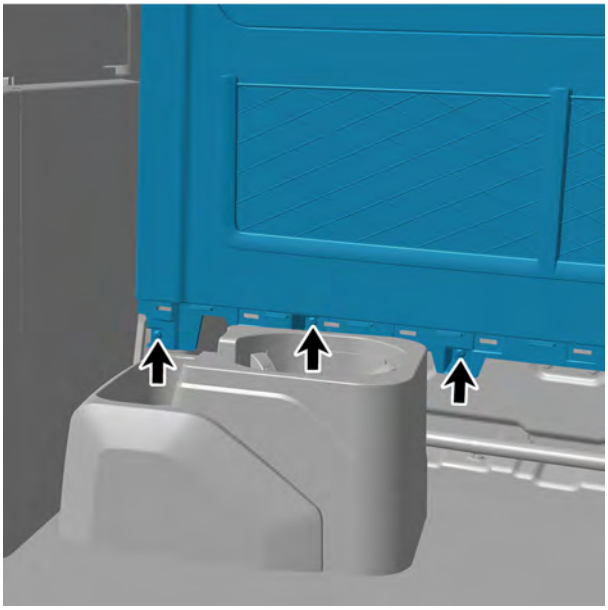
9 Remove the IP left lower trim panel assembly.

10 Remove the left middle side wall lower trim panel assembly.

11 Remove 8 fixing screws of the left middle side wall middle trim panel assembly, and remove the left middle side wall middle trim panel assembly.



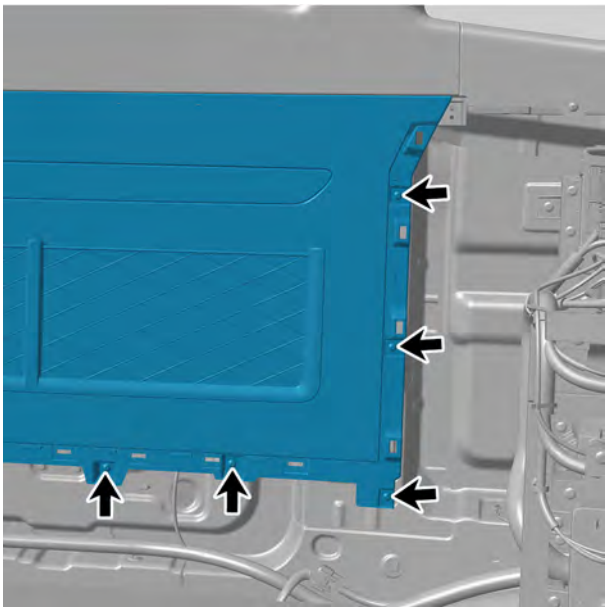




Installation Procedures

1 Move the left middle side wall middle trim panel assembly to the mounting position.

2 Install 8 fixing screws of the left middle side wall middle trim panel assembly.



3 Install the left middle side wall lower trim panel assembly.

4 Install the IP left lower trim panel assembly.

5 Install the left switch panel lower trim panel assembly.

6 Install the left switch panel assembly.

7 Install the IP left access cover plate assembly.

8 Install the front USB interface.

9 Install the IP left upper trim panel assembly.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

6.12.3.13 Replacement of Left Middle Side Wall Lower Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

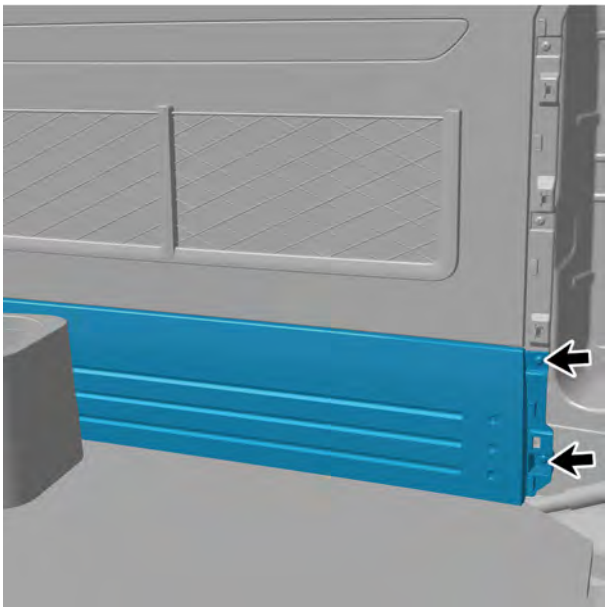
5 Remove the front USB interface.

6 Remove the IP left access cover plate assembly.

7 Remove the left switch panel assembly.

8 Remove the left switch panel lower trim panel assembly.

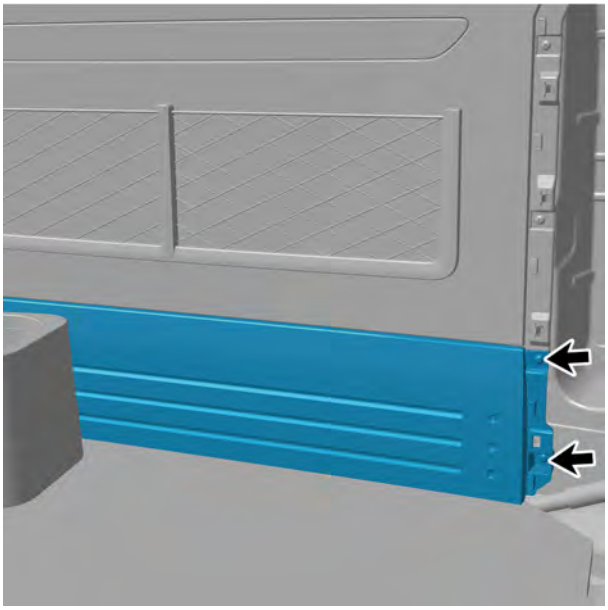
9 Remove the IP left lower trim panel assembly.



10 Remove 2 fixing screws of the left middle side wall lower trim panel assembly.

11 Remove the left middle side wall lower trim panel assembly.

Installation Procedures



1 Move the left middle side wall lower trim panel assembly to the mounting position.

2 Install 2 fixing screws of the left middle side wall lower trim panel assembly.

3 Install the IP left lower trim panel assembly.

4 Install the left switch panel lower trim panel assembly.

5 Install the left switch panel assembly.

6 Install the IP left access cover plate assembly.

7 Install the front USB interface.

8 Install the IP left upper trim panel assembly.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

6.12.3.14 Replacement of Sunshade Cover Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

8 Remove the sunshade cover plate assembly.

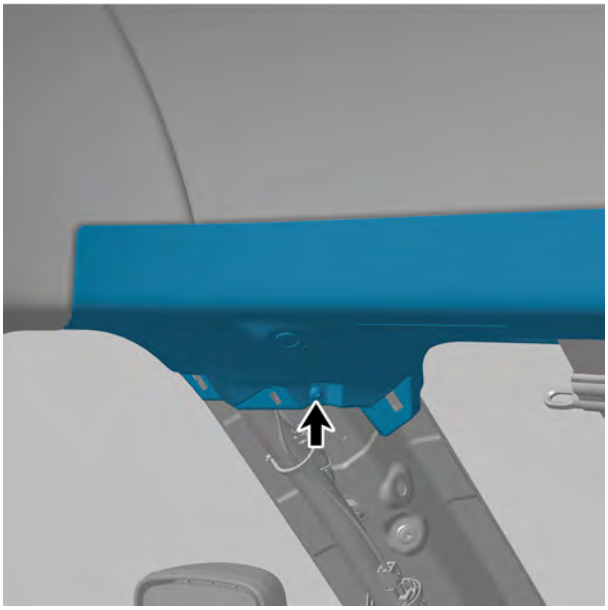
9 Remove the front reading lamp.

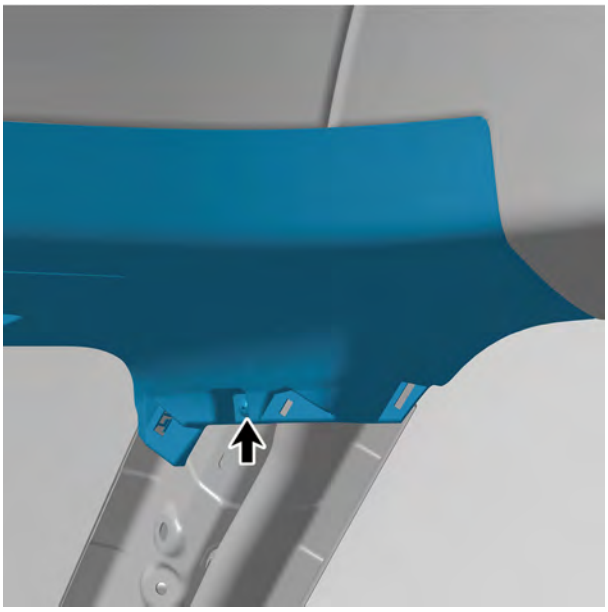
10 Remove the DMS camera bracket.

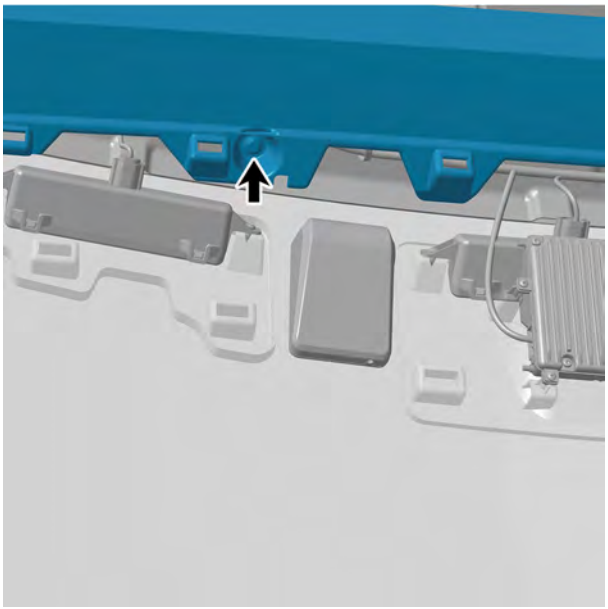
11 Remove the DMS camera.

12 Remove the sunshade assembly.

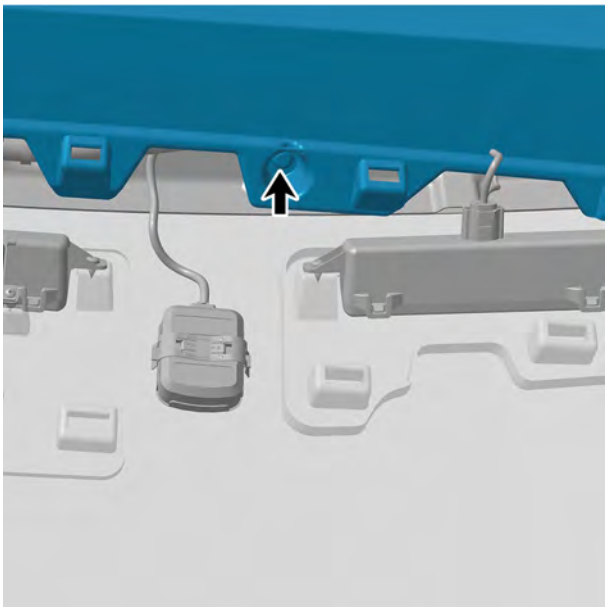
13 Remove 2 fixing screws of the sunshade cover plate assembly.

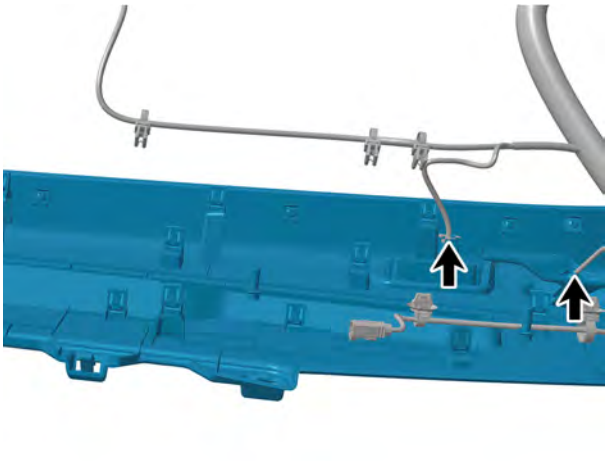




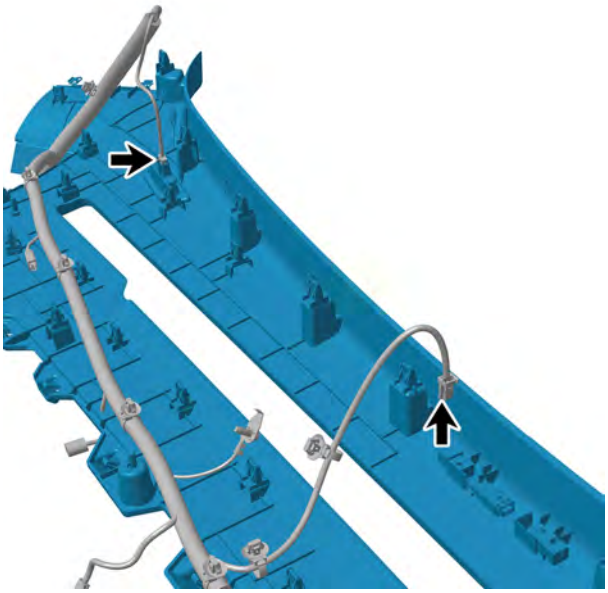


14 Remove 2 fixing bolts of the sunshade cover plate assembly.

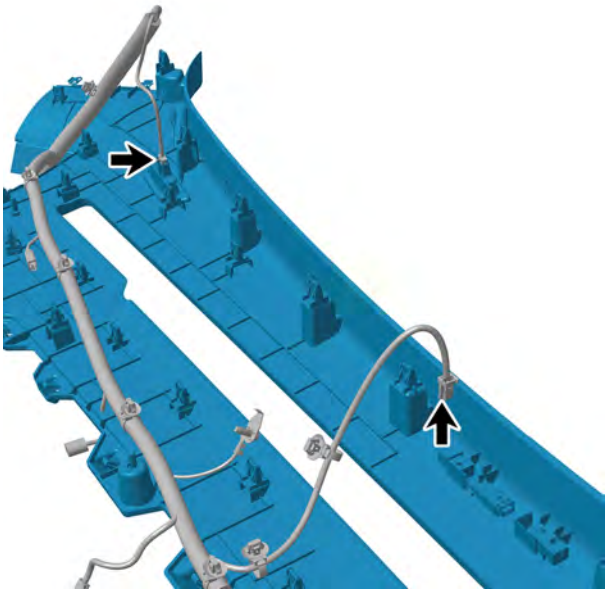


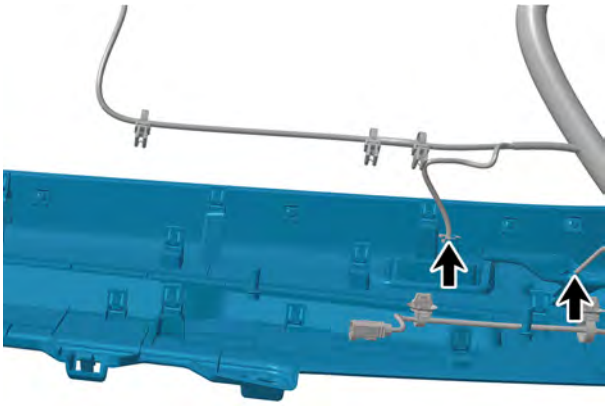


15 Disconnect 4 harness connectors of the sunshade cover plate assembly, and remove the sunshade cover plate assembly.



Installation Procedures



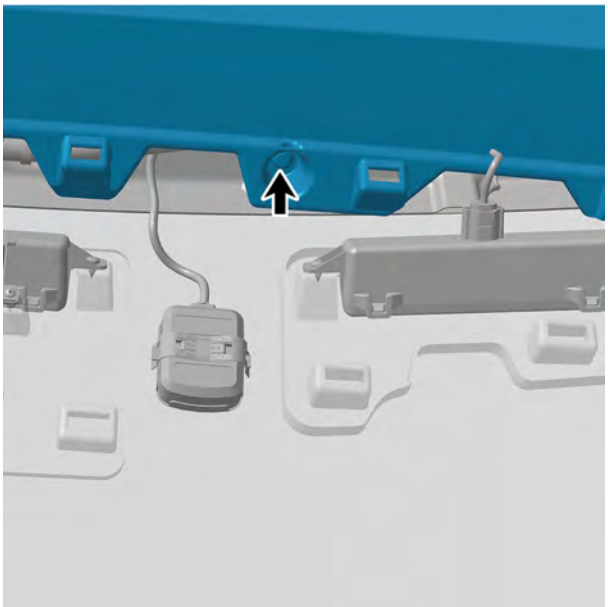


1 Move the sunshade cover plate assembly to the mounting position.

2 Connect 4 harness connectors of the sunshade cover plate assembly.

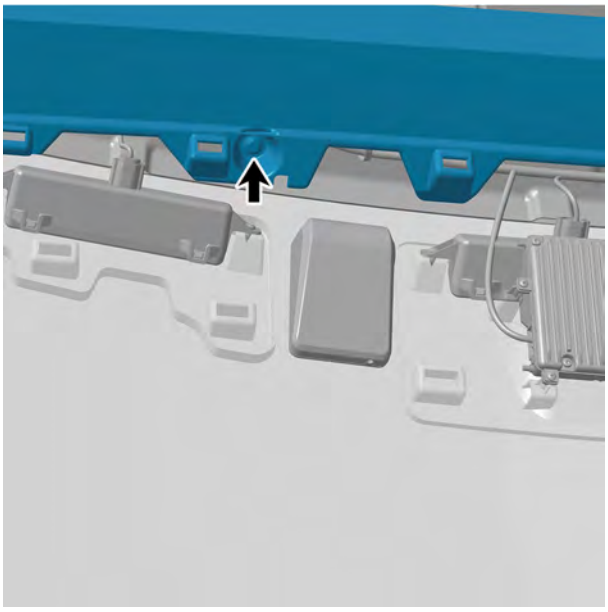
caution

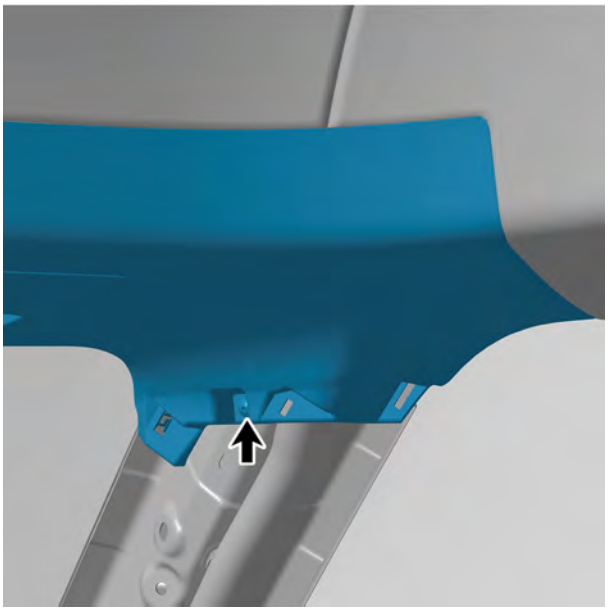
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

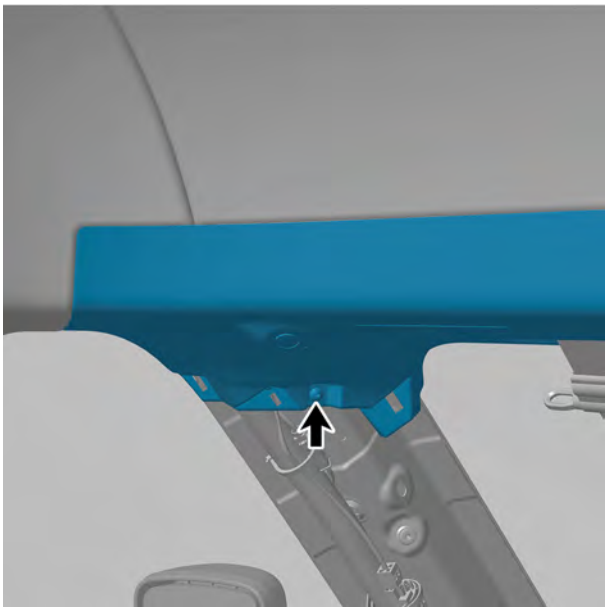


3 Install 2 fixing bolts of the sunshade cover plate assembly.

Torque: (6.5 +/- .75) ft lbs







4 Install 2 fixing screws of the sunshade assembly.

5 Install the sunshade assembly.

6 Install the DMS camera.

7 Install the DMS camera bracket.

8 Install the front reading lamp.

9 Install the sunshade cover plate assembly.

10 Install the front camera trim cover assembly.

11 Install the sunshade rail assembly.

12 Install the right A-pillar protective plate assembly.

13 Install the left A-pillar protective plate assembly.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

6.12.3.15 Replacement of Left Defroster Duct

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

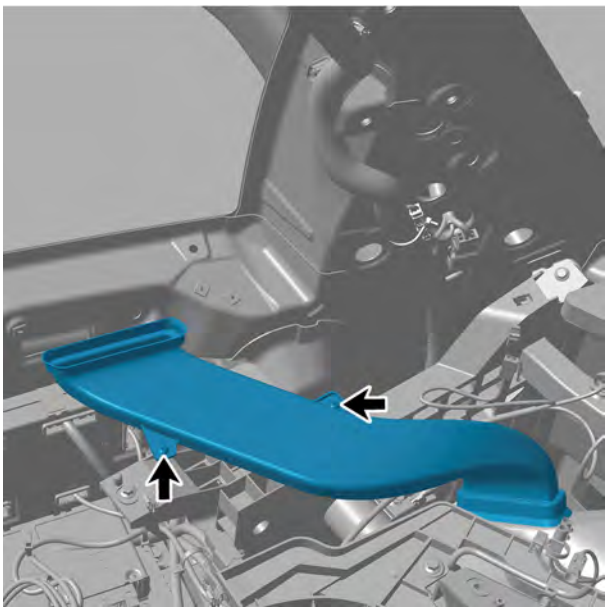
4 Remove the IP left upper trim panel assembly.

5 Remove the left A-pillar protective plate assembly.

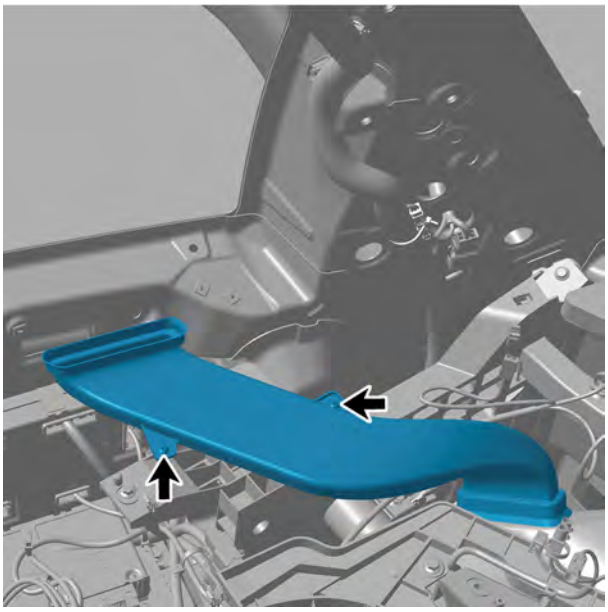
6 Remove the left front side wall protective plate assembly.

7 Remove 2 fixing screws of the left defroster duct.

8 Remove the left defroster duct.



Installation Procedures



1 Move the left defroster duct to the mounting position.

2 Install 2 fixing screws of the left defroster duct.

3 Install the left front side wall protective plate assembly.

4 Install the left A-pillar protective plate assembly.

5 Install the IP left upper trim panel assembly.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

6.12.3.16 Replacement of Right Defroster Duct

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

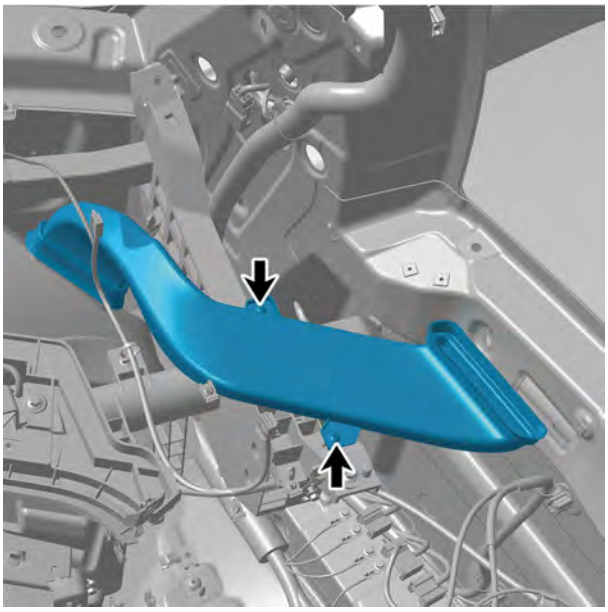
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP right upper trim panel assembly.

5 Remove the right A-pillar protective plate assembly.

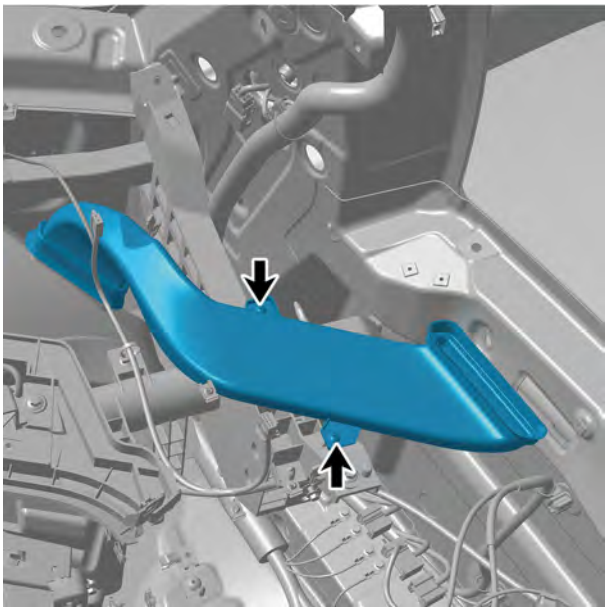
6 Remove the right front side wall protective plate assembly.



7 Remove 2 fixing screws of the right defroster duct.

8 Remove the right defroster duct.

Installation Procedures



1 Move the right defroster duct to the mounting position.

2 Install 2 fixing screws of the right defroster duct.

3 Install the right front side wall protective plate assembly.

4 Install the right A-pillar protective plate assembly.

5 Install the IP right upper trim panel assembly.

6 Connect the battery negative cable.

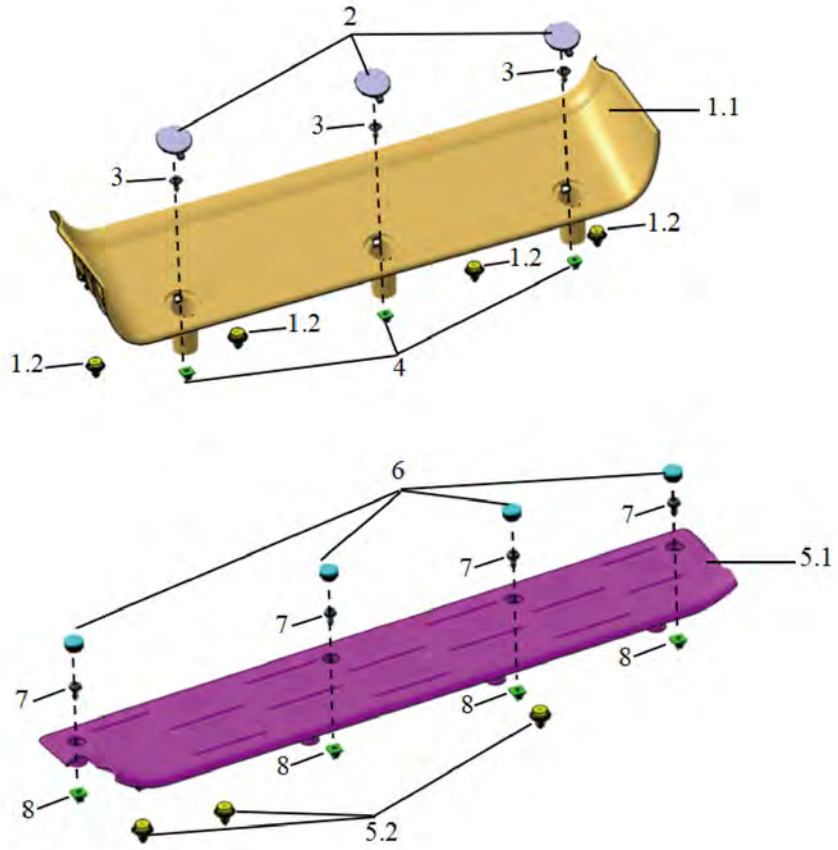
7 Close the front flip cover plate.

8 Close the door.

6.13 Threshold Molding Device

6.13.1 Decomposition Diagram

6.13.1.1 Decomposition Diagram

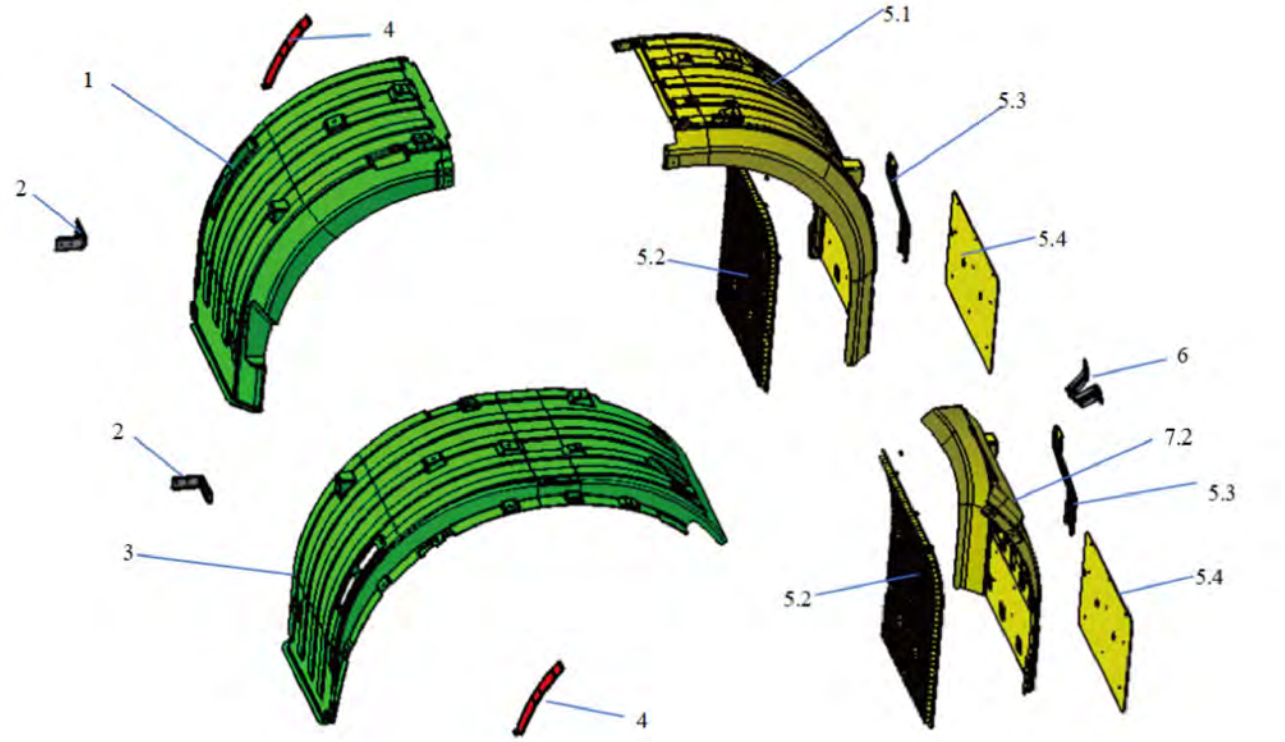


1.1.	Main Body of the Toolbox Threshold Pressing Strip	5.1.	Main Body of the Right Threshold Pressing Strip
1.2.	Plastic Buckle	5.2.	Plastic Buckle
2.	Toolbox Threshold Plug Cover	6.	Cover-Sill Guard Rh
3.	Self-Tapping Screw	7.	Self-Tapping Screw Assy
4.	Plastic Nut Seat	8.	Plastic Nut Seat

6.14 Front Wheel Fender Device

6.14.1 Decomposition Diagram

6.14.1.1 Decomposition Diagram

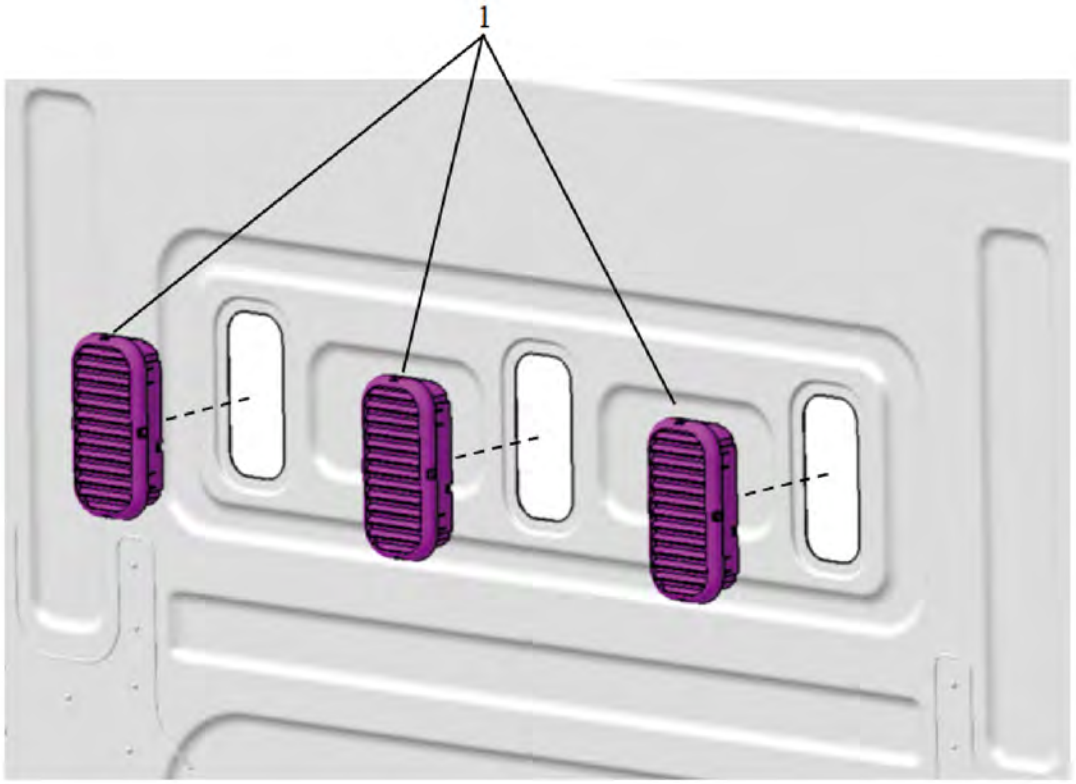


1. Front Wheel Arch Body-Rh Frt
2. Brkt-Upper Wheel Cover
3. Front Wheel Arch Body-Lh Frt
4. Cover-Wheel Arche
5.1. Wheel Cover Rear Body-Rh Frt
5.2. Baffle- Anti-Splash Rh
5.3. Mounting Brkt-Wheel Arch
5.4. Reinforcement Plate-Anti-Splash
6. Right Front Front Wheel Housing Bracket
7.2. Rear Wheel Arch Body-Lh Frt

6.15 Exhaust Port Device

6.15.1 Decomposition Diagram

6.15.1.1 Decomposition Diagram



1. Pressure Relief Valve

6.16 Side Wall Outer Panel Device

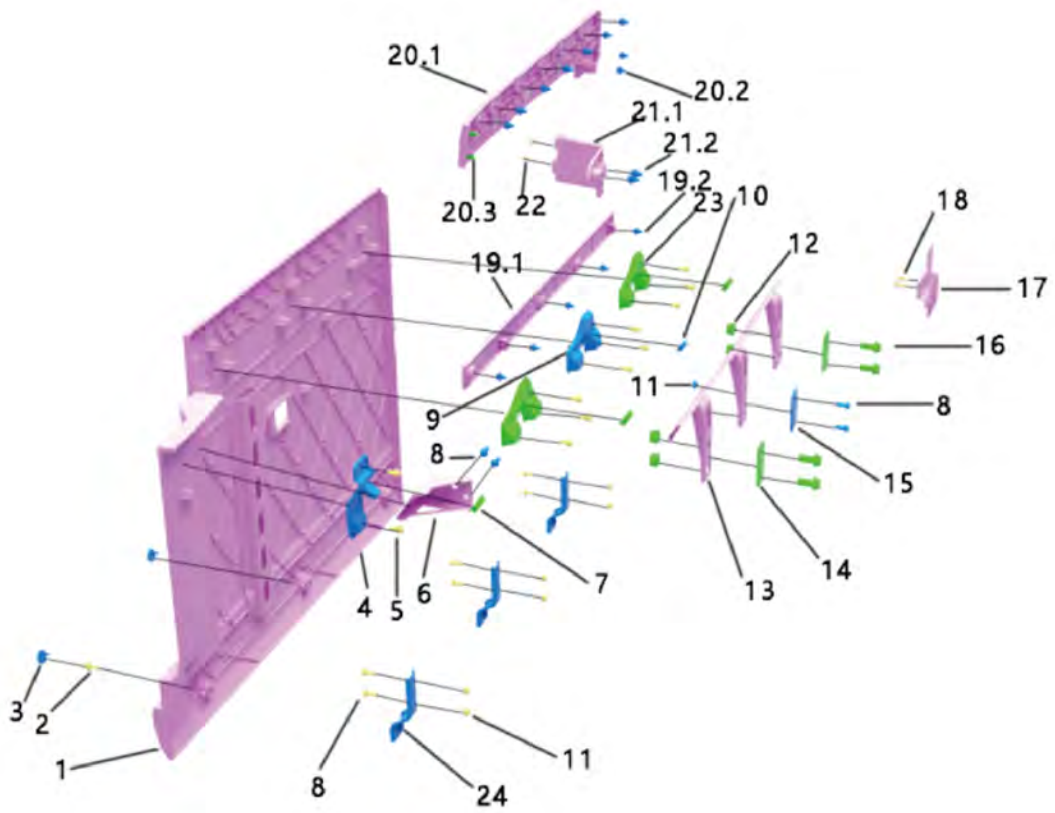
6.16.1 Specifications

6.16.1.1 Fastener Specifications

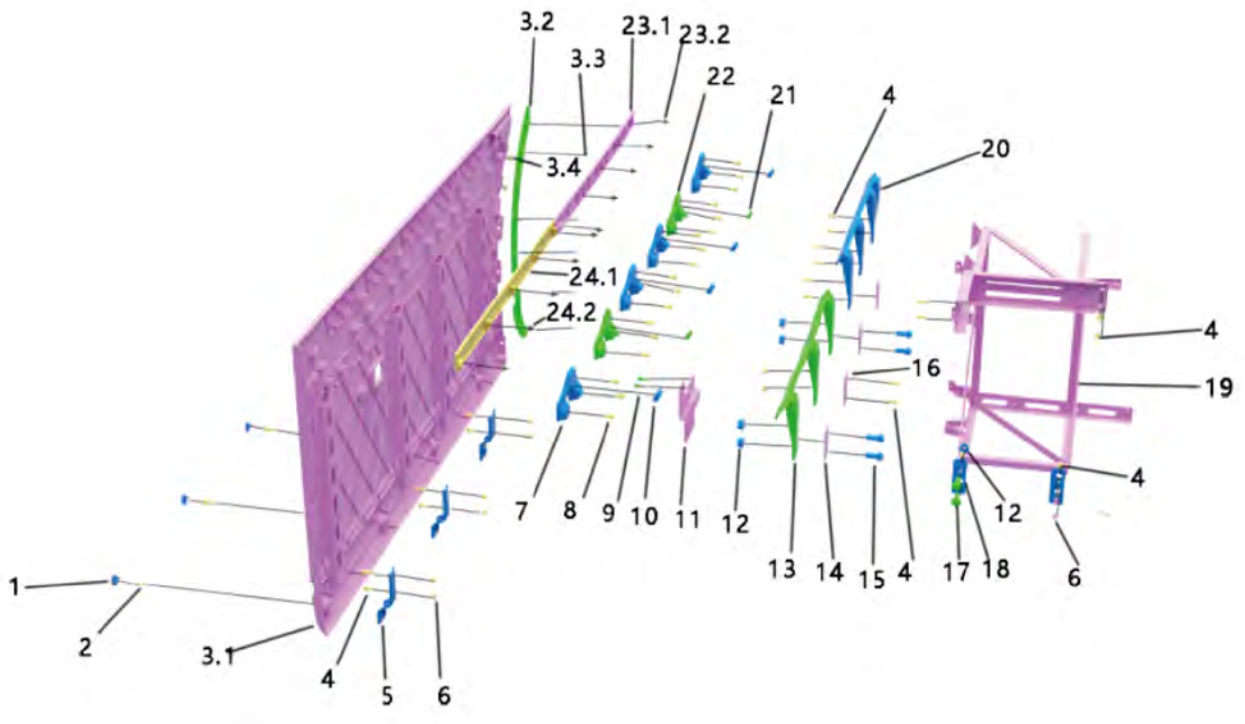
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the left side bracket and the frame assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the bracket assembly on the side panel to the frame assembly	M14	(103 +/- 7) ft lbs
The fixing nut connecting the bracket assembly on the side panel to the frame assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the left side panel lower decorative panel installation frame assembly and the frame assembly	M14	(103 +/- 7) ft lbs
The fixing bolt connecting the circular hanging bracket to the lower decorative panel body assembly	M8	(12 - 13) ft lbs
The fixing bolt connecting the left side panel assembly and the lower decorative panel assembly of the left side panel	M6	(3 +/- .75) ft lbs

6.16.2 Decomposition Diagram

6.16.2.1 Decomposition Diagram



1.	Lower Trim Assy-Rh	15.	Nut Plate 2
2.	Hexagon Head Bolt Assy	16.	Hexagon Flange Bolt
3.	Pulg-Side Skirt Trim	17.	Side Perimeter Left Bezel
4.	Round Positioning Brkt	18.	Hexagon Flange Bolt
5.	Hexagon Flange Bolt	19.1.	Side Enclosure Decorative Strip 3
6.	Front Munting Bracket of Left Side Enclosure	19.2.	Plastic Buckle
7.	Rubber Cover 1	20.1.	Cover Plate of Right Side Enclosure Slide Rail
8.	Hexagon Flange Bolt	20.2.	Plastic Buckle
9.	Round Mounting Brkt	20.3.	Type A Buckle
10.	Rubber Cover 2	21.1.	End Cover Plate of Right Side Enclosure Slide Rail
11.	Hexagon Flange Nut	21.2.	Plastic Buckle
12.	Hexagon Flange Nut	22.	Cross Recessed Pan Head Machine Screw
13.	Upr Brkt Assy3–Side Pn1	23.	Brkt-Square Mounting
14.	Nut Plate 1	24.	Brkt-Skrit Lower

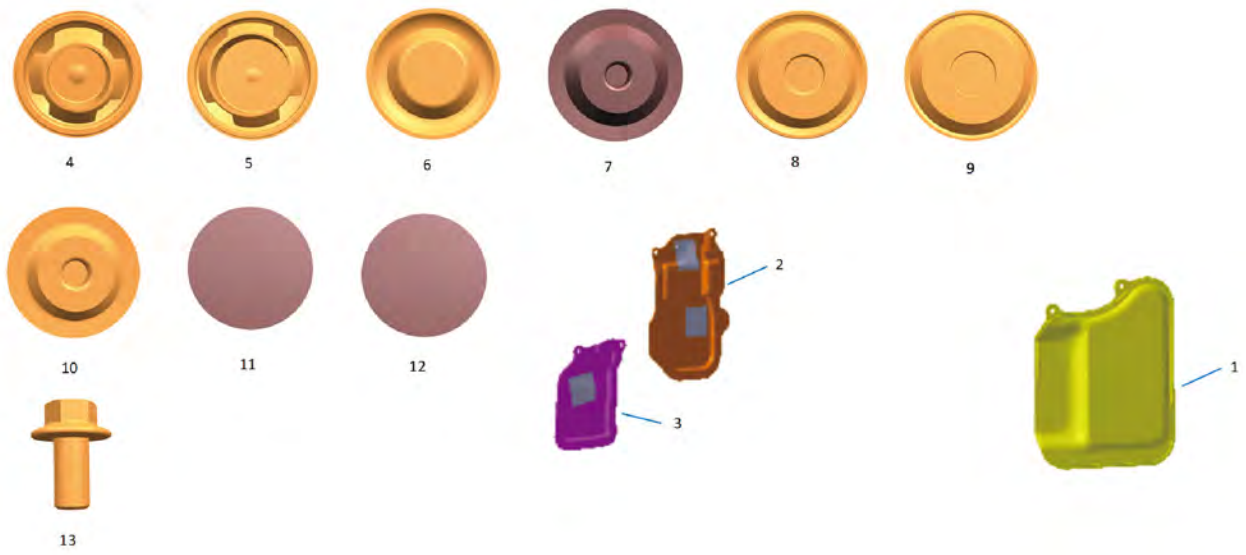


1. Pulg-Side Skirt Trim
2. Hexagon Head Bolt Assy
3.1. Lower Plaque Body Assy-Lh Surround
3.2. Left Front Wheel Eyebrow
3.3. Self-Tapping Screw
3.4. Type B Leaf Spring Nut
4. Hexagon Flange Bolt
5. Brkt-Skrit Lower
6. Hexagon Flange Nut
7. Brkt-Square Mounting
8. Hexagon Flange Bolt
9. Hexagon Flange Bolt
10. Rubber Cover 1
11. Side Perimeter Right Bezel
12. Hexagon Flange Nut
13. Brkt Assy 1-Side Perimeter Mounted
14. Nut Plate 1
15. Hexagon Flange Bolt
16. Nut Plate 2
17. Hexagon Flange Bolt
18. Side Mgt Brkt-Lh
19. Lower Trim Mounting Frame Assy_Lh
20. Brkt Assy 2-Side Perimeter Mounted
21. Rubber Cover 2
22. Round Mounting Brkt
23.1. Main Body of Side Enclosure Decorative Strip 1
23.2. Plastic Buckle
24.1. Main Body of Side Enclosure Decorative Strip 2
24.2. Plastic Buckle

6.17 Vehicle Body Sealing Plug Device

6.17.1 Decomposition Diagram

6.17.1.1 Decomposition Diagram



1. Body Waterproof Foil-Lh(1)
2. Body Waterproof Foil-Rh(1)
3. Body Waterproof Foil-Rh(2)
4. Plug Cover
5. Plug Cover
6. Plug Cover
7. Plug Cover
8. Plug Cover
9. Plug Cover
10. Plug Cover
11. Plug Cover
12. Plug Cover
13. Hexagon Flange Bolt

6.18 Active Grille Shutter Device

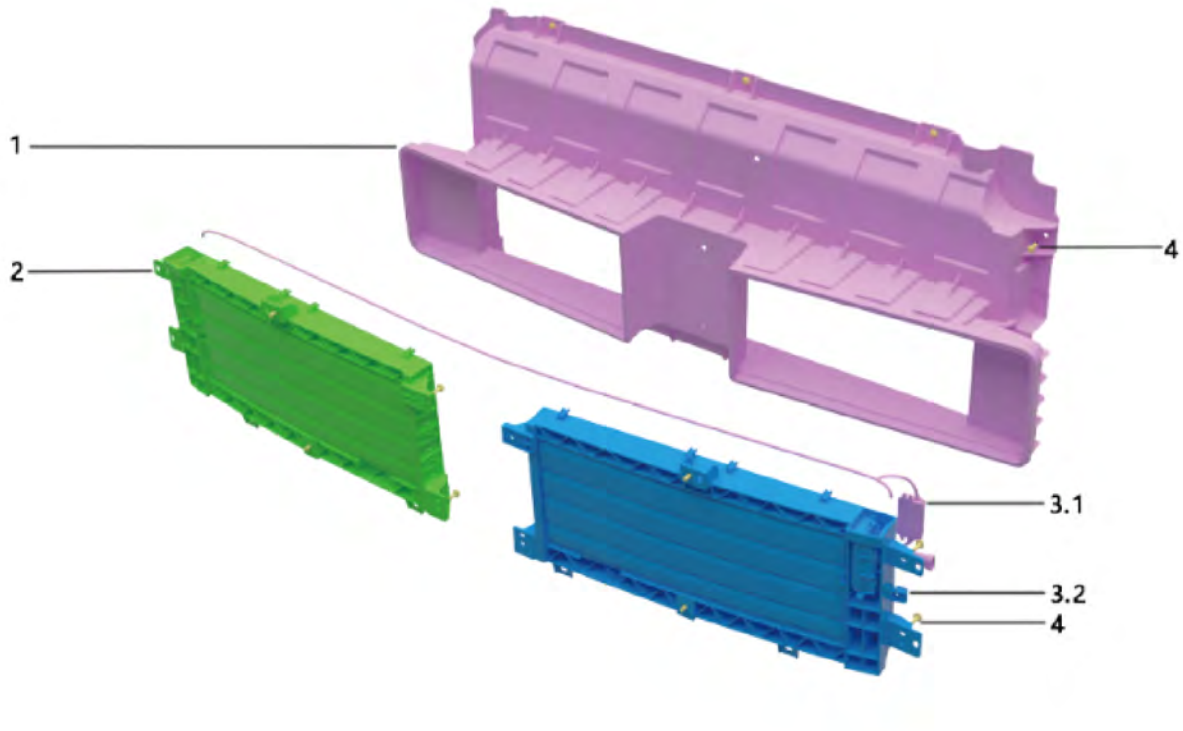
6.18.1 Specifications

6.18.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the left intake grille assembly and the bumper lower body assembly	M6	(4.5 +/- .75) ft lbs
The fixing bolt connecting the right intake grille assembly and the bumper lower body assembly	M6	(4.5 +/- .75) ft lbs
The fixing bolts connecting the air guide plate assembly and the front module	M6	(4.5 +/- .75) ft lbs

6.18.2 Decomposition Diagram

6.18.2.1 Decomposition Diagram



1. Wind Deflector Assy
2. Air Intake Grille Assy Rh
3.1. Main Body of the Left Air Inlet Grille
3.2. Active Grille Ecm Harness
4. Hexagon Flange Bolt

6.18.3 Dismantling and Installation

6.18.3.1 Replacement of Left Intake Grille Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

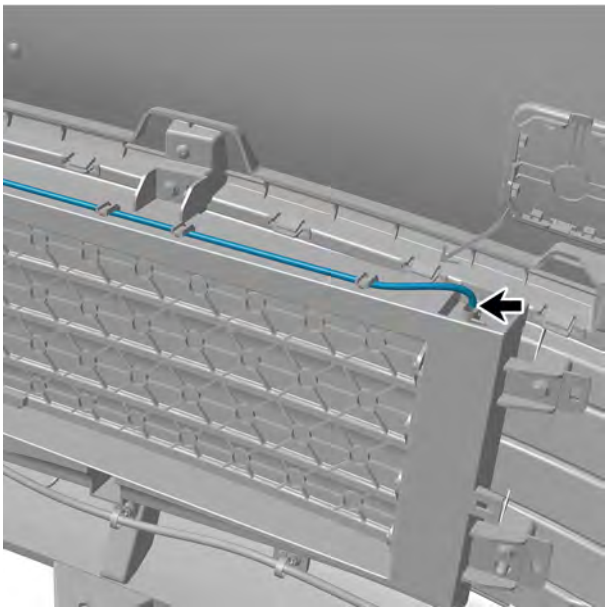
8 Remove the front MMW radar adapter bracket.

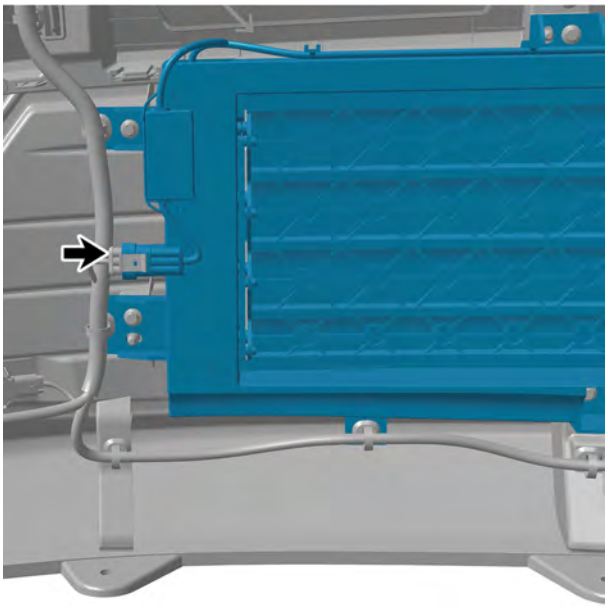
9 Remove the left cover plate of the corner radar.

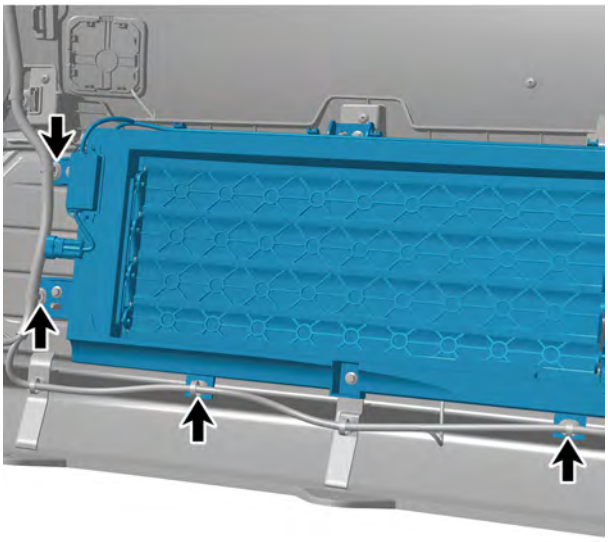
10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

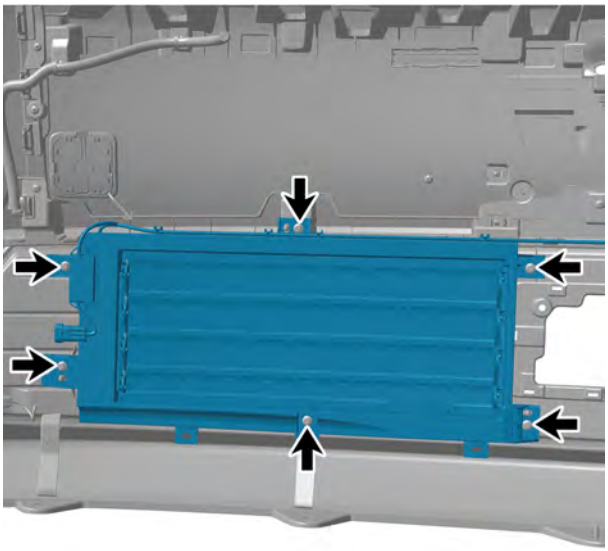
12 Disconnect 2 harness connectors of the left intake grille assembly.







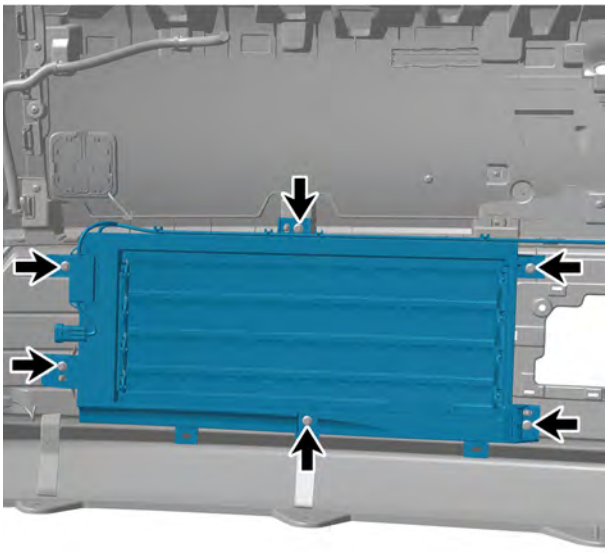
13 Disengage 4 harness fixing clips.



14 Remove 6 fixing bolts of the left intake grille assembly.

15 Remove the left intake grille assembly.

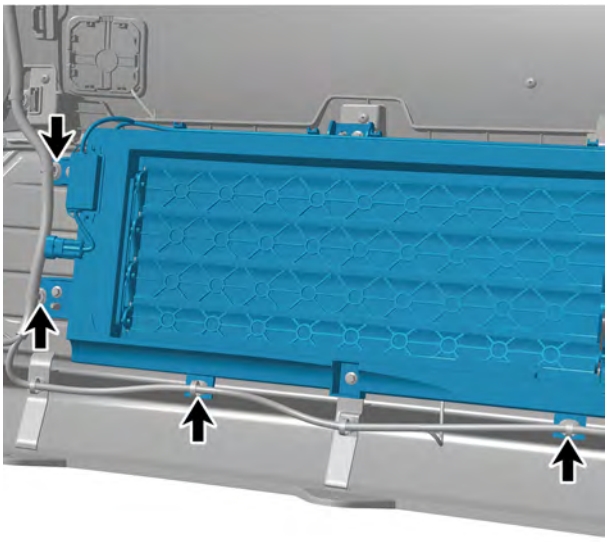
Installation Procedures



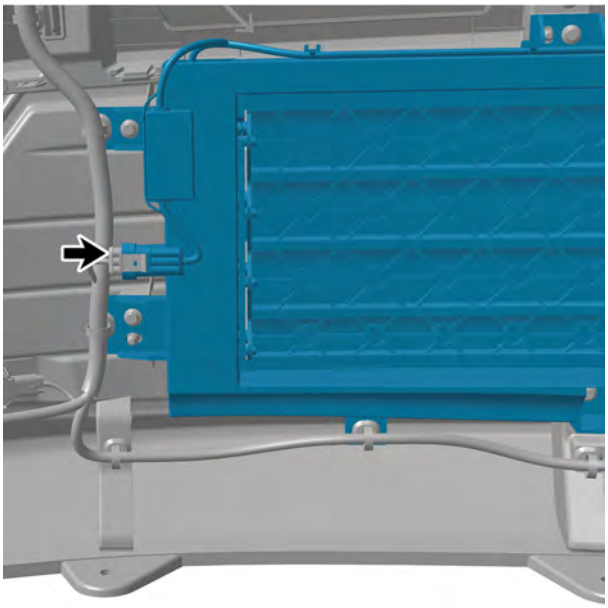
1 Move the left intake grille assembly to the mounting position.

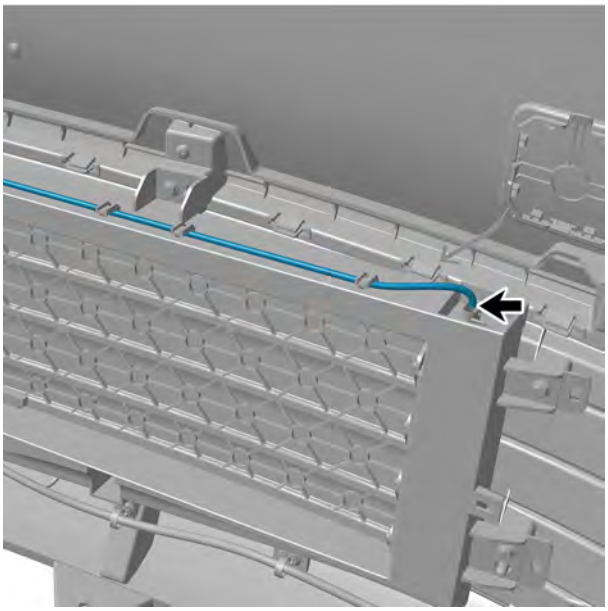
2 Install 6 fixing bolts of the left intake grille assembly.

Torque: (4.5 +/- .75) ft lbs



3 Install 4 harness fixing clips.





4 Connect 2 harness connectors of the left intake grille assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the front bumper assembly.

6 Install the right cover plate of the corner radar.

7 Install the left cover plate of the corner radar.

8 Install the front MMW radar adapter bracket.

9 Install the forward MMW radar.

10 Install the front MMW radar shield.

11 Install the through-type lamp.

12 Install the engine compartment trim panel body.

13 Connect the battery negative cable.

14 Close the front flip cover plate.

15 Close the door.

6.18.3.2 Replacement of Left Intake Grille Body Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

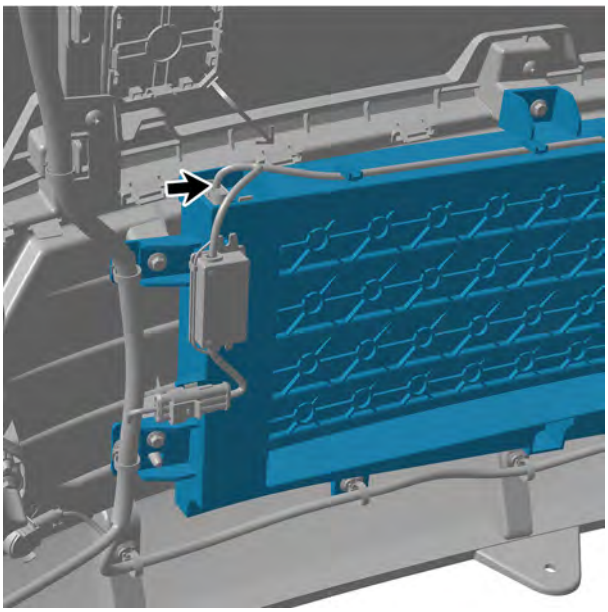
8 Remove the front MMW radar adapter bracket.

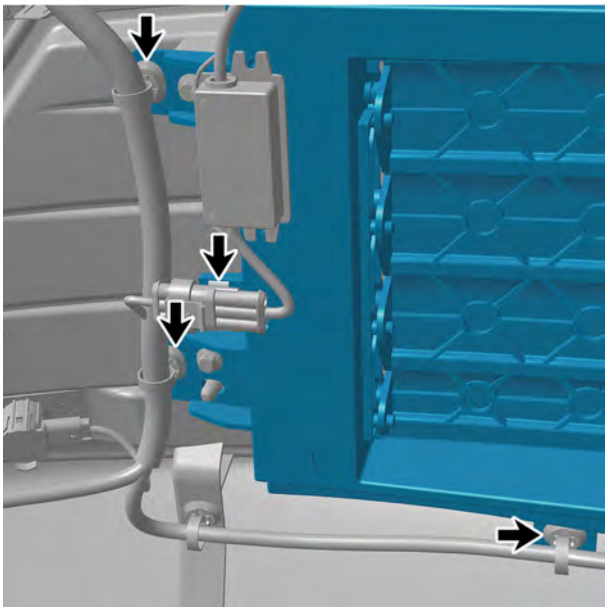
9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

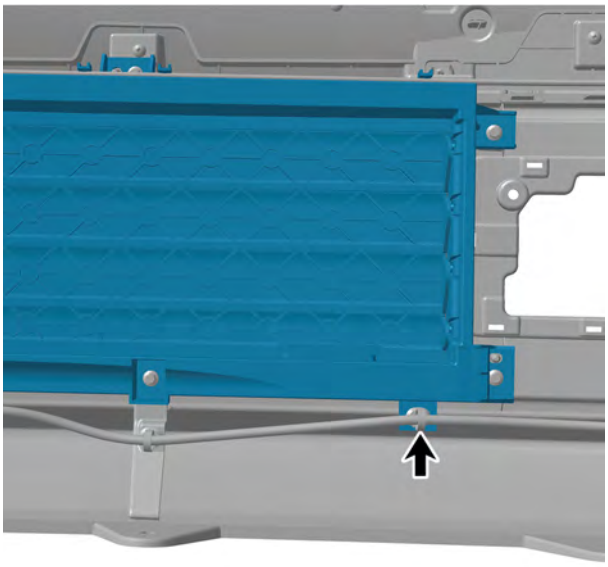
11 Remove the front bumper assembly.

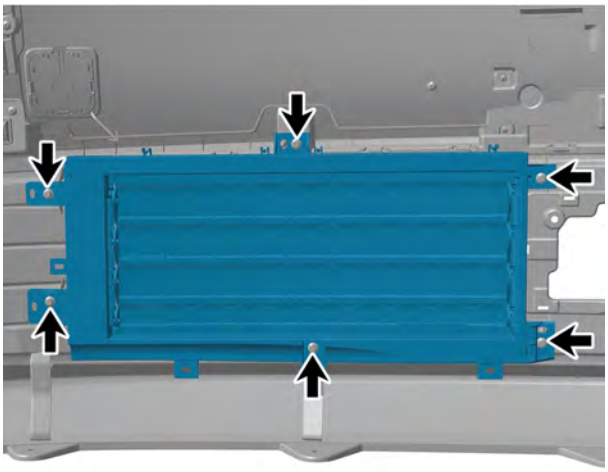
12 Disconnect 1 harness connector of the left intake grille body assembly.





13 Disengage 5 harness fixing clips.

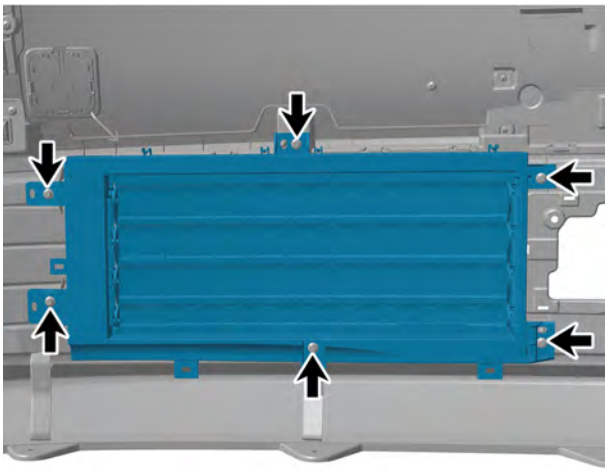




14 Remove 6 fixing bolts of the left intake grille body assembly.

15 Remove the left intake grille body assembly.

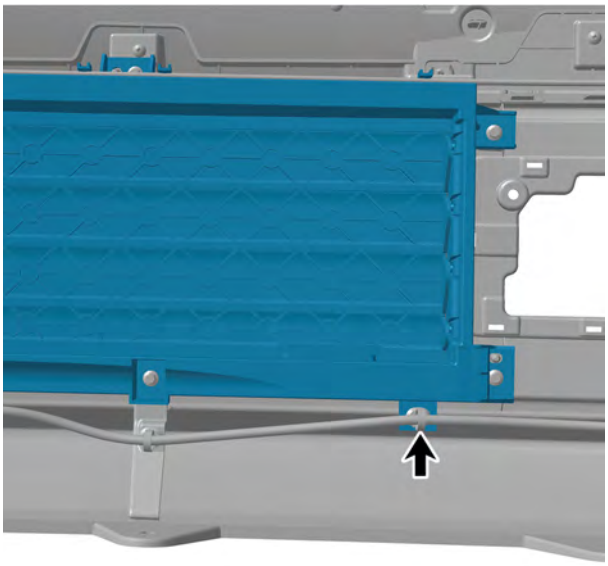
Installation Procedures



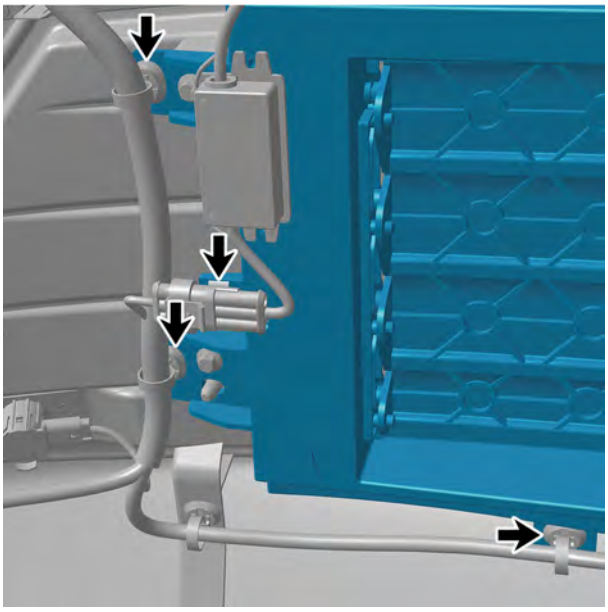
1 Move the left intake grille body assembly to the mounting position.

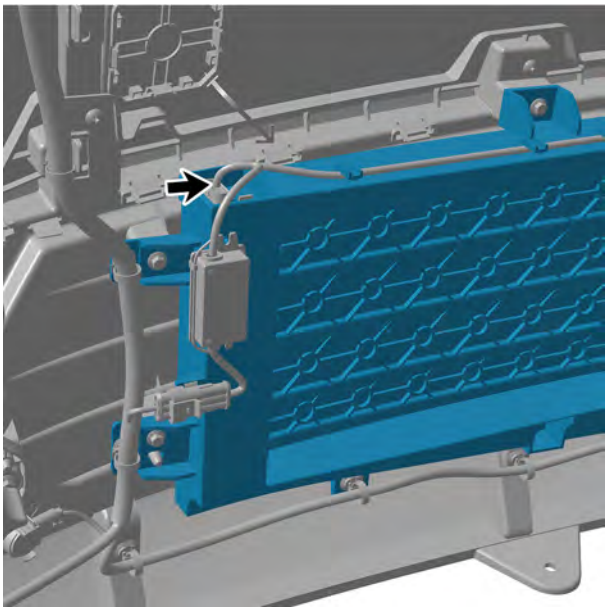
2 Install 6 fixing bolts of the left intake grille body assembly.

Torque: (4.5 +/- .75) ft lbs



3 Install 5 harness fixing clips.





4 Connect 1 harness connector of the left intake grille body assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the front bumper assembly.

6 Install the right cover plate of the corner radar.

7 Install the left cover plate of the corner radar.

8 Install the front MMW radar adapter bracket.

9 Install the forward MMW radar.

10 Install the front MMW radar shield.

11 Install the through-type lamp.

12 Install the engine compartment trim panel body.

13 Connect the battery negative cable.

14 Close the front flip cover plate.

15 Close the door.

6.18.3.3 Replacement of GASM Harness Module

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

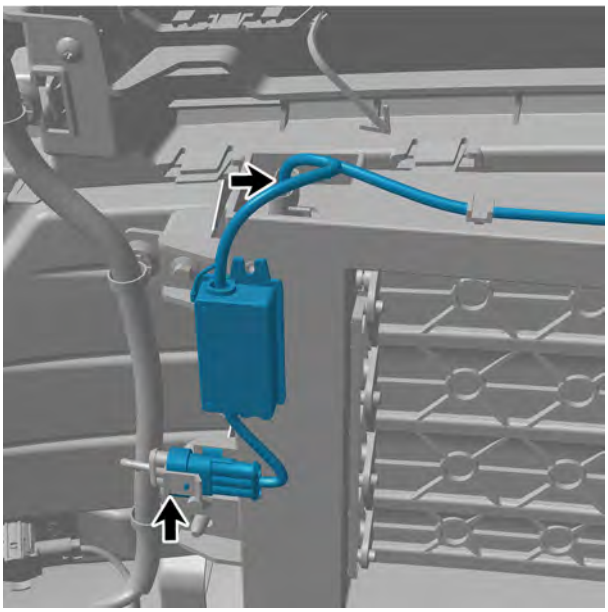
8 Remove the front MMW radar adapter bracket.

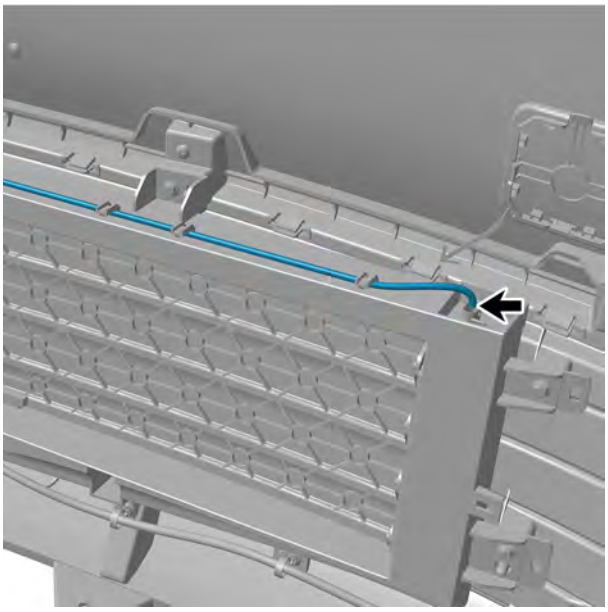
9 Remove the left cover plate of the corner radar.

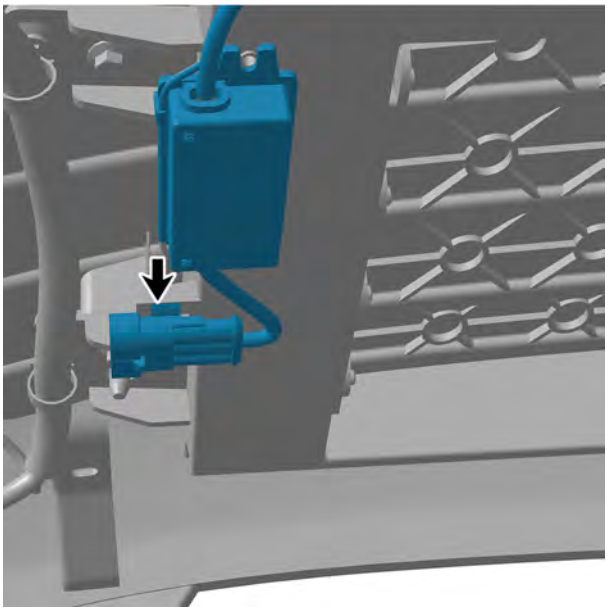
10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Disconnect 2 harness connectors of the GASM harness module.



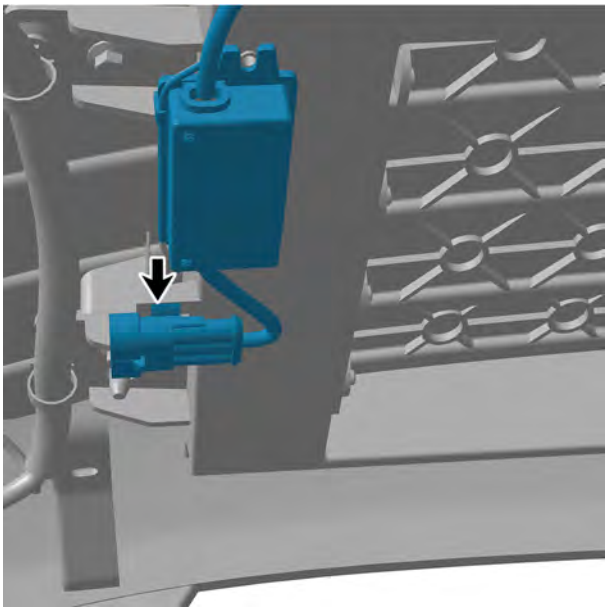




13 Disengage 1 fixing clip of the GASM harness module.

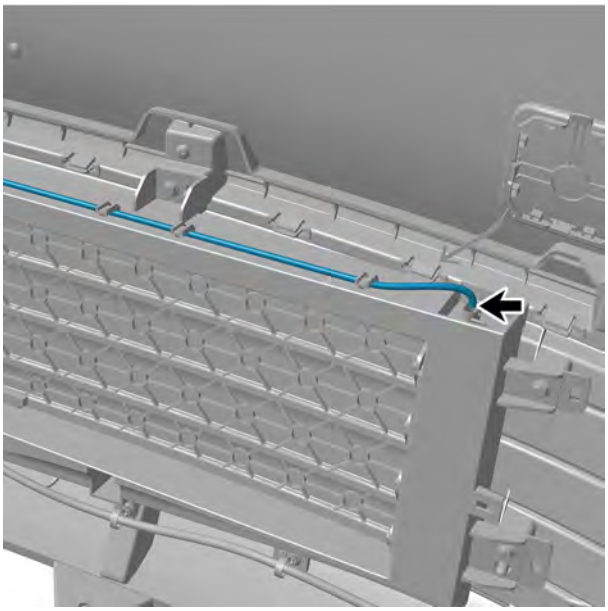
14 Remove the GASM harness module.

Installation Procedures



1 Move the GASM harness module to the mounting position.

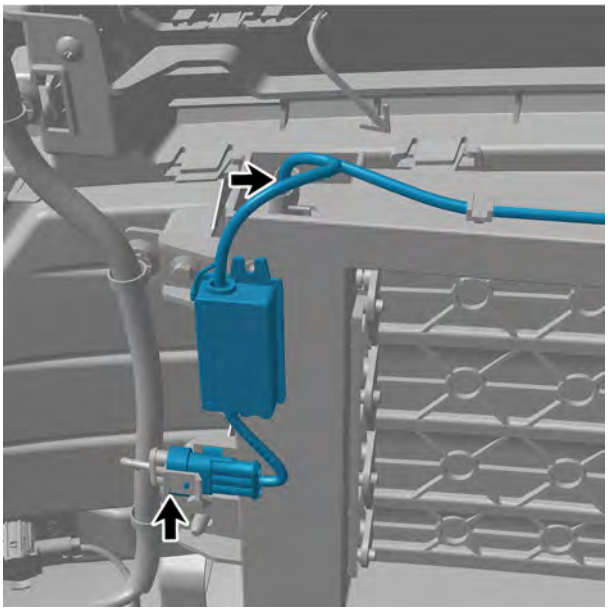
2 Install 1 fixing clip of the GASM harness module.



3 Connect 2 harness connectors of the GASM harness module.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



4 Install the front bumper assembly.

5 Install the right cover plate of the corner radar.

6 Install the left cover plate of the corner radar.

7 Install the MMWR adapter bracket.

8 Install the forward MMW radar.

9 Install the front MMW radar shield.

10 Install the through-type lamp.

11 Install the engine compartment trim panel body.

12 Connect the battery negative cable.

13 Close the front flip cover plate.

14 Close the door.

6.18.3.4 Replacement of Right Intake Grille Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

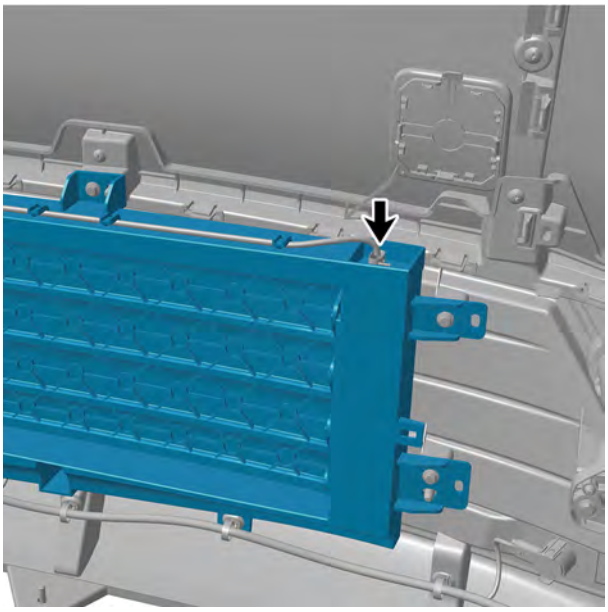
7 Remove the forward MMW radar.

8 Remove the front MMW radar adapter bracket.

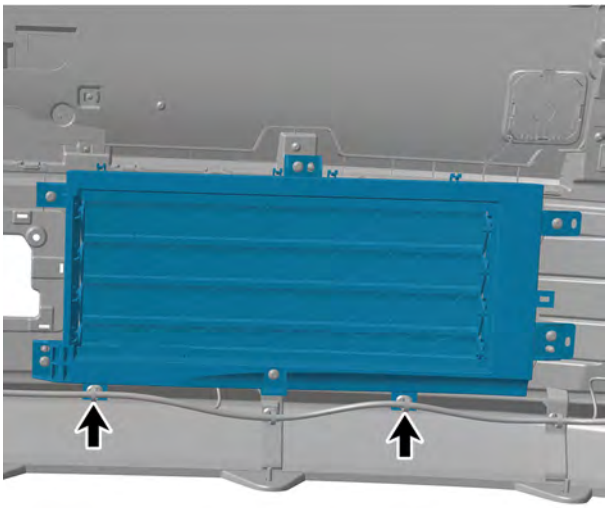
9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

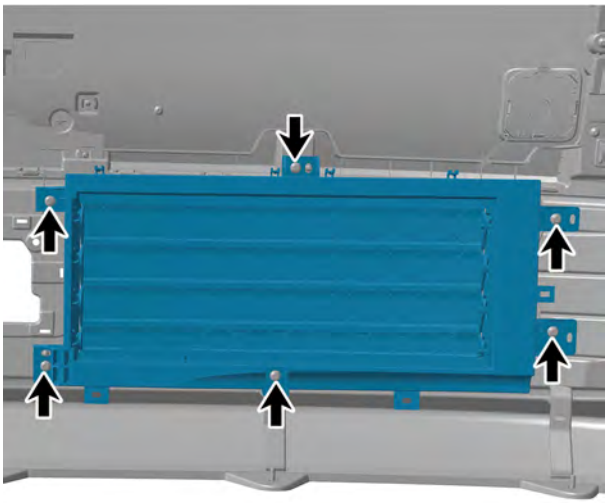
11 Remove the front bumper assembly.



12 Disconnect 1 harness connector of the right intake grille assembly.



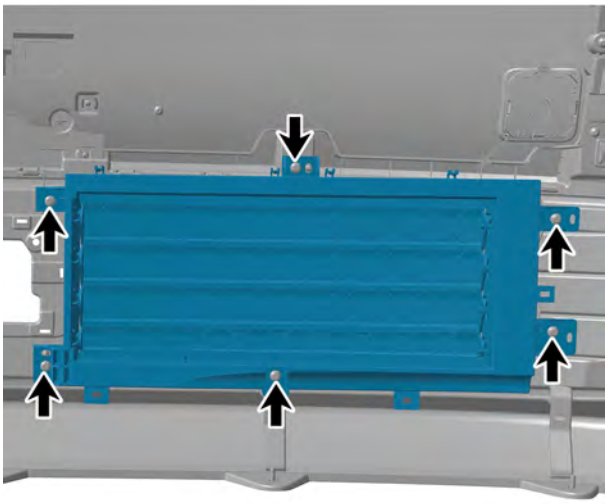
13 Disengage 2 harness fixing clips of the right intake grille assembly.



14 Remove 6 fixing bolts of the right intake grille assembly.

15 Remove the right intake grille assembly.

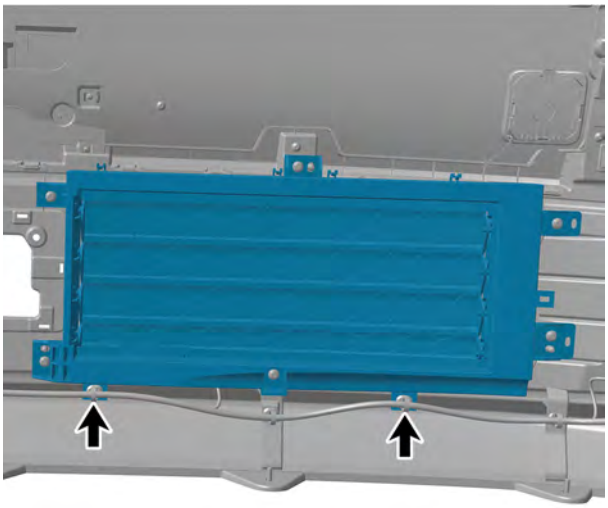
Installation Procedures



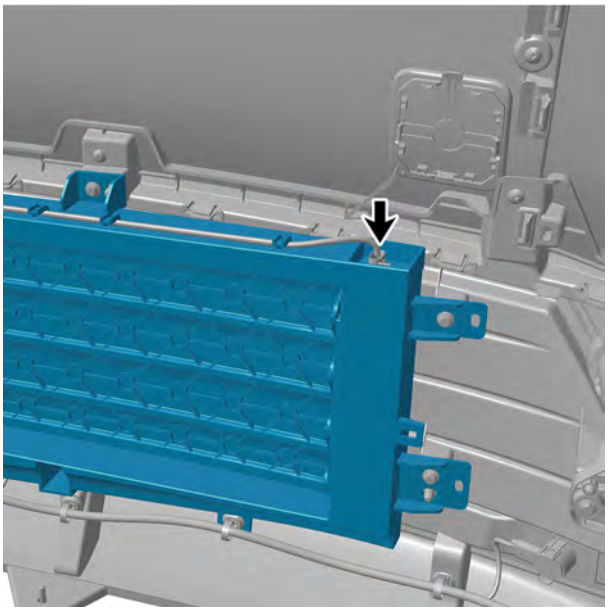
1 Move the right intake grille assembly to the mounting position.

2 Install 6 fixing bolts of the right intake grille assembly.

Torque:(4.5 +/- .75) ft lbs



3 Install 2 harness fixing clips of the right intake grille assembly.



4 Connect 1 harness connector of the right intake grille assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the front bumper assembly.

6 Install the right cover plate of the corner radar.

7 Install the left cover plate of the corner radar.

8 Install the MMWR adapter bracket.

9 Install the forward MMW radar.

10 Install the front MMW radar shield.

11 Install the through-type lamp.

12 Install the engine compartment trim panel body.

13 Connect the battery negative cable.

14 Close the front flip cover plate.

15 Close the door.

6.18.3.5 Replacement of Air Deflector Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the front MMW radar adapter bracket.

9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Remove the electric horn assembly - low-pitch.

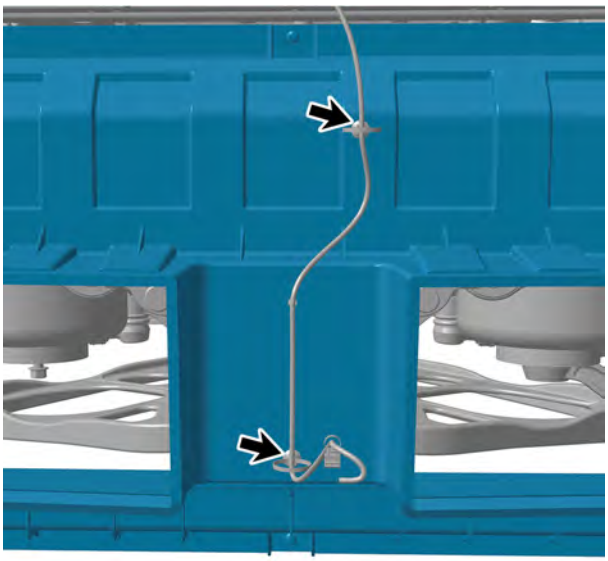
13 Remove the electric horn assembly - high-pitch.

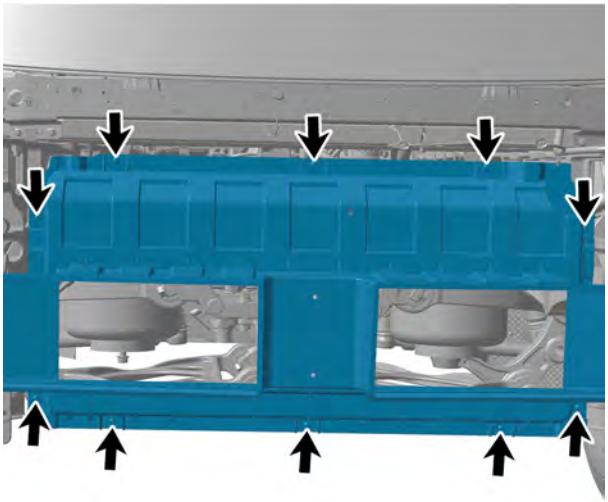
14 Remove the sealing cross beam.

15 Remove the MMW radar bracket.

16 Remove the front lower protection assembly.

17 Remove 2 harness clips of the air deflector assembly.

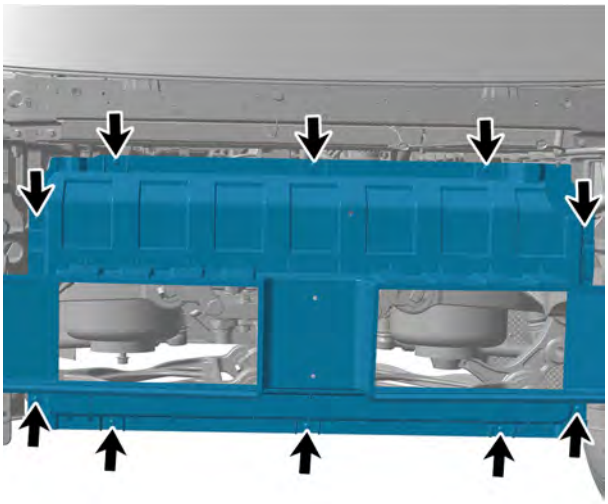




18 Remove 10 fixing bolts of the air deflector assembly.

19 Remove the air deflector assembly.

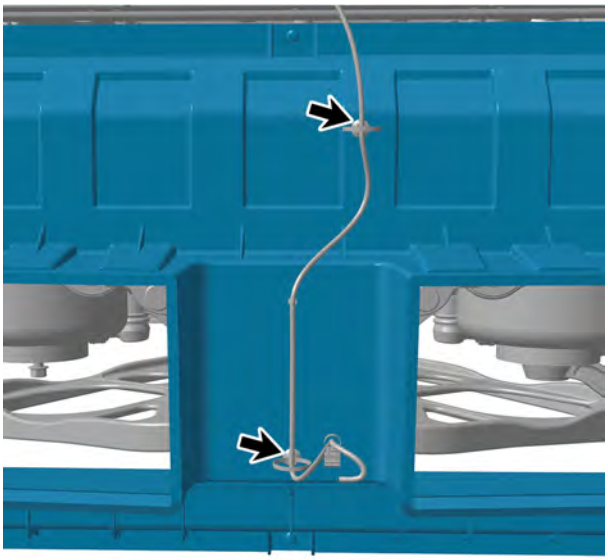
Installation Procedures



1 Move the air deflector assembly to the mounting position.

2 Install 10 fixing bolts of the air deflector assembly.

Torque:(4.5 +/- .75) ft lbs



3 Install 2 harness clips of the air deflector assembly.

4 Install the front lower protection assembly.

5 Install the MMW radar bracket.

6 Install the sealing cross beam.

7 Install the electric horn assembly - high-pitch.

8 Install the electric horn assembly - low-pitch.

9 Install the front bumper assembly.

10 Install the right cover plate of the corner radar.

11 Install the left cover plate of the corner radar.

12 Install the front MMW radar adapter bracket.

13 Install the forward MMW radar.

14 Install the front MMW radar shield.

15 Install the through-type lamp.

16 Install the engine compartment trim panel body.

17 Connect the battery negative cable.

18 Close the front flip cover plate.

19 Close the door.

6.19 Integrated Bracket Decoration Device

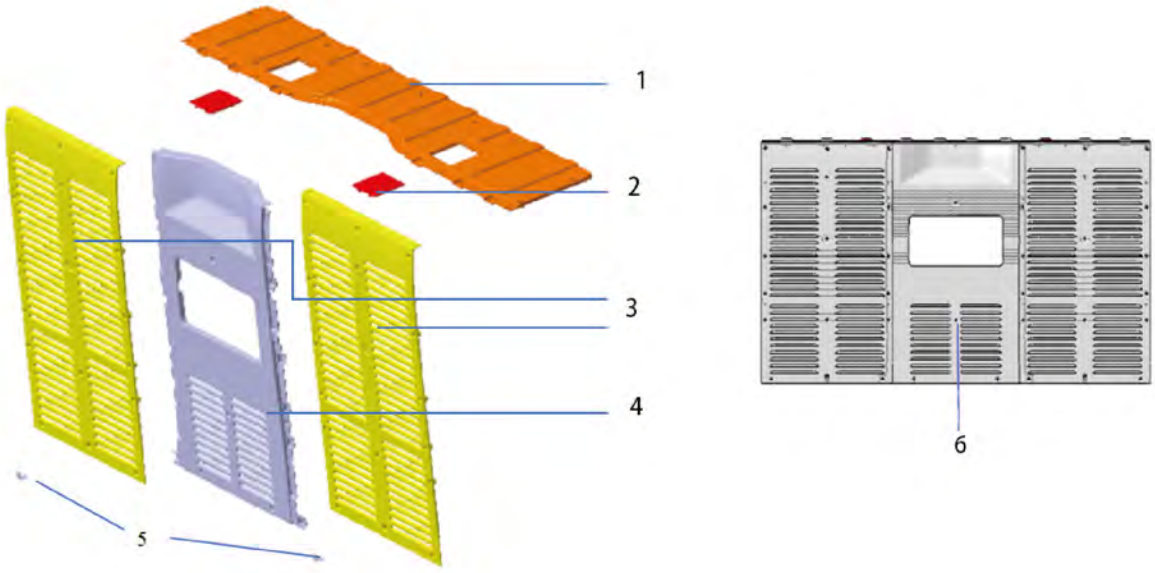
6.19.1 Specifications

6.19.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the side cover plate assembly of the back integrated bracket and the upper cover plate of the back integrated bracket	M6	(6.5 +/- .75) ft lbs

6.19.2 Decomposition Diagram

6.19.2.1 Decomposition Diagram

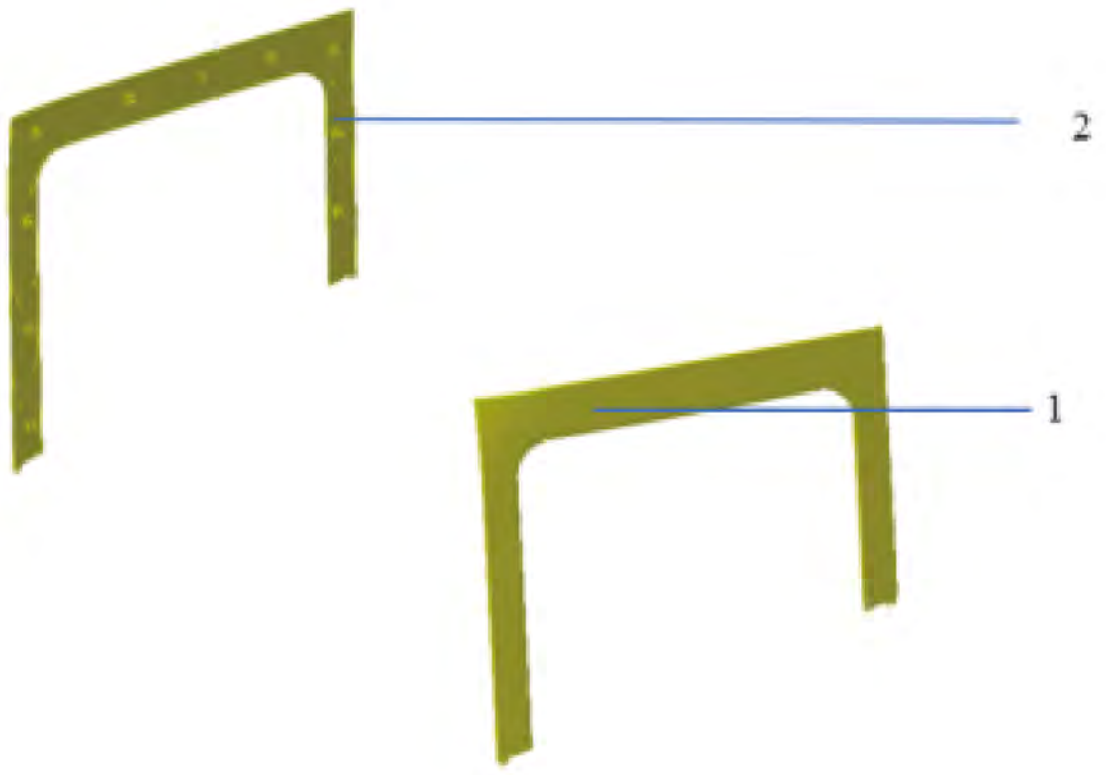


1. Upper Cover Plate of the Rear Integrated Bracket
2. Filler Cap-Back Integrated Frame
3. Side Cover Assy-Back Integrated Bracket
4. Center Cover Assy-Back Integrated Bracket
5. bracket of Center Cover
6. Hexagon Flange Bolt

6.20 Door Outer Panel Device

6.20.1 Decomposition Diagram

6.20.1.1 Decomposition Diagram



1. Window Cover Assy-Lh
2. Right Window Cover Assy

6.20.2 Dismantling and Installation

6.20.2.1 Replacement of Left Window Cover Plate Assembly

Removal Procedures

1 Open the door.

2 Lower all windows.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the IP left upper trim panel assembly.

6 Remove the left A-pillar protective plate assembly.

7 Remove the left front side wall protective plate assembly.

8 Remove the front USB interface.

9 Remove the IP left access cover plate assembly.

10 Remove the left switch panel assembly.

11 Remove the left switch panel lower trim panel assembly.

12 Remove the IP left lower trim panel assembly.

13 Remove the left middle side wall lower trim panel assembly.

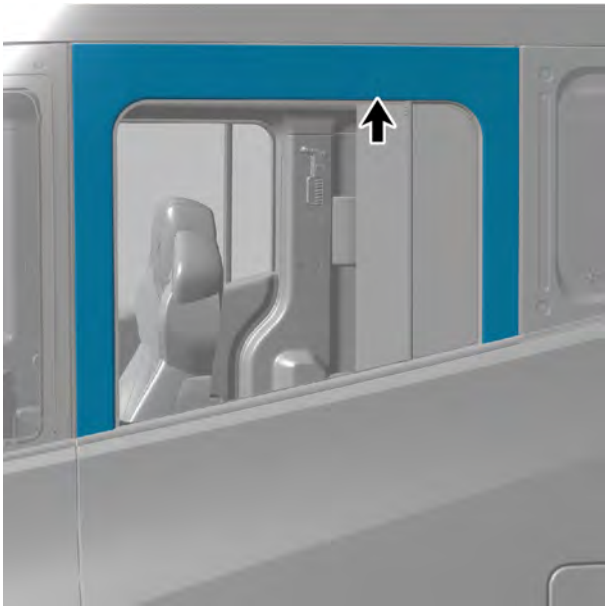
14 Remove the left middle side wall middle trim panel assembly.

15 Remove the left B-pillar upper protective plate assembly.

16 Remove the left middle side wall protective plate assembly.

17 Remove the side wall clothes rail assembly.

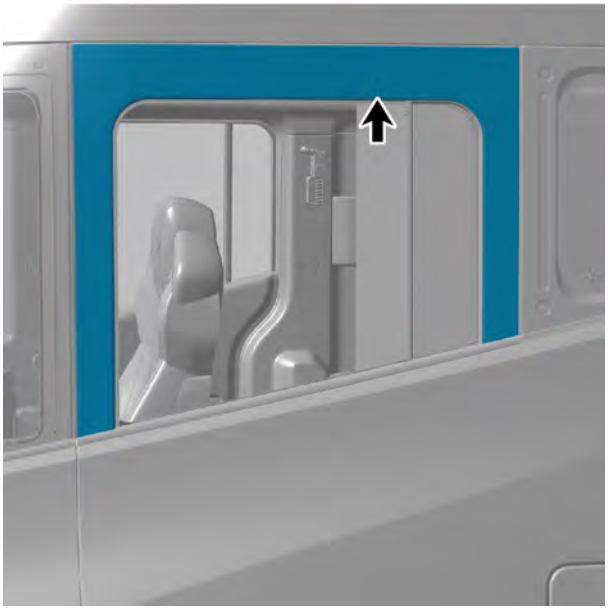
18 Remove the left rear side wall protective plate assembly.



19 Remove the left outer weatherstrip assembly.

20 Remove the left window cover plate assembly.

Installation Procedures



1 Install the left window cover plate assembly.

2 Install the left outer weatherstrip assembly.

3 Install the left rear side wall protective plate assembly.

4 Install the side wall clothes rail assembly.

5 Install the left middle side wall protective plate assembly.

6 Install the left B-pillar upper protective plate assembly.

7 Install the left middle side wall middle trim panel assembly.

8 Install the left middle side wall lower trim panel assembly.

9 Install the IP left lower trim panel assembly.

10 Install the left switch panel lower trim panel assembly.

11 Install the left switch panel assembly.

12 Install the IP left access cover plate assembly.

13 Install the front USB interface.

14 Install the left front side wall protective plate assembly.

15 Install the left A-pillar protective plate assembly.

16 Install the IP left upper trim panel assembly.

17 Connect the battery negative cable.

18 Close the front flip cover plate.

19 Lift all windows.

20 Close the door.

6.20.2.2 Replacement of Right Window Cover Plate Assembly

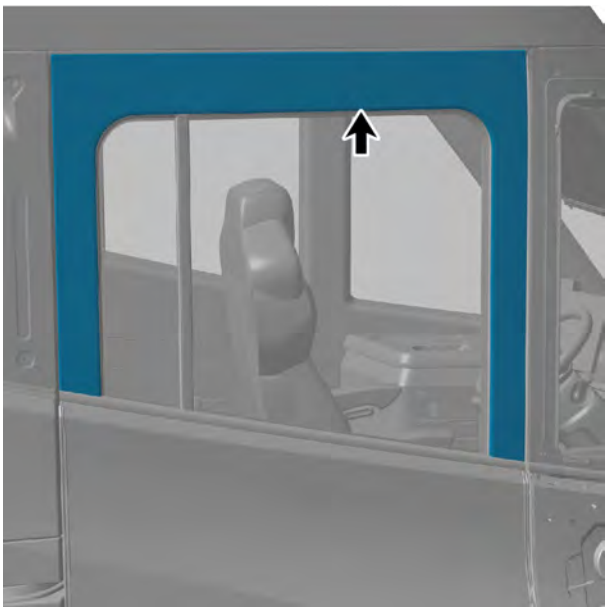
Removal Procedures

1 Open the door.

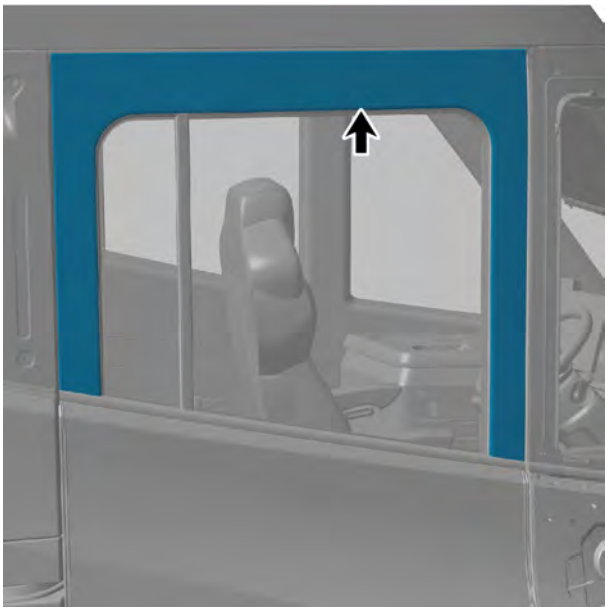
2 Lower all windows.

3 Remove the right outer weatherstrip assembly.

4 Remove the right window cover plate assembly.



Installation Procedures



1 Move the right window cover plate assembly to the mounting position.

2 Install the right outer weatherstrip assembly.

3 Lift all windows.

4 Close the door.

6.21 Engine Compartment Covering Device

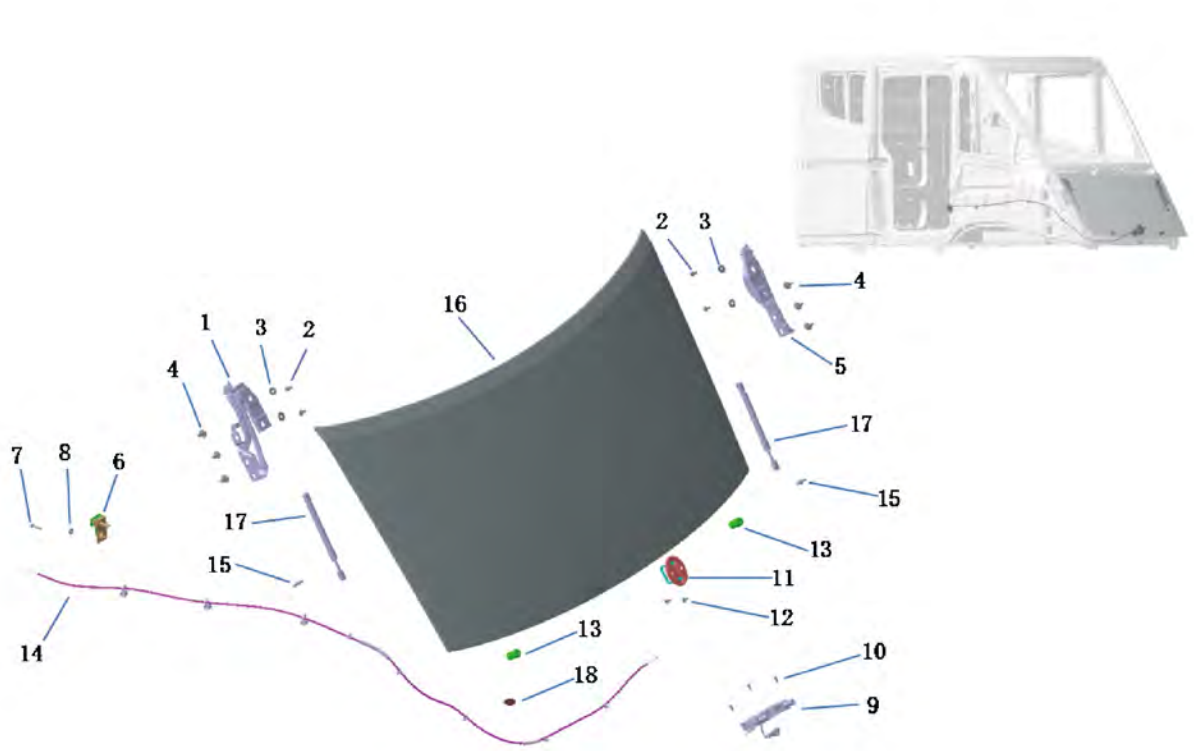
6.21.1 Specifications

6.21.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the front windshield cover plate to the white body assembly	M6	(6.5 +/- .75) ft lbs

6.21.2 Decomposition Diagram

6.21.2.1 Decomposition Diagram

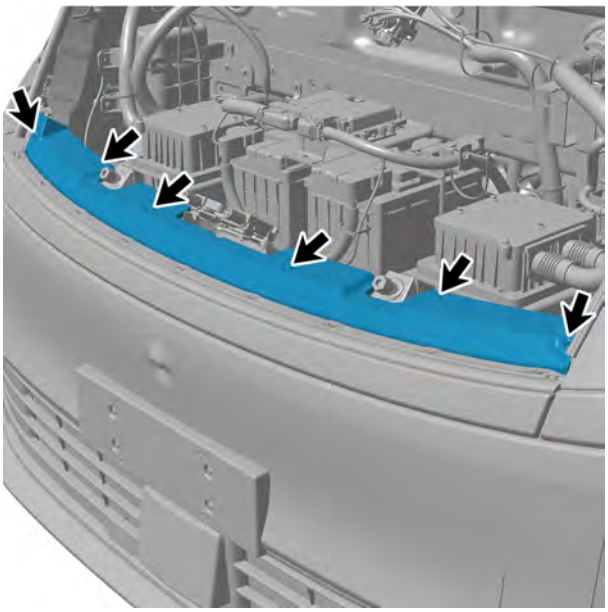


1.	Engine Hood Hinge Assy-Rh	10.	Hexagon Flange Bolt
2.	Hexagon Bolt	11.	Engine Hood Striker Assy
3.	Large Washer	12.	Hexagon Flange Bolt
4.	Hexagon Head Bolt Assy	13.	Bumper Engine Hood
5.	Engine Hood Hinge Assy-Lh	14.	Cable Hood Opening Assy
6.	Handle Assy-Frt Cover Opening	15.	The Air Pole Is Installed With the Ball End
7.	Hex Socket Set Screw	16.	Front cover assy
8.	Large Washer	17.	Air strut engine hood
9.	Engine Hood Lock Assy	18.	Plug cover

6.21.3 Dismantling and Installation

6.21.3.1 Replacement of Engine Compartment Trim Panel Body

Removal Procedures



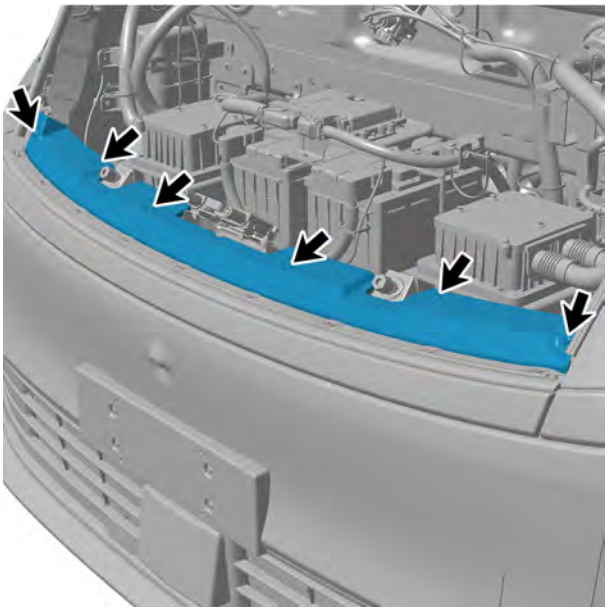
1 Open the door.

2 Open the front flip cover plate.

3 Remove 6 fixing screws of the engine compartment trim panel body.

4 Remove the engine compartment trim panel body.

Installation Procedures



1 Move the engine compartment trim panel body to the mounting position.

2 Install 6 fixing screws of the engine compartment trim panel body.

3 Close the front flip cover plate.

4 Close the door.

6.21.3.2 Replacement of Front Windshield Cover Plate

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

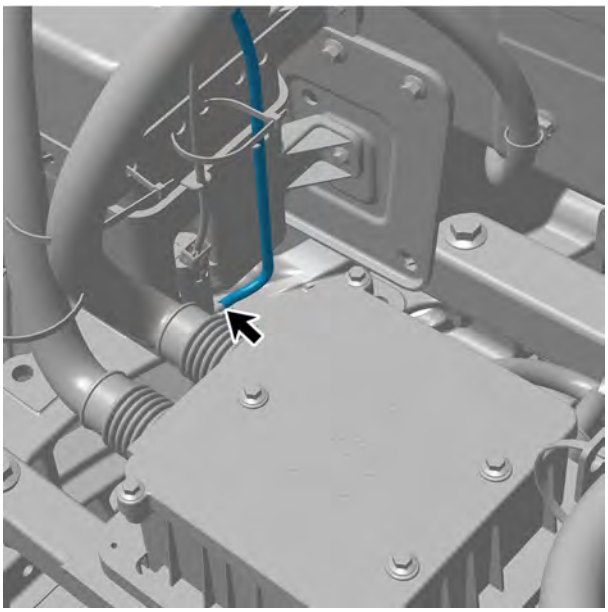
3 Remove the primary wiper arm blade assembly (nozzle and hose).

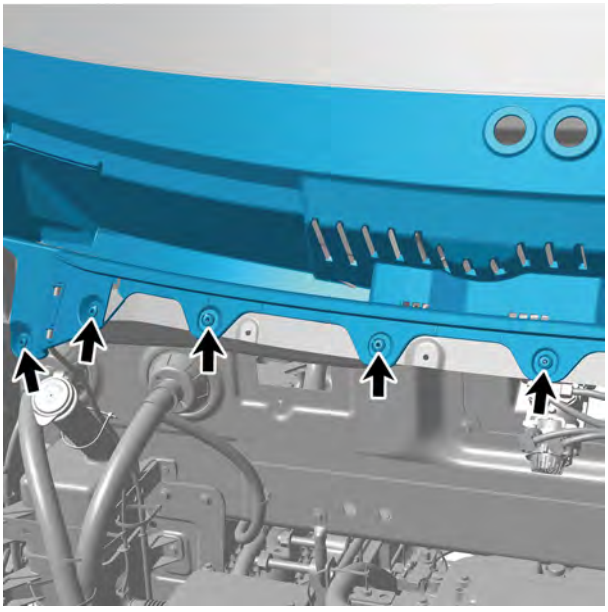
4 Remove the two-way joint.

5 Disengage the water fluid reservoir water pipe.

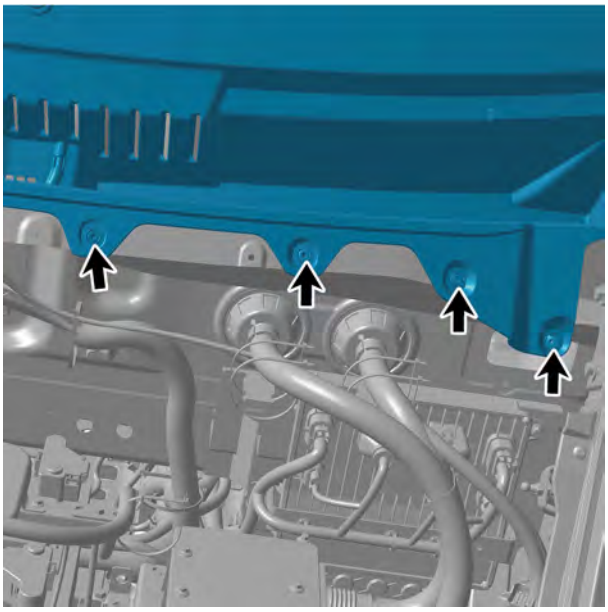
caution

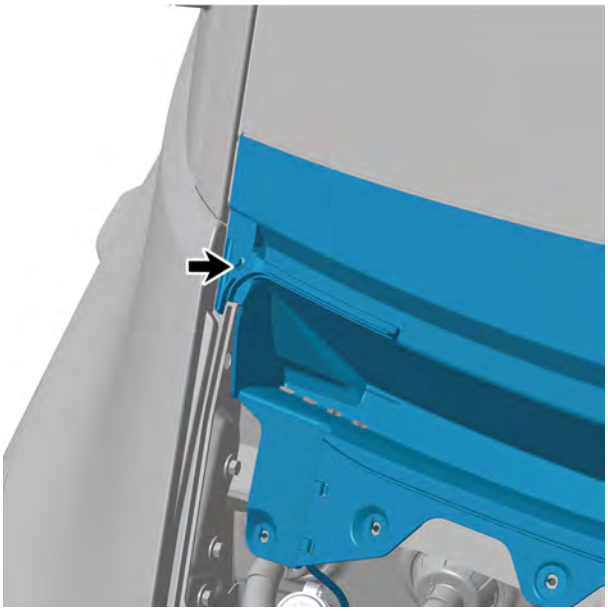
Use a clean container to receive the discharged coolant.

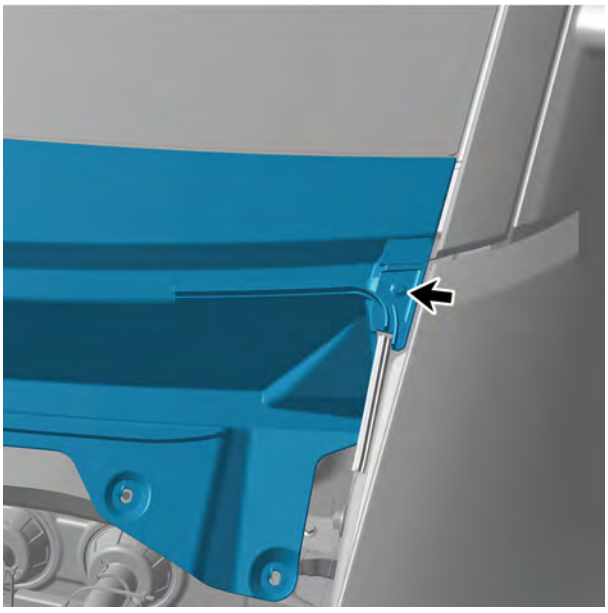




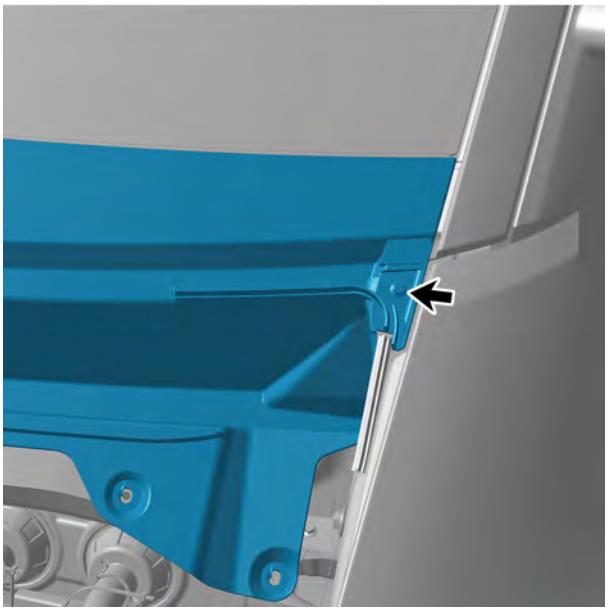
6 Disengage 9 clips of the front windshield cover plate.

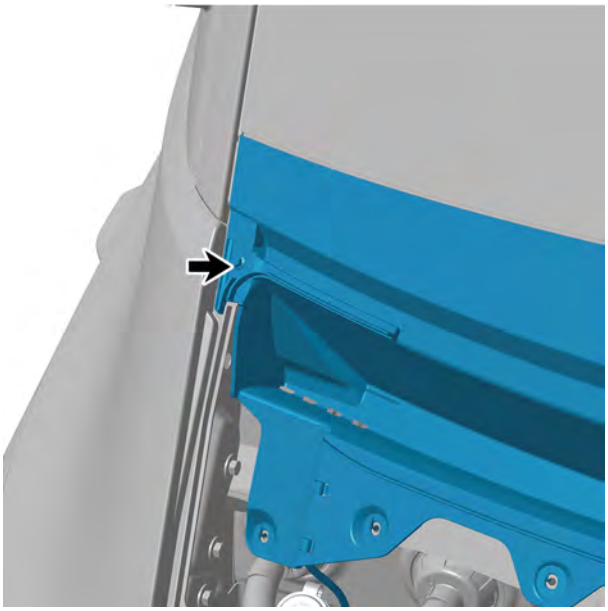






7 Remove 2 fixing bolts of the front windshield cover plate, and remove the front windshield cover plate.



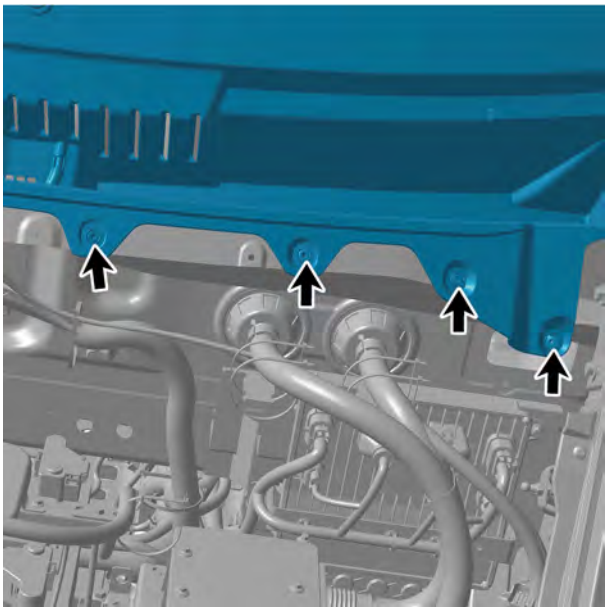


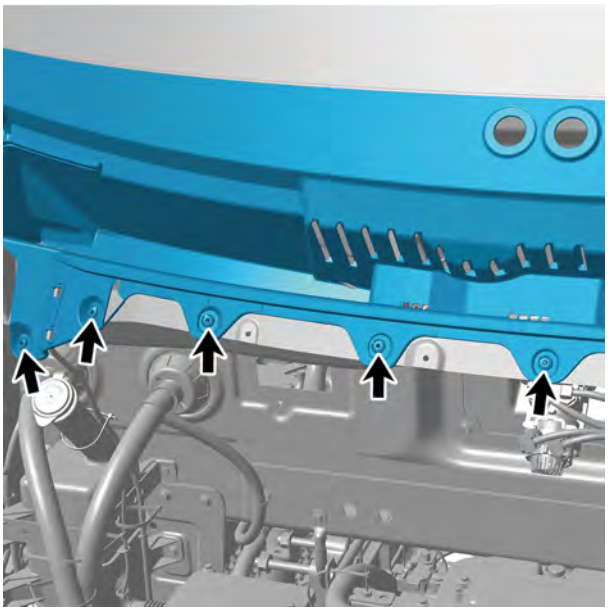
Installation Procedures

1 Move the front windshield cover plate to the mounting position.

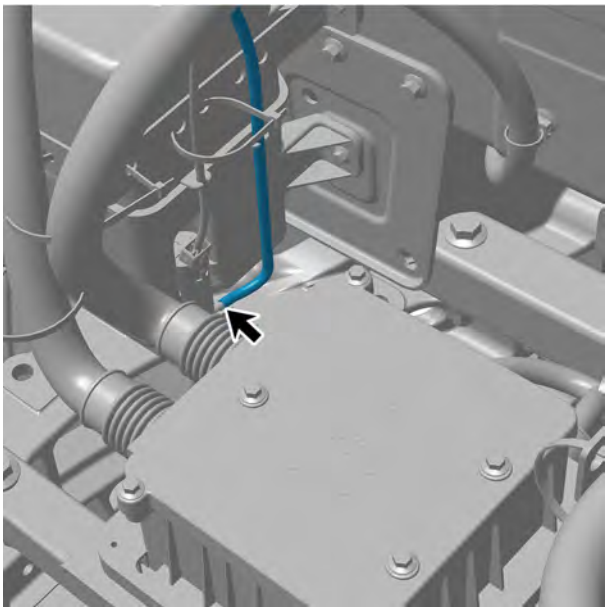
2 Install 2 fixing bolts of the front windshield cover plate.

Torque: (6.5 +/- .75) ft lbs





3 Install 9 clips of the front windshield cover plate.



4 Install the water fluid reservoir water pipe.

5 Install the two-way joint.

6 Install the primary wiper arm blade assembly (nozzle and hose).

7 Close the front flip cover plate.

8 Close the door.

6.22 Rear Boarding Handrail Device

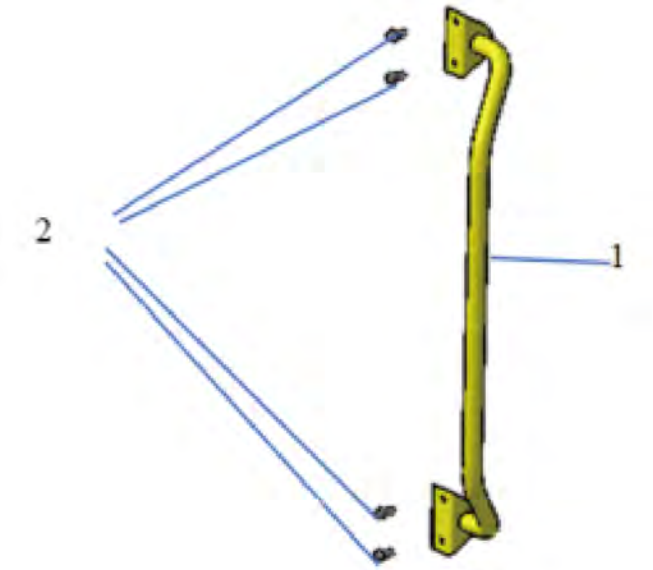
6.22.1 Specifications

6.22.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the rear boarding armrest to the integrated frame	M8	(18.5 +/- 2) ft lbs

6.22.2 Decomposition Diagram

6.22.2.1 Decomposition Diagram



1. Rear Pedal Armrest
2. Hexagon Flange Bolt

6.22.3 Dismantling and Installation

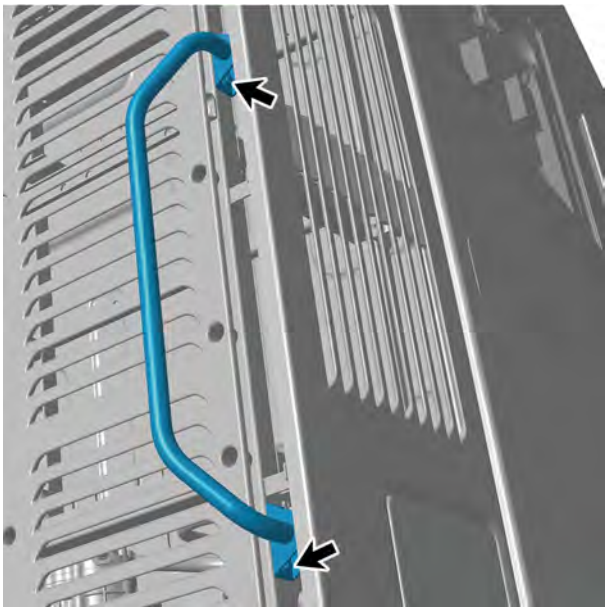
6.22.3.1 Replacement of Rear Boarding Handrail

Removal Procedures

1 Open the door.

2 Remove 2 fixing bolts of the rear boarding handrail.

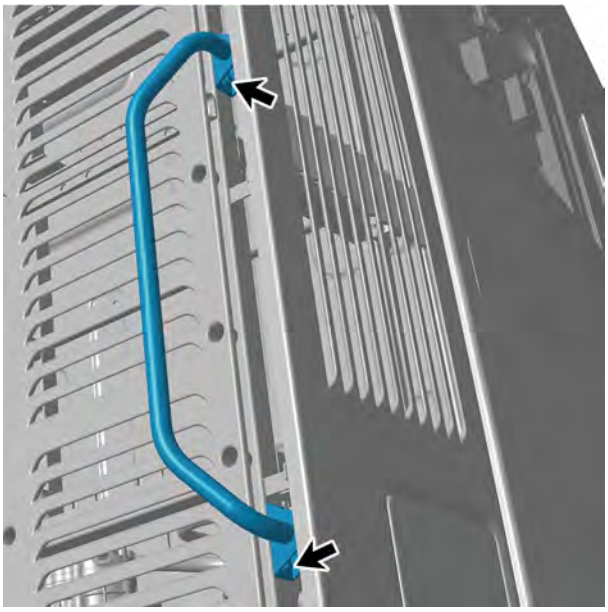




3 Remove 2 fixing bolts of the rear boarding handrail.

4 Remove the rear boarding handrail.

Installation Procedures



1 Move the rear boarding handrail to the mounting position.

2 Install 2 fixing bolts of the rear boarding handrail.

Torque:(18.5 +/- 2) ft lbs



3 Install 2 fixing bolts of the rear boarding handrail.

Torque: (18.5 +/- 2) ft lbs

4 Close the door.

6.23 Rear Interior Trim Device

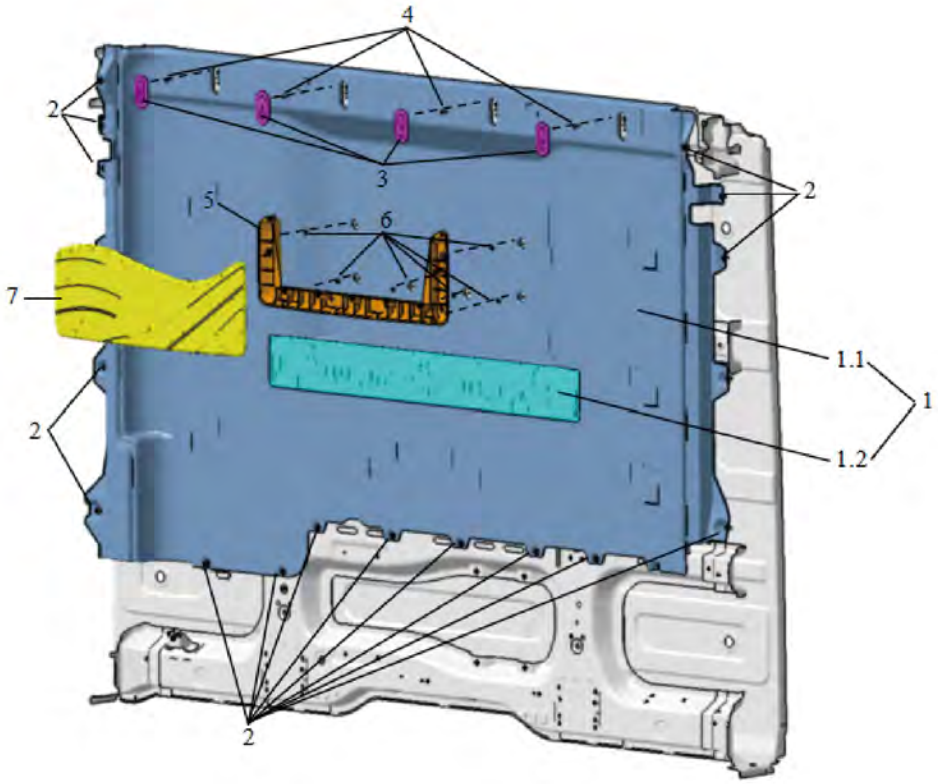
6.23.1 Specifications

6.23.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the rear seat belt and the right drawer assembly	M10	(37 +/- 3.5) ft lbs
The fixing nut connecting the base of the rear storage box to the rear panel sheet metal	M6	(6.5 +/- .75) ft lbs

6.23.2 Decomposition Diagram

6.23.2.1 Decomposition Diagram



1.	Rear Enclosure Assy	4.	Cross Recessed Pan Head Machine Screw
1.1.	Main Body of the Rear Enclosure Panel	5.	Rear Compartment Holder
1.2.	Cover Plate of the Rear Enclosure Storage Box	6.	Hexagon Flange Nut
2.	Tree Clasp	7.	Rear Compartment Cover
3.	Coat Hook		

6.23.3 Dismantling and Installation

6.23.3.1 Replacement of Rear Wall Protective Plate Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right sill molding assembly.

5 Remove the door opening sealing strip assembly.

6 Remove the safety hammer fixing bracket.

7 Remove the rear boarding handrail assembly.

8 Remove the SSM.

9 Remove the right rear side wall protective plate assembly.

10 Remove the IP left upper trim panel assembly.

11 Remove the left A-pillar protective plate assembly.

12 Remove the left front side wall protective plate assembly.

13 Remove the front USB interface.

14 Remove the IP left access cover plate assembly.

15 Remove the left switch panel assembly.

16 Remove the left switch panel lower trim panel assembly.

17 Remove the IP left lower trim panel assembly.

18 Remove the left middle side wall lower trim panel assembly.

19 Remove the left middle side wall middle trim panel assembly.

20 Remove the left B-pillar upper protective plate assembly.

21 Remove the left middle side wall protective plate assembly.

22 Remove the side wall clothes rail assembly.

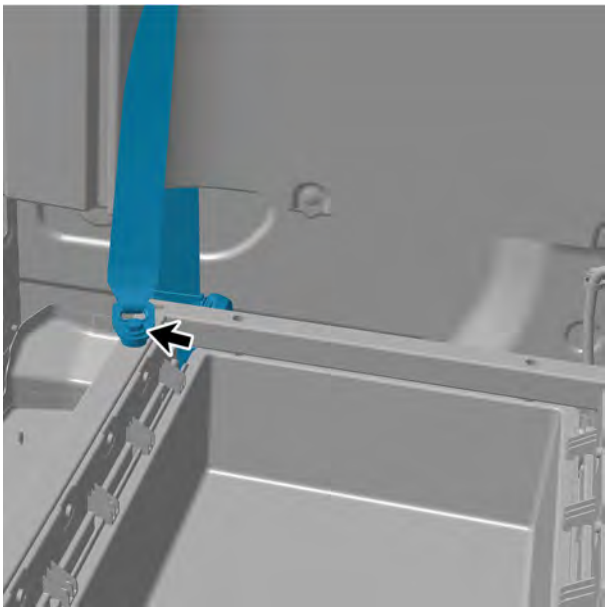
23 Remove the left rear side wall protective plate assembly.

24 Remove the rear wall storage box protective plate.

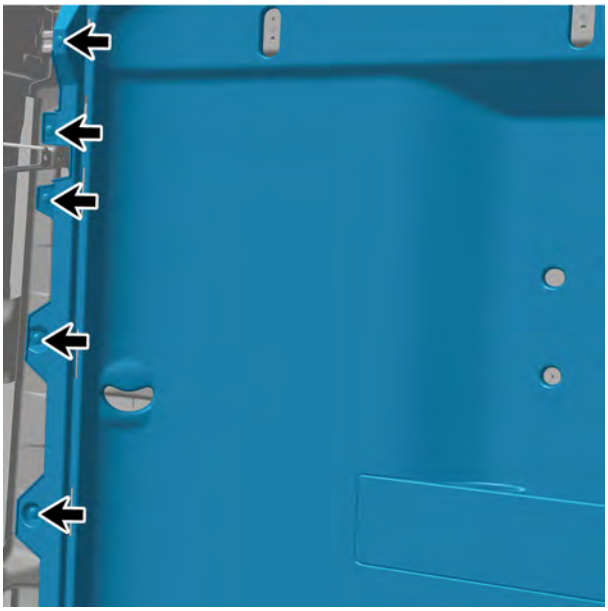
25 Remove the rear wall storage box base.

26 Remove the coat hook.

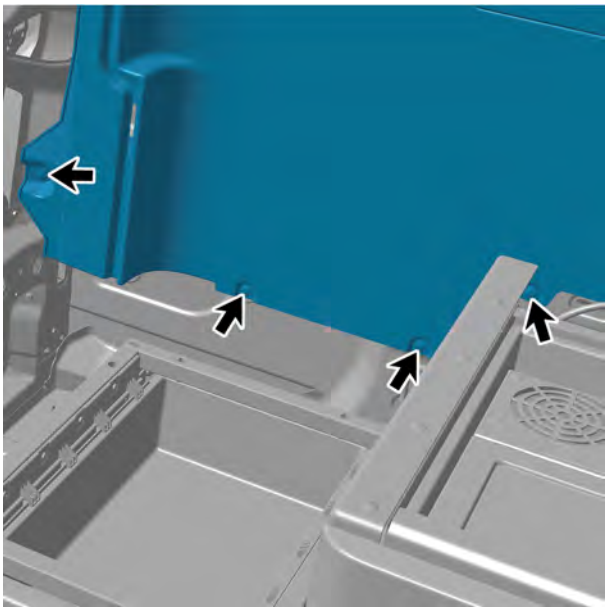
27 Remove the seat rear storage box.

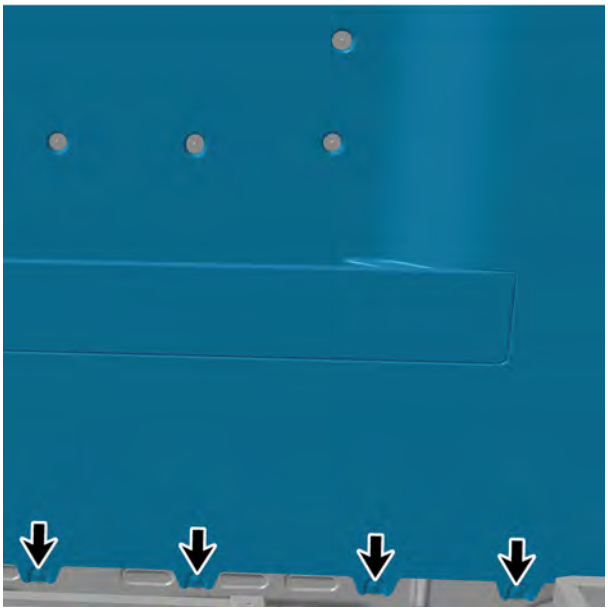


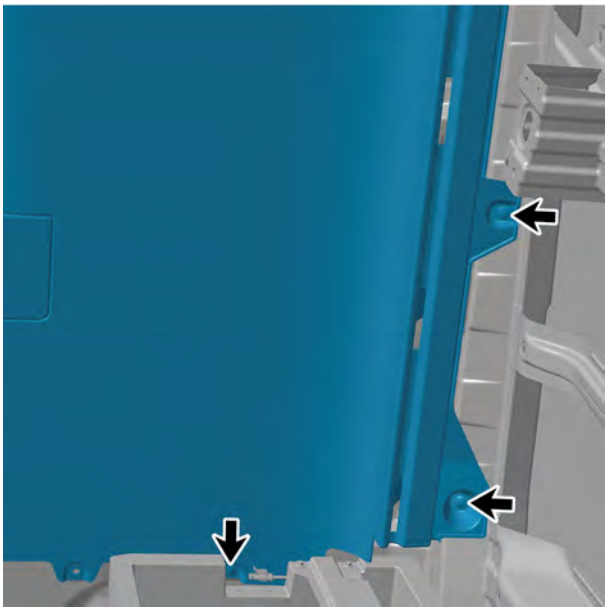
28 Remove 1 fixing bolt of the rear seat belt assembly.



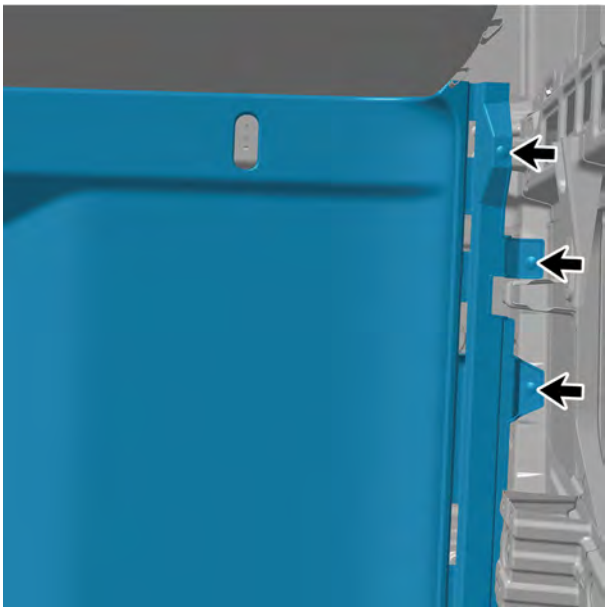
29 Remove 19 clips of the rear wall protective plate assembly, and remove the rear wall protective plate assembly.

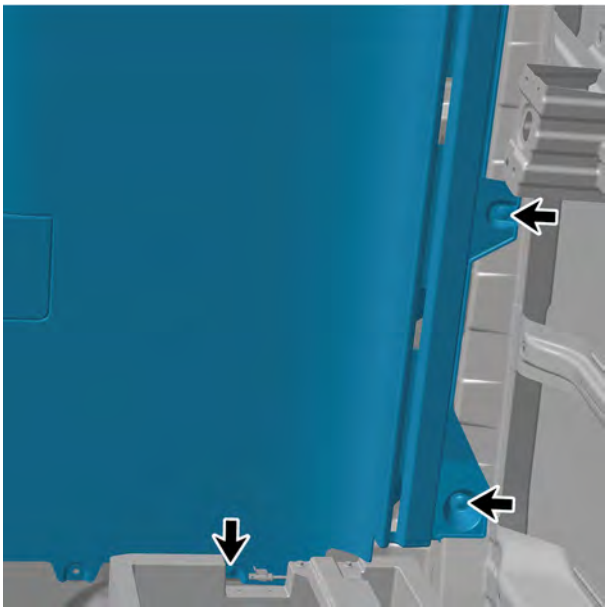








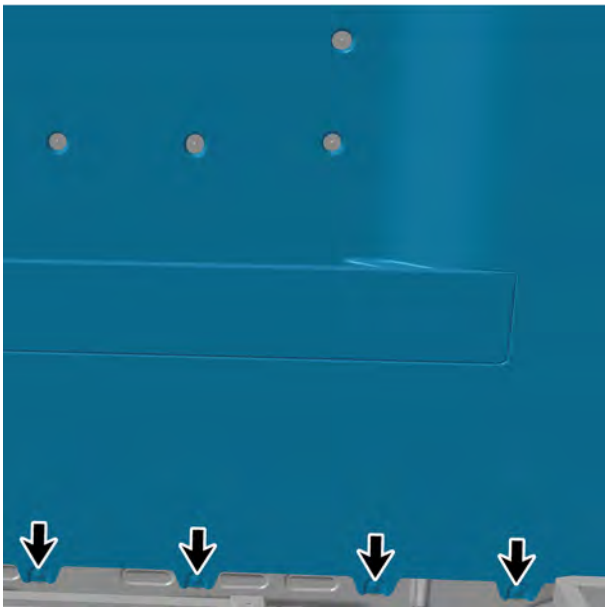


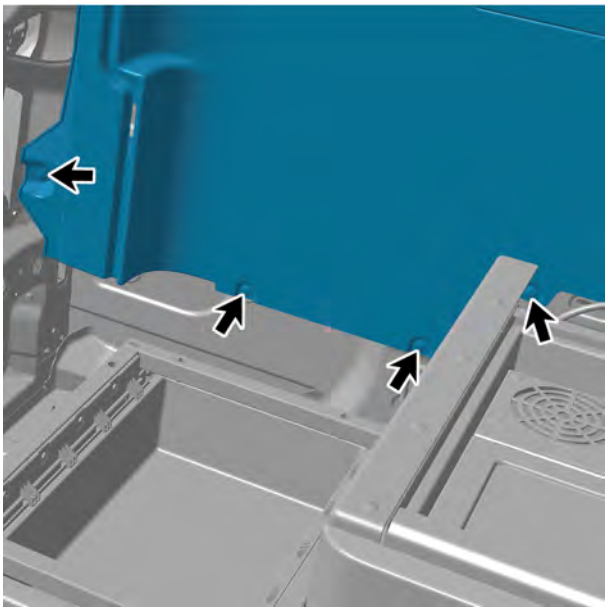


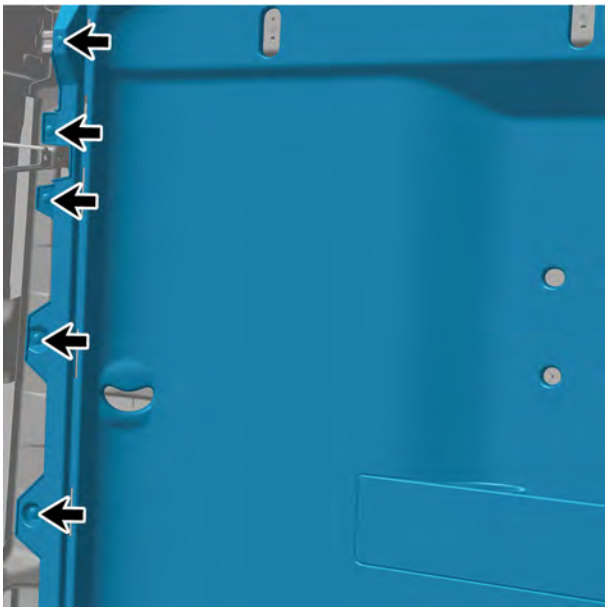
Installation Procedures

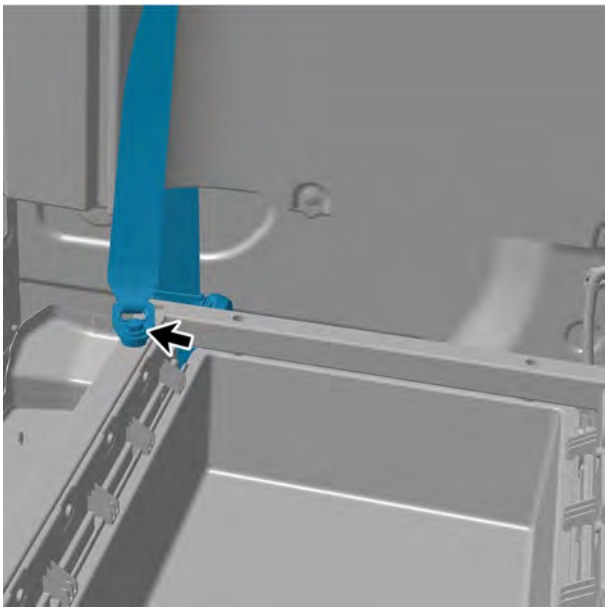
1 Move the rear wall protective plate assembly to the mounting position.

2 Install 19 clips of the rear wall protective plate assembly.









3 Install 1 fixing bolt of the rear seat belt assembly.
Torque: (37 +/- 3.5) ft lbs

4 Install the seat rear storage box.
5 Install the coat hook.
6 Install the rear wall storage box base.
7 Install the rear wall storage box protective plate.
8 Install the left rear side wall protective plate assembly.
9 Install the side wall clothes rail assembly.
10 Install the left middle side wall protective plate assembly.
11 Install the left B-pillar upper protective plate assembly.
12 Install the left middle side wall middle trim panel assembly.
13 Install the left middle side wall lower trim panel assembly.
14 Install the IP left lower trim panel assembly.
15 Install the left switch panel lower trim panel assembly.
16 Install the left switch panel assembly.
17 Install the IP left access cover plate assembly.
18 Install the front USB interface.
19 Install the left front side wall protective plate assembly.
20 Install the left A-pillar protective plate assembly.
21 Install the IP left upper trim panel assembly.
22 Install the right rear side wall protective plate assembly.
23 Install the SSM.
24 Install the rear boarding handrail assembly.
25 Install the safety hammer fixing bracket.
26 Install the door opening sealing strip assembly.
27 Install the right sill molding assembly.
28 Connect the battery negative cable.

29 Close the front flip cover plate.

30 Close the door.

6.23.3.2 Replacement of Rear Wall Storage Box Base

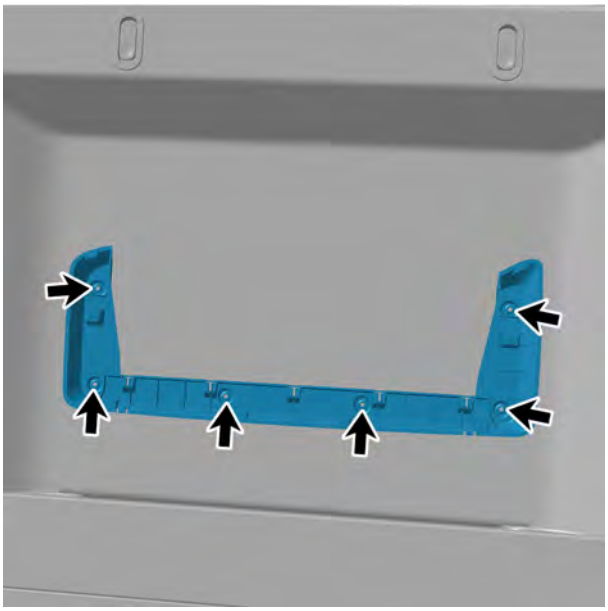
Removal Procedures

1 Open the door.

2 Remove the rear wall storage box protective plate.

3 Remove 6 fixing screws of the rear wall storage box base.

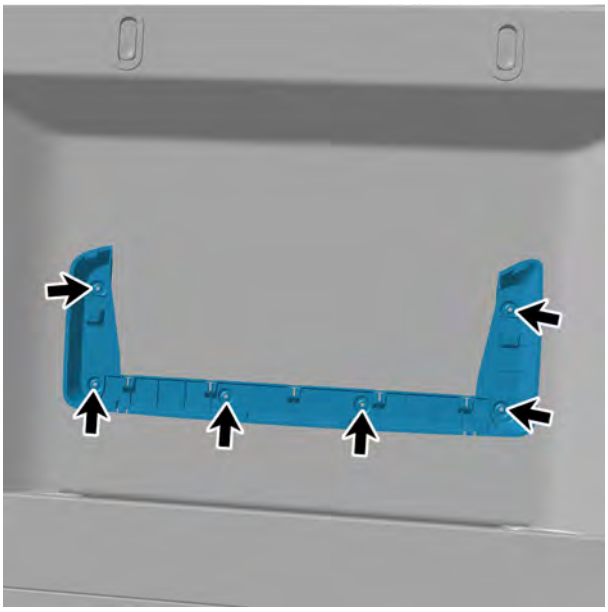
4 Remove the rear wall storage box base.



Installation Procedures

1 Move the rear wall storage box base to the mounting position.

2 Install 6 fixing screws of the rear wall storage box base.



3 Install the rear wall storage box protective plate.

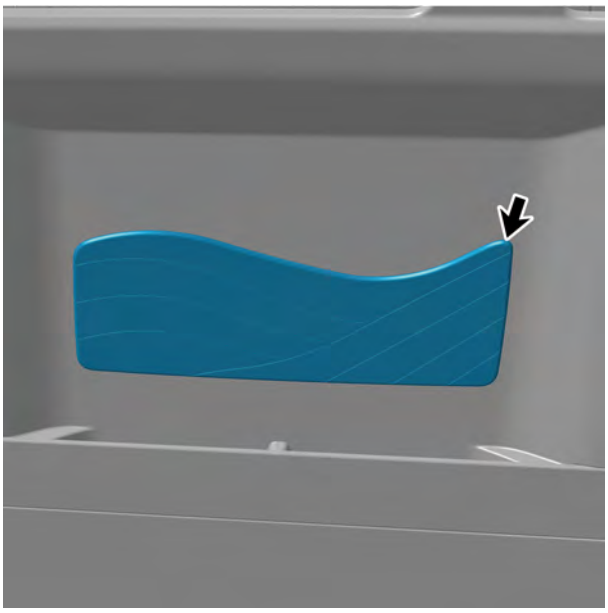
4 Close the door.

6.23.3.3 Replacement of Rear Wall Storage Box Outer Panel

Removal Procedures

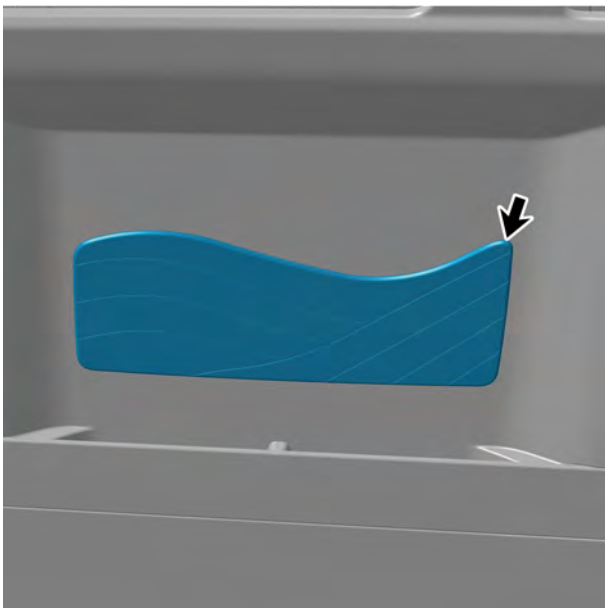
1 Open the door.

2 Remove the rear wall storage box outer panel.



Installation Procedures

1 Install the rear wall storage box outer panel.



2 Close the door.

6.24 Deflector Shield Device

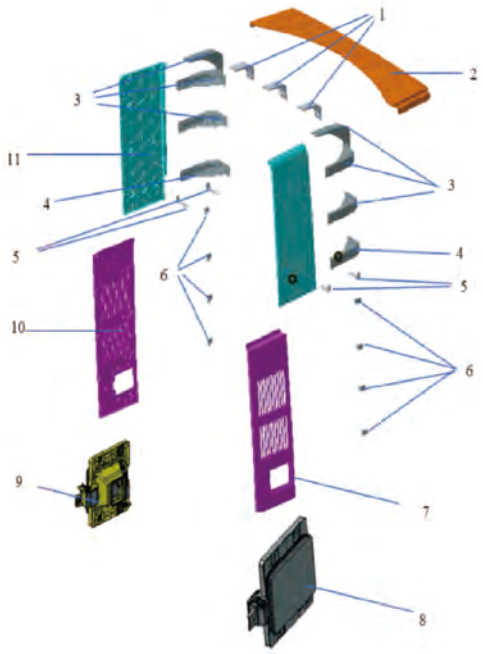
6.24.1 Specifications

6.24.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the front windshield cover plate and the white body assembly of the installation bracket for the air guide cover	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the lower body of the left side guide vane and the integrated frame	M6	(14.75 - 19) ft lbs
The fixing bolt connecting the front windshield cover plate and the white body assembly of the installation bracket for the air guide cover	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the top guide cover body and the left guide cover upper body	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the top flow guide cover body and the upper body of the right flow guide	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the upper body of the left flow guide cover to the installation bracket of the flow guide cover	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the lower body of the right deflector and the integrated frame	M6	(14.75 - 19) ft lbs

6.24.2 Decomposition Diagram

6.24.2.1 Decomposition Diagram



1. Mid Brkt-Cover-Diversion-Upr
2. Cover-Diversion-Upr
3. Mounting Brkt-Guide Hood
4. Mounting Brkt-Upr Guide Hood
5. Lower Metal Brkt 1-Shroud
6. Lower Metal Brkt 2-Shroud
7. Lor Cover-Diversion-Rh
8. Charging Port Cover Assy-Rh/Cover Assy - Rh
9. Charging Port Cover Assy
10. Lor Cover-Diversion-Lh
11. Upr Cover-Diversion-Lh

6.24.3 Dismantling and Installation

6.24.3.1 Replacement of Roof Deflector Body

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

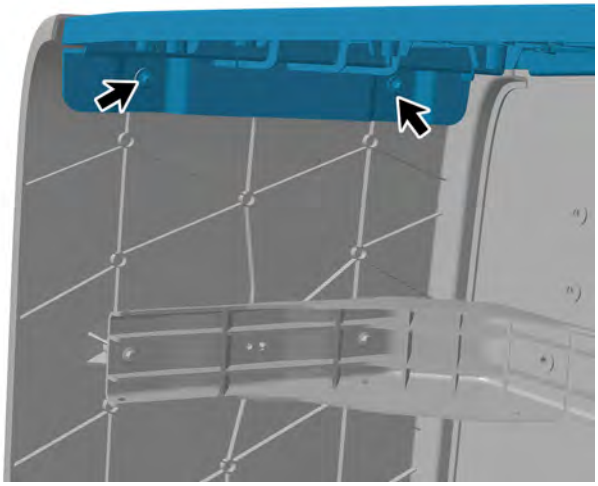
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the roof deflector middle bracket.

5 Remove the roof deflector mounting bracket.

6 Remove 4 fixing bolts of the roof deflector body, and remove the roof deflector body.





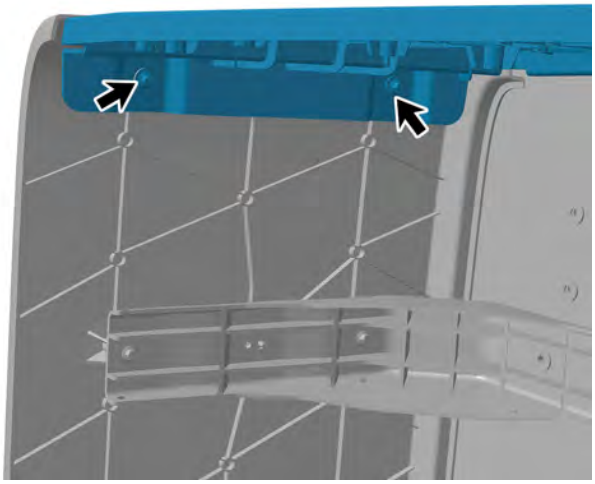
Installation Procedures



1 Move the roof deflector body to the mounting position.

2 Install 4 fixing bolts of the roof deflector body.

Torque:(14.75 +/- 19) ft lbs



3 Install the deflector mounting bracket.

4 Install the roof deflector middle bracket.

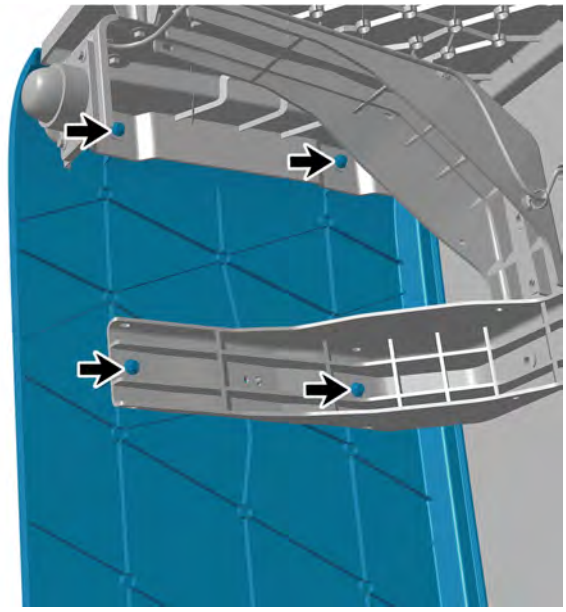
5 Connect the battery negative cable.

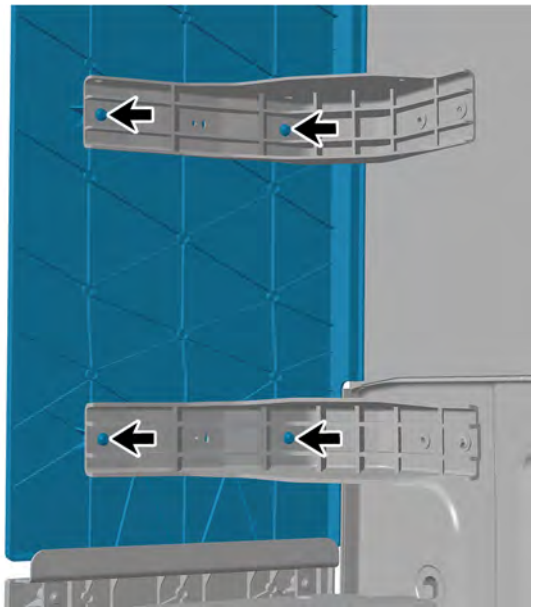
6 Close the front flip cover plate.

7 Close the door.

6.24.3.2 Replacement Of Left Deflector Upper Body

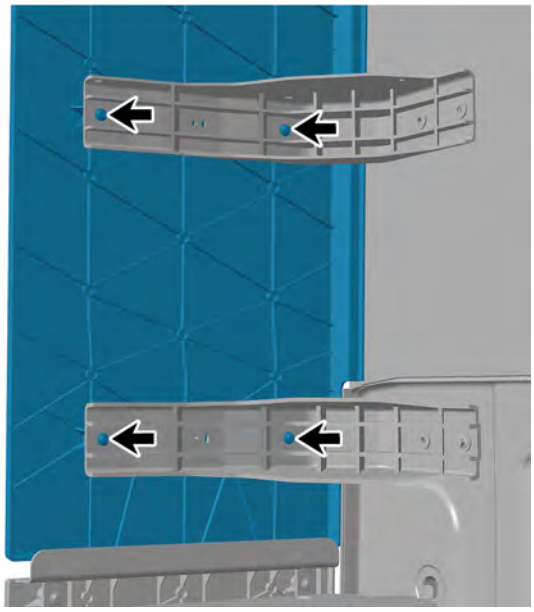
Removal Procedures

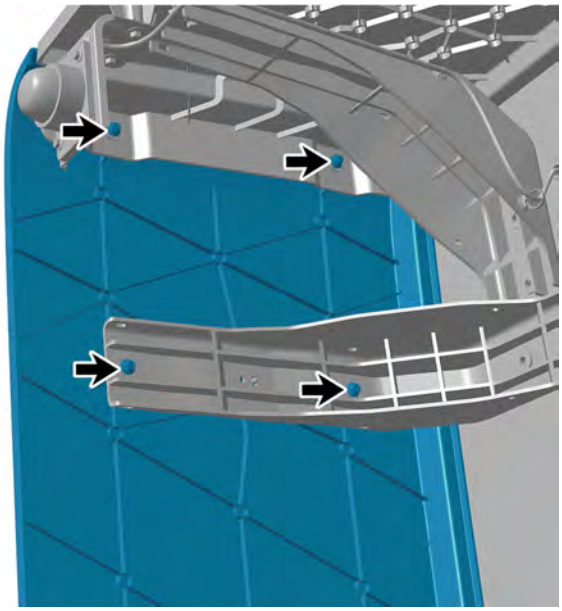




1 Remove 8 fixing bolts of the left deflector upper body, and remove the left deflector upper body.

Installation Procedures





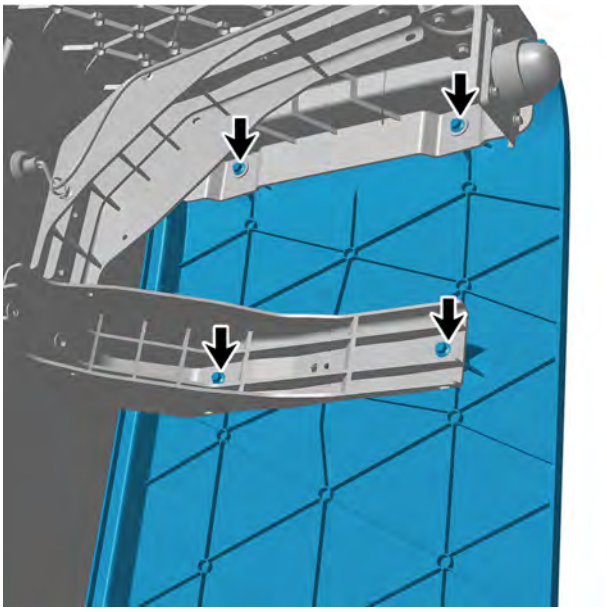
1 Move the left deflector upper body to the mounting position.

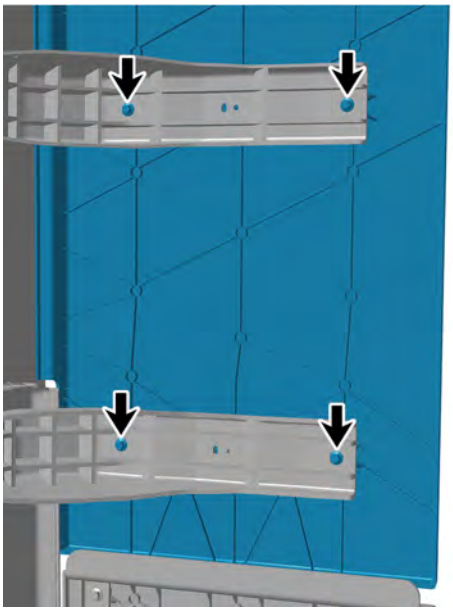
2 Install 8 fixing bolts of the left deflector upper body.

Torque:(14.75 - 19) ft lbs

6.24.3.3 Replacement of Right Deflector Upper Body

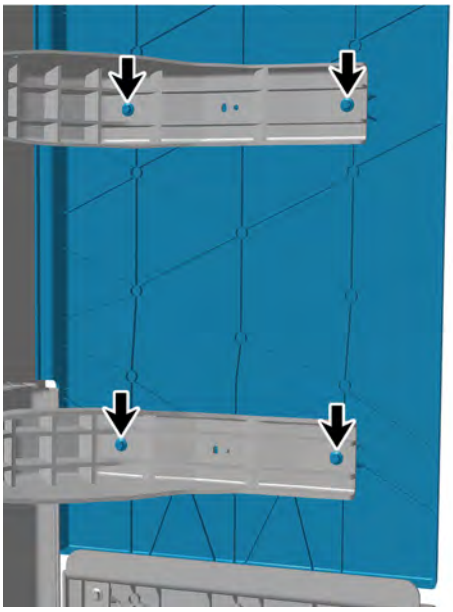
Removal Procedures

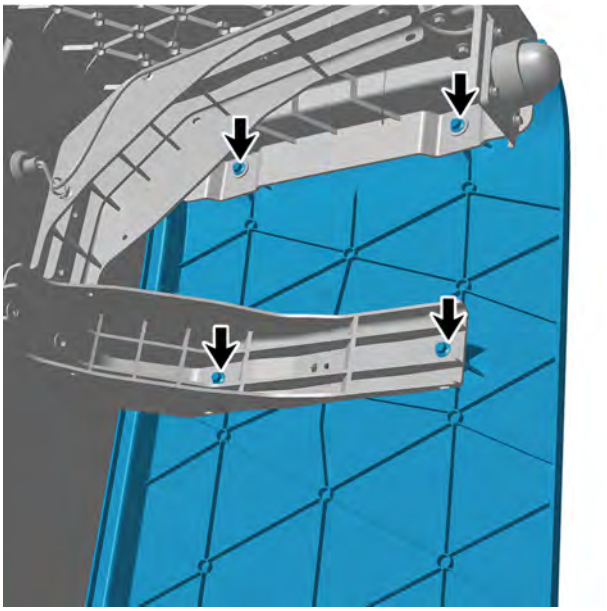




1 Remove 8 fixing bolts of the right deflector upper body, and remove the right deflector upper body.

Installation Procedures





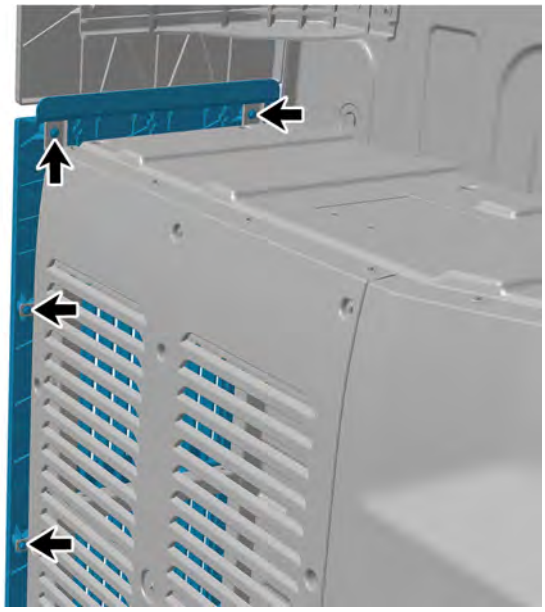
1 Move the right deflector upper body to the mounting position.

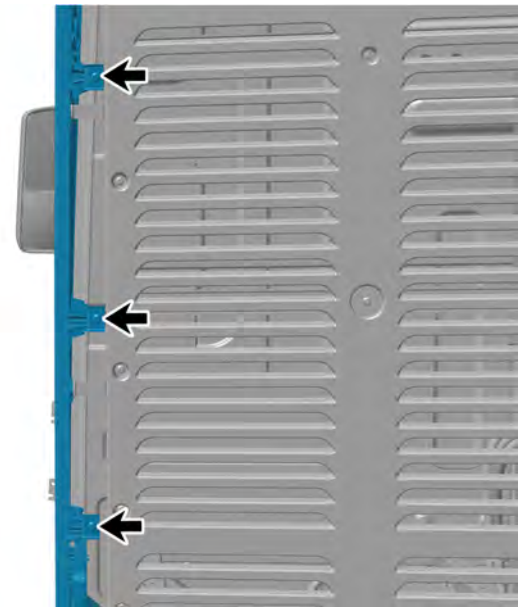
2 Install 8 fixing bolts of the right deflector upper body.

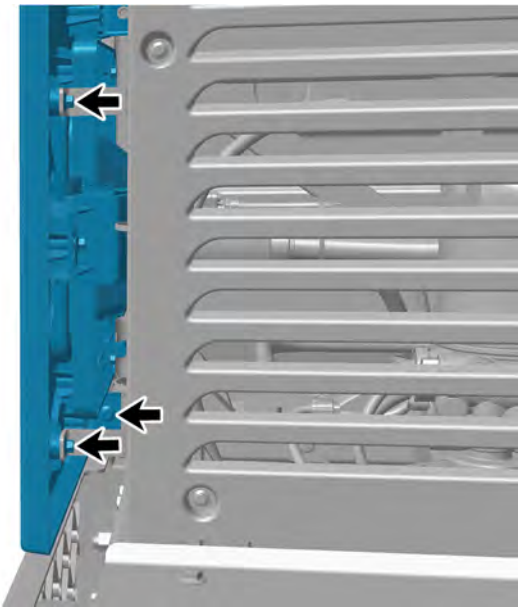
Torque: (14.75 - 19) ft lbs

6.24.3.4 Replacement of Left Deflector Lower Body

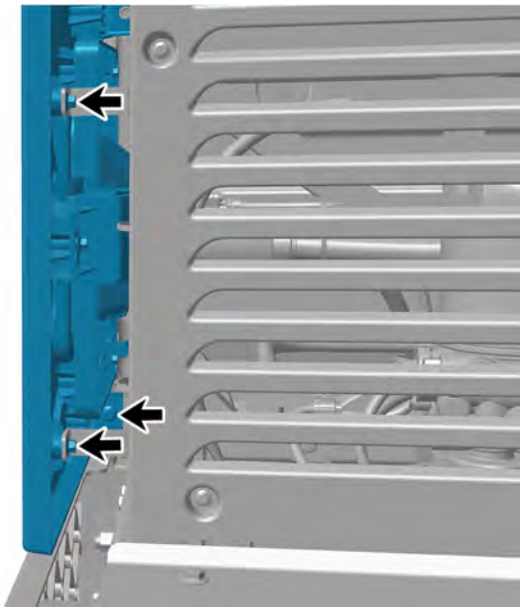
Removal Procedures

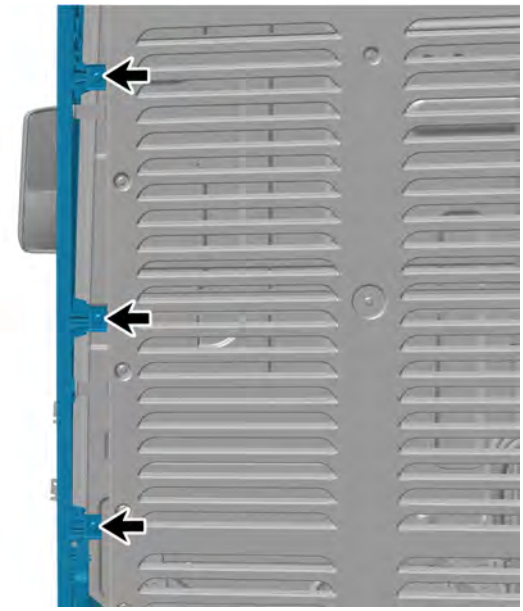






1 Remove 10 fixing bolts of the left deflector lower body, and remove the left deflector lower body.



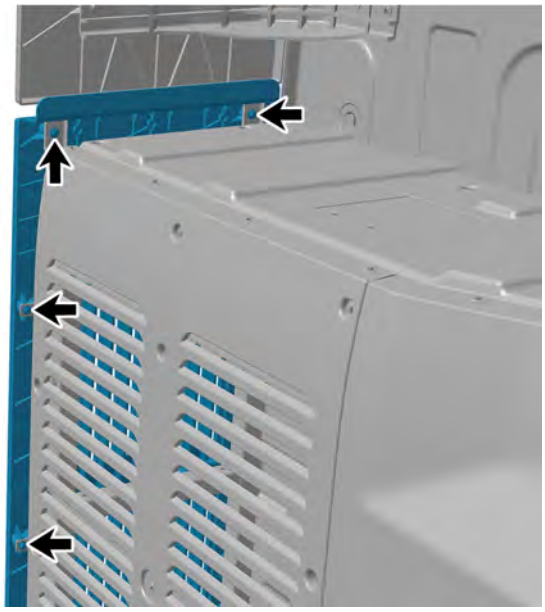


Installation Procedures

1 Move the left deflector lower body to the mounting position.

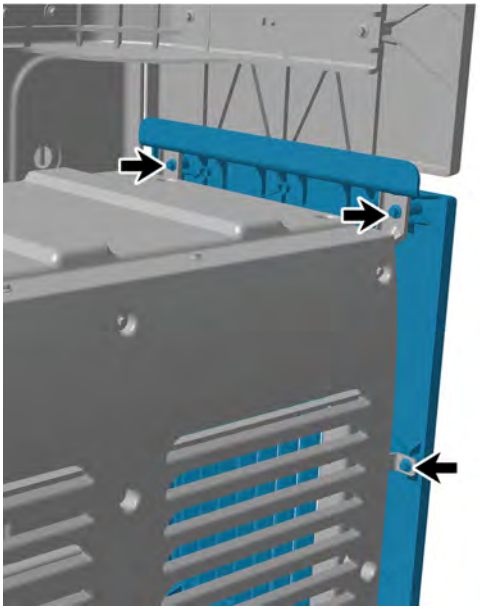
2 Install 10 fixing bolts of the left deflector lower body.

Torque:(14.75 - 19) ft lbs



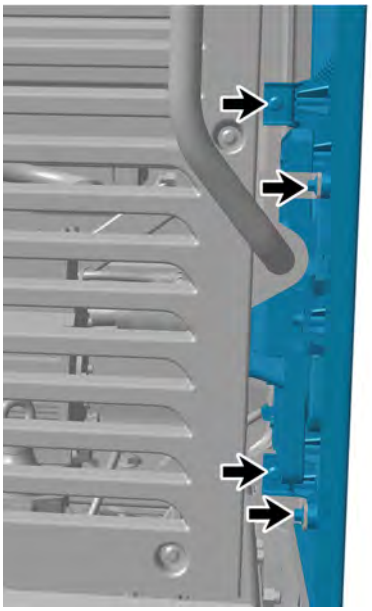
6.24.3.5 Replacement of Right Deflector Lower Body

Removal Procedures

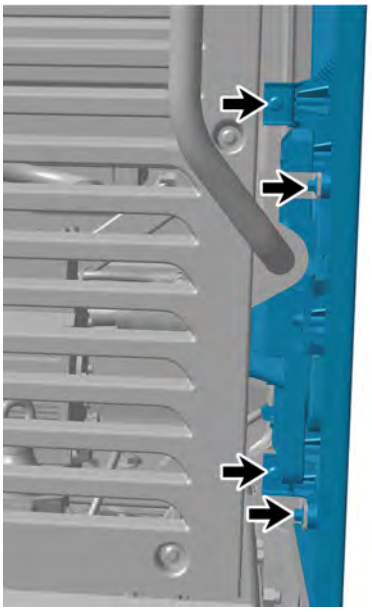


1 Remove 10 fixing bolts of the right deflector lower body, and remove the right deflector lower body.

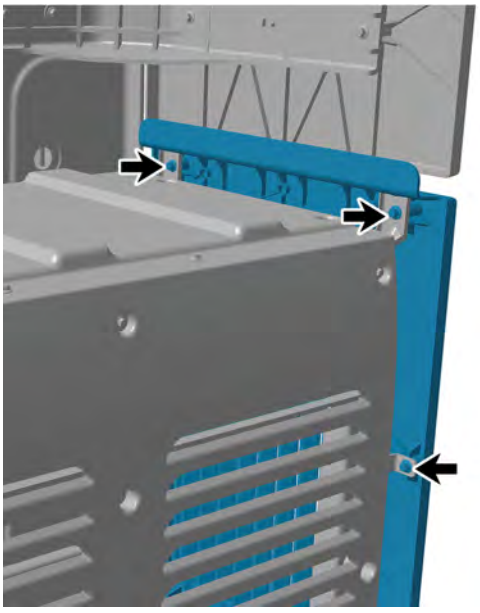




Installation Procedures







1 Move the right deflector lower body to the mounting position.

2 Install 10 fixing bolts of the right deflector lower body.

Torque: (14.75 - 19) ft lbs

6.25 Roof Panel Device

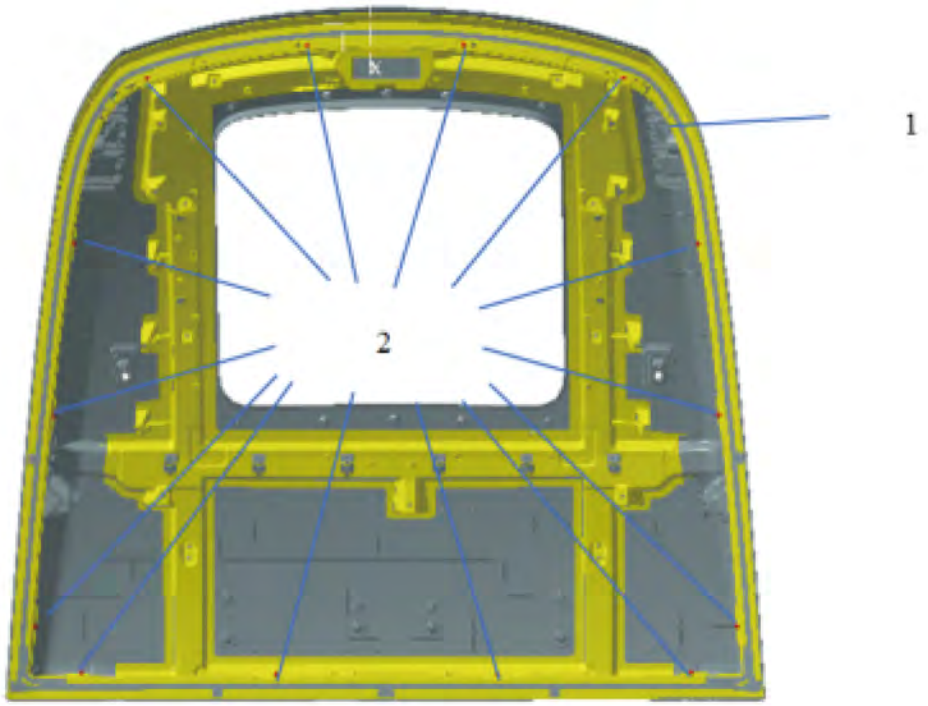
6.25.1 Specifications

6.25.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the top cover assembly and the white body assembly assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the laser radar cover bracket and the top cover assembly	M6	(6.5 +/- .75) ft lbs

6.25.2 Decomposition Diagram

6.25.2.1 Decomposition Diagram

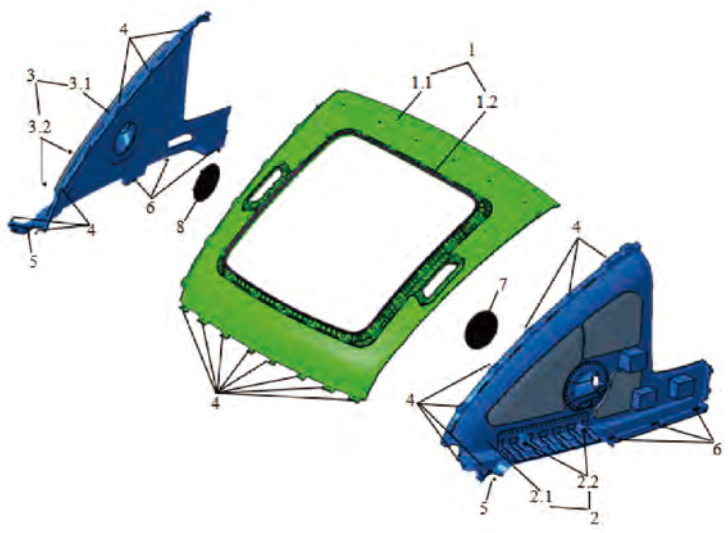


1. Top Cover Assy
2. Hexagon Flange Bolt

6.26 Roof Interior Decoration Device

6.26.1 Decomposition Diagram

6.26.1.1 Decomposition Diagram



1.	Ceiling Assy-Mid	3.1.	Main Body of the Right Roof Liner
1.1.	Main Body of the Central Roof Liner	3.2.	Plastic Buckle
1.2.	Rubber Strip for Clamping the Edge of the Central Roof Liner	4.	Self-Tapping Screw
2.	Ceiling Assy-Lh	5.	Plastic Nut Seat
2.1.	Main Body of the Left Roof Liner	6.	Tree Clasp
2.2.	Plastic Buckle	7.	Speaker Mask-Lh
3.	Ceiling Assy-Rh	8.	Speaker Mask-Rh

6.26.2 Dismantling and Installation

6.26.2.1 Replacement of Middle Ceiling Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

8 Remove the sunshade cover plate assembly.

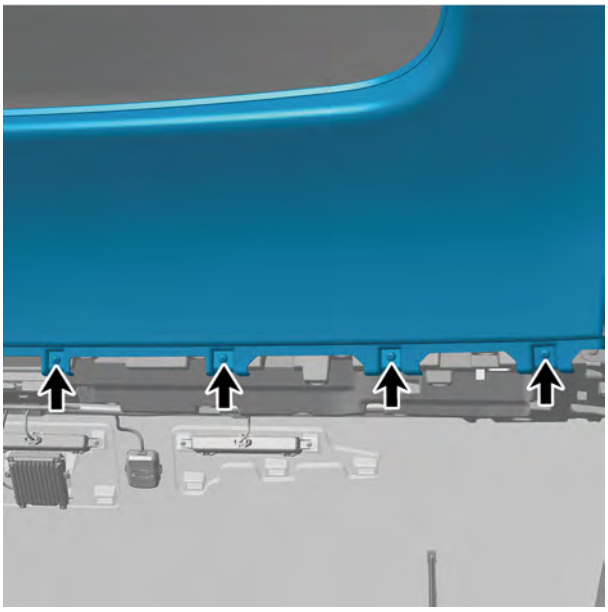
9 Remove the left ceiling lamp.

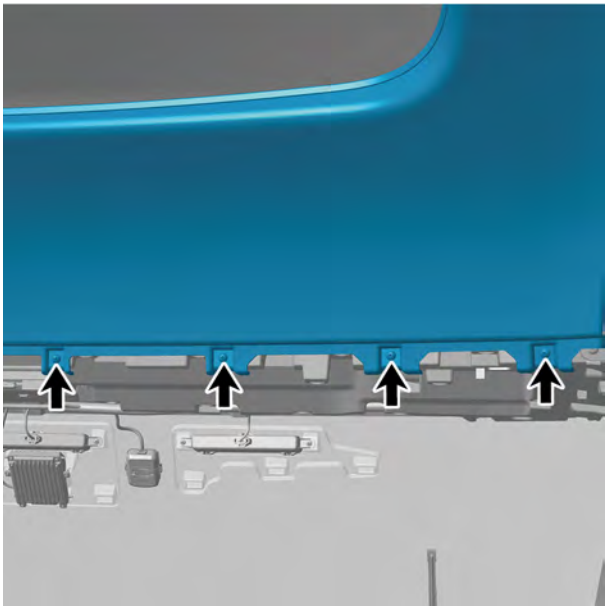
10 Remove the right ceiling lamp.

11 Remove the curtain rail assembly.

12 Remove 8 fixing screws of the middle ceiling assembly, and remove the middle ceiling assembly.







Installation Procedures

1 Move the middle ceiling assembly to the mounting position.

2 Install 8 fixing screws of the middle ceiling assembly.



3 Install the curtain rail assembly.

4 Install the right ceiling lamp.

5 Install the left ceiling lamp.

6 Install the sunshade cover plate assembly.

7 Install the front camera trim cover assembly.

8 Install the sunshade rail assembly.

9 Install the right A-pillar protective plate assembly.

10 Install the left A-pillar protective plate assembly.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

6.26.2.2 Replacement of Left Ceiling Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

8 Remove the sunshade cover plate assembly.

9 Remove the left ceiling lamp.

10 Remove the right ceiling lamp.

11 Remove the curtain rail assembly.

12 Remove the middle ceiling assembly.

13 Remove the IP left upper trim panel assembly.

14 Remove the left front side wall protective plate assembly.

15 Remove the front USB interface.

16 Remove the IP left access cover plate assembly.

17 Remove the left switch panel assembly.

18 Remove the left switch panel lower trim panel assembly.

19 Remove the IP left lower trim panel assembly.

20 Remove the left middle side wall lower trim panel assembly.

21 Remove the left middle side wall middle trim panel assembly.

22 Remove the left B-pillar upper protective plate assembly.

23 Remove the left middle side wall protective plate assembly.

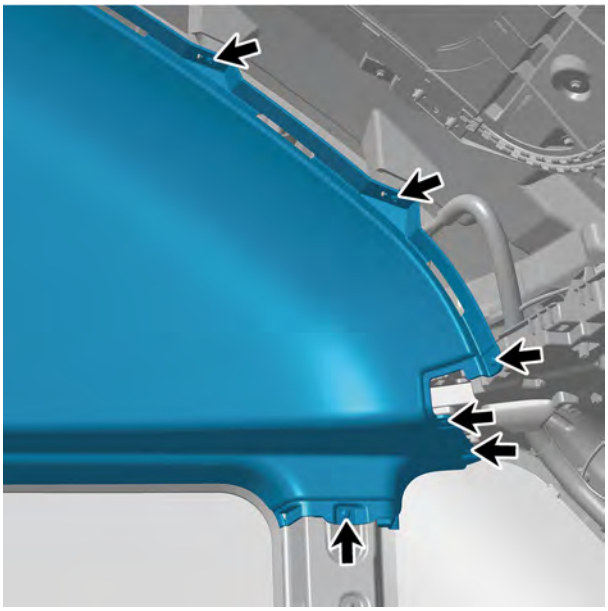
24 Remove the side wall clothes rail assembly.

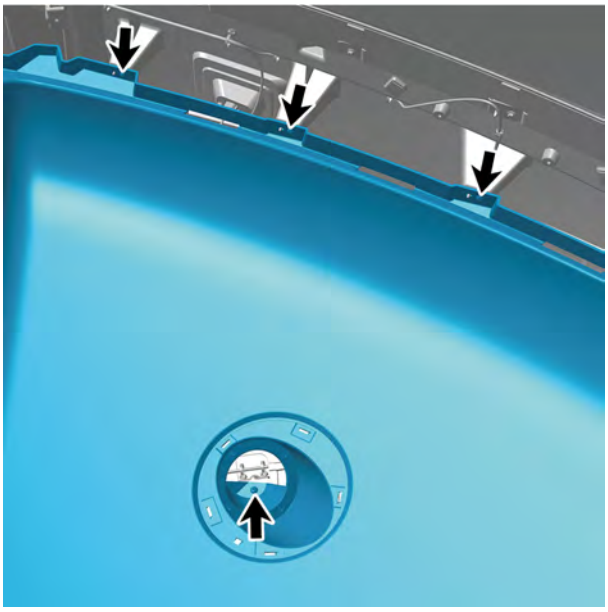
25 Remove the left rear side wall protective plate assembly.

26 Remove the left speaker cover.

27 Remove 13 fixing screws of the left ceiling assembly.

28 Remove the left ceiling assembly.

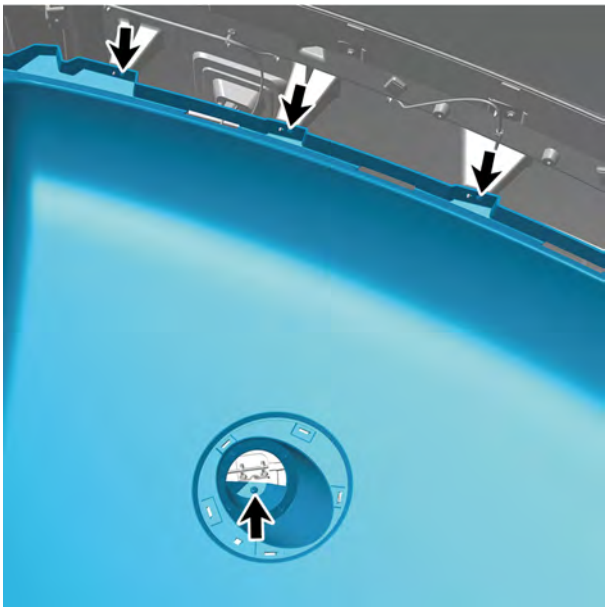


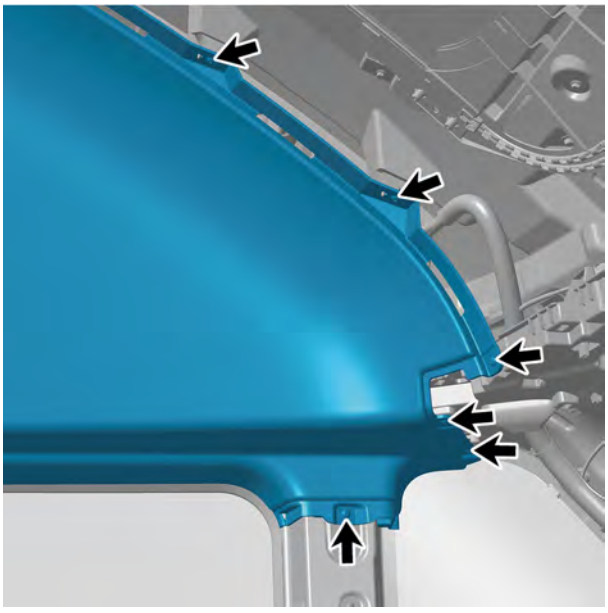




Installation Procedures







1 Move the left ceiling assembly to the mounting position.

2 Install 13 fixing screws of the left ceiling assembly.

3 Install the left speaker cover.

4 Install the left rear side wall protective plate assembly.

5 Install the side wall clothes rail assembly.

6 Install the left middle side wall protective plate assembly.

7 Install the left B-pillar upper protective plate assembly.

8 Install the left middle side wall middle trim panel assembly.

9 Install the left middle side wall lower trim panel assembly.

10 Install the IP left lower trim panel assembly.

11 Install the left switch panel lower trim panel assembly.

12 Install the left switch panel assembly.

13 Install the IP left access cover plate assembly.

14 Install the front USB interface.

15 Install the left front side wall protective plate assembly.

16 Install the IP left upper trim panel assembly.

17 Install the middle ceiling assembly.

18 Install the curtain rail assembly.

19 Install the right ceiling lamp.

20 Install the left ceiling lamp.

21 Install the sunshade cover plate assembly.

22 Install the front camera trim cover assembly.

23 Install the sunshade rail assembly.

24 Install the right A-pillar protective plate assembly.

25 Install the left A-pillar protective plate assembly.

26 Connect the battery negative cable.

27 Close the front flip cover plate.

28 Close the door.

6.26.2.3 Replacement of Right Ceiling Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

8 Remove the sunshade cover plate assembly.

9 Remove the left ceiling lamp.

10 Remove the right ceiling lamp.

11 Remove the curtain rail assembly.

12 Remove the middle ceiling assembly.

13 Remove the right sill molding assembly.

14 Remove the door opening sealing strip assembly.

15 Remove the safety hammer fixing bracket.

16 Remove the rear boarding handrail assembly.

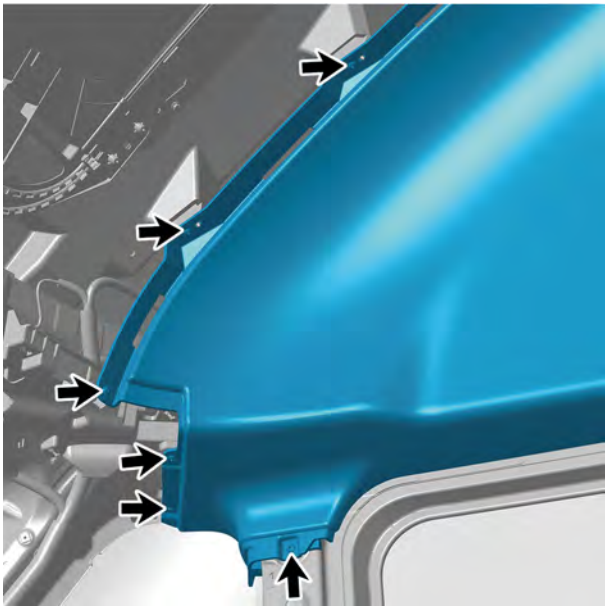
17 Remove the SSM.

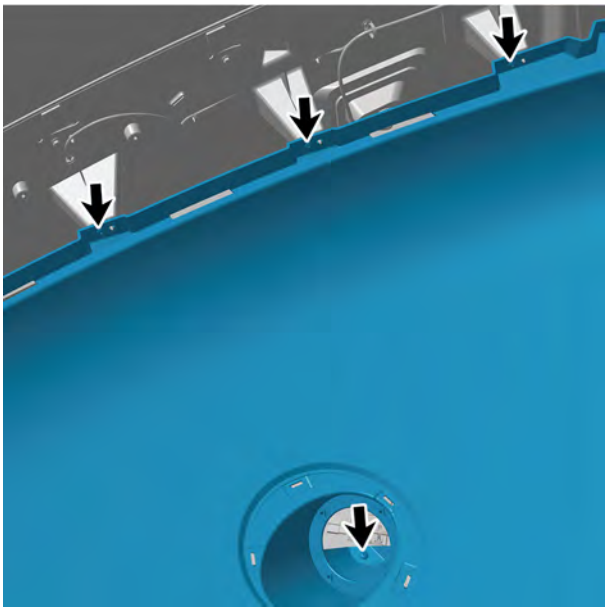
18 Remove the right rear side wall protective plate assembly.

19 Remove the sleeper reading lamp.

20 Remove the right speaker cover.

21 Remove 13 fixing screws of the right ceiling assembly, and remove the right ceiling assembly.

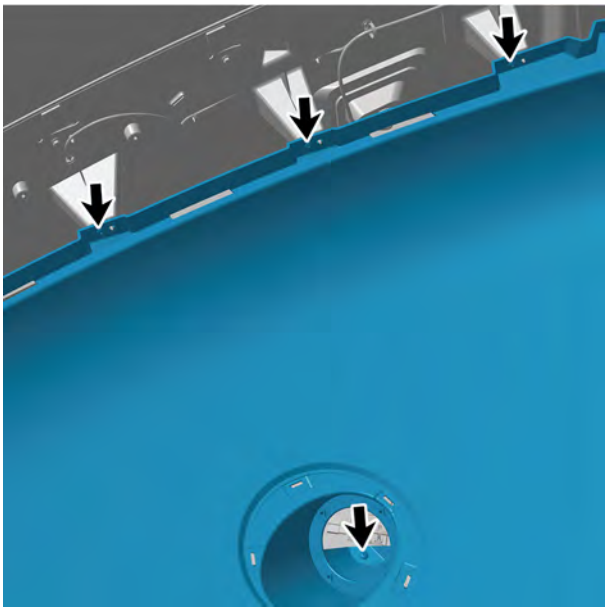


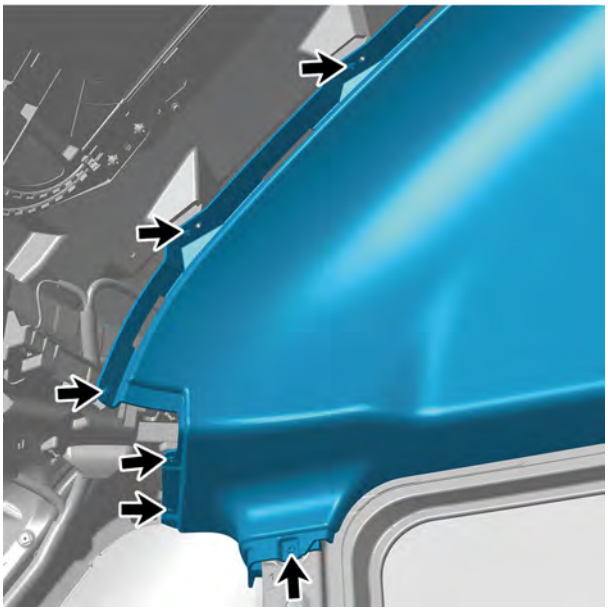




Installation Procedures







1 Move the right ceiling assembly to the mounting position.

2 Install 13 fixing screws of the right ceiling assembly.

3 Install the right speaker cover.

4 Install the sleeper reading lamp.

5 Install the right rear side wall protective plate assembly.

6 Install the SSM.

7 Install the rear boarding handrail assembly.

8 Install the safety hammer fixing bracket.

9 Install the door opening sealing strip assembly.

10 Install the right sill molding assembly.

11 Install the middle ceiling assembly.

12 Install the curtain rail assembly.

13 Install the right ceiling lamp.

14 Install the left ceiling lamp.

15 Install the sunshade cover plate assembly.

16 Install the front camera trim cover assembly.

17 Install the sunshade rail assembly.

18 Install the right A-pillar protective plate assembly.

19 Install the left A-pillar protective plate assembly.

20 Connect the battery negative cable.

21 Close the front flip cover plate.

22 Close the door.

6.27 Seat Belt Device

6.27.1 Description and Operation

6.27.1.1 Description and Operation

Wearing seat belts is the main way to protect occupants. The seat belts are used to restrain the occupants' bodies on the seats, preventing the occupants' bodies from rushing out of the seats and causing secondary collisions with internal components such as the steering wheel and IP in the event of a collision, thereby minimizing occupant casualties. Seat belts not only reduce the risk of secondary collisions for occupants, but also prevent them from being thrown away from their seats in dangerous situations such as vehicle rollover. Including but not limited to the following situations:

1. Frontal impact collision.

2. Rear impact collision.

3. Side impact collision.

4. Rollover type collision.

6.27.2 Specifications

6.27.2.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the rear seat belt assembly and the white body assembly	M10	(37 +/- 3.5) ft lbs
The fixing bolt connecting the rear seat belt buckle assembly and the rear seat assembly	M10	(37 +/- 3.5) ft lbs

6.27.3 Decomposition DiagramDecomposition Diagram

6.27.3.1 Decomposition Diagram



1. Rear Seat Belt Assy
2. Rear Seat Belt Locking Assy

6.27.4 Dismantling and Installation

6.27.4.1 Replacement of Rear Seat Belt Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right sill molding assembly.

5 Remove the door opening sealing strip assembly.

6 Remove the safety hammer fixing bracket.

7 Remove the rear boarding handrail assembly.

8 Remove the SSM.

9 Remove the right rear side wall protective plate assembly.

10 Remove the IP left upper trim panel assembly.

11 Remove the left A-pillar protective plate assembly.

12 Remove the left front side wall protective plate assembly.

13 Remove the front USB interface.

14 Remove the IP left access cover plate assembly.

15 Remove the left switch panel assembly.

16 Remove the left switch panel lower trim panel assembly.

17 Remove the IP left lower trim panel assembly.

18 Remove the left middle side wall lower trim panel assembly.

19 Remove the left middle side wall middle trim panel assembly.

20 Remove the left B-pillar upper protective plate assembly.

21 Remove the left middle side wall protective plate assembly.

22 Remove the side wall clothes rail assembly.

23 Remove the left rear side wall protective plate assembly.

24 Remove the rear wall storage box protective plate.

25 Remove the rear wall storage box base.

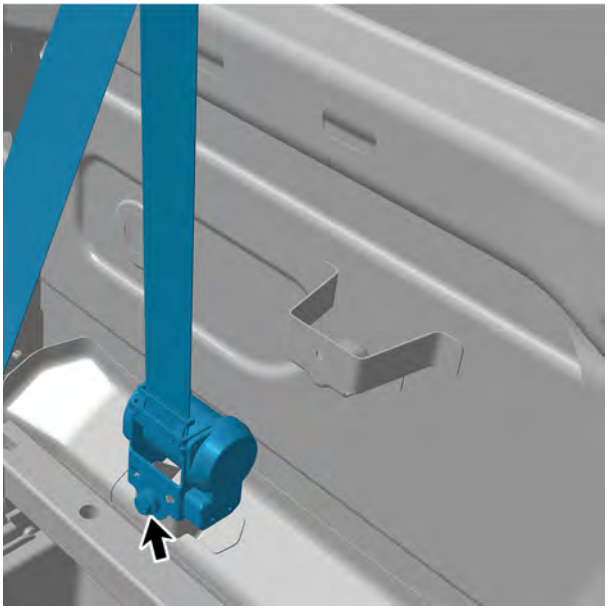
26 Remove the coat hook.

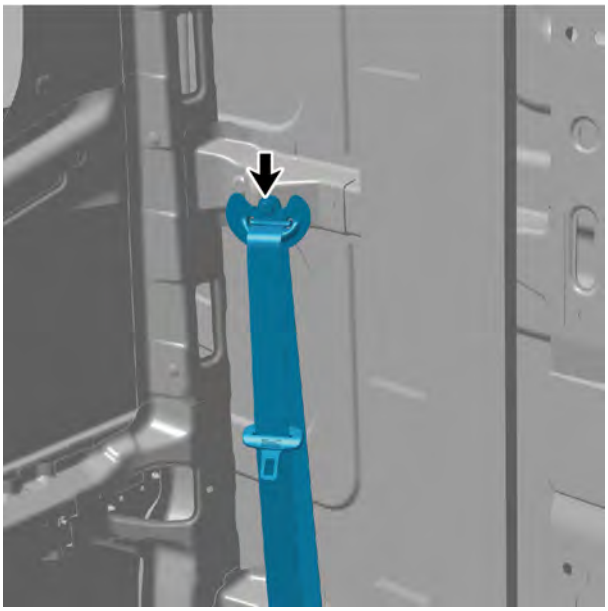
27 Remove the seat rear storage box.

28 Remove the seat assy-rear.

29 Remove the rear wall protective plate assembly.

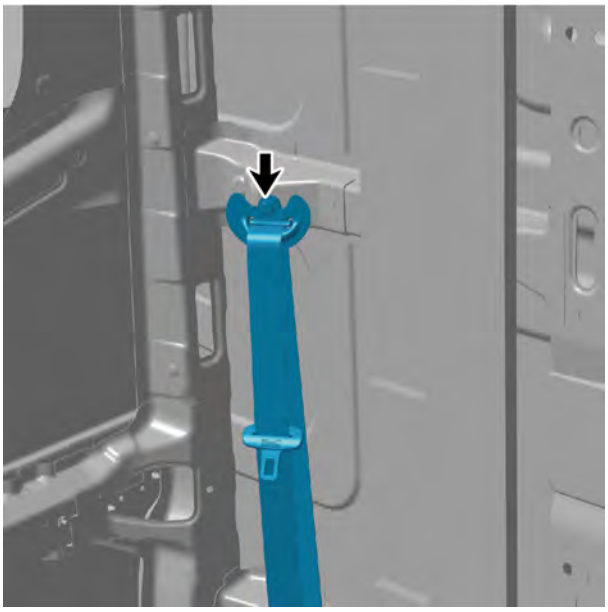
30 Remove 2 fixing bolt of the rear seat belt assembly.

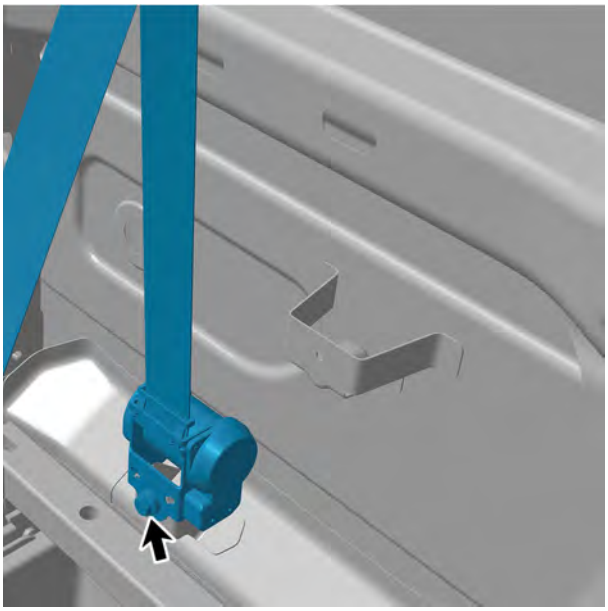




31 Remove the rear seat belt assembly.

Installation Procedures





1 Move the rear seat belt assembly to the mounting position.

2 Install 2 fixing bolt of the rear seat belt assembly.

Torque: (37 +/- 3.5) ft lbs

3 Install the rear wall protective plate assembly.

4 Install the seat assy-rear.

5 Install the seat rear storage box.

6 Install the coat hook.

7 Install the rear wall storage box base.

8 Install the rear wall storage box protective plate.

9 Install the left rear side wall protective plate assembly.

10 Install the side wall clothes rail assembly.

11 Install the left middle side wall protective plate assembly.

12 Install the left B-pillar upper protective plate assembly.

13 Install the left middle side wall middle trim panel assembly.

14 Install the left middle side wall lower trim panel assembly.

15 Install the IP left lower trim panel assembly.

16 Install the left switch panel lower trim panel assembly.

17 Install the left switch panel assembly.

18 Install the IP left access cover plate assembly.

19 Install the front USB interface.

20 Install the left front side wall protective plate assembly.

21 Install the left A-pillar protective plate assembly.

22 Install the IP left upper trim panel assembly.

23 Install the right rear side wall protective plate assembly.

24 Install the SSM.

25 Install the rear boarding handrail assembly.

26 Install the safety hammer fixing bracket.

27 Install the door opening sealing strip assembly.

28 Install the right sill molding assembly.

29 Connect the battery negative cable.

30 Close the front flip cover plate.

31 Close the door.

6.27.4.2 Replacement of Rear Seat Belt Buckle Assembly

Removal Procedures

1 Open the door.

2 Remove 1 fixing bolt of the rear seat belt buckle assembly.

3 Remove the rear seat belt buckle assembly.



Installation Procedures



1 Move the rear seat belt buckle assembly to the mounting position.

2 Install 1 fixing bolt of the rear seat belt buckle assembly.

Torque:(37 +/- 3.5) ft lbs

3 Close the door.

6.28 Door Trim Panel Device

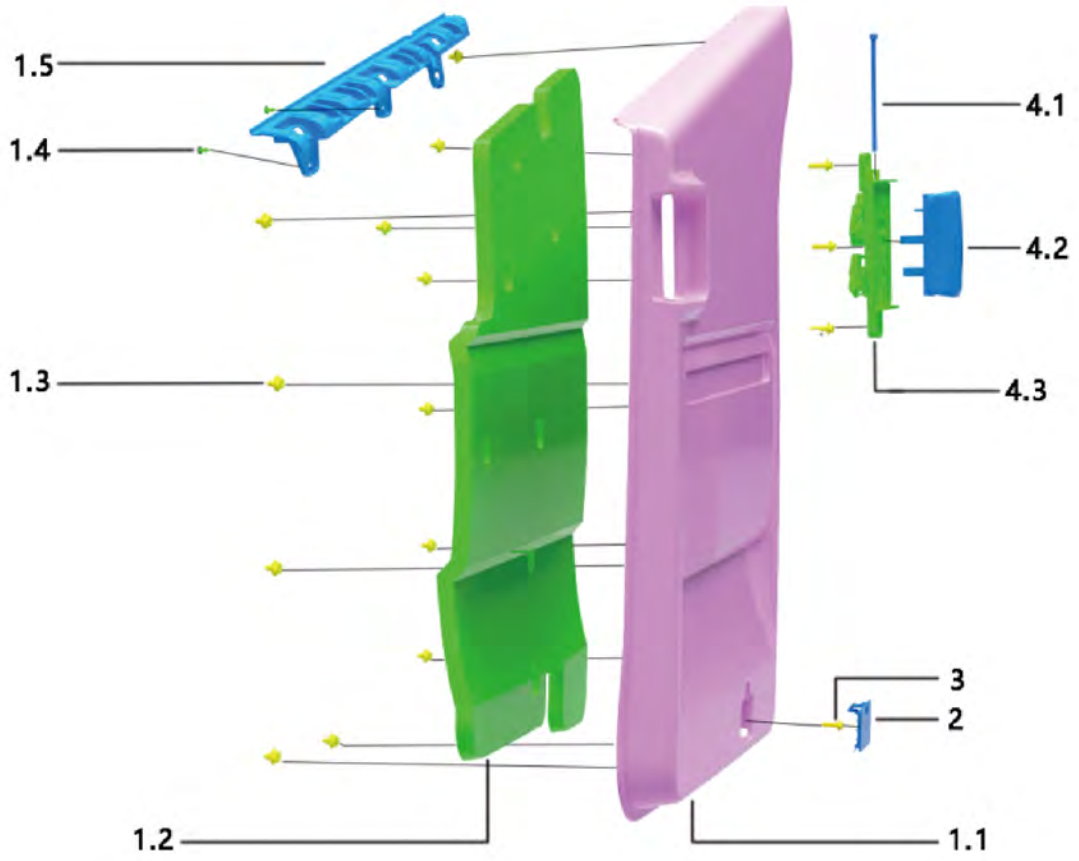
6.28.1 Specifications

6.28.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the door handle assembly and sliding door assembly inside the car door	M6	(6.5 +/- .75) ft lbs
The fixing bolts connecting the door trim assembly and the sliding door assembly	M6	(6.5 +/- .75) ft lbs

6.28.2 Decomposition Diagram

6.28.2.1 Decomposition Diagram



1.1. Main Body of the Door Panel
1.2. Sound-Absorbing Cotton
1.3. Plastic Buckle
1.4. Self-Tapping Screw
1.5. Water Cut Bracket
2. Plug Cover
3. Hexagon Flange Bolt
4.1. Peg
4.2. Inner Handle
4.3. Inner Handle Base

6.28.3 Dismantling and Installation

6.28.3.1 Replacement of Door Inside Handle Assembly

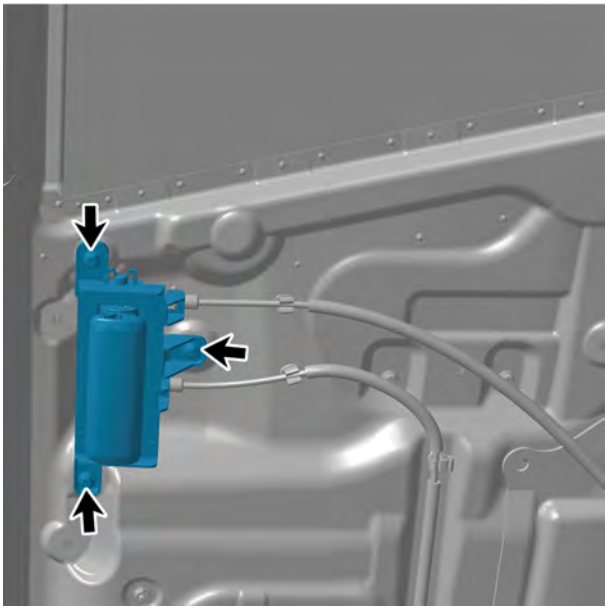
Removal Procedures

1 Open the door.

2 Remove the cable cover plate.

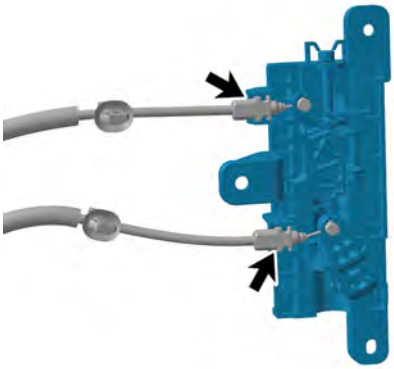
3 Remove the door protective plate assembly.

4 Remove 3 fixing bolts of the door inside handle assembly.

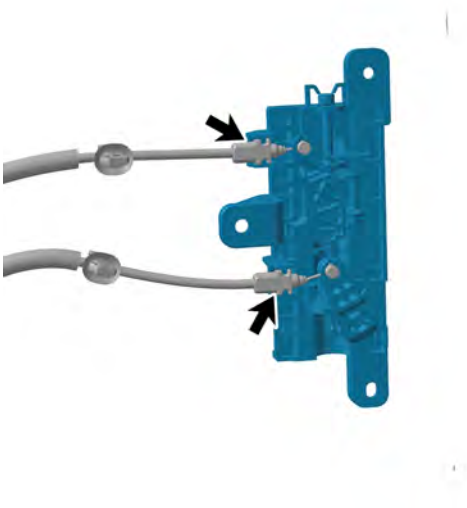


5 Disengage 2 cables of the door inside handle assembly.

6 Remove the door inside handle assembly.

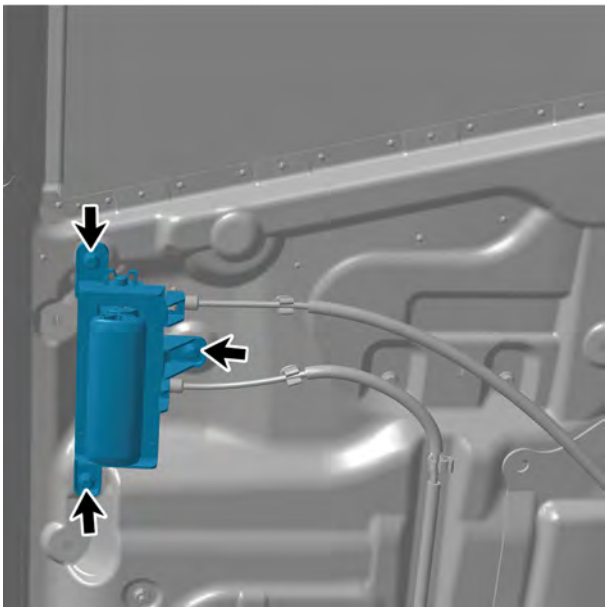


Installation Procedures



1 Move the door inside handle assembly to the mounting position.

2 Connect 2 cables of the door inside handle assembly.



3 Install 3 fixing bolts of the door inside handle assembly.

Torque:(6.5 +/- .75) ft lbs

4 Install the door protective plate assembly.

5 Install the cable cover plate.

6 Close the door.

6.28.3.2 Replacement of Door Protective Plate Assembly

Removal Procedures

1 Open the door.

2 Remove the cable cover plate.



3 Remove 1 fixing bolt of the door protective plate assembly.

4 Remove the door protective plate assembly.

Installation Procedures



1 Move the door protective plate assembly to the mounting position.

2 Install 1 fixing bolt of the door protective plate assembly.

Torque: (6.5 +/- .75) ft lbs

3 Install the cable cover plate.

4 Close the door.

6.29 Sliding Door Guide Rail Device

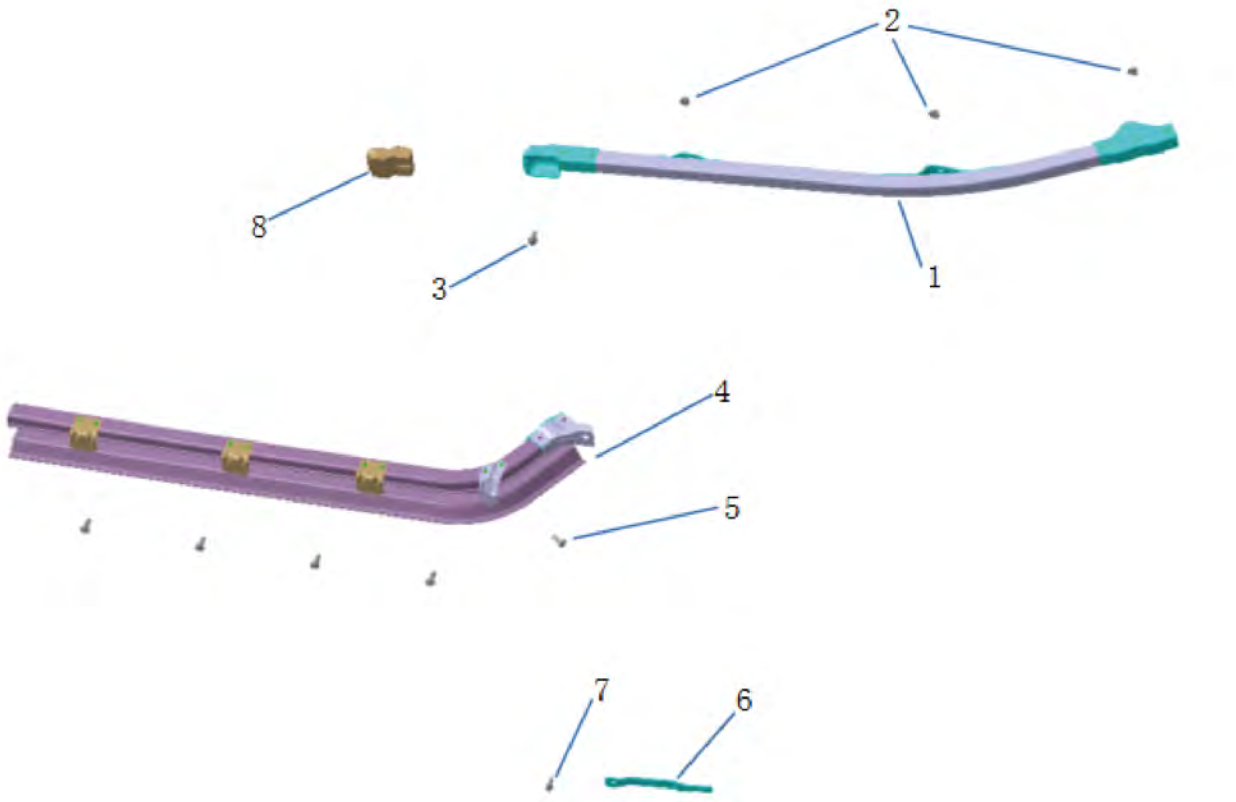
6.29.1 Specifications

6.29.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the upper guide rail assembly and the right side inner panel assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolt nut connecting the upper guide rail assembly and the right side inner panel assembly	M6	(6.5 +/- .75) ft lbs

6.29.2 Decomposition Diagram

6.29.2.1 Decomposition Diagram



1. Guide Assy-Upr
2. Hexagon Flange Nut
3. Hexagon Flange Bolt
4. Guide Assy-Mid
5. Hex Socket Set Screw
6. Pulley Limit Shrapnel Lwr
7. Hexagon Flange Bolt
8. Bumper Guide-Upr

6.30 Window Regulator Device

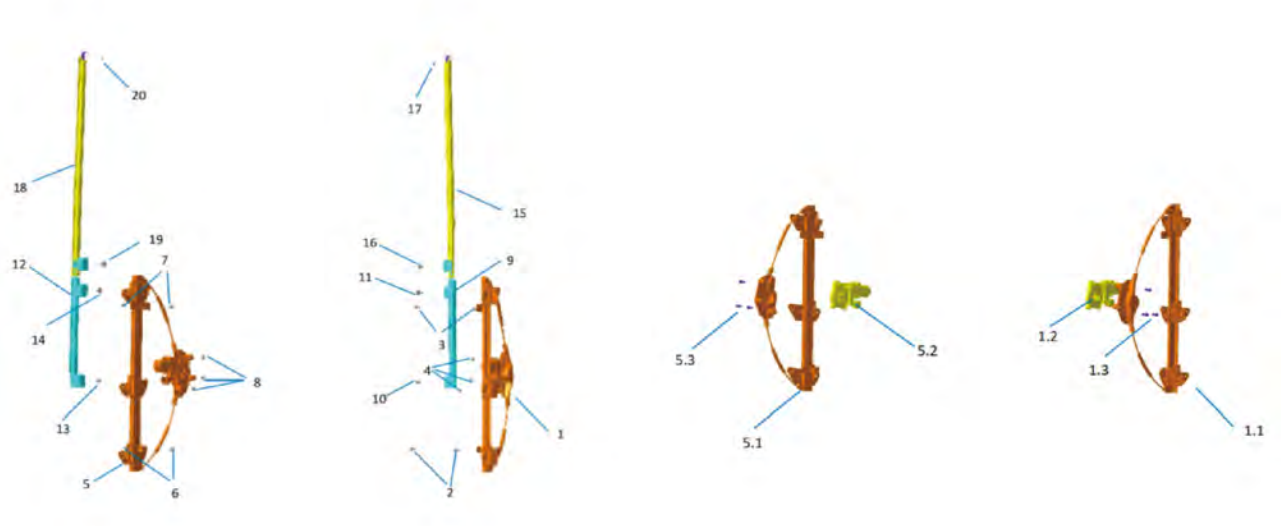
6.30.1 Specifications

6.30.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the right window regulator assembly and the door trim assembly	M6	(6.5 +/- .75) ft lbs
The fixing nut connecting the left window regulator assembly and the door trim assembly	M6	(6.5 +/- .75) ft lbs

6.30.2 Decomposition Diagram

6.30.2.1 Decomposition Diagram



1.	Window Regulator-Rh	8.	Hexagon Flange Nut
1.1.	Assembly of the Left Window Regulator Guide Rail	9.	Window Regulator Mount Guide Rail Assy-Lh Lower
1.2.	Assembly of the Left Window Regulator Motor	10.	Hexagon Flange Bolt
1.3.	Self-Tapping Screw	11.	Hexagon Head Bolt Assy
2.	Hexagon Flange Bolt	12.	Window Regulator Mount Guide Rail Assy-Rh Lower
3.	Hexagon Flange Bolt	13.	Hexagon Flange Bolt
4.	Hexagon Flange Nut	14.	Hexagon Head Bolt Assy
5.	Window Regulator-Rh	15.	Window Regulator Mount Guide Rail-Rh
5.1.	Assembly of the Right Window Regulator Guide Rail	16.	Hexagon Head Bolt Assy
5.2.	Assembly of the Right Window Regulator Motor	17.	Hex Socket Set Screw
5.3.	Self-Tapping Screw	18.	Window Regulator Mount Guide Rail-Rh
6.	Hexagon Flange Bolt	19.	Hexagon Head Bolt Assy
7.	Hexagon Flange Bolt	20.	Hex Socket Set Screw

6.30.3 Dismantling and Installation

6.30.3.1 Replacement of Left Window Regulator Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the left A-pillar protective plate assembly.

6 Remove the left front side wall protective plate assembly.

7 Remove the front USB interface.

8 Remove the IP left access cover plate assembly.

9 Remove the left switch panel assembly.

10 Remove the left switch panel lower trim panel assembly.

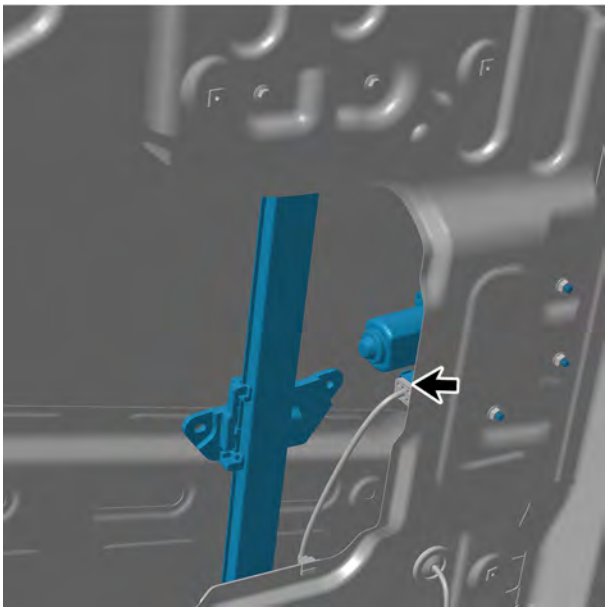
11 Remove the IP left lower trim panel assembly.

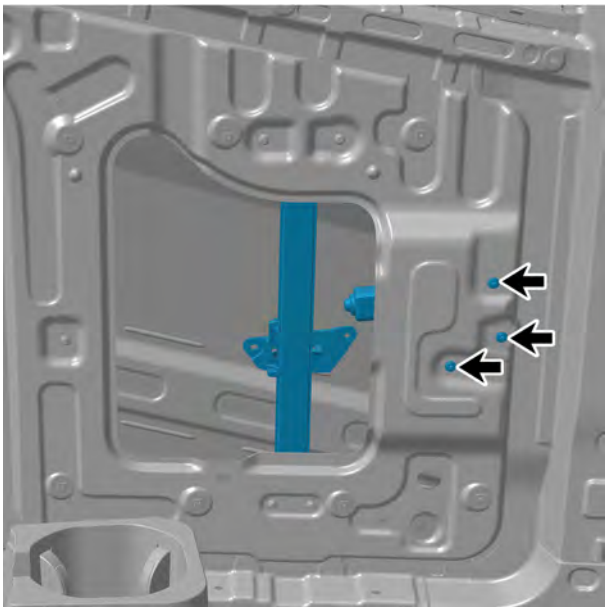
12 Remove the left middle side wall lower trim panel assembly.

13 Remove the left middle side wall middle trim panel assembly.

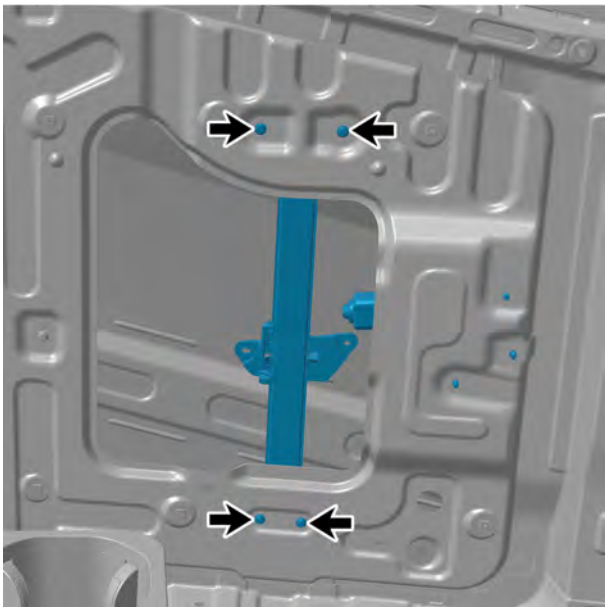
14 Remove the left body waterproof membrane (I).

15 Disconnect 1 harness connector of the left window regulator assembly.





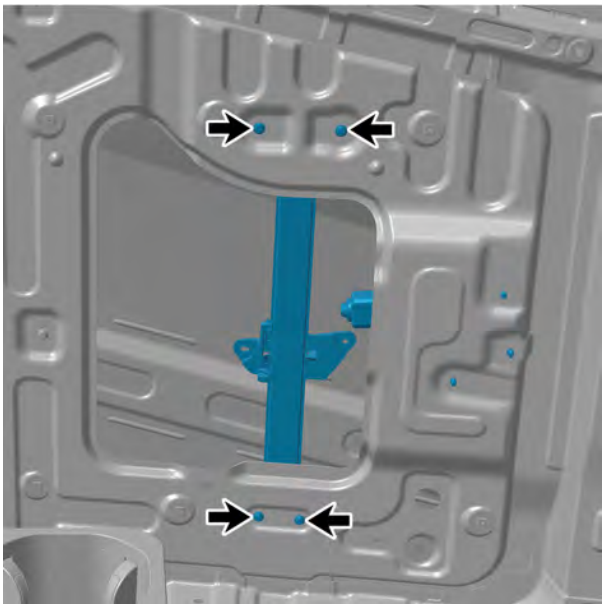
16 Remove 3 fixing nuts of the left window regulator assembly.



17 Remove 4 fixing bolts of the left window regulator assembly.

18 Remove the left window regulator assembly.

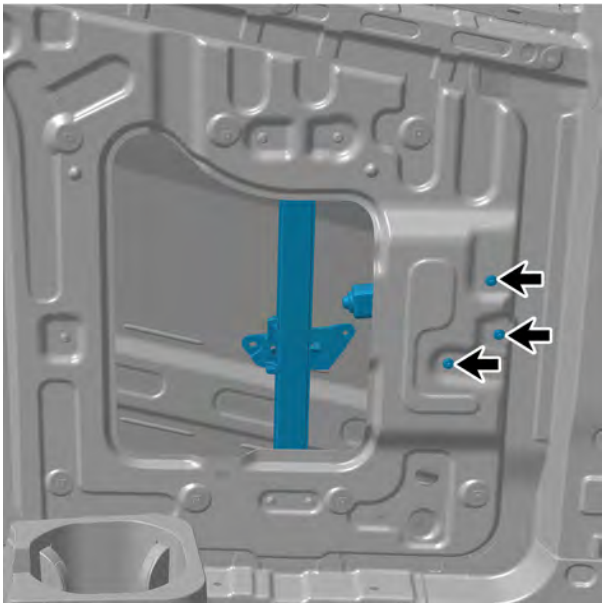
Installation Procedures



1 Move the left window regulator assembly to the mounting position.

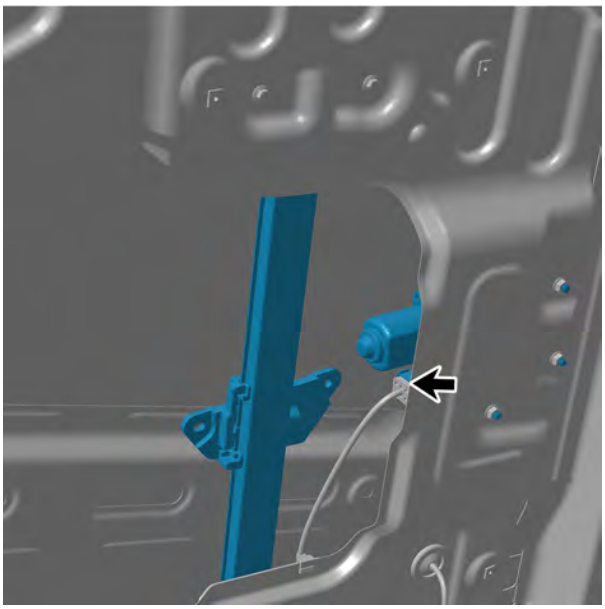
2 Install 4 fixing bolts of the left window regulator assembly.

Torque: (6.5 +/- .75) ft lbs



3 Install 3 fixing nuts of the left window regulator assembly.

Torque: (6.5 +/- .75) ft lbs



4 Connect 1 harness connector of the left window regulator assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the left body waterproof membrane (I).

6 Install the left middle side wall middle trim panel assembly.

7 Install the left middle side wall lower trim panel assembly.

8 Install the IP left lower trim panel assembly.

9 Install the left switch panel lower trim panel assembly.

10 Install the left switch panel assembly.

11 Install the IP left access cover plate assembly.

12 Install the front USB interface.

13 Install the left front side wall protective plate assembly.

14 Install the left A-pillar protective plate assembly.

15 Install the IP left upper trim panel assembly.

16 Connect the battery negative cable.

17 Close the front flip cover plate.

18 Close the door.

6.30.3.2 Replacement of Right Window Regulator Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

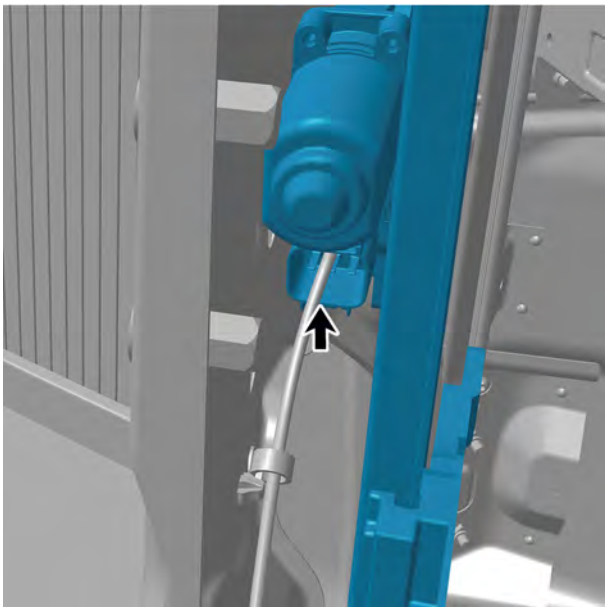
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the cable cover plate.

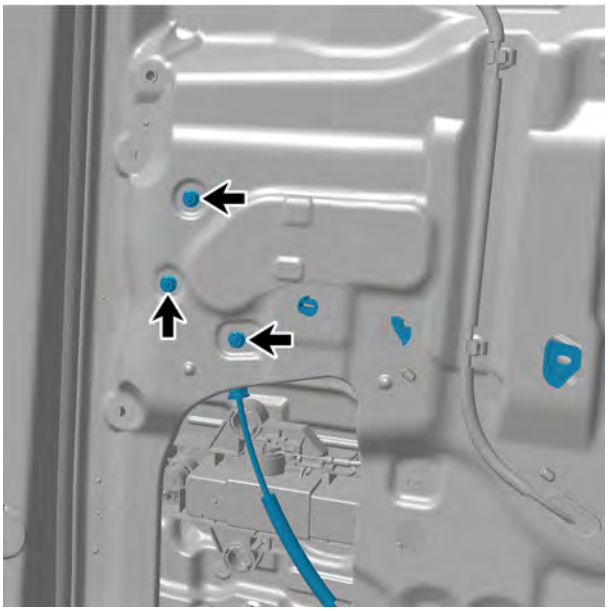
5 Remove the door protective plate assembly.

6 Remove the right body waterproof membrane (I).

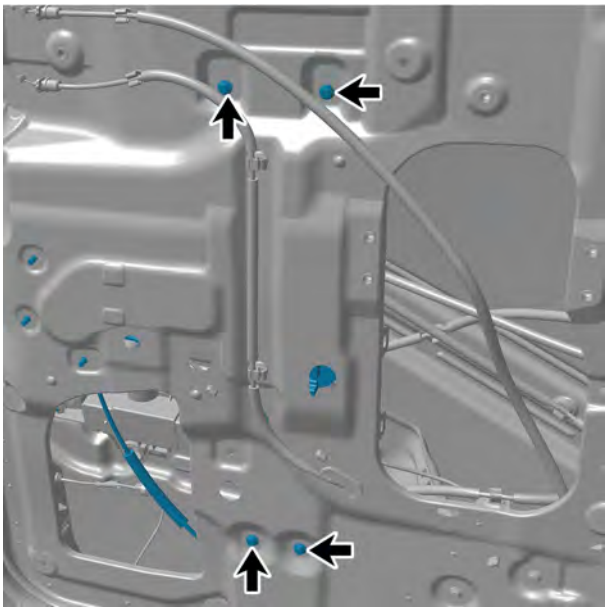
7 Remove the right body waterproof membrane (II).



8 Disconnect 1 harness connector of the right window regulator assembly.



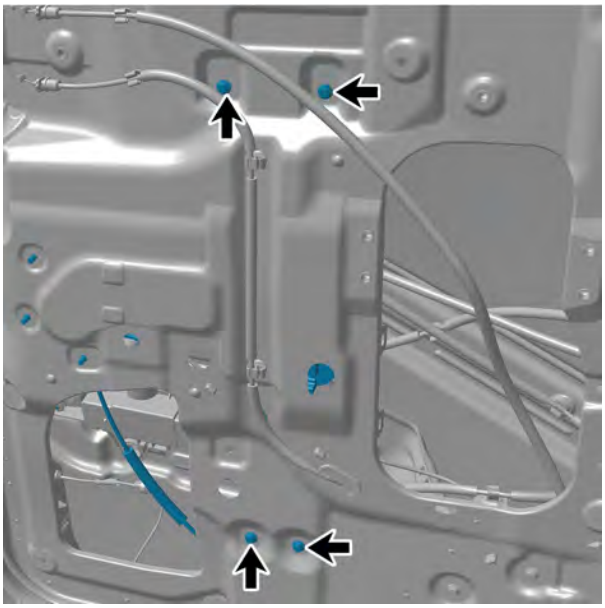
9 Remove 3 fixing nuts of the right window regulator assembly.



10 Remove 4 fixing bolts of the right window regulator assembly.

11 Remove the right window regulator assembly.

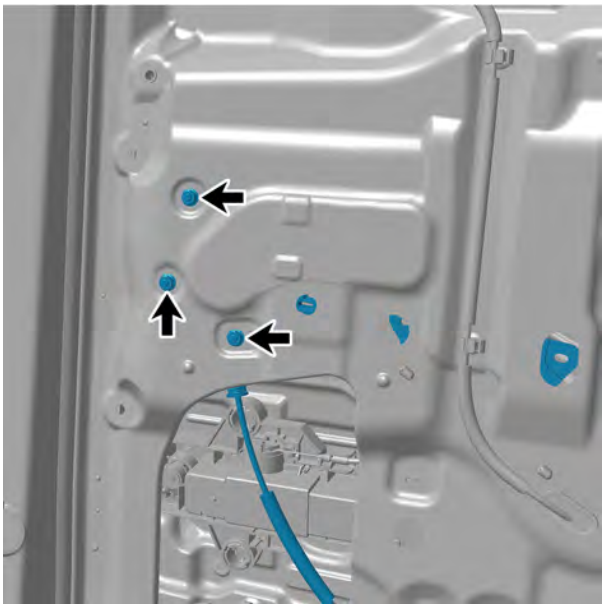
Installation Procedures



1 Move the right window regulator assembly to the mounting position.

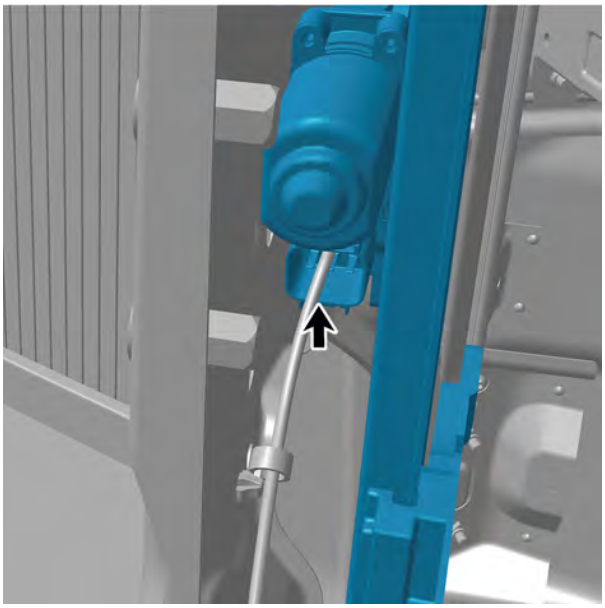
2 Install 4 fixing bolts of the right window regulator assembly.

Torque: (6.5 +/- .75) ft lbs



3 Install 3 fixing nuts of the right window regulator assembly.

Torque: (6.5 +/- .75) ft lbs



4 Connect 1 harness connector of the right window regulator assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the right body waterproof membrane (II).

6 Install the right body waterproof membrane (I).

7 Install the door protective plate assembly.

8 Install the cable cover plate.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

6.31 Sliding Door Accessory Device

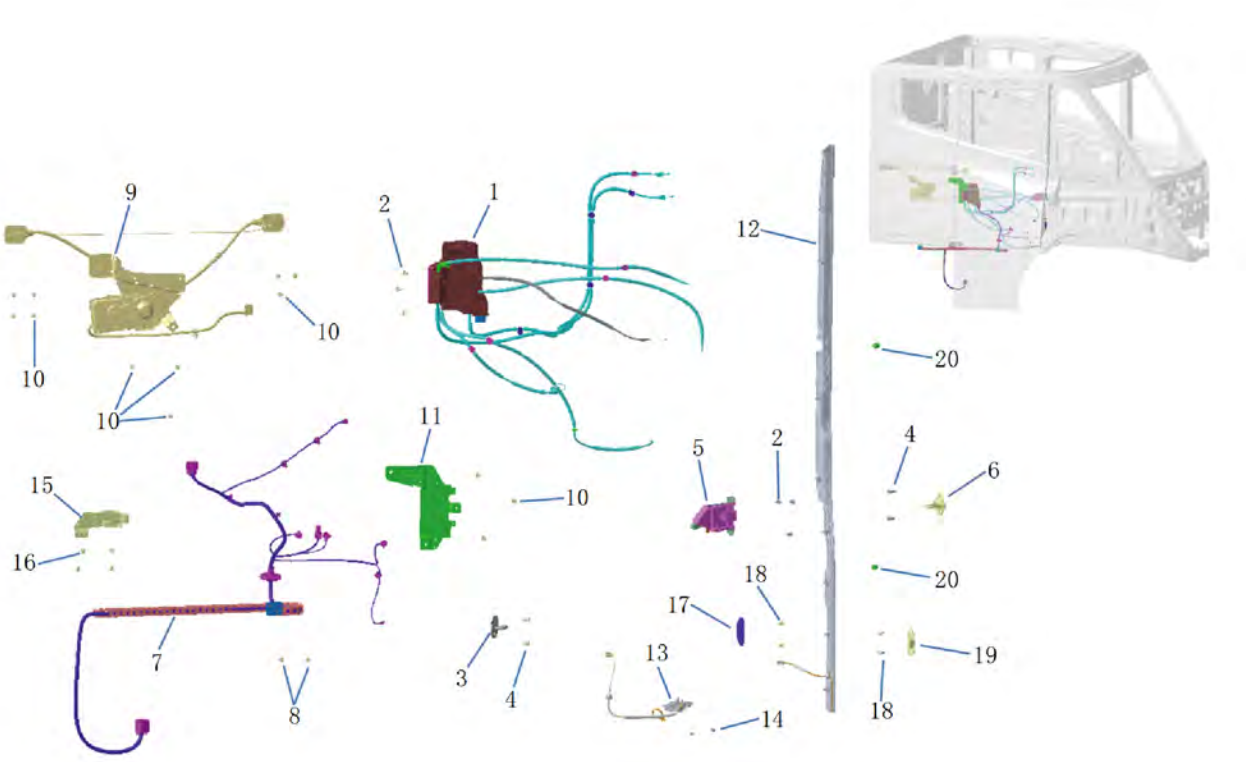
6.31.1 Specifications

6.31.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the ground lock assembly and the lower hinge assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the ground lock buckle assembly and the side panel outer assembly	M6	(6.5 +/- .75) ft lbs

6.31.2 Decomposition Diagram

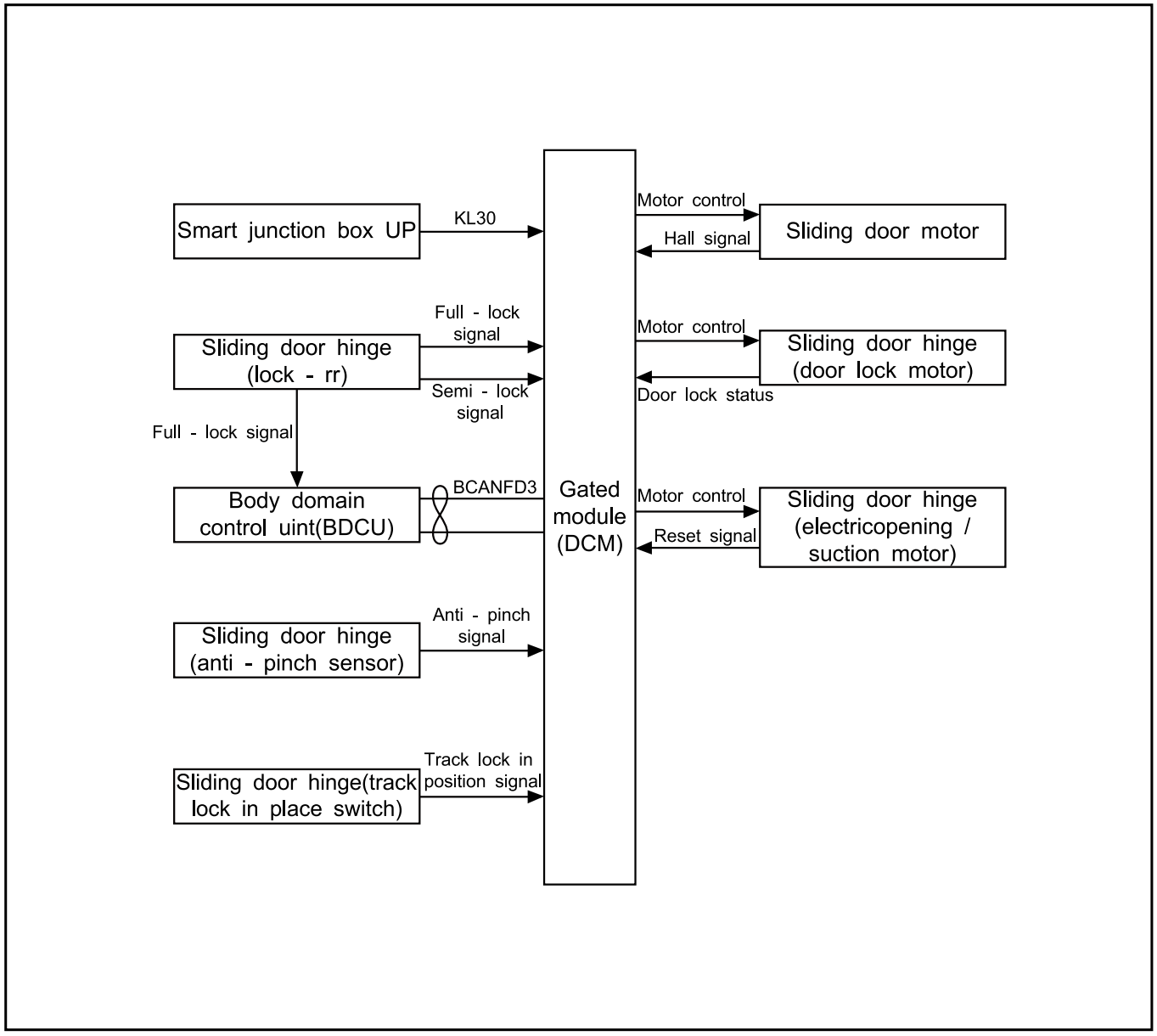
6.31.2.1 Decomposition Diagram



1. Lock Assy-Rr
2. Hexagon Socket Head Cap Screw
3. Striker -Rr
4. Hex Socket Set Screw
5. Lock Assy-Fr
6. Striker -Fr
7. Drag Chain Assy
8. Hex Socket Set Screw
9. Slide Door Drive Unit Assy
10. Hex Socket Set Screw
11. Mounting Bracket for DCM Module
12. Anti-Pinch Sensor Assr
13. Ground Lock Assy
14. Hexagon Flange Nut
15. Striker Ground Lock Assy
16. Hexagon Flange Bolt
17. Door End Guide Pin
18. Hexagon Socket Head Cap Screw (m6*16)
19. Guide Pin at Side Circumference End
20. Door Bumper-Rh

6.31.3 System Schematic Diagram

6.31.3.1 Electrical Schematic Diagram



6.31.4 Diagnostic Information and Steps

6.31.4.1 Diagnosis Description

Understanding and familiarizing oneself with the working principle of the white body device before diagnosing faults in the white body device, and then starting system diagnosis, can help determine the correct fault diagnosis steps when a fault occurs, and more importantly, it can help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of the white body device should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

6.31.4.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the body in white system, ensuring that these devices do not affect the operation of the body in white system.
- Inspect system components that are easily accessible or visible to make sure they are not visibly damaged or have conditions that could cause failure.

6.31.4.3 Fault Symptom Table

Symptom	Suspected Faulty Project	Measures
NFC key cannot lock/open the car door Fault definition:NFC key cannot lock/ open the car door, the vehicle's central control switch unlocks the door normally.	1. There is electromagnetic interference in the usage environment	Move to an undisturbed environment for use.
	2. NFC key bending, damage, demagnetization	Inspect the NFC key and replace it if necessary.
	3. NFC key anti-theft loss	Reprogram the NFC key.
	4. Bluetooth&NFC module fault	Repair Bluetooth&NFC module, replace Bluetooth if necessary&NFC module. Refer to Replacement Of Concealed External Handle Assembly
The door lock bounces while driving Fault definition:During the driving process of the vehicle, the door lock unlocks/locks.	1. Mechanical mechanism failure of door lock	Adjust the mechanical mechanism of the door lock and replace it if necessary. Refer to Replacement Of Front Lock Assembly.Replacement Of Rear Lock Assembly
	2. Poor contact of wiring harness plug	Inspect the wiring harness and plugs.
	3. Poor contact of relevant grounding points	Repair the grounding point fault.
	4. Wiring harness fault	Inspect the wiring harness of the car door lock.
	5. Fault in the contact switch of the central locking motor	Replace the door lock motor assembly.
	6. Gate control module fault	Repair the door control module and replace it if necessary. Refer to Replacement Of DCM

6.31.4.4 DTC Confirmation

1.Connect the diagnostic instrument to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Restart the vehicle.

3. Read the fault code of the control system again to confirm whether the system has a fault code output.

– Yes:Diagnose based on the output fault code.

– No:Perform intermittent fault checks, refer to Inspection Of Intermittent Fault

6.31.4.5 List Of Diagnostic Trouble Codes (DTCs)

DCM

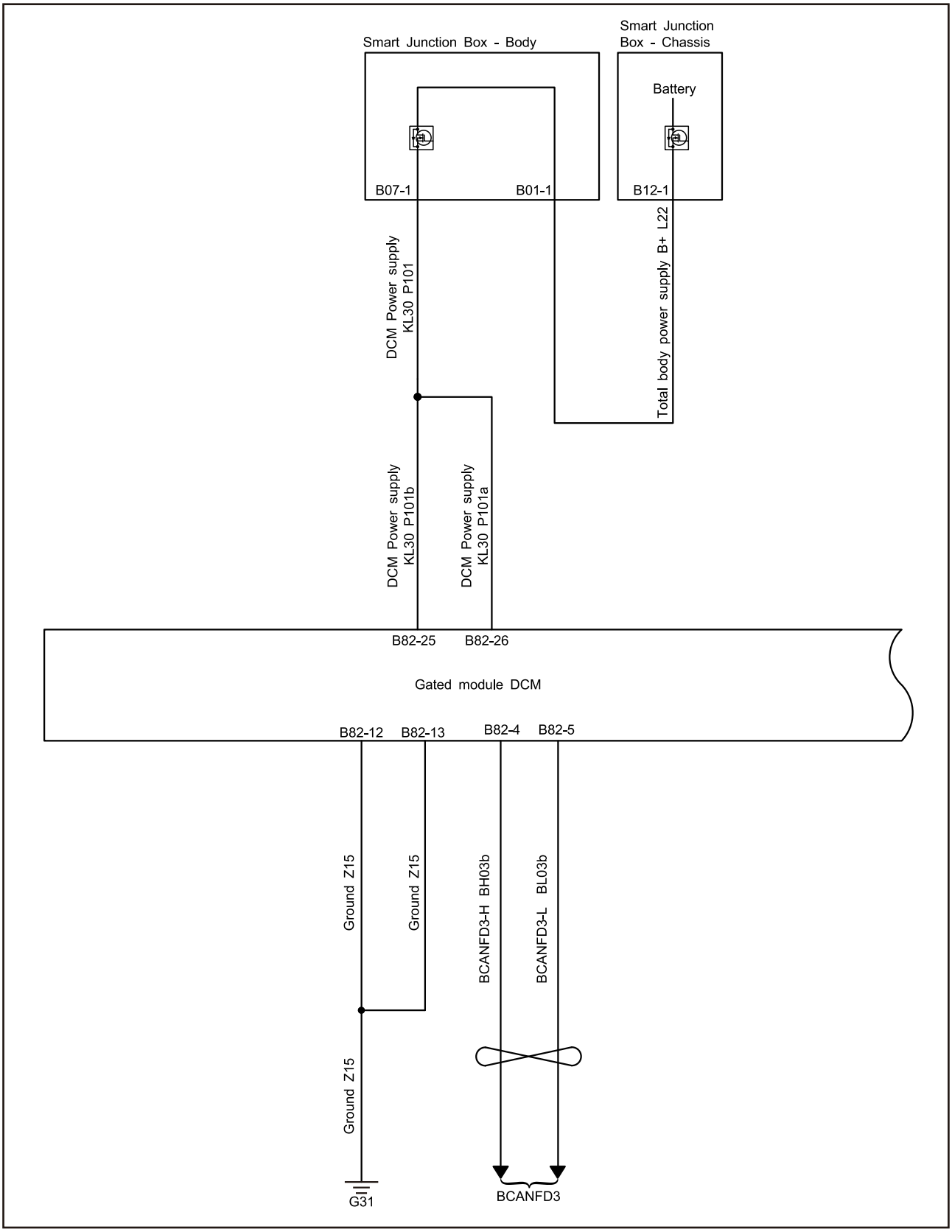
Fault Code	Fault Description	Exclusion Method
B111717	High battery voltage	Refer to Gate Control Module Power Fault
B111716	Low battery voltage	
U007E88	BCANFD3 BusOff	Refer to Communication Fault Of Door Control Module
U014087	Lost communication with BDCU	
U015687	Lost Communication With CDCU	
U012287	Lost Communication With VDC	
U019887	Lost Communication With T-BOX	
B1B0188	door lock motor open circuit	Refer to Door Lock Motor Fault
B1B0189	door lock motor short to ground or drive fault	
B1B0190	door lock motor short to battery or drive fault	
B1B0A01	lock block state signal error or open lock actuator stuck	
B1B0288	cinch motor short open circuit	Refer to Electric Opening And Suction Motor Fault
B1B0289	cinch motor short to ground or drive fault	
B1B0290	cinch motor short to battery or drive fault	
B1B0649	cinch reset timeout	
B1B0749	cinch motor unlock reset timeout	
B1B0489	handle light short to ground or drive failure	Refer to Door Handle LED Light Fault
B1B0490	handle light short to battery or drive failure	
B1B0549	cinch timeout	Refer to Cinch Timeout Fault
B1B0B88	Anti pinch strip open circuit	Refer to Anti Pinch Strip Fault
B1B0088	Sliding door motor open circuit	Refer to Sliding Door Motor Fault
B1B0089	Sliding door motor positive and negative poles short circuit to ground or drive fault	
B1B0090	Sliding door motor short to battery or drive fault	
B1B0849	open door timeout	
B1B0949	close door timeout	

6.31.4.6 Gate Control Module Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	High battery voltage	System voltage >32V for 5s	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Gate control module
B111716	Low battery voltage	System voltage <8V for 30s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any power fault codes for other modules besides the door control module?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power and grounding harness of the door control module.

Step 5:Rewrite the configuration code, reload the software, and upgrade the door control module.

Step 6:Replace the door control module. Refer to Replacement Of DCM

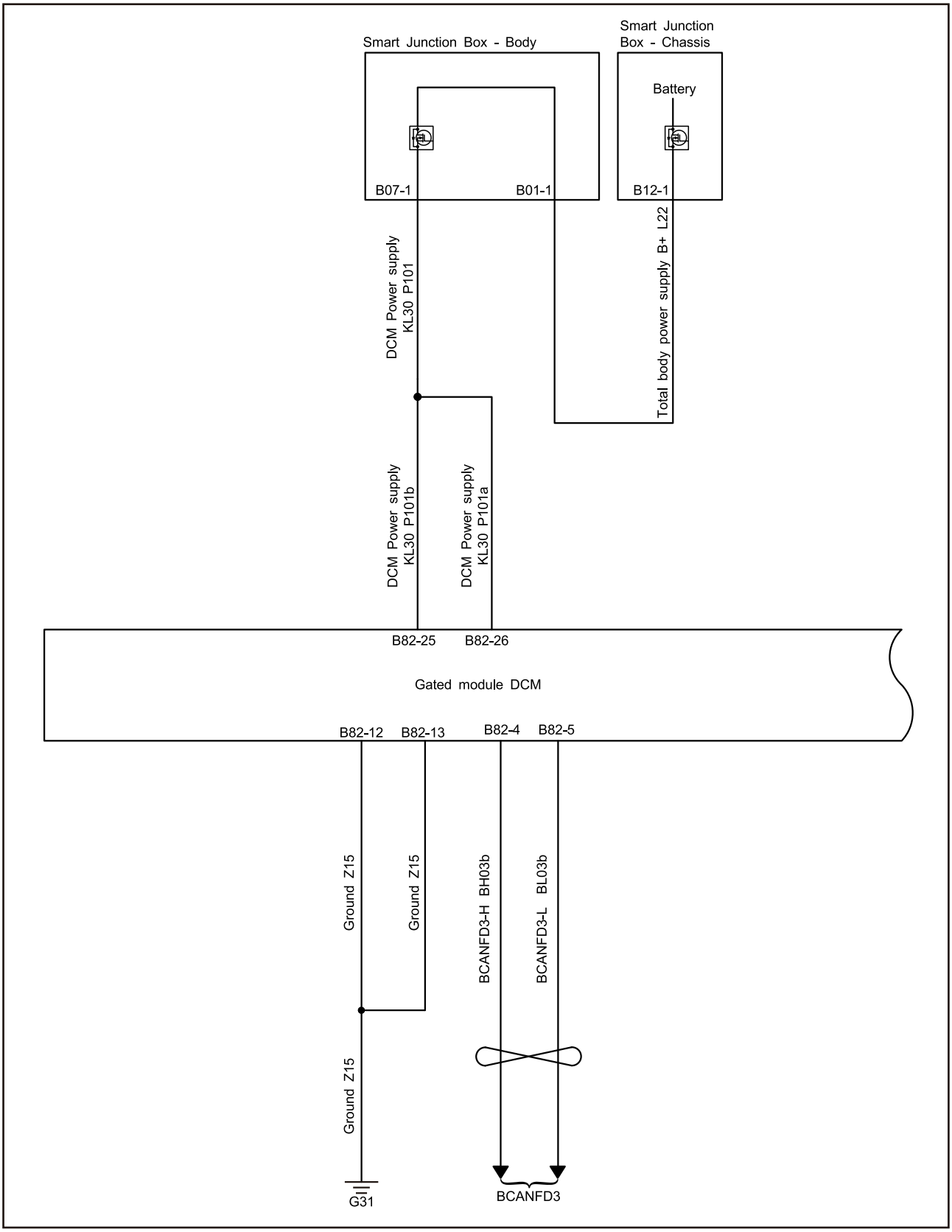
Step 7:Clear and confirm DTC.

6.31.4.7 Communication Fault Of Door Control Module

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007E88	BCANFD3 BusOff	The bus controller enters BUSOFF mode	1.Wiring harness 2. Gate control module
U014087	Lost communication with BDCU	message 0x18860021 Lost Communication fo more than 10 cycle(1s)	
U015687	missing CDCU	message 0x18FEC1EE Lost Communication fo more than 5 cycle(5s)	
U012287	Lost Communication with VDC	message 0x18FEF100 Lost Communication fo more than 10 cycle(1s)	
U019887	VCAN bus-off	message 0x18FEE6E Lost Communication fo more than 10 cycle(1s)	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the BCANFD3 bus communication harness. Refer to Inspection Of BCAND3 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the door control module.

Step 5:Replace the door control module. Refer to Replacement Of DCM

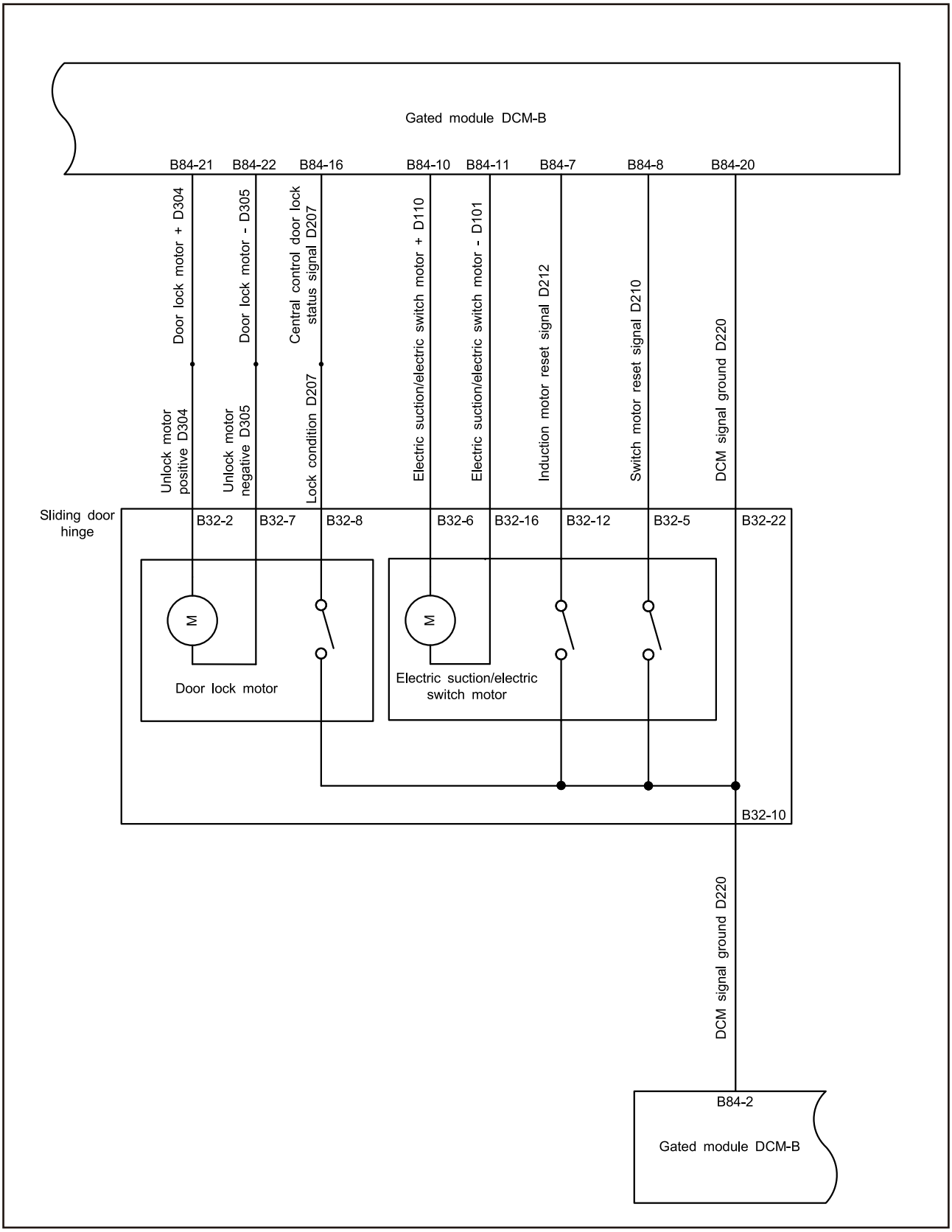
Step 6:Clear and confirm DTC.

6.31.4.8 Door Lock Motor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1B0188	door lock motor open circuit	Sliding door motor detected open circuit for 10 consecutive times	1.Wiring harness 2. Sliding door hinge (door lock motor) 3. Gate control module
B1B0189	door lock motor short to ground or drive fault	Sliding door motor detected short to ground for 10 consecutive times	
B1B0190	door lock motor short to battery or drive fault	Sliding door motor detected short to ground for 10 consecutive times	
B1B0A01	lock block state signal error or open lock actuator stuck	the lock status does not match the action after completing the unlocking process	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check the wiring harness between the sliding door hinge (door lock motor) and the door control module.

Step 4:Connect the sliding door hinge (door lock motor) to an external 12V power supply and observe the sliding door hinge (door lock motor) is operating?

– Yes: Next step

– No: Replace the sliding door hinge (door lock motor). Refer to Replacement Of Front Lock Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the door control module.

Step 6:Replace the door control module. Refer to Replacement Of DCM

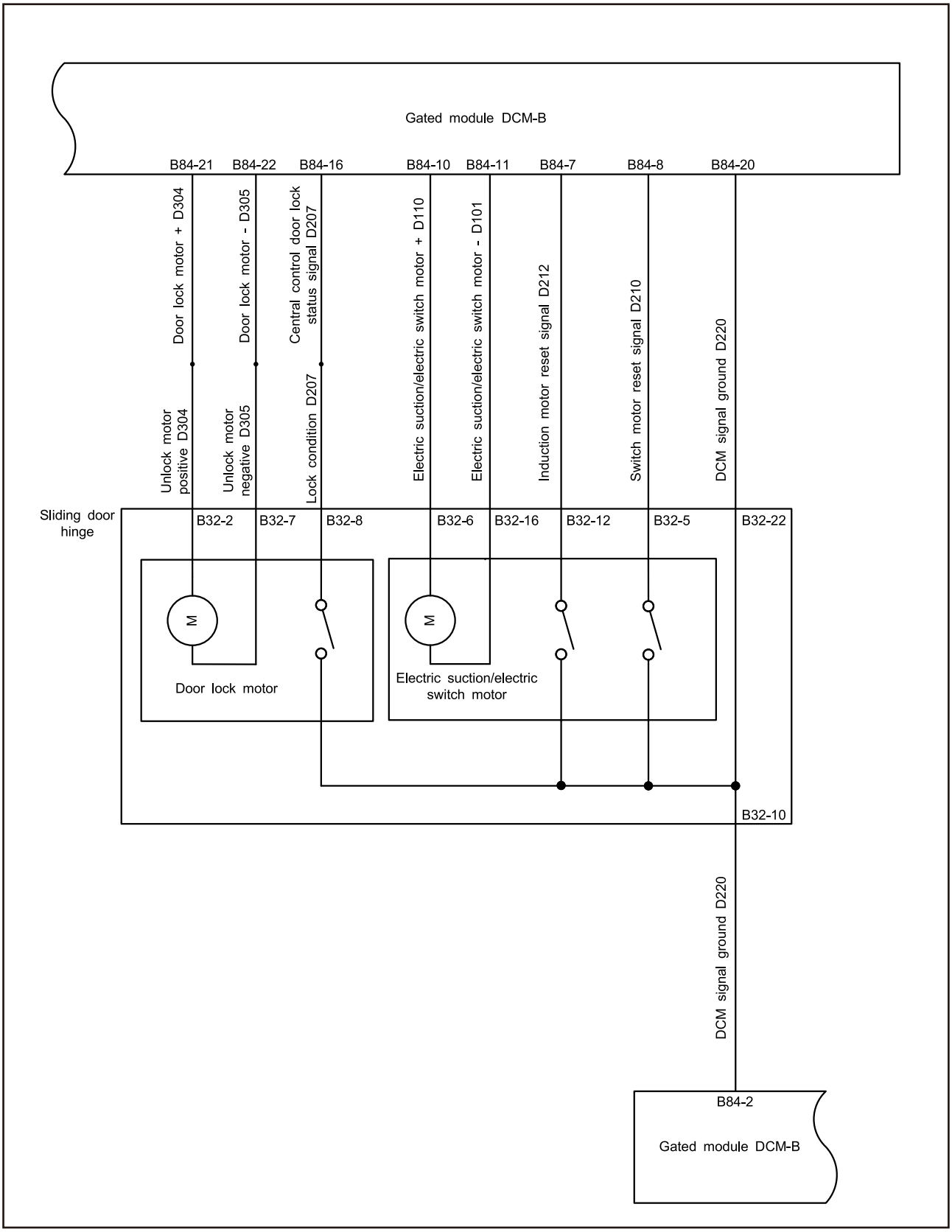
Step 7:Clear and confirm DTC.

6.31.4.9 Electric Opening And Suction Motor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1B0288	cinch motor short open circuit	Sliding door motor detected open circuit for 10 consecutive times	1.Wiring harness 2. Sliding door hinge (electrically operated electric suction motor) 3. Gate control module
B1B0289	cinch motor short to ground or drive fault	Sliding door motor detected short to ground for 10 consecutive times	
B1B0290	cinch motor short to battery or drive fault	Sliding door motor detected short to ground for 10 consecutive times	
B1B0649	cinch reset timeout	cinch reset action timeout	
B1B0749	cinch motor unlock reset timeout	cinch motor unlock reset action timeout	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the sliding door hinge (electrically open electric suction motor) and the door control module.

Step 4:Connect the sliding door hinge (electric suction motor) to an external 12V power supply and observe if the sliding door hinge (electric suction motor) is functioning properly?

– Yes: Next step

– No: Replace the sliding door hinge (electrically open and suction motor). Refer to Replacement Of Sliding Door Driver Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the door control module.

Step 6:Replace the door control module. Refer to Replacement Of DCM

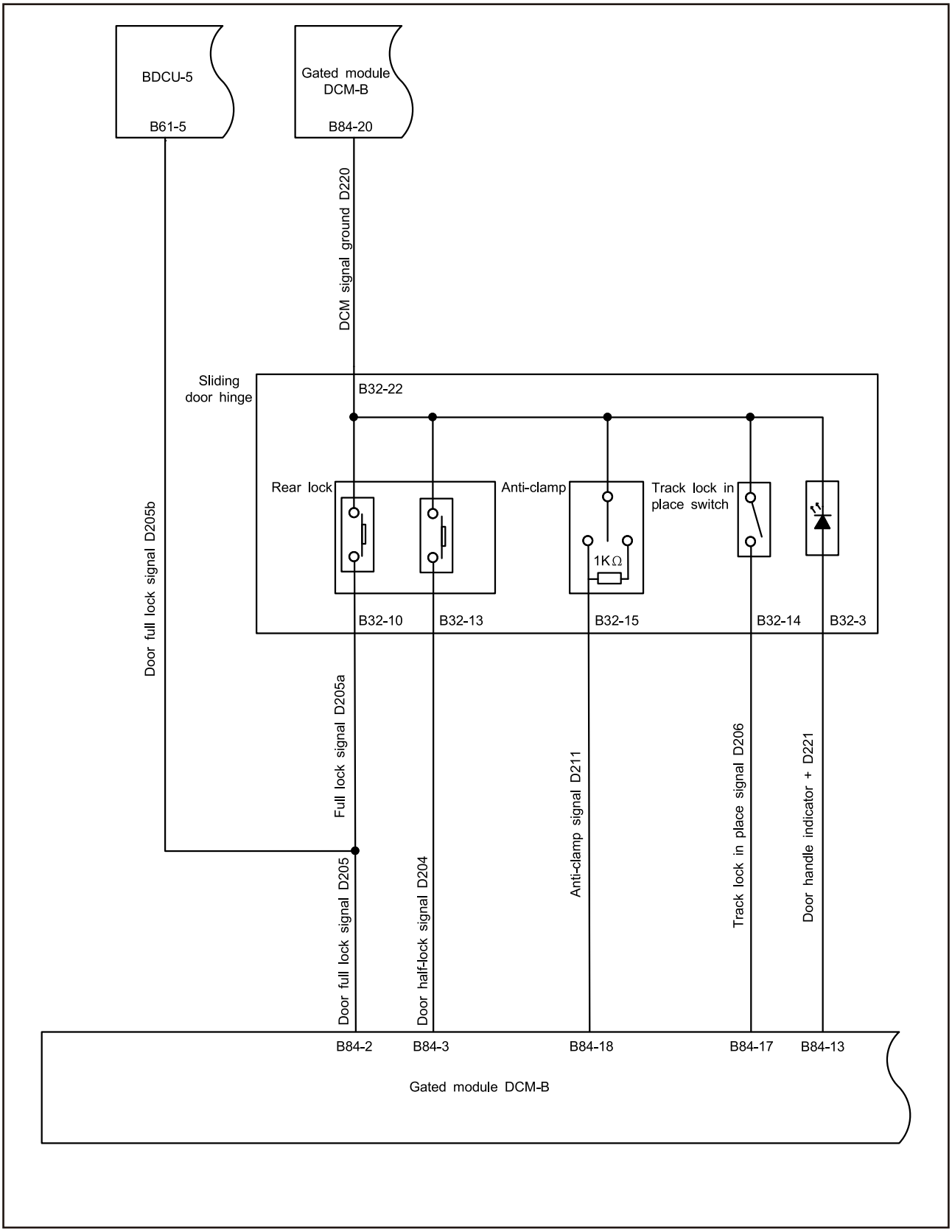
Step 7:Clear and confirm DTC.

6.31.4.10 Door Handle LED Light Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1B0489	handle light short to ground or drive failure	handle light on and voltage fault being detected	1.Wiring harness 2. Sliding door hinge (door handle LED light) 3. Gate control module
B1B0490	handle light short to battery or drive failure	handle light off and voltage fault being detected	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the sliding door hinge (door handle LED light) and the door control module.

Step 4:Connect the sliding door hinge (door handle LED light) to an external 12V power supply and observe if the sliding door hinge (door handle LED light) is lit up?

- Yes: Next step
- No: Replace the sliding door hinge (door handle LED light). Refer to Replacement Of Hidden External Handle

Step 5:Rewrite the configuration code, reload the software, and upgrade the door control module.

Step 6:Replace the door control module. Refer to Replacement Of DCM

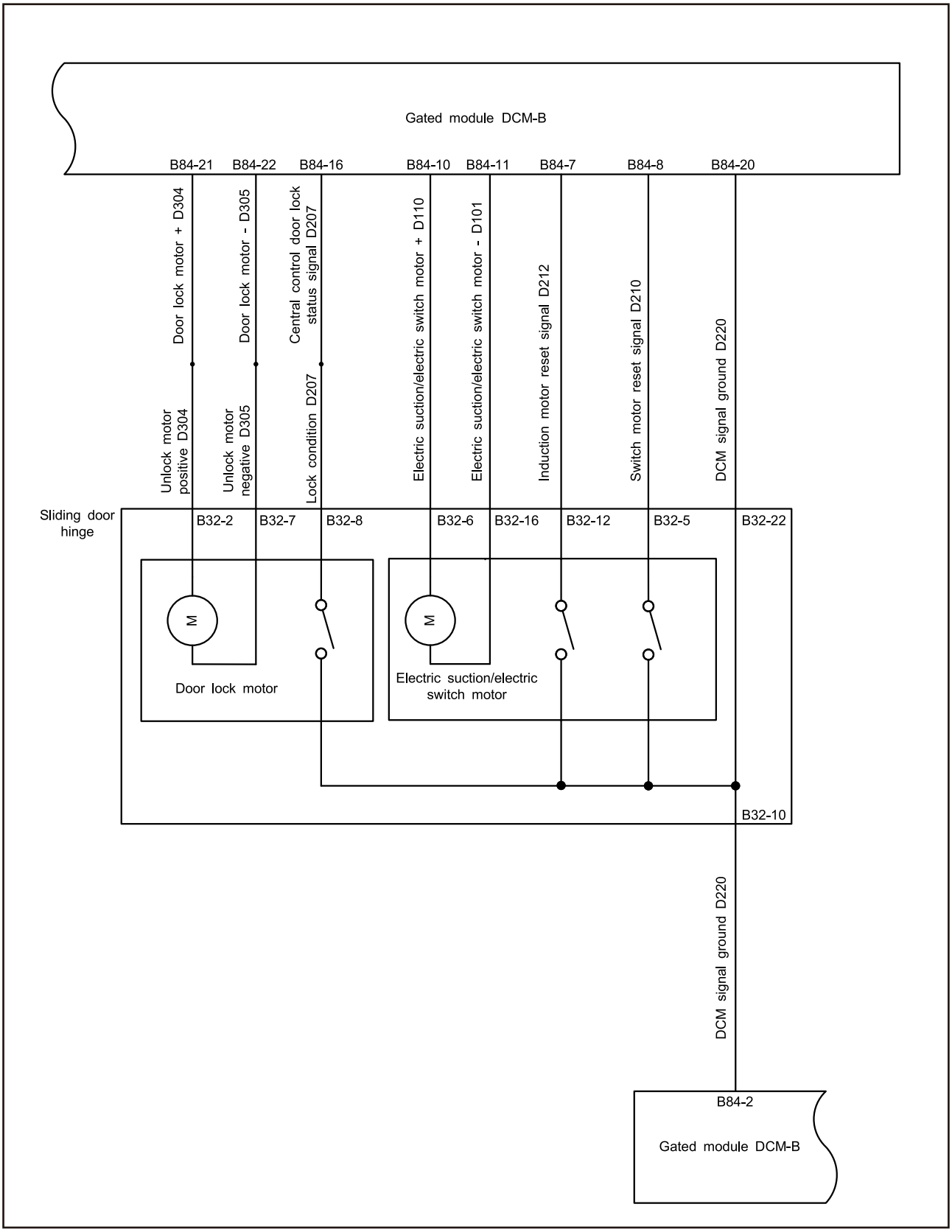
Step 7:Clear and confirm DTC.

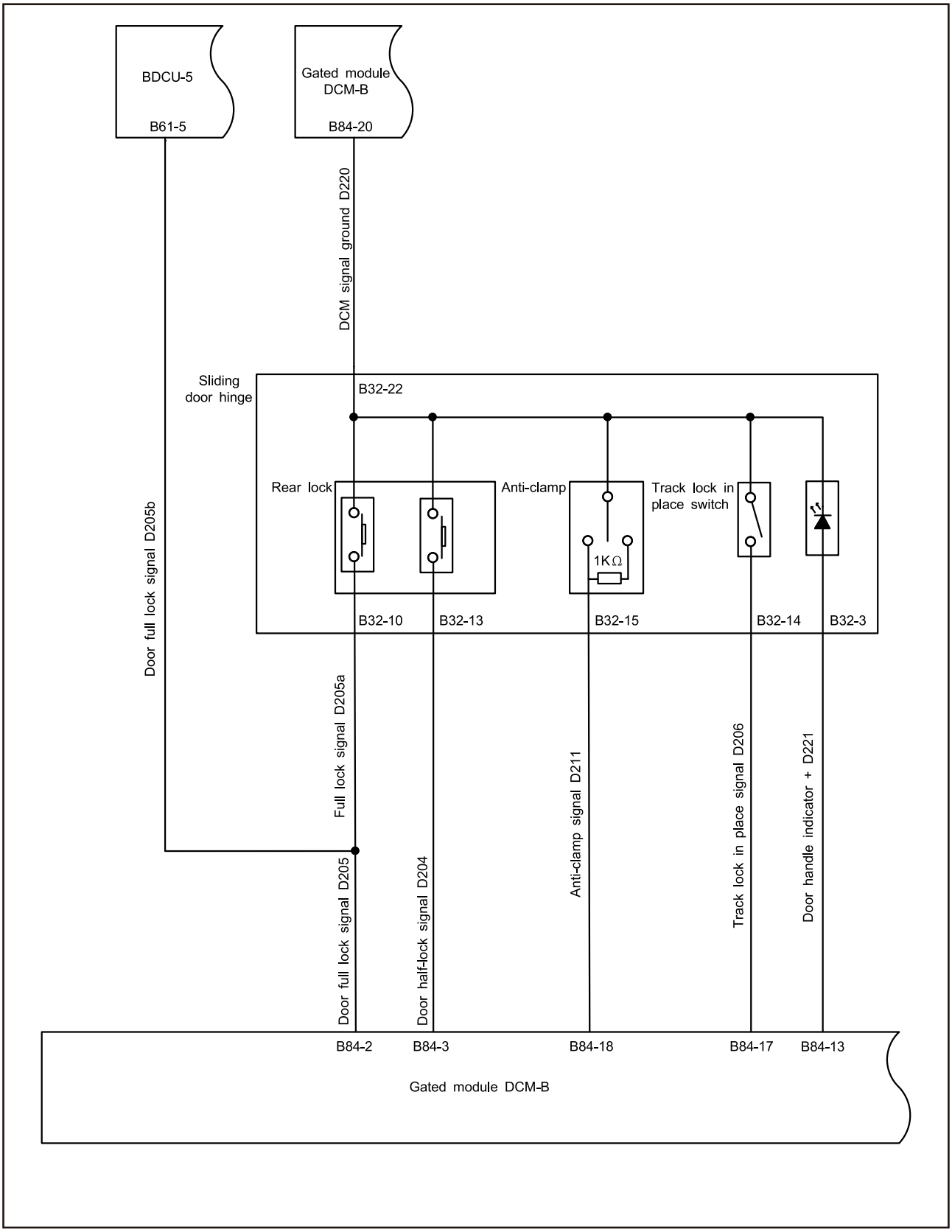
6.31.4.11 Cinch Timeout Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1B0549	cinch timeout	cinch action timeout	1.Wiring harness 2. Sliding door hinge (electrically operated electric suction motor) 3. Rear lock 4. Gate control module

2.Circuit Diagram


Gated module DCM-B
B84-21
B84-22
B84-16
B84-10
B84-11
B84-7
B84-8
B84-20
Door lock motor + D304
Door lock motor - D305
Central control door lock status signal D207
Electric suction/electric switch motor + D110
Electric suction/electric switch motor - D101
Induction motor reset signal D212
Switch motor reset signal D210
DCM signal ground D220
Unlock motor positive D304
Unlock motor negative D305
Lock condition D207
Sliding door hinge
B32-2
B32-7
B32-8
B32-6
B32-16
B32-12
B32-5
B32-22
M
Door lock motor
M
Electric suction/electric switch motor
B32-10
DCM signal ground D220
B84-2
Gated module DCM-B



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the relevant circuits of the sliding door hinge (electric opening and suction motor). Refer to Electric Opening And Suction Motor Fault

Step 4:Check the full lock signal harness between the rear lock and the door control module.

Step 5:Replace the rear lock. Refer to Replacement Of Rear Lock

Step 6:Rewrite the configuration code, reload the software, and upgrade the door control module.

Step 7:Replace the door control module. Refer to Replacement Of DCM

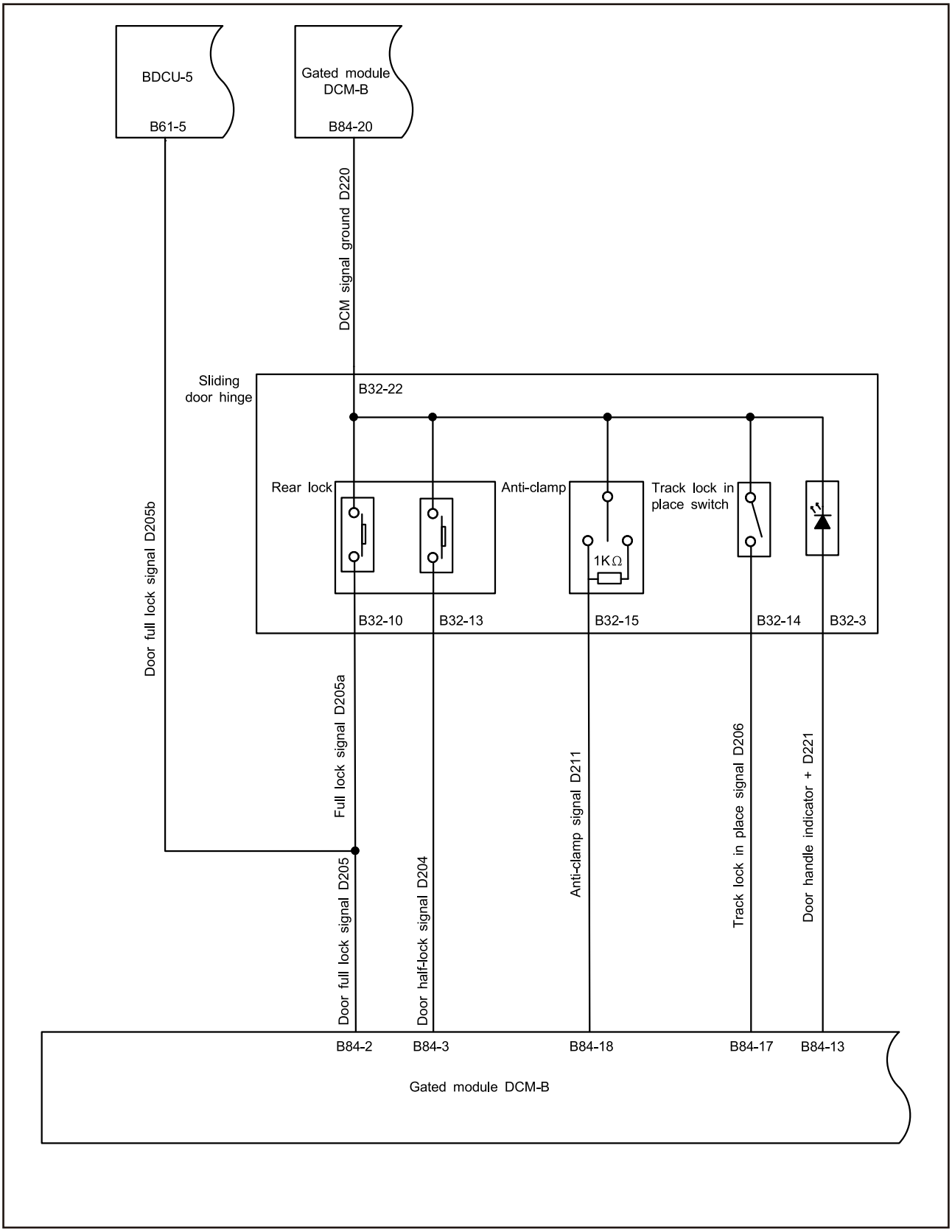
Step 8:Clear and confirm DTC.

6.31.4.12 Anti Pinch Strip Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1B0B88	Anti pinch strip open circuit	anti pinch strip over 4.5V	1.Wiring harness 2. Sliding door hinge (anti pinch strip) 3. Gate control module

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the sliding door hinge (anti pinch strip) and the door control module.

Step 4:Check if the resistance of the sliding door hinge (anti pinch strip) is 1K Ω when the anti pinch function is activated?

– Yes: Next step

– No: Replace the sliding door hinge (anti pinch strip).

Step 5:Rewrite the configuration code, reload the software, and upgrade the door control module.

Step 6:Replace the door control module. Refer to Replacement Of DCM

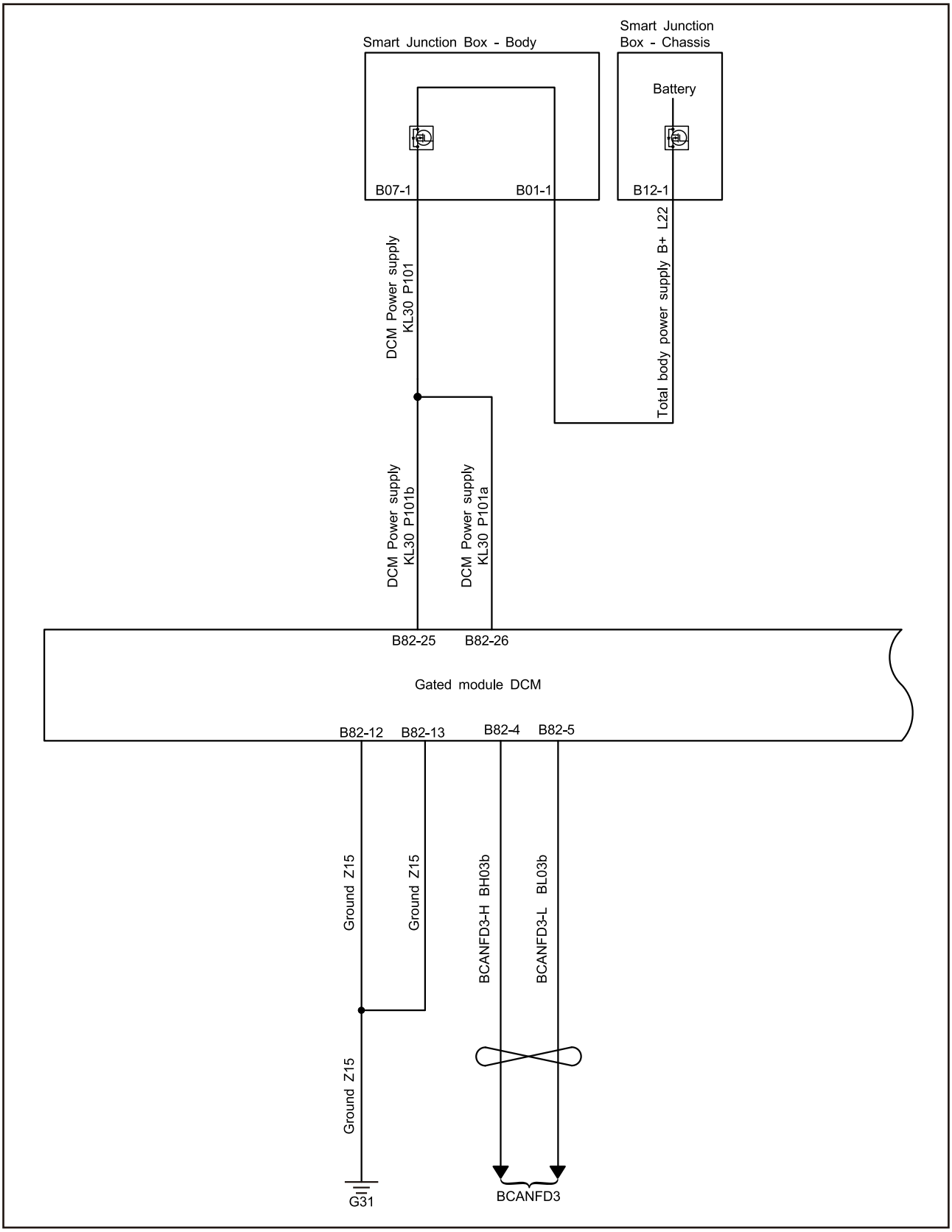
Step 7:Clear and confirm DTC.

6.31.4.13 Sliding Door Motor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1B0088	Sliding door motor open circuit	Sliding door motor detected open circuit for 10 consecutive times	1.Wiring harness 2. Sliding door motor 3. Gate control module
B1B0089	Sliding door motor positive and negative poles short circuit to ground or drive fault	Sliding door motor detected short to ground for 10 consecutive times	
B1B0090	Sliding door motor short to battery or drive fault	Sliding door motor detected short to ground for 10 consecutive times	
B1B0849	open door timeout	Sliding door open timeout	
B1B0949	close door timeout	Sliding door close timeout	
B1B0C01	hall power supply error	hall power supply low	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the sliding door motor and the door control module.

Step 4:Connect the sliding door motor to an external 12V power supply and observe the sliding door motor is operating?

- Yes: Next step
- No: Replace the sliding door motor. Refer to Replacement Of Sliding Door Driver Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the door control module.

Step 6:Replace the door control module. Refer to Replacement Of DCM

Step 7:Clear and confirm DTC.

6.31.5 Dismantling and Installation

6.31.5.1 Replacement of Hidden Outside Handle Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

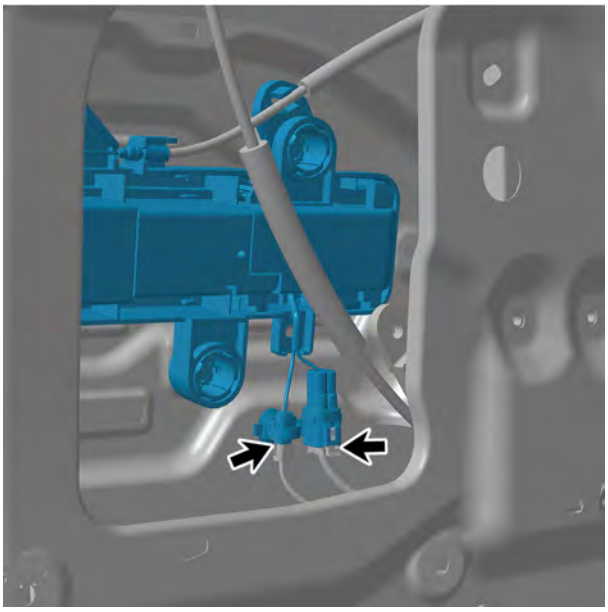
power down the high-voltage system before disconnecting the negative pole of the storage battery.

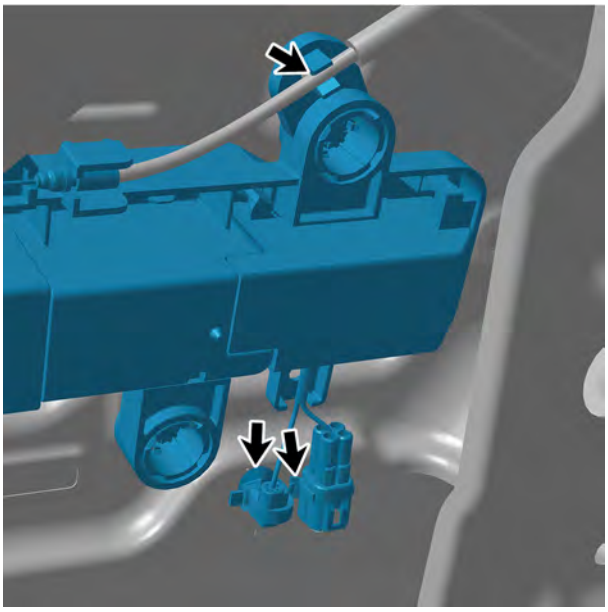
4 Remove the cable cover plate.

5 Remove the door protective plate assembly.

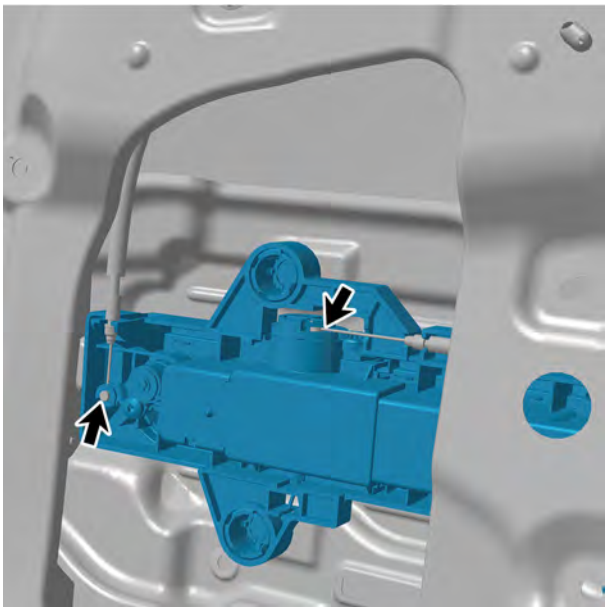
6 Remove the right body waterproof membrane (II).

7 Disconnect 2 harness connectors of the hidden outside handle assembly.

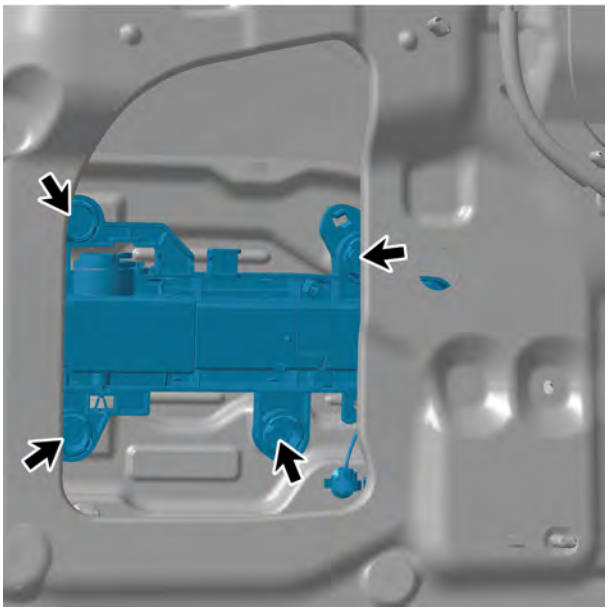




8 Disengage 3 clips of the hidden outside handle assembly.



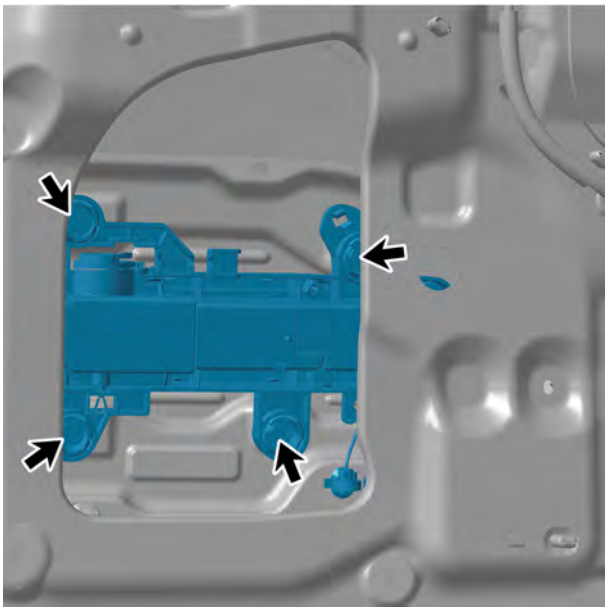
9 Disengage 2 cables of the hidden outside handle assembly.



10 Remove 4 fixing screws of the hidden outside handle assembly.

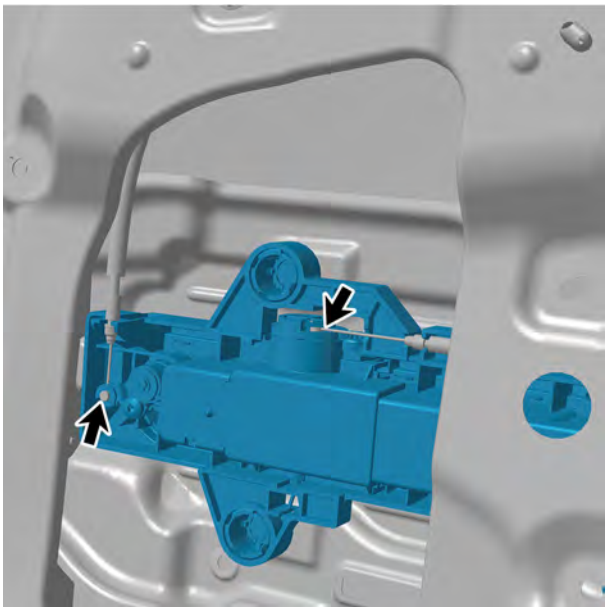
11 Remove the hidden outside handle assembly.

Installation Procedures

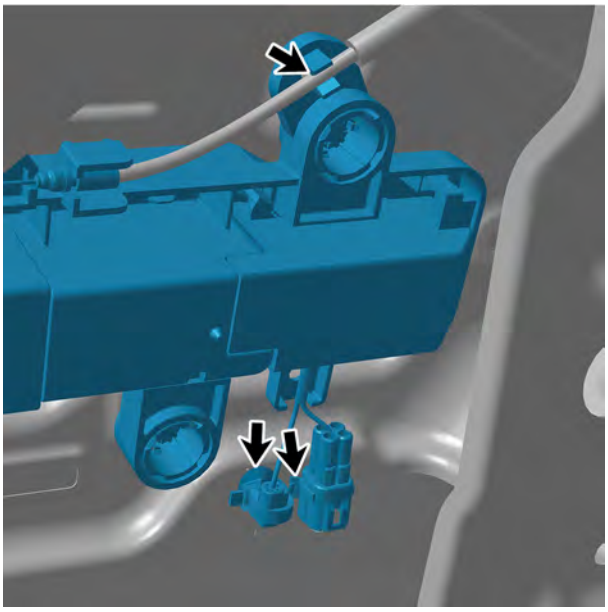


1 Move the hidden outside handle assembly to the mounting position.

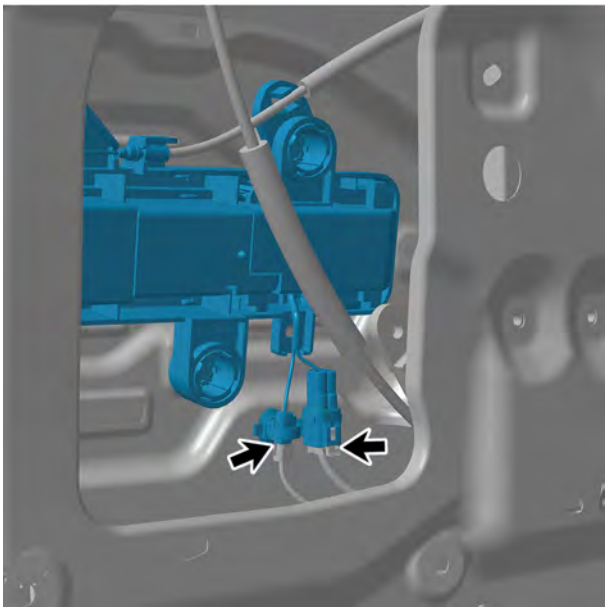
2 Install 4 fixing screws of the hidden outside handle assembly.



3 Connect 2 cables of the hidden outside handle assembly.



4 Install 3 clips of the hidden outside handle assembly.



5 Connect 2 harness connectors of the hidden outside handle assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

6 Install the right body waterproof membrane (II).

7 Install the door protective plate assembly.

8 Install the cable cover plate.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

6.31.5.2 Replacement of Rear Lock Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the cable cover plate.

5 Remove the door protective plate assembly.

6 Remove the right body waterproof membrane (I).

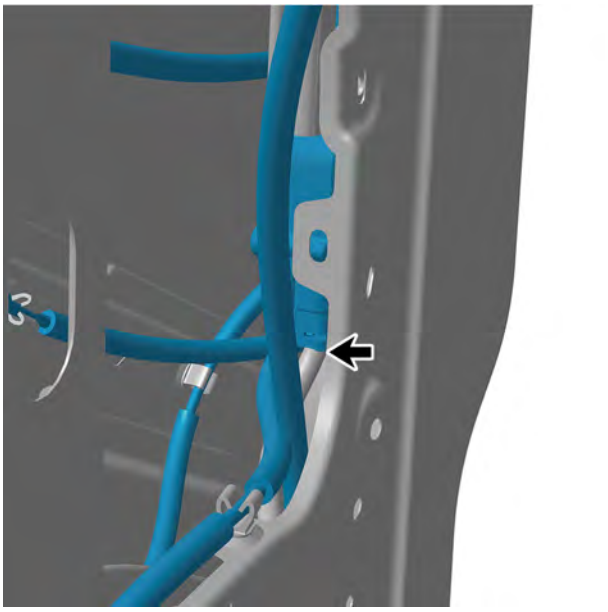
7 Remove the right body waterproof membrane (II).

8 Remove the door inside handle assembly.

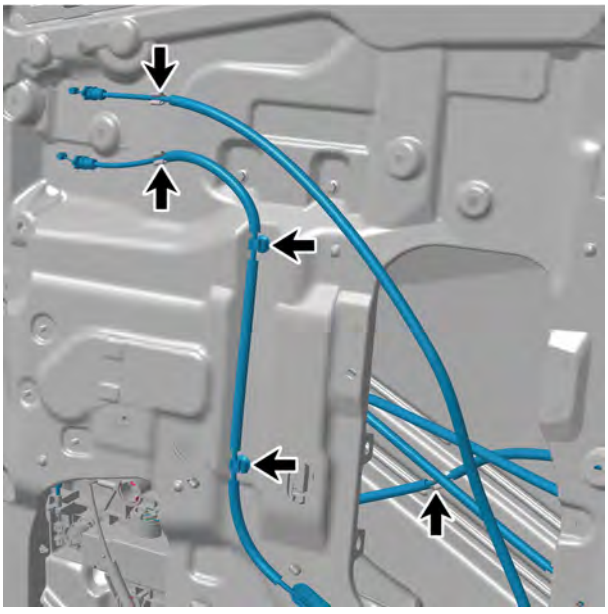
9 Remove the hidden outside handle assembly.

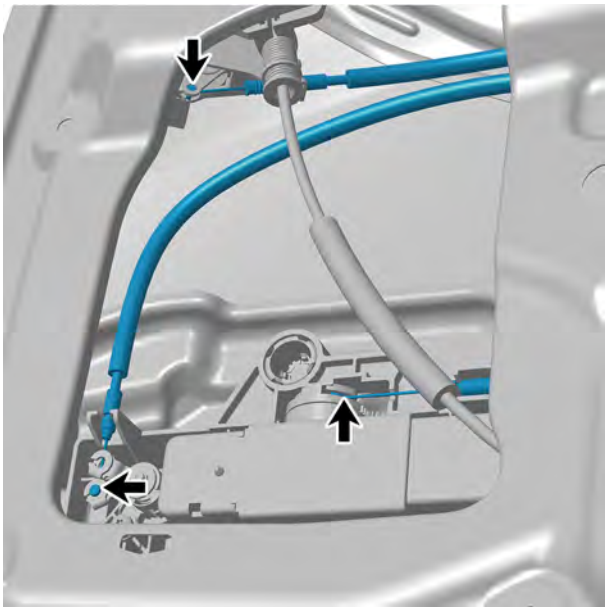
10 Remove the ground lock assembly.

11 Disconnect 1 harness connector of the rear lock assembly.



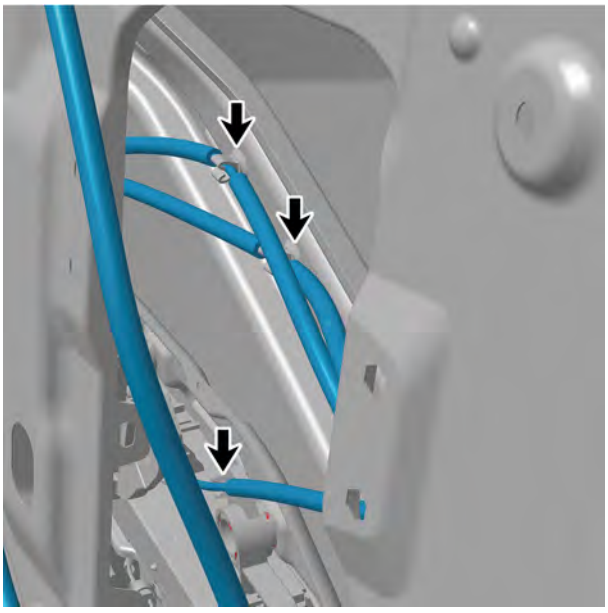
12 Disengage 5 clips of the rear lock assembly.



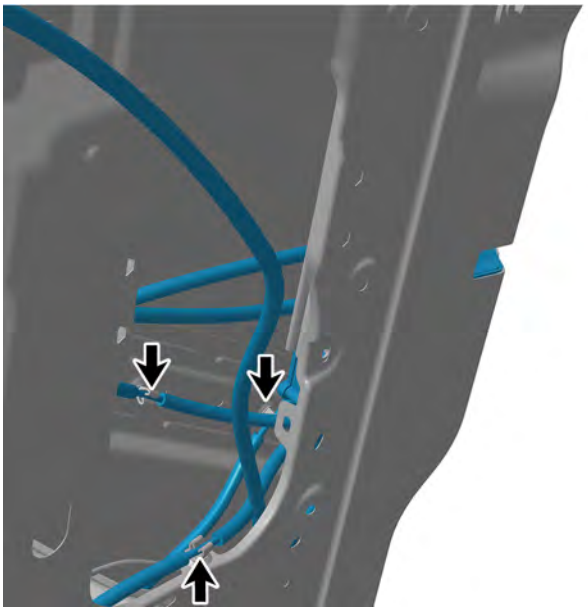


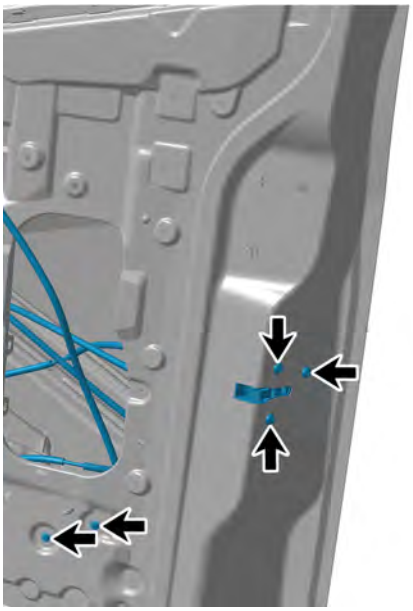
13 Disengage 4 cables of the rear lock assembly.





14 Disengage 6 clips of the rear lock assembly.



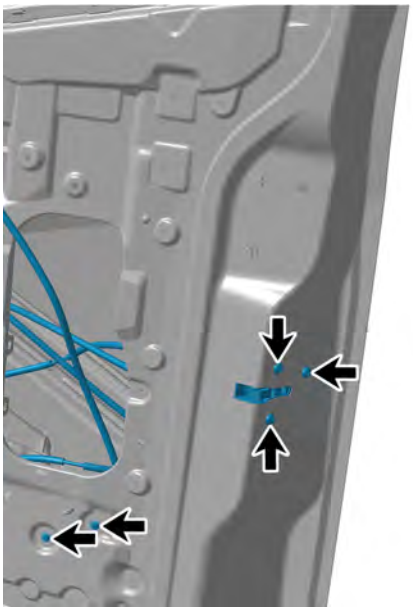


15 Remove 3 fixing screws of the rear lock assembly.

16 Remove 2 fixing bolts of the rear lock assembly.

17 Remove the rear lock assembly.

Installation Procedures

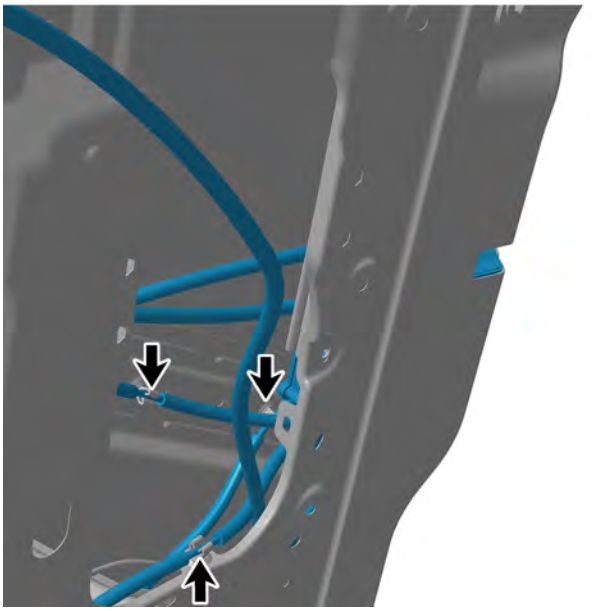


1 Move the rear lock assembly to the mounting position.

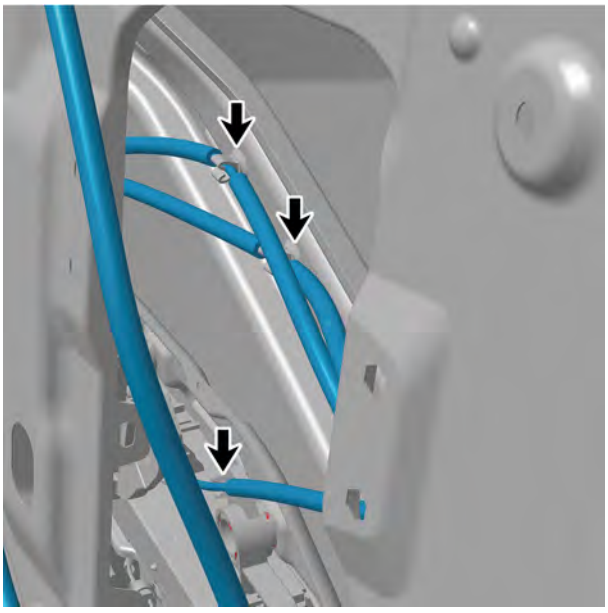
2 Install 2 fixing bolts of the rear lock assembly.

Torque:(6.5 +/- .75) ft lbs

3 Install 3 fixing screws of the rear lock assembly.

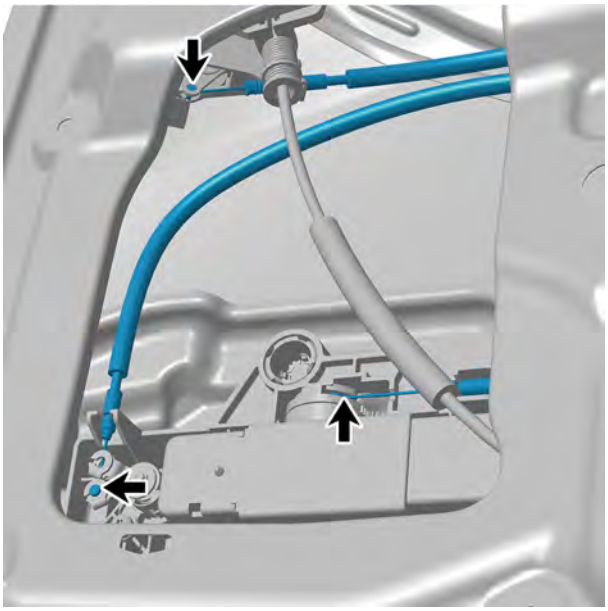


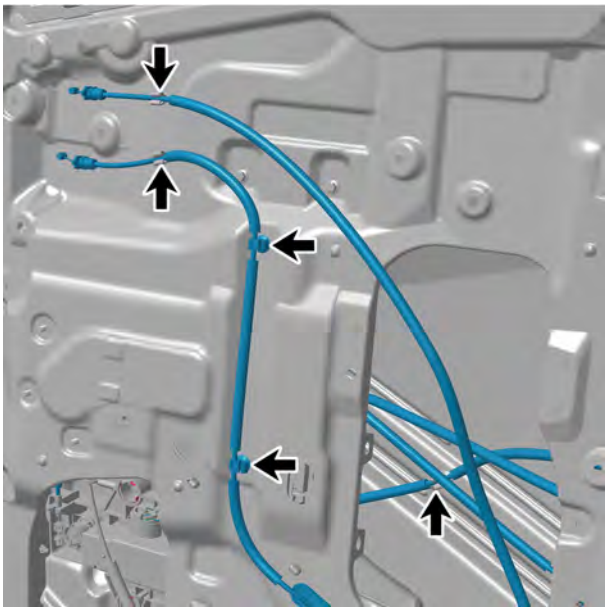
4 Install 6 clips of the rear lock assembly.



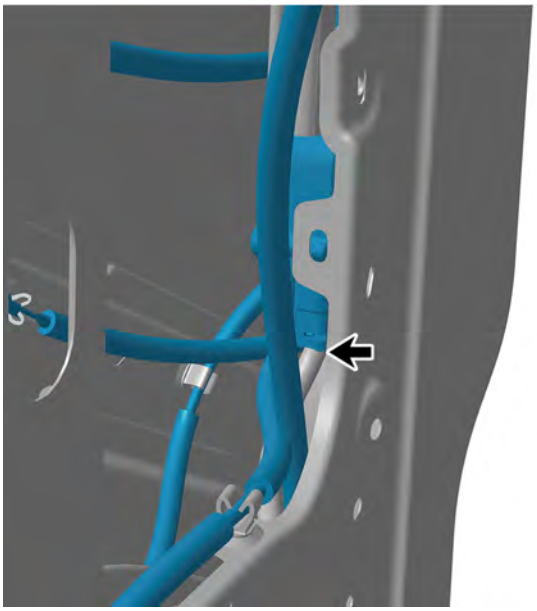


5 Connect 4 cables of the rear lock assembly.





6 Install 5 clips of the rear lock assembly.



7 Connect 1 harness connector of the rear lock assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

8 Install the ground lock assembly.

9 Install the hidden outside handle assembly.

10 Install the door inside handle assembly.

11 Install the right body waterproof membrane (II).

12 Install the right body waterproof membrane (I).

13 Install the door protective plate assembly.

14 Install the cable cover plate.

15 Connect the battery negative cable.

16 Close the front flip cover plate.

17 Close the door.

6.31.5.3 Replacement of Front Lock Assembly

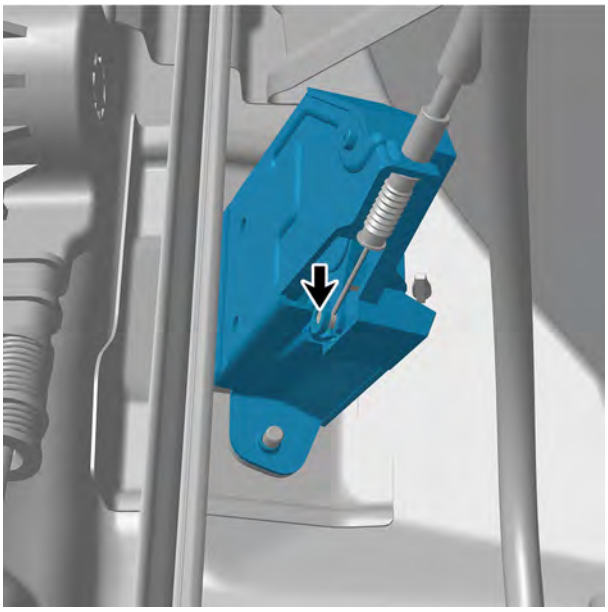
Removal Procedures

1 Open the door.

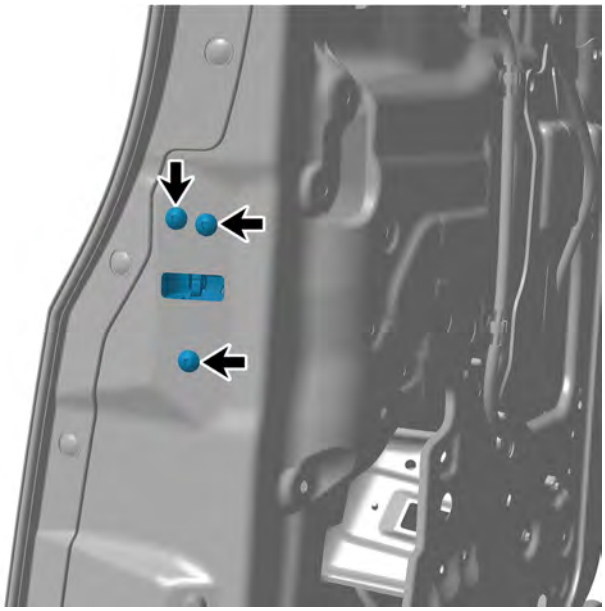
2 Remove the cable cover plate.

3 Remove the door protective plate assembly.

4 Remove the right body waterproof membrane (II).



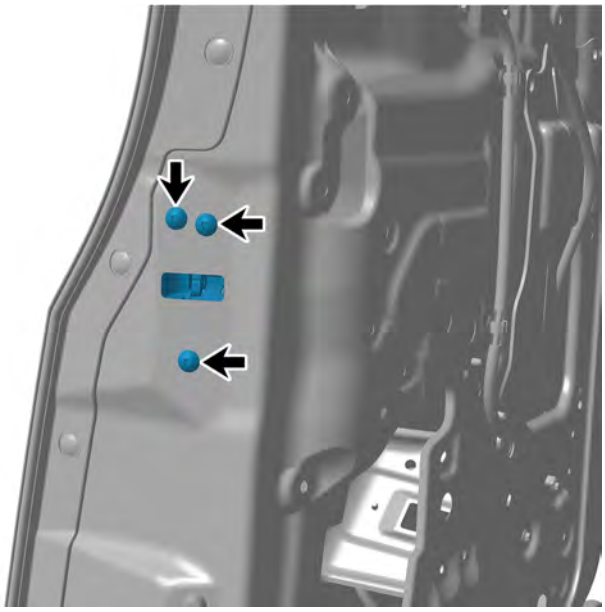
5 Disengage 1 cable of the front lock assembly.



6 Remove 3 fixing screws of the front lock assembly.

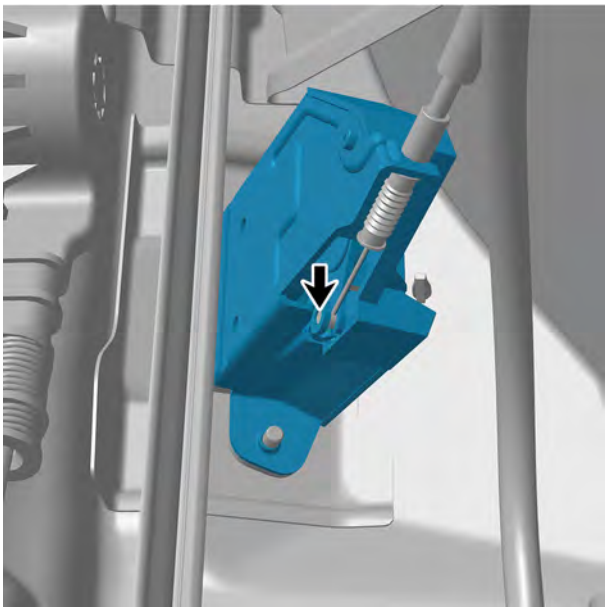
7 Remove the front lock assembly.

Installation Procedures



1 Move the front lock assembly to the mounting position.

2 Install 3 fixing screws of the front lock assembly.



3 Connect 1 cable of the front lock assembly.

4 Install the right body waterproof membrane (II).

5 Install the door protective plate assembly.

6 Install the cable cover plate.

7 Close the door.

6.31.5.4 Replacement of Sliding Door Driver Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right sill molding assembly.

5 Remove the door opening sealing strip assembly.

6 Remove the safety hammer fixing bracket.

7 Remove the rear boarding handrail assembly.

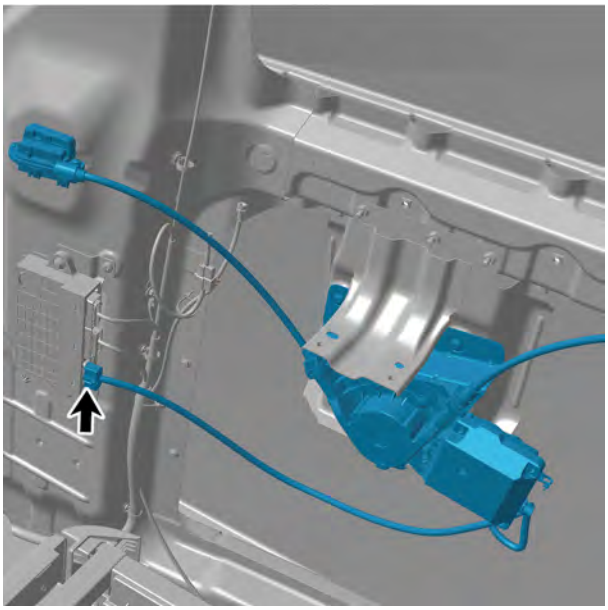
8 Remove the SSM.

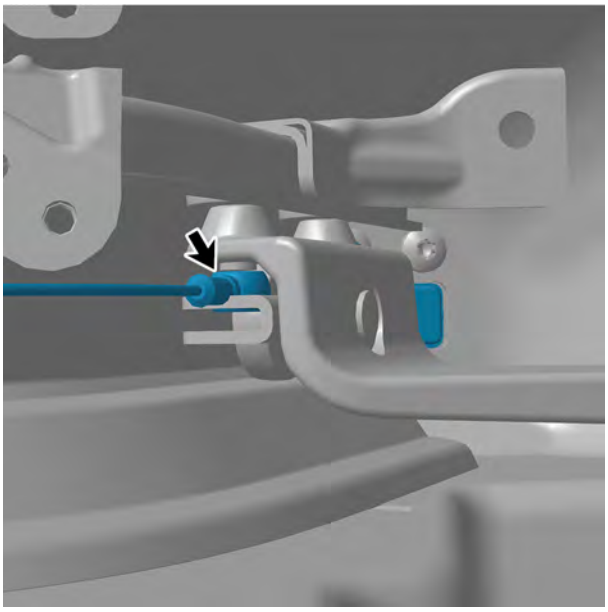
9 Remove the right rear side wall protective plate assembly.

10 Remove the right side wall slide rail cover plate assembly.

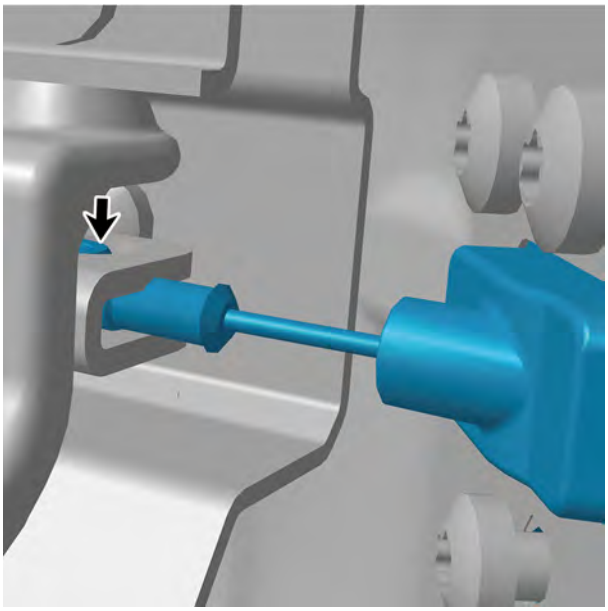
11 Remove the right side wall slide rail end cover plate assembly.

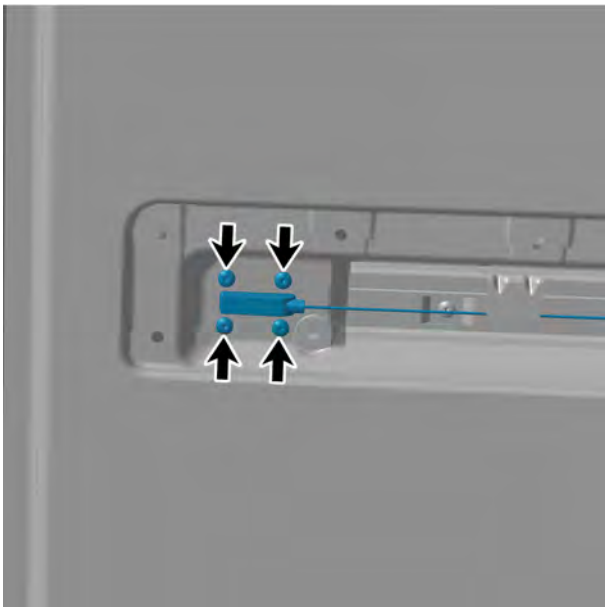
12 Disconnect 1 harness connector of the sliding door driver assembly.



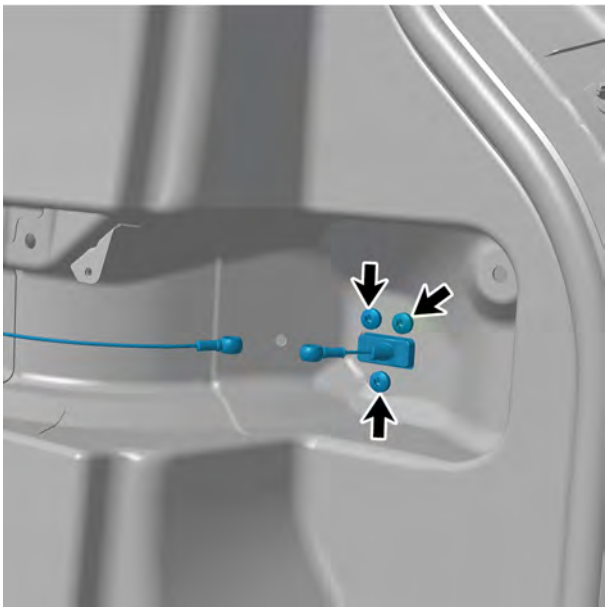


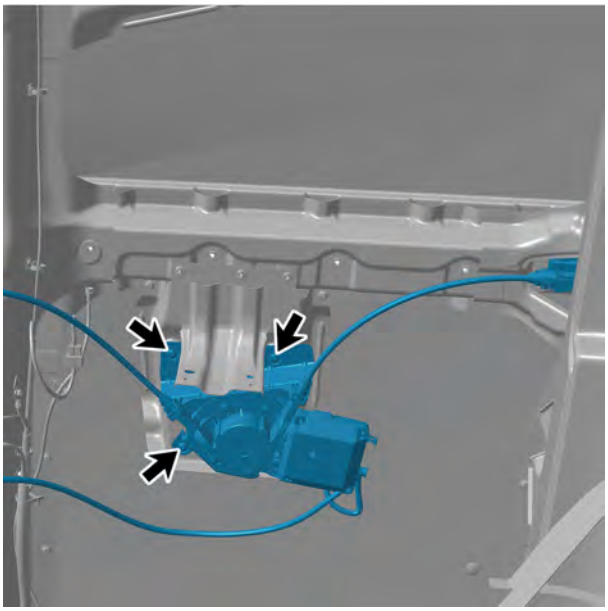
13 Disengage 2 cables of the sliding door driver assembly.





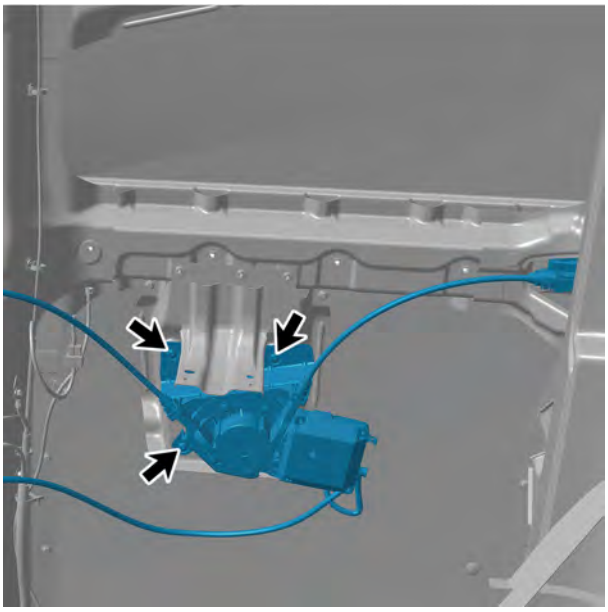
14 Remove 4 fixing screws of the sliding door driver assembly.

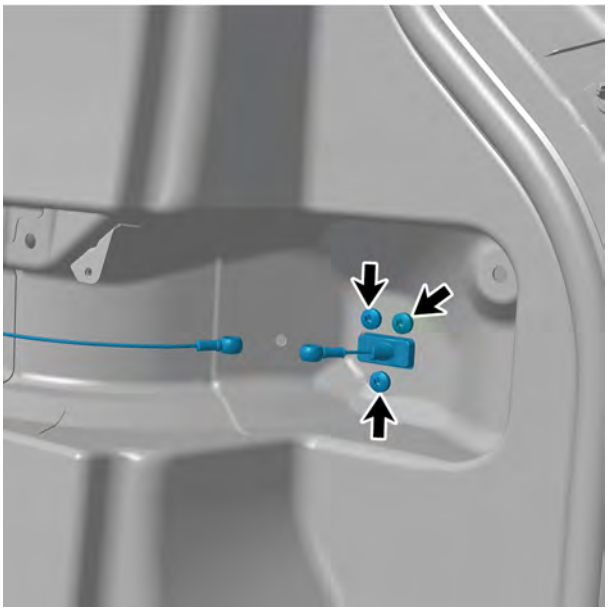




15 Remove 6 fixing screws of the sliding door driver assembly, and remove the sliding door driver assembly.

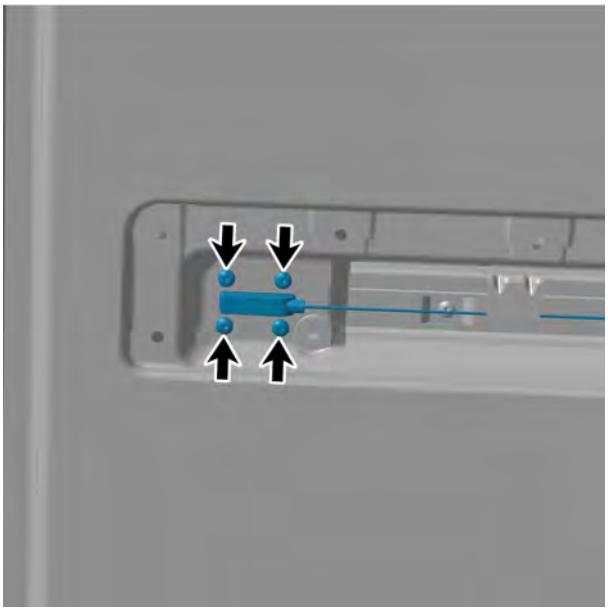
Installation Procedures



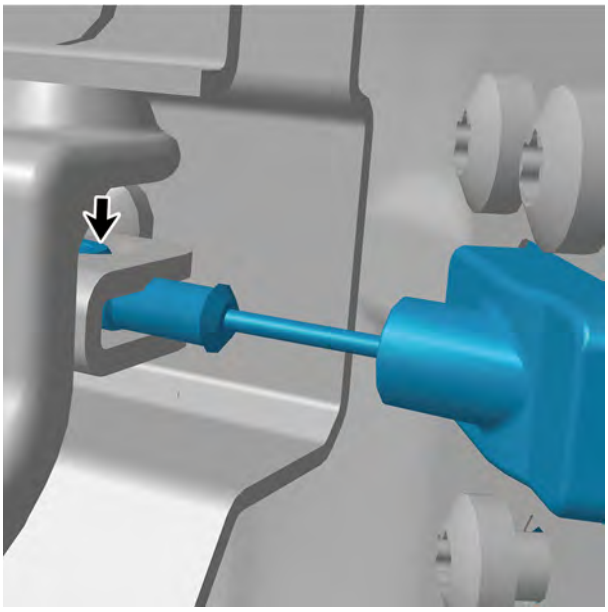


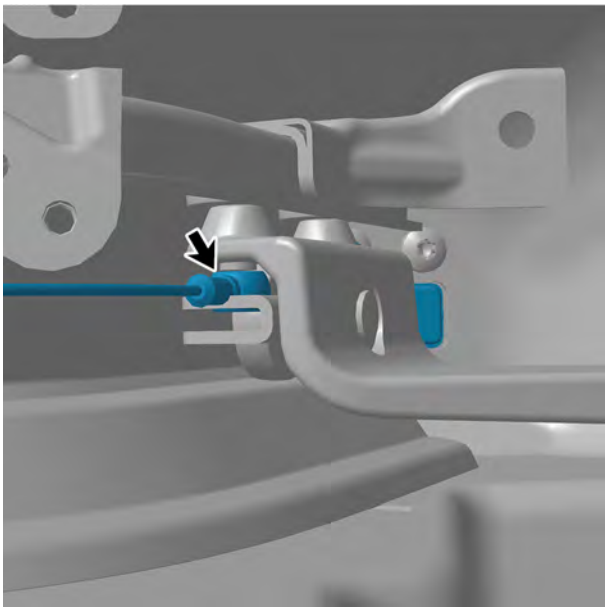
1 Move the sliding door driver assembly to the mounting position.

2 Install 6 fixing screws of the sliding door driver assembly.

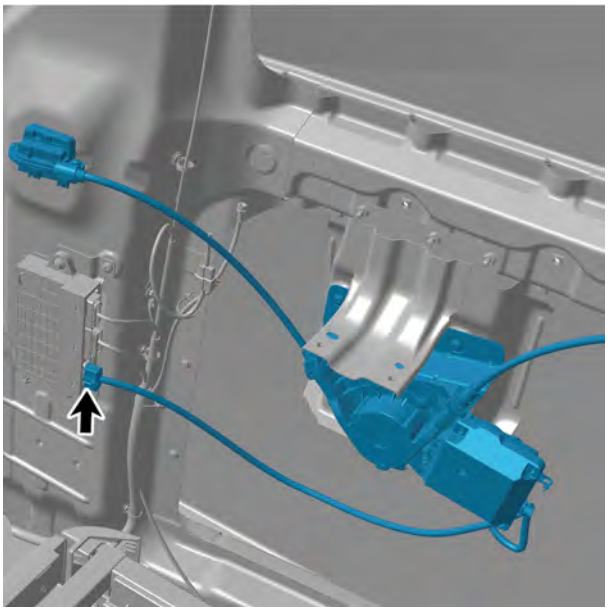


3 Install 4 fixing screws of the sliding door driver assembly.





4 Connect 2 cables of the sliding door driver assembly.



5 Connect 1 harness connector of the sliding door driver assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

6 Install the right side wall slide rail end cover plate assembly.

7 Install the right side wall slide rail cover plate assembly.

8 Install the right rear side wall protective plate assembly.

9 Install the SSM.

10 Install the rear boarding handrail assembly.

11 Install the safety hammer fixing bracket.

12 Install the door opening sealing strip assembly.

13 Install the right sill molding assembly.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

6.31.5.5 Replacement of Lock Cylinder Assembly

Removal Procedures

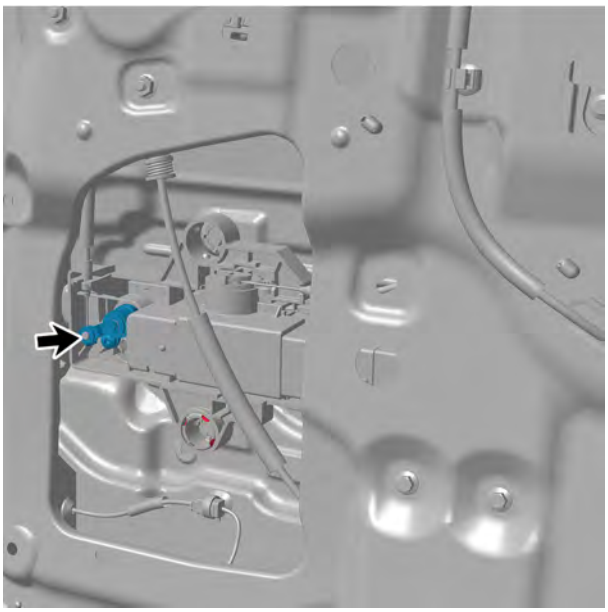
1 Open the door.

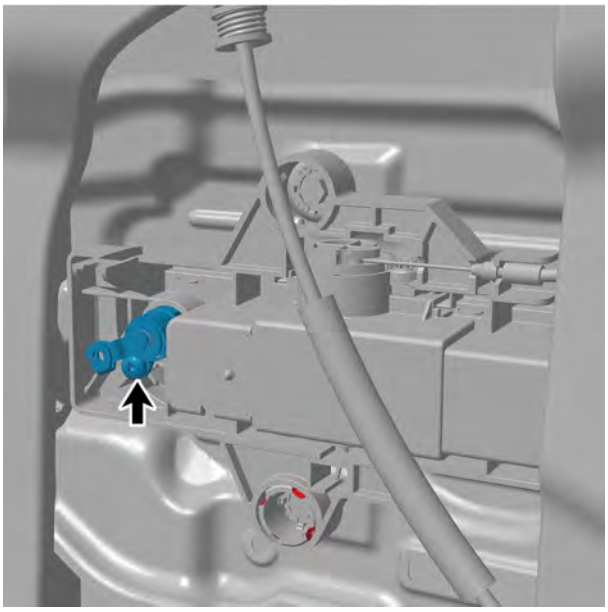
2 Remove the cable cover plate.

3 Remove the door protective plate assembly.

4 Remove the right body waterproof membrane (II).

5 Disengage 1 cable of the lock cylinder assembly.

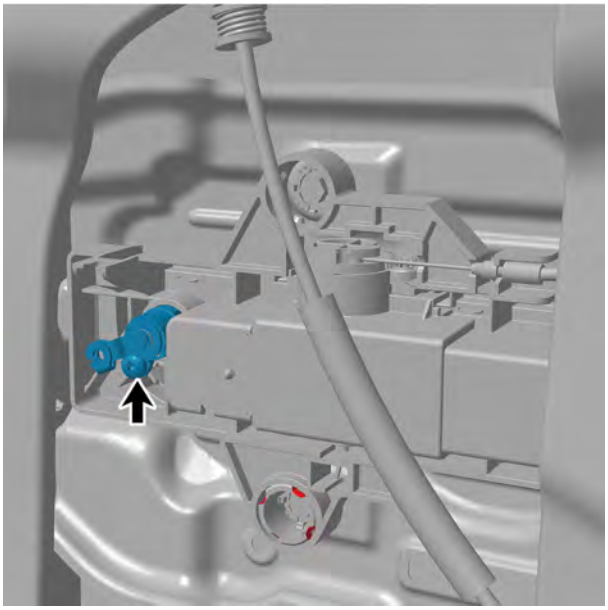




6 Remove 1 fixing screw of the lock cylinder assembly.

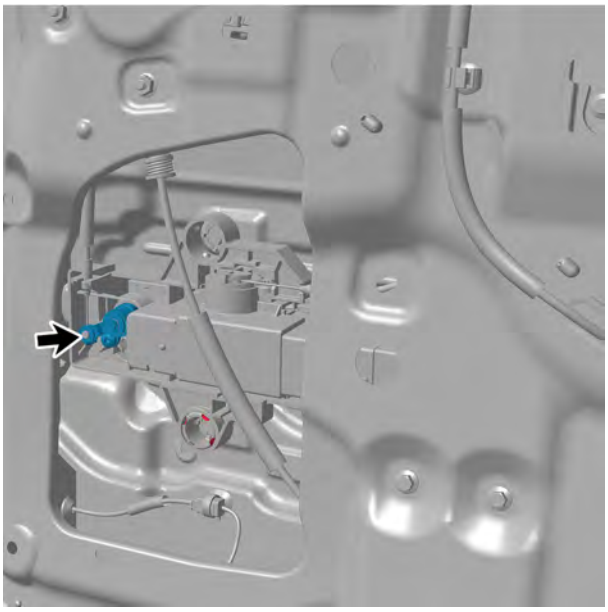
7 Remove the lock cylinder assembly.

Installation Procedures



1 Move the lock cylinder assembly to the mounting position.

2 Install 1 fixing screw of the lock cylinder assembly.



3 Connect 1 cable of the lock cylinder assembly.

4 Install the right body waterproof membrane (II).

5 Install the door protective plate assembly.

6 Install the cable cover plate.

7 Close the door.

6.31.5.6 Replacement of Ground Lock Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

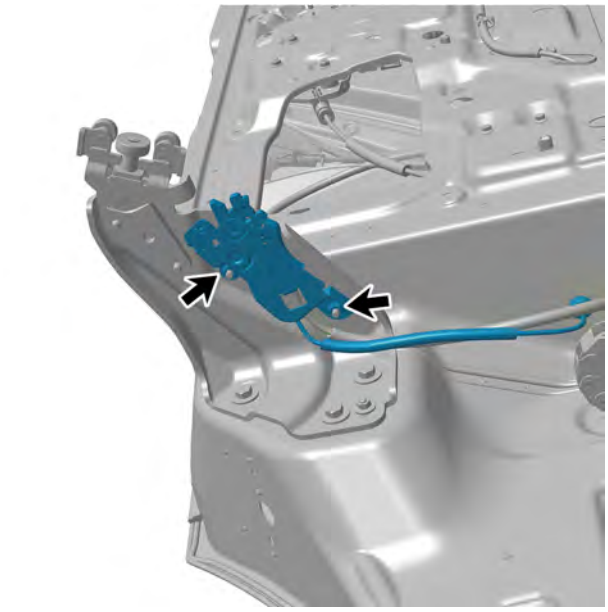
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

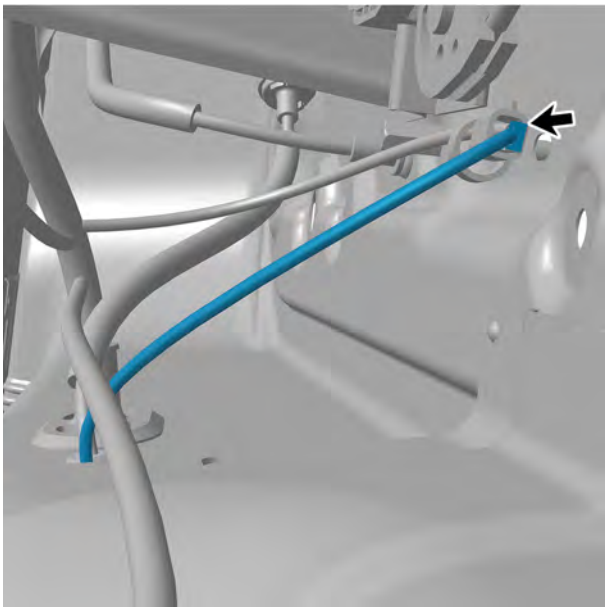
4 Remove the cable cover plate.

5 Remove the door protective plate assembly.

6 Remove the right body waterproof membrane (II).



7 Remove 2 fixing nuts of the ground lock assembly.



8 Disconnect 1 harness connector of the ground lock assembly.

9 Disengage 1 cable of the ground lock assembly.

10 Remove the ground lock assembly.

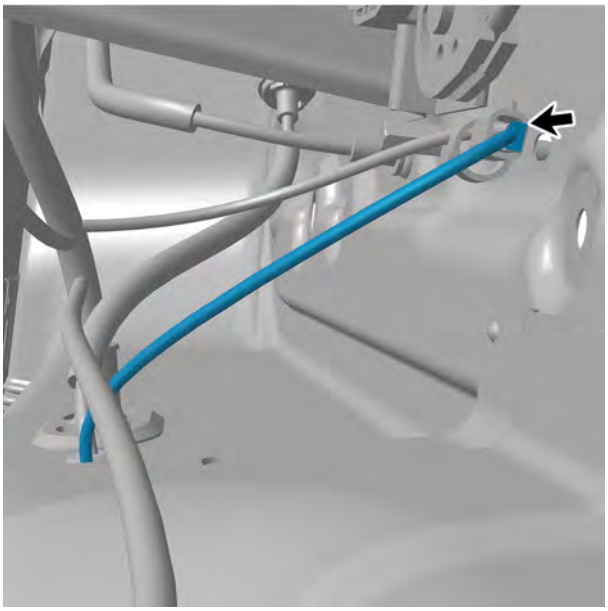


Installation Procedures

1 Move the ground lock assembly to the mounting position.

2 Connect 1 cable of the ground lock assembly.

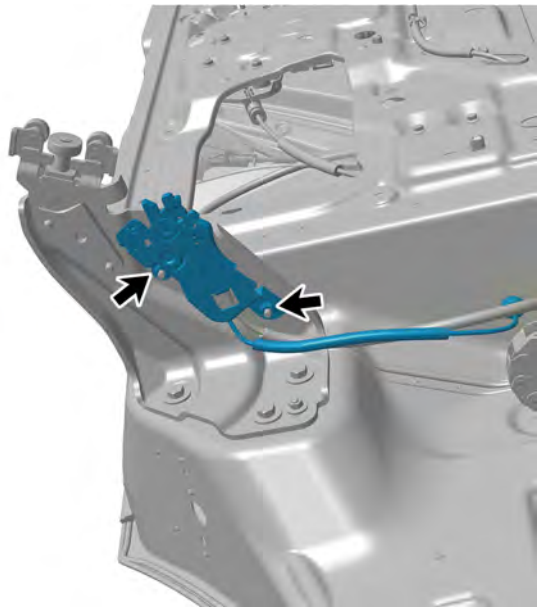




3 Connect 1 harness connector of the ground lock assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



4 Install 2 fixing nuts of the ground lock assembly.

Torque:(6.5 +/- .75) ft lbs

5 Install the right body waterproof membrane (II).

6 Install the door protective plate assembly.

7 Install the cable cover plate.

8 Connect the battery negative cable.

9 Close the front flip cover plate.

10 Close the door.

6.31.5.7 Replacement of Ground Lock Catch Assembly

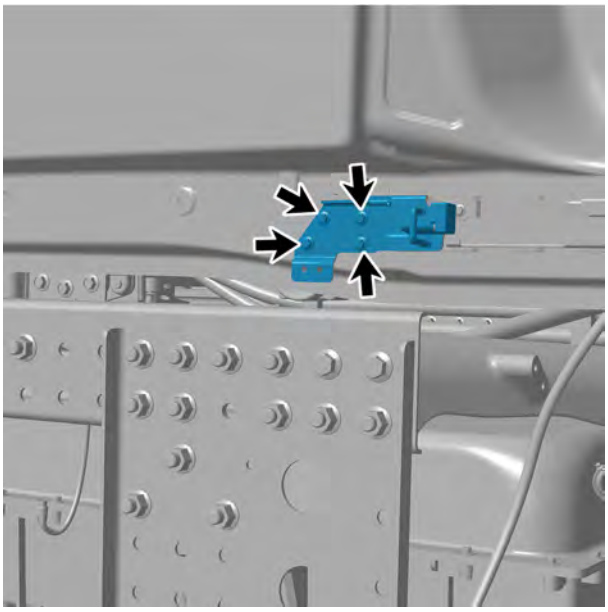
Removal Procedures

1 Open the door.

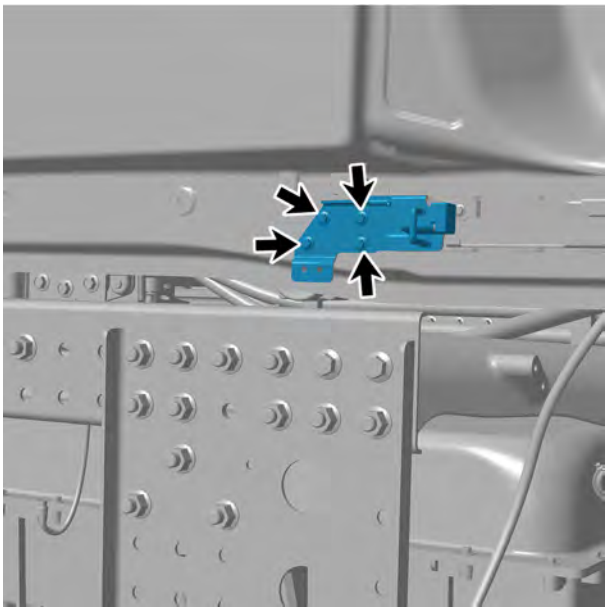
2 Remove the right side wall lower trim panel assembly.

3 Remove 4 fixing bolts of the ground lock catch assembly.

4 Remove the ground lock catch assembly.



Installation Procedures



1 Move the ground lock catch assembly to the mounting position.

2 Install 4 fixing bolts of the ground lock catch assembly.

Torque: (6.5 +/- .75) ft lbs

3 Attach the right side wall lower trim panel assembly.

4 Close the door.

6.32 Door Hinge Device

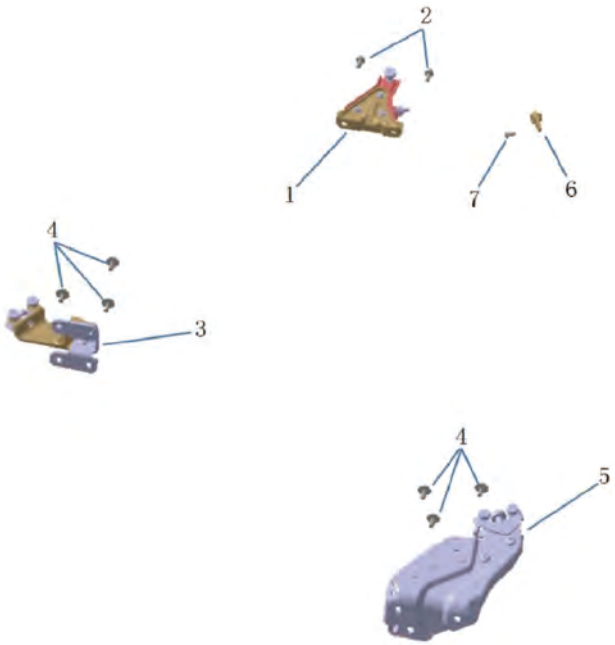
6.32.1 Specifications

6.32.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts between the upper hinge assembly and the sliding door inner panel assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the middle hinge assembly and the sliding door inner panel assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the lower chain assembly and the sliding door inner panel assembly	M8	(18.5 +/- 2) ft lbs
The fixing nut connecting the lower hinge assembly and the ground lock assembly	M6	(6.5 +/- .75) ft lbs

6.32.2 Decomposition Diagram

6.32.2.1 Decomposition Diagram



1. Hinge Assy Upr
2. Hexagon Flange Bolt
3. Hinge Assy Mid
4. Hexagon Head Bolt Assy
5. Hinge Assy Lwr
6. Upper Hinge Guide Pin Holder
7. Hex Socket Set Screw

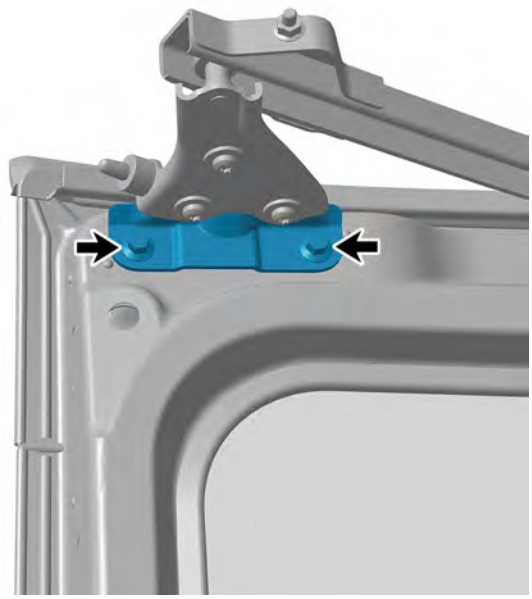
6.32.3 Dismantling and Installation

6.32.3.1 Replacement of Upper Hinge Assembly

Removal Procedures

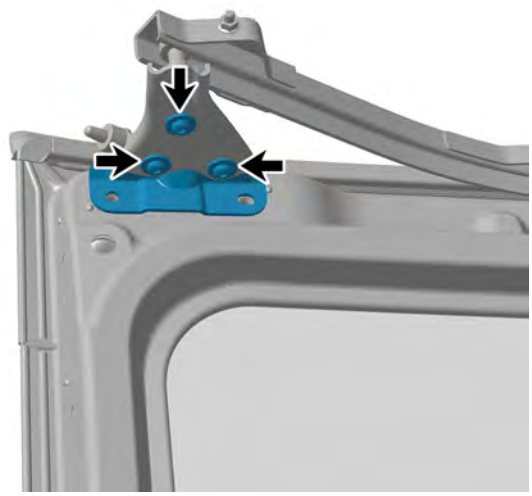
1 Open the door.

2 Remove 2 fixing bolts connecting the upper hinge assembly to the sliding door assembly.



3 Remove 3 fixing screws of the upper hinge assembly.

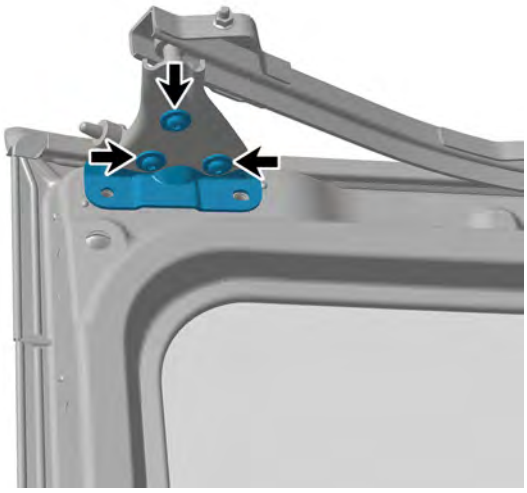
4 Remove the upper hinge assembly.

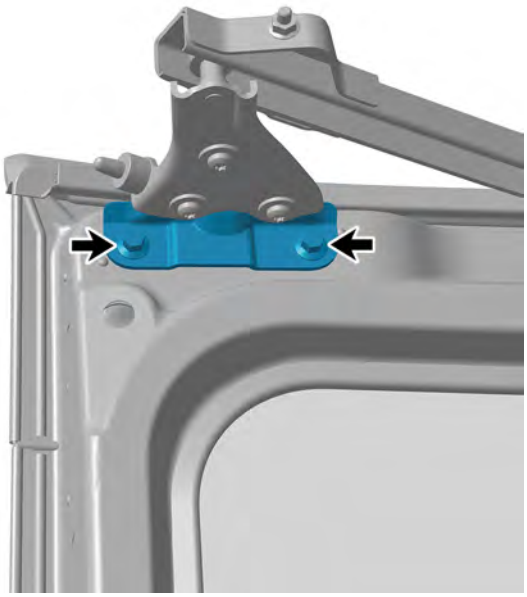


Installation Procedures

1 Move the upper hinge assembly to the mounting position.

2 Install 3 fixing screws of the upper hinge assembly.





3 Install 2 fixing bolts connecting the upper hinge assembly to the sliding door assembly.

Torque:(18.5 +/- 2) ft lbs

4 Close the door.

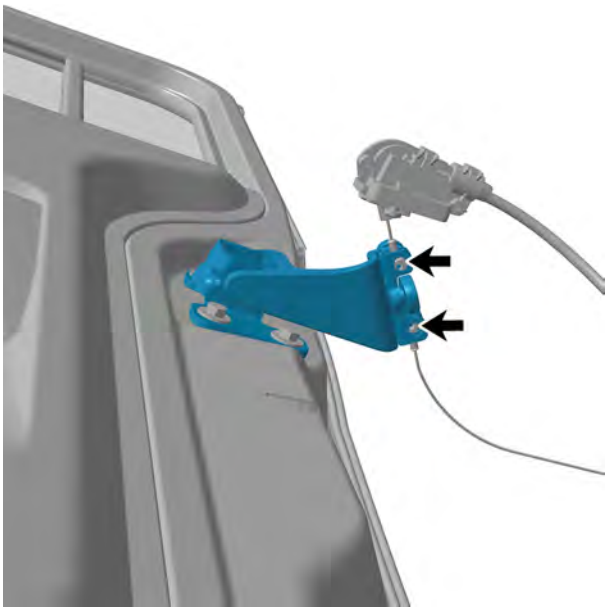
6.32.3.2 Replacement of Middle Hinge Assembly

Removal Procedures

1 Open the door.

2 Remove the right side wall slide rail cover plate assembly.

3 Remove the right side wall slide rail end cover plate assembly.



4 Separate the mingle hinge assembly from the sliding door driver assembly.



5 Remove 1 fixing nut connecting the middle hinge assembly to the sliding door assembly.



6 Remove 3 fixing bolts connecting the middle hinge assembly to the sliding door assembly.

7 Remove the middle hinge assembly.

Installation Procedures



1 Move the middle hinge assembly to the mounting position.

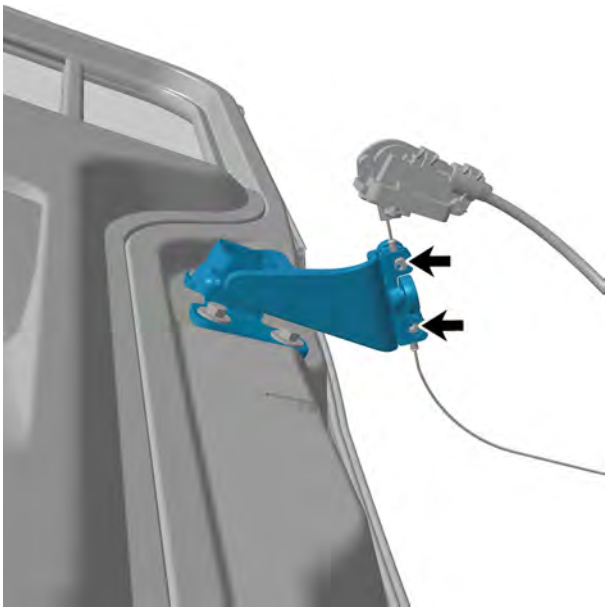
2 Install 3 fixing bolts connecting the middle hinge assembly to the sliding door assembly.

Torque:(18.5 +/- 2) ft lbs



3 Install 1 fixing nut connecting the middle hinge assembly to the sliding door assembly.

Torque: (18.5 +/- 2) ft lbs



4 Connect the mingle hinge assembly to the sliding door driver assembly.

5 Install the right side wall slide rail end cover plate assembly.

6 Install the right side wall slide rail cover plate assembly.

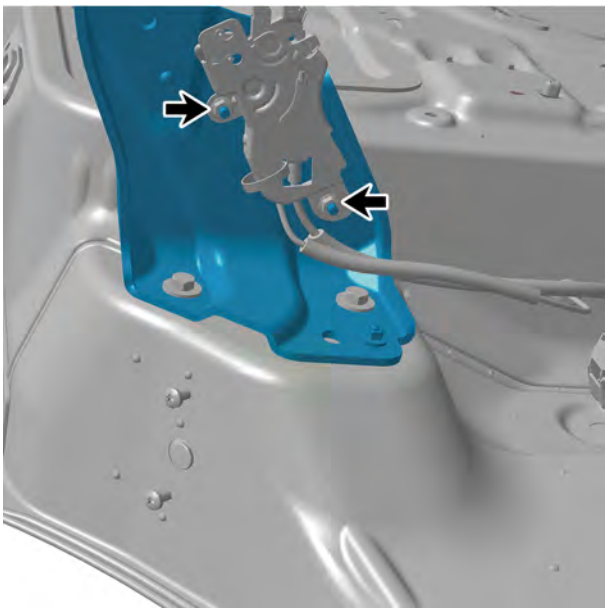
7 Close the door.

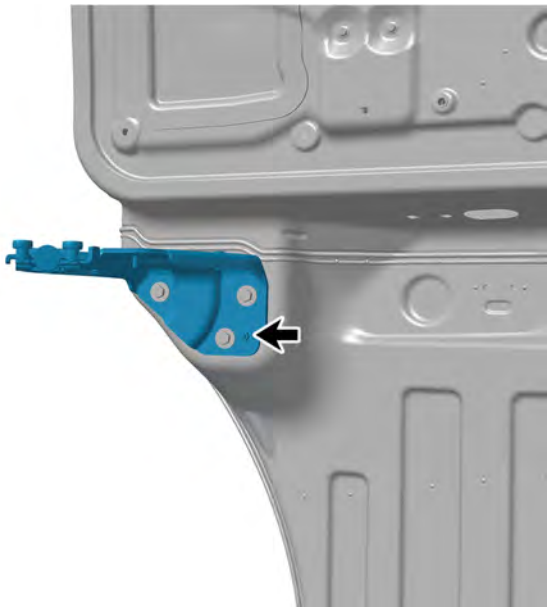
6.32.3.3 Replacement of Lower Hinge Assembly

Removal Procedures

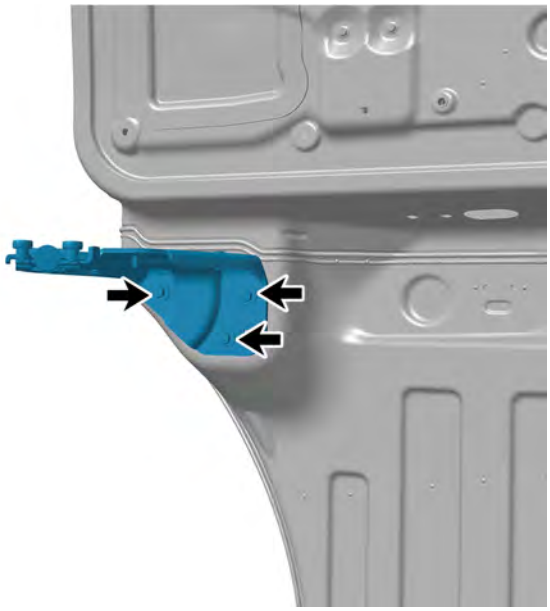
1 Open the door.

2 Remove 2 fixing nuts connecting the lower hinge assembly to the ground lock assembly.





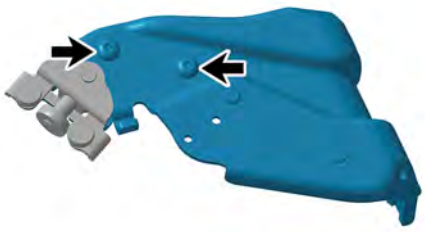
3 Remove 1 fixing nut connecting the lower hinge assembly to the sliding door assembly.



4 Remove 3 fixing bolts connecting the lower hinge assembly to the sliding door assembly.

5 Remove 2 fixing screws of the lower hinge assembly.

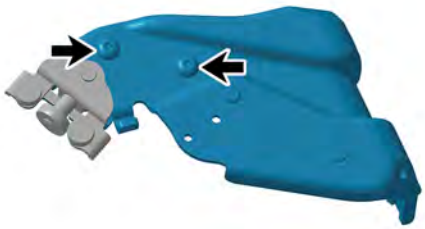
6 Remove the lower hinge assembly.

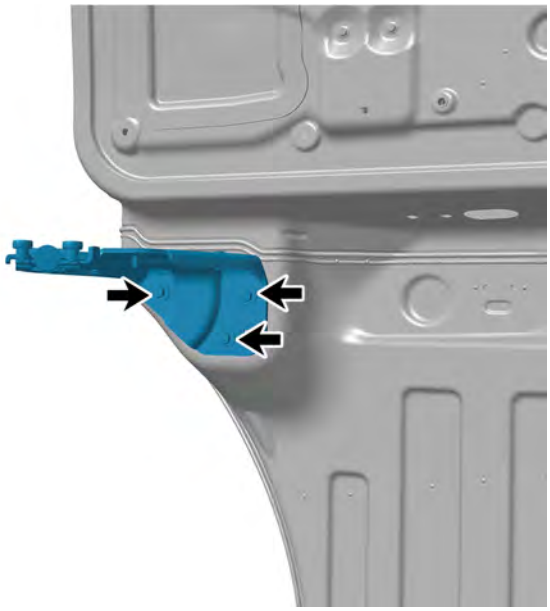


Installation Procedures

1 Move the lower hinge assembly to the mounting position.

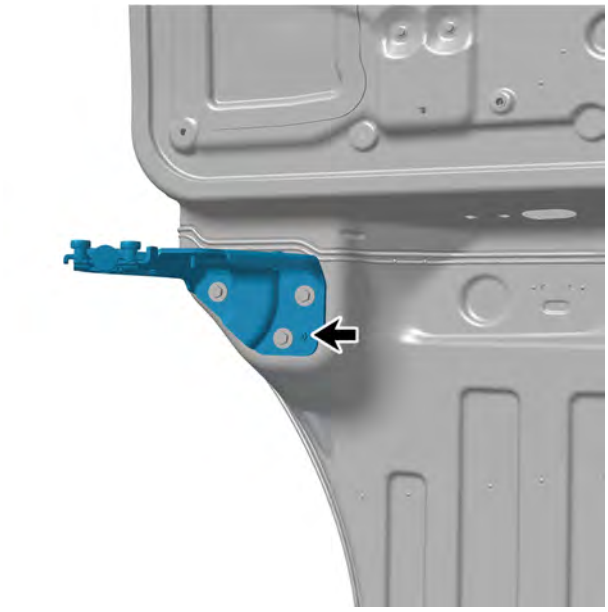
2 Install 2 fixing screws of the lower hinge assembly.





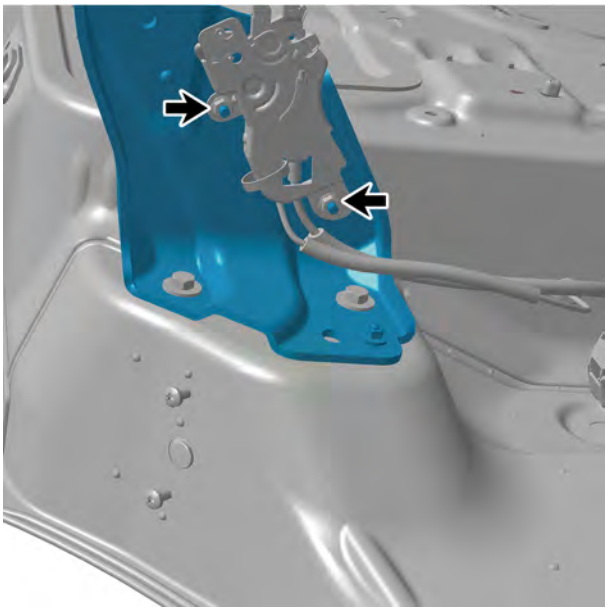
3 Install 3 fixing bolts connecting the lower hinge assembly to the sliding door assembly.

Torque: (18.5 +/- 2) ft lbs



4 Install 1 fixing nut connecting the lower hinge assembly to the sliding door assembly.

Torque: (18.5 +/- 2) ft lbs



5 Install 2 fixing nuts connecting the lower hinge assembly to the ground lock assembly.

Torque: (6.5 +/- .75) ft lbs

6 Close the door.

6.33 Vehicle Body Sealing Device

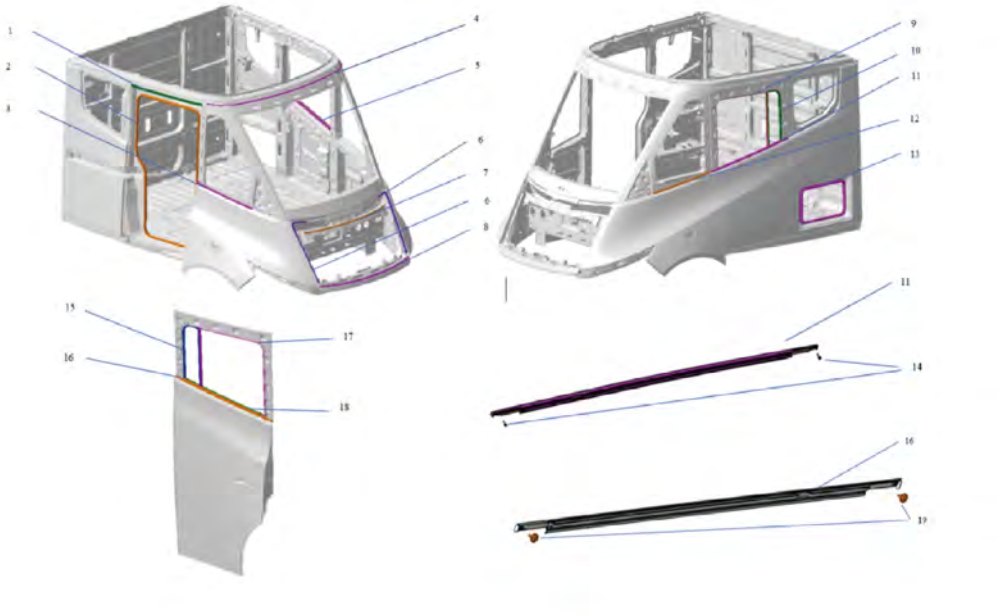
6.33.1 Specifications

6.33.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the left window regulator assembly and the left window regulator assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the right window regulator assembly and the right window regulator assembly	M6	(6.5 +/- .75) ft lbs

6.33.2 Decomposition Diagram

6.33.2.1 Decomposition Diagram



1. Seal Door Waist Upr
2. Door Opening Sealing Strip
3. Seal Fender-Rh
4. Top Sealing Strip
5. Waist Inr Assy-Lh
6. Sealing Strip-Cabin Lh Frt
7. Engine Hood Seal-Rr
8. Engine Hood Seal Fr Assy
9. Seal Glass Run Assy-Lh
10. Fixed Window Seal-Lh
11. Waist Otr Assy-Lh
12. Seal Fender-Lh
13. Seal Toolbox
14. Self-Tapping Screw
15. Fixed Window Seal-Rh
16. Waist Otr Assy-Rh
17. Seal Glass Run Assy-Rh
18. Waist Inr Assy-Rh
19. Combination of Cross Recessed Pan Head Screws and Large Washers

6.33.3 Dismantling and Installation

6.33.3.1 Replacement of Left Outer Weatherstrip Assembly

Removal Procedures

1 Open the door.

2 Lower all windows.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the IP left upper trim panel assembly.

6 Remove the left A-pillar protective plate assembly.

7 Remove the left front side wall protective plate assembly.

8 Remove the front USB interface.

9 Remove the IP left access cover plate assembly.

10 Remove the left switch panel assembly.

11 Remove the left switch panel lower trim panel assembly.

12 Remove the IP left lower trim panel assembly.

13 Remove the left middle side wall lower trim panel assembly.

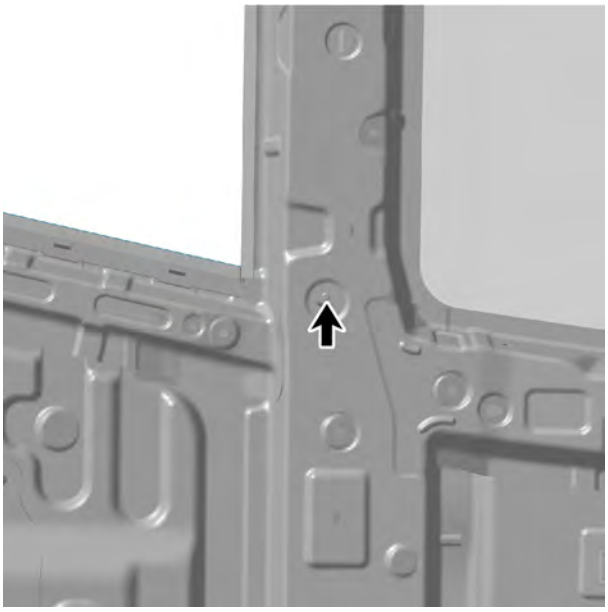
14 Remove the left middle side wall middle trim panel assembly.

15 Remove the left B-pillar upper protective plate assembly.

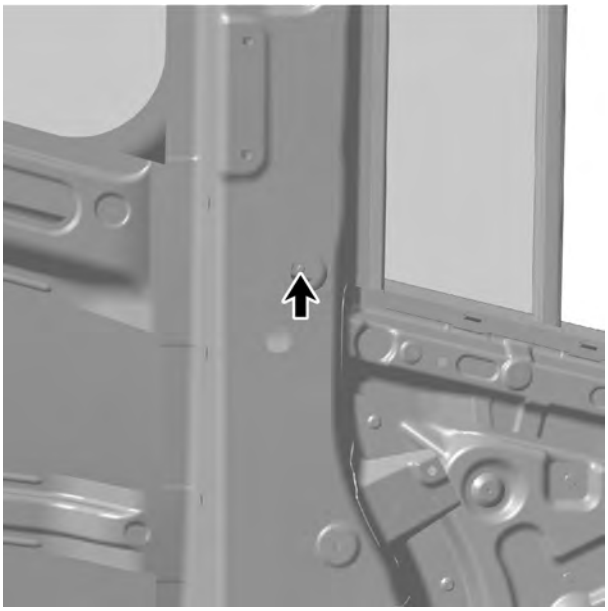
16 Remove the left middle side wall protective plate assembly.

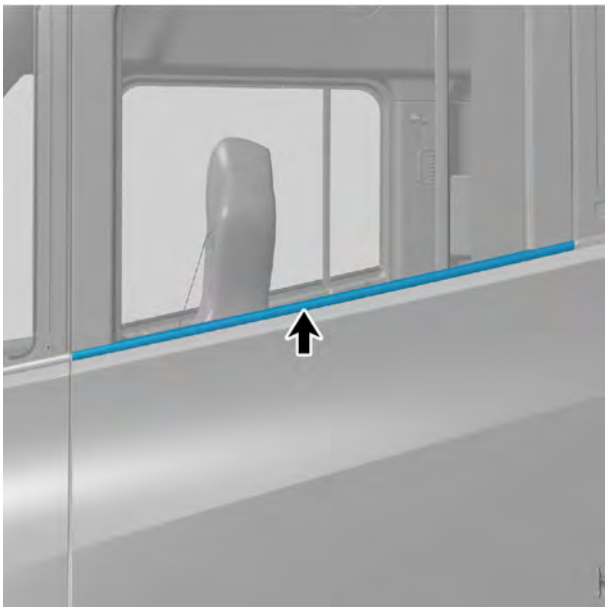
17 Remove the side wall clothes rail assembly.

18 Remove the left rear side wall protective plate assembly.



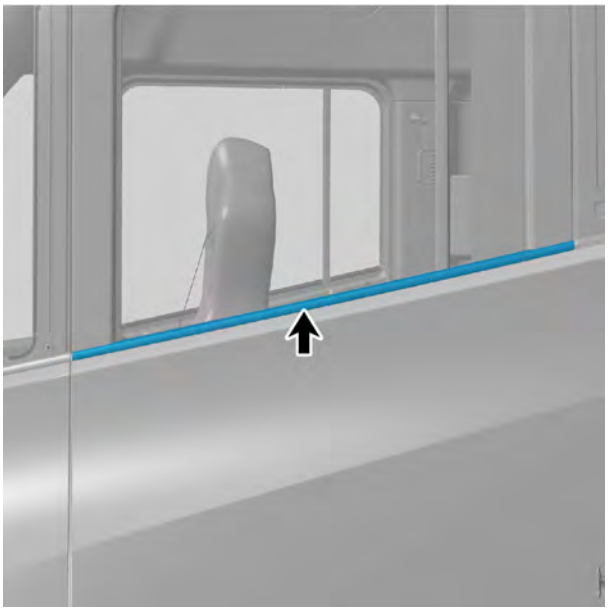
19 Remove 2 fixing screws of the left outer weatherstrip assembly.



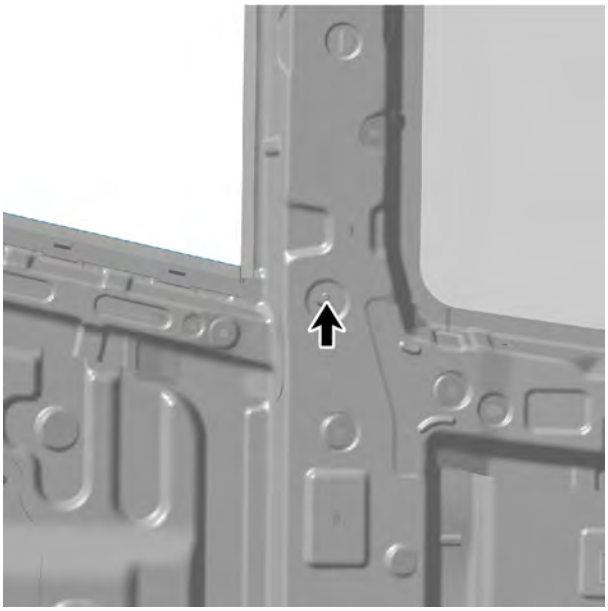


20 Remove the left outer weatherstrip assembly.

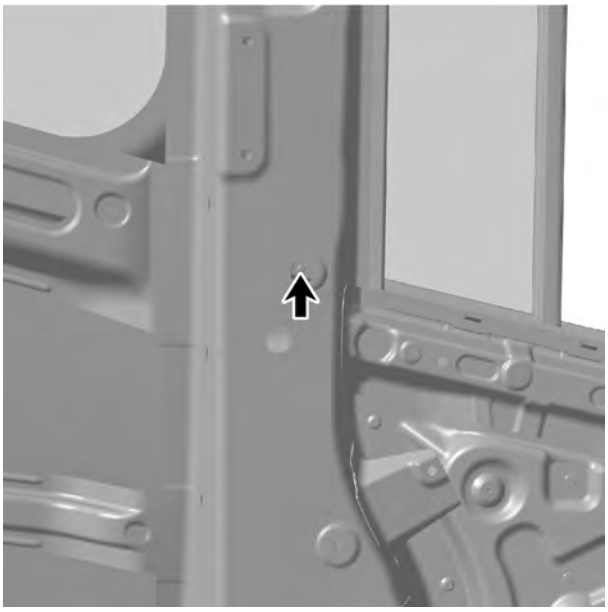
Installation Procedures



1 Move the left outer weatherstrip assembly to the mounting position.



2 Install 2 fixing screws of the left outer weatherstrip assembly.



3 Install the left rear side wall protective plate assembly.

4 Install the side wall clothes rail assembly.

5 Install the left middle side wall protective plate assembly.

6 Install the left B-pillar upper protective plate assembly.

7 Install the left middle side wall middle trim panel assembly.

8 Install the left middle side wall lower trim panel assembly.

9 Install the IP left lower trim panel assembly.

10 Install the left switch panel lower trim panel assembly.

11 Install the left switch panel assembly.

12 Install the IP left access cover plate assembly.

13 Install the front USB interface.

14 Install the left front side wall protective plate assembly.

15 Install the left A-pillar protective plate assembly.

16 Install the IP left upper trim panel assembly.

17 Connect the battery negative cable.

18 Close the front flip cover plate.

19 Lift all windows.

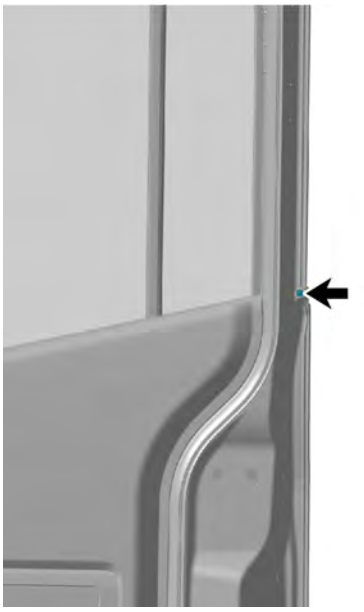
20 Close the door.

6.33.3.2 Replacement of Right Outer Weatherstrip Assembly

Removal Procedures

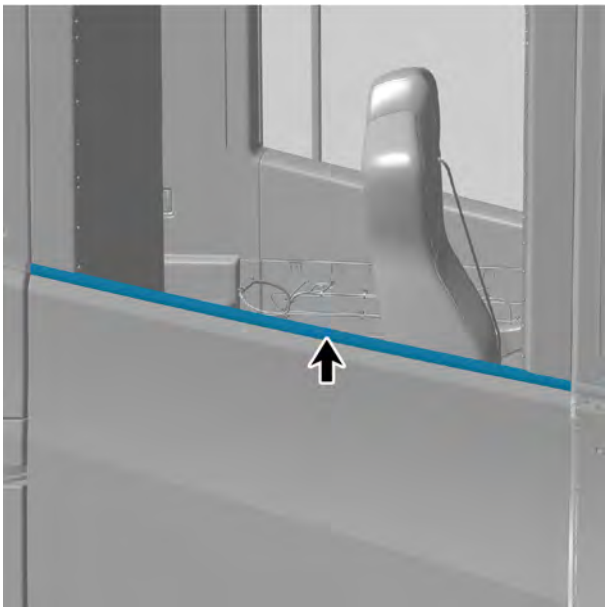
1 Open the door.

2 Lower all windows.



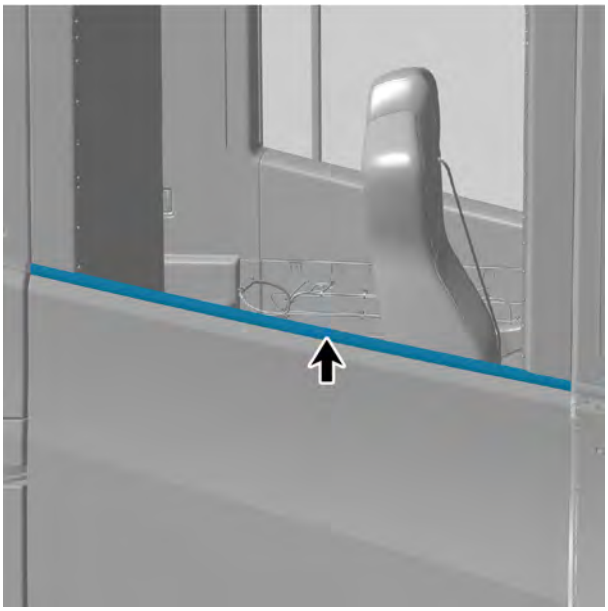
3 Remove 2 fixing screws of the right outer weatherstrip assembly.



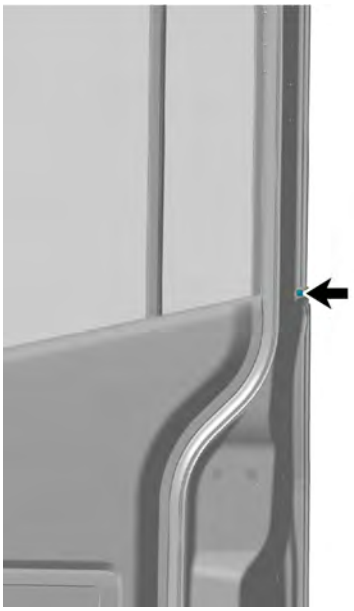


4 Remove the right outer weatherstrip assembly.

Installation Procedures



1 Move the right outer weatherstrip assembly to the mounting position.



2 Install 2 fixing screws of the right outer weatherstrip assembly.



3 Lift all windows.

4 Close the door.

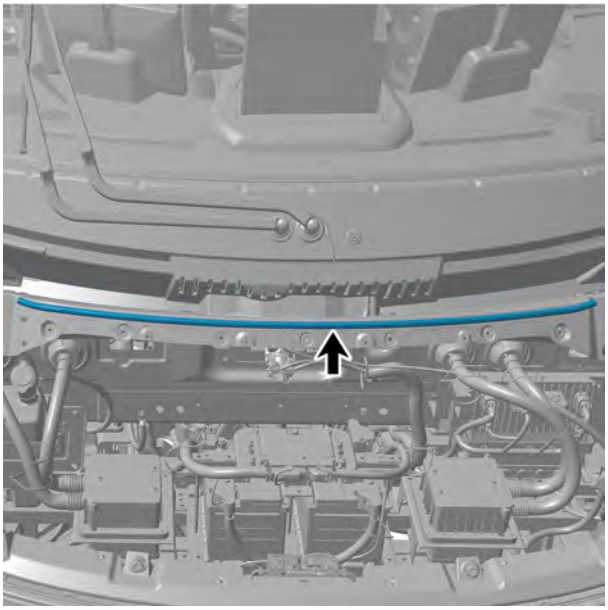
6.33.3.3 Replacement of Engine Compartment Rear Sealing Strip Assembly

Removal Procedures

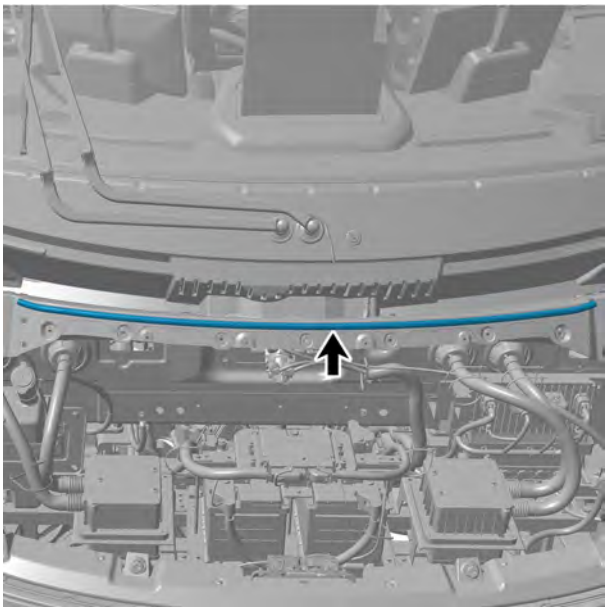
1 Open the door.

2 Open the front flip cover plate.

3 Remove the engine compartment rear sealing strip assembly.



Installation Procedures



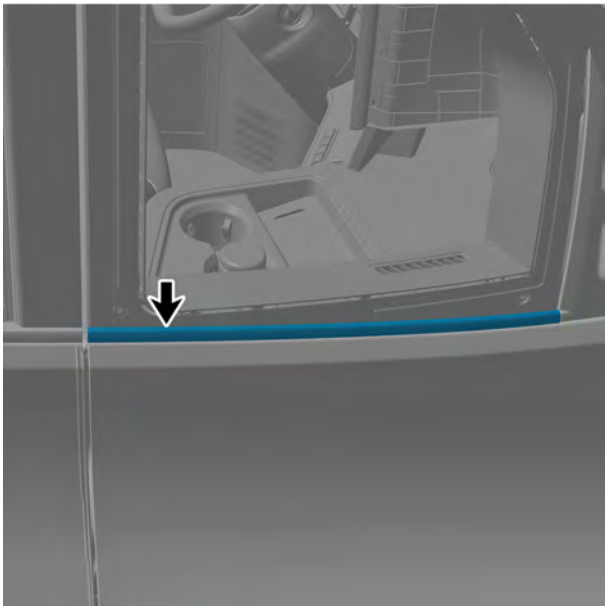
1 Install the engine compartment rear sealing strip assembly.

2 Close the front flip cover plate.

3 Close the door.

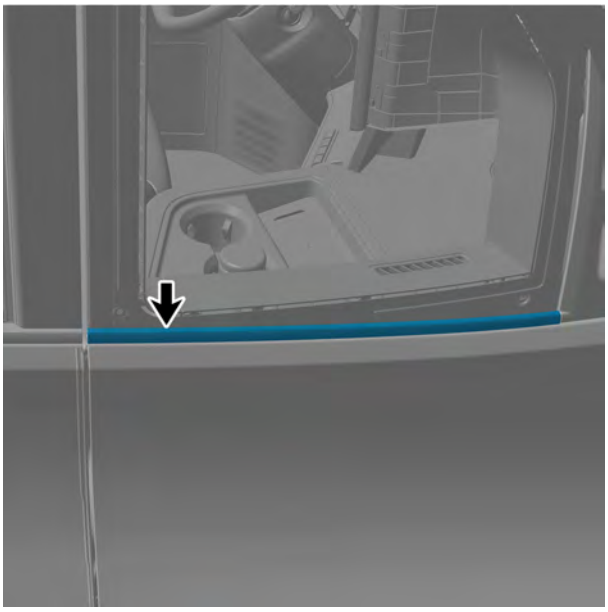
6.33.3.4 Replacement of Right Fender Trim Strip

Removal Procedures



1 Remove the right fender trim strip.

Installation Procedures



1 Install the right fender trim strip.

6.33.3.5 Replacement of Left Glass Run Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the front USB interface.

6 Remove the IP left access cover plate assembly.

7 Remove the left switch panel assembly.

8 Remove the left switch panel lower trim panel assembly.

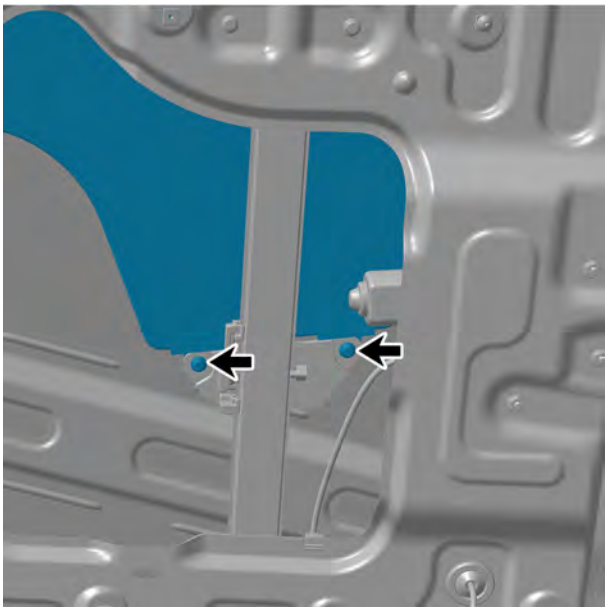
9 Remove the IP left lower trim panel assembly.

10 Remove the left middle side wall lower trim panel assembly.

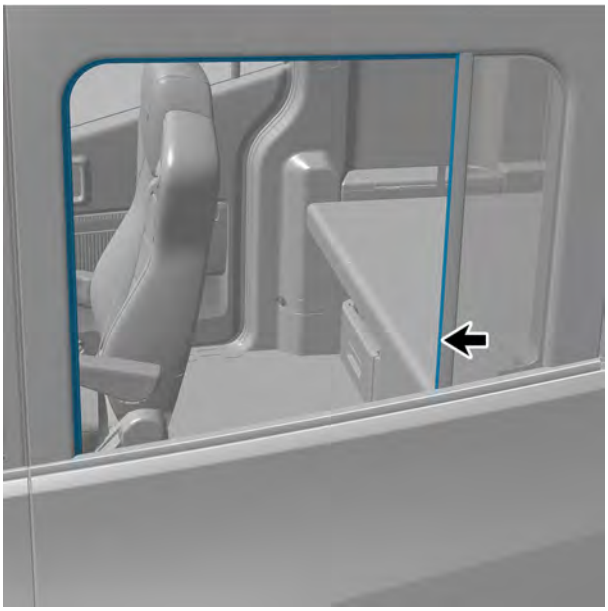
11 Remove the left middle side wall middle trim panel assembly.

12 Remove the left body waterproof membrane (I).

13 Remove the window regulator left lower mounting rail assembly.



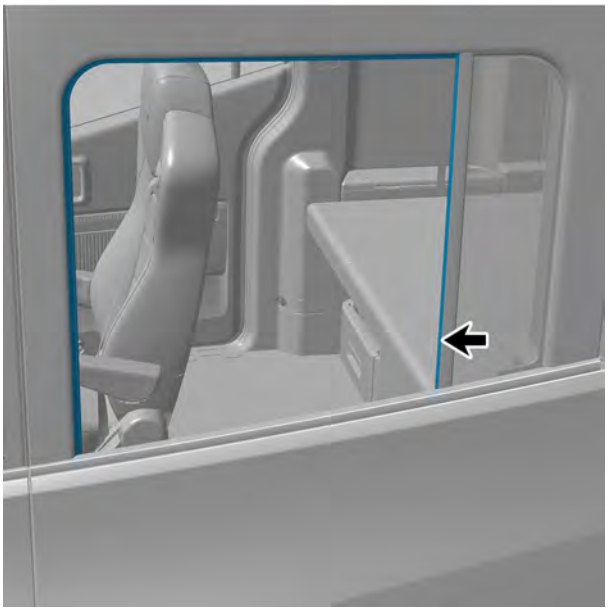
14 Remove 2 fixing bolts connecting the left adjustable window assembly to the left window regulator assembly.



15 Move the left adjustable window assembly to the lowest position.

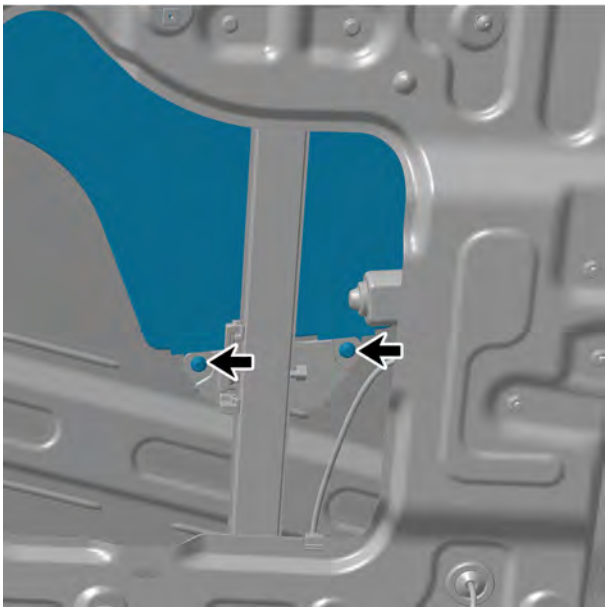
16 Remove the left glass run assembly.

Installation Procedures



1 Install the left glass run assembly.

2 Move the left adjustable window assembly to the highest position.



3 Install 2 fixing bolts connecting the left adjustable window assembly to the left window regulator assembly.
Torque: (6.5 +/- .75) ft lbs

4 Install the window regulator left lower mounting rail assembly.

5 Install the left body waterproof membrane (I).

6 Install the left middle side wall middle trim panel assembly.

7 Install the left middle side wall lower trim panel assembly.

8 Install the IP left lower trim panel assembly.

9 Install the left switch panel lower trim panel assembly.

10 Install the left switch panel assembly.

11 Install the IP left access cover plate assembly.

12 Install the front USB interface.

13 Install the IP left upper trim panel assembly.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

6.33.3.6 Replacement of Left Inner Weatherstrip Assembly

Removal Procedures

1 Open the door.

2 Lower all windows.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the IP left upper trim panel assembly.

6 Remove the left A-pillar protective plate assembly.

7 Remove the left front side wall protective plate assembly.

8 Remove the front USB interface.

9 Remove the IP left access cover plate assembly.

10 Remove the left switch panel assembly.

11 Remove the left switch panel lower trim panel assembly.

12 Remove the IP left lower trim panel assembly.

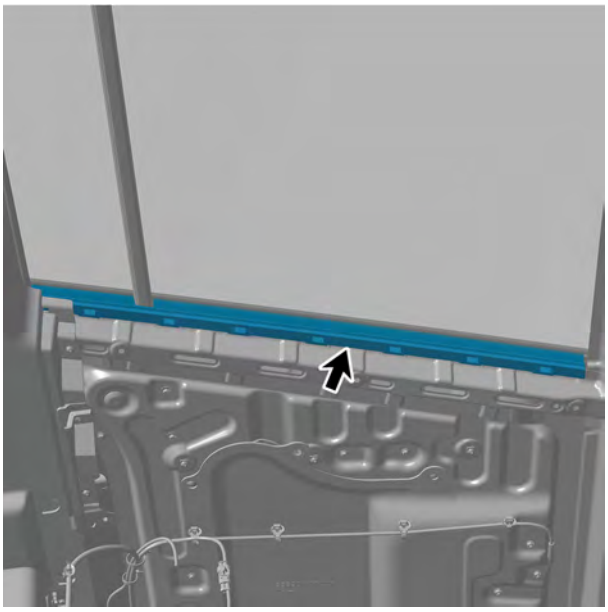
13 Remove the left middle side wall lower trim panel assembly.

14 Remove the left middle side wall middle trim panel assembly.

15 Remove the left B-pillar upper protective plate assembly.

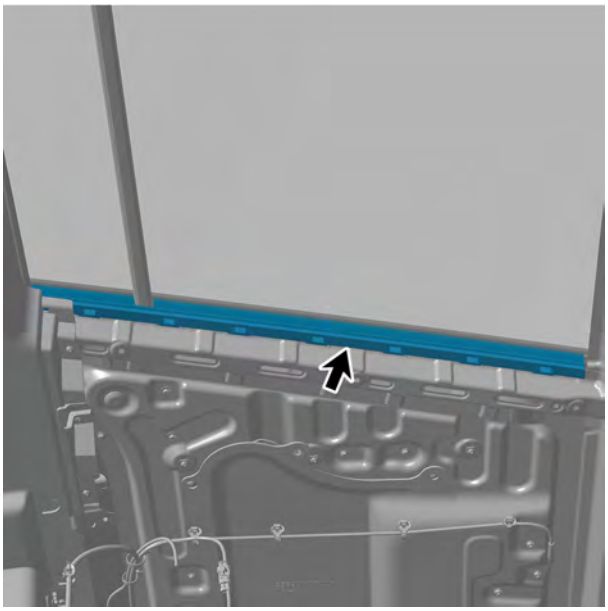
16 Remove the left middle side wall protective plate assembly.

17 Remove the left inner weatherstrip assembly.



Installation Procedures

1 Move the left inner weatherstrip assembly to the mounting position.



2 Install the left middle side wall protective plate assembly.

3 Install the left B-pillar upper protective plate assembly.

4 Install the left middle side wall middle trim panel assembly.

5 Install the left middle side wall lower trim panel assembly.

6 Install the IP left lower trim panel assembly.

7 Install the left switch panel lower trim panel assembly.

8 Install the left switch panel assembly.

9 Install the IP left access cover plate assembly.

10 Install the front USB interface.

11 Install the left front side wall protective plate assembly.

12 Install the left A-pillar protective plate assembly.

13 Install the IP left upper trim panel assembly.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Lift all windows.

17 Close the door.

6.33.3.7 Replacement of Right Inner Weatherstrip Assembly

Removal Procedures

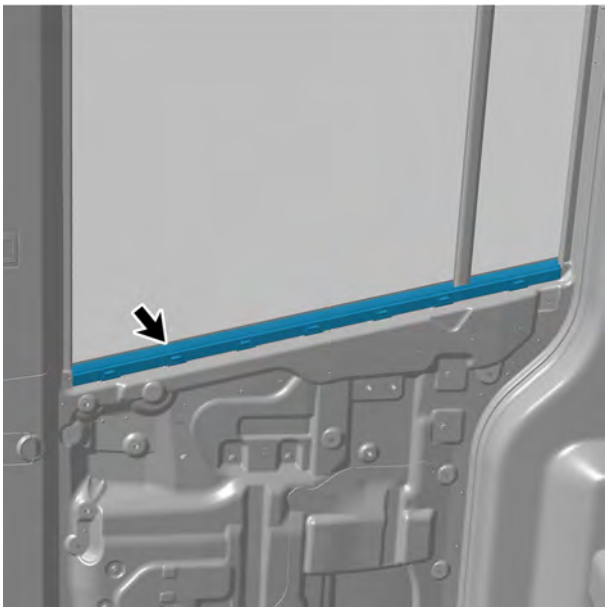
1 Open the door.

2 Lower all windows.

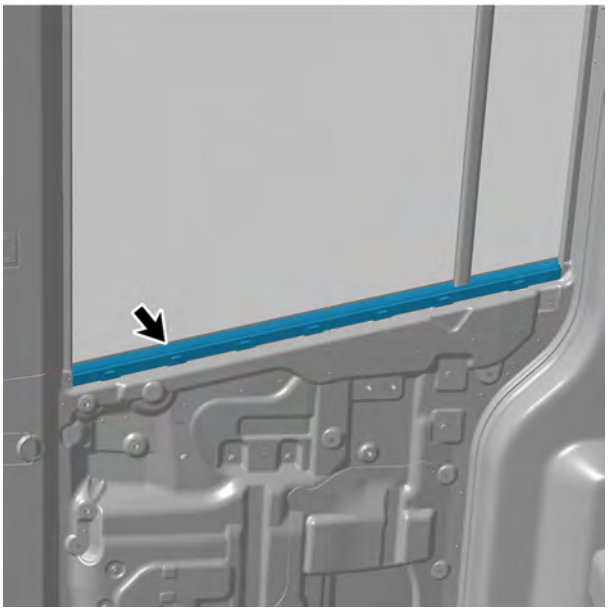
3 Remove the cable cover plate.

4 Remove the door protective plate assembly.

5 Remove the right inner weatherstrip.



Installation Procedures



1 Move the right inner weatherstrip to the mounting position.

2 Install the door protective plate assembly.

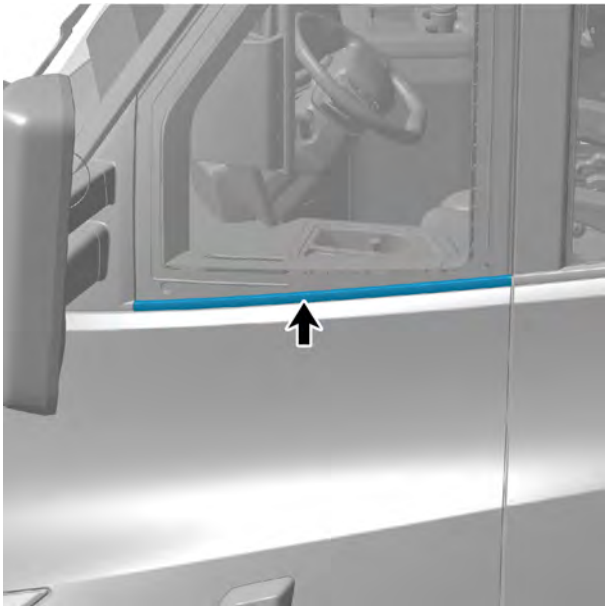
3 Install the cable cover plate.

4 Lift all windows.

5 Close the door.

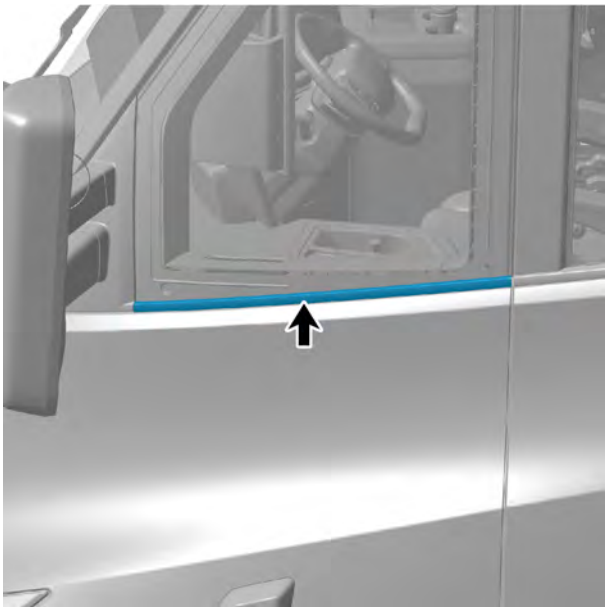
6.33.3.8 Replacement of Left Fender Trim Strip

Removal Procedures



1 Remove the left fender trim strip.

Installation Procedures



1 Install the left fender trim strip.

6.33.3.9 Replacement of Right Glass Run Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

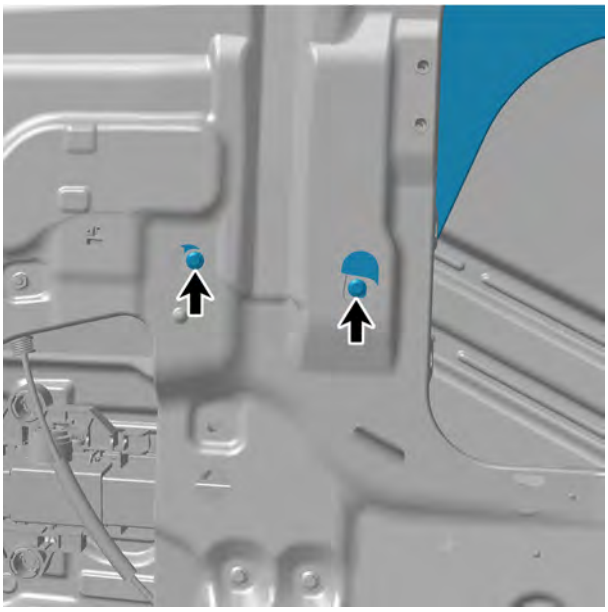
4 Remove the cable cover plate.

5 Remove the door protective plate assembly.

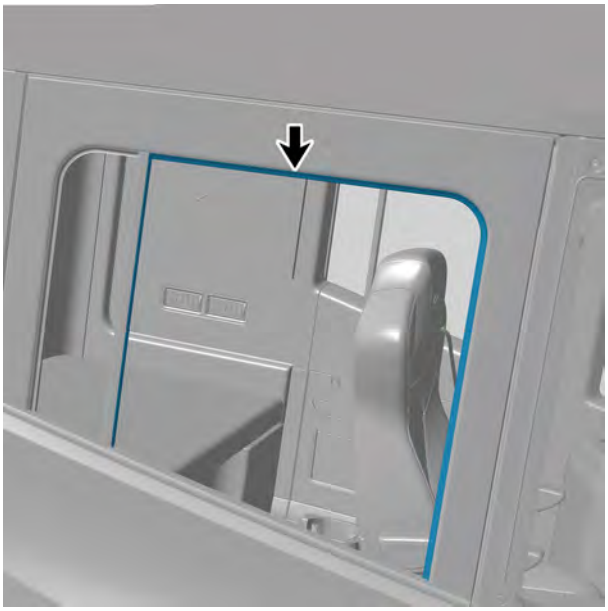
6 Remove the right body waterproof membrane (I).

7 Remove the right body waterproof membrane (II).

8 Remove the window regulator right lower mounting rail assembly.



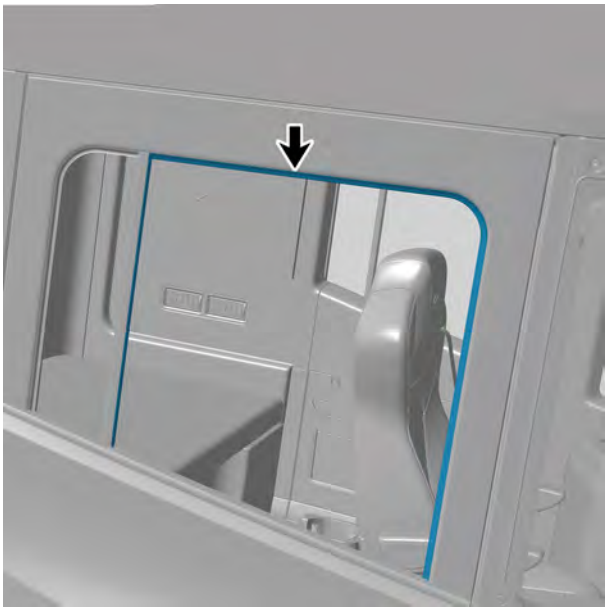
9 Remove 2 fixing bolts connecting the right adjustable window assembly to the right window regulator assembly.



10 Move the right adjustable window assembly to the lowest position.

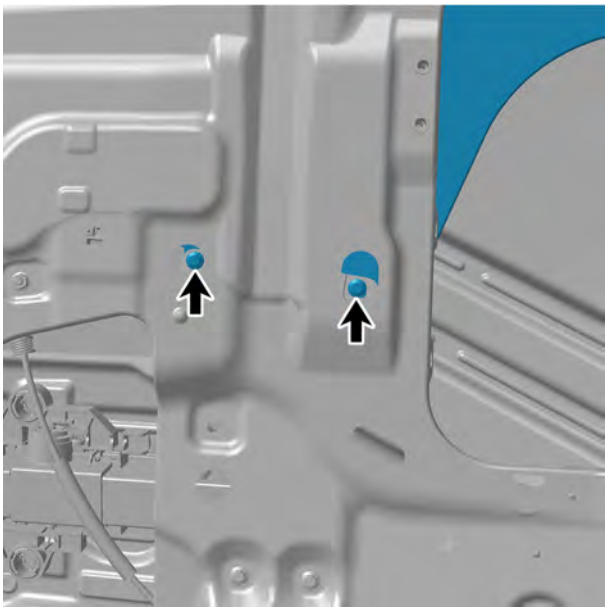
11 Remove the right glass run assembly.

Installation Procedures



1 Install the right glass run assembly.

2 Move the right adjustable window assembly to the highest position.



3 Install 2 fixing bolts connecting the right adjustable window assembly to the right window regulator assembly.
Torque:(6.5 +/- .75) ft lbs

4 Install the window regulator right lower mounting rail assembly.

5 Install the right body waterproof membrane (II).

6 Install the right body waterproof membrane (I).

7 Install the door protective plate assembly.

8 Install the cable cover plate.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

6.34 Driver's Seat Device

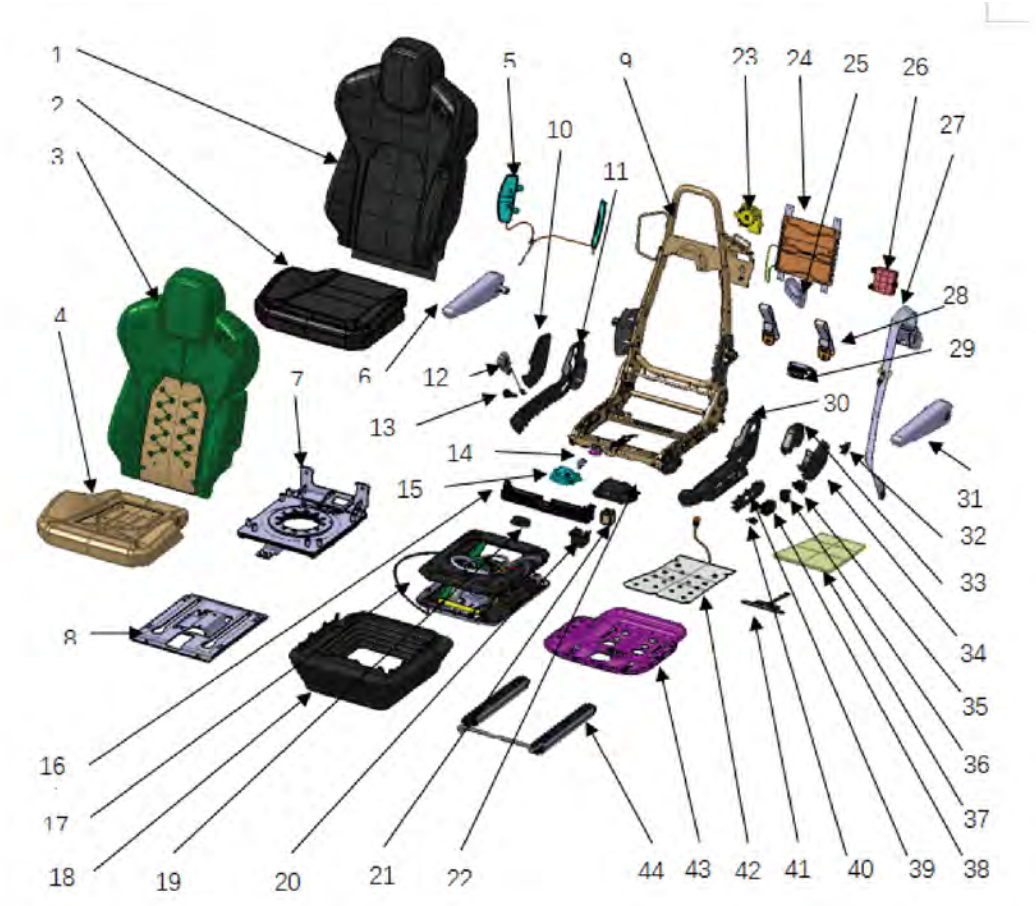
6.34.1 Specifications

6.34.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the driver's seat assembly and the white body assembly	M8	(18.5 +/- 2) ft lbs

6.34.2 Decomposition Diagram

6.34.2.1 Decomposition Diagram



1. BACK COVER
2. SEAT COVER
3. BACK FOAM ASSY
4. CUSHION FOAM
5. PNEUMATIC BACK BOLSTER
6. ARMREST ASSEMBLY
7. SWIVEL
8. PLINTH
9. FRAME KIT
10. REAR QTR SHIELD - RH
11. SIDE SHIELD – RH
12. BUCKLE
13. DUMP VALVE OF SWIVEL
14. ADJ DAMPER KNOB
15. CUSHION VENT
16. FRONT SHIELD
17. SUSPENSION
18. SUSPENSION COVER
23. BACKREST VENT
24. PNUEMATIC LUMBAR
25. BELT EXIT BEZEL TOP RH
26. H&V ECU 12V
27. SEATBELT
28. TETHER BELT SUSPENSION
29. AIR CYLINDER
30. SIDE SHIELD LH
31. ARMREST ASSEMBLY
32. RECLINER HANDLE COVER PLATE
33. RECLINE CTRL HANDLE - LH
34. REAR QTR SHIELD - LH
35. VALVE ASSY - SUSP HEIGHT ADJUST (MEM) - RH
36. H&V SWITCH
37. CUSHION 3D NET
38. VALVE ASSY - LUMBAR TRIPLE - RH
39. CONTROL PANEL - LH [HAM+HV3LD]
40. VALVE ASSY - DUMP VALVE - LH

19. KNOB - CUSHION SLIDE PTD
20. CYLINDER CAP
21. AIR CYLINDER
22. CUSHION VENT COVER
41. T-SHAPE OPS
42. CUSHION HEATER
43. SEAT PAN ASSY
44. SLIDE RAIL ASSEMBLY

6.34.3 Dismantling and Installation

6.34.3.1 Replacement of Driver Seat Assembly

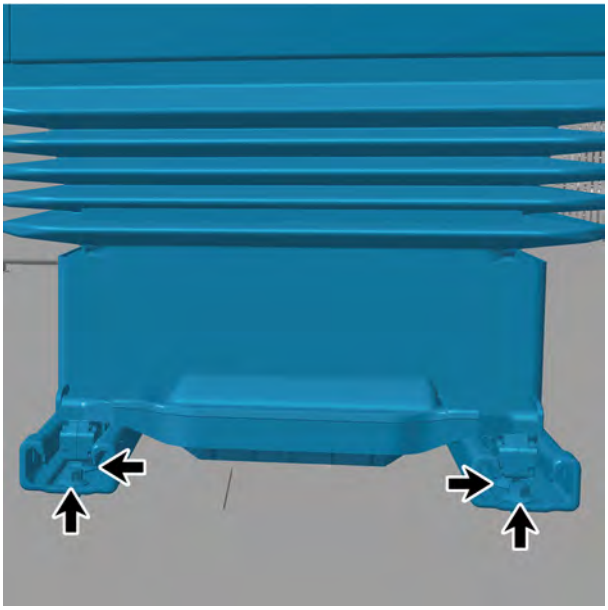
Removal Procedures

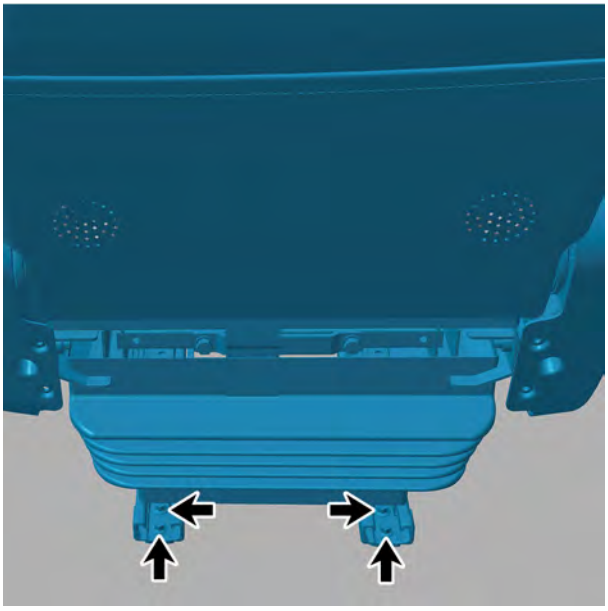
1 Release the brake system air pressure

2 Open the door.

3 Open the front flip cover plate.

4 Move the driver seat assembly backward, and remove 4 fixing bolts at the front end of the driver seat assembly.



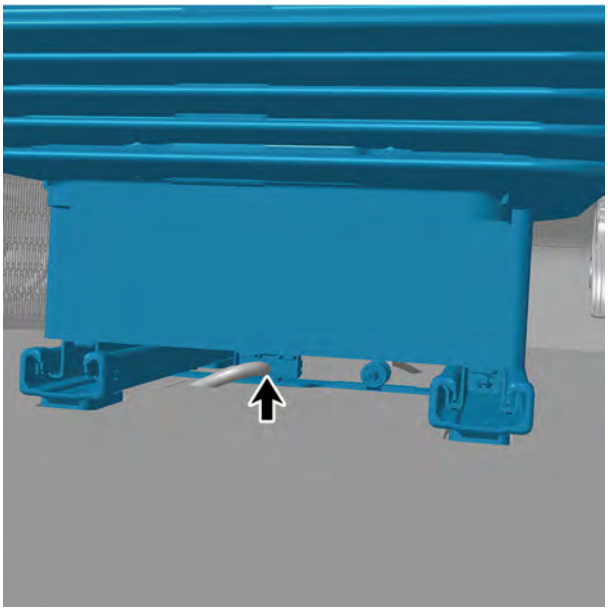


5 Move the driver seat assembly forward, and remove 4 fixing bolts at the rear end of the driver seat assembly.

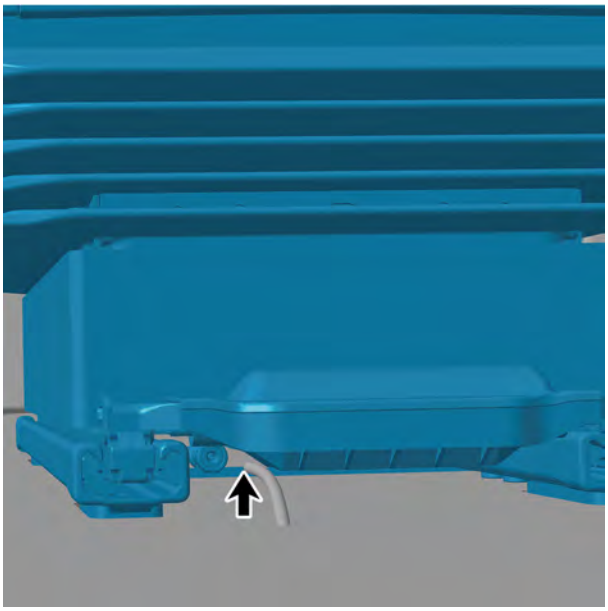
6 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



7 Disconnect 1 harness connector of the driver seat assembly.



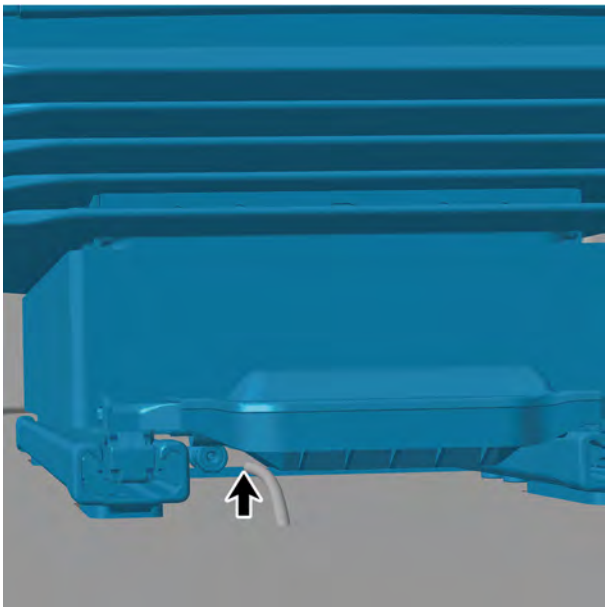
8 Disconnect 1 air pipe of the driver seat assembly.

9 Remove the driver seat assembly.

caution

Due to the heavy weight of the driver seat assembly, it shall be removed with the help of an assistant.

Installation Procedures

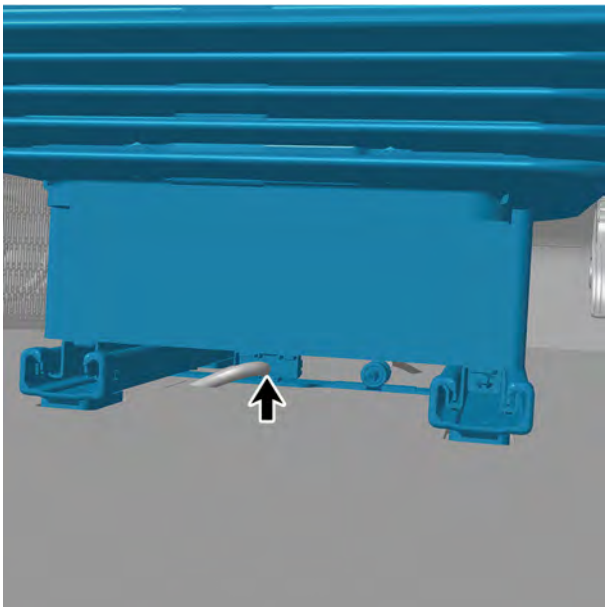


1 Move the driver seat assembly to the mounting position.

caution

Due to the heavy weight of the driver seat assembly, it shall be moved to the mounting position with the help of an assistant.

2 Connect 1 air pipe of the driver seat assembly.

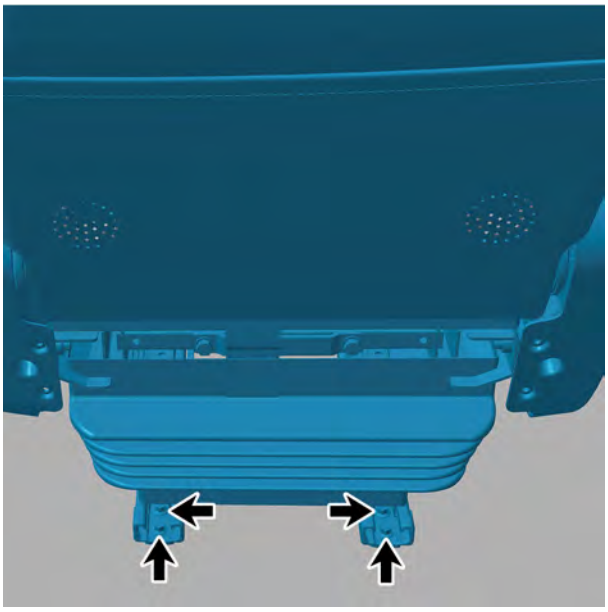


3 Connect 1 harness connector of the driver seat assembly.

caution

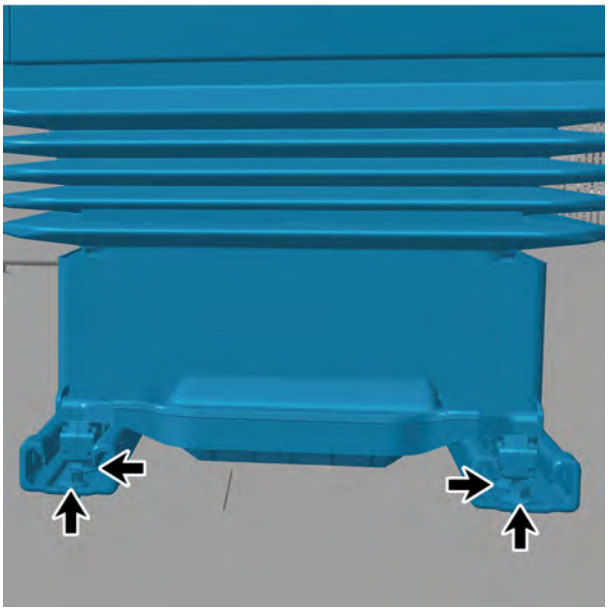
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.



5 Move the driver seat assembly forward, and install 4 fixing bolts at the rear end of the driver seat assembly.

Torque:(18.5 +/- 2) ft lbs



6 Move the driver seat assembly backward, and install 4 fixing bolts at the front end of the driver seat assembly.

Torque:(18.5 +/- 2) ft lbs

7 Close the front flip cover plate.

8 Close the door.

6.35 Rear Seat Device

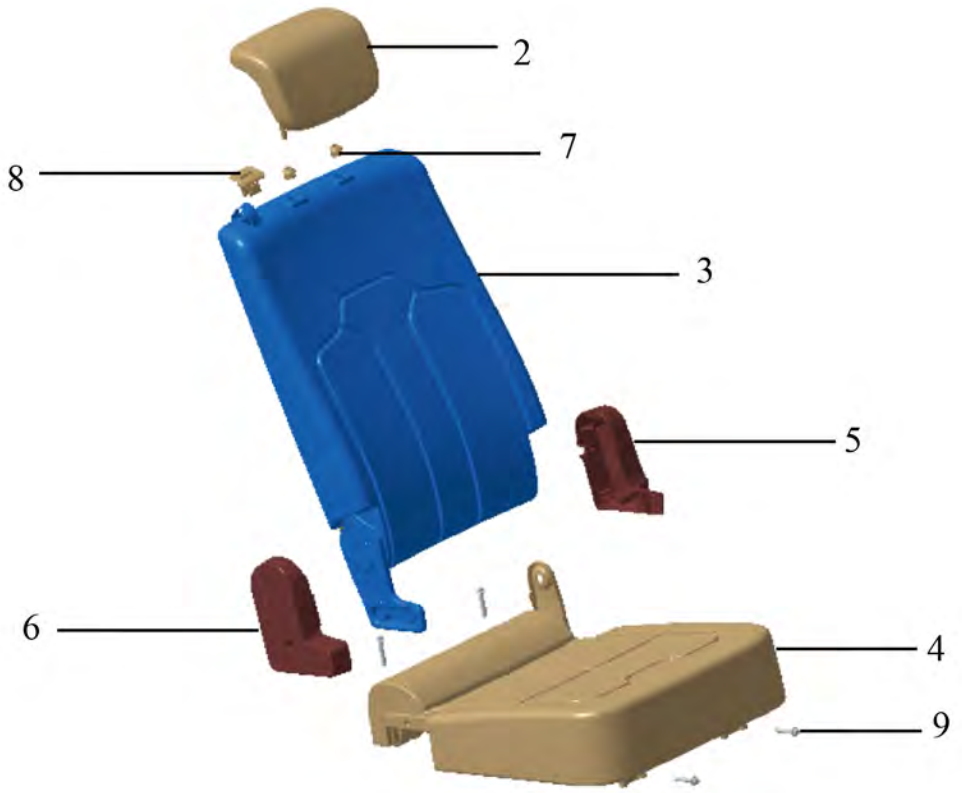
6.35.1 Specifications

6.35.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the rear seat assembly and the right drawer assembly	M8	(18.5 +/- 2) ft lbs

6.35.2 Decomposition Diagram

6.35.2.1 Decomposition Diagram

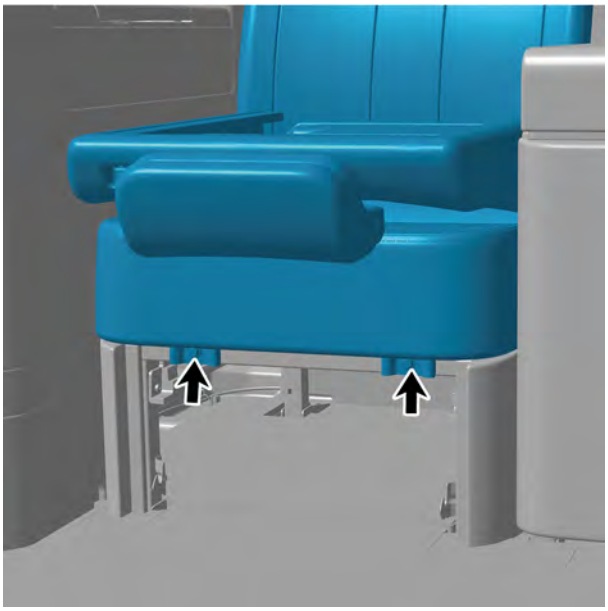


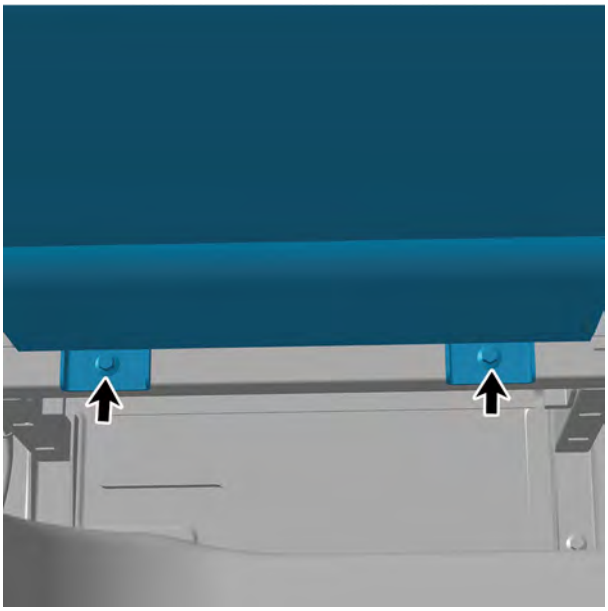
2.	Headrest Assembly	6.	Right Guard Plate
3.	Backrest Assembly	7.	Pull Strap Housing
4.	Seat Cushion Assembly	8.	Headrest Cap
5.	Left Guard Plate	9.	Hexagon Flange Bolt

6.35.3 Dismantling and Installation

6.35.3.1 Replacement of Rear Seat Assembly

Removal Procedures





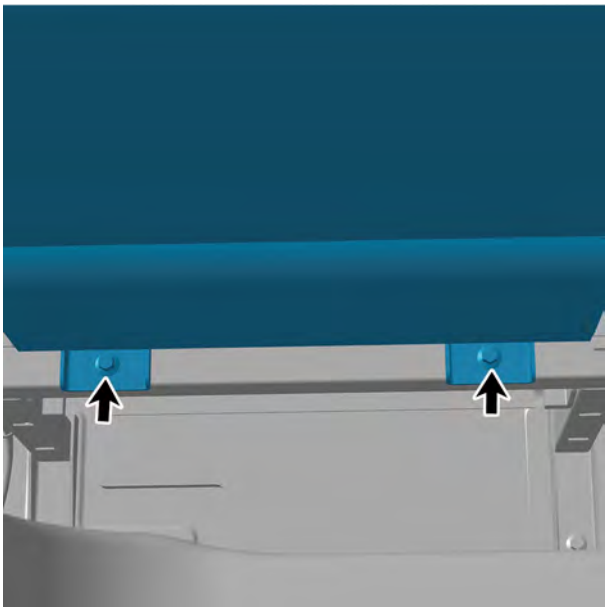
1 Open the door.

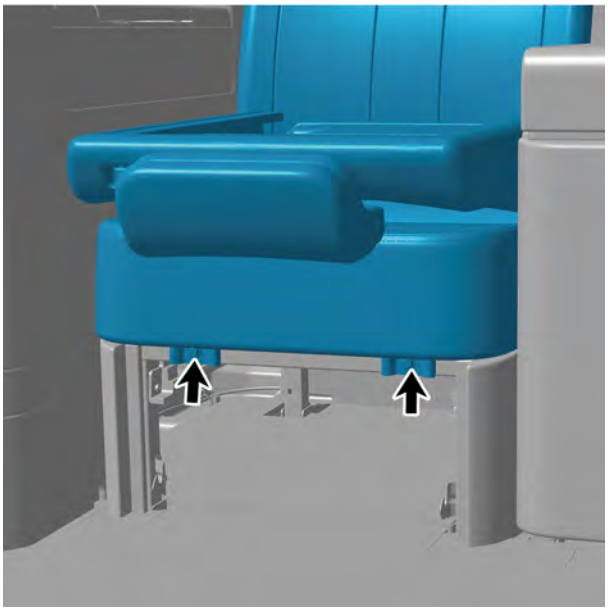
2 Remove 4 fixing bolts of the rear seat assembly, and remove the rear seat assembly.

caution

Due to the heavy weight of the rear seat assembly, it shall be removed with the help of an assistant.

Installation Procedures





1 Move the rear seat assembly to the mounting position.

caution

Due to the heavy weight of the rear seat assembly, it shall be moved to the mounting position with the help of an assistant.

2 Install 4 fixing bolts of the rear seat assembly.

Torque: (18.5 +/- 2) ft lbs

3 Close the door.

6.36 Sleeping Berth Device

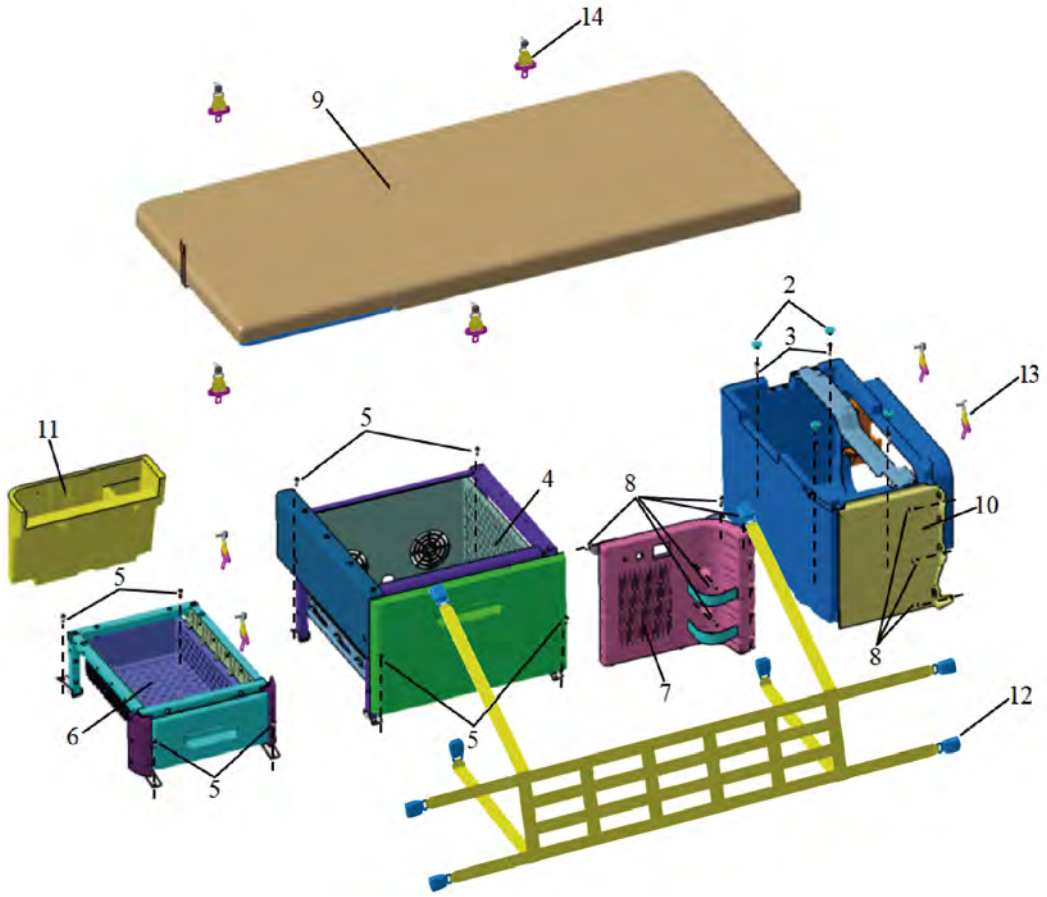
6.36.1 Specifications

6.36.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the toolbox assembly to the metal	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the middle drawer assembly and the sheet metal plate	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the toolbox decorative panel assembly and the tool box assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the toolbox assembly and toolbox hinge	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the right drawer assembly to the floor sheet metal	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the right drawer assembly and the rear seat belt assembly	M10	(37 +/- 3.5) ft lbs
The fixing bolts connecting the middle drawer assembly and the floor sheet metal	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the toolbox decorative panel assembly and the white body assembly assembly	M6	(6.5 +/- .75) ft lbs

6.36.2 Decomposition Diagram

6.36.2.1 Decomposition Diagram



2.	Plug-Toolbox	9.	Sleeper Mat Assy
3.	Hexagon Flange Bolt	10.	Toolbox Decorative Plate Assy-lh
4.	Drawer Assy-Mid	11.	Rear Seat Storage Box
5.	Hexagon Flange Bolt	12.	Sleeping Berth Protection Net Assembly
6.	Drawer Assy-Rh	13.	Protection Net Lock Catch (with Spacer)
7.	Toolbox Decorative Plate Assy	14.	Protection Net Lock Catch
8.	Hexagon Flange Bolt		

6.36.3 Dismantling and Installation

6.36.3.1 Replacement of Sleeper Toolbox

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the sleeper mat assembly.

5 Remove the rear A/C lower air duct.

6 Remove the IP left upper trim panel assembly.

7 Remove the front USB interface.

8 Remove the IP left access cover plate assembly.

9 Remove the left switch panel assembly.

10 Remove the left switch panel lower trim panel assembly.

11 Remove the IP left lower trim panel assembly.

12 Remove the left middle side wall lower trim panel assembly.

13 Remove the left middle side wall middle trim panel assembly.

14 Remove the toolbox left trim panel assembly.

15 Remove the 120V receptacle.

16 Remove the vehicle power supply (12V).

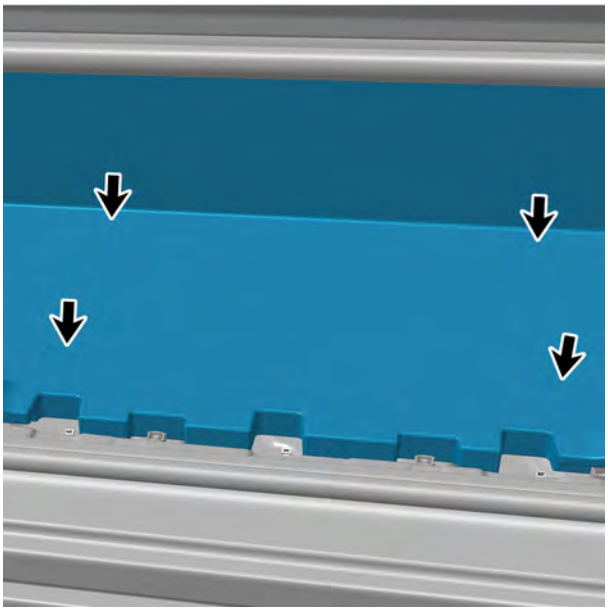
17 Remove the interior temperature sensor (rear).

18 Remove the toolbox trim panel assembly.

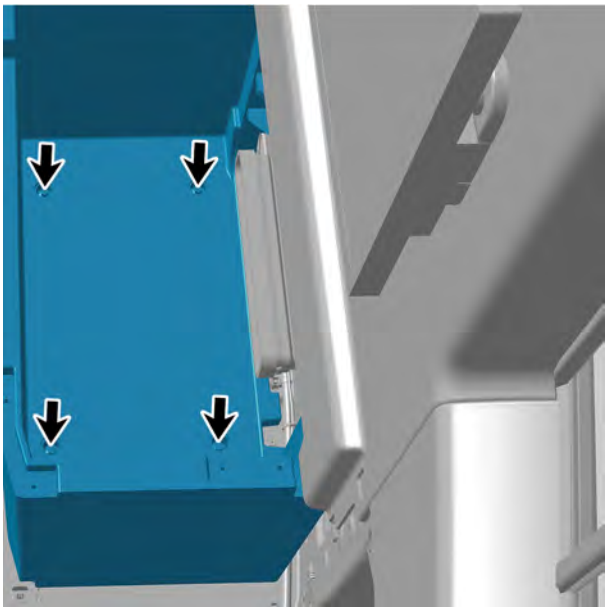
19 Remove the toolbox sill molding assembly.

20 Remove the toolbox lamp.

21 Remove the toolbox lamp bracket.



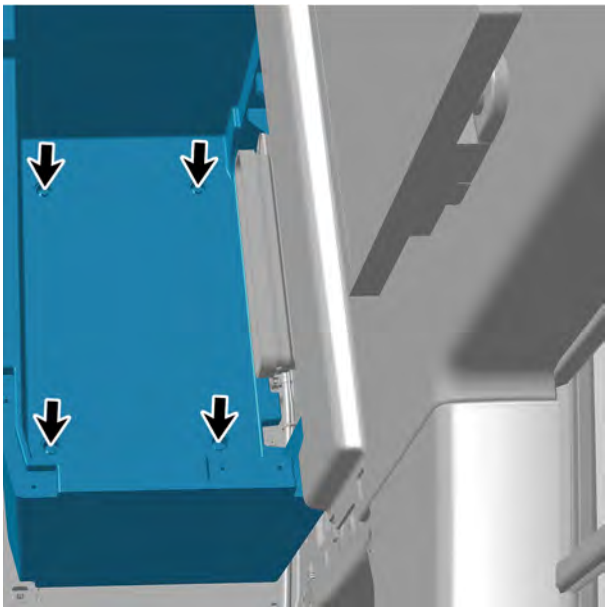
22 Remove 4 plug caps.



23 Remove 4 fixing bolts of the sleeper toolbox.

24 Remove the sleeper toolbox.

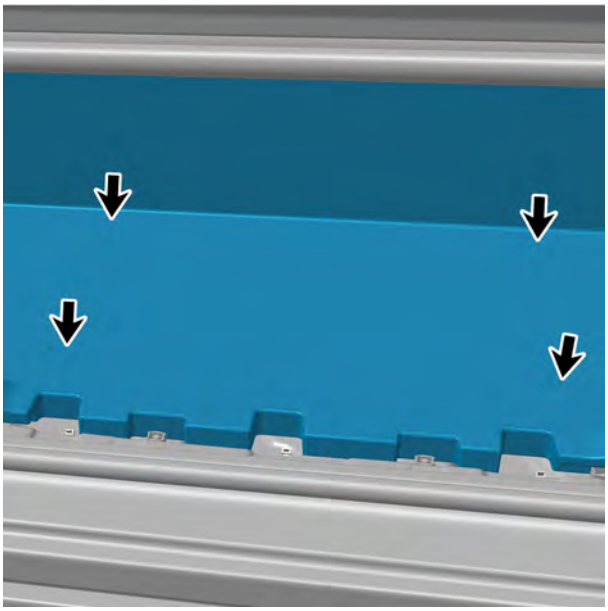
Installation Procedures



1 Move the sleeper toolbox to the mounting position.

2 Install 4 fixing bolts of the sleeper toolbox.

Torque:(18.5 +/- 2) ft lbs



3 Install 4 plug caps.

4 Install the toolbox lamp bracket.

5 Install the toolbox lamp.

6 Install the toolbox sill molding assembly.

7 Install the toolbox trim panel assembly.

8 Install the interior temperature sensor (rear).

9 Install the vehicle power supply (12V).

10 Install the 120V receptacle.

11 Install the toolbox left trim panel assembly.

12 Install the left middle side wall middle trim panel assembly.

13 Install the left middle side wall lower trim panel assembly.

14 Install the IP left lower trim panel assembly.

15 Install the left switch panel lower trim panel assembly.

16 Install the left switch panel assembly.

17 Install the IP left access cover plate assembly.

18 Install the front USB interface.

19 Install the IP left upper trim panel assembly.

20 Install the rear A/C lower air duct.

21 Install the sleeper mat assembly.

22 Connect the battery negative cable.

23 Close the front flip cover plate.

24 Close the door.

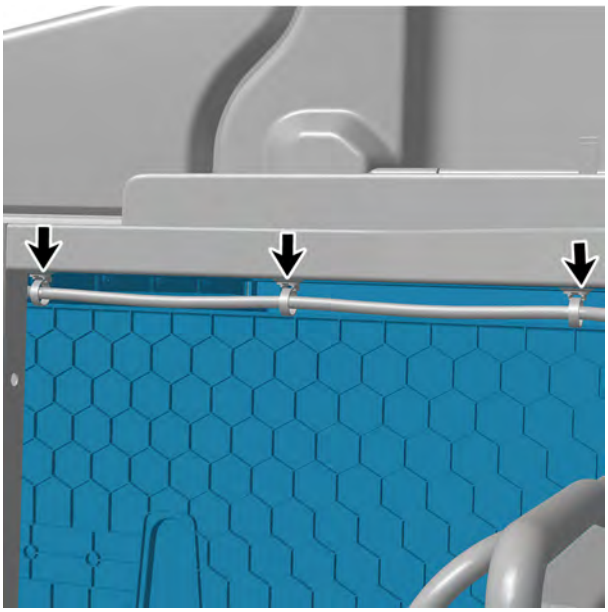
6.36.3.2 Replacement of Middle Drawer Assembly

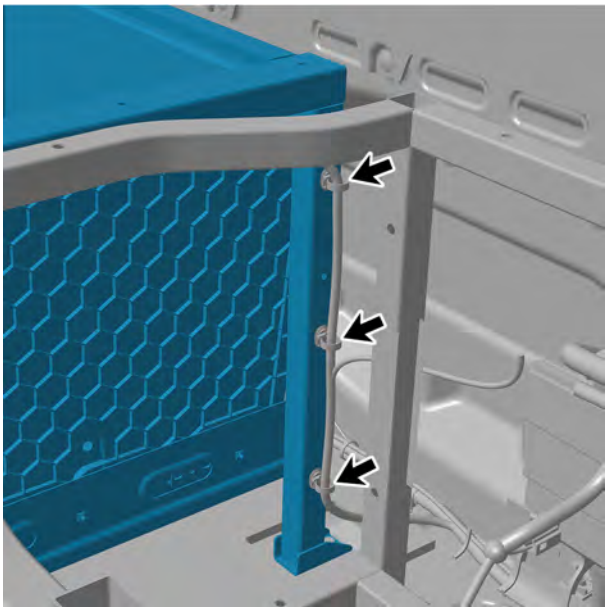
Removal Procedures

1 Open the door.

2 Remove the sleeper mat assembly.

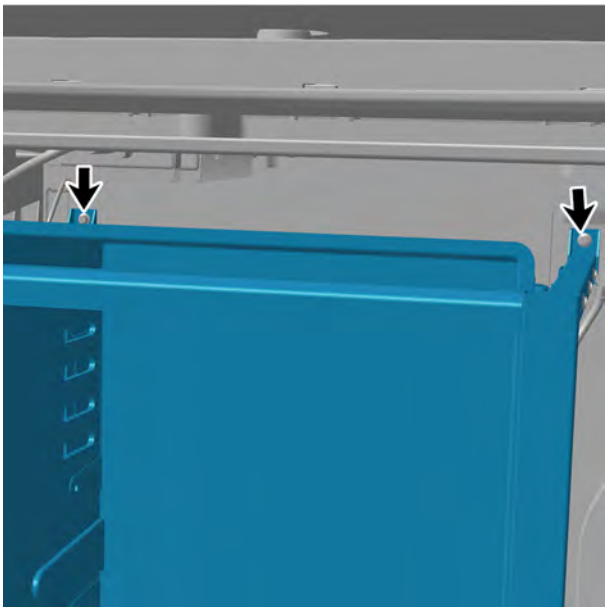
3 Disengage 6 clips of the middle drawer assembly.

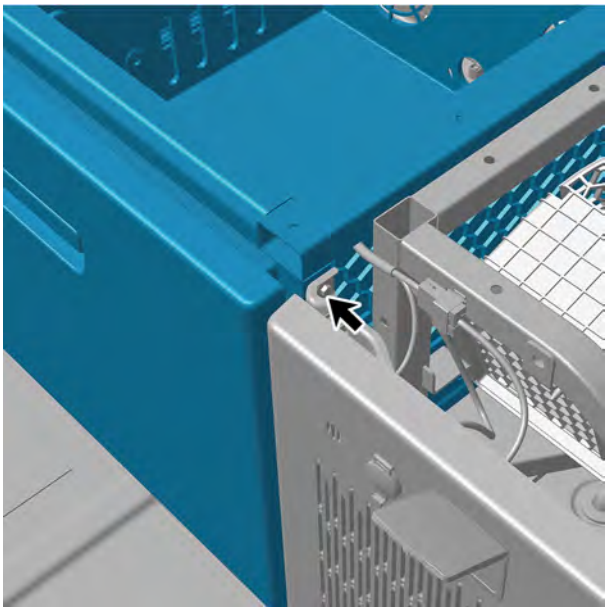


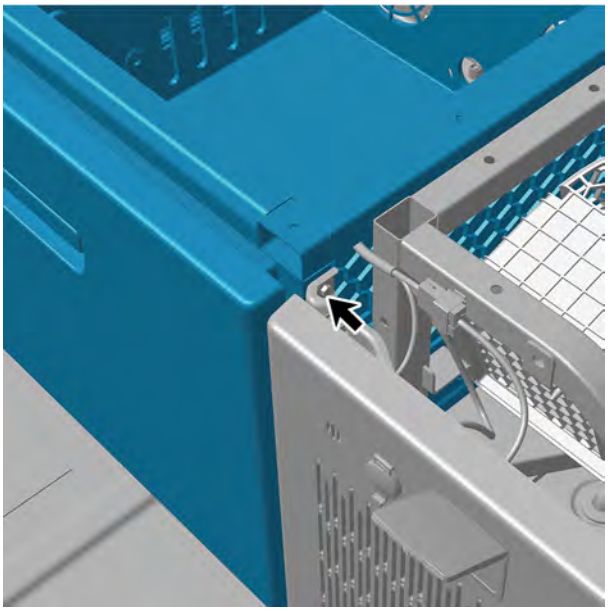




4 Remove 5 fixing bolts of the middle drawer assembly, and remove the middle drawer assembly.





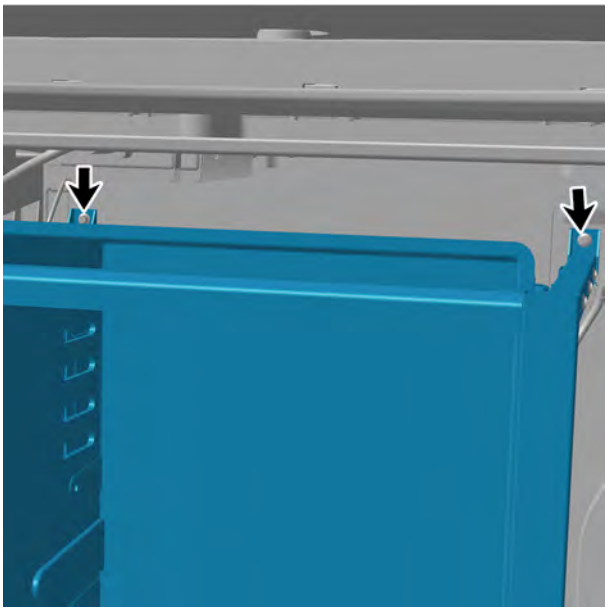


Installation Procedures

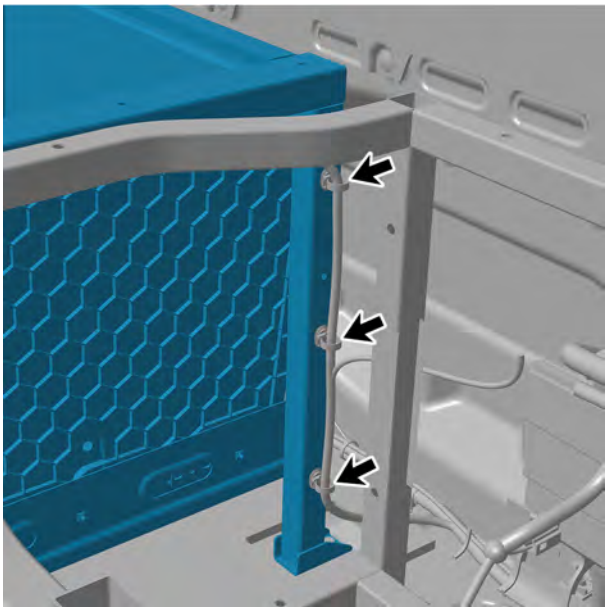
1 Move the middle drawer assembly to the mounting position.

2 Install 5 fixing bolts of the middle drawer assembly.

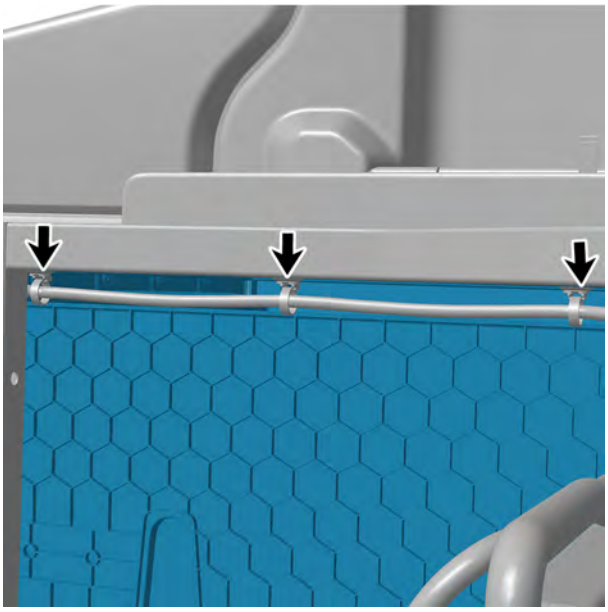
Torque:(6.5 +/- .75) ft lbs







3 Install 6 clips of the middle drawer assembly.



4 Install the sleeper mat assembly.

5 Close the door.

6.36.3.3 Replacement of Right Drawer Assembly

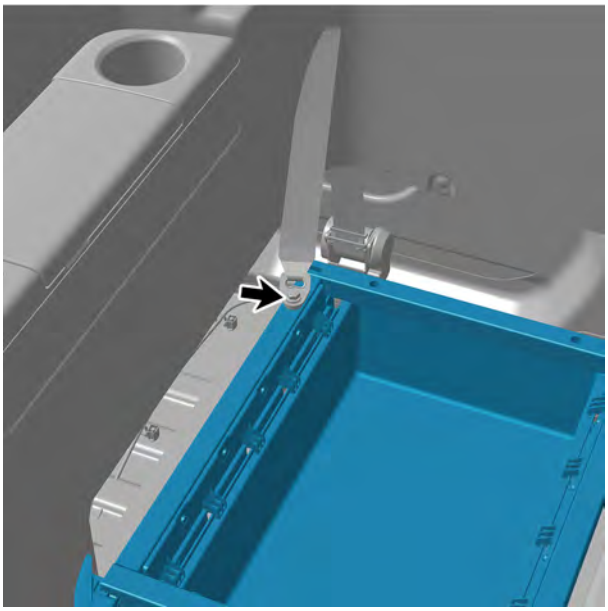
Removal Procedures

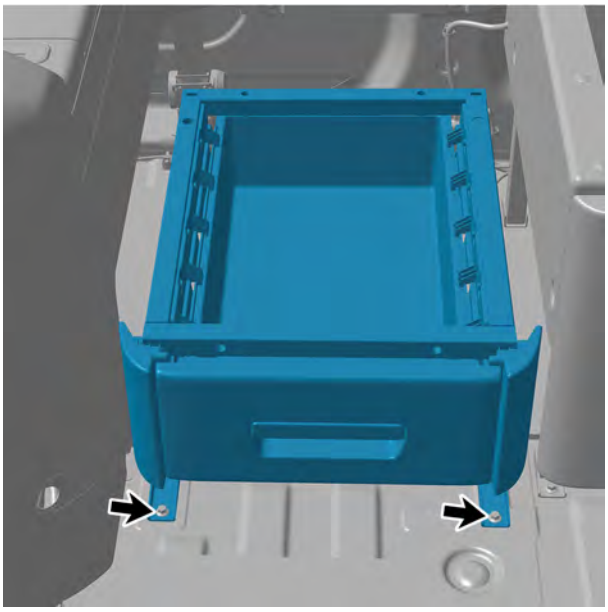
1 Open the door.

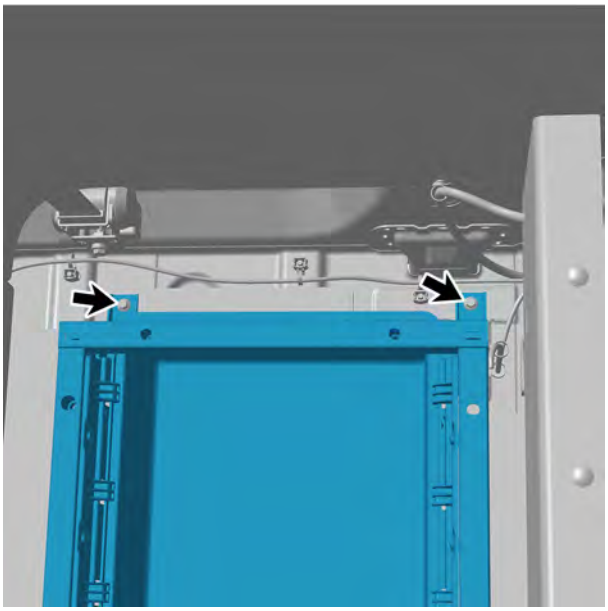
2 Remove the rear seat assembly.

3 Remove the seat rear storage box.

4 Remove 1 fixing bolt of the rear seat belt assembly.

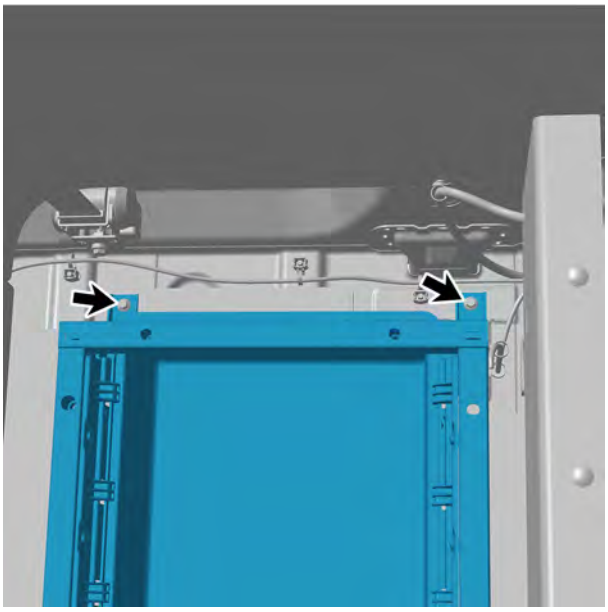


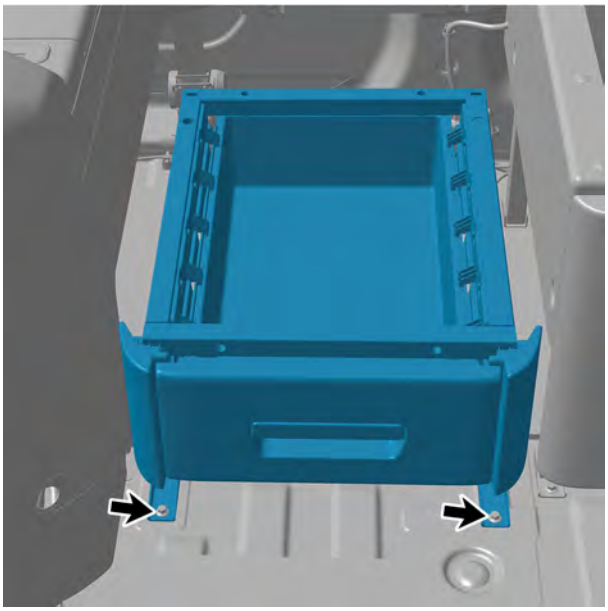


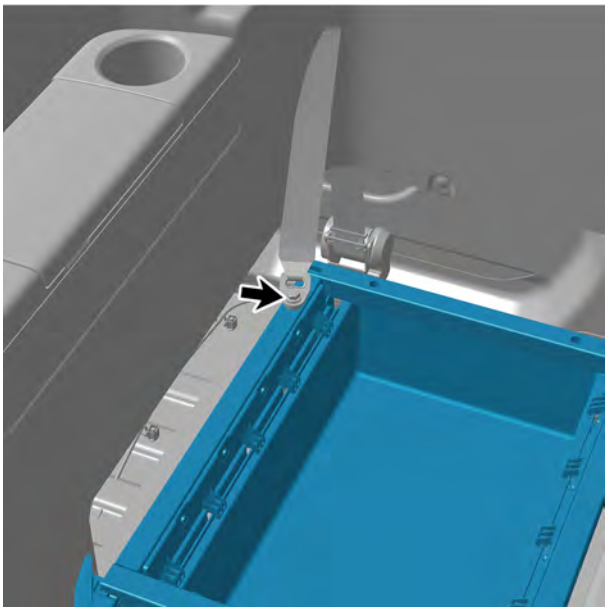


5 Remove 4 fixing bolts of the right drawer assembly, and remove the right drawer assembly.

Installation Procedures







1 Move the right drawer assembly to the mounting position.

2 Install 4 fixing bolts of the right drawer assembly.

Torque: (18.5 +/- 2) ft lbs

3 Install 1 fixing bolt of the rear seat belt assembly.

Torque: (37 +/- 3.5) ft lbs

4 Install the seat rear storage box.

5 Install the rear seat assembly.

6 Close the door.

6.36.3.4 Replacement of Toolbox Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the fire extinguisher.

5 Remove the IP left upper trim panel assembly.

6 Remove the front USB interface.

7 Remove the IP left access cover plate assembly.

8 Remove the left switch panel assembly.

9 Remove the left switch panel lower trim panel assembly.

10 Remove the IP left lower trim panel assembly.

11 Remove the left middle side wall lower trim panel assembly.

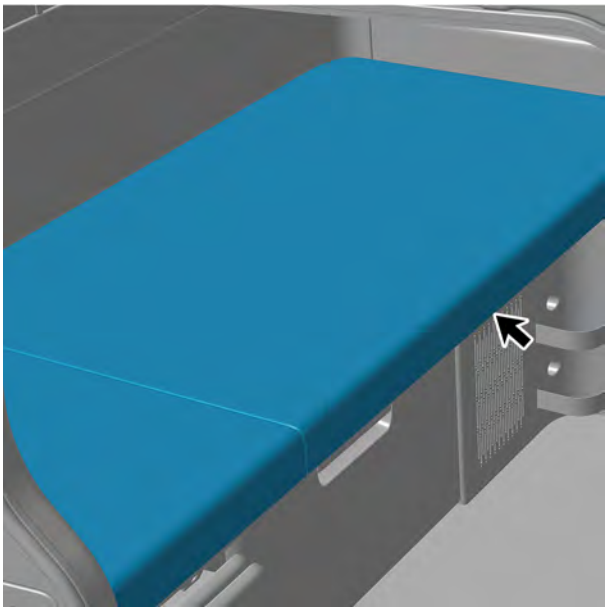
12 Remove the left middle side wall middle trim panel assembly.

13 Remove the toolbox left trim panel assembly.

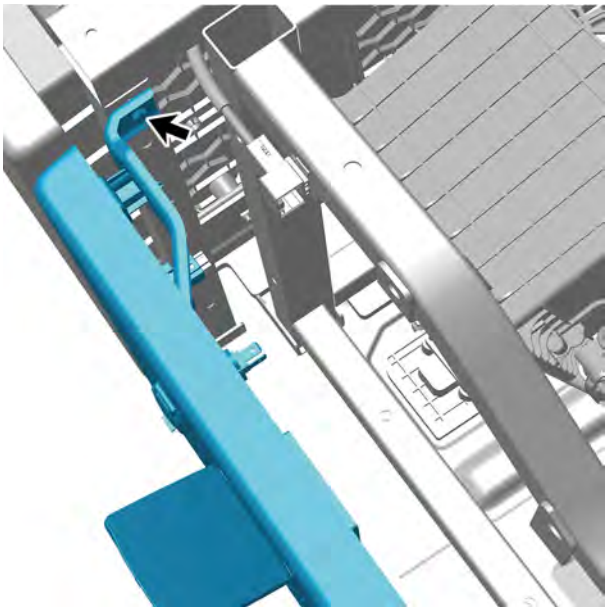
14 Remove the 120V receptacle.

15 Remove the vehicle power supply (12V).

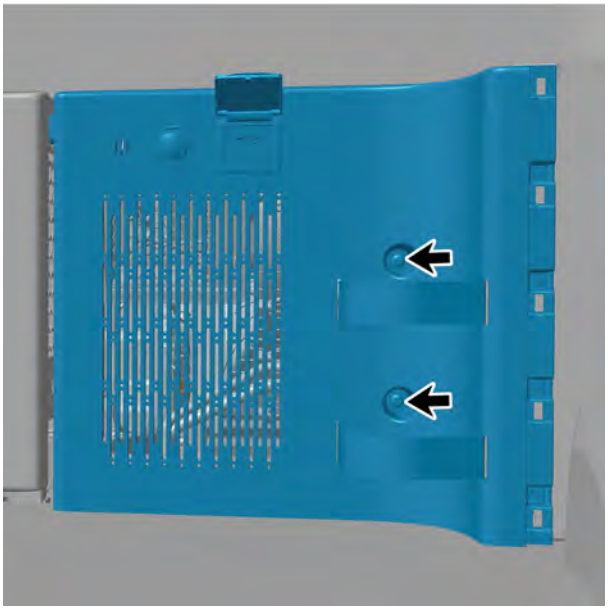
16 Remove the interior temperature sensor (rear).

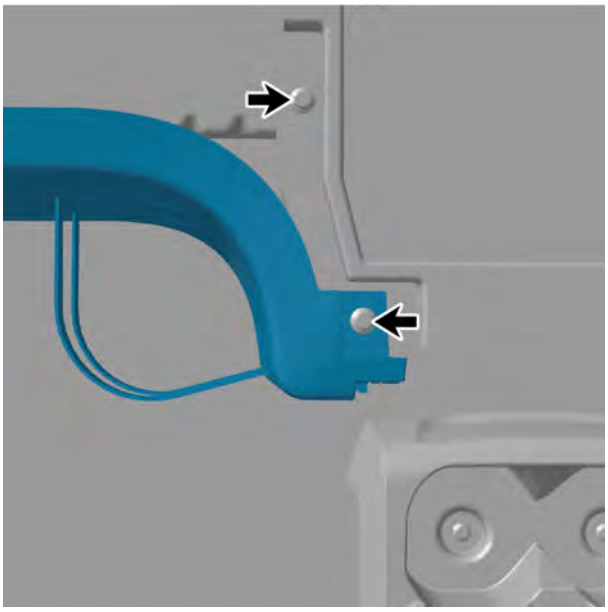


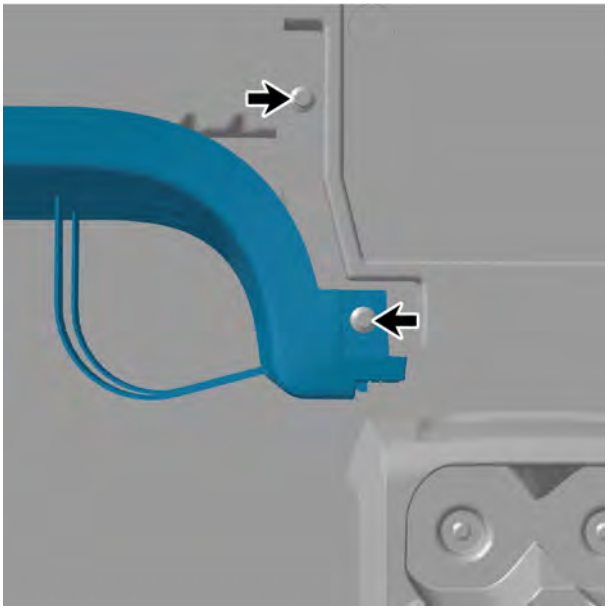
17 Open the sleeper mat assembly.



18 Remove 5 fixing bolts of the toolbox trim panel assembly, and remove the toolbox trim panel assembly.



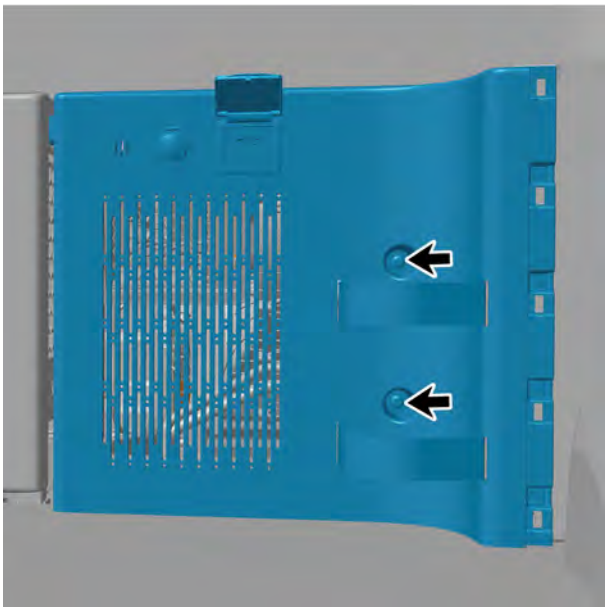


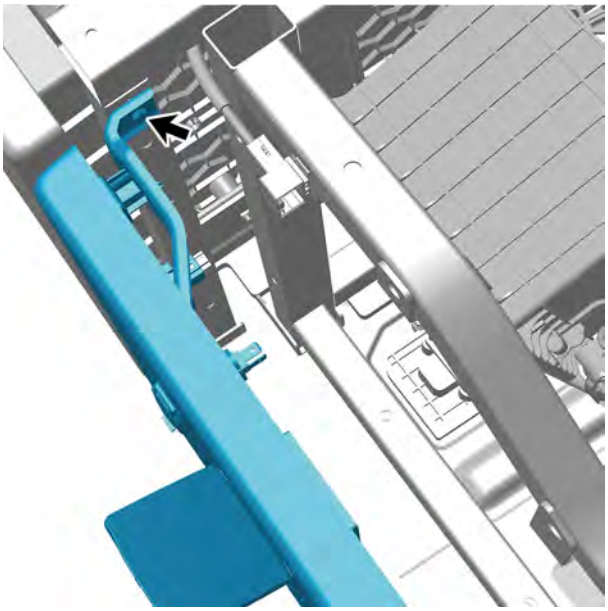


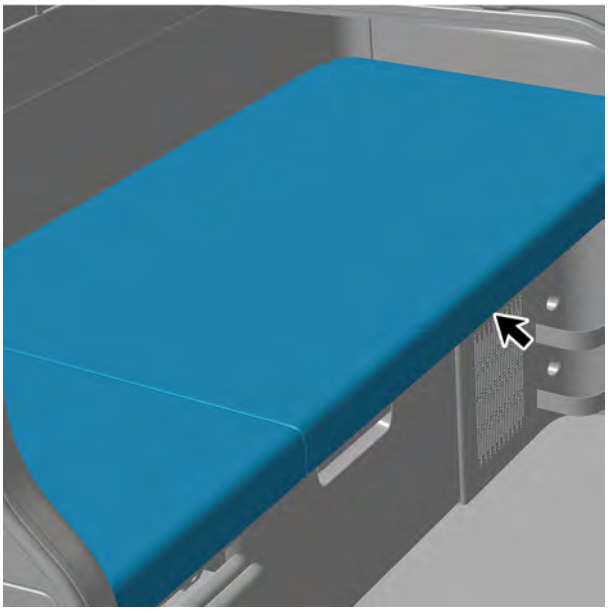
Installation Procedures

1 Move the toolbox trim panel assembly to the mounting position, and install the 5 fixing bolts of the toolbox trim panel assembly.

Torque: (6.5 +/- .75) ft lbs







2 Close the sleeper mat assembly.

3 Install the interior temperature sensor (rear).

4 Install the vehicle power supply (12V).

5 Install the 120V receptacle.

6 Install the toolbox left trim panel assembly.

7 Install the left middle side wall middle trim panel assembly.

8 Install the left middle side wall lower trim panel assembly.

9 Install the IP left lower trim panel assembly.

10 Install the left switch panel lower trim panel assembly.

11 Install the left switch panel assembly.

12 Install the IP left access cover plate assembly.

13 Install the front USB interface.

14 Install the IP left upper trim panel assembly.

15 Install the fire extinguisher.

16 Connect the battery negative cable.

17 Close the front flip cover plate.

18 Close the door.

6.36.3.5 Replacement of Toolbox Left Trim Panel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the front USB interface.

6 Remove the IP left access cover plate assembly.

7 Remove the left switch panel assembly.

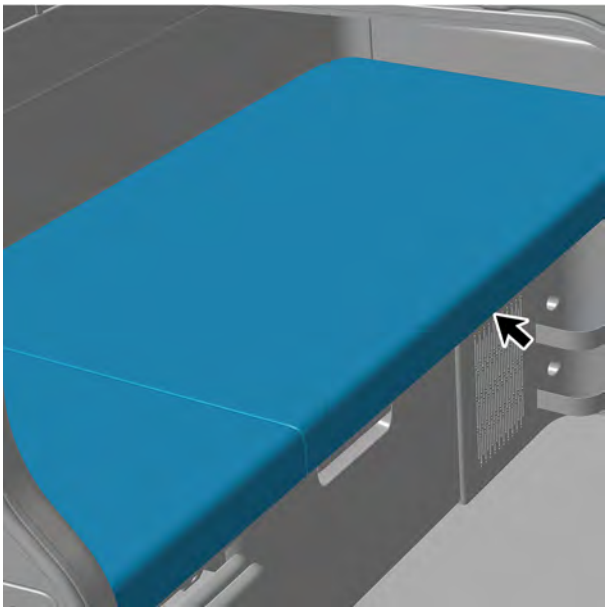
8 Remove the left switch panel lower trim panel assembly.

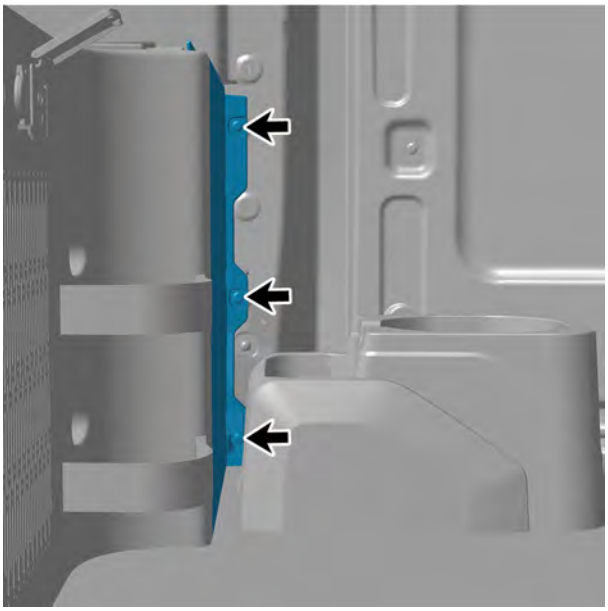
9 Remove the IP left lower trim panel assembly.

10 Remove the left middle side wall lower trim panel assembly.

11 Remove the left middle side wall middle trim panel assembly.

12 Open the sleeper mat assembly.

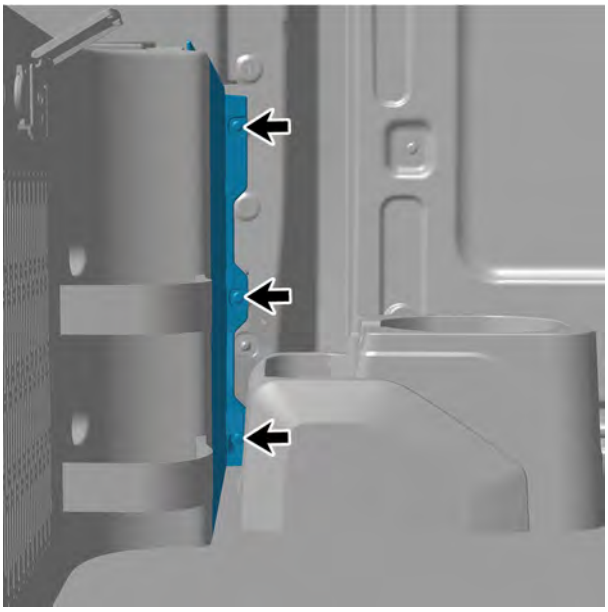




13 Remove 3 fixing bolts of the toolbox left trim panel assembly.

14 Remove the toolbox left trim panel assembly.

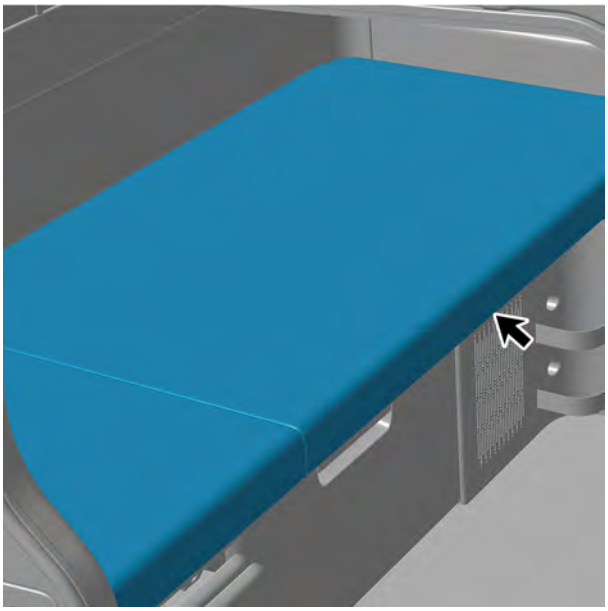
Installation Procedures



1 Move the toolbox left trim panel assembly to the mounting position.

2 Install 3 fixing bolts of the toolbox left trim panel assembly.

Torque:(6.5 +/- .75) ft lbs



3 Close the sleeper mat assembly.

4 Install the left middle side wall middle trim panel assembly.

5 Install the left middle side wall lower trim panel assembly.

6 Install the IP left lower trim panel assembly.

7 Install the left switch panel lower trim panel assembly.

8 Install the left switch panel assembly.

9 Install the IP left access cover plate assembly.

10 Install the front USB interface.

11 Install the IP left upper trim panel assembly.

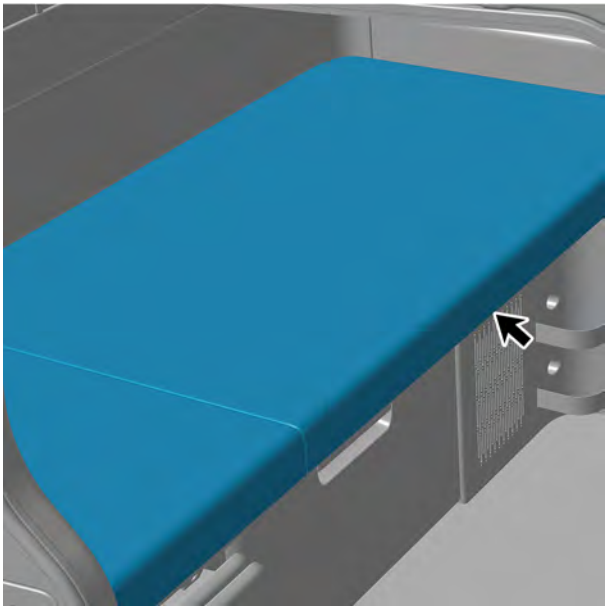
12 Connect the battery negative cable.

13 Close the front flip cover plate.

14 Close the door.

6.36.3.6 Replacement of Sleeper Mat Assembly

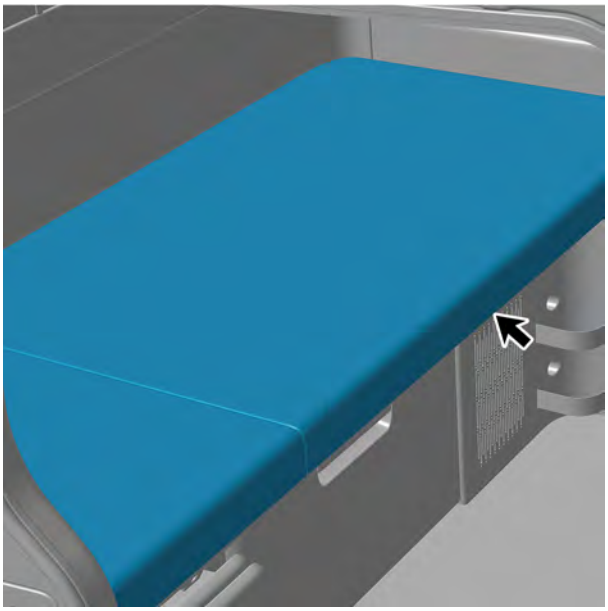
Removal Procedures



1 Open the door.

2 Remove the sleeper mat assembly.

Installation Procedures



1 Install the sleeper mat assembly.

2 Close the door.

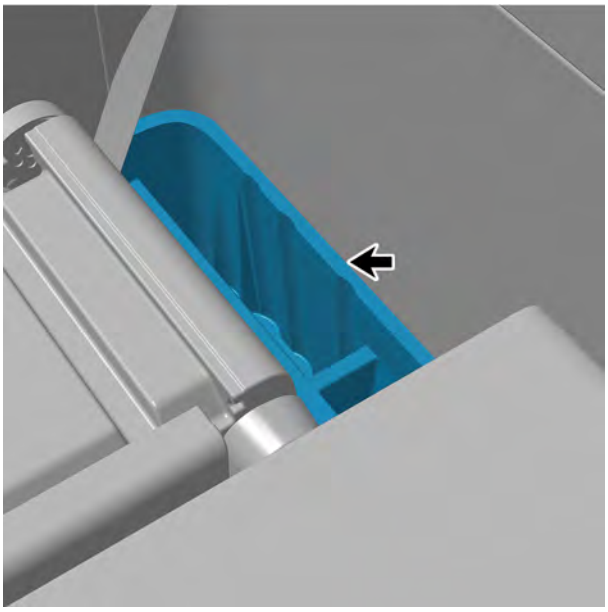
6.36.3.7 Replacement of Seat Rear Storage Box

Removal Procedures

1 Open the door.

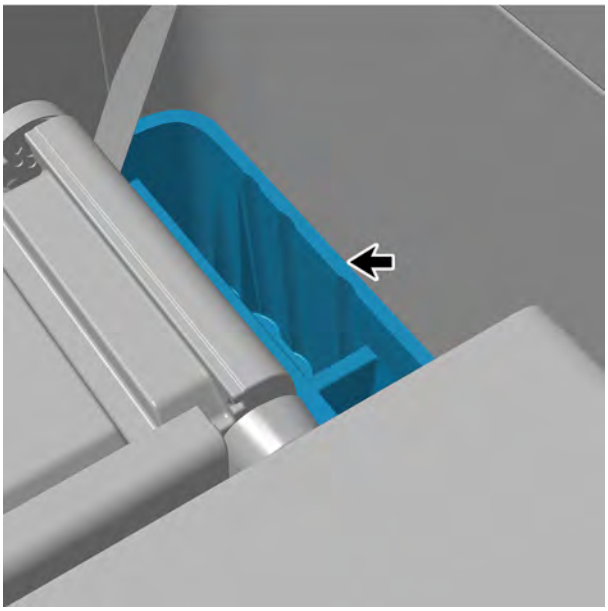
2 Open the sleeper mat assembly.

3 Remove the seat rear storage box.



Installation Procedures

1 Install the seat rear storage box.



2 Close the sleeper mat assembly.

3 Close the door.

6.37 Sunshade Curtain Device

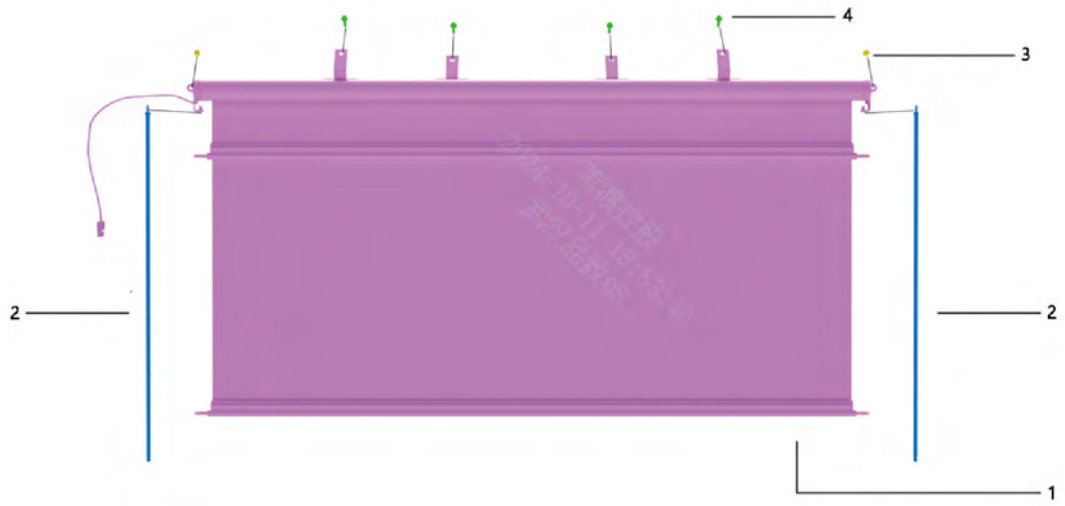
6.37.1 Specifications

6.37.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the sunshade assembly and the sunshade cover assembly	M6	(6.5 +/- .75) ft lbs

6.37.2 Decomposition Diagram

6.37.2.1 Decomposition Diagram



1. Assembly of the Sunshade Curtain Body
2. Assembly of the Sunshade Curtain Guide Rod
3. Cross Recessed Pan Head Screw Assy
4. Hexagon Flange Bolt

6.37.3 Dismantling and Installation

6.37.3.1 Replacement of Sunshade Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

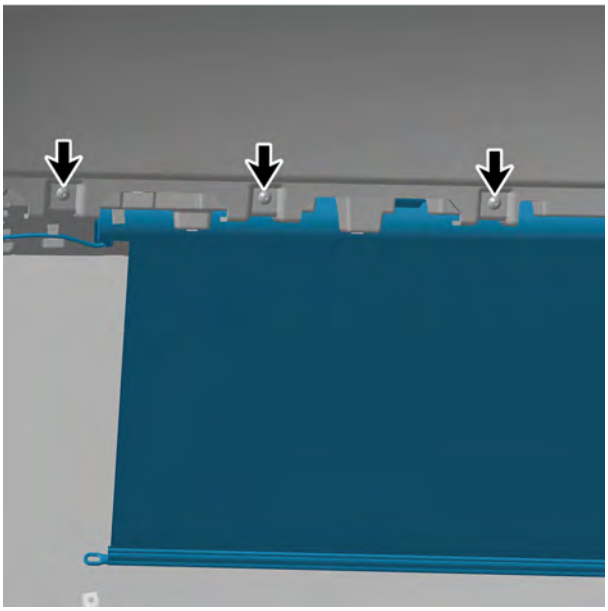
5 Remove the right A-pillar protective plate assembly.

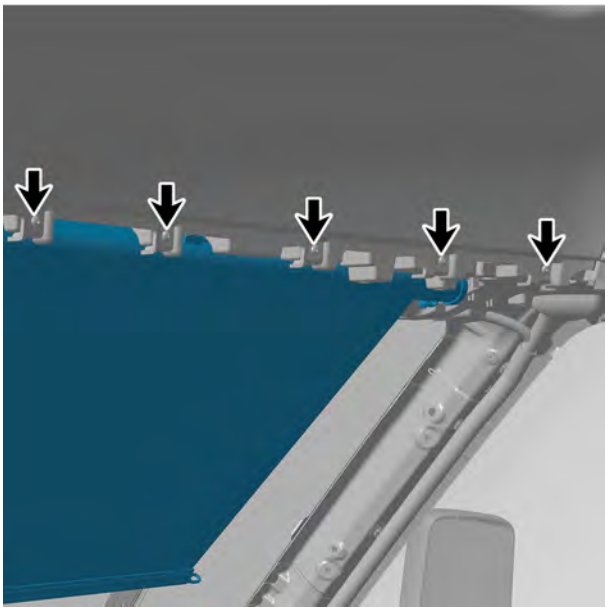
6 Remove the sunshade rail assembly.

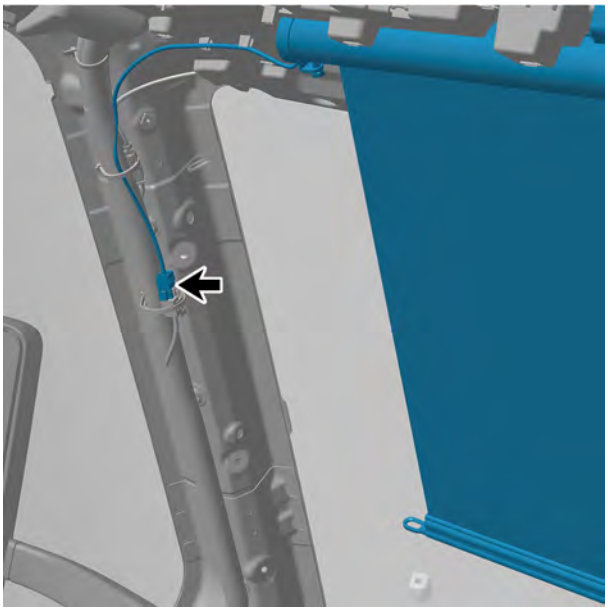
7 Remove the front camera trim cover assembly.

8 Remove the sunshade cover plate assembly.

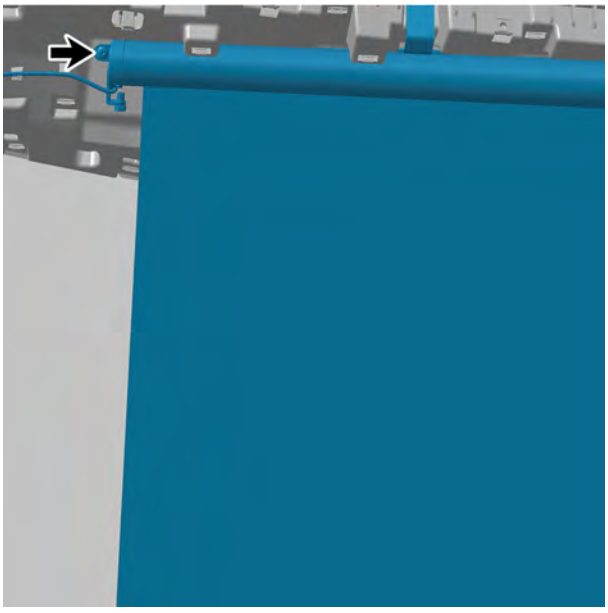
9 Remove 8 fixing screws of the middle ceiling assembly, and lift up the middle ceiling assembly.



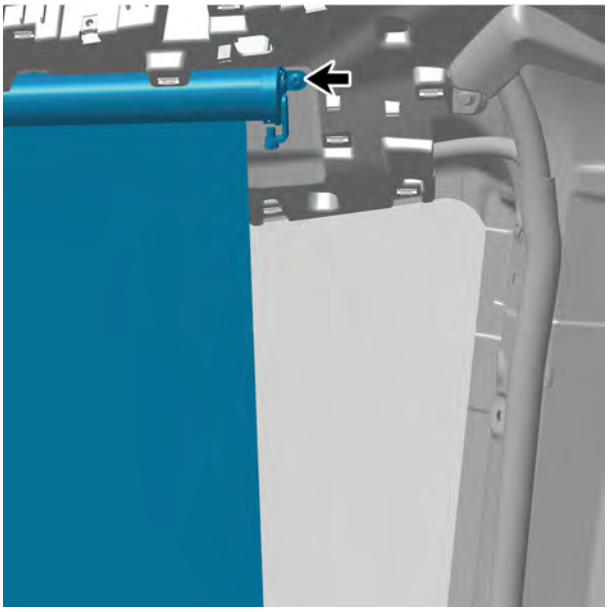


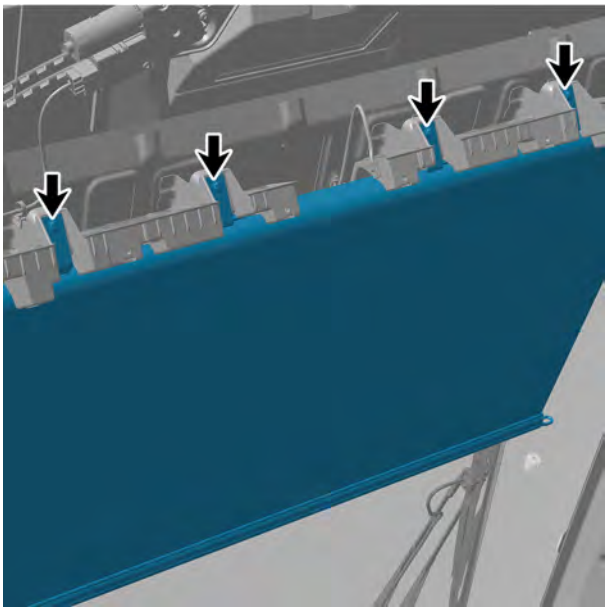


10 Disconnect 1 harness connector of the sunshade assembly.



11 Remove 2 fixing screws of the sunshade assembly.

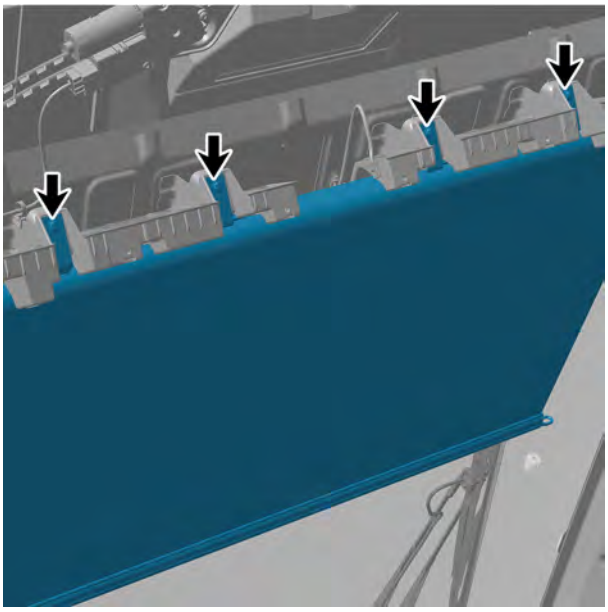




12 Remove 4 fixing bolts of the sunshade assembly.

13 Remove the sunshade assembly.

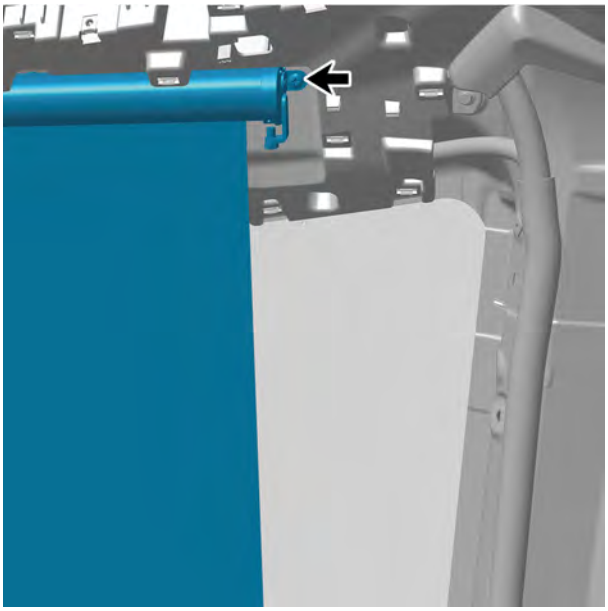
Installation Procedures



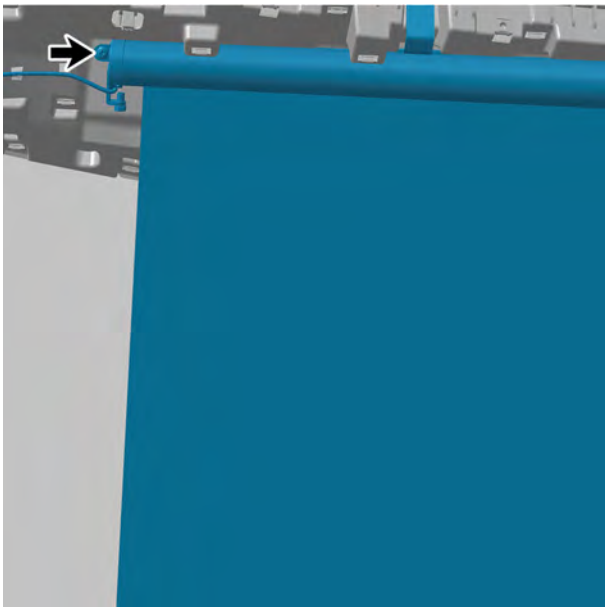
1 Move the sunshade assembly to the mounting position.

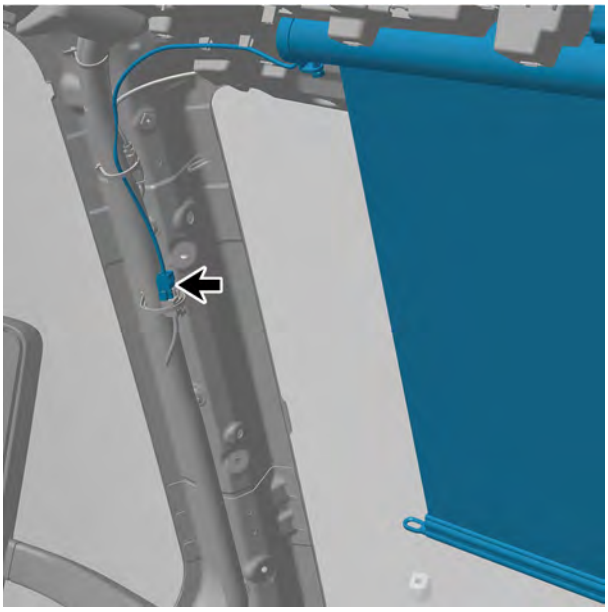
2 Install 4 fixing bolts of the sunshade assembly.

Torque: (6.5 +/- .75) ft lbs



3 Install 2 fixing screws of the sunshade assembly.

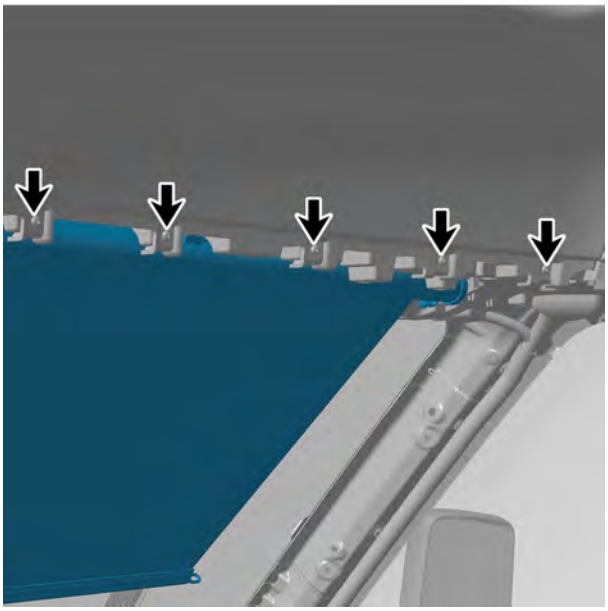




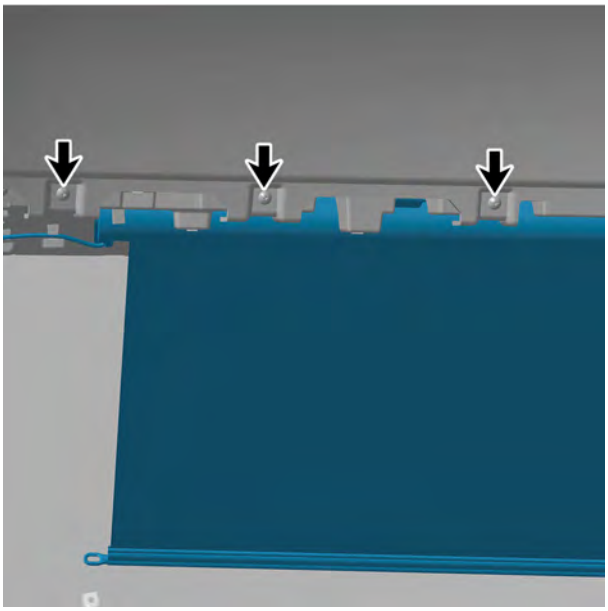
4 Connect 1 harness connector of the sunshade assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



5 Install 8 fixing screws of the middle ceiling assembly.



6 Install the sunshade cover plate assembly.

7 Install the front camera trim cover assembly.

8 Install the sunshade rail assembly.

9 Install the right A-pillar protective plate assembly.

10 Install the left A-pillar protective plate assembly.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

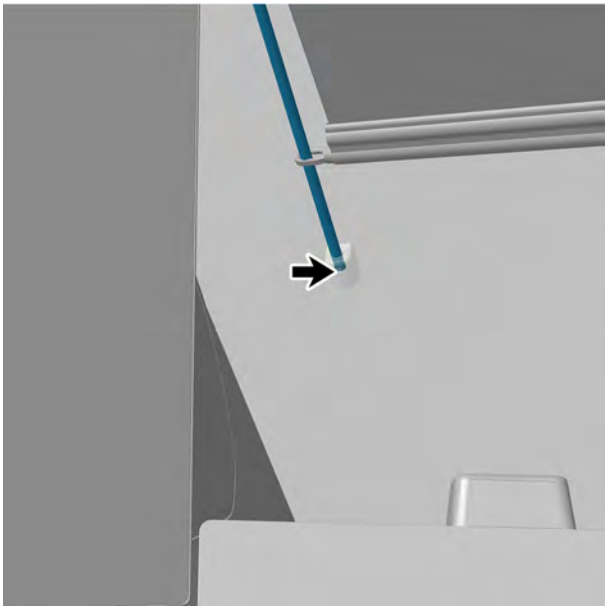
13 Close the door.

6.37.3.2 Replacement of Sunshade Rail Assembly

Removal Procedures

1 Open the door.

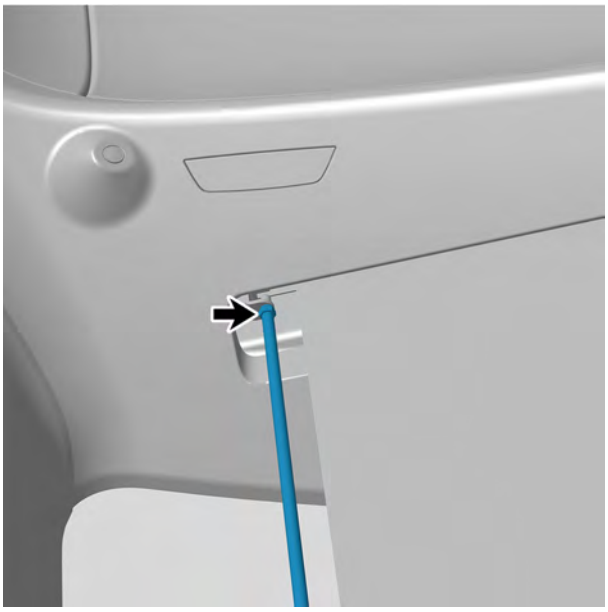
2 Remove 1 fixing screw of the sunshade rail assembly.



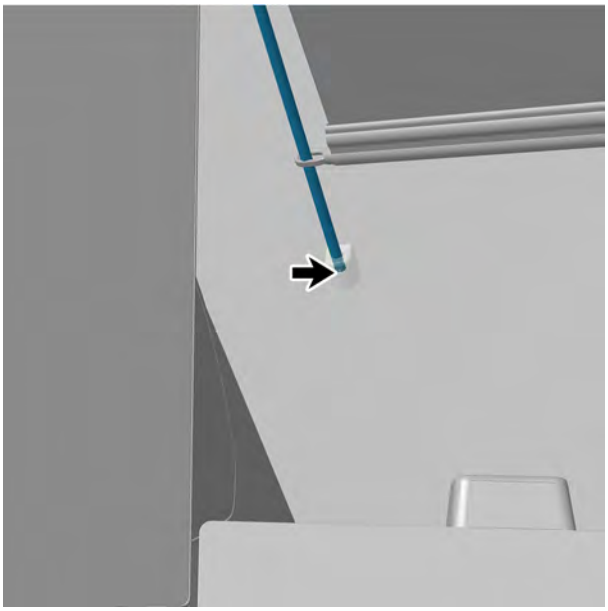


3 Rotate to remove the sunshade rail assembly.

Installation Procedures



1 Install the sunshade rail assembly.



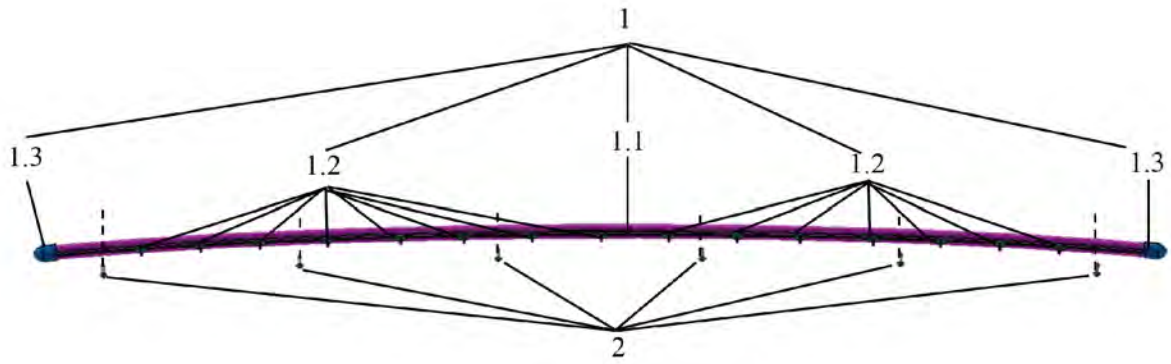
2 Install 1 fixing screw of the sunshade rail assembly.

3 Close the door.

6.38 Curtain Device

6.38.1 Decomposition Diagram

6.38.1.1 Decomposition Diagram



1. Guide Rail Assy-Curtain
1.1. Curtain Rail Body
1.2. Curtain Rail Slide Beads
1.3. Curtain Rail End Cap
2. Self-Tapping Screw

6.39 Boarding Handrail Device

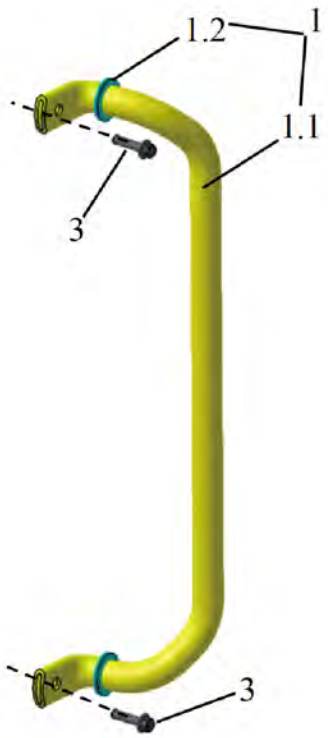
6.39.1 Specifications

6.39.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the front boarding armrest assembly to the body	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the rear boarding armrest assembly to the integrated frame	M8	(18.5 +/- 2) ft lbs

6.39.2 Decomposition Diagram

6.39.2.1 Decomposition Diagram





1. Boarding Handrail Assy-Frt
1.1. Front Boarding Handrail Body
1.2. Handrail Sealing Ring

2. Boarding Handrail Assy-Frt
2.1. Front Boarding Handrail Body
3. Hexagon Flange Bolt

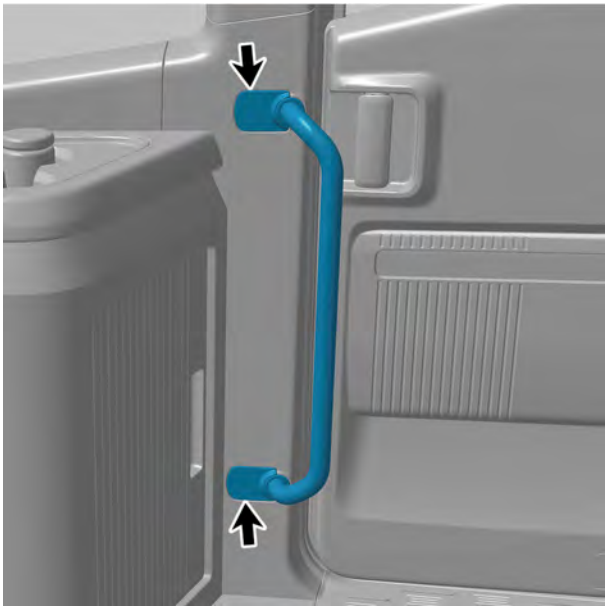
6.39.3 Dismantling and Installation

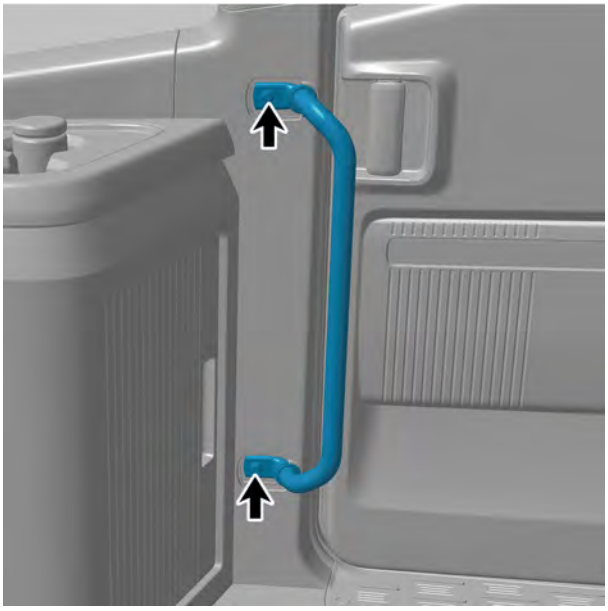
6.39.3.1 Replacement of Front Boarding Handrail Assembly

Removal Procedures

1 Open the door.

2 Remove the plug cap.

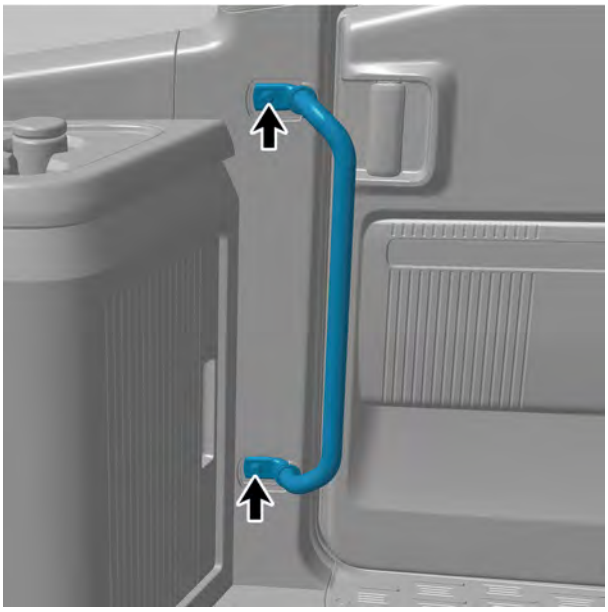




3 Remove 2 fixing bolts of the front boarding Handrail assembly.

4 Remove the front boarding Handrail assembly.

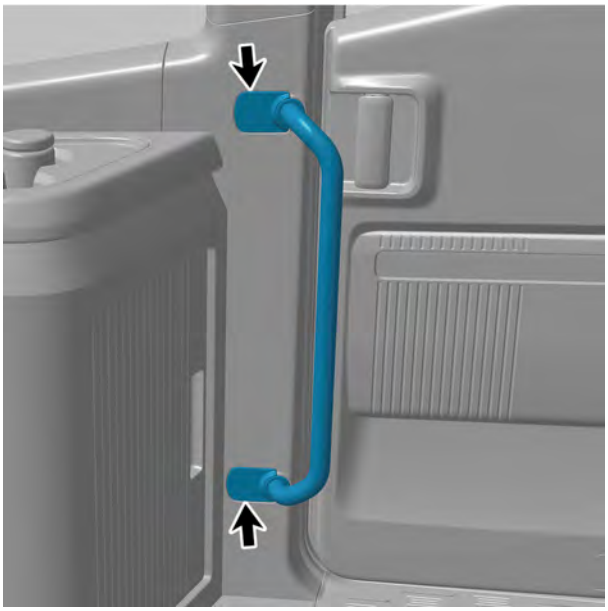
Installation Procedures



1 Move the front boarding Handrail assembly to the mounting position.

2 Install 2 fixing bolts of the front boarding Handrail assembly.

Torque:(18.5 +/- 2) ft lbs

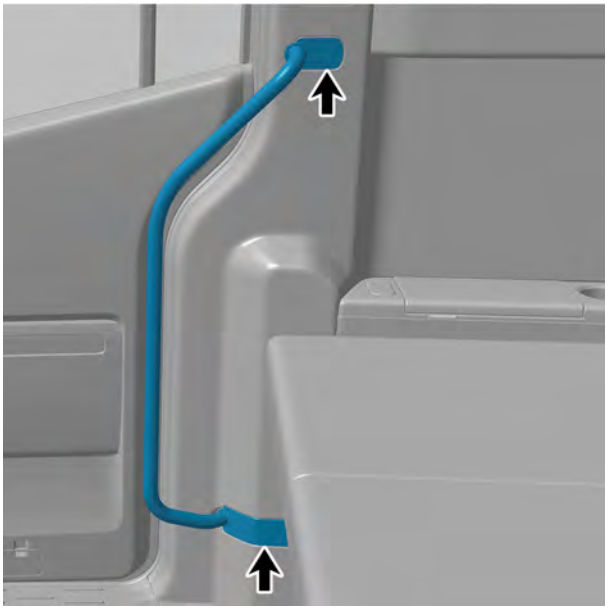


3 Install the plug cap.

4 Close the door.

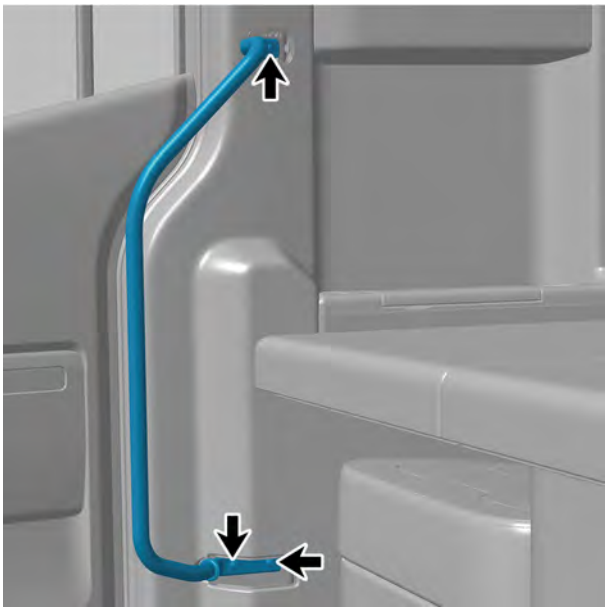
6.39.3.2 Replacement of Rear Boarding Handrail Assembly

Removal Procedures



1 Open the door.

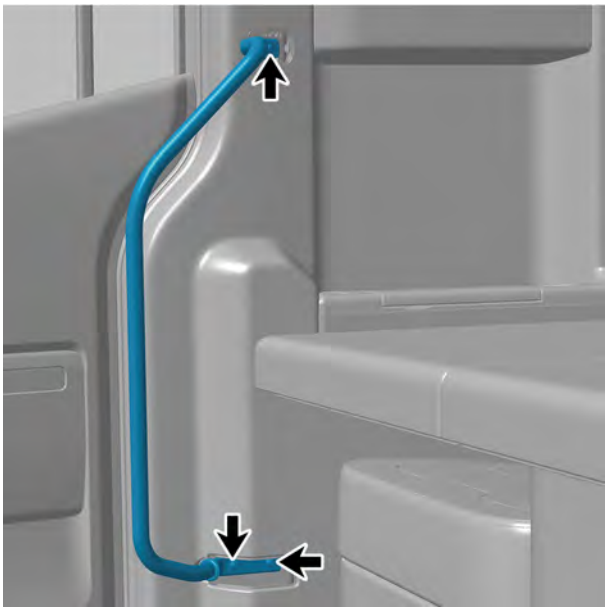
2 Remove the plug cap.



3 Remove 3 fixing bolts of the rear boarding Handrail assembly.

4 Remove the rear boarding Handrail assembly.

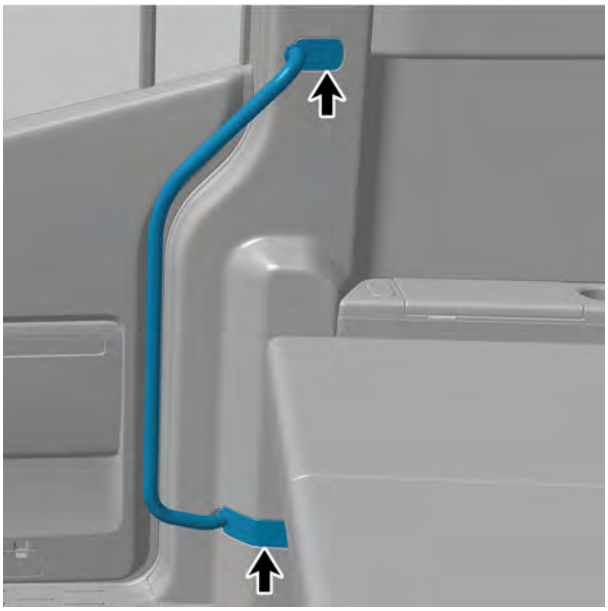
Installation Procedures



1 Move the rear boarding Handrail assembly to the mounting position.

2 Install 3 fixing bolts of the rear boarding Handrail assembly.

Torque:(18.5 +/- 2) ft lbs



3 Install the plug cap.

4 Close the door.

6.40 Sunroof Sunshade Curtain Device

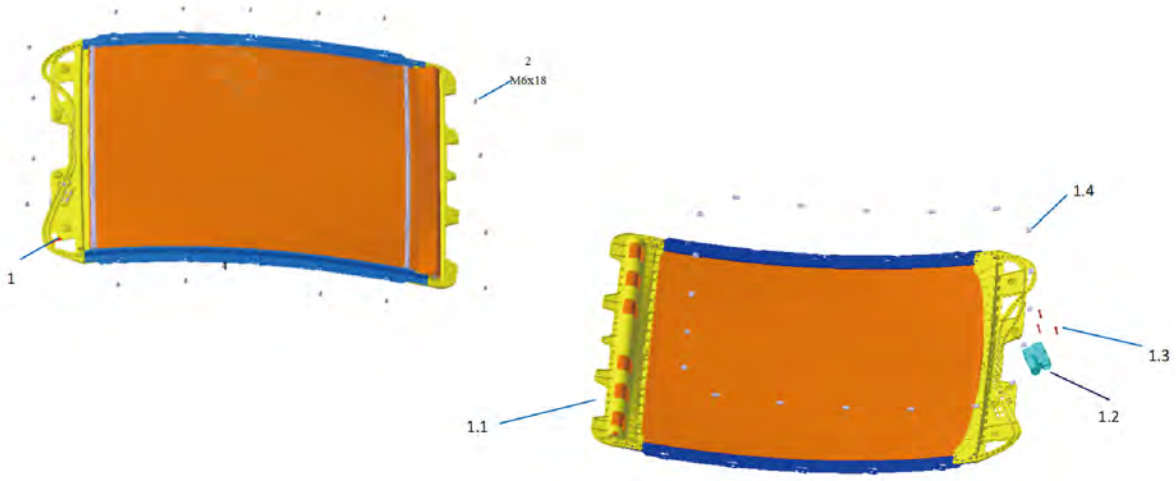
6.40.1 Specifications

6.40.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the sunroof sunshade assembly and the top cover assembly	M6	(6.5 +/- .75) ft lbs

6.40.2 Decomposition Diagram

6.40.2.1 Decomposition Diagram



1.	Fixed Glass Roof Sunshade Assy	1.3.	Hex Socket Set Screw
1.1.	Assembly of Canopy Sunshade Curtain Fabric	1.4.	Mushroom Fastener
1.2.	Assembly of Canopy Sunshade Curtain Motor	2.	Hexagon Flange Bolt

6.40.3 Dismantling and Installation

6.40.3.1 Replacement of Awning Sunshade Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left display bracket base inner cover.

5 Remove the CMS left display assembly.

6 Remove the left display bracket base.

7 Remove the left A-pillar protective plate assembly.

8 Remove the right A-pillar protective plate assembly.

9 Remove the sunshade rail assembly.

10 Remove the front camera trim cover assembly.

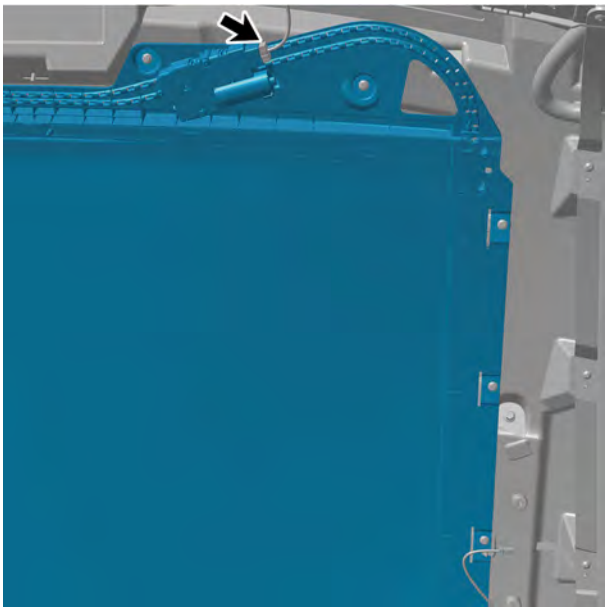
11 Remove the sunshade cover plate assembly.

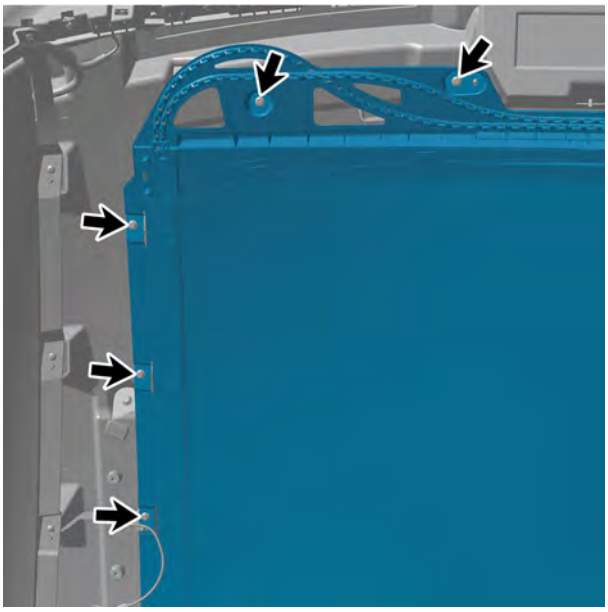
12 Remove the left ceiling lamp.

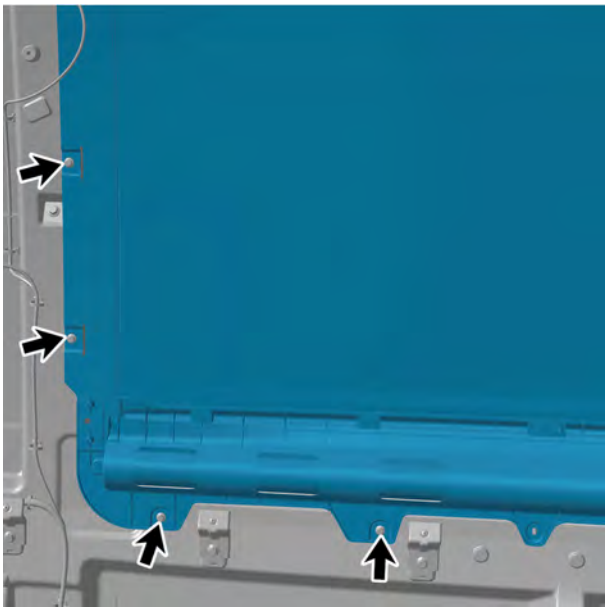
13 Remove the right ceiling lamp.

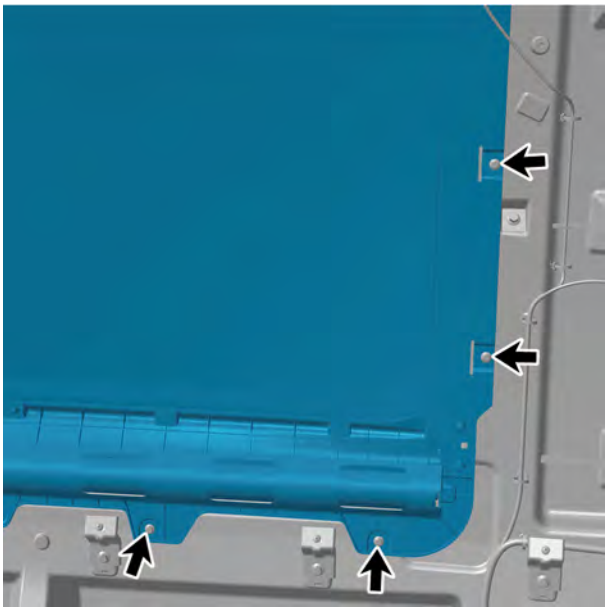
14 Remove the middle ceiling assembly.

15 Disconnect 1 harness connector of the awning sunshade assembly.

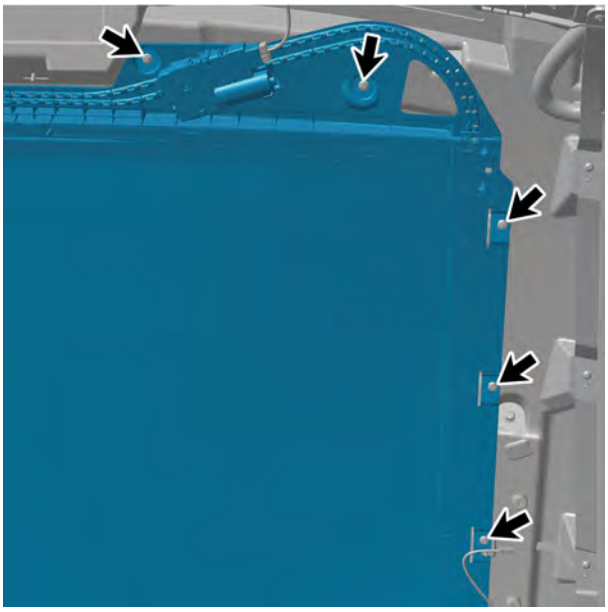


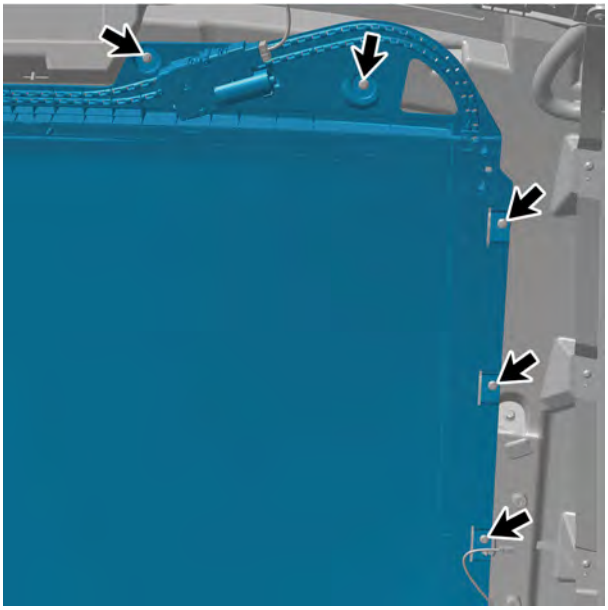






16 Remove 18 fixing bolts of the awning sunshade assembly, and remove the awning sunshade assembly.



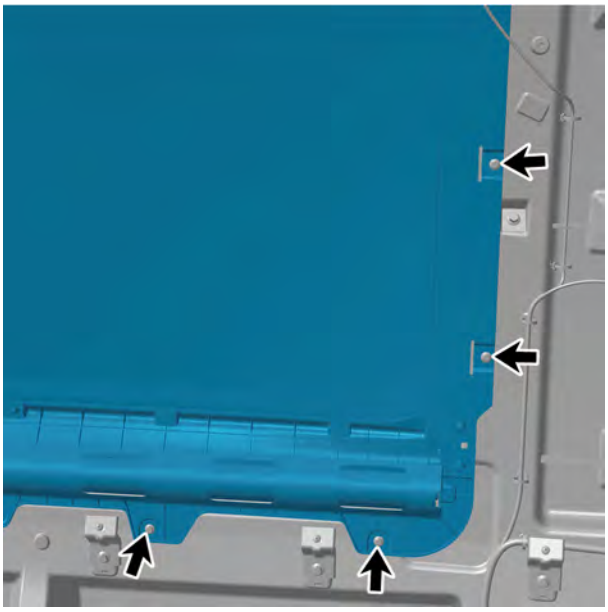


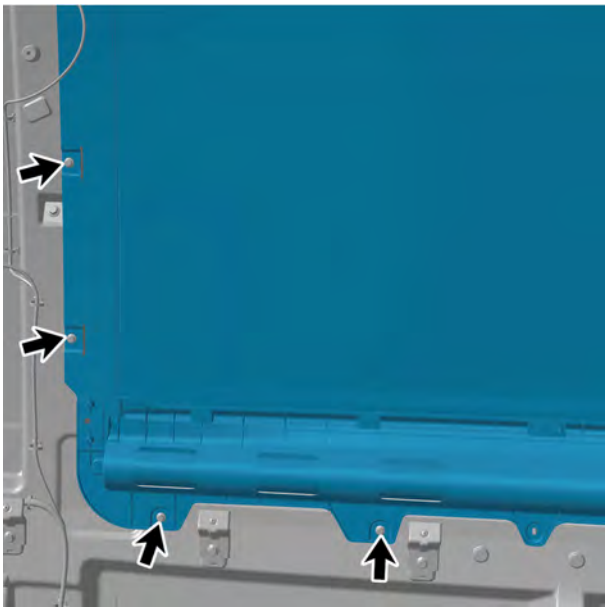
Installation Procedures

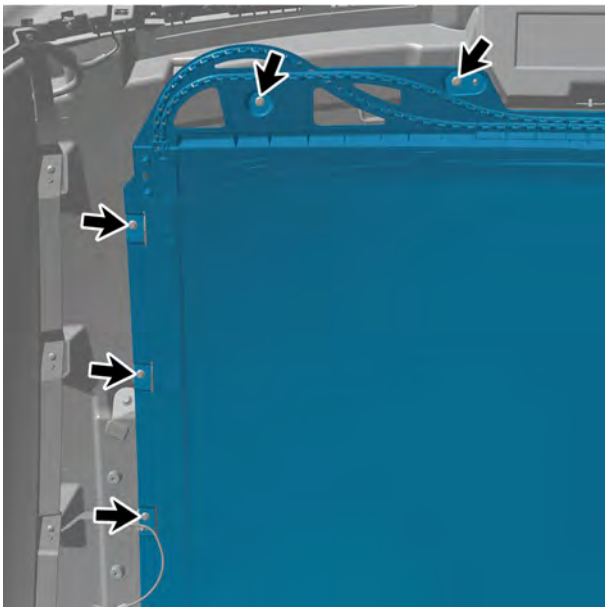
1 Move the awning sunshade to the mounting position.

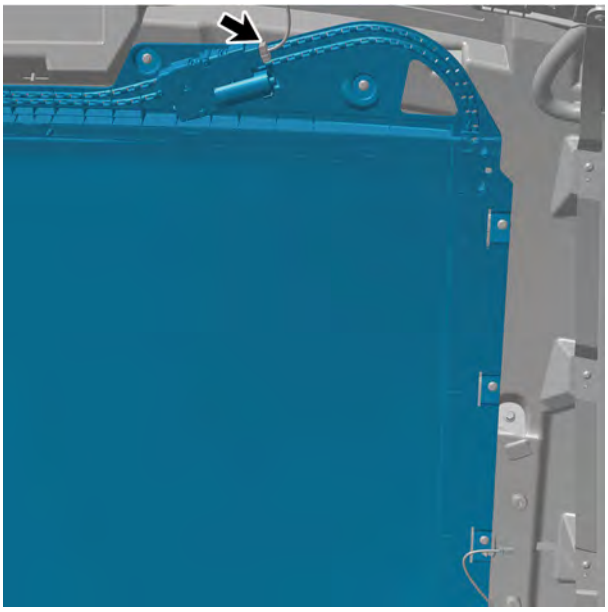
2 Install 18 fixing bolts of the awning sunshade assembly.

Torque: (6.5 +/- .75) ft lbs









3 Connect 1 harness connector of the awning sunshade.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the middle ceiling assembly.

5 Install the right ceiling lamp.

6 Install the left ceiling lamp.

7 Install the sunshade cover plate assembly.

8 Install the front camera trim cover assembly.

9 Install the sunshade rail assembly.

10 Install the right A-pillar protective plate assembly.

11 Install the left A-pillar protective plate assembly.

12 Install the left display bracket base.

13 Install the CMS left display assembly.

14 Install the left display bracket base inner cover.

15 Connect the battery negative cable.

16 Close the front flip cover plate.

17 Close the door.

6.41 Front Hood Device

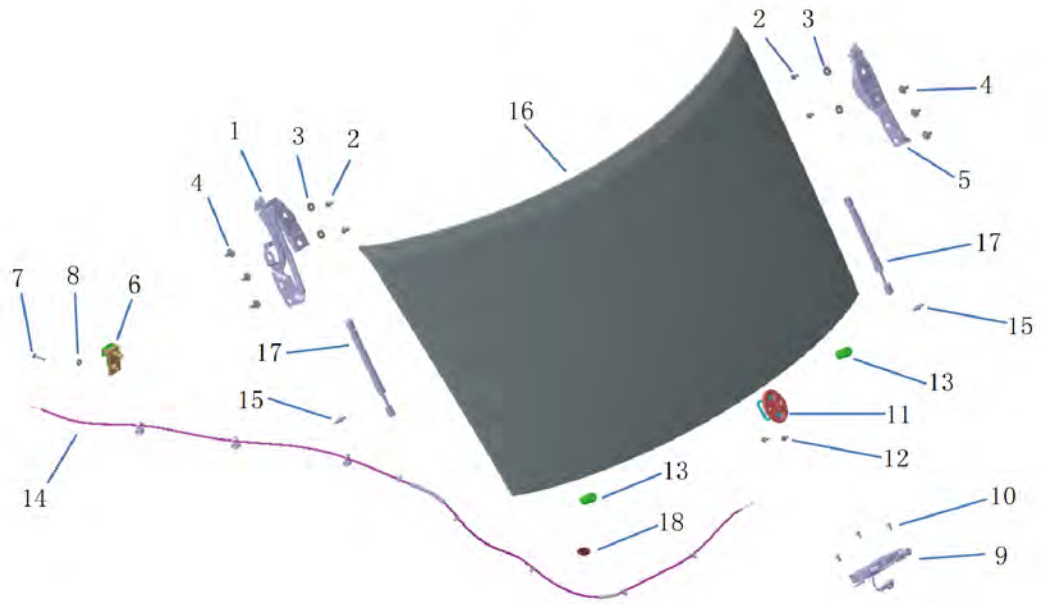
6.41.1 Specifications

6.41.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts between the front cover lock assembly and the front cover assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the front cover latch assembly and the front cover assembly	M6	(6.5 +/- .75) ft lbs

6.41.2 Decomposition Diagram

6.41.2.1 Decomposition Diagram

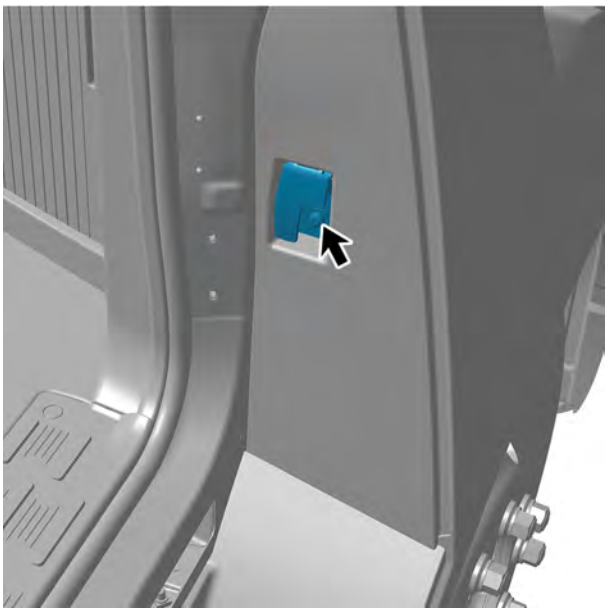


1. Engine Hood Hinge Assy-Rh
2. Hexagon Bolt
3. Large Washer
4. Hexagon Head Bolt Assy
5. Engine Hood Hinge Assy-Lh
6. Handle Assy-Frt Cover Opening
7. Hex Socket Set Screw
8. Large Washer
9. Engine Hood Lock Assy
10. Hexagon Flange Bolt
11. Engine Hood Striker Assy
12. Hexagon Flange Bolt
13. Bumper Engine Hood
14. Cable Hood Opening Assy
15. The Air Pole Is Installed With The Ball End
16. Front Cover Assy
17. Air Strut Engine Hood
18. Plug Cover

6.41.3 Dismantling and Installation

6.41.3.1 Replacement of Engine Hood Opening Handle Assembly

Removal Procedures

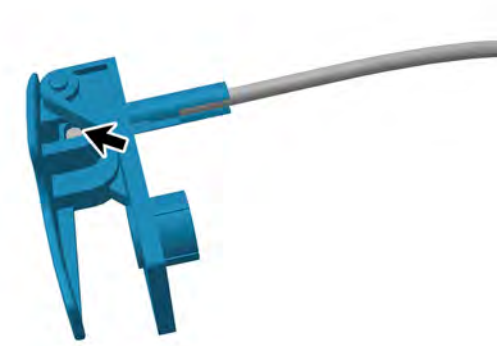


1 Open the door.

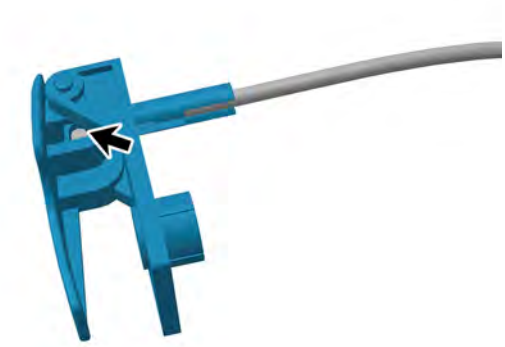
2 Remove 1 fixing screw of the engine hood opening handle assembly, and detach the engine hood opening handle assembly.

3 Disengage the engine hood lock cable assembly.

4 Remove the engine hood opening handle assembly.

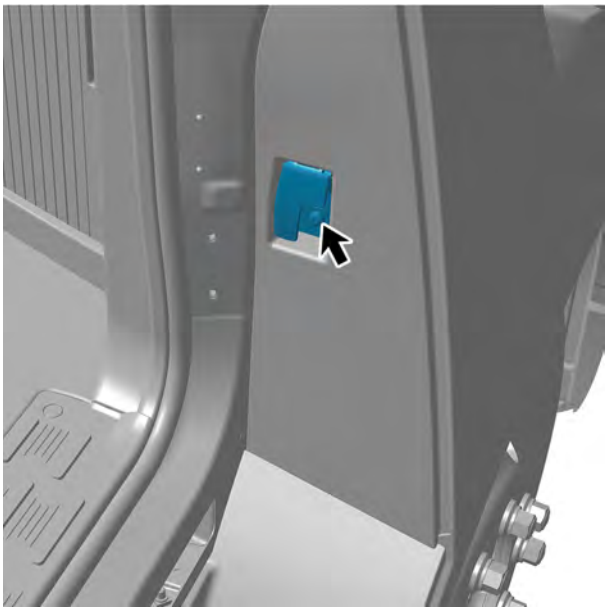


Installation Procedures



1 Move the engine hood opening handle assembly to the mounting position.

2 Connect the engine hood lock cable assembly.



3 Install 1 fixing screw of the engine hood opening handle assembly.

4 Close the door.

6.41.3.2 Replacement of Engine Hood Lock Assembly

Removal Procedures

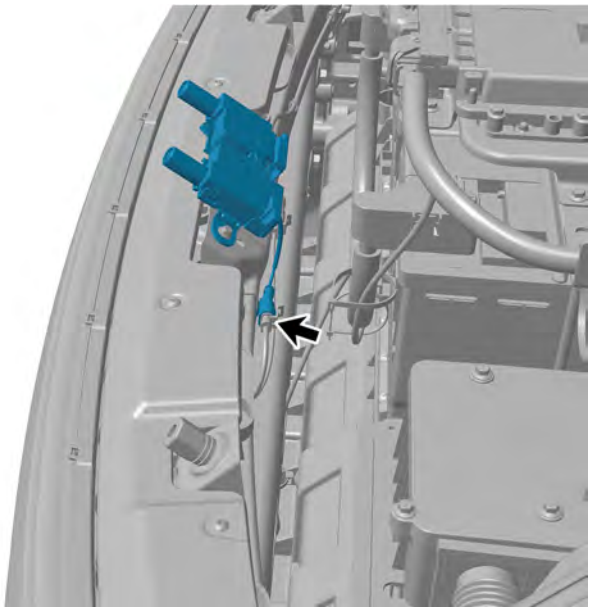
1 Open the door.

2 Open the front flip cover plate.

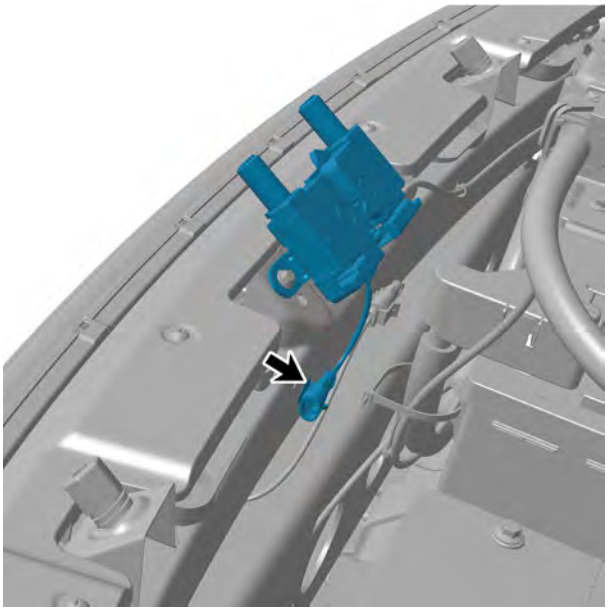
3 Disconnect the battery negative cable.

caution

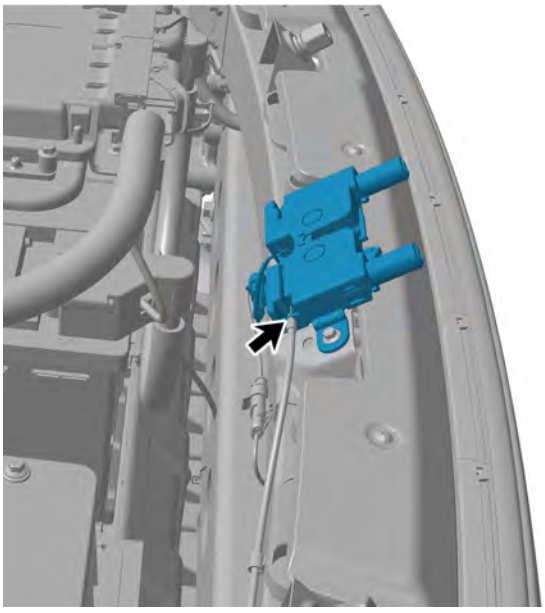
power down the high-voltage system before disconnecting the negative pole of the storage battery.



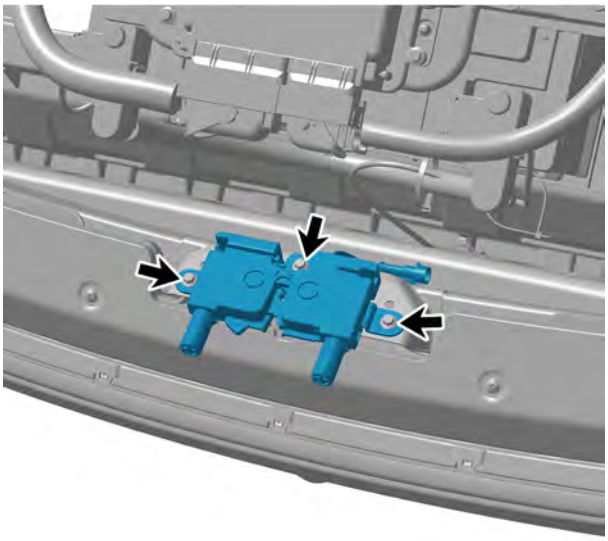
4 Disconnect 1 harness connector of the engine hood lock assembly.



5 Disengage 1 clip of the engine hood lock assembly.



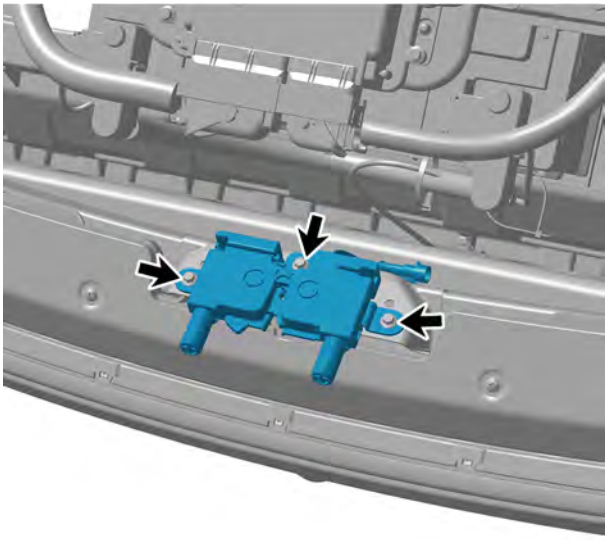
6 Disengage the engine hood lock cable assembly.



7 Remove 3 fixing bolts of the engine hood lock assembly.

8 Remove the engine hood lock assembly.

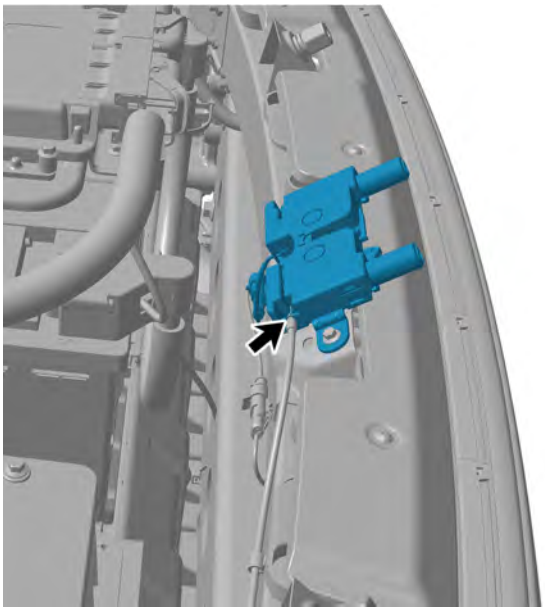
Installation Procedures



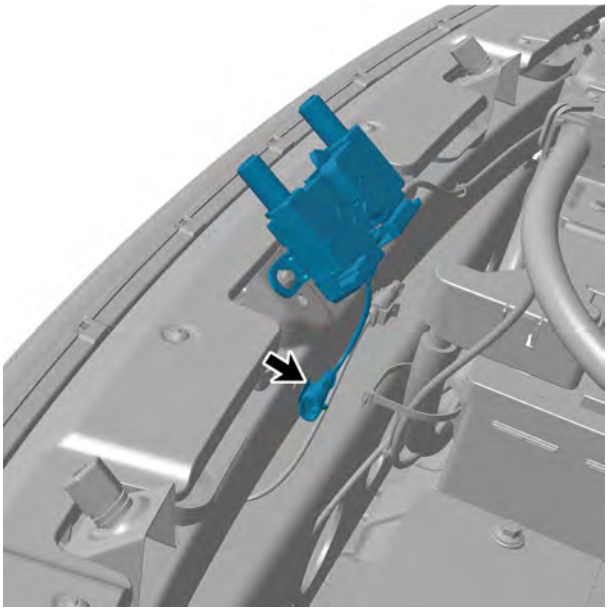
1 Move the engine hood lock assembly to the mounting position.

2 Install 3 fixing bolts of the engine hood lock assembly.

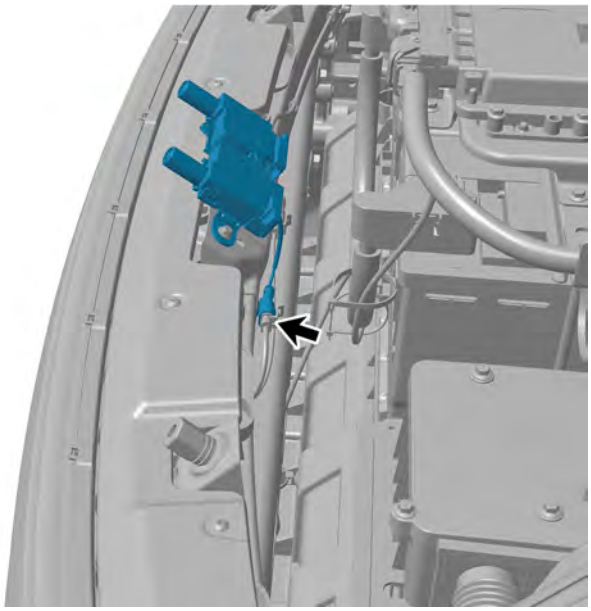
Torque: (6.5 +/- .75) ft lbs



3 Connect the engine hood lock cable assembly.



4 Install 1 clip of the engine hood lock assembly.



5 Connect 1 harness connector of the engine hood lock assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

6 Connect the battery negative cable.

7 Close the front flip cover plate.

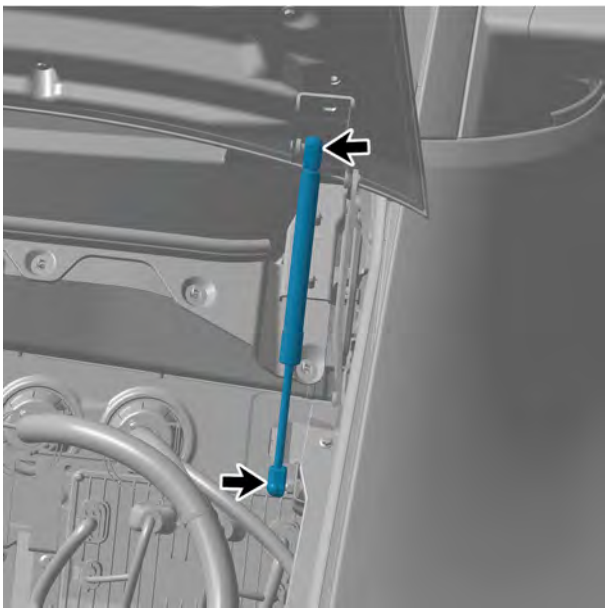
8 Close the door.

6.41.3.3 Replacement of Engine Hood Pneumatic Strut (left)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.



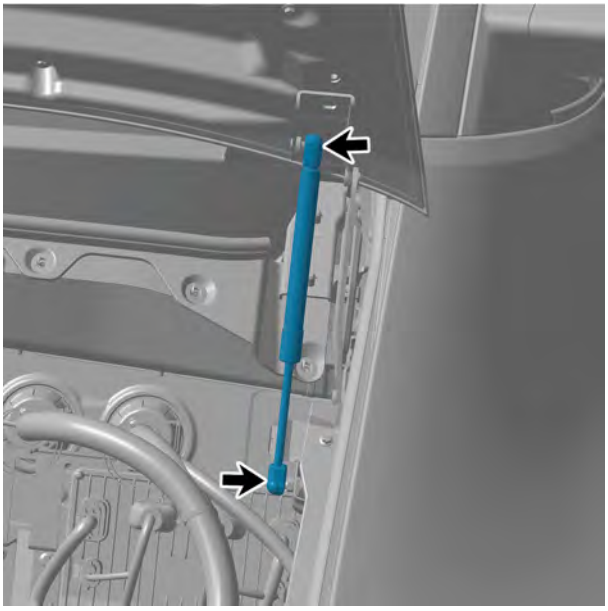
3 Pry off 2 lock pieces of the engine hood pneumatic strut (left).

4 Remove the engine hood pneumatic strut (left).

caution

One person is required to support the engine hood cover plate during removal.

Installation Procedures



1 Move the engine hood pneumatic strut to the mounting position.

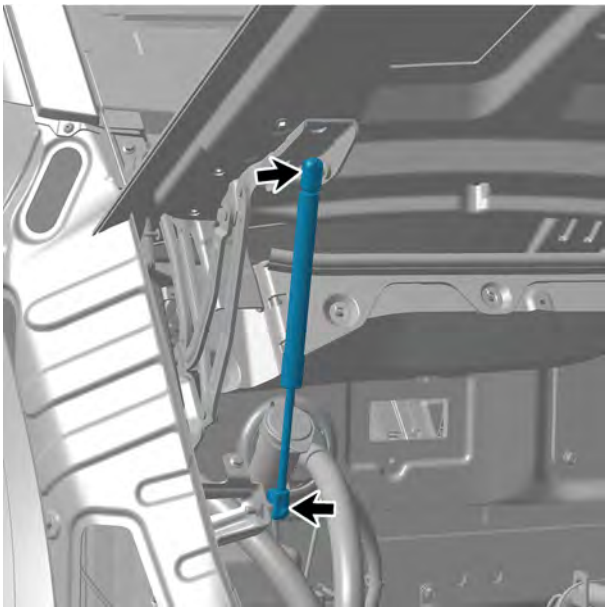
2 Fasten 2 lock pieces of the engine hood pneumatic strut (left).

3 Close the front flip cover plate.

4 Close the door.

6.41.3.4 Replacement of Engine Hood Pneumatic Strut (right)

Removal Procedures



1 Open the door.

2 Open the front flip cover plate.

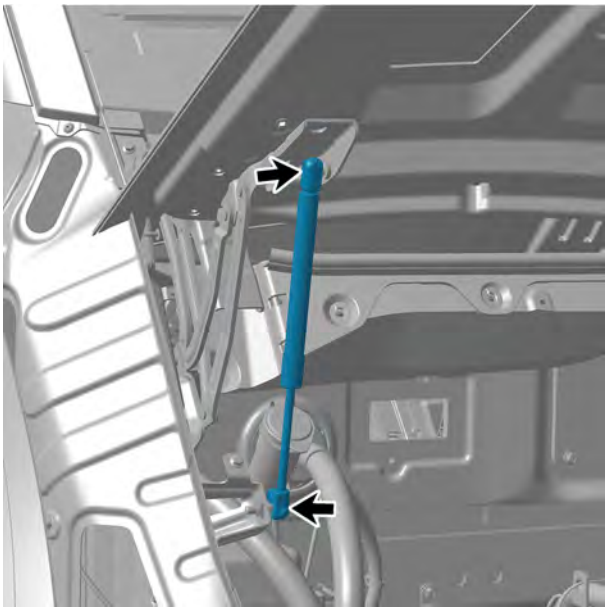
3 Pry off 2 lock pieces of the engine hood pneumatic strut (right).

4 Remove the engine hood pneumatic strut (right).

caution

One person is required to support the engine hood cover plate during removal.

Installation Procedures



1 Move the engine hood pneumatic strut (right) to the mounting position.

2 Fasten 2 lock pieces of the engine hood pneumatic strut (right).

3 Close the front flip cover plate.

4 Close the door.

6.42 Fender Device

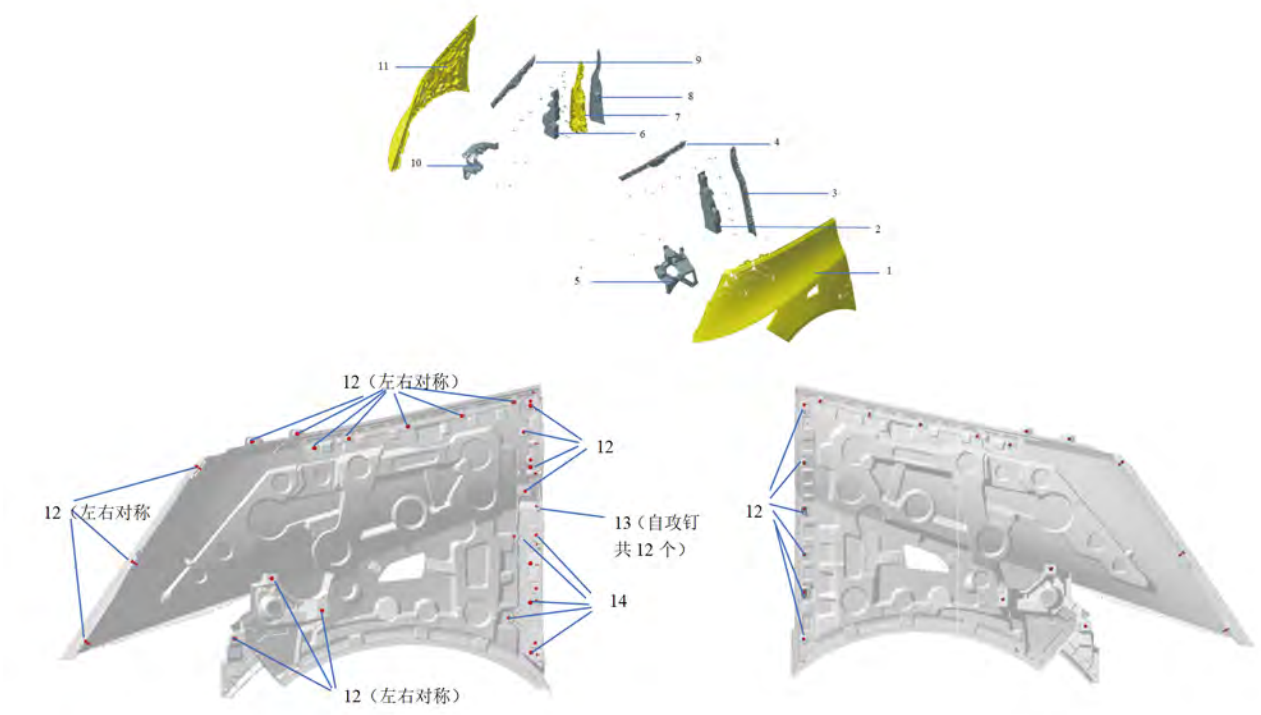
6.42.1 specifications

6.42.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the right fender cover bracket assembly and the white body assembly assembly	M6	(6.5 +/- .75) ft lbs

6.42.2 Decomposition Diagram

6.42.2.1 Decomposition Diagram



1. Fender Assy-Rh
2. Filling Block-Fender-Lh
3. Connect Skeleton Assy-Lh Fender
4. Upper Bracket on the Left Fender
5. Brkt Assy-Lh Fender
6. Filling Block-Fender-Rh
7. Brkt Assy-Fender Cover Rh
8. Fender Cover Body
9. Upr Skeleton-Fender-Rh
10. Brkt Assy-Rh Fender
11. Fender Assy-Rh
12. Hexagon Flange Bolt
13. Self-Tapping Screw Assy
14. Hexagon Flange Bolt

6.43 Boarding Step Device

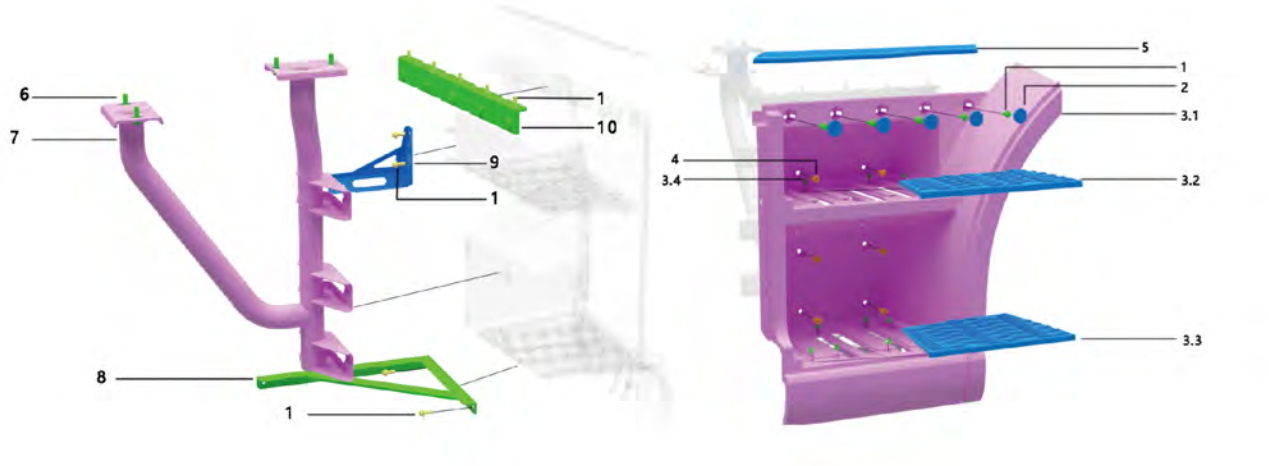
6.43.1 Specifications

6.43.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the upper step bracket to the white body assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the upper step pipe beam and the white body assembly	M10	(33 +/- 3.5) ft lbs
The fixing bolt connecting the upper step body assembly and the right front wheel housing rear body	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the upper step body assembly and the wheel cover connection bracket	M8	(18.5 +/- 2) ft lbs

6.43.2 Decomposition Diagram

6.43.2.1 Decomposition Diagram



1. Hexagon Flange Bolt
2. Plug-Stepping
3.1. Boarding Step Body
3.2. Secondary Step Mat
3.3. Primary Step Mat
3.4. Cross Recessed Pan Head Machine Screw
4. Hex Socket Set Screw
5. Outer Decorative Cover Plate of the Sill
6. Hexagon Flange Bolt
7. Pipe Beams
8. Attachment Brkt-Lower Wheel Arch
9. Attachment Brkt-Upper Wheel Arch
10. Pedal Bracket

6.43.3 Dismantling and Installation

6.43.3.1 Replacement of Boarding Step Body Assembly

Removal Procedures

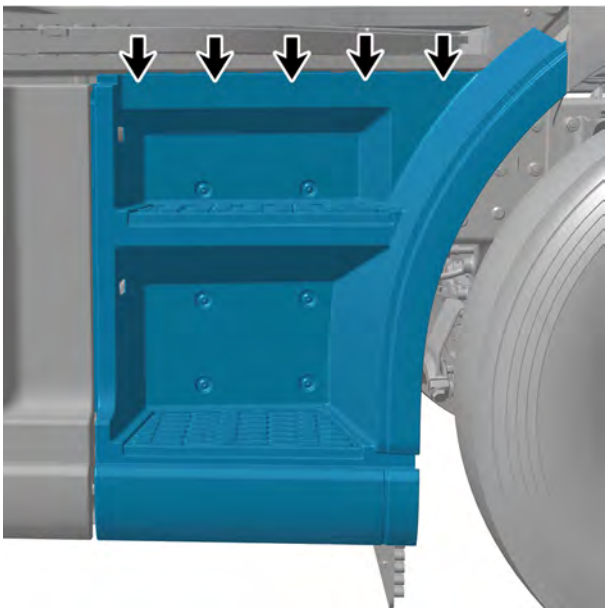
1 Open the door.

2 Open the front flip cover plate.

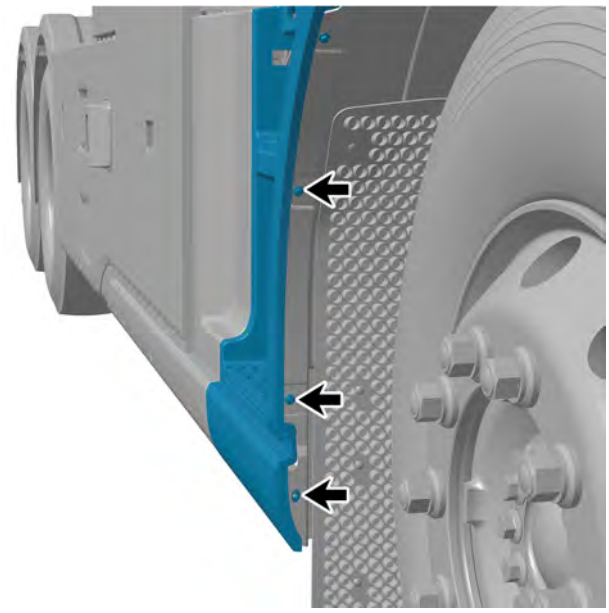
3 Disconnect the battery negative cable.

caution

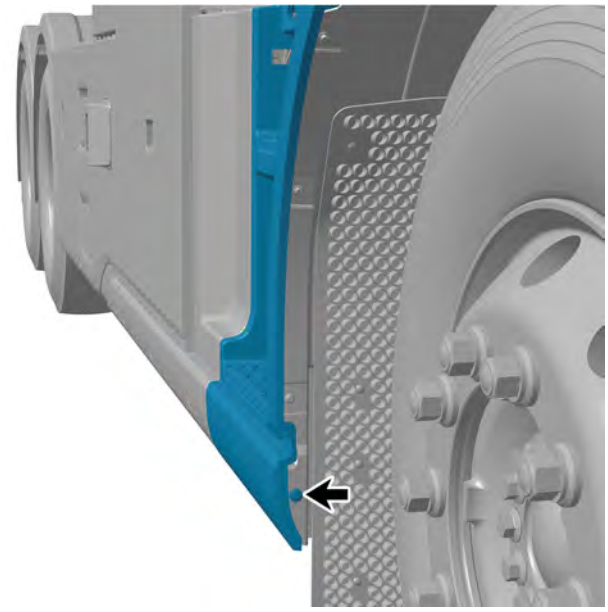
power down the high-voltage system before disconnecting the negative pole of the storage battery.



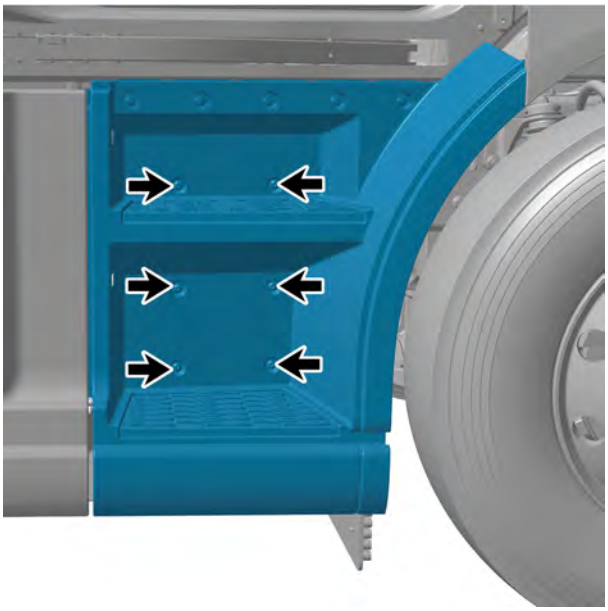
4 Remove the plug cap.



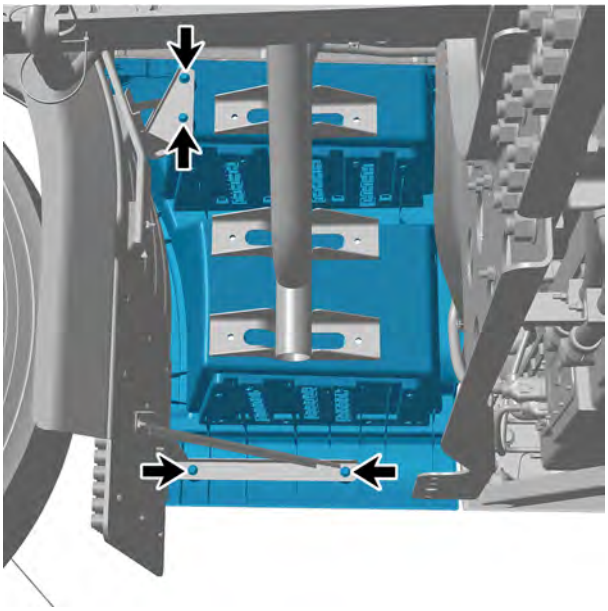
5 Remove the 3 fixing bolts of the main body assembly of the get on the bus and step on the main assy.



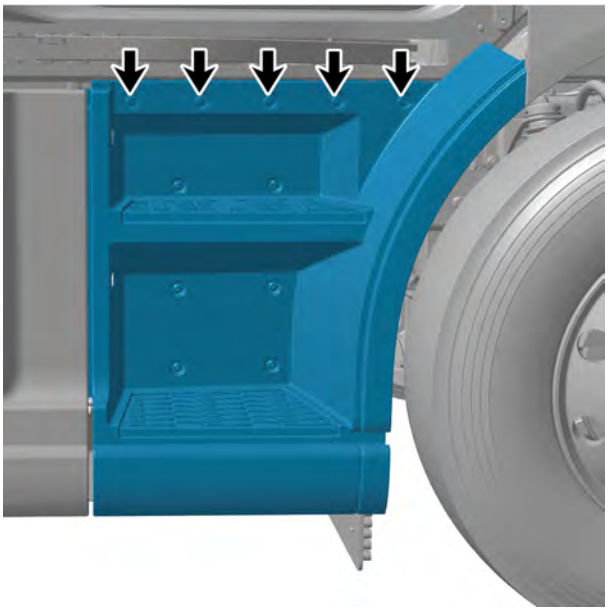
6 Disengage 1 snap fastener of the main body assembly of the get on the bus and step on the main assy.



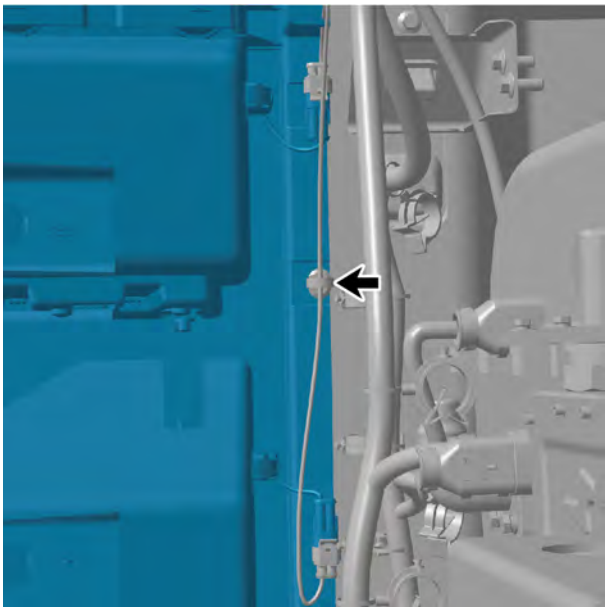
7 Remove the 6 fixing screws of the main body assembly of the get on the bus and step on the main assy.



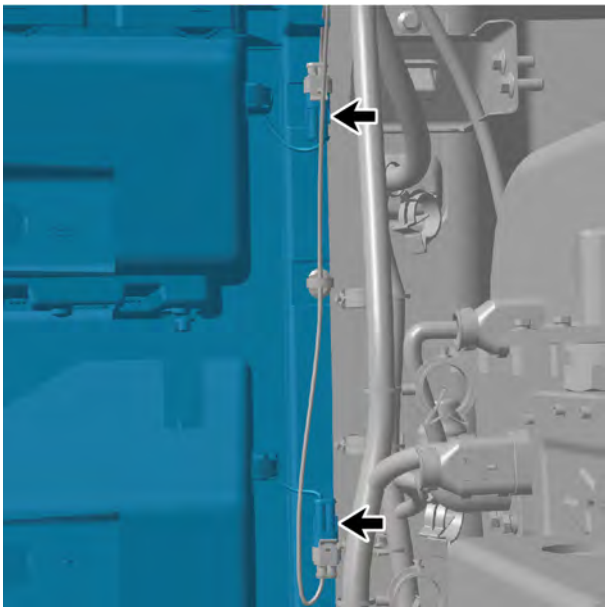
8 Remove the 4 fixing screws of the main body assembly of the get on the bus and step on the main assy.



9 Remove the 5 fixing bolts of the main body assembly of the get on the bus and step on the main assy.



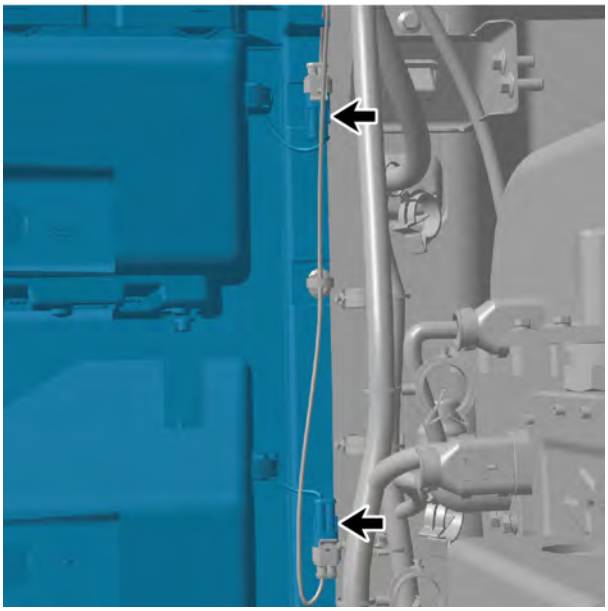
10 Separate 1 snap fastener.



11 Disconnect 2 wire harness connectors.

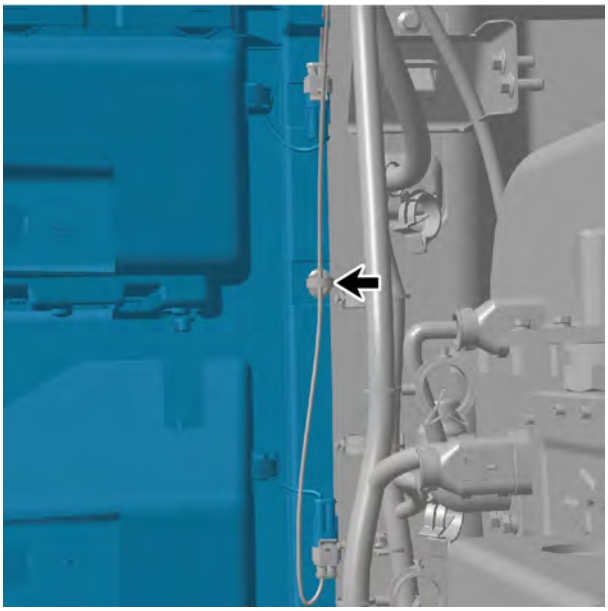
12 Take off the main body assembly of the get on the bus and step on the main assy.

Installation Procedures

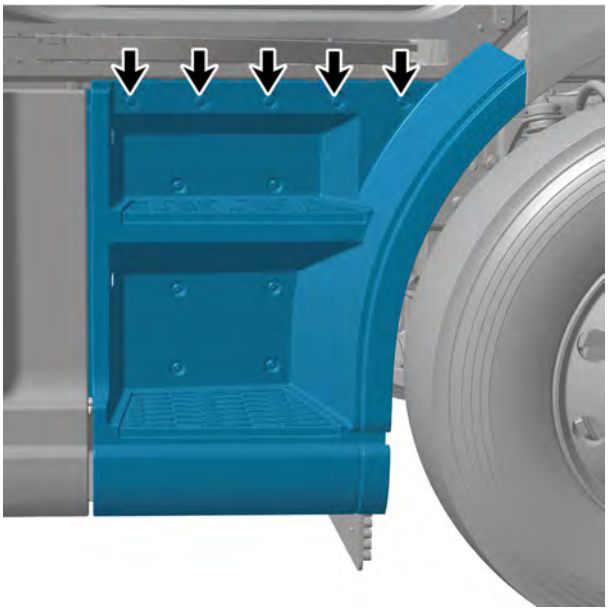


1 Install the main body assembly of the get on the bus and step on the main assy.

2 Connect 2 wire harness connectors.

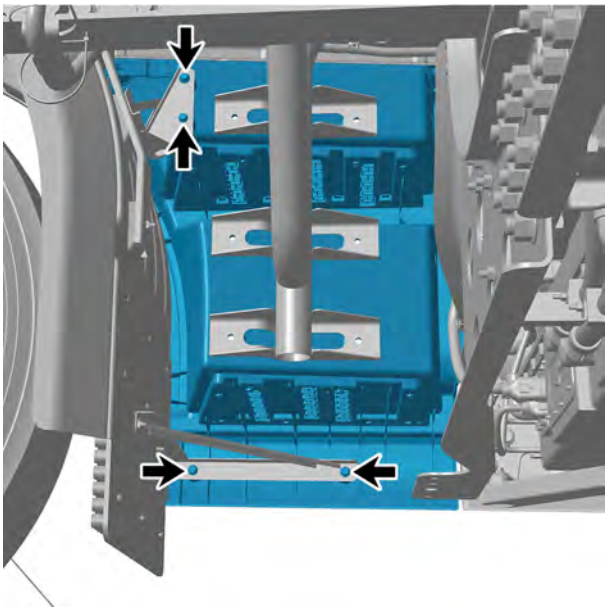


3 Connect 1 snap fastener.



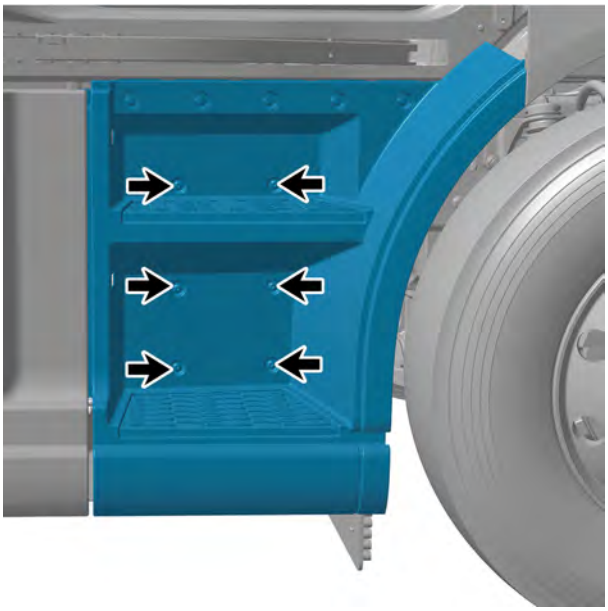
4 Install the 5 fixing bolts of the main body assembly of the get on the bus and step on the main assy.

Torque:(18.5 +/- 2) ft lbs

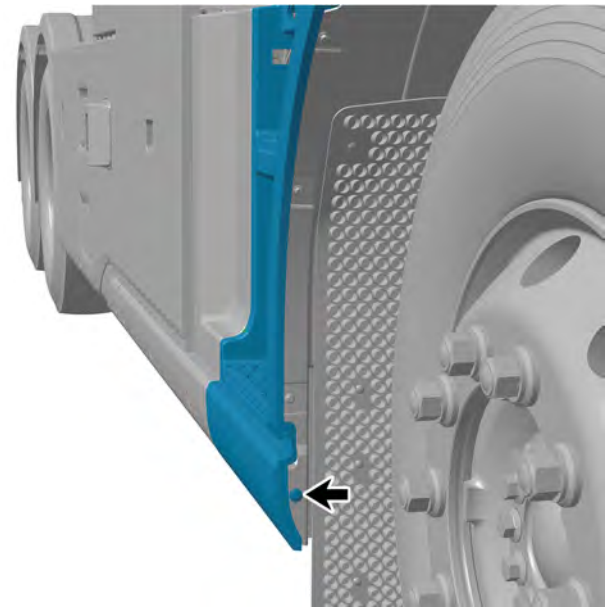


5 Install the 4 fixing bolts of the main body assembly of the get on the bus and step on the main assy.

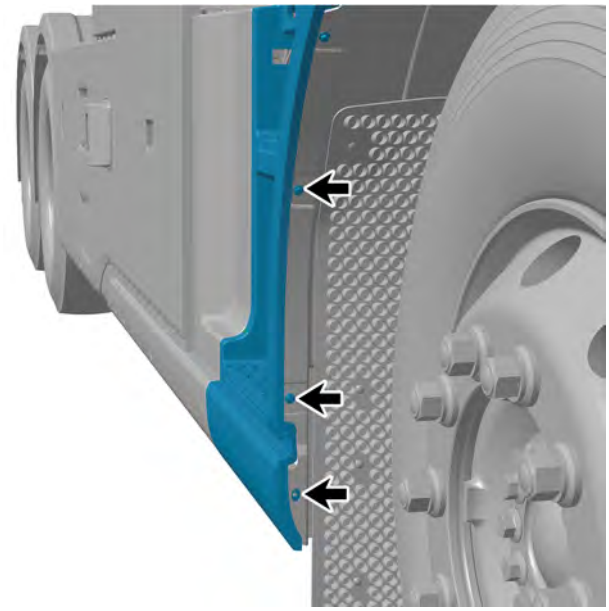
Torque: (18.5 +/- 2) ft lbs



6 Install the 6 fixing screws of the main body assembly of the get on the bus and step on the main assy.

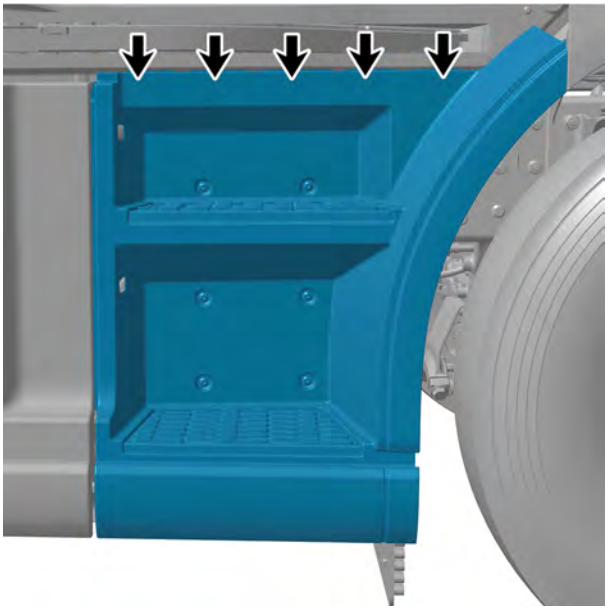


7 Install 1 snap fastener of the main body assembly of the get on the bus and step on the main assy.



8 Install the 3 fixing bolts of the main body assembly of the get on the bus and step on the main assy.

Torque:(6.5 +/- .75) ft lbs



9 Install the plug cap.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

6.44 Side Skirt Panel Device

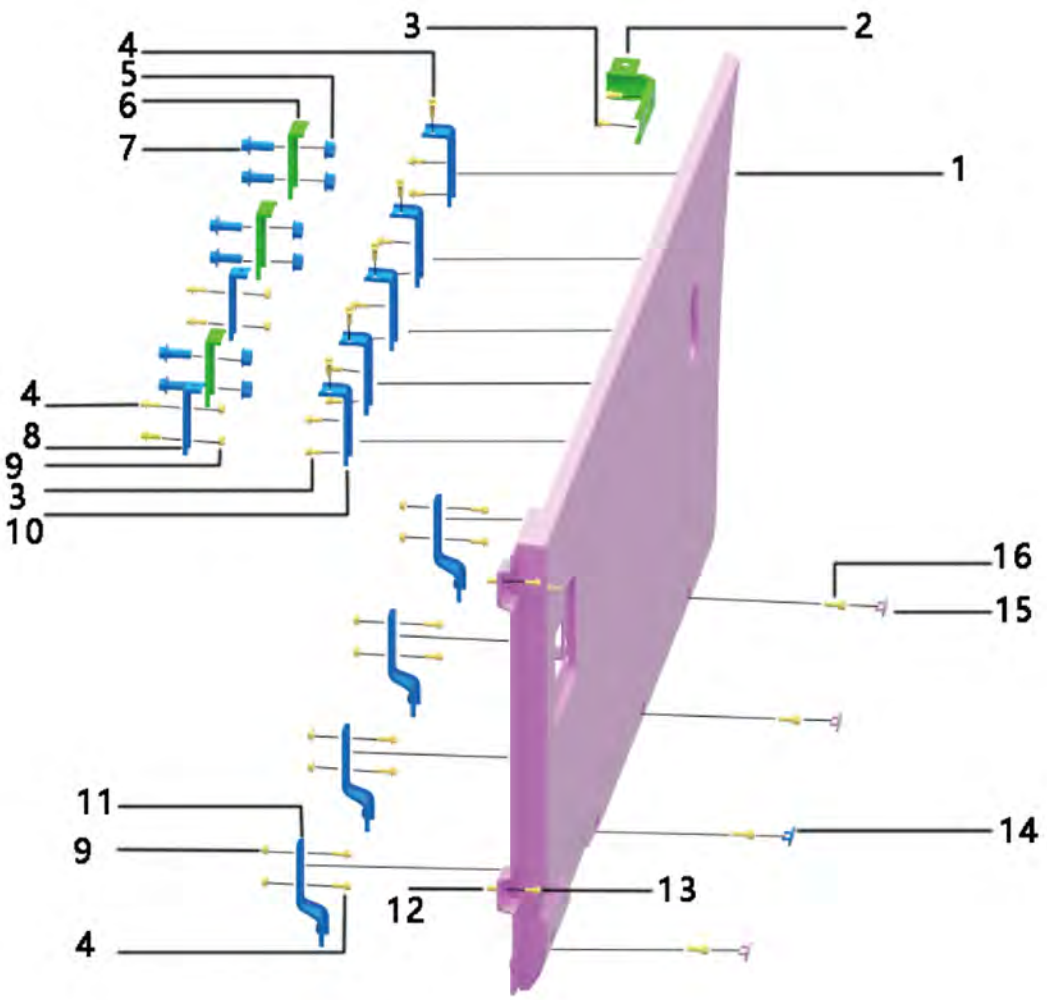
6.44.1 Specifications

6.44.1.1 Fastener Specifications

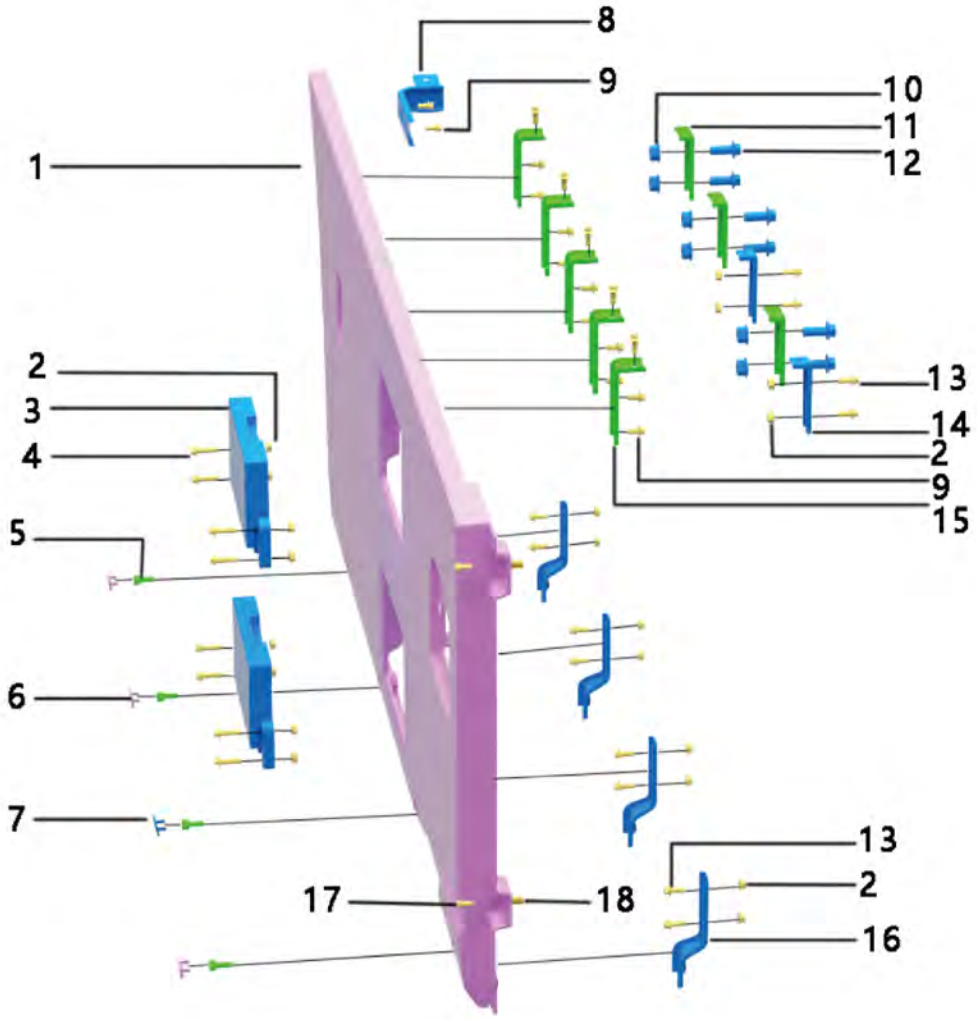
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the side skirt bracket and the frame assembly	M14	(103 +/- 7.5) ft lbs
The fixing nut connecting the side skirt bracket to the frame assembly	M14	(103 +/- 7.5) ft lbs
The fixing bolts connecting the side skirt bracket and the frame assembly	M6	(4.5 +/- .75) ft lbs
The fixing bolts connecting the side skirt bracket and the frame assembly母	M6	(.75 - 2) ft lbs
The fixing bolt connecting the left skirt assembly and the side skirt bracket	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the skirt mounting bracket to the frame assembly	M8	(18.5 +/- 2) ft lbs
The fixing nut connecting the side skirt bracket to the frame assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the skirt mounting bracket to the frame assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the installation bracket under the skirt and the side skirt assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the rear step assembly and the right side skirt assembly	M8	(18.5 +/- 2) ft lbs

6.44.2 Decomposition Diagram

6.44.2.1 Decomposition Diagram



1.	Skirt Assy-Lh	9.	Hexagon Flange Nut
2.	Brkt-Lh Rr Wheel Arch Attachment	10.	Upr Attach Brkt-Skirt
3.	Hexagon Flange Bolt	11.	Brkt-Skrit Lower
4.	Hexagon Flange Bolt	12.	Riveted Nut
5.	Hexagon Flange Nut	13.	Hexagon Flange Bolt
6.	Skrit Bracket	14.	Pulg-Side Skirt Trim
7.	Hexagon Flange Bolt	15.	Pulg-Side Skirt Trim
8.	Brkt-Skrit Upper	16.	Hexagon Head Bolt Assy



1.	Skrit Plate-Rh	10.	Hexagon Flange Nut
2.	Hexagon Flange Nut	11.	Skrit Bracket
3.	Rear Step Assy	12.	Hexagon Flange Bolt
4.	Hexagon Flange Bolt	13.	Hexagon Flange Bolt
5.	Hexagon Head Bolt Assy	14.	Brkt-Skrit Upper
6.	Pulg-Side Skirt Trim	15.	Upr Attach Brkt-Skirt
7.	Pulg-Side Skirt Trim	16.	Brkt-Skrit Lower
8.	Brkt-Rh Rr Wheel Arch Attachment	17	Hexagon Flange Bolt
9	Hexagon Flange Bolt	18	Riveted Nut

6.44.3 Dismantling and Installation

6.44.3.1 Replacement of Rear Step Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

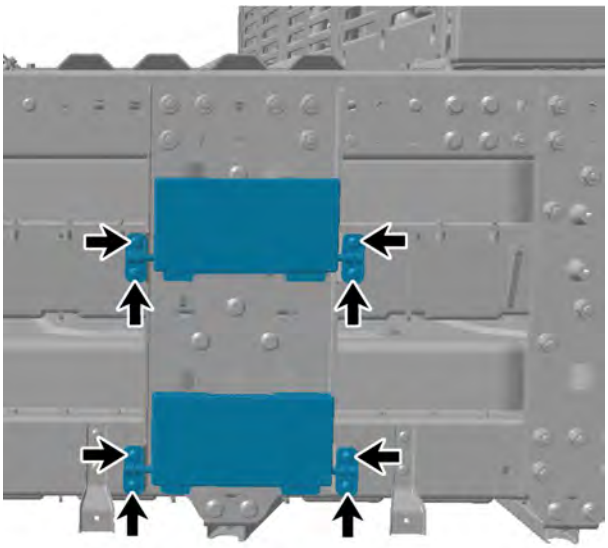
4 Remove the right side wall lower trim panel assembly.

5 Remove the right skirt plate assembly.

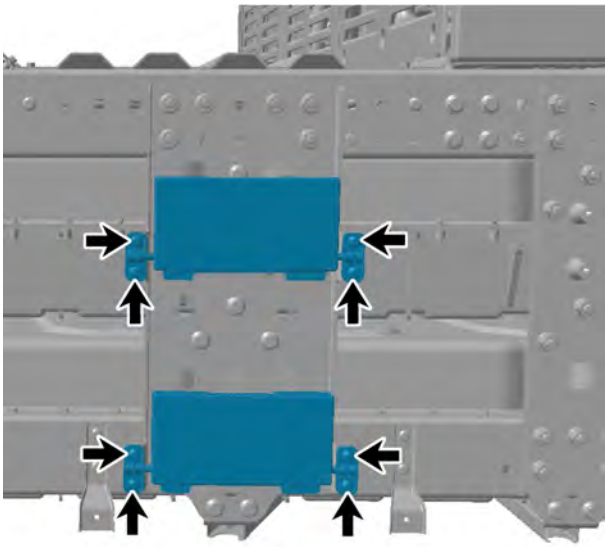
6 Remove the rear step mounting base.

7 Remove 8 fixing bolts of the rear step assembly.

8 Remove the rear step assembly.



Installation Procedures



1 Move the rear step assembly to the mounting position.

2 Install 8 fixing bolts of the rear step assembly.

Torque:(17 +/- 2) ft lbs

3 Install the rear step mounting base.

4 Install the right skirt plate assembly.

5 Attach the right side wall lower trim panel assembly.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

7.1 Air Conditioning and Heating

7.1.1 Description and Operation

7.1.1.1 Refrigerant Leakage Detection

caution

1. Do not use fluorescent dyes to detect leakage in the refrigeration system, otherwise the compressor may be damaged.

2. To detect leakage in the refrigeration system, a refrigerant leak detector must be used for leak detection.

1. Measure the pressure of the A/C system pipeline to confirm if there is any residual refrigerant in the A/C system.

2. Refill the refrigerant to the A/C system.

   caution

   1. Vacuumize the A/C system before filling.

   2. Fill refrigerant with the same model and amount as indicated on the refrigerant nameplate.

3. Conduct testing under the following conditions.

   1. The vehicle is in a stationary state with the screen illuminated.

   2. Ensure good ventilation in the working environment.

3. Use a refrigerant leakage detector to check for refrigerant leakage in the A/C system and repeat the test 2-3 times.

   Note

   The leakage detector may react to volatile gases that are not refrigerants, such as gasoline vapors, exhaust gases, etc.

7.1.1.2 Inspection of Refrigerant Air-tightness

caution

1. Do not spray soapy water on the pins of the pressure sensor/pressure switch plastic case.

2. If it is necessary to check if there is a leakage at the pins of the pressure sensor/pressure switch plastic case, visual inspection can be carried out. If there is a leakage, there will be refrigerant residue at the pins of the plastic case. If it is not a leakage from the pressure sensor/pressure switch itself, there will be no impurities or refrigerant oil stains at the pins of the plastic case.

3. If it is confirmed that the leakage is caused by damage to a component in the A/C system, please replace it and perform pressure and leakage testing. Do not use alkaline liquids such as soap water to test the leakage of the pressure sensor/pressure switch and other electrical components, otherwise internal corrosion and damage of the pressure sensor and refrigerant leakage may occur.

1. Use a refrigerant leak detector with an accuracy of 10g to check if the system is leaking normally on a annual basis or at shorter interval.

2. If abnormal leakage is found and the system needs to be disassembled (repaired or replaced with hoses, fittings, etc.), all refrigerant in the system shall be recovered.

3. After leak detection and repair, refrigerant vacuumizing/ pressure holding/filling of the system must be carried out.

7.1.1.3 Refrigerant Recovery

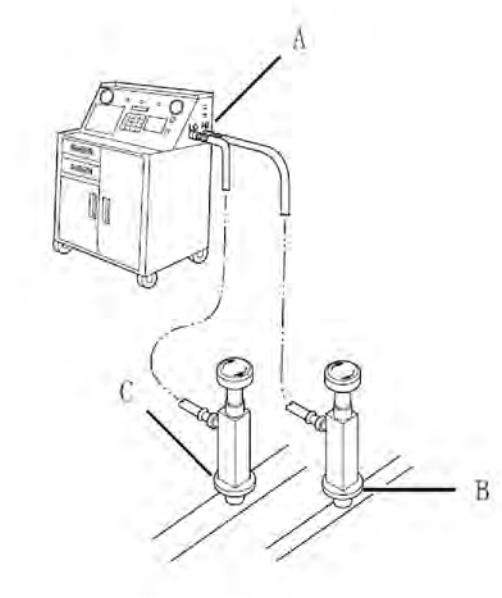
caution

1. In practical operation, refrigerant maintenance equipment must be used. Please refer to the equipment manufacturer's user manual for specific instructions on how to use the equipment.

2. In the event of an accidental emission of the system, the work site must be adequately ventilated before continuing maintenance.

3. For further instructions on health and safety, please refer to the instructions provided by refrigerant and lubricant manufacturers.

1. As shown in the figure, connect the refrigerant recovery/ recirculation/filling equipment (A) or other equipment with the same function to the high-pressure maintenance interface (B) and low-pressure maintenance interface (C) according to the instructions of the equipment manufacturer.



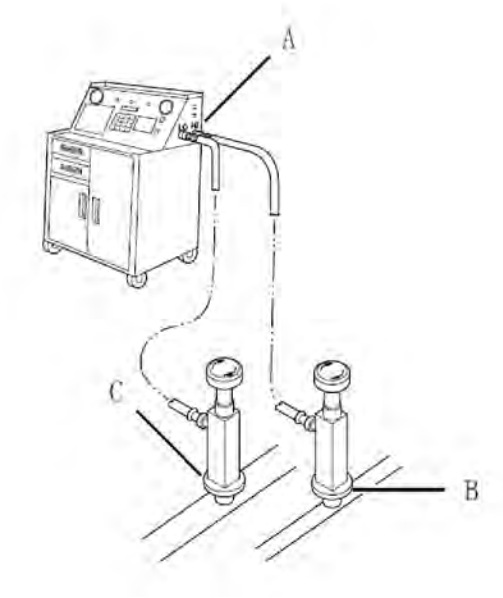
2. After the recovery process, measure the amount of refrigerant oil discharged from the A/C system. Before filling, ensure that an equal amount of new refrigerant oil is filled back into the A/C system.

7.1.1.4 Vacuumizing Refrigerant System

caution

When the A/C system is exposed to the atmosphere (such as during installation and repair), refrigerant recovery/recirculation/filling equipment must be used for vacuumizing. However, if the system is disassembled for several days, the fluid reservoir/desiccant shall be replaced and the system shall be vacuumized for several hours.

1. As shown in the figure, connect the refrigerant recovery/ recirculation/filling equipment (A) or other equipment with the same function to the high-pressure maintenance interface (B) and low-pressure maintenance interface (C) according to the instructions of the equipment manufacturer.



2. Vacuumize the system.

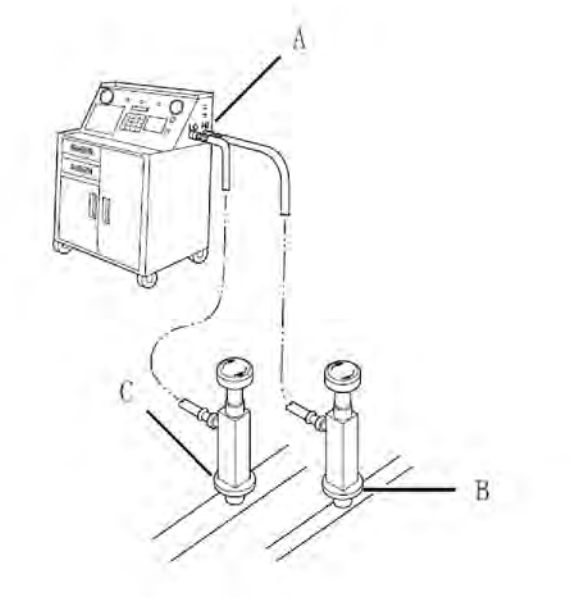
7.1.1.5 Refrigerant Filling

caution

1. After filling refrigerant, make sure to preheat the engine for at least 3 minutes when turning on the A/C switch for the first time to prevent damage.

2. After refrigerant filling, set the temperature to maximum cooling under idle conditions, adjust the blower to high speed, and let the compressor run in for 3 minutes or longer.

1. As shown in the figure, connect the refrigerant recovery/ recirculation/filling equipment (A) or other equipment with the same function to the high-pressure maintenance interface (B) and low-pressure maintenance interface (C) according to the instructions of the equipment manufacturer.



2. Vacuumize the system.

3. Fill a specified amount of refrigerant to the system.

caution

Do not overfill, otherwise the compressor will be damaged.

4. Check for refrigerant leakage.

caution

1. Do not spray soapy water on the pins of the pressure sensor/pressure switch plastic case.

2. Check if there is a leakage at the pins of the pressure sensor/pressure switch plastic case, visual inspection can be carried out. If there is a leakage, there will be refrigerant residue at the pins of the plastic case. If it is not a leakage from the pressure sensor/pressure switch itself, there will be no impurities or refrigerant oil stains at the pins of the plastic case.

3. If it is confirmed that the leakage is caused by damage to a component in the A/C system, please replace it and perform pressure and leakage testing. Do not use alkaline liquids such as soap water to test the leakage of the pressure sensor/pressure switch and other electrical components, otherwise internal corrosion and damage of the pressure sensor and refrigerant leakage may occur.

5. Check the system performance.

caution

1. Do not operate the compressor before adding refrigerant, as the compressor cannot function properly without any refrigerant and may overheat.

2. Check the amount of refrigerant through measurement rather than the observation holes.

3. It is only allowed to fill refrigerant into the A/C system when the engine is stopped.

7.1.1.6 Refrigerant Oil Balance

caution

1. To replace any of the following components such as condenser, evaporator, pipeline, hose, or compressor, it is necessary to add refrigerant oil.

2. the used refrigerant oil according to regulations.

3. Do not mix brands or types of refrigerant oils, otherwise the compressor will be damaged.

4. The refrigerant oil has strong moisture absorption, so when removing any component of the A/C system, it is necessary to immediately block the interface with a plug or plastic tape to isolate it from the air.

5. Do not splash the refrigerant oil onto the vehicle, otherwise the paint layer will be damaged; If refrigerant oil splashes onto the paint layer, it shall be immediately rinsed off.

1. Remove the compressor.

2. Drain the refrigerant oil from the suction and exhaust ports of the compressor into the same container.

caution

1. Drain the refrigeration oil into a clean, graduated container.

2. During the operation, avoid foreign objects and moisture from entering the compressor and refrigerant oil.

3. When draining oil, rotate the compressor to facilitate the discharge of refrigerant oil (traditional compressor).

4. When draining oil, change the tilt angle of the compressor to facilitate the discharge of refrigerant oil (electric compressor).

3. Record the amount of refrigerant oil released from the removed compressor.

caution

This measurement value will be used when installing the replaced/repaired compressor.

4. Discard the used refrigerant oil properly.

5. The replaced/repaired compressor comes with a certain capacity of refrigerant oil. Before installing the replaced/repaired compressor, it is necessary to drain or add some refrigerant oil.

   caution

   1. Refer to the amount of refrigerant oil discharged when removing the compressor.

   2. Subtract the amount of refrigerant oil discharged during removal from the amount of refrigerant oil in the replaced/repaired compressor, and the difference is the amount of refrigerant oil that needs to be discharged.

   3. If the amount of refrigerant oil in the replaced/repaired compressor is small, the difference in the previous step is the amount of refrigerant oil that needs to be added.

6. Discharge or add refrigerant oil in the replaced/repaired compressor based on the calculated value.

7.1.2 Specifications

7.1.2.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the air conditioning compressor assembly and the air conditioning compressor bracket	M8	(18.5 +/- 1.5) ft lbs
The fixing bolt connecting the bracket of the air conditioning compressor to the frame on the subframe	M8	(18.5 +/- 1.5) ft lbs
HVAC assembly (including PTC) - fixing bolt connecting the front left to the vehicle body	M8	(7.5 +/- .75) ft lbs
HVAC assembly (including PTC) - fixing bolt connecting the front left and front wall crossbeam inner panel assembly	M6	(5 +/- .75) ft lbs
HVAC assembly (including PTC) - fixing nut connecting the front left to the vehicle body	M6	(5 +/- .75) ft lbs
HVAC assembly (including PTC) - fixing bolt connecting the front right to the vehicle body	M8	(7.5 +/- .75) ft lbs
HVAC assembly (including PTC) - fixing bolts connecting the front right and front crossbeam inner panel assembly	M6	(5 +/- .75) ft lbs
HVAC assembly (including PTC) - fixing nut connecting the front right to the vehicle body	M6	(5 +/- .75) ft lbs
HVAC assembly (including PTC) - fixing bolts connecting the rear to the vehicle body	M8	(7.5 +/- .75) ft lbs
HVAC assembly (including PTC) - fixing bolts connecting the rear and rear evaporator to the connecting pipe assembly	M8	(7.5 +/- .75) ft lbs
HVAC assembly (including PTC) - fixing bolts connecting the rear to the vehicle body	M6	(5 +/- .75) ft lbs

7.1.2.2 Technical Parameters

A/C System

S/N	Item	Structural Parameters
1	Performance parameters	Cooling capacity≥ 6.7kW - face blowing Blower capacity for face blowing, full cool≥600m³/h Heating capacity≥8kW
2	Refrigerant specifications	HFC-134a
3	Refrigerant capacity	29.9 oz +/- 1.76 oz
4	Refrigerant leakage rate	< 1.41 oz/year
5	Model of refrigerant oil	POE RB68
6	Amount of refrigerant oil	6.76 oz

Compressor

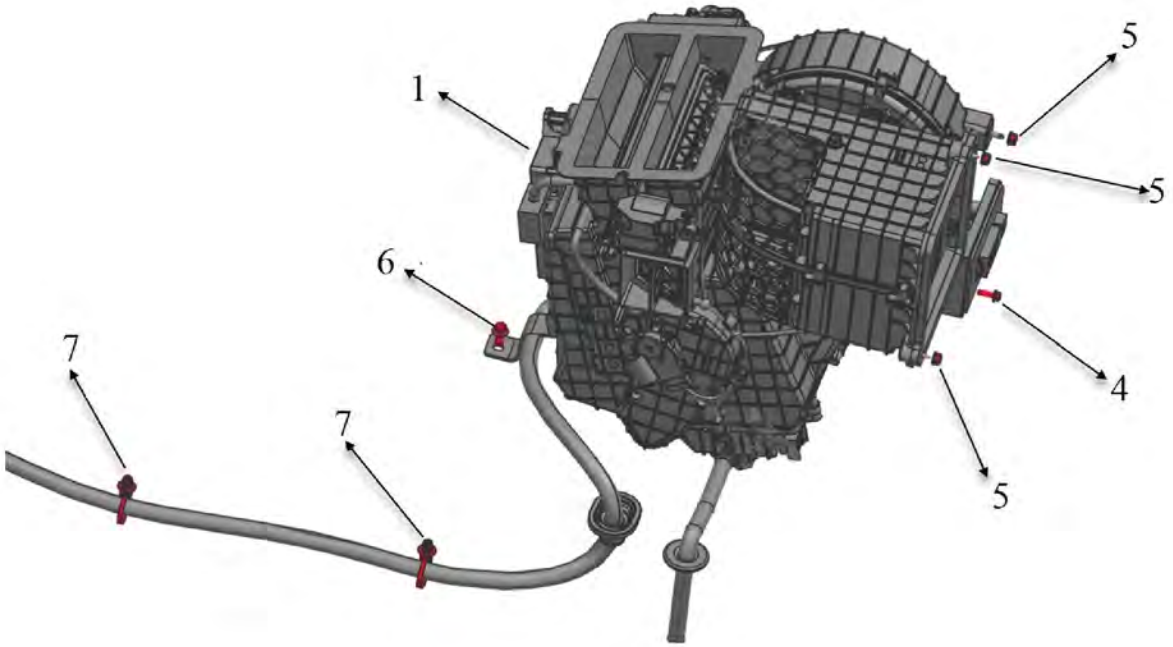
S/N	Item	Structural Parameters
1	Model	EBJ33C-MD01
2	Type	Electric vortex type
3	Displacement	33CC
4	Rated voltage (high voltage)	800V
5	Working voltage range	480V~920V
6	Rated voltage (low voltage)	24V
7	Input voltage range	18~36V
8	Working temperature	68*F - 212*F
9	Rated input power	4 hp
10	Rated speed	7000rpm
11	Maximum speed	12000rpm
12	Insulation resistance	≥50MΩ

Heater

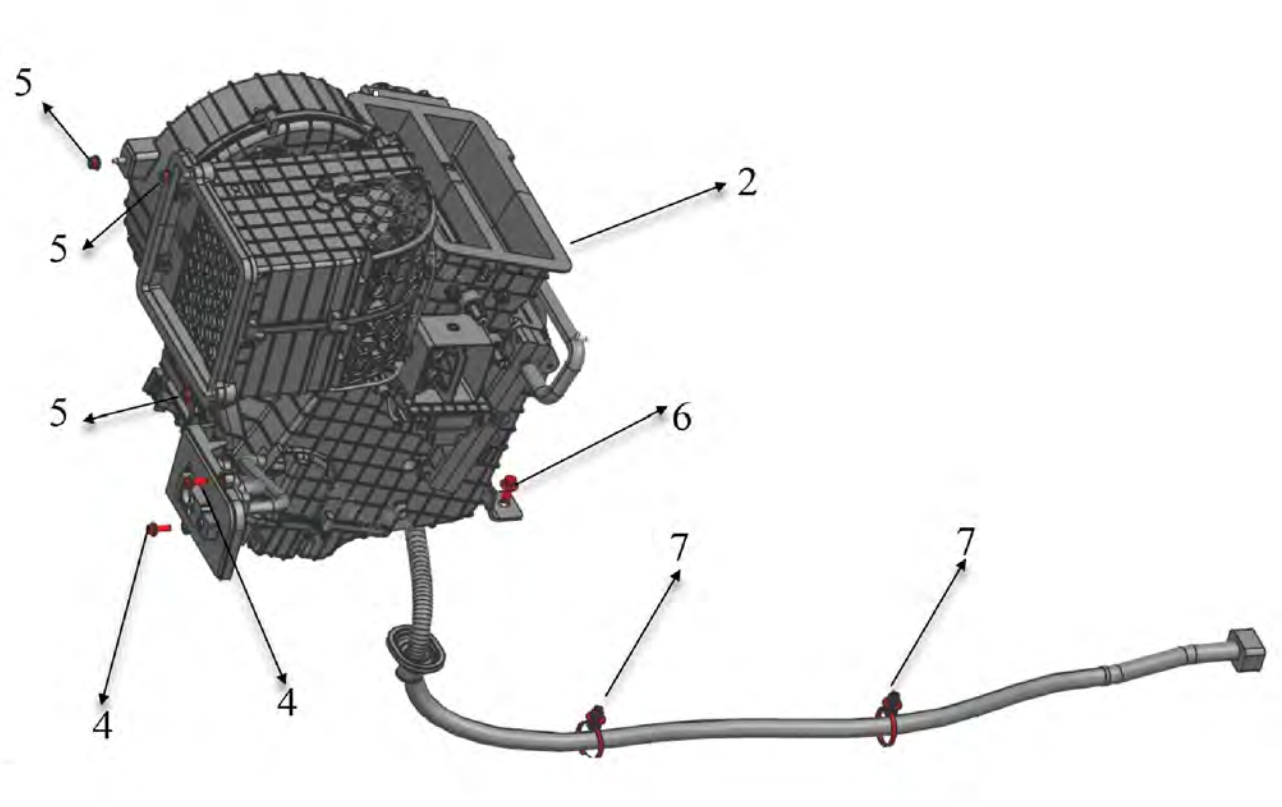
S/N	Item	Structural Parameters
1	Model	YJ0174, YJ0175, YJ0176
2	Rated voltage (high voltage)	800V
3	Working voltage range	450V~940V
4	Rated voltage (low voltage)	24V
5	Input voltage range	18~32V
6	Working temperature	-40*F - -121*F

7.1.3 Decomposition Diagram

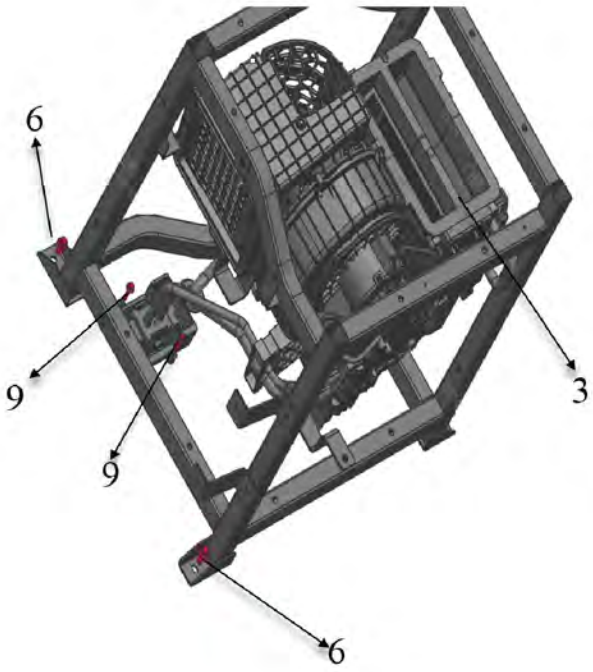
7.1.3.1 Decomposition Diagram

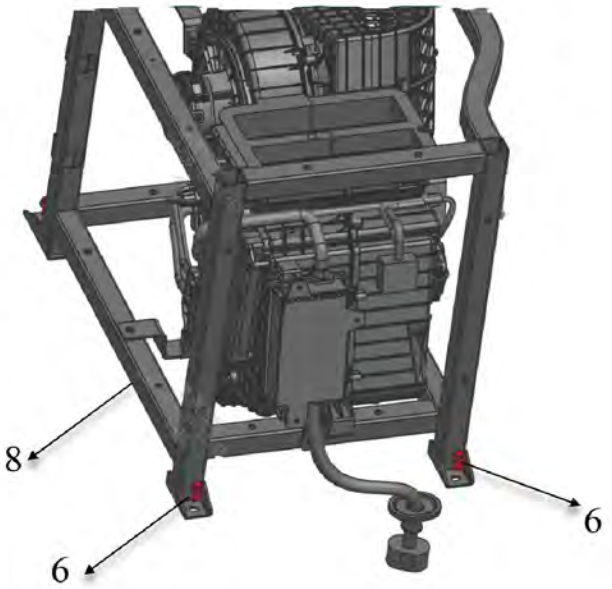


1. HVAC Device Assy-Frt Lh
4. Hexagon Flange Bolt
5. Hexagon Flange Lock Nut_All Metal
6. Hexagon Flange Bolt
7. Tie-Fir Tree

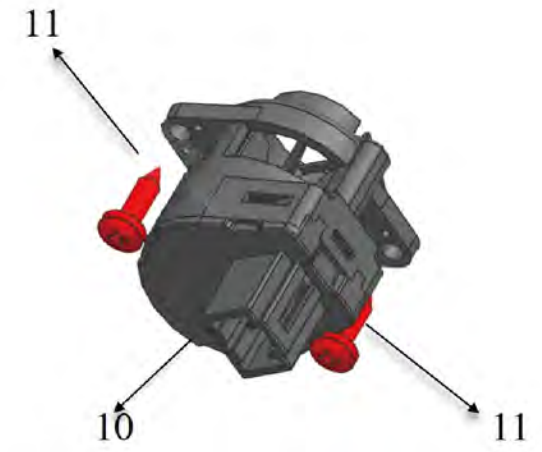


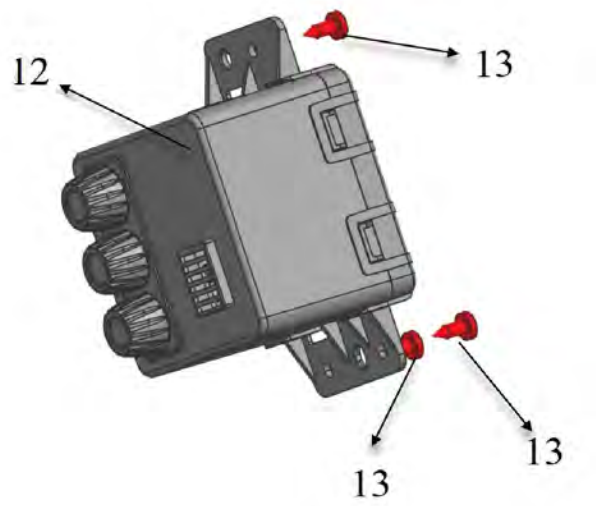
2. HVAC Device Assy-Frt Rh
4. Hexagon Flange Bolt
5. Hexagon Flange Lock Nut_All Metal
6. Hexagon Flange Bolt
7. Tie-Fir Tree



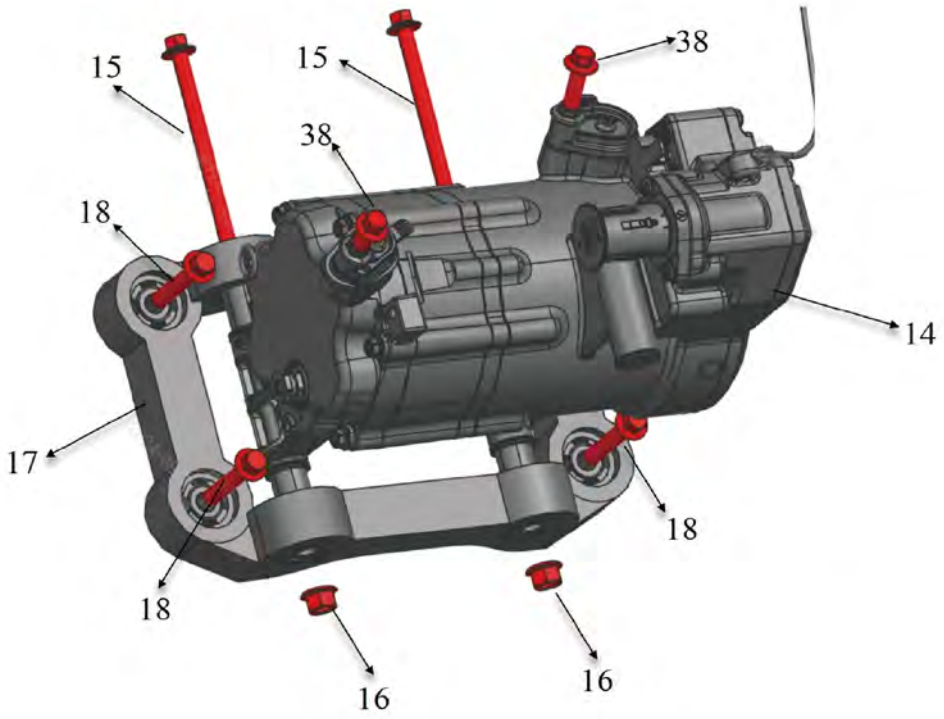


3. HVAC Device Assy-Rr
6. Hexagon Flange Bolt
8. Fixed Frame After Air Conditioning
9. Hexagon Flange Bolt

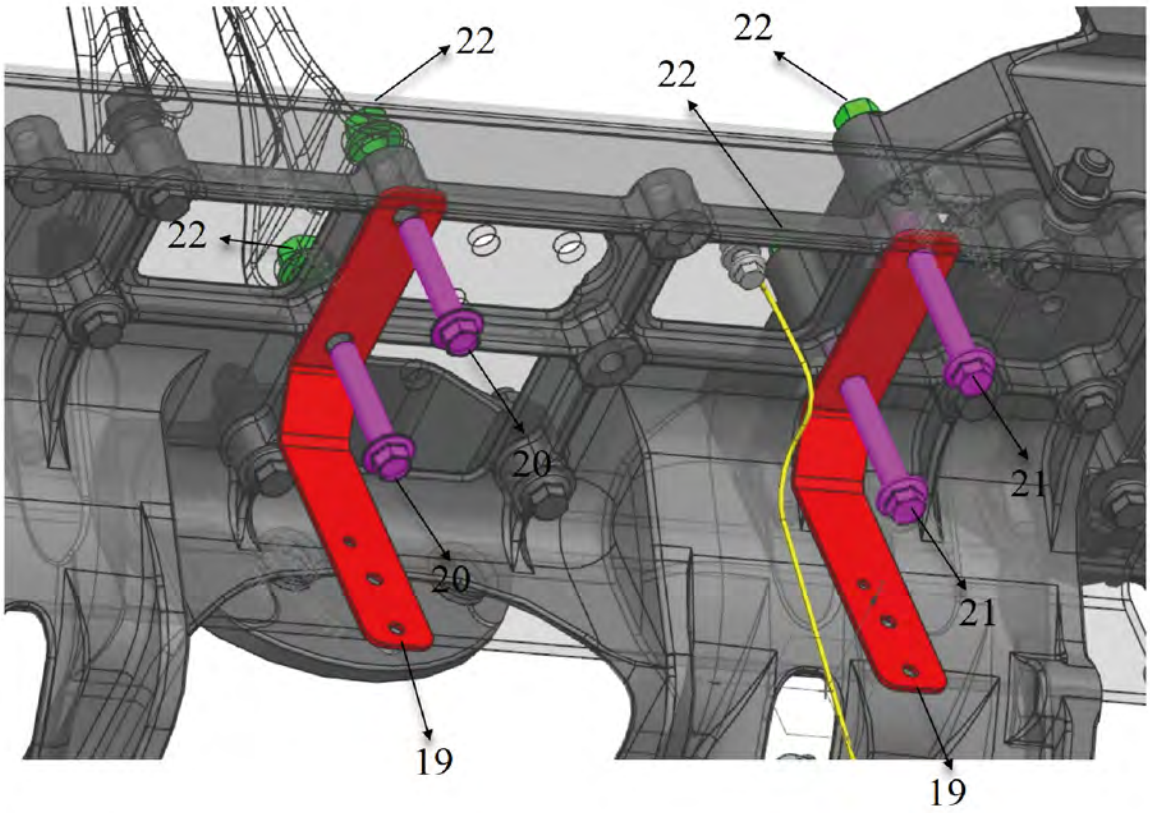




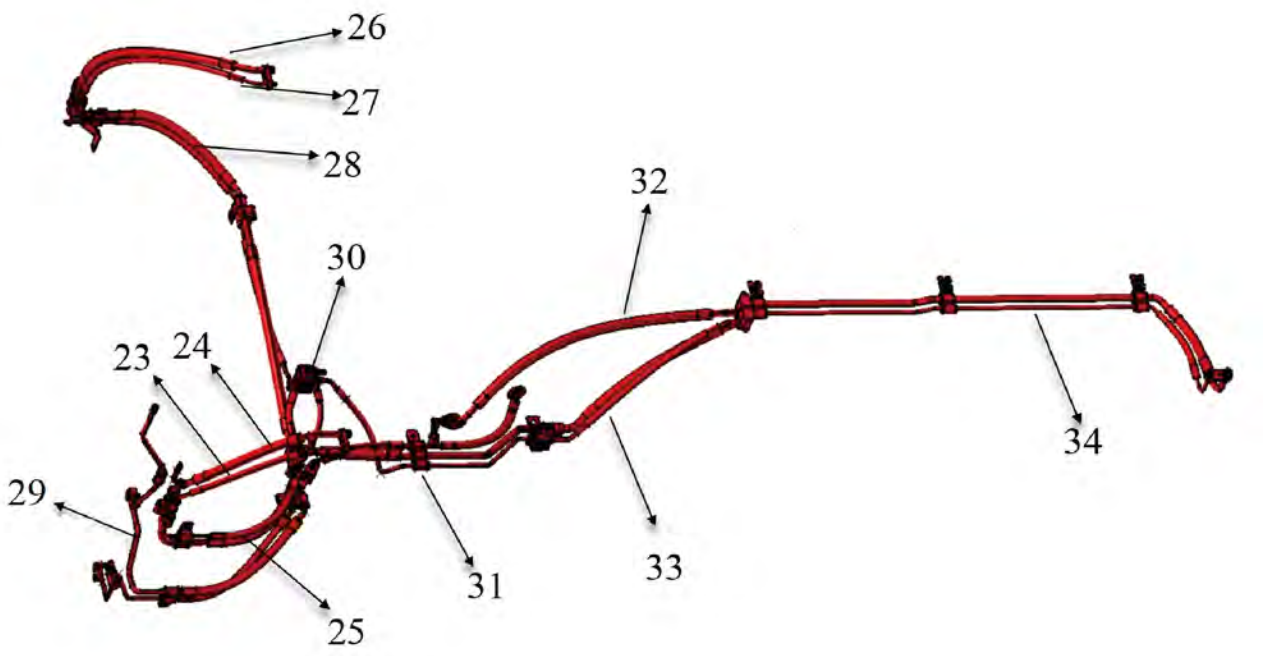
10. Room Temperature Sensor
11. Self-Tapping Screw
12. Aroma Generator Assembly In New Energy Vehicles
13. Self-Tapping Screw



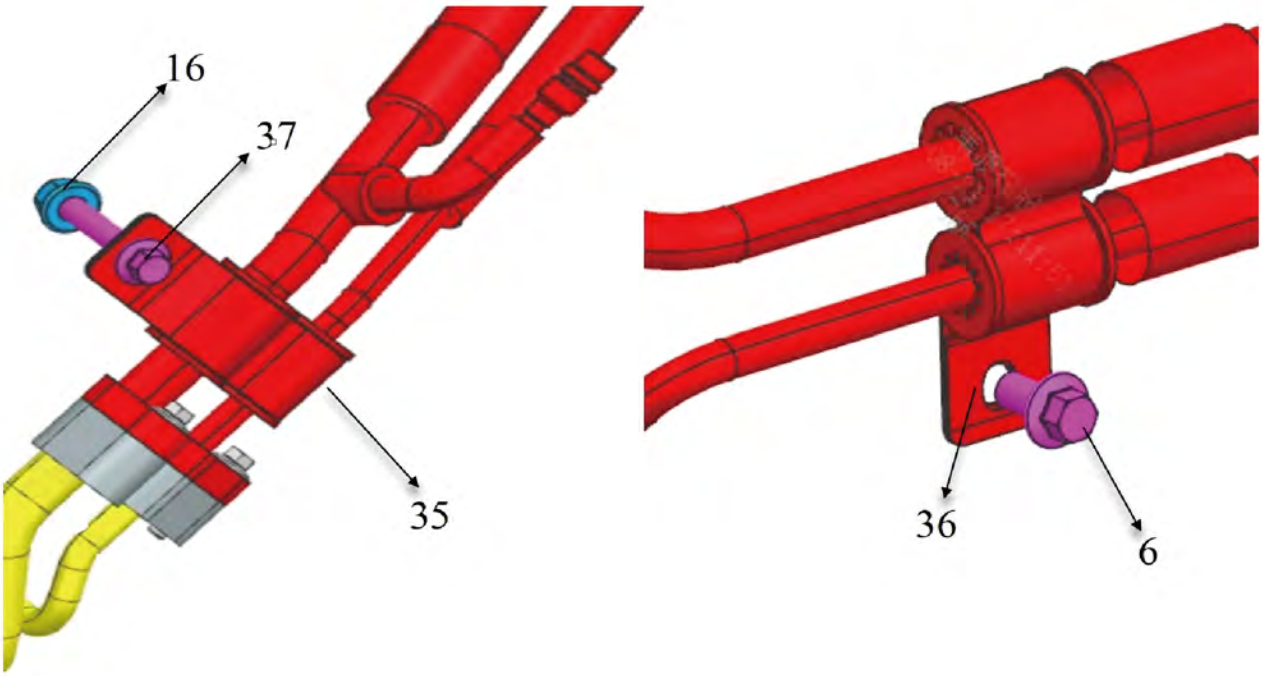
14.	Compressor Assy	17.	Compressor Bracket
15.	Compressor Mounting Bolts	18.	Hexagon Flange Bolt
16.	Hexagon Flange Lock Nut_All Metal	38.	Hexagon Flange Bolt



19. Stent
20. Hexagon Flange Bolt
21. Hexagon Flange Bolt
22. Hexagon Flange Lock Nut_All Metal



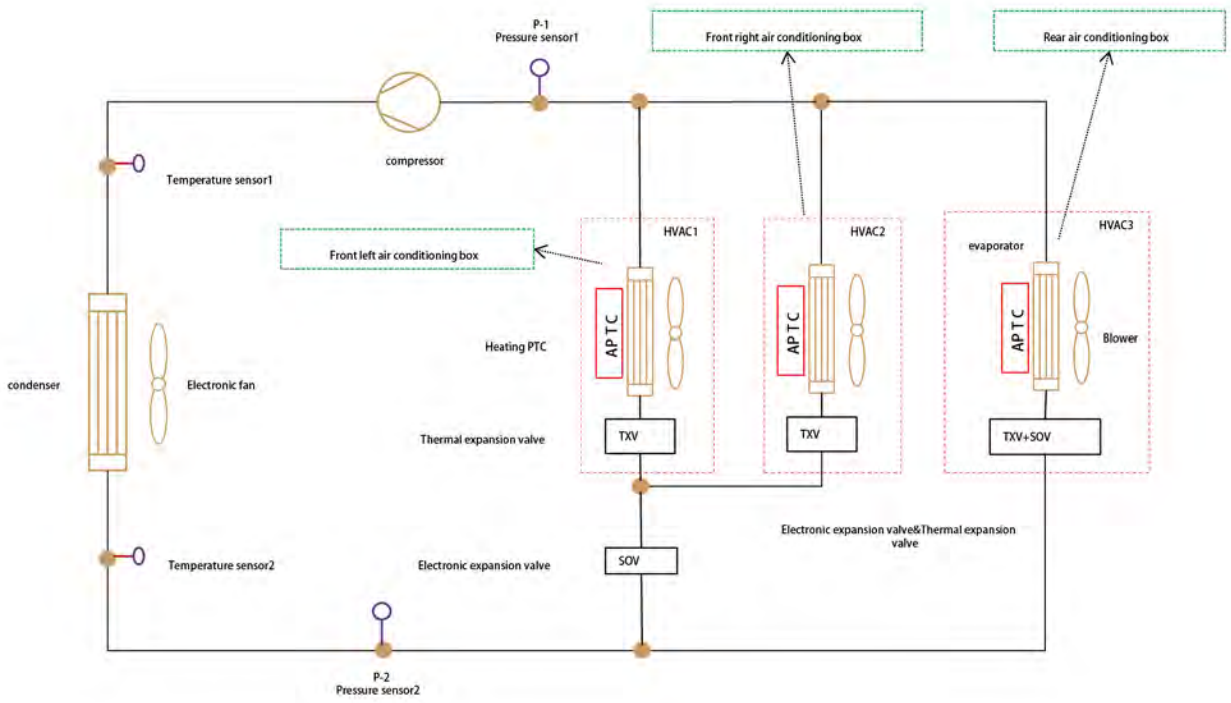
23.	Lh Steanm to Front S0V Line Assy 1 Cold Steam End	29.	Condensor Inlet and Outlet Tube Assy
24.	Left Steam to Pre-S0V Line Assy 1 Stepress End	30.	Pipeline Assembly From SOV to Evaporator In New Energy Vehicles
25.	Left Evaporator to SOV Line Assy 2	31.	Pressure Cooling Tube Tripler
26.	Right Evaporator to SOV Valve Line Assy Autoclaclve End	32.	Return Air Tube-Rransfer Tube
27.	Rh Evaporator to SOV Valve Line Assy Cold Steam End	33.	Adapter Pipe at the Outlet of SOV In New Energy Vehicles
28.	Rnght Evaporator to SOV Valve Line Assy 2	34.	Rear Evaporator to Transfer Line Assy



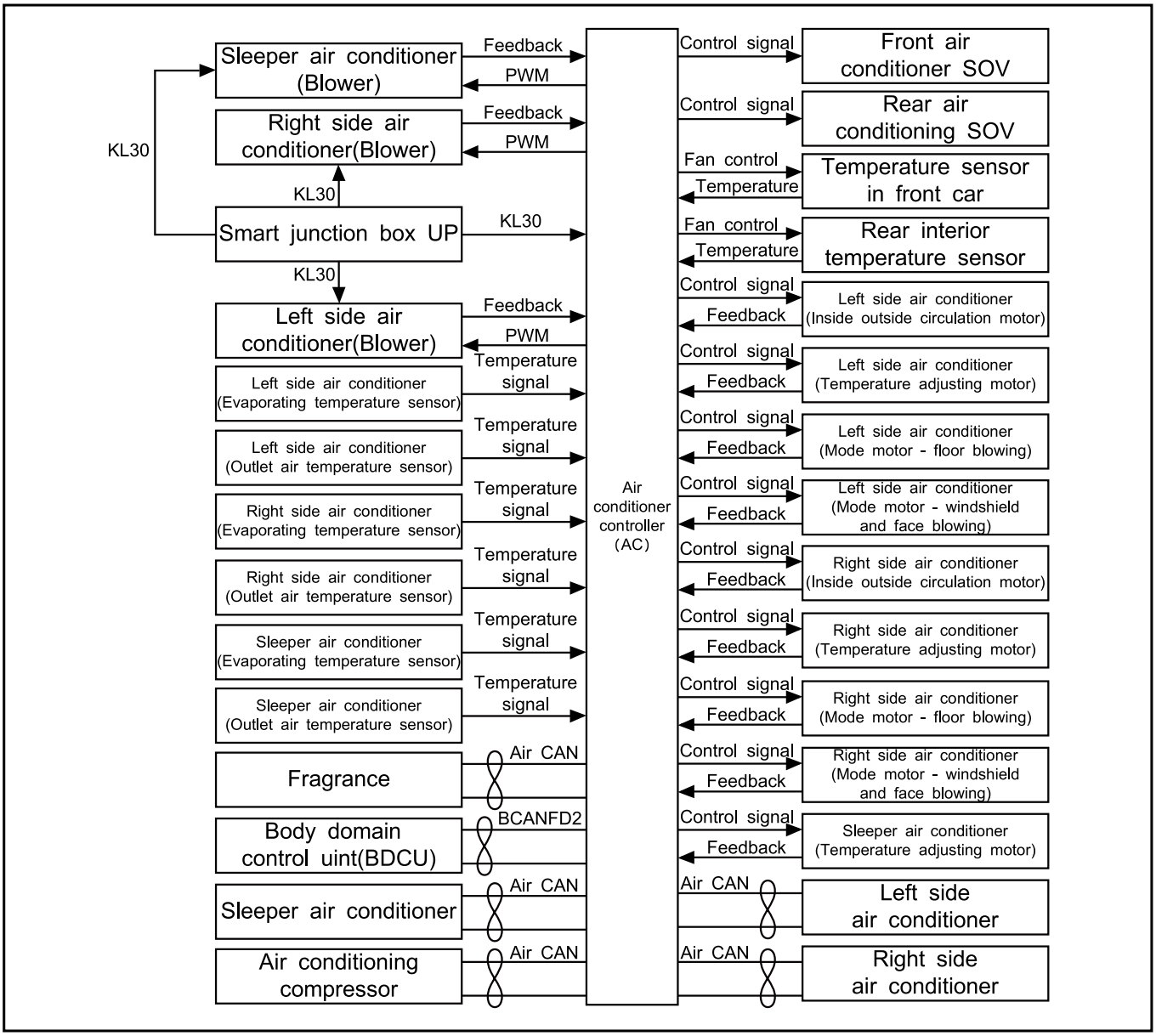
6. Hexagon Flange Bolt
16. Hexagon Flange Lock Nut_All Metal
35. Pipe Clipφ9-φ12
36. Pipe Clamp
37. Hexagon Flange Bolt

7.1.4 System Schematic Diagram

7.1.4.1 System Working Principle



7.1.4.2 Electrical Schematic Diagram



7.1.5 Diagnostic Information and Steps

7.1.5.1 Diagnosis Description

Understanding and familiarizing oneself with the working principles of air conditioning and heating before diagnosing faults in air conditioning and heating, and then starting system diagnosis, can help determine the correct fault diagnosis steps when a fault occurs, and more importantly, it can help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of air conditioning and heating should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

7.1.5.2 Routine Inspection

- Check the after-sales installation devices that may affect the operation of the air conditioning and heating system, ensuring that these devices do not affect the operation of the air conditioning and heating system.
- Inspect system components that are easily accessible or visible to make sure they are not visibly damaged or have conditions that could cause failure.

7.1.5.3 Fault Symptom Table

Symptom	Suspected Faulty Project	Measures
The air conditioning blower is not producing air or the air volume is low	1. Blockage of air conditioning filter element	Clean or replace the air conditioning filter element.
	2. Fault in the power supply harness of the air conditioning blower	Check the power supply harness of the air conditioning blower. Refer to Left Air Conditioning Blower Power Supply Circuit Fault.Right Air Conditioning Blower Power Supply Circuit Fault. Power Supply Circuit Fault Of Sleeper Air Conditioning Blower
	3. Fault in the wiring harness of the PWM control signal for the air conditioning blower	Check the PWM control signal wiring harness between the driver's blower, passenger's blower, sleeper blower, and AC.
	4. Air conditioning blower fault	Replace the driver's blower, passenger's blower, and sleeper blower. Refer to Replacement Of HVAC Assembly (including PTC) - Front Left . Replacement Of HVAC Assembly (Including PTC) - Front Right. Replacement Of HVAC Assembly (Including PTC) - Rear
	5. Air conditioning controller fault	Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right
Air conditioning system not cooling or insufficient cooling	1. Blockage of air conditioning filter element	Clean or replace the air conditioning filter element.
	2. Too much or too little refrigerant	Check for refrigerant leakage in the air conditioning system and add it again if necessary.

Symptom	Suspected Faulty Project	Measures
	3. Poor heat dissipation of condenser	Check if the condenser is blocked or covered by foreign objects.
	4. Evaporator blockage or foreign object coverage	Check if the evaporator is blocked or covered by foreign objects.
	5. Evaporator temperature sensor fault	Refer to Left Air Conditioning Evaporation Temperature Sensor Fault. Right Air Conditioning Evaporation Temperature Sensor Fault.Sleeper Air Conditioning Evaporation Temperature Sensor Fault
	6. Fault in the power supply circuit of the air conditioning compressor	Refer to Compressor Power Supply Circuit Fault
	7. CAN communication harness fault between air conditioning compressor and AC	Check the CAN communication harness between the air conditioning compressor and AC.
	8. High voltage wiring harness fault of air conditioning compressor	Check the high-pressure wiring harness of the air conditioning compressor.
	9. High pressure interlock harness fault of air conditioning compressor	Check the high-pressure interlock harness of the air conditioning compressor.
The air conditioning system is not heating or heating is insufficient	1. Blockage of air conditioning filter element	Clean or replace the air conditioning filter element.
	2. Fault in PTC power supply circuit	Refer to PTC Power Supply Circuit Fault
	3. CAN communication harness fault between PTC and AC	Check the CAN communication harness between the driver PTC, passenger PTC, sleeper PTC, and AC.
	4. Fault in PTC high-voltage wiring harness	Check the driver PTC, passenger PTC, and sleeper PTC high-voltage wiring harness.
	5. PTC high-voltage interlock harness fault	Check the high-voltage interlock wiring harness of the driver PTC, passenger PTC, and sleeper PTC.

7.1.5.4 DTC Confirmation

1.Connect the diagnostic instrument to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Restart the vehicle.

3. Read the fault code of the control system again to confirm whether the system has a fault code output.

- Yes:Diagnose based on the output fault code.
- No:Perform intermittent fault checks, refer to Inspection Of Intermittent Faults

7.1.5.5 List Of Diagnostic Trouble Codes (DTC)

AC

Fault Code	Fault Description	Exclusion Method
B111717	High battery voltage	Refer to Air Conditioning Controller Power Fault
B111716	Low battery voltage	
U115087	Lost communication with XF-AC (0x18FF2F19x)	Refer to Communication Fault Of Air Conditioning Controller
U115187	Lost communication with ACP_AC1 (0x18FF2B19x)	
U115287	Lost communication with PTC1_AC (0x18FF2C19x)	
U115387	Lost communication with PTC2_AC (0x18FF2D19x)	
U115487	Lost communication with PTC3_AC (0x18FF2E19x)	
U014087	Lost communication with BDCU_To_ AC_Front(0x18FF1121x)	
U015687	Lost communication with CDC_VDHR (0x18FEC1EEx)	
U012287	Lost communication with VDC_CCVS (0x18FEF100x)	
U019887	Lost communication with TGW_TD_ Time(0x18FEE6EEx)	
U007D88	BCANFD2 BusOff	
U007D89	BCANFD2 CAN H short-circuit fault to the ground	
U007D90	BCANFD2 CAN H short-circuit fault to the ground	
U115F87	The CANFD transmission is abnormal	
B258113	Front - Interior temperature sensor open circuit	Refer to Front Interior Temperature Sensor Fault
B258111	Short-circuited front - interior temperature sensor	
B258613	Rear-interior temperature sensor open circuit	Refer to Rear Interior Temperature Sensor Fault
B258611	Rear-interior temperature sensor short-circuited	
B250117	Actuator 1 of the front left mode damper motor is faulty	Refer to Left Air Conditioning Mode Damper Motor Fault
B250217	Actuator 2 of the front left mode damper motor is faulty	
B250317	Front left circulation damper actuator is faulty	Refer to Left Air Conditioner Internal And External Circulation Motor Fault

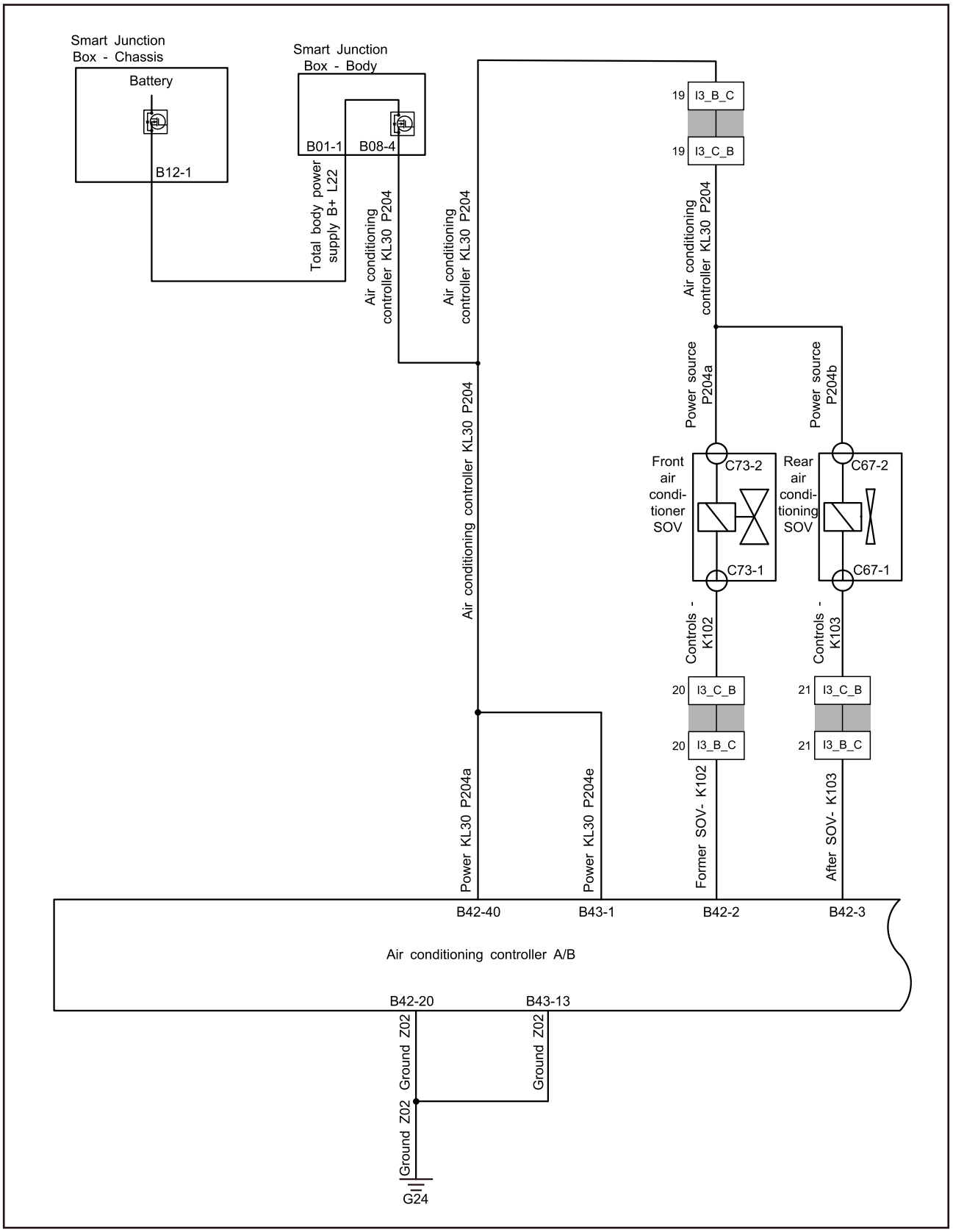
Fault Code	Fault Description	Exclusion Method
B250417	Front left heating and cooling valve actuator is faulty	Refer to Left Air Conditioning Cooling And Heating Motor Fault
B258213	Front left air conditioner evaporation temperature sensor open circuit	Refer to Left Air Conditioning Evaporation Temperature Sensor Fault
B258211	Front left air conditioner evaporation temperature sensor is short-circuited	
B258313	Open the circuit for the exhaust air temperature sensor in the front left air conditioner	Refer to Left Air Conditioning Outlet Temperature Sensor Fault
B258311	The exhaust air temperature sensor of the front left air conditioner is short-circuited	
B250517	Actuator 1 of the front right mode damper motor is faulty	Refer to Right Air Conditioning Mode Damper Motor Fault
B250617	Actuator 2 of the front right mode damper motor is faulty	
B250717	Front right circulation damper actuator is faulty	Refer to Right Air Conditioner Internal And External Circulation Motor Fault
B250817	The actuator of the front right heating and cooling valve is faulty	Refer to Right Air Conditioning Cooling And Heating Motor Fault
B258413	Front right air conditioning evaporative temperature sensor open circuit	Refer to Right Air Conditioning Evaporation Temperature Sensor Fault
B258411	Short-circuited evaporation temperature sensor of front right air conditioner	
B258513	Open the air outlet temperature sensor on the front right air conditioner	Refer to Right Air Conditioning Outlet Temperature Sensor Fault
B258511	The outlet air temperature sensor of the front right air conditioner is short-circuited	
B258713	Rear air conditioner evaporation temperature sensor open circuit	Refer to Sleeper Air Conditioning Evaporation Temperature Sensor Fault
B258711	The evaporation temperature sensor of the rear left air conditioner is short-circuited	
B258813	Rear air conditioner air temperature sensor open circuit	Refer to Sleeper Air Conditioning Temperature Sensor Fault
B258811	The outlet air temperature sensor of the rear air conditioner is shorted	

7.1.5.6 Air Conditioning Controller Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	High battery voltage	The power supply voltage exceeds 32.5V for more than 1 second	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Air conditioning controller
B111716	Low battery voltage	The power supply voltage is lower than 17.5V for more than 1 second	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides the air conditioning controller?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power and grounding harness of the air conditioning controller.

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

Step 7:Clear and confirm DTC.

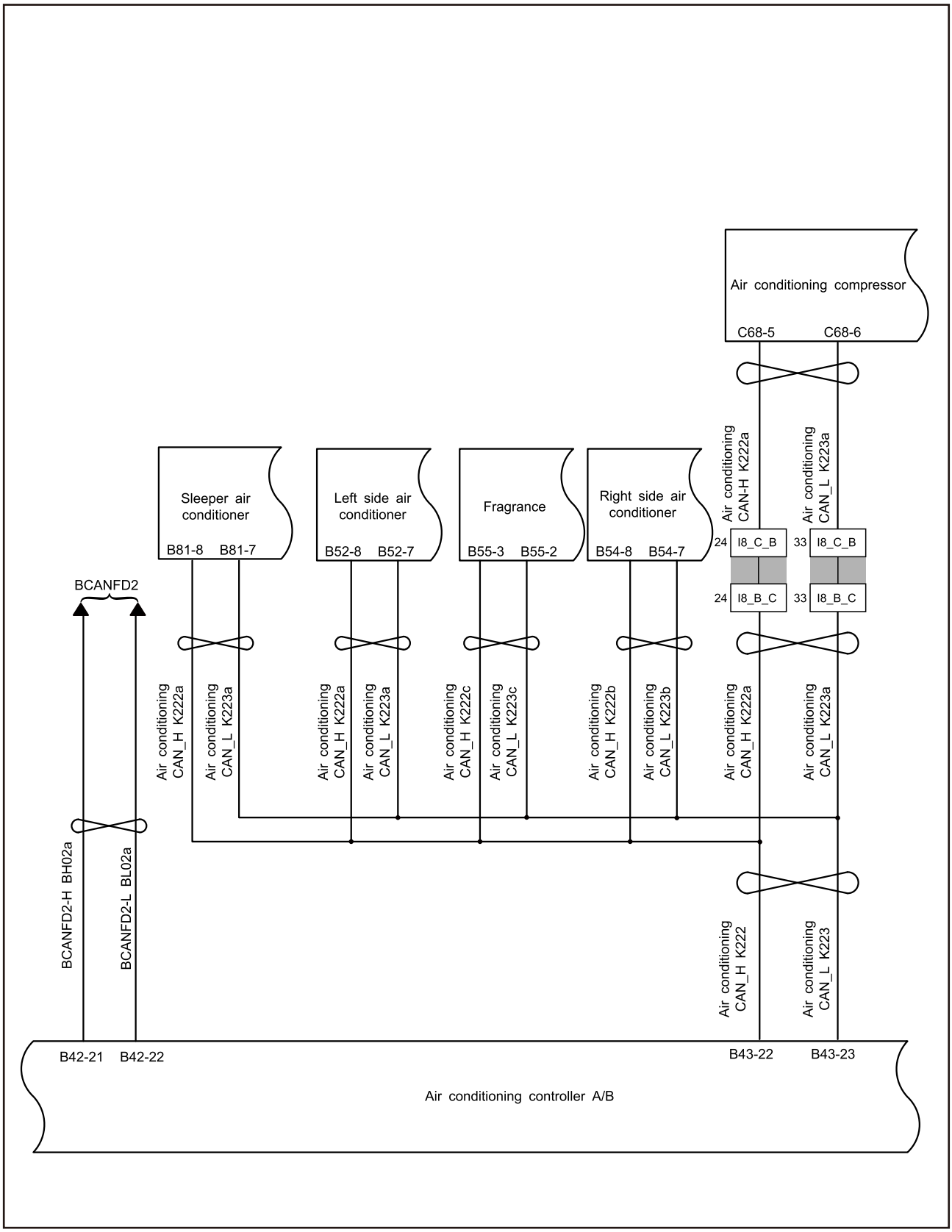
7.1.5.7 Communication Fault Of Air Conditioning Controller

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U115087	Lost communication with XF-AC (0x18FF2F19x)	If all XF-AC packets are lost within 10 sending cycles, the fault is rectified	1.Wiring harness 2. Air conditioning controller
U115187	Lost communication with ACP_AC1 (0x18FF2B19x)	If all ACP_AC1 packets are lost within 10 sending cycles, the fault is rectified	
U115287	Lost communication with PTC1_AC (0x18FF2C19x)	If all PTC1_AC packets are lost within 10 sending cycles, the fault is rectified	
U115387	Lost communication with PTC2_AC (0x18FF2D19x)	If all PTC2_AC packets are lost within 10 sending cycles, the fault is rectified	
U115487	Lost communication with PTC3_AC (0x18FF2E19x)	If all PTC3_AC packets are lost within 10 sending cycles, the fault is rectified	
U014087	Lost communication with BDCU_To_AC_ Front(0x18FF1121x)	If all BDCU_To_AC_Front packets are lost within 10 sending cycles, the fault is rectified	
U015687	Lost communication with CDC_VDHR (0x18FEC1EEx)	If all CDC_VDHR packets are lost within 5 seconds, the fault is rectified	
U012287	Lost communication with VDC_CCVS (0x18FEF100x)	If all VDC_CCVS packets are lost within 10 sending intervals (1s), the fault is rectified	
U019887	Lost communication with TGW_TD_Time (0x18FEE6EEx)	If all TGW_TD_Time packets are lost within 5 seconds, the fault is rectified	
U007D88	BCANFD2 BusOff	Bus Off	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007D89	BCANFD2 CAN H short-circuit fault to the ground	CAN bus exception	
U007D90	BCANFD2 CAN H short-circuit fault to the ground	CAN bus exception	
U115F87	The CANFD transmission is abnormal	Abnormal packets sent by the CANFD module are detected for more than 300ms	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the BCAND2 bus communication harness. Refer to Inspection Of BCAND2 Bus Network Integrity

Step 4:Check the air conditioning CAN bus communication harness. Refer to Inspection Of The Air Conditioning CAN Bus Network Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

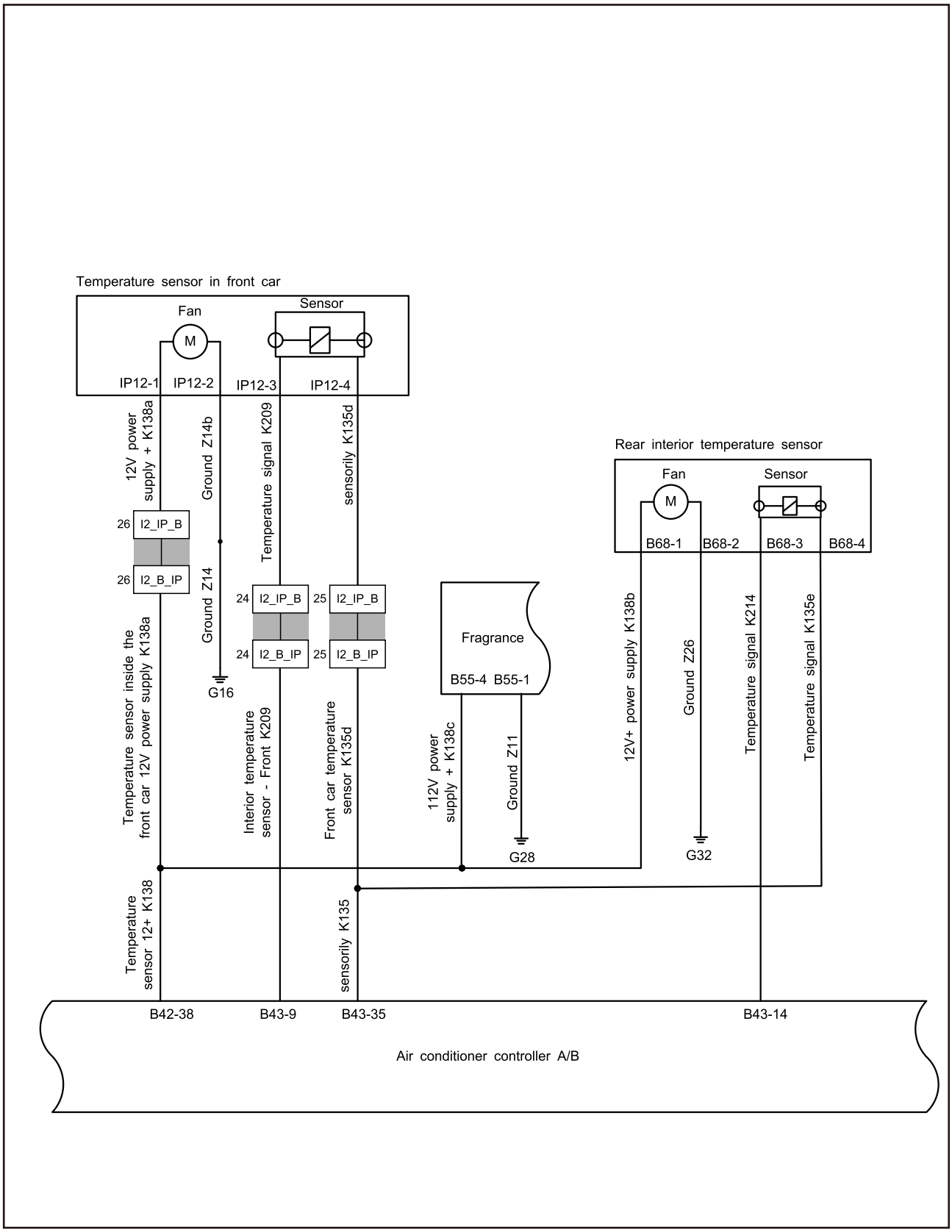
Step 7:Clear and confirm DTC.

7.1.5.8 Front Interior Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B258113	Front - Interior temperature sensor open circuit	Sensor voltage exceeds 4.95V for more than 1 second	1.Wiring harness 2. Front interior temperature sensor 3. Air conditioning controller
B258111	Short-circuited front - interior temperature sensor	The sensor voltage is below 0.05V for more than 1 second	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the front interior temperature sensor and the air conditioning controller.

Step 4:Check if the resistance of the front car interior temperature sensor is normal?

Sensor	Temperature	Resistance
Front interior temperature sensor	77℉	2.12KΩ - 2.25KΩ

– Yes: Next step

– No: Replace the front interior temperature sensor. Refer to Replacement Of Indoor Temperature Sensor

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

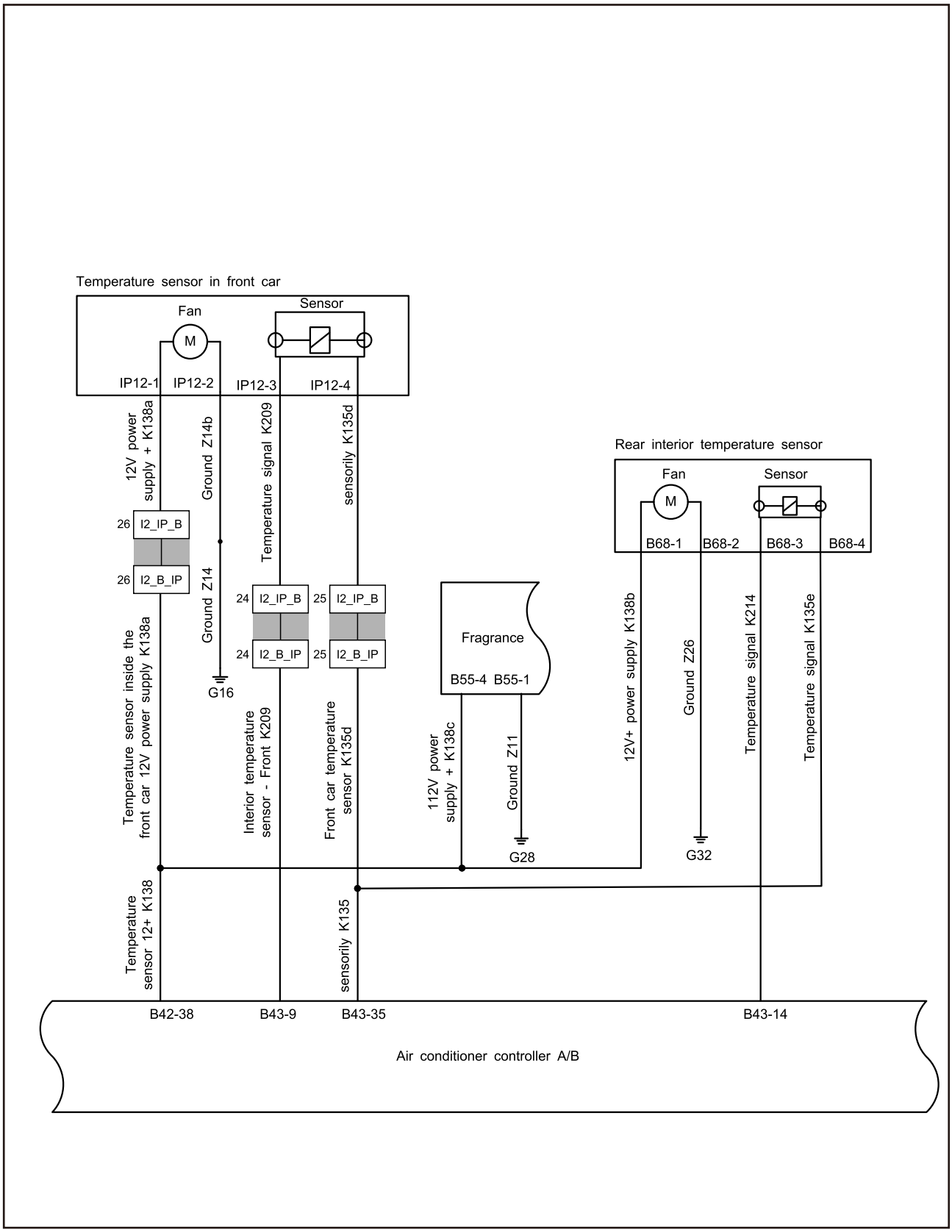
Step 7:Clear and confirm DTC.

7.1.5.9 Rear Interior Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B258613	Rear-interior temperature sensor open circuit	Sensor voltage exceeds 4.95V for more than 1 second	1.Wiring harness 2. Rear interior temperature sensor 3. Air conditioning controller
B258611	Rear-interior temperature sensor short-circuited	The sensor voltage is below 0.05V for more than 1 second	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the rear interior temperature sensor and the air conditioning controller.

Step 4:Check if the resistance of the rear temperature sensor in the car is normal?

Sensor	Temperature	Resistance
Rear interior temperature sensor	77℉	2.12KΩ - 2.25KΩ

– Yes: Next step

– No: Replace the Rear interior temperature sensor. Refer to Replacement Of Indoor Temperature Sensor

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

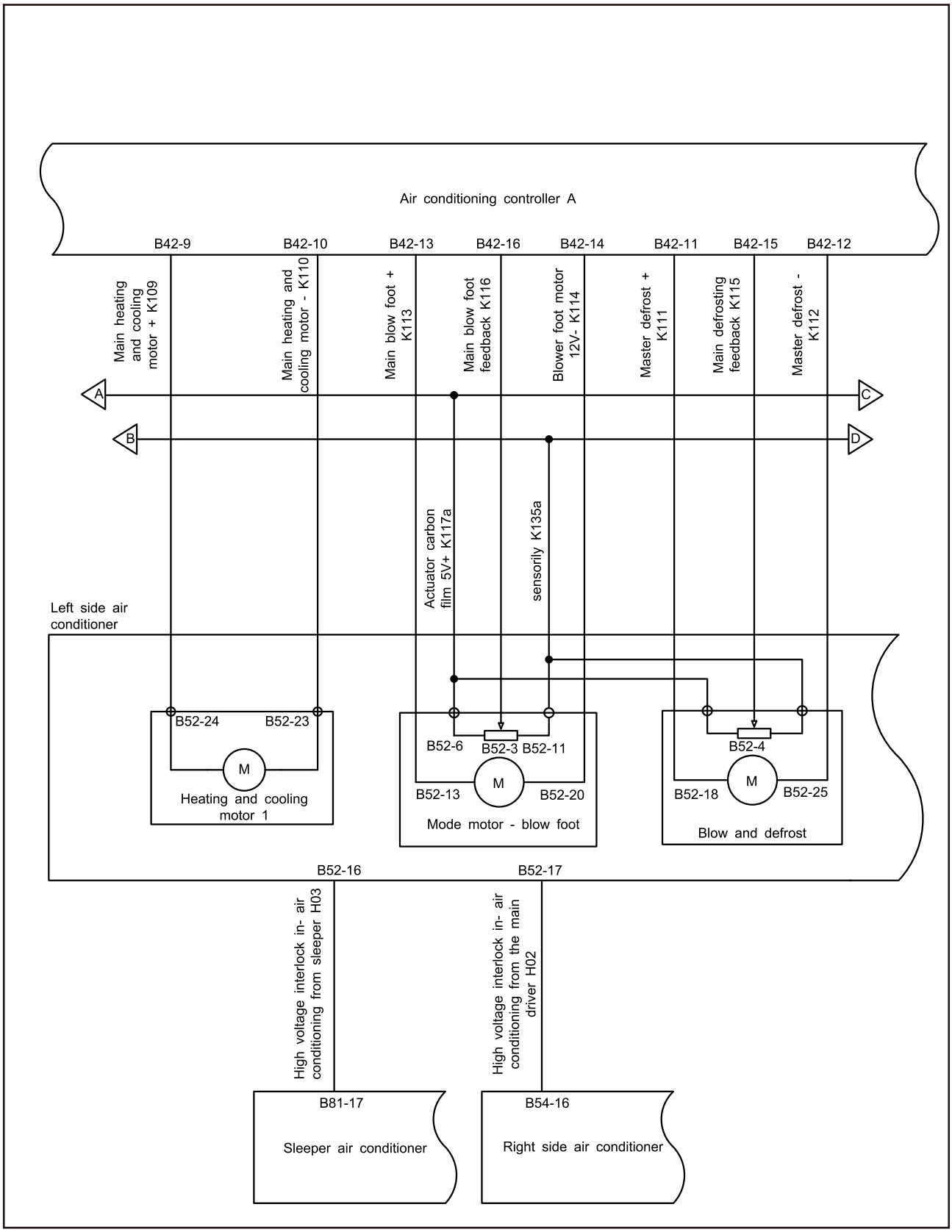
Step 7:Clear and confirm DTC.

7.1.5.10 Left Air Conditioning Mode Damper Motor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B250117	Actuator 1 of the front left mode damper motor is faulty	The actuator cannot reach the predetermined position within 10 seconds after starting	1.Wiring harness 2. Left air conditioning mode damper motor 3. Air conditioning controller
B250217	Actuator 2 of the front left mode damper motor is faulty	The actuator cannot reach the predetermined position within 10 seconds after starting	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the left air conditioning mode damper motor and the air conditioning controller.

Step 4:Connect the left air conditioning mode damper motor to an external 12V power supply and observe if the left air conditioning mode damper motor is working?

– Yes: Next step

– No: Replace the left air conditioning mode damper motor. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Left

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

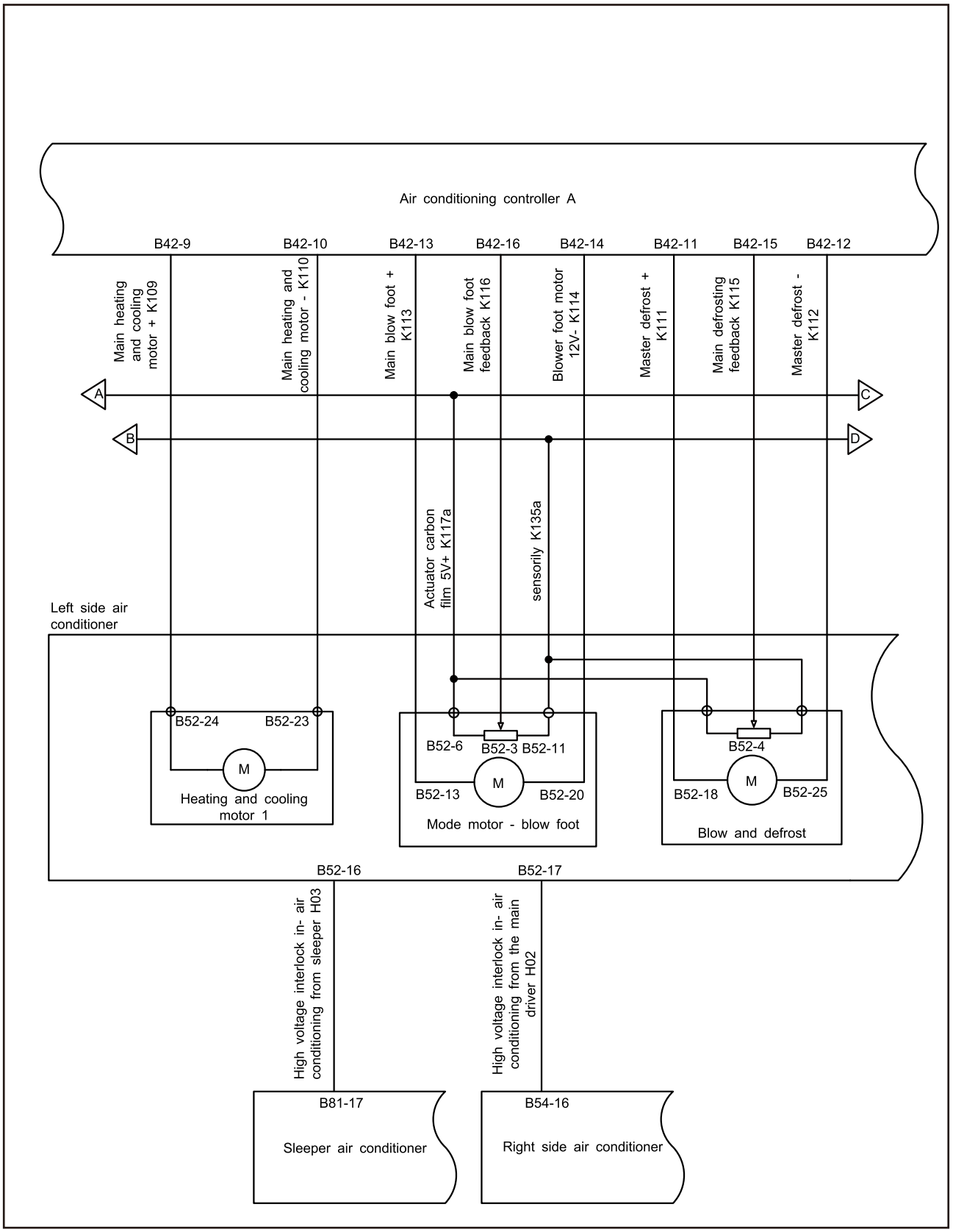
Step 7:Clear and confirm DTC.

7.1.5.11 Left Air Conditioner Internal And External Circulation Motor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B250317	Front left circulation damper actuator is faulty	The actuator cannot reach the predetermined position within 10 seconds after starting	1.Wiring harness 2. Left air conditioning internal and external circulation motor 3. Air conditioning controller

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the left air conditioning internal and external circulation motor and the air conditioning controller.

Step 4:Connect the left air conditioner's internal and external circulation motor to a 12V power supply and observe if the left air conditioner's internal and external circulation motor is working?

- Yes: Nex step
- No: Replace the left air conditioning internal and external circulation motor. Refer to Replacement Of HVAC assembly (including PTC) - Front Left

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

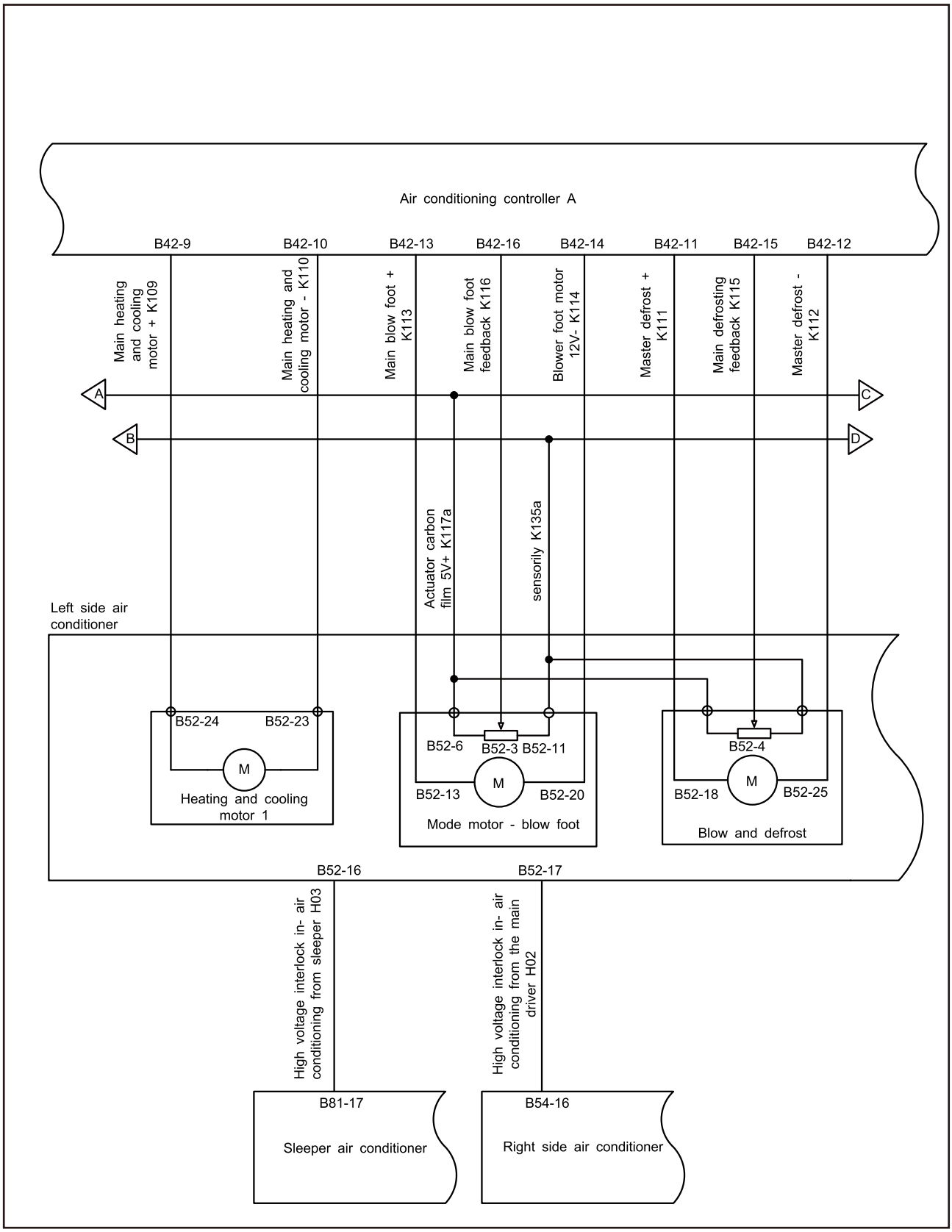
Step 7:Clear and confirm DTC.

7.1.5.12 Left Air Conditioning Cooling And Heating Motor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B250417	Front left heating and cooling valve actuator is faulty	The actuator cannot reach the predetermined position within 10 seconds after starting	1.Wiring harness 2. Left air conditioning cooling and heating motor 3. Air conditioning controller

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the left air conditioning cooling and heating motor and the air conditioning controller.

Step 4:Connect the left air conditioning cooling and heating motor to an external 12V power supply and observe if the left air conditioning cooling and heating motor is working?

– Yes: Nex step

– No: Replace the left air conditioning cooling and heating motor. Refer to Replacement Of HVAC assembly (including PTC) - Front Left

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

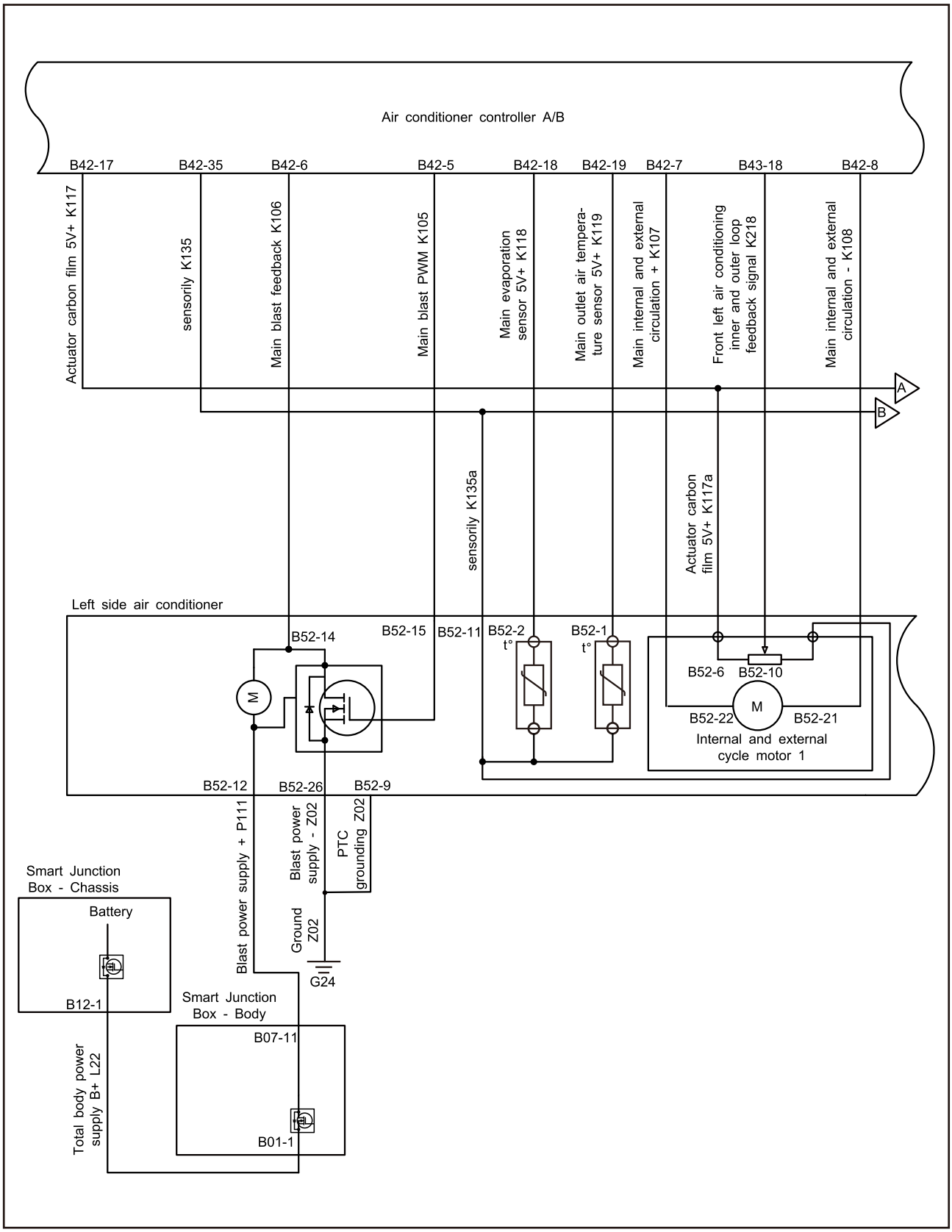
Step 7:Clear and confirm DTC.

7.1.5.13 Left Air Conditioning Evaporation Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B258213	Front left air conditioner evaporation temperature sensor open circuit	Sensor voltage exceeds 4.95V for more than 1 second	1.Wiring harness 2. Left air conditioning evaporation temperature sensor 3. Air conditioning controller
B258211	Front left air conditioner evaporation temperature sensor is short-circuited	The sensor voltage is below 0.05V for more than 1 second	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the left air conditioning evaporation temperature sensor and the air conditioning controller.

Step 4:Check if the resistance of the left air conditioning evaporation temperature sensor is normal at different temperatures?

Sensor	Temperature	Resistance
Left air conditioning evaporation temperature sensor	77℉	1.48KΩ - 1.6KΩ

– Yes: Nex step

– No: Replace the left air conditioning evaporative temperature sensor. Refer to Replacement Of HVAC assembly (including PTC) - Front Left

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

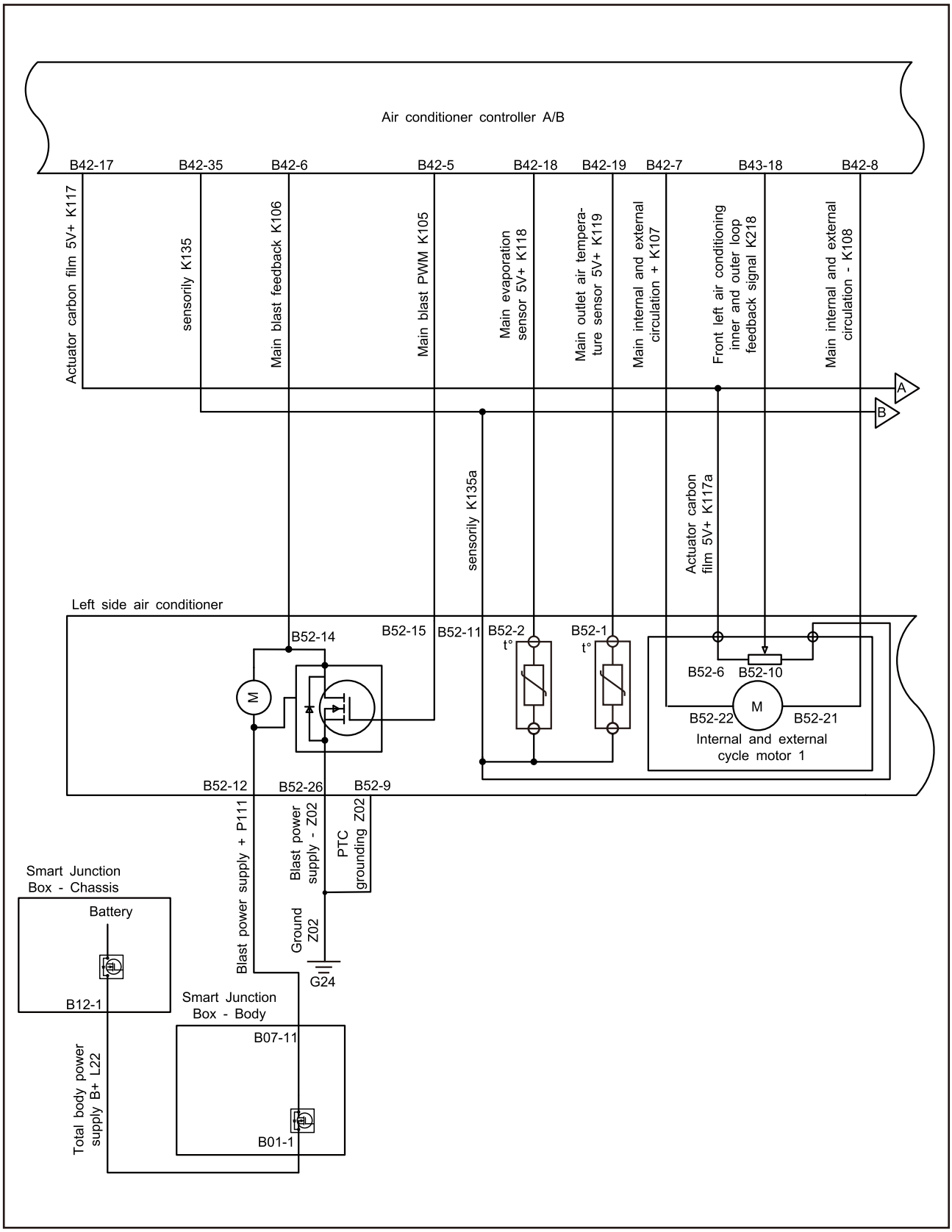
Step 7:Clear and confirm DTC.

7.1.5.14 Left Air Conditioning Outlet Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B258313	Open the circuit for the exhaust air temperature sensor in the front left air conditioner	Sensor voltage exceeds 4.95V for more than 1 second	1.Wiring harness 2. Left air conditioning outlet temperature sensor 3. Air conditioning controller
B258311	The exhaust air temperature sensor of the front left air conditioner is short-circuited	The sensor voltage is below 0.05V for more than 1 second	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the left air conditioning outlet temperature sensor and the air conditioning controller.

Step 4:Check if the resistance of the left air conditioning outlet temperature sensor is normal?

Sensor	Temperature	Resistance
Left air conditioning outlet temperature sensor	77℉	9.9KΩ - 10.1KΩ

– Yes: Next step

– No: Replace the left air conditioning outlet temperature sensor. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Left

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

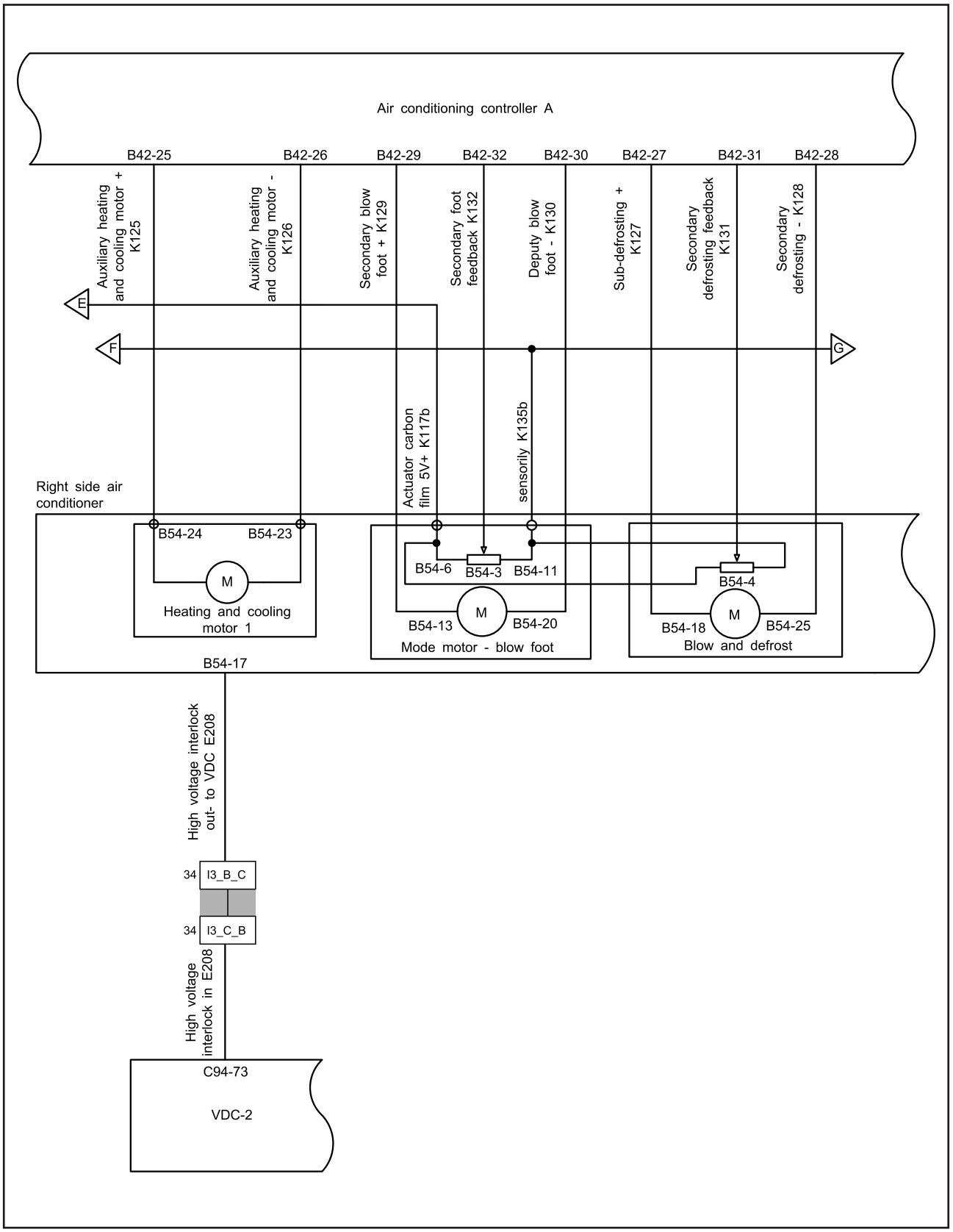
Step 7:Clear and confirm DTC.

7.1.5.15 Right Air Conditioning Mode Damper Motor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B250517	Actuator 1 of the front right mode damper motor is faulty	The actuator cannot reach the predetermined position within 10 seconds after starting	1.Wiring harness 2. Right air conditioning mode damper motor 3. Air conditioning controller
B250617	Actuator 2 of the front right mode damper motor is faulty	The actuator cannot reach the predetermined position within 10 seconds after starting	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the right air conditioning mode damper motor and the air conditioning controller.

Step 4:Connect the right air conditioning mode damper motor to an external 12V power supply and observe if the right air conditioning mode damper motor is working?

– Yes: Next step

– No: Replace the right air conditioning mode damper motor. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

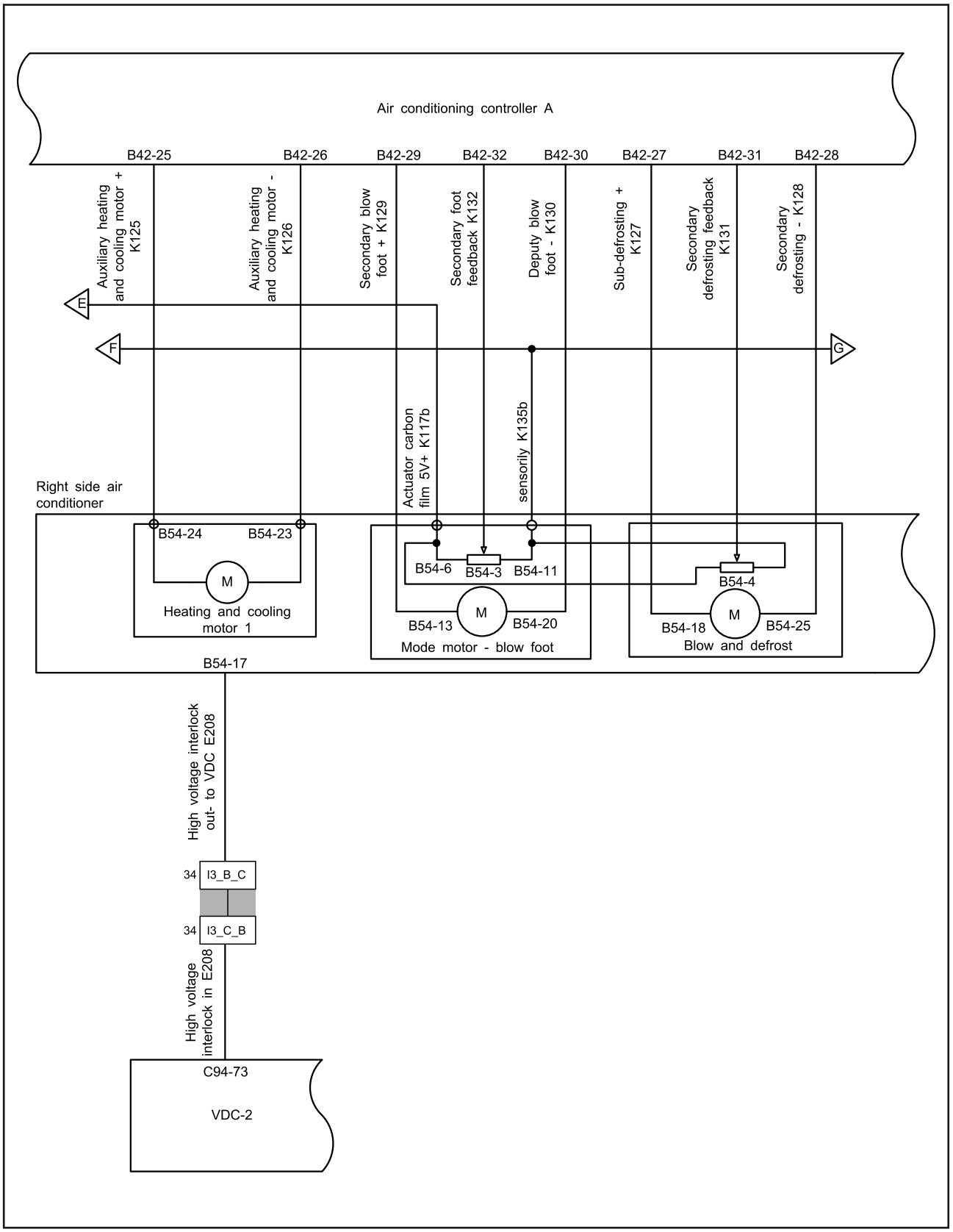
Step 7:Clear and confirm DTC.

7.1.5.16 Right Air Conditioner Internal And External Circulation Motor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B250717	Front right circulation damper actuator is faulty	The actuator cannot reach the predetermined position within 10 seconds after starting	1.Wiring harness 2. Right air conditioner internal and external circulation motor 3. Air conditioning controller

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the inner and outer circulation motors of the right air conditioner and the air conditioner controller.

Step 4:Connect the inner and outer circulation motors of the right air conditioner to a 12V power supply and observe if they are working?

– Yes: Nex step

– No: Replace the internal and external circulation motor of the right air conditioner. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

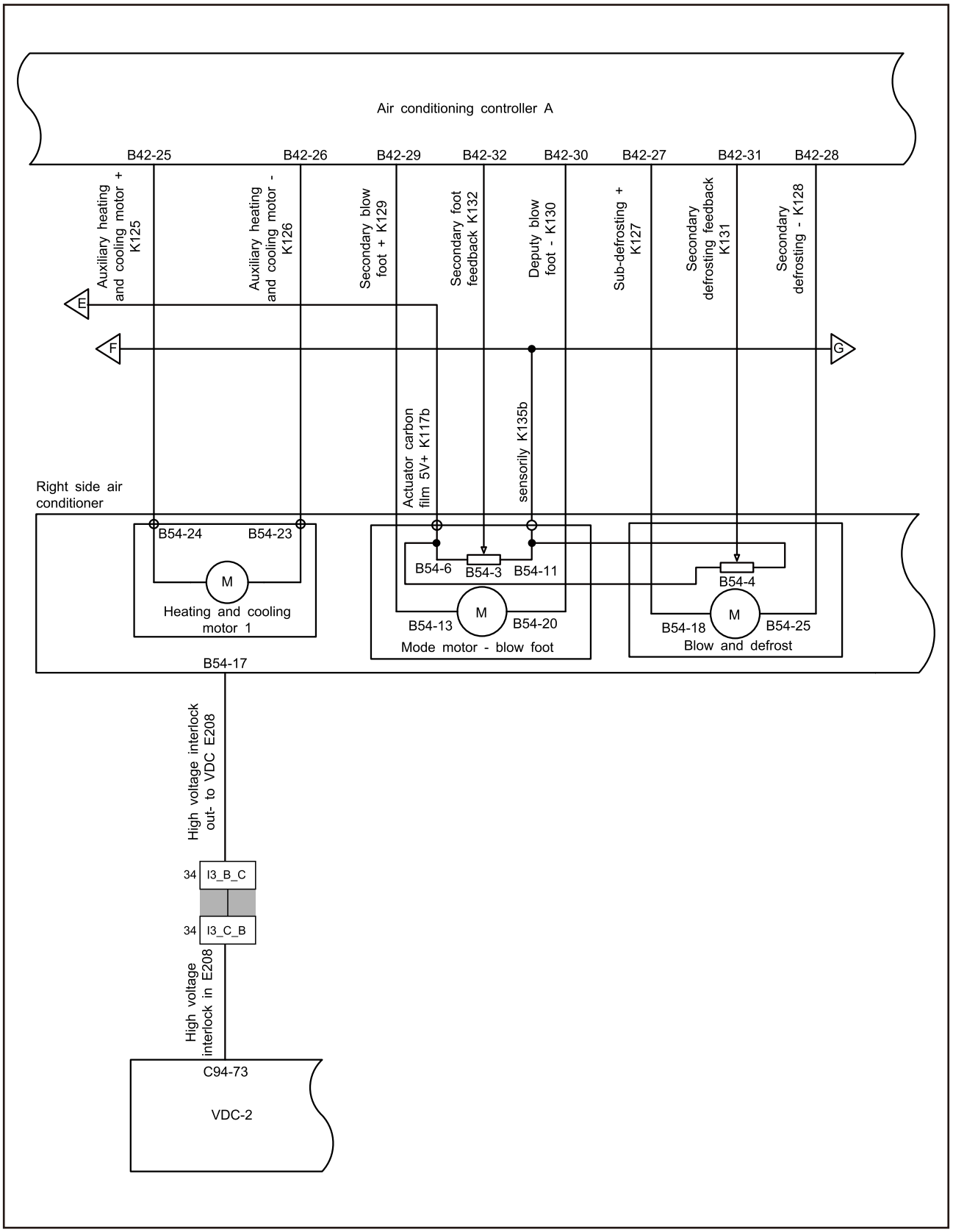
Step 7:Clear and confirm DTC.

7.1.5.17 Right Air Conditioning Cooling And Heating Motor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B250817	The actuator of the front right heating and cooling valve is faulty	The actuator cannot reach the predetermined position within 10 seconds after starting	1.Wiring harness 2. Right air conditioning cooling and heating motor 3. Air conditioning controller

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the right air conditioning cooling and heating motor and the air conditioning controller.

Step 4:Connect the right air conditioning cooling and heating motor to an external 12V power supply and observe if the right air conditioning cooling and heating motor is working?

- Yes: Next step
- No: Replace the right air conditioning cooling and heating motor. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

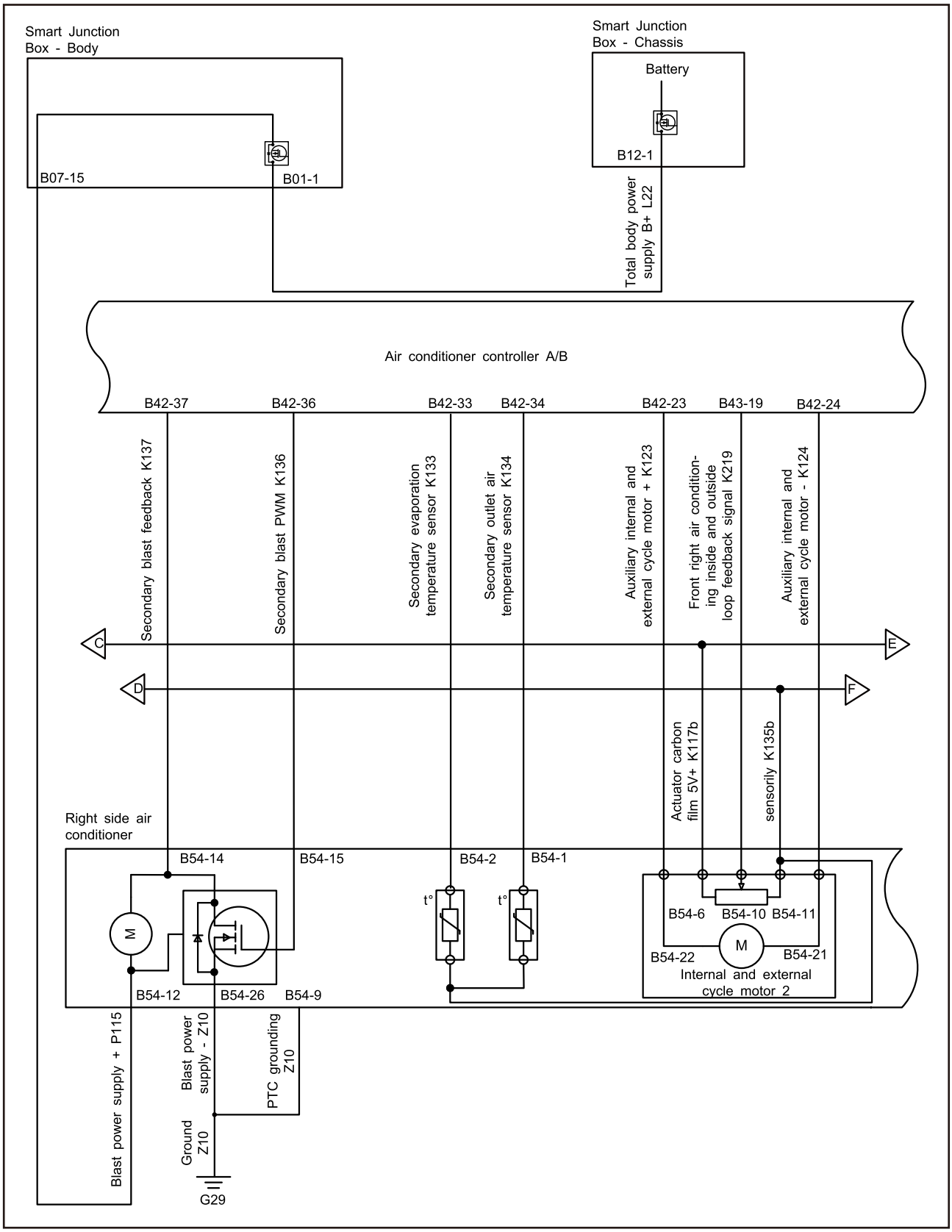
Step 7:Clear and confirm DTC.

7.1.5.18 Right Air Conditioning Evaporation Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B258413	Front right air conditioning evaporative temperature sensor open circuit	Sensor voltage exceeds 4.95V for more than 1 second	1.Wiring harness 2. Right air conditioning evaporation temperature sensor 3. Air conditioning controller
B258411	Short-circuited evaporation temperature sensor of front right air conditioner	The sensor voltage is below 0.05V for more than 1 second	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the right air conditioning evaporation temperature sensor and the air conditioning controller.

Step 4:Check if the resistance of the evaporator temperature sensor on the right side of the air conditioner is normal at different temperatures?

Sensor	Temperature	Resistance
Right air conditioning evaporation temperature sensor	77°F	1.48KΩ - 1.6KΩ

– Yes: Next step

– No: Replace the evaporator temperature sensor on the right side of the air conditioner. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

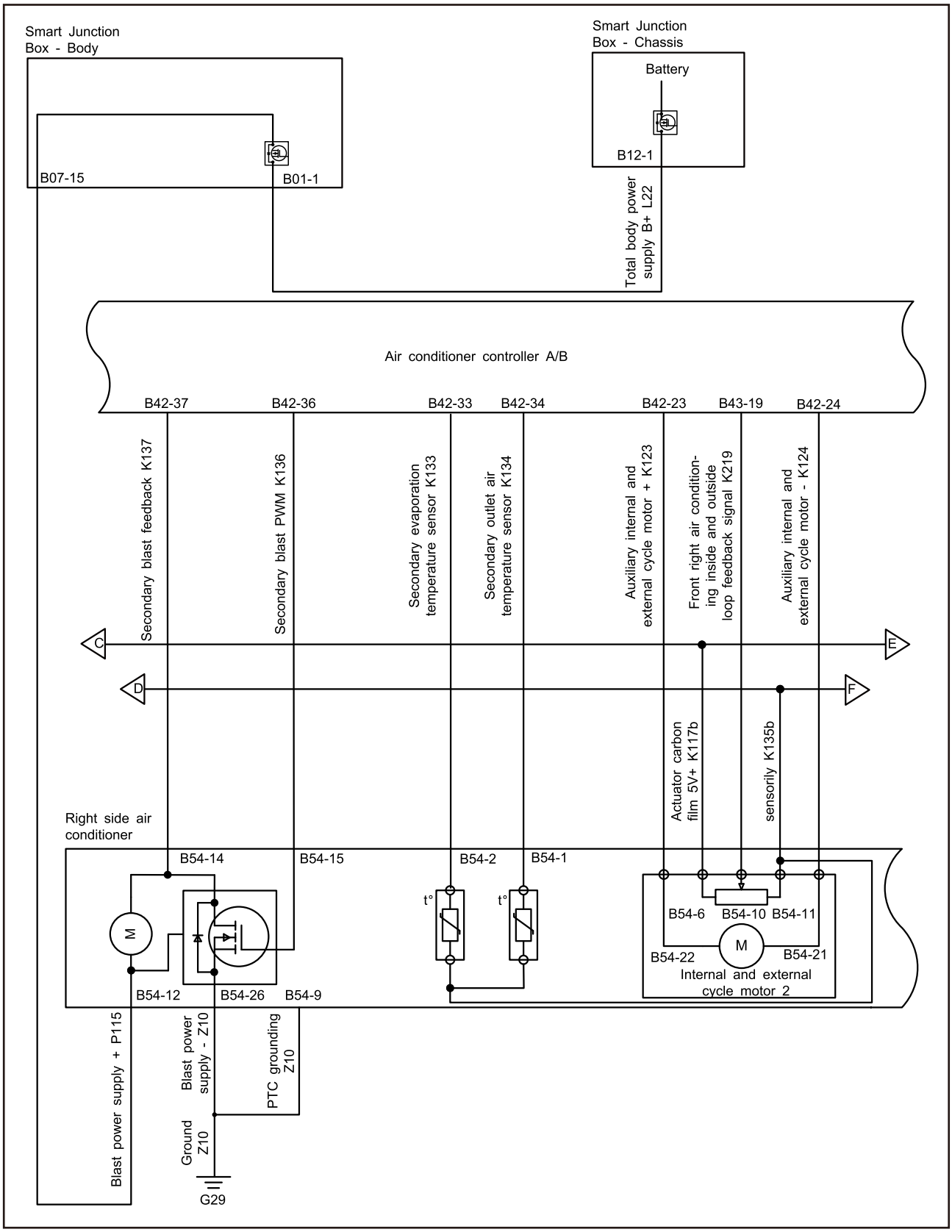
Step 7:Clear and confirm DTC.

7.1.5.19 Right Air Conditioning Outlet Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B258513	Open the air outlet temperature sensor on the front right air conditioner	The sensor voltage exceeds 4.95V for more than 1 second	1.Wiring harness 2. Right air conditioning outlet temperature sensor 3. Air conditioning controller
B258511	The outlet air temperature sensor of the front right air conditioner is short-circuited	The sensor voltage is below 0.05V for more than 1 second	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the right air conditioning outlet temperature sensor and the air conditioning controller.

Step 4:Check if the resistance of the right air conditioning outlet temperature sensor is normal at different temperatures?

Sensor	Temperature	Resistance
Right air conditioning outlet temperature sensor	77℉	9.9KΩ - 10.1KΩ

– Yes: Next step

– No: Replace the right air conditioning outlet temperature sensor. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

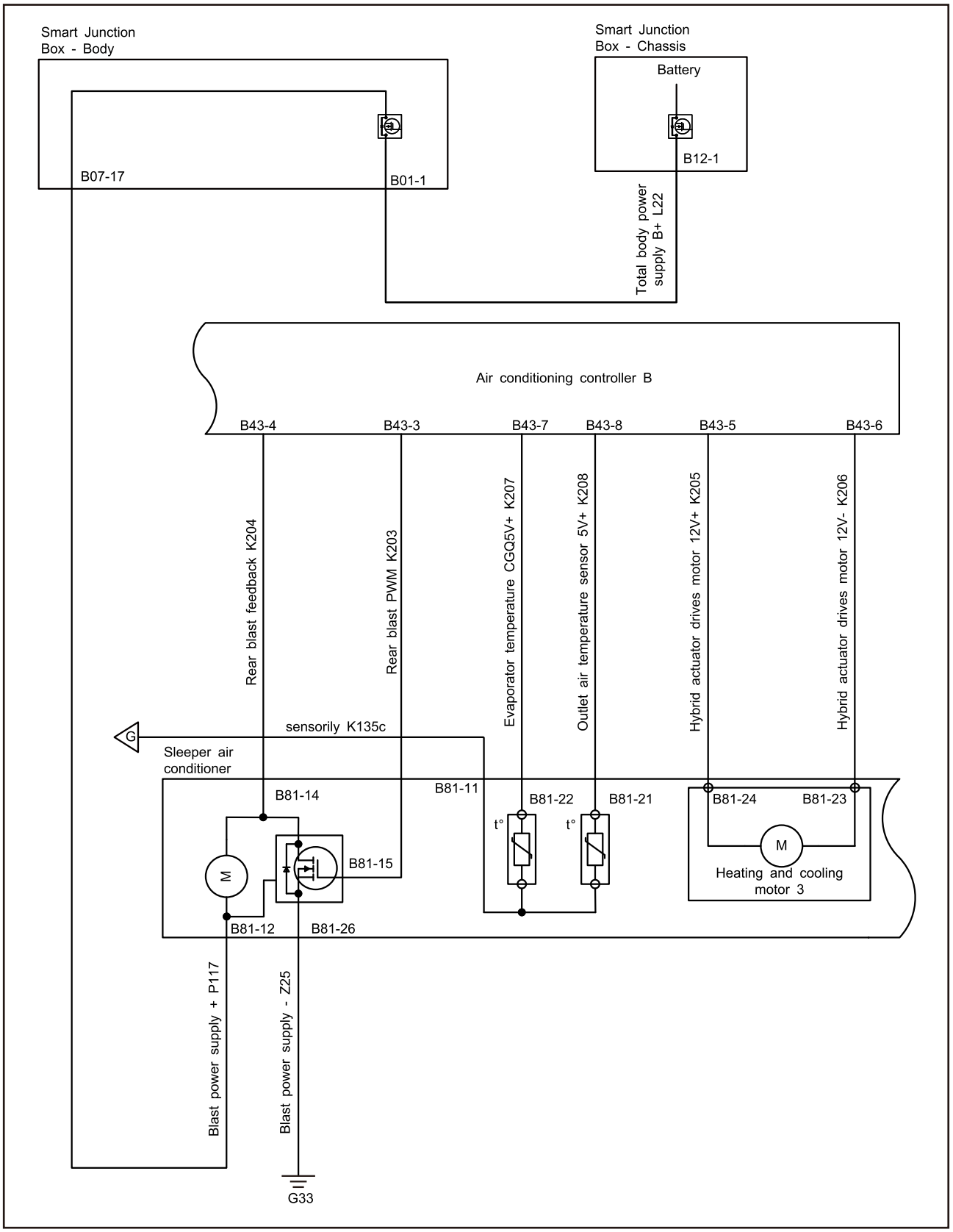
Step 7:Clear and confirm DTC.

7.1.5.20 Sleeper Air Conditioning Evaporation Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B258713	Rear air conditioner evaporation temperature sensor open circuit	Sensor voltage exceeds 4.95V for more than 1 second	1.Wiring harness 2. Sleeper air conditioner evaporation temperature sensor 3. Air conditioning controller
B258711	The evaporation temperature sensor of the rear left air conditioner is short-circuited	The sensor voltage is below 0.05V for more than 1 second	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the sleeper air conditioning evaporation temperature sensor and the air conditioning controller.

Step 4:Check the resistance value of the evaporation temperature sensor of the sleeper air conditioner at different temperatures is normal?

Sensor	Temperature	Resistance
Sleeper air conditioning evaporation temperature sensor	77°F	1.48KΩ - 1.6KΩ

– Yes: Next step

– No: Replace the sleeper air conditioning evaporative temperature sensor. Refer to Replacement Of HVAC Assembly (including PTC) - Rear

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

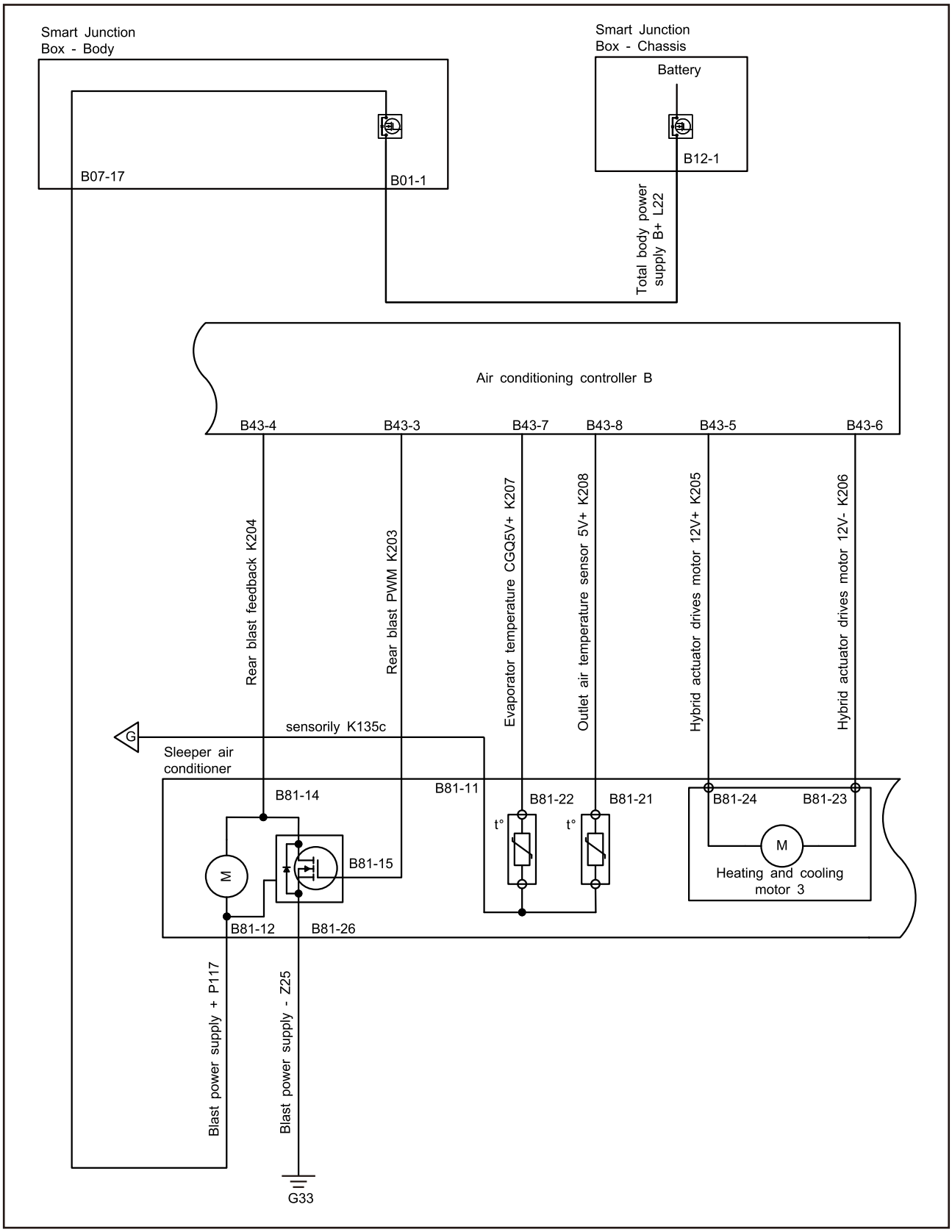
Step 7:Clear and confirm DTC.

7.1.5.21 Sleeper Air Conditioning Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B258813	Rear air conditioner air temperature sensor open circuit	Sensor voltage exceeds 4.95V for more than 1 second	1.Wiring harness 2. Sleeper air conditioner outlet air temperature sensor 3. Air conditioning controller
B258811	The outlet air temperature sensor of the rear air conditioner is shorted	The sensor voltage is below 0.05V for more than 1 second	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the sleeper air conditioning outlet air temperature sensor and the air conditioning controller.

Step 4:Check the resistance value of the sleeper air conditioner outlet air temperature sensor is normal at different temperatures?

Sensor	Temperature	Resistance
Sleeper air conditioner air temperature sensor	77°F	9.9KΩ - 10.1KΩ

– Yes: Next step

– No: Replace the sleeper air conditioning temperature sensor. Refer to Replacement Of HVAC Assembly (Including PTC) - Rear

Step 5:Rewrite the configuration code, reload the software, and upgrade the air conditioning controller.

Step 6:Replace the air conditioning controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

Step 7:Clear and confirm DTC.

7.1.5.22 Check The Integrity Of The Air Conditioning CAN Bus Network

Step 1	Check the terminal resistance of the air conditioning CAN bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
Air conditioning CAN (H) and air conditioning CAN (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the voltage of the air conditioning CAN bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
Air conditioning CAN (H) and vehicle grounding	Voltage:2.5 - 3.5 V
Air conditioning CAN (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
Air conditioning CAN (H) and vehicle grounding	Voltage:2.5 - 3.5 V
Air conditioning CAN (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the air conditioning CAN bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the air conditioning CAN bus.

C. Measure the air conditioning CAN bus resistance between each module and the air conditioning compressor in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of the air conditioning CAN bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the air conditioning CAN bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the air conditioning CAN bus.

Yes

Step 7	Disconnect the modules on the air conditioning CAN bus in sequence and observe the bus communication voltage/resistance.

Disconnect the modules on the air conditioning CAN bus in sequence, observe the bus communication voltage/ resistance returns to normal, and if it returns to normal, determine that the disconnected module is faulty.

7.1.6 Dismantling and Installation

7.1.6.1 Replacement of HVAC Assembly (including PTC) - front Left

Removal Procedures

1 Open the door.
2 Open the front flip cover plate.
3 Disconnect the battery negative cable.
4 Perform power-off of high voltage system.
5 Recycle A/C refrigerant.
6 Remove the wiper arm assy.
7 Remove the assembly of the front windshield cover.
8 Remove the dab decorative cove.
9 Remove the steering wheel assy.
10 Remove the cover-combination switch-lor.
11 Remove the ip brim assy.
12 Remove the IVI screen.
13 Remove the CAR screen.
14 Remove the IPC screen.
15 Remove the upr cover- lh camera brkt.
16 Remove the camera monitor screen.
17 Remove the base-lh display brkt.
18 Remove the upr cover- rh camera brkt.
19 Remove the camera monitor screen-rh.
20 Remove the base-rh display brkt.
21 Remove the a-pillar guard assy-lh.
22 Remove the a-pillar guard assy-rh.
23 Remove the assembly of the instrument panel trim panel assy- lowerr lh.
24 Remove the front side enclosure assy-lh.
25 Remove the cover assy-dashboard-lh frt.
26 Remove the trim assy on the switch panel-lh.
27 Remove the switch panel lower trim assy-lh.
28 Remove the vehicle travelling data recorder.
29 Remove the instrument panel trim panel assy- upper lh.
30 Remove the air vent decorative plate assy-lh.
31 Remove the assembly of the cover assy-steering under column guard.
32 Remove the front side enclosure assy-rh.
33 Remove the cover assy-dashboard-rh frt.

34 Remove the switch panel assy-rh.

35 Remove the lower switch panel assy-rh.

36 Remove the storage box assy-rh.

37 Remove the air vent decorative plate assy-rh.

38 Remove the ontology assy on the dashboard.

39 Remove the trim assy-dashboard-lh frt.

40 Remove the lor trim assy-dashboard-rh frt.

41 Remove the decorative plate assy-dashboard-rh frt.

42 Remove the cover assy-defrost frt.

43 Remove the ontology assy under the dashboard.

44 Remove the AR-HUD.

45 Remove the fixing bracket-lh.

46 Remove the smart appliance box.

47 Remove the cockpit domain controller.

48 Remove the cockpit domain controller bracket.

49 Remove the Tbox-gw.

50 Remove the Tbox-gw bracket.

51 Remove the EBS controller assy.

52 Remove the EBS bracket.

53 Remove the body domain control unit.

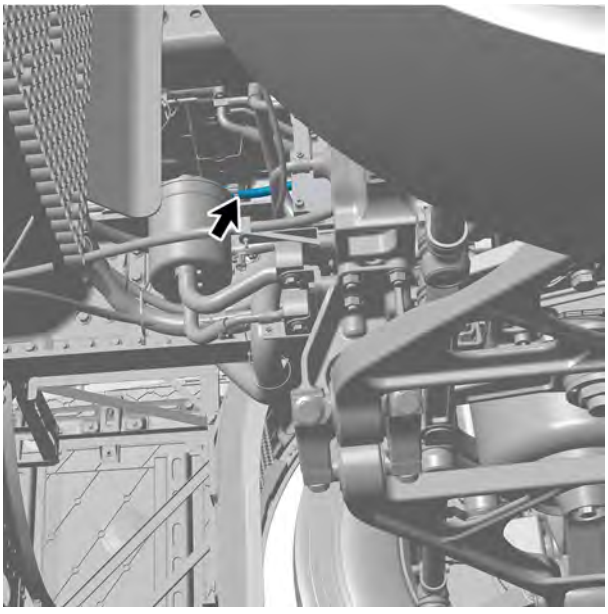
54 Remove the controller bracket assy.

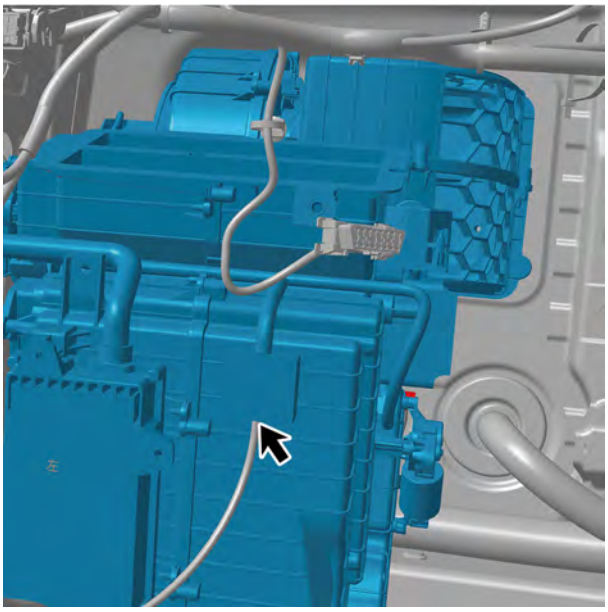
55 Remove the cross car beam pole.

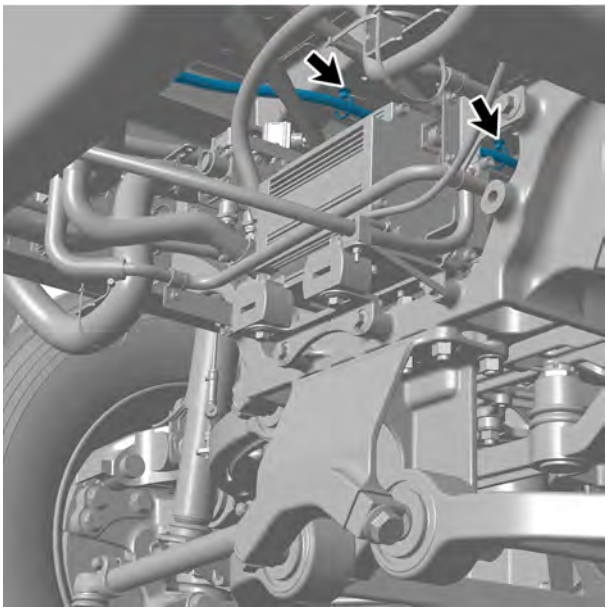
56 Remove the cross car beam assy.

57 Remove the side blowing air duct assy-lh.

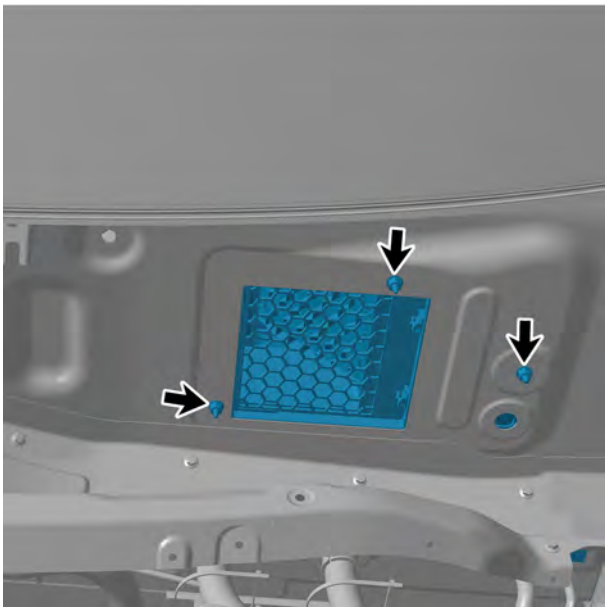
58 Disconnect 2 harness connectors of the HVAC assembly (including PTC) - front left.



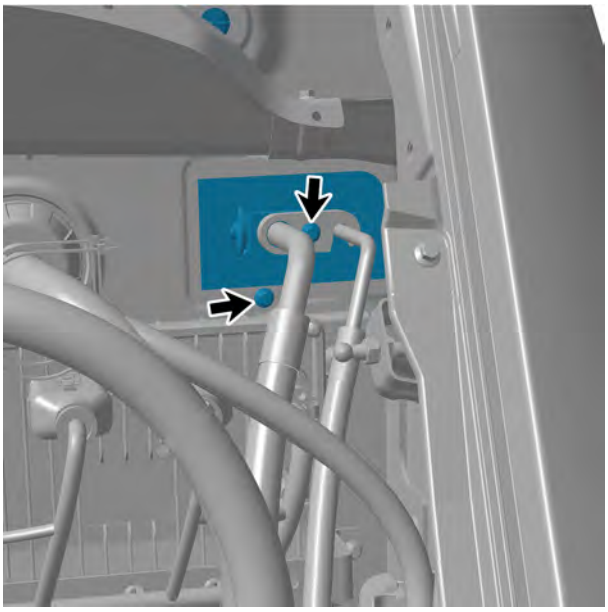




59 Disengage 2 clips of the HVAC assembly (including PTC) - front left.

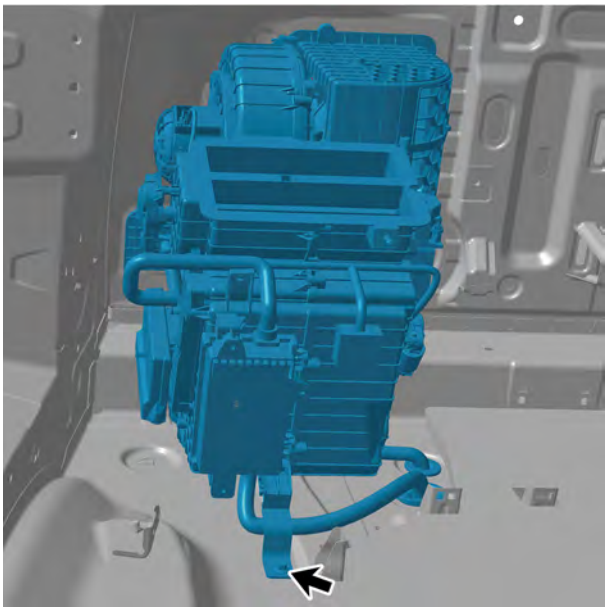


60 Remove 3 fixing nuts of the HVAC assembly (including PTC) - front left.



61 Remove 2 fixing bolts of the HVAC assembly (including PTC) - front left.

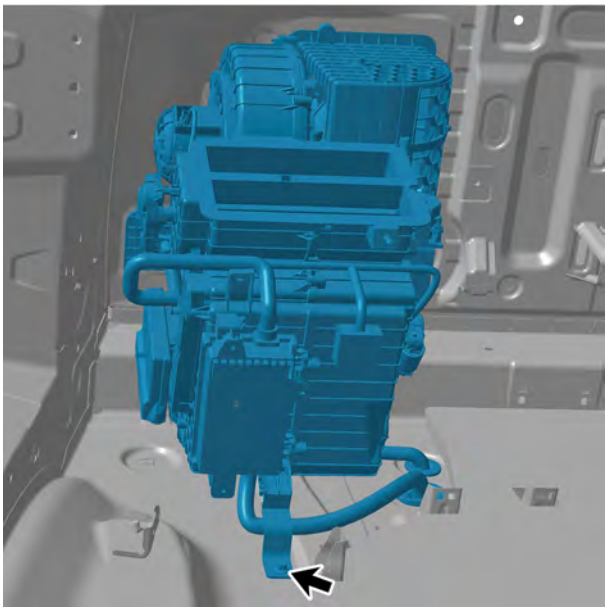
62 Disconnect the A/C pipeline.



63 Remove 1 fixing bolts of the HVAC assembly (including PTC) - front left.

64 Remove the HVAC assembly (including PTC) - front left.

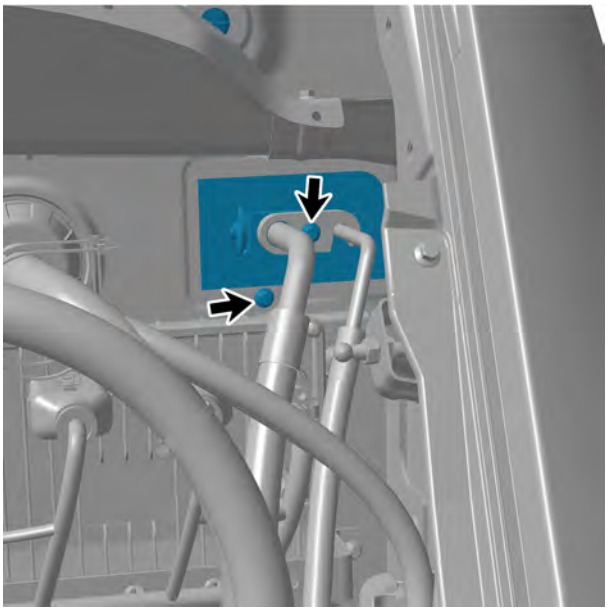
Installation Procedures



1 Move the HVAC assembly (including PTC) - front left to the mounting position.

2 Install 1 fixing bolt of the HVAC assembly (including PTC) - front left.

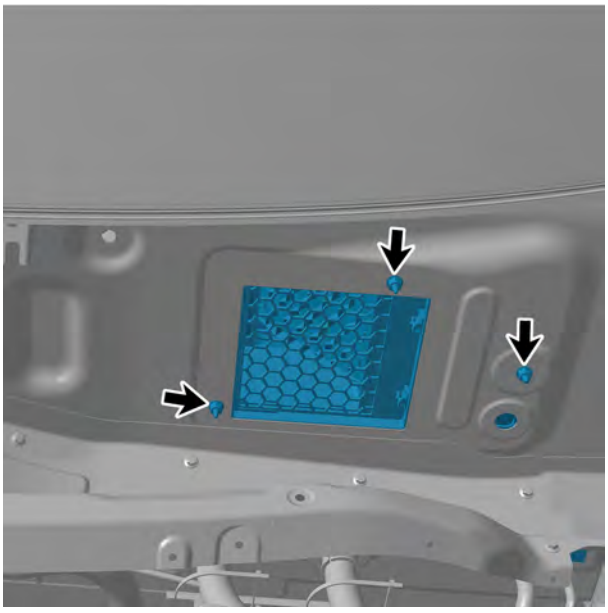
Torque: (7.5 +/- .75) ft lbs



3 Connect the A/C pipeline.

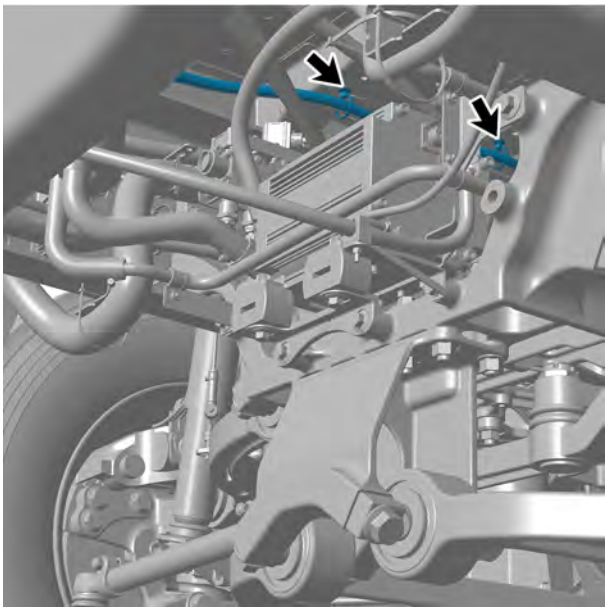
4 Install 2 fixing bolt of the HVAC assembly (including PTC) - front left.

Torque: (7.5 +/- .75) ft lbs

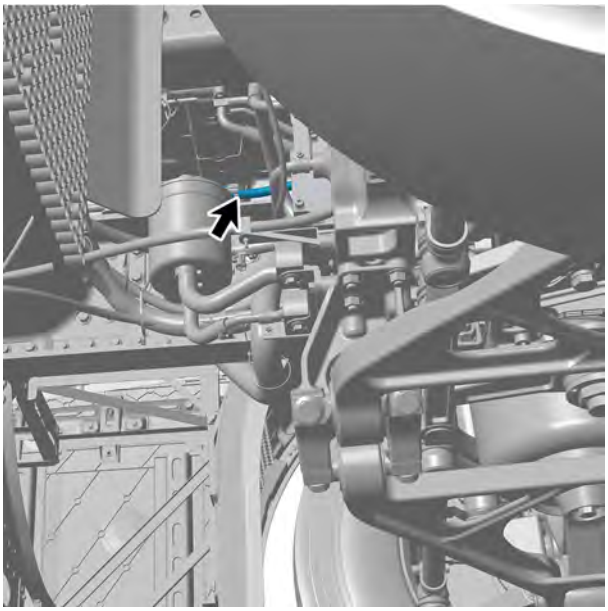


5 Install 3 fixing nuts of the HVAC assembly (including PTC) - front left.

Torque: (7.5 +/- .75) ft lbs



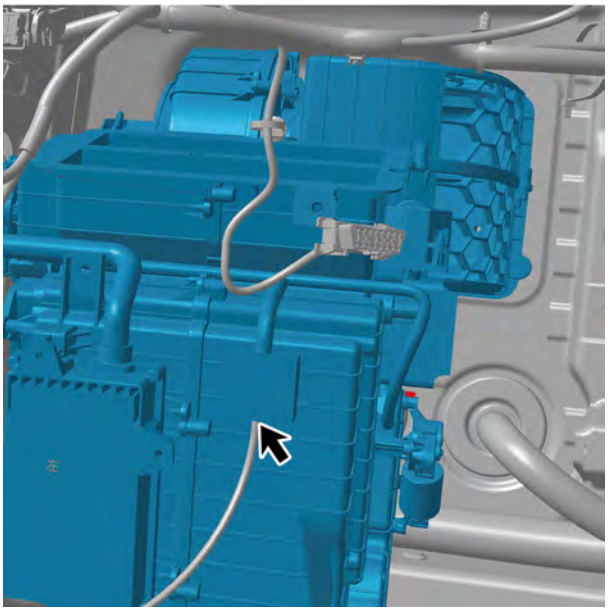
6 Install 2 clips of the HVAC assembly (including PTC) - front left.



7 Connect 2 harness connectors of the HVAC assembly (including PTC) - front left.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



8 Install the side blowing air duct assy-lh.

9 Install the cross car beam assy.

10 Install the cross car beam pole.

11 Install the controller bracket assy.

12 Install the body domain control unit.

13 Install the EBS bracket.

14 Install the EBS controller assy.

15 Install the Tbox-gw bracket.

16 Install the Tbox-gw.

17 Install the cockpit domain controller bracket.

18 Install the cockpit domain controller.

19 Install the smart appliance box.

20 Install the fixing bracket-lh.

21 Install the AR-HUD.

22 Install the ontology assy under the dashboard.

23 Install the cover assy-defrost frt.

24 Install the decorative plate assy-dashboard-rh frt.

25 Install the lor trim assy-dashboard-rh frt.

26 Install the trim assy-dashboard-lh frt.

27 Install the ontology assy on the dashboard.

28 Install the air vent decorative plate assy-rh.

29 Install the storage box assy-rh.

30 Install the lower switch panel assy-rh.

31 Install the switch panel assy-rh.

32 Install the cover assy-dashboard-rh frt.

33 Install the front side enclosure assy-rh.

34 Install the assembly of the cover assy-steering under column guard.

35 Install the air vent decorative plate assy-lh.

36 Install the instrument panel trim panel assy- upper lh.

37 Install the vehicle travelling data recorder.

38 Install the switch panel lower trim assy-lh.

39 Install the trim assy on the switch panel-lh.

40 Install the cover assy-dashboard-lh frt.

41 Install the front side enclosure assy-lh.

42 Install the assembly of the instrument panel trim panel assy- lowerr lh.

43 Install the a-pillar guard assy-rh.

44 Install the a-pillar guard assy-lh.

45 Install the base-rh display brkt.

46 Install the camera monitor screen-rh.

47 Install the upr cover- rh camera brkt.

48 Install the base-lh display brkt.

49 Install the camera monitor screen.

50 Install the upr cover- lh camera brkt.

51 Install the IPC screen.

52 Install the CAR screen.

53 Install the IVI screen.

54 Install the ip brim assy.

55 Install the cover-combination switch-lor.

56 Install the steering wheel assy.

57 Install the dab decorative cove.

58 Install the assembly of the front windshield cover.

59 Install the wiper arm assy.

60 Fill with A/C refrigerant.

61 Perform power-on of the high voltage system.

62 Connect the battery negative cable.

63 Close the front flip cover plate.

64 Close the door.

7.1.6.2 Replacement of HVAC Assembly (including PTC) - front Right

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Recycle A/C refrigerant.

6 Remove the wiper arm assy.

7 Remove the assembly of the front windshield cover.

8 Remove the dab decorative cove.

9 Remove the steering wheel assy.

10 Remove the cover-combination switch-lor.

11 Remove the ip brim assy.

12 Remove the IVI screen.

13 Remove the CAR screen.

14 Remove the IPC screen.

15 Remove the upr cover- lh camera brkt.

16 Remove the camera monitor screen.
17 Remove the base-lh display brkt.
18 Remove the upr cover- rh camera brkt.
19 Remove the camera monitor screen-rh.
20 Remove the base-rh display brkt.
21 Remove the a-pillar guard assy-lh.
22 Remove the a-pillar guard assy-rh.
23 Remove the assembly of the instrument panel trim panel assy- lowerr lh.
24 Remove the front side enclosure assy-lh.
25 Remove the cover assy-dashboard-lh frt.
26 Remove the trim assy on the switch panel-lh.
27 Remove the switch panel lower trim assy-lh.
28 Remove the vehicle travelling data recorder.
29 Remove the instrument panel trim panel assy- upper lh.
30 Remove the air vent decorative plate assy-lh.
31 Remove the assembly of the cover assy-steering under column guard.
32 Remove the front side enclosure assy-rh.
33 Remove the cover assy-dashboard-rh frt.
34 Remove the switch panel assy-rh.
35 Remove the lower switch panel assy-rh.
36 Remove the storage box assy-rh.
37 Remove the air vent decorative plate assy-rh.
38 Remove the ontology assy on the dashboard.
39 Remove the trim assy-dashboard-lh frt.
40 Remove the lor trim assy-dashboard-rh frt.
41 Remove the decorative plate assy-dashboard-rh frt.
42 Remove the cover assy-defrost frt.
43 Remove the ontology assy under the dashboard.
44 Remove the AR-HUD.
45 Remove the fixing bracket-lh.
46 Remove the smart appliance box.
47 Remove the cockpit domain controller.
48 Remove the cockpit domain controller bracket.
49 Remove the Tbox-gw.
50 Remove the Tbox-gw bracket.
51 Remove the EBS controller assy.

52 Remove the EBS bracket.

53 Remove the body domain control unit.

54 Remove the controller bracket assy.

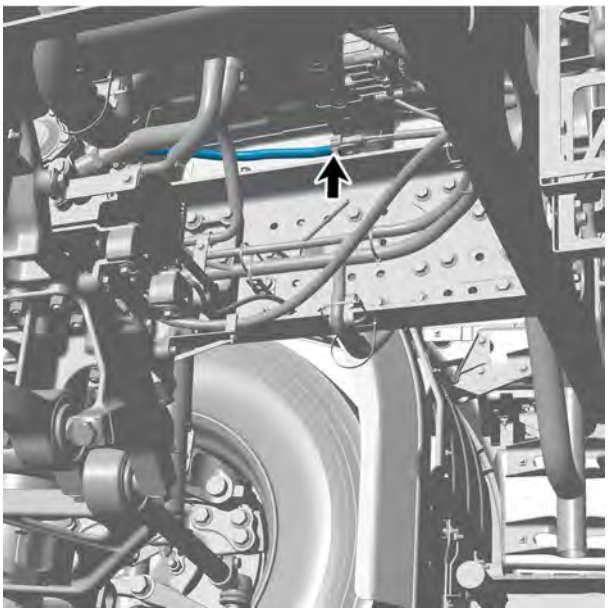
55 Remove the cross car beam pole.

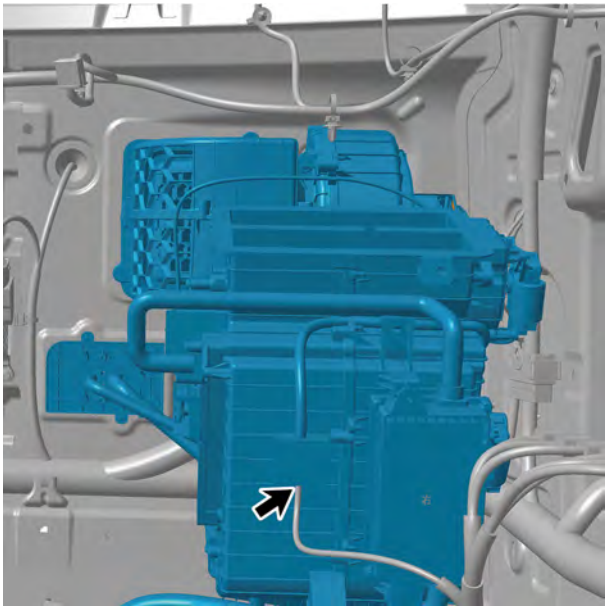
56 Remove the cross car beam assy.

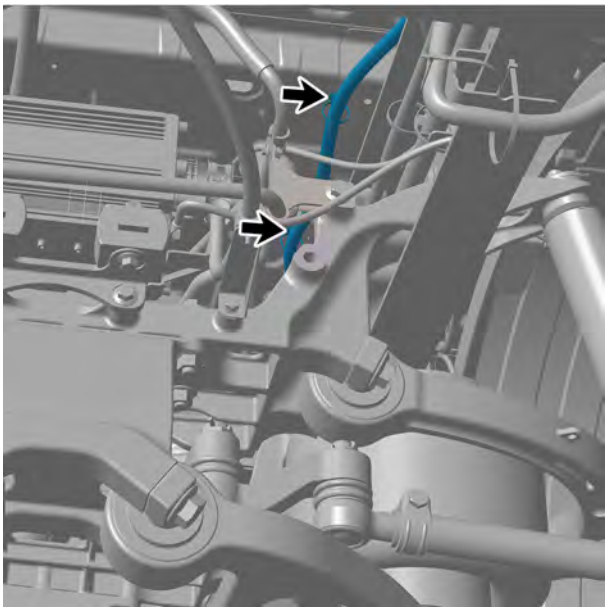
57 Remove the blowing air duct assy-rh.

58 Remove the storage box bracket assy.

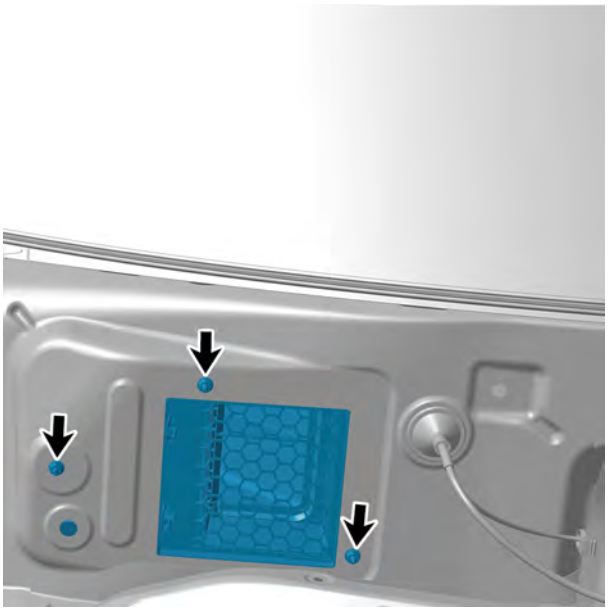
59 Disconnect 2 harness connectors of the HVAC assembly (including PTC) - front right.



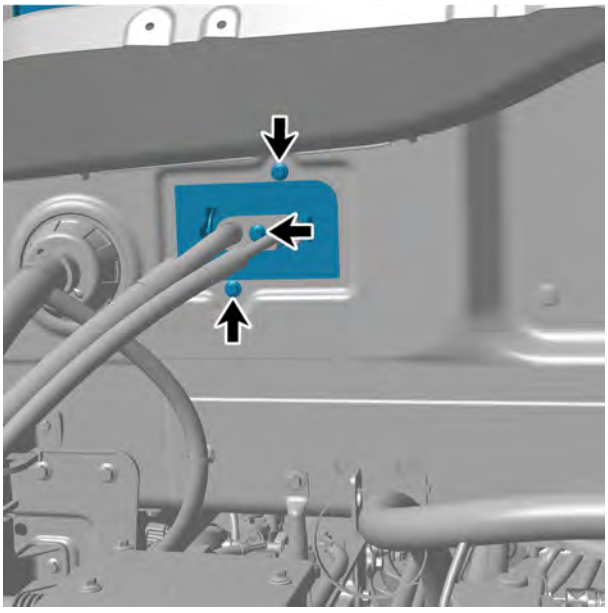




60 Disengage 2 clips of the HVAC assembly (including PTC) - front right.

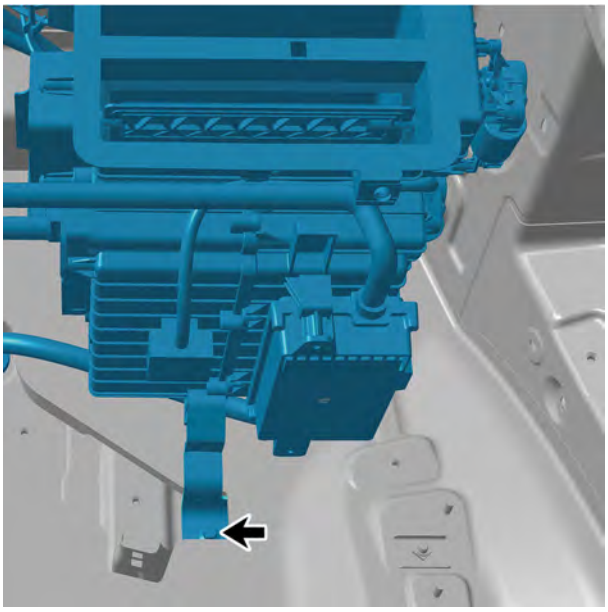


61 Remove 3 fixing nuts of the HVAC assembly (including PTC) - front right.



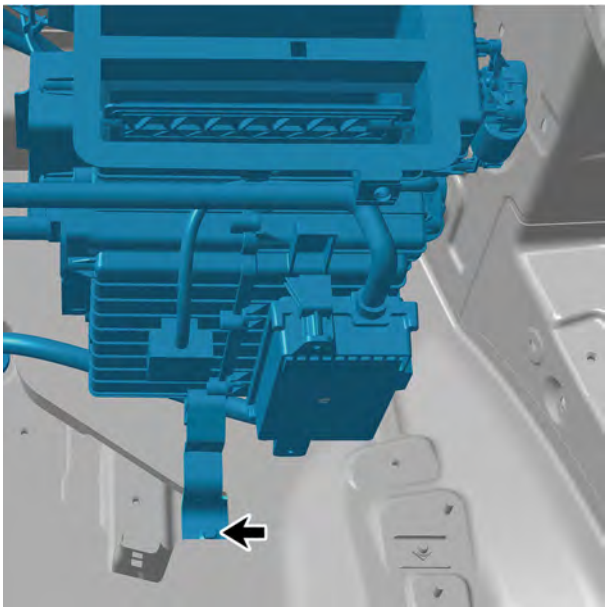
62 Remove 3 fixing bolts of the HVAC assembly (including PTC) - front right.

63 Disconnect the A/C pipeline.



64 Remove 1 fixing bolts of the HVAC assembly (including PTC) - front right.

65 Remove the HVAC assembly (including PTC) - front right.

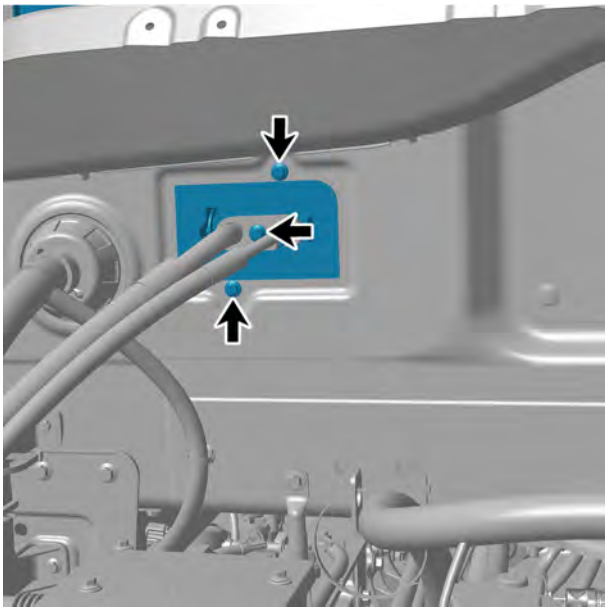


Installation Procedures

1 Move the HVAC assembly (including PTC) - front right to the mounting position.

2 Install 1 fixing bolt of the HVAC assembly (including PTC) - front right.

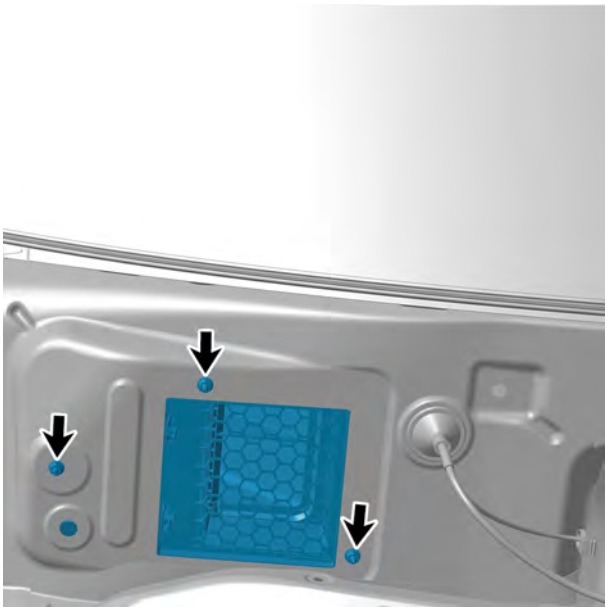
Torque: (7.5 +/- .75) ft lbs



3 Connect the A/C pipeline.

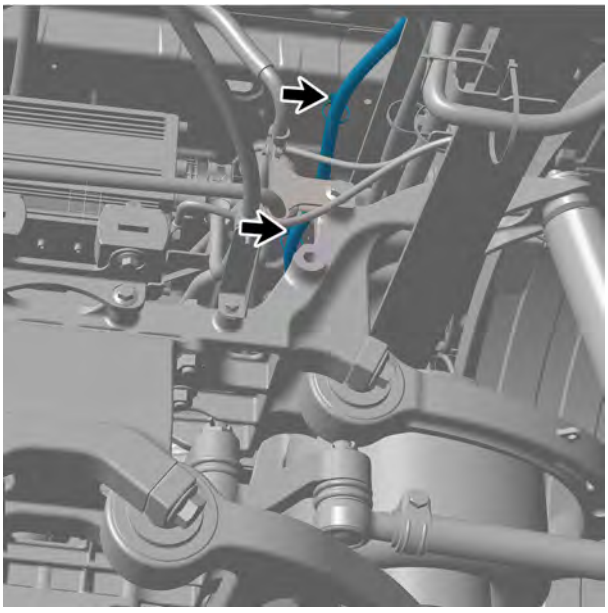
4 Install 3 fixing bolt of the HVAC assembly (including PTC) - front right.

Torque: (7.5 +/- .75) ft lbs

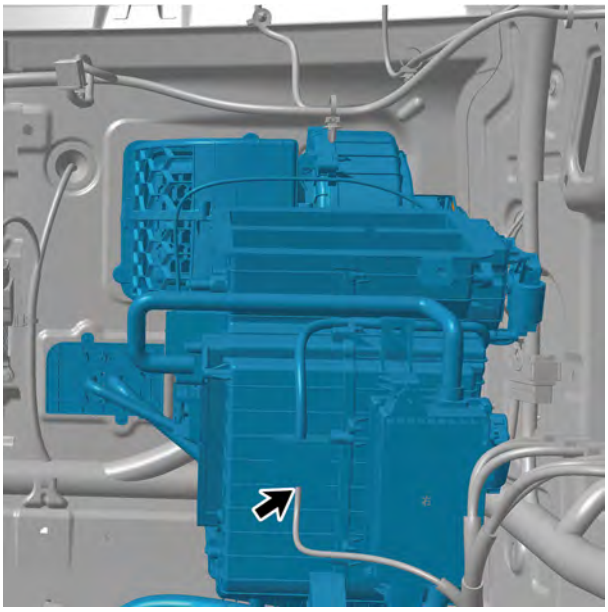


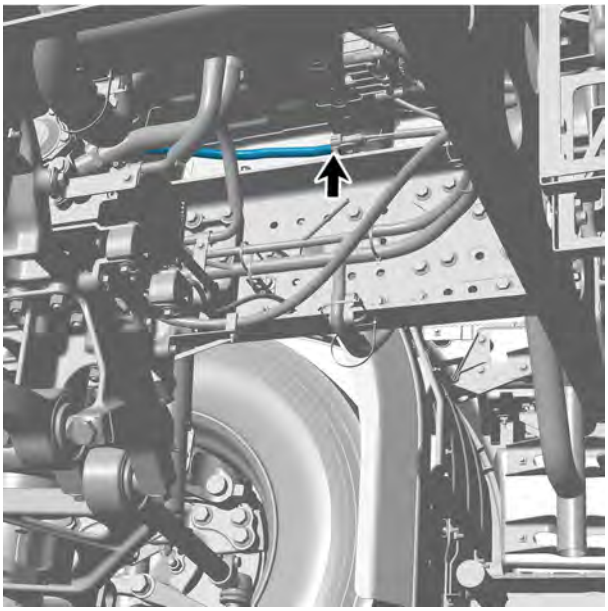
5 Install 3 fixing nuts of the HVAC assembly (including PTC) - front right.

Torque: (7.5 +/- .75) ft lbs



6 Connect 2 clips of the HVAC assembly (including PTC) - front right.





7 Connect 2 harness connectors of the HVAC assembly (including PTC) - front right.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

8 Install the storage box bracket assy.

9 Install the blowing air duct assy-rh.

10 Install the cross car beam assy.

11 Install the cross car beam pole.

12 Install the controller bracket assy.

13 Install the body domain control unit.

14 Install the EBS bracket.

15 Install the EBS controller assy.

16 Install the Tbox-gw bracket.

17 Install the Tbox-gw.

18 Install the cockpit domain controller bracket.

19 Install the cockpit domain controller.

20 Install the smart appliance box.

21 Install the fixing bracket-lh.

22 Install the AR-HUD.

23 Install the ontology assy under the dashboard.

24 Install the cover assy-defrost frt.

25 Install the decorative plate assy-dashboard-rh frt.

26 Install the lor trim assy-dashboard-rh frt.

27 Install the trim assy-dashboard-lh frt.

28 Install the ontology assy on the dashboard.

29 Install the air vent decorative plate assy-rh.

30 Install the storage box assy-rh.

31 Install the lower switch panel assy-rh.

32 Install the switch panel assy-rh.

33 Install the cover assy-dashboard-rh frt.

34 Install the front side enclosure assy-rh.

35 Install the assembly of the cover assy-steering under column guard.

36 Install the air vent decorative plate assy-lh.

37 Install the instrument panel trim panel assy- upper lh.

38 Install the vehicle travelling data recorder.

39 Install the switch panel lower trim assy-lh.

40 Install the trim assy on the switch panel-lh.

41 Install the cover assy-dashboard-lh frt.

42 Install the front side enclosure assy-lh.

43 Install the assembly of the instrument panel trim panel assy- lowerr lh.

44 Install the a-pillar guard assy-rh.

45 Install the a-pillar guard assy-lh.

46 Install the base-rh display brkt.

47 Install the camera monitor screen-rh.

48 Install the upr cover- rh camera brkt.

49 Install the base-lh display brkt.

50 Install the camera monitor screen.

51 Install the upr cover- lh camera brkt.

52 Install the IPC screen.

53 Install the CAR screen.

54 Install the IVI screen.

55 Install the ip brim assy.

56 Install the cover-combination switch-lor.

57 Install the steering wheel assy.

58 Install the dab decorative cove.

59 Install the assembly of the front windshield cover.

60 Install the wiper arm assy.

61 Fill with A/C refrigerant.

62 Perform power-on of the high voltage system.

63 Connect the battery negative cable.

64 Close the front flip cover plate.

65 Close the door.

7.1.6.3 Replacement of HVAC Assembly (including PTC) - Rear

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Recycle A/C refrigerant.

6 Remove the rear A/C lower air duct.

7 Remove the middle drawer assembly.

8 Remove the fire extinguisher.

9 Remove the IP left upper trim panel assembly.

10 Remove the front USB interface.

11 Remove the IP left access cover plate assembly.

12 Remove the left switch panel assembly.

13 Remove the left switch panel lower trim panel assembly.

14 Remove the IP left lower trim panel assembly.

15 Remove the left middle side wall lower trim panel assembly.

16 Remove the left middle side wall middle trim panel assembly.

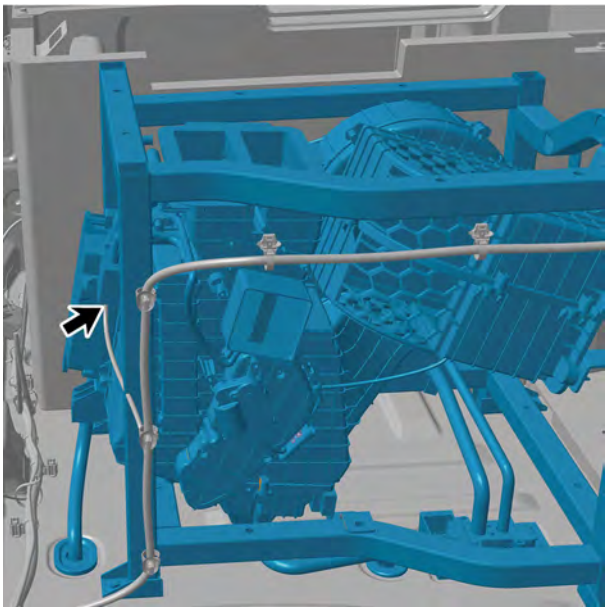
17 Remove the toolbox left trim panel assembly.

18 Remove the 120V receptacle.

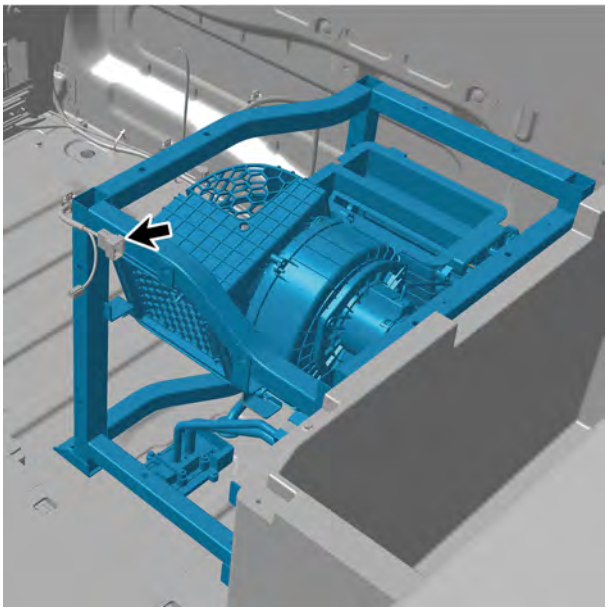
19 Remove the vehicle power supply (12V).

20 Remove the interior temperature sensor (rear).

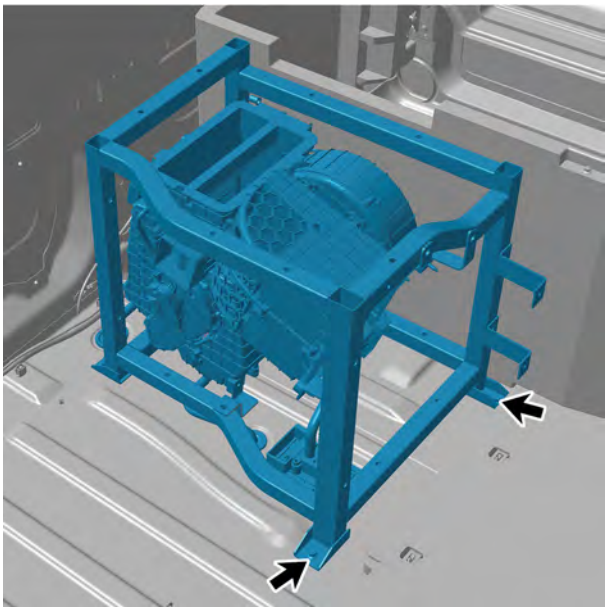
21 Remove the toolbox trim panel assembly.



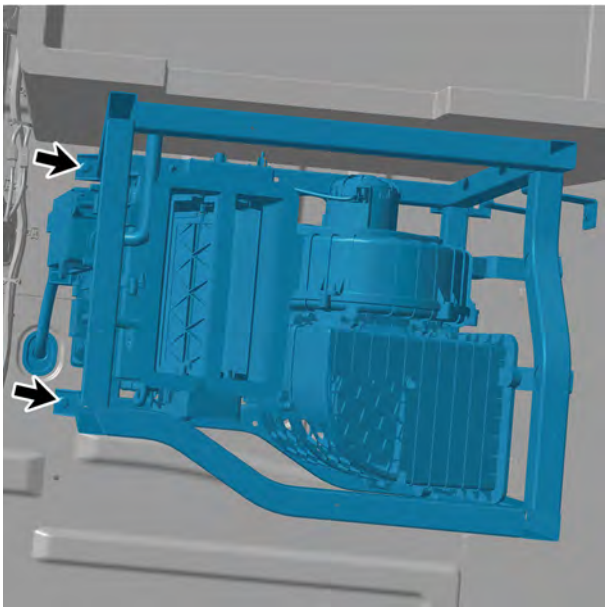
22 Disconnect 1 harness connector of the HVAC assembly (including PTC) - rear.

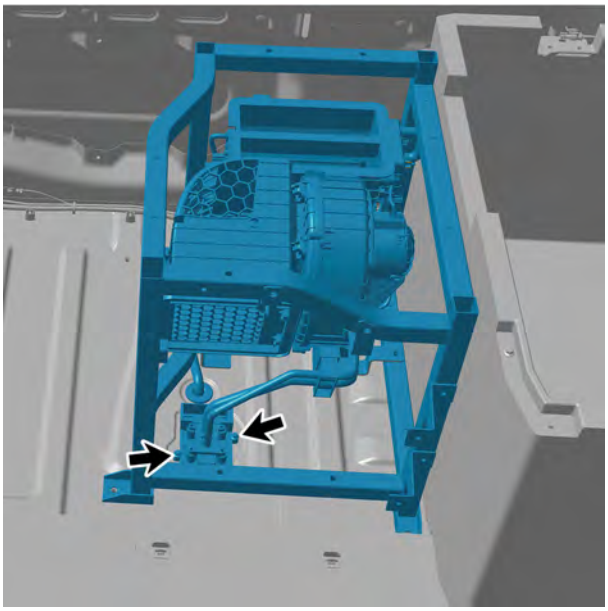


23 Disengage 1 fixing clip of the HVAC assembly (including PTC) - rear.

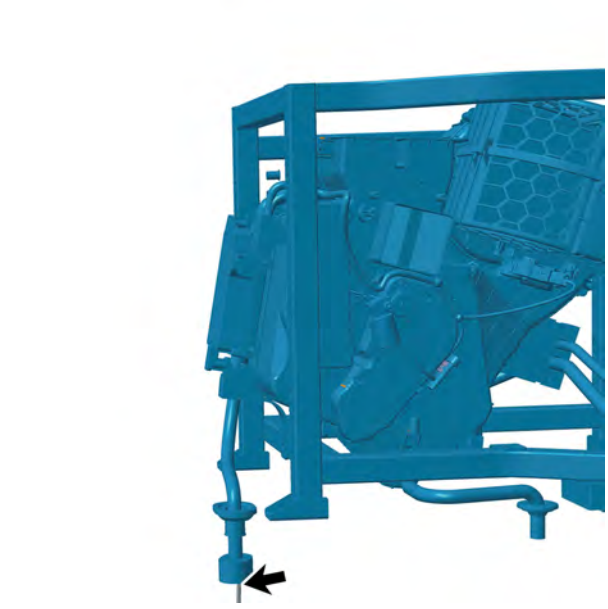


24 Remove 2 fixing bolts of the HVAC assembly (including PTC) - rear.

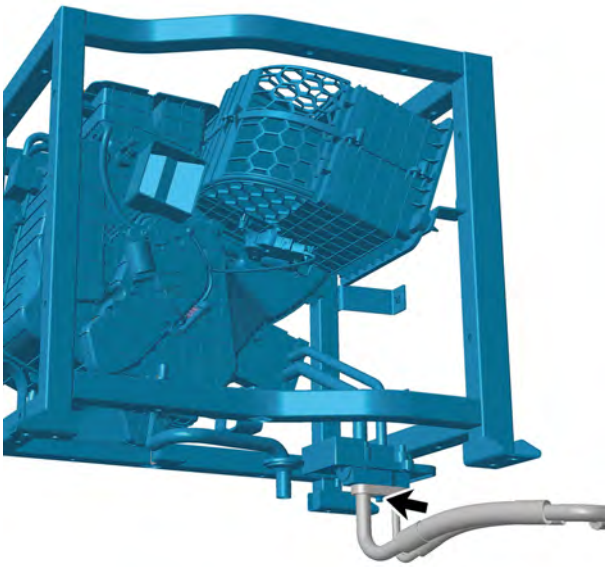




25 Remove 4 fixing bolts of the HVAC assembly (including PTC) - rear.



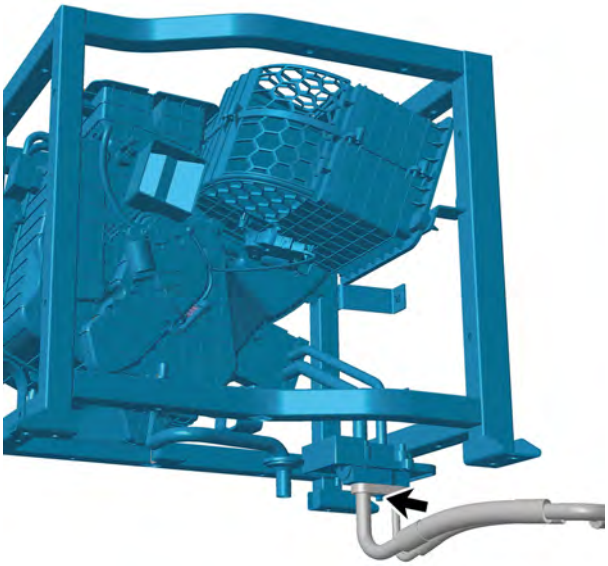
26 Pull out the harness, and disconnect 1 harness connector of the HVAC assembly (including PTC) - rear.



27 After flipping the HVAC assembly (including PTC) - rear, remove 1 fixing bolt of the HVAC assembly (including PTC) - rear.

28 Remove the HVAC assembly (including PTC) - rear.

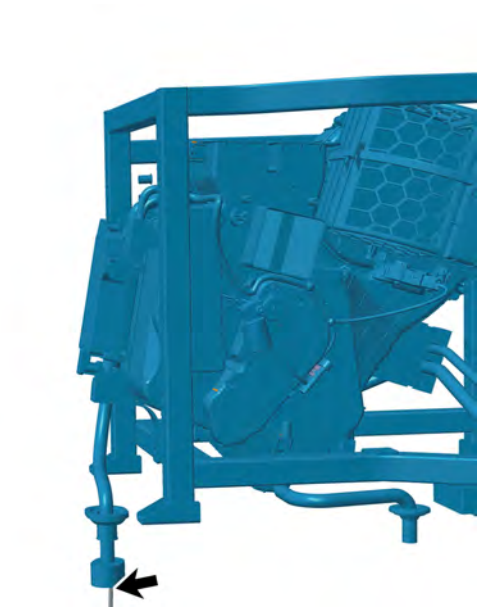
Installation Procedures



1 Move the HVAC assembly (including PTC) - rear to the mounting position.

2 Install 1 fixing bolt of the HVAC assembly (including PTC) - rear.

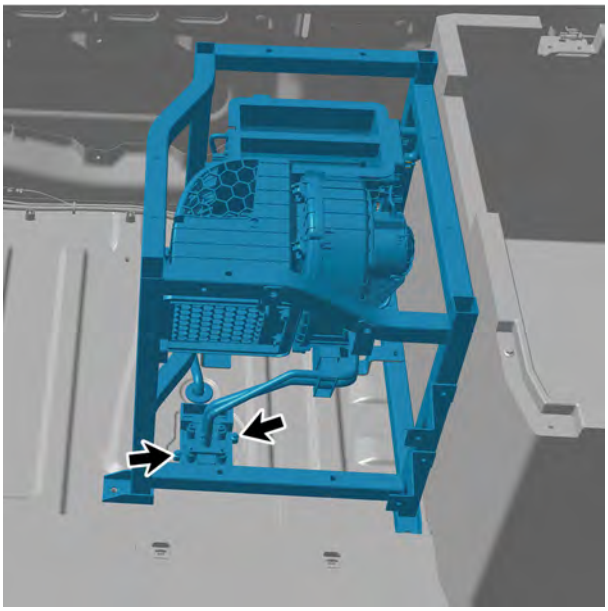
Torque:(7.5 +/- .75) ft lbs



3 Connect 1 harness connector of the HVAC assembly (including PTC) - rear.

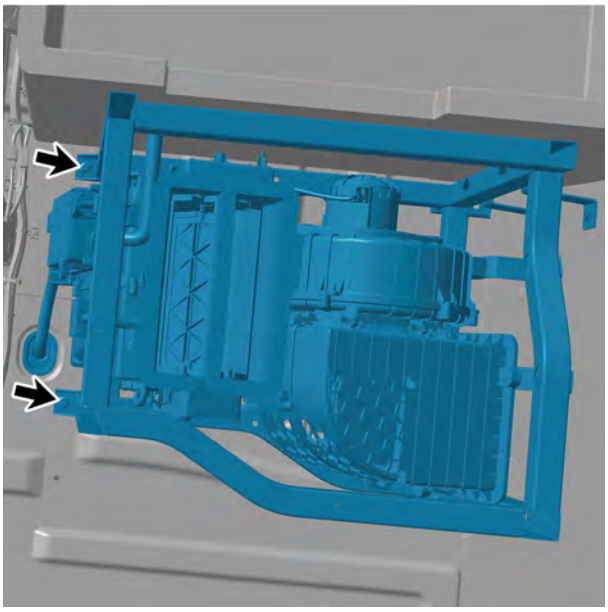
caution

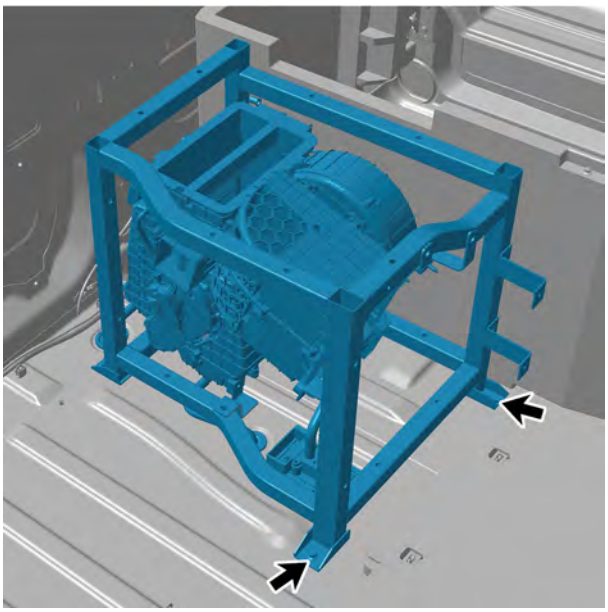
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



4 Install 4 fixing bolt of the HVAC assembly (including PTC) - rear.

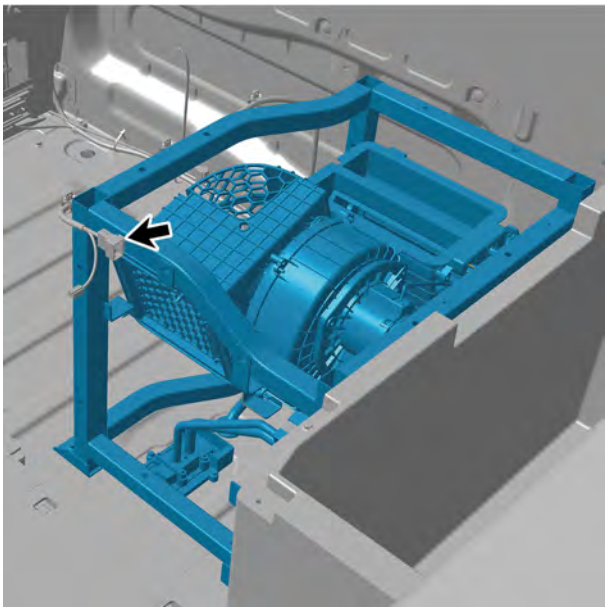
Torque:(7.5 +/- .75) ft lbs



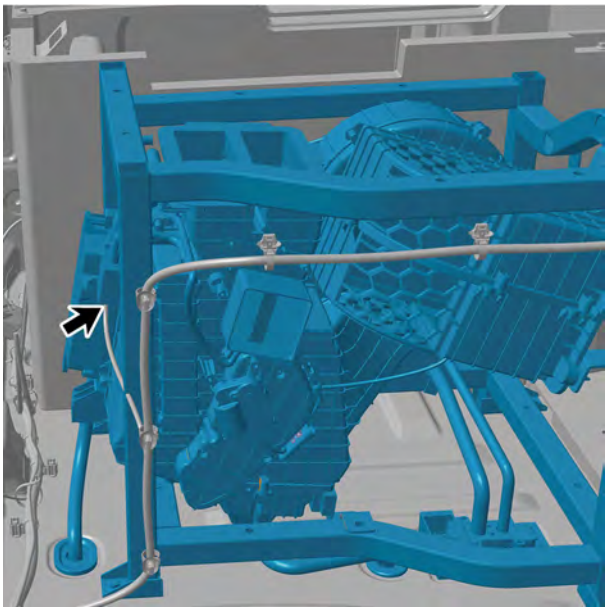


5 Install 2 fixing bolt of the HVAC assembly (including PTC) - rear.

Torque:(6.5 +/- .75) ft lbs



6 Install 1 fixing clip of the HVAC assembly (including PTC) - rear.



7 Connect 1 harness connector of the HVAC assembly (including PTC) - rear.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

8 Install the toolbox trim panel assembly.

9 Install the interior temperature sensor (rear).

10 Install the vehicle power supply (12V).

11 Install the 120V receptacle.

12 Install the toolbox left trim panel assembly.

13 Install the left middle side wall middle trim panel assembly.

14 Install the left middle side wall lower trim panel assembly.

15 Install the IP left lower trim panel assembly.

16 Install the left switch panel lower trim panel assembly.

17 Install the left switch panel assembly.

18 Install the IP left access cover plate assembly.

19 Install the front USB interface.

20 Install the IP left upper trim panel assembly.

21 Install the fire extinguisher.

22 Install the middle drawer assembly.

23 Install the rear A/C lower air duct.

24 Fill with A/C refrigerant.

25 Perform power-on of the high voltage system.

26 Connect the battery negative cable.

27 Close the front flip cover plate.

28 Close the door.

7.1.6.4 Replacement of A/C Compressor Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Jack the front end of the vehicle.

6 Drain the transmission hydraulic oil.

7 Remove the left front wheel housing body.

8 Remove the left side wall lower trim panel assembly.

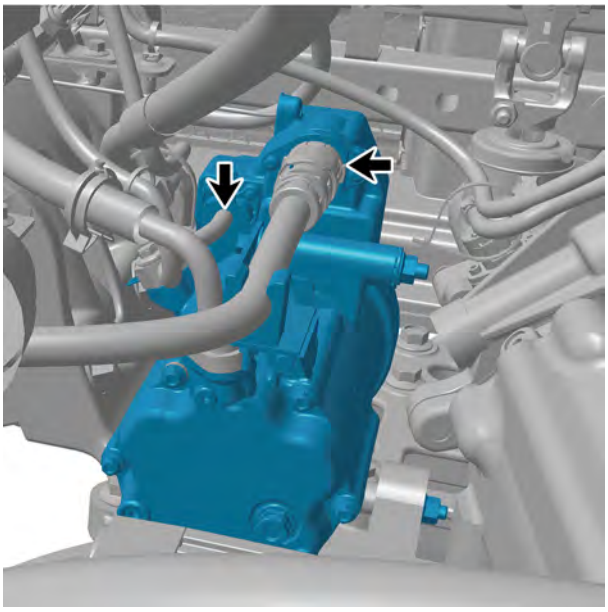
9 Remove the side wall upper mounting bracket assembly 2.

10 Remove the left side wall mounting bracket 1.

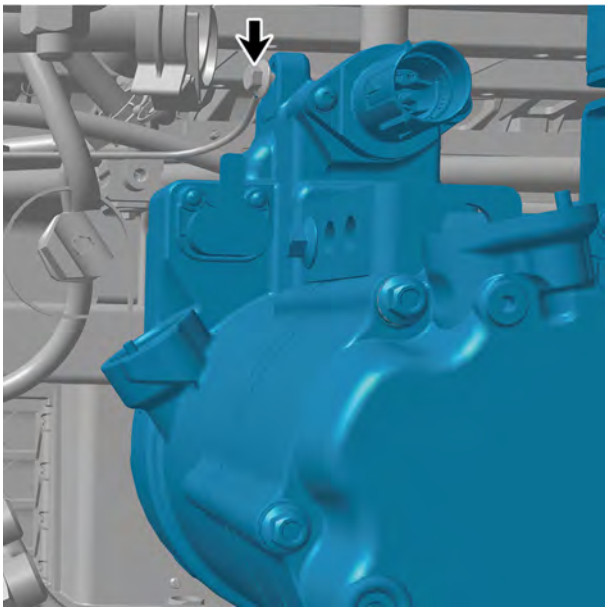
11 Remove the left side wall mounting bracket 2.

12 Remove the left side wall lower trim panel mounting frame assembly.

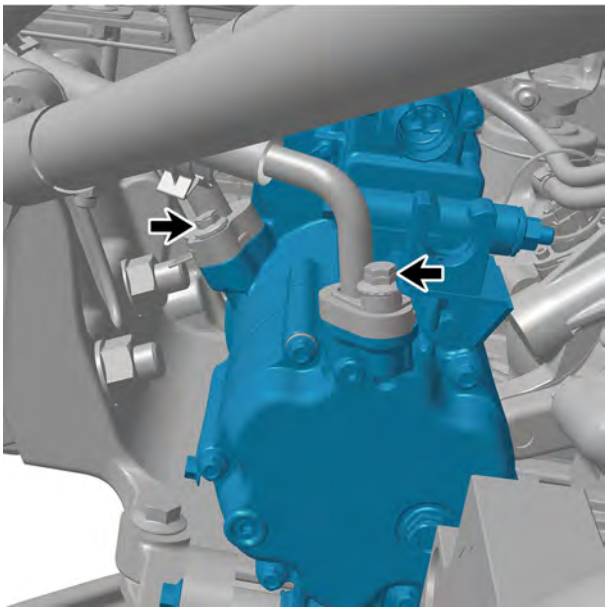
13 Remove the electric oil pump.



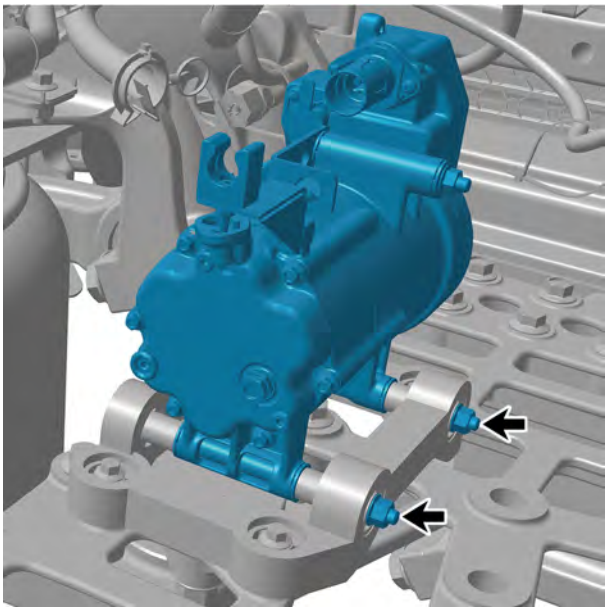
14 Disconnect 2 harness connectors of the A/C compressor assembly.



15 Remove 1 ground harness fixing bolt of the A/C compressor assembly, and detach the ground harness.



16 Remove 2 fixing bolts to disconnect the A/C pipeline from the A/C compressor.



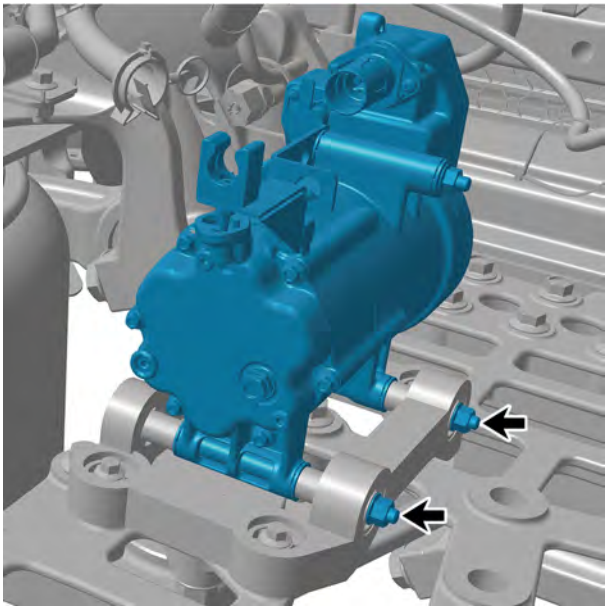
17 Remove 2 fixing bolts of the A/C compressor assembly.

18 Remove the A/C compressor assembly.

caution

Due to the heavy weight of the A/C compressor assembly, it shall be removed with the help of an assistant.

Installation Procedures



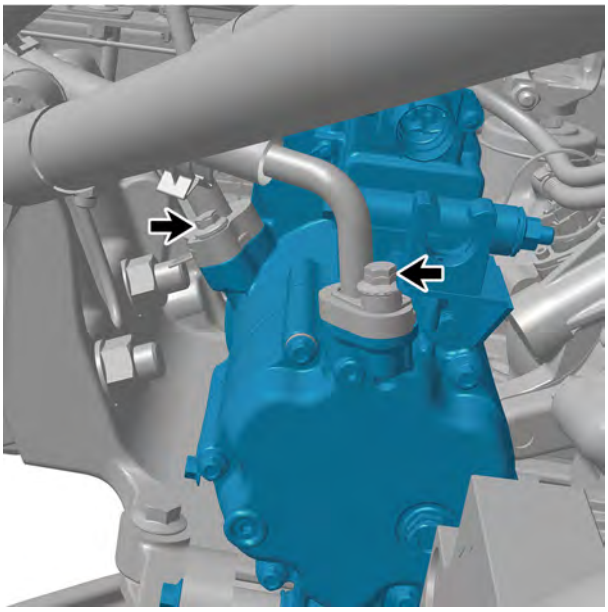
1 Move the A/C compressor assembly to the mounting position.

caution

Due to the heavy weight of the A/C compressor assembly, it shall be moved to the mounting position with the help of an assistant.

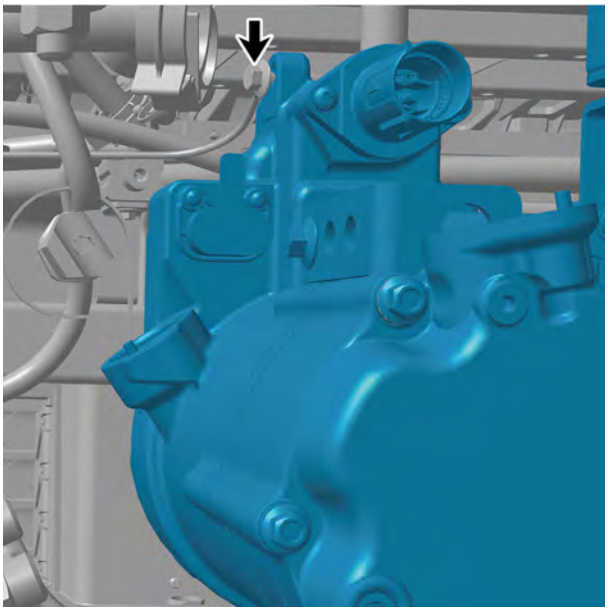
2 Install 2 fixing bolts of the A/C compressor assembly.

Torque: (18.5 +/- 1.5) ft lbs



3 Connect the A/C pipeline to the A/C compressor, and install 2 fixing bolts.

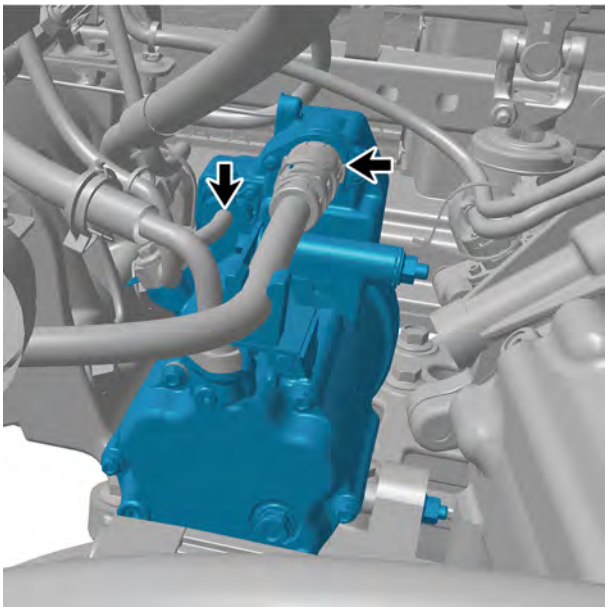
Torque:(18.5 +/- 1.5) ft lbs



4 Connect the ground harness, and install 1 ground harness fixing bolt of the A/C compressor assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



5 Connect 2 harness connectors of the A/C compressor assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

6 Install the electric oil pump.

7 Install the left side wall lower trim panel mounting frame assembly.

8 Install the left side wall mounting bracket 2.

9 Install the left side wall mounting bracket 1.

10 Install the side wall upper mounting bracket assembly 2.

11 Install the left side wall lower trim panel assembly.

12 Install the left front wheel housing body.

13 Add the transmission hydraulic oil.

14 Lower the front end of the vehicle.

15 Perform power-on of the high voltage system.

16 Connect the battery negative cable.

17 Close the front flip cover plate.

18 Close the door.

7.1.6.5 Replacement of Exterior Temperature Sensor

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

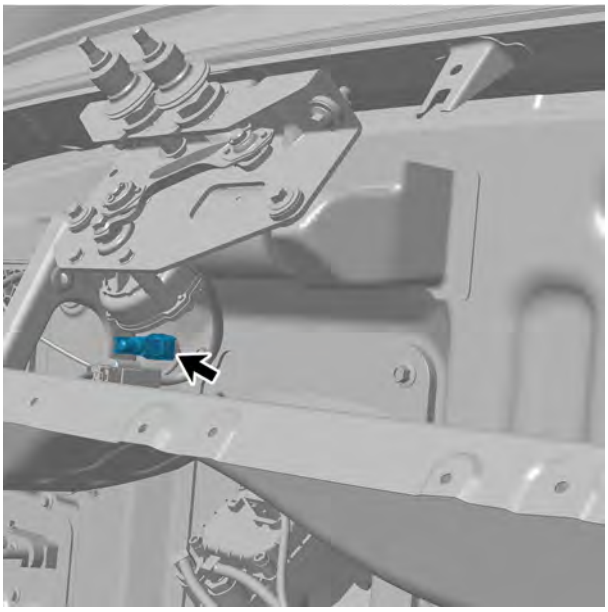
3 Disconnect the battery negative cable.

caution

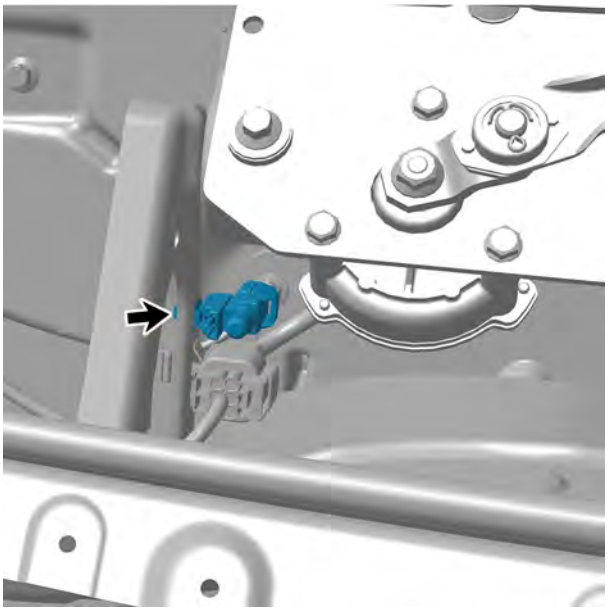
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the primary wiper arm blade assembly (nozzle and hose).

5 Remove the front windshield cover plate assembly.



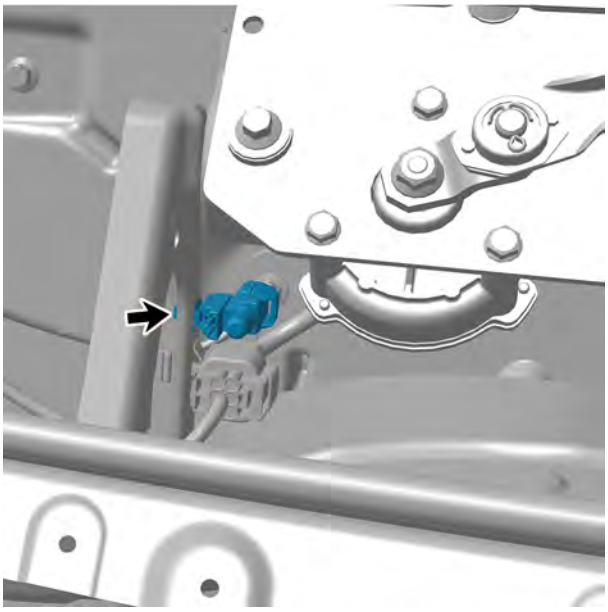
6 Disconnect 1 harness connector of the exterior temperature sensor.



7 Disengage 1 fixing clip of the exterior temperature sensor.

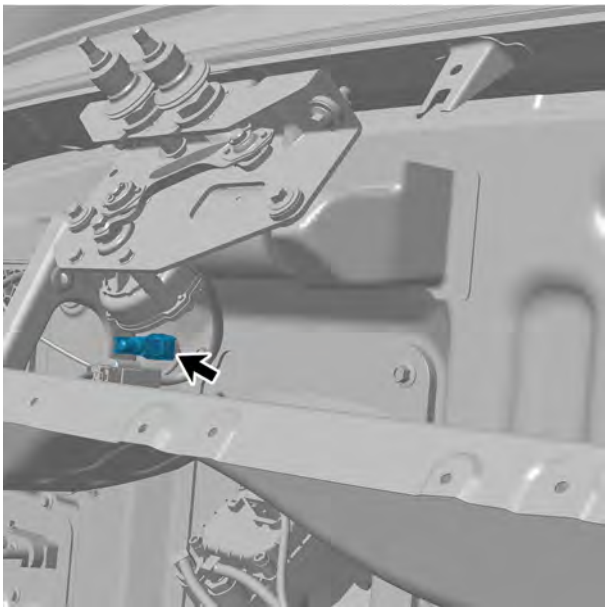
8 Remove the exterior temperature sensor.

Installation Procedures



1 Move the exterior temperature sensor to the mounting position.

2 Install 1 fixing clip of the exterior temperature sensor.



3 Connect 1 harness connector of the exterior temperature sensor.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the front windshield cover plate assembly.

5 Install the primary wiper arm blade assembly (nozzle and hose).

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door

7.1.6.6 Replacement of Interior Temperature Sensor (rear)

Removal Procedures

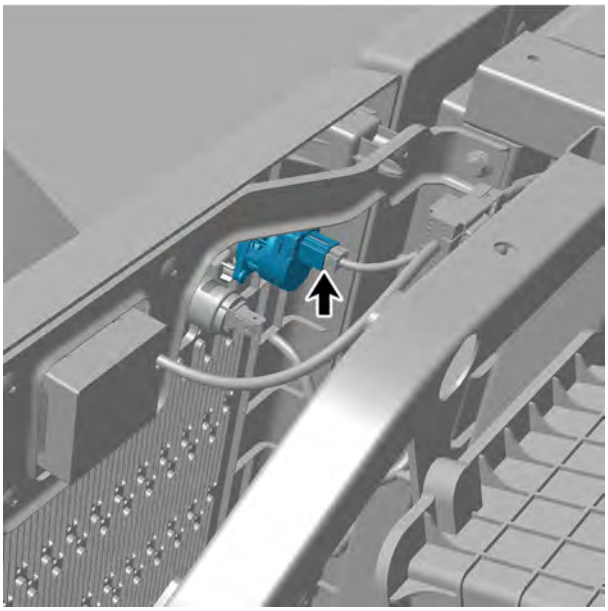
1 Open the door.

2 Open the front flip cover plate.

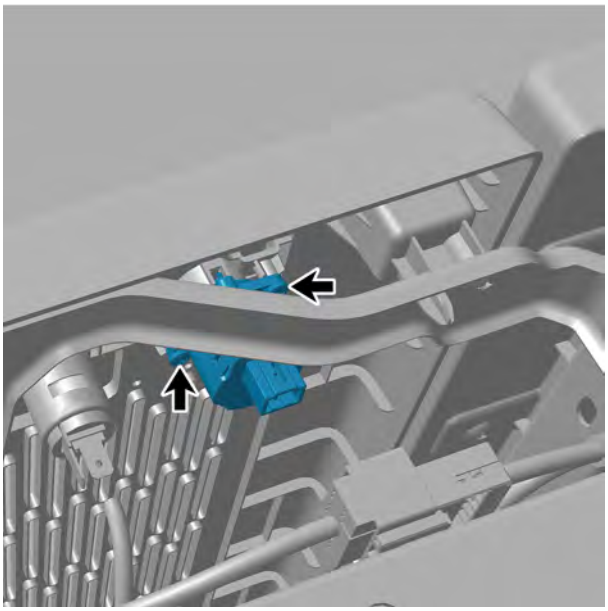
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



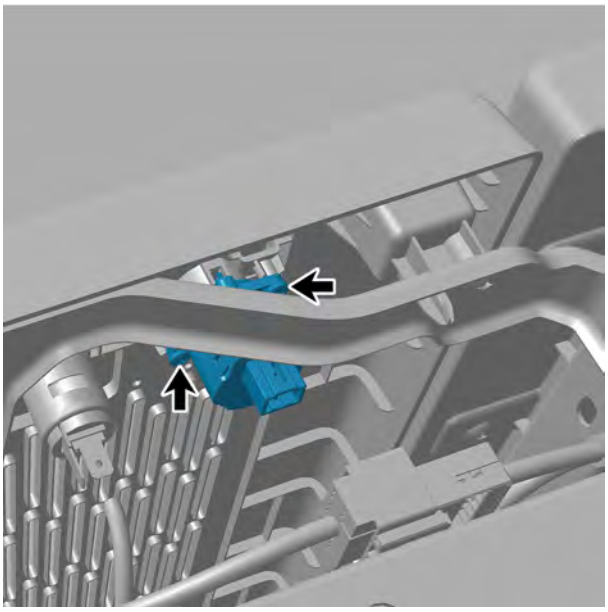
4 Disconnect 1 harness connector of the interior temperature sensor (rear).



5 Remove 2 fixing screws of the interior temperature sensor (rear).

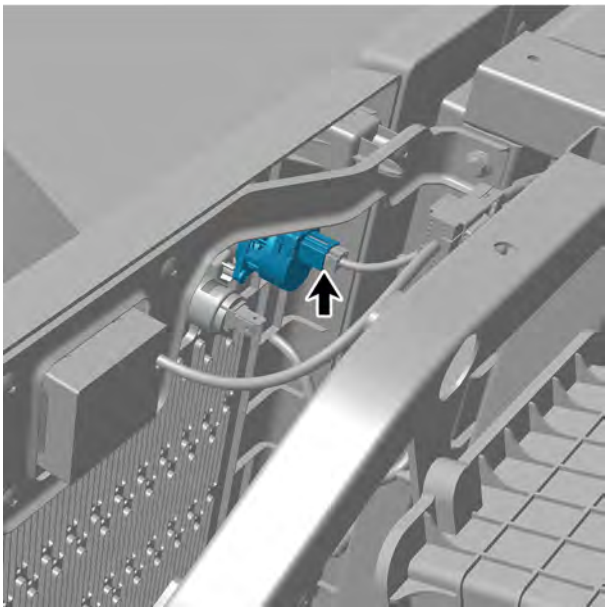
6 Remove the interior temperature sensor (rear).

Installation Procedures



1 Move the interior temperature sensor (rear) to the mounting position.

2 Install 2 fixing screws of the interior temperature sensor (rear).



3 Connect 1 harness connector of the interior temperature sensor (rear).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.1.6.7 Replacement of Front A/C Filter Element

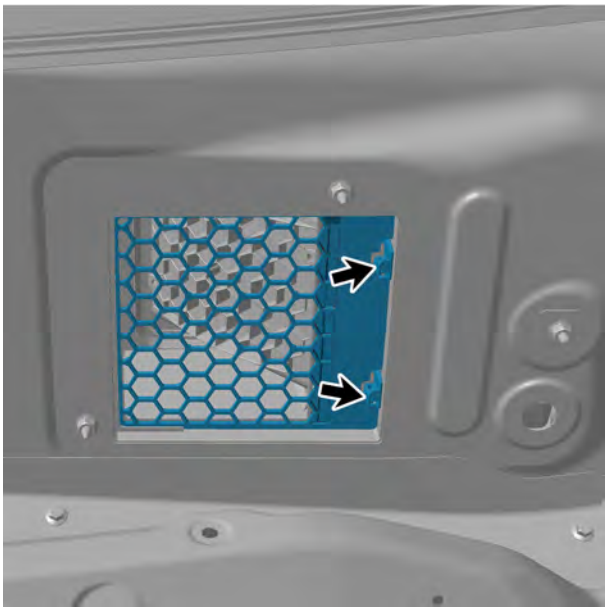
Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Remove the primary wiper arm blade assembly (nozzle and hose).

4 Remove the front windshield cover plate assembly.



5 Press 2 clips of the cover plate.

6 Remove the cover plate.

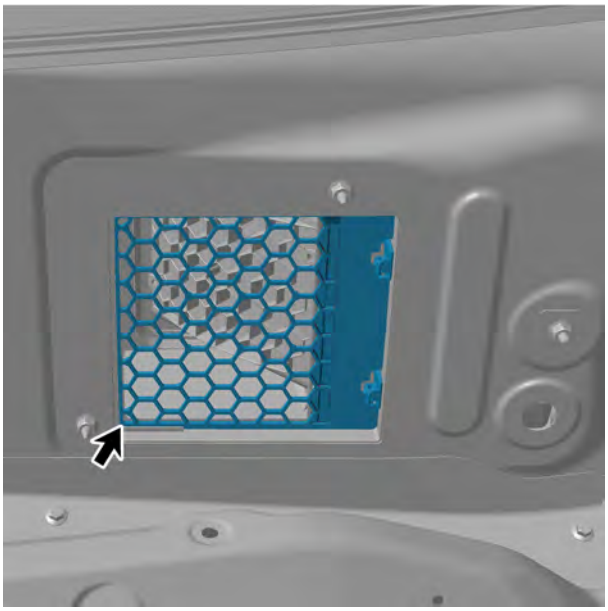


7 Pull out the front A/C filter element.

Installation Procedures



1 Install the front A/C filter element.



2 Install the cover plate.

3 Install the front windshield cover plate assembly.

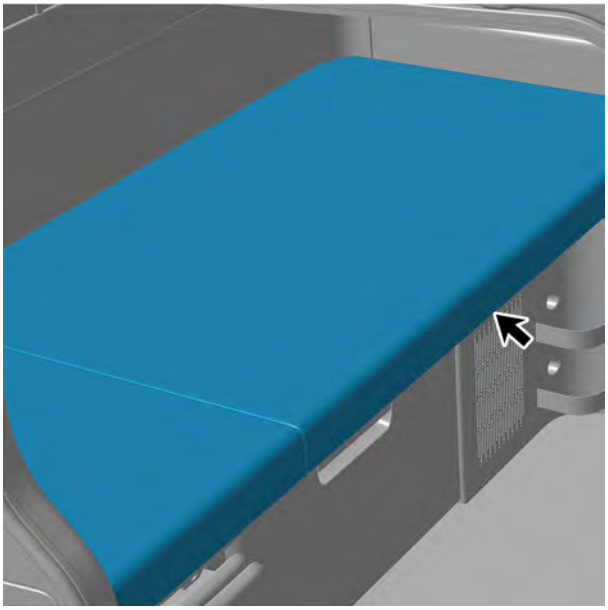
4 Install the primary wiper arm blade assembly (nozzle and hose).

5 Close the front flip cover plate.

6 Close the door.

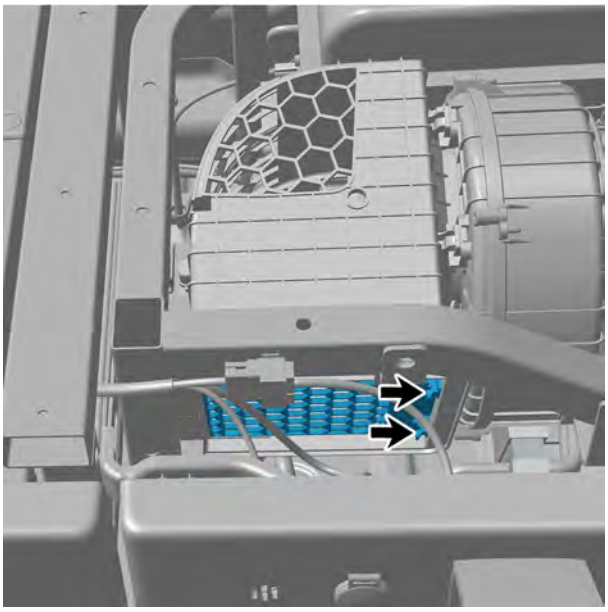
7.1.6.8 Replacement of Rear A/C Filter Element

Removal Procedures



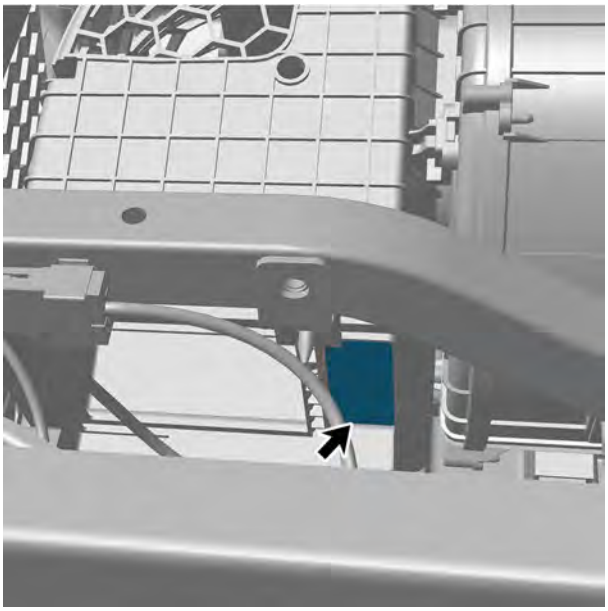
1 Open the door.

2 Lift up the sleeper mat assembly.



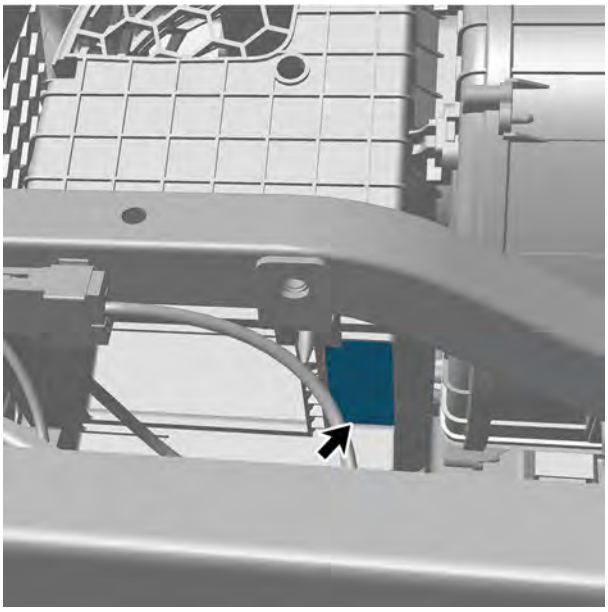
3 Press 2 clips of the cover plate.

4 Remove the cover plate.

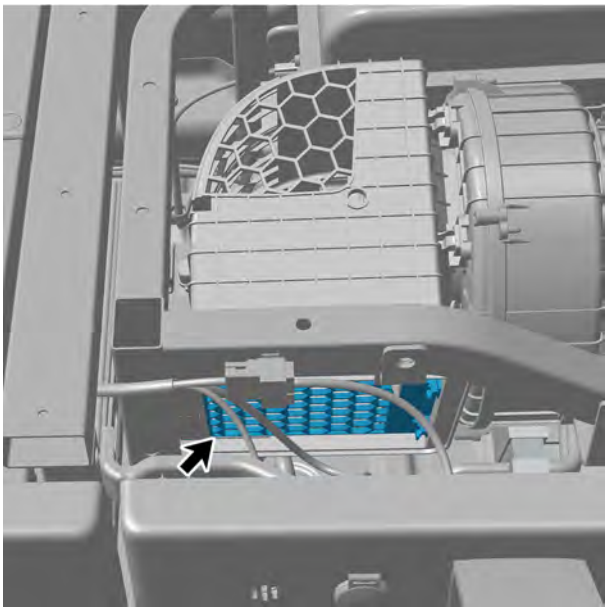


5 Pull out the rear A/C filter element.

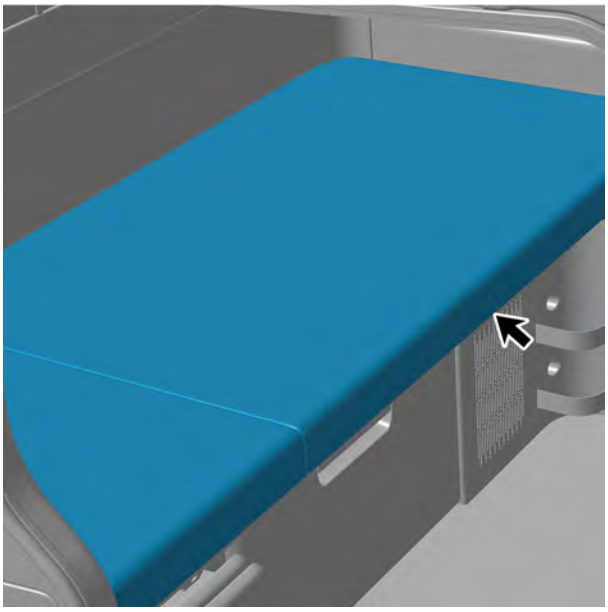
Installation Procedures



1 Install the rear A/C filter element.



2 Install the cover plate.



3 Install the sleeper mat assembly.

4 Close the door.

7.2 Vehicle Control Unit (VCU) Device

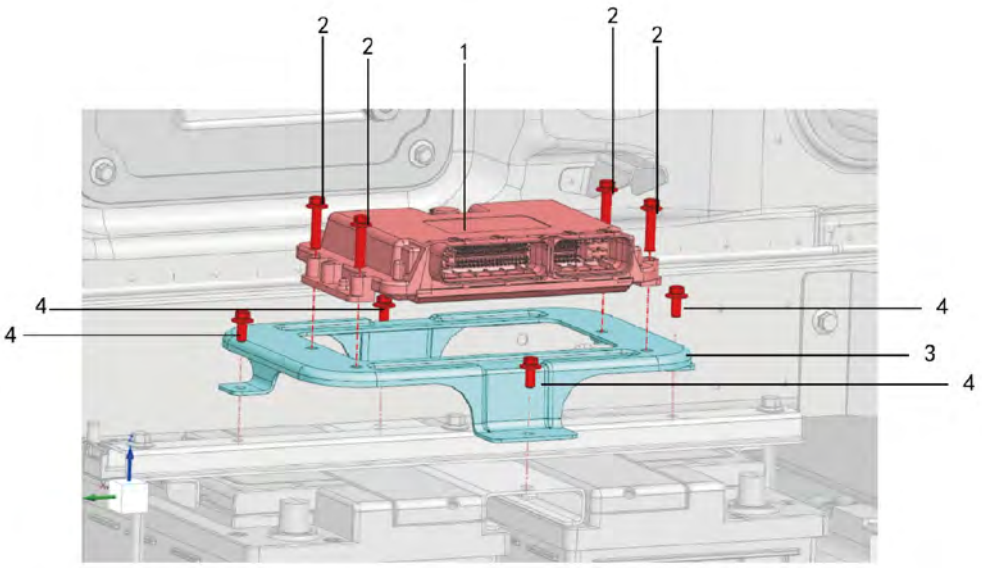
7.2.1 Specifications

7.2.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the power domain controller bracket to the battery pressure plate 2	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the power domain controller bracket to the battery pressure plate 3	M6	(6.5 +/- .75) ft lbs
The fixing bolts connecting the bracket of the power domain controller to the power domain controller assembly	M6	(11 +/- 1.5) ft lbs

7.2.2 Decomposition Diagram

7.2.2.1 Decomposition Diagram

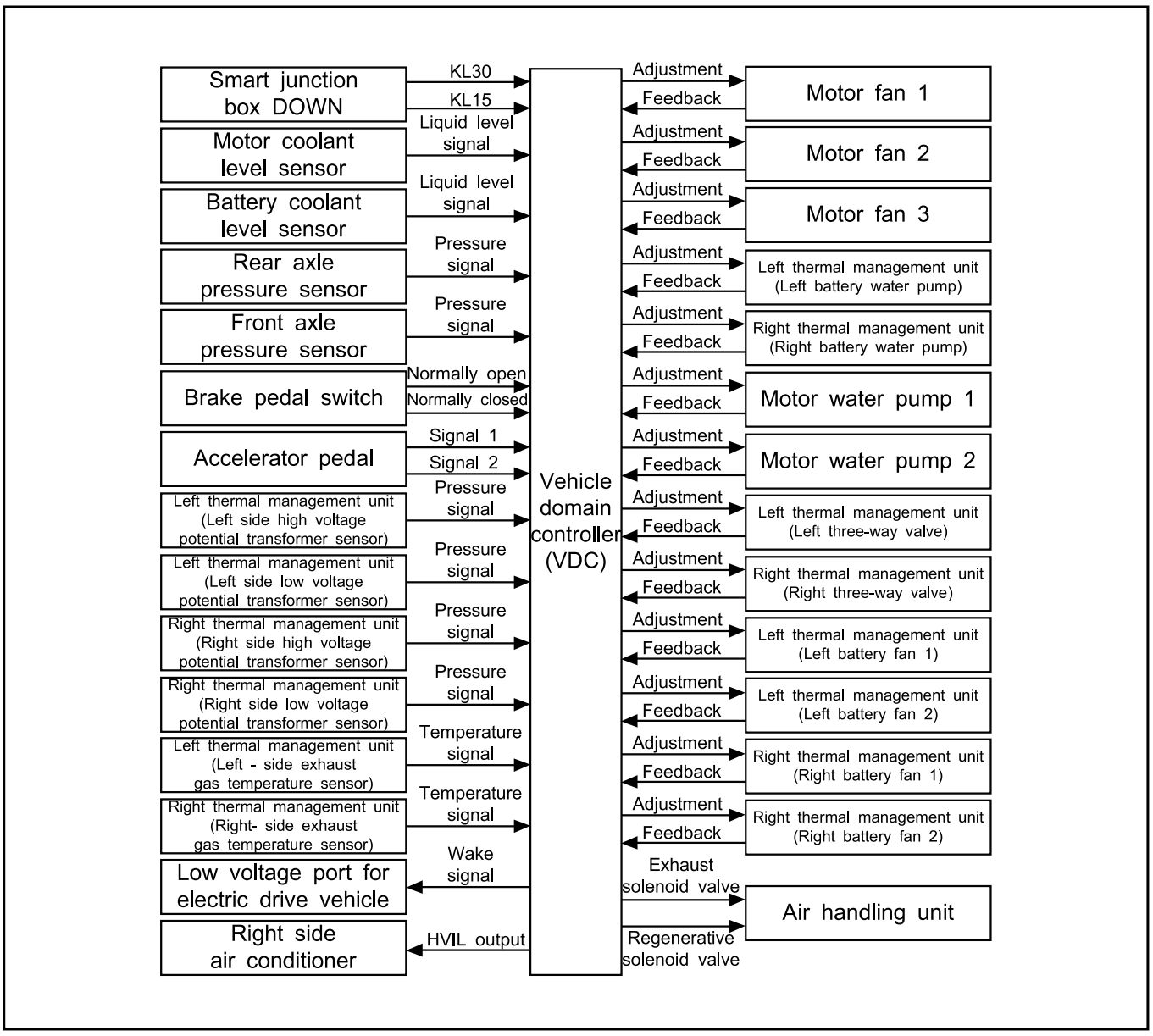


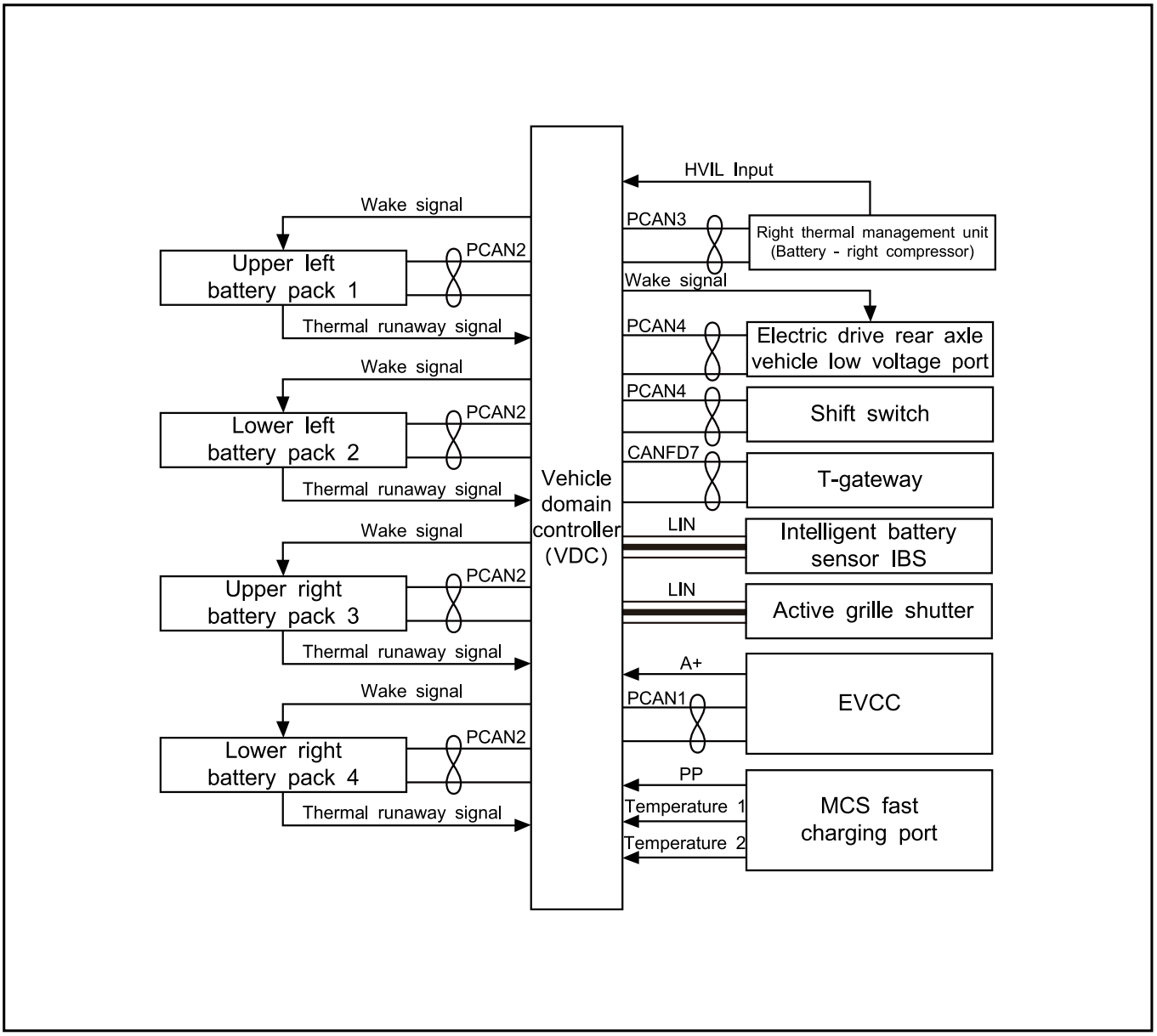
1. Vehicle Domain Controller
2. Hexagon Flange Bolt
3. Vehicle Controller Assy Bracket
4. Hexagon Flange Bolt

7.2.3 System Schematic Diagram

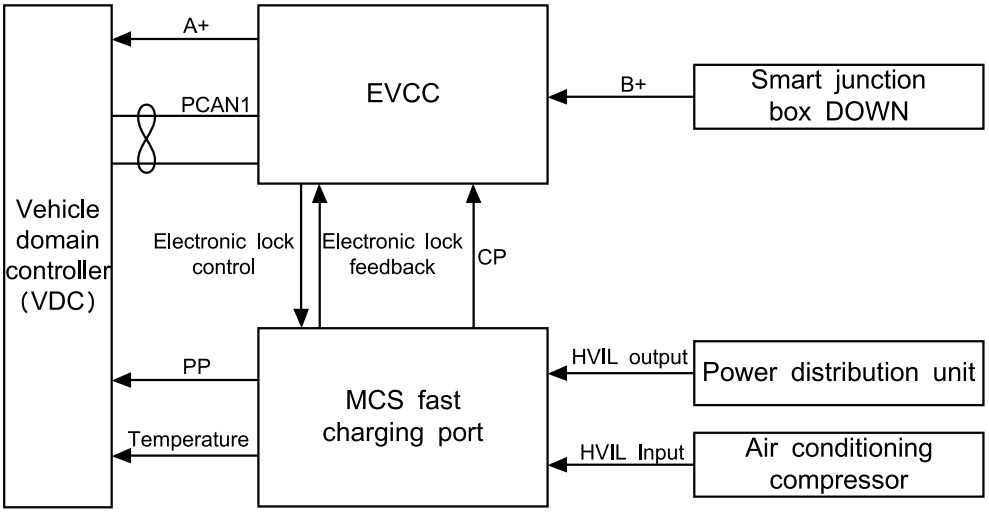
7.2.3.1 Electrical Schematic Diagram

Vehicle domain controller(VDC)




Upper left battery pack 1
Lower left battery pack 2
Upper right battery pack 3
Lower right battery pack 4
Wake signal
Thermal runaway signal
PCAN2
Vehicle domain controller (VDC)
HVIL Input
PCAN3
Right thermal management unit (Battery - right compressor)
PCAN4
Electric drive rear axle vehicle low voltage port
Shift switch
CANFD7
T-gateway
LIN
Intelligent battery sensor IBS
Active grille shutter
A+
PCAN1
EVCC
PP
Temperature 1
Temperature 2
MCS fast charging port

EVCC


Vehicle domain controller (VDC)
A+
PCAN1
EVCC
B+
Smart junction box DOWN
Electronic lock control
Electronic lock feedback
CP
PP
Temperature
MCS fast charging port
HVIL output
Power distribution unit
HVIL Input
Air conditioning compressor

7.2.4 Diagnostic Information and Steps

7.2.4.1 Diagnosis Description

Before diagnosing the fault of the vehicle controller device, understand and be familiar with the working principle of the vehicle controller device, and then start system diagnosis. This will help determine the correct fault diagnosis steps when a fault occurs. More importantly, this Helps determine the situation described by the customer is normal operation. Any fault diagnosis of the vehicle controller device should start with Routine Inspection to guide the maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten diagnosis time and avoid misjudgment of faulty parts.

7.2.4.2 Routine Inspection

- Check after-sales installation devices that may affect the operation of the vehicle controller device system, and ensure that these devices cannot affect the operation of the vehicle controller device system.
- Inspect system components that are easily accessible or visible to make sure they are not visibly damaged or have conditions that could cause failure.

7.2.4.3 DTC Confirmation

1.Connect the diagnostic instrument to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Restart the vehicle.

3. Read the fault code of the control system again to confirm whether the system has a fault code output.

– Yes:Diagnose based on the output fault code.

– No:Perform intermittent fault checks, refer to Inspection Of Intermittent Fault

7.2.4.4 List Of Diagnostic Trouble Codes (DTC)

VDC

Fault Code	Fault Description	Troubleshooting
P100000	Low voltage power supply undervoltage LvA	Refer to VDC Power Fault
P100100	Low voltage power supply undervoltage LvB	
P100200	Low-voltage power supply overvoltage LvA	
P100300	Low-voltage power supply overvoltage LvB	
P100402	DCDC1 output undervoltage	
P100502	DCDC1 output overvoltage	
P103D10	Drive thermal management, SJB power supply failure	
P103E10	Battery thermal management, SJB power supply failure	
U019887	VCAN bus-off	Refer to VDC Communication Fault
U014087	Lost Communication with BDCU	
U01A087	Lost Communication with SJB_UP	
U019987	Lost Communication with DCM	
U01A187	Lost Communication with SJB_UN	
U015687	missing CDCU	

Fault Code	Fault Description	Troubleshooting
U017487	Lost Communication with CMU01	
U017587	Lost Communication with CMU02	
U017687	Lost Communication with CMU03	
U017787	Lost Communication with CMU04	
U017887	Lost Communication with CMU05	
U017987	Lost Communication with CMU06	
U017A87	Lost Communication with PDU1	
U017B87	Lost Communication with PDU2	
U017C87	Lost Communication with PDU3	
U012A87	Lost Communication with MCU1	
U012B87	Lost Communication with MCU2	
U012C87	Lost Communication with MCU3	
U012D87	Lost Communication with MCU4	
U010187	TCU1 Communication failure	
U010287	TCU2 Communication failure	
U01B387	GSM Communication failure	
U012187	missing EBS	
U013287	Lost Communication with ECAS	
U012887	Lost Communication with EPB	
U008C88	PCAN2_Busoff	
U008D88	PCAN3_Busoff	
U008E88	PCAN4_Busoff	
U008B88	ChargrCAN_Busoff	
U007988	CANFD7_Busoff	
U008088	CANFD10_Busoff	
P101010	HTP_P Sensor 1, short circuit the power supply	Refer to VDC Internal Fault
P101110	HTP_P Sensor 1, short circuit to ground	
P101210	HTP_P Sensor 2, short circuit the power supply	
P101310	HTP_P Sensor 2, short circuit to ground	
P101410	LTP_P Sensor 1, short circuit the power supply	
P101510	LTP_P Sensor 1, short circuit to ground	
P101610	LTP_P Sensor 2, short circuit the power supply	
P101710	LTP_P Sensor 2 short circuit to ground	
P101810	HPT_T Sensor 1, short circuit the power supply	
P101910	HPT_T Sensor 1, short circuit to ground	

Fault Code	Fault Description	Troubleshooting
P101A10	HPT_T Sensor 2, short circuit the power supply	
P101B10	HPT_T Sensor 2, short circuit to ground	
P101C10	LPT_T Sensor 1, short circuit the power supply	
P101D10	LPT_T Sensor 1, short circuit to ground	
P101E10	LPT_T Sensor 2, short circuit the power supply	
P101F10	LPT_T Sensor 2, short circuit to ground	
P102C10	AccPed 1, short circuit the power supply	Refer to Accelerator Pedal Fault
P102D10	AccPed 2, short circuit the power supply	
P102E10	AccPed 1, short circuit to ground	
P102F10	AccPed 2, short circuit to ground	
P103010	Associated fault of two accelerator pedals	
P103110	Both accelerator pedals are wrong at the same time	
P103910	The motor liquid level sensor is short of liquid	Refer to Motor Coolant Level Sensor Fault
P103A10	The battery liquid level sensor is short of liquid	Refer to Battery Coolant Level Sensor Fault
P103310	Motor fan Fault	Refer to Motor Fan Fault
P103610	Motor and water pump Fault	Refer to Motor And Water Pump Fault
P103410	Battery fan 1 failure	Refer to Left Battery Fan Fault
P103510	Battery fan 2 failure	Refer to Right Battery Fan Fault
P103710	Battery Pump 1 Fault	Refer to Left Battery Water Pump Fault
P103810	Battery Pump 2 Faulte	Refer to Right Battery Water Pump Fault
P108130	CMU1 Thermal runaway fault	Refer to Battery Thermal Runaway Fault
P108230	CMU2 Thermal runaway fault	
P108330	CMU3 Thermal runaway fault	
P108430	CMU4 Thermal runaway fault	
P108530	CMU5 Thermal runaway fault	
P108630	CMU6 Thermal runaway fault	
P108730	Hard wire detection thermal runaway fault	
P102010	FCT Sensor 1, Open-circuit fault	Refer to MCS Fast Charging Port Temperature Detection Signal Fault
P102110	FCT Sensor 1, Short-circuit fault	
P102210	FCT Sensor 2, Open-circuit fault	
P102310	FCT Sensor 2, Short-circuit fault	

Fault Code	Fault Description	Troubleshooting
P108830	Fast charge temperature check 1 Overtemperature LvA	
P108930	Fast charge temperature check 2 Overtemperature LvA	
P108C30	Fast charge temperature check 1 Overtemperature LvB	
P108D30	Fast charge temperature check 2 Overtemperature LvB	
P102810	ExhT Sensor 1, short circuit the power supply	Refer to Left Exhaust Temperature Sensor Fault
P102910	ExhT Sensor 1, short circuit to ground	
P102A10	ExhT Sensor 2, short circuit the power supply	Refer to Right Exhaust Temperature Sensor Fault
P102B10	ExhT Sensor 2, short circuit to ground	
P10C040	NormRdyFltChkFailr_St	Refer to VDC Reports MCU Internal Fault
P10E563	MCU failure	
P104953	MCU1 Communication Fault	Refer to VDC Reports MCU Communication Fault
P104A53	MCU2 Communication Fault	
P104B53	MCU3 Communication Fault	
P104C53	MCU4 Communication Fault	
P10A530	MCU1 High voltage interlock fault	Refer to VDC Reports MCU High Voltage Interlock Fault
P10A630	MCU2 High voltage interlock fault	
P10A730	MCU3 High voltage interlock fault	
P10A830	MCU4 High voltage interlock fault	
P107430	CMU1 total voltage is too high	Refer to VDC Reports Internal Fault In CMU
P107530	CMU1 total voltage is too low	
P107630	CMU2 total voltage is too high	
P107730	CMU2 total voltage is too low	
P107830	CMU3 total voltage is too high	
P107930	CMU3 total voltage is too low	
P107A30	CMU4 total voltage is too high	
P107B30	CMU4 total voltage is too low	
P107C30	CMU5 total voltage is too high	
P107D30	CMU5 total voltage is too low	
P107E30	CMU6 total voltage is too high	
P107F30	CMU6 total voltage is too low	
P108030	The voltage difference between packages is too high	

Fault Code	Fault Description	Troubleshooting
P10E061	Battery failure	
P109030	CMU1 Charge overcurrent LvB	Refer to VDC Reports CMU High Voltage Circuit Fault
P109130	CMU1 Charge overcurrent LvA	
P109230	CMU2 Charge overcurrent LvB	
P109330	CMU2 Charge overcurrent LvA	
P109430	CMU3 Charge overcurrent LvB	
P109530	CMU3 Charge overcurrent LvA	
P109630	CMU4 Charge overcurrent LvB	
P109730	CMU4 Charge overcurrent LvA	
P109830	CMU5 Charge overcurrent LvB	
P109930	CMU5 Charge overcurrent LvA	
P109A30	CMU6 Charge overcurrent LvB	
P109B30	CMU6 Charge overcurrent LvA	
P109F30	CMU1 High Voltage Interlock Fault	Refer to VDC Reports CMU High Voltage Interlock Fault
P10A030	CMU2 High Voltage Interlock Fault	
P10A130	CMU3 High Voltage Interlock Fault	
P10A230	CMU4 High Voltage Interlock Fault	
P10A330	CMU5 High Voltage Interlock Fault	
P10A430	CMU6 High Voltage Interlock Fault	
P105230	CMU1 Cell overtemp	Refer to VDC Reports Abnormal CMU Temperature
P105330	CMU1 Cell undertemp	
P105630	CMU2 Cell overtemp	
P105730	CMU2 Cell undertemp	
P105A30	CMU3 Cell overtemp	
P105B30	CMU3 Cell undertemp	
P105E30	CMU4 Cell overtemp	
P105F30	CMU4 Cell undertemp	
P106230	CMU5 Cell overtemp	
P106330	CMU5 Cell undertemp	
P106630	CMU6 Cell overtemp	
P106730	CMU6 Cell undertemp	
P106E30	CMU1 Cell temp difference is large	
P106F30	CMU2 Cell temp difference is large	
P107030	CMU3 Cell temp difference is large	
P107130	CMU4 Cell temp difference is large	
P107230	CMU5 Cell temp difference is large	
P107330	CMU6 Cell temp difference is large	

Fault Code	Fault Description	Troubleshooting
P10AA30	The temperature difference between packages is too high	
P105030	CMU1 Cell overvoltage	Refer to VDC Reports Abnormal Voltage Of CMU Unit
P105130	CMU1 Cell undervoltage	
P105430	CMU2 Cell overvoltage	
P105530	CMU2 Cell undervoltage	
P105830	CMU3 Cell overvoltage	
P105930	CMU3 Cell undervoltage	
P105C30	CMU4 Cell overvoltage	
P105D30	CMU4 Cell undervoltage	
P106030	CMU5 Cell overvoltage	
P106130	CMU5 Cell undervoltage	
P106430	CMU6 Cell overvoltage	
P106530	CMU6 Cell undervoltage	
P106830	CMU1 Cell volt difference is large	
P106930	CMU2 Cell volt difference is large	
P106A30	CMU3 Cell volt difference is large	
P106B30	CMU4 Cell volt difference is large	
P106C30	CMU5 Cell volt difference is large	
P106D30	CMU6 Cell volt difference is large	
P104051	CMU1 CommunicationFault	Refer to VDC Reports CMU Communication Fault
P104151	CMU2 Communication Fault	
P104251	CMU3 Communication Fault	
P104351	CMU4 Communication Fault	
P104451	CMU5 Communication Fault	
P104551	CMU6 Communication Fault	
P10AD40	TCU1 ratio anomaly	Refer to VDC Reports TCU Internal Fault
P10AE40	TCU2 ratio anomaly	
P10E663	TCU failure	
P104D53	TCU1 Communication failure	Refer to VDC Reports TCU Communication Fault
P104E53	TCU2 Communication failure	
P10E162	PDU_PDU failure	Refer to VDC Reports Internal Fault Of PDU
P10E262	PDU_DCAC failure	
P10E362	PDU_DCDC failure	
P104652	PDU_PDU Communication failure	Refer to VDC Reports PDU Communication Fault
P104752	PDU_DCAC Communication failure	
P104852	PDU_DCDC Communication failure	

Fault Code	Fault Description	Troubleshooting
P10C240	NormRdy_Gear_ChkFailr_St	Refer to VDC Reports GSM Internal Fault
P10E763	GSM failure	
P104F53	GSM Communication failure	Refer to VDC Reports GSM Communication Fault
U120587	LIN flt status	Refer to VDC LIN Communication Fault
P10AF40	NormupBnRlyChkFailr_St	Refer to CMU Wake-up Signal Fault
P10BA40	ChUpBnRlyChkFailr_St	
P10B640	NormupPduadhnChkFailr_St	Refer to PDU Wake-up Signal Fault
P10B740	NormupAux_Drv_RlyChkFailr_St	
P10B840	NormupDC_OutVChkFailr_St	
P10B940	NormupMain_Drv_RlyChkFailr_St	
P10BB40	ChUpPduadhnChkFailr_St	
P10BC40	ChUpPDUIsnOnChkFailr_St	
P10BD40	ChUpChpRlyChkFailr_St	
P10BE40	ChUpAux_Drv_RlyChkFailr_St	
P10BF40	ChUpDC_OutVChkFailr_St	
P100602	DCDC2 output undervoltage	Refer to DCDC2 Voltage Output Fault
P100702	DCDC2 output overvoltage	
P103B10	Left grid motor failure	Refer to Active Grille Shutter Fault
P103C10	Right grid motor failure	
P100852	WPTC1 Communication failure	Refer to Left Battery Water Heater Fault
P100952	WPTC2 Communication failure	Refer to Fault In The Right Water Heater Of The Battery
P100A52	BLR1 Communication failure	Refer to Left Battery Compressor Fault
P100B52	BLR2 Communication failure	Refer to Battery Right Compressor Fault
P109C30	Insulation fault LvC	Refer to Insulation Fault
P109D30	Insulation fault LvB	
P109E30	Insulation fault LvA	
P10AC40	Brake pressure rise monitoring during air pump operation	Refer to Air Compressor Fault
P10C140	NormRdy_AirPChkFailr_St	
P10C340	NormRdy_Escl_ChkFailr_St	Refer to ESCL Fault
P10E863	IBS failure	Refer to IBS Fault
P10E462	thermal management system failure	Refer to Thermal Management System Fault

7.2.4.5 Action Test List

By reading the "action test" on the fault diagnosis instrument, the working status of the relays and actuators controlled by VDC can be checked without disassembling any parts. Before performing relevant fault diagnosis on the control system, performing an action test is a prerequisite for troubleshooting, which can shorten the troubleshooting time.

Note

The data under normal conditions are listed in the table below for reference only. Never rely solely on these reference values to determine whether a part has failed. Usually, a normal working vehicle can be compared with the diagnosed vehicle in the same state to determine whether the diagnosed vehicle data is normal in the current state.

a. Perform vehicle power-on operation.

b. Connect the diagnostic tool.

c. Select "VDC"/"Action Test".

d. Refer to the table below for proactive testing.

Diagnostic Tool Display Items	Test Parts	Span Of Control	Diagnosis Description
Drive water pump control	Motor water pump	Turn on/off	According to the instructions of the diagnostic instrument, control the motor and water pump to turn on/off
Drive fan control	Motor fan	Turn on/off	Control the motor fan to turn on/off according to the diagnostic instrument instructions
Battery water pump 1 control	Battery water pump 1	Turn on/off	According to the instructions of the diagnostic instrument, control the battery water pump 1 to turn on/off
Battery water pump 2 control	Battery water pump 2	Turn on/off	According to the instructions of the diagnostic instrument, control the battery water pump 2 to turn on/off
Battery fan 1 control	Battery fan 1	Turn on/off	According to the instructions of the diagnostic tool, control the battery fan 1 to turn on/off
Battery fan 2 control	Battery fan 2	Turn on/off	According to the instructions of the diagnostic tool, control the battery fan 2 to turn on/off

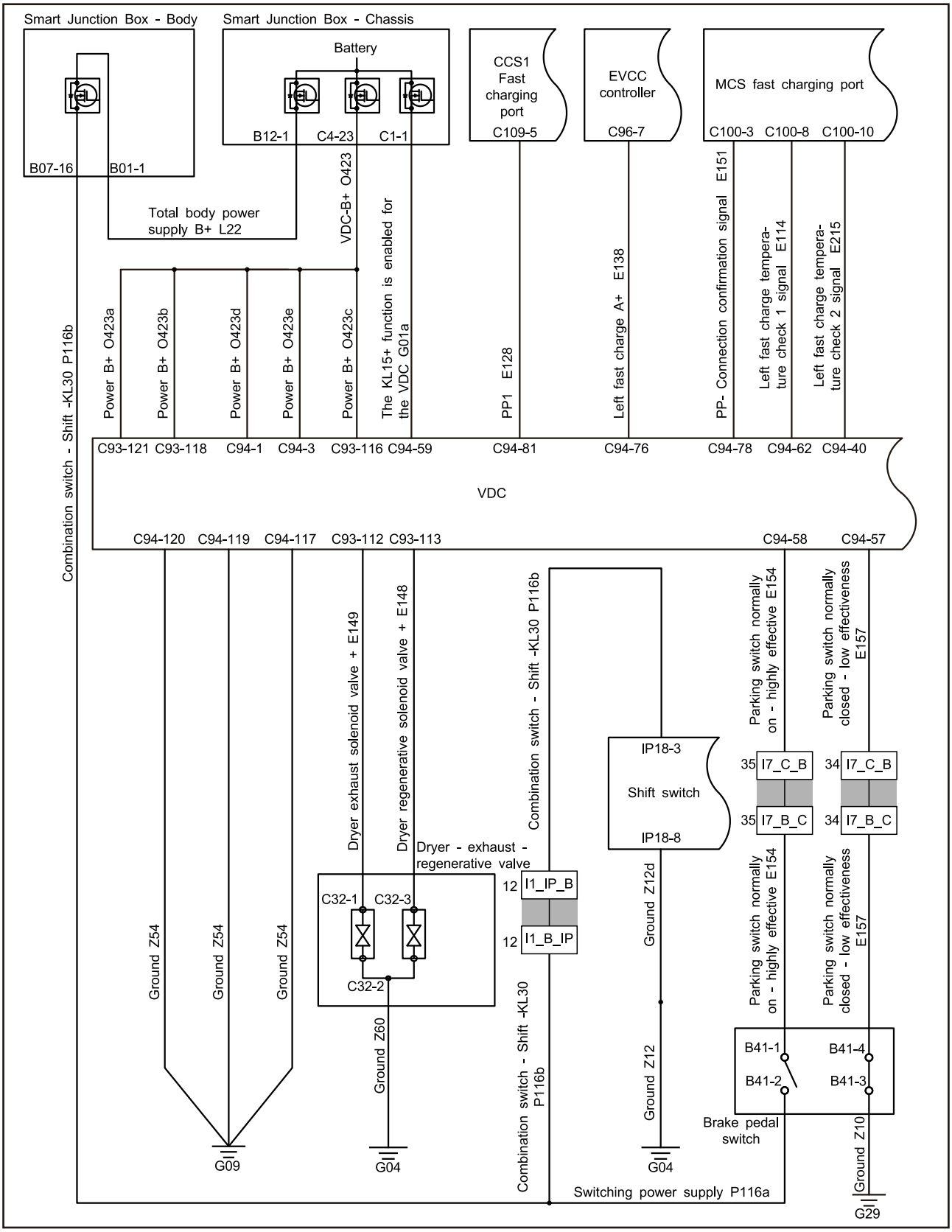
7.2.4.6 VDC Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P100000	Low voltage power supply undervoltage LvA	Power on, The low-voltage power supply is less than or equal to 18V for 10s	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.VDC

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P100100	Low voltage power supply undervoltage LvB	Power on, The low-voltage power supply is less than or equal to 10V for 2s	
P100200	Low-voltage power supply overvoltage LvA	Power on, The low-voltage power supply is greater than or equal to 32V for 10s	
P100300	Low-voltage power supply overvoltage LvB	Power on, The low-voltage power supply is greater than or equal to 35V for 2s	
P100402	DCDC1 output undervoltage	HV Satus, The DCDC1 function takes effect, DCDC1 output voltage is less than or equal to 23V for 10s	
P100502	DCDC1 output overvoltage	HV Satus, The DCDC1 function takes effect, DCDC1 output voltage is greater than or equal to 32V for 10s	
P103D10	Drive thermal management, SJB power supply failure	Power on, The VDC is enabled, but SJB does not provide power supply for 5s	
P103E10	Battery thermal management, SJB power supply failure	Power on, The VDC is enabled, but SJB does not provide power supply and the maximum temperature of the battery is greater than or equal to 97 degrees ferenhieght for 5s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check there are other module power fault codes besides VDC?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the VDC power supply and grounding harness.

Step 5:VDC rewrites the configuration code, software reloads, and upgrades.

Step 6:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 7:Clear and confirm DTC.

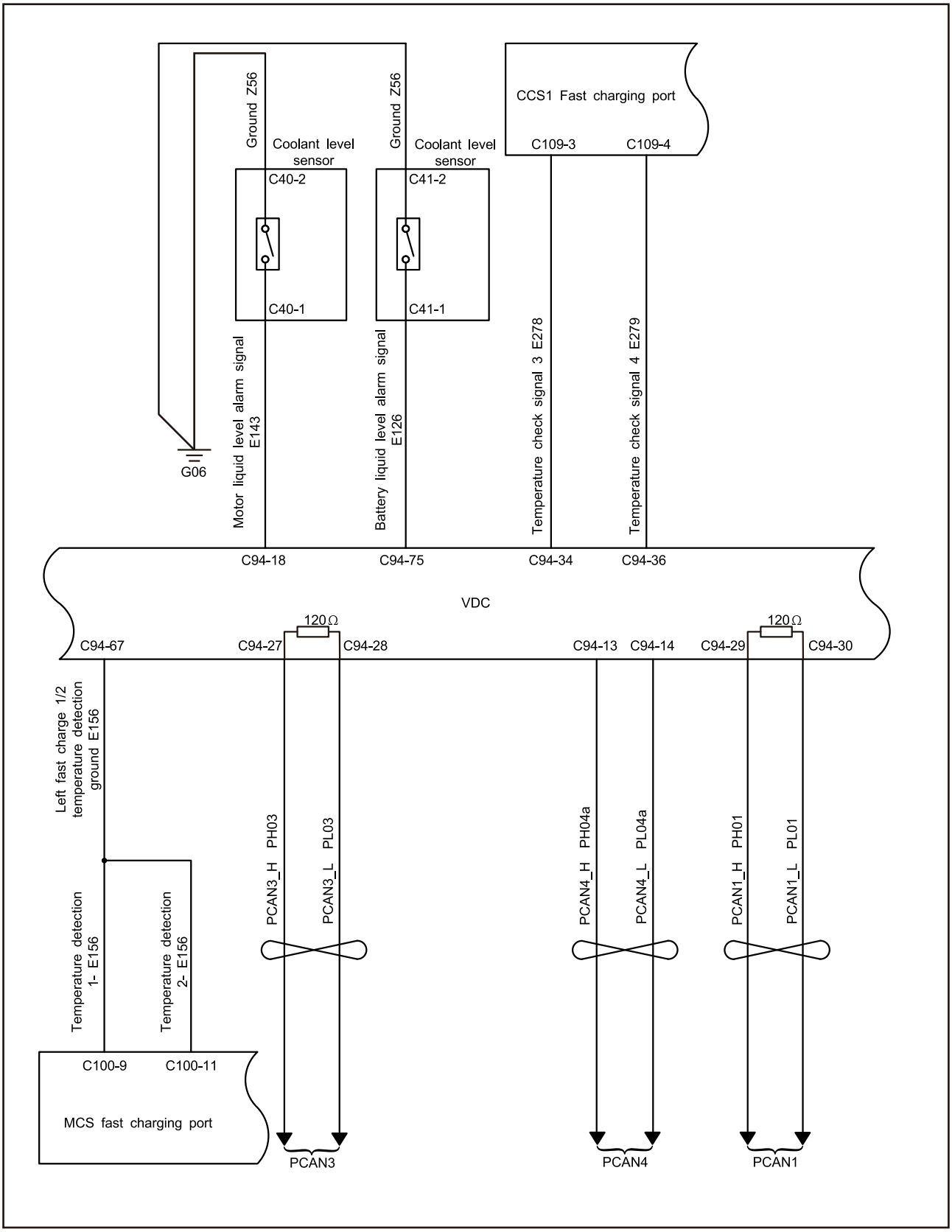
7.2.4.7 VDC Communication Fault

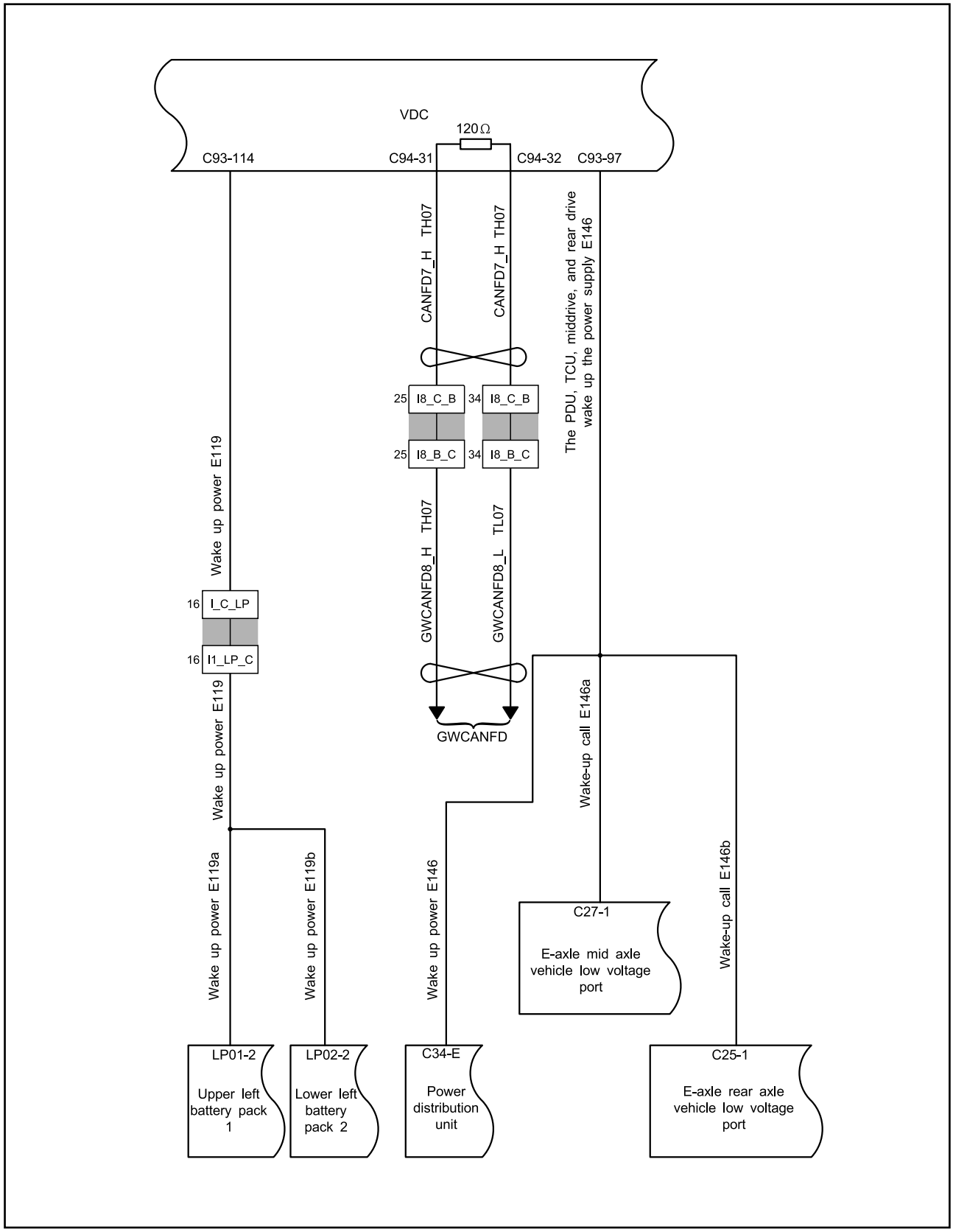
1.DTC Monitoring Logic

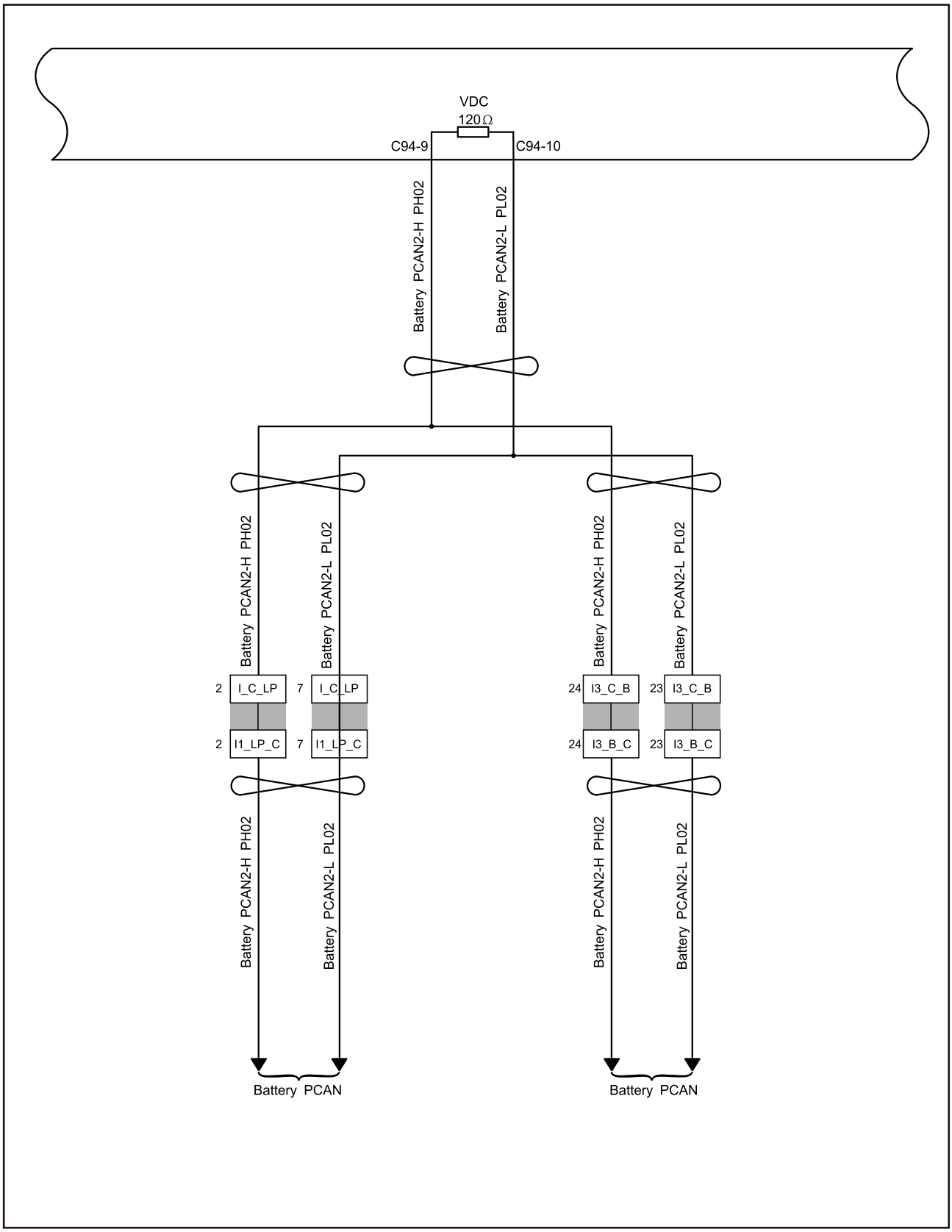
DTC Code	Description	DTC Trigger Conditions	Faulty Part
U019887	Lost Communication With T-BOX	KL15 valid, 0x18FF18FBx lost, last for 2s	1.Wiring harness 2.VDC
U014087	Lost communication with BDCU	KL15 valid, 0x18FF1921x lost, last for 1s	
U01A087	Lost Communication With SJB_UP	KL15 valid, 0x18FF3354x lost, last for 1s	
U019987	Lost Communication With DCM	KL15 valid, 0x18FDA54Fx lost, last for 1s	
U01A187	Lost Communication With SJB_UN	KL15 valid, 0x18FF2359x lost, last for 1s	
U015687	Lost Communication With CDCU	KL15 valid, 0x18FF1241x lost, last for 2s	
U017487	Lost Communication With CMU01	KL15 valid, 0x18082768x lost, last for 1s	
U017587	Lost Communication With CMU02	KL15 valid, 0x18082769x lost, last for 1s	
U017687	Lost Communication With CMU03	KL15 valid, 0x1808276Ax lost, last for 1s	
U017787	Lost Communication With CMU04	KL15 valid, 0x1808276Ax lost, last for 1s	
U017887	Lost Communication With CMU05	KL15 valid, 0x1808276Cx lost, last for 1s	
U017987	Lost Communication With CMU06	KL15 valid, 0x1808276Dx lost, last for 1s	
U017A87	Lost Communication With PDU1	KL15 valid, 0x18012778x lost, last for 1s	
U017B87	Lost Communication With PDU2	KL15 valid, 0x1804276Ex lost, last for 1s	
U017C87	Lost Communication With PDU3	KL15 valid, 0x1801276Fx lost, last for 1s	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U012A87	Lost Communication With MCU1	KL15 valid, 0x18012774x lost, last for 0.5s	
U012B87	Lost Communication With MCU2	KL15 valid, 0x18012775x lost, last for 0.5s	
U012C87	Lost Communication With MCU3	KL15 valid, 0x18012776x lost, last for 0.5s	
U012D87	Lost Communication With MCU4	KL15 valid, 0x18012777x lost, last for 0.5s	
U010187	TCU1 Communication failure	KL15 valid, 0x18012703x lost, last for 0.5s >	
U010287	TCU2 Communication failure	KL15 valid, 0x18012703x lost, last for 0.5s	
U01B387	GSM Communication failure	KL15 valid, 0x0C010305x lost, last for 0.5s	
U012187	Lost Communication With EBS	KL15 valid, 0x18F0010Bx lost, last for 1s	
U013287	Lost Communication With ECAS	KL15 valid, 0x18FECA2Fx lost, last for 5s	
U012887	Lost Communication With EPB	KL15 valid, 0x18FE1250x lost, last for 1s	
U008C88	PCAN2_Busoff	Enter busoff	
U008D88	PCAN3_Busoff	Enter busoff	
U008E88	PCAN4_Busoff	Enter busoff	
U008B88	ChargrCAN_Busoff	Enter busoff	
U007988	CANFD7_Busoff	Enter busoff	
U008088	CANFD10_Busoff	Enter busoff	

2.Circuit Diagram


Ground Z56
Coolant level sensor
C40-2
C40-1
Ground Z56
Coolant level sensor
C41-2
C41-1
CCS1 Fast charging port
C109-3
C109-4
G06
Motor liquid level alarm signal E143
Battery liquid level alarm signal E126
Temperature check signal 3 E278
Temperature check signal 4 E279
C94-18
C94-75
C94-34
C94-36
VDC
120Ω
120Ω
C94-67
C94-27
C94-28
C94-13
C94-14
C94-29
C94-30
Left fast charge 1/2 temperature detection ground E156
Temperature detection 1- E156
Temperature detection 2- E156
PCAN3_H PH03
PCAN3_L PL03
PCAN4_H PH04a
PCAN4_L PL04a
PCAN1_H PH01
PCAN1_L PL01
C100-9
C100-11
MCS fast charging port
PCAN3
PCAN4
PCAN1


VDC
120Ω
C93-114
C94-31
C94-32
C93-97
CANFD7_H TH07
CANFD7_H TH07
The PDU, TCU, middrive, and rear drive wake up the power supply E146
25 I8_C_B
34 I8_C_B
25 I8_B_C
34 I8_B_C
Wake up power E119
16 I_C_LP
16 I1_LP_C
GWCANFD8_H TH07
GWCANFD8_L TL07
GWCANFD
Wake up power E119
Wake-up call E146a
Wake up power E119a
Wake up power E119b
Wake up power E146
Wake-up call E146b
C27-1
E-axle mid axle vehicle low voltage port
LP01-2
Upper left battery pack 1
LP02-2
Lower left battery pack 2
C34-E
Power distribution unit
C25-1
E-axle rear axle vehicle low voltage port



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the PCAN1 bus communication harness. Refer to Inspection Of PCAN1 Bus Network Integrity

Step 4:Check the PCAN2 bus communication harness. Refer to Inspection Of PCAN2 Bus Network Integrity

Step 5:Check the PCAN3 bus communication harness. Refer to Inspection Of PCAN3 Bus Network Integrity

Step 6:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 7:Check the CANFD7 bus communication harness. Refer to Inspection Of CANFD7 Bus Network Integrity

Step 8:VDC rewrites the configuration code, software reloads, and upgrades.

Step 9:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 10:Clear and confirm DTC.

7.2.4.8 VDC Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P101010	HTP_P Sensor 1, short circuit the power supply	Power on, The AD value is greater than or equal to 4120 for 10s	1.VDC
P101110	HTP_P Sensor 1, short circuit to ground	Power on, The AD value is less than 0 for 10s	
P101210	HTP_P Sensor 2, short circuit the power supply	Power on, The AD value is greater than or equal to 4120 for 10s)	
P101310	HTP_P Sensor 2, short circuit to ground	Power on, The AD value is less than 0 for 10s	
P101410	LTP_P Sensor 1, short circuit the power supply	Power on, The AD value is greater than or equal to 4120 for 10s)	
P101510	LTP_P Sensor 1, short circuit to ground	Power on, The AD value is less than 0 for 10s	
P101610	LTP_P Sensor 2, short circuit the power supply	Power on, The AD value is greater than or equal to 4120 for 10s	
P101710	LTP_P Sensor 2 short circuit to ground	Power on, The AD value is less than 0 for 10s	
P101810	HPT_T Sensor 1, short circuit the power supply	Power on, The AD value is greater than or equal to 4100 for 10s	
P101910	HPT_T Sensor 1, short circuit to ground	Power on, The AD value is less than or equal to 40 for 10s	
P101A10	HPT_T Sensor 2, short circuit the power supply	Power on, The AD value is greater than or equal to 4100 for 10s	
P101B10	HPT_T Sensor 2, short circuit to ground	Power on, The AD value is less than or equal to 40 for 10s	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P101C10	LPT_T Sensor 1, short circuit the power supply	Power on, The AD value is greater than or equal to 4100 for 10s	
P101D10	LPT_T Sensor 1, short circuit to ground	Power on, The AD value is less than or equal to 40 for 10s	
P101E10	LPT_T Sensor 2, short circuit the power supply	Power on, The AD value is greater than or equal to 4100 for 10s	
P101F10	LPT_T Sensor 2, short circuit to ground	Power on, The AD value is less than or equal to 40 for 10s	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:VDC rewrites the configuration code, software reloads, and upgrades.

Step 4:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

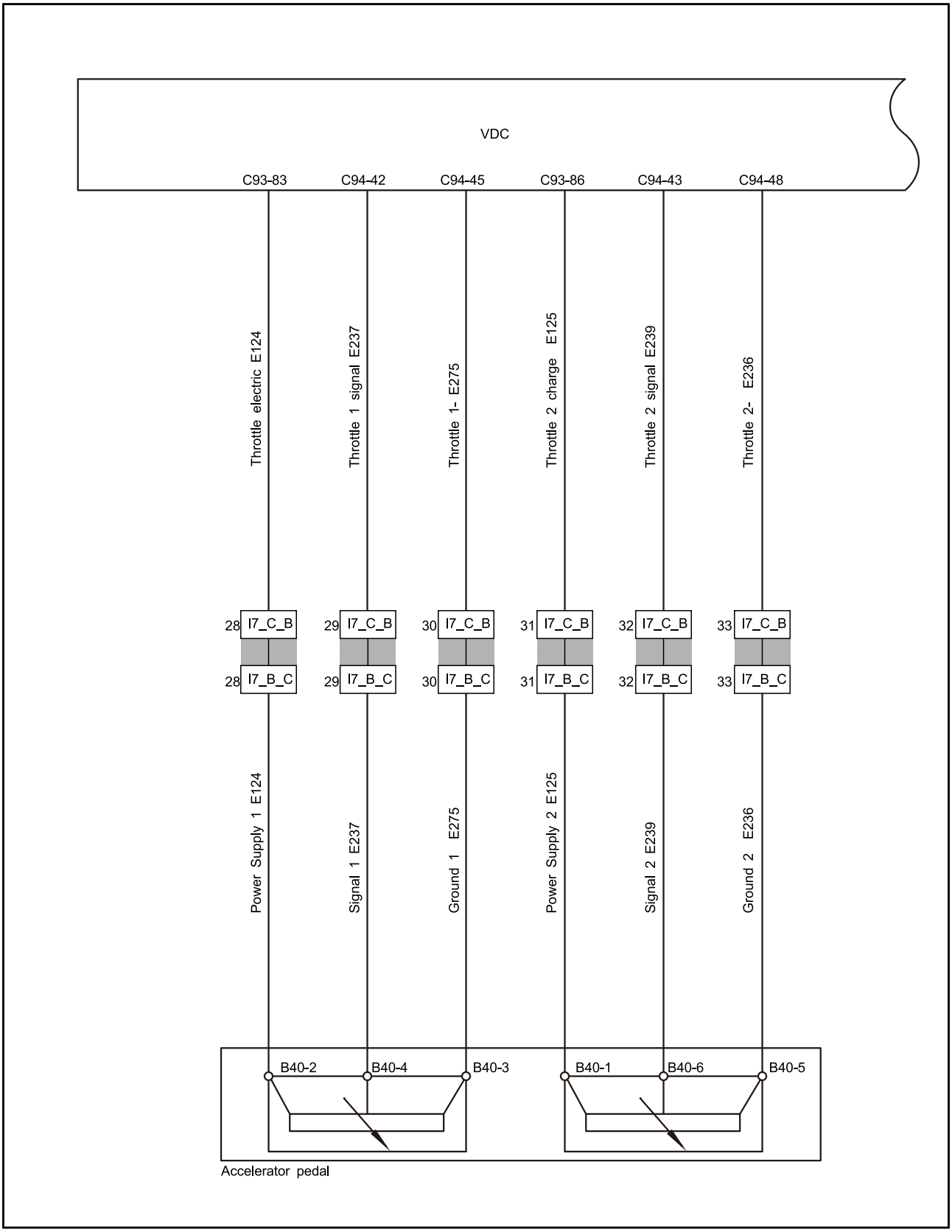
Step 5:Clear and confirm DTC.

7.2.4.9 Accelerator Pedal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P102C10	AccPed 1, short circuit the power supply	Power on, The AD value is greater than or equal to 3250 for 10s	1.Wiring harness 2.Accelerator pedal 3.VDC
P102D10	AccPed 2, short circuit the power supply	Power on, The AD value is greater than or equal to 1650 for 10s	
P102E10	AccPed 1, short circuit to ground	Power on, The AD value is less than or equal to 550 for 10s	
P102F10	AccPed 2, short circuit to ground	Power on, The AD value is less than or equal to 250 for 10s	
P103010	Associated fault of two accelerator pedals	Power on, The ratio of accelerator pedal opening is not in the range of 1.5 to 2.5, Less than or equal to 1.4 or greater than or equal to 2.6 lasts for 10s	
P103110	Both accelerator pedals are wrong at the same time	Power on, The AD1 value is greater than or equal to 3250 and the AD2 value is greater than or equal to 1650 for 10s, Or the AD1 value is less than or equal to 550 and the AD2 value is less than or equal to 250 for 10s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the accelerator pedal and VDC.

Step 4:Check the resistance of the accelerator pedal at different openings is normal?

Sensor	Accelerator Pedal Angle	Signal Output Voltage
Accelerator pedal sensor 1	0°	0.375 ± 0.05V
Accelerator pedal sensor 2	0°	0.375 ± 0.05V
Accelerator pedal sensor 1	13.1°	3.84 ± 0.1V
Accelerator pedal sensor 2	13.1°	1.92 ± 0.1V

– Yes: Next step

– No: Replace the accelerator pedal. Refer to Replacement Of Accelerator Pedal Assembly

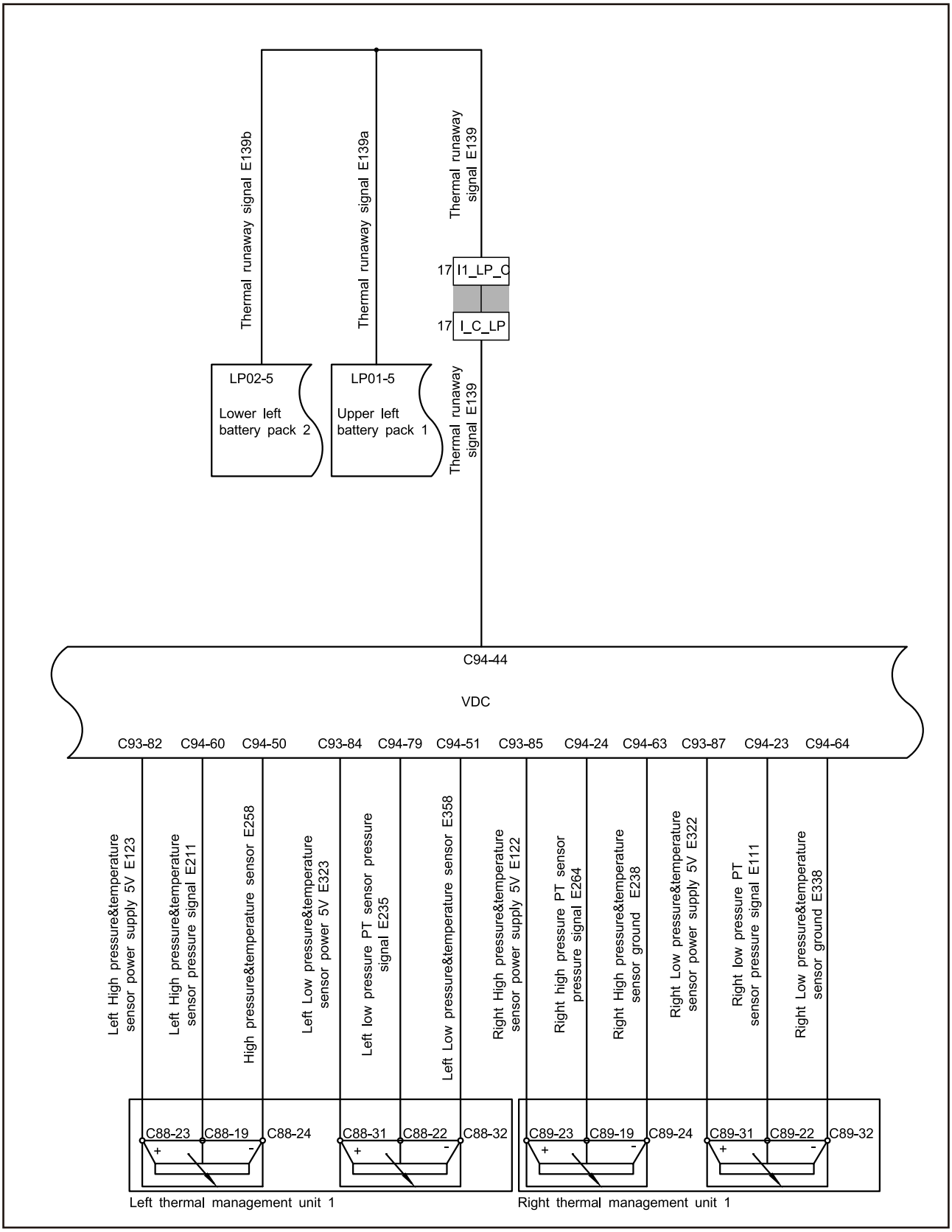
Step 5:VDC rewrites the configuration code, software reloads, and upgrades.

Step 6:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 7:Clear and confirm DTC.

7.2.4.10 Left High Pressure & Temperature Sensor Fault

1.Circuit Diagram



2. Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

Step 2:Check the wiring harness between the left thermal management unit (left high pressure & temperature sensor) and VDC.

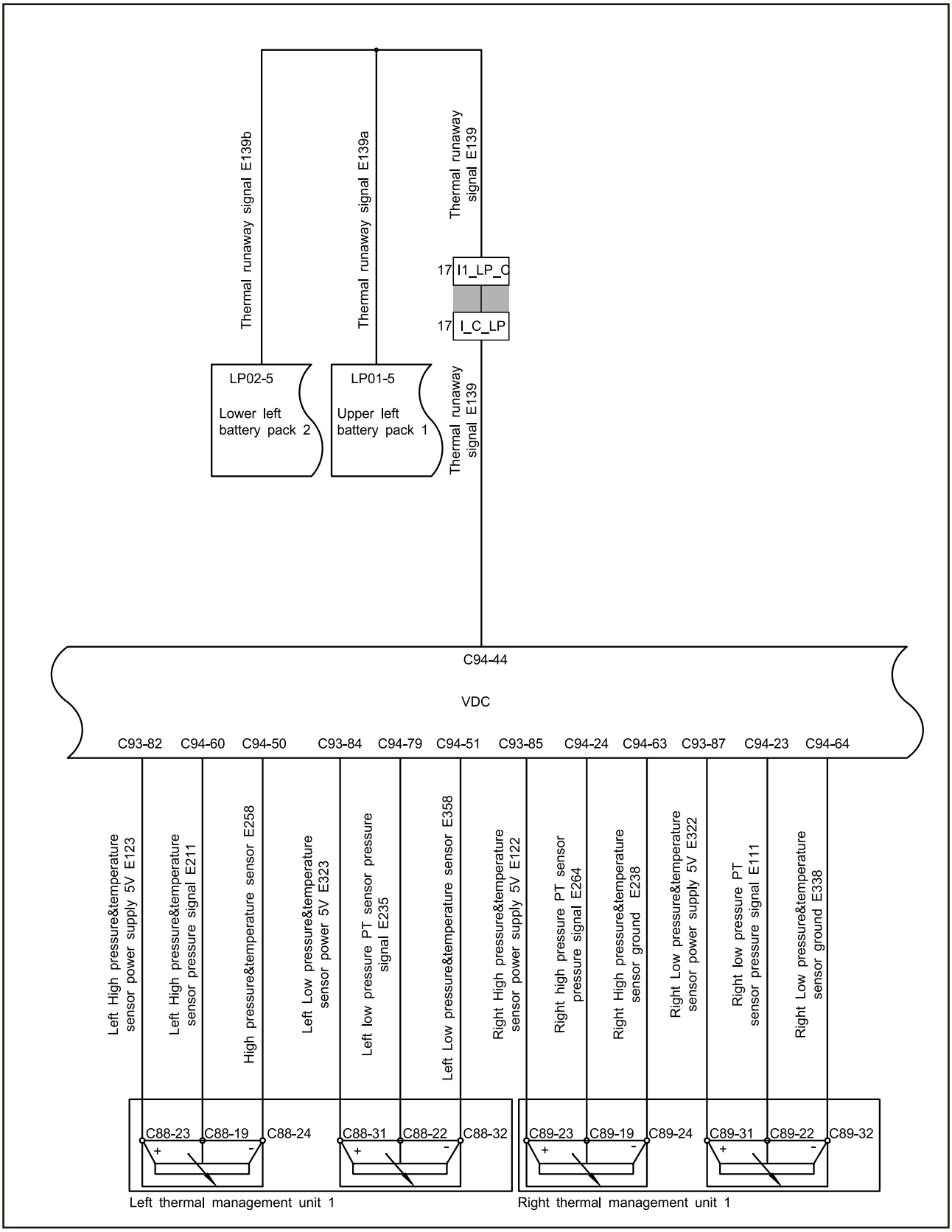
Step 3:Check and replace the left thermal management unit (high pressure & temperature sensor). Refer to Replacement Of Thermal Management Unit (Left)

Step 4:VDC rewrites the configuration code, software reloads, and upgrades.

Step 5:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

7.2.4.11 Right High Pressure & Temperature Sensor Fault

1.Circuit Diagram



2. Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

Step 2:Check the wiring harness between the right thermal management unit (right high pressure & temperature sensor) and VDC.

Step 3:Replace the right thermal management unit (right high pressure & temperature sensor). Refer to Replacement Of Thermal Management Unit (Right)

Step 4:VDC rewrites the configuration code, software reloads, and upgrades.

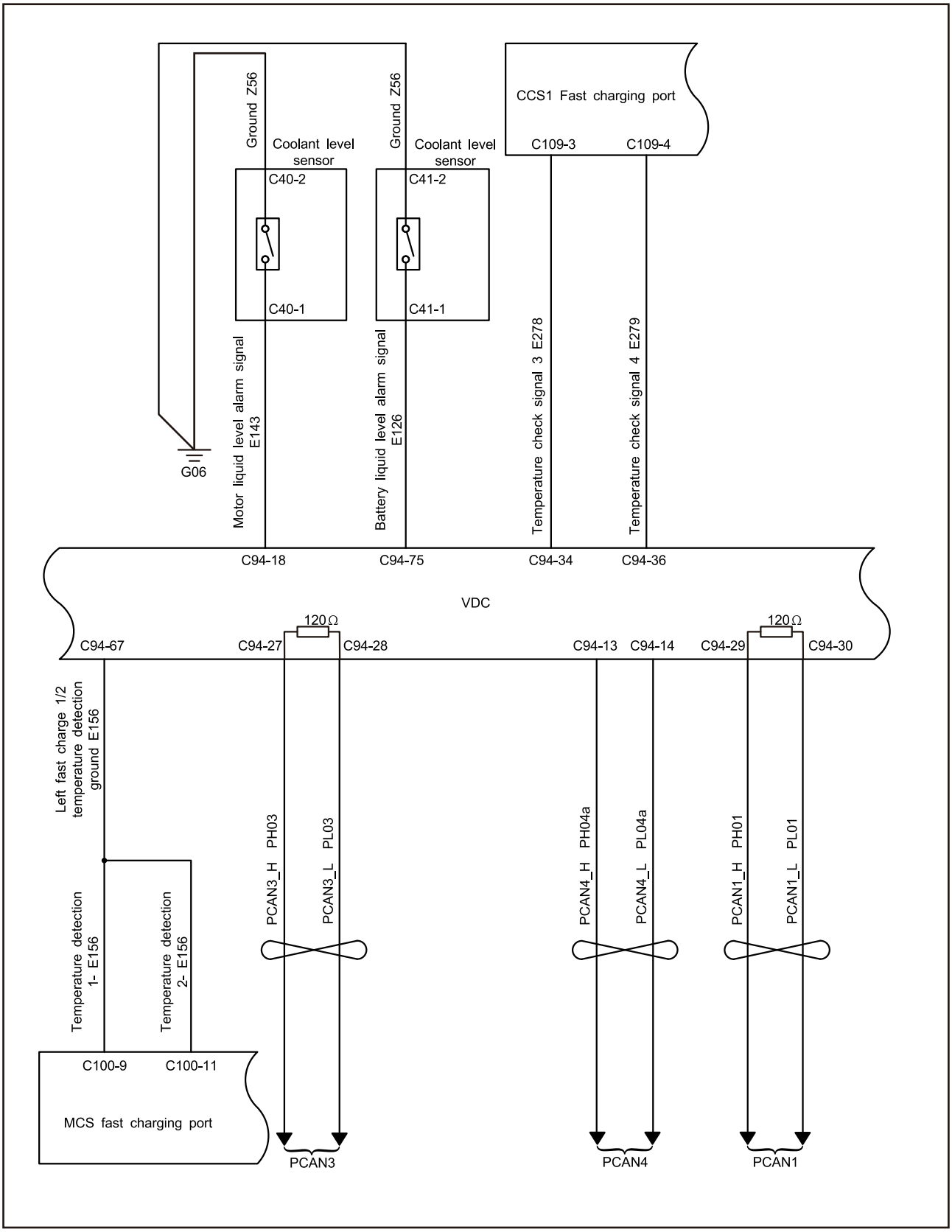
Step 5:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

7.2.4.12 Motor Coolant Level Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P103910	The motor liquid level sensor is short of liquid	Power on, The hard cable fault signal lasts for 10s	1.Wiring harness 2. Motor cooling liquid level sensor 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the motor coolant level sensor and VDC.

Step 4:Check the motor coolant level sensor ground harness.

Step 5:Check the motor coolant level sensor is normal?

Liquid Level Status	Switch Status
Liquid level	The motor coolant level sensor has a signal
No liquid level	Motor coolant level sensor has no signal

– Yes: Next step

– No: Replace the motor coolant level sensor.

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

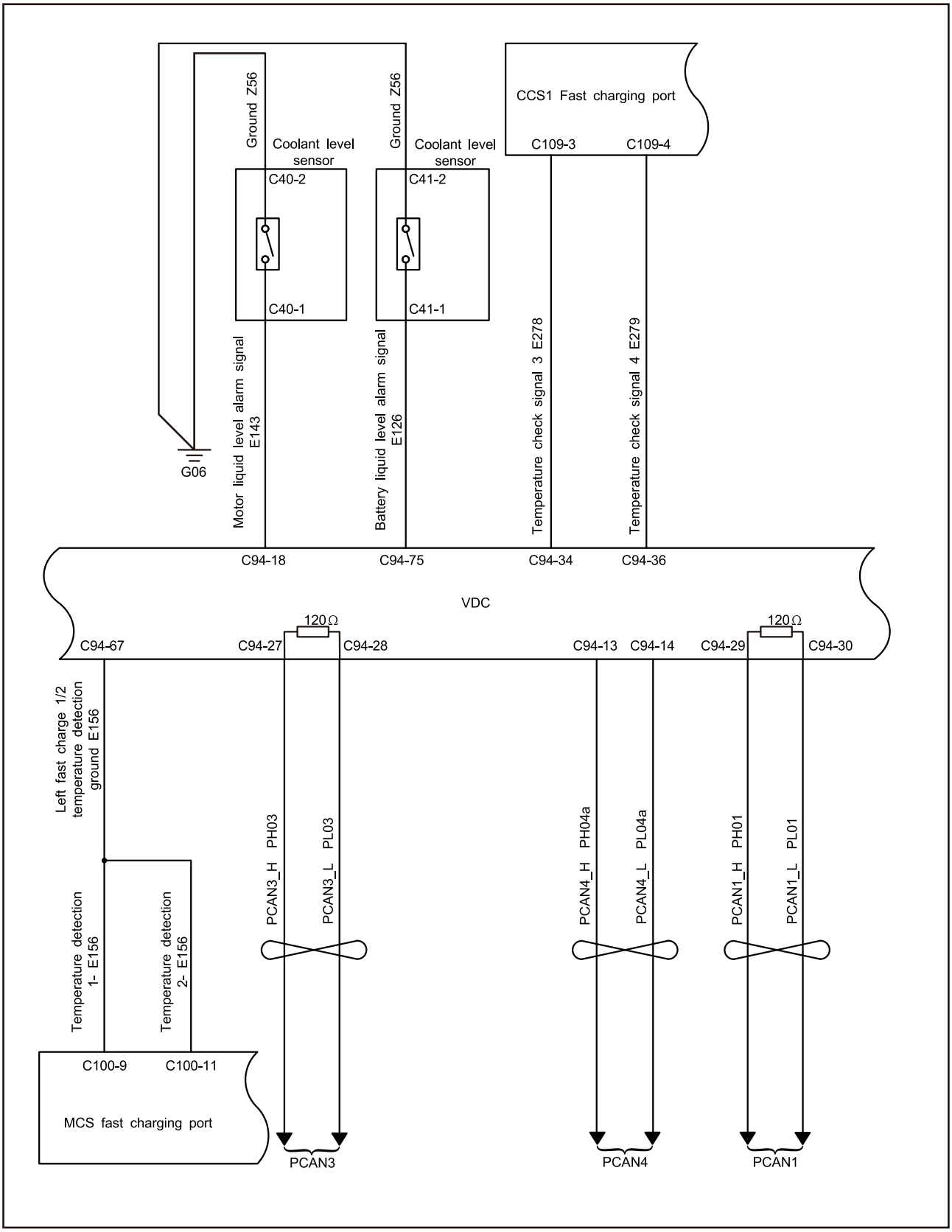
Step 8:Clear and confirm DTC.

7.2.4.13 Battery Coolant Level Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P103A10	The battery liquid level sensor is short of liquid	Power on, The hard cable fault signal lasts for 10s	1.Wiring harness 2.Battery coolant level sensor 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the battery coolant level sensor and VDC.

Step 4:Check the battery coolant level sensor grounding harness.

Step 5:Check the battery coolant level sensor is normal?

Liquid Level Status	Switch Status
Liquid level	Battery coolant level sensor has signal
No liquid level	Battery coolant level sensor no signal

– Yes: Next step

– No: Replace the Battery coolant level sensor.

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

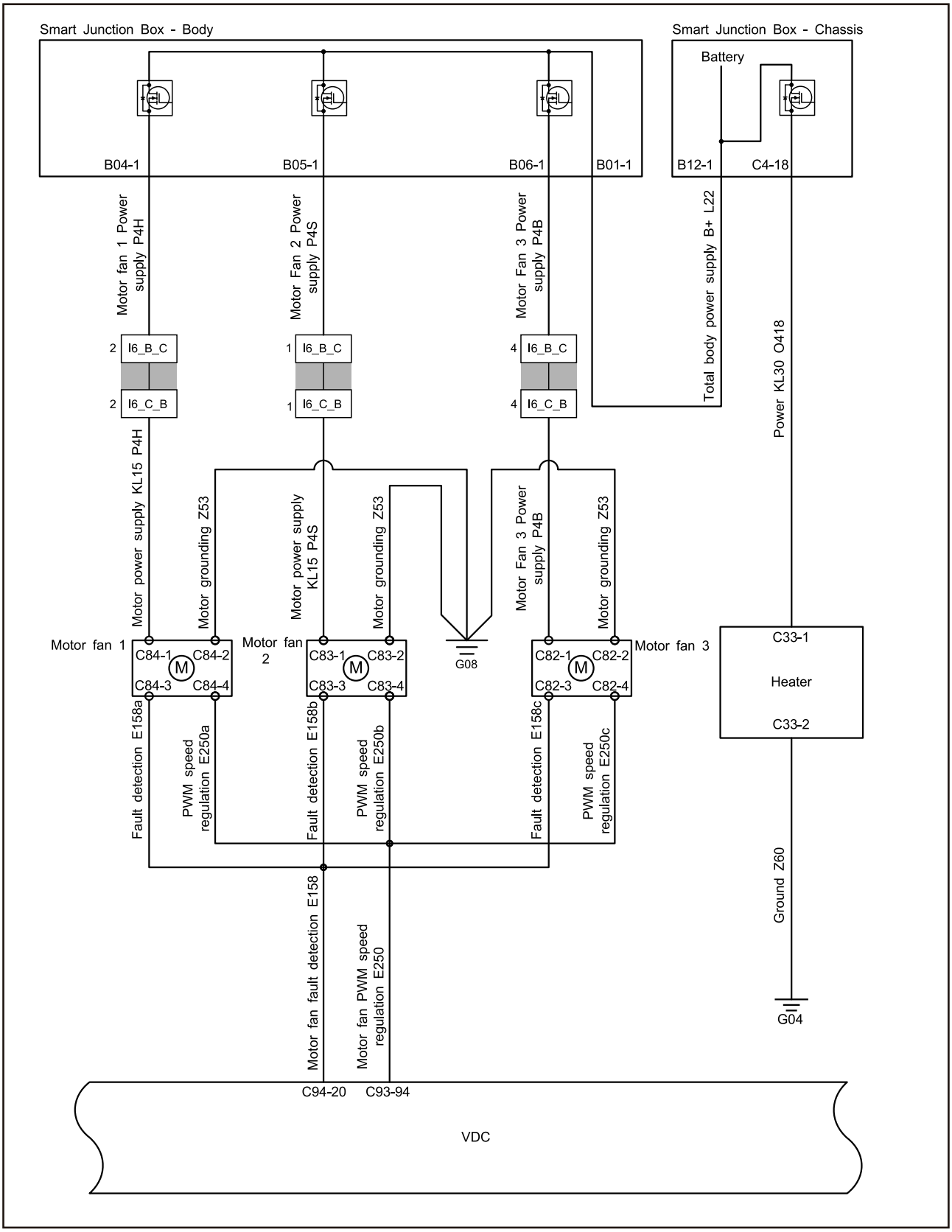
Step 8:Clear and confirm DTC.

7.2.4.14 Motor Fan Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P103310	Motor fan failure	Power on, The power supply is valid, the fan is enabled, and the hard cable fault signal is valid for 10 seconds	1.Wiring harness 2. Motor fan 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the motor fan power supply and grounding harness.

Step 4:Check the wiring harness between the motor fan and VDC.

Step 5:Enter the diagnostic instrument interface VDC-action test and perform the "motor fan, open/close" action test. Check the motor fan operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace the motor fan. Refer to Replacement Of Front End Module

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

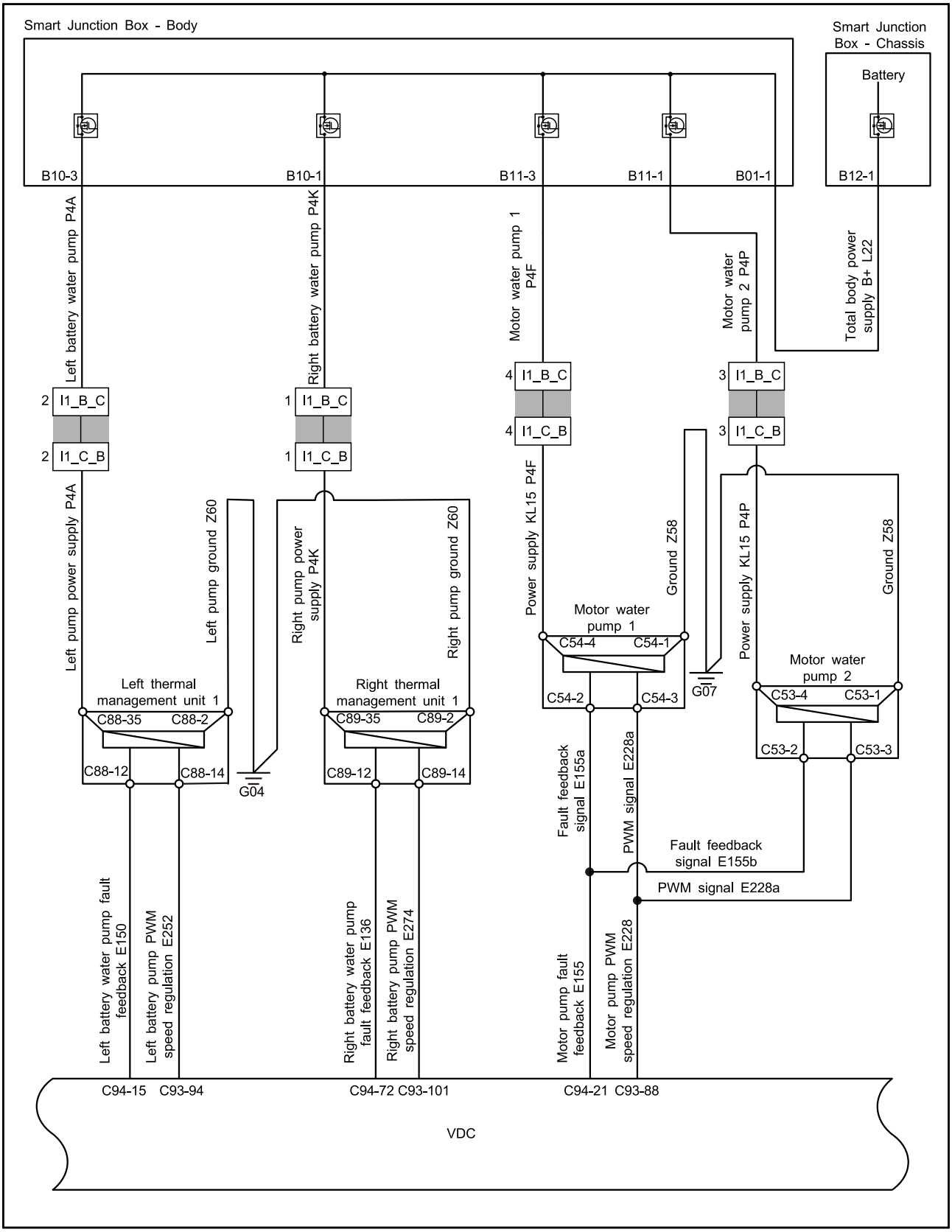
Step 8:Clear and confirm DTC.

7.2.4.15 Motor And Water Pump Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P103610	Motor pump failure	Power on, The power supply is valid, the fan is enabled, and the hard cable fault signal is valid for 10 seconds	1.Wiring harness 2.Motor pump failure 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power supply and grounding harness of the motor and water pump.

Step 4:Check the wiring harness between the motor water pump and VDC.

Step 5:Enter the VDC-action test of the diagnostic instrument interface and perform the "motor water pump, open/close" action test. Check the motor water pump operates according to the instructions of the diagnostic tool.

- Yes: Next step
- No: Replace the motor water pump. Refer to Replacement Of Electronic Water Pump

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

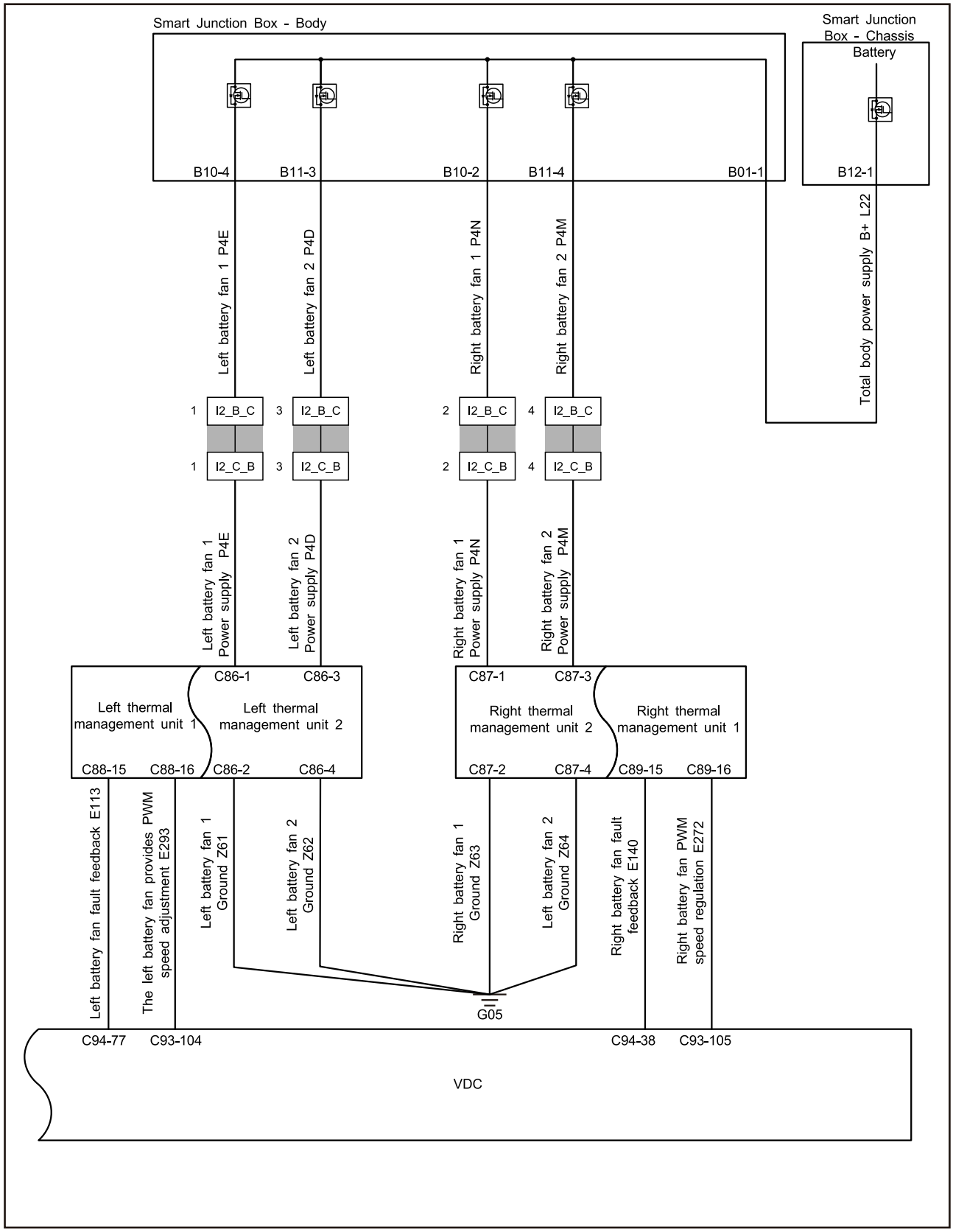
Step 8:Clear and confirm DTC.

7.2.4.16 Left Battery Fan Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P103410	Battery fan 1 failure	Power on, The power supply is valid, the fan is enabled, and the hard cable fault signal is valid for 10 seconds	1.Wiring harness 2. Left thermal management unit (left battery fan 1) 3. Left thermal management unit (left battery fan 2) 4.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power supply and grounding harness of the left thermal management unit (left battery fan 1), left thermal management unit (left battery fan 2).

Step 4:Check the wiring harness between the left thermal management unit (left battery fan 1), left thermal management unit (left battery fan 2) and VDC.

Step 5:Enter the VDC-action test of the diagnostic instrument interface and perform the "Battery fan 1, open/close" action test. Check the left battery fan operates according to the diagnostic tool's instructions.

- Yes: Next step
- No: Replace the left thermal management unit (left battery fan 1) and the left thermal management unit (left battery fan 2). Refer to Replacement Of Thermal Management Unit (Left)

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

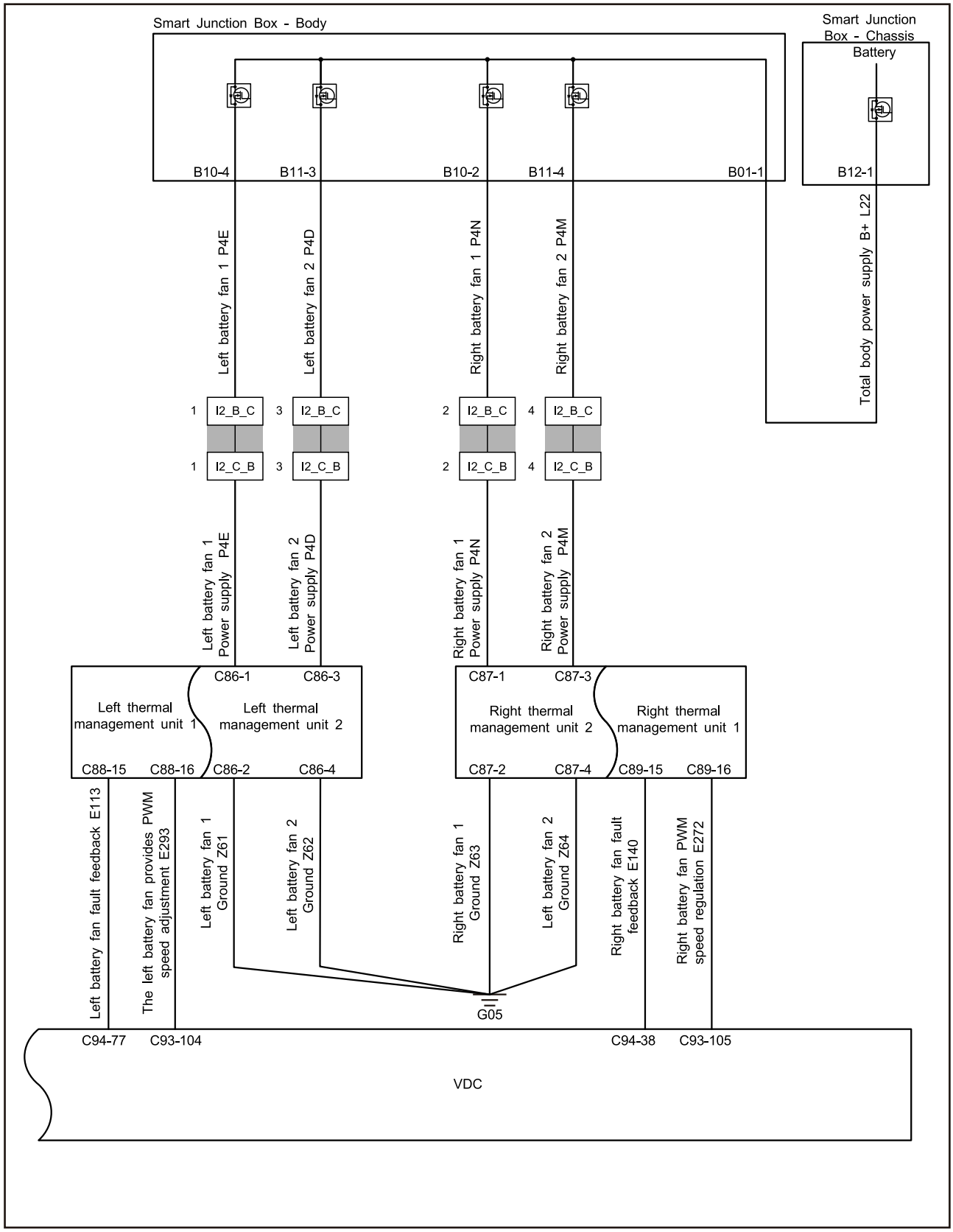
Step 8:Clear and confirm DTC.

7.2.4.17 Right Battery Fan Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P103510	Battery fan 2 failure	Power on, The power supply is valid, the fan is enabled, and the hard cable fault signal is valid for 10 seconds	1.Wiring harness 2. Right thermal management unit (right battery fan 1) 3. Right thermal management unit (right battery fan 2) 4.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power supply and grounding harness of the right thermal management unit (right battery fan 1), right thermal management unit (right battery fan 2).

Step 4:Check the wiring harness between the right thermal management unit (right battery fan 1), the right thermal management unit (right battery fan 2) and VDC.

Step 5:Enter the VDC-action test of the diagnostic instrument interface and perform the "Battery fan 2, open/close" action test. Check the right battery fan operates according to the diagnostic tool's instructions.

- Yes: Nex step step step step step step stept step step
- No: Replace the right thermal management unit (right battery fan 1) and right thermal management unit (right battery fan 2).

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

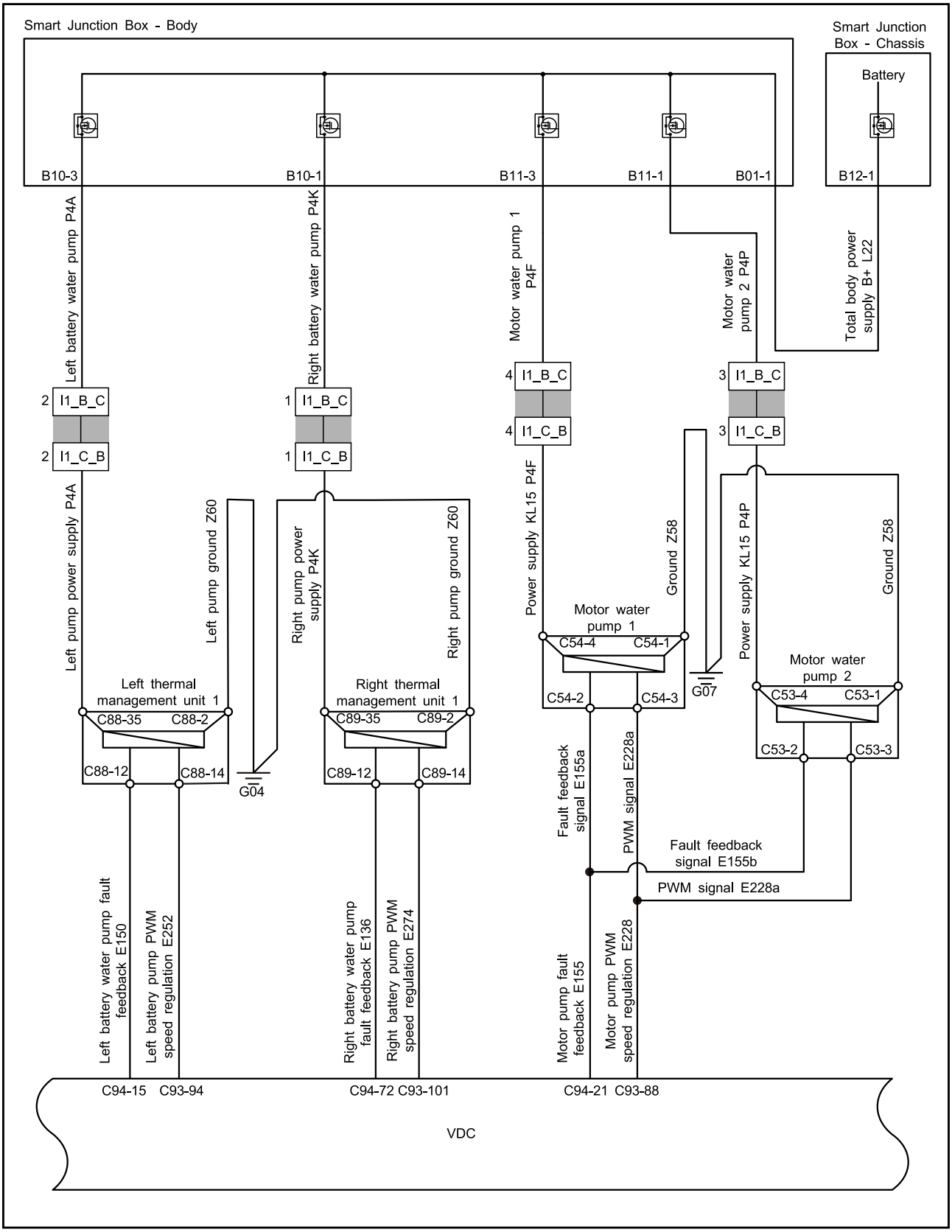
Step 8:Clear and confirm DTC.

7.2.4.18 Left Battery Water Pump Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P103710	Battery Pump 1 Fault	Power on, The power supply is valid, the fan is enabled, and the hard cable fault signal is valid for 10 seconds	1.Wiring harness 2. Left thermal management unit (left battery water pump) 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power supply and grounding harness of the left thermal management unit (left battery water pump).

Step 4:Check the wiring harness between the left thermal management unit (left battery water pump) and VDC.

Step 5:Enter the diagnostic instrument interface VDC-action test and perform the "battery water pump 1, open/close" action test. Check the left battery water pump operates according to the diagnostic tool instructions.

- Yes: Nex step
- No: Replace the left thermal management unit (left battery water pump). Refer to Replacement Of Thermal Management Unit (Left)

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

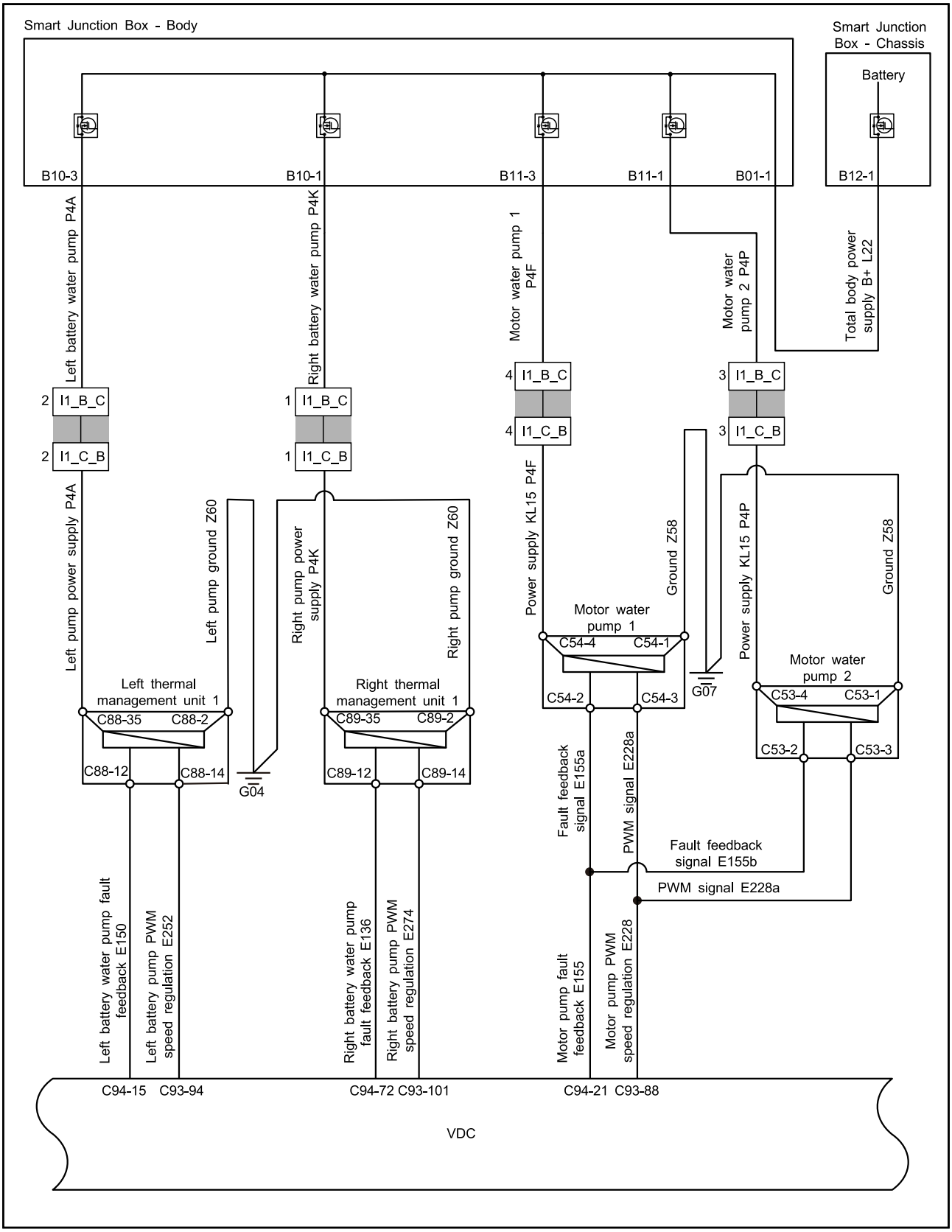
Step 8:Clear and confirm DTC.

7.2.4.19 Right Battery Water Pump Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P103810	Battery pump 2 failure	Power on, The power supply is valid, the fan is enabled, and the hard cable fault signal is valid for 10 seconds	1.Wiring harness 2. Right thermal management unit (right battery water pump) 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power supply and grounding harness of the right thermal management unit (right battery water pump).

Step 4:Check the wiring harness between the right thermal management unit (right battery water pump) and VDC.

Step 5:Enter the VDC-action test of the diagnostic instrument interface and perform the "battery water pump 2, open/close" action test. Check the right battery water pump operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace the right thermal management unit (right battery water pump).

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

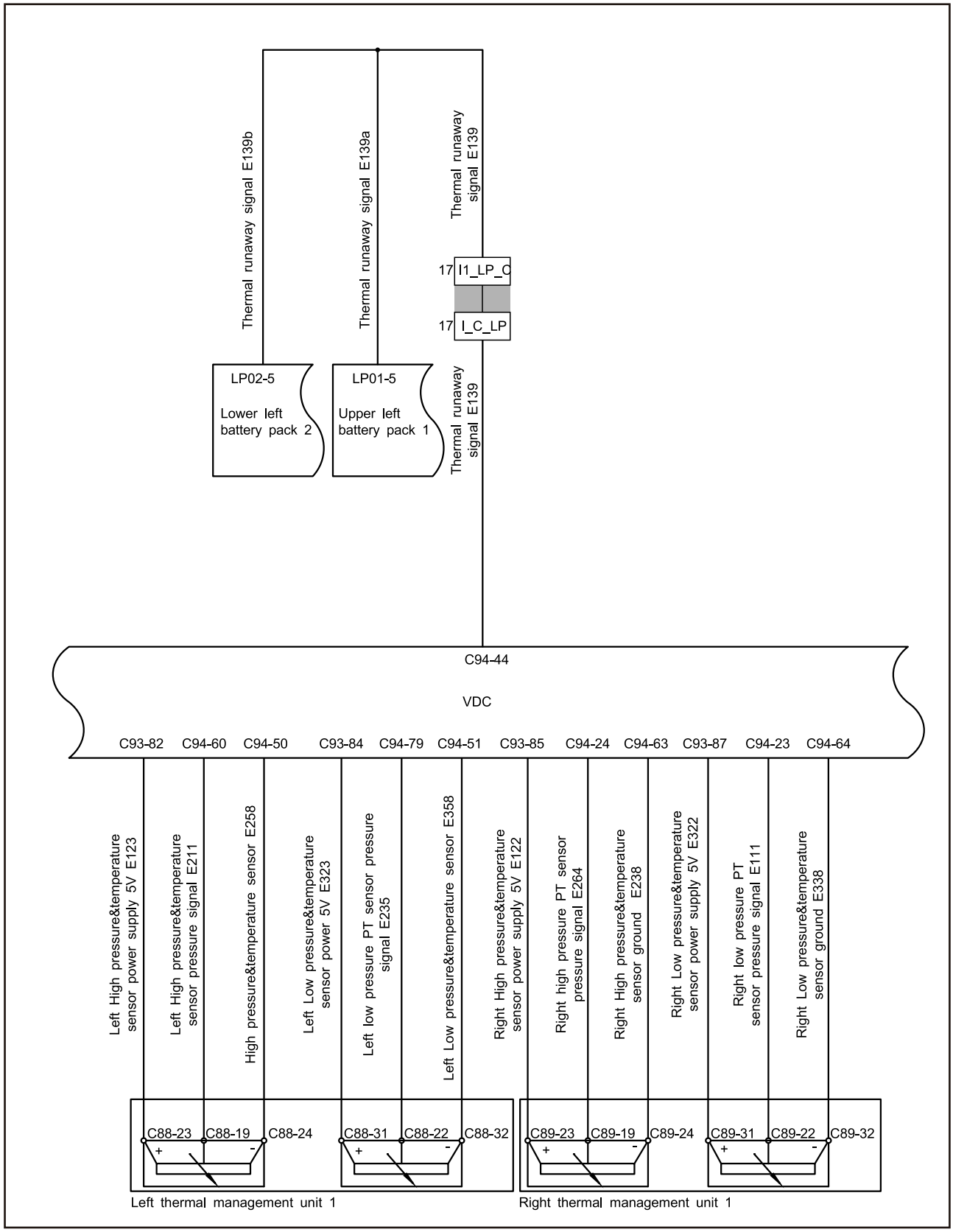
Step 8:Clear and confirm DTC.

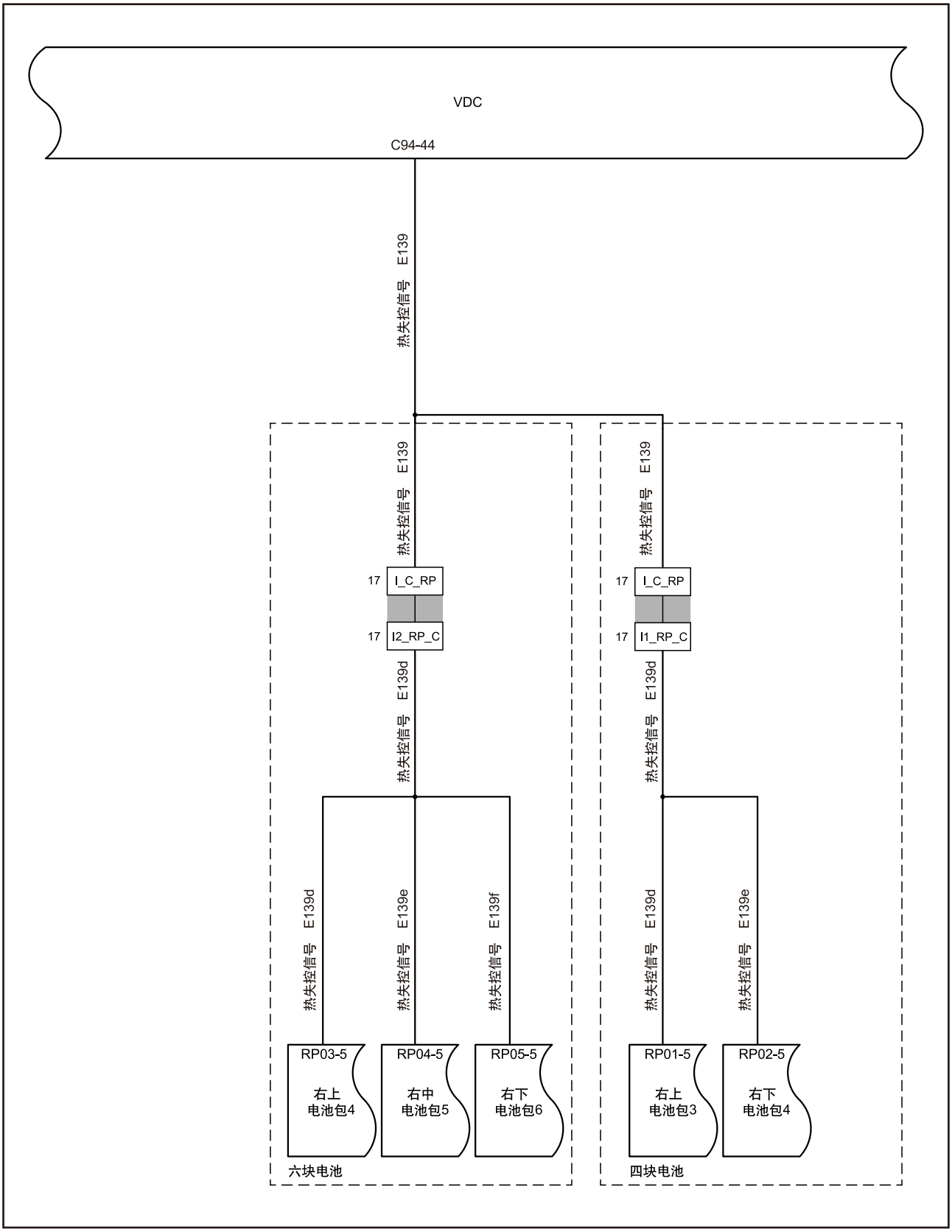
7.2.4.20 Battery Thermal Runaway Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P108130	CMU1 Thermal runaway fault	CMU1 Thermal runaway is valid; Power-off clear	1.Battery pack 2. Wiring harness 3.VDC
P108230	CMU2 Thermal runaway fault	CMU2 Thermal runaway is valid; Power-off clear	
P108330	CMU3 Thermal runaway fault	CMU4 Thermal runaway is valid; Power-off clear	
P108430	CMU4 Thermal runaway fault	CMU4 Thermal runaway is valid; Power-off clear	
P108530	CMU5 Thermal runaway fault	CMU5 Thermal runaway is valid; Power-off clear	
P108630	CMU6 Thermal runaway fault	CMU6 Thermal runaway is valid; Power-off clear	
P108730	Hard wire detection thermal runaway fault	Hard wire thermal runaway is valid; Hard wire thermal runaway is invalid, automatically cleared	

2.Circuit Diagram


Thermal runaway signal E139b
Thermal runaway signal E139a
Thermal runaway signal E139
17 I1_LP_C
17 I_C_LP
LP02-5
Lower left battery pack 2
LP01-5
Upper left battery pack 1
Thermal runaway signal E139
C94-44
VDC
C93-82 C94-60 C94-50 C93-84 C94-79 C94-51 C93-85 C94-24 C94-63 C93-87 C94-23 C94-64
Left High pressure&temperature sensor power supply 5V E123
Left High pressure&temperature sensor pressure signal E211
High pressure&temperature sensor E258
Left Low pressure&temperature sensor power 5V E323
Left low pressure PT sensor pressure signal E235
Left Low pressure&temperature sensor E358
Right High pressure&temperature sensor power supply 5V E122
Right high pressure PT sensor pressure signal E264
Right High pressure&temperature sensor ground E238
Right Low pressure&temperature sensor power supply 5V E322
Right low pressure PT sensor pressure signal E111
Right Low pressure&temperature sensor ground E338
C88-23 C88-19 C88-24 C88-31 C88-22 C88-32
C89-23 C89-19 C89-24 C89-31 C89-22 C89-32
Left thermal management unit 1
Right thermal management unit 1



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if the vehicle is experiencing thermal runaway?

– Yes:
A. Stop vehicle charging operations immediately.
B. Park the vehicle in a suitable temperature environment and let it sit.
C. Execute the operation to release the high voltage system.
D. Check vehicle thermal management system fault codes.

– No: Next step

Step 4:Check the battery pack thermal runaway signal harness.

Step 5:VDC rewrites the configuration code, software reloads, and upgrades.

Step 6:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

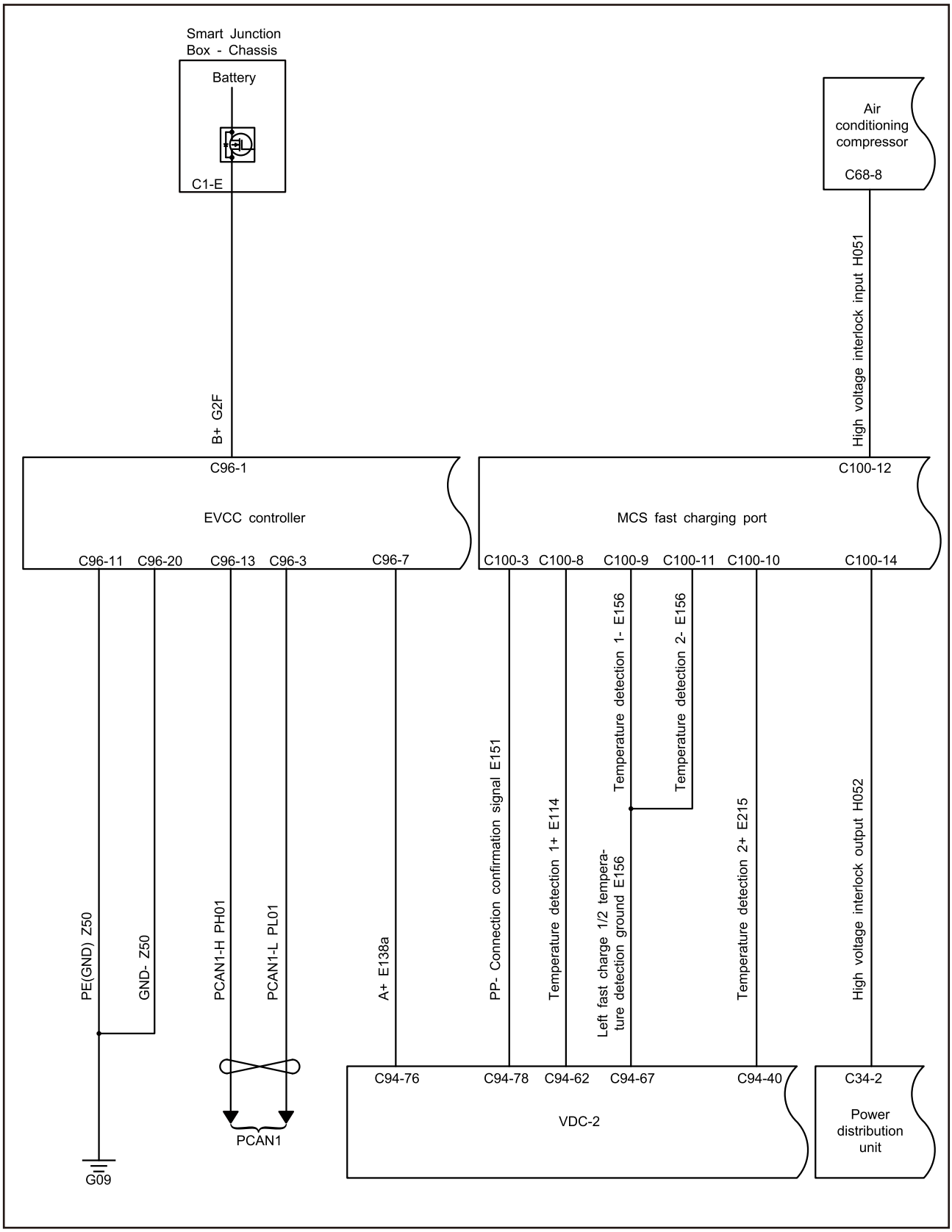
Step 7:Clear and confirm DTC.

7.2.4.21 MCS Fast Charging Port Temperature Detection Signal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P102010	FCT Sensor 1, Open-circuit fault	Power on, The AD value is greater than or equal to X for 10s X1=4300, X2=4300, X3=800	1. MCS fast charging port 2. Wiring harness 3.VDC
P102110	FCT Sensor 1, Short-circuit fault	Power on, The AD value is less than or equal to 110 for 10s M1=20, M2=20, M3=40	
P102210	FCT Sensor 2, Open-circuit fault	Power on, The AD value is greater than or equal to X for 10s PwrOn X1=4300, X2=4300, X3=800	
P102310	FCT Sensor 2, Short-circuit fault	Power on, The AD value is less than or equal to 110 for 10s PwrOn M1=20, M2=20, M3=40	
P108830	Fast charge temperature check 1 Overtemperature LvA	TA_NTC1≥100℃(2s),≤95℃ clear(2s)	
P108930	Fast charge temperature check 2 Overtemperature LvA	TA_NTC2≥100℃(2s),≤95℃ clear(2s)	
P108C30	Fast charge temperature check 1 Overtemperature LvB	TA_NTC1≥120℃(1s),Power-off clear	
P108D30	Fast charge temperature check 2 Overtemperature LvB	TA_NTC1≥120℃(1s),Power-off clear	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check the vehicle has any fault codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 5:Check the temperature control signal harness between the MCS fast charging port and VDC.

Step 6:Replace the MCS fast charging port. Refer to Replacement Of MCS Charging Socket Assembly

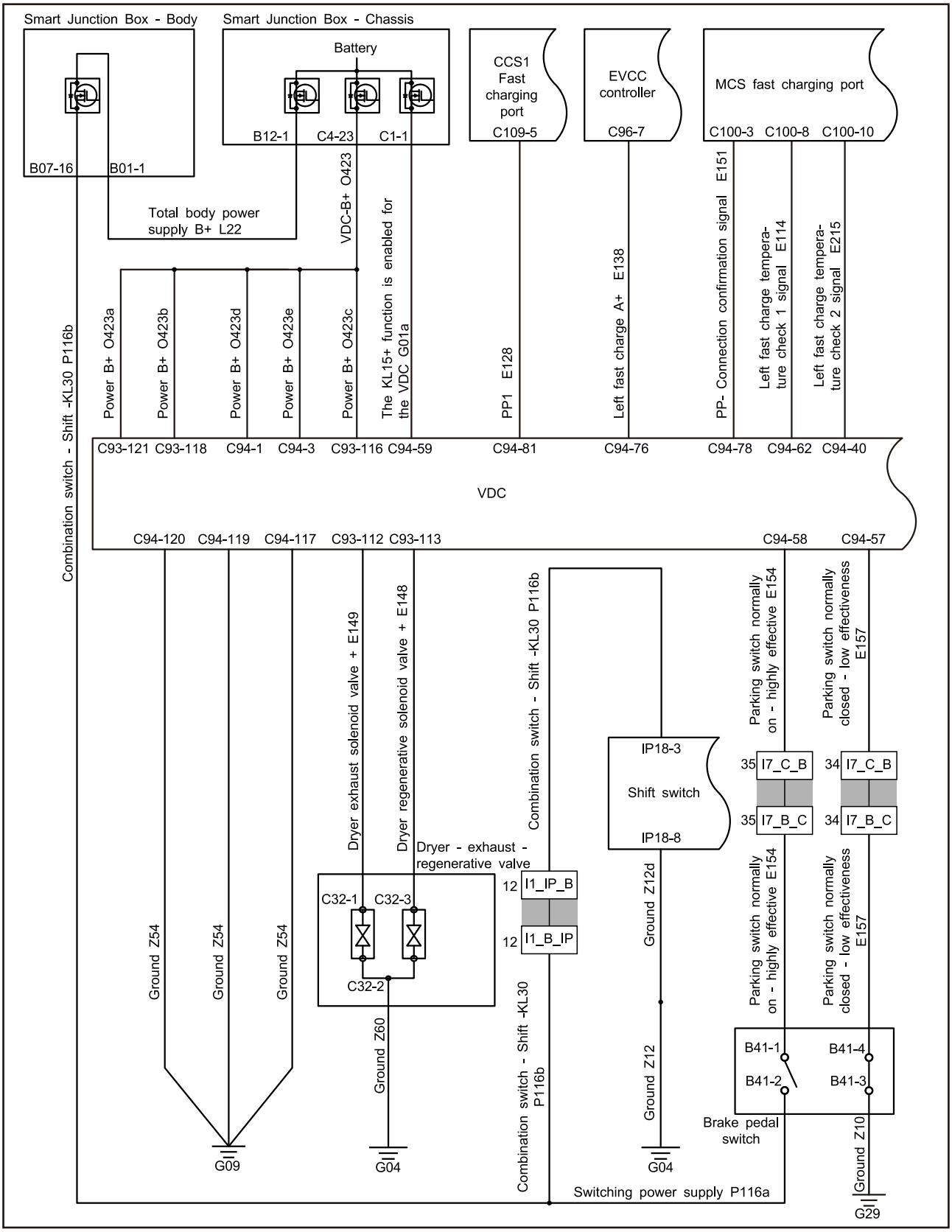
Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 9:Clear and confirm DTC.

7.2.4.22 Brake Pedal Switch Fault

1.Circuit Diagram



2. Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

Step 2:Check the brake pedal switch power supply and grounding harness.

Step 3:Check the wiring harness between the brake pedal switch and VDC.

Step 4:Check the brake pedal switch is normal?

Pedal status	Switch status
Depress the brake pedal	Brake pedal switch on
Release the brake pedal	Brake pedal switch disconnected

– Yes: Next step

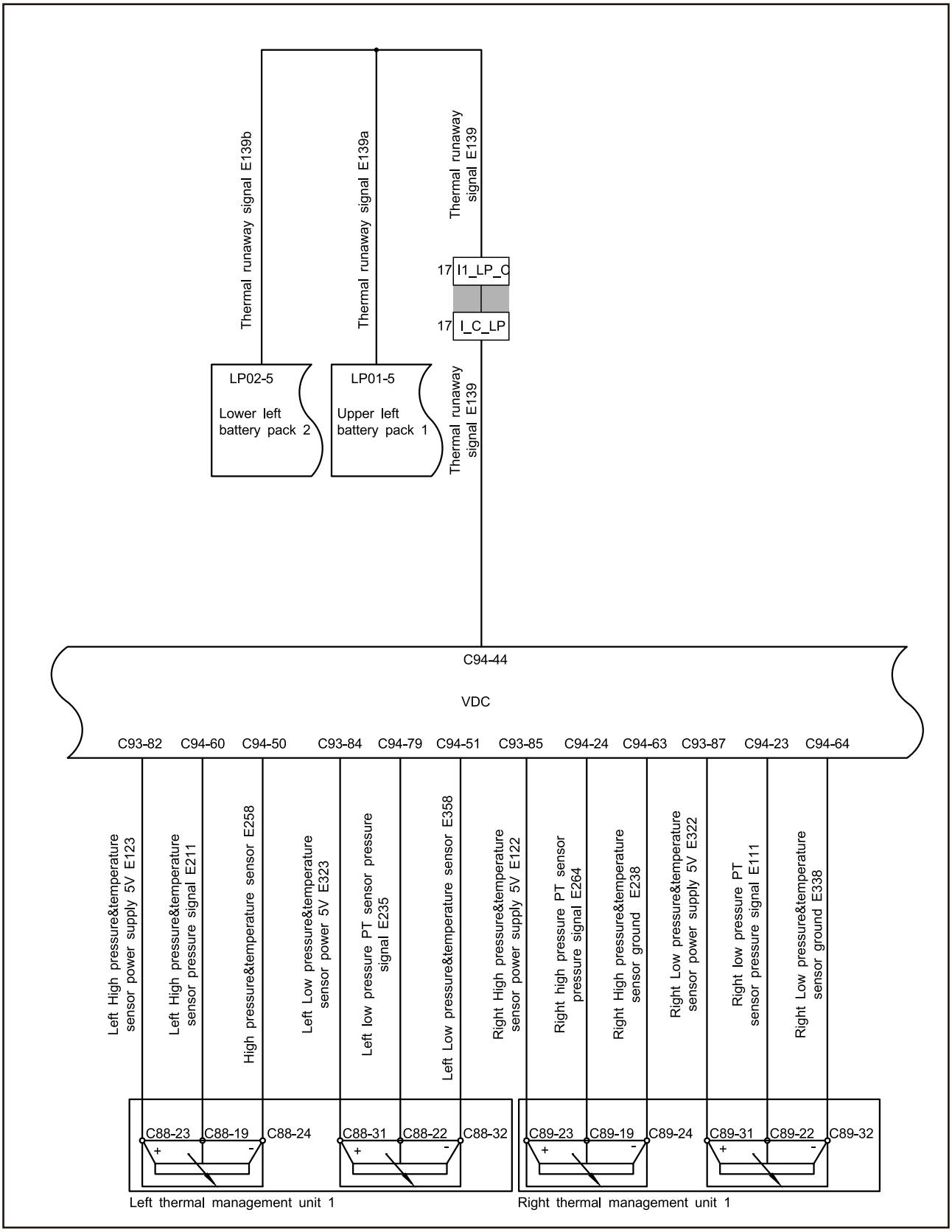
– No: Replace the brake pedal switch. Refer to Replacement Of Brake Pedal Assembly

Step 5:VDC rewrites the configuration code, software reloads, and upgrades.

Step 6:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

7.2.4.23 Left Low Pressure & Temperature Sensor Fault

1.Circuit Diagram



2. Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

Step 2:Check the wiring harness between the left thermal management unit (left low pressure & temperature sensor) and VDC.

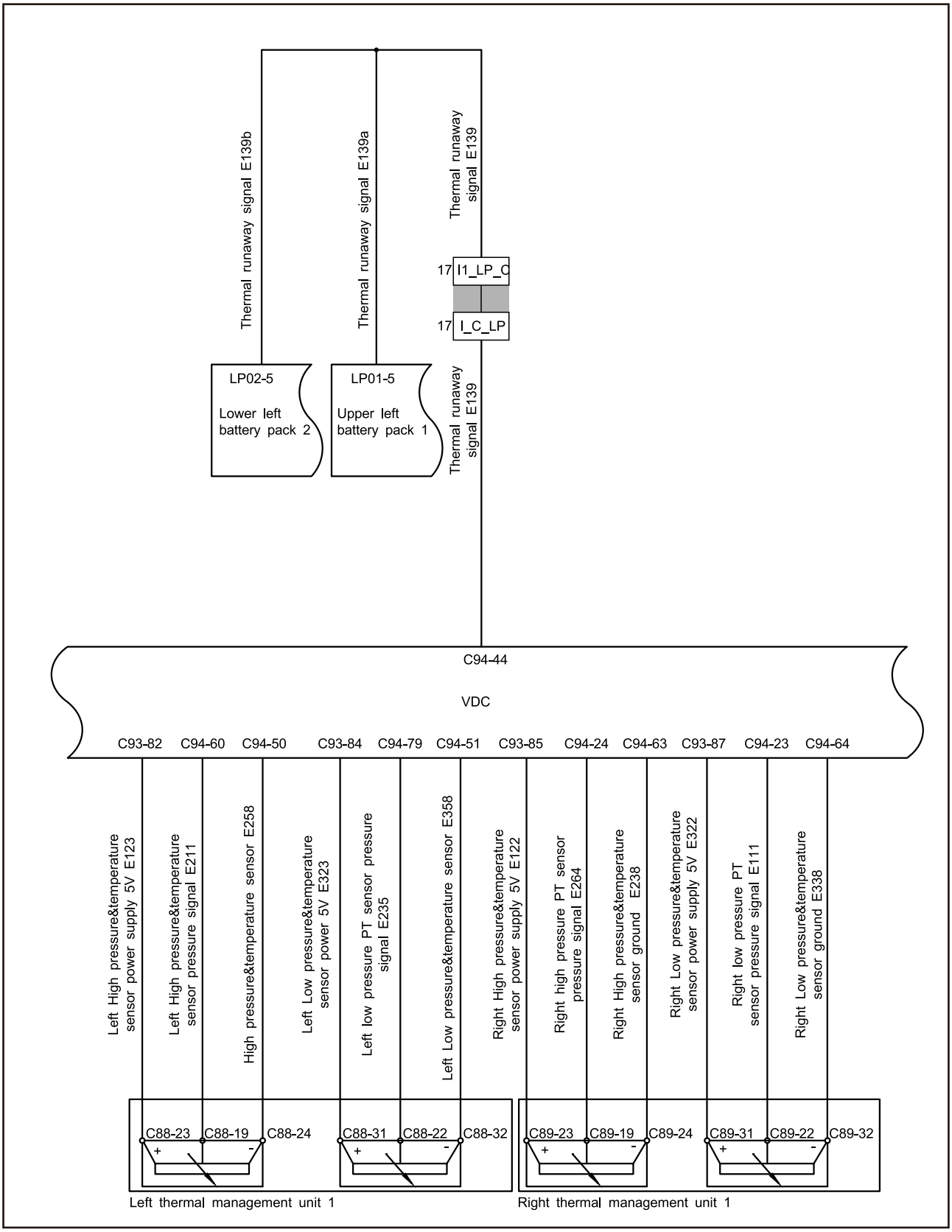
Step 3:Replace the left thermal management unit (left low pressure & temperature sensor). Refer to Replacement Of Thermal Management Unit (Left)

Step 4:VDC rewrites the configuration code, software reloads, and upgrades.

Step 5:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

7.2.4.24 Right Low Pressure & Temperature Sensor Fault

1.Circuit Diagram



2. Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

Step 2:Check the wiring harness between the right thermal management unit (right low pressure & temperature sensor) and VDC.

Step 3:Replace the right thermal management unit (right low pressure & temperature sensor).

Step 4:VDC rewrites the configuration code, software reloads, and upgrades.

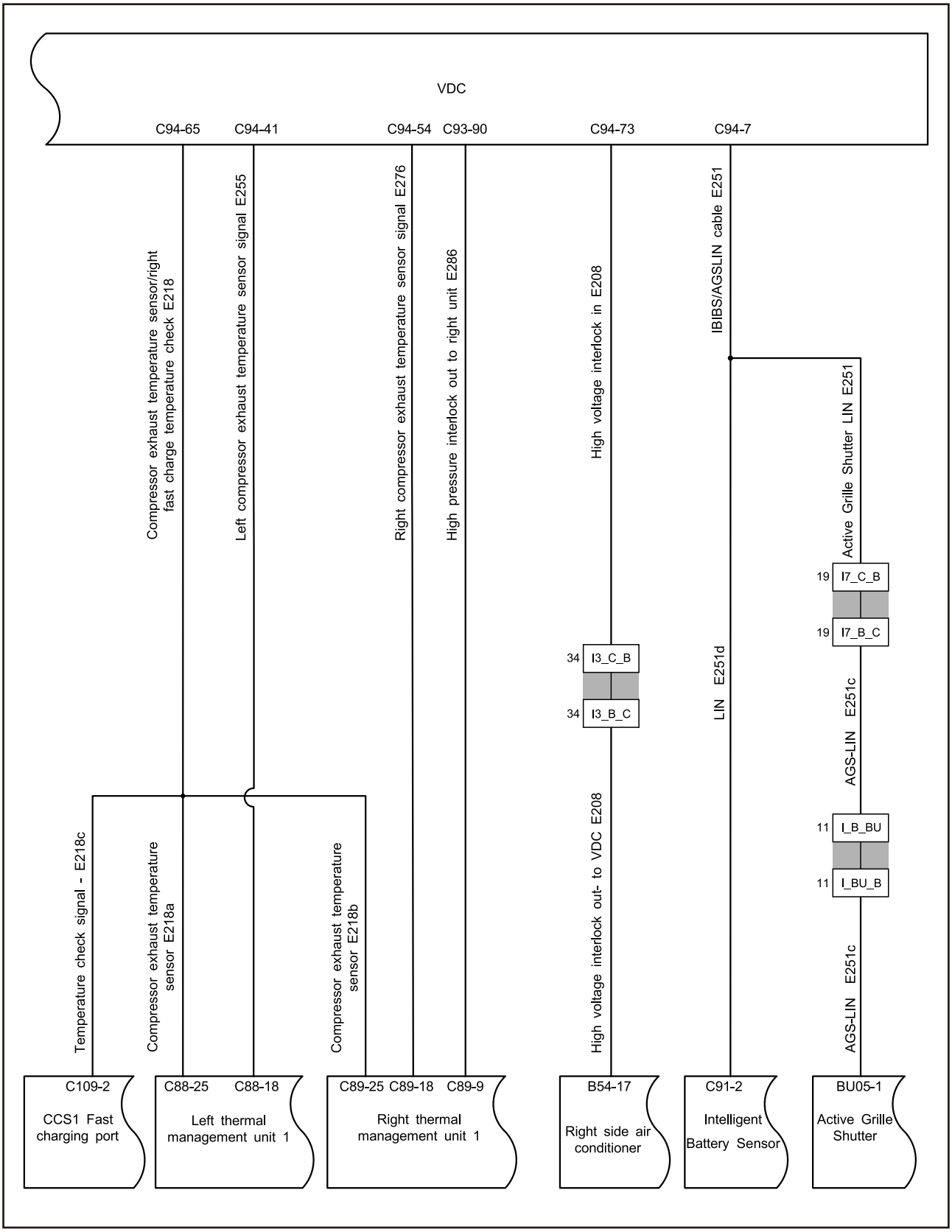
Step 5:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

7.2.4.25 Left Exhaust Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P102810	ExhT Sensor 1, short circuit the power supply	Power on, The AD value is greater than or equal to 3900 for 10s	1.Wiring harness 2. Left thermal management unit (left exhaust temperature sensor) 3.VDC
P102910	ExhT Sensor 1, short circuit to ground	Power on, The AD value is less than or equal to 80 for 10s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check the wiring harness between the left thermal management unit (left exhaust temperature sensor) and VDC.

Step 4:Replace the left thermal management unit (left exhaust temperature sensor). Refer to Replacement Of Thermal Management Unit (Left)

Step 5:VDC rewrites the configuration code, software reloads, and upgrades.

Step 6:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

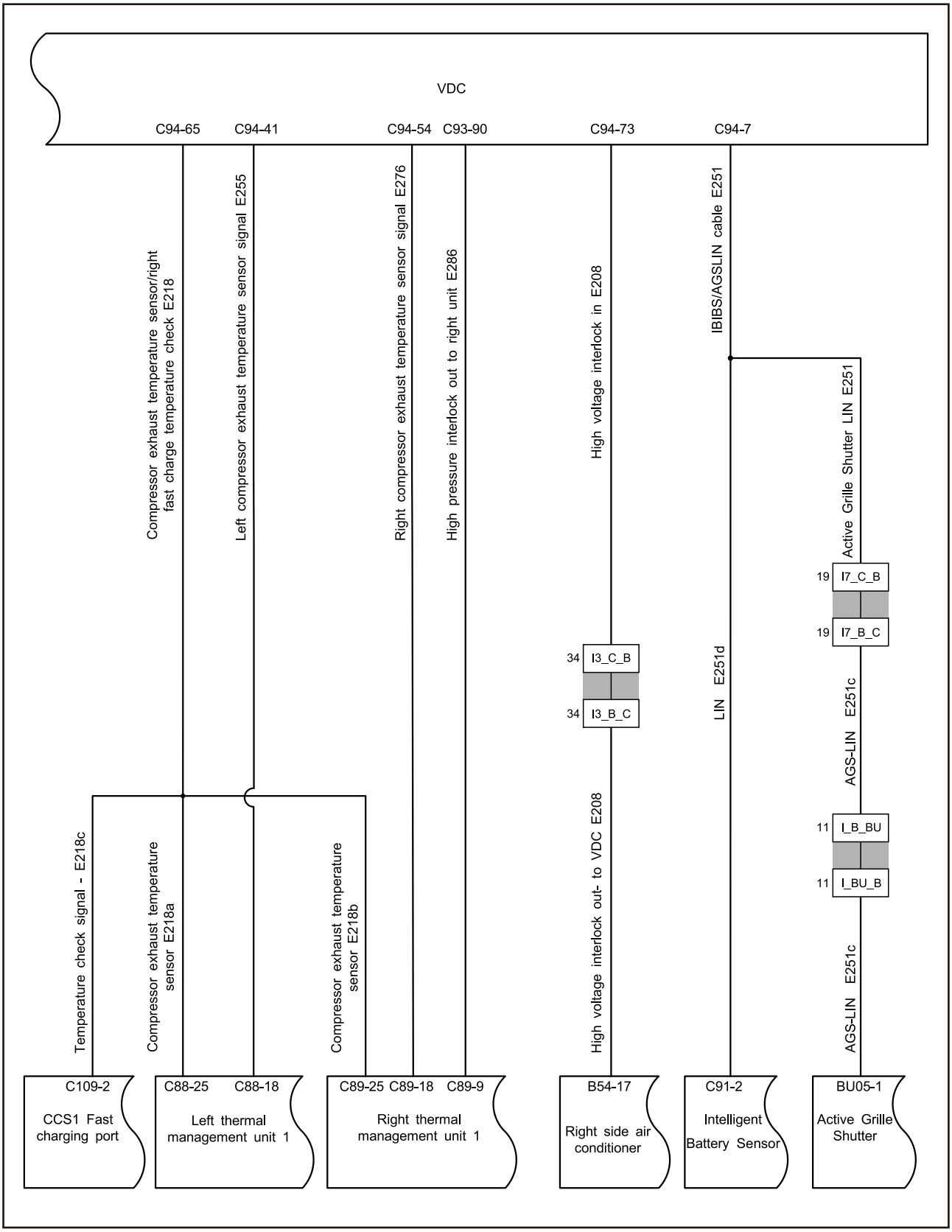
Step 7:Clear and confirm DTC.

7.2.4.26 Right Exhaust Temperature Sensor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P102A10	ExhT Sensor 2, short circuit the power supply	Power on, The AD value is greater than or equal to 3900 for 10s	1.Wiring harness 2. Right thermal management unit (right exhaust temperature sensor) 3.VDC
P102B10	ExhT Sensor 2, short circuit to ground	Power on, The AD value is less than or equal to 80 for 10s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the right thermal management unit (right exhaust temperature sensor) and VDC.

Step 4:Replace the right thermal management unit (right exhaust temperature sensor).

Step 5:VDC rewrites the configuration code, software reloads, and upgrades.

Step 6:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 7:Clear and confirm DTC.

7.2.4.27 VDC Reports MCU Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10C040	NormRdyFltChkFailr_St	KKL15 ON,After the vehicle is on the high voltage, the brakes are stepped on, and the driving fault is prohibited	1.VDC 2. Electric drive module
P10E563	MCU failure	The MCU reports fault level and fault code	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check there are MCU related fault codes?

- Yes: Prioritize troubleshooting MCU related faults.
- No: Nex step

Step 4:Rewrite the configuration code, reload the software, and upgrade the electric drive module.

Step 5:Replace the electric drive module. Refer to Replacement Of Integrated axle - Medium axle.Replacement Of Integrated axle - Rear axle

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 8:Clear and confirm DTC.

7.2.4.28 VDC Reports MCU Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P104953	MCU1 Communication failure	KL15 valid, 0x18012774x lost, last for 5s	1.Wiring harness 2. Electric drive module 3.VDC
P104A53	MCU2 Communication failure	KL15 valid, 0x18012775x lost, last for 5s	
P104B53	MCU3 Communication failure	KL15 valid, 0x18012776x lost, last for 5s	
P104C53	MCU4 Communication failure	KL15 valid, 0x18012777x lost, last for 5s	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check there are MCU related fault codes?

– Yes: Prioritize troubleshooting MCU related faults.

– No: Next step

Step 4:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the electric drive module.

Step 6:Replace the electric drive module. Refer to Replacement Of Integrated axle - Medium axle.Replacement Of Integrated axle - Rear axle

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 9:Clear and confirm DTC.

7.2.4.29 VDC Reports MCU High Voltage Interlock Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10A530	MCU1 High voltage interlock fault	MCU1 High voltage interlock valid(1s),invalid(1s), automatically cleared	1. High voltage wiring harness 2. High-voltage interlocking wiring harness 3. Electric drive module 4.VDC
P10A630	MCU2 High voltage interlock fault	MCU2 High voltage interlock valid(1s),invalid(1s), automatically cleared	
P10A730	MCU3 High voltage interlock fault	MCU3 High voltage interlock valid(1s),invalid(1s), automatically cleared	
P10A830	MCU4 High voltage interlock fault	MCU4 High voltage interlock valid(1s),invalid(1s), automatically cleared	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check there are MCU related fault codes?

– Yes: Prioritize troubleshooting MCU related faults.

– No: Nex step

Step 4:Check the high-voltage wiring harness of each high-voltage component.

Step 5:Check the high-voltage interlock wiring harness of each high-voltage component.

Step 6:Rewrite the configuration code, reload the software, and upgrade the electric drive module.

Step 7:Replace the electric drive module. Refer to Replacement Of Integrated axle - Medium axle.Replacement Of Integrated axle - Rear axle

Step 8:VDC rewrites the configuration code, software reloads, and upgrades.

Step 9:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 10:Clear and confirm DTC.

7.2.4.30 VDC Reports Internal Fault In CMU

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P107430	CMU1 total voltage is too high	NCM: VPack1≥874V(4.28*204)(2s),≤871V(4.27*204) cleear (2s) VPack1≥878V(4.30*204)(2s),≤875V(4.29*204) cleear ((2s) LFP: VPack1≥869V(3.65*238)(2s),≤866V(3.64*238) cleear(2s)	1.VDC 2.Battery pack
P107530	CMU1 total voltage is too low	NCM: VPack1≤xV(m*204)V(2s),≥yV(n*204)V cleear(2s) Tmin>15:x=530.4,m=2.6,y=540.6,n=2.65 Tmin∈(0,15]: x=489.6,m=2.4,y=499.8,n=2.45 Tmin<=0:x=428.4,m= 2.1,y=438.6,n=2.15 LFP:VPack1≤xV(m*238)V(2s),≥yV(n*238)V cleear(2s) Tmin>15:x=571.2,m=2.4,y=583.1,n=2.45 Tmin∈(0,15]: x=547.4,m=2.3,y=559.3,n=2.35 Tmin<=0:x=476,m=2.0, y=487.9,n=2.05	
P107630	CMU2 total voltage is too high	NCM: VPack2≥874V(4.28*204)(2s),≤871V(4.27*204) cleear (2s) VPack2≥878V(4.30*204)(2s),≤875V(4.29*204) cleear ((2s) LFP:VPack2≥869V(3.65*238)(2s),≤866V(3.64*238) cleear(2s)	
P107730	CMU2 total voltage is too low	NCM: VPack2≤xV(m*204)V(2s),≥yV(n*204)V cleear(2s) Tmin>15:x=530.4,m=2.6,y=540.6,n=2.65 Tmin∈(0,15]: x=489.6,m=2.4,y=499.8,n=2.45 Tmin<=0:x=428.4,m= 2.1,y=438.6,n=2.15 LFP:VPack2≤xV(m*238)V(2s),≥yV(n*238)V cleear(2s) Tmin>15:x=571.2,m=2.4,y=583.1,n=2.45 Tmin∈(0,15]: x=547.4,m=2.3,y=559.3,n=2.35 Tmin<=0:x=476,m=2.0, y=487.9,n=2.05	
P107830	CMU3 total voltage is too high	NCM: VPack3≥874V(4.28*204)(2s),≤871V(4.27*204) cleear (2s) VPack3≥878V(4.30*204)(2s),≤875V(4.29*204) cleear ((2s) LFP:VPack3≥869V(3.65*238)(2s),≤866V(3.64*238) cleear(2s)	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P107930	CMU3 total voltage is too low	NCM: VPack3≤xV(m*204)V(2s),≥yV(n*204)V cleear(2s) Tmin>15:x=530.4,m=2.6,y=540.6,n=2.65 Tmin∈(0,15]: x=489.6,m=2.4,y=499.8,n=2.45 Tmin<=0:x=428.4,m= 2.1,y=438.6,n=2.15 LFP:VPack3≤xV(m*238)V(2s),≥yV(n*238)V cleear(2s) Tmin>15:x=571.2,m=2.4,y=583.1,n=2.45 Tmin∈(0,15]: x=547.4,m=2.3,y=559.3,n=2.35 Tmin<=0:x=476,m=2.0, y=487.9,n=2.05	
P107A30	CMU4 total voltage is too high	NCM: VPack4≥874V(4.28*204)(2s),≤871V(4.27*204) cleear (2s) VPack4≥878V(4.30*204)(2s),≤875V(4.29*204) cleear ((2s) LFP:VPack4≥869V(3.65*238)(2s),≤866V(3.64*238) cleear(2s)	
P107B30	CMU4 total voltage is too low	NCM: VPack4≤xV(m*204)V(2s),≥yV(n*204)V cleear(2s) Tmin>15:x=530.4,m=2.6,y=540.6,n=2.65 Tmin∈(0,15]: x=489.6,m=2.4,y=499.8,n=2.45 Tmin<=0:x=428.4,m= 2.1,y=438.6,n=2.15 LFP:VPack4≤xV(m*238)V(2s),≥yV(n*238)V cleear(2s) Tmin>15:x=571.2,m=2.4,y=583.1,n=2.45 Tmin∈(0,15]: x=547.4,m=2.3,y=559.3,n=2.35 Tmin<=0:x=476,m=2.0, y=487.9,n=2.05	
P107C30	CMU5 total voltage is too high	NCM: VPack5≥874V(4.28*204)(2s),≤871V(4.27*204) cleear (2s) VPack5≥878V(4.30*204)(2s),≤875V(4.29*204) cleear ((2s) LFP:VPack5≥869V(3.65*238)(2s),≤866V(3.64*238) cleear(2s)	
P107D30	CMU5 total voltage is too low	NCM: VPack5≤xV(m*204)V(2s),≥yV(n*204)V cleear(2s) Tmin>15:x=530.4,m=2.6,y=540.6,n=2.65 Tmin∈(0,15]: x=489.6,m=2.4,y=499.8,n=2.45 Tmin<=0:x=428.4,m= 2.1,y=438.6,n=2.15 LFP:VPack5≤xV(m*238)V(2s),≥yV(n*238)V cleear(2s) Tmin>15:x=571.2,m=2.4,y=583.1,n=2.45 Tmin∈(0,15]: x=547.4,m=2.3,y=559.3,n=2.35 Tmin<=0:x=476,m=2.0, y=487.9,n=2.05	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P107E30	CMU6 total voltage is too high	NCM: VPack6≥874V(4.28*204)(2s),≤871V(4.27*204) cleear (2s) VPack6≥878V(4.30*204)(2s),≤875V(4.29*204) cleear ((2s) LFP:VPack6≥869V(3.65*238)(2s),≤866V(3.64*238) cleear(2s)	
P107F30	CMU6 total voltage is too low	NCM: VPack5≤xV(m*204)V(2s),≥yV(n*204)V cleear(2s) Tmin>15:x=530.4,m=2.6,y=540.6,n=2.65 Tmin∈(0,15]: x=489.6,m=2.4,y=499.8,n=2.45 Tmin<=0:x=428.4,m= 2.1,y=438.6,n=2.15 LFP:VPack5≤xV(m*238)V(2s),≥yV(n*238)V cleear(2s) Tmin>15:x=571.2,m=2.4,y=583.1,n=2.45 Tmin∈(0,15]: x=547.4,m=2.3,y=559.3,n=2.35 Tmin<=0:x=476,m=2.0, y=487.9,n=2.05	
P108030	The voltage difference between packages is too high	The voltage difference value between packages is greater than or equal to 10V for 15s; Power-off clear	
P10E061	Battery failure	The battery reports fault level and fault code	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check there is a fault code related to the battery pack?

- Yes: Prioritize troubleshooting related to battery packs.
- No: Next step

Step 4:Rewrite the configuration code, reload the software, and upgrade the battery pack.

Step 5:Replace the battery pack. Refer to NCM Battery Pack Assembly 1 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 2 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 3 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 4 (AVIC 161Ah) Replacement

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 8:Clear and confirm DTC.

7.2.4.31 VDC Reports CMU High Voltage Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P109030	CMU1 Charge overcurrent LvB	CMU1 current≥1.5*Look-up value+10(30s), Power-off clear	1. High voltage wiring harness 2.Battery pack 3.VDC
P109130	CMU1 Charge overcurrent LvA	CMU1 current≥1.1*Look-up value+10(30s), CMU1 current≤1.1*Look-up value+5(60s) automatically cleared	
P109230	CMU2 Charge overcurrent LvB	CMU2 current≥1.5*Look-up value+10(30s), Power-off clear	
P109330	CMU2 Charge overcurrent LvA	CMU2 current≥1.1*Look-up value+10(30s), CMU2 current≤1.1*Look-up value+5(60s)	
P109430	CMU3 Charge overcurrent LvB	CMU3 current≥1.5*Look-up value+10(30s), Power-off clear	
P109530	CMU3 Charge overcurrent LvA	CMU3 current≥1.1*Look-up value+10(30s), CMU3 current≤1.1*Look-up value+5(60s) automatically cleared	
P109630	CMU4 Charge overcurrent LvB	CMU4 current≥1.5*Look-up value+10(30s), Power-off clear	
P109730	CMU4 Charge overcurrent LvA	CMU4 current≥1.1*Look-up value+10(30s), CMU4 current≤1.1*Look-up value+5(60s) automatically cleared	
P109830	CMU5 Charge overcurrent LvB	CMU5 current≥1.5*Look-up value+10(30s), Power-off clear	
P109930	CMU5 Charge overcurrent LvA	CMU5 current≥1.1*Look-up value+10(30s), CMU5 current≤1.1*Look-up value+5(60s) automatically cleared	
P109A30	CMU6 Charge overcurrent LvB	CMU6 current≥1.5*Look-up value+10(30s), Power-off clear	
P109B30	CMU6 Charge overcurrent LvA	CMU6 current≥1.1*Look-up value+10(30s), CMU6 current≤1.1*Look-up value+5(60s) automatically cleared	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check whether there is a fault code related to the battery pack?

- Yes: Prioritize troubleshooting related to battery packs.
- No: Next step

Step 4:Check the battery pack high-voltage wiring harness.

Step 5:Check the internal insulation detection circuit of the battery pack.

Step 6:Rewrite the configuration code, reload the software, and upgrade the battery pack.

Step 7:Replace the battery pack. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah) .Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah) .Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah) . Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

Step 8:VDC rewrites the configuration code, software reloads, and upgrades.

Step 9:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 10:Clear and confirm DTC.

7.2.4.32 VDC Reports CMU High Voltage Interlock Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P109F30	CMU1 High voltage interlock fault	CMU1 Fault Code 23(1s), Power-off clear	1. High voltage wiring harness 2. High-voltage interlocking wiring harness 3.Battery pack 4.VDC
P10A030	CMU2 High voltage interlock fault	CMU2 Fault Code 23(1s), Power-off clear	
P10A130	CMU3 High voltage interlock fault	CMU3 Fault Code 23(1s), Power-off clear	
P10A230	CMU4 High voltage interlock fault	CMU4 Fault Code 23(1s), Power-off clear	
P10A330	CMU5 High voltage interlock fault	CMU5 Fault Code 23(1s), Power-off clear	
P10A430	CMU6 High voltage interlock fault	CMU6 Fault Code 23(1s), Power-off clear	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check whether there is a fault code related to the battery pack?

- Yes: Prioritize troubleshooting related to battery packs.
- No: Next step

Step 4:Check the high-voltage wiring harness of each high-voltage component.

Step 5:Check the high-voltage interlock wiring harness of each high-voltage component.

Step 6:Rewrite the configuration code, reload the software, and upgrade the battery pack.

Step 7:Replace the battery pack. Refer to NCM Battery Pack Assembly 1 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 2 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 3 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 4 (AVIC 161Ah) Replacement

Step 8:VDC rewrites the configuration code, software reloads, and upgrades.

Step 9:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 10:Clear and confirm DTC.

7.2.4.33 VDC Reports Abnormal CMU Temperature

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P105230	CMU1 Cell overtemp	TMaxCell1≥122℉(2s),≤113℉ clear(2s)	1.Battery pack 2.VDC
P105330	CMU1 Cell undertemp	TMinCell1≤-4℉(2s),≥-2.2℉ clear(2s)	
P105630	CMU2 Cell overtemp	TMaxCell2≥122℉(2s),≤113℉ clear(2s)	
P105730	CMU2 Cell undertemp	TMinCell2≤-4℉(2s),≥-2.2℉ clear(2s)	
P105A30	CMU3 Cell overtemp	TMaxCell3≥122℉(2s),≤113℉ clear(2s)	
P105B30	CMU3 Cell undertemp	TMinCell3≤-4℉(2s),≥-2.2℉ clear(2s)	
P105E30	CMU4 Cell overtemp	TMaxCell4≥122℉(2s),≤113℉ clear(2s)	
P105F30	CMU4 Cell undertemp	TMinCell4≤-4℉(2s),≥-2.2℉ clear(2s)	
P106230	CMU5 Cell overtemp	TMaxCell5≥122℉(2s),≤113℉ clear(2s)	
P106330	CMU5 Cell undertemp	TMinCell5≤-4℉(2s),≥-2.2℉ clear(2s)	
P106630	CMU6 Cell overtemp	TMaxCell6≥122℉(2s),≤113℉ clear(2s)	
P106730	CMU6 Cell undertemp	TMinCell6≤-4℉(2s),≥-2.2℉ clear(2s)	
P106E30	CMU1 Cell temp difference is large	TDiffCell1≥59℉(2s),≤53.6℉ clear(2s)	
P106F30	CMU2 Cell temp difference is large	TDiffCell1≥59℉(2s),≤53.6℉ clear(2s)	
P107030	CMU3 Cell temp difference is large	TDiffCell1≥59℉(2s),≤53.6℉ clear(2s)	
P107130	CMU4 Cell temp difference is large	TDiffCell1≥59℉(2s),≤53.6℉ clear(2s)	
P107230	CMU5 Cell temp difference is large	TDiffCell1≥59℉(2s),≤53.6℉ clear(2s)	
P107330	CMU6 Cell temp difference is large	TDiffCell1≥59℉(2s),≤53.6℉ clear(2s)	
P10AA30	The temperature difference between packages is too high	The temperature difference value between packages is greater than or equal to 59℉ for 15s, less than or equal to 53.6℉ for 5s,automatically cleared	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check if there are any fault codes related to the battery pack?

- Yes: Prioritize troubleshooting related to battery packs.
- No: Next step

Step 4:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 5:Check if the vehicle has any fault codes related to the thermal management system?

- Yes: Prioritize troubleshooting related to thermal management systems.
- No: Next step

Step 6:Rewrite the configuration code, reload the software, and upgrade the battery pack.

Step 7:Replace the battery pack. Refer to NCM Battery Pack Assembly 1 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 2 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 3 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 4 (AVIC 161Ah) Replacement

Step 8:VDC rewrites the configuration code, software reloads, and upgrades.

Step 9:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 10:Clear and confirm DTC.

7.2.4.34 VDC Reports Abnormal Voltage Of CMU Unit

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P105030	CMU1 Cell overvoltage	NCM:VMaxCell1≥4.316V(2s),≤4.3V clear(2s) LFP:VMaxCell1≥3.67V(2s),≤3.6V clear(2s)	1.Battery pack 2.VDC
P105130	CMU1 Cell undervoltage	VMinCell1≤mV(2s),≥nV clear(2s) NCM: Tmin>15:m=3.1,n=3.4 Tmin∈(0,15]:m=2.8,n=3.1 Tmin<=0:m=2.3,n=2.6 LFP:Tmin>15:m=2.75,n=3.1 Tmin∈(0,15]:m=2.45,n=2.9 Tmin<=0: m=2.2,n=2.6	
P105430	CMU2 Cell overvoltage	NCM:VMaxCell2≥4.316V(2s),≤4.3V clear(2s) LFP:VMaxCell2≥3.67V(2s),≤3.6V clear(2s)	
P105530	CMU2 Cell undervoltage	VMinCell2≤mV(2s),≥nV clear(2s) NCM: Tmin>15:m=3.1,n=3.4 Tmin∈(0,15]:m=2.8,n=3.1 Tmin<=0:m=2.3,n=2.6 LFP:Tmin>15:m=2.75,n=3.1 Tmin∈(0,15]:m=2.45,n=2.9 Tmin<=0: m=2.2,n=2.6	
P105830	CMU3 Cell overvoltage	NCM:VMaxCell3≥4.316V(2s),≤4.3V clear(2s) LFP:VMaxCell3≥3.67V(2s),≤3.6V clear(2s)	
P105930	CMU3 Cell undervoltage	VMinCell3≤mV(2s),≥nV clear(2s) NCM: Tmin>15:m=3.1,n=3.4 Tmin∈(0,15]:m=2.8,n=3.1 Tmin<=0:m=2.3,n=2.6 LFP:Tmin>15:m=2.75,n=3.1 Tmin∈(0,15]:m=2.45,n=2.9 Tmin<=0: m=2.2,n=2.6	
P105C30	CMU4 Cell overvoltage	NCM:VMaxCell4≥4.316V(2s),≤4.3V clear(2s) LFP:VMaxCell4≥3.67V(2s),≤3.6V clear(2s)	
P105D30	CMU4 Cell undervoltage	VMinCell4≤mV(2s),≥nV clear(2s) NCM: Tmin>15:m=3.1,n=3.4 Tmin∈(0,15]:m=2.8,n=3.1 Tmin<=0:m=2.3,n=2.6 LFP:Tmin>15:m=2.75,n=3.1 Tmin∈(0,15]:m=2.45,n=2.9 Tmin<=0: m=2.2,n=2.6	
P106030	CMU5 Cell overvoltage	NCM:VMaxCell5≥4.316V(2s),≤4.3V clear(2s) LFP:VMaxCell5≥3.67V(2s),≤3.6V clear(2s)	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P106130	CMU5 Cell undervoltage	VMinCell5≤mV(2s),≥nV clear(2s) NCM: Tmin>15:m=3.1,n=3.4 Tmin∈(0,15]:m=2.8,n=3.1 Tmin<=0:m=2.3,n=2.6 LFP:Tmin>15:m=2.75,n=3.1 Tmin∈(0,15]:m=2.45,n=2.9 Tmin<=0: m=2.2,n=2.6	
P106430	CMU6 Cell overvoltage	NCM:VMaxCell6≥4.316V(2s),≤4.3V clear(2s) LFP: VMaxCell6≥3.67V(2s),≤3.6V clear(2s)	
P106530	CMU6 Cell undervoltage	VMinCell6≤mV(2s),≥nV clear(2s) NCM: Tmin>15:m=3.1,n=3.4 Tmin∈(0,15]:m=2.8,n=3.1 Tmin<=0:m=2.3,n=2.6 LFP:Tmin>15:m=2.75,n=3.1 Tmin∈(0,15]:m=2.45,n=2.9 Tmin<=0: m=2.2,n=2.6	
P106830	CMU1 Cell volt difference is large	VDiffCell1≥0.4V(2s),≤0.25V clear(2s)	
P106930	CMU2 Cell volt difference is large	VDiffCell2≥0.4V(2s),≤0.25V clear(2s)	
P106A30	CMU3 Cell volt difference is large	VDiffCell3≥0.4V(2s),≤0.25V clear(2s)	
P106B30	CMU4 Cell volt difference is large	VDiffCell4≥0.4V(2s),≤0.25V clear(2s)	
P106C30	CMU5 Cell volt difference is large	VDiffCell5≥0.4V(2s),≤0.25V clear(2s)	
P106D30	CMU6 Cell volt difference is large	VDiffCell6≥0.4V(2s),≤0.25V clear(2s)	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check if there any fault codes related to the battery pack?

- Yes: Prioritize troubleshooting related to battery packs.
- No: Next step

Step 4:Rewrite the configuration code, reload the software, and upgrade the battery pack.

Step 5:Replace the battery pack. Refer to NCM Battery Pack Assembly 1 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 2 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 3 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 4 (AVIC 161Ah) Replacement

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 8:Clear and confirm DTC.

7.2.4.35 VDC Reports CMU Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P104051	CMU1 Communication failure	KL15 valid, 0x18082768x lost, last for 10s	1.Wiring harness 2.Battery pack 3.VDC
P104151	CMU2 Communication failure	KL15 valid, 0x18082769x lost, last for 10s	
P104251	CMU3 Communication failure	KL15 valid, 0x1808276Ax lost, last for 10s	
P104351	CMU4 Communication failure	KL15 valid, 0x1808276Bx lost, last for 10s	
P104451	CMU5 Communication failure	KL15 valid, 0x1808276Cx lost, last for 10s	
P104551	CMU6 Communication failure	KL15 valid, 0x1808276Dx lost, last for 10s	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check there is a fault code related to the battery pack?

- Yes: Prioritize troubleshooting related to battery packs.
- No: Next step

Step 4:Check the PCAN2 bus communication harness. Refer to Inspection Of PCAN2 Bus Network Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the battery pack.

Step 6:Replace the battery pack. Refer to NCM Battery Pack Assembly 1 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 2 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 3 (AVIC 161Ah) Replacement.NCM Battery Pack Assembly 4 (AVIC 161Ah) Replacement

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 9:Clear and confirm DTC.

7.2.4.36 VDC Reports TCU Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10AD40	TCU1 ratio anomaly	In gear mode, the corresponding error between TCU1 output shaft speed and MCU1 speed is greater than 1000rpm(5s)	1. Electric drive mid-axle vehicle low-voltage interface 2.VDC
P10AE40	TCU2 ratio anomaly	In gear mode, the corresponding error between TCU2 output shaft speed and MCU4 speed is greater than 1000rpm(5s)	
P10E663	TCU failure	The TCU reports fault level and fault code	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check there is a TCU related fault code?

- Yes: Prioritize troubleshooting related to TCU.
- No: Next step

Step 4:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 5:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 8:Clear and confirm DTC.

7.2.4.37 VDC Reports TCU Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P104D53	TCU1 Communication failure	KL15 valid, 0x18012703x lost, last for 5s	1.Wiring harness 2. Electric drive mid-axle vehicle low-voltage interface 3.VDC
P104E53	TCU2 Communication failure	KL15 valid, 0x18042703x lost, last for 5s	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check there is a TCU related fault code?

- Yes: Prioritize troubleshooting related to TCU.
- No: Next step

Step 4:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-voltage interface of the electric drive mid-axle vehicle.

Step 6:Replace the low-voltage interface of the electric drive mid axle vehicle. Refer to Replacement Of Integrated axle - Medium axle

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 9:Clear and confirm DTC.

7.2.4.38 VDC Reports Internal Fault Of PDU

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10E162	PDU_PDU failure	The PDU_PDU reports fault level and fault code	1.Power distribution unit 2.VDC
P10E262	PDU_DCAC failure	The PDU_DCAC reports fault level and fault code	
P10E362	PDU_DCDC failure	The PDU_DCDC reports fault level and fault code	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there is a fault code related to the power distribution unit?

- Yes: Prioritize troubleshooting related to the power distribution unit.
- No: Next step

Step 4:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 5:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 8:Clear and confirm DTC.

7.2.4.39 VDC Reports PDU Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P104652	PDU_PDU Communication failure	KL15 valid, 0x18012778x lost, last for 10s	1.Wiring harness 2.Power distribution unit 3.VDC
P104752	PDU_DCAC Communication failure	KL15 valid, 0x1804276Ex lost, last for 10s	
P104852	PDU_DCDC Communication failure	KL15 valid, 0x1801276Fx lost, last for 10s	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check if there is a fault code related to the power distribution unit?

- Yes: Prioritize troubleshooting related to the power distribution unit.
- No: Next step

Step 4:Check the PCAN3 bus communication harness. Refer to Inspection Of PCAN3 Bus Network Integrity

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi in One Power Distribution Assembly

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 9:Clear and confirm DTC.

7.2.4.40 VDC Reports GSM Internal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10C240	NormRdy_Gear_ ChkFailr_St	KL15 ON,After the vehicle is on the high voltage, the brakes are stepped on, The gear is not in N gear	1.Shift switch 2.VDC
P10E763	GSM failure	The GSM reports fault level and fault code	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check for shift switch related fault codes?

- Yes: Prioritize troubleshooting related to shift switches.
- No: Next step

Step 4:Rewrite the configuration code of the shift switch, reload the software, and upgrade.

Step 5:Replace the gear shift switch. Refer to Replacement Of Combination Switch

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 8:Clear and confirm DTC.

7.2.4.41 VDC Reports GSM Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P104F53	GSM Communication failure	KL15 valid, 0x010305x lost, last for 10s.	1.Wiring harness 2.Shift switch 3.VDC

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check for shift switch related fault codes?

- Yes: Prioritize troubleshooting related to shift switches.
- No: Next step

Step 4:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 5:Rewrite the configuration code of the shift switch, reload the software, and upgrade.

Step 6:Replace the gear shift switch. Refer to Replacement Of Combination Switch

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

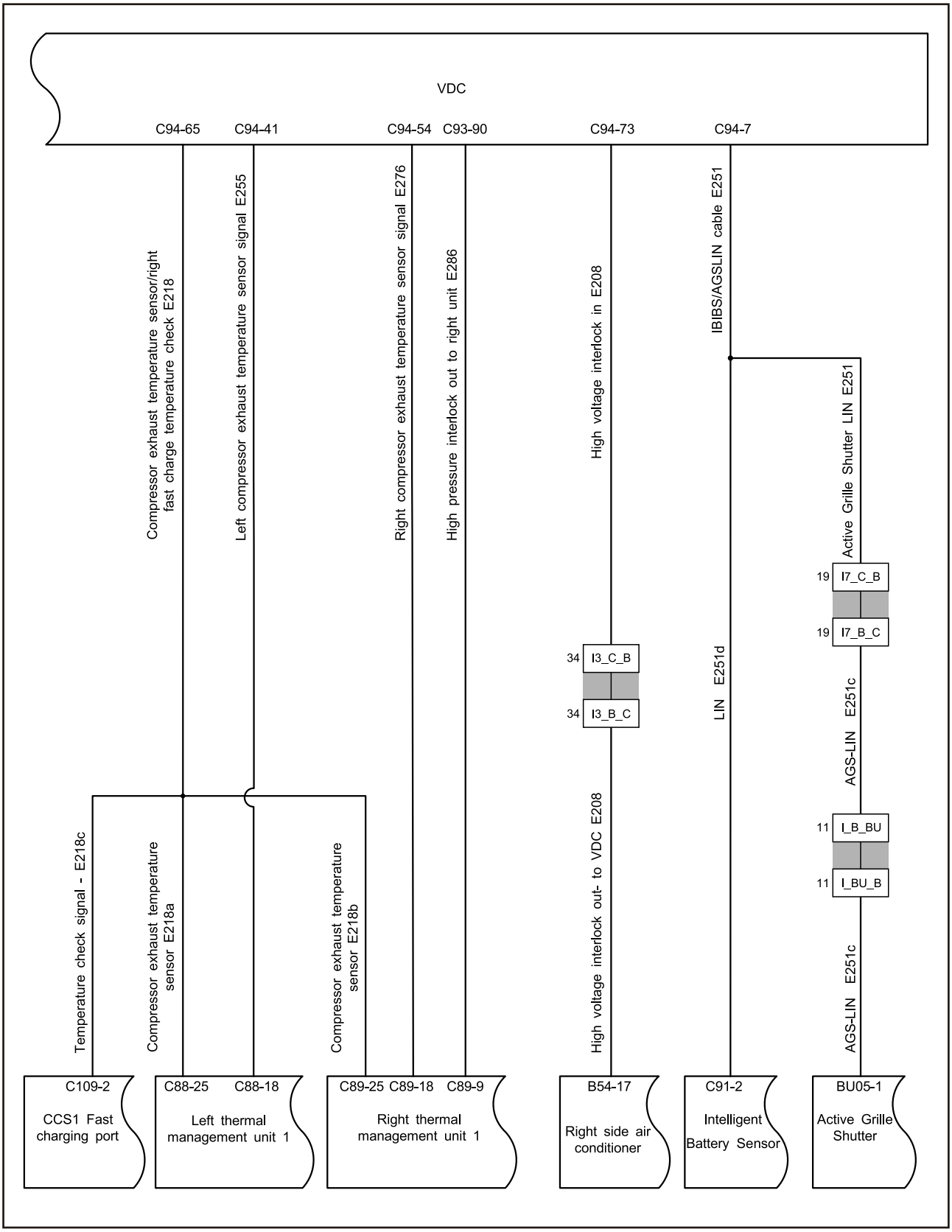
Step 9:Clear and confirm DTC.

7.2.4.42 VDC LIN Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U120587	LIN flt status	Enter flt status	1.Wiring harness 2.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine inspection

Step 3:Check the VDC LIN communication components and give priority to troubleshooting LIN communication component failures.

Step 4:Check the LIN communication harness between VDC, intelligent battery sensor IBS, and active grille shutter.

Step 5:VDC rewrites the configuration code, software reloads, and upgrades.

Step 6:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

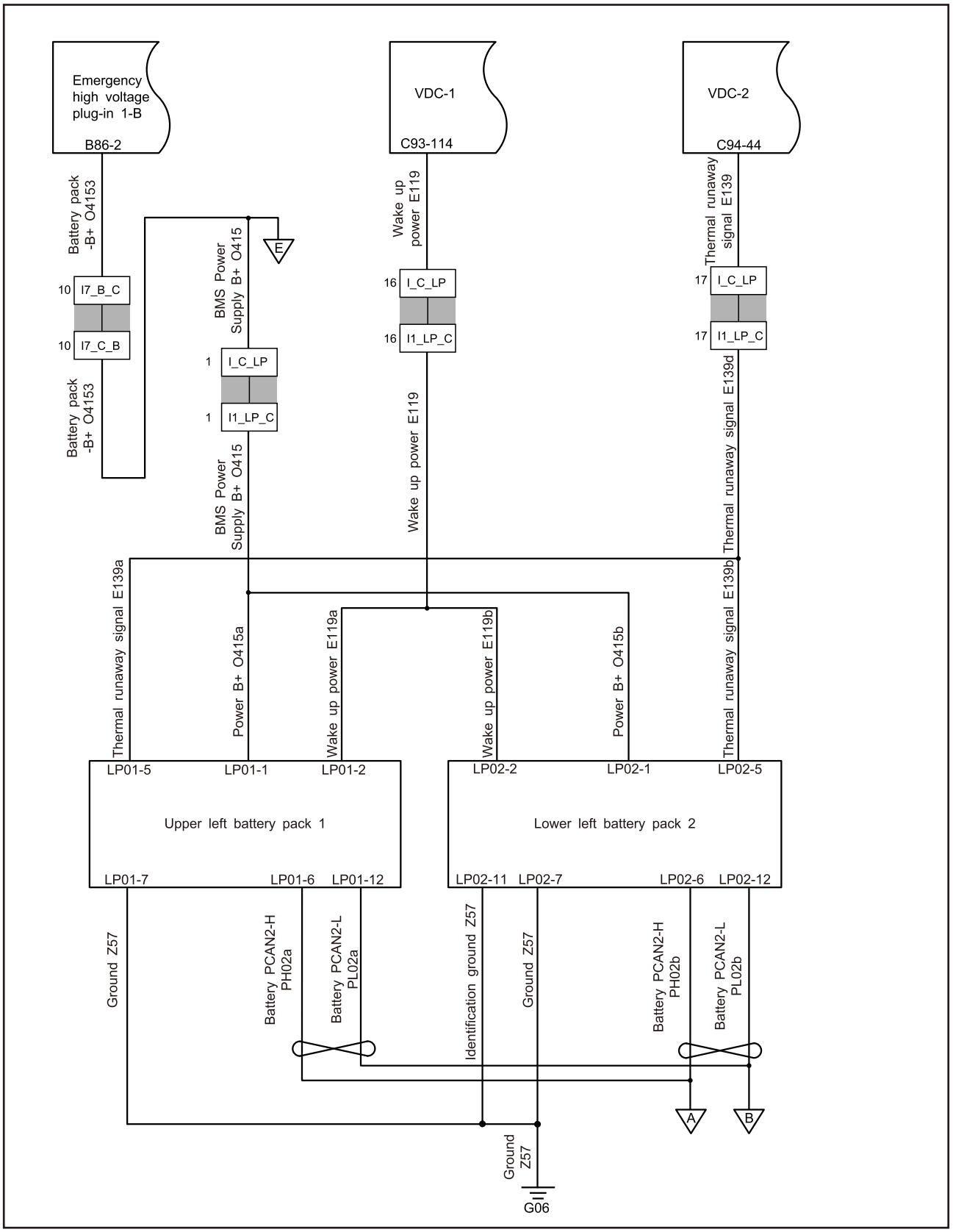
Step 7:Clear and confirm DTC.

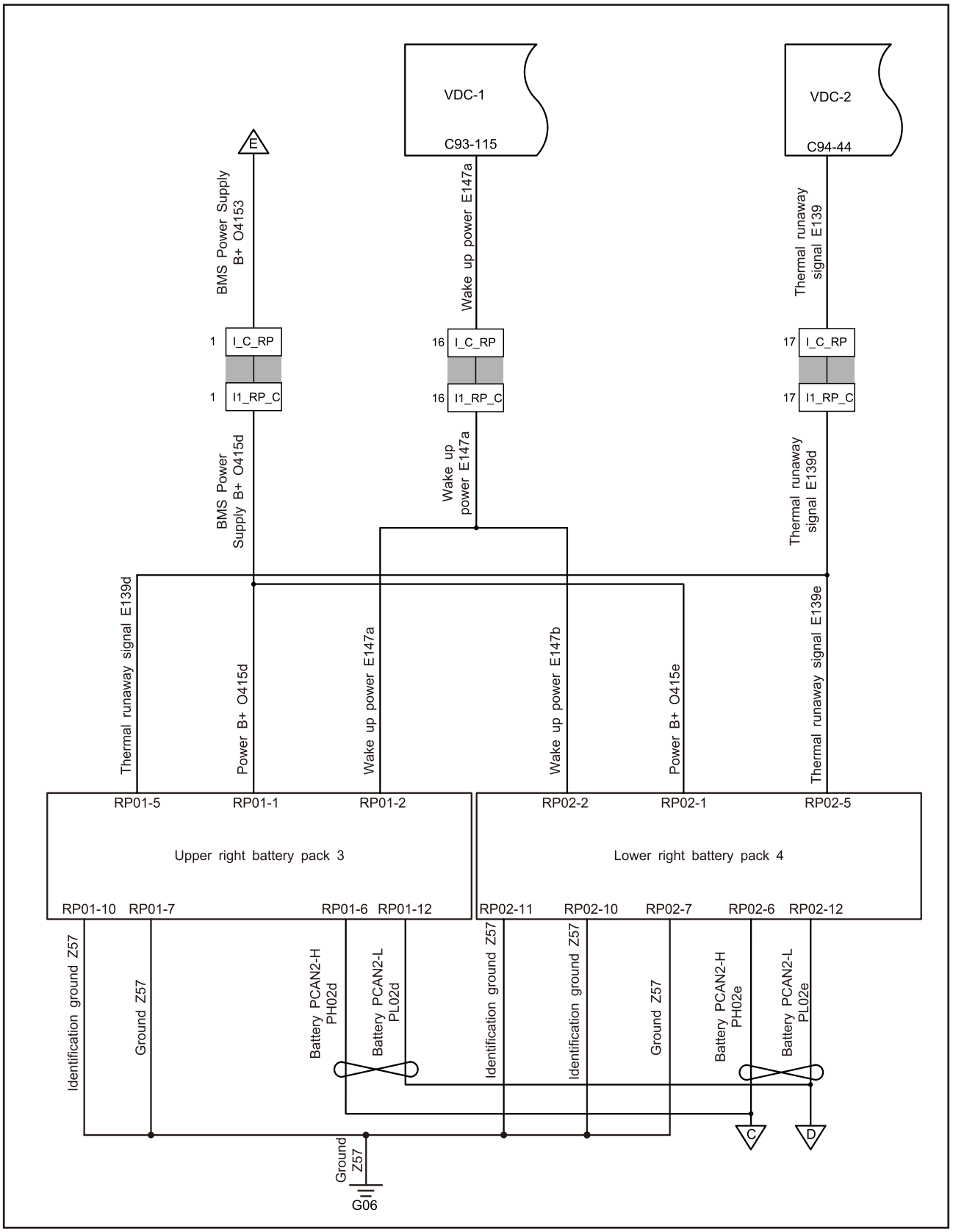
7.2.4.43 CMU Wake-up Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10AF40	NormupBnRlyChkFail-r_St	KL15 ON, VDC sends negative relay closed,6 CMUs have negative relay closed abnormally.(1.5s set up)	1. Wiring harness 2.Battery pack 3.VDC
P10BA40	ChUpBnRlyChkFailr_St	A+ ON,VDC sends negative relay closed,6 CMUs have negative relay closed abnormally.(1.5s set up)	

2.Circuit Diagram


Emergency high voltage plug-in 1-B
B86-2
VDC-1
C93-114
VDC-2
C94-44
Battery pack -B+ O4153
10 I7_B_C
10 I7_C_B
Battery pack -B+ O4153
BMS Power Supply B+ O415
E
1 I_C_LP
1 I1_LP_C
BMS Power Supply B+ O415
Wake up power E119
16 I_C_LP
16 I1_LP_C
Wake up power E119
Thermal runaway signal E139
17 I_C_LP
17 I1_LP_C
Thermal runaway signal E139d
Thermal runaway signal E139a
Power B+ O415a
Wake up power E119a
Wake up power E119b
Power B+ O415b
Thermal runaway signal E139b
LP01-5
LP01-1
LP01-2
LP02-2
LP02-1
LP02-5
Upper left battery pack 1
Lower left battery pack 2
LP01-7
LP01-6
LP01-12
LP02-11
LP02-7
LP02-6
LP02-12
Ground Z57
Battery PCAN2-H PH02a
Battery PCAN2-L PL02a
Identification ground Z57
Ground Z57
Battery PCAN2-H PH02b
Battery PCAN2-L PL02b
A
B
Ground Z57
G06



3.Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there is a fault code related to the battery pack?

- Yes: Prioritize troubleshooting related to battery packs.
- No: Nex step

Step 4:Check the wake-up signal harness between VDC and the battery pack.

Step 5:Rewrite the configuration code, reload the software, and upgrade the battery pack.

Step 6:Replace the battery pack. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah) .Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah) .Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah) . Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah)

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

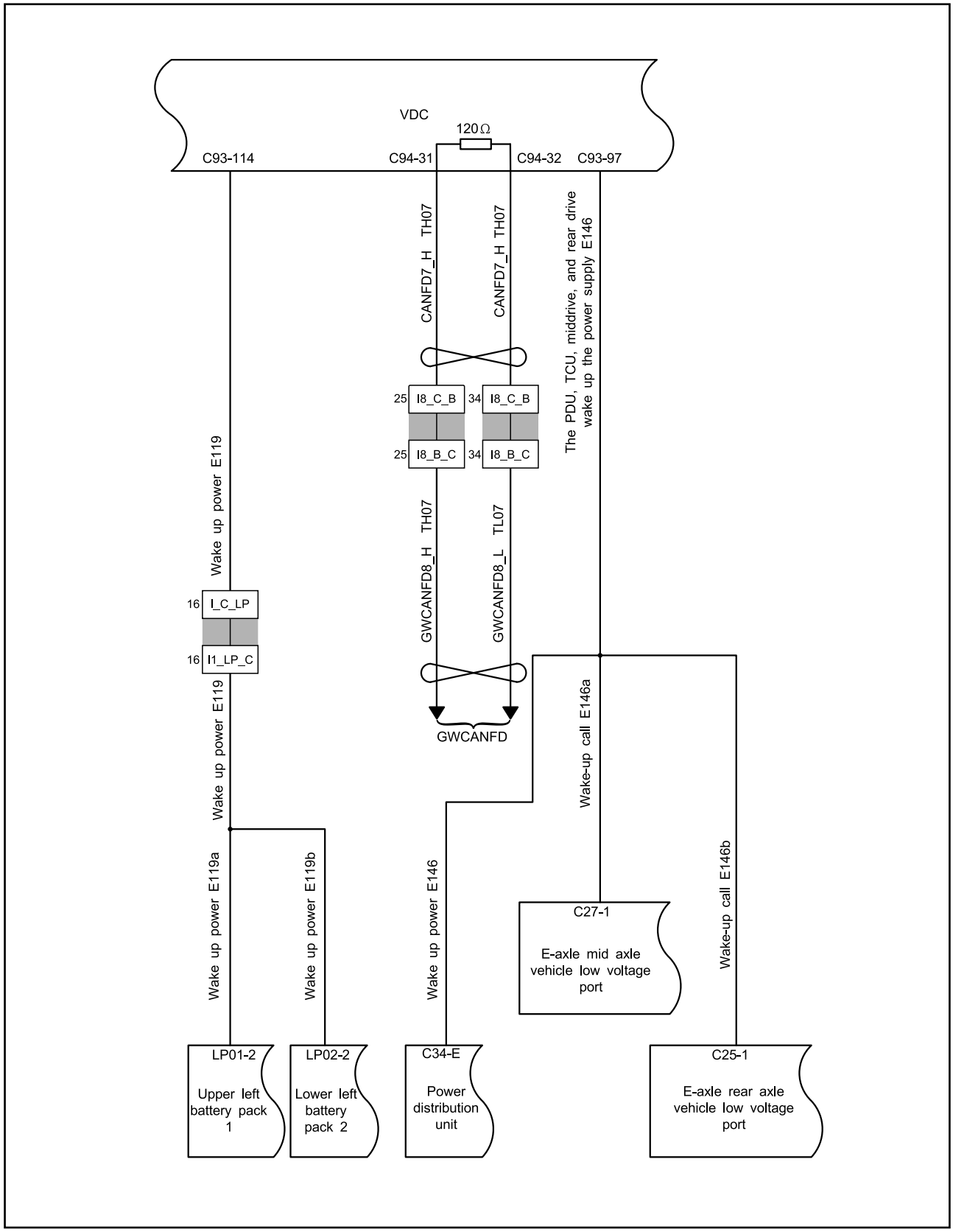
Step 9:Clear and confirm DTC.

7.2.4.44 PDU Wake-up Signal Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10B640	NormupPduadhnChk-Failr_St	KL15 ON, The auxiliary drive relay and the main drive relay have sticking faults(1.5s set up)	1.Wiring harness 2.Power distribution unit 3.VDC
P10B740	NormupAux_Drv_ RlyChkFailr_St	KL15 ON,VDC sends auxiliary drive relay closed, the auxiliary drive relay is closed abnormally.(1.5s set up)	
P10B840	NormupDC_ OutVChkFailr_St	KL15 ON,VDC sends DCDC1 and DCDC2 to be enabled, the output voltage of DCDC1 or DCDC2 is Less than(2s set up)	
P10B940	NormupMain_Drv_ RlyChkFailr_St	KL15 ON,VDC sends the maindrive relay closed, and the main drive relay closes abnormally(1.5s set up)	
P10BB40	ChUpPduadhnChkFai-lr_St	A+ ON, The auxiliary drive relay and the Charg relay have sticking faults(1.5s set up)	
P10BC40	ChUpPDUIsnOnChkF-ailr_St	A+ ON,The charging interaction is not complete(100s set up)	
P10BD40	ChUpChpRlyChkFailr_ St	A+ ON,VDC sends Charg relay closed, the Charg relay is closed abnormally.(1.5s set up)	
P10BE40	ChUpAux_Drv_ RlyChkFailr_St	A+ ON,VDC sends auxiliary drive relay closed, the auxiliary drive relay is closed abnormally.(1.5s set up)	
P10BF40	ChUpDC_ OutVChkFailr_St	A+ ON,VDCsends DCDC1 and DCDC2 to be enabled, the output voltage of DCDC1 or DCDC2 is Less than(2s set up)	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there is a fault code related to the power distribution unit?

- Yes: Prioritize troubleshooting related to the power distribution unit.
- No: Next step

Step 4:Check the wake-up signal harness between VDC and power distribution unit.

Step 5:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 6:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

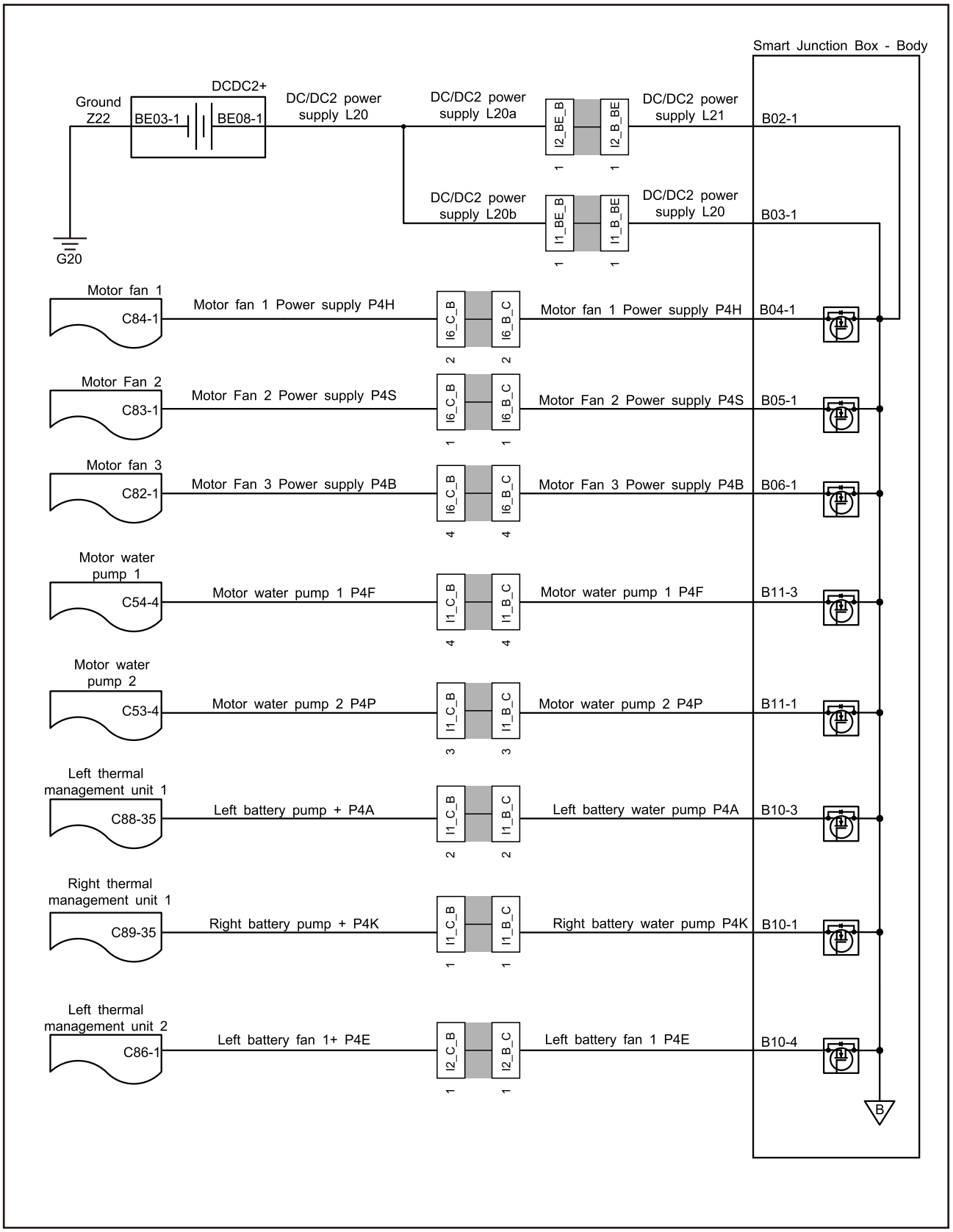
Step 9:Clear and confirm DTC.

7.2.4.45 DCDC2 Voltage Output Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P100602	DCDC2 output undervoltage	HV Satus, The DCDC2 function takes effect, DCDC2 output voltage is less than or equal to 23V for 10s)	1.Wiring harness 2.Power distribution unit 3.VDC
P100702	DCDC2 output overvoltage	HV Satus, The DCDC2 function takes effect, DCDC2 output voltage is greater than or equal to 32V for 10s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the low-voltage power supply line of the thermal management unit of the power distribution unit (integrated DCDC).

Step 4:Rewrite the configuration code of the power distribution unit, reload the software, and upgrade.

Step 5:Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

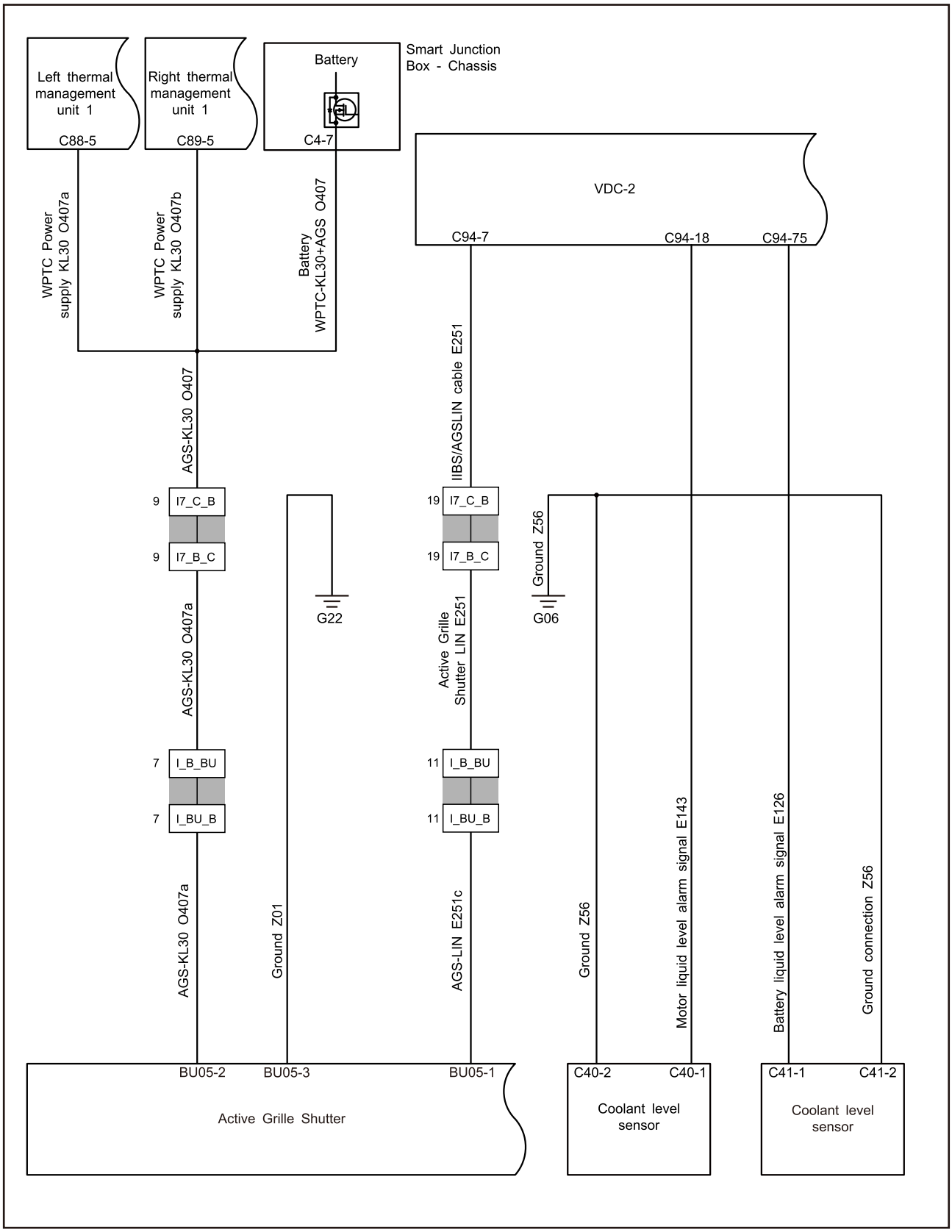
Step 8:Clear and confirm DTC.

7.2.4.46 Active Grille Shutter Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P103B10	Left grid motor failure	Power on, The grille failure lasts for 10s	1.Wiring harness 2.Active grille shutter 3.VDC
P103C10	Right grid motor failure	Power on, The grille failure lasts for 10s	

2.Circuit Diagram



23. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power supply and grounding harness of the active grille shutter.

Step 4:Check the LIN communication harness between VDC and the active grille shutter.

Step 5:Replace the active grille shutter. Refer to Replacement Of Active Grille Wire Harness Module

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

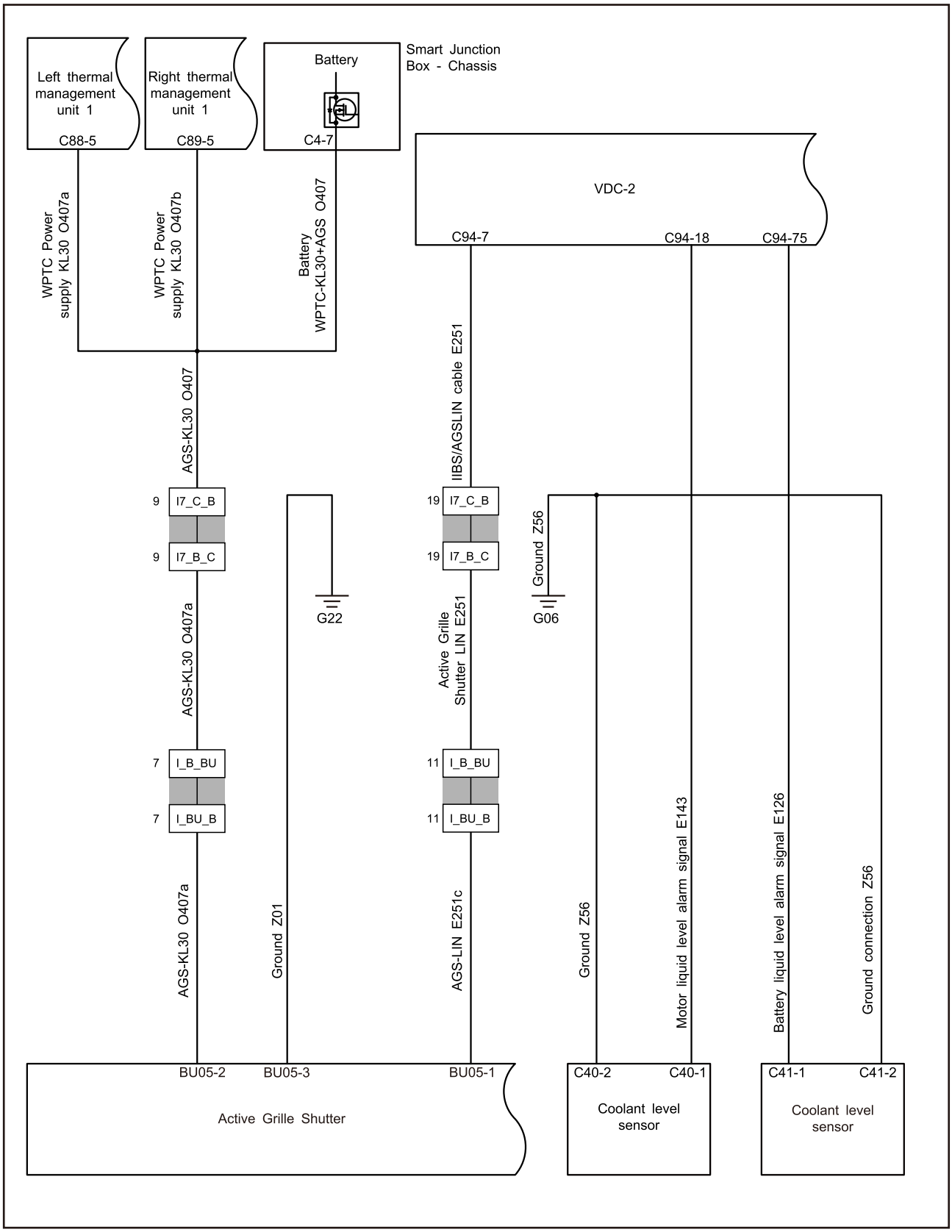
Step 8:Clear and confirm DTC.

7.2.4.47 Left Battery Water Heater Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P100852	WPTC1 Communication failure	KL15 valid, 0x18032779x lost and the maximum temperature of the battery is greater than or equal to 97 degrees ferenhieght , last for 10s	1.Wiring harness 2. Left thermal management unit (battery left water heater) 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power and grounding harness of the left thermal management unit (battery left water heater).

Step 4:Check the PCAN3 bus communication harness. Refer to Inspection Of PCAN3 BusNetwork Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the left thermal management unit (battery left water heater).

Step 6:Replace the left thermal management unit (battery left water heater). Refer to Replacement Of Thermal Management Unit (Left)

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

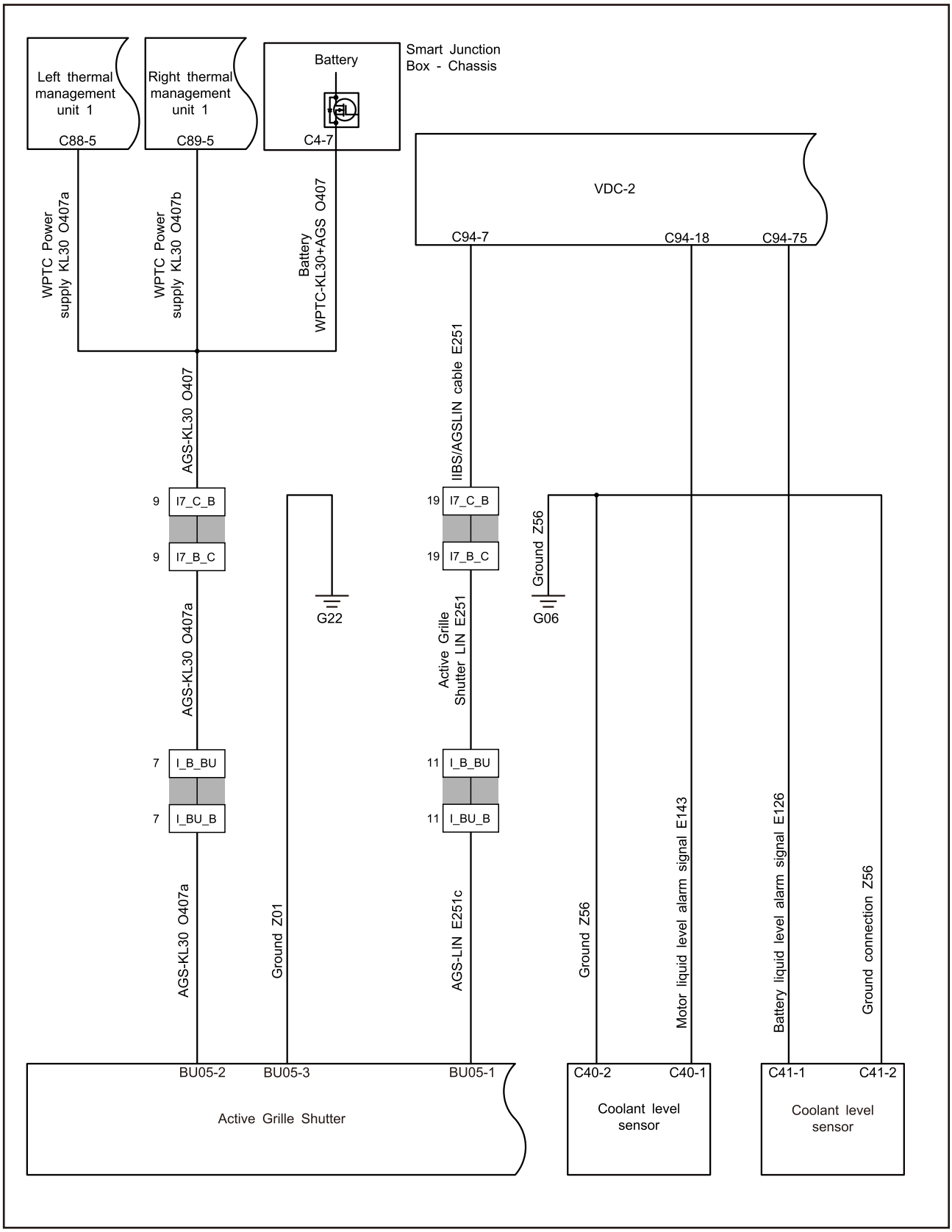
Step 9:Clear and confirm DTC.

7.2.4.48 Fault In The Right Water Heater Of The Battery

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P100952	WPTC2 Communication failure	KL15 valid, 0x18032760x lost and the maximum temperature of the battery is greater than or equal to 97 degrees ferenhieght , last for 10s	1.Wiring harness 2. Right thermal management unit (battery right water heater) 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power and grounding harness of the right thermal management unit (battery right water heater).

Step 4:Check the PCAN3 bus communication harness. Refer to Inspection Of PCAN3 BusNetwork Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the right thermal management unit (battery right water heater).

Step 6:Replace the right thermal management unit (battery right water heater).

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

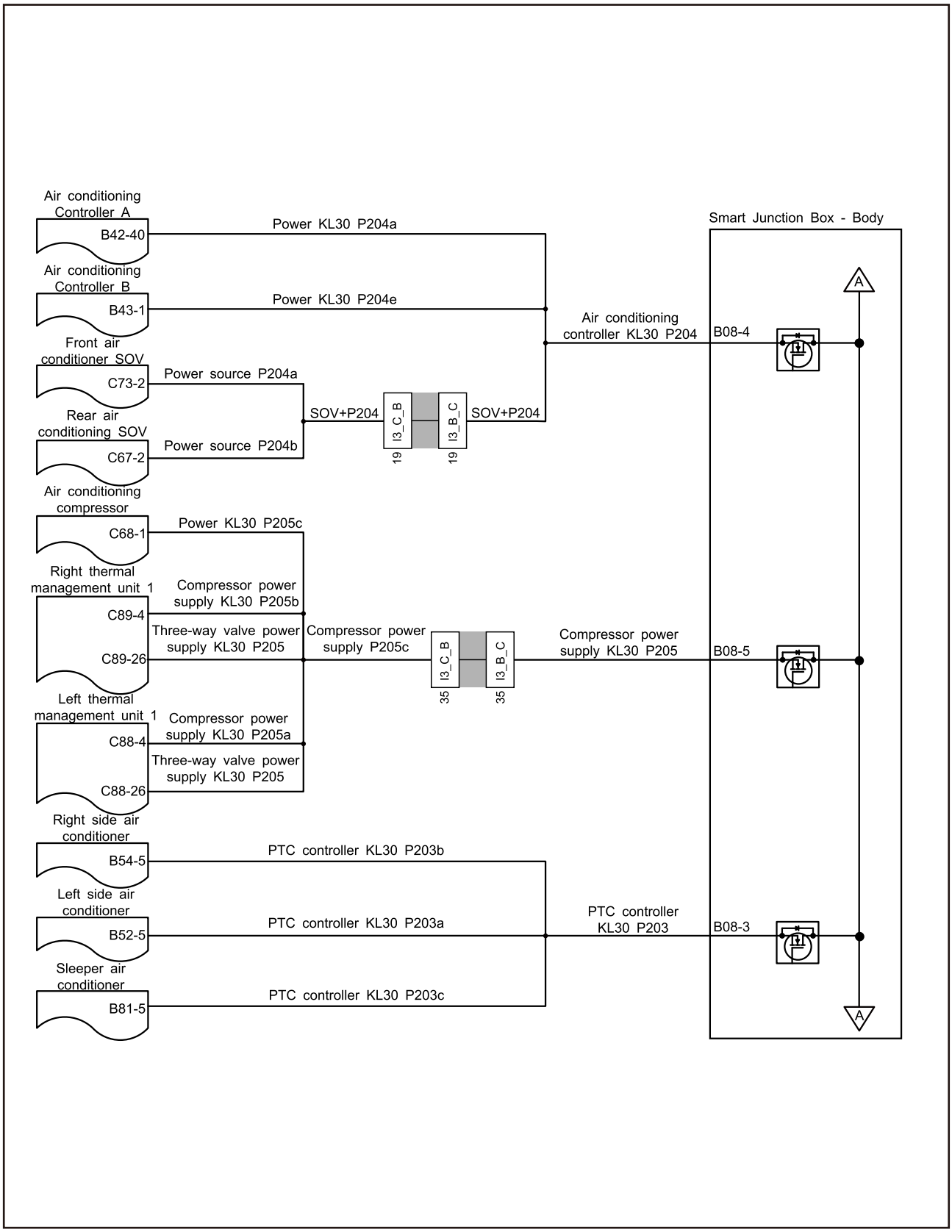
Step 9:Clear and confirm DTC.

7.2.4.49 Left Battery Compressor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P100A52	BLR1 Communication failure	KL15 valid, 0x1802277Ax lost and the minimum temperature of the battery is less than or equal to 41 degrees ferenhieght , last for 10s	1.Wiring harness 2. Left thermal management unit (battery left compressor) 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power and grounding harness of the left thermal management unit (battery left compressor).

Step 4:Check the PCAN3 bus communication harness. Refer to Inspection Of PCAN3 Bus Network Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the left thermal management unit (battery left compressor).

Step 6:Replace the left thermal management unit (battery left compressor). Refer to Replacement Of Thermal Management Unit (Left)

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

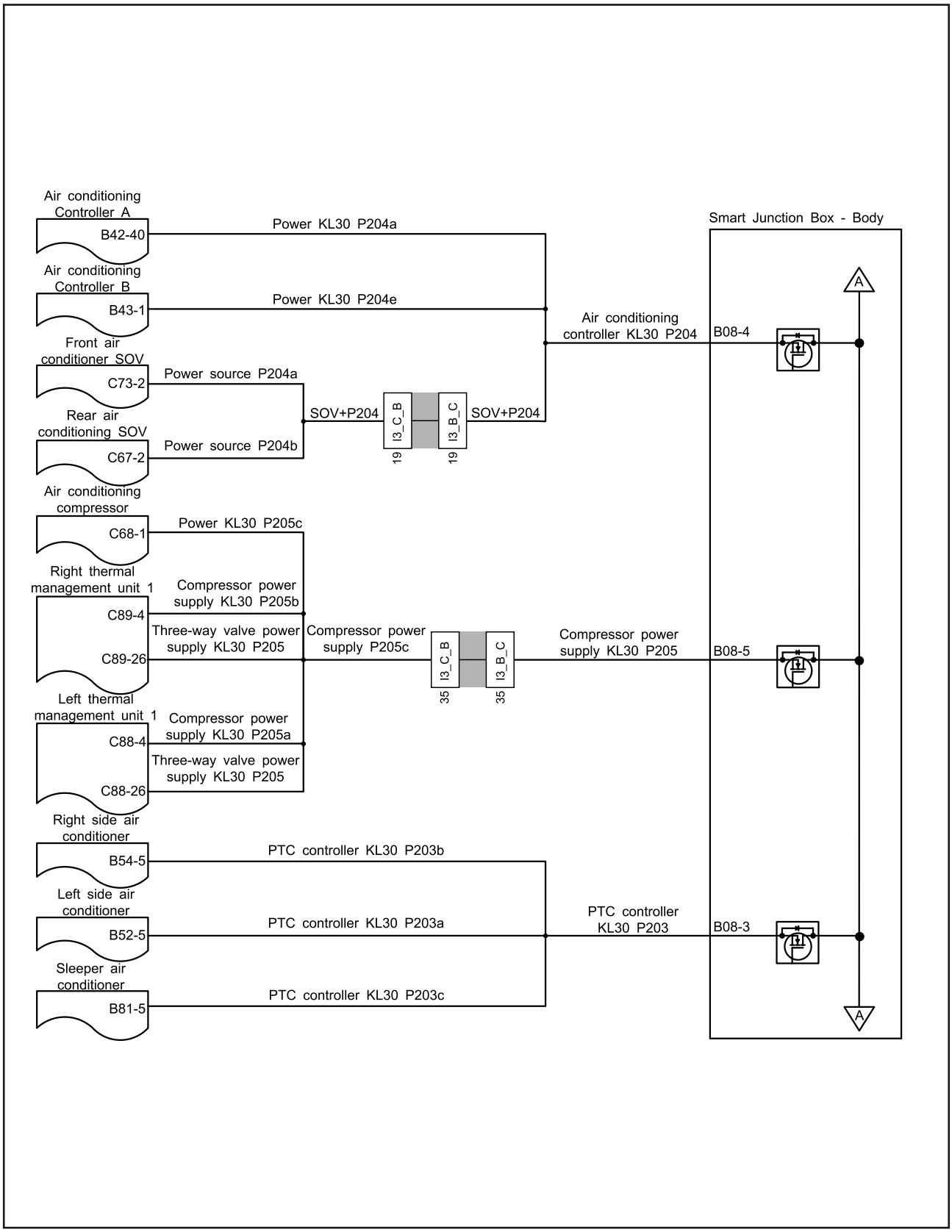
Step 9:Clear and confirm DTC.

7.2.4.50 Battery Right Compressor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P100B52	BLR2 Communication failure	KL15 valid, 0x1802277Bx lost and the minimum temperature of the battery is less than or equal to 41 degrees ferenhieght , last for 10s	1.Wiring harness 2. Right thermal management unit (battery right compressor) 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the power and grounding harness of the right thermal management unit (battery right compressor).

Step 4:Check the PCAN3 bus communication harness. Refer to Inspection Of PCAN3 BusNetwork Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the right thermal management unit (battery right compressor).

Step 6:Replace the right thermal management unit (battery right compressor).

Step 7:VDC rewrites the configuration code, software reloads, and upgrades.

Step 8:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 9:Clear and confirm DTC.

7.2.4.51 Insulation Failure

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P109C30	Insulation fault LvC	Insulation value≤500kΩ(22s),Power-off clear	1.Wiring harness 2. High voltage components 3.VDC
P109D30	Insulation fault LvB	Insulation value≤1000kΩ(66s),≥1200kΩ for 1s, automatically cleared	
P109E30	Insulation fault LvA	Insulation value≤1000kΩ(66s),≥1200kΩ for 1s, automatically cleared	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the insulation resistance of high-voltage components.

Step 4:VDC rewrites the configuration code, software reloads, and upgrades.

Step 5:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 6:Clear and confirm DTC.

7.2.4.52 Air Compressor Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10AC40	Brake pressure rise monitoring during air pump operation	When the air compressor starts working, the pressure rise rate within a certain time (tentatively 30s) is less than the specified value (tentatively 2Bar).	1.Wiring harness 2. Air compressor 3.VDC
P10C140	NormRdy_ AirPChkFailr_St	KL15 ON,After the vehicle is on the high voltage, the brakes are stepped on, Brake air pressure < 0.7Mpa	

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the high-pressure circuit harness of the air compressor.

Step 4:Replace the air compressor. Refer to Replacement Of Air Compressor Assembly

Step 5:VDC rewrites the configuration code, software reloads, and upgrades.

Step 6:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

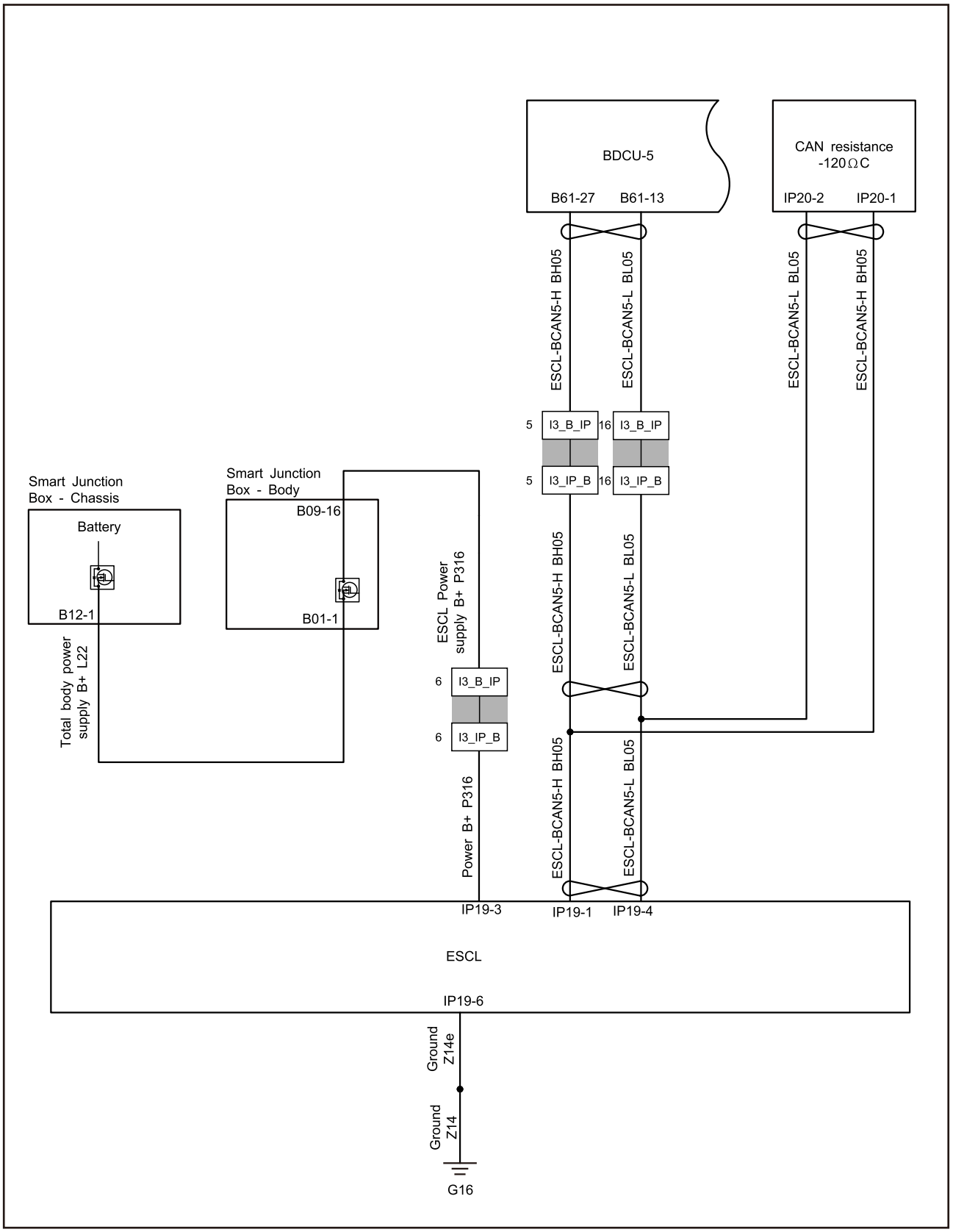
Step 7:Clear and confirm DTC.

7.2.4.53 ESCL Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10C340	NormRdy_Escl_ ChkFailr_St	KL15 ON,After the vehicle is on the high voltage, the brakes are stepped on, ESCL is unlocked	1.Wiring harness 2.ESCL 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the ESCL power supply and grounding harness.

Step 4:ESCL rewrites the configuration code, reloads the software, and upgrades.

Step 5:Replace ESCL. Refer to Replacement Of Steering Column Assembly

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

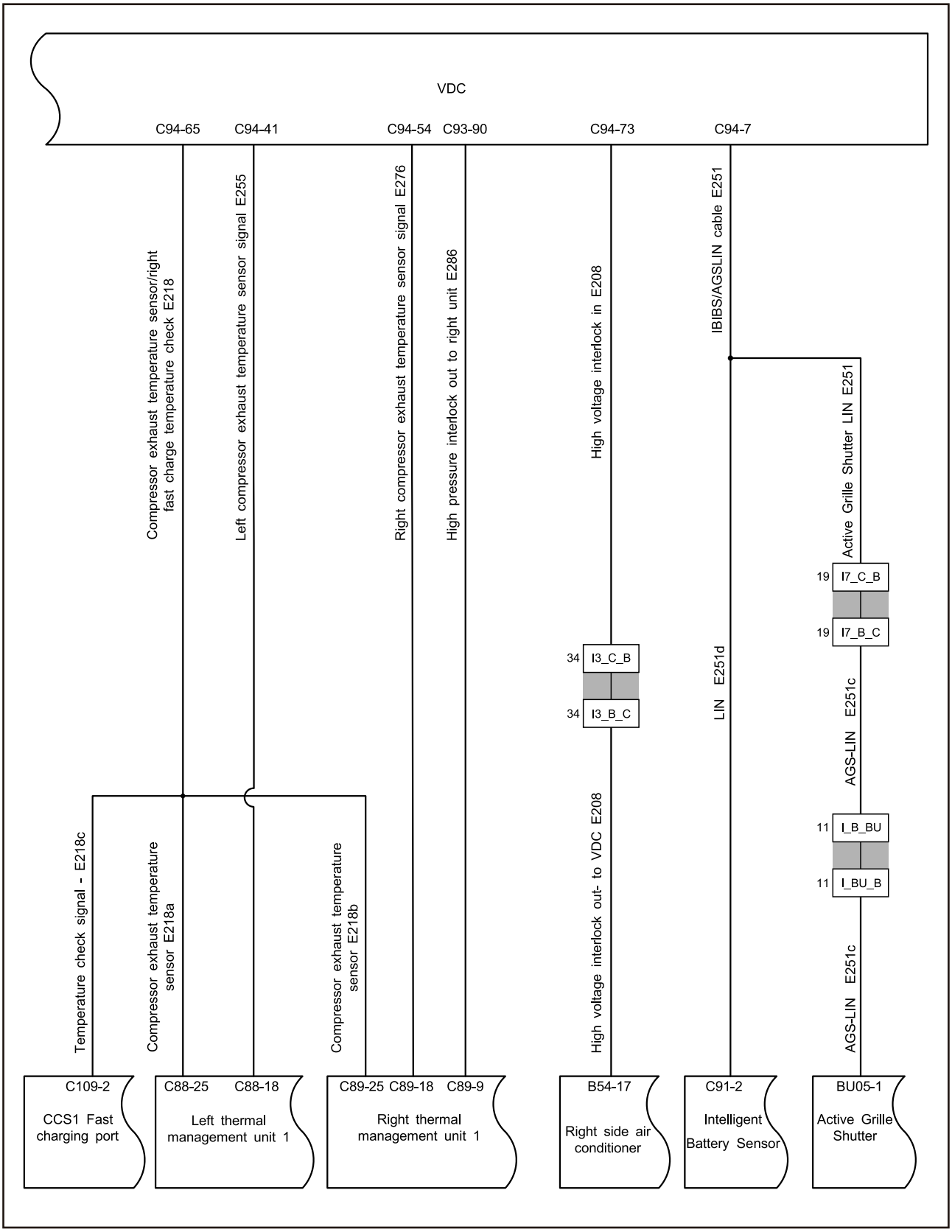
Step 8:Clear and confirm DTC.

7.2.4.54 IBS Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10E863	IBS failure	The IBS reports fault level and fault code	1.Wiring harness 2.Intelligent battery sensor IBS 3.VDC

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the IBS power supply and grounding harness of the battery.

Step 4:Check the LIN communication harness between the intelligent battery sensor IBS and VDC.

Step 5:Replace the intelligent battery sensor IBS. Refer to Replacement Of Smart Battery Sensors

Step 6:VDC rewrites the configuration code, software reloads, and upgrades.

Step 7:Replace the VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 8:Clear and confirm DTC.

7.2.4.55 Thermal Management System Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P10E462	thermal management system failure	The thermal management system reports fault	1.Wiring harness 2.Cooling unit 3.VDC

2. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Move the vehicle to a normal temperature environment and let it sit for a while.

Step 4:Check if the coolant is insufficient.

- Yes: Add coolant to the standard mark.
- No: Next step

Step 5:Check if there are any thermal runaway related fault codes on the vehicle?

- Yes: Eliminate fault codes related to thermal runaway. Refer to Battery Thermal Runaway Fault
- No: Next step

Step 6:Check the motor coolant level sensor. Refer to Motor Coolant Level Sensor Fault

Step 7:Check the battery coolant level sensor. Refer to Battery Coolant Level Sensor Fault

Step 8:Check the motor fan. Refer to Motor Fan Fault

Step 9:Check the motor water pump. Refer to Motor Water Pump Fault

Step 10:Check the left battery fan. Refer to Left Battery Fan Malfunction

Step 11:Check the right battery fan. Refer to Right Battery Fan Malfunction

Step 12:Check left battery water pump. Refer to Left Battery Water Pump Malfunction

Step 13:Check right battery water pump. Refer to Right Battery Water Pump Malfunction

Step 14:Check the left water heater of the battery. Refer to Left Battery Water Heater Fault

Step 15:Check the right water heater of the battery. Refer to Fault In The Right Water Heater Of The Battery

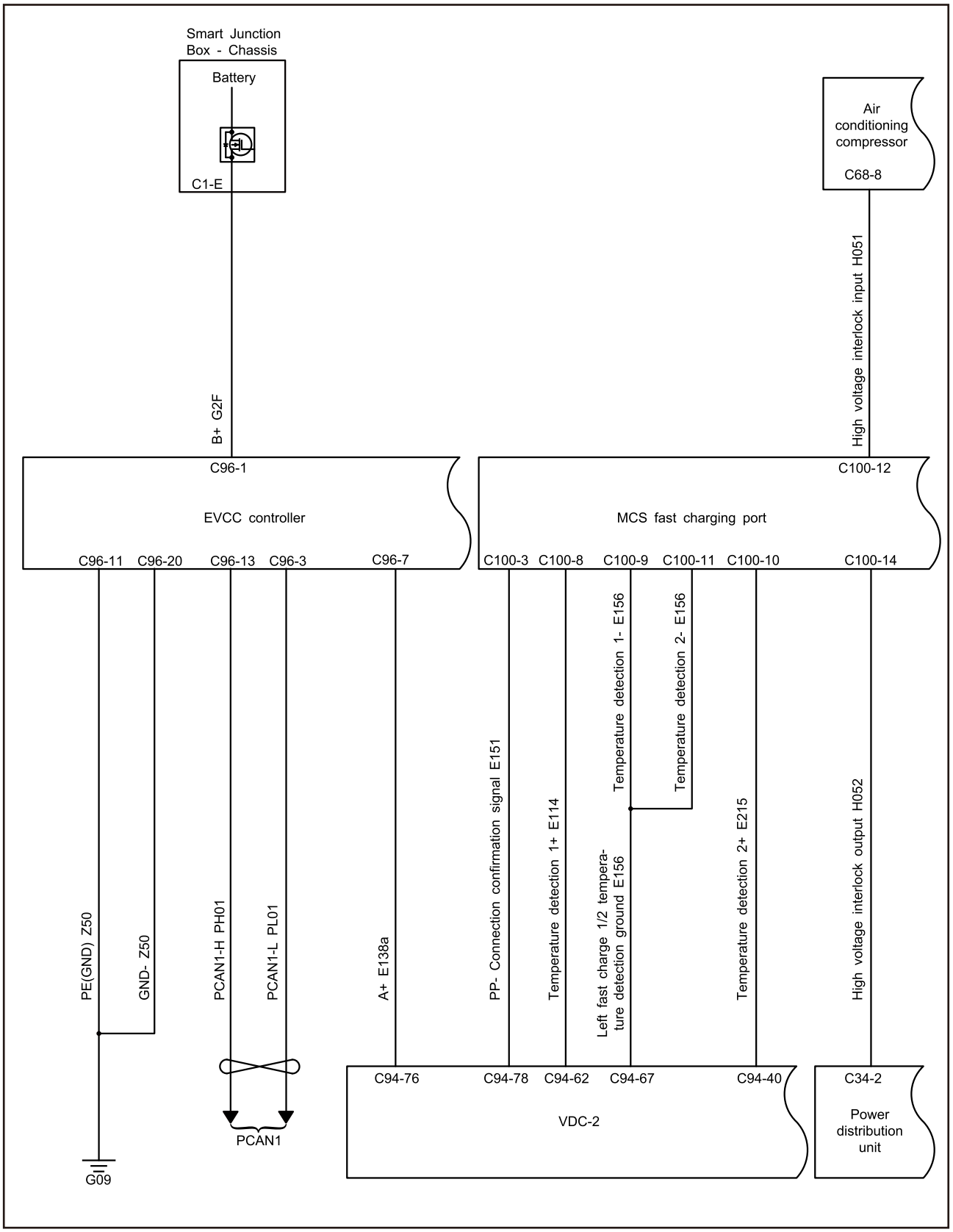
Step 16:VDC rewrite configuration code, software reload, upgrade.

Step 17:Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 18:Clear and confirm DTC.

7.2.4.56 EVCC Power Fault

1.Circuit Diagram



2.Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

Step 2:Check if there are any other module power fault codes besides the EVCC?

- Yes: Check the main battery. Refer to Inspection Of The Main Battery
  Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault
- No: Next step

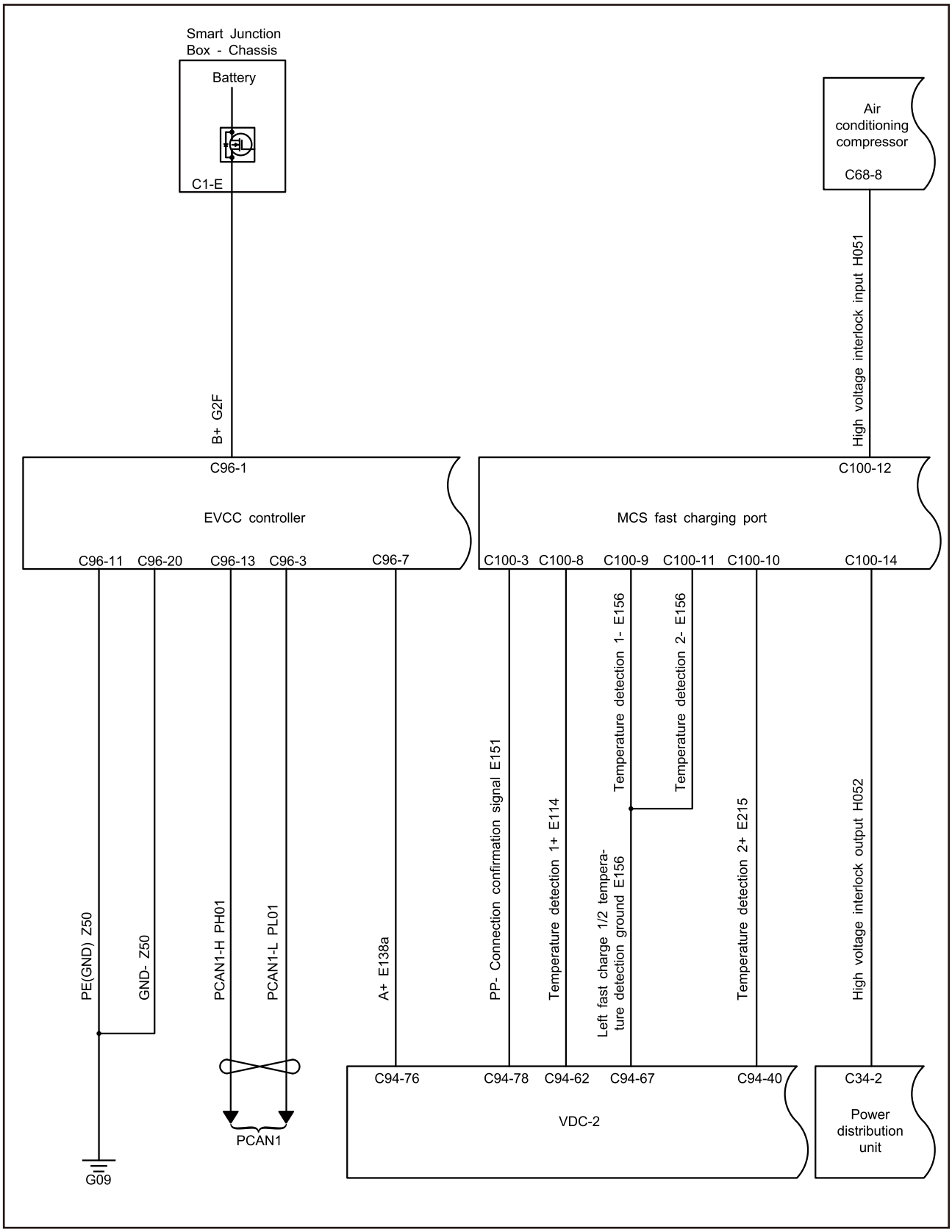
Step 3:Check the power and grounding harness of the EVCC.

Step 4:Rewrite the configuration code, reload the software, and upgrade the EVCC.

Step 5:Replace the EVCC. Refer to Replacement Of MCS Charging Socket Assembly

7.2.4.57 EVCC Communication Fault

1.Circuit Diagram



2.Circuit Diagram

Step 1:Routine Inspection. Refer to Routine Inspection

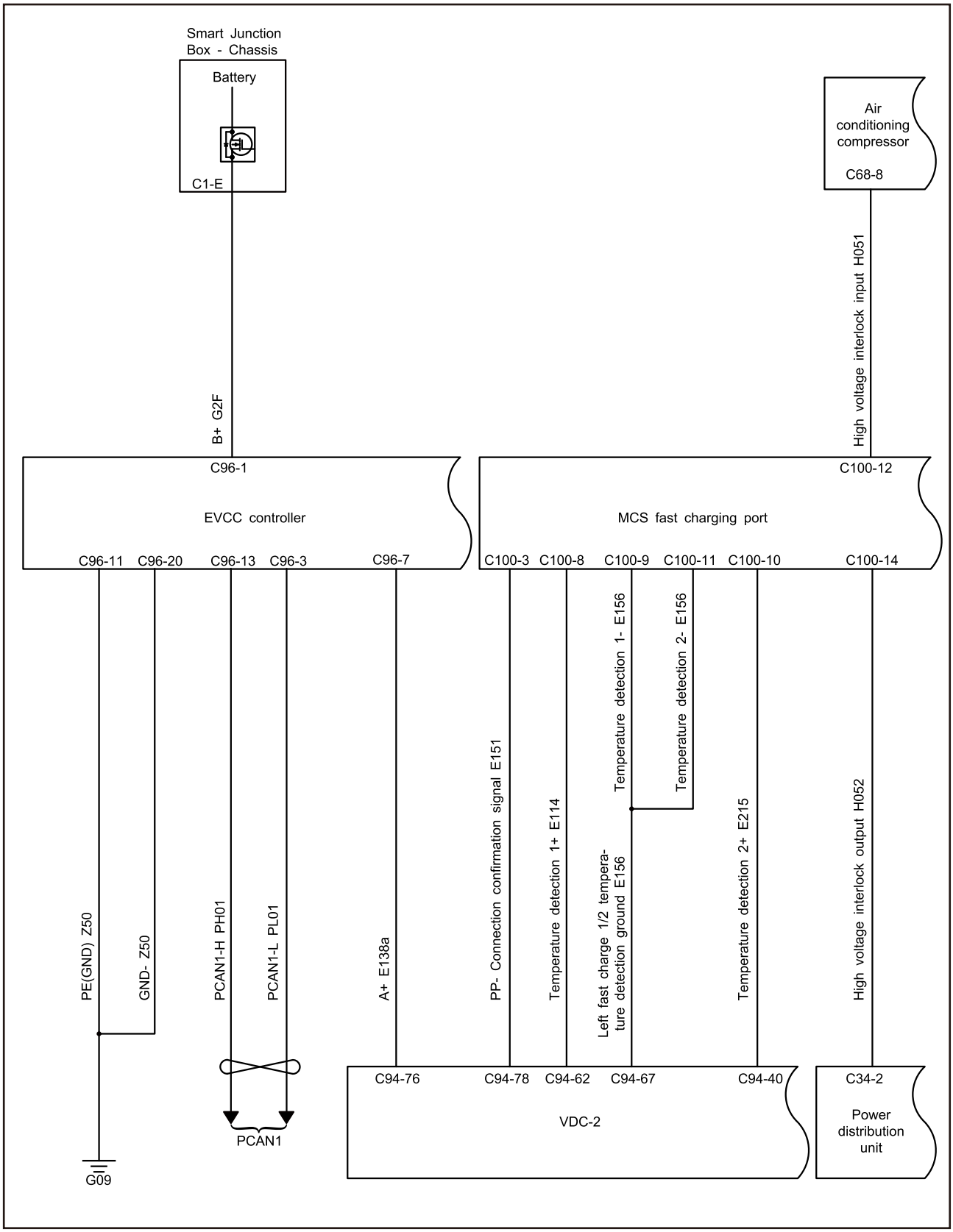
Step 2:Check the PCAN1 bus communication harness. Refer to Inspection Of PCAN1 Bus Network Integrity

Step 3:Rewrite the configuration code, reload the software, and upgrade the EVCC.

Step 4:Replace the EVCC. Refer to Replacement Of MCS Charging Socket Assembly

7.2.4.58 EVCC A+ Signal Fault

1.Circuit Diagram



2.Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

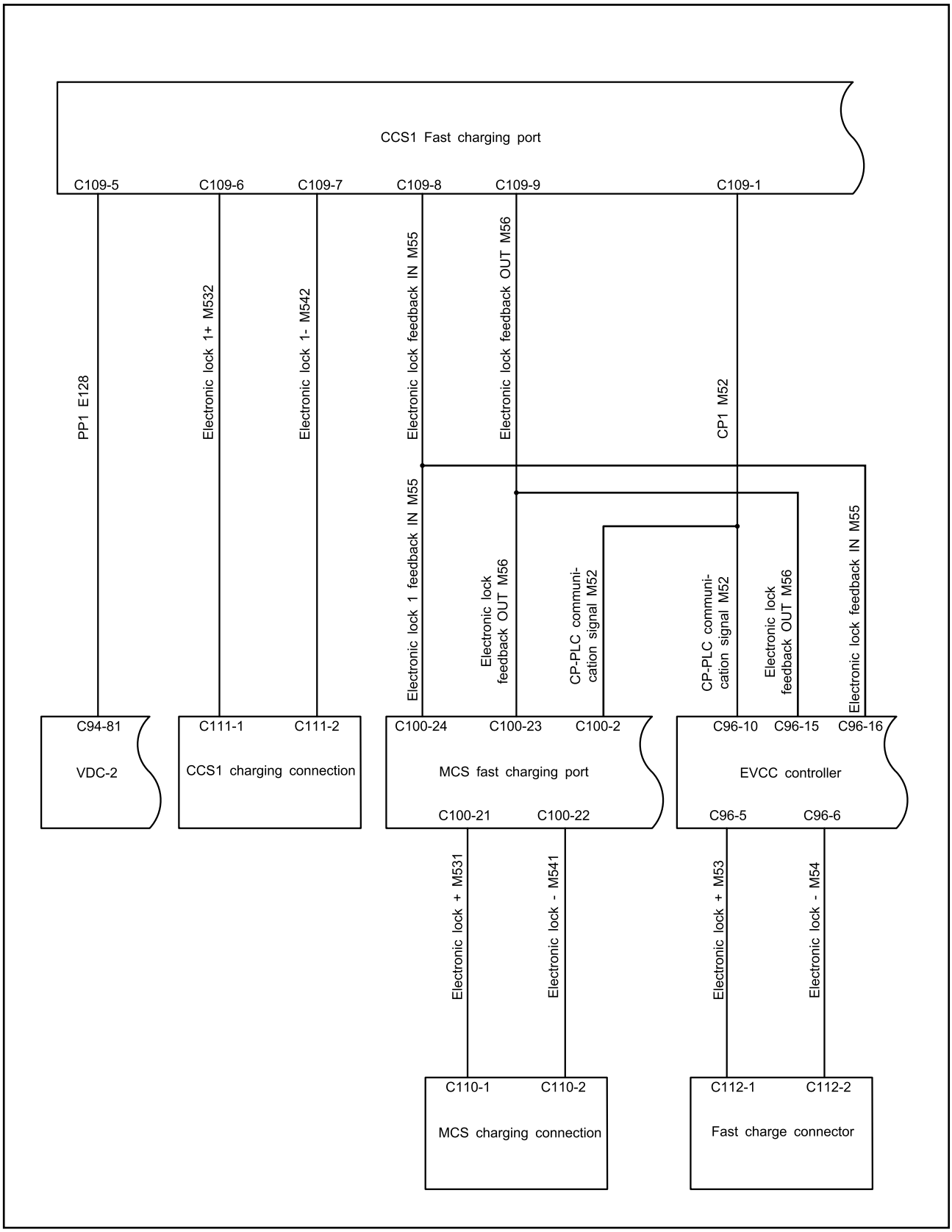
Step 2:Check the A+ wake-up signal harness between the EVCC and the VDC.

Step 3:Rewrite the configuration code, reload the software, and upgrade the EVCC.

Step 4:Replace the EVCC. Refer to Replacement Of MCS Charging Socket Assembly

7.2.4.59 EVCC CP Signal Fault

1.Circuit Diagram



2.Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

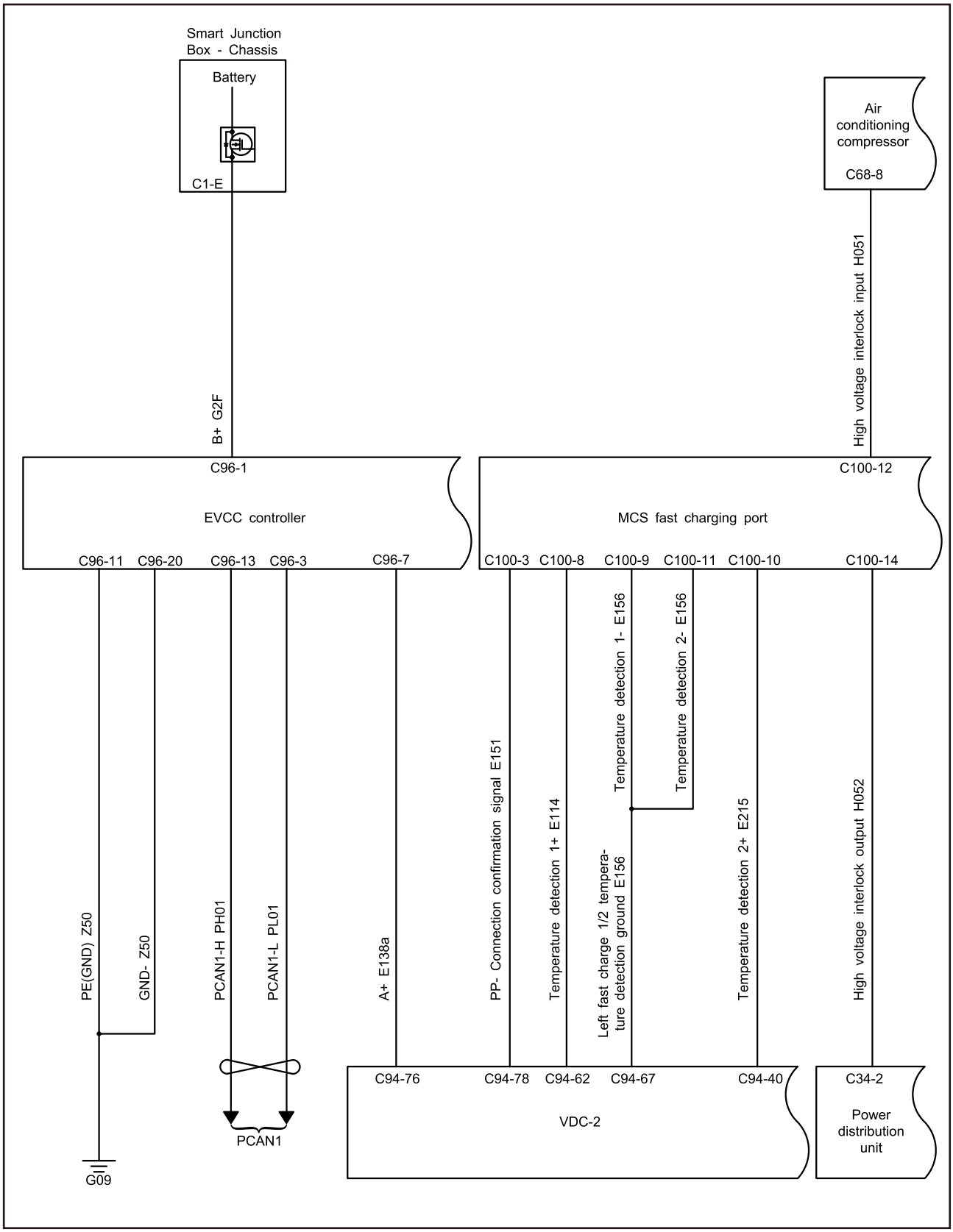
Step 2:Check the CP signal harness between the EVCC and the VDC.

Step 3:Rewrite the configuration code, reload the software, and upgrade the EVCC.

Step 4:Replace the EVCC. Refer to Replacement Of MCS Charging Socket Assembly

7.2.4.60 PP Signal Fault

1.Circuit Diagram



2.Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

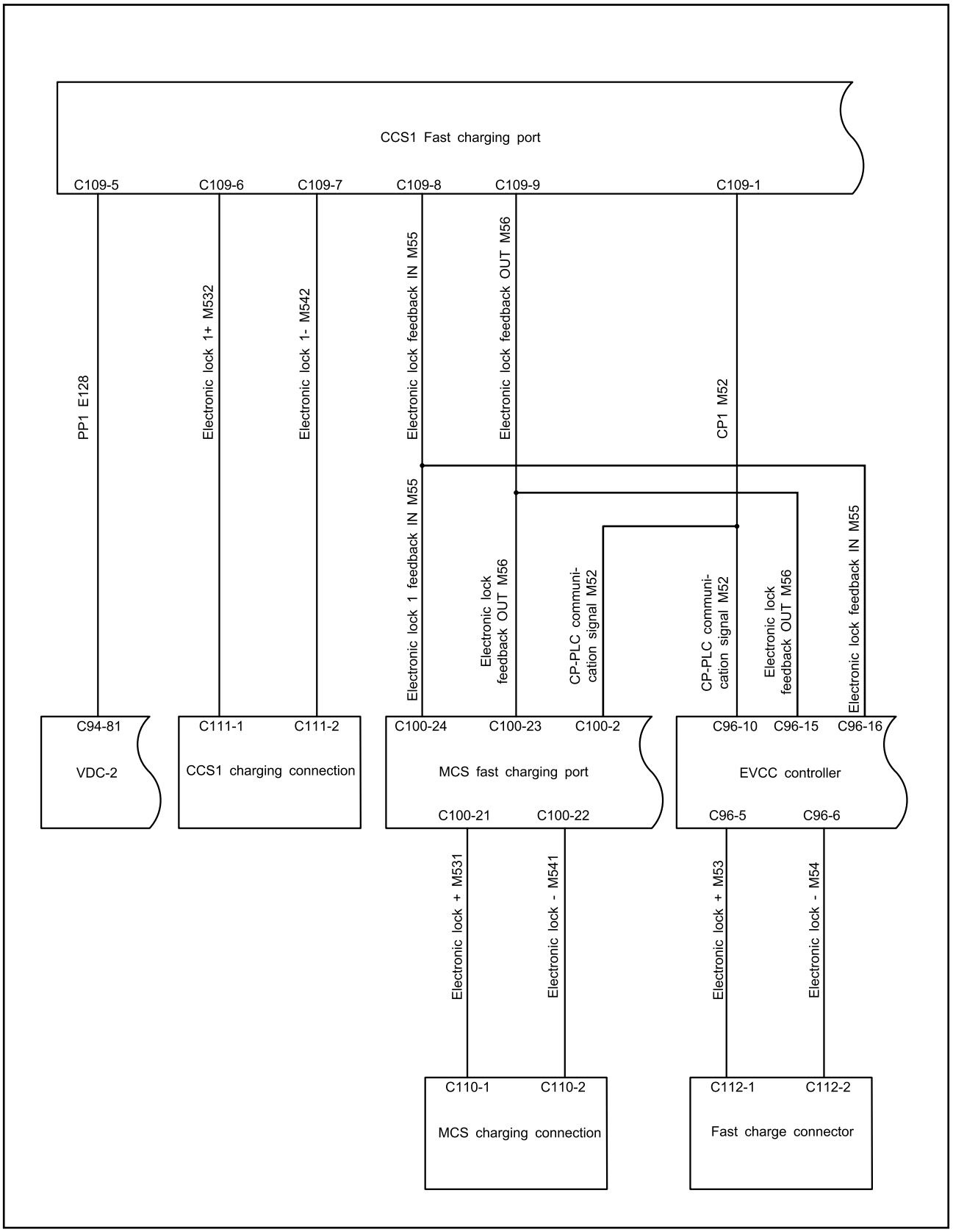
Step 2:Check the A+ wake-up signal harness between the EVCC and the MCS fast charging port.

Step 3:Rewrite the configuration code, reload the software, and upgrade the EVCC.

Step 4:Replace the EVCC. Refer to Replacement Of MCS Charging Socket Assembly

7.2.4.61 MCS Fast Charging Port Electronic Lock Fault

1.Circuit Diagram



2.Diagnostic Steps

Step 1:Routine Inspection. Refer to Routine Inspection

Step 2:Check the feedback signal harness of the electronic lock between the EVCC and the MCS fast charging port.

Step 3:Check the electronic - lock - control - signal harness between the EVCC and the fast charge connector.

Step 4:Check the electronic lock control signal harness between the MCS charging connection and the MCS fast charging port.

Step 5:Rewrite the configuration code, reload the software, and upgrade the EVCC.

Step 6:Replace the EVCC. Refer to Replacement Of MCS Charging Socket Assembly

7.2.4.62 Inspection Of PCAN1 Bus Network Integrity

Step 1	Check the PCAN1 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
PCAN1(H) and PCAN1 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the PCAN1 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
PCAN1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
PCAN1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
PCAN1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
PCAN1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the PCAN1 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the PCAN1 bus.

C. Measure the PCAN1 bus resistance between each module and the power domain controller in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of PCAN1 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the PCAN1 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace PCAN1 bus.

Yes

Step 7	Disconnect the modules on the PCAN1 bus in sequence and observe the bus communication voltage/resistance.

Disconnect the modules on the PCAN1 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.2.4.63 Inspection Of PCAN2 Bus Network Integrity

Step 1	Check the PCAN2 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
PCAN2(H) and PCAN2 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the PCAN2 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
PCAN2 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
PCAN2 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
PCAN2 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
PCAN2 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the PCAN2 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the PCAN2 bus.

C. Measure the PCAN2 bus resistance between each module and the power domain controller in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of PCAN2 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the PCAN2 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace PCAN2 bus.

Yes

Step 7	Disconnect the modules on the PCAN2 bus in sequence and observe the bus communication voltage/resistance.

Disconnect the modules on the PCAN2 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.2.4.64 Inspection Of PCAN3 Bus Network Integrity

Step 1	Check the PCAN3 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
PCAN3(H) and PCAN3 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the PCAN3 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
PCAN3 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
PCAN3 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
PCAN3 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
PCAN3 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the PCAN3 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the PCAN3 bus.

C. Measure the PCAN3 bus resistance between each module and the power domain controller in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of PCAN3 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the PCAN3 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace PCAN3 bus.

Yes

Step 7	Disconnect the modules on the PCAN3 bus in sequence and observe the bus communication voltage/resistance.

Disconnect the modules on the PCAN3 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.2.5 Dismantling and Installation

7.2.5.1 Replacement of VDC Assembly

Removal Procedures

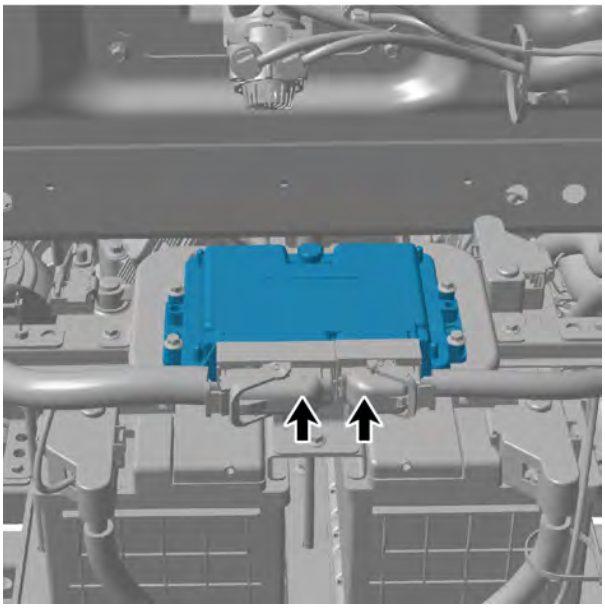
1 Open the door.

2 Open the front flip cover plate.

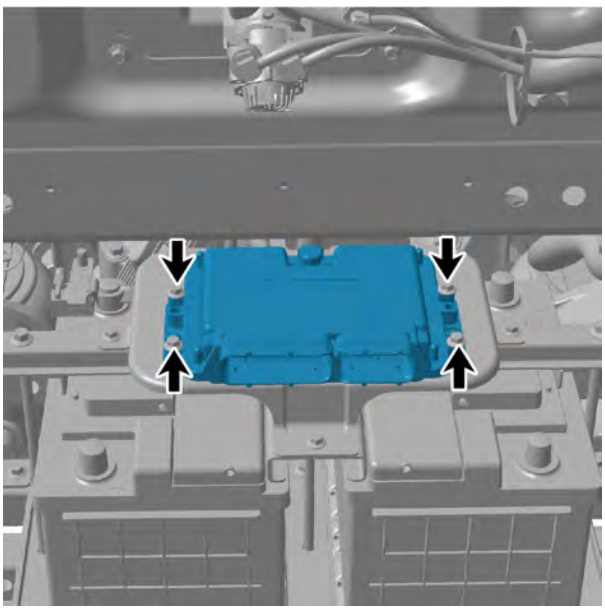
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



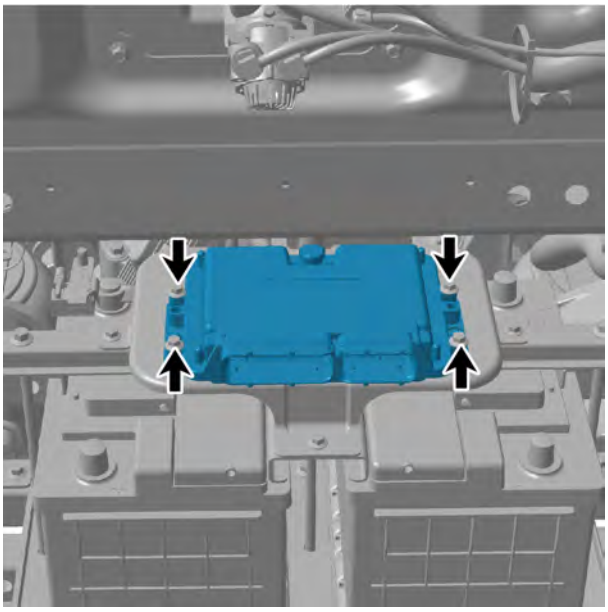
4 Remove 2 harness connectors of the VDC assembly.



5 Remove 4 fixing bolts of the VDC assembly.

6 Remove the VDC assembly.

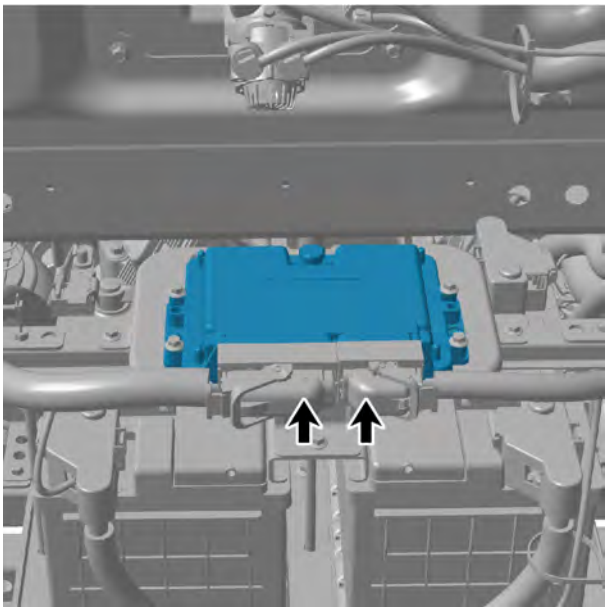
Installation Procedures



1 Move the VDC assembly to the mounting position.

2 Install 4 fixing bolts of the VDC assembly.

Torque:(11 +/- 1.5) ft lbs



3 Connect 2 harness connectors of the VDC assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.3 Electrical Accessory Device

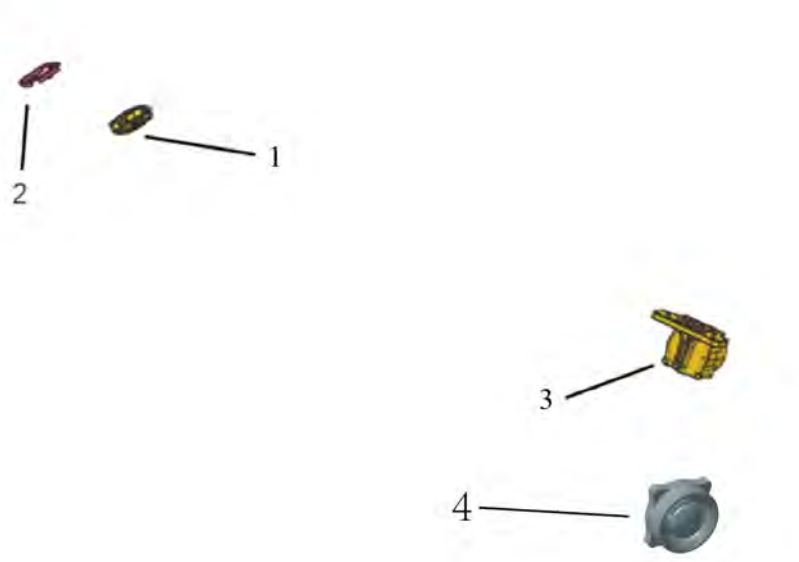
7.3.1 Specifications

7.3.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the low-speed alarm module (AVAS) to the white body assembly	M8	(18 +/- 2) ft lbs

7.3.2 Decomposition Diagram

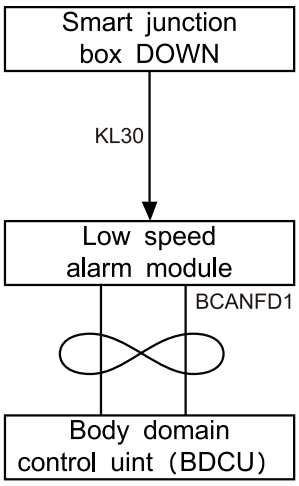
7.3.2.1 Decomposition Diagram



1. Light Rain Sensor
2. Brkt-Sunlight Rain Sensor
3. Acoustic Vehicle Alerting System
4. Reverse Buzzer

7.3.3 System Schematic Diagram

7.3.3.1 Electrical Schematic Diagram



7.3.4 Diagnostic Information and Steps

7.3.4.1 Diagnosis Description

Before diagnosing faults in electrical accessory devices, it is important to understand and familiarize oneself with the working principle of the electrical accessory device before starting the system diagnosis. This will help determine the correct steps for fault diagnosis when a fault occurs, and more importantly, it will help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of electrical accessory devices should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

7.3.4.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the electrical accessory system, ensuring that these devices do not affect the operation of the electrical accessory system.
- Inspect system components that are easily accessible or visible to make sure they are not visibly damaged or have conditions that could cause failure.

7.3.4.3 Fault Symptom Table

Symptom	Suspected Faulty Project	Measures
When the vehicle is driving at low speed, there is no sound or noise from the low-speed alarm module	1. The external sound module is covered by foreign objects	Clean up foreign objects.
	2. Interference with other components	Reinstall the low-speed alarm module. Refer to Replacement Of Low-speed Alarm Module (AVAS)
	3. Low speed alarm module malfunction	Check for faults in the low-speed alarm module. Refer to Low Speed Alarm Module Power Fault

7.3.4.4 DTC Confirmation

1.Connect the diagnostic instrument to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Restart the vehicle.

3. Read the fault code of the control system again to confirm the system has a fault code output.

– Yes:Diagnose based on the output fault code.

– No:Perform intermittent fault checks, refer to Inspection Of Intermittent Fault

7.3.4.5 List Of Diagnostic Trouble Codes (DTC)

AVAS

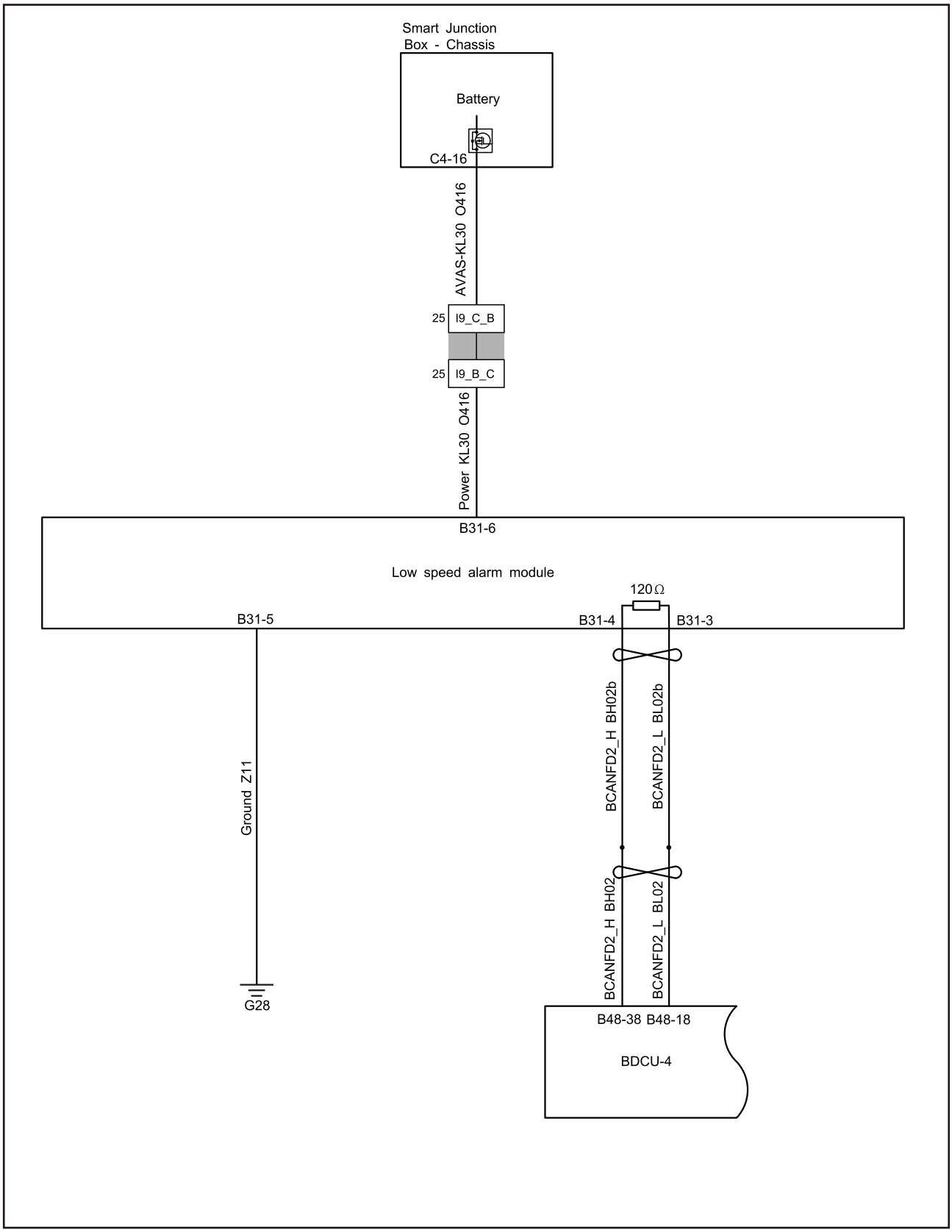
Fault Code	Fault Description	Exclusion Method
B111717	Voltage High	Refer to Low Speed Alarm Module Power Fault
B111716	Voltage Low	
U019887	TGW_TD_Time mesg lost	Refer to Low Speed Alarm Module Communication Fault
U014087	TGW_TD_Time mesg lost	
U015687	CDC_BDCUSET mesg Lost	
U012287	VDC_CCVS LOST	
U007D88	BCANFD2 BusOff	

7.3.4.6 Low Speed Alarm Module Power Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	Voltage High	Voltage > 33V, t > 2s	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Low speed alarm module
B111716	Voltage Low	Voltage < 18V, t > 2s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides the low-speed alarm module?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power and grounding harness of the low-speed alarm module.

Step 5:Rewrite the configuration code, reload the software, and upgrade the low-speed alarm module.

Step 6:Replace the low-speed alarm module. Refer to Replacement Of Low-speed Alarm Module (AVAS)

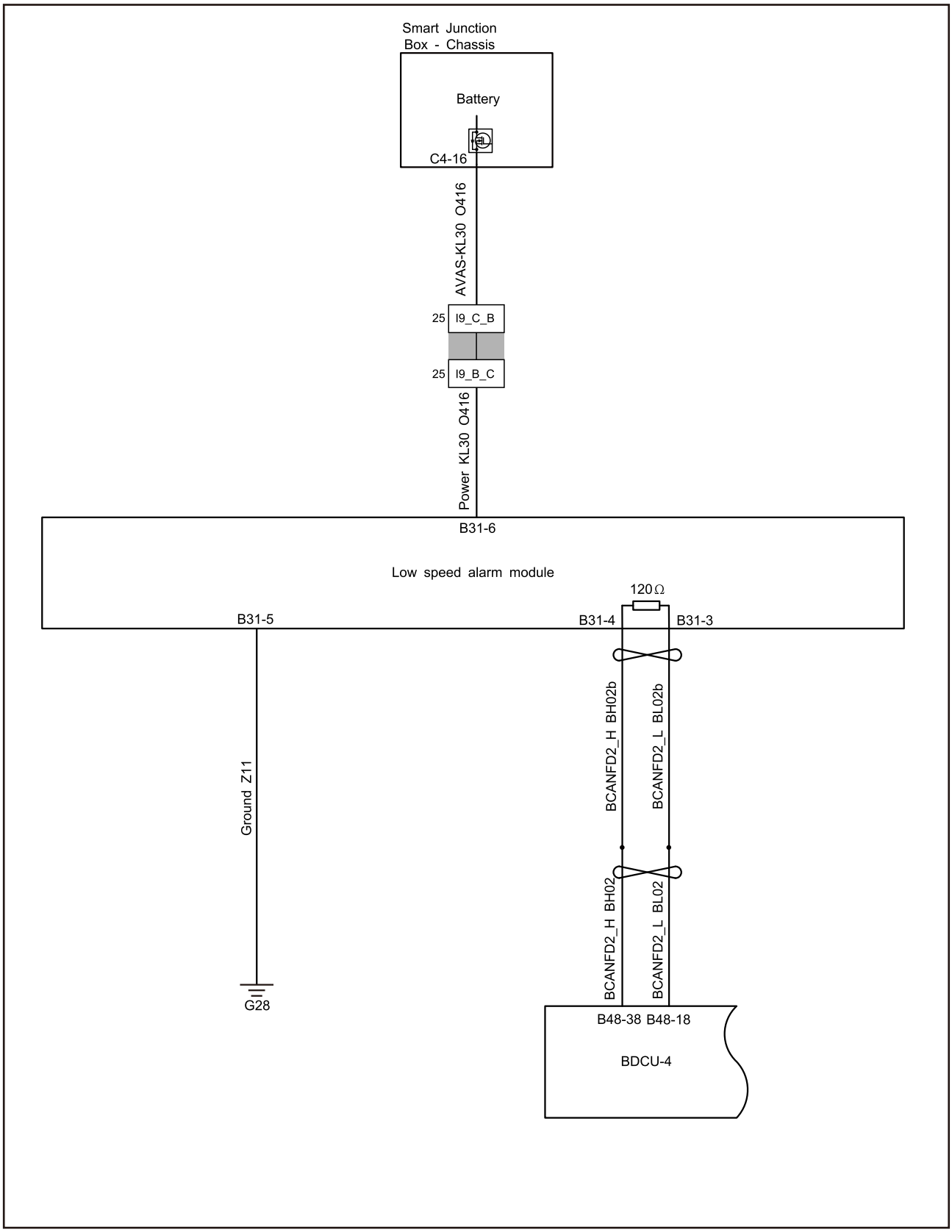
Step 7:Clear and confirm DTC.

7.3.4.7 Low Speed Alarm Module Communication Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U019887	TGW_TD_Time mesg lost	10 cycle lost	1.Wiring harness 2. Low speed alarm module
U014087	BDCU_OELight mesg lost	10 cycle lost	
U015687	CDC_BDCUSET mesg Lost	10 cycle lost	
U012287	VDC_CCVS LOST	10 cycle lost	
U007D88	BCANFD2 BusOff	Err cycle more 255	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the BCANFD1 bus communication harness. Refer to Inspection Of BCAND1 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the low-speed alarm module.

Step 5:Replace the low-speed alarm module. Refer to Replacement Of Low-speed Alarm Module (AVAS)

Step 6:Clear and confirm DTC.

7.3.5 Dismantling and Installation

7.3.5.1 Replacement of RLS

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

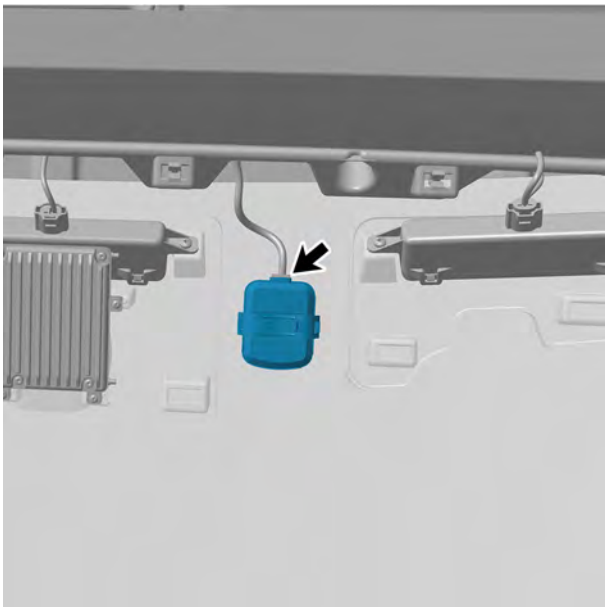
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

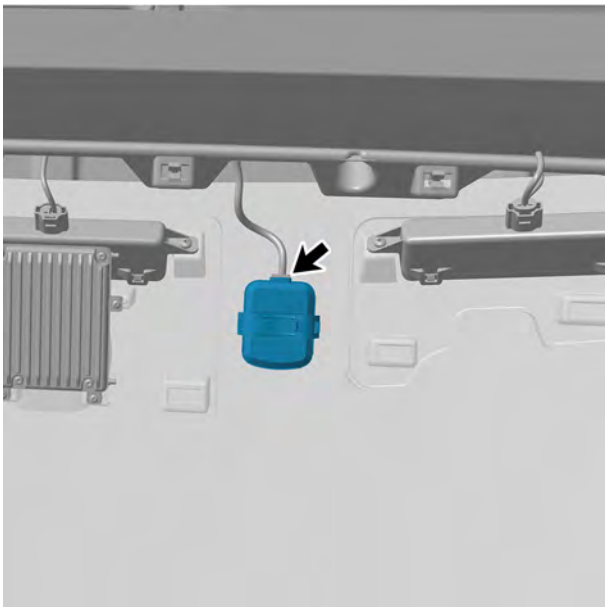
4 Remove the front camera trim cover assembly.

5 Disconnect 1 harness connector of the RLS.

6 Remove the RLS.



Installation Procedures



1 Move the RLS to the mounting position.

2 Connect 1 harness connector of the RLS.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Install the front camera trim cover assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.3.5.2 Replacement of AVAS

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the lamp (upper).

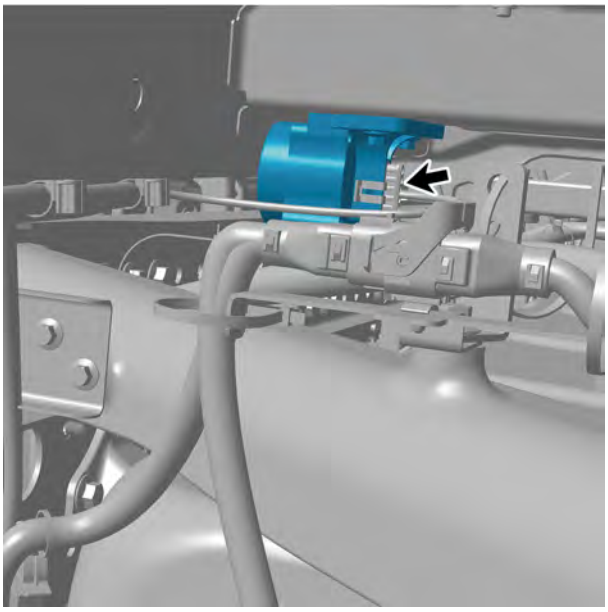
5 Remove the lamp (lower).

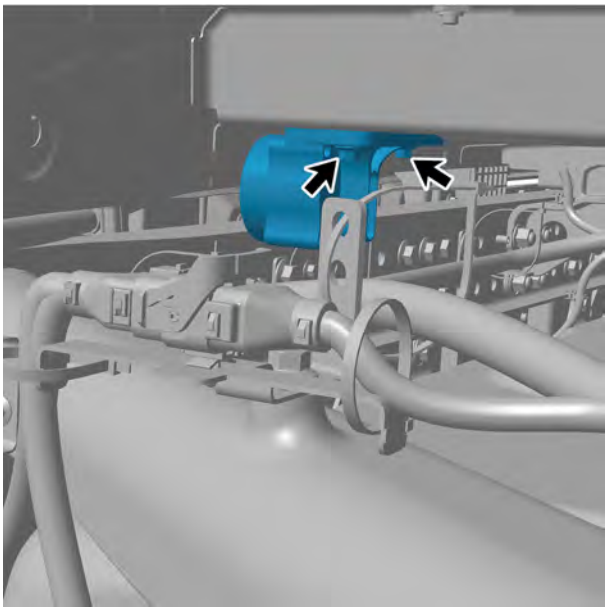
6 Remove the boarding step body assembly.

7 Remove the lower wheel housing connecting bracket.

8 Remove the boarding step tubular beam.

9 Disconnect 1 harness connector of the AVAS.

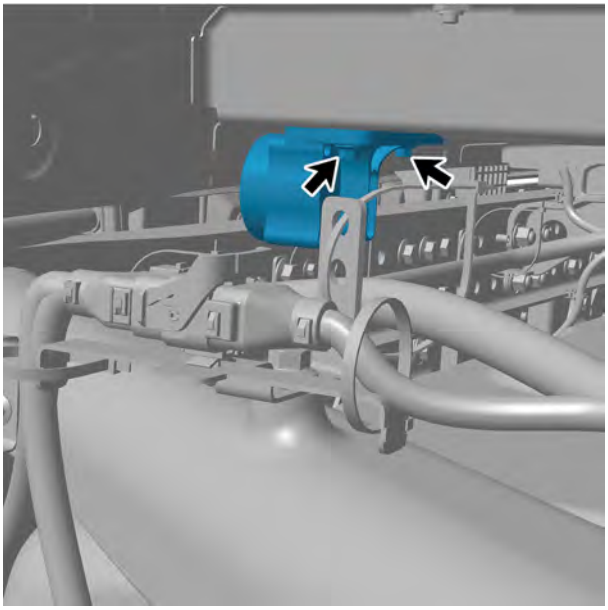




10 Remove 2 fixing bolts of the AVAS.

11 Remove the AVAS.

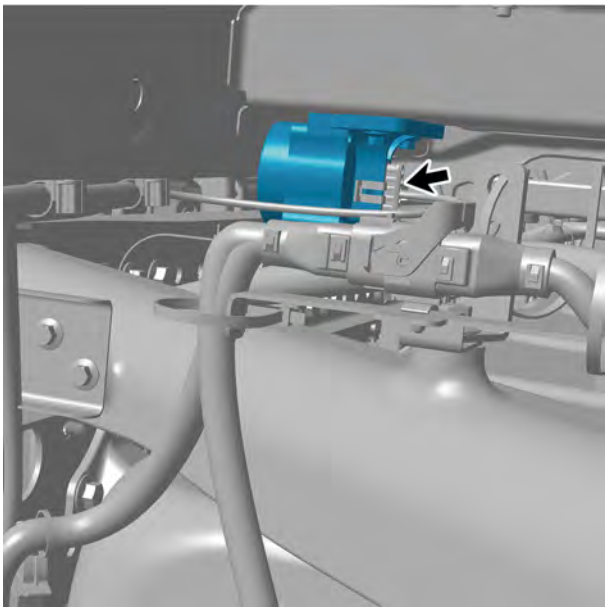
Installation Procedures



1 Move the AVAS to the mounting position.

2 Install 2 fixing bolts of the AVAS.

Torque: (18 +/- 2) ft lbs



3 Connect 1 harness connector of the AVAS.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the boarding step tubular beam.

5 Install the lower wheel housing connecting bracket.

6 Install the boarding step body assembly.

7 Install the lamp (lower).

8 Install the lamp (upper).

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

7.3.5.3 Replacement of The Reverse Buzzer

Removal procedures

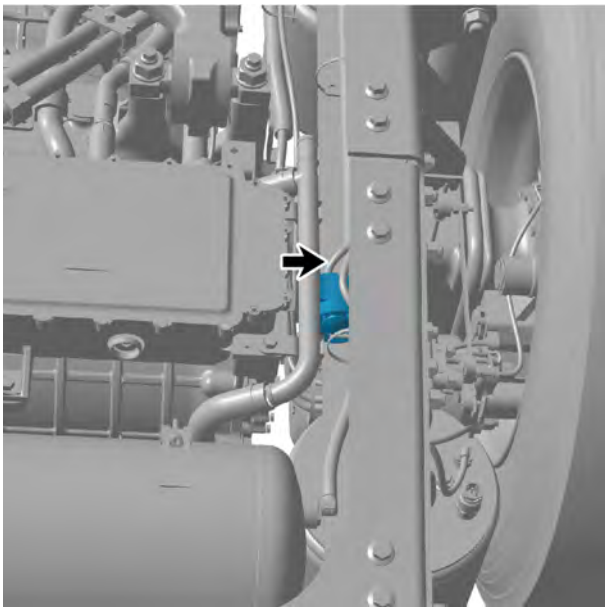
1 Open the door.

2 Open the front flip cover plate.

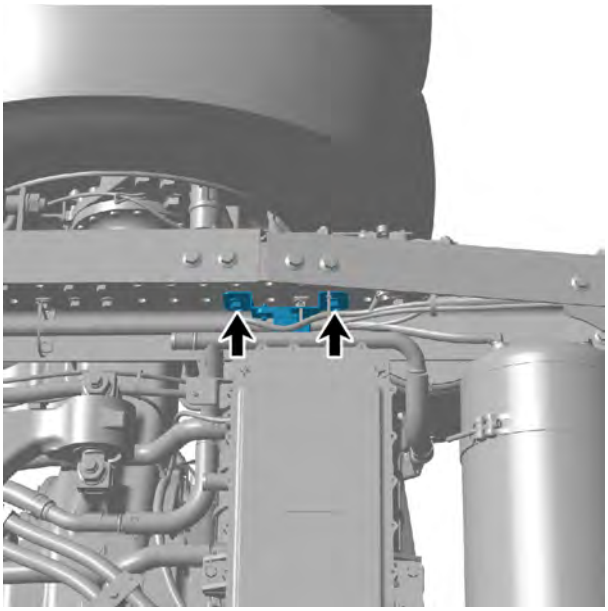
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



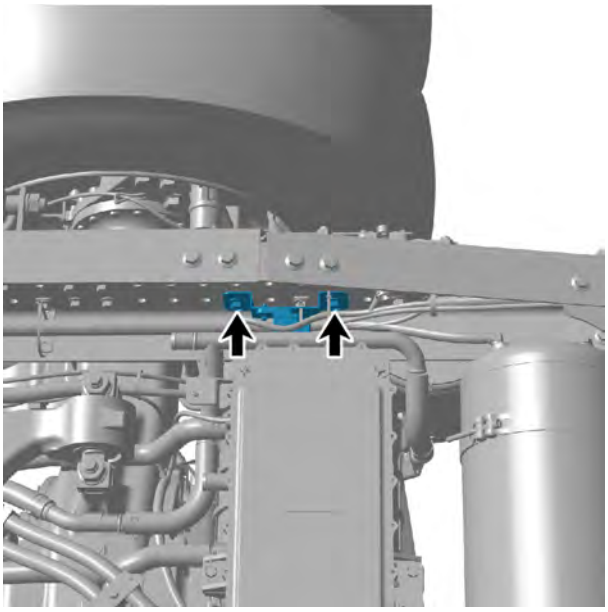
4 Disconnect 1 wire harness connector of the reverse buzzer.



5 Remove the 2 fixing bolts of the reverse buzzer.

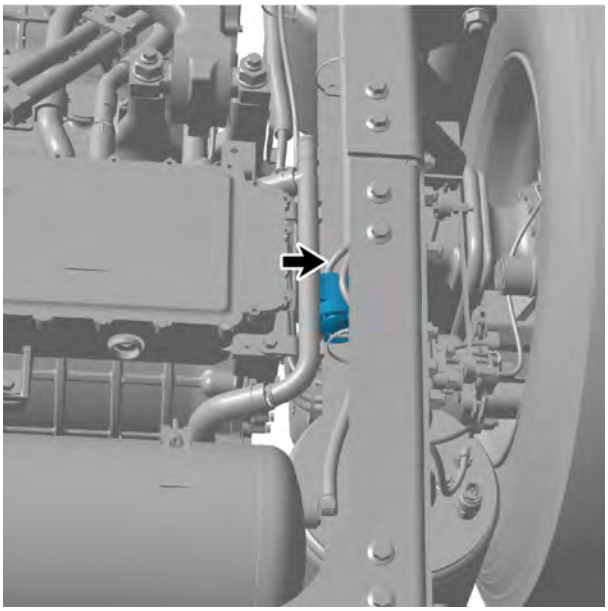
6 Remove the reverse buzzer.

Installation procedures



1 Move the reverse buzzer to the mounting position.

2 Install the 2 fixing bolts of the reverse buzzer.



3 Connect 1 wire harness connector of the reverse buzzer.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.4 Battery Device

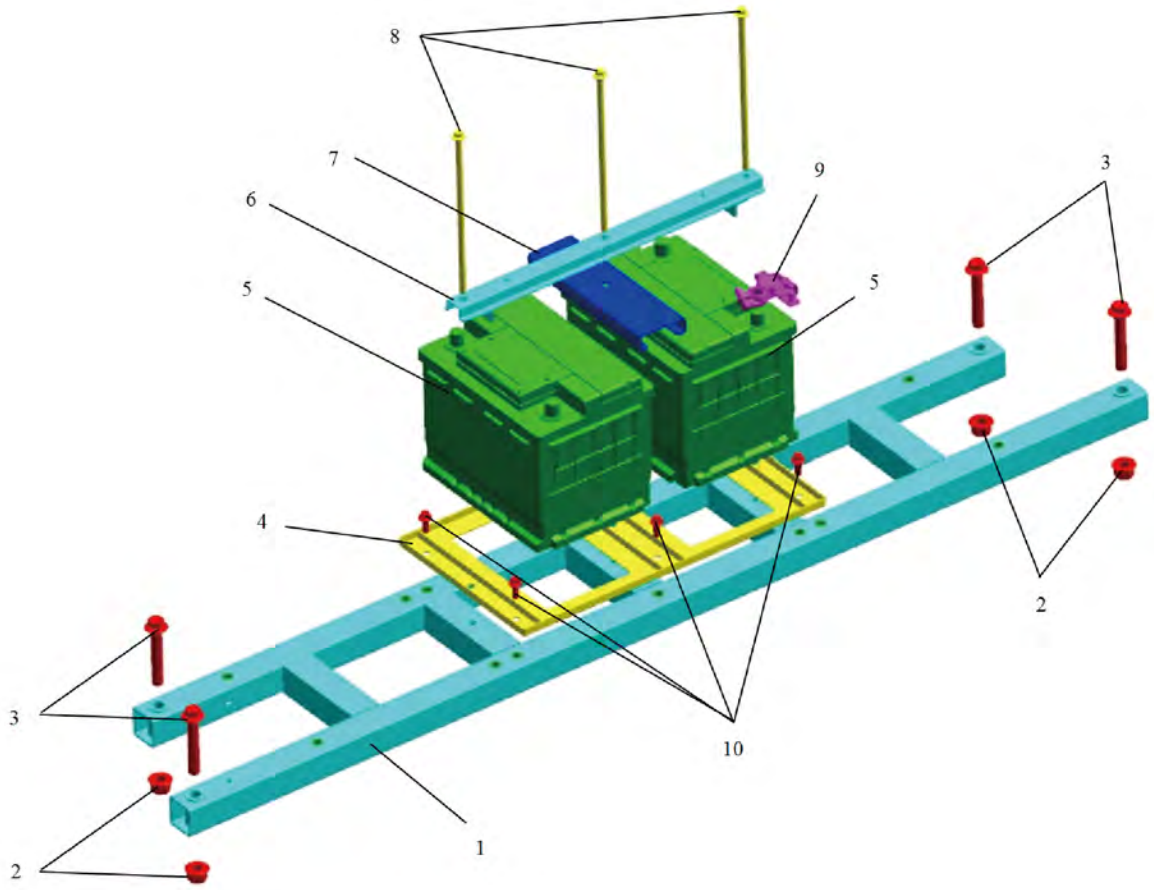
7.4.1 Specifications

7.4.1.1 Fastener Specifications

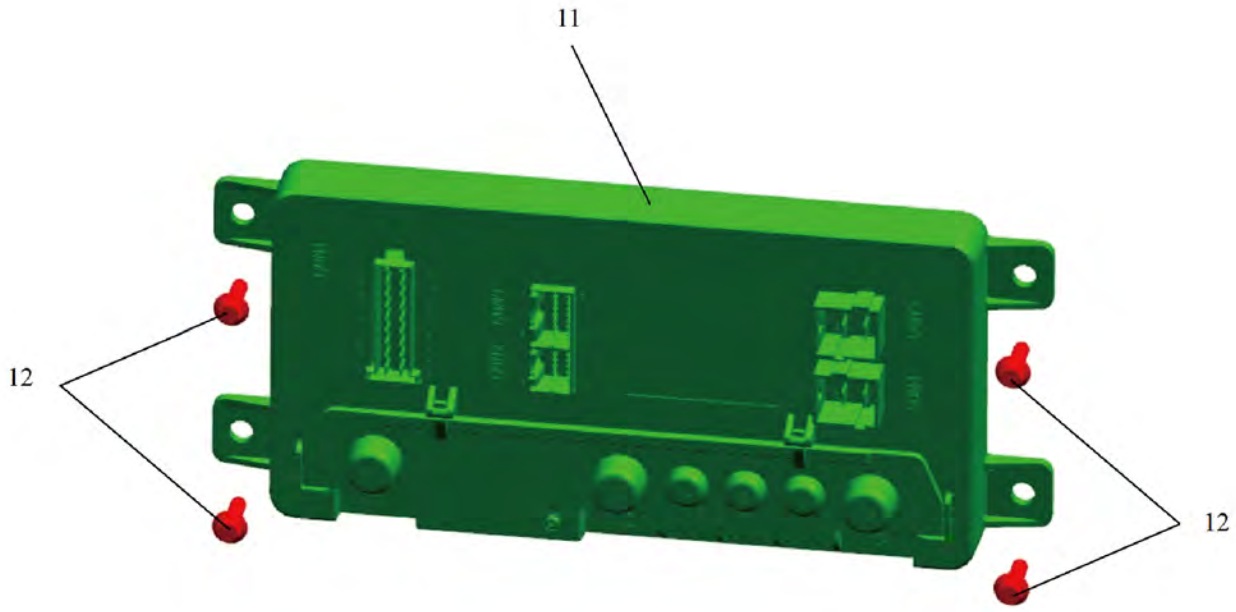
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the battery assembly bracket to the right front connecting beam	M14	(103 +/- 7.5) ft lbs
The fixing bolt connecting the battery assembly bracket to the left front connecting beam	M14	(103 +/- 7.5) ft lbs
The fixing nut connecting the battery assembly bracket to the right front connecting beam	M14	(103 +/- 7.5) ft lbs
The fixing nut connecting the battery assembly bracket to the right front connecting beam	M14	(103 +/- 7.5) ft lbs
The fixing bolt connecting the battery pad and the battery assembly bracket	M8	(18.5 +/- 2) ft lbs
Intelligent electrical box - fixing bolt connecting the vehicle body to the lower left dashboard controller bracket	M6	(6.5 +/- .75) ft lbs
Intelligent electrical box - fixing bolts connecting the chassis and intelligent electrical box bracket	M8	(18.5 +/- 2) ft lbs
The fixing nut connecting the auxiliary battery and the negative terminal harness of the battery	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the battery pressure plate 3 to the power domain controller bracket	M6	(6.5 +/- .75) ft lbs

7.4.2 Decomposition Diagram

7.4.2.1 Decomposition Diagram

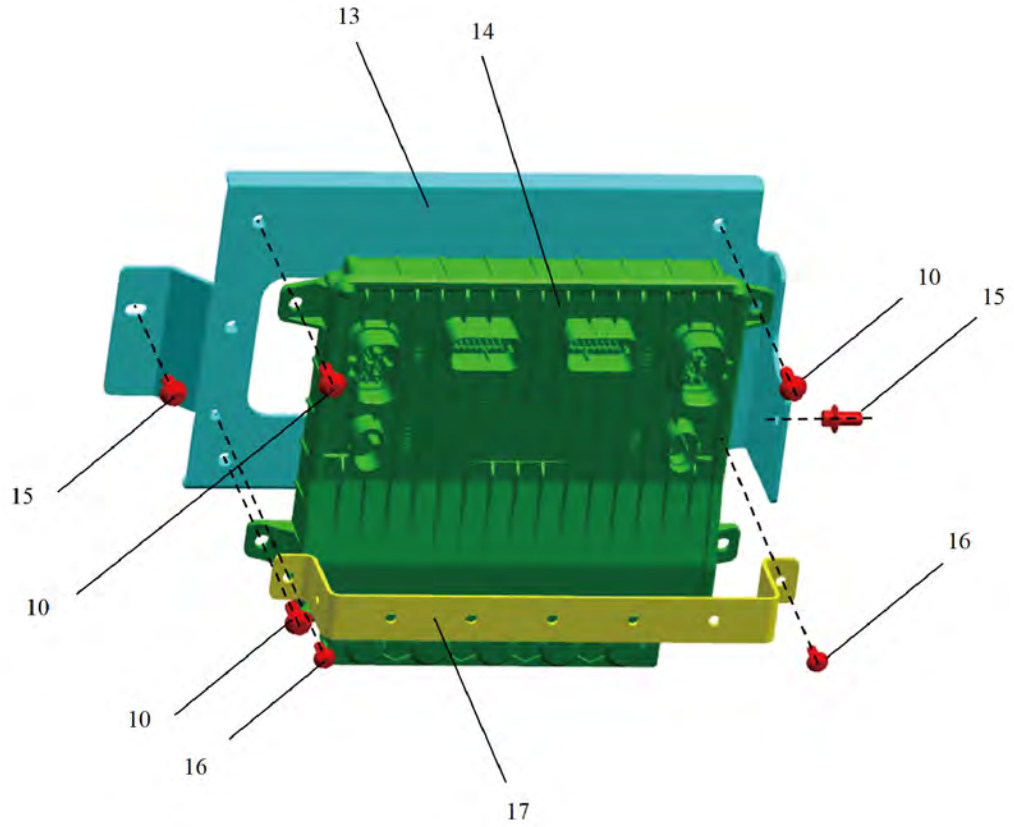


1.	Battery Bracket	6.	Battery Pressing Plate 3
2.	Hexagon Flange Lock Nut_All Metal	7.	Battery Pressing Plate 2
3.	Hexagon Flange Bolt	8.	Battery Tie Rod
4.	Battery Tray	9.	Smart Battery Sensor
5.	Auxiliary Battery	10.	Hexagon Flange Bolt



11. Smart Junction Box-Body

12. Hexagon Flange Bolt



10	Hexagon Flange Bolt	15.	Hexagon Flange Bolt
13.	Smart Junction Box Bracket-Chassis	16.	Hexagon Flange Bolt
14.	Smart Junction Box-Chassis	17.	Smart Junction Box Bracket-Chassis 2

7.4.3 Dismantling and Installation

7.4.3.1 Replacement of Battery Assembly Bracket

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

It is necessary to power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the VDC assembly.

5 Remove the VDC bracket.

6 Remove the battery rod.

7 Remove the battery pressure plate 3.

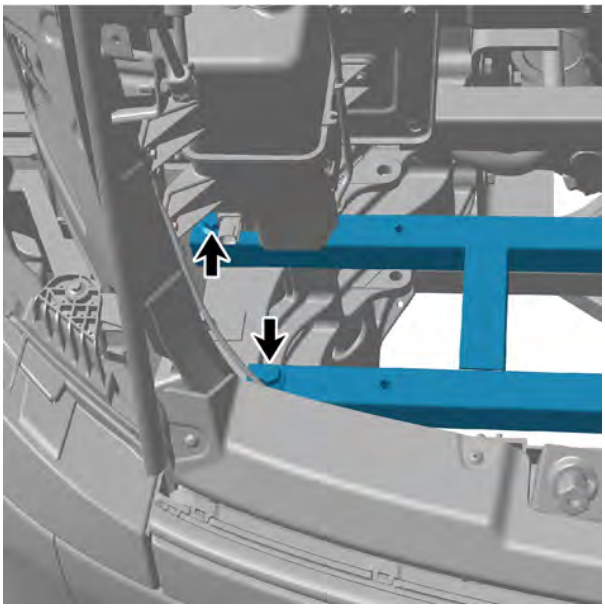
8 Remove the battery pressure plate 2.

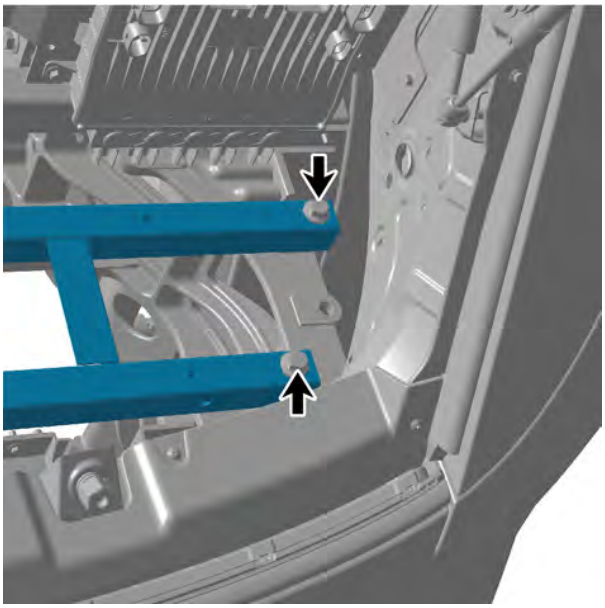
9 Remove the auxiliary battery.

10 Remove the battery backing plate.

11 Remove Left Junction Box.

12 Remove Right Junction Box.

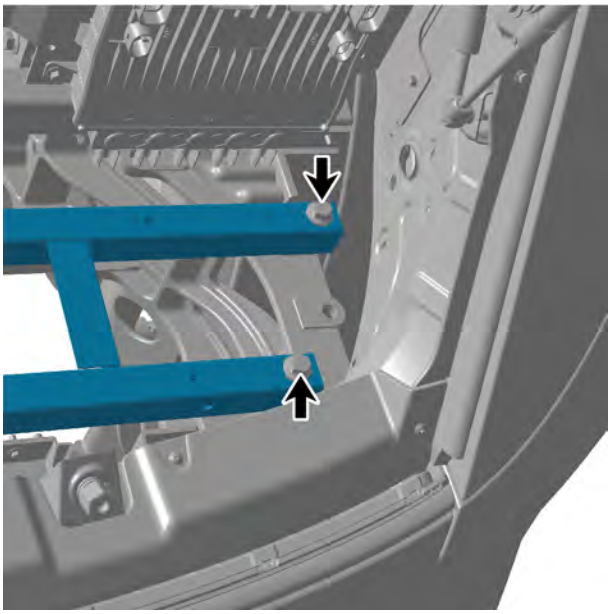


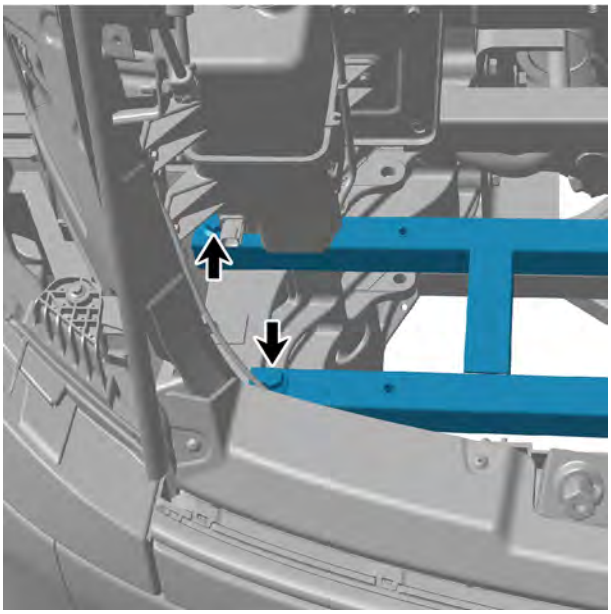


13 Remove 4 fixing bolts of the battery assembly bracket.

14 Remove the battery assembly bracket.

Installation Procedures





1 Move the battery assembly bracket to the mounting position.

2 Install 4 fixing bolts of the battery assembly bracket.

Torque: (103 +/- 7.5) ft lbs

3 Install Right Junction Box.

4 Install Left Junction Box.

5 Install the battery backing plate.

6 Install the auxiliary battery.

7 Install the battery pressure plate 2.

8 Install the battery pressure plate 3.

9 Install the battery rod.

10 Install the VDC bracket.

11 Install the VDC assembly.

12 Connect the battery negative cable.

13 Close the front flip cover plate.

14 Close the door.

7.4.3.2 Replacement of Battery Backing Plate

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the VDC assembly.

5 Remove the VDC bracket.

6 Remove the battery rod.

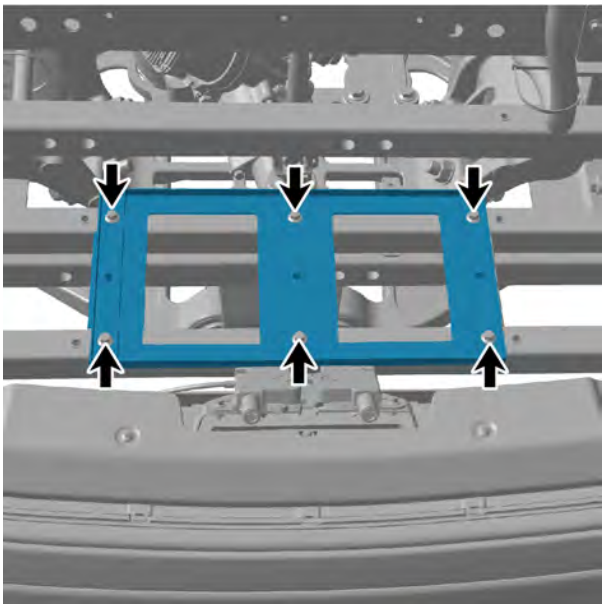
7 Remove the battery pressure plate 3.

8 Remove the battery pressure plate 2.

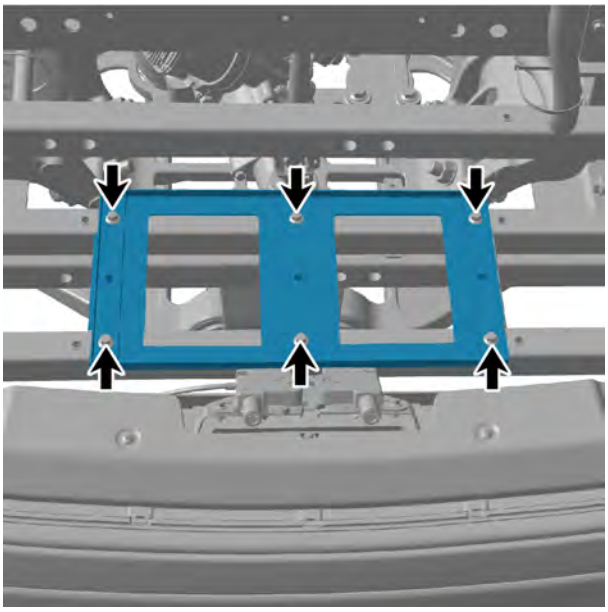
9 Remove the auxiliary battery.

10 Remove 6 fixing bolts of the battery backing plate.

11 Remove the battery backing plate.



Installation Procedures



1 Move the battery backing plate to the mounting position.

2 Install 6 fixing bolts of the battery backing plate.

Torque: (18.5 +/- 2) ft lbs

3 Install the auxiliary battery.

4 Install the battery pressure plate 2.

5 Install the battery pressure plate 3.

6 Install the battery rod.

7 Install the VDC bracket.

8 Install the VDC assembly.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

7.4.3.3 Replacement of Auxiliary Battery

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

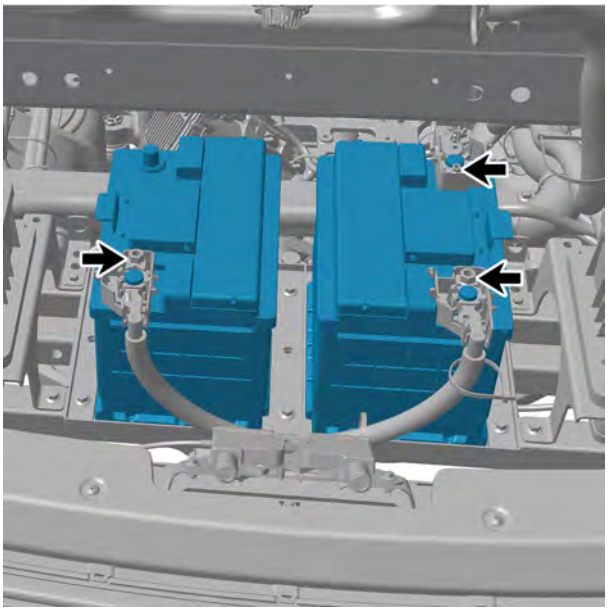
4 Remove the VDC assembly.

5 Remove the VDC bracket.

6 Remove the battery rod.

7 Remove the battery pressure plate 3.

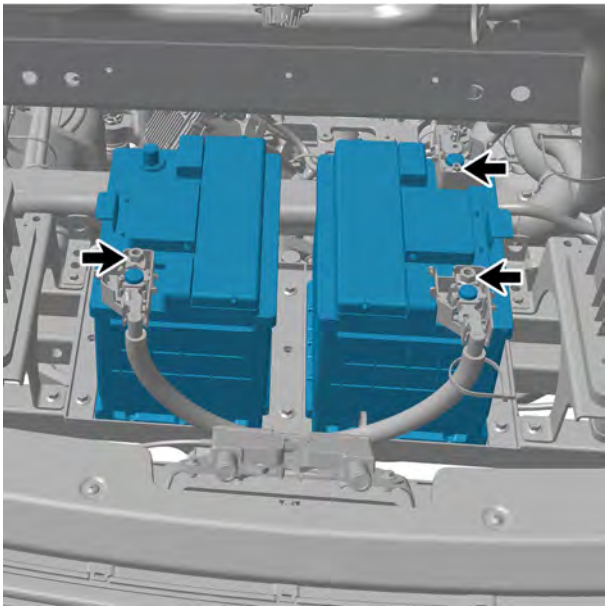
8 Remove the battery pressure plate 2.



9 Loosen 3 fixing nuts of the auxiliary battery terminal.

10 Remove the auxiliary battery.

Installation Procedures



1 Move the auxiliary battery rod to the mounting position.

2 Tighten 3 fixing nuts of the auxiliary battery terminal.

Torque: (18.5 +/- 2) ft lbs

3 Install the battery pressure plate 2.

4 Install the battery pressure plate 3.

5 Install the battery rod.

6 Install the VDC bracket.

7 Install the VDC assembly.

8 Connect the battery negative cable.

9 Close the front flip cover plate.

10 Close the door.

7.4.3.4 Replacement of Battery Pressure Plate 2

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

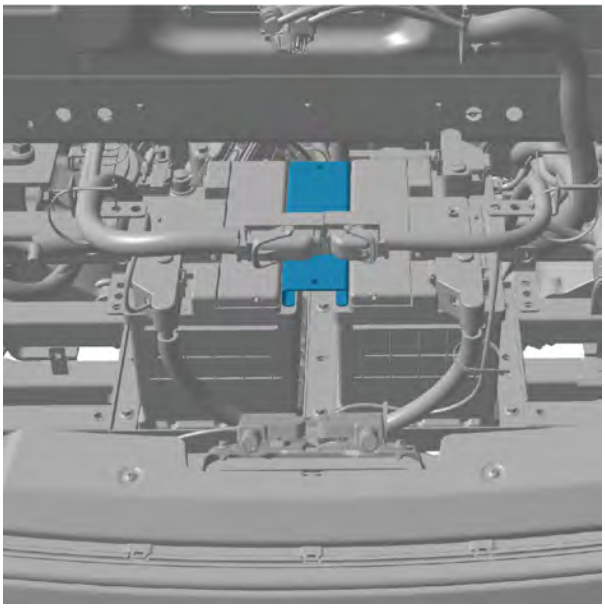
4 Remove the VDC assembly.

5 Remove the VDC bracket.

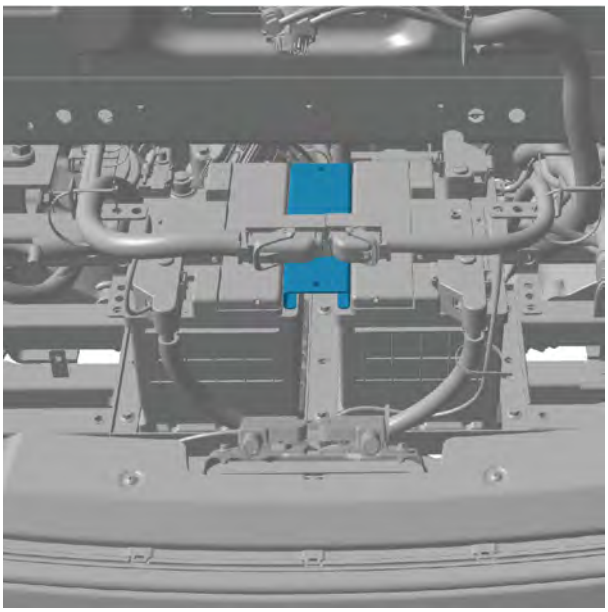
6 Remove the battery rod.

7 Remove the battery pressure plate 3.

8 Remove the battery pressure plate 2.



Installation Procedures



1 Move the battery pressure plate 2 to the mounting position.

2 Install the battery pressure plate 3.

3 Install the battery rod.

4 Install the VDC bracket.

5 Install the VDC assembly.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

7.4.3.5 Replacement of Battery Pressure Plate 3

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

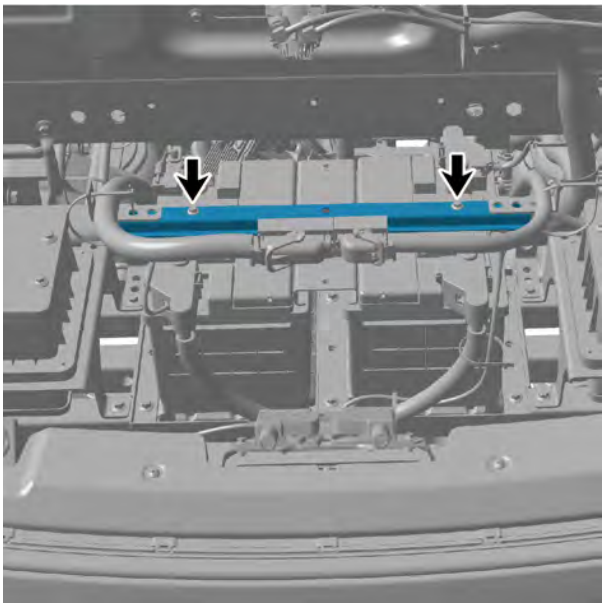
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the VDC assembly.

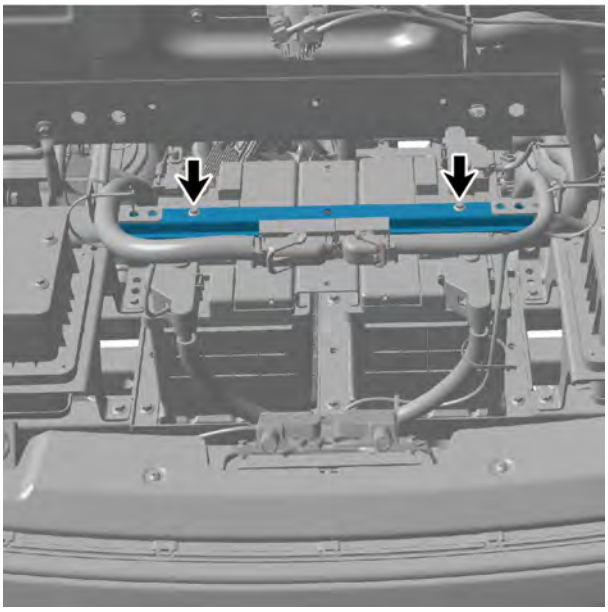
5 Remove the VDC bracket.

6 Remove the battery rod.

7 Remove the battery pressure plate 3.



Installation Procedures



1 Move the battery pressure plate 3 to the mounting position.

2 Install the battery rod.

3 Install the VDC bracket.

4 Install the VDC assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.4.3.6 Replacement of Battery Rod

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

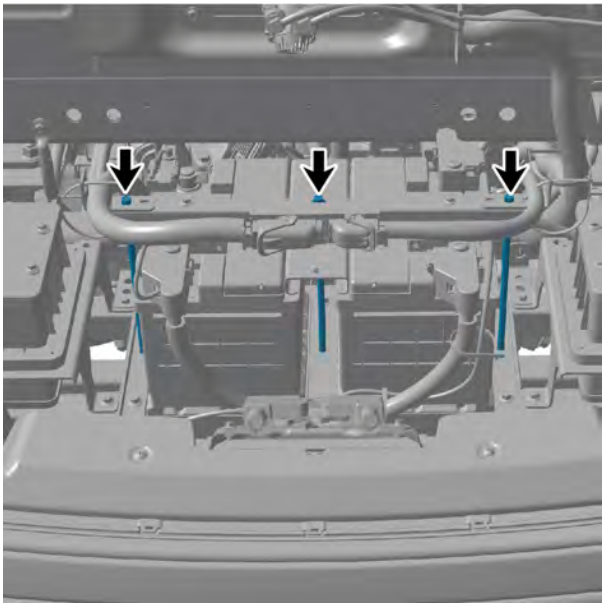
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

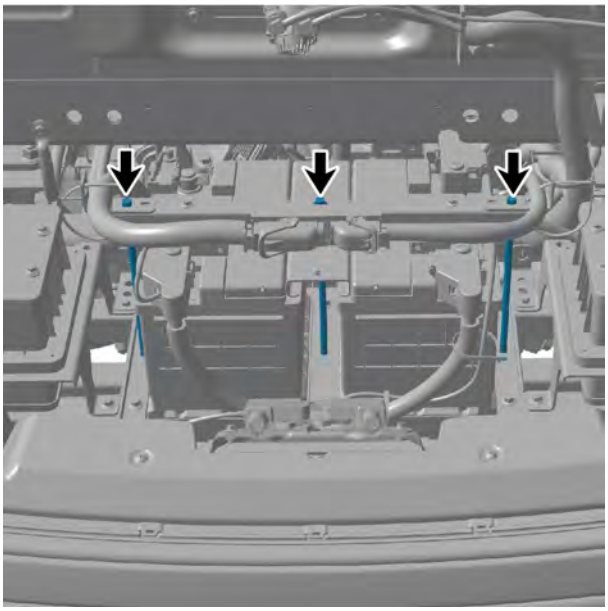
4 Remove the VDC assembly.

5 Remove the vehicle controller assy bracket.

6 Remove 3 battery rods.



Installation Procedures



1 Move the battery rod to the mounting position.

2 Install 3 battery rods.

3 Install the vehicle controller assy bracket.

4 Install the VDC assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.4.3.7 Replacement of IBS

Removal Procedures

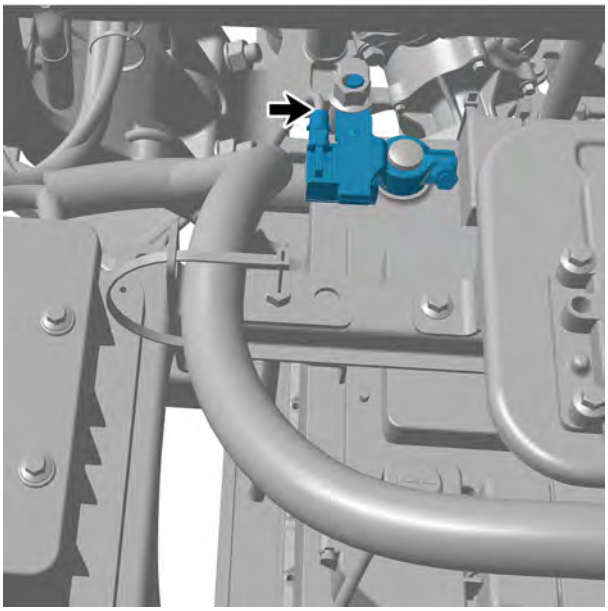
1 Open the door.

2 Open the front flip cover plate.

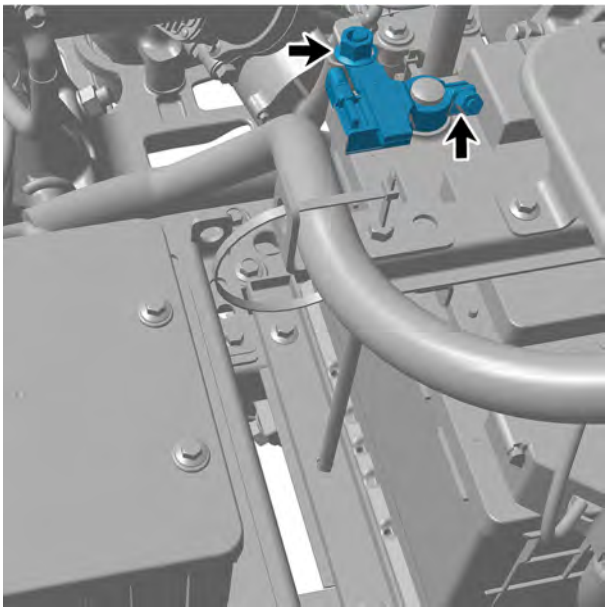
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



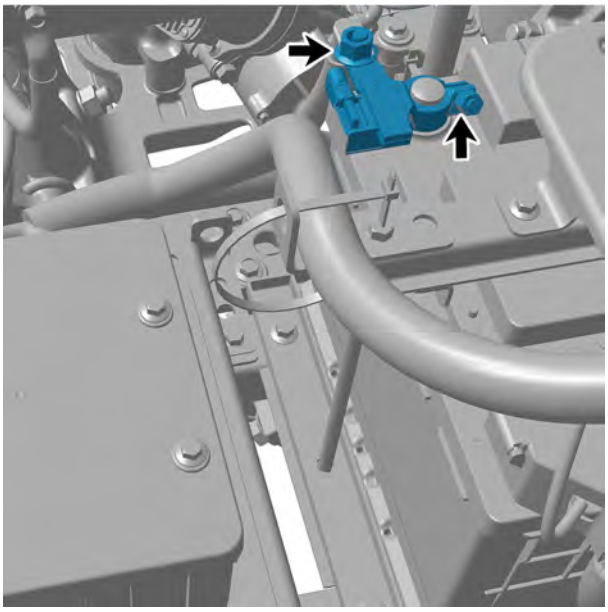
4 Disconnect 1 harness connector of the IBS.



5 Remove 2 fixing nuts of the IBS.

6 Remove the IBS.

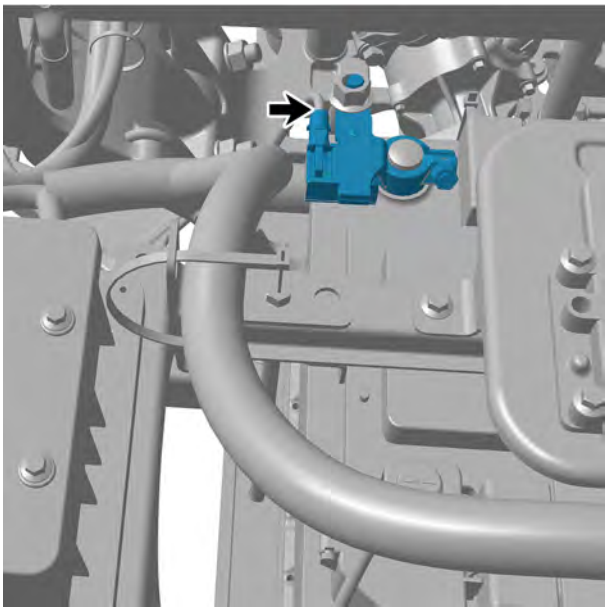
Installation Procedures



1 Move the IBS to the mounting position.

2 Install 2 fixing nuts of the IBS.

Torque: (14.75) ft lbs



3 Connect 1 harness connector of the IBS.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.4.3.8 Replacement of SJB_UP

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the front USB interface.

6 Remove the vehicle controller assy bracket.

7 Remove the vehicle travelling data recorder bracket.

8 Remove the IP left access cover plate assembly.

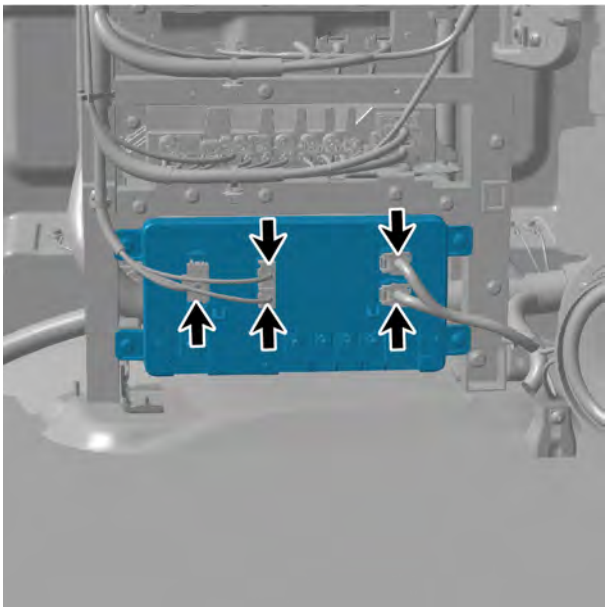
9 Remove the left switch panel assembly.

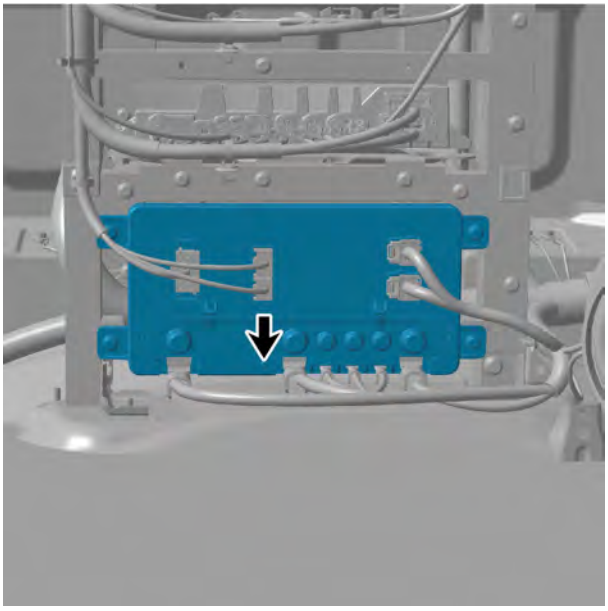
10 Remove the left switch panel lower trim panel assembly.

11 Remove the IP left lower trim panel assembly.

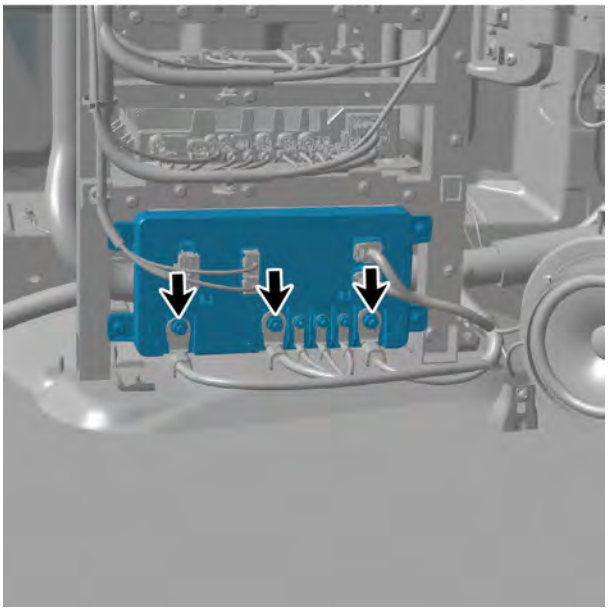
12 Remove the left lower fixing bracket.

13 Disconnect 5 harness connectors of the SJB_UP.

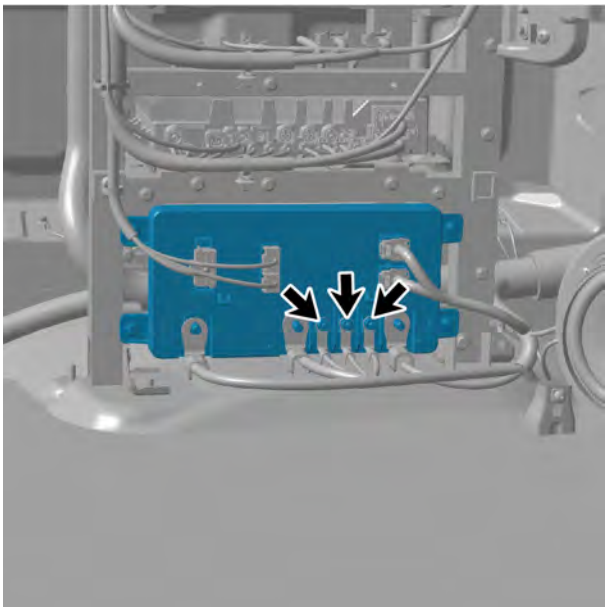




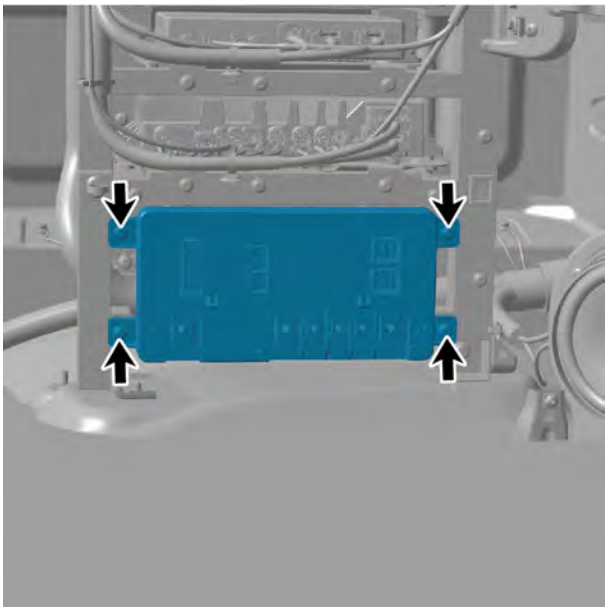
14 Remove 1 screw, and remove the SJB_UP cover plate.



15 Remove 3 fixing nuts of the harness to detach the harness.



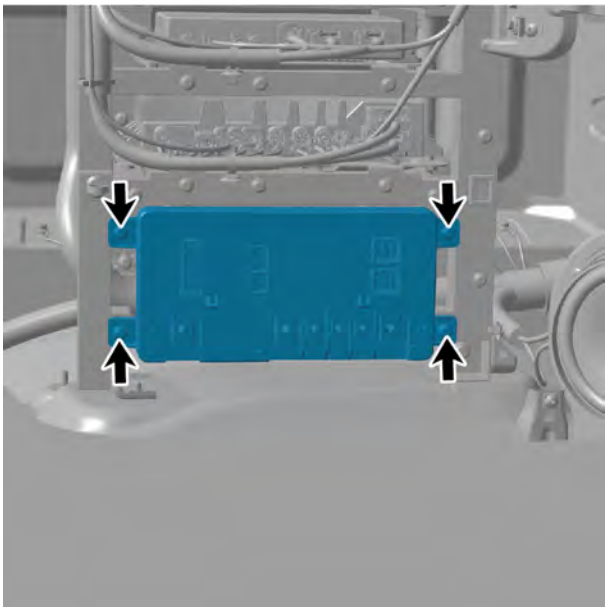
16 Remove 3 fixing nuts of the harness to detach the harness.



17 Remove 4 fixing bolts of the SJB_UP.

18 Remove the SJB_UP.

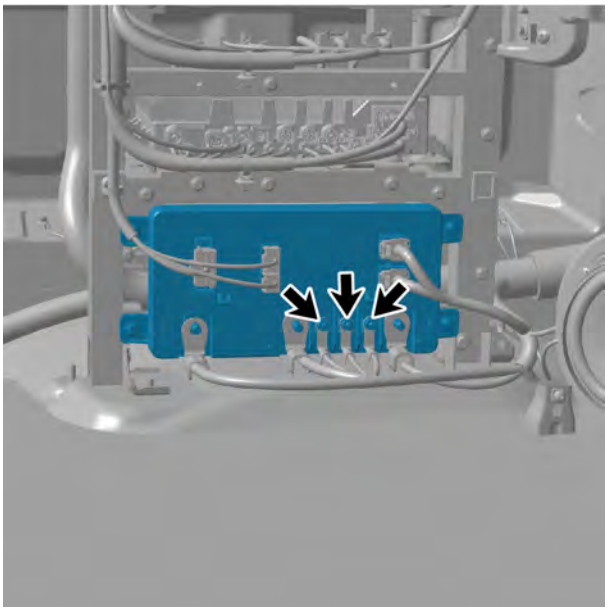
Installation Procedures



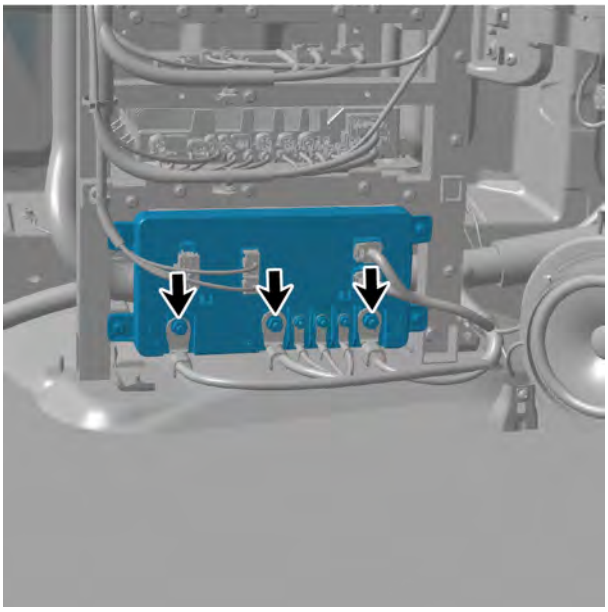
1 Move the SJB_UP to the mounting position.

2 Install 4 fixing bolts of the SJB_UP.

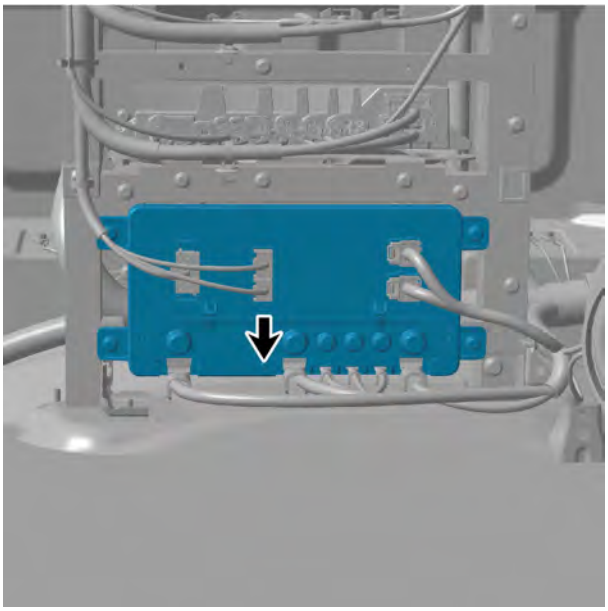
Torque:(7.5 +/- .75) ft lbs



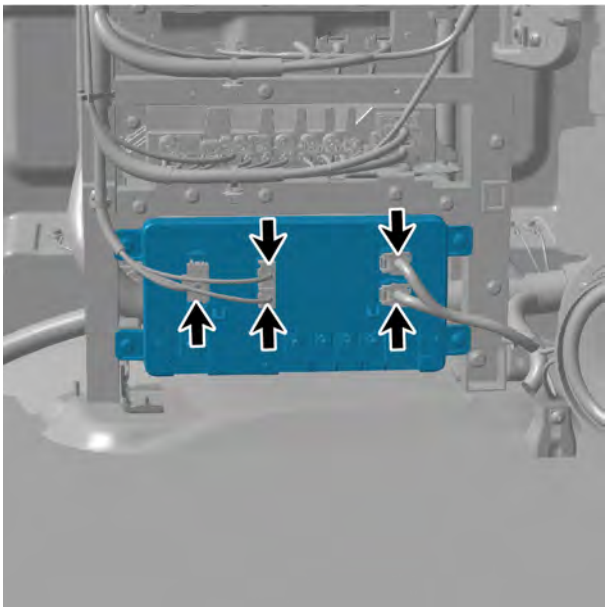
3 Connect the harness, and install 3 fixing nuts of the harness.



4 Connect the harness, and install 3 fixing nuts of the harness.



5 Install the SJB_UP cover plate, and install 1 screw.



6 Connect 5 harness connectors of the SJB_UP.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

7 Install the left lower fixing bracket.

8 Install the IP left lower trim panel assembly.

9 Install the left switch panel lower trim panel assembly.

10 Install the left switch panel assembly.

11 Install the IP left access cover plate assembly.

12 Install the IP left upper trim panel assembly.

13 Install the vehicle travelling data recorder bracket.

14 Install the vehicle controller assy bracket.

15 Install the front USB interface.

16 Connect the battery negative cable.

17 Close the front flip cover plate.

18 Close the door.

7.4.3.9 Replacement of SJB_UN

Removal Procedures

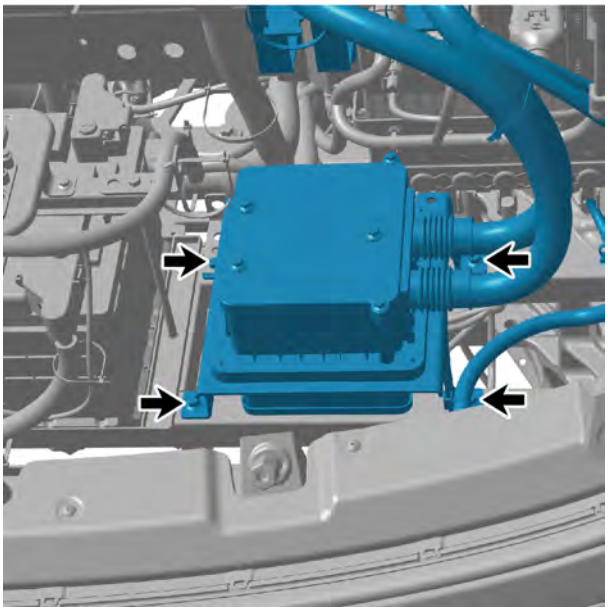
1 Open the door.

2 Open the front flip cover plate.

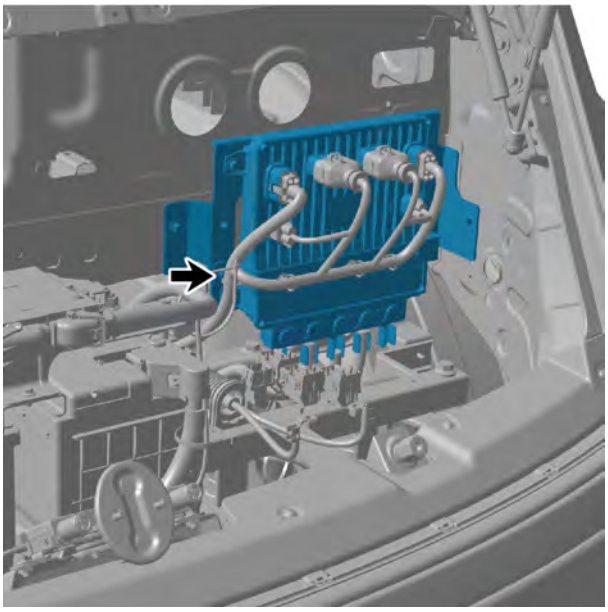
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

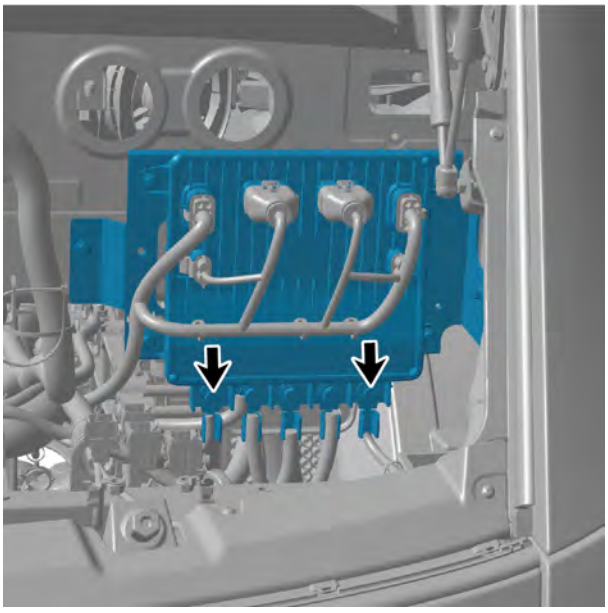


4 Remove 4 fixing bolts of Left Junction Box, and move Left Junction Box.

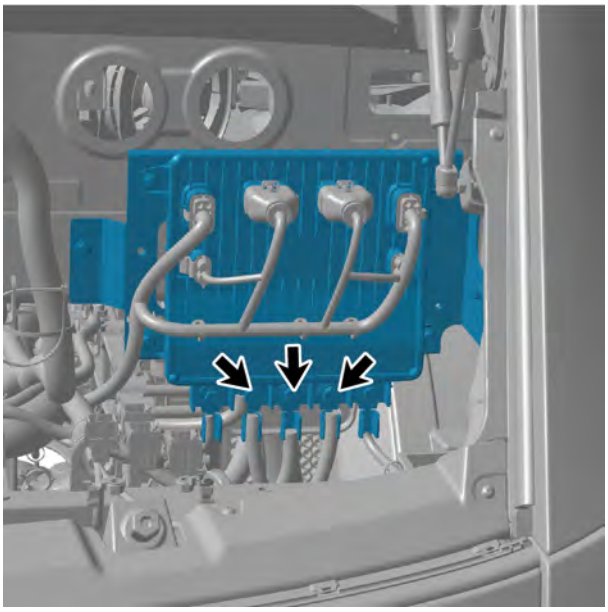


5 Remove 2 fixing bolts of the SJB_UN bracket, and move the SJB_UN bracket.

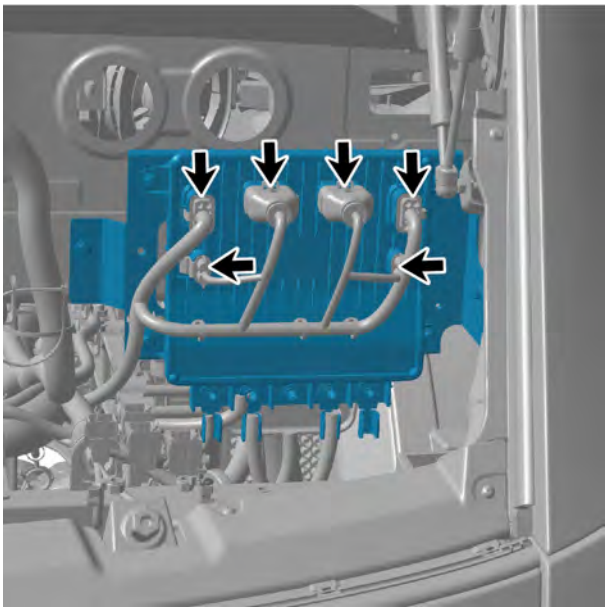




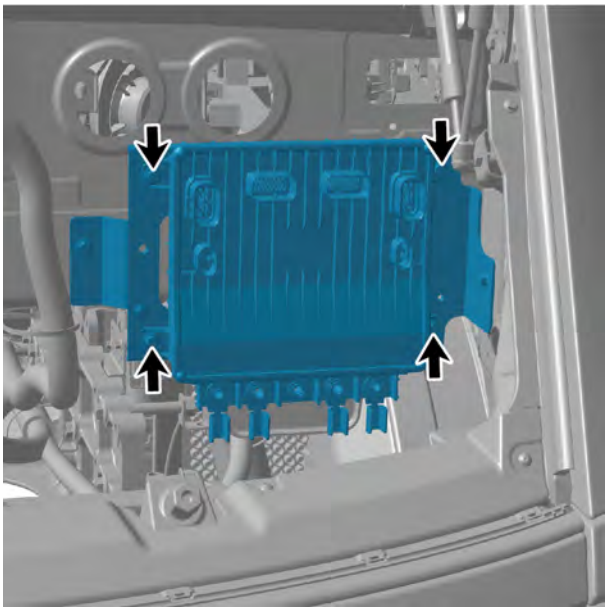
6 Remove the cover plate and remove 2 fixing bolts to detach the harness.



7 Remove 3 fixing bolts to detach the harness.



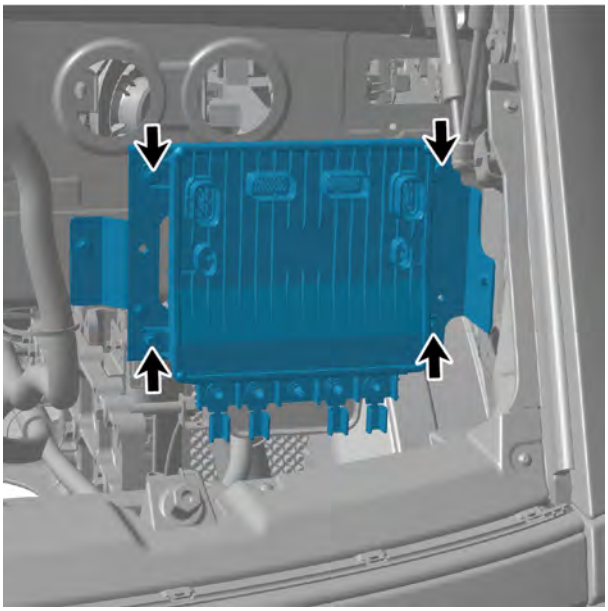
8 Disconnect 6 harness connectors of the SJB_UN.



9 Remove 4 fixing bolts of the SJB_UN.

10 Remove the SJB_UN.

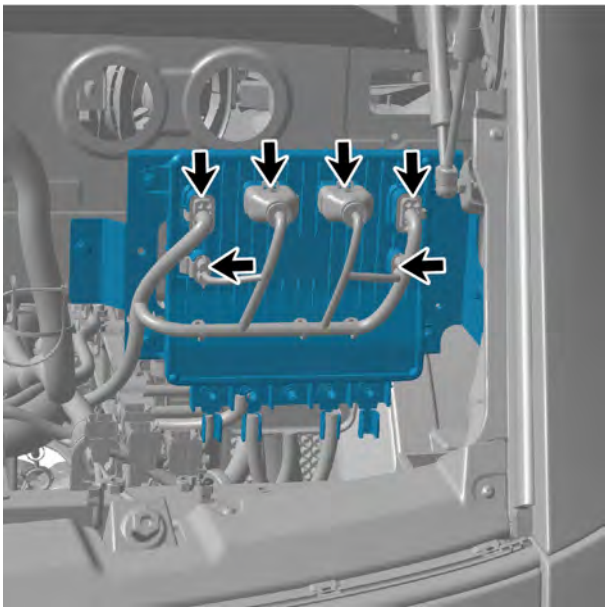
Installation Procedures



1 Move the SJB_UN to the mounting position.

2 Install 4 fixing bolts of the SJB_UN.

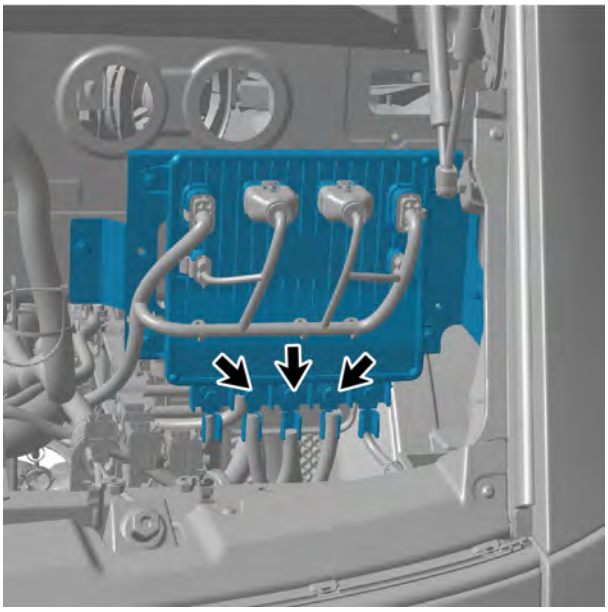
Torque: (18.5 +/- 2) ft lbs



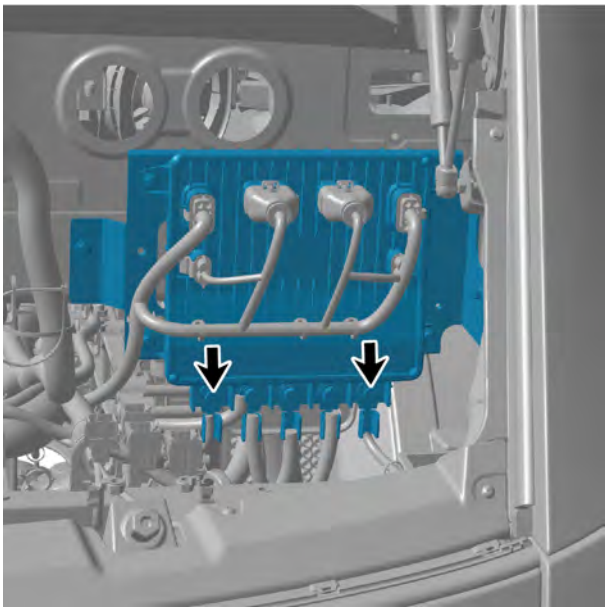
3 Connect 6 harness connectors of the SJB_UN.

caution

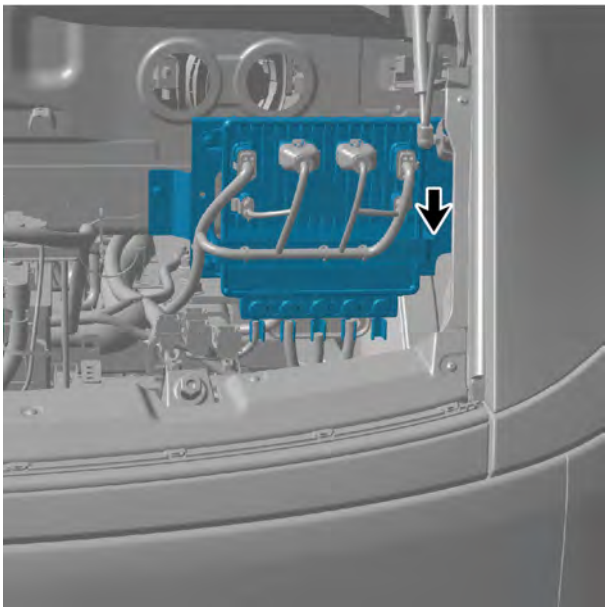
The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



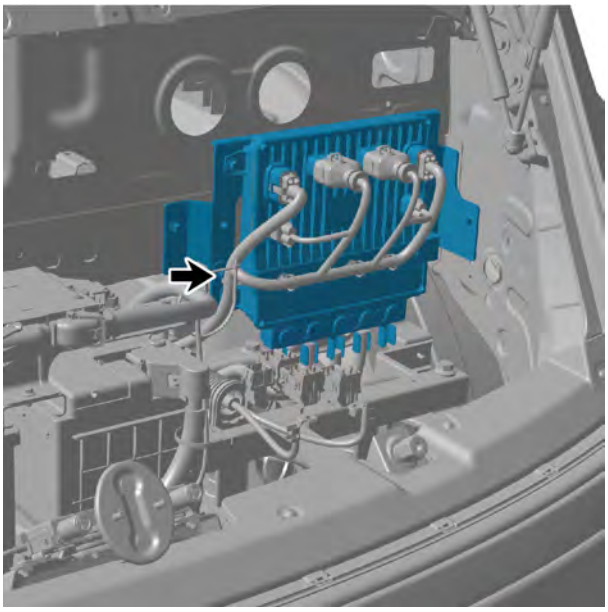
4 Connect the harness, and install 3 fixing bolts.

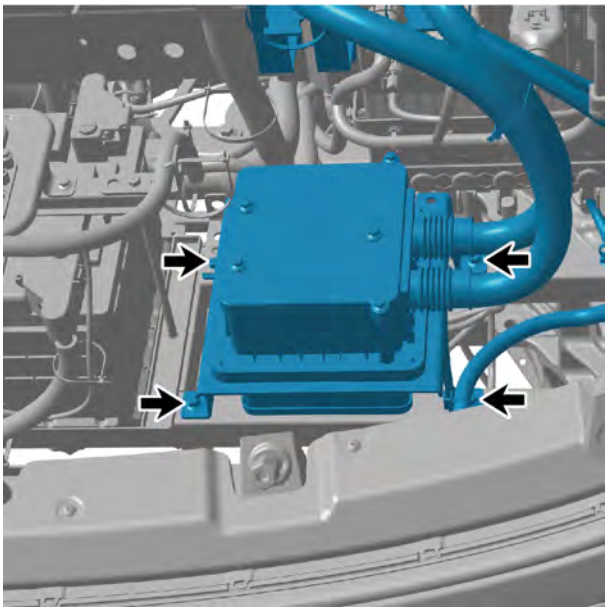


5 Connect the harness, install 2 fixing bolts, and install the cover plate.



6 Install the SJB_UN bracket, and install 2 fixing bolts of the SJB_UN bracket.





7 Install Left Junction Box, and install 4 fixing bolts of Left Junction Box.

8 Connect the battery negative cable.

9 Close the front flip cover plate.

10 Close the door.

7.4.3.10 Replacement of The DC Converter

Removal procedures

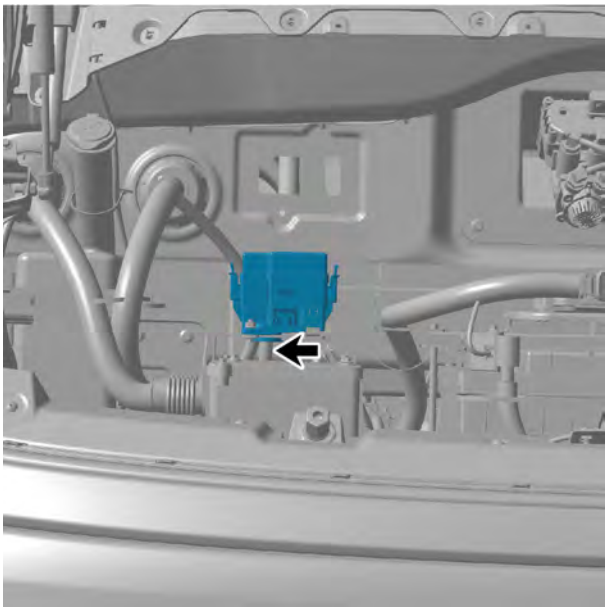
1 Open the door.

2 Open the front flip cover plate.

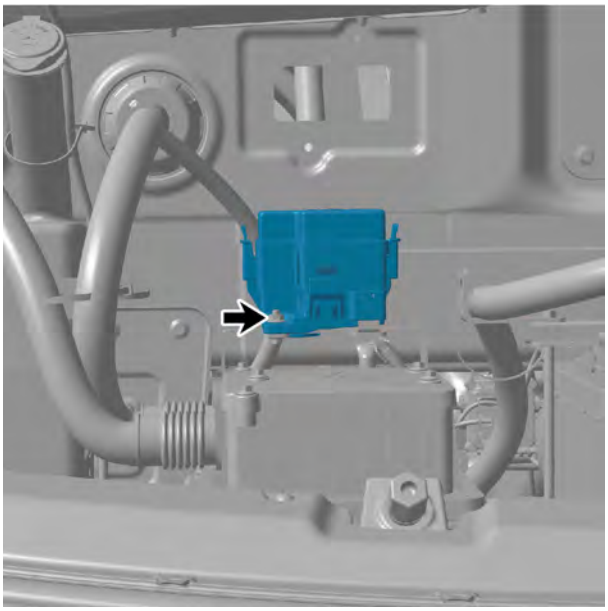
3 Disconnect the battery negative cable.

caution

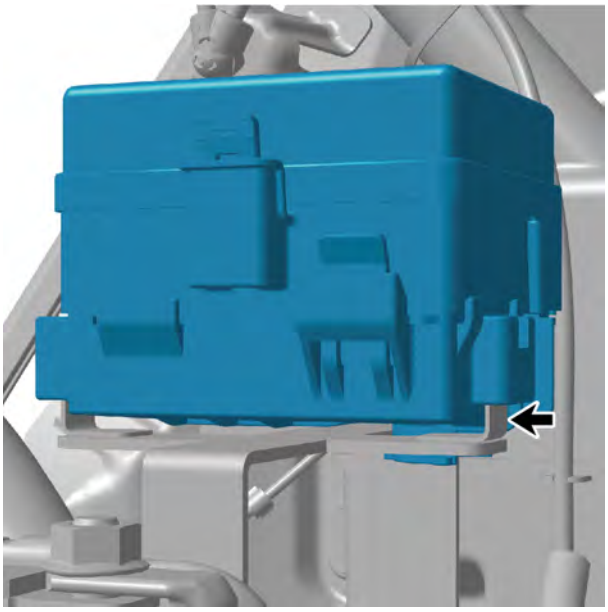
power down the high-voltage system before disconnecting the negative pole of the storage battery.

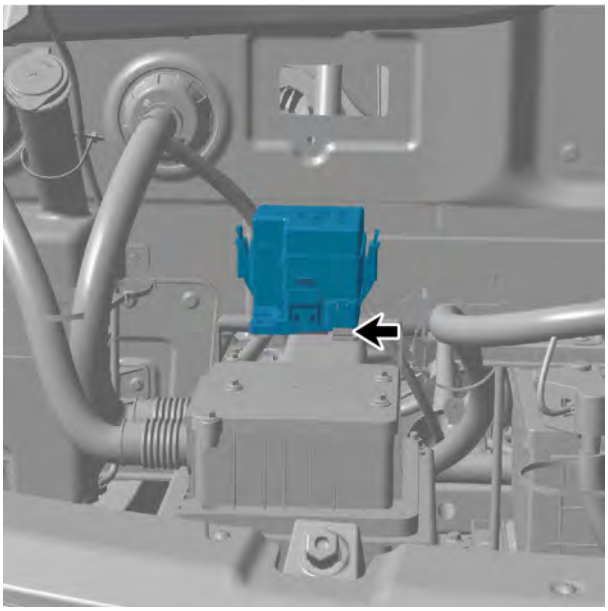


4 Disconnect 1 wire harness connector of the DC converter.



5 Remove 1 fixing bolt of the DC converter.

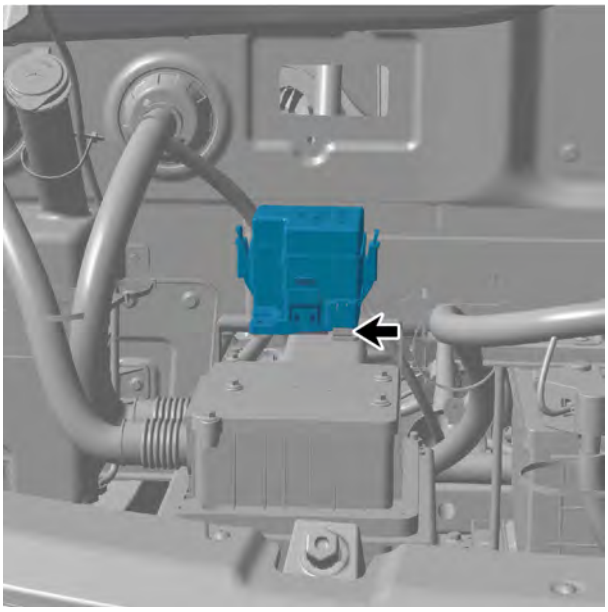




6 Separate the DC converter from the DC converter bracket.

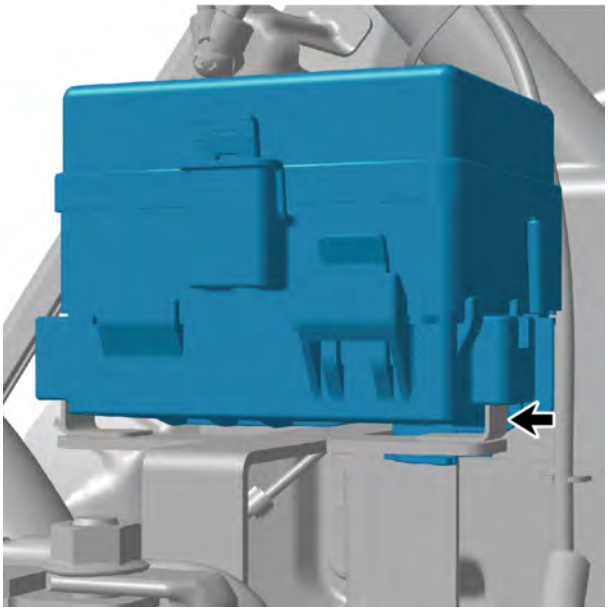
7 Remove the DC converter.

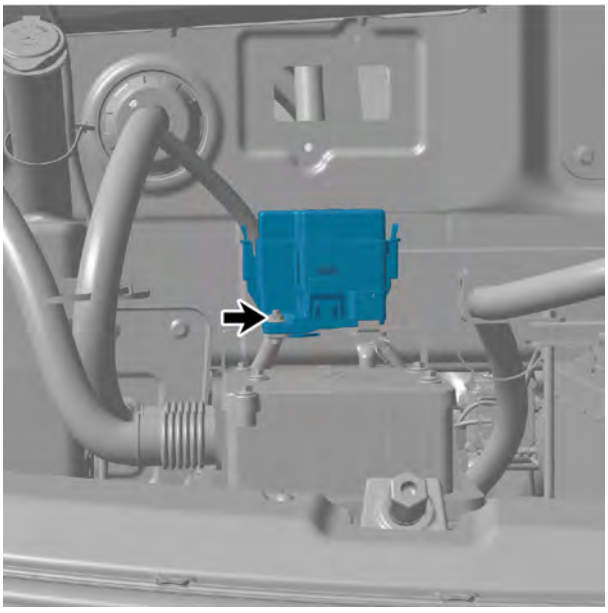
Installation procedures



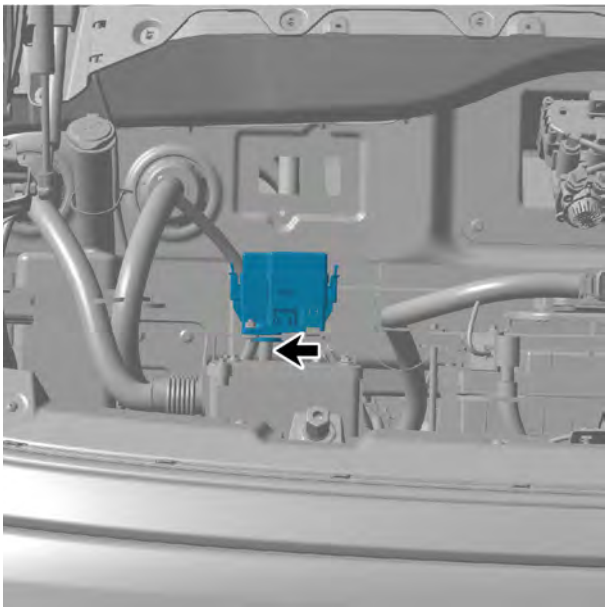
1 Move the DC converter to the mounting position.

2 Connect the DC converter to the DC converter bracket.





3 Install 1 fixing bolt of the DC converter.



4 Connect 1 wire harness connector of the DC converter.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.4.3.11 Replacement of The DC Converter Bracket

Removal procedures

1 Open the door.

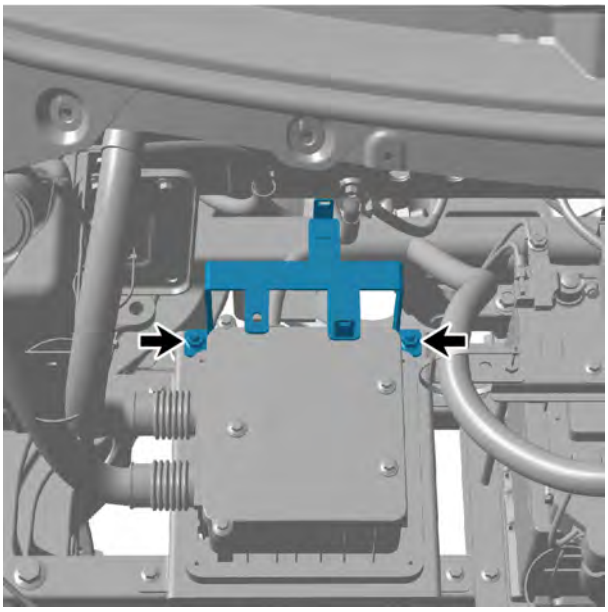
2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

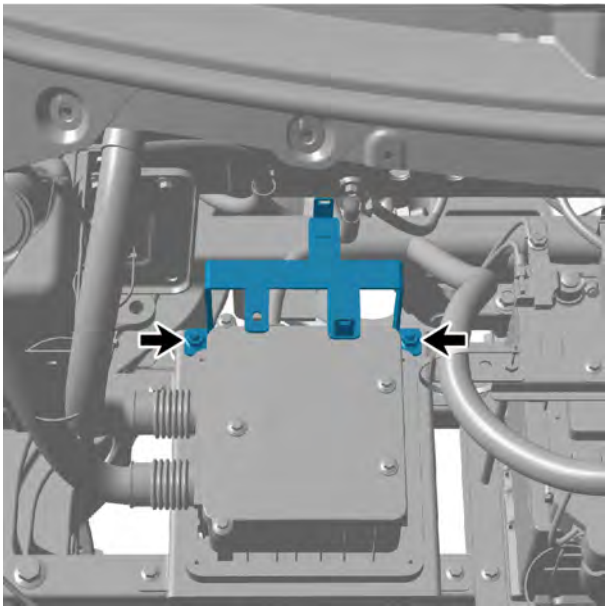
4 Remove the DC converter.



5 Remove 2 fixing nuts of the DC converter bracket.

6 Remove the DC converter bracket.

Installation procedures



1 Move the DC converter bracket to the mounting position.

2 Install 2 fixing nuts of the DC converter bracket.

3 Install the DC converter.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.4.4 Inspect

7.4.4.1 Inspection Of The Main Battery

Step 1	Check the appearance of the main battery.

A. Check the appearance of the main battery for deformation or damage.

B. Check if the main battery is leaking.

C. Confirm if the above checks are normal.

No → Refer to Replacement Of Auxiliary Battery

Yes

Step 2	Check the positive and negative connectors of the main battery.

A. Check whether the positive and negative connectors of the main battery are loose, oxidized, or corroded.

B. Confirm if the above checks are normal.

No → Repair or replace faulty components.

Yes

Step 3	Use a battery tester to test the main battery.

A. Set the vehicle power to OFF for multimedia.

B. Disconnect the positive and negative terminals of the main battery.

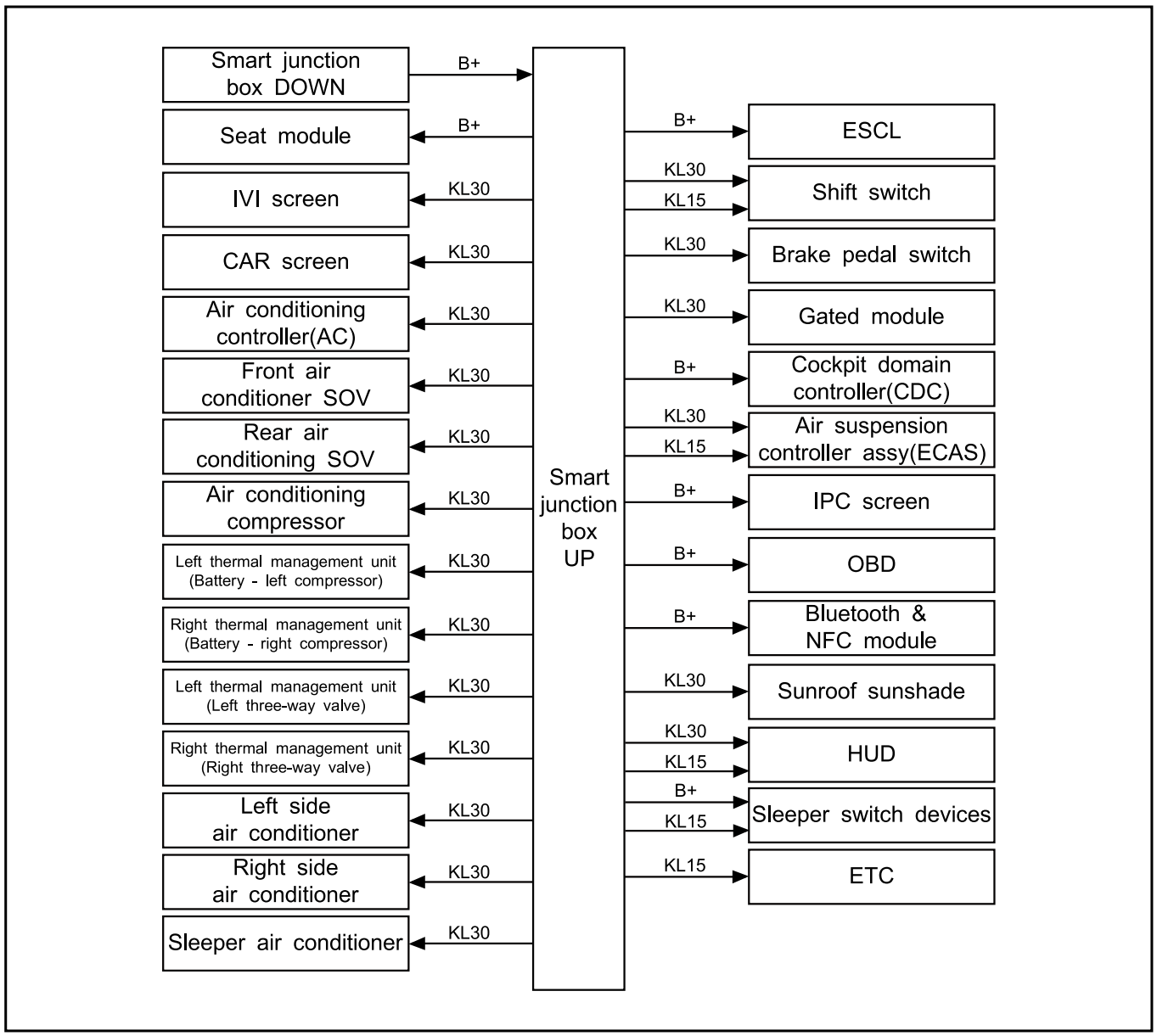
C. Use a battery tester to measure the main battery and perform the corresponding operations according to the table below.

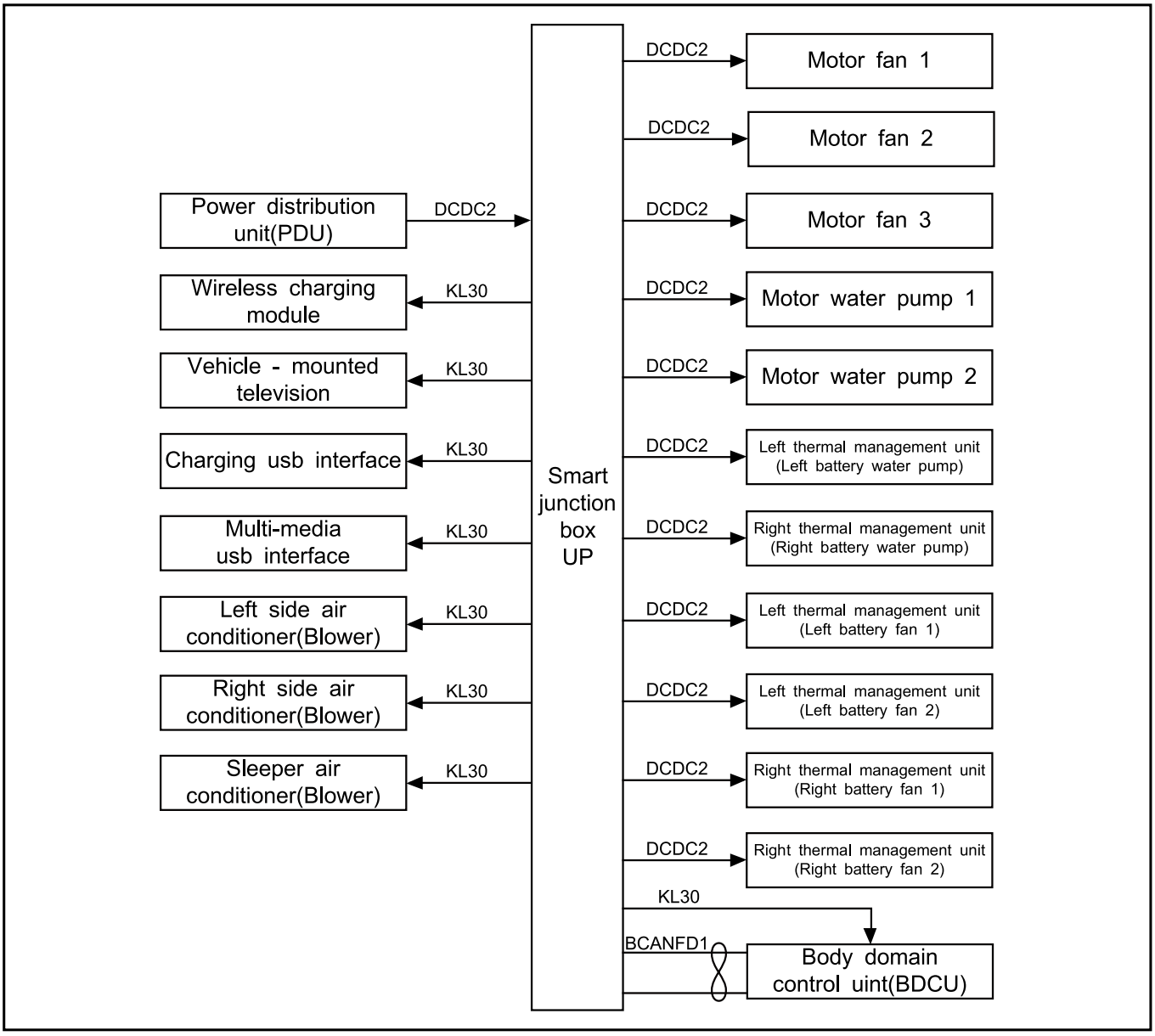
Measurement Result	Execution Operations
The battery is in good condition	Inspection completed
Need to charge	Charge the main battery
Need to replace	Refer to Replacement Of Auxiliary Battery

7.4.5 System Schematic Diagram

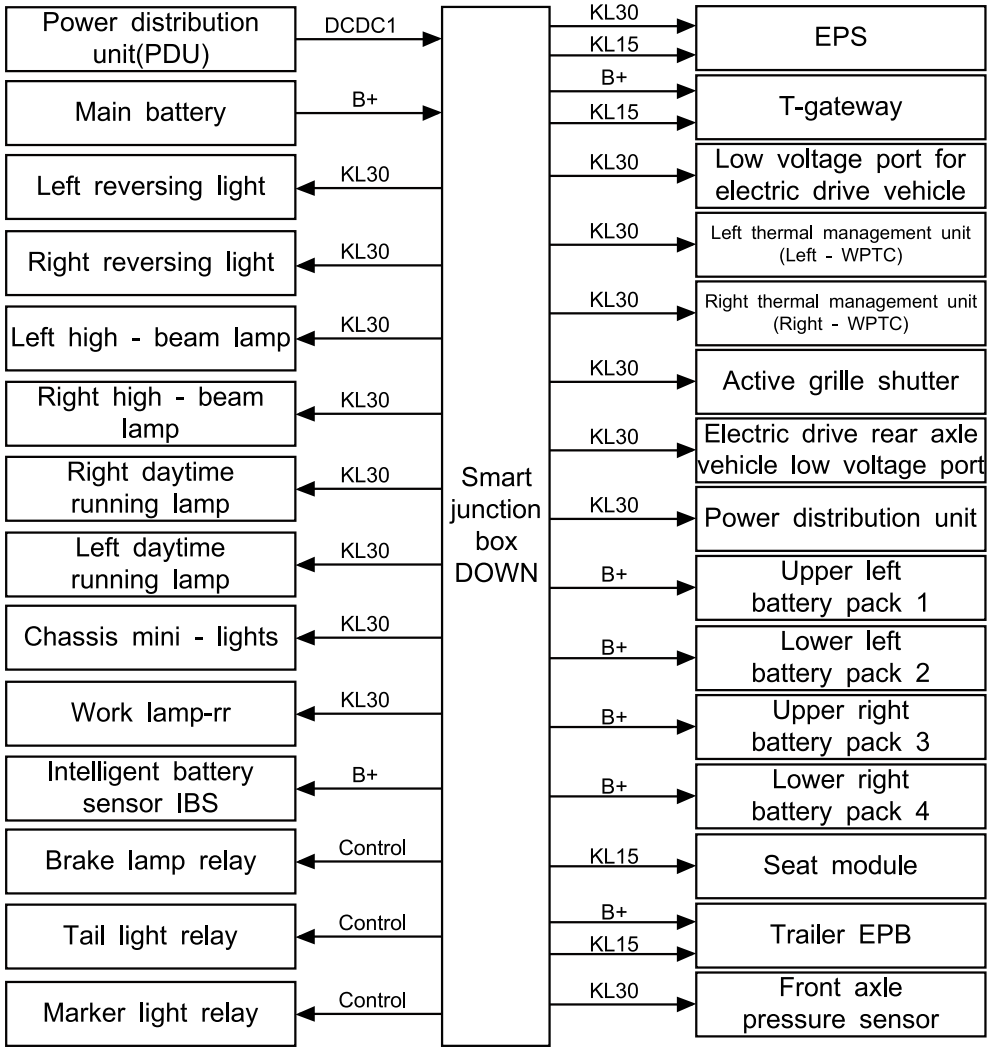
7.4.5.1 Electrical Schematic Diagram

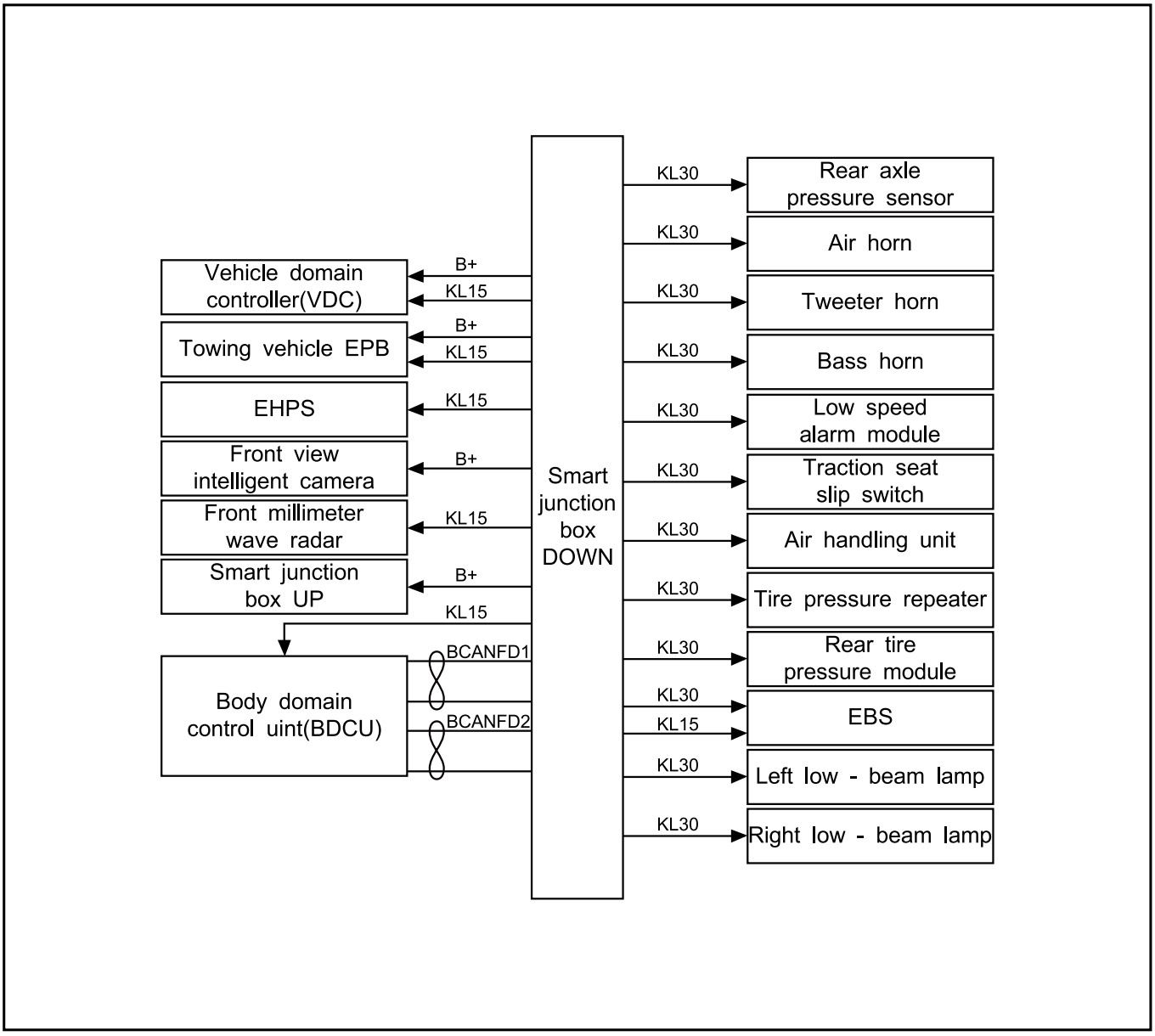
Body smart electrical box



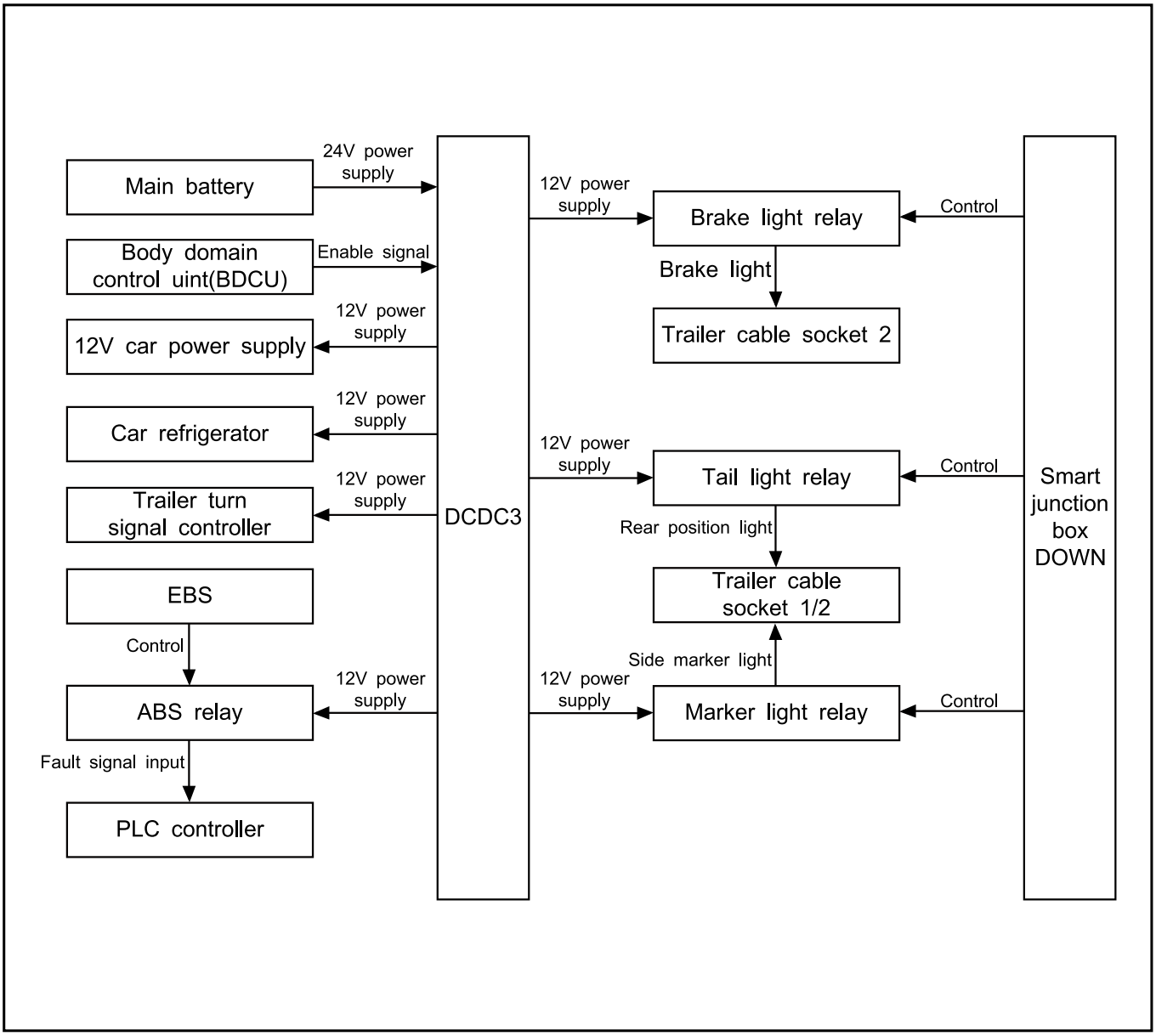


Chassis smart electrical box


Power distribution unit(PDU)
DCDC1
Main battery
B+
Left reversing light
KL30
Right reversing light
KL30
Left high - beam lamp
KL30
Right high - beam lamp
KL30
Right daytime running lamp
KL30
Left daytime running lamp
KL30
Chassis mini - lights
KL30
Work lamp-rr
KL30
Intelligent battery sensor IBS
B+
Brake lamp relay
Control
Tail light relay
Control
Marker light relay
Control
Smart junction box DOWN
KL30
KL15
B+
KL15
KL30
KL30
KL30
KL30
KL30
KL30
KL30
B+
B+
B+
B+
KL15
B+
KL15
KL30
EPS
T-gateway
Low voltage port for electric drive vehicle
Left thermal management unit (Left - WPTC)
Right thermal management unit (Right - WPTC)
Active grille shutter
Electric drive rear axle vehicle low voltage port
Power distribution unit
Upper left battery pack 1
Lower left battery pack 2
Upper right battery pack 3
Lower right battery pack 4
Seat module
Trailer EPB
Front axle pressure sensor



12V power distribution system


Main battery
24V power supply
Body domain control uint(BDCU)
Enable signal
12V car power supply
12V power supply
Car refrigerator
12V power supply
Trailer turn signal controller
12V power supply
EBS
Control
ABS relay
12V power supply
Fault signal input
PLC controller
DCDC3
12V power supply
Brake light relay
Control
Brake light
Trailer cable socket 2
12V power supply
Tail light relay
Control
Rear position light
Trailer cable socket 1/2
Side marker light
12V power supply
Marker light relay
Control
Smart junction box DOWN

7.4.6 Diagnostic Information and Steps

7.4.6.1 Diagnostic Description

Before diagnosing the fault of the battery device, it is important to understand and familiarize oneself with the working principle of the battery device before starting the system diagnosis. This will help determine the correct fault diagnosis steps when a fault occurs, and more importantly, it will help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of battery devices should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

7.4.6.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the battery system, ensuring that these devices do not affect the operation of the battery system.
- Check system components that are easily accessible or visible to ensure that there is no obvious damage or potential malfunction.

7.4.6.3 DTC Confirmation

1. Connect the diagnostic tool to the diagnostic interface, read and record the DTC, and then clear the DTC.
2. Run the vehicle again.
3. Read the fault code of the control system again to confirm if there is any fault code output from the system.
   - Yes:Diagnose based on the output fault code.
   - No:Perform intermittent fault check, refer to Inspection Of Intermittent Faults

7.4.6.4 List Of Diagnostic Trouble Codes (DTC)

SJBUP

Fault Code	Fault Description	Exclusion Method
B180017	Module overvoltage	Refer to Smart Junction Box UP Power Fault
U014087	Communication with the BDCU timed out	Refer to Smart Junction Box UP Communication Fault
U007C88	BCANFD1 BusOff	
U220600	BCANFD1 NM Limphome	
B111717	High battery voltage	
B111716	Low Battery Voltage	
U015687	Lost Communication With CDCU	
U019887	Lost Communication With T-Box	
U012287	Lost Communication With VDC	
B180713	OUT07:KL15 load open circuit	Refer to Smart Junction Box UP KL15 Main Power Supply Circuit Fault
B180719	OUT07:KL15 overcurrent	
B18074B	OUT07:KL15 over temperature	
B180113	OUT01:Rear Blower load open circuit	Refer to Power Supply Circuit Fault Of Sleeper Air Conditioning Blower
B180119	OUT01:Rear Blower overcurrent	
B18014B	OUT01:Rear Blower over temperature	
B180213	OUT02:Right Front Blower load open circuit	Refer to Right Air Conditioning Blower Power Supply Circuit Fault
B180219	OUT02:Right Front Blower overcurrent	

Fault Code	Fault Description	Exclusion Method
B18024B	OUT02:Right Front Blower over temperature	
B180313	OUT03:Left Front Blower load open circuit	Refer to Left Air Conditioning Blower Power Supply Circuit Fault
B180319	OUT03:Left Front Blower overcurrent	
B18034B	OUT03:Left Front Blower over temperature	
B180513	OUT05:SWC load open circuit	Refer to Seat Module Power Supply Circuit Fault
B180519	OUT05:SWC overcurrent	
B18054B	OUT05:SWC over temperature	
B180613	OUT06:Body BDCU1 load open circuit	Refer to Vehicle Domain Controller Power Supply Circuit Fault
B180619	OUT06:Body BDCU1 overcurrent	
B18064B	OUT06:Body BDCU1 over temperature	
B180B13	OUT11:Body BDCU2 load open circuit	
B180B19	OUT11:Body BDCU2 overcurrent	
B180B4B	OUT11:Body BDCU2 over temperature	
B180813	OUT08:CDCU load open circuit	Refer to Cabin Domain Controller Power Supply Circuit Fault
B180819	OUT08:CDCU overcurrent	
B18084B	OUT08:CDCU over temperature	
B180913	OUT09:ECAS load open circuit	Refer to ECAS Power Supply Circuit Fault
B180919	OUT09:ECAS overcurrent	
B18094B	OUT09:ECAS over temperature	
B180A13	OUT10:DCM load open circuit	Refer to Power Supply Circuit Fault Of Door Control Module
B180A19	OUT10:DCM overcurrent	
B180A4B	OUT10:DCM over temperature	
B180C13	OUT12:Sky Shade CurIntel load open circuit	Refer to Fault In The Power Supply Circuit Of The Sunroof Sunshade
B180C19	OUT12:Sky Shade CurIntel overcurrent	
B180C4B	OUT12:Sky Shade CurIntel over temperature	
B180E13	OUT14:Work load open circuit	Refer to Power Supply Circuit Fault Of Switch Type Power Supply
B180E19	OUT14:Work overcurrent	
B180E4B	OUT14:Work over temperature	
B181113	OUT17:IPC load open circuit	Refer to Instrument Panel Power Supply Circuit Fault
B181119	OUT17:IPC overcurrent	
B18114B	OUT17:IPC over temperature	
B181213	OUT18:OBD load open circuit	Refer to OBD Power Supply Circuit Fault
B181219	OUT18:OBD overcurrent	
B18124B	OUT18:OBD over temperature	

Fault Code	Fault Description	Exclusion Method
B181313	OUT19:ACAndBatCompressor load open circuit	Refer to Compressor Power Supply Circuit Fault
B181319	OUT19:ACAndBatCompressor overcurrent	
B18134B	OUT19:ACAndBatCompressor over temperature	
B181513	OUT21:PTC load open circuit	Refer to PTC Power Supply Circuit Fault
B181519	OUT21:PTC overcurrent	
B18154B	OUT21:PTC over temperature	
B181613	OUT22:AC load open circuit	Refer to Air Conditioning Controller Power Supply Circuit Fault
B181619	OUT22:AC overcurrent	
B18164B	OUT22:AC over temperature	
B181713	OUT23:FrontUSB load open circuit	Refer to Front Row USB Power Supply Circuit Fault
B181719	OUT23:FrontUSB overcurrent	
B18174B	OUT23:FrontUSB over temperature	
B181813	OUT24:RearUSB load open circuit	Refer to Rear USB Power Supply Circuit Fault
B181819	OUT24:RearUSB overcurrent	
B18184B	OUT24:RearUSB over temperature	
B181A13	OUT26:AR_HUD load open circuit	Refer to HUD Power Supply Circuit Fault
B181A19	OUT26:AR_HUD overcurrent	
B181A4B	OUT26:AR_HUD over temperature	
B181D13	OUT29:PWC load open circuit	Refer to Wireless Charging Module Power Supply Circuit Fault
B181D19	OUT29:PWC overcurrent	
B181D4B	OUT29:PWC over temperature	
B182013	OUT32:TV load open circuit	Refer to Vehicle Mounted TV Power Supply Circuit Fault
B182019	OUT32:TV overcurrent	
B18204B	OUT32:TV over temperature	
B182113	OUT33:ESCL load open circuit	Refer to ESCL Power Supply Circuit Fault
B182119	OUT33:ESCL overcurrent	
B18214B	OUT33:ESCL over temperature	
B182213	OUT34_Sleeper switch devices open circuit	Refer to Sleeper Switch Devices Power Supply Circuit Fault
B182219	OUT34:SSM overcurrent	
B18224B	OUT34:SSM over temperature	
B182313	OUT35:CAR load open circuit	Refer to CAR Screen Power Supply Circuit Fault
B182319	OUT35:CAR overcurrent	
B18234B	OUT35:CAR over temperature	
B182413	OUT36:IVI load open circuit	Refer to IVI Screen Power Supply Circuit Fault
B182419	OUT36:IVI overcurrent	

Fault Code	Fault Description	Exclusion Method
B18244B	OUT36:IVI over temperature	
B182613	OUT38:BatDrivPump1 load open circuit	Refer to Left Battery Water Pump Power Supply Circuit Fault
B182619	OUT38:BatDrivPump1 overcurrent	
B18264B	OUT38:BatDrivPump1 over temperature	
B182F13	OUT47:BatDrivPump2 load open circuit	Refer to Right Battery Water Pump Power Supply Circuit Fault
B182F19	OUT47:BatDrivPump2 overcurrent	
B182F4B	OUT47:BatDrivPump2 over temperature	
B182A13	OUT42:VertMotorDrivPump1 load open circuit	Refer to Power Supply Circuit Fault Of Motor Water Pump 1
B182A19	OUT42:VertMotorDrivPump1 overcurrent	
B182A4B	OUT42:VertMotorDrivPump1 over temperature	
B182B13	OUT43:VertMotorDrivPump2 load open circuit	Refer to Fault In The Power Supply Crcuit Of Motor Water Pump 2
B182B19	OUT43:VertMotorDrivPump2 overcurrent	
B182B4B	OUT43:VertMotorDrivPump2 over temperature	
B182713	OUT39:BatFanGuard1 load open circuit	Refer to Left Battery Fan 1 Power Supply Circuit Fault
B182719	OUT39:BatFanGuard1 overcurrent	
B18274B	OUT39:BatFanGuard1 over temperature	
B182813	OUT40:BatFanGuard2 load open circuit	Refer to Left Battery Fan 2 Power Supply Circuit Fault
B182819	OUT40:BatFanGuard2 overcurrent	
B18284B	OUT40:BatFanGuard2 over temperature	
B182E13	OUT46:BatFanGuard3 load open circuit	Refer to Right Battery Fan 1 Power Supply Circuit Fault
B182E19	OUT46:BatFanGuard3 overcurrent	
B182E4B	OUT46:BatFanGuard3 over temperature	
B182D13	OUT45:BatFanGuard4 load open circuit	Refer to Right Battery Fan 2 Power Supply Circuit Fault
B182D19	OUT45:BatFanGuard4 overcurrent	
B182D4B	OUT45:BatFanGuard4 over temperature	
B182913	OUT41:AlterFanGuard1 load open circuit	Refer to Motor Fan 1 Power Supply Circuit Fault
B182919	OUT41:AlterFanGuard1 overcurrent	

Fault Code	Fault Description	Exclusion Method
B18294B	OUT41:AlterFanGuard1 over temperature	
B182C13	OUT44:AlterFanGuard2 load open circuit	Refer to Motor Fan 2 Power Supply Circuit Fault
B182C19	OUT44:AlterFanGuard2 overcurrent	
B182C4B	OUT44:AlterFanGuard2 over temperature	
B182513	OUT37:AlterFanGuard3 load open circuit	Refer to Motor Fan 3 Power Supply Crcuit Fault
B182519	OUT37:AlterFanGuard3 overcurrent	
B18254B	OUT37:AlterFanGuard3 over temperature	

SJBUN

Fault Code	Fault Description	Exclusion Method
B111717	High battery voltage	Refer to Smart Junction Box DOWN Power Fault
B111716	Low Battery Voltage	
B1E0017	Module overvoltage	
U014087	Communication with the BDCU timed out	Refer to Smart Junction Box DOWN Communication Fault
U007C88	BCANFD1 BusOff	
U220600	BCANFD1 NM Limphome	
U015687	Lost Communication With CDCU	
U01A087	Lost Communication With SJB_UP	
U019887	Lost Communication With T-Box	
U012287	Lost Communication With VDC	
U007D88	BCANFD2 BusOff	
U220700	BCANFD2 NM Limphome	
B1E0113	OUT01:Body load open circuit	Refer to Fault In The Main Power Supply Circuit Of The Vehicle Body
B1E0119	OUT01:Body overcurrent	
B1E014B	OUT01:Body over temperature	
B1E0313	OUT03:EPS load open circuit	Refer to EPS Power Supply Circuit Fault
B1E0319	OUT03:EPS overcurrent	
B1E034B	OUT03:EPS over temperature	
B1E1D13	OUT29:EPSAssist load open circuit	
B1E1D19	OUT29:EPSAssist overcurrent	
B1E1D4B	OUT29:EPSAssist over temperature	
B1E0413	OUT04:KL15_1 load open circuit	Refer to Smart Junction Box DOWN KL15 Main Power Supply Circuit Fault
B1E0419	OUT04:KL15_1 overcurrent	
B1E044B	OUT04:KL15_1 over temperature	

Fault Code	Fault Description	Exclusion Method
B1E2213	OUT34:KL15_3 load open circuit	
B1E2219	OUT34:KL15_3 overcurrent	
B1E224B	OUT34:KL15_3 over temperature	
B1E0513	OUT05:EBSKL30 load open circuit	Refer to EBS Power Supply Circuit Fault
B1E0519	OUT05:EBSKL30 overcurrent	
B1E054B	OUT05:EBSKL30 over temperature	
B1E0A13	OUT10:EBS_KL15 load open circuit	
B1E0A19	OUT10:EBS_KL15 overcurrent	
B1E0A4B	OUT10:EBS_KL15 over temperature	
B1E1F13	OUT31-EBS trailer open circuit	
B1E1F19	OUT31:TrailerEBS overcurrent	
B1E1F4B	OUT31:TrailerEBS over temperature	
B1E2113	OUT33:EBSBat30 load open circuit	
B1E2119	OUT33:EBSBat30 overcurrent	
B1E214B	OUT33:EBSBat30 over temperature	
B1E0813	OUT08:MediumaxleTCU load open circuit	Refer to Electric Drive Medium axle TCU Power Supply Circuit Fault
B1E0819	OUT08:MediumaxleTCU overcurrent	
B1E084B	OUT08:MediumaxleTCU over temperature	
B1E0913	OUT09:TGWBat load open circuit	Refer to Gateway Power Supply Circuit Fault
B1E0919	OUT09:TGWBat overcurrent	
B1E094B	OUT09:TGWBat over temperature	
B1E2613	OUT38:TGWAssist load open circuit	
B1E2619	OUT38:TGWAssist overcurrent	
B1E264B	OUT38:TGWAssist over temperature	
B1E0B13	OUT11:BackupLamp load open circuit	Refer to Reverse Light Power Supply Circuit Fault
B1E0B19	OUT11:BackupLamp overcurrent	
B1E0B4B	OUT11:BackupLamp over temperature	
B1E0D13	OUT13:TractorMarkerLight load open circuit	Refer to Small Lamp Power Supply Circuit Fault
B1E0D19	OUT13:TractorMarkerLight overcurrent	
B1E0D4B	OUT13:TractorMarkerLight over temperature	
B1E1113	OUT17:LeftLowBeam load open circuit	Refer to Left Low Beam Lamp Power Supply Circuit Fault
B1E1119	OUT17:LeftLowBeam overcurrent	
B1E114B	OUT17:LeftLowBeam over temperature	
B1E1213	OUT18_ Right high beam open circuit	Refer to Right High Beam Power Supply Circuit Fault

Fault Code	Fault Description	Exclusion Method
B1E1219	OUT18:TractorRightHighBeam overcurrent	
B1E124B	OUT18:TractorRightHighBeam over temperature	
B1E1313	OUT19:TractorLeftHighBeam load open circuit	Refer to Left High Beam Power Supply Circuit Fault
B1E1319	OUT19:TractorLeftHighBeam overcurrent	
B1E134B	OUT19:TractorLeftHighBeam over temperature	
B1E1413	OUT20:RightLowBeam load open circuit	Refer to Right Low Beam Power Supply Circuit Fault
B1E1419	OUT20:RightLowBeam overcurrent	
B1E144B	OUT20_ Right low beam overheating	
B1E1613	OUT22:LeftRunning load open circuit	Refer to Left Daytime Running Light Power Supply Circuit Fault
B1E1619	OUT22:LeftRunning overcurrent	
B1E164B	OUT22:LeftRunning over temperature	
B1E1813	OUT24:RightRunning load open circuit	Refer to Right Daytime Running Light Power Supply Circuit Fault
B1E1819	OUT24:RightRunning overcurrent	
B1E184B	OUT24:RightRunning over temperature	
B1E1A13	OUT26:IBS load open circuit	Refer to IBS Power Supply Circuit Fault
B1E1A19	OUT26:IBS overcurrent	
B1E1A4B	OUT26:IBS over temperature	
B1E1B13	OUT27:WorkingLights load open circuit	Refer to Rear Work Light Power Supply Circuit Fault
B1E1B19	OUT27:WorkingLights overcurrent	
B1E1B4B	OUT27:WorkingLights over temperature	
B1E1E13	OUT35: EPB load open circuit	Refer to EPB Power Supply Circuit Fault
B1E1E19	OUT35: EPB overcurrent	
B1E1E4B	OUT35:EPB over temperature	
B1E2513	OUT37:VDCB load open circuit	Refer to VDC Power Supply Circuit Fault
B1E2519	OUT37:VDCB overcurrent	
B1E254B	OUT37:VDCB over temperature	
B1E2713	OUT39:MediumRearaxleTCU load open circuit	Refer to Fault In The Power Supply Circuit Of The Rear Axle MCU In The Electric Drive
B1E2719	OUT39:MediumRearaxleTCU overcurrent	
B1E274B	OUT39:MediumRearaxleTCU over temperature	

Fault Code	Fault Description	Exclusion Method
B1E2813	OUT40:AirHandlingUnit load open circuit	Refer to Fault In The Power Supply Circuit Of The Air Handling Unit
B1E2819	OUT40:AirHandlingUnit overcurrent	
B1E284B	OUT40:AirHandlingUnit over temperature	
B1E2913	OUT41:HighLowPitchElectricHorn load open circuit	Refer to Electric Horn Power Supply Circuit Fault
B1E2919	OUT41:HighLowPitchElectricHorn overcurrent	
B1E294B	OUT41:HighLowPitchElectricHorn over temperature	
B1E2F13	OUT47:AirHorn load open circuit	Refer to Fault In The Power Supply Circuit Of The Gas Horn
B1E2F19	OUT47:AirHorn overcurrent	
B1E2F4B	OUT47:AirHorn over temperature	
B1E2C13	OUT44:Battery pack load open circuit	Refer to Battery Pack Power Supply Circuit Fault
B1E2C19	OUT44:Battery pack overcurrent	
B1E2C4B	OUT44:Battery pack over temperature	
B1E2D13	OUT45:AuxiDrivMultiOne load open circuit	Refer to Power Distribution Unit Power Supply Circuit Fault
B1E2D19	OUT45:AuxiDrivMultiOne overcurrent	
B1E2D4B	OUT45:AuxiDrivMultiOne over temperature	
B1E2E13	OUT46:BatWaterHeatComp load open circuit	Refer to Fault In The Power Supply Circuit Of The Battery Water Heater
B1E2E19	OUT46:BatWaterHeatComp overcurrent	
B1E2E4B	OUT46:BatWaterHeatComp over temperature	
B1E2A13	OUT42:AVAS load open circuit	Refer to Low Speed Pedestrian Alarm Power Supply Circuit Fault
B1E2A19	OUT42:AVAS overcurrent	
B1E2A4B	OUT42:AVAS over temperature	
B1E3013	OUT48:TPMS load open circuit	Refer to Tire Pressure Power Supply Circuit Fault
B1E3019	OUT48:TPMS overcurrent	
B1E304B	OUT48:TPMS over temperature	
B1E3113	OUT49:ChassisSensors load open circuit	Refer to Chassis Sensor Power Supply Circuit Fault
B1E3119	OUT49:ChassisSensors overcurrent	
B1E314B	OUT49:ChassisSensors over temperature	

7.4.6.5 Action Test List

By reading the "Action Test" on the fault diagnosis instrument, the working status of relays and actuators controlled by SJBUN can be checked without disassembling any components. Before conducting relevant fault diagnosis on the control system, performing action testing is a prerequisite for troubleshooting, which can shorten the time for troubleshooting.

Note

The following table lists the data under normal conditions for reference only. Do not rely solely on these reference values to determine whether a certain component has malfunctioned. Under normal circumstances, a comparison can be made between a functioning vehicle and a diagnosed vehicle in the same state to determine the data of the diagnosed vehicle is normal in its current state.

a. Perform vehicle power on operation.

b. Connect the fault diagnosis device.

c. Select "SJBUN"/"Action Test".

d. Refer to the table below and conduct active testing.

Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Output channel control - VBU-B+_VDC	VDC	On/Off	Control the VDC B+power supply on/off according to the diagnostic instrument instructions
Output Channel Control - Assisted Intelligent Driving Domain	Auxiliary intelligent driving domain controller	On/Off	According to the diagnostic instrument instructions, control the power supply of the auxiliary intelligent driving domain controller to turn on/off
Output Channel Control - Master Intelligent Driving Domain	Master intelligent driving domain controller	On/Off	According to the diagnostic instrument instructions, control the power supply of the main intelligent driving domain controller to turn on/off
Output Channel Control - EBS Controller	EBS	On/Off	Control the EBS power supply on/off according to the diagnostic instrument instructions
Output Channel Control - KL15-1 Main Power Supply 1	KL15 power supply	On/Off	According to the diagnostic instrument instructions, control the KL15 power supply to turn on/off
Output Channel Control - Steering Gear Assembly	EHPS	On/Off	Control the EHPS power supply on/off according to the diagnostic instrument instructions
Output Channel Control - Car Power Supply	Car power supply	On/Off	According to the diagnostic instrument instructions, control the on/off of the onboard power supply
Output Channel Control - Body B+	Body B+	On/Off	According to the diagnostic instrument instructions, control the B+power supply of the vehicle body to turn on/off

Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Output Channel Control - Right brake lamp	Right brake lamp	On/Off	According to the diagnostic instrument instructions, control the power supply of the right brake lamp to turn on/off
Output Channel Control - Left brake lamp	Left brake lamp	On/Off	According to the diagnostic instrument instructions, control the left brake lamp power supply to turn on/off
Output Channel Control - Reversing light	Reversing light	On/Off	According to the diagnostic instrument instructions, control the power supply of the reversing light to turn on/off
Output Channel Control - Reverse light	Reverse light	On/Off	According to the instructions of the diagnostic instrument, control the power supply of the reversing lights to turn on/off
Output Channel Control - EBS power supply	EBS	On/Off	Control the EBS power supply on/off according to the diagnostic instrument instructions
Output Channel Control - Central gateway	Central gateway	On/Off	According to the diagnostic instrument instructions, control the power supply of the central gateway to turn on/off
Output Channel Control - Right daytime running lamp	Right daytime running lamp	On/Off	According to the diagnostic instrument instructions, control the power supply of the right daytime running lamp to turn on/off
Output Channel Control - Left daytime running lamp	Left daytime running lamp	On/Off	According to the instructions of the diagnostic instrument, control the power supply of the left daytime running lamp to turn on/off
Output Channel Control - Right low beam headlight	Right low beam headlight	On/Off	According to the diagnostic instrument instructions, control the power supply of the right low beam to turn on/off
Output Channel Control - Left high beam	Left high beam	On/Off	According to the diagnostic instrument instructions, control the power supply of the left high beam to turn on/off
Output Channel Control - Right high beam	Right high beam	On/Off	According to the diagnostic instrument instructions, control the power supply of the right high beam to turn on/off
Output Channel Control - Left low beam	Left low beam	On/Off	According to the diagnostic instrument instructions, control the left low beam power supply to turn on/off

Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Output Channel Control - Main intelligent driving domain auxiliary power supply	Main intelligent driving domain auxiliary power supply	On/Off	According to the diagnostic instrument instructions, control the power supply of the main intelligent driving domain controller to turn on/off
Output Channel Control - EBS trailer	EBS trailer	On/Off	Control the EBS trailer power supply on/off according to the diagnostic instrument instructions
Output Channel Control - Electronic parking	Electronic parking	On/Off	Control the electronic parking power supply on/off according to the diagnostic instrument instructions
Output Channel Control - EPS steering gear assembly auxiliary power supply	EHPS	On/Off	Control the EHPS power supply on/off according to the diagnostic instrument instructions
Output Channel Control - Emergency brake solenoid valve	Emergency brake solenoid valve	On/Off	According to the diagnostic instrument instructions, control the power supply of the emergency brake solenoid valve to turn on/off
Output Channel Control - Rear work light	Rear work light	On/Off	According to the diagnostic instrument instructions, control the power supply of the rear work light to turn on/off
Output Channel Control - Intelligent battery sensor	Intelligent battery sensor	On/Off	According to the diagnostic instrument instructions, control the power supply of the intelligent battery sensor to turn on/off
Output Channel Control - HSD	HSD	On/Off	According to the diagnostic instrument instructions, control the HSD power supply to turn on/off
Output Channel Control - Air handling unit	Air handling unit	On/Off	According to the diagnostic instrument instructions, control the power supply of the air handling unit to turn on/off
Output Channel Control - Mid/Rear axle MCU	Mid/Rear axle MCU	On/Off	According to the diagnostic instrument instructions, control the power supply of the middle/rear axle MCU to turn on/off
Output Channel Control - Gateway auxiliary power supply	Gateway auxiliary power supply	On/Off	According to the diagnostic instrument instructions, control the power supply of the central gateway to turn on/off
Output Channel Control - Middle axle TCU	Middle axle TCU	On/Off	According to the diagnostic instrument instructions, control the power supply of the TCU in the middle axle to turn on/off

Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Output Channel Control - ADB headlights	ADB headlights	On/Off	According to the diagnostic instrument instructions, control the ADB headlight power supply to turn on/off
Output Channel Control - Auxiliary intelligent driving domain auxiliary power supply	Auxiliary intelligent driving domain auxiliary power supply	On/Off	According to the diagnostic instrument instructions, control the power supply of the auxiliary intelligent driving domain controller to turn on/off
Output Channel Control - KL15 main power supply 3	KL15 main power supply 3	On/Off	Control the KL15 power supply on/off according to the diagnostic instrument instructions
Output Channel Control - EBS-KL30B	EBS	On/Off	Control the EBS power supply on/off according to the diagnostic instrument instructions
Output Channel Control - Tire pressure + active grille shutter	Tire pressure + active grille shutter	On/Off	According to the diagnostic instrument instructions, control the tire pressure/active grille shutter power supply on/off
Output Channel Control - Air horn	Air horn	On/Off	According to the diagnostic instrument instructions, control the power supply of the gas horn to turn on/off
Output Channel Control - Battery water heating	Battery water heating	On/Off	According to the diagnostic instrument instructions, control the battery water heating power supply to turn on/off
Output Channel Control - Power distribution unit	Power distribution unit	On/Off	According to the diagnostic instrument instructions, control the on/off of the power distribution unit power supply
Output Channel Control - Battery Pack	Battery Pack	On/Off	According to the diagnostic instrument instructions, control the battery pack power supply to turn on/off
Output Channel Control - HSD	HSD	On/Off	According to the diagnostic instrument instructions, control the HSD power supply to turn on/off
Output Channel Control - Low speed pedestrian alarm	Low speed pedestrian alarm	On/Off	According to the diagnostic instrument instructions, control the low-speed pedestrian alarm power supply to turn on/off

Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Output Channel Control - High/low frequency electric speaker	tweeter/woofer frequency electric speaker	On/Off	According to the diagnostic instrument instructions, control the high/low frequency electric speaker power supply to turn on/off
Output Channel Control - Chassis sensor power supply	Chassis sensor power supply	On/Off	According to the diagnostic instrument instructions, control the power supply of chassis sensors to turn on/off

By reading the "Action Test" on the fault diagnosis instrument, the working status of relays and actuators controlled by SJBUP can be checked without disassembling any components. Before conducting relevant fault diagnosis on the control system, performing action testing is a prerequisite for troubleshooting, which can shorten the time for troubleshooting.

Note

The following table lists the data under normal conditions for reference only. Do not rely solely on these reference values to determine whether a certain component has malfunctioned. Under normal circumstances, a comparison can be made between a functioning vehicle and a diagnosed vehicle in the same state to determine the data of the diagnosed vehicle is normal in its current state.

a. Perform vehicle power on operation.

b. Connect the fault diagnosis device.

c. Choice “SJBUP”/“Action Test”.

d. Refer to the table below and conduct active testing.

Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Vehicle Output Channel Control - Cockpit domain controller	Cockpit domain controller	On/Off	According to the diagnostic instrument instructions, control the power supply of the cabin domain controller to turn on/off
Vehicle Output Channel Control - KL15 power supply	KL15 power supply	On/Off	According to the diagnostic instrument instructions, control the KL15 power supply to turn on/off
Vehicle Output Channel Control - Vehicle Domain Control-1	Vehicle domain control	On/Off	According to the diagnostic instrument instructions, control the power supply of the vehicle domain controller to turn on/off
Vehicle Output Channel Control - Seat control module	Seat control module	On/Off	According to the diagnostic instrument instructions, control the power supply of the seat control module to turn on/off
Vehicle Output Channel Control - 24V car power supply	24V car power supply	On/Off	Control the 24V onboard power supply on/off according to the diagnostic instrument instructions
Vehicle Output Channel Control - Left front blower	Left front blower	On/Off	According to the diagnostic instrument instructions, control the power supply of the left front blower to turn on/off

Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Vehicle Output Channel Control - Right front blower	Right front blower	On/Off	According to the diagnostic instrument instructions, control the power supply of the right front blower to turn on/off
Vehicle Output Channel Control - Rear blower	Rear blower	On/Off	According to the diagnostic instrument instructions, control the power supply of the rear blower to turn on/off
Vehicle Output Channel Control - Driving recorder	Driving recorder	On/Off	According to the diagnostic instrument instructions, control the power supply of the driving recorder to turn on/off
Vehicle Output Channel Control - Reserve KL30	KL30	On/Off	According to the diagnostic instrument instructions, control the KL30 power supply to turn on/off
Vehicle Output Channel Control - Switching power supply	Switching power supply	On/Off	According to the diagnostic instrument instructions, control the on/off of the switch type power supply power supply
Vehicle Output Channel Control - Electric steps	Electric steps	On/Off	According to the diagnostic instrument instructions, control the power supply of the electric step to turn on/off
Vehicle Output Channel Control - Sunroof sunshade	Sunroof sunshade	On/Off	According to the diagnostic instrument instructions, control the power supply of the sunroof sunshade to turn on/off
Vehicle Output Channel Control - Vehicle domain controller -2	Vehicle domain controller	On/Off	According to the diagnostic instrument instructions, control the power supply of the vehicle domain controller to turn on/off
Vehicle Output Channel Control - Gate control module	Gate control module	On/Off	According to the diagnostic instrument instructions, control the power supply of the door control module to turn on/off
Vehicle Output Channel Control - ECAS	ECAS	On/Off	Control the ECAS power supply on/off according to the diagnostic instrument instructions
Vehicle Output Channel Control - Rear USB power supply	Rear USB power supply	On/Off	According to the diagnostic instrument instructions, control the rear USB power supply to turn on/off
Vehicle Output Channel Control - Front row USB power supply	Front row USB power supply	On/Off	According to the diagnostic instrument instructions, control the front row USB power supply to turn on/off
Vehicle Output Channel Control - Air conditioning controller	Air conditioning controller	On/Off	According to the diagnostic instrument instructions, control the power supply of the air conditioning controller to turn on/off

Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Vehicle Output Channel Control - PTC controller	PTC controller	On/Off	According to the diagnostic instrument instructions, control the PTC controller power supply to turn on/off
Vehicle Output Channel Control - The cigarette lighter	The cigarette lighter	On/Off	According to the diagnostic instrument instructions, control the power supply of the cigarette lighter to turn on/off
Vehicle Output Channel Control - Air conditioning&compress-or	Air conditioning&compressor	On/Off	According to the diagnostic instrument instructions, control the compressor power supply to turn on/off
Vehicle Output Channel Control - OBD interface	OBD interface	On/Off	Control the OBD interface power supply on/off according to the diagnostic instrument instructions
Vehicle Output Channel Control - Instrument screen	Instrument screen	On/Off	According to the diagnostic instrument instructions, control the power supply of the instrument panel to turn on/off
Vehicle Output Channel Control - Car TV	Car TV	On/Off	According to the diagnostic instrument instructions, control the power supply of the car TV to turn on/off
Vehicle Output Channel Control - Car refrigerator	Car refrigerator	On/Off	According to the diagnostic instrument instructions, control the power supply of the car refrigerator to turn on/off
Vehicle Output Channel Control - Bar water pump	Bar water pump	On/Off	According to the diagnostic instrument instructions, control the power supply of the bar water pump to turn on/off
Vehicle Output Channel Control - Wireless charging module	Wireless charging module	On/Off	According to the diagnostic instrument instructions, control the power supply of the wireless charging module to turn on/off
Vehicle Output Channel Control - HSD	HSD	On/Off	According to the diagnostic instrument instructions, control the HSD power supply to turn on/off
Vehicle Output Channel Control - HSD	HSD	On/Off	According to the diagnostic instrument instructions, control the HSD power supply to turn on/off
Vehicle Output Channel Control - AR-HUD	AR-HUD	On/Off	Control the AR-HUD power supply on/off according to the diagnostic instrument instructions
Vehicle Output Channel Control - Electronic rearview mirror	Electronic rearview mirror	On/Off	According to the diagnostic instrument instructions, control the power supply of the electronic rearview mirror to turn on/off

Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Vehicle Output Channel Control - IVI screen	IVI screen	On/Off	Control the IVI screen power supply on/off according to the diagnostic instrument instructions
Vehicle Output Channel Control - CAR screen	CAR screen	On/Off	According to the diagnostic instrument instructions, control the power supply of the CAR screen to turn on/off
Vehicle Output Channel Control - Sleeper switch devices	Sleeper switch devices	On/Off	According to the diagnostic instrument instructions, control the power supply of sleep switch devices to turn on/off
Vehicle Output Channel Control - ESCL	ESCL	On/Off	Control the ESCL power supply on/off according to the diagnostic instrument instructions
Thermal Management Output Channel Control - Motor fan 2	Motor fan 2	On/Off	According to the diagnostic instrument instructions, control the power supply of motor fan 2 to turn on/off
Thermal Management Output Channel Control - Motor water pump 2	Motor water pump 2	On/Off	According to the diagnostic instrument instructions, control the power supply of motor water pump 2 to turn on/off
Thermal Management Output Channel Control - Motor water pump 1	Motor water pump 1	On/Off	According to the diagnostic instrument instructions, control the power supply of motor water pump 1 to turn on/off
Thermal Management Output Channel Control - Motor fan 1	Motor fan 1	On/Off	According to the diagnostic instrument instructions, control the power supply of motor fan 1 to turn on/off
Thermal Management Output Channel Control - Battery fan 2	Battery fan 2	On/Off	According to the diagnostic instrument instructions, control the power supply of battery fan 2 to turn on/off
Thermal Management Output Channel Control - Battery fan 1	Battery fan 1	On/Off	According to the diagnostic instrument instructions, control the power supply of battery fan 1 to turn on/off
Thermal Management Output Channel Control - Battery water pump 1	Battery water pump 1	On/Off	According to the diagnostic instrument instructions, control the power supply of battery water pump 1 to turn on/off
Thermal Management Output Channel Control - Motor fan 3	Motor fan 3	On/Off	According to the diagnostic instrument instructions, control the power supply of motor fan 3 to turn on/off
Thermal Management Output Channel Control - Battery water pump 2	Battery water pump 2	On/Off	According to the diagnostic instrument instructions, control the power supply of battery water pump 2 to turn on/off

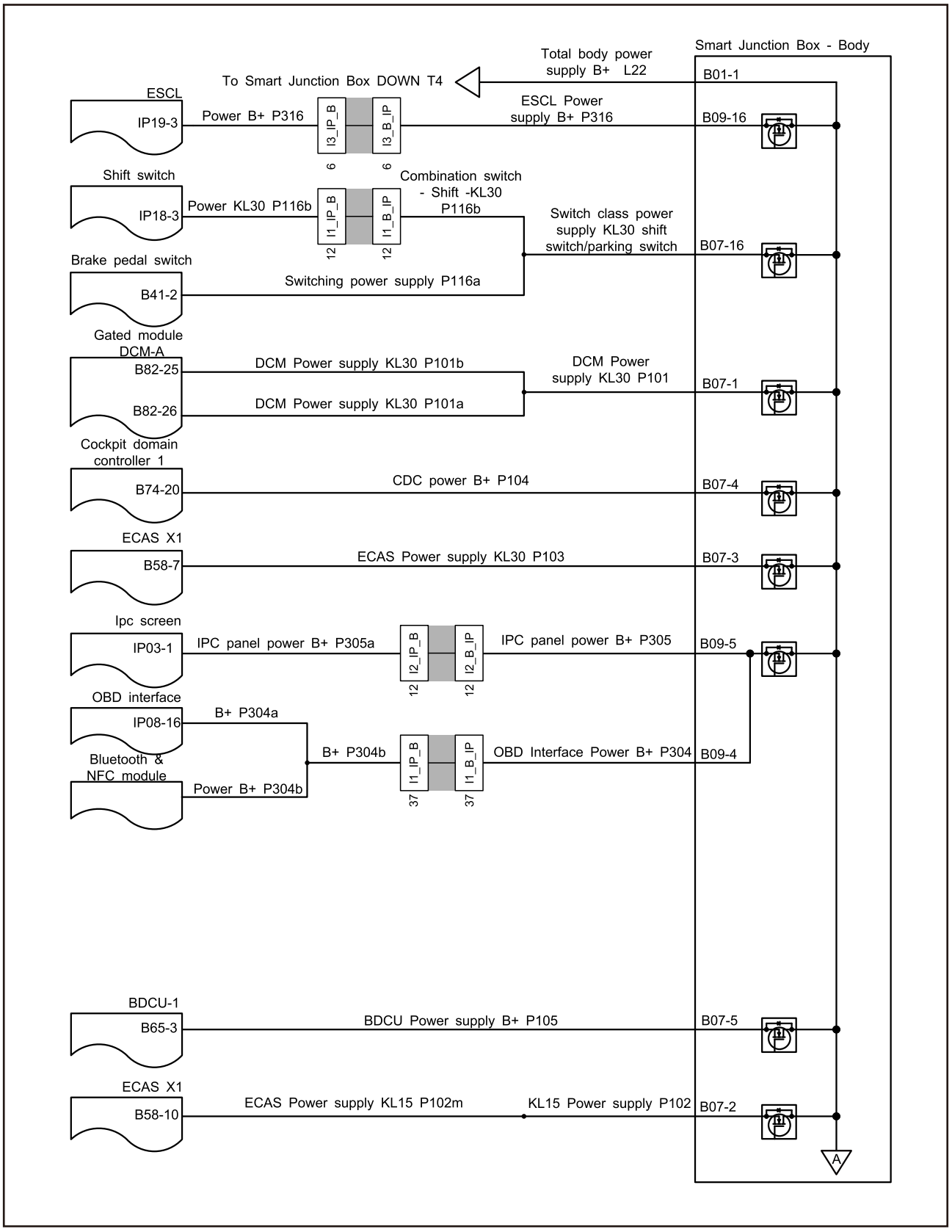
Fault Diagnosis Instrument Display Items	Test Parts	Control Range	Diagnostic Description
Thermal Management Output Channel Control - Battery fan 3	Battery fan 3	On/Off	According to the diagnostic instrument instructions, control the power supply of battery fan 3 to turn on/off
Thermal Management Output Channel Control - Battery fan 4	Battery fan 4	On/Off	According to the diagnostic instrument instructions, control the power supply of battery fan 4 to turn on/off

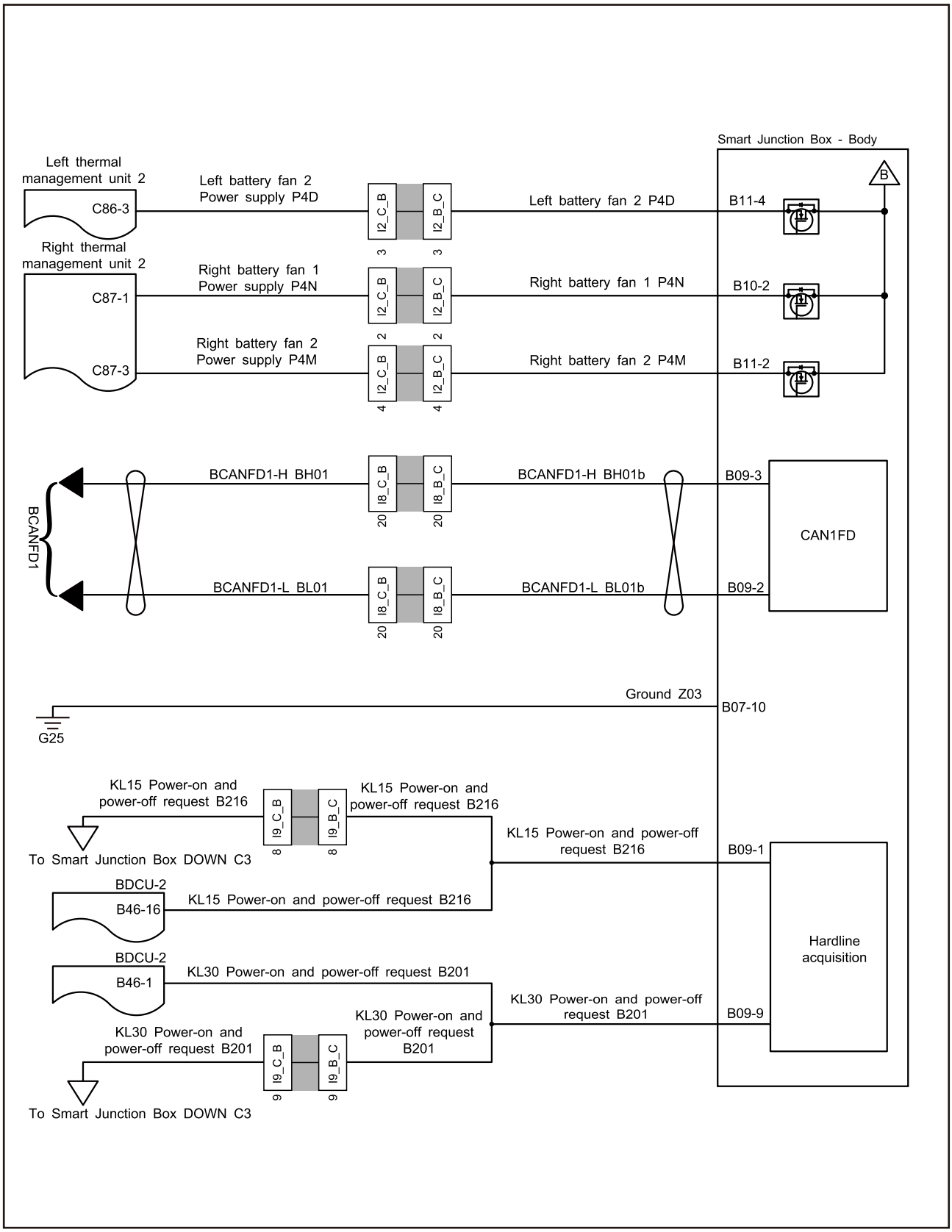
7.4.6.6 Smart Junction Box UP Power Failure

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180017	Module overvoltage	Voltage > 32V, t > 500ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Smart junction box UP

2. Circuit Diagram


Smart Junction Box - Body
Total body power supply B+ L22
B01-1
To Smart Junction Box DOWN T4
ESCL
IP19-3
Power B+ P316
I3_IP_B
I3_B_IP
6
6
ESCL Power supply B+ P316
B09-16
Shift switch
IP18-3
Power KL30 P116b
I1_IP_B
I1_B_IP
12
12
Combination switch - Shift -KL30 P116b
Switch class power supply KL30 shift switch/parking switch
B07-16
Brake pedal switch
B41-2
Switching power supply P116a
Gated module DCM-A
B82-25
B82-26
DCM Power supply KL30 P101b
DCM Power supply KL30 P101a
DCM Power supply KL30 P101
B07-1
Cockpit domain controller 1
B74-20
CDC power B+ P104
B07-4
ECAS X1
B58-7
ECAS Power supply KL30 P103
B07-3
Ipc screen
IP03-1
IPC panel power B+ P305a
I2_IP_B
I2_B_IP
12
12
IPC panel power B+ P305
B09-5
OBD interface
IP08-16
B+ P304a
Bluetooth & NFC module
Power B+ P304b
B+ P304b
I1_IP_B
I1_B_IP
37
37
OBD Interface Power B+ P304
B09-4
BDCU-1
B65-3
BDCU Power supply B+ P105
B07-5
ECAS X1
B58-10
ECAS Power supply KL15 P102m
KL15 Power supply P102
B07-2
A



3. Diagnostic Steps

Step 1:DTC Confirmation.Refer to DTC Confirmation

Step 2:Routine Inspection.Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides the smart junction box UP?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the power supply and grounding harness of the smart junction box UP.

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

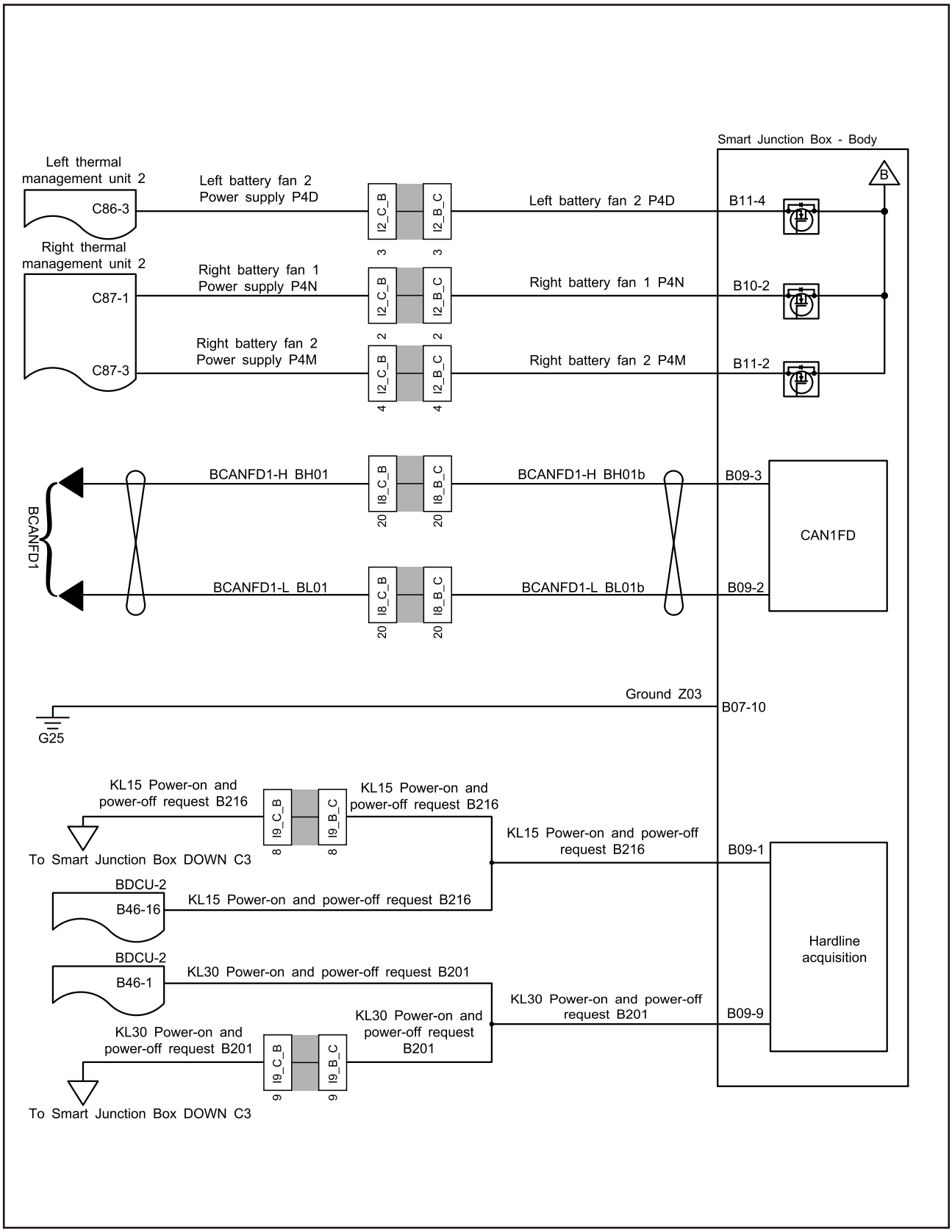
Step 7:Clear and confirm DTC.

7.4.6.7 Smart Junction Box UP Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U014087	Communication with the BDCU timed out	When the KL15 and the power supply voltage are normal, no ID0x18860021 is received within 1s	1. Wiring harness 2.Smart junction box UP
U007C88	BCANFD1 BusOff	Error frames occur in the CAN network under normal KL15 and supply voltage conditions	
U220600	BCANFD1 NM Limphome	When the KL15 and power supply voltage are normal, no NM messages are received from other network nodes	
B111717	High battery voltage	Voltage > 32V, t > 500ms	
B111716	Low Battery Voltage	Voltage < 18V, t > 30s	
U015687	Lost Communication With CDCU	When the KL15 and the power supply voltage are normal, no ID0x18FEC1EE is received within 10s	
U019887	Lost Communication With T-Box	When the KL15 and the power supply voltage are normal, no ID0x18FEE6EE is received within 10s	
U012287	Lost Communication With VDC	When the KL15 and the power supply voltage are normal, no ID0x18FCC231 is received within 1s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the BCANFD1 bus communication harness. Refer to Inspection Of BCAND1 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 5:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

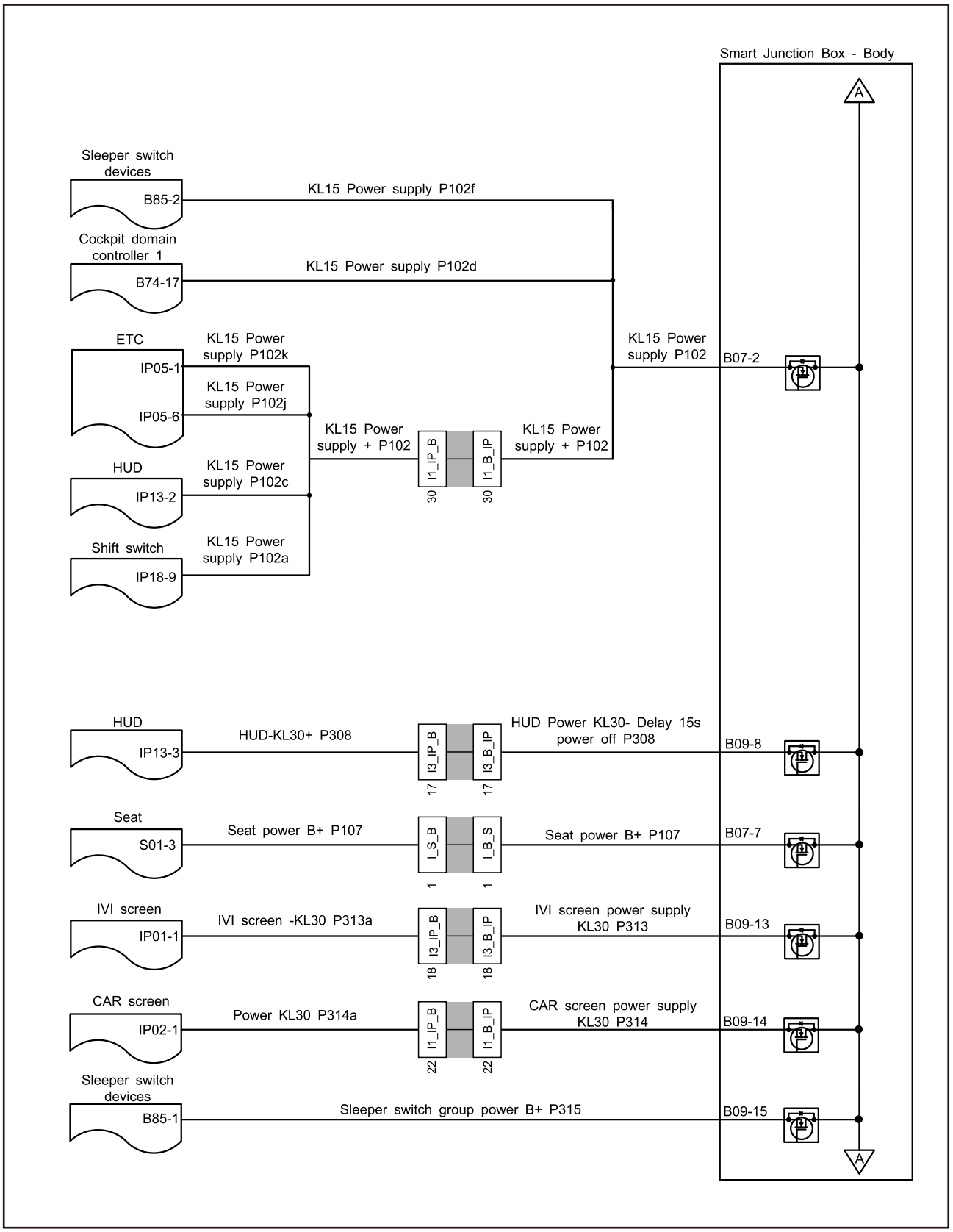
Step 6:Clear and confirm DTC.

7.4.6.8 Smart Junction Box UP KL15 Main Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180713	OUT07:KL15 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2.Smart junction box UP
B180719	OUT07:KL15 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18074B	OUT07:KL15 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the KL15 main power supply harness of the smart junction box UP.

Step 4:Enter the SJBUP action test on the diagnostic instrument interface and perform the "Vehicle Output Channel Control - KL15 Power Supply, On/Off" action test. Check if the KL15 power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

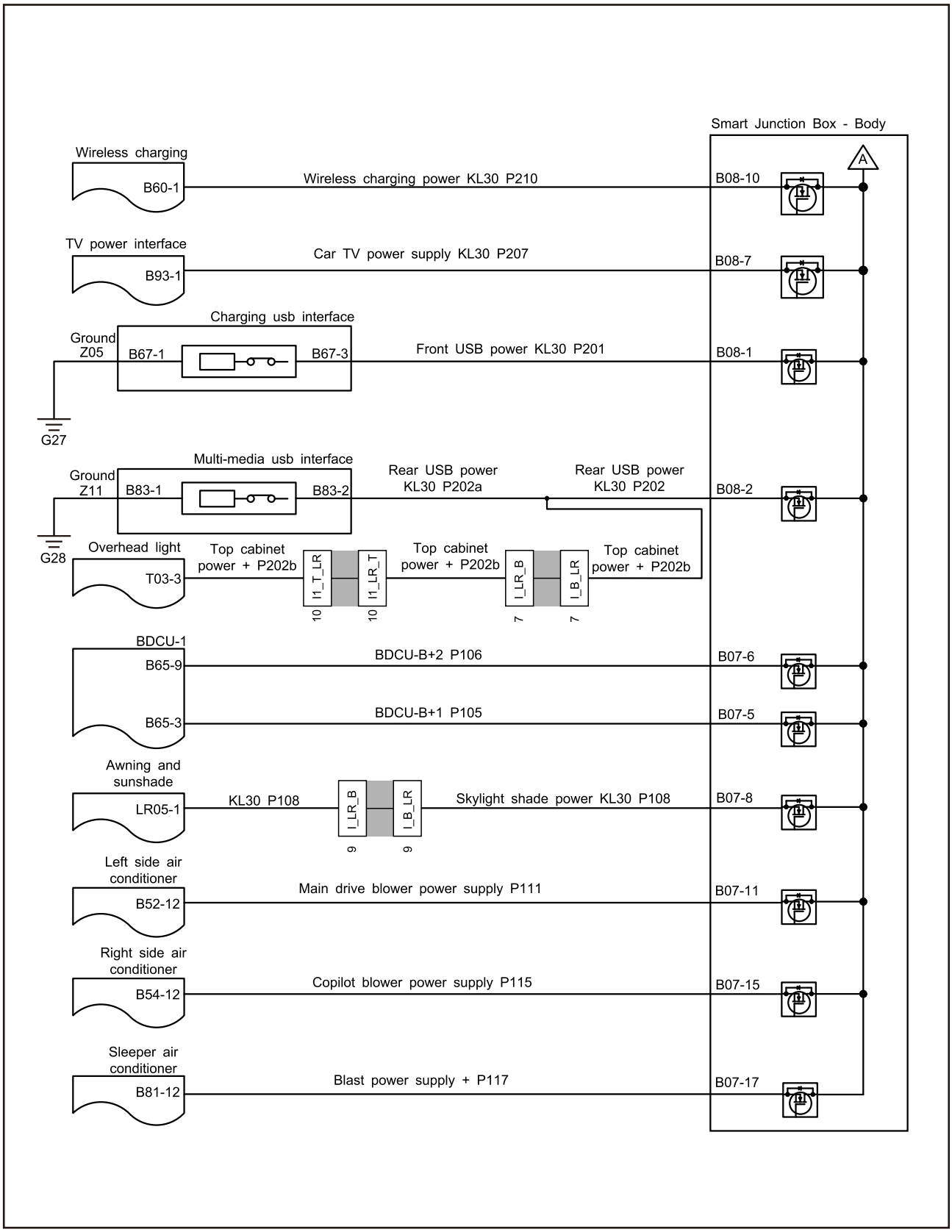
Step 6:Clear and confirm DTC.

7.4.6.9 Power Supply Circuit Fault Of Sleeper Air Conditioning Blower

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180113	OUT01:Rear Blower load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Bedding air conditioning blower 3.Smart junction box UP
B180119	OUT01:Rear Blower overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18014B	OUT01:Rear Blower over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the sleeper air conditioning blower.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Rear Blower, On/Off" action test. Check the power supply of the sleeper air conditioning blower operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the sleeper air conditioning blower. Refer to HVAC Assembly (Including PTC) - Rear Replacement

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Intelligent Electrical Box - Vehicle Body

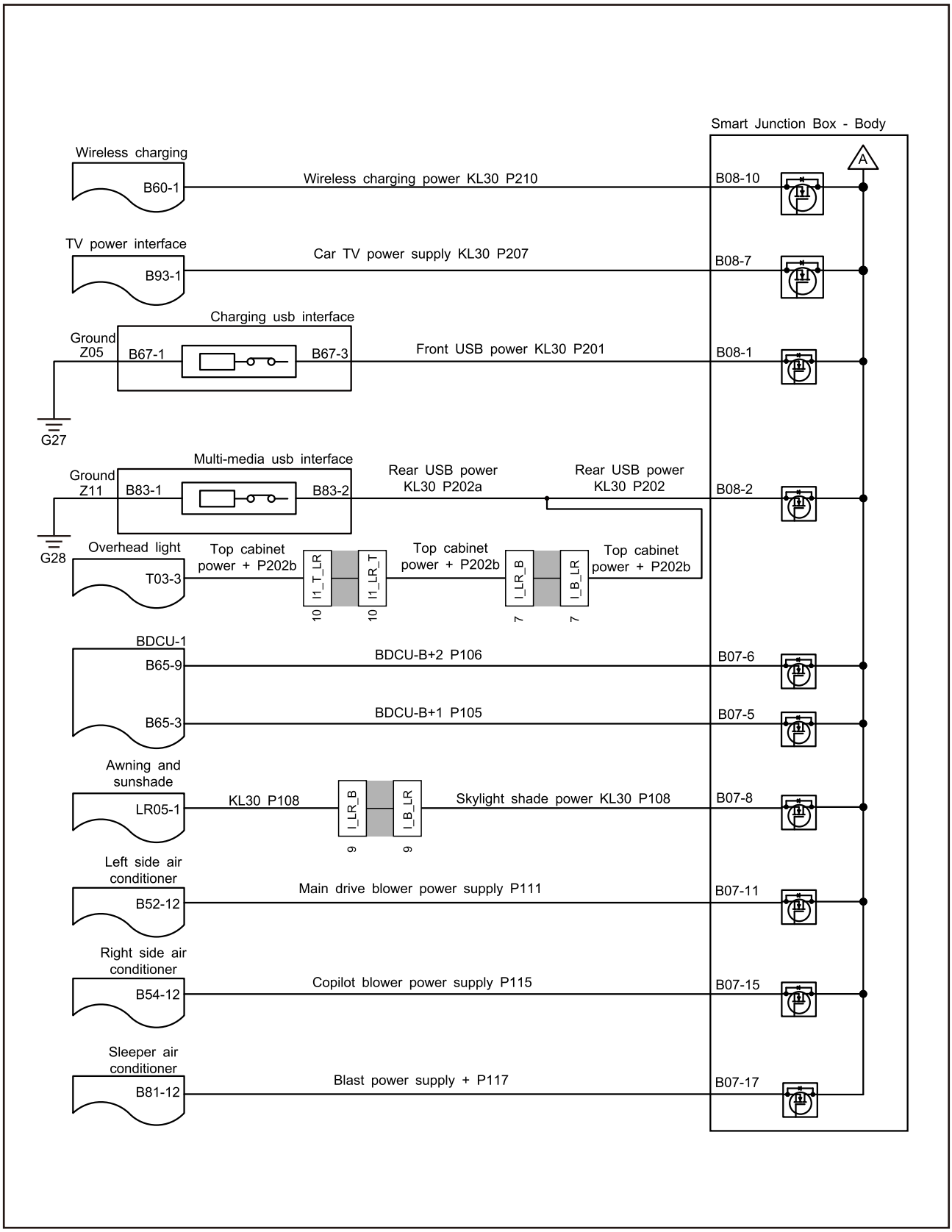
Step 7:Clear and confirm DTC.

7.4.6.10 Right Air Conditioning Blower Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180213	OUT02:Right Front Blower load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Right air conditioning blower 3. Smart junction box UP
B180219	OUT02:Right Front Blower overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18024B	OUT02:Right Front Blower over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the right air conditioning blower.

Step 4:Enter the SJBUP action test on the diagnostic tool interface and perform the "Vehicle Output Channel Control - Right Front Blower, On/Off" action test. Check if the power supply of the right air conditioning blower operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace the right air conditioning blower. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Right

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

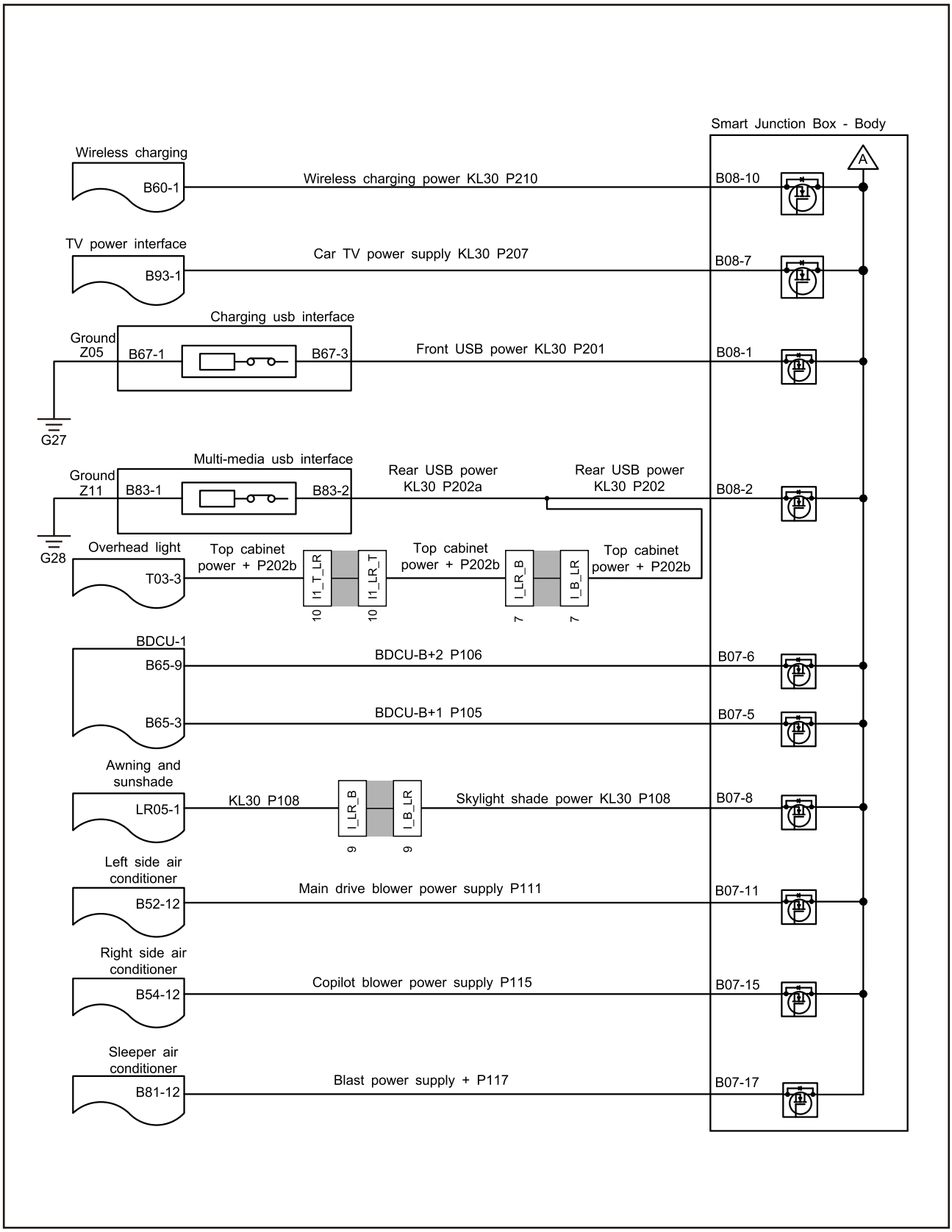
Step 7:Clear and confirm DTC.

7.4.6.11 Left Air Conditioning Blower Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180313	OUT03:Left Front Blower load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Left air conditioning blower 3. Smart junction box UP
B180319	OUT03:Left Front Blower overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18034B	OUT03:Left Front Blower over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the left air conditioning blower.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Left Front Blower, On/Off" action test. Check the power supply of the left air conditioning blower operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the left air conditioning blower. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Left

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

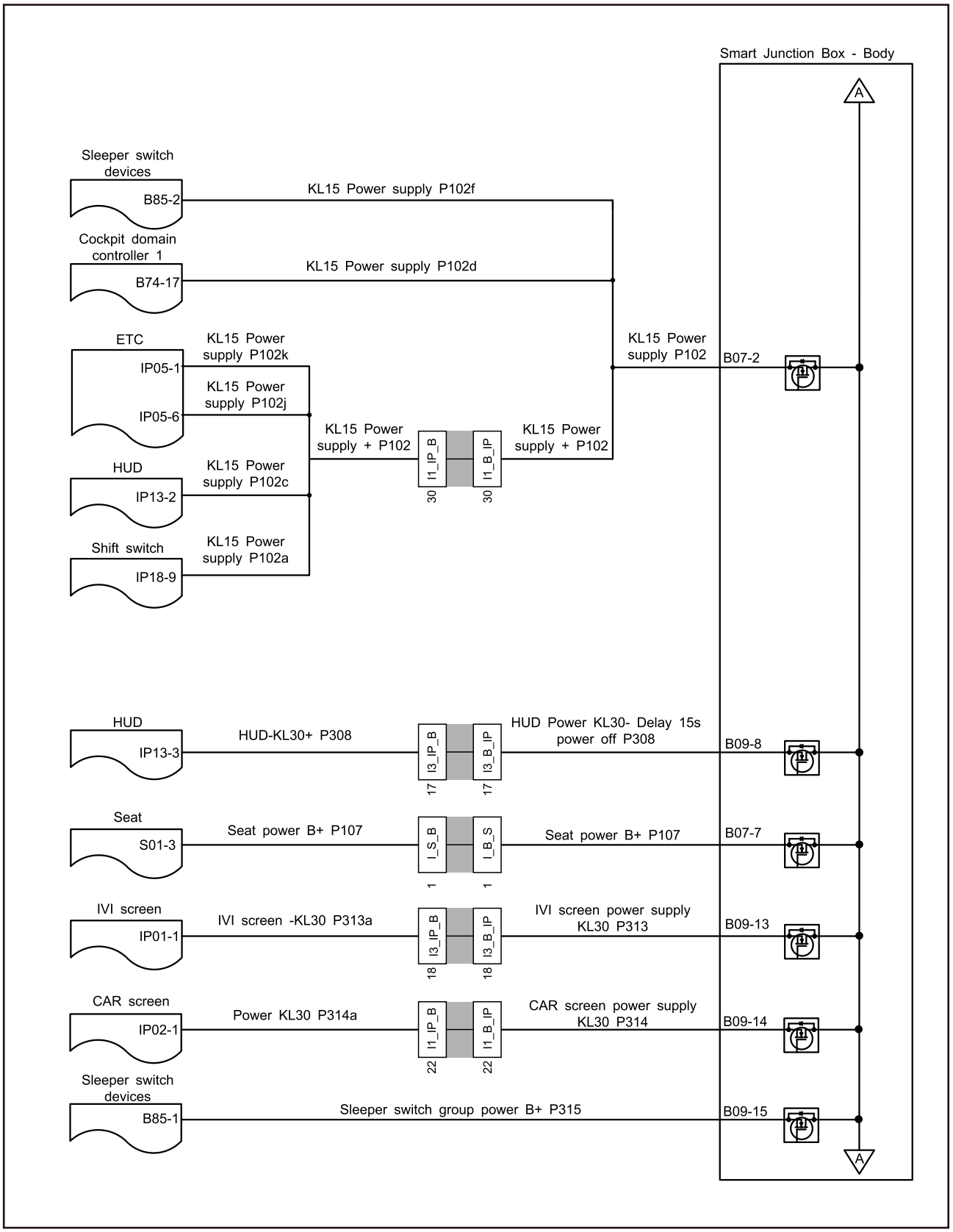
Step 7:Clear and confirm DTC.

7.4.6.12 Seat Module Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180513	OUT05:SWC load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Seat module 3. Smart junction box UP
B180519	OUT05:SWC overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18054B	OUT05:SWC over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the seat module.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Seat Control Module, On/Off" action test. Check the power supply of the seat module operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the seat module. Refer to Replacement Of Driver's Seat Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

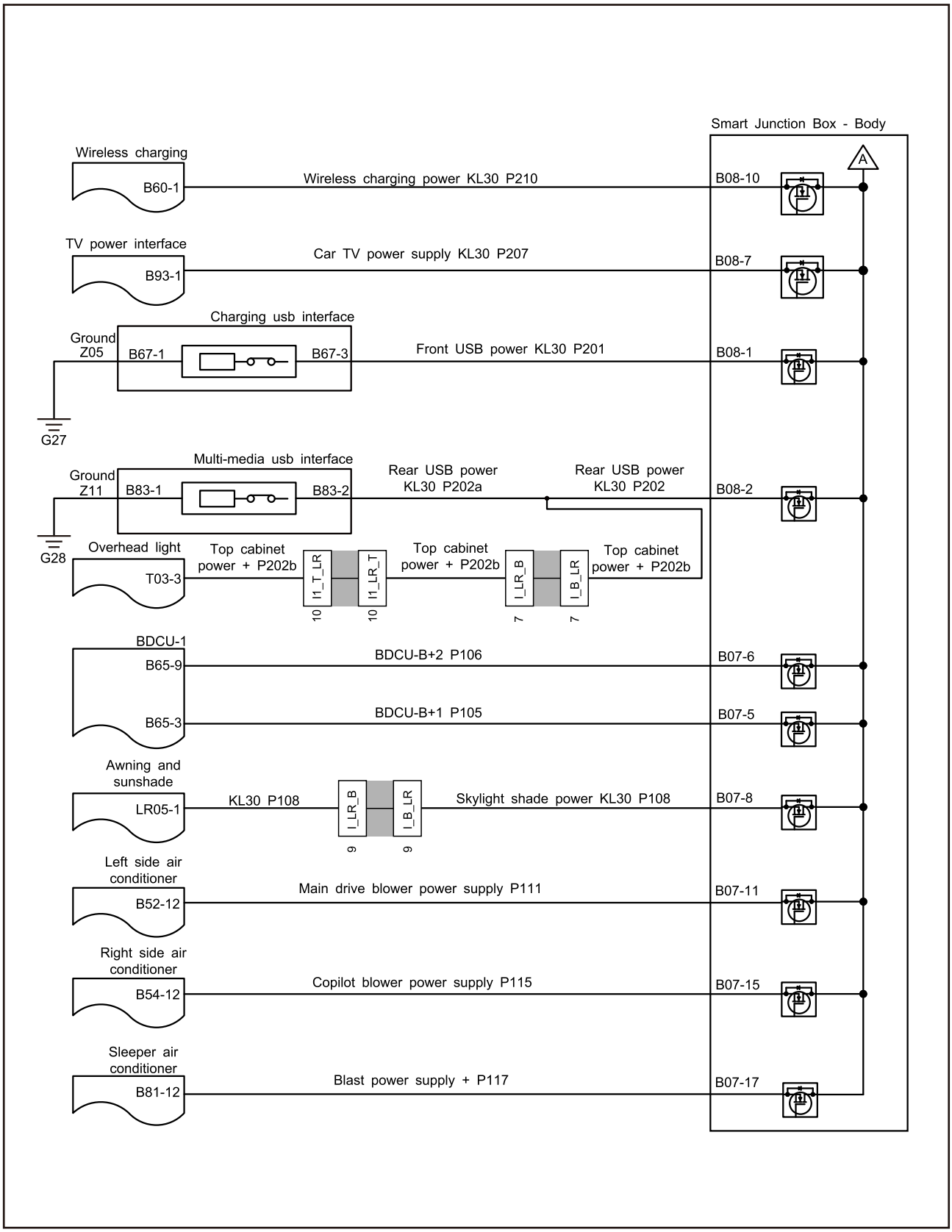
Step 7:Clear and confirm DTC.

7.4.6.13 Vehicle Domain Controller Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180613	OUT06:Body BDCU1 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Body domain control uint 3. Smart junction box UP
B180619	OUT06:Body BDCU1 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18064B	OUT06:Body BDCU1 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	
B180B13	OUT11:Body BDCU2 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	
B180B19	OUT11:Body BDCU2 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B180B4B	OUT11:Body BDCU2 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the body domain controller.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Body Domain Control-1, On/Off" and "Vehicle Output Channel Control - Vehicle Domain Control-2, On/Off" action tests. Check the power supply of the vehicle domain controller operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the body domain controller. Refer to Replacement Of Body Domain Control Uint

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

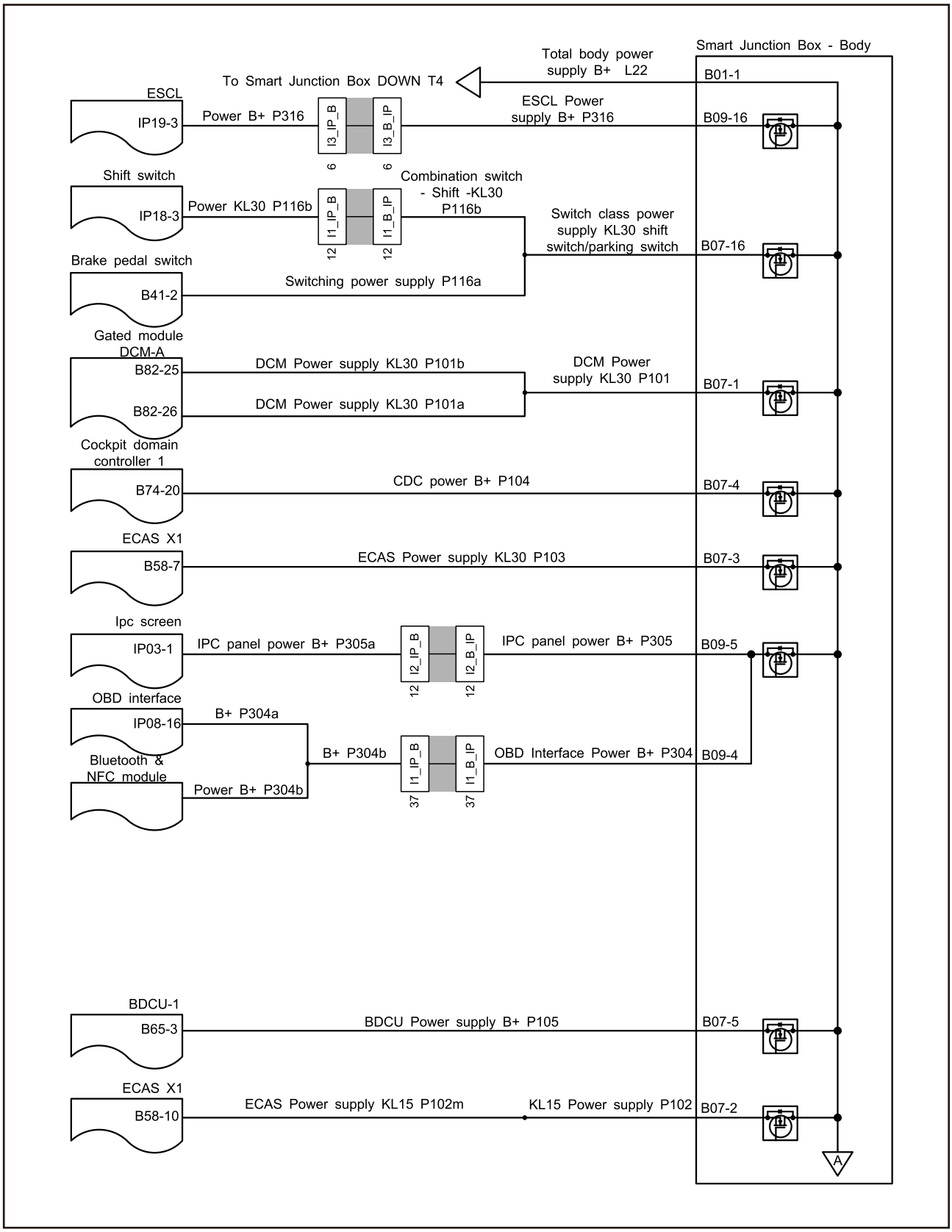
Step 7:Clear and confirm DTC.

7.4.6.14 Cabin Domain Controller Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180813	OUT08:CDCU load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Cockpit domain controller 3. Smart junction box UP
B180819	OUT08:CDCU overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18084B	OUT08:CDCU over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the cockpit domain controller.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Cabin Domain Controller, On/Off" action test. Check the power supply of the cabin domain controller operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the cockpit domain controller. Refer to Replacement Of Cockpit Domain Controller

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

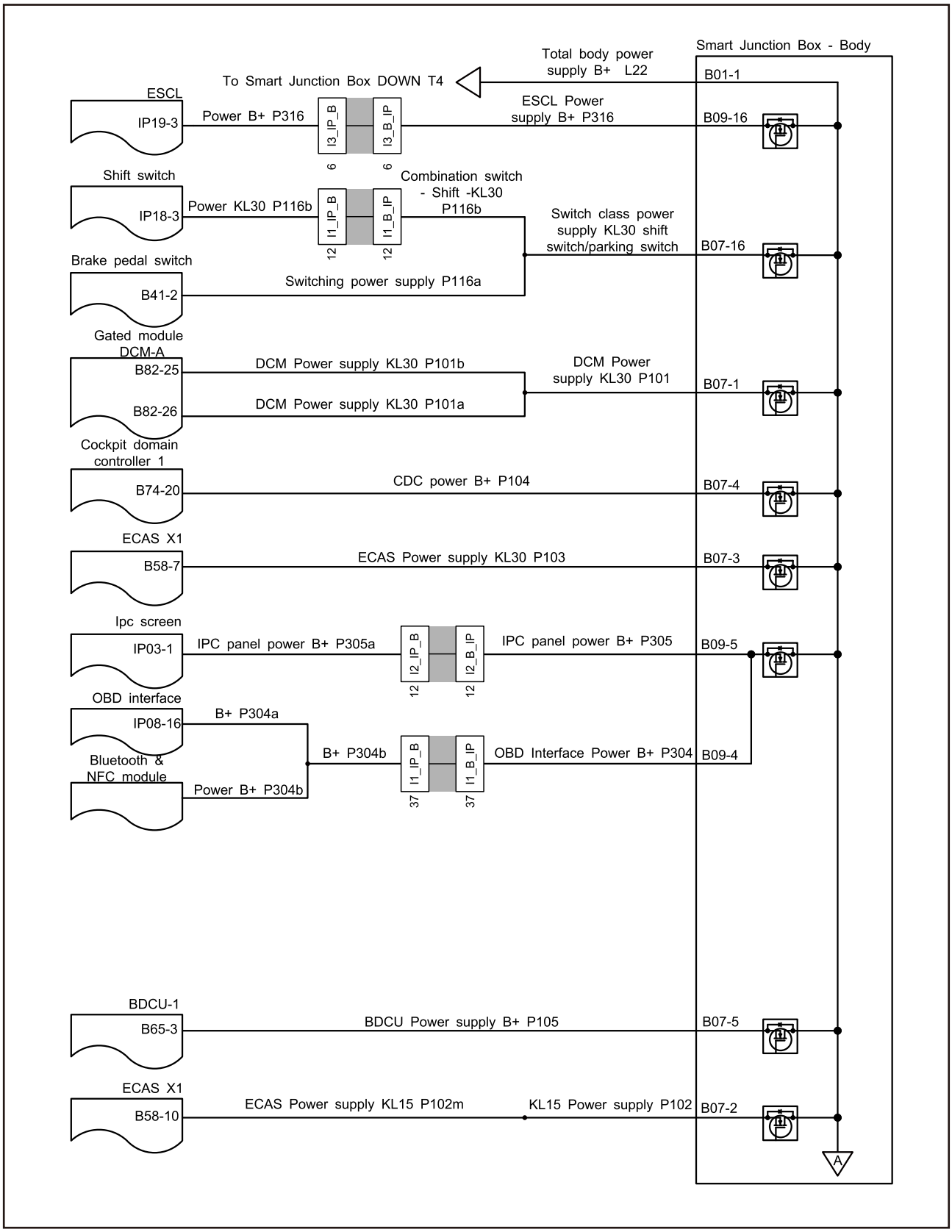
Step 7:Clear and confirm DTC.

7.4.6.15 ECAS Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180913	OUT09:ECAS load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1.Wiring harness 2.ECAS 3.Smart junction box UP
B180919	OUT09:ECAS overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18094B	OUT09:ECAS over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the ECAS power supply harness.

Step 4:Enter the SJBUP action test on the diagnostic instrument interface and perform the "Vehicle Output Channel Control ECAS, On/Off" action test. Check if the ECAS power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

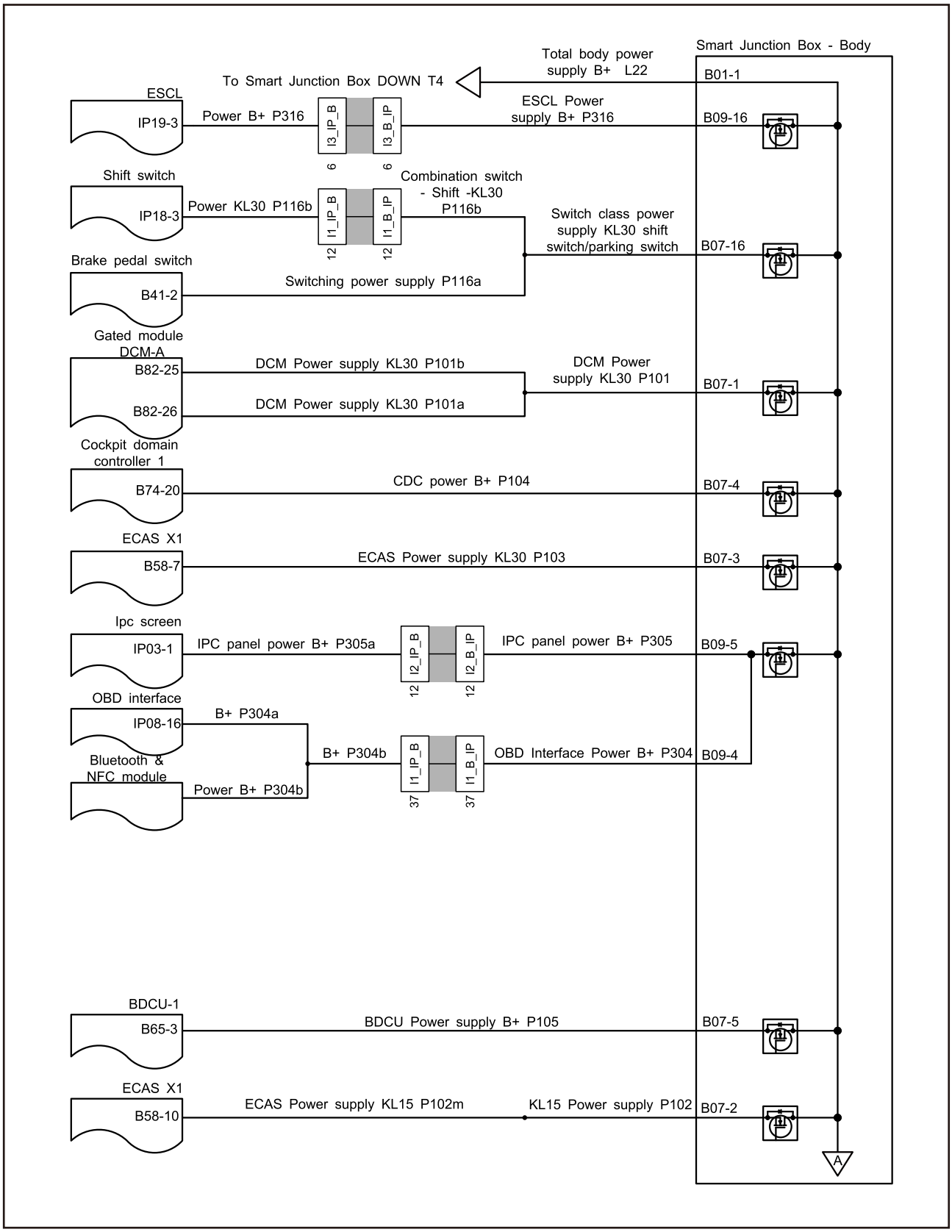
Step 7:Clear and confirm DTC.

7.4.6.16 Power Supply Circuit Fault Of Door Control Module

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180A13	OUT10:DCM load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Gate control module 3. Smart junction box UP
B180A19	OUT10:DCM overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B180A4B	OUT10:DCM over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the door control module.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control Door Control Module, On/Off" action test. Check the power supply of the door control module operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the door control module. Refer to Replacement Of DCM

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

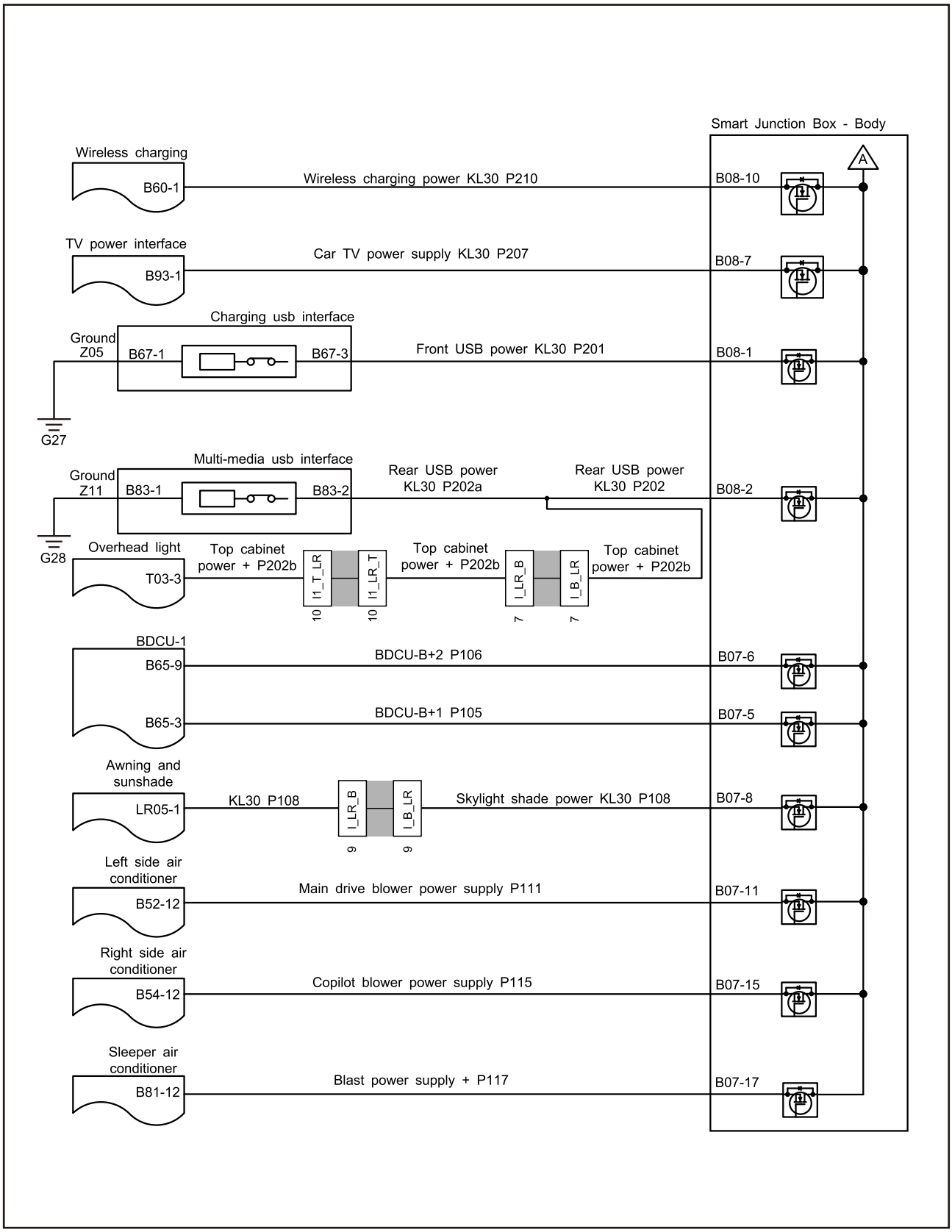
Step 7:Clear and confirm DTC.

7.4.6.17 Fault In The Power Supply Circuit Of The Sunroof Sunshade

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180C13	OUT12:Sky Shade CurIntel load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Skyroof sunshade 3. Smart junction box UP
B180C19	OUT12:Sky Shade CurIntel overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B180C4B	OUT12:Sky Shade CurIntel over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the skyroof sunshade.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Skyroof Sunshade, Open/Close" action test. Check the power supply of the sunroof sunshade operates according to the instructions of the diagnostic instrument.

– Yes: Next step

– No: Replace the sunroof sunshade. Refer to Replacement of the sunroof sunshade assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement of body smart electrical box

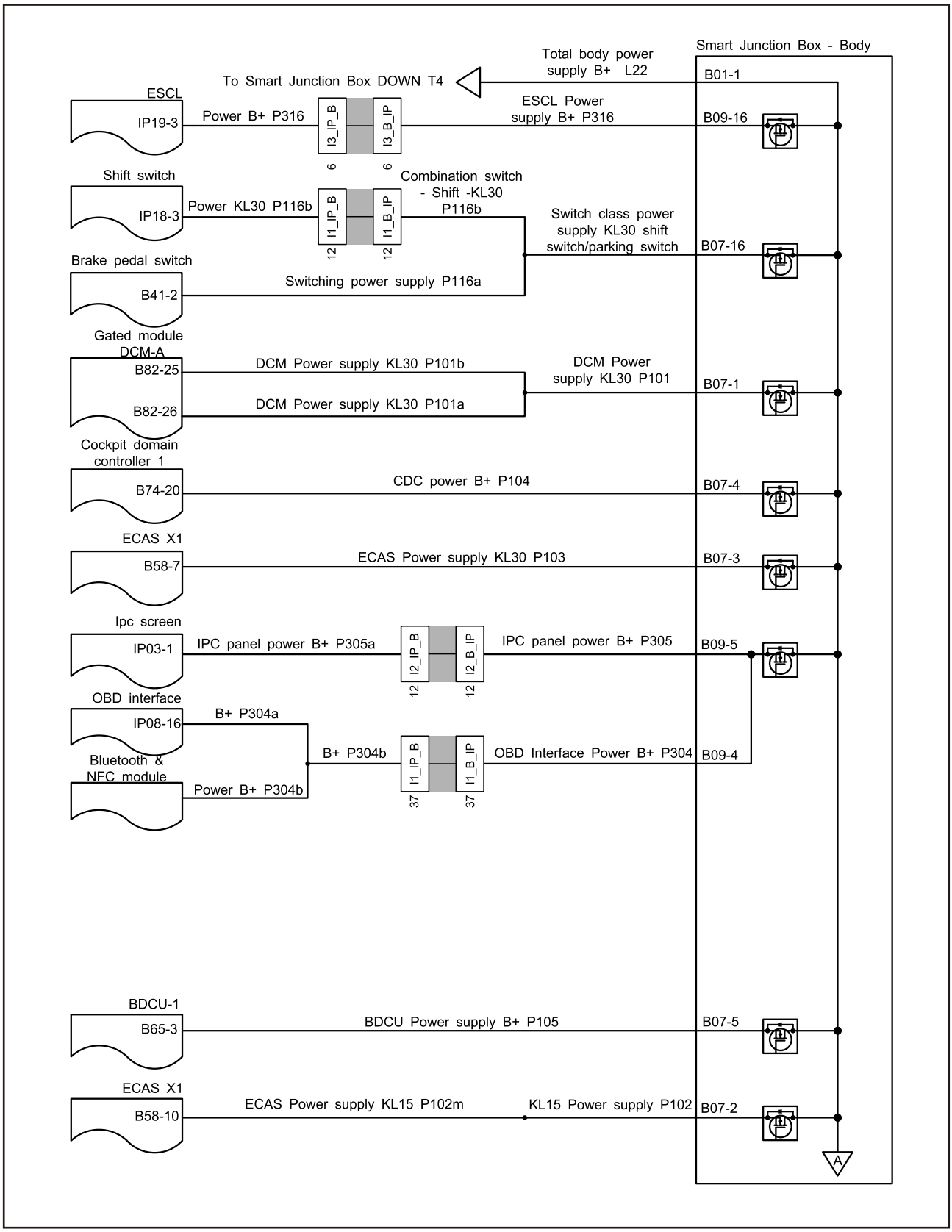
Step 7:Clear and confirm DTC.

7.4.6.18 Power Supply Circuit Fault Of Switch Type Power Supply

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B180E13	OUT14:Work load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Shift switch 3. Brake pedal switch 4. Smart junction box UP
B180E19	OUT14:Work overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B180E4B	OUT14:Work over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the shift switch and brake pedal switch.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Switching Power Supply, On/Off" action test. Check the switching power supply operates according to the diagnostic instrument instructions.

– Yes: Next step

– No: Replace the faulty switch. Refer to Replacement Of Combination Switch.Replacement Of Brake Pedal Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical box

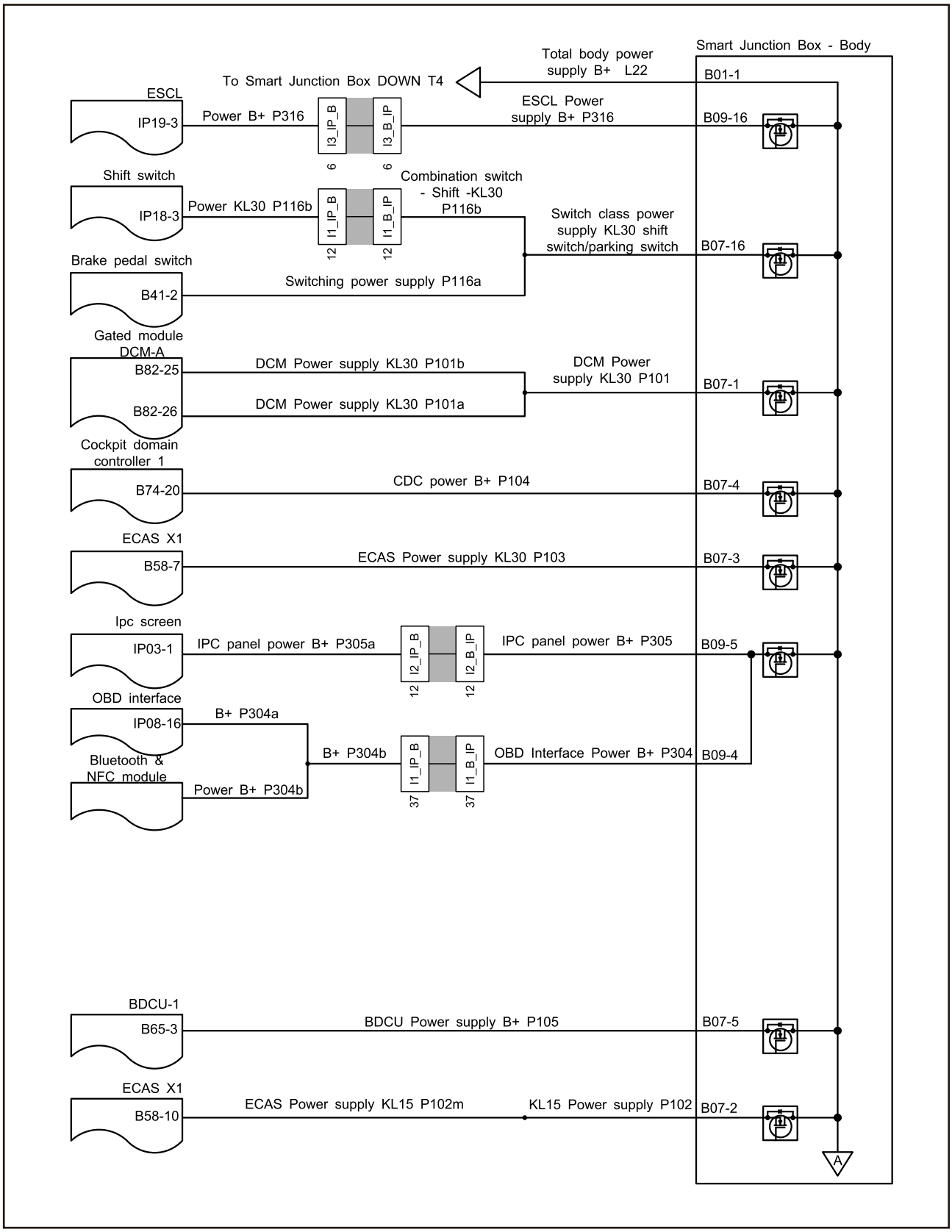
Step 7:Clear and confirm DTC.

7.4.6.19 Instrument Panel Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B181113	OUT17:IPC load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. IPC screen 3. Smart junction box UP
B181119	OUT17:IPC overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18114B	OUT17:IPC over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the IPC screen power supply harness.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Instrument Screen, On/Off" action test. Check the power supply of the IPC screen operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the IPC screen. Refer to Replacement Of IPC Screen

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

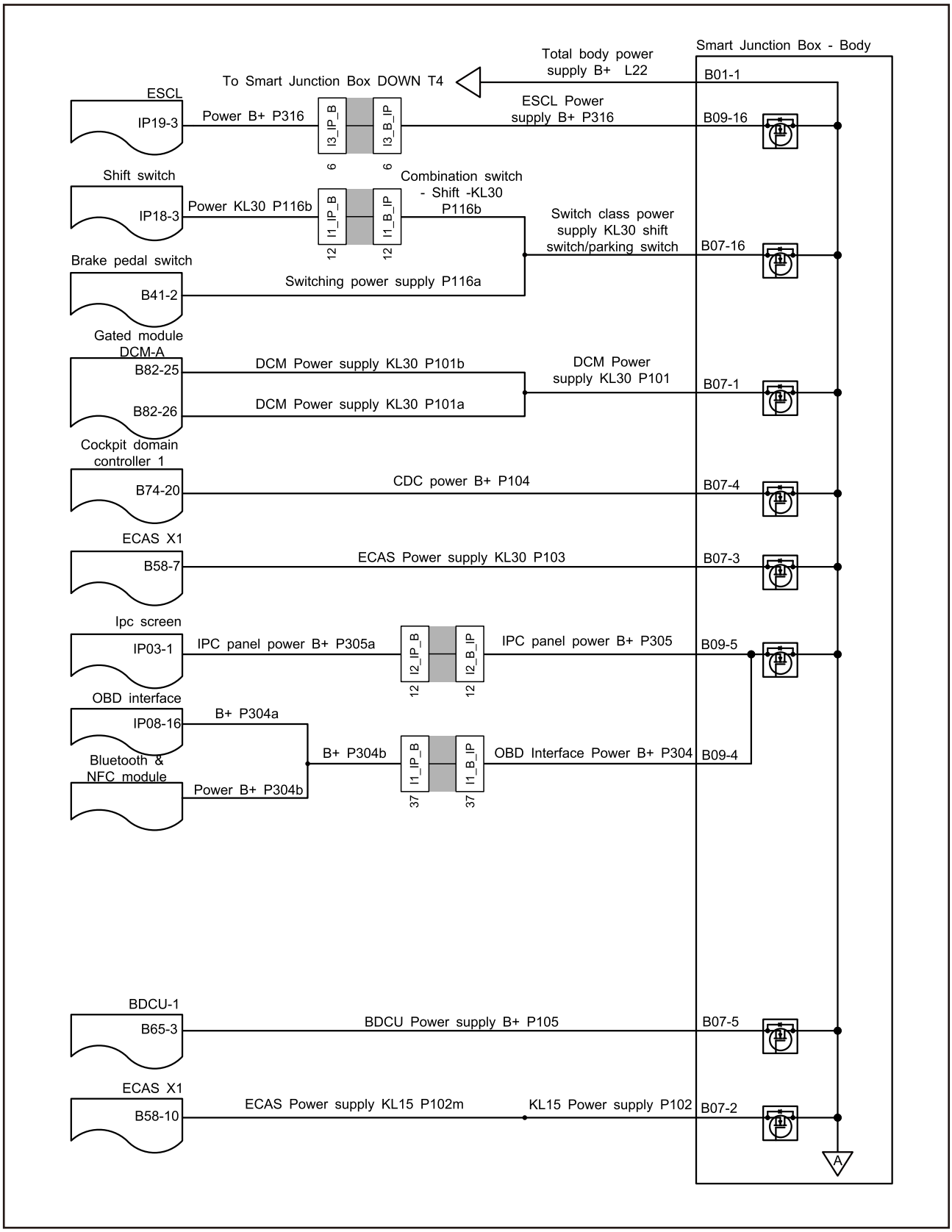
Step 7:Clear and confirm DTC.

7.4.6.20 OBD Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B181213	OUT18:OBD load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1.Wiring harness 2.OBD 3.Smart junction box UP
B181219	OUT18:OBD overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18124B	OUT18:OBD over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the OBD power supply harness.

Step 4:Enter the SJBUP action test on the diagnostic instrument interface and perform the "Vehicle Output Channel Control OBD Interface, On/Off" action test. Check if the OBD interface power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace OBD.

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

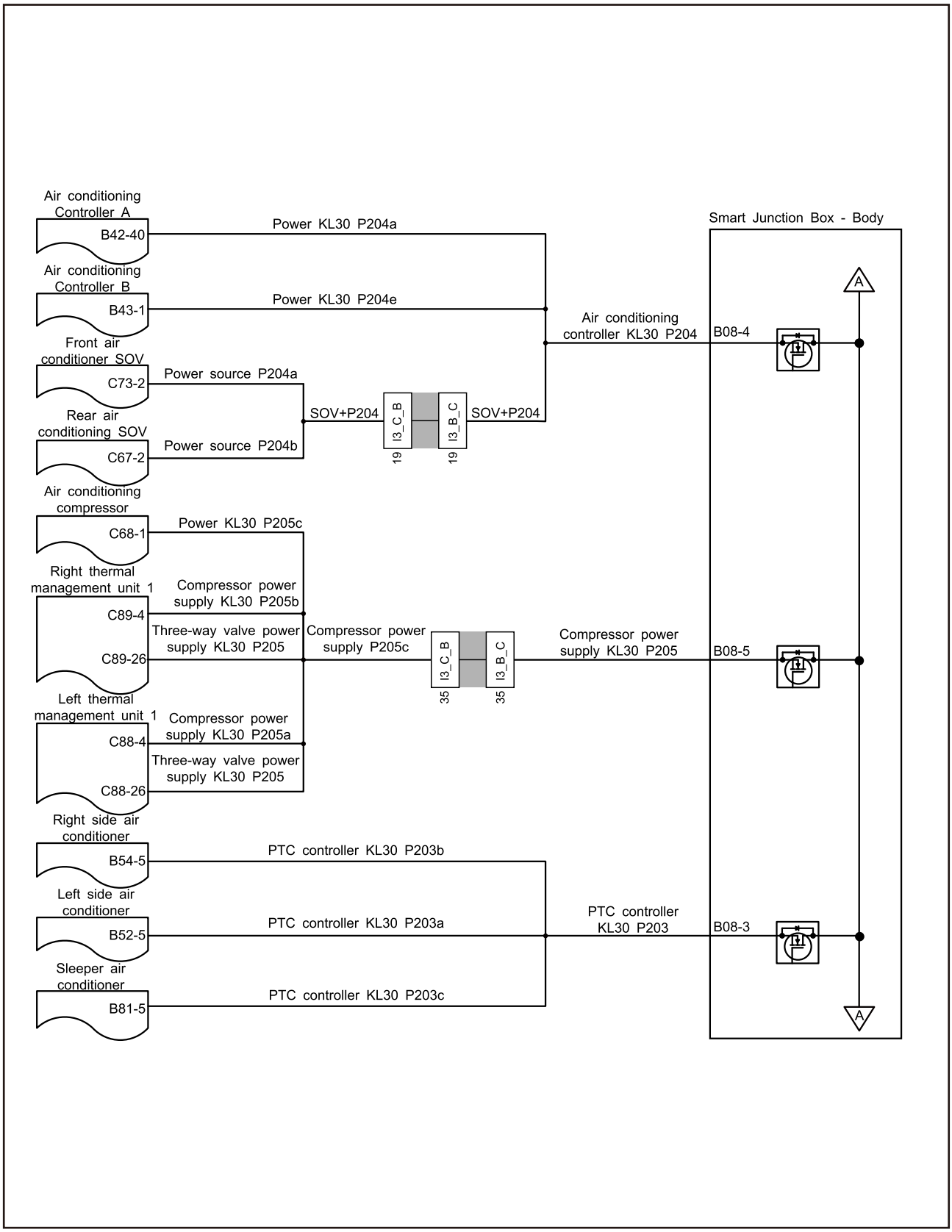
Step 7:Clear and confirm DTC.

7.4.6.21 Compressor Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B181313	OUT19: ACAndBatCompressor load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Compressor 3. Smart junction box UP
B181319	OUT19: ACAndBatCompressor overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18134B	OUT19: ACAndBatCompressor over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the compressor.

Step 4:Enter the SJBUP action test on the diagnostic tool interface and perform the "Vehicle Output Channel Control - Air Conditioning & battery Compressor, On/Off" action test. Check if the compressor power supply operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace the compressor. Refer to Replacement Of Air Conditioning Compressor Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

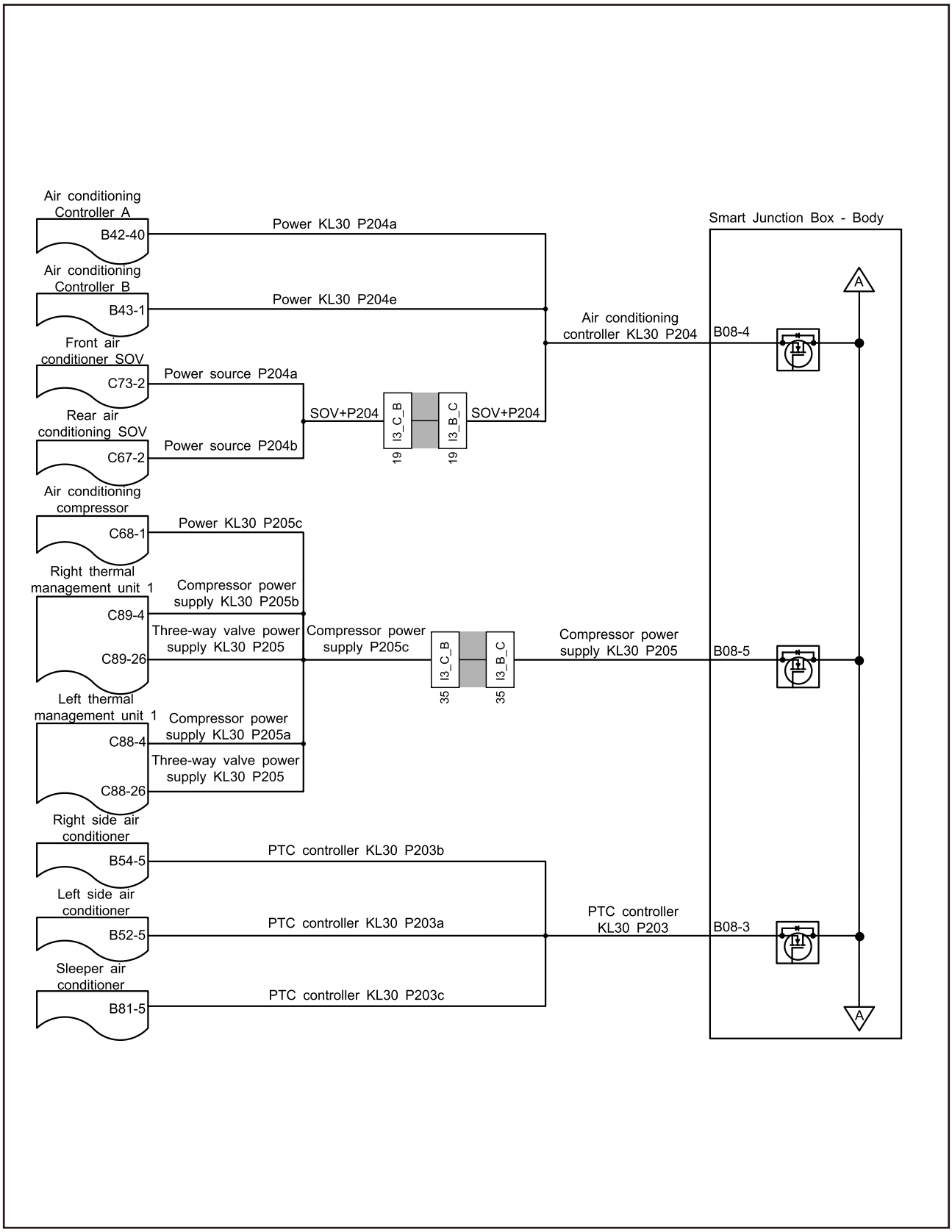
Step 7:Clear and confirm DTC.

7.4.6.22 PTC Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B181513	OUT21:PTC load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1.Wiring harness 2.PTC 3.Smart junction box UP
B181519	OUT21:PTC overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18154B	OUT21:PTC over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the PTC power supply harness.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control PTC Controller, On/Off" action test. Check the power supply of the PTC controller operates according to the instructions of the diagnostic instrument.

– Yes: Next step

Replace the PTC controller. Refer to Replacement Of HVAC Assembly (Including PTC) - Front Left.

– No: Replacement Of HVAC Assembly (Including PTC) - Front Right.Replacement Of HVAC Assembly (Including PTC) - Rear

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

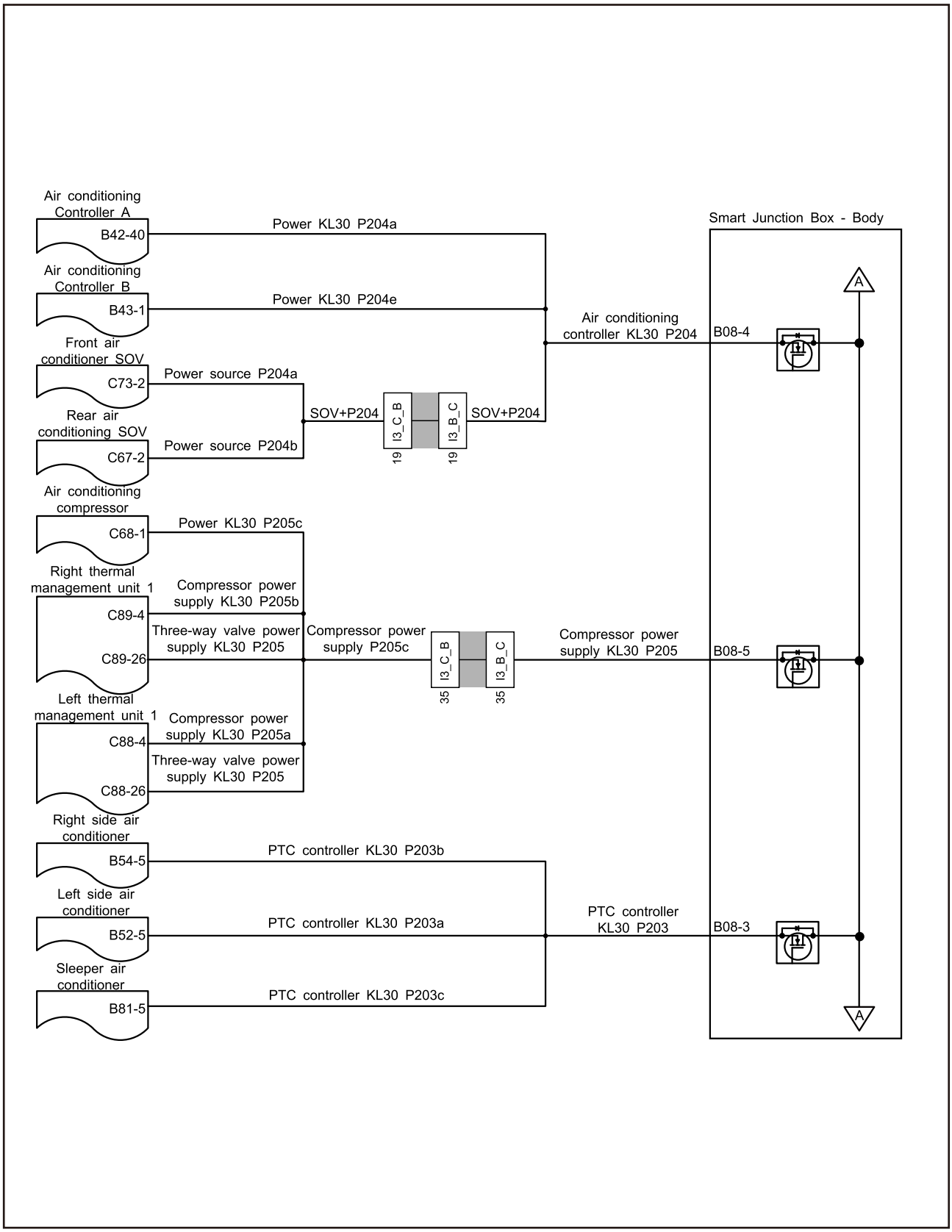
Step 7:Clear and confirm DTC.

7.4.6.23 Air Conditioning Controller Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B181613	OUT22:AC load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Air conditioning controller 3. Smart junction box UP
B181619	OUT22:AC overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18164B	OUT22:AC over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the air conditioning controller.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Air Conditioning Controller, On/Off" action test. Check the power supply of the air conditioning controller operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the air conditioning controller. Refer to HVAC Assembly (Including PTC) - Front Rght Replacement

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

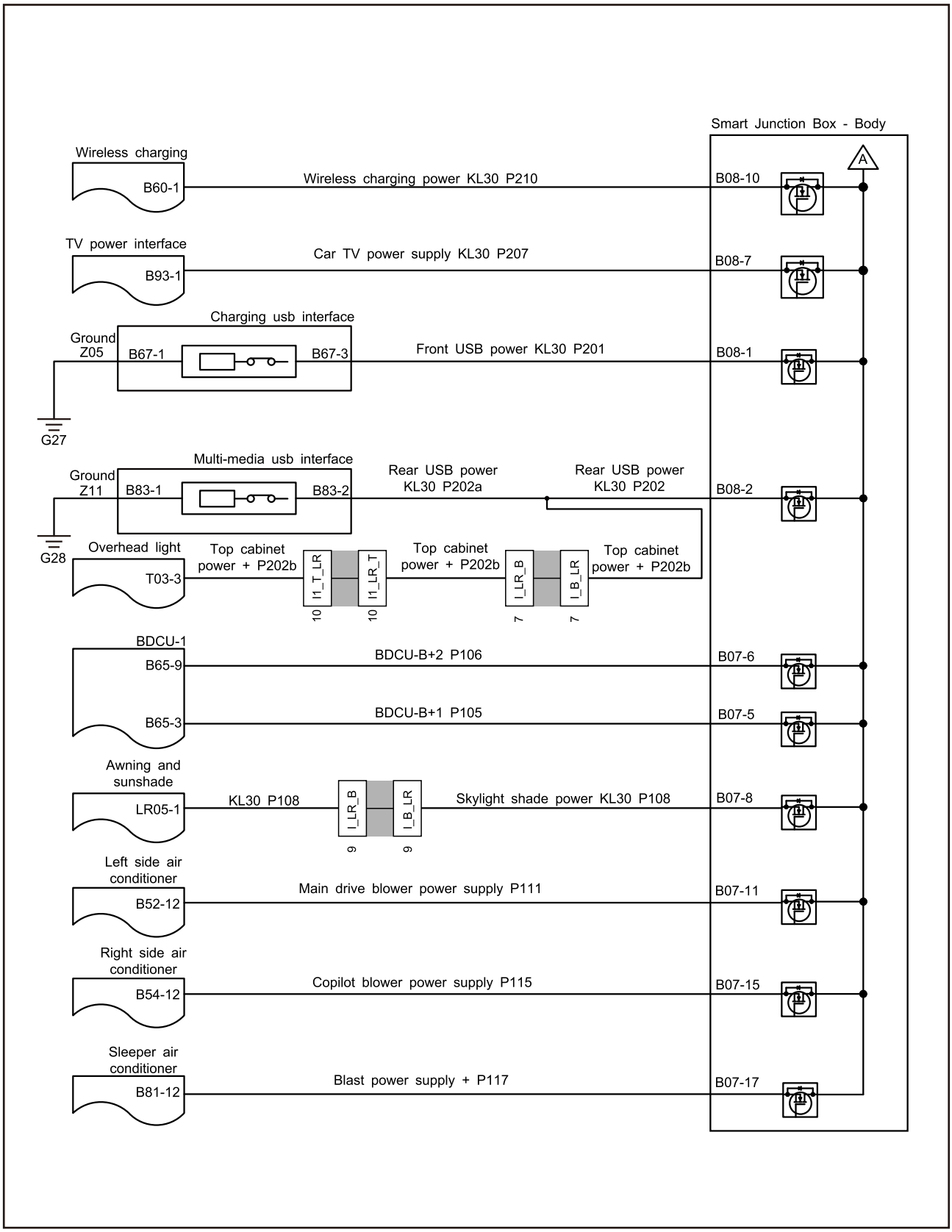
Step 7:Clear and confirm DTC.

7.4.6.24 Front Row USB Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B181713	OUT23:FrontUSB load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Front row USB 3. Smart junction box UP
B181719	OUT23:FrontUSB overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18174B	OUT23:FrontUSB over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the front row USB power supply harness.

Step 4:Enter the SJBUP action test on the diagnostic tool interface and perform the "Vehicle Output Channel Control - Front USB Power, On/Off" action test. Check if the front USB power supply operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace the front row USB. Refer to Replacement Of The Front USB Interface

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

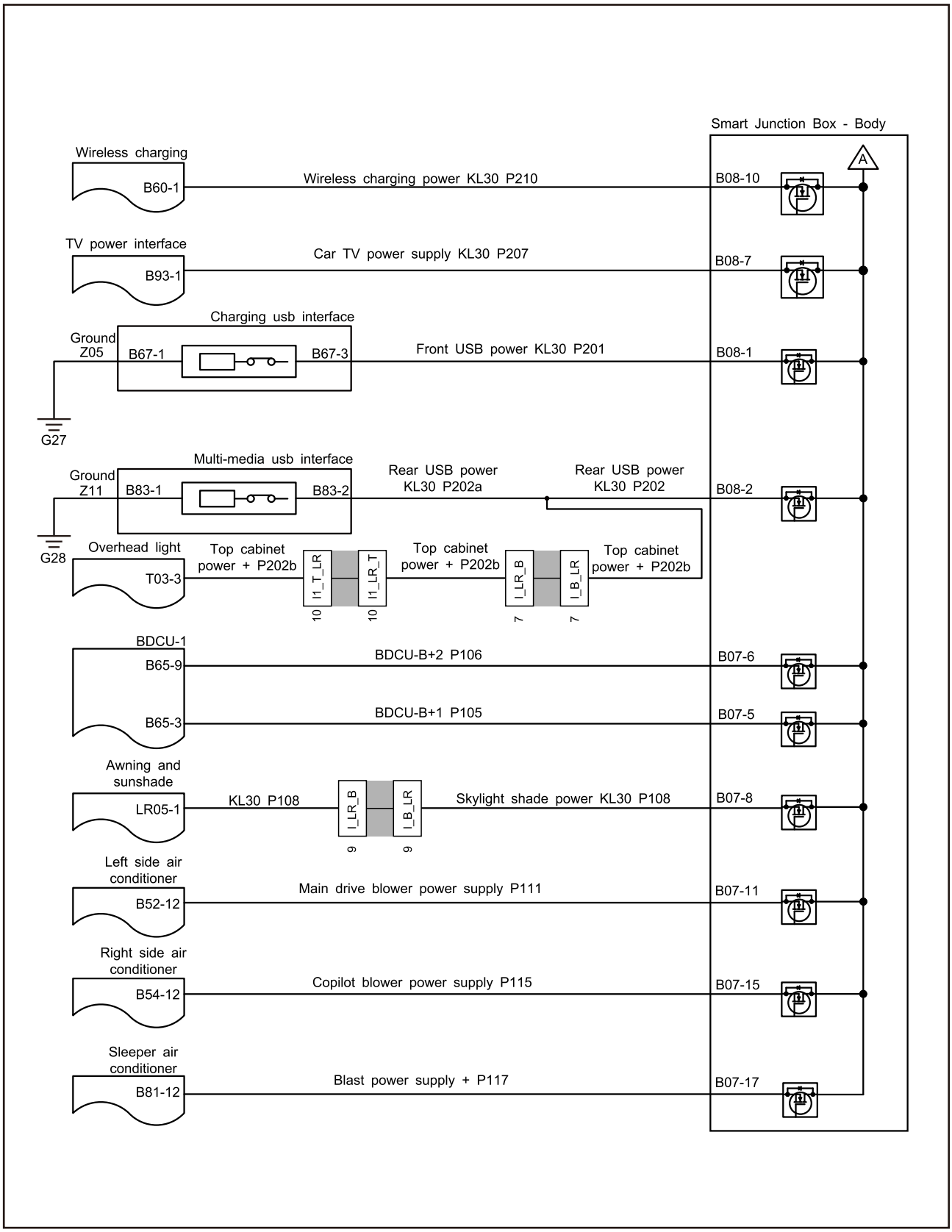
Step 7:Clear and confirm DTC.

7.4.6.25 Rear USB Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B181813	OUT24:RearUSB load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Rear USB 3. Smart junction box UP
B181819	OUT24:RearUSB overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18184B	OUT24:RearUSB over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the rear USB power supply harness.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Rear USB Power, On/Off" action test. Check the rear USB power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the rear USB. Refer to Replacement Of Rear USB Interface

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

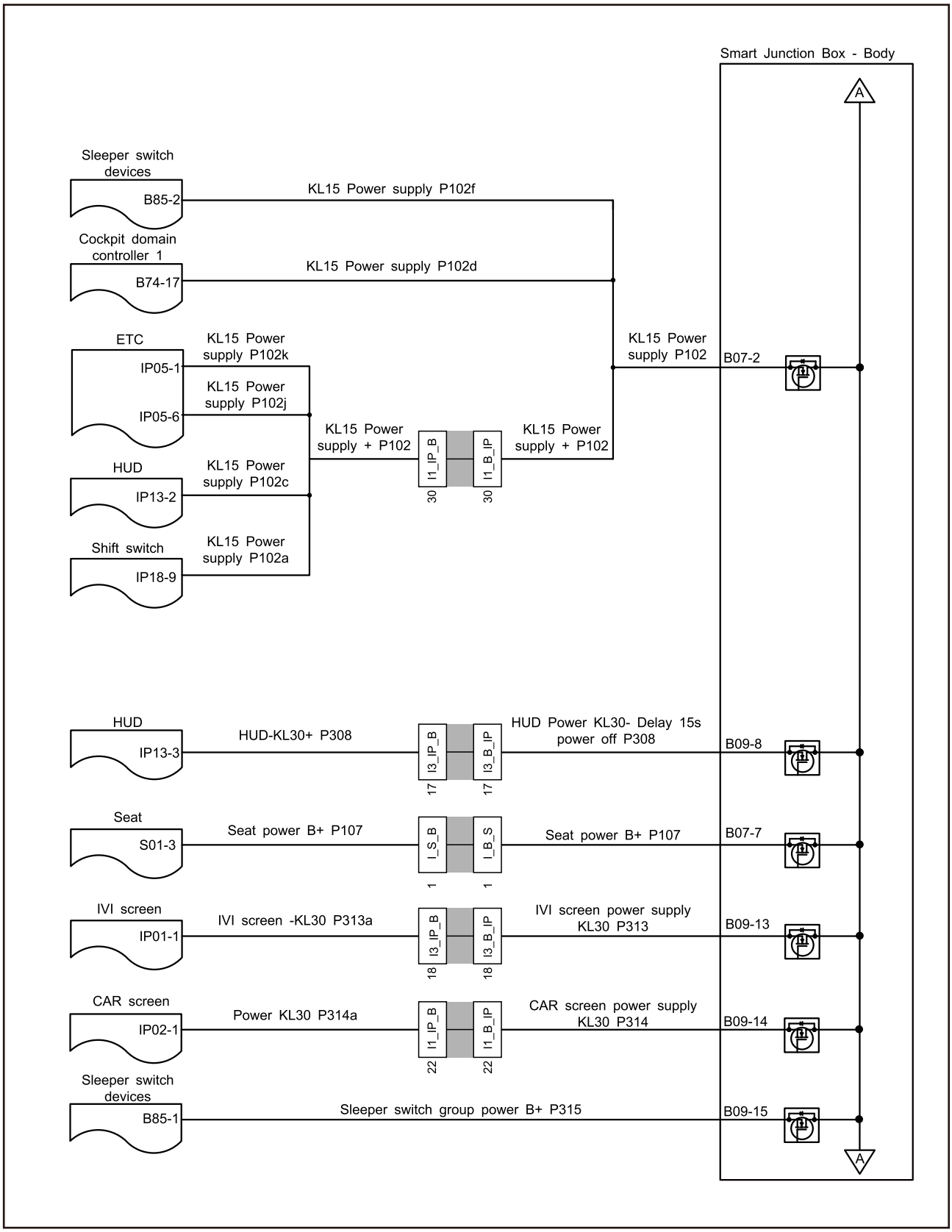
Step 7:Clear and confirm DTC.

7.4.6.26 HUD Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B181A13	OUT26:AR_HUD load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1.Wiring harness 2.HUD 3.Smart junction box UP
B181A19	OUT26:AR_HUD overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B181A4B	OUT26:AR_HUD over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the HUD power supply harness.

Step 4:Enter the SJBUP action test on the diagnostic tool interface and perform the "Vehicle Output Channel Control AR-HUD, On/Off" action test. Check if the HUD power supply operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace HUD. Refer to Replacement of AR-HUD

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

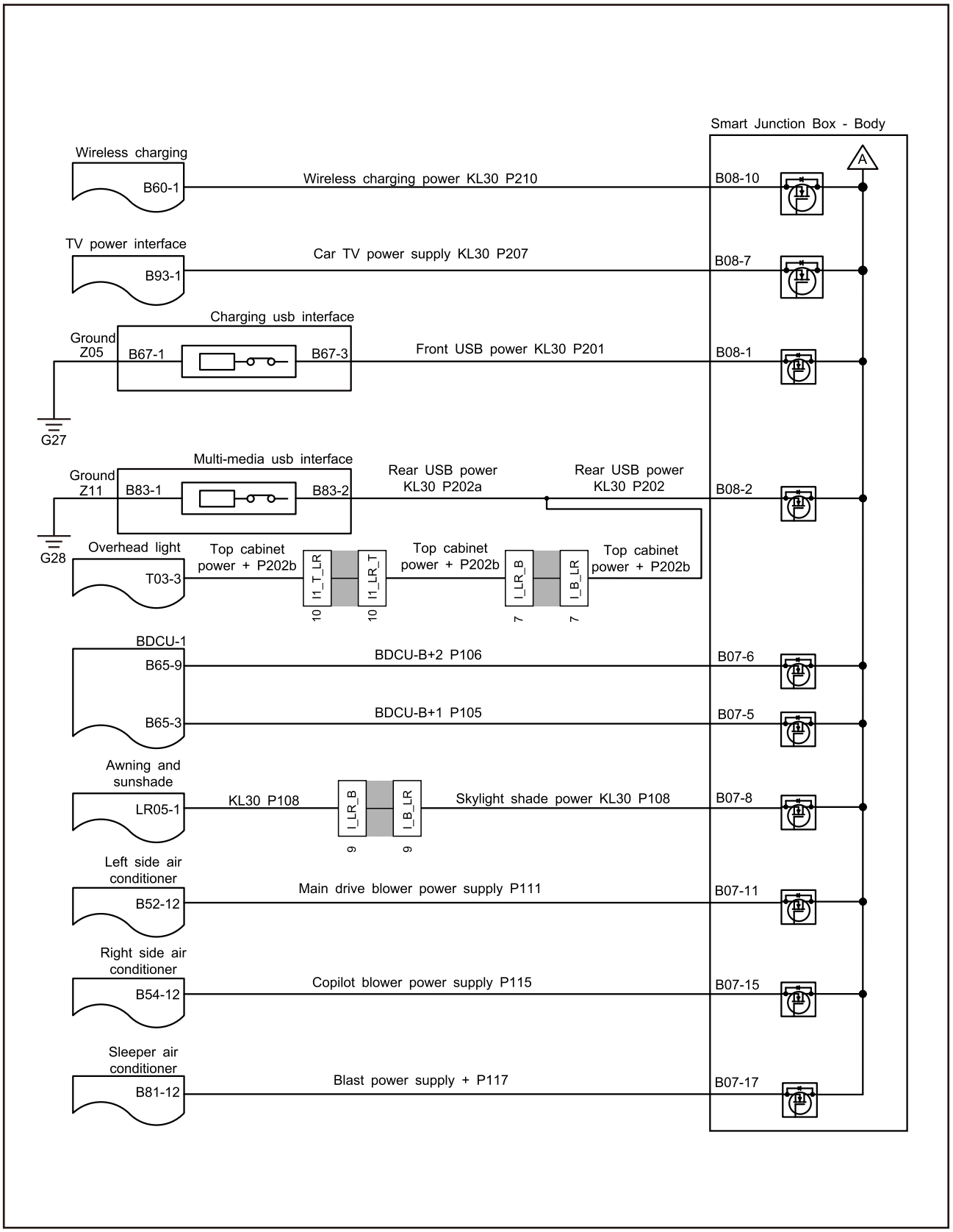
Step 7:Clear and confirm DTC.

7.4.6.27 Wireless Charging Module Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B181D13	OUT29:PWC load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Wireless charging module 3. Smart junction box UP
B181D19	OUT29:PWC overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B181D4B	OUT29:PWC over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the wireless charging module.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Wireless Charging Module, On/Off" action test. Check the power supply of the wireless charging module operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the wireless charging module. Refer to Replacement Of Wireless Charging Module

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

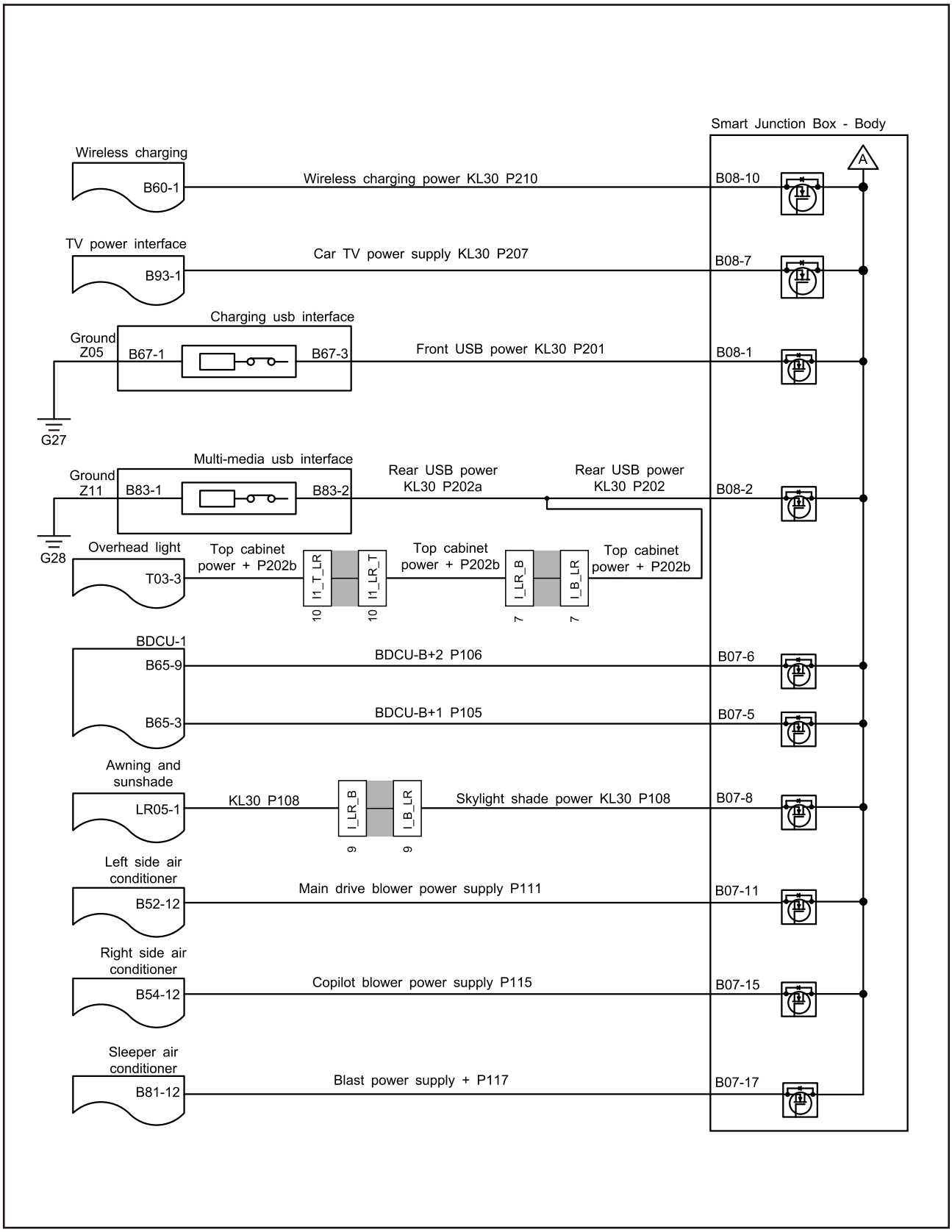
Step 7:Clear and confirm DTC.

7.4.6.28 Vehicle Mounted TV Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182013	OUT32:TV load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Car TV 3. Smart junction box UP
B182019	OUT32:TV overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18204B	OUT32:TV over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the car TV.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control - Car TV, On/Off" action test. Check the power supply of the car TV operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the car TV.

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

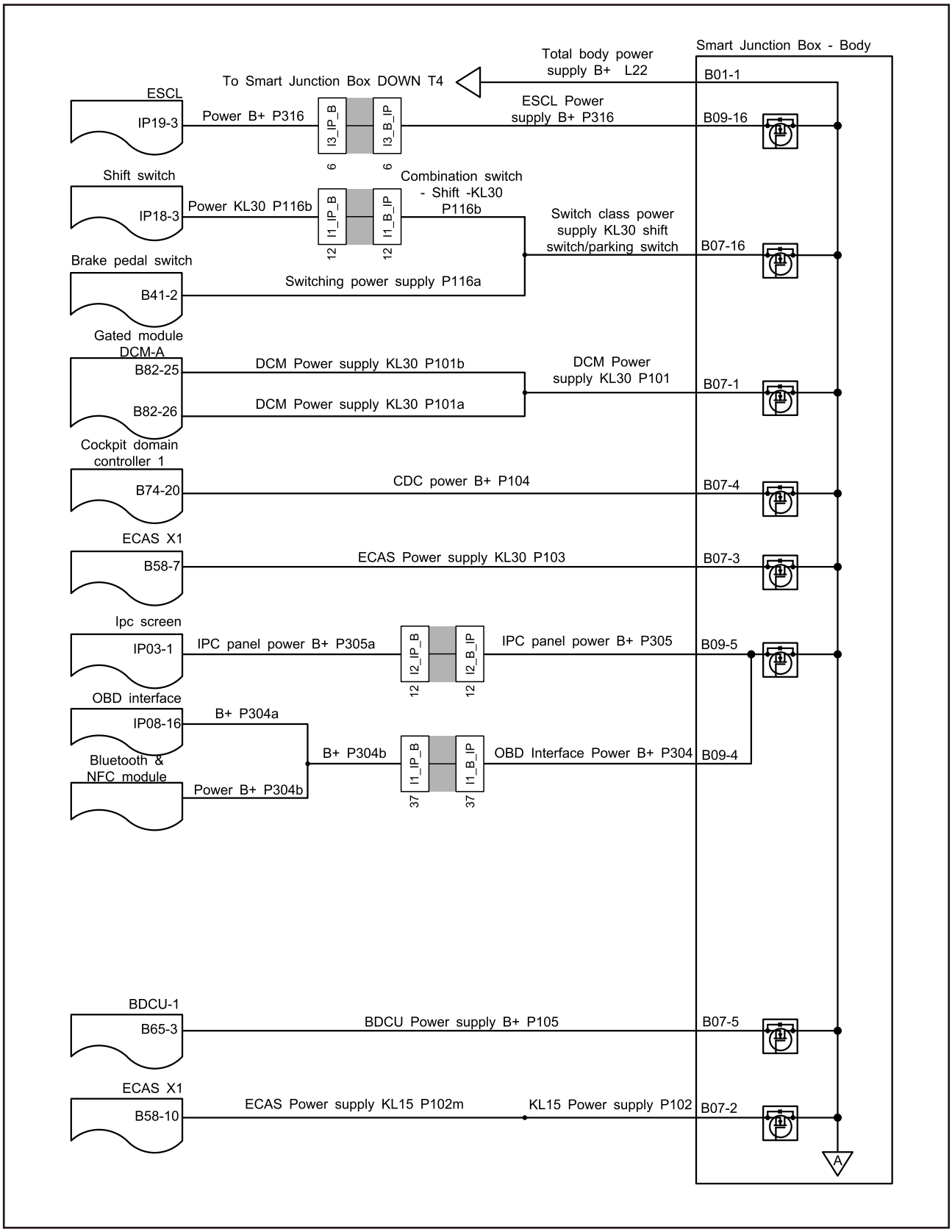
Step 7:Clear and confirm DTC.

7.4.6.29 ESCL Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182113	OUT33:ESCL load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. ESCL 3. Smart junction box UP
B182119	OUT33:ESCL overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18214B	OUT33:ESCL over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the ESCL power supply harness.

Step 4:Enter the SJBUP action test on the diagnostic instrument interface and perform the "Vehicle Output Channel Control ESCL, On/Off" action test. Check if the ESCL power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace ESCL. Refer to Replacement Of Steering Column Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

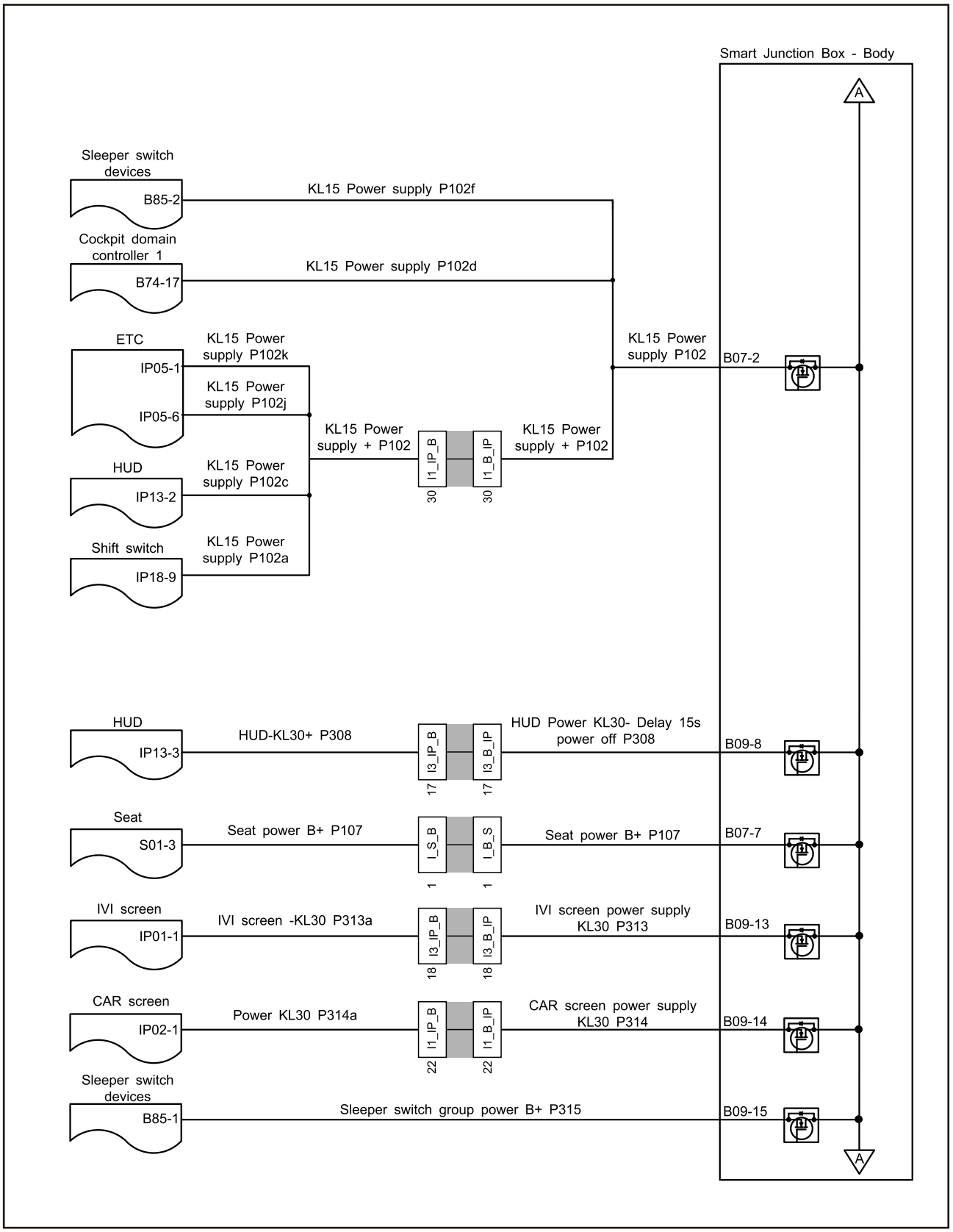
Step 7:Clear and confirm DTC.

7.4.6.30 Sleeper Switch Devices Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182213	OUT34:SSM load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1.Wiring harness 2.Sleeper switch devices 3.Smart junction box UP
B182219	OUT34:SSM overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18224B	OUT34:SSM over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the sleeper switch devices.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "body output channel control sleeper switch devices, on/off" action test. Check the power supply of the sleeper switch devices operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the sleeper switch devices. Refer to Replacement Of Sleep Switch Devices

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

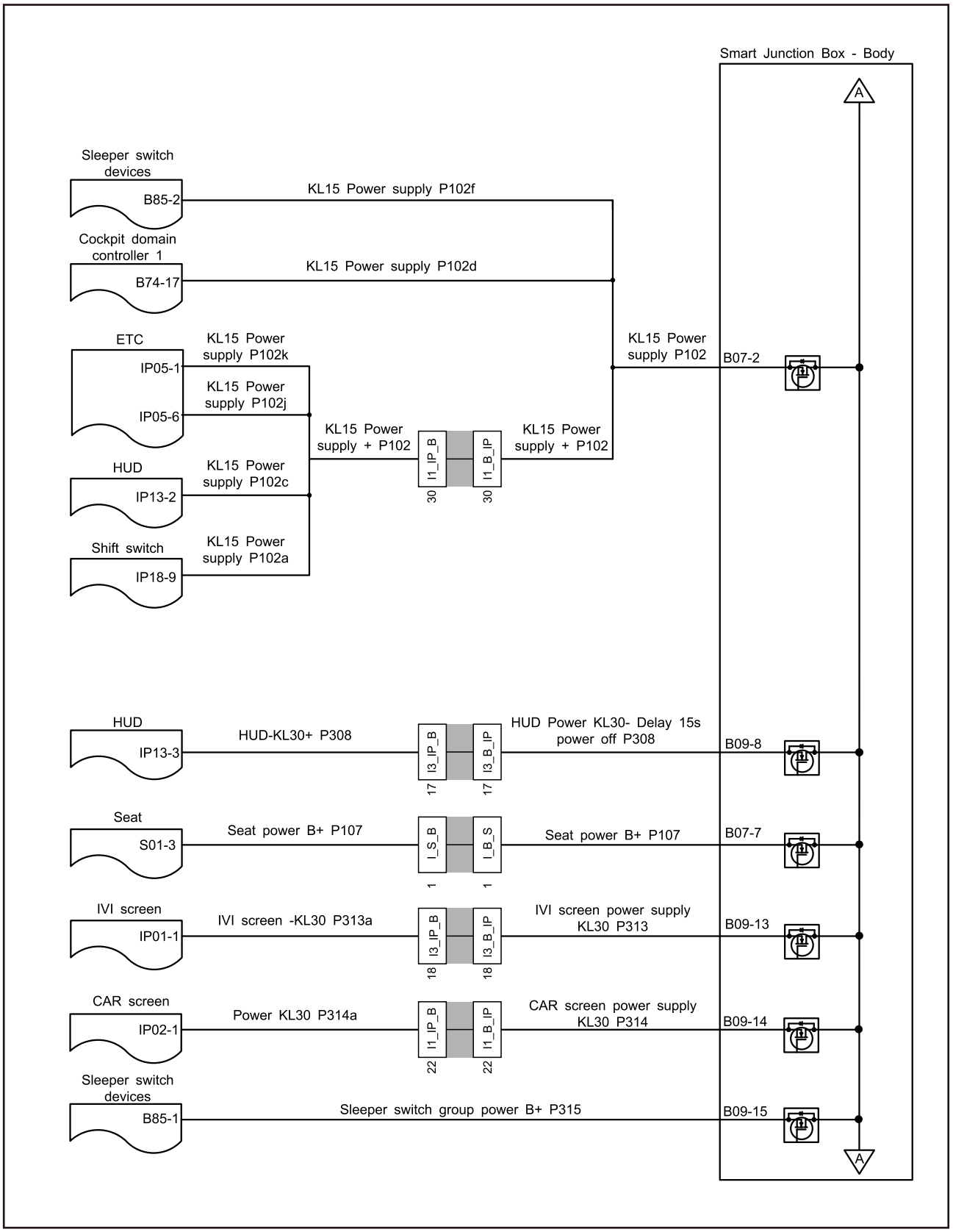
Step 7:Clear and confirm DTC.

7.4.6.31 CAR Screen Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182313	OUT35:CAR load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. CAR screen 3. Smart junction box UP
B182319	OUT35:CAR overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18234B	OUT35:CAR over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the CAR screen power supply harness.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Vehicle Output Channel Control CAR Screen, On/Off" action test. Check the power supply of the CAR screen operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the CAR screen. Refer to Replacement Of CAR Screen

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

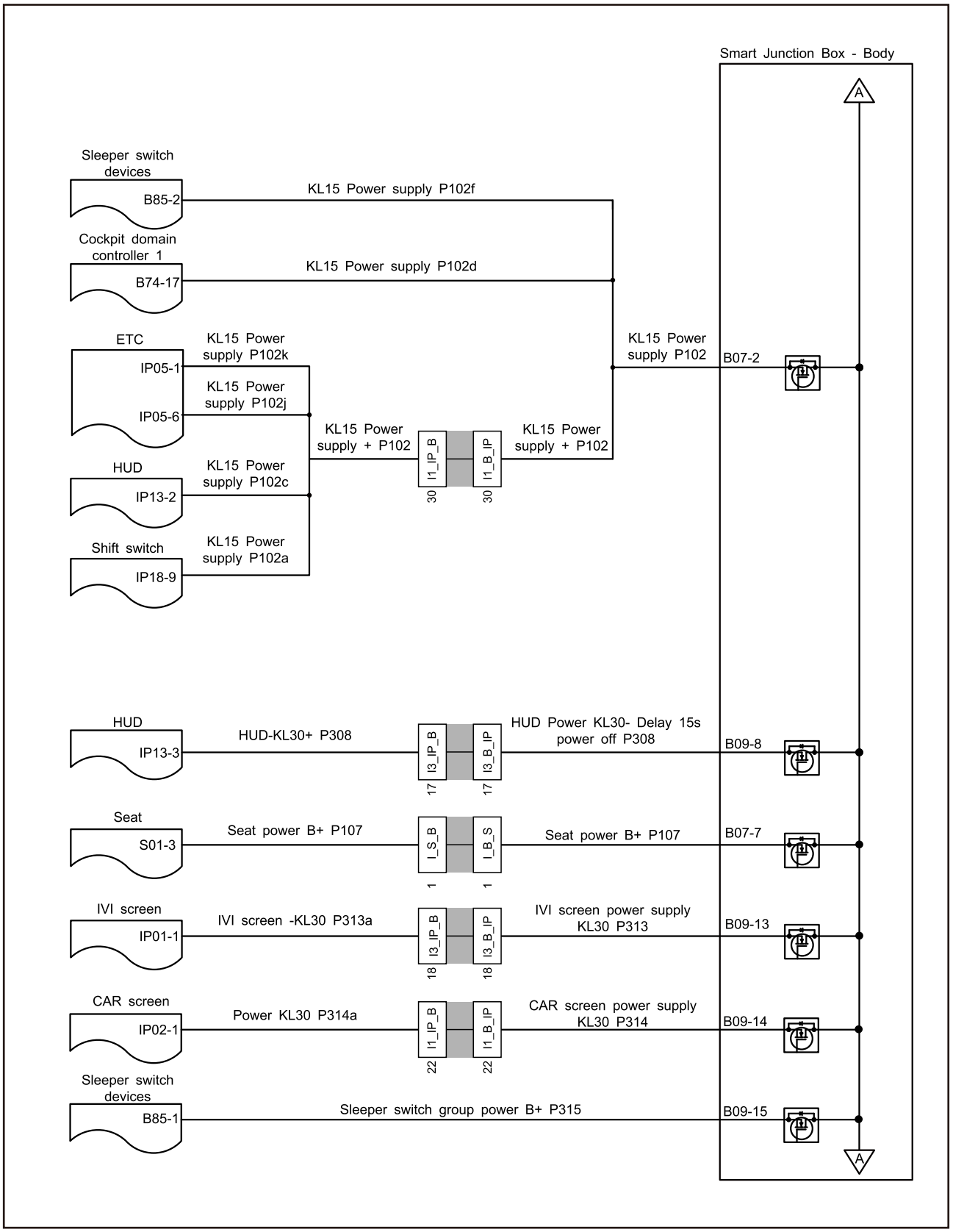
Step 7:Clear and confirm DTC.

7.4.6.32 IVI Screen Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182413	OUT36:IVI load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. IVI screen 3. Smart junction box UP
B182419	OUT36:IVI overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18244B	OUT36:IVI over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the IVI screen power supply harness.

Step 4:Enter the SJBUP action test on the diagnostic instrument interface and perform the "Vehicle Output Channel Control - IVI Screen, On/Off" action test. Check if the IVI screen power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the IVI screen. Refer to Replacement Of IVI Screen

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

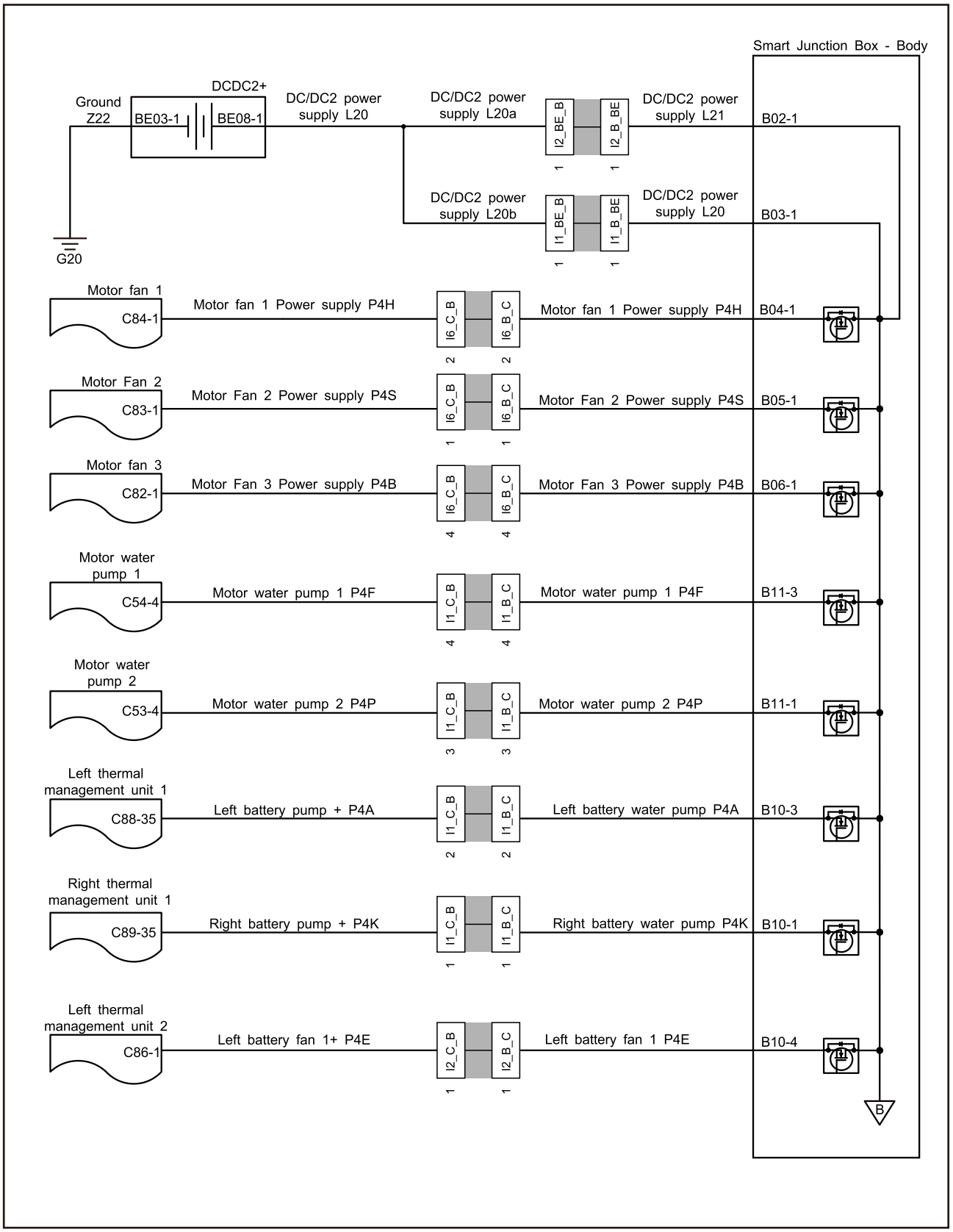
Step 7:Clear and confirm DTC.

7.4.6.33 Left Battery Water Pump Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182613	OUT38:BatDrivPump1 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Left thermal management unit (left battery water pump) 3. Smart junction box UP
B182619	OUT38:BatDrivPump1 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18264B	OUT38:BatDrivPump1 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the left thermal management unit (left battery water pump).

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Battery Water Pump 1, On/Off" action test. Check the power supply of the left thermal management unit (left battery water pump) operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the left thermal management unit (left battery water pump). Refer to Replacement Of Thermal Management Unit (Left)

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

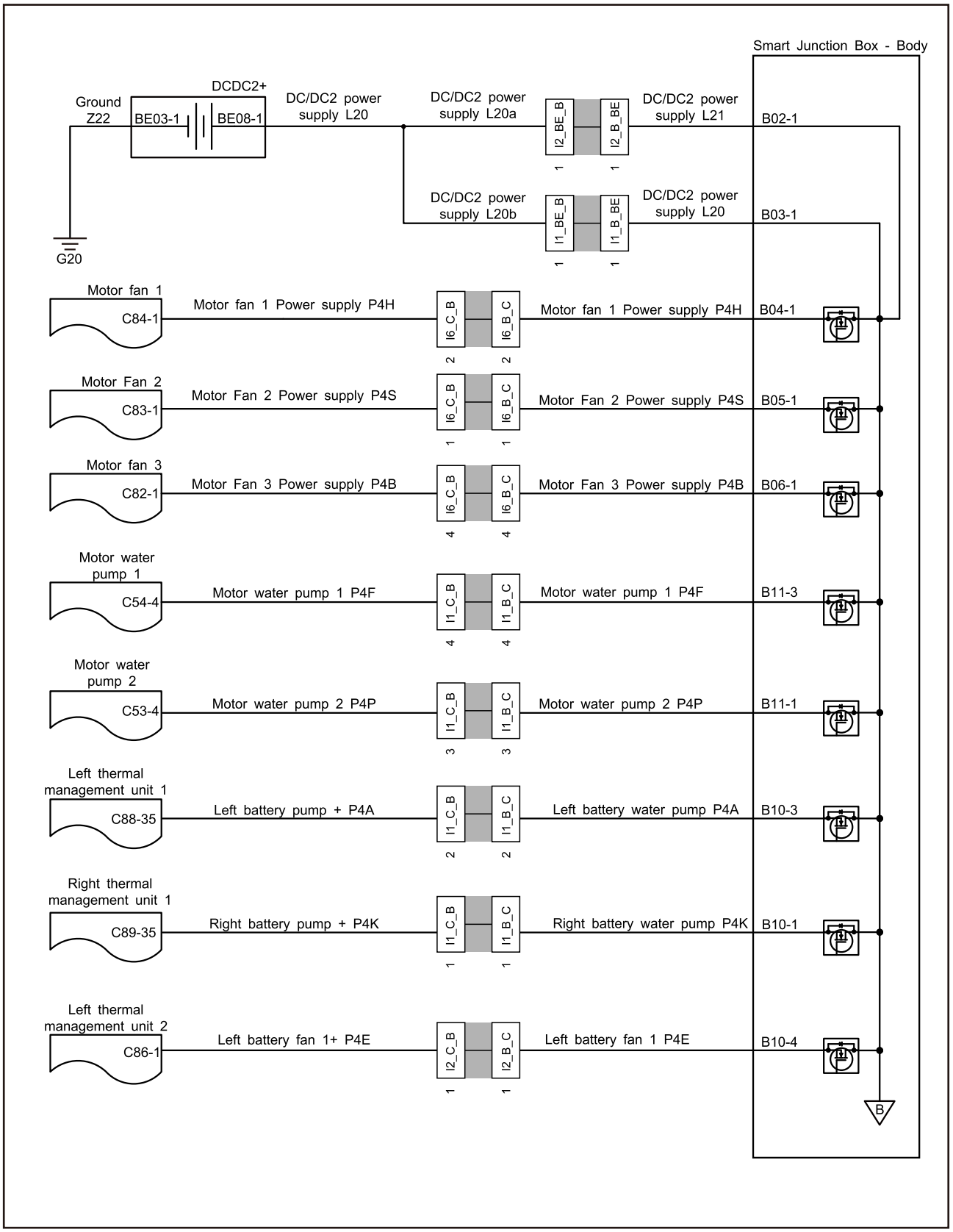
Step 7:Clear and confirm DTC.

7.4.6.34 Right Battery Water Pump Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182F13	OUT47:BatDrivPump2 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Right thermal management unit (right battery water pump) 3. Smart junction box UP
B182F19	OUT47:BatDrivPump2 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B182F4B	OUT47:BatDrivPump2 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the right thermal management unit (right battery water pump).

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Battery Water Pump 2, On/Off" action test. Check the power supply of the right thermal management unit (right battery water pump) operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the right thermal management unit (right battery water pump).

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

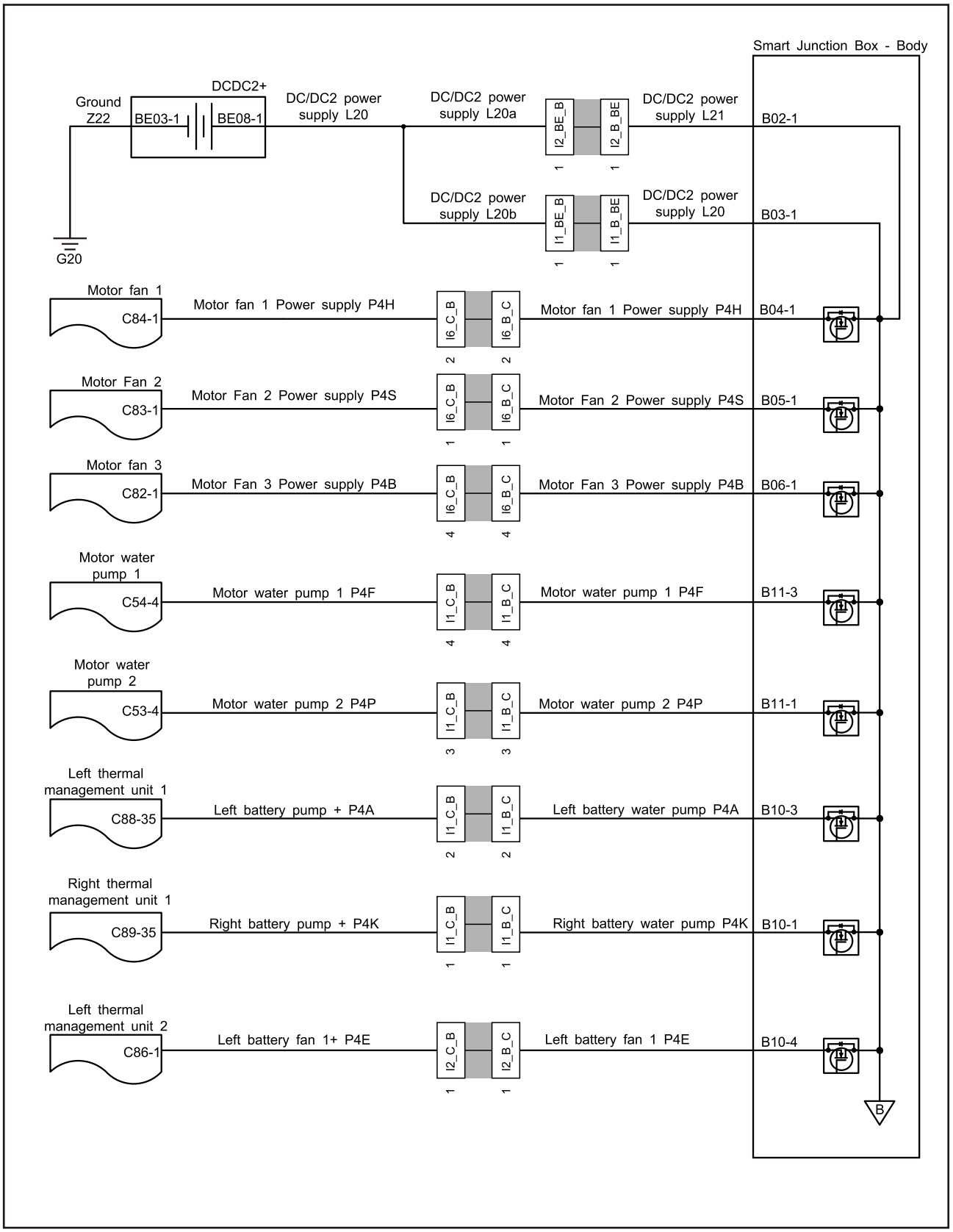
Step 7:Clear and confirm DTC.

7.4.6.35 Power Supply Circuit Fault Of Motor Water Pump 1

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182A13	OUT42: VertMotorDrivPump1 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Electric motor water pump 1 3. Smart junction box UP
B182A19	OUT42: VertMotorDrivPump1 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B182A4B	OUT42: VertMotorDrivPump1 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of motor water pump 1.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Motor Water Pump 1, On/Off" action test. Check the power supply of Motor Water Pump 1 operates according to the instructions of the diagnostic instrument.

– Yes: Next step

– No: Replace motor water pump 1. Refer to Replacement Of Electronic Water Pump

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

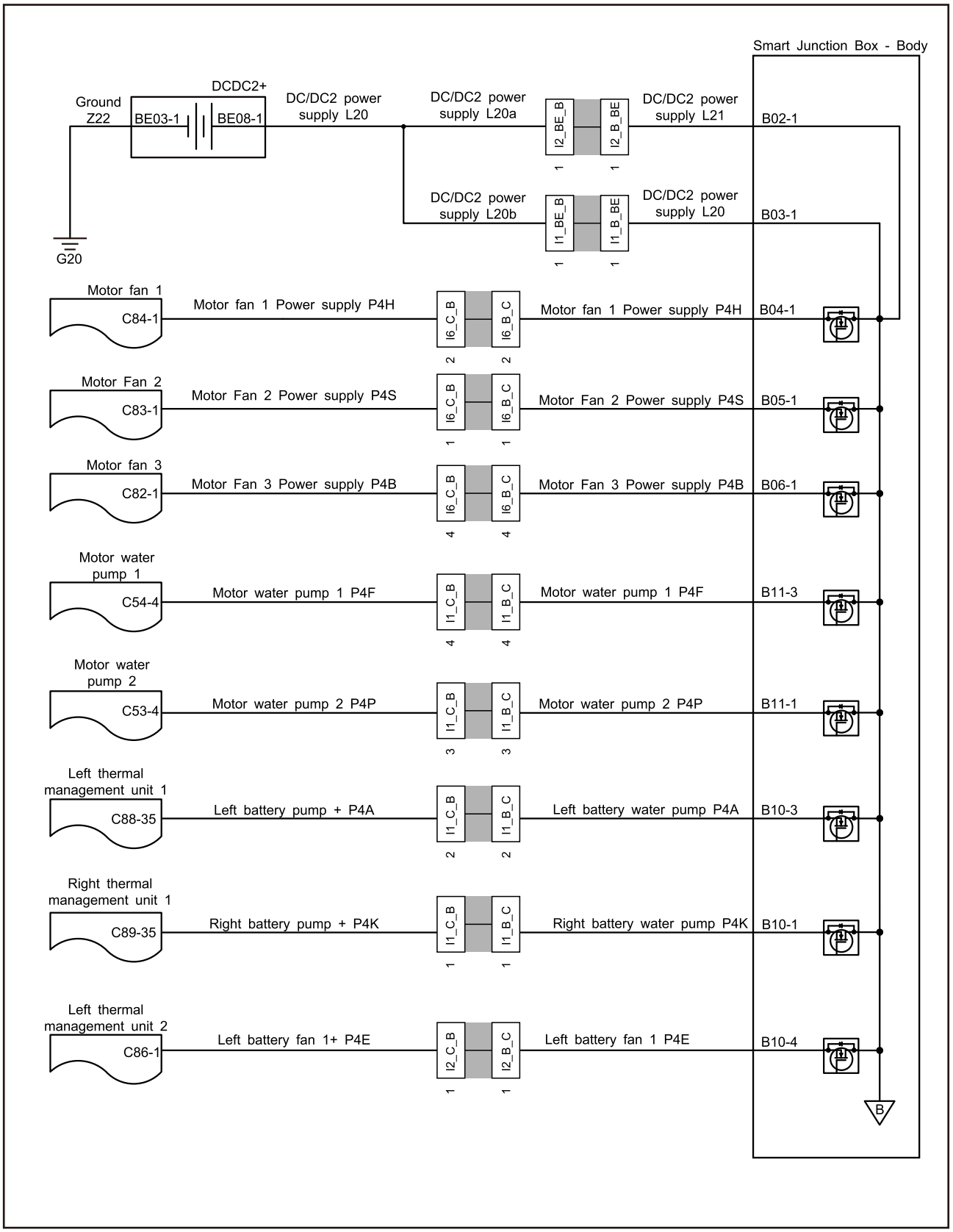
Step 7:Clear and confirm DTC.

7.4.6.36 Fault In The Power Supply Crcuit Of Motor Water Pump 2

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182B13	OUT43: VertMotorDrivPump2 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Electric motor water pump 2 3. Smart junction box UP
B182B19	OUT43: VertMotorDrivPump2 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B182B4B	OUT43: VertMotorDrivPump2 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of motor water pump 2.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Motor Water Pump 2, On/Off" action test. Check the power supply of Motor Water Pump 2 operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace motor water pump 2. Refer to Replacement Of Electronic Water Pump

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

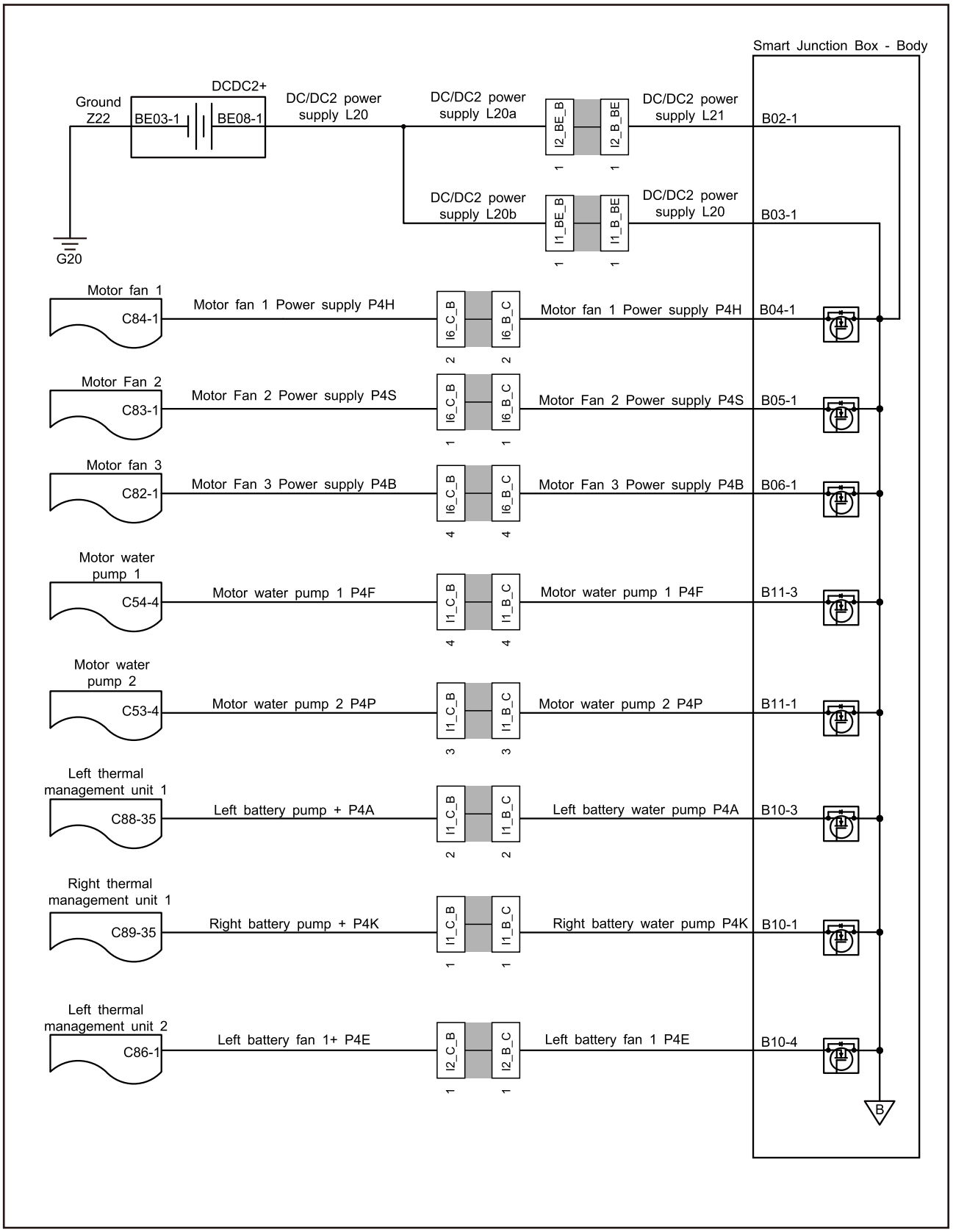
Step 7:Clear and confirm DTC.

7.4.6.37 Left Battery Fan 1 Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182713	OUT39:BatFanGuard1 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Left thermal management unit (left battery fan 1) 3. Smart junction box UP
B182719	OUT39:BatFanGuard1 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18274B	OUT39:BatFanGuard1 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the left thermal management unit (left battery fan 1).

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Battery Fan 1, On/Off" action test. Check the power supply of the left thermal management unit (left battery fan 1) operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the left thermal management unit (left battery fan 1). Refer to Replacement Of Thermal Management Unit (Left)

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

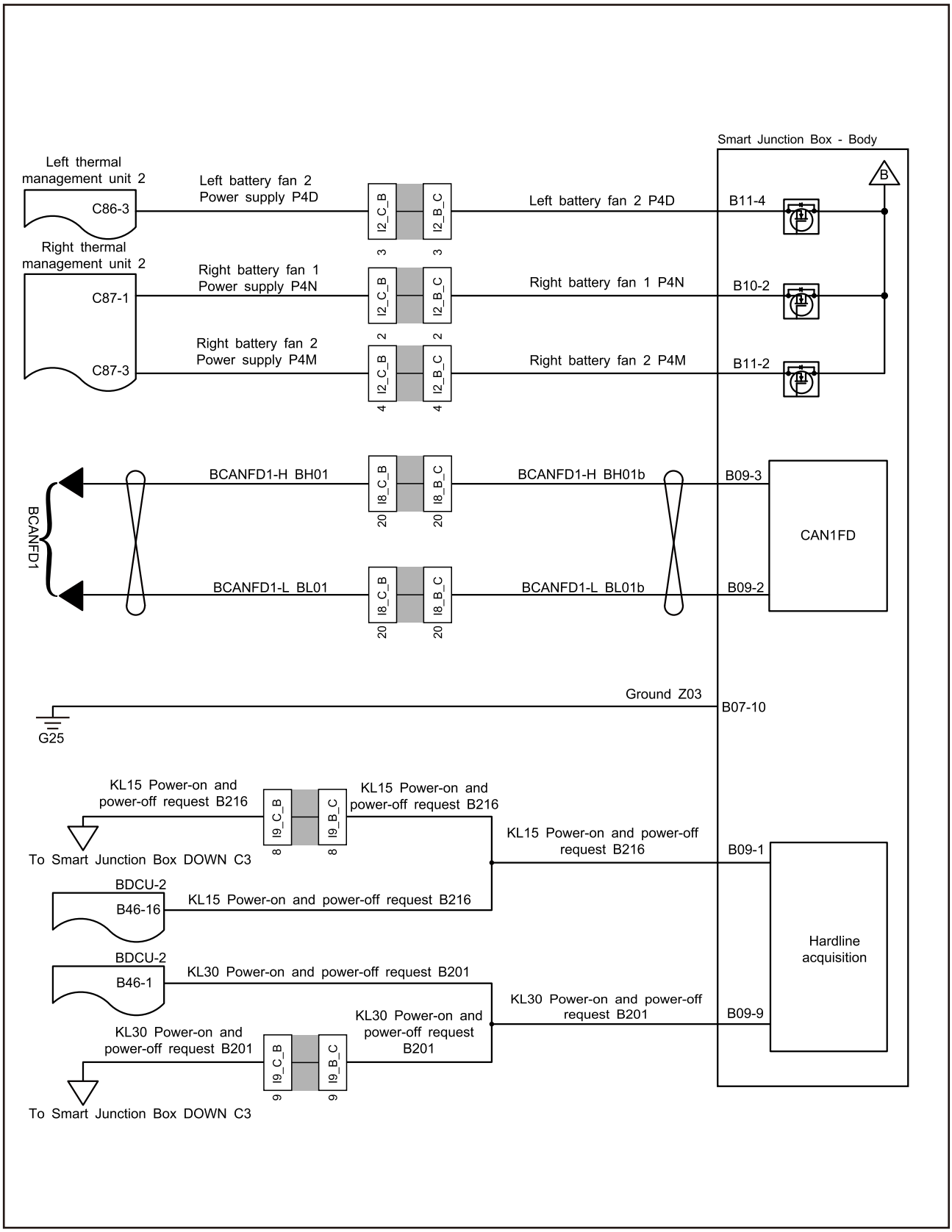
Step 7:Clear and confirm DTC.

7.4.6.38 Left Battery Fan 2 Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182813	OUT40:BatFanGuard2 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Left thermal management unit (left battery fan 2) 3. Smart junction box UP
B182819	OUT40:BatFanGuard2 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18284B	OUT40:BatFanGuard2 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the left thermal management unit (left battery fan 2).

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Battery Fan 2, On/Off" action test. Check the power supply of the left thermal management unit (left battery fan 2) operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the left thermal management unit (left battery fan 2). Refer to Replacement Of Thermal Management Unit (Left)

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

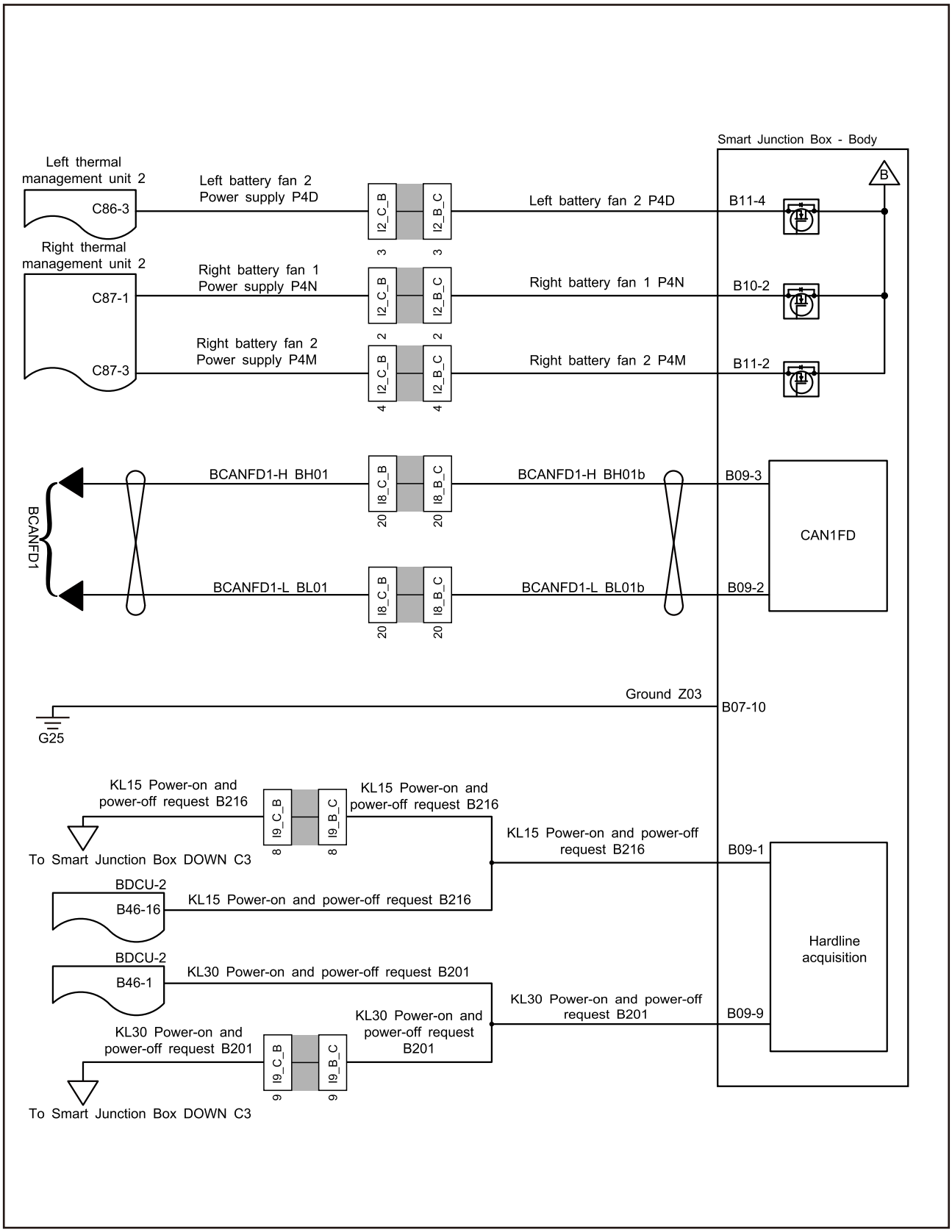
Step 7:Clear and confirm DTC.

7.4.6.39 Right Battery Fan 1 Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182E13	OUT46:BatFanGuard3 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Right thermal management unit (right battery fan 1) 3. Smart junction box UP
B182E19	OUT46:BatFanGuard3 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B182E4B	OUT46:BatFanGuard3 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the right thermal management unit (right battery fan 1).

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Battery Fan 3, On/Off" action test. Check the power supply of the right thermal management unit (Right Battery Fan 1) operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the right thermal management unit (right battery fan 1).

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

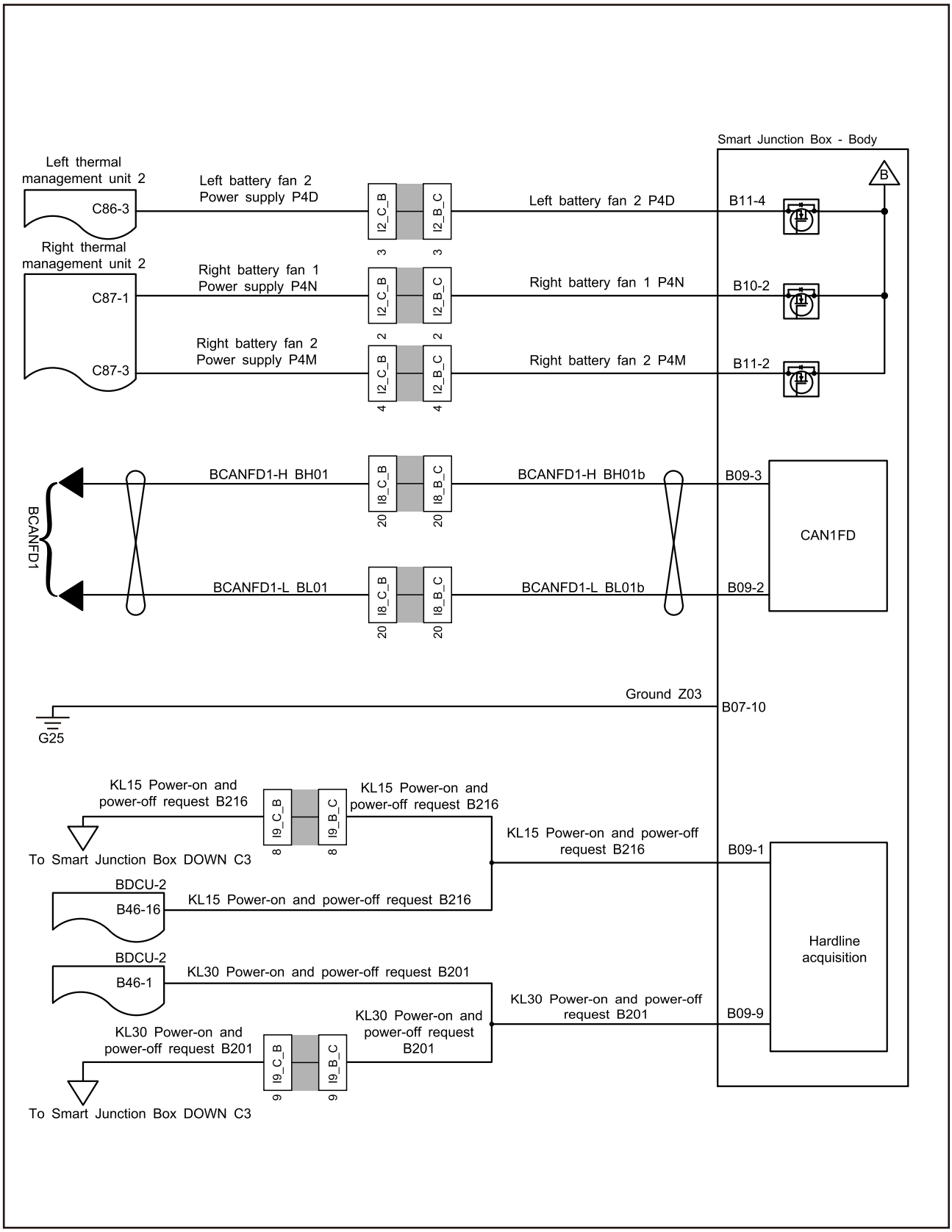
Step 7:Clear and confirm DTC.

7.4.6.40 Right Battery Fan 2 Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182D13	OUT45:BatFanGuard4 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Right thermal management unit (Right battery fan 2) 3. Smart junction box UP
B182D19	OUT45:BatFanGuard4 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B182D4B	OUT45:BatFanGuard4 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the right thermal management unit (right battery fan 2).

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Battery Fan 4, On/Off" action test. Check the power supply of the right thermal management unit (Right Battery Fan 2) operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the right thermal management unit (right battery fan 2).

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

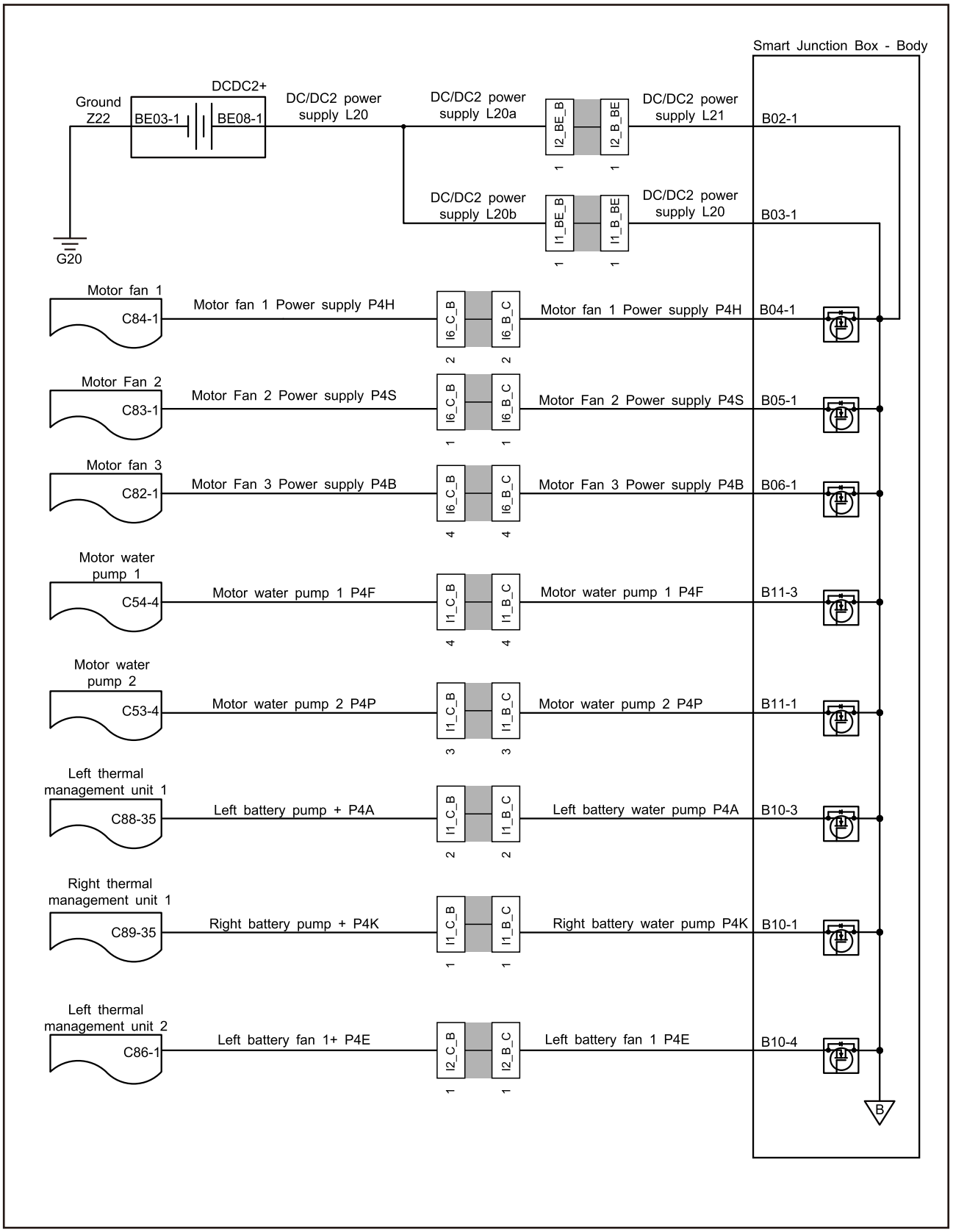
Step 7:Clear and confirm DTC.

7.4.6.41 Motor Fan 1 Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182913	OUT41: AlterFanGuard1 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Motor fan 1 3. Smart junction box UP
B182919	OUT41: AlterFanGuard1 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18294B	OUT41: AlterFanGuard1 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of motor fan 1.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Motor Fan 1, On/Off" action test. Check the power supply of Motor Fan 1 operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace motor fan 1. Refer to Replacement Of Front End Module

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

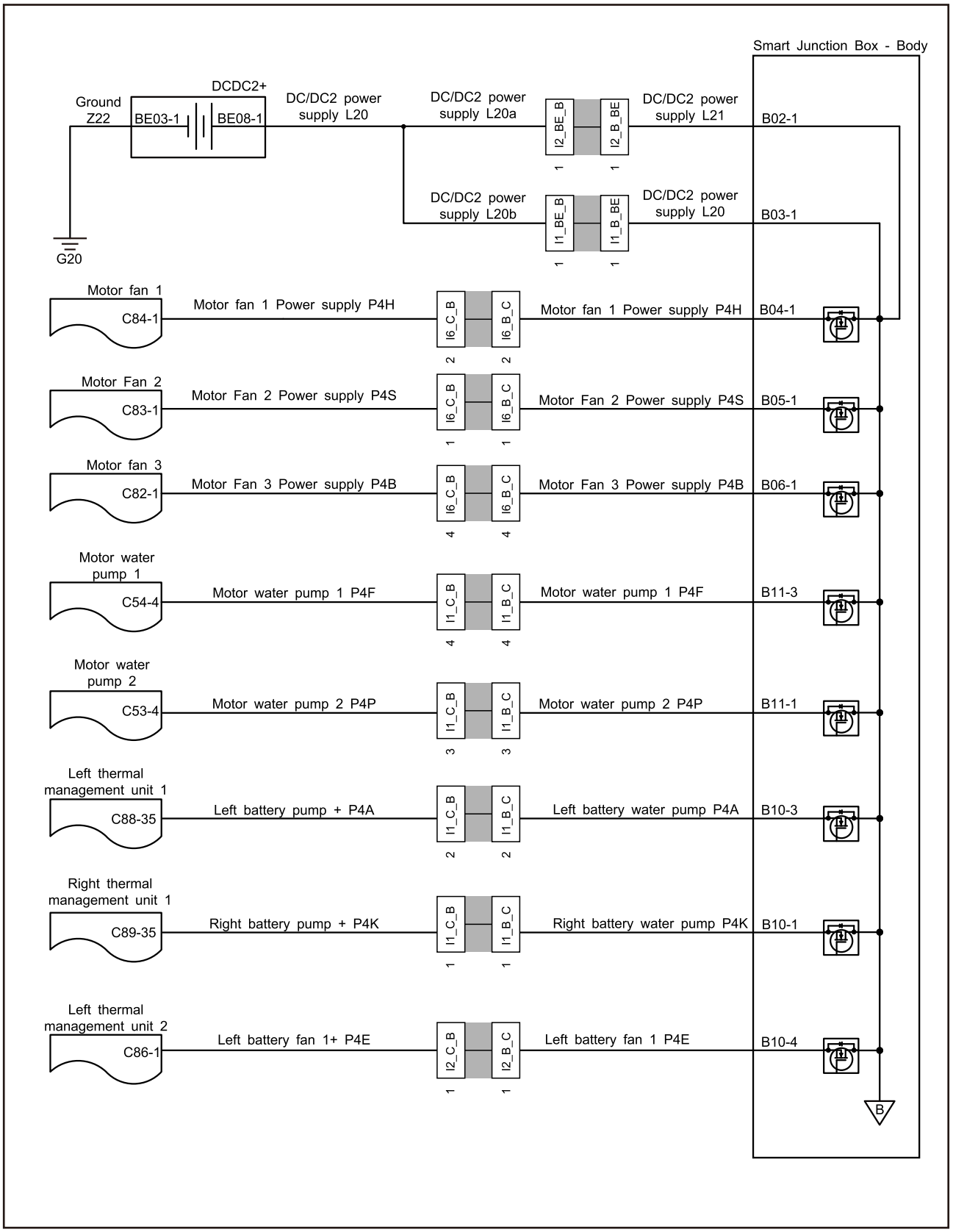
Step 7:Clear and confirm DTC.

7.4.6.42 Motor Fan 2 Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182C13	OUT44: AlterFanGuard2 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Motor fan 2 3. Smart junction box UP
B182C19	OUT44: AlterFanGuard2 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B182C4B	OUT44: AlterFanGuard2 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of motor fan 2.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Motor Fan 2, On/Off" action test. Check the power supply of Motor Fan 2 operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace motor fan 2. Refer to Replacement Of Front End Module

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

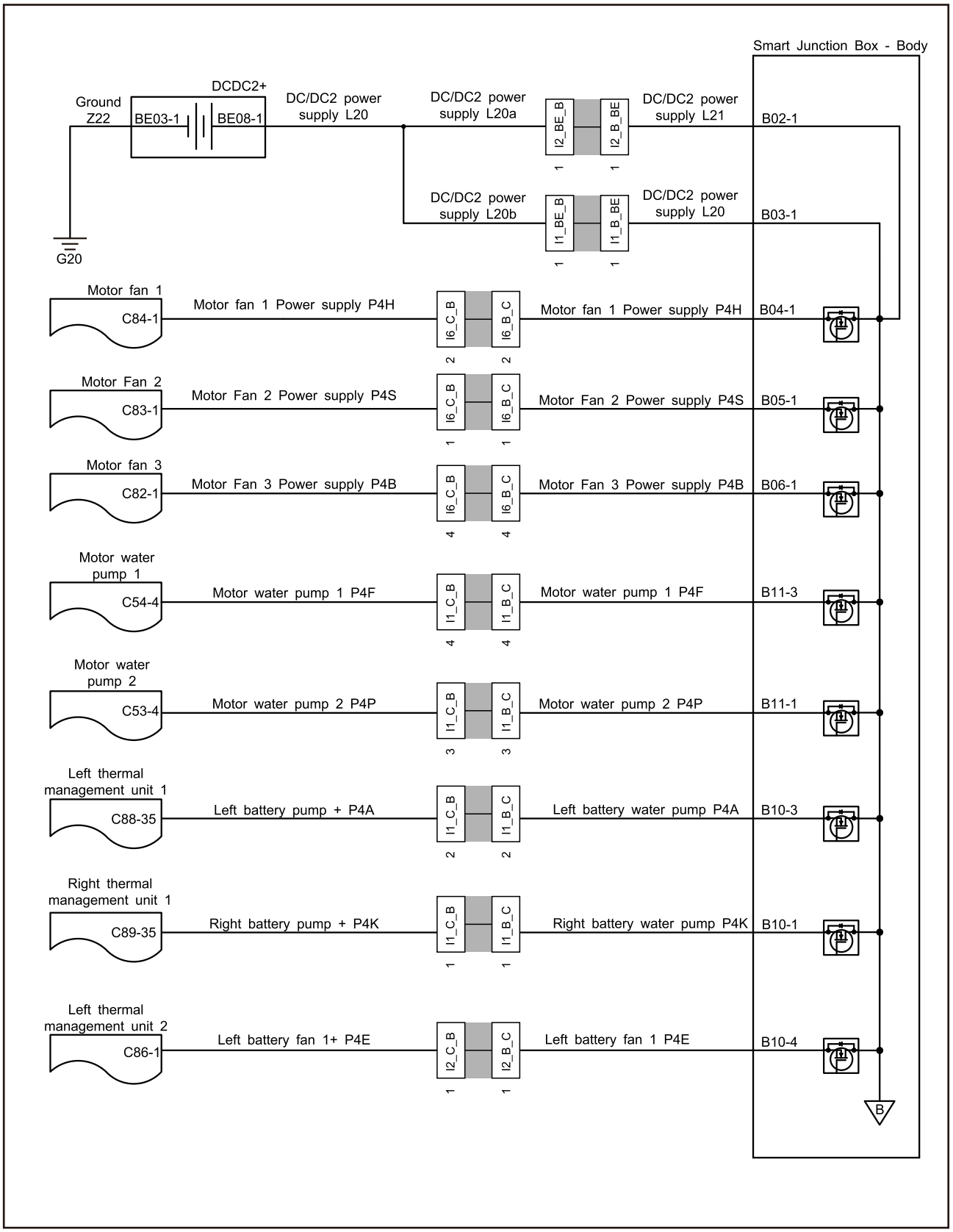
Step 7:Clear and confirm DTC.

7.4.6.43 Motor Fan 3 Power Supply Crcuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B182513	OUT37: AlterFanGuard3 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Motor fan 3 3. Smart junction box UP
B182519	OUT37: AlterFanGuard3 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B18254B	OUT37: AlterFanGuard3 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of motor fan 3.

Step 4:Enter the SJBUP action test interface of the diagnostic instrument and perform the "Thermal Management Output Channel Control - Motor Fan 3, On/Off" action test. Check the power supply of Motor Fan 3 operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace motor fan 3. Refer to Replacement Of Front End Module

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box UP.

Step 6:Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

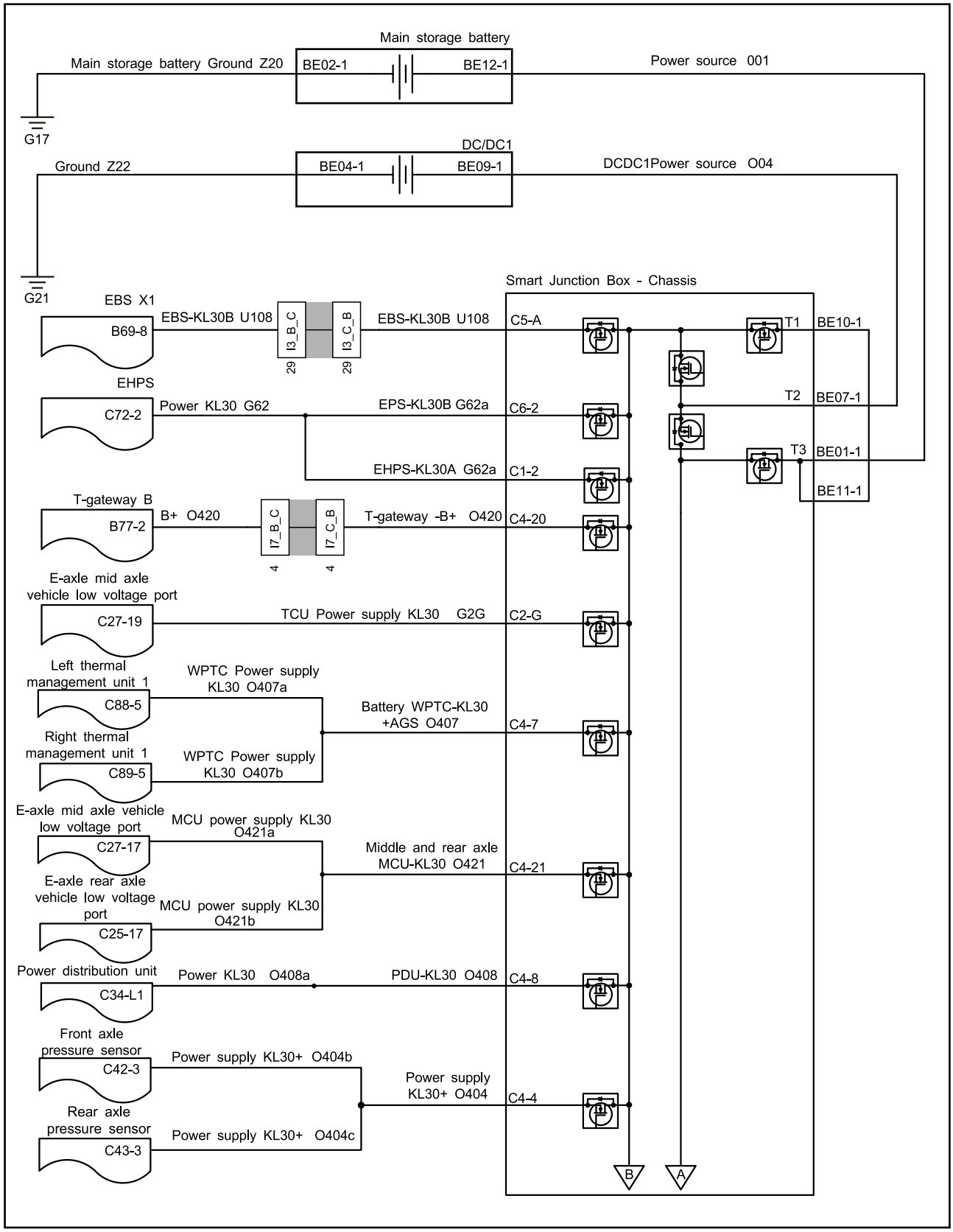
Step 7:Clear and confirm DTC.

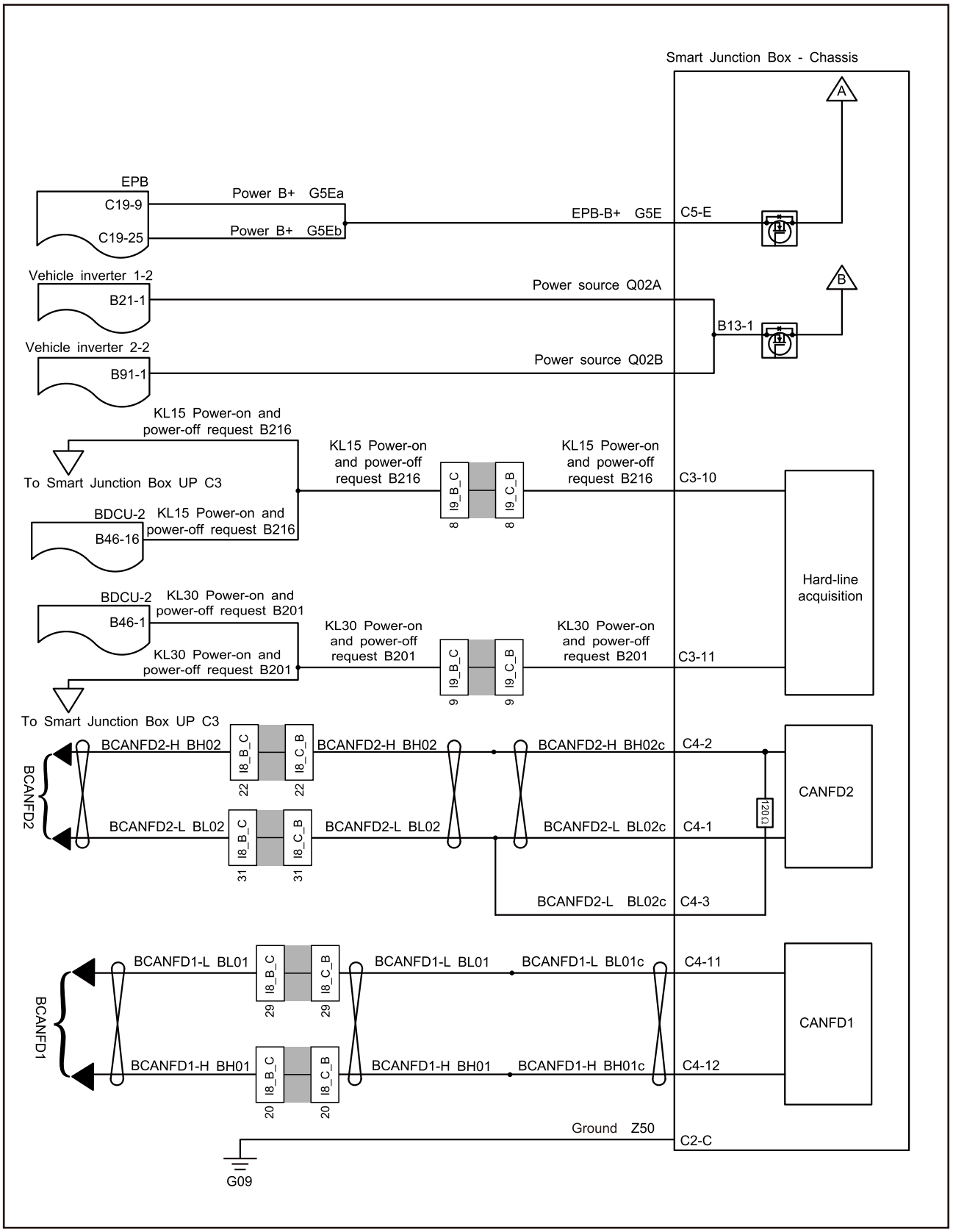
7.4.6.44 Smart Junction Box DOWN Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	High battery voltage	Voltage > 32V, t > 500ms Voltage > 32V, t > 500ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4. Smart junction box DOWN
B111716	Low Battery Voltage	Voltage < 18V, t > 30s Voltage < 18V, t > 30s	
B1E0017	Module overvoltage	Voltage > 32V, t > 500ms Voltage > 32V, t > 500ms	

2.Circuit Diagram


Main storage battery
Main storage battery Ground Z20
BE02-1
BE12-1
Power source 001
G17
DC/DC1
Ground Z22
BE04-1
BE09-1
DCDC1Power source O04
G21
Smart Junction Box - Chassis
EBS X1
B69-8
EBS-KL30B U108
I3_B_C
I3_C_B
29
29
EBS-KL30B U108
C5-A
T1
BE10-1
EHPS
C72-2
Power KL30 G62
EPS-KL30B G62a
C6-2
T2
BE07-1
EHPS-KL30A G62a
C1-2
T3
BE01-1
BE11-1
T-gateway B
B77-2
B+ O420
I7_B_C
I7_C_B
4
4
T-gateway -B+ O420
C4-20
E-axle mid axle vehicle low voltage port
C27-19
TCU Power supply KL30 G2G
C2-G
Left thermal management unit 1
C88-5
WPTC Power supply KL30 O407a
Battery WPTC-KL30 +AGS O407
C4-7
Right thermal management unit 1
C89-5
WPTC Power supply KL30 O407b
E-axle mid axle vehicle low voltage port
C27-17
MCU power supply KL30 O421a
Middle and rear axle MCU-KL30 O421
C4-21
E-axle rear axle vehicle low voltage port
C25-17
MCU power supply KL30 O421b
Power distribution unit
C34-L1
Power KL30 O408a
PDU-KL30 O408
C4-8
Front axle pressure sensor
C42-3
Power supply KL30+ O404b
Power supply KL30+ O404
C4-4
Rear axle pressure sensor
C43-3
Power supply KL30+ O404c
B
A



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides the smart junction box DOWN?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the power supply and grounding harness of the smart junction box DOWN.

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

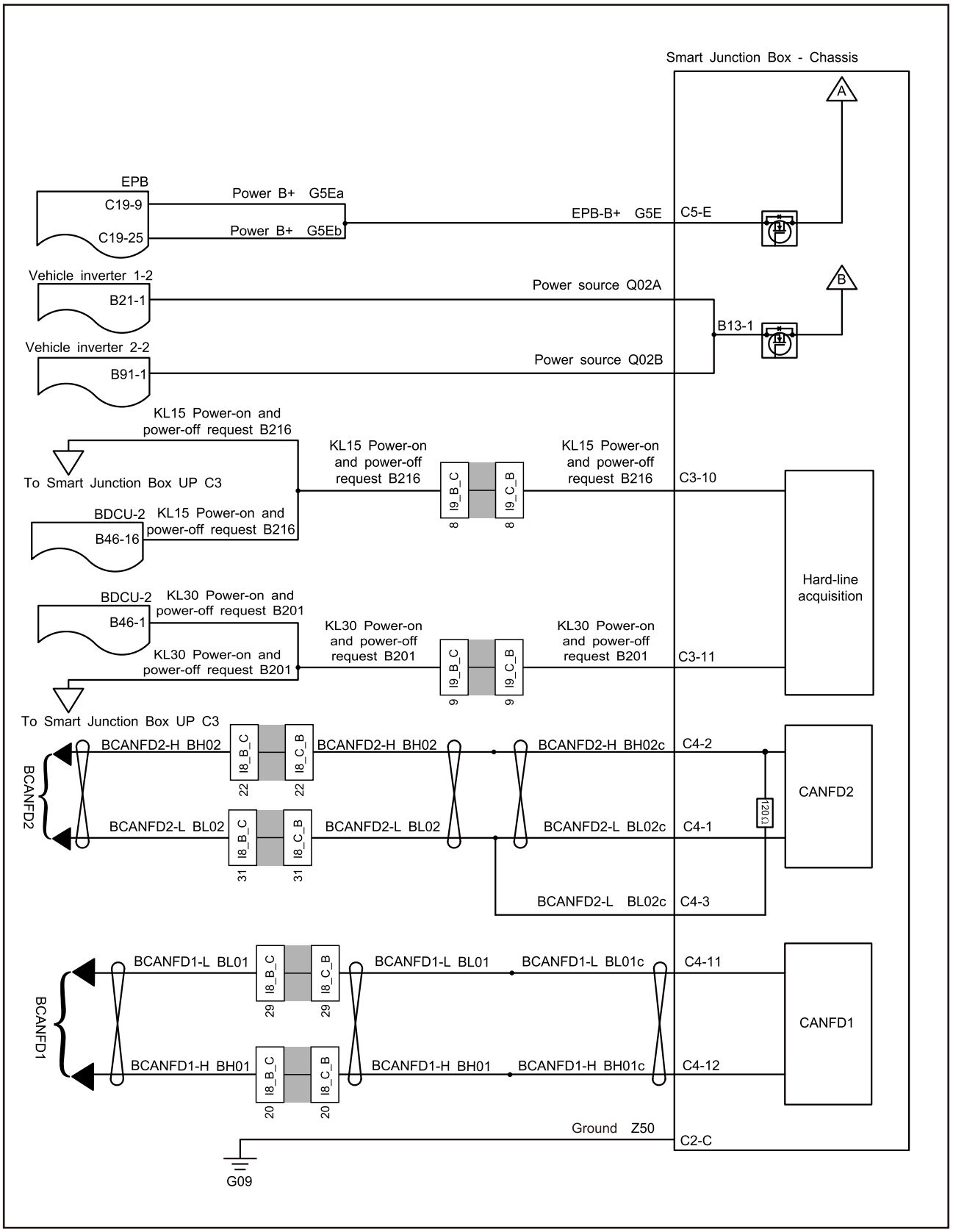
Step 7:Clear and confirm DTC.

7.4.6.45 Smart Junction Box DOWN Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U014087	Communication with the BDCU timed out	When the KL15 and the power supply voltage are normal, no ID0x18860021 is received within 1s	1. Wiring harness 2. Smart junction box DOWN
U007C88	BCANFD1 BusOff	Error frames occur in the CAN network under normal KL15 and supply voltage conditions	
U220600	BCANFD1 NM Limphome	When the KL15 and power supply voltage are normal, no NM messages are received from other network nodes	
U015687	Lost Communication With CDCU	When the KL15 and the power supply voltage are normal, no ID0x18FEC1EE is received within 10s	
U01A087	Lost Communication With SJB_UP	When the KL15 and the power supply voltage are normal, no ID0x18FF1554 is received within 1s	
U019887	Lost Communication With T-Box	When the KL15 and the power supply voltage are normal, no ID0x18FEE6EE is received within 10s	
U012287	Lost Communication With VDC	When the KL15 and the power supply voltage are normal, no ID0x18FCC231 is received within 1s	
U007D88	BCANFD2 BusOff	Error frames occur in the CAN network under normal KL15 and supply voltage conditions	
U220700	BCANFD2 NM Limphome	When the KL15 and power supply voltage are normal, no NM messages are received from other network nodes	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the BCANFD1 bus communication harness. Refer to Inspection Of BCAND1 Bus Network Integrity

Step 4:Check the BCAND2 bus communication harness. Refer to Inspection Of BCAND2 Bus Network Integrity

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

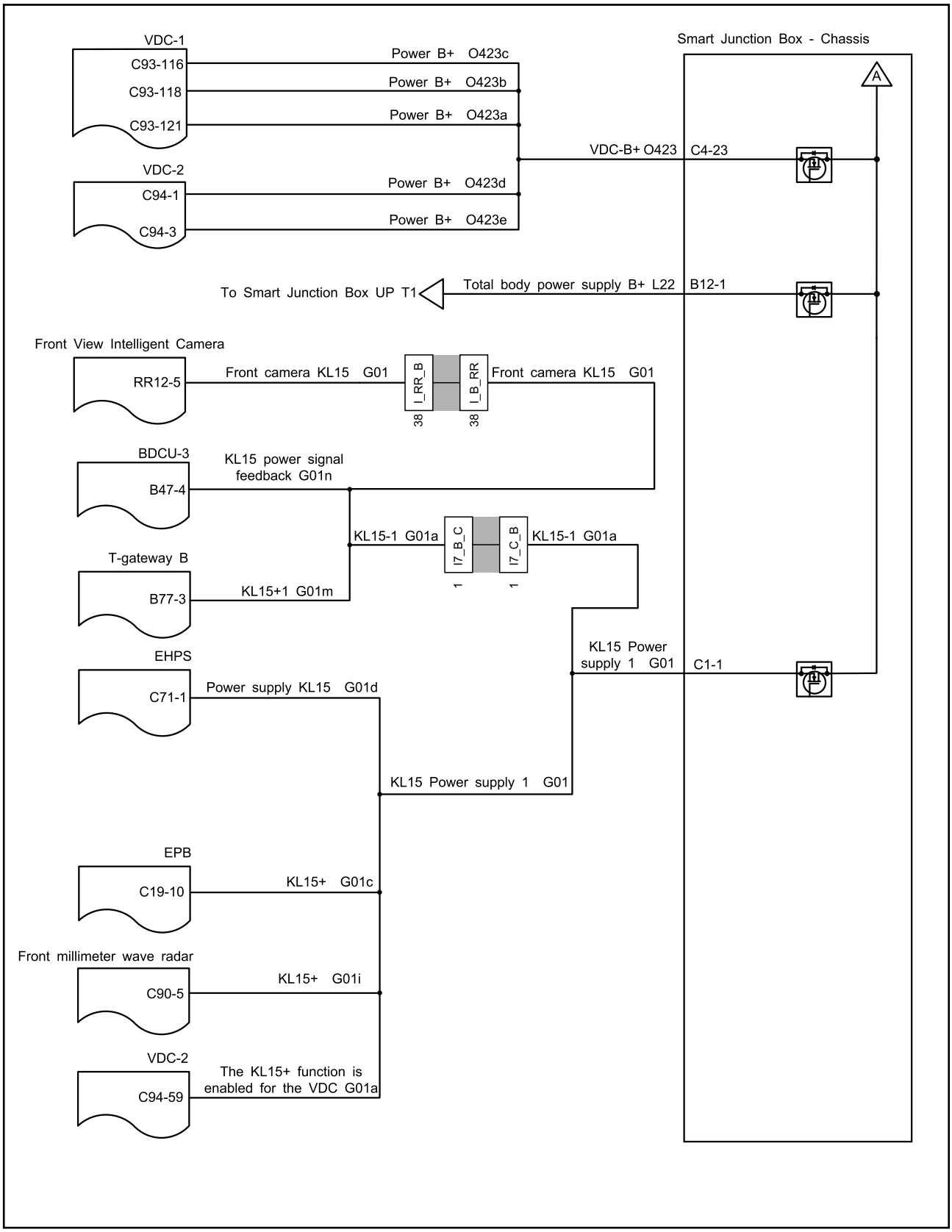
Step 7:Clear and confirm DTC.

7.4.6.46 Fault In The Main Power Supply Circuit Of The Vehicle Body

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E0113	OUT01:Body load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Smart junction box UP 3. Smart junction box DOWN
B1E0119	OUT01:Body overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E014B	OUT01:Body over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the main power supply harness of the vehicle body.

Step 4:Enter the SJBUN action test on the diagnostic tool interface and perform the "Output Channel Control - Body B+, On/Off" action test. Check if the body B+power supply operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace the smart junction box UP. Refer to Replacement Of Body Smart Electrical Box

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

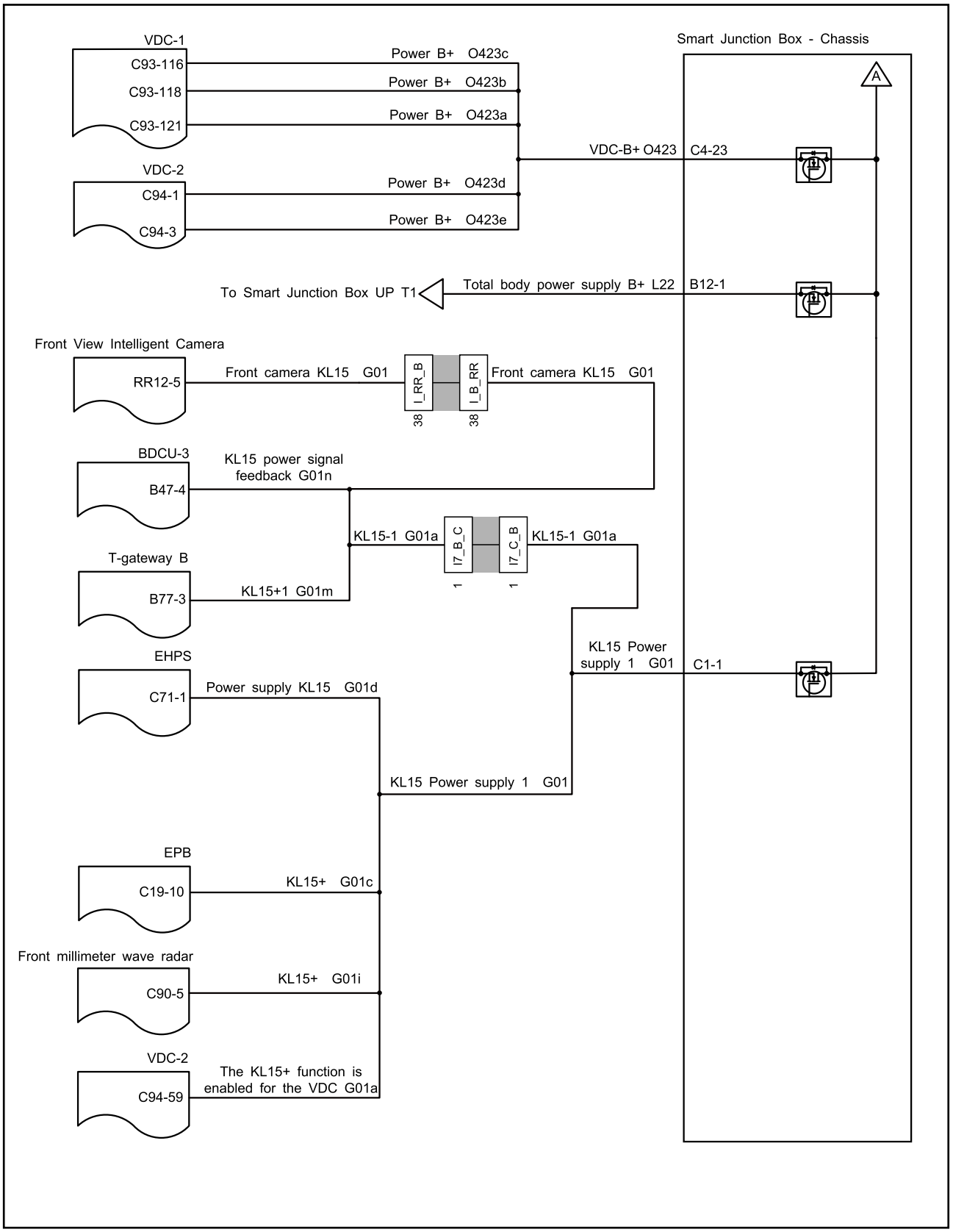
Step 7:Clear and confirm DTC.

7.4.6.47 EPS Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E0313	OUT03:EPS load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. EHPS 3. Smart junction box DOWN
B1E0319	OUT03:EPS overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E034B	OUT03:EPS over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	
B1E1D13	OUT29:EPSAssist load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	
B1E1D19	OUT29:EPSAssist overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E1D4B	OUT29:EPSAssist over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the EHPS power supply harness.

Step 4:Enter the SJBUN action test on the diagnostic tool interface and perform the "Output Channel Control - EPS Steering Assembly Auxiliary Power, On/Off" action test. Check if the EHPS power supply operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace EHPS. Refer to Replacement Of Integrated EHPS Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

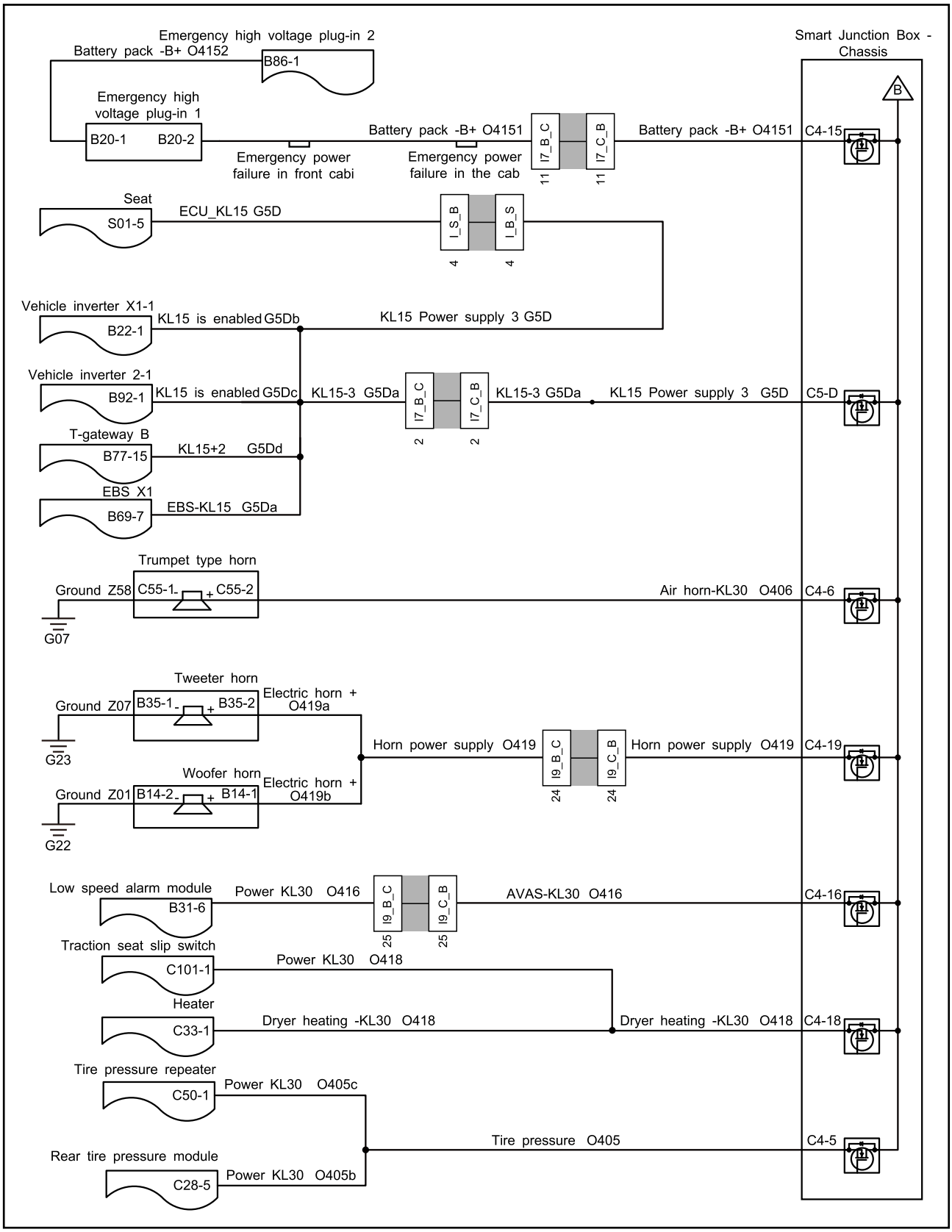
Step 7:Clear and confirm DTC.

7.4.6.48 Smart Junction Box DOWN KL15 Main Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E0413	OUT04:KL15_1 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Smart junction box DOWN
B1E0419	OUT04:KL15_1 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E044B	OUT04:KL15_1 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	
B1E2213	OUT34:KL15_3 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	
B1E2219	OUT34:KL15_3 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E224B	OUT34:KL15_3 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the KL15 main power supply harness of the smart junction box DOWN.

Step 4:Enter the diagnostic tool interface SJBUN action test and perform the "Output Channel Control - KL15 Main Power 3, On/Off" and "Output Channel Control - KL15-1 Main Power 1, On/Off" action tests. Check if the KL15 power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Clear and confirm DTC.

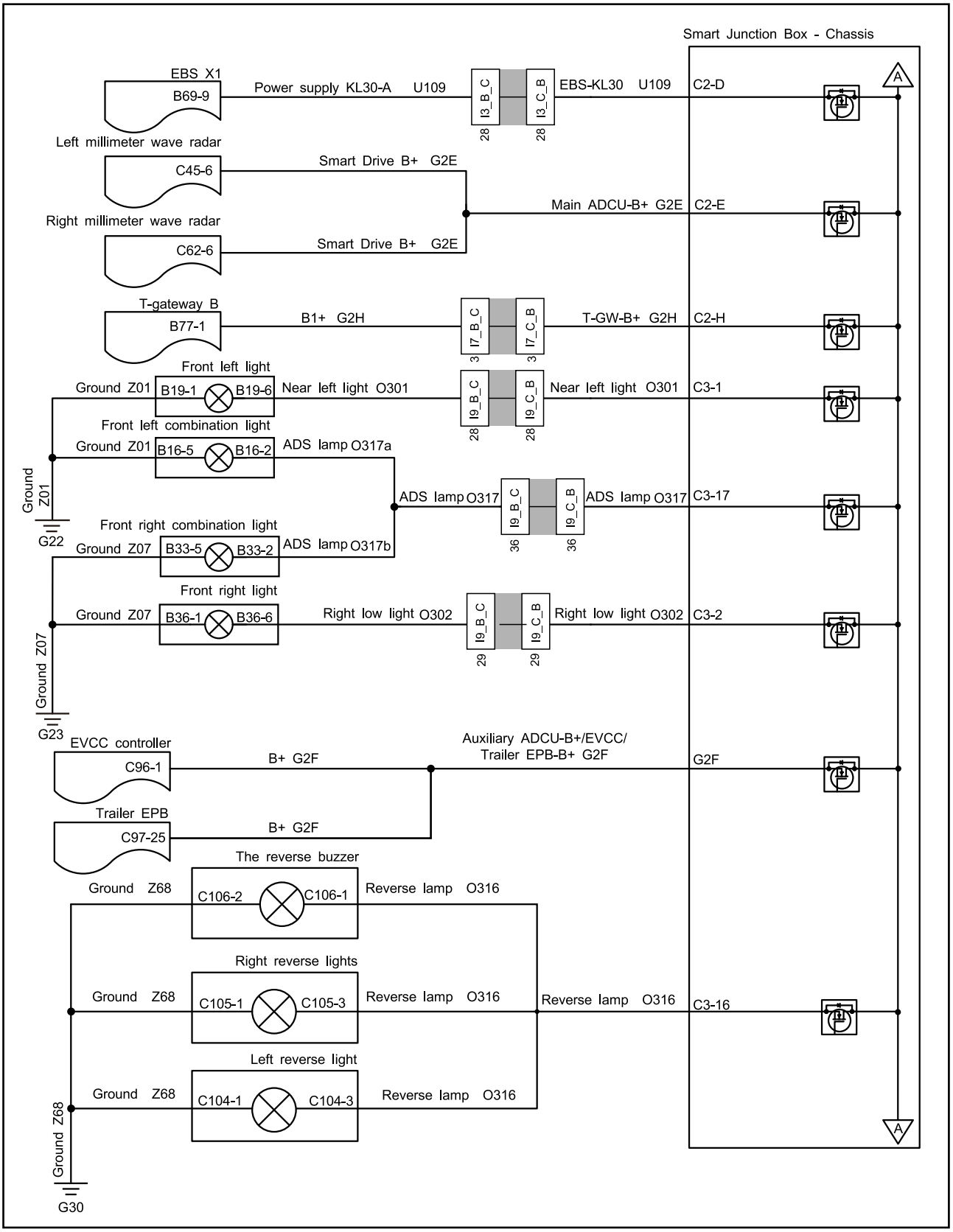
7.4.6.49 EBS Power Supply Circuit Fault

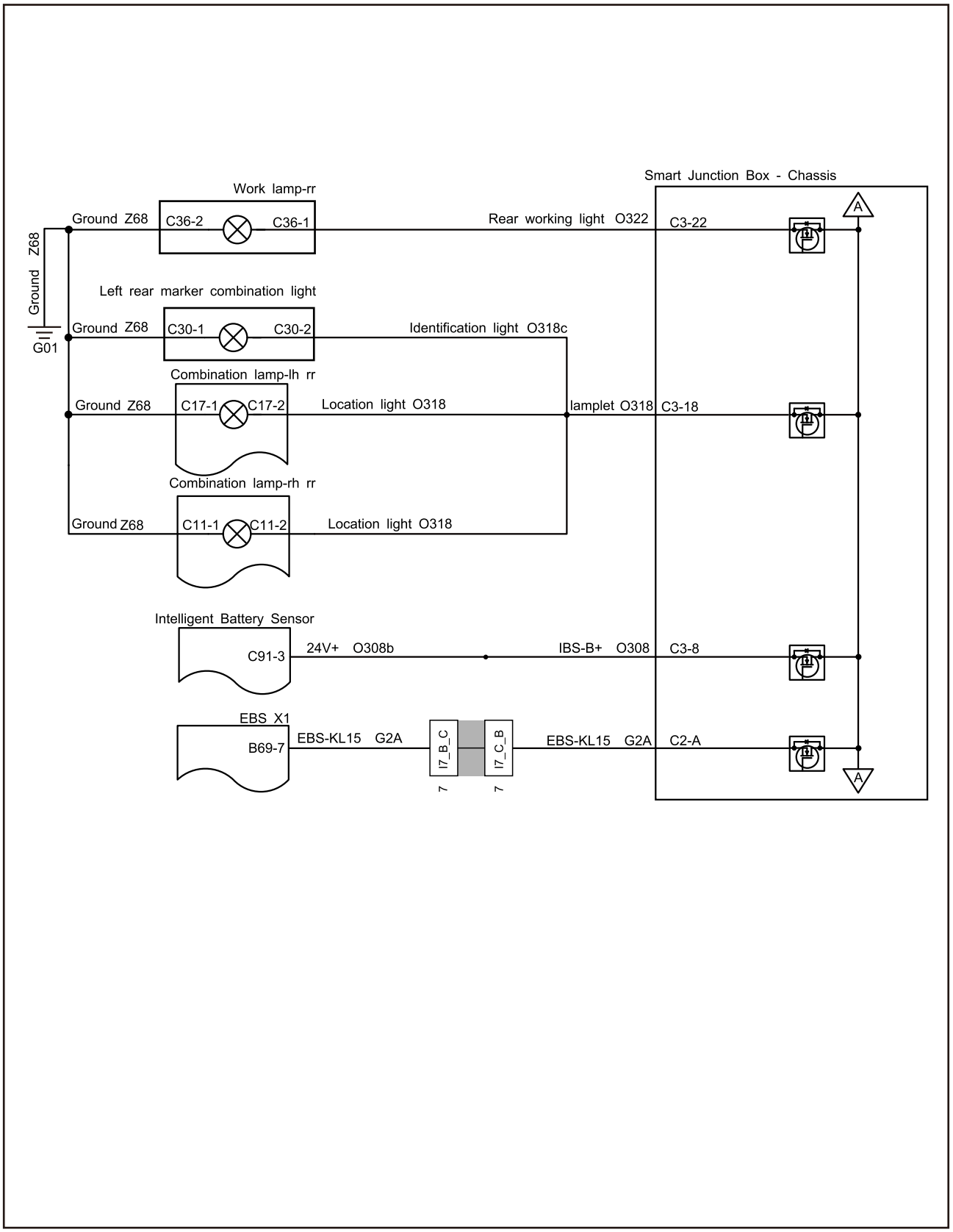
1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E0513	OUT05:EBSKL30 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. EBS 3. Smart junction box DOWN
B1E0519	OUT05:EBSKL30 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E054B	OUT05:EBSKL30 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	
B1E0A13	OUT10:EBS_KL15 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	
B1E0A19	OUT10:EBS_KL15 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E0A4B	OUT10:EBS_KL15 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	
B1E1F13	OUT31-EBS trailer open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	
B1E1F19	OUT31:TrailerEBS overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E1F4B	OUT31:TrailerEBS over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2113	OUT33:EBSBat30 load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	
B1E2119	OUT33:EBSBat30 overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E214B	OUT33:EBSBat30 over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram


Smart Junction Box - Chassis
EBS X1
B69-9
Power supply KL30-A U109
I3_B_C
I3_C_B
28
28
EBS-KL30 U109
C2-D
Left millimeter wave radar
C45-6
Smart Drive B+ G2E
Main ADCU-B+ G2E
C2-E
Right millimeter wave radar
C62-6
Smart Drive B+ G2E
T-gateway B
B77-1
B1+ G2H
I7_B_C
I7_C_B
3
3
T-GW-B+ G2H
C2-H
Front left light
Ground Z01
B19-1
B19-6
Near left light O301
I9_B_C
I9_C_B
28
28
Near left light O301
C3-1
Front left combination light
Ground Z01
B16-5
B16-2
ADS lamp O317a
Ground Z01
G22
ADS lamp O317
I9_B_C
I9_C_B
36
36
ADS lamp O317
C3-17
Front right combination light
Ground Z07
B33-5
B33-2
ADS lamp O317b
Front right light
Ground Z07
B36-1
B36-6
Right low light O302
I9_B_C
I9_C_B
29
29
Right low light O302
C3-2
Ground Z07
G23
EVCC controller
C96-1
B+ G2F
Auxiliary ADCU-B+/EVCC/
Trailer EPB-B+ G2F
G2F
Trailer EPB
C97-25
B+ G2F
The reverse buzzer
Ground Z68
C106-2
C106-1
Reverse lamp O316
Right reverse lights
Ground Z68
C105-1
C105-3
Reverse lamp O316
Reverse lamp O316
C3-16
Left reverse light
Ground Z68
C104-1
C104-3
Reverse lamp O316
Ground Z68
G30
A
A



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the EBS power supply harness.

Step 4:Enter the SJBUN action test on the diagnostic instrument interface and perform the "Output Channel Control EBS Controller, On/Off" action test. Check if the EBS power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace EBS. Refer to Replacement Of EBS Controller Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

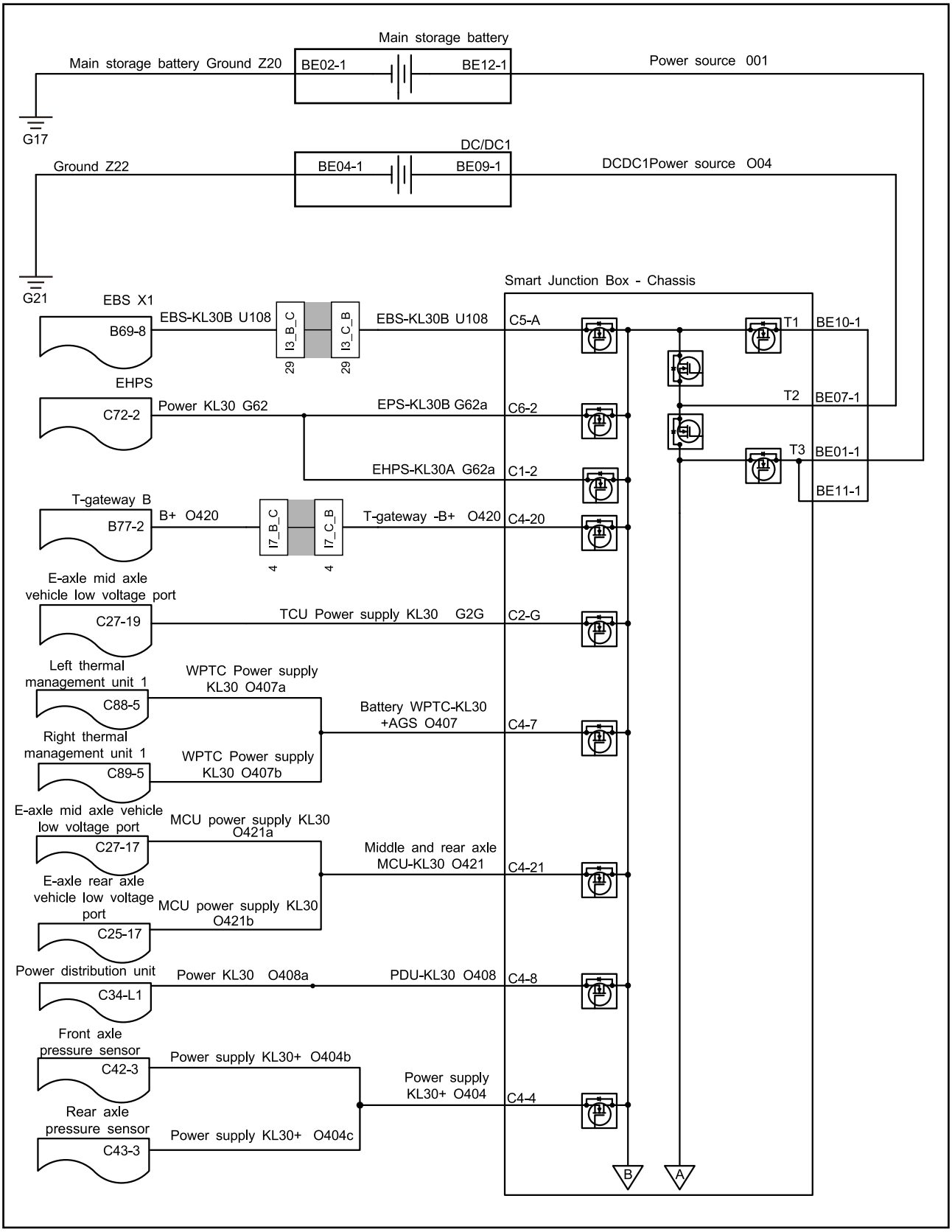
Step 7:Clear and confirm DTC.

7.4.6.50 Electric Drive Medium axle TCU Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E0813	OUT08: MediumaxleTCU load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Low voltage interface of electric drive medium axle vehicle (electric drive medium axle TCU) 3.Chassis smart electrical box
B1E0819	OUT08: MediumaxleTCU overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E084B	OUT08: MediumaxleTCU over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the low-voltage interface (TCU) of the electric drive medium axle vehicle.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Middle axle TCU, On/Off" action test. Check the power supply of the low-voltage interface (Middle axle TCU) of the electric drive vehicle operates according to the instructions of the diagnostic instrument.

– Yes: Next step

– No: Replace the low-voltage interface (TCU) of the electric drive medium axle vehicle. Refer to Replacement of Integrated axle - Medium axle

Step 5:Rewrite the configuration code, reload the software, and upgrade the chassis smart electrical box.

Step 6:Replace the chassis smart electrical box. Refer to Replacement Of Chassis Smart Electrical Box

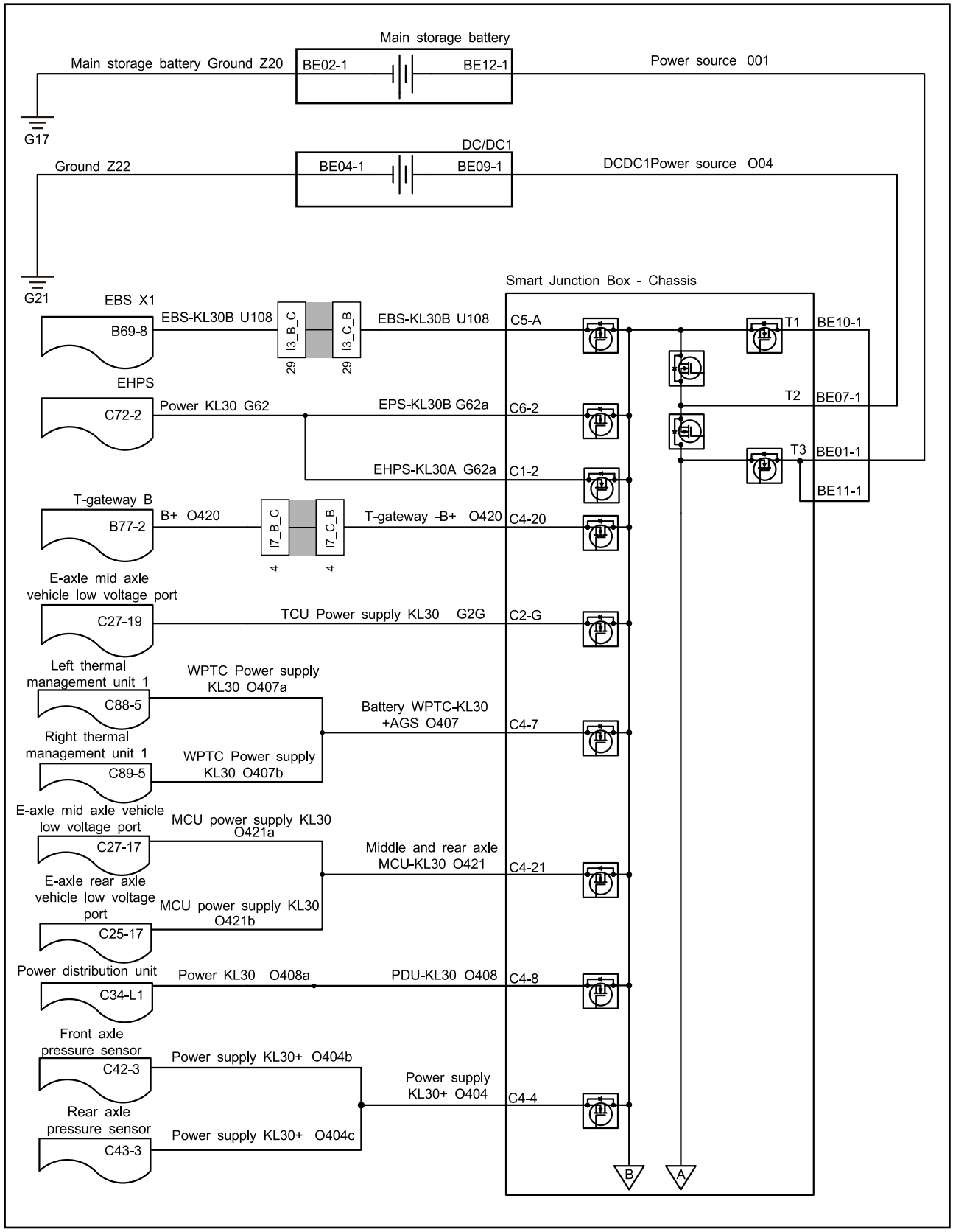
Step 7:Clear and confirm DTC.

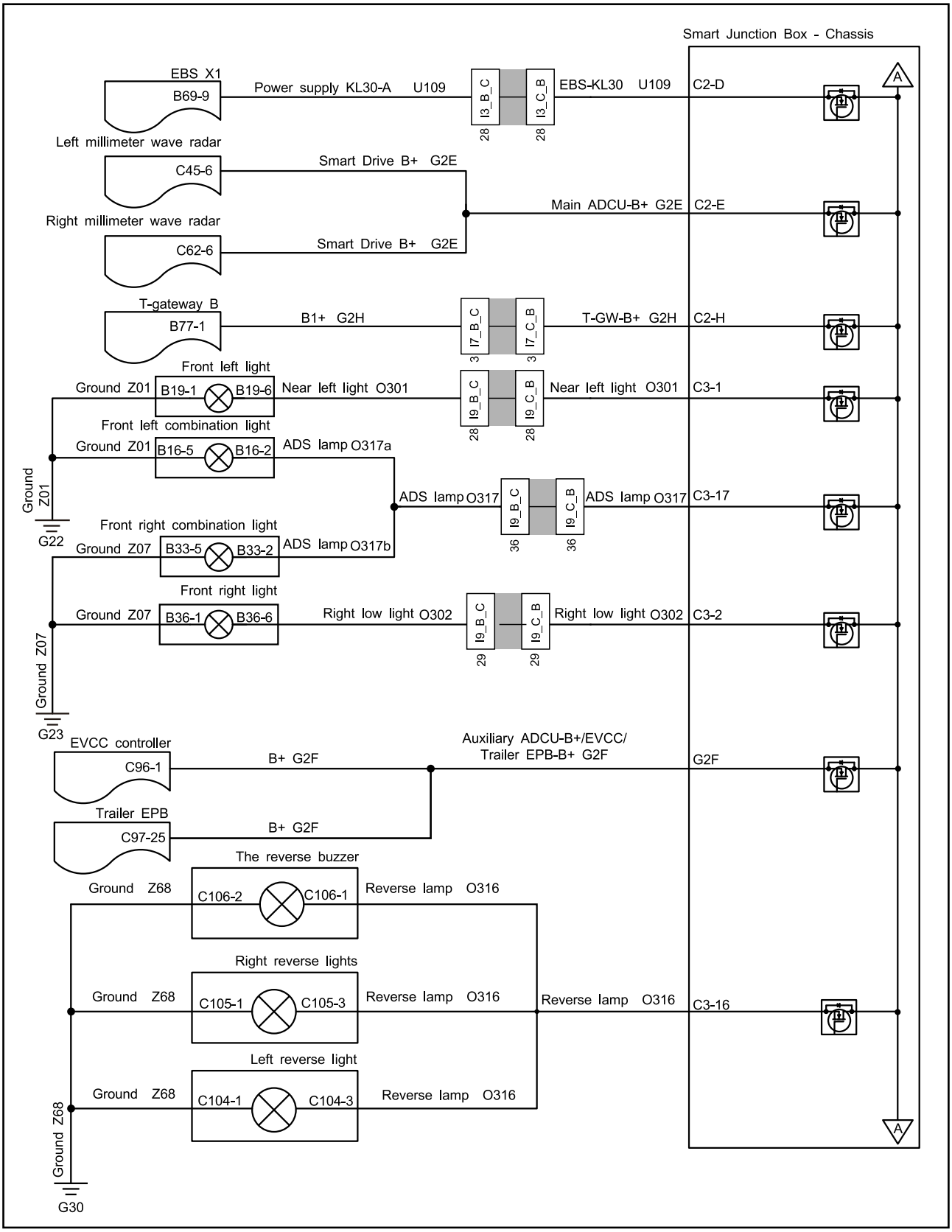
7.4.6.51 Gateway Power Supply Circuit Fault

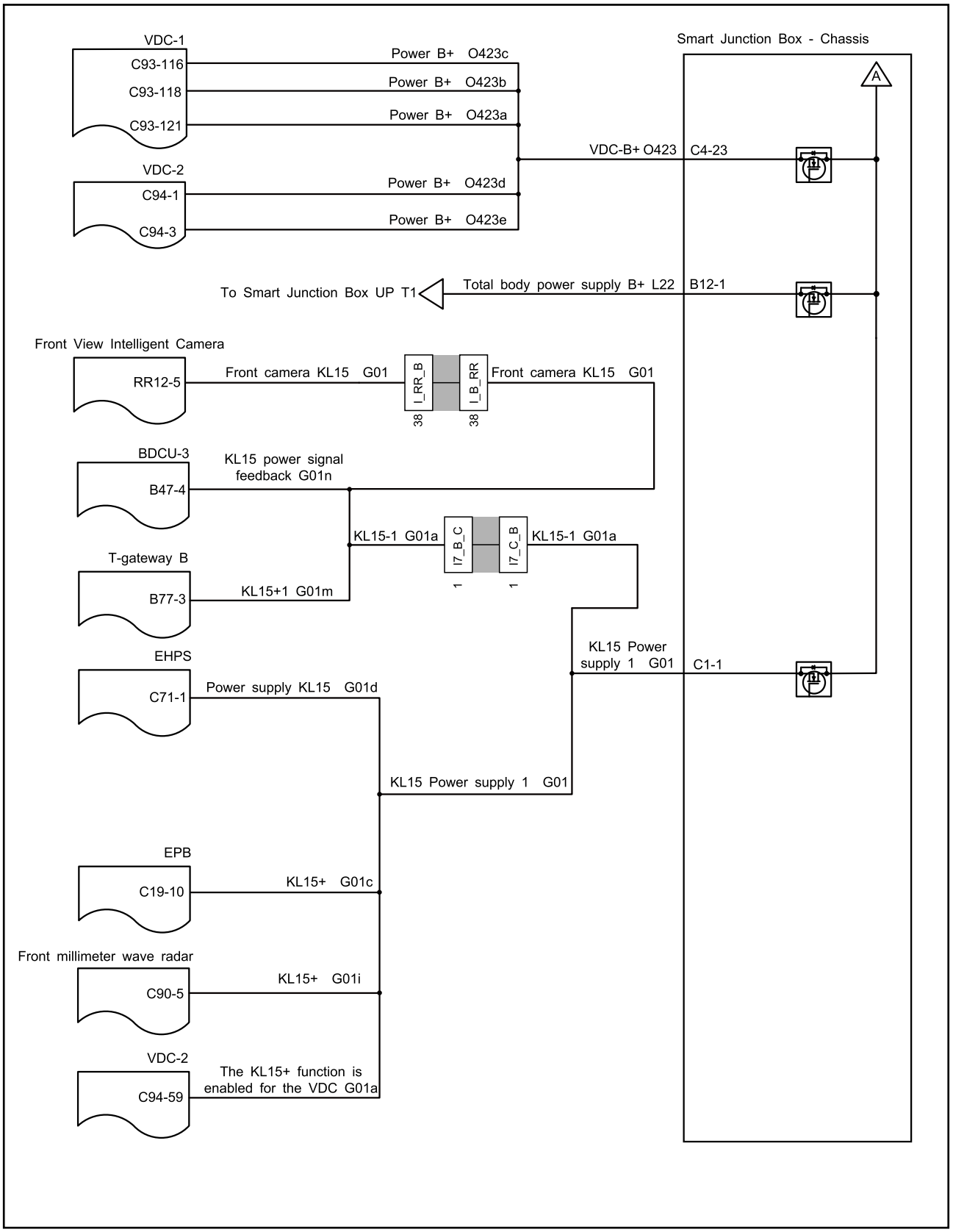
1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E0913	OUT09:TGWBat load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. T-Gateway 3. Smart junction box DOWN
B1E0919	OUT09:TGWBat overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E094B	OUT09:TGWBat over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	
B1E2613	OUT38:TGWAssist load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	
B1E2619	OUT38:TGWAssist overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E264B	OUT38:TGWAssist over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram


Main storage battery
Main storage battery Ground Z20
BE02-1
BE12-1
Power source 001
G17
DC/DC1
Ground Z22
BE04-1
BE09-1
DCDC1Power source O04
G21
Smart Junction Box - Chassis
EBS X1
B69-8
EBS-KL30B U108
I3_B_C
I3_C_B
29
29
EBS-KL30B U108
C5-A
T1
BE10-1
EHPS
C72-2
Power KL30 G62
EPS-KL30B G62a
C6-2
T2
BE07-1
EHPS-KL30A G62a
C1-2
T3
BE01-1
BE11-1
T-gateway B
B77-2
B+ O420
I7_B_C
I7_C_B
4
4
T-gateway -B+ O420
C4-20
E-axle mid axle vehicle low voltage port
C27-19
TCU Power supply KL30 G2G
C2-G
Left thermal management unit 1
C88-5
WPTC Power supply KL30 O407a
Battery WPTC-KL30 +AGS O407
C4-7
Right thermal management unit 1
C89-5
WPTC Power supply KL30 O407b
E-axle mid axle vehicle low voltage port
C27-17
MCU power supply KL30 O421a
Middle and rear axle MCU-KL30 O421
C4-21
E-axle rear axle vehicle low voltage port
C25-17
MCU power supply KL30 O421b
Power distribution unit
C34-L1
Power KL30 O408a
PDU-KL30 O408
C4-8
Front axle pressure sensor
C42-3
Power supply KL30+ O404b
Power supply KL30+ O404
C4-4
Rear axle pressure sensor
C43-3
Power supply KL30+ O404c
B
A


Smart Junction Box - Chassis
EBS X1
B69-9
Power supply KL30-A U109
I3_B_C
I3_C_B
28
28
EBS-KL30 U109
C2-D
Left millimeter wave radar
C45-6
Smart Drive B+ G2E
Main ADCU-B+ G2E
C2-E
Right millimeter wave radar
C62-6
Smart Drive B+ G2E
T-gateway B
B77-1
B1+ G2H
I7_B_C
I7_C_B
3
3
T-GW-B+ G2H
C2-H
Front left light
Ground Z01
B19-1
B19-6
Near left light O301
I9_B_C
I9_C_B
28
28
Near left light O301
C3-1
Front left combination light
Ground Z01
B16-5
B16-2
ADS lamp O317a
Ground Z01
G22
ADS lamp O317
I9_B_C
I9_C_B
36
36
ADS lamp O317
C3-17
Front right combination light
Ground Z07
B33-5
B33-2
ADS lamp O317b
Front right light
Ground Z07
B36-1
B36-6
Right low light O302
I9_B_C
I9_C_B
29
29
Right low light O302
C3-2
Ground Z07
G23
EVCC controller
C96-1
B+ G2F
Auxiliary ADCU-B+/EVCC/
Trailer EPB-B+ G2F
G2F
Trailer EPB
C97-25
B+ G2F
The reverse buzzer
Ground Z68
C106-2
C106-1
Reverse lamp O316
Right reverse lights
Ground Z68
C105-1
C105-3
Reverse lamp O316
Reverse lamp O316
C3-16
Left reverse light
Ground Z68
C104-1
C104-3
Reverse lamp O316
Ground Z68
G30
A
A



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the T-gateway power supply harness.

Step 4:Enter the SJBUN action test on the diagnostic instrument interface and perform the "Output Channel Control - Central Gateway, On/Off" action test. Check if the T-gateway power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the T-gateway. Refer to Replacement Of T Gateway

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

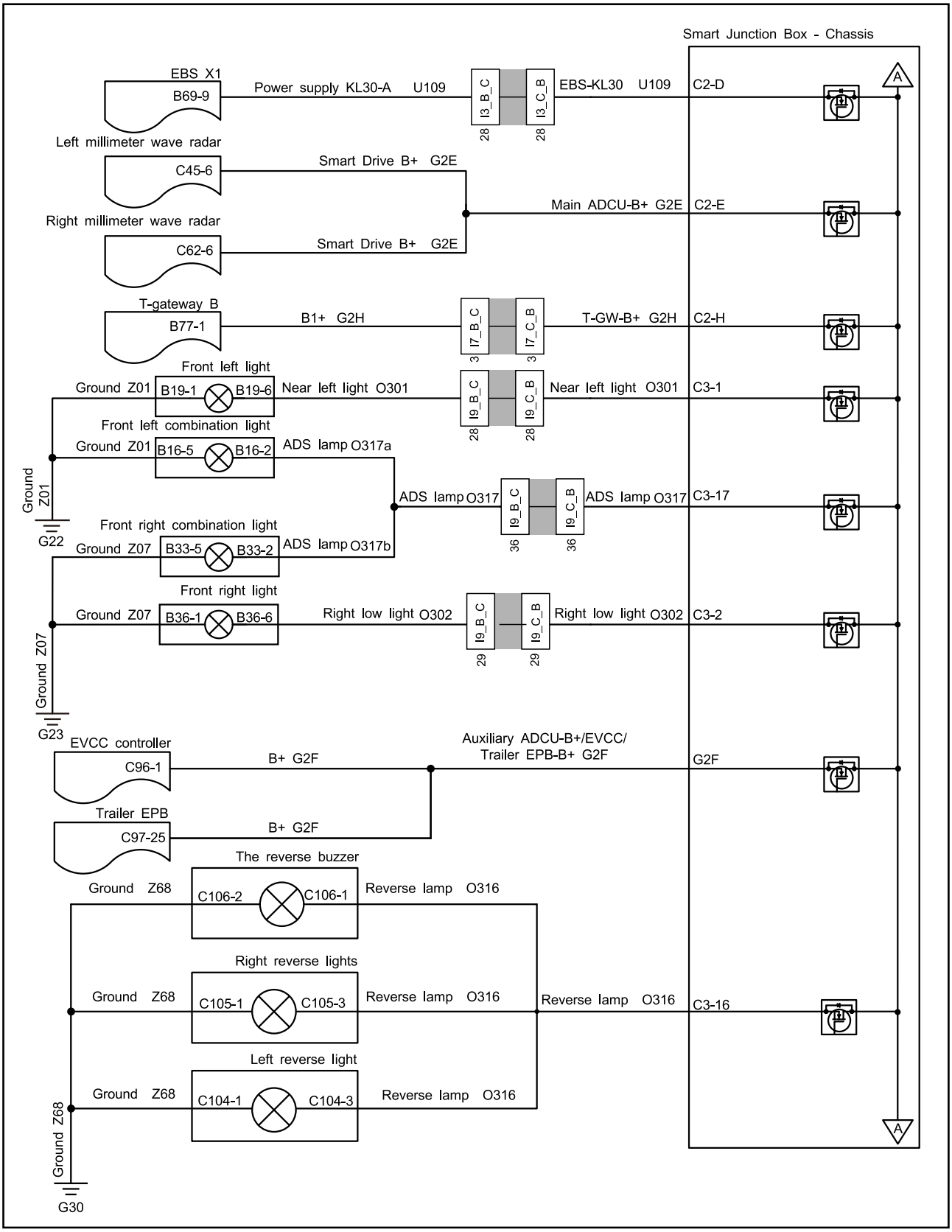
Step 7:Clear and confirm DTC.

7.4.6.52 Reverse Light Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E0B13	OUT11:BackupLamp load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2.Rear combination light (reverse light) 3.Smart junction box DOWN
B1E0B19	OUT11:BackupLamp overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E0B4B	OUT11:BackupLamp over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the rear combination lamp (reverse light).

Step 4:Enter the SJBUN action test on the diagnostic tool interface and perform the "Output Channel Control - Reverse Light, On/Off" action test. Check the power supply of the rear combination light (reverse light) operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace the rear combination light (reverse light). Refer to Replacement Of Reverse Light

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

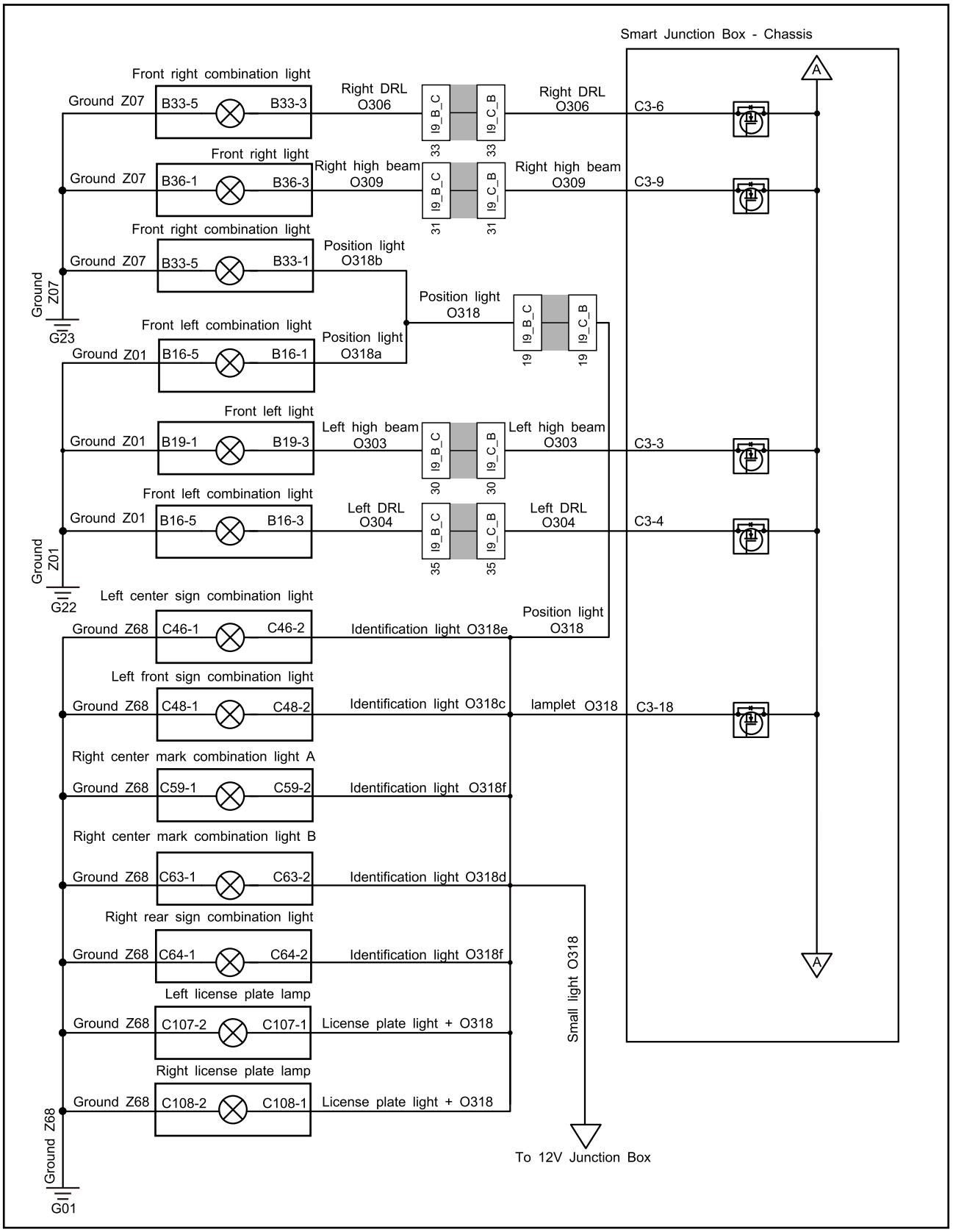
Step 7:Clear and confirm DTC.

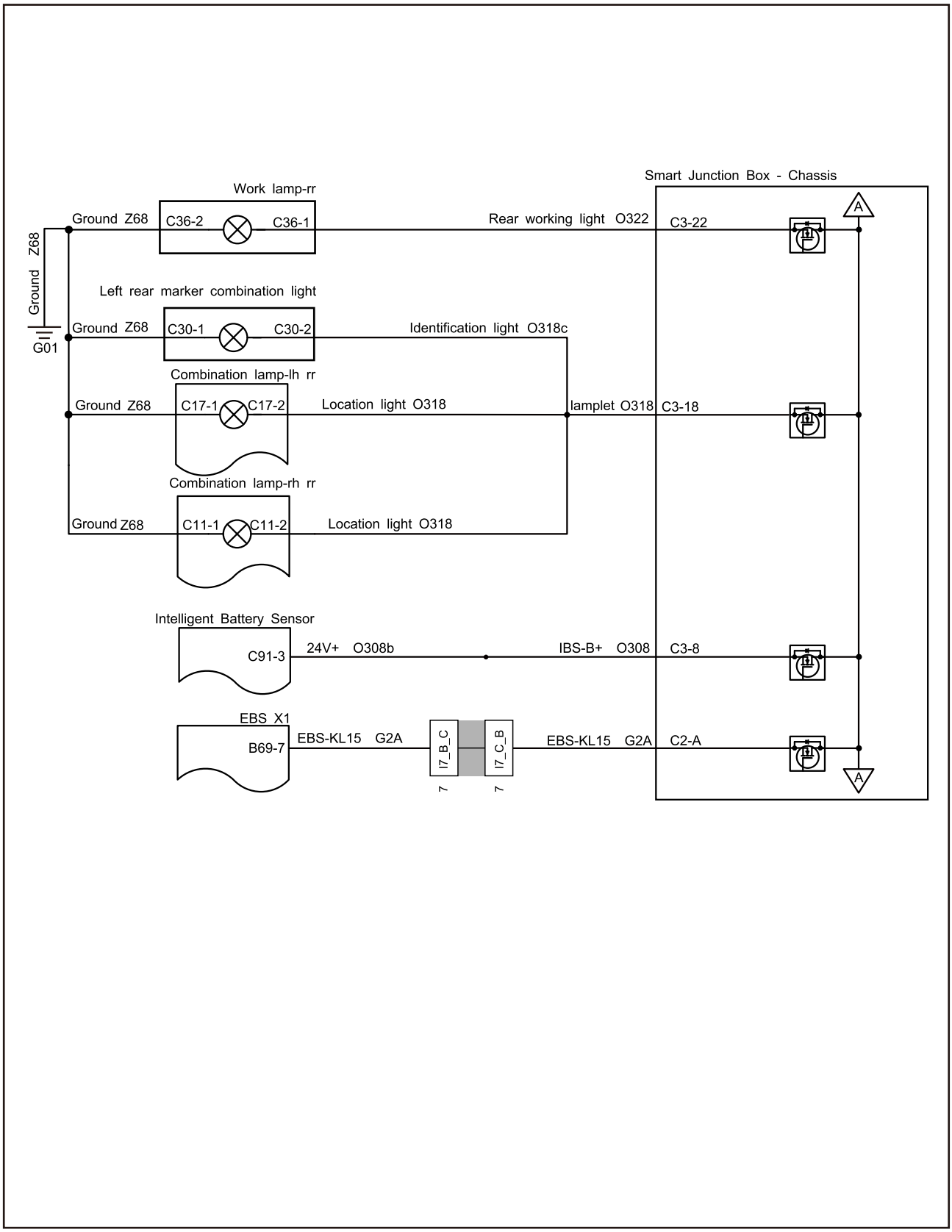
7.4.6.53 Small Lamp Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E0D13	OUT13: TractorMarkerLight load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Small lamp 3. Smart junction box DOWN
B1E0D19	OUT13: TractorMarkerLight overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E0D4B	OUT13: TractorMarkerLight over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram


Smart Junction Box - Chassis
A
Front right combination light
Ground Z07
B33-5
B33-3
Right DRL O306
I9_B_C
I9_C_B
33
33
Right DRL O306
C3-6
Front right light
Ground Z07
B36-1
B36-3
Right high beam O309
I9_B_C
I9_C_B
31
31
Right high beam O309
C3-9
Front right combination light
Ground Z07
B33-5
B33-1
Position light O318b
Ground Z07
G23
Position light O318
I9_B_C
I9_C_B
19
19
Front left combination light
Ground Z01
B16-5
B16-1
Position light O318a
Front left light
Ground Z01
B19-1
B19-3
Left high beam O303
I9_B_C
I9_C_B
30
30
Left high beam O303
C3-3
Front left combination light
Ground Z01
B16-5
B16-3
Left DRL O304
I9_B_C
I9_C_B
35
35
Left DRL O304
C3-4
Ground Z01
G22
Left center sign combination light
Ground Z68
C46-1
C46-2
Identification light O318e
Position light O318
Left front sign combination light
Ground Z68
C48-1
C48-2
Identification light O318c
lamplet O318
C3-18
Right center mark combination light A
Ground Z68
C59-1
C59-2
Identification light O318f
Right center mark combination light B
Ground Z68
C63-1
C63-2
Identification light O318d
Right rear sign combination light
Ground Z68
C64-1
C64-2
Identification light O318f
Small light O318
Left license plate lamp
Ground Z68
C107-2
C107-1
License plate light + O318
Right license plate lamp
Ground Z68
C108-2
C108-1
License plate light + O318
Ground Z68
G01
To 12V Junction Box



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the small lamp.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Small Lamp, On/Off" action test. Check the power supply of the small lamp operates according to the instructions of the diagnostic instrument.

– Yes: Next step

– No: Replace the small light. Refer to Replacement Of Left Front Clearance Lamp.Replacement Of Right Front Clearance Lamp

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

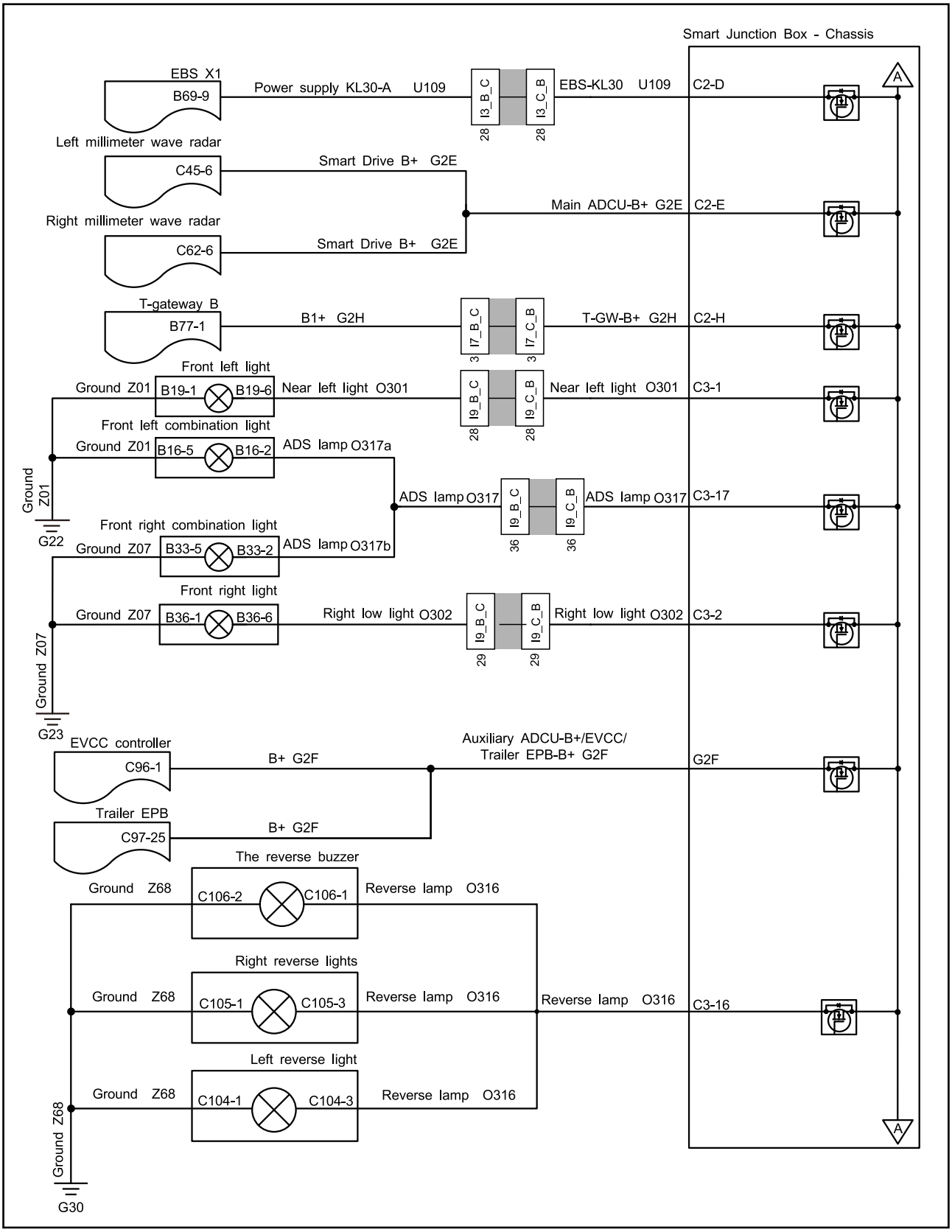
Step 7:Clear and confirm DTC.

7.4.6.54 Left Low Beam Lamp Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E1113	OUT17:LeftLowBeam load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Front left headlight (left low beam) 3. Smart junction box DOWN
B1E1119	OUT17:LeftLowBeam overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E114B	OUT17:LeftLowBeam over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the front left headlight (left low beam).

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Left Low Beam, On/Off" action test. Check the power supply of the front left headlight (left low beam) operates according to the instructions of the diagnostic instrument.

– Yes: Next step

– No: Replace the front left headlight (left low beam). Refer to Replacement Of Left Headlight

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

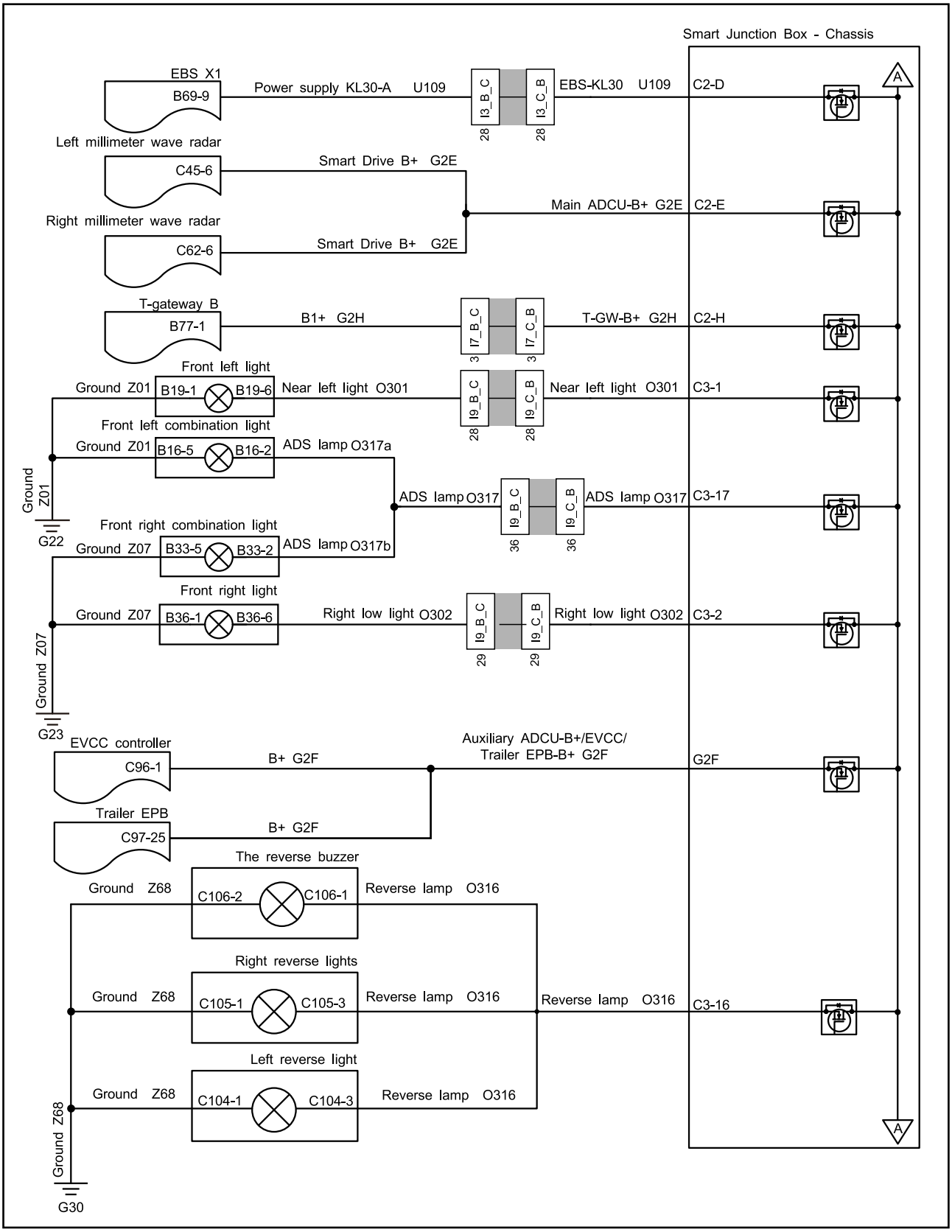
Step 7:Clear and confirm DTC.

7.4.6.55 Right High Beam Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E1213	OUT18_ Right high beam open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Front right headlight (right high beam) 3. Smart junction box DOWN
B1E1219	OUT18: TractorRightHighBeam overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E124B	OUT18: TractorRightHighBeam over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the front right headlight (right high beam).

Step 4:Enter the SJBUN action test on the diagnostic tool interface and perform the "Output Channel Control - Right High Beam, On/Off" action test. Check if the power supply of the front right headlight (right high beam) operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace the front right headlight (right high beam). Refer to Replacement Of Right Headlight

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

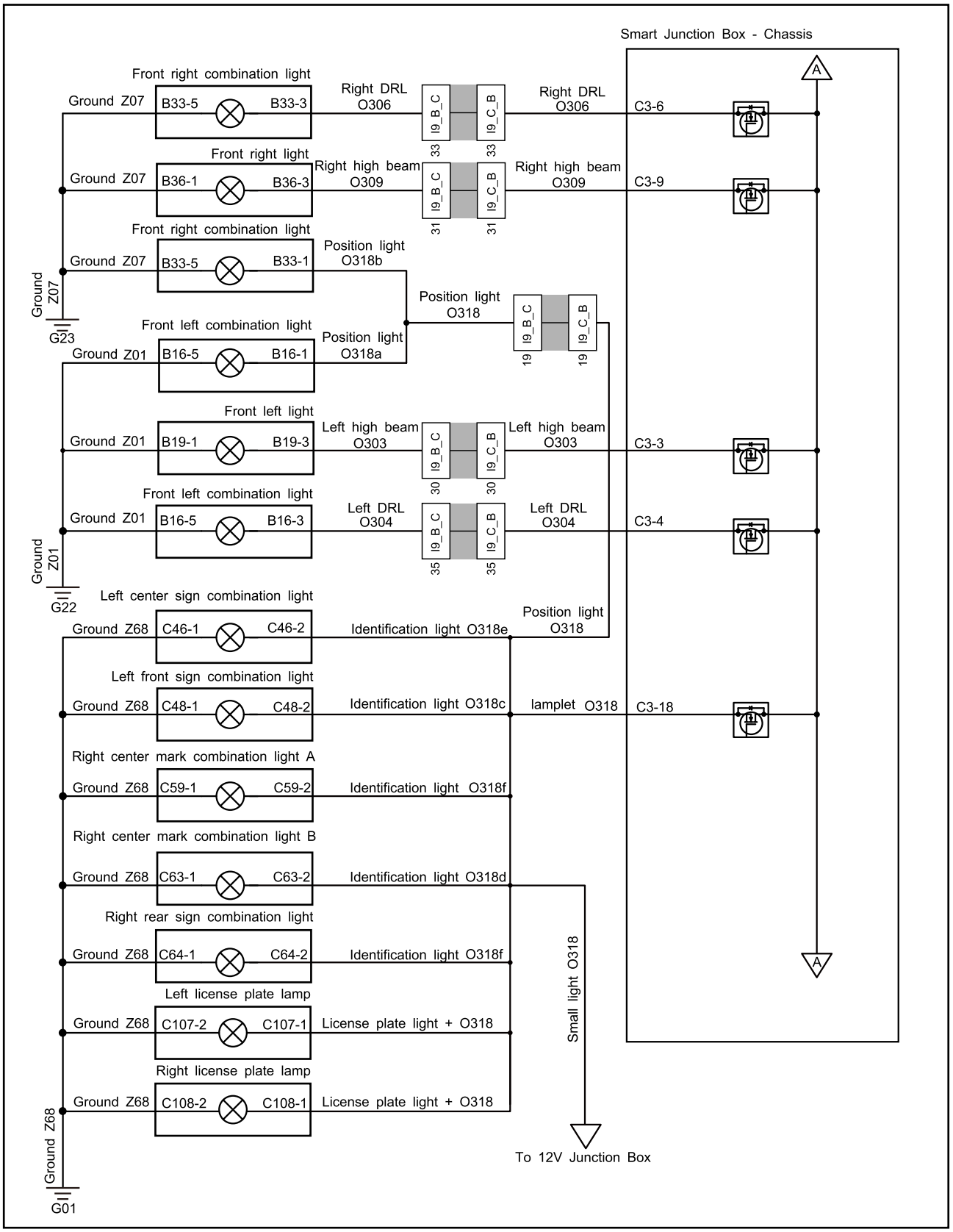
Step 7:Clear and confirm DTC.

7.4.6.56 Left High Beam Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E1313	OUT19: TractorLeftHighBeam load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Front left headlight (left high beam) 3. Smart junction box DOWN
B1E1319	OUT19: TractorLeftHighBeam overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E134B	OUT19: TractorLeftHighBeam over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the front left headlight (left high beam).

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Left High Beam, On/Off" action test. Check the power supply of the front left headlight (left high beam) operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the front left headlight (left high beam). Refer to Replacement Of Left Headlight

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

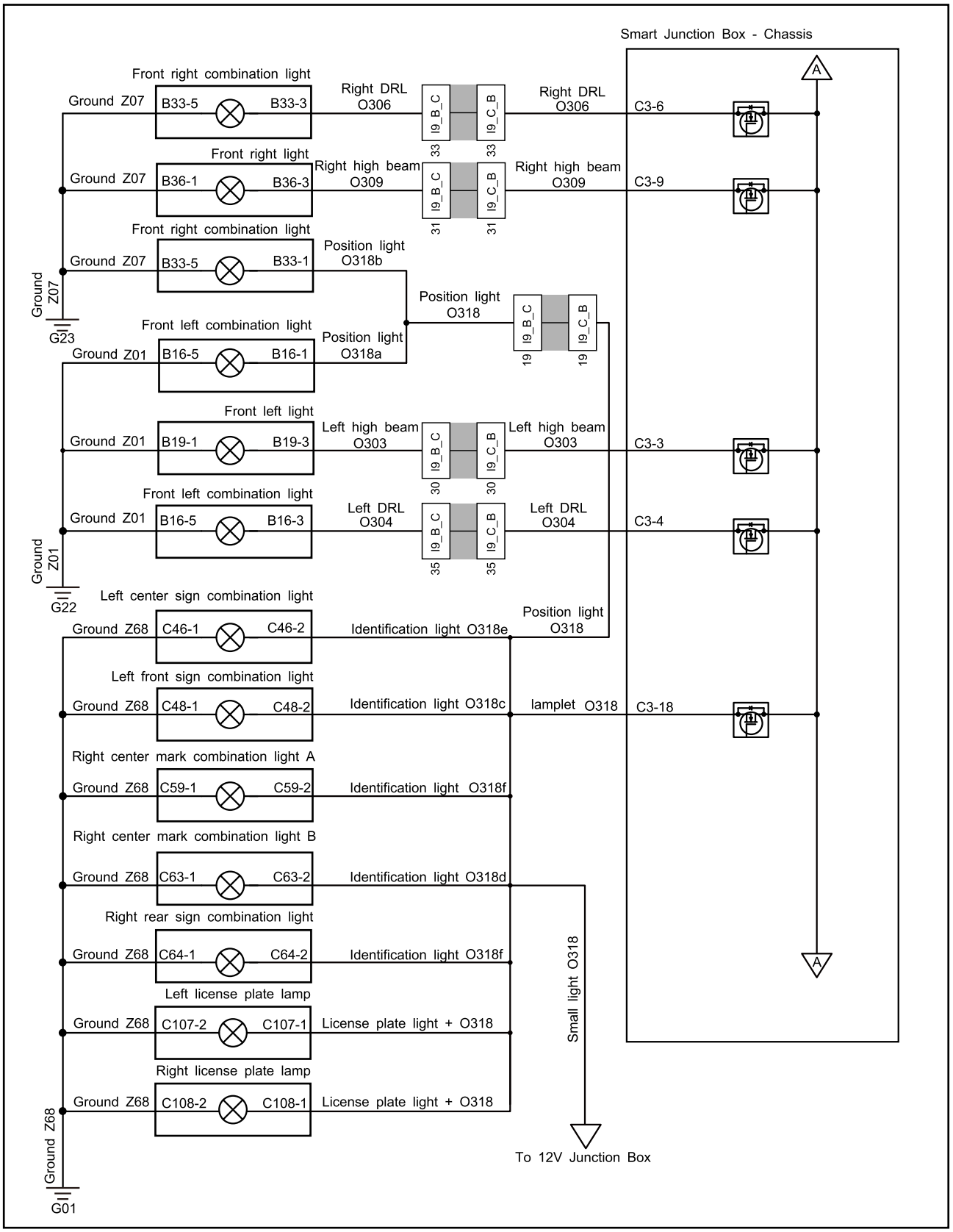
Step 7:Clear and confirm DTC.

7.4.6.57 Right Low Beam Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E1413	OUT20: RightLowBeam load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2.Front right headlight (right low beam) 3.Smart junction box DOWN
B1E1419	OUT20: RightLowBeam overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E144B	OUT20_ Right low beam overheating	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the front right headlight (right low beam).

Step 4:Enter the SJBUN action test on the diagnostic tool interface and perform the "Output Channel Control - Right Low Beam, On/Off" action test. Check if the power supply of the front right headlight (right low beam) operates according to the diagnostic tool instructions.

– Yes: Next step

– No: Replace the front right headlight (right low beam). Refer to Replacement Of Right Headlight

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

Step 7:Clear and confirm DTC.

7.4.6.58 Left Daytime Running Light Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E1613	OUT22:LeftRunning load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Front left combination light (left daytime running light) 3. Smart junction box DOWN
B1E1619	OUT22:LeftRunning overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E164B	OUT22:LeftRunning over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram

Refer to chassis smart electrical box

3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the front left combination light (left daytime running light).

Step 4:Enter the SJBUN action test on the diagnostic tool interface and perform the "Output Channel Control - Left Daytime Running Light, On/Off" action test. Check if the power supply of the front left combination light (left daytime running light) operates according to the diagnostic tool instructions.

– Yes: Next step

– No: Replace the front left combination light (left daytime running light). Refer to Replacement Of Left Front Combination Lamp

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

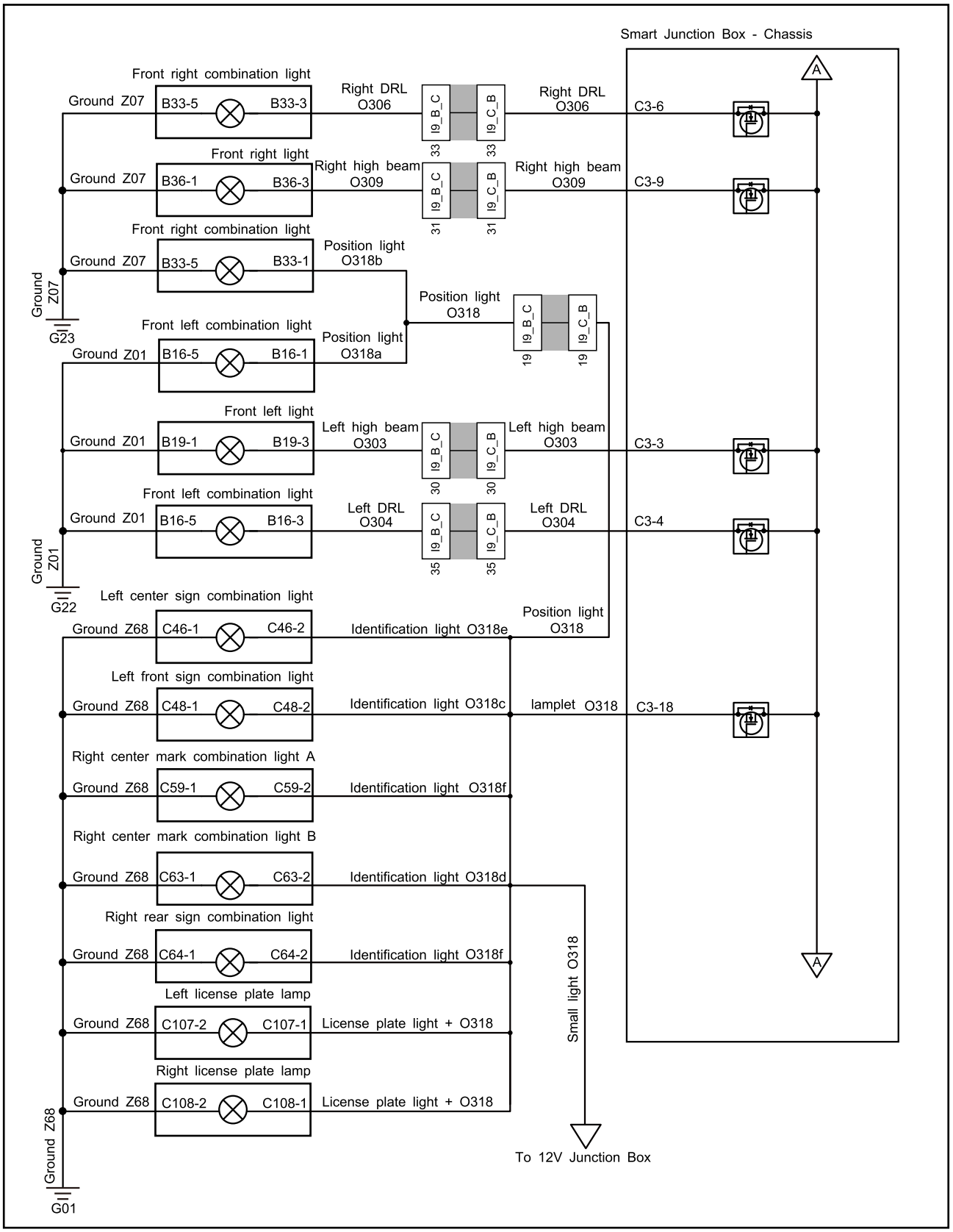
Step 7:Clear and confirm DTC.

7.4.6.59 Right Daytime Running Light Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E1813	OUT24:RightRunning load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Front right combination light (right daytime running light) 3. Smart junction box DOWN
B1E1819	OUT24:RightRunning overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E184B	OUT24:RightRunning over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the front right combination light (right daytime running light).

Step 4:Enter the SJBUN action test on the diagnostic tool interface and perform the "Output Channel Control - Right Daytime Running Light, On/Off" action test. Check if the power supply of the front right combination light (right daytime running light) operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace the front right combination light (right daytime running light). Refer to Replacement Of Right Front Combination Lamp

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

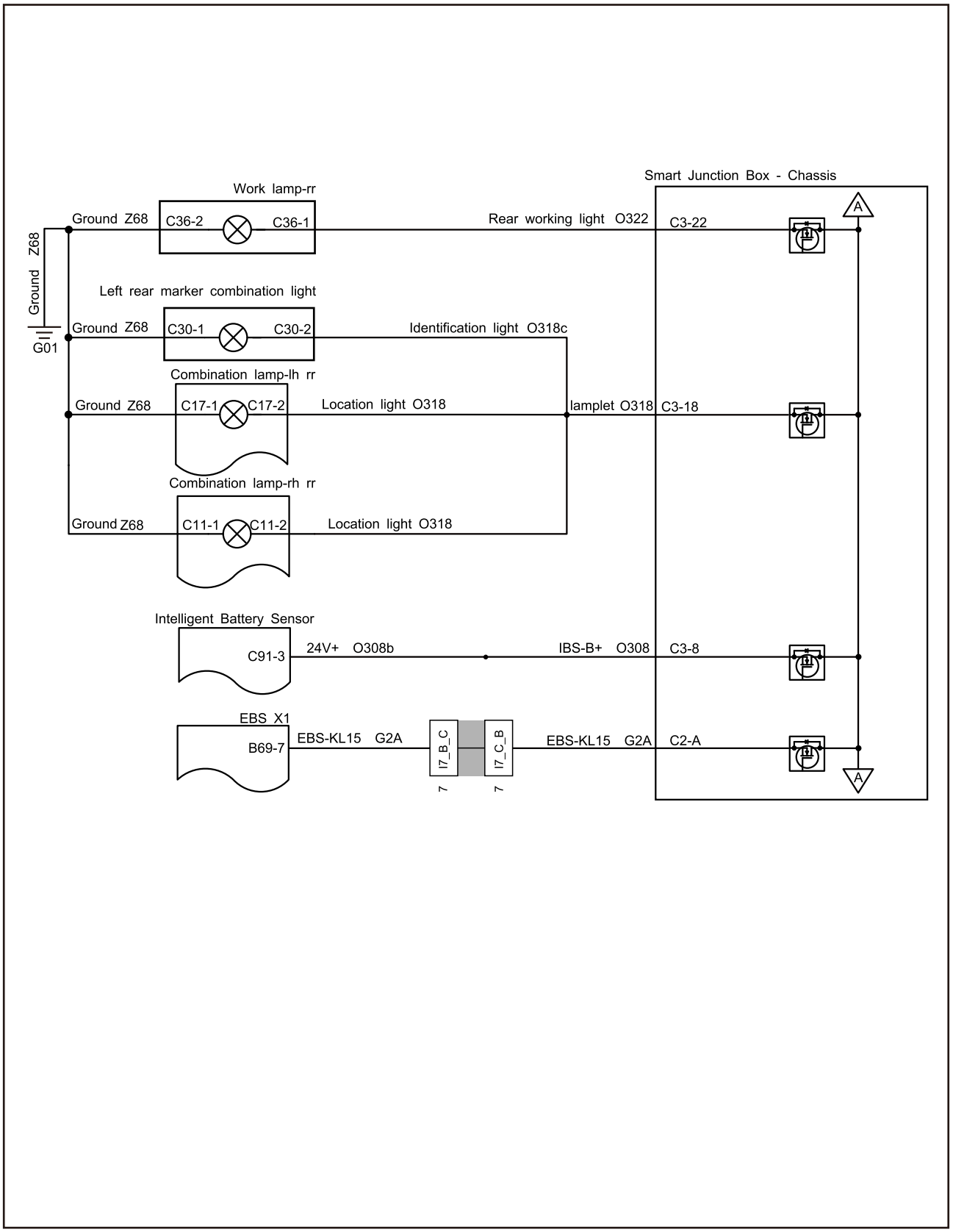
Step 7:Clear and confirm DTC.

7.4.6.60 IBS Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E1A13	OUT26:IBS load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Intelligent battery sensor IBS 3. Smart junction box DOWN
B1E1A19	OUT26:IBS overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E1A4B	OUT26:IBS over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the IBS power supply harness of the battery.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Intelligent Battery Sensor, On/Off" action test. Check the power supply of the intelligent battery sensor operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace Intelligent battery sensor IBS. Refer to Replacement Of Smart Battery Sensors

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

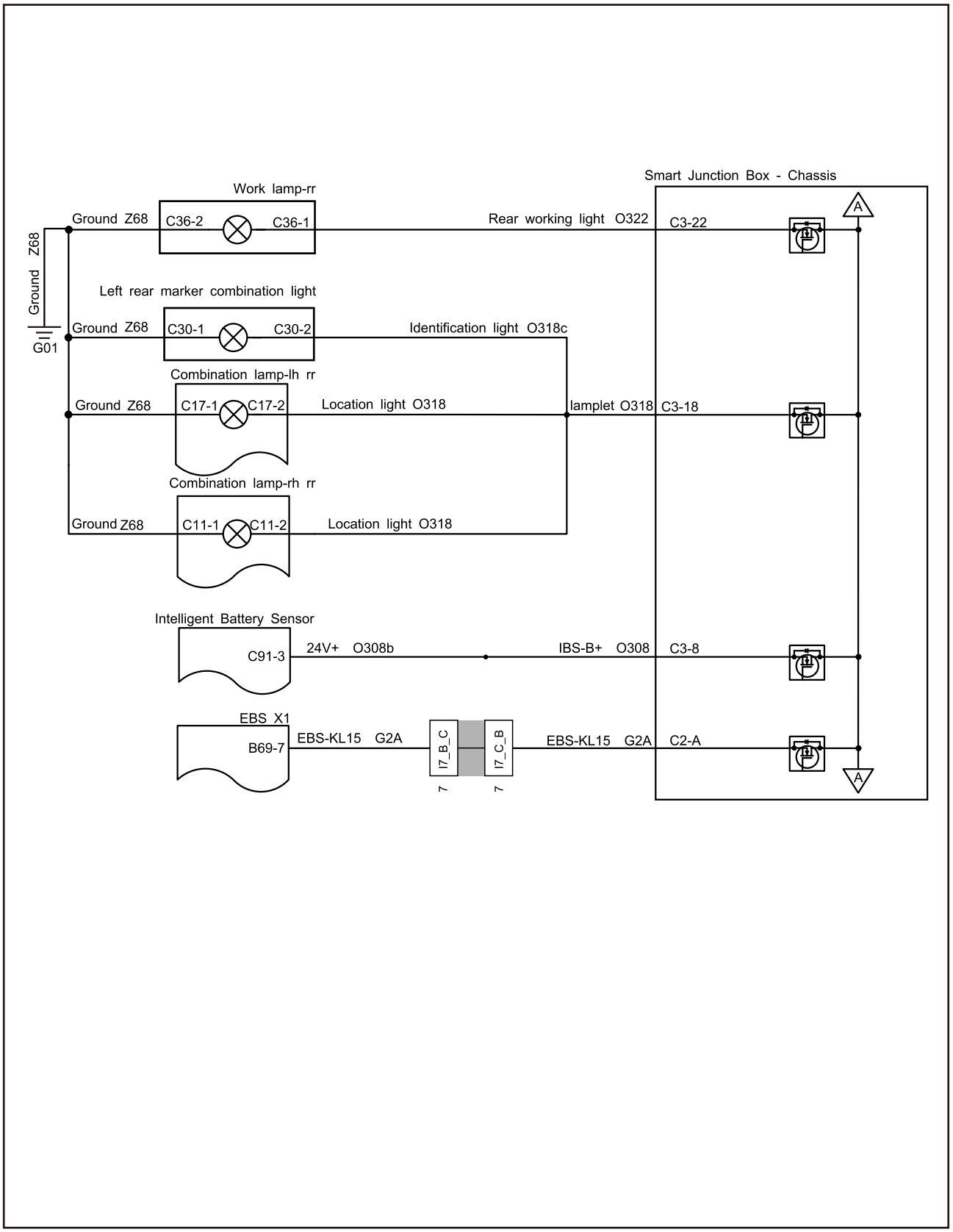
Step 7:Clear and confirm DTC.

7.4.6.61 Rear Work Light Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E1B13	OUT27:WorkingLights load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Rear work light 3. Smart junction box DOWN
B1E1B19	OUT27:WorkingLights overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E1B4B	OUT27:WorkingLights over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the rear work light.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Rear Work Light, On/Off" action test. Check the power supply of the rear work light operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the work light. Refer to Replacement of rear work light

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

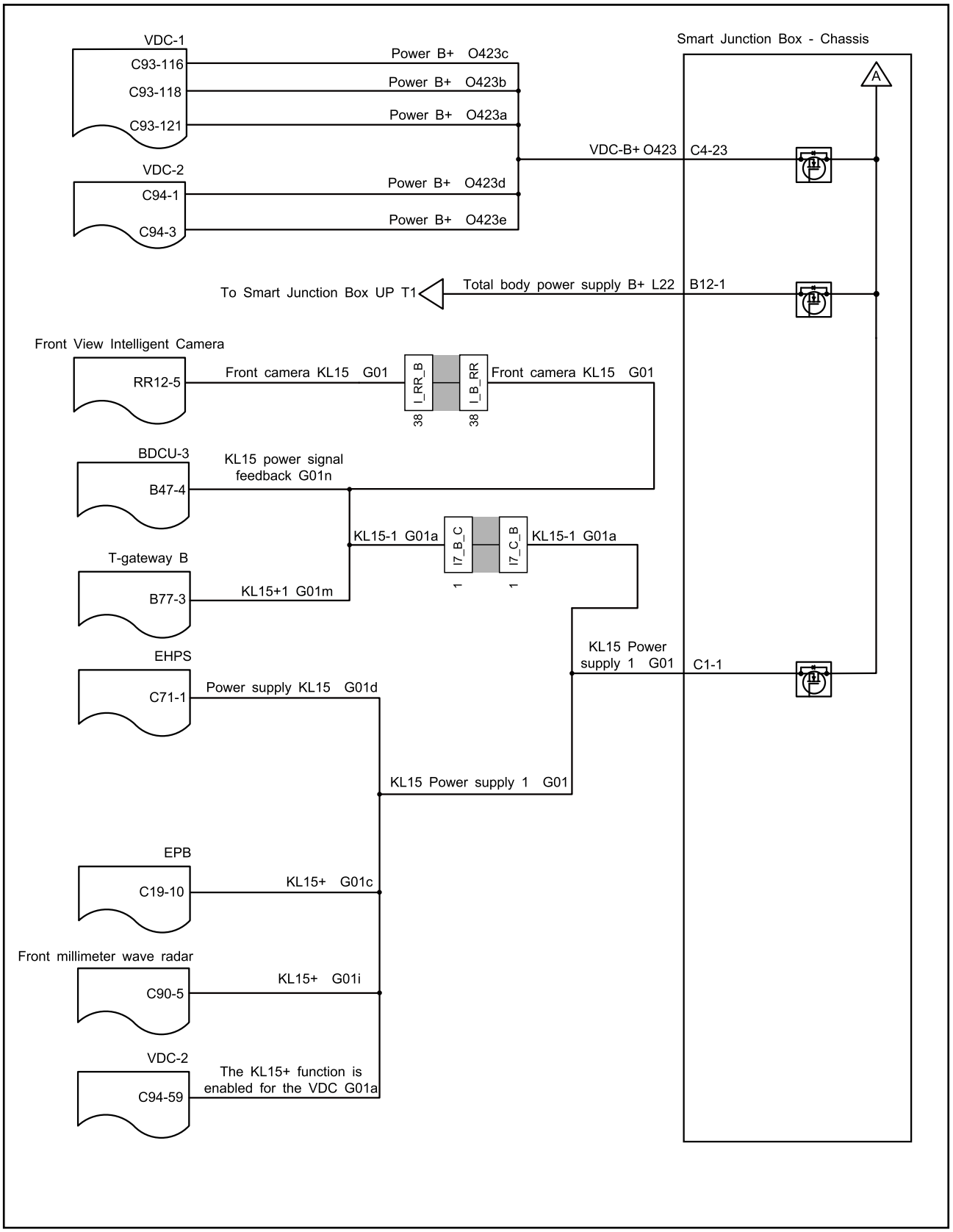
Step 7:Clear and confirm DTC.

7.4.6.62 EPB Power Supply Circuit Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E1E13	OUT35:EPB load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1.Wiring harness 2.EPB 3.Smart junction box DOWN
B1E1E19	OUT35:EPB overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E1E4B	OUT35:EPB over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3.Diagnostic Steps

Step 1:DTC Confirmation.Refer to DTC Confirmation

Step 2:Routine Inspection.Refer to Routine Inspection

Step 3:Check the EPB power supply harness.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Electronic Parking, On/Off" action test. Check the electronic parking power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN.Refer to Replacement Of Chassis Smart Electrical Box

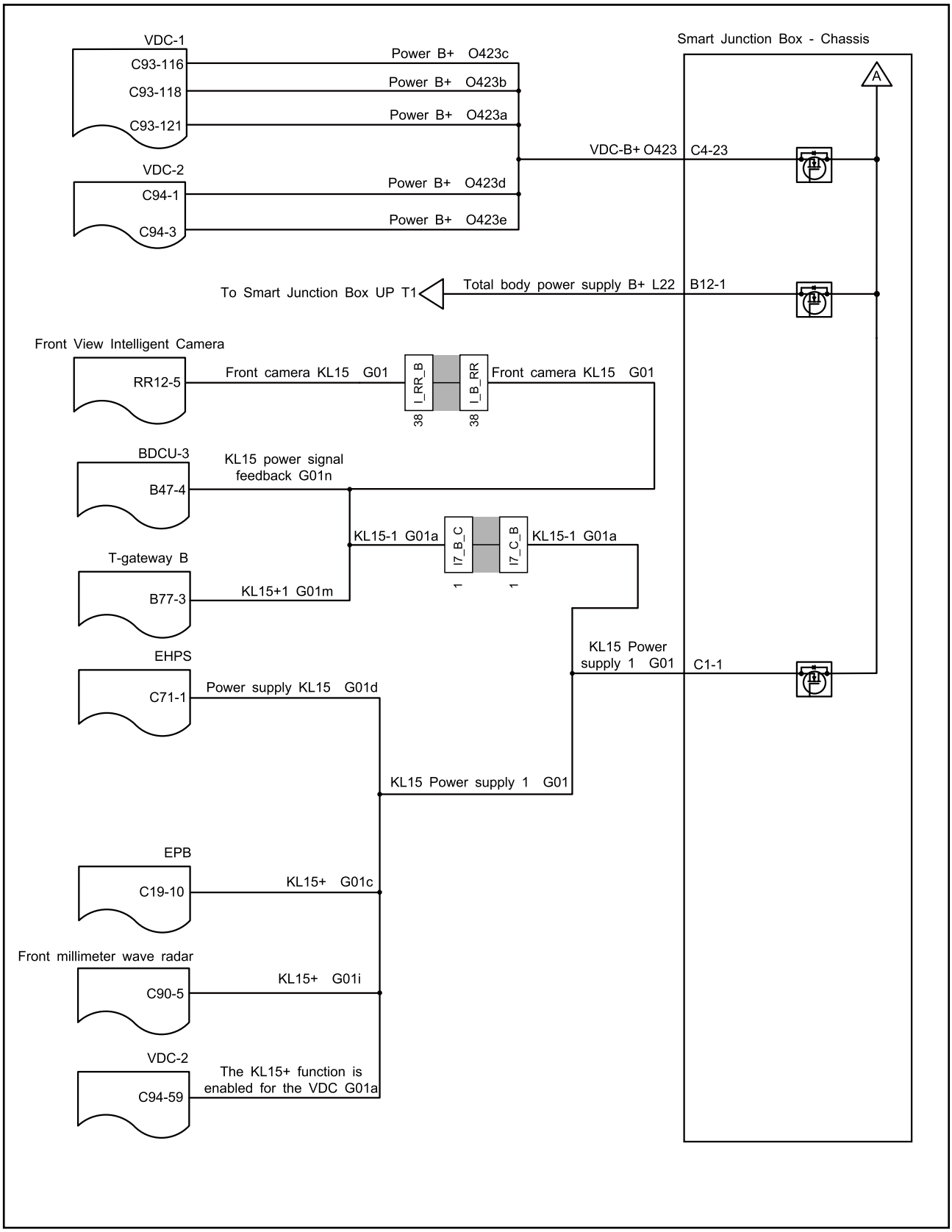
Step 7:Clear and confirm DTC.

7.4.6.63 VDC Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2513	OUT37:VDCB load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1.Wiring harness 2.VDC 3.Smart junction box DOWN
B1E2519	OUT37:VDCB overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E254B	OUT37:VDCB over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the VDC power supply harness.

Step 4:Enter the SJBUN action test on the diagnostic tool interface and perform the "Output Channel Control - VBU-B+_VDC, On/Off" action test. Check if the VDC B+power supply operates according to the diagnostic tool instructions.

- Yes: Next step
- No: Replace VDC. Refer to Replacement Of Vehicle Domain Controller Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

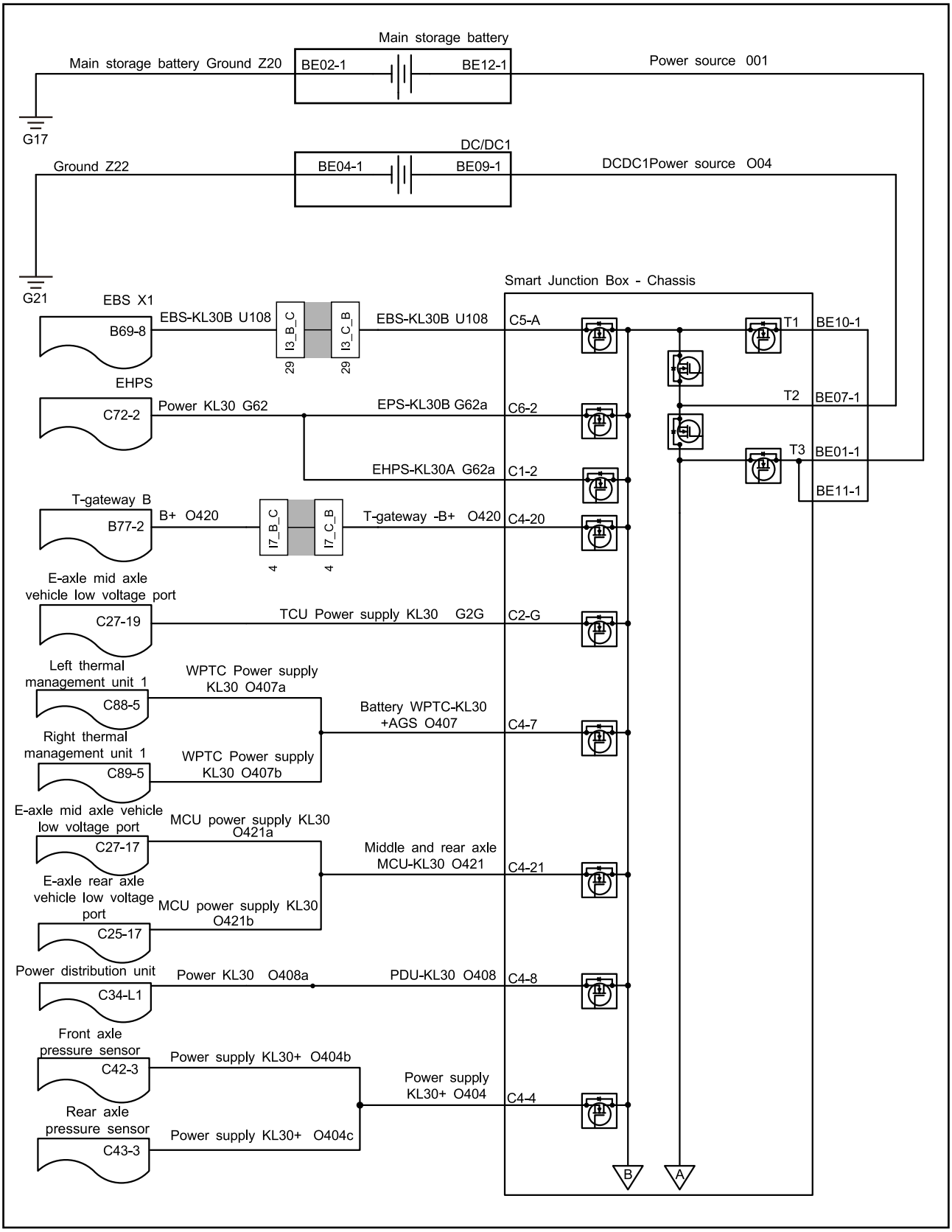
Step 7:Clear and confirm DTC.

7.4.6.64 Fault In The Power Supply Circuit Of The Rear Axle MCU In The Electric Drive

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2713	OUT39: MediumRearaxleTCU load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Rear axle MCU in electric drive 3. Smart junction box DOWN
B1E2719	OUT39: MediumRearaxleTCU overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E274B	OUT39: MediumRearaxleTCU over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the rear axle MCU in the electric drive.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Mid/Rear axle MCU, On/Off" action test. Check the power supply of the mid/rear axle MCU operates according to the diagnostic instrument instructions.

– Yes: Next step

– No: Replace the rear axle MCU in the electric drive. Refer to Replacement Of Integrated axle - Medium axle. Replacement Of Integrated axle - Rear axle

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

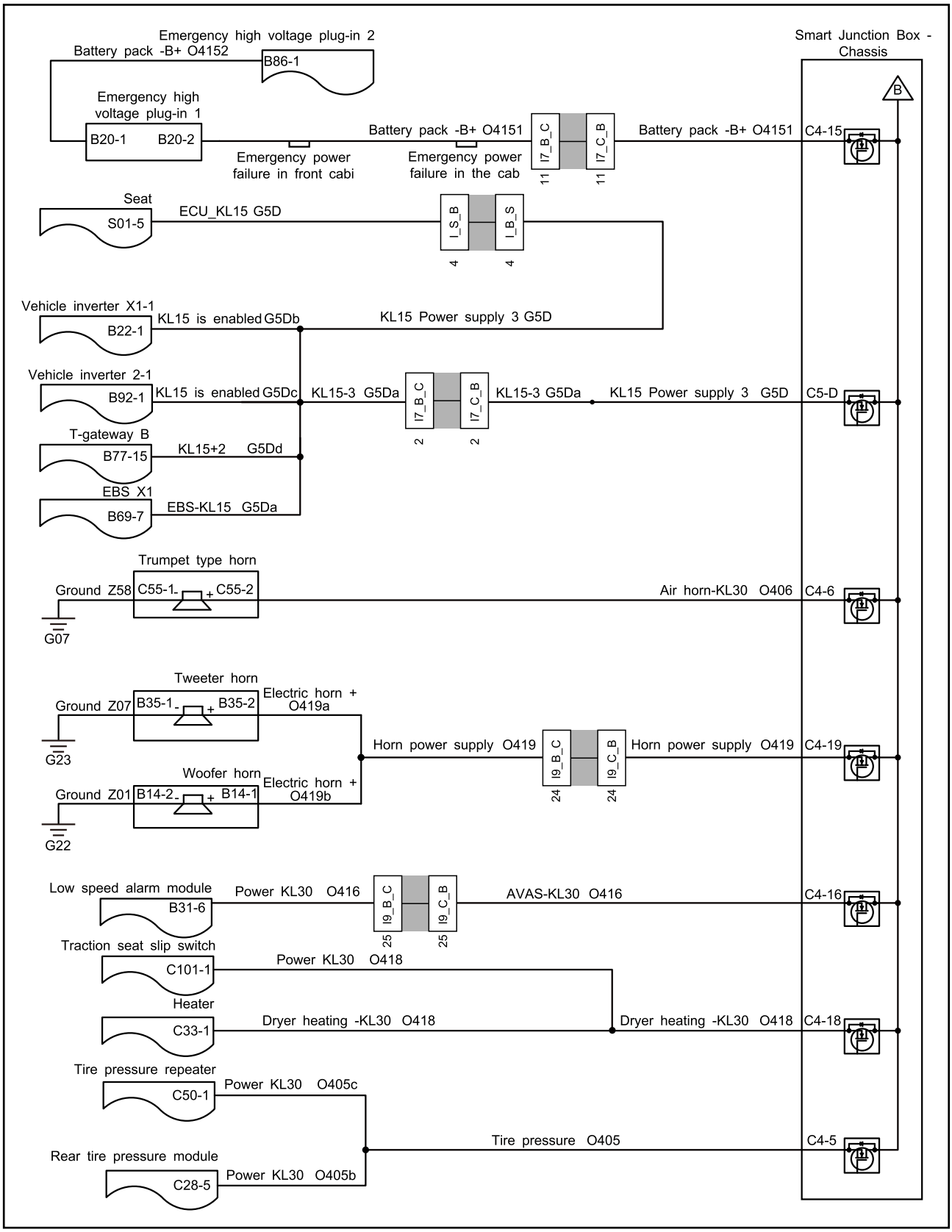
Step 7:Clear and confirm DTC.

7.4.6.65 Fault In The Power Supply Circuit Of The Air Handling Unit

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2813	OUT40: AirHandlingUnit load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Air handling unit 3. Smart junction box DOWN
B1E2819	OUT40: AirHandlingUnit overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E284B	OUT40: AirHandlingUnit over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the air handling unit.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Air Handling Unit, On/Off" action test. Check the power supply of the air handling unit operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the air handling unit. Refer to Replacement Of Air Handling Unit Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

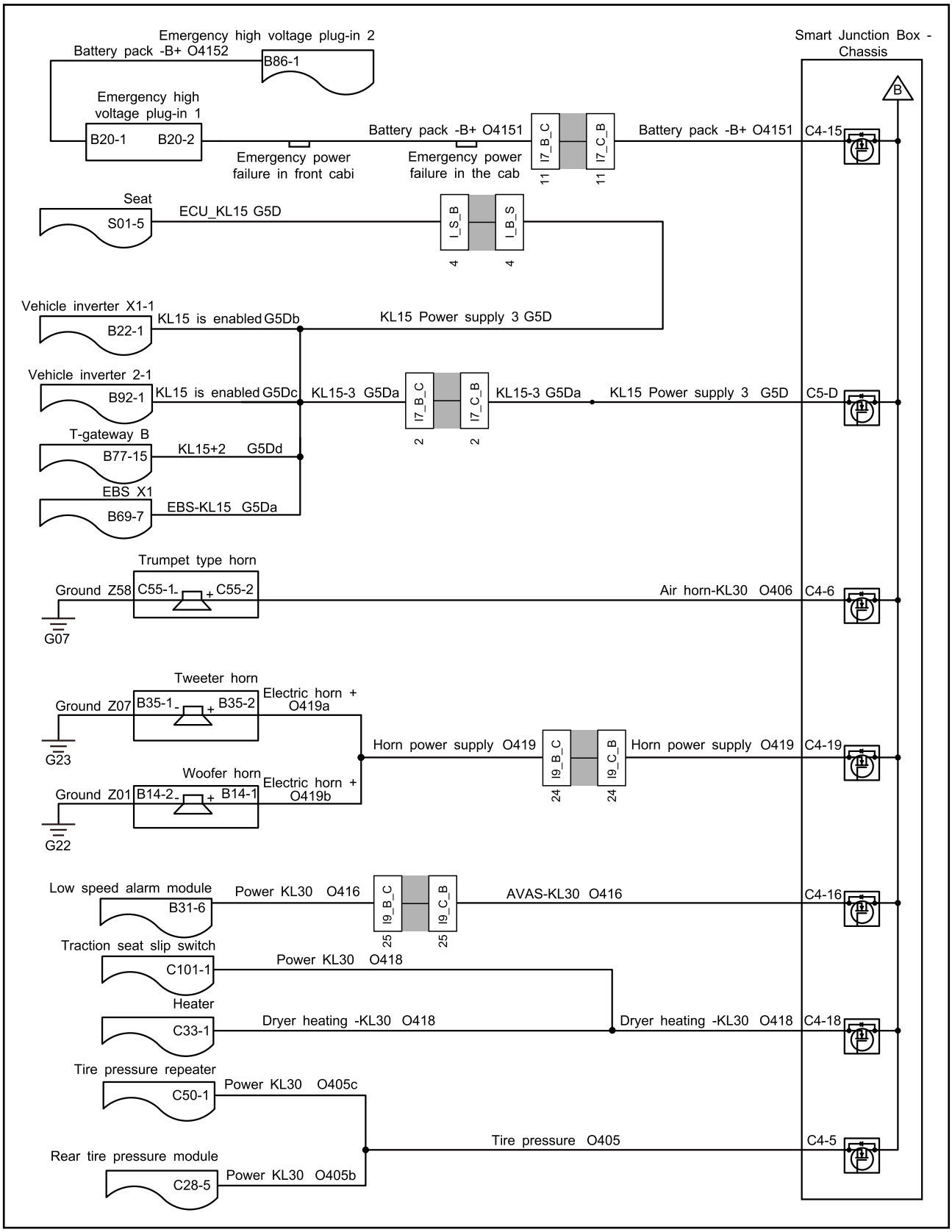
Step 7:Clear and confirm DTC.

7.4.6.66 Electric Horn Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2913	OUT41: HighLowPitchElectric-Horn load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Electric horn 3. Smart junction box DOWN
B1E2919	OUT41: HighLowPitchElectric-Horn overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E294B	OUT41: HighLowPitchElectric-Horn over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the electric horn.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - High/Low Frequency Electric Speaker, On/Off" action test. Check the power supply of the high/low frequency electric speaker operates according to the instructions of the diagnostic instrument.

– Yes: Next step

– No: Replace the electric horn. Refer to Replacement Of Electric Horn Assembly - bass ,Replacement Of Electric Horn Assembly - High Frequency

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

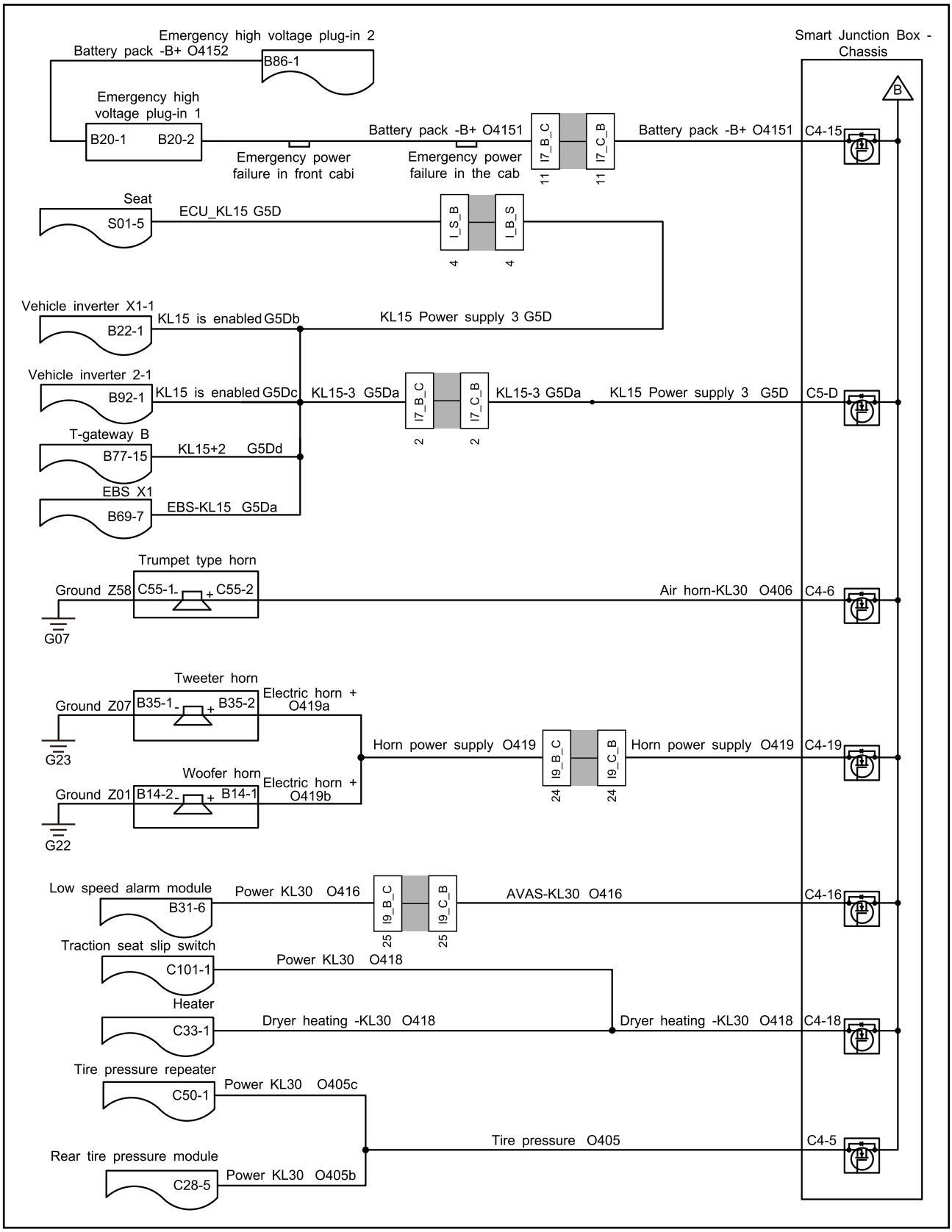
Step 7:Clear and confirm DTC.

7.4.6.67 Fault In The Power Supply Circuit Of The Gas Horn

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2F13	OUT47:AirHorn load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Air horn 3. Smart junction box DOWN
B1E2F19	OUT47:AirHorn overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E2F4B	OUT47:AirHorn over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the air horn.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - air horn, On/Off" action test. Check the power supply of the air horn operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the air horn. Refer to Replacement Of Air Horn

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

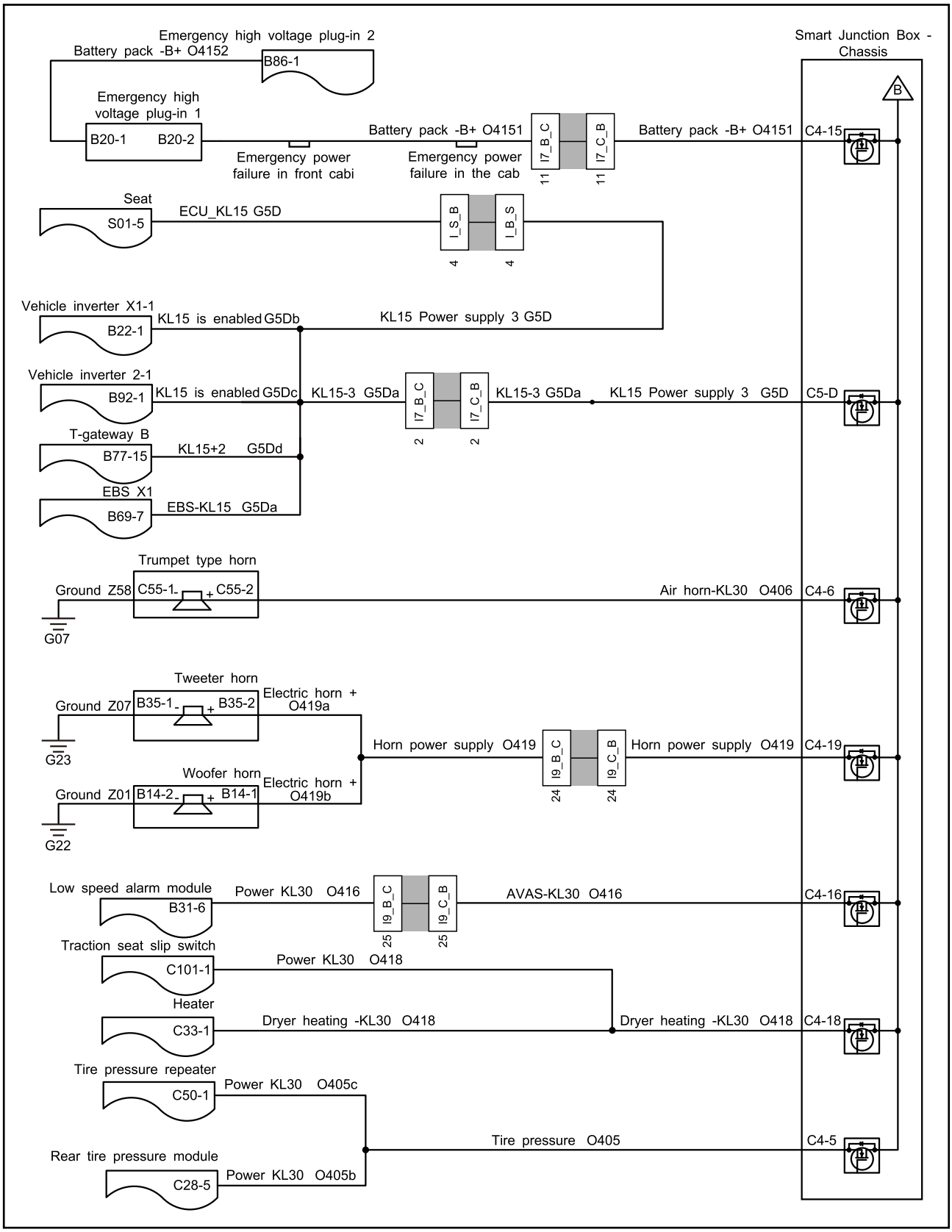
Step 7:Clear and confirm DTC.

7.4.6.68 Battery Pack Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2C13	OUT44:Battery pack load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Battery pack 3. Smart junction box DOWN
B1E2C19	OUT44:Battery pack overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E2C4B	OUT44:Battery pack over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the Battery pack.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Battery pack, On/Off" action test. Check the power supply of the Battery pack operates according to the instructions of the diagnostic instrument.

– Yes: Next step

Replace the battery pack. Refer to Replacement Of NCM Battery Pack Assembly 1 (AVIC 161Ah).

– No: Replacement Of NCM Battery Pack Assembly 2 (AVIC 161Ah).Replacement Of NCM Battery Pack Assembly 3 (AVIC 161Ah).Replacement Of NCM Battery Pack Assembly 4 (AVIC 161Ah).

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

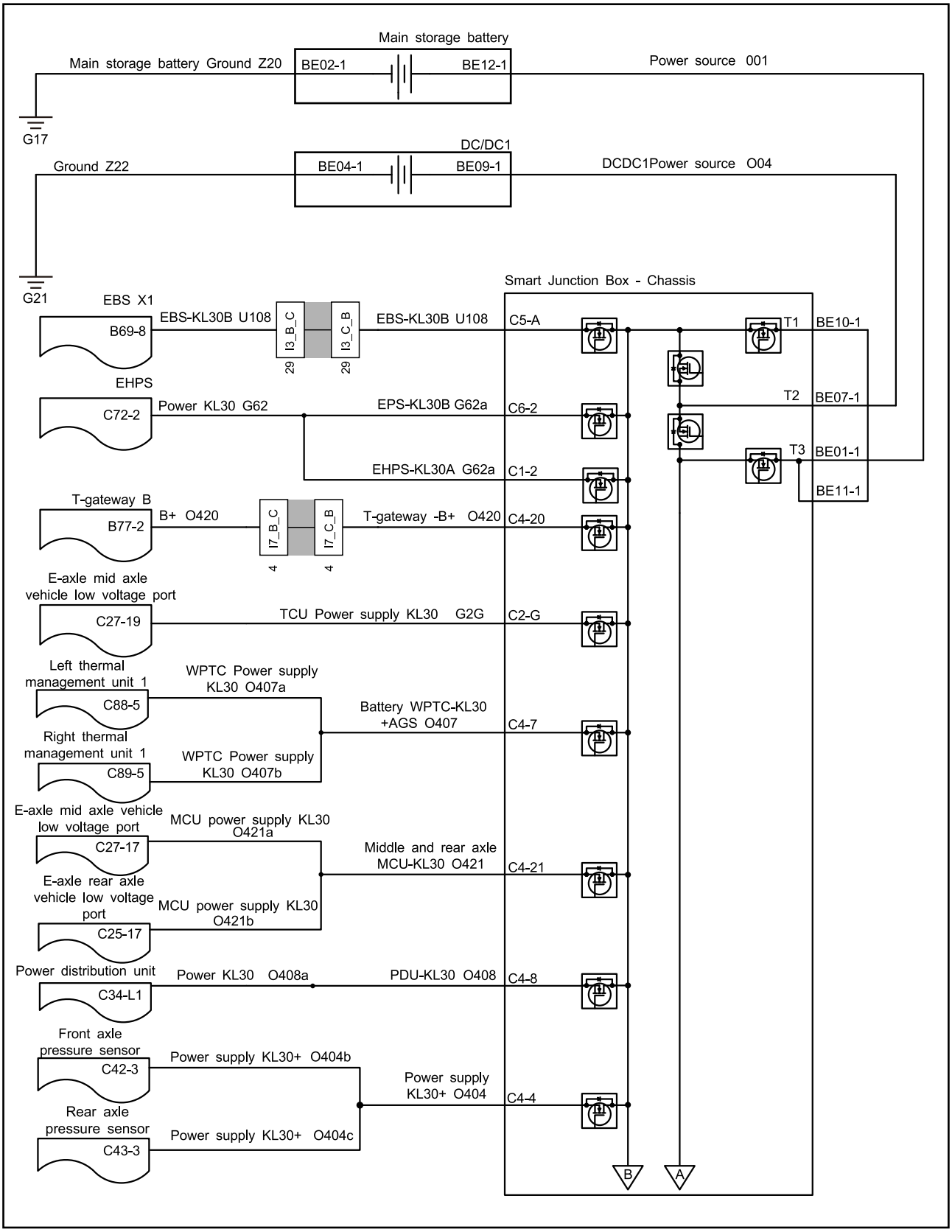
Step 7:Clear and confirm DTC.

7.4.6.69 Power Distribution Unit Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2D13	OUT45: AuxiDrivMultiOne load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1.Wiring harness 2.Power distribution unit 3.Smart junction box DOWN
B1E2D19	OUT45: AuxiDrivMultiOne overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E2D4B	OUT45: AuxiDrivMultiOne over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power distribution unit power supply harness.

Step 4:Enter the SJBUN action test on the diagnostic instrument interface and perform the "Output Channel Control - Auxiliary Drive Multi in One, On/Off" action test. Check if the power distribution unit power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the power distribution unit. Refer to Replacement Of Multi In One Power Distribution Assembly

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

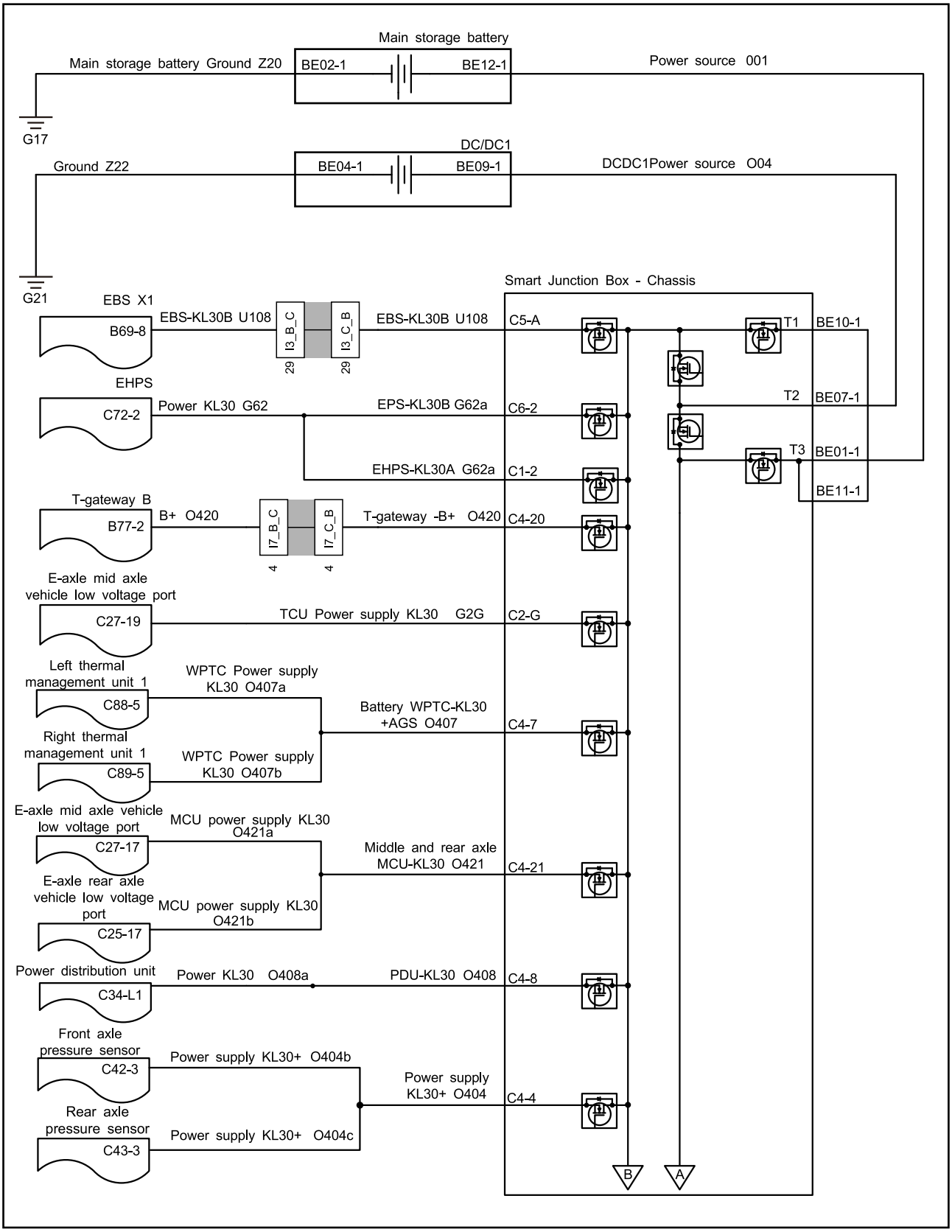
Step 7:Clear and confirm DTC.

7.4.6.70 Fault In The Power Supply Circuit Of The Battery Water Heater

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2E13	OUT46: BatWaterHeatComp load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2. Thermal management unit (battery water heater) 3. Smart junction box DOWN
B1E2E19	OUT46: BatWaterHeatComp overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E2E4B	OUT46: BatWaterHeatComp over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the thermal management unit (battery water heater).

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Battery Water Heater, On/Off" action test. Check the power supply of the thermal management unit (battery water heater) operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the thermal management unit (battery water heater). Refer to Replacement Of Thermal Management Unit (Left)

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

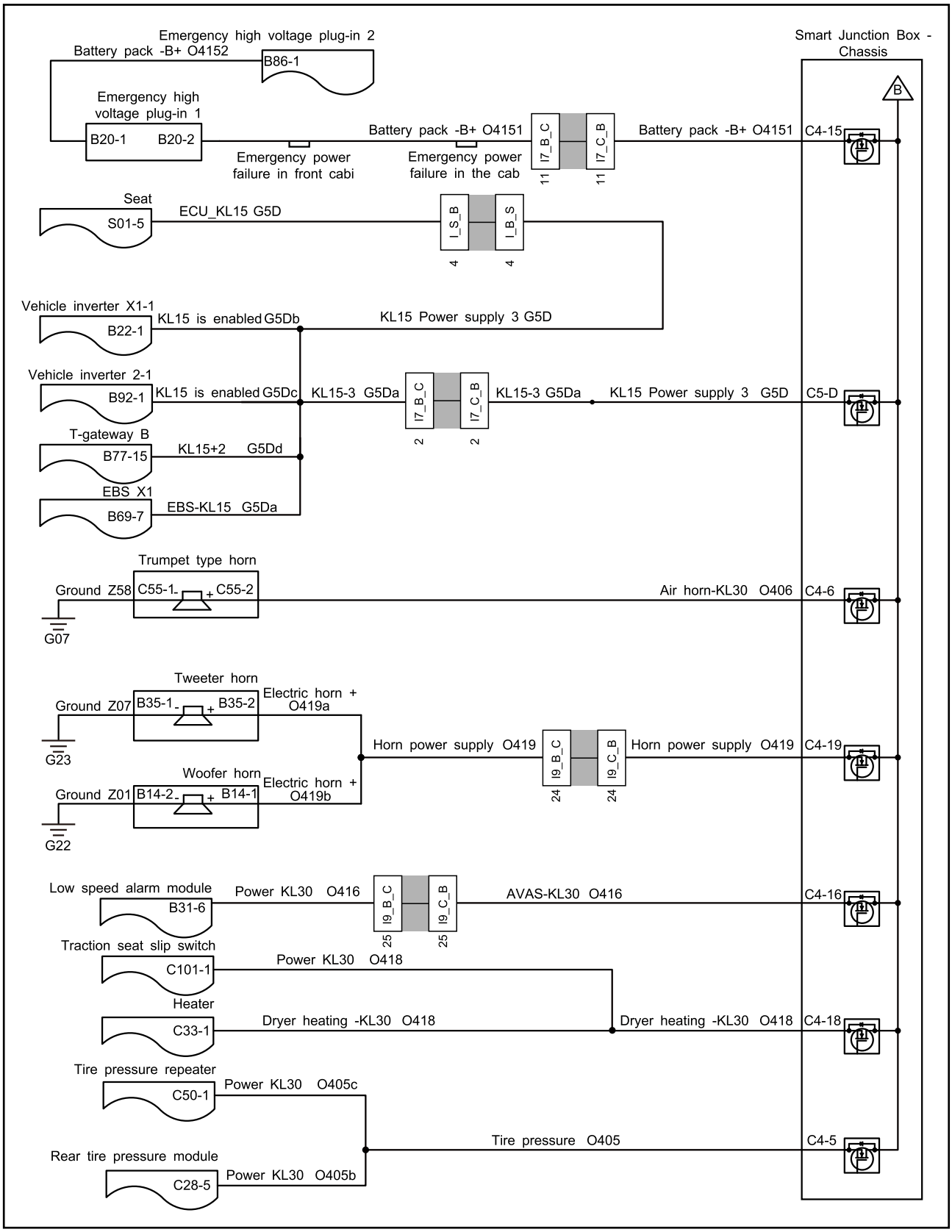
Step 7:Clear and confirm DTC.

7.4.6.71 Low Speed Alarm Module Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E2A13	OUT42:AVAS load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2.Low speed alarm module 3.Smart junction box DOWN
B1E2A19	OUT42:AVAS overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E2A4B	OUT42:AVAS over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the low-speed alarm module.

Step 4:Enter the SJBUN action test on the diagnostic instrument interface and perform the "Output Channel Control - Low Speed Pedestrian Alarm, On/Off" action test. Check if the low-speed pedestrian alarm power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the low-speed alarm module. Refer to Replacement Of Low Speed Alarm Module (AVAS)

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

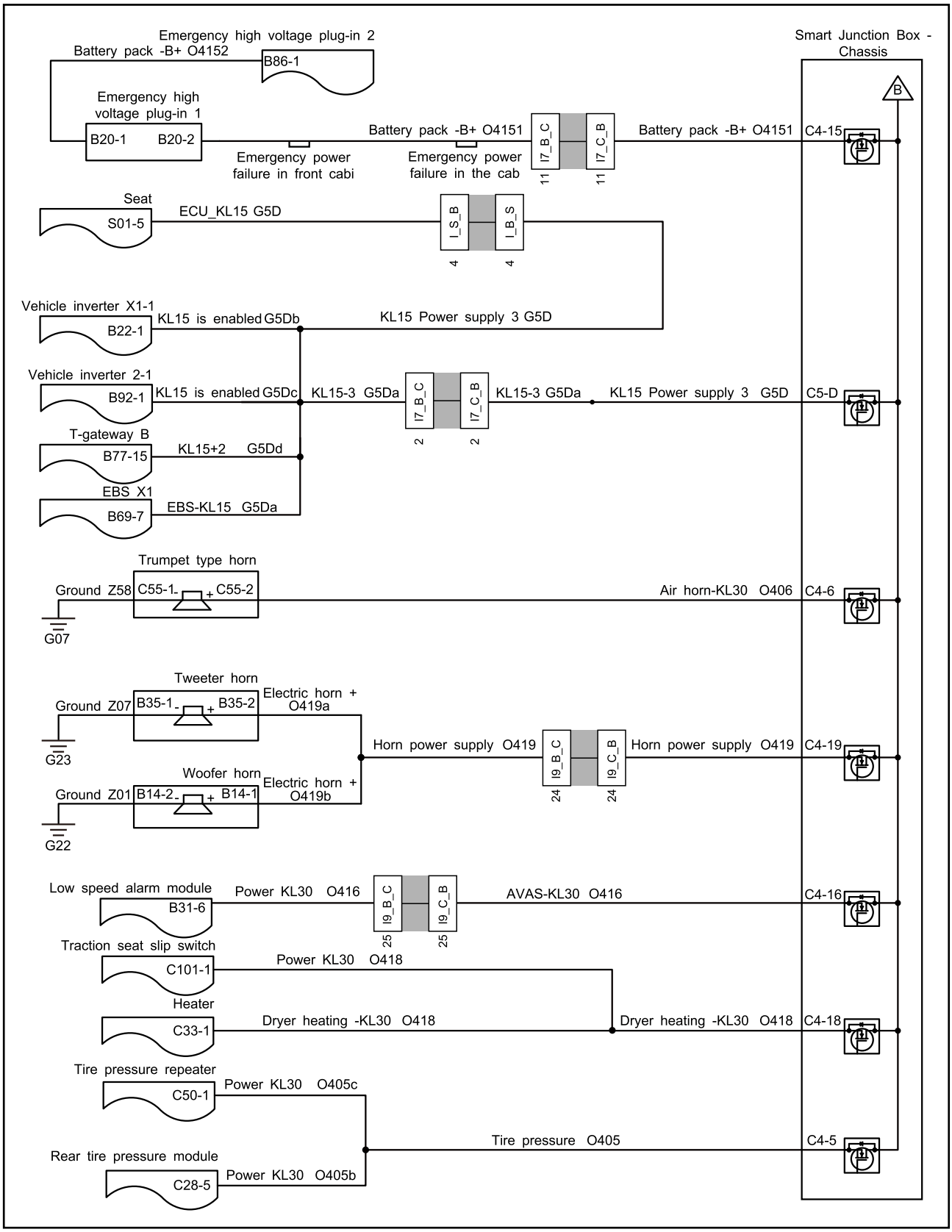
Step 7:Clear and confirm DTC.

7.4.6.72 Tire Pressure Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E3013	OUT48:TPMS load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2.Rear tire pressure module 3.Smart junction box DOWN
B1E3019	OUT48:TPMS overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E304B	OUT48:TPMS over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the rear tire pressure module.

Step 4:Enter the SJBUN action test on the diagnostic instrument interface and perform the "Output Channel Control - Tire Pressure+Active Grille Shutter, On/Off" action test. Check if the tire pressure/active grille power supply operates according to the diagnostic instrument instructions.

- Yes: Next step
- No: Replace the rear tire pressure module. Refer to Replacement Of Tire Pressure CAN Module

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

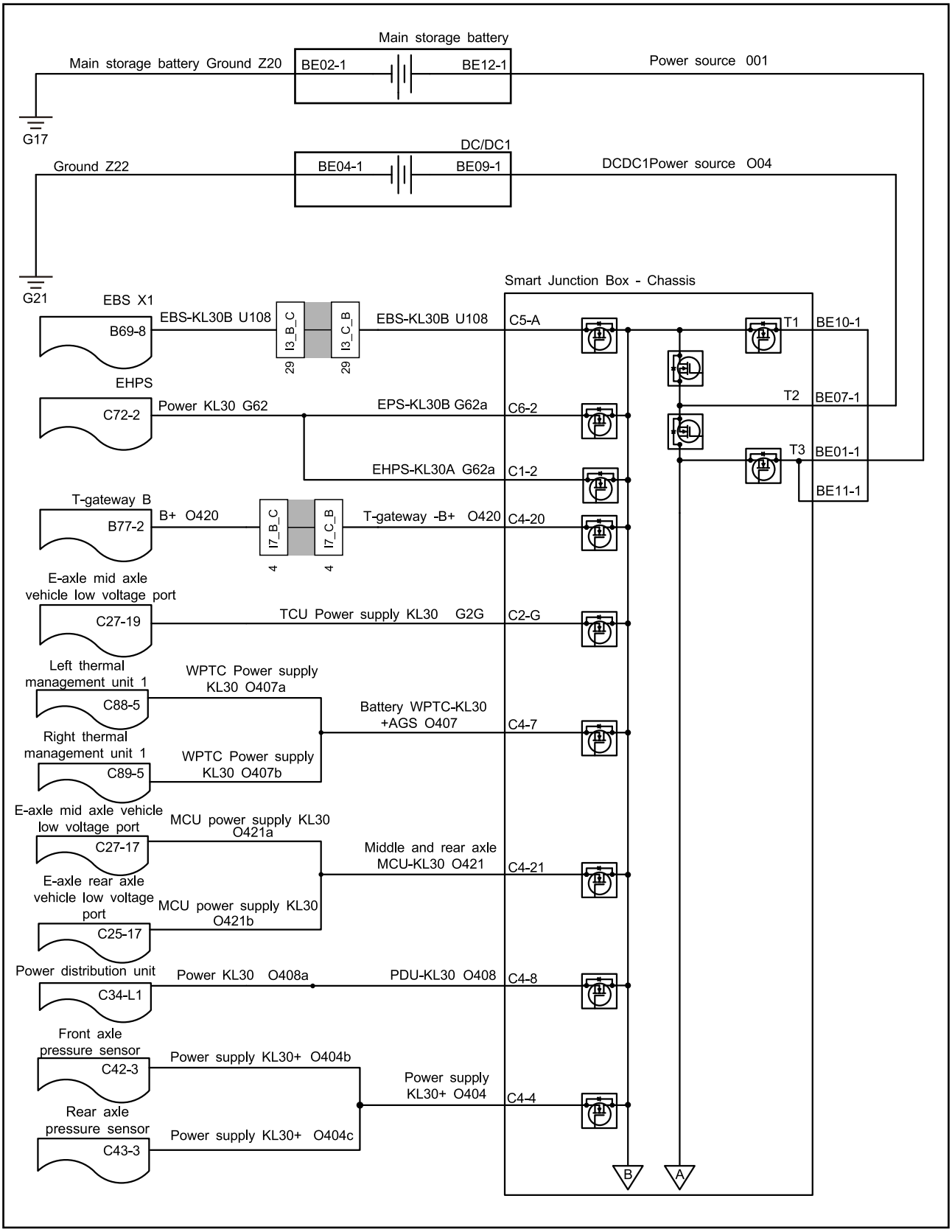
Step 7:Clear and confirm DTC.

7.4.6.73 Chassis Sensor Power Supply Circuit Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B1E3113	OUT49: ChassisSensors load open circuit	When the power supply voltage is normal and there is no sleep state, the output current is 0A when the current channel is powered on	1. Wiring harness 2.Front axle pressure sensor 3.Rear axle pressure sensor 4.Smart junction box DOWN
B1E3119	OUT49: ChassisSensors overcurrent	When the supply voltage is normal and there is no sleep state, the current exceeding the rated value is detected when the current channel power is turned on	
B1E314B	OUT49: ChassisSensors over temperature	When the power supply voltage is normal and the current channel is not in the hibernation state, the temperature exceeds the rated temperature when the current channel is powered on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the power supply harness of the front axle pressure sensor and the rear axle pressure sensor.

Step 4:Enter the SJBUN action test interface of the diagnostic instrument and perform the "Output Channel Control - Chassis Sensor Power Supply, On/Off" action test. Check the power supply of the front and rear axle pressure sensors operates according to the instructions of the diagnostic instrument.

- Yes: Next step
- No: Replace the front and rear axle pressure sensors. Refer to Replacement Of Pressure Sensor Assembly

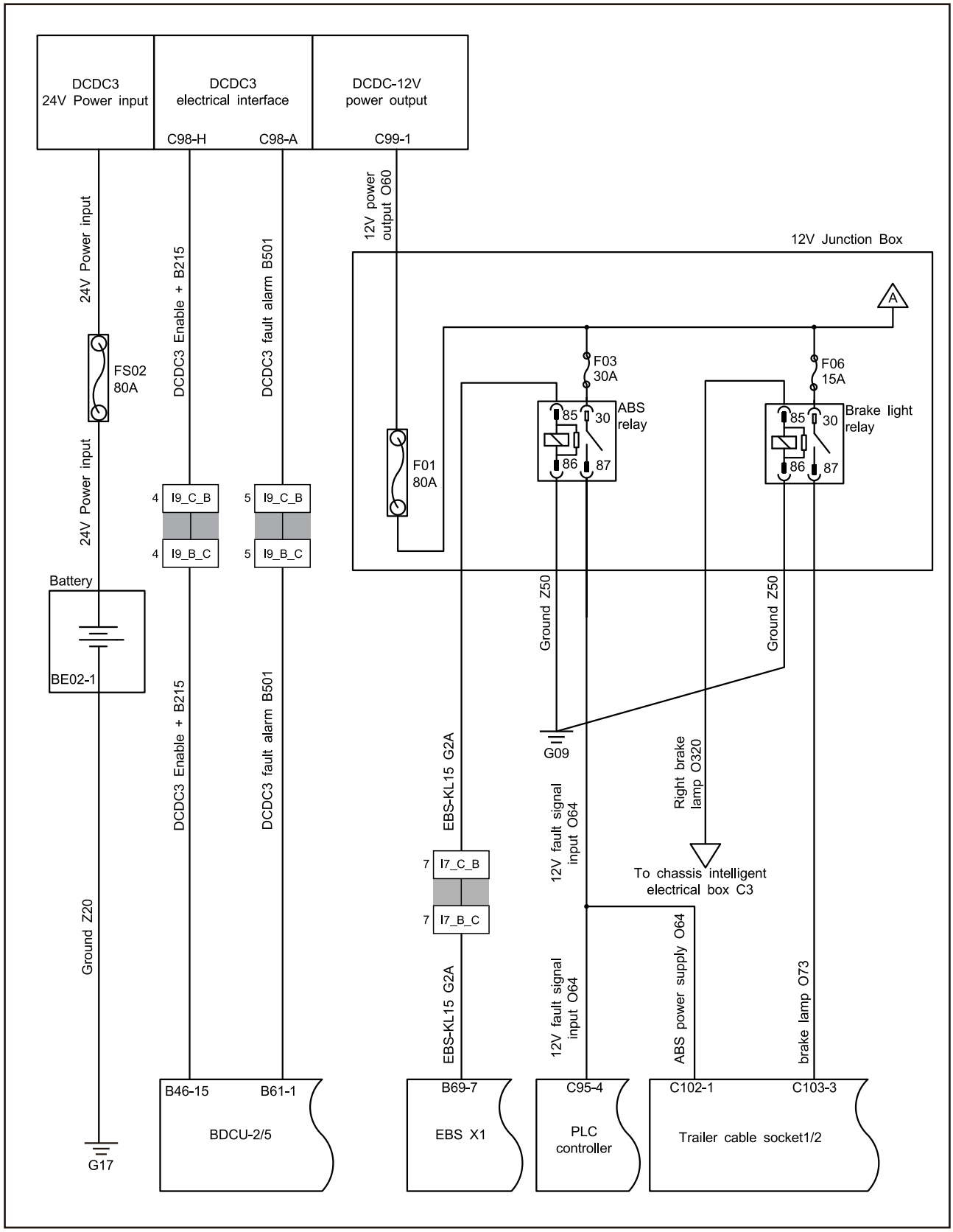
Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

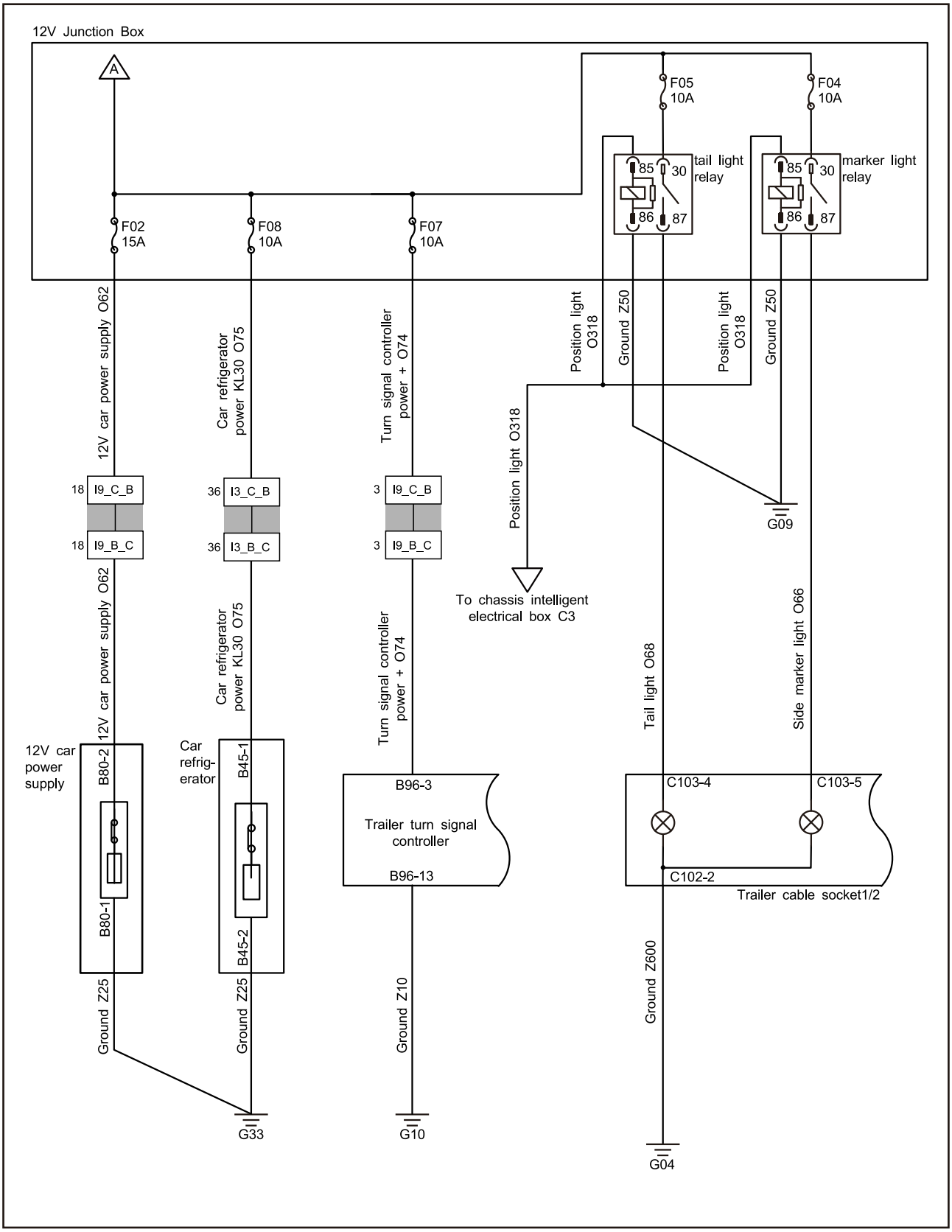
Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

Step 7:Clear and confirm DTC.

7.4.6.74 12V Car Power Supply Failure

1.Circuit Diagram


DCDC3
24V Power input
DCDC3
electrical interface
DCDC-12V
power output
C98-H
C98-A
C99-1
12V power output O60
12V Junction Box
24V Power input
DCDC3 Enable + B215
DCDC3 fault alarm B501
A
FS02
80A
F03
30A
F06
15A
ABS relay
Brake light relay
85
30
86
87
F01
80A
4 I9_C_B
4 I9_B_C
5 I9_C_B
5 I9_B_C
Battery
BE02-1
Ground Z50
G09
EBS-KL15 G2A
12V fault signal input O64
Right brake lamp O320
To chassis intelligent electrical box C3
7 I7_C_B
7 I7_B_C
ABS power supply O64
brake lamp O73
Ground Z20
G17
B46-15
B61-1
BDCU-2/5
B69-7
EBS X1
C95-4
PLC controller
C102-1
C103-3
Trailer cable socket1/2



2.Diagnostic Steps

Step 1:Routine inspection. Refer to Routine Inspection

Step 2:Check the fuses FS02, F01 and F02 of the 12V junction box.

Step 3:Check the main battery. Refer to Inspection Of The Main Battery

Step 4:Check the 24V power input wire harness between the main battery and DCDC3.

Step 5:Check the input voltage of DCDC3 is between 22V and 27V, and whether the voltage output from DCDC3 to the 12V junction box is between 11V and 14V?

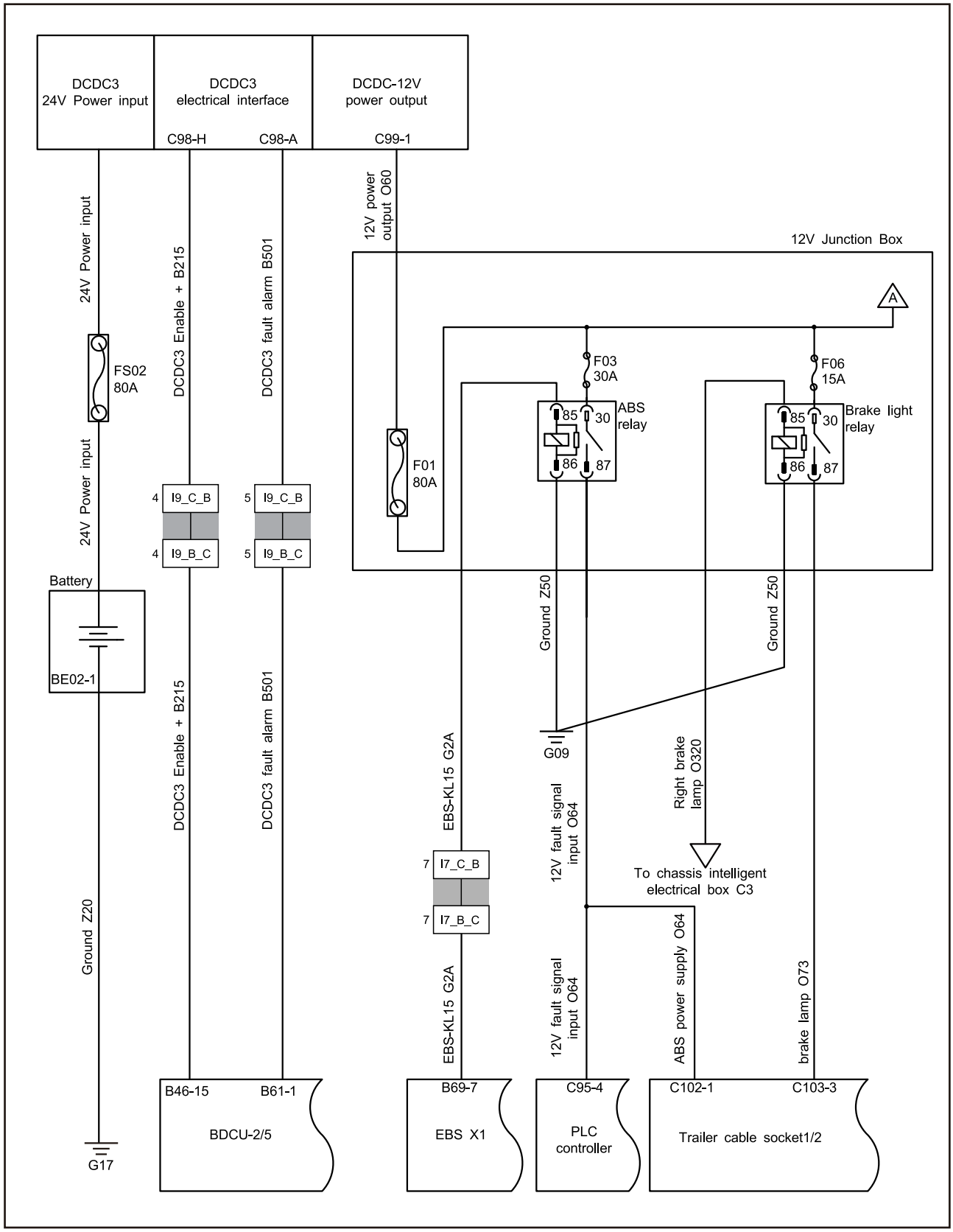
- Yes: Next step
- No: Replace the DCDC3.

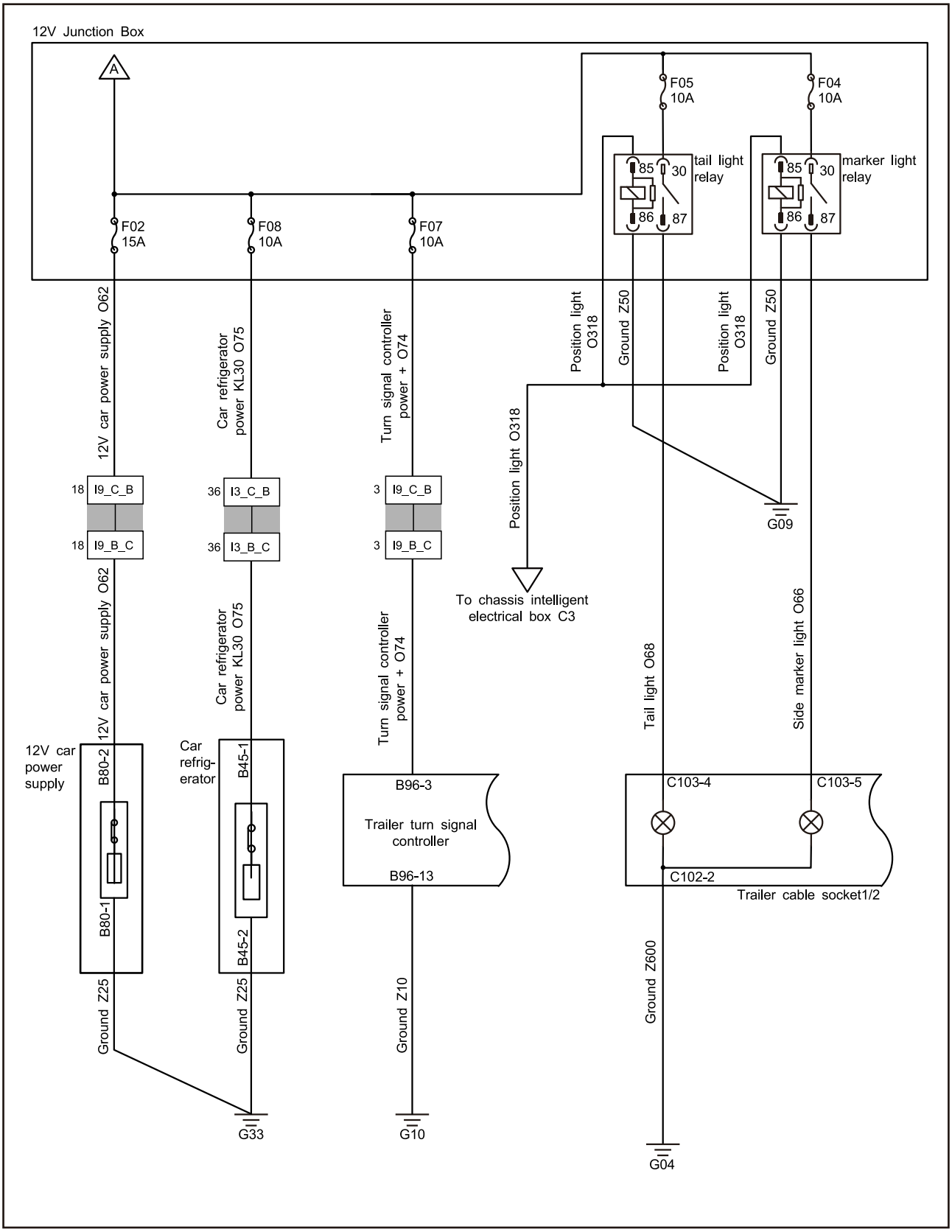
Step 6:Check the wire harness between the 12V vehicle power supply and DCDC3.

Step 7:Replace the 12V car power supply. Refer to Replacement Of Vehicle Power Supply (12V)

7.4.6.75 Car Refrigerator Failure

1.Circuit Diagram


DCDC3
24V Power input
DCDC3
electrical interface
DCDC-12V
power output
C98-H
C98-A
C99-1
12V power output O60
12V Junction Box
A
24V Power input
FS02
80A
DCDC3 Enable + B215
DCDC3 fault alarm B501
F03
30A
F06
15A
ABS relay
Brake light relay
85
30
86
87
F01
80A
4 I9_C_B
4 I9_B_C
5 I9_C_B
5 I9_B_C
Battery
BE02-1
Ground Z50
G09
EBS-KL15 G2A
12V fault signal input O64
Right brake lamp O320
To chassis intelligent electrical box C3
7 I7_C_B
7 I7_B_C
ABS power supply O64
brake lamp O73
Ground Z20
G17
B46-15
B61-1
BDCU-2/5
B69-7
EBS X1
C95-4
PLC controller
C102-1
C103-3
Trailer cable socket1/2



2.Diagnostic Steps

Step 1:Routine inspection. Refer to Routine Inspection

Step 2:Check the fuses FS02, F01 and F08 of the 12V junction box.

Step 3:Check the main battery. Refer to Inspection Of The Main Battery

Step 4:Check the 24V power input wire harness between the main battery and DCDC3.

Step 5:Check the input voltage of DCDC3 is between 22V and 27V, and whether the voltage output from DCDC3 to the 12V junction box is between 11V and 14V?

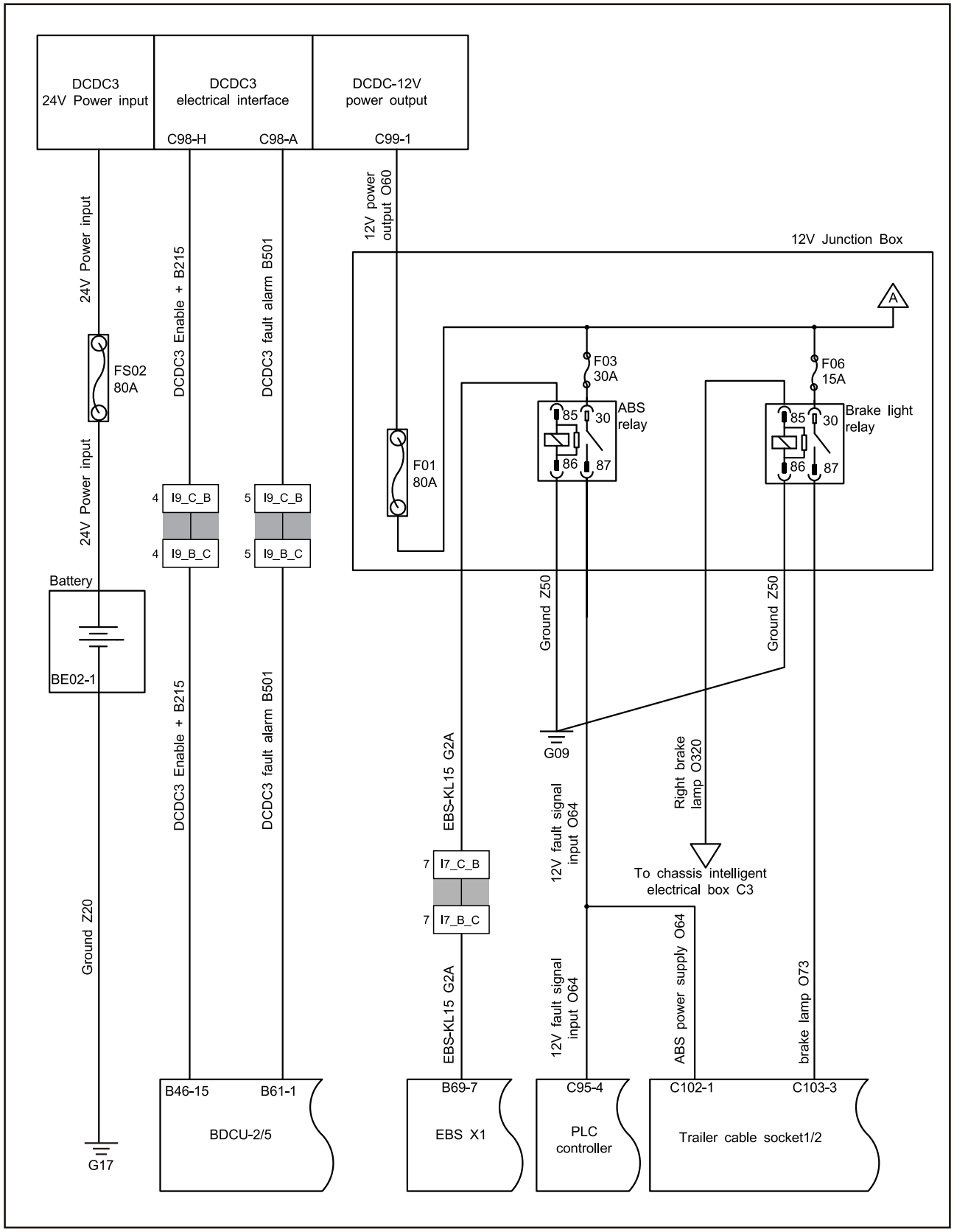
- Yes: Next step
- No: Replace the DCDC3.

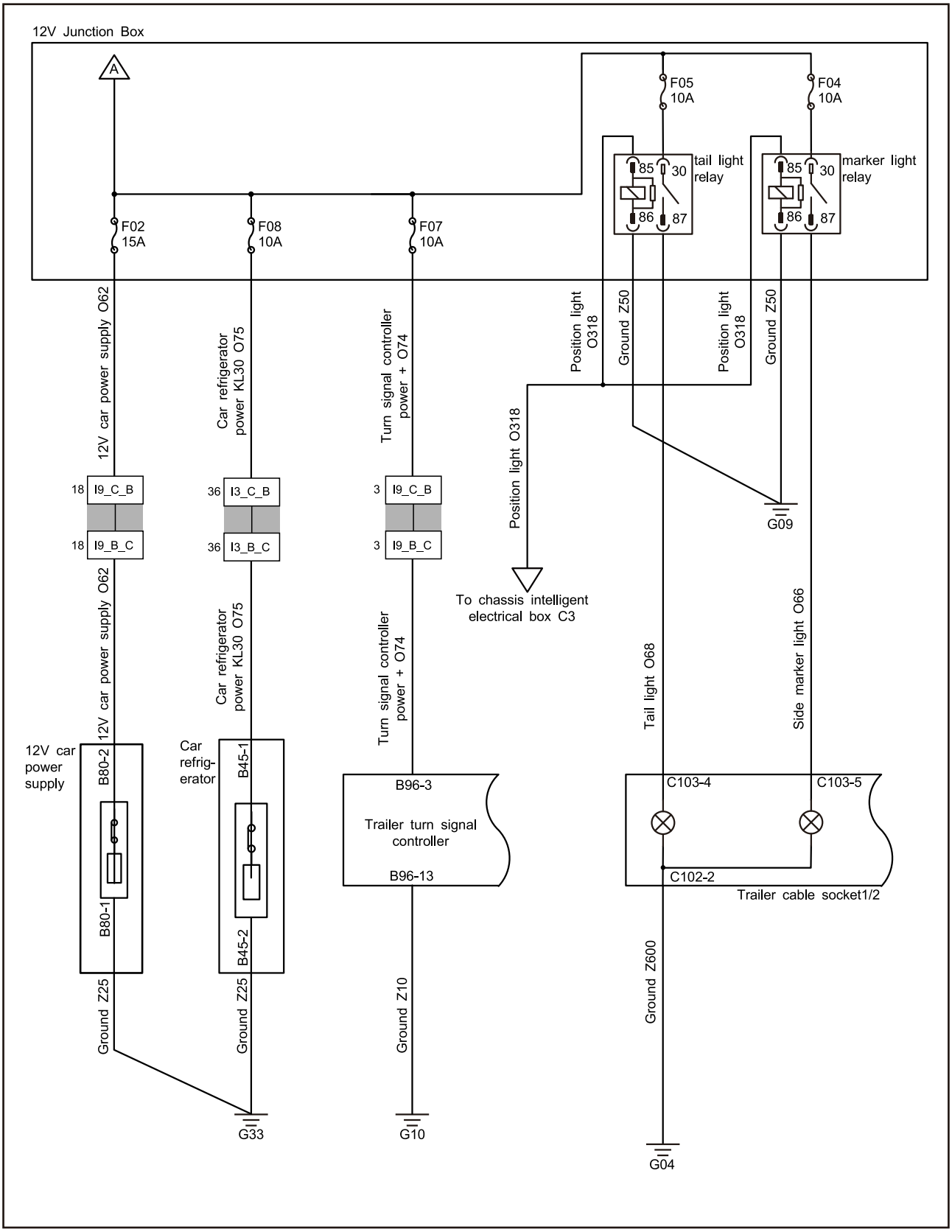
Step 6:Check the wire harness between the car refrigerator and DCDC3.

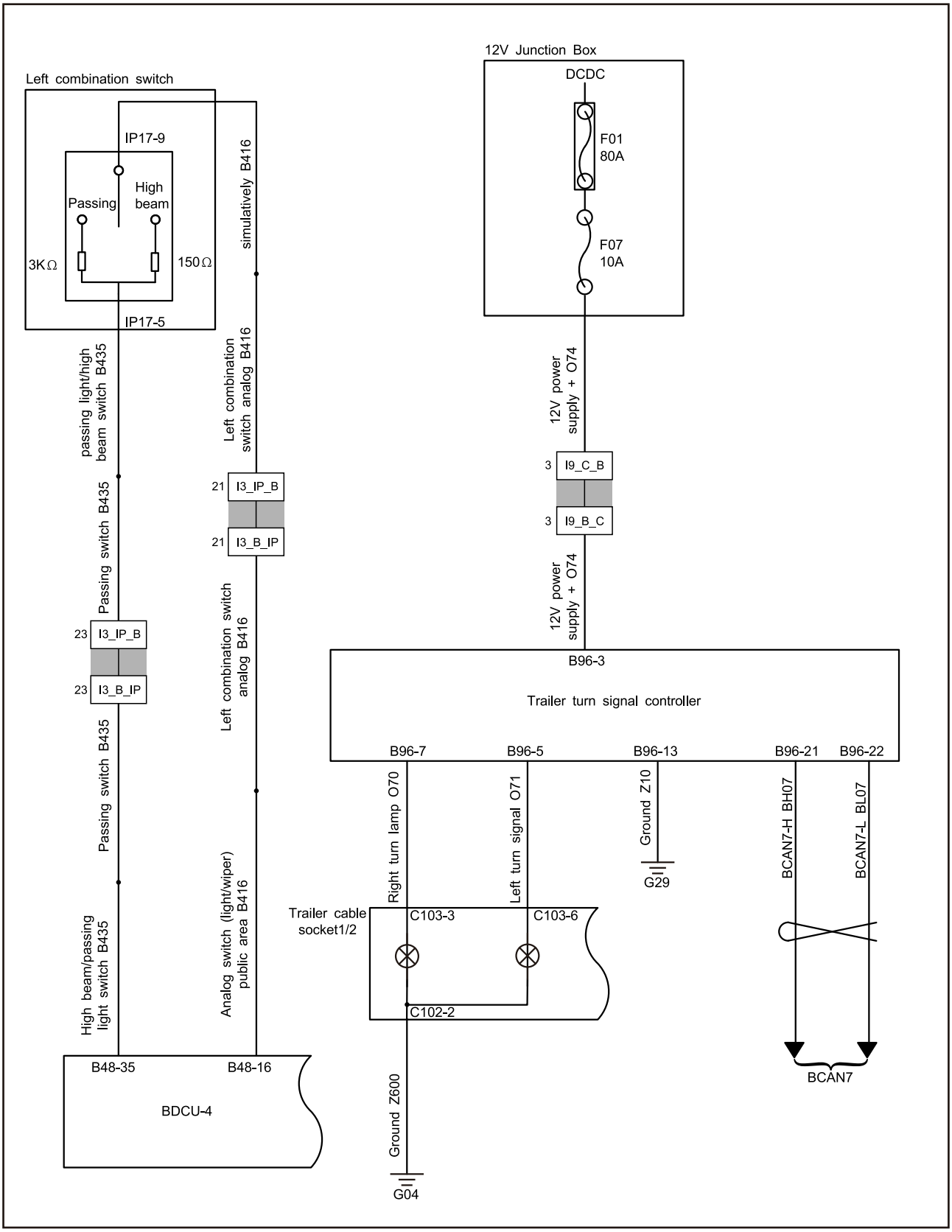
Step 7:Replace the car refrigerator.

7.4.6.76 Trailer Turn Signal Failure

1.Circuit Diagram


DCDC3
24V Power input
DCDC3
electrical interface
DCDC-12V
power output
C98-H
C98-A
C99-1
12V power output O60
12V Junction Box
24V Power input
DCDC3 Enable + B215
DCDC3 fault alarm B501
A
FS02
80A
F03
30A
F06
15A
ABS
relay
Brake light
relay
85
30
86
87
F01
80A
4 I9_C_B
4 I9_B_C
5 I9_C_B
5 I9_B_C
Battery
BE02-1
Ground Z50
G09
EBS-KL15 G2A
12V fault signal input O64
Right brake lamp O320
To chassis intelligent electrical box C3
7 I7_C_B
7 I7_B_C
ABS power supply O64
brake lamp O73
Ground Z20
G17
B46-15
B61-1
BDCU-2/5
B69-7
EBS X1
C95-4
PLC
controller
C102-1
C103-3
Trailer cable socket1/2


12V Junction Box
A
F05
10A
F04
10A
tail light
relay
marker light
relay
85
30
86
87
F02
15A
F08
10A
F07
10A
12V car power supply O62
Car refrigerator
power KL30 O75
Turn signal controller
power + O74
Position light
O318
Ground Z50
Position light
O318
Ground Z50
Position light O318
G09
To chassis intelligent
electrical box C3
18 I9_C_B
18 I9_B_C
36 I3_C_B
36 I3_B_C
3 I9_C_B
3 I9_B_C
12V car power supply O62
Car refrigerator
power KL30 O75
Turn signal controller
power + O74
Tail light O68
Side marker light O66
12V car
power
supply
B80-2
B80-1
Car
refrig-
erator
B45-1
B45-2
B96-3
Trailer turn signal
controller
B96-13
C103-4
C103-5
C102-2
Trailer cable socket1/2
Ground Z25
Ground Z25
Ground Z10
Ground Z600
G33
G10
G04



2.Diagnostic Steps

Step 1:Routine inspection. Refer to Routine Inspection

Step 2:Check the fuses FS02, F01 and F07 of the 12V junction box.

Step 3:Check the main battery. Refer to Inspection Of The Main Battery

Step 4:Check the 24V power input wire harness between the main battery and DCDC3.

Step 5:Check the input voltage of DCDC3 is between 22V and 27V, and whether the voltage output from DCDC3 to the 12V junction box is between 11V and 14V?

- Yes: Next step
- No: Replace the DCDC3.

Step 6:Check the wire harness between the trailer turn signal controller and DCDC3.

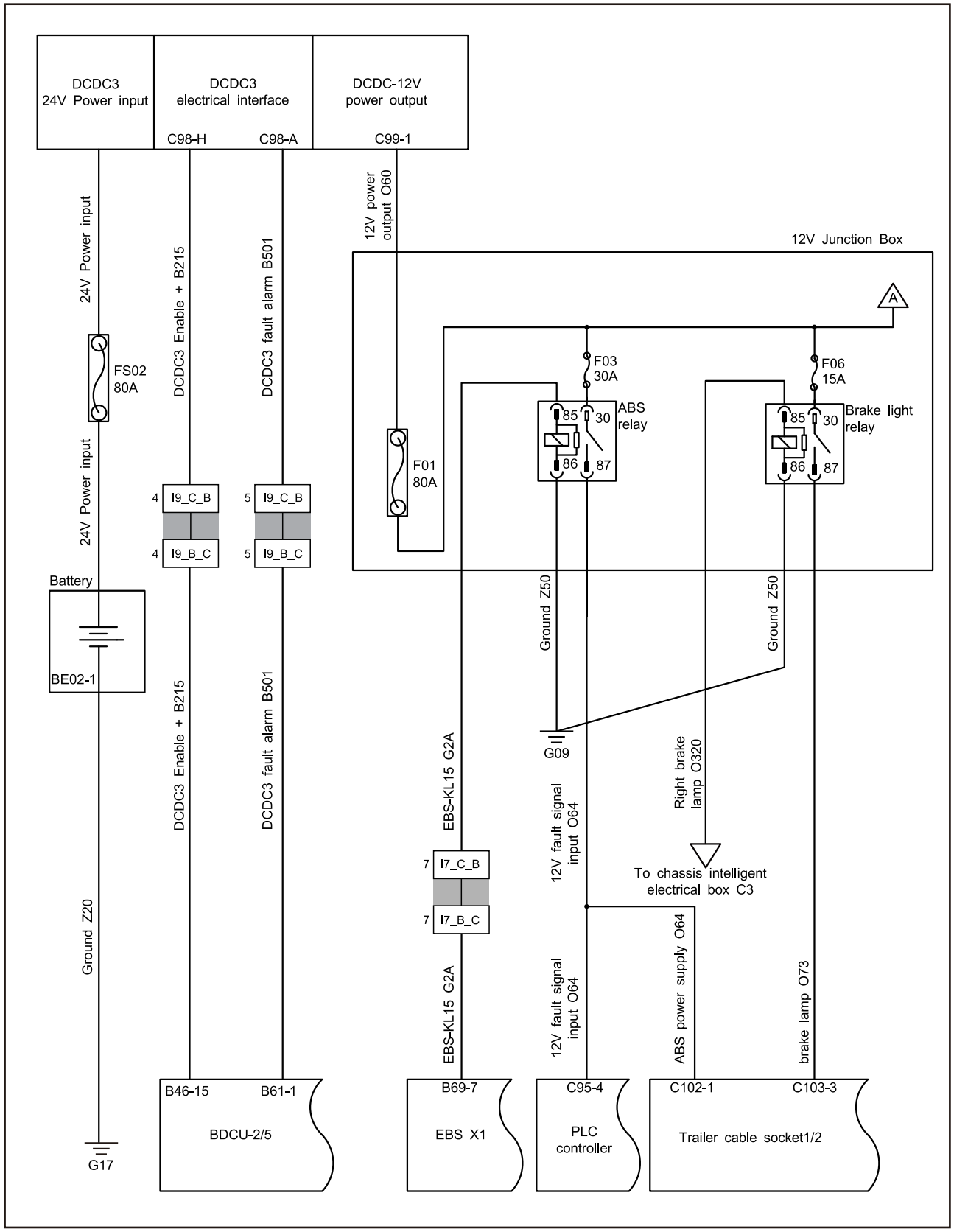
Step 7:Check the turn signal power signal wire harness between the trailer turn signal controller and the Trailer cable socket 1/2.

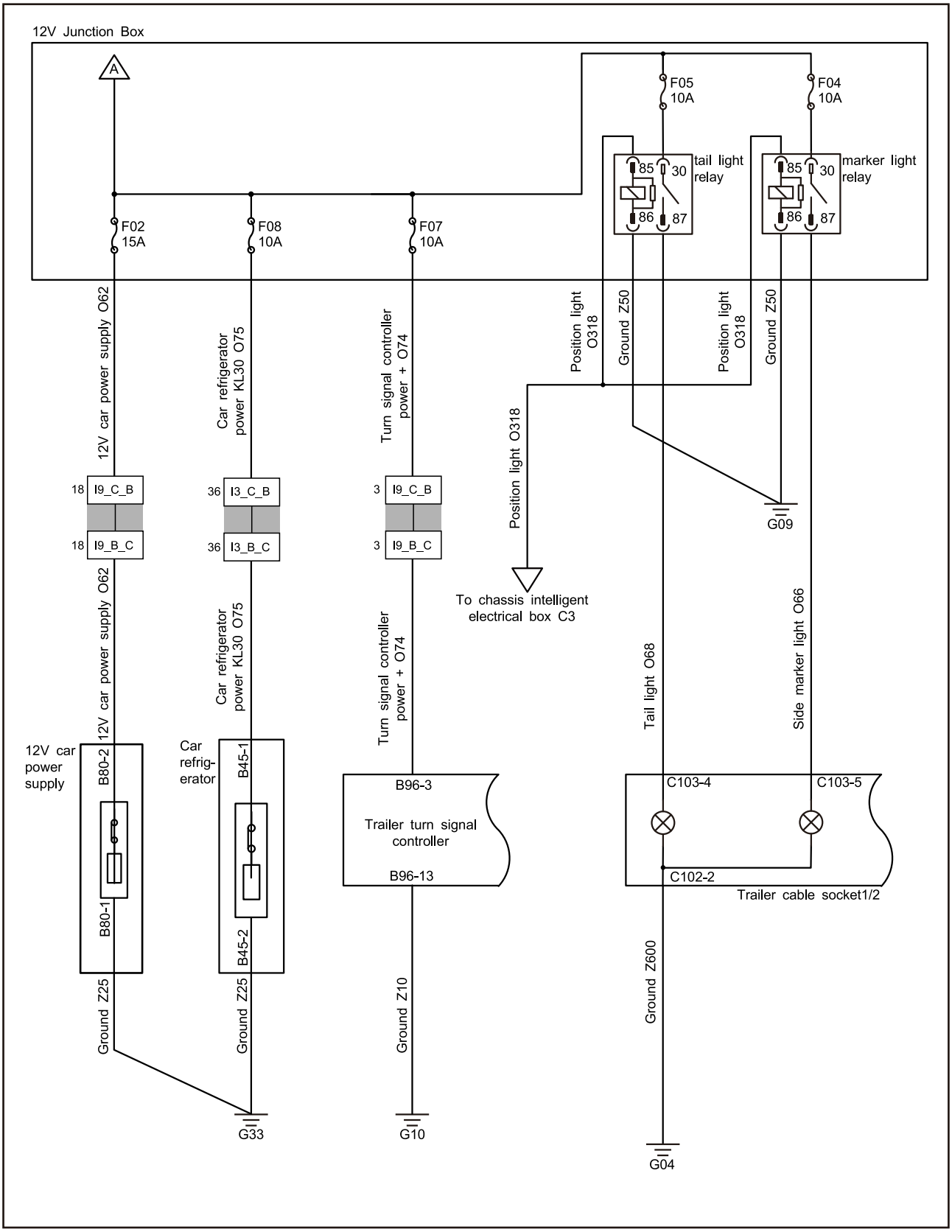
Step 8:Replace the trailer cable socket 1/2.

Step 9:Replace the trailer turn signal controller.

7.4.6.77 Rear Side - Marker Light Failure

1.Circuit Diagram


DCDC3
24V Power input
DCDC3
electrical interface
DCDC-12V
power output
C98-H
C98-A
C99-1
12V power output O60
12V Junction Box
24V Power input
DCDC3 Enable + B215
DCDC3 fault alarm B501
A
FS02
80A
F03
30A
F06
15A
ABS relay
Brake light relay
85
30
86
87
F01
80A
4 I9_C_B
4 I9_B_C
5 I9_C_B
5 I9_B_C
Battery
BE02-1
Ground Z50
G09
EBS-KL15 G2A
12V fault signal input O64
Right brake lamp O320
To chassis intelligent electrical box C3
7 I7_C_B
7 I7_B_C
ABS power supply O64
brake lamp O73
Ground Z20
G17
B46-15
B61-1
BDCU-2/5
B69-7
EBS X1
C95-4
PLC controller
C102-1
C103-3
Trailer cable socket1/2



2.Diagnostic Steps

Step 1:Routine inspection. Refer to Routine Inspection

Step 2:Check the fuses FS02, F01 and F05 of the 12V junction box.

Step 3:Remove the tail light relay and Measure there is an open circuit between terminal 30 and terminal 87 of the tail light relay. Connect an external 12V power supply to terminal 85 of the tail light relay and ground terminal 86, then Measure there is a closed circuit between terminal 30 and terminal 87 of the tail light relay.

- Yes: Next step
- No: Replace the tail light relay.

Step 4:Check the main battery. Refer to Inspection Of The Main Battery

Step 5:Check the 24V power input wire harness between the main battery and DCDC3.

Step 6:Check the input voltage of DCDC3 is between 22V and 27V, and whether the voltage output from DCDC3 to the 12V junction box is between 11V and 14V?

- Yes: Next step
- No: Replace the DCDC3.

Step 7:Check the wire harness between the tail light relay and DCDC3.

Step 8:Check the control wire harness between the tail light relay and the smart junction box DOWN.

Step 9:Check the grounding wire harness of the tail light relay.

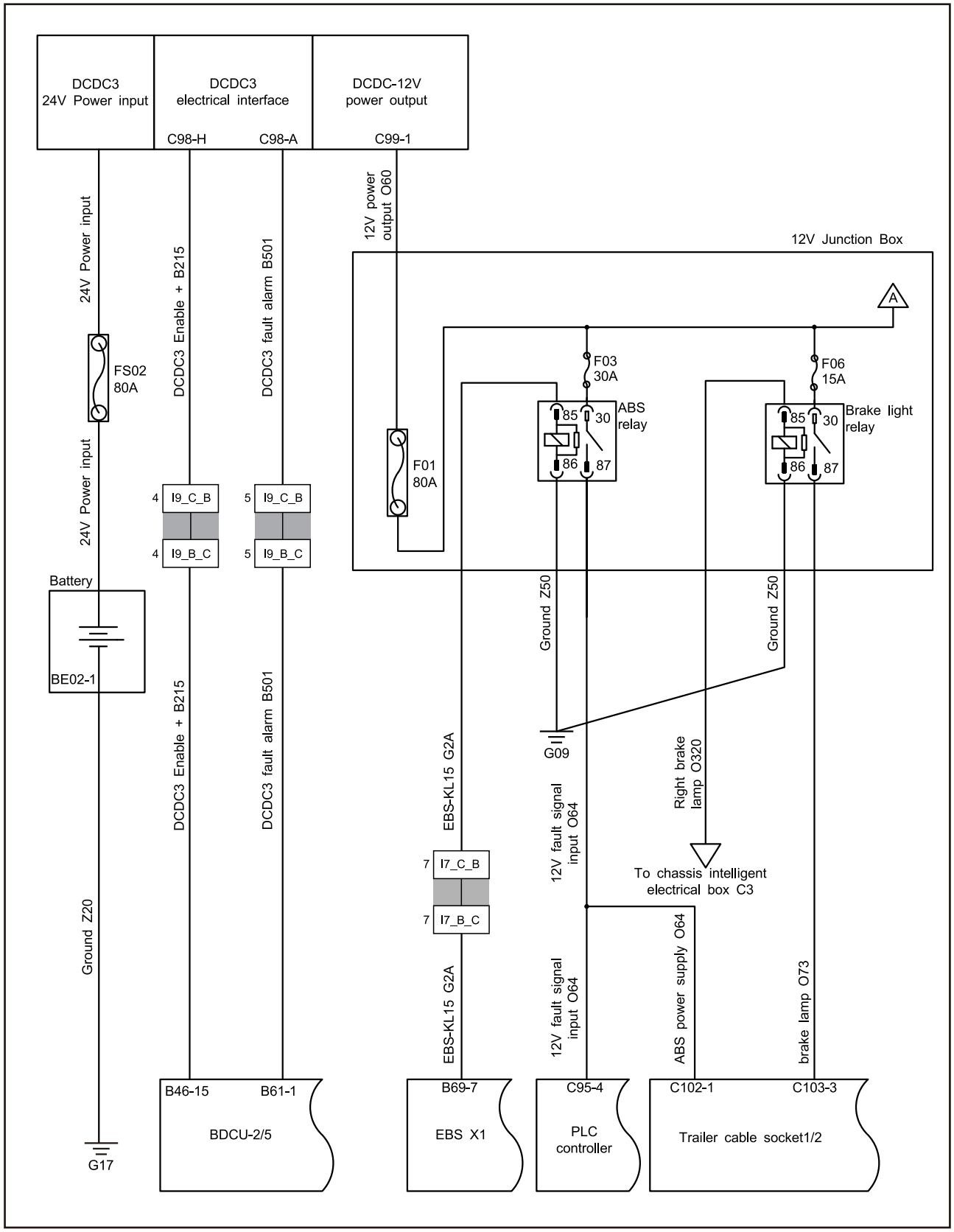
Step 10:Check the rear side - marker light power wire harness between the tail - light relay and the trailer cable socket 1/2.

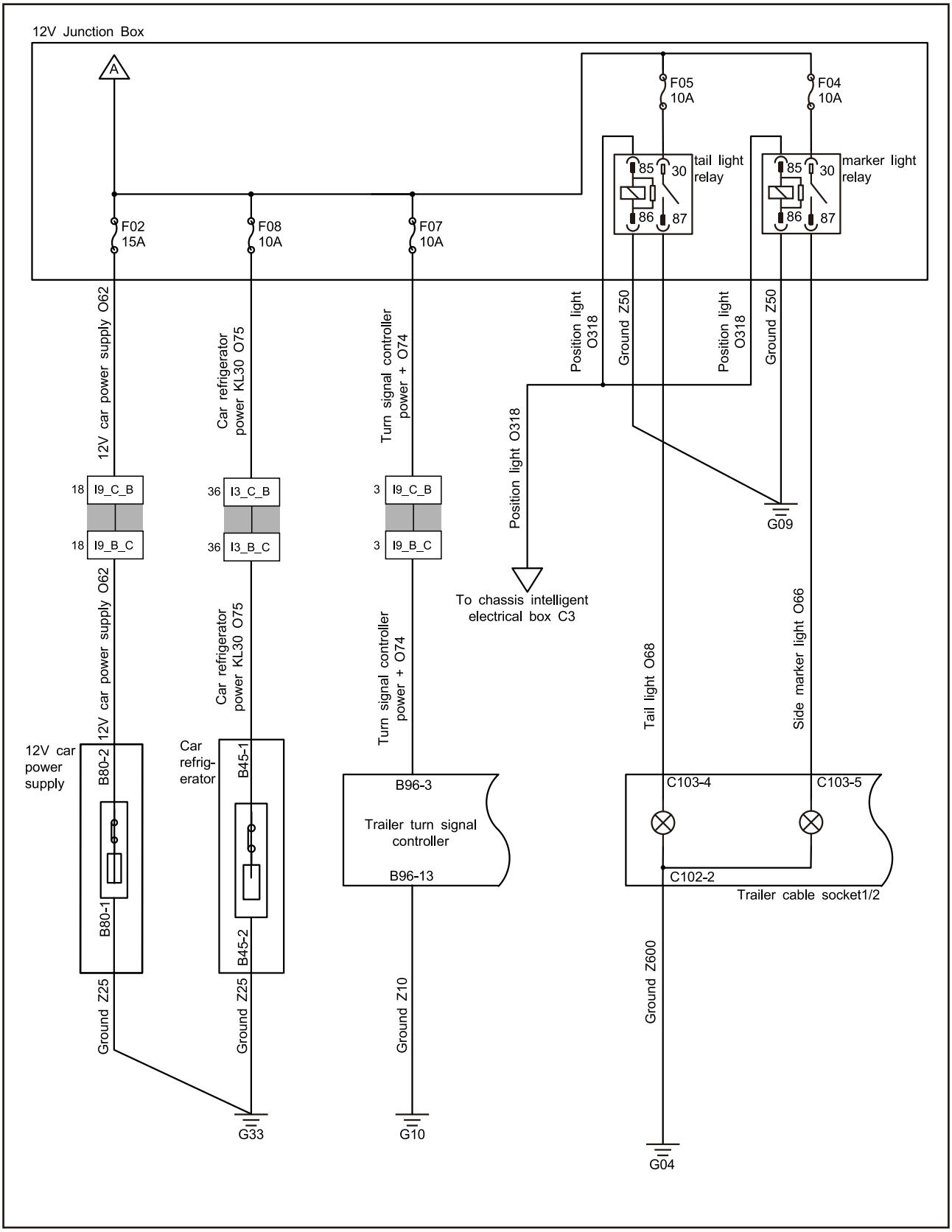
Step 11:Check the grounding wire harness of the trailer cable socket 1/2.

Step 12:Replace the trailer cable socket 1/2.

7.4.6.78 Side - Marker - Light Failure

1.Circuit Diagram


DCDC3
24V Power input
DCDC3
electrical interface
DCDC-12V
power output
C98-H
C98-A
C99-1
12V power output O60
12V Junction Box
24V Power input
DCDC3 Enable + B215
DCDC3 fault alarm B501
A
FS02
80A
F03
30A
F06
15A
ABS relay
Brake light relay
85
30
86
87
F01
80A
4 I9_C_B
4 I9_B_C
5 I9_C_B
5 I9_B_C
Battery
BE02-1
Ground Z50
G09
EBS-KL15 G2A
12V fault signal input O64
Right brake lamp O320
To chassis intelligent electrical box C3
7 I7_C_B
7 I7_B_C
ABS power supply O64
brake lamp O73
Ground Z20
G17
B46-15
B61-1
BDCU-2/5
B69-7
EBS X1
C95-4
PLC controller
C102-1
C103-3
Trailer cable socket1/2



2.Diagnostic Steps

Step 1:Routine inspection. Refer to Routine Inspection

Step 2:Check the fuses FS02, F01 and F04 of the 12V junction box.

Step 3:Remove the marker light relay and Measure there is an open - circuit between Pin 30 and Pin 87 of the marker light relay. Connect an external 12V power supply to Pin 85 of the marker light relay and ground Pin 86, then Measure there is a closed - circuit between Pin 30 and Pin 87 of the marker light relay.

- Yes: Next step
- No: Replace the marker light relay.

Step 4:Check the main battery. Refer to Inspection Of The Main Battery

Step 5:Check the 24V power input wire harness between the main battery and DCDC3.

Step 6:Check the input voltage of DCDC3 is between 22V and 27V, and whether the voltage output from DCDC3 to the 12V junction box is between 11V and 14V?

- Yes: Next step
- No: Replace the DCDC3.

Step 7:Check the wire harness between the marker - light relay and DCDC3.

Step 8:Check the control wire harness between the marker - light relay and the smart junction box DOWN.

Step 9:Check the grounding wire harness of the marker - light relay.

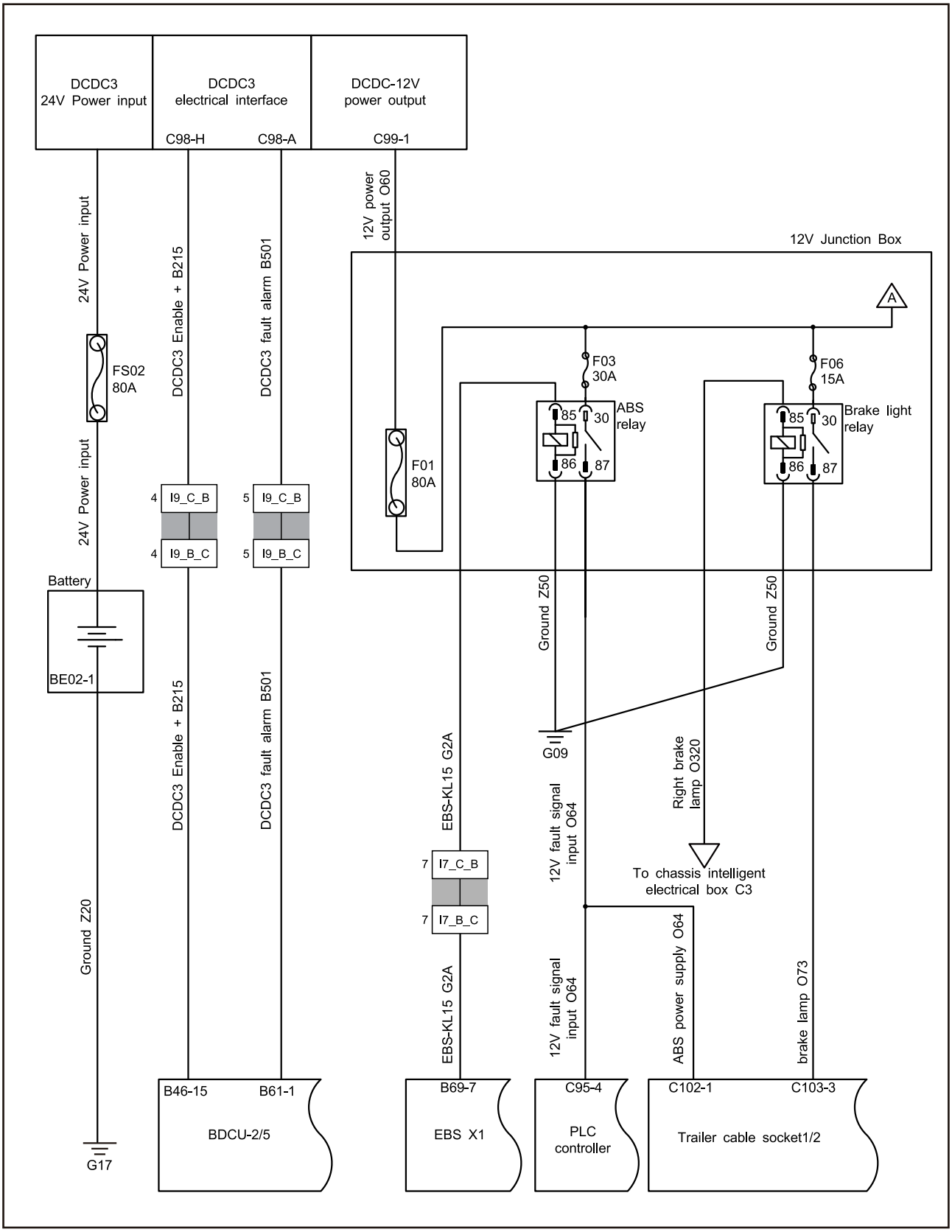
Step 10:Check the side - marker - light power wire harness between the marker - light relay and the trailer cable socket 1/2.

Step 11:Check the ground wire harness of the trailer cable socket 1/2.

Step 12:Replace the trailer cable socket 1/2.

7.4.6.79 Brake Lamp Failure

1.Circuit Diagram



2.Diagnostic Steps

Step 1:Routine inspection. Refer to Routine Inspection

Step 2:Check the fuses FS02, F01 and F06 of the 12V junction box.

Step 3:Remove the brake lamp relay and Measure there is an open circuit between terminal 30 and terminal 87 of the brake lamp relay. Connect an external 12V power supply to terminal 85 of the brake lamp relay and ground terminal 86, then Measure there is a closed circuit between terminal 30 and terminal 87 of the brake lamp relay.

- Yes: Next step
- No: Replace the brake lamp relay.

Step 4:Check the main battery. Refer to Inspection Of The Main Battery

Step 5:Check the 24V power input wire harness between the main battery and DCDC3.

Step 6:Check the input voltage of DCDC3 is between 22V and 27V, and whether the voltage output from DCDC3 to the 12V junction box is between 11V and 14V?

- Yes: Next step
- No: Replace the DCDC3.

Step 7:Check the wire harness between the brake lamp relay and DCDC3.

Step 8:Check the control wire harness between the brake lamp relay and the smart junction box DOWN.

Step 9:Check the grounding wire harness of the brake lamp relay.

Step 10:Check the brake lamp power wire harness between the brake lamp relay and the trailer cable socket 2.

Step 11:Check the ground wire harness of the trailer cable socket 2.

Step 12:Replace the trailer cable socket 2.

7.4.6.80 Inspection Of BCAND2 Bus Network Integrity

Step 1	Check the terminal resistance of BCAND2 bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCANFD2(H) and BCANFD2(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the voltage of the BCAND2 bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCAND2 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAND2 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
BCAND2 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAND2 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the BCAND2 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the BCAND2 bus.

C. Measure the BCAND2 bus resistance between each module and the smart junction box DOWN in sequence to ensure it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of the BCAND2 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the BCAND2 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the BCAND2 bus.

Yes

Step 7	Disconnect the modules on the BCAND2 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the BCAND2 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.5 Electric Horn Device

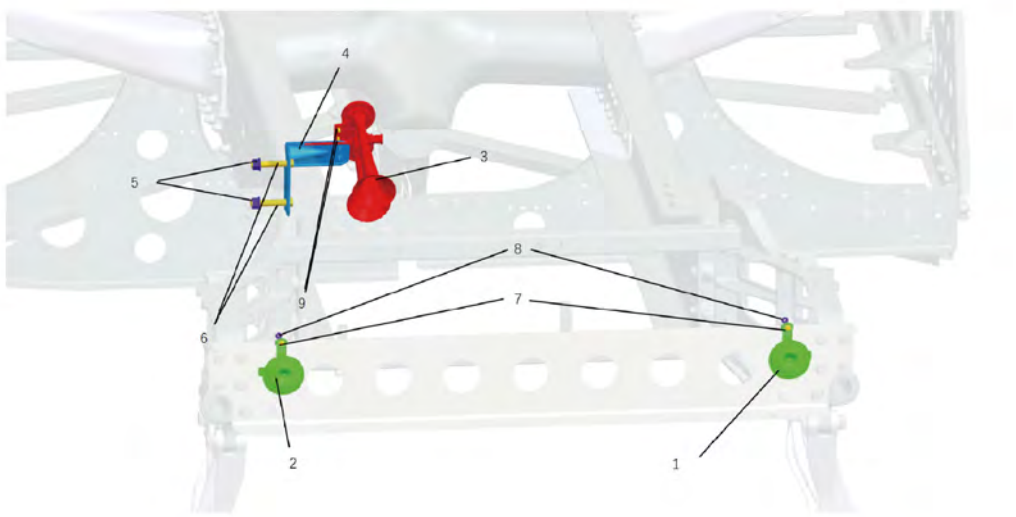
7.5.1 Specifications

7.5.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the electric horn assembly and the sealing crossbeam	M6	(6.5 +/- .75) ft lbs
The fixing nut connecting the electric horn assembly and the sealing crossbeam	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the air horn and the air horn bracket	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the horn bracket and the frame assembly	M14	(103 +/- 7.5) ft lbs
The fixing bolt connecting the horn bracket and the frame assembly	M14	(103 +/- 7.5) ft lbs

7.5.2 Decomposition Diagram

7.5.2.1 Decomposition Diagram



1. Bass Electric Horn
2. Tweeter Electric Horn
3. Trumpet Type Horn
4. Trumpet Type Horn Bracket
5. Hexagon Flange Bolt
6. Hexagon Flange Lock Nut_All Metal
7. Hexagon Flange Bolt
8. Hexagon Flange Nut
9. Hexagon Flange Bolt

7.5.3 Inspect

7.5.3.1 Inspection of Horn

1. Park the vehicle, press the horn button on the steering wheel to check the electric horn is working properly.

2. Press the electric/air horn change-over switch, press the horn switch repeatedly, and check whether the air horn is working properly.

7.5.4 Dismantling and Installation

7.5.4.1 Replacement of Electric Horn Assembly - low Pitch

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

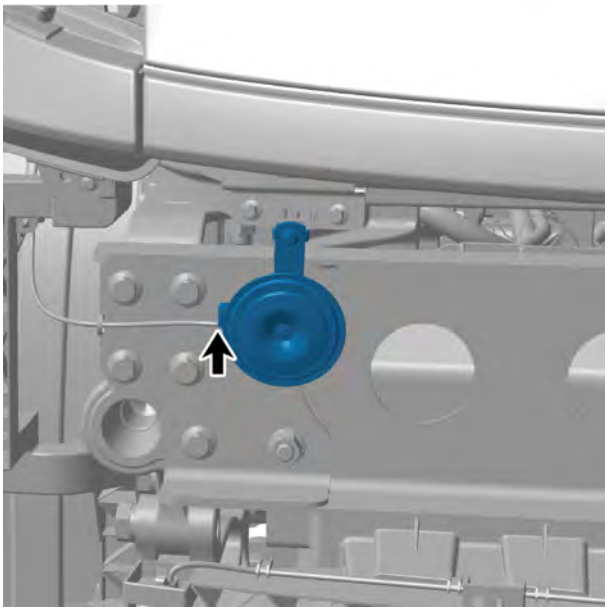
8 Remove the front MMW radar adapter bracket.

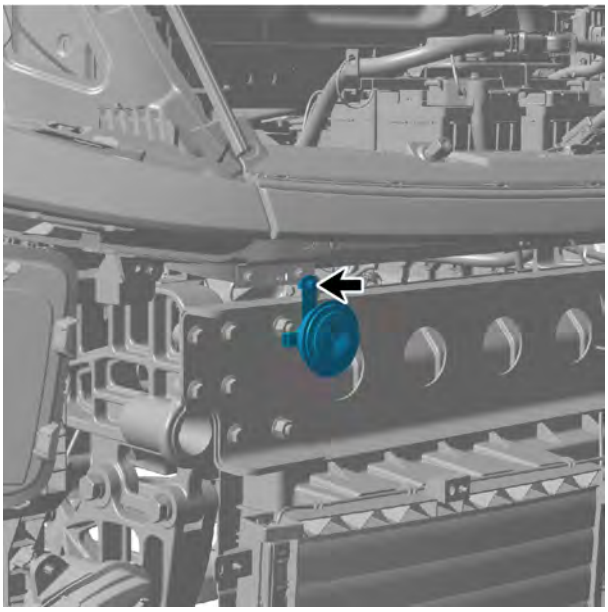
9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Disconnect 1 harness connector of the electric horn assembly - low pitch.





13 Remove 1 fixing nut of the electric horn assembly - low pitch.

14 Remove the electric horn assembly - low pitch.

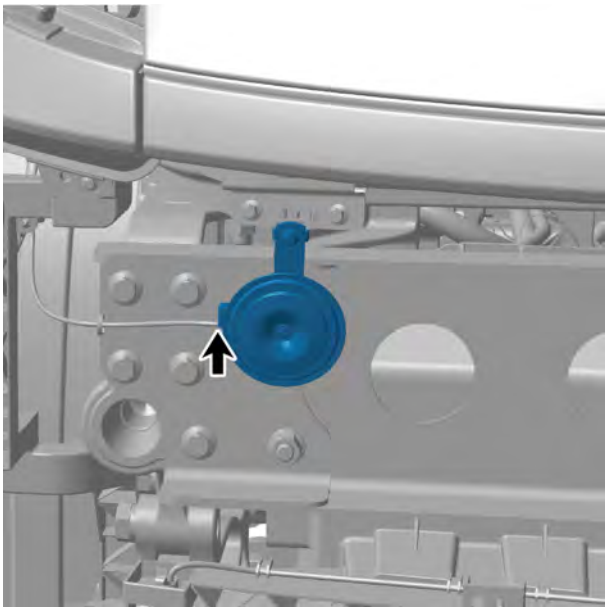
Installation Procedures



1 Move the electric horn assembly - low pitch to the mounting position.

2 Install and tighten 1 fixing nut of the electric horn assembly - low pitch.

Torque: (6.5 +/- .75) ft lbs



3 Connect 1 harness connector of the electric horn assembly - low pitch.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the front bumper assembly.

5 Install the right cover plate of the corner radar.

6 Install the left cover plate of the corner radar.

7 Install the front MMW radar adapter bracket.

8 Install the forward MMW radar.

9 Install the front MMW radar shield.

10 Install the through-type lamp.

11 Install the engine compartment trim panel body.

12 Connect the battery negative cable.

13 Close the front flip cover plate.

14 Close the door.

7.5.4.2 Replacement of Electric Horn Assembly - High Pitch

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

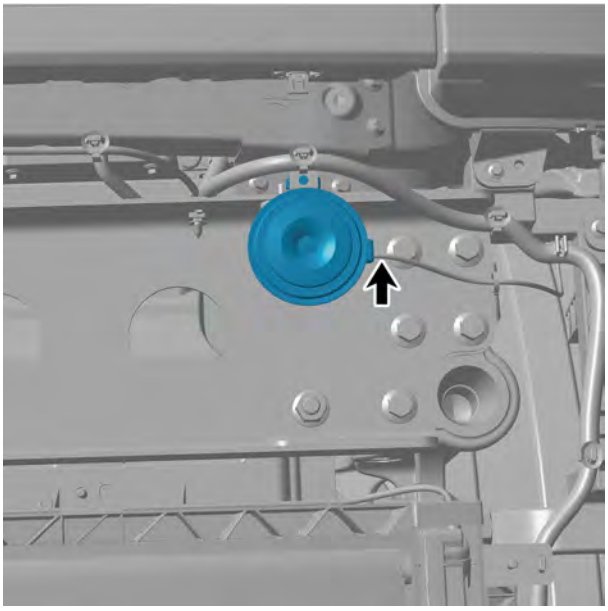
8 Remove the front MMW radar adapter bracket.

9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

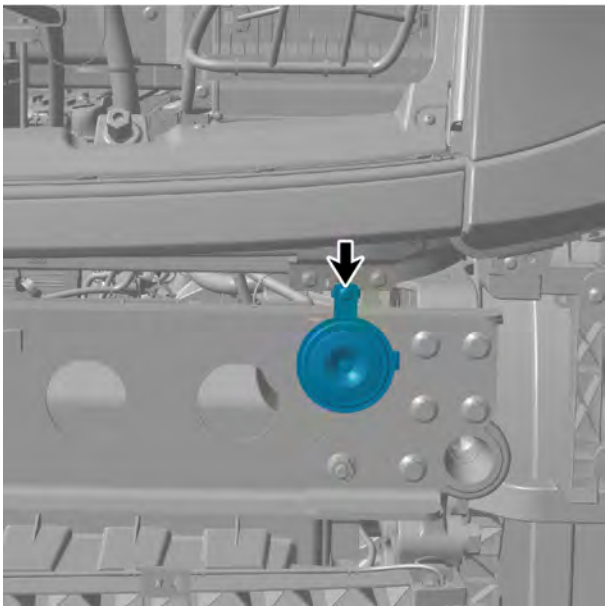
11 Remove the front bumper assembly.

12 Disconnect 1 harness connector of the electric horn assembly - high pitch.

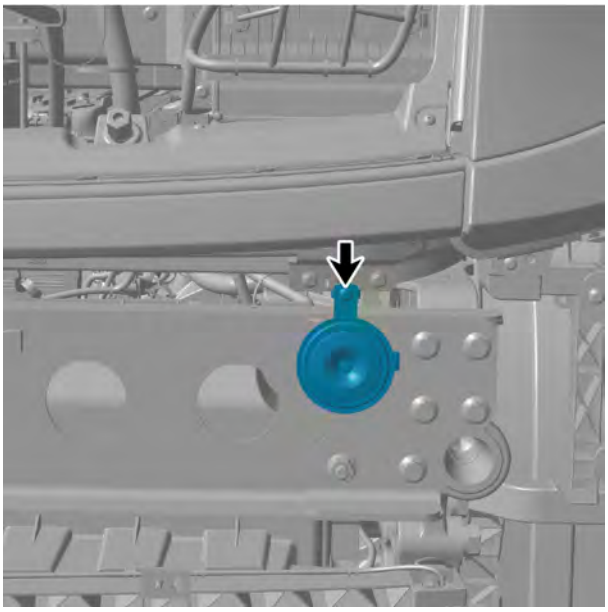


13 Remove 1 fixing nut of the electric horn assembly - high pitch.

14 Remove the electric horn assembly - high pitch.



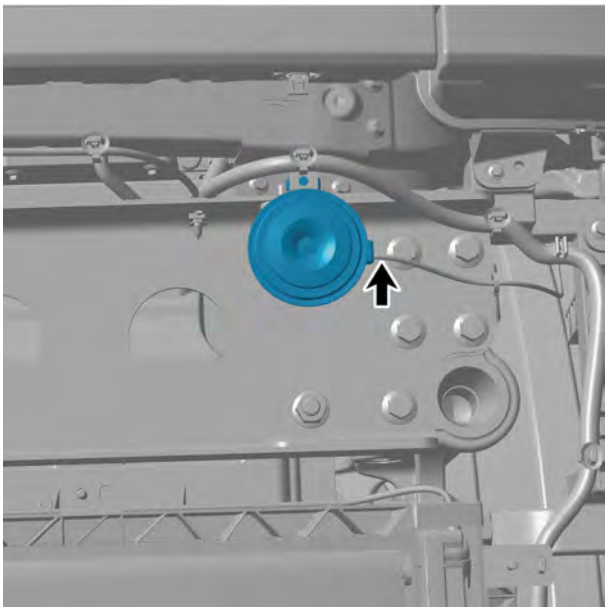
Installation Procedures



1 Move the electric horn assembly - high pitch to the mounting position.

2 Install 1 fixing nut of the electric horn assembly - high pitch.

Torque: (6.5 ft-lb +/- .75 ft-lb) ft-lb



3 Connect 1 harness connector of the electric horn assembly - high pitch.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the front bumper assembly.

5 Install the right cover plate of the corner radar.

6 Install the left cover plate of the corner radar.

7 Install the front MMW radar adapter bracket.

8 Install the forward MMW radar.

9 Install the front MMW radar shield.

10 Install the through-type lamp.

11 Install the engine compartment trim panel body.

12 Connect the battery negative cable.

13 Close the front flip cover plate.

14 Close the door.

7.5.4.3 Replacement of Air Horn

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Jack the front end of the vehicle.

6 Drain the transmission hydraulic oil.

7 Remove the left front wheel housing rear body.

8 Remove the left side wall lower trim panel assembly.

9 Remove the side wall upper mounting bracket assembly 2.

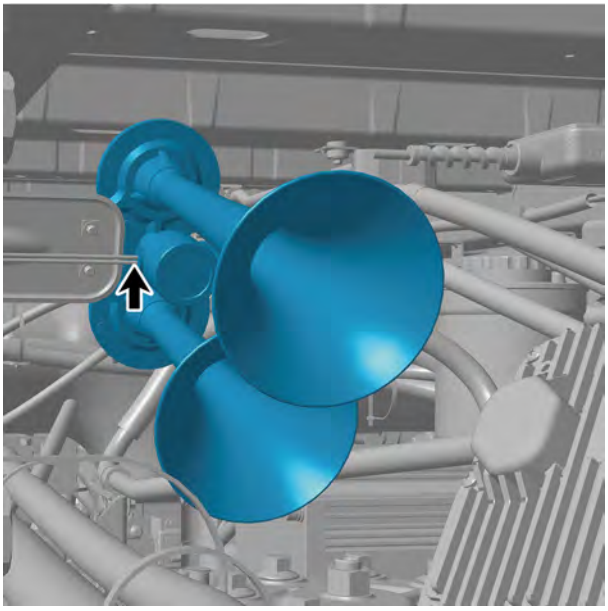
10 Remove the left side wall mounting bracket 1.

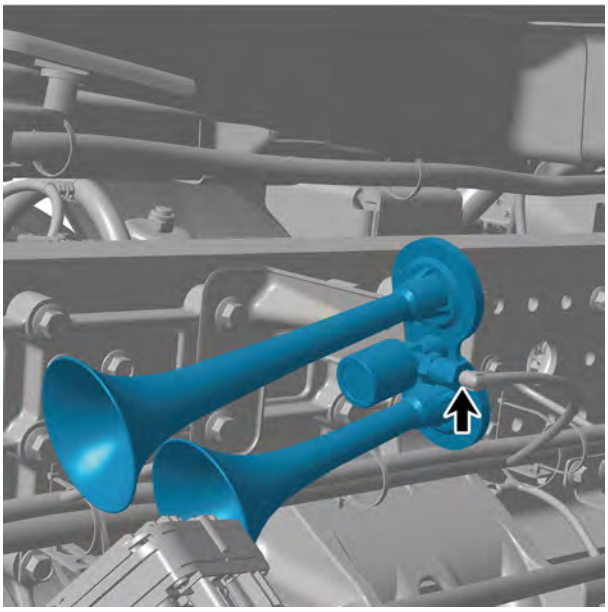
11 Remove the left side wall mounting bracket 2.

12 Remove the left side wall lower trim panel mounting frame assembly.

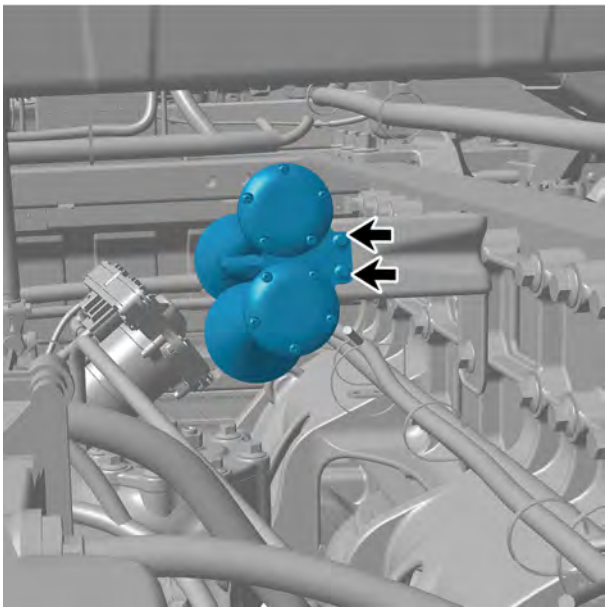
13 Remove the electric oil pump.

14 Disconnect 1 harness connector of the air horn.





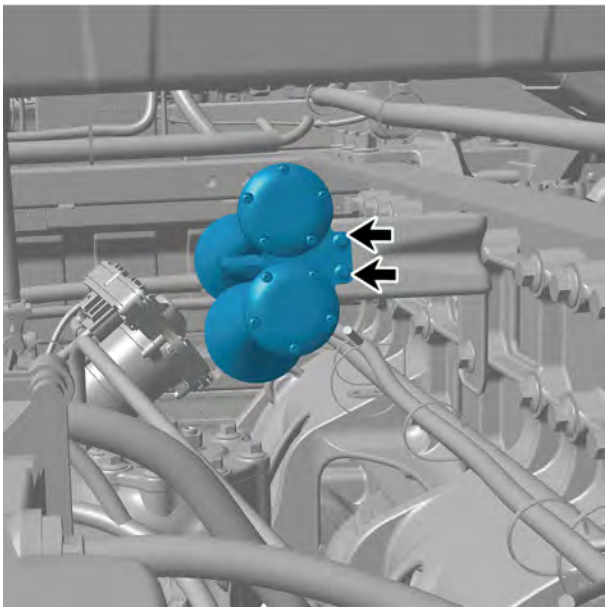
15 Disconnect 1 air pipe of the air horn.



16 Remove 2 fixing bolts of the air horn.

17 Remove the air horn.

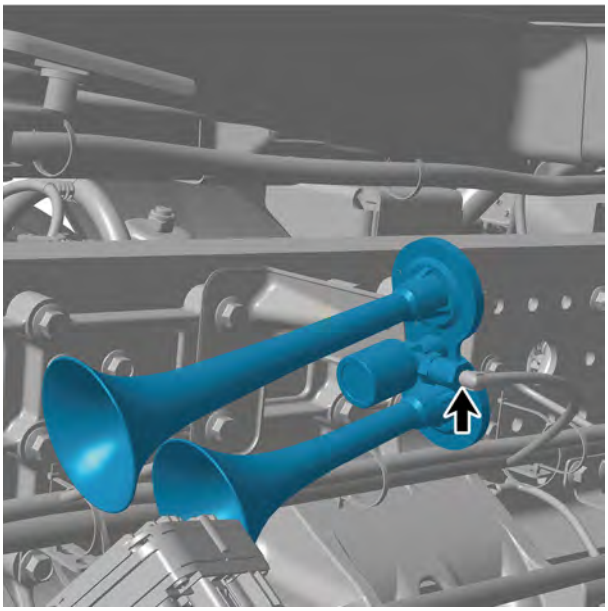
Installation Procedures



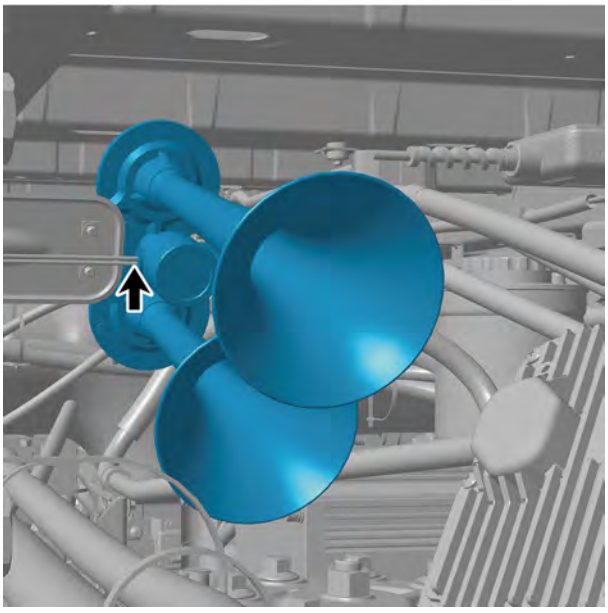
1 Move the air horn to the mounting position.

2 Install 2 fixing bolts of the air horn.

Torque: (6.5 +/- .75) ft lbs



3 Connect 1 air pipe of the air horn.



4 Connect 1 harness connector of the air horn.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the electric oil pump.

6 Install the left side wall lower trim panel mounting frame assembly.

7 Install the left side wall mounting bracket 2.

8 Install the left side wall mounting bracket 1.

9 Install the side wall upper mounting bracket assembly 2.

10 Install the left side wall lower trim panel assembly.

11 Install the left front wheel housing rear body.

12 Add the transmission hydraulic oil.

13 Lower the front end of the vehicle.

14 Perform power-on of the high voltage system.

15 Connect the battery negative cable.

16 Close the front flip cover plate.

17 Close the door.

7.6 Vehicle-mounted Power Supply Device

7.6.1 Specifications

7.6.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the 120V power supply body to the rear enclosure panel assembly	M5	(6.5 +/- 2) ft lbs

7.6.2 Dismantling and Installation

7.6.2.1 Replacement of 120V Power

Removal Procedures

1 Open the door.

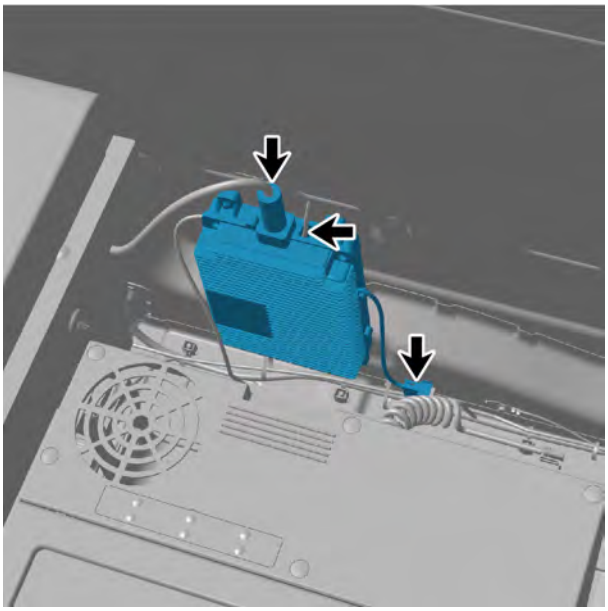
2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

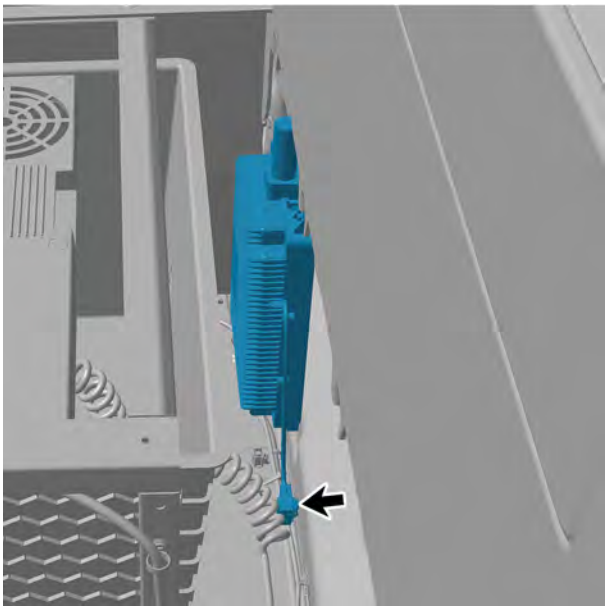
caution

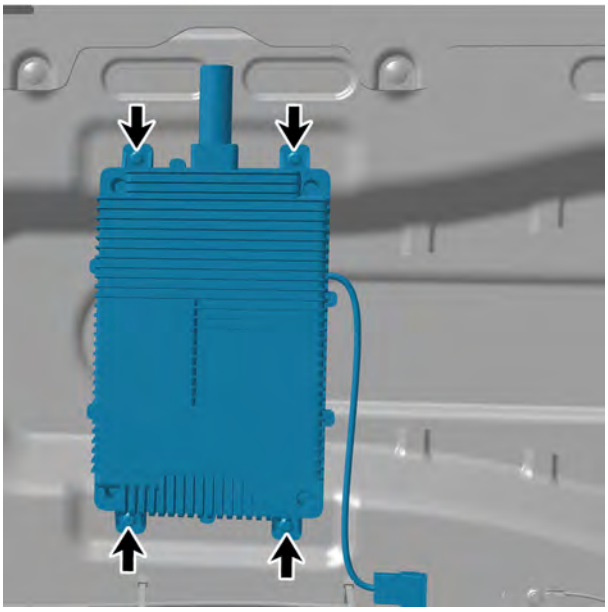
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Disconnect 3 harness connectors of the 120V power.



5 Disengage 1 fixing clip of the 120V power.

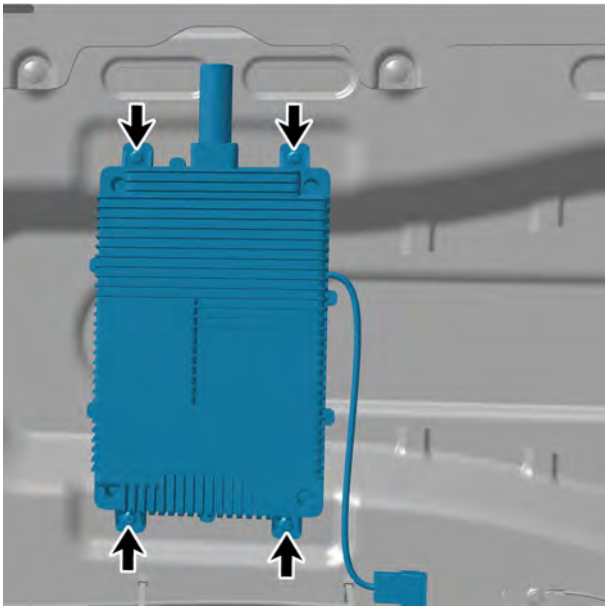




6 Remove 4 fixing bolts of the 120V power.

7 Remove the 120V power.

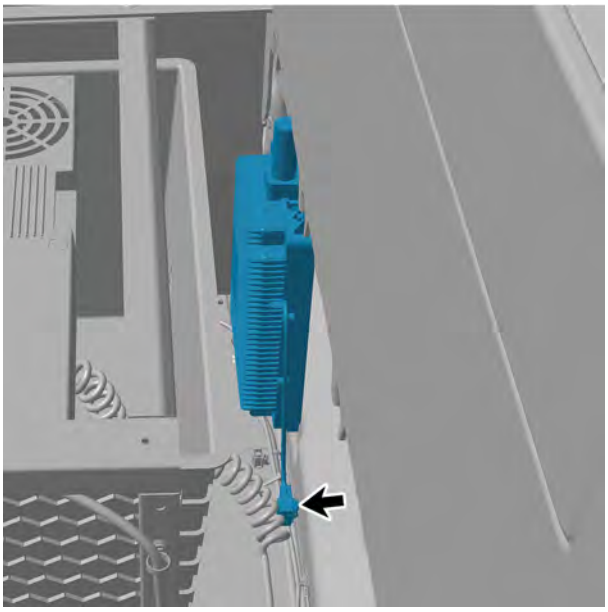
Installation Procedures



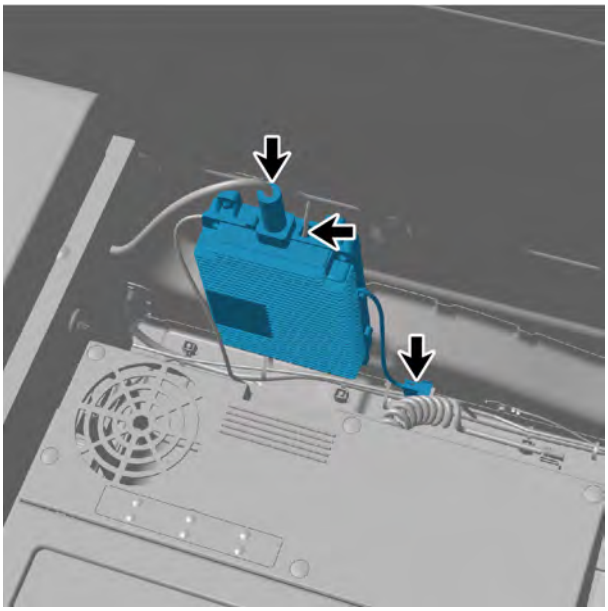
1 Move the 120V power to the mounting position.

2 Install 4 fixing bolts of the 120V power.

Torque: (6.5 +/- 2) ft lbs



3 Install 1 fixing clip of the 120V power.



4 Connect 3 harness connectors of the 120V power.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.6.2.2 Replacement of Vehicle Power Supply (12V)

Removal Procedures

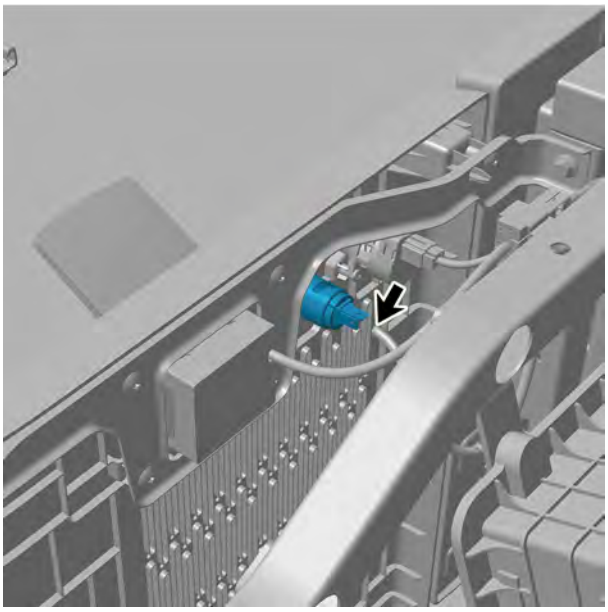
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

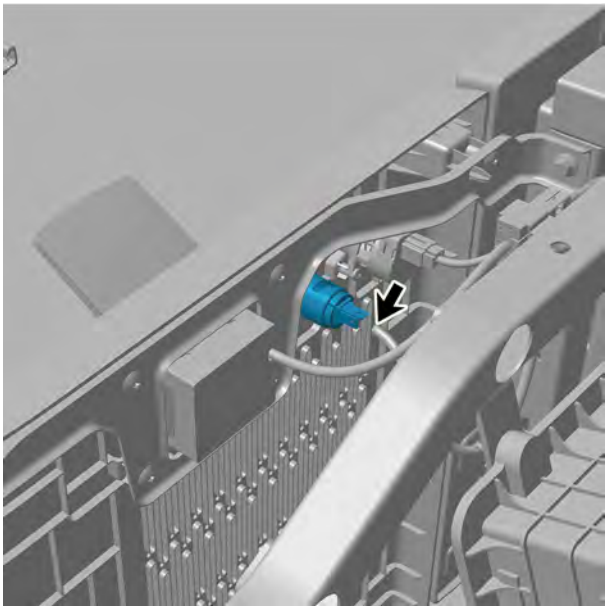
power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Disconnect 1 harness connector of the vehicle power supply (12V).

5 Remove the vehicle power supply (12V).

Installation Procedures



1 Move the vehicle power supply (12V) to the mounting position.

2 Connect 1 harness connector of the vehicle power supply (12V).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Connect the battery negative cable.

4 Close the front flip cover plate.

5 Close the door.

7.6.2.3 Replacement of 120V Receptacle

Removal Procedures

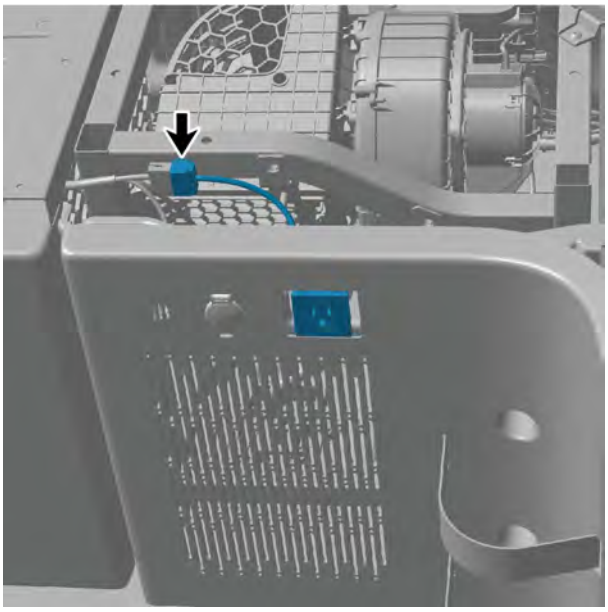
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

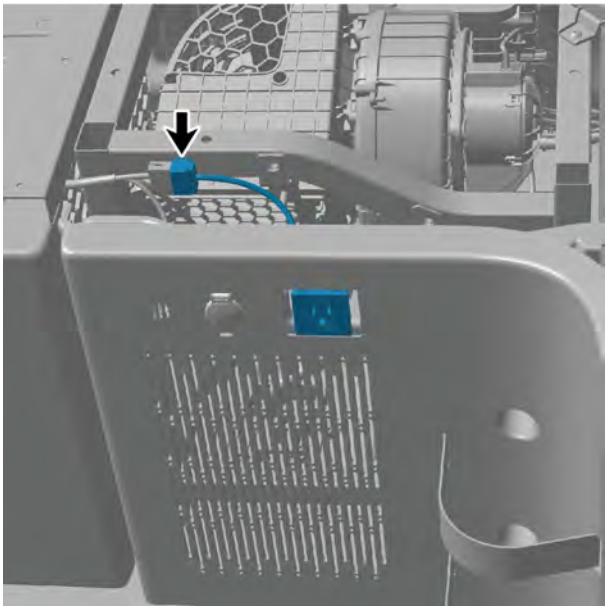
power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Disconnect 1 harness connector of the 120V receptacle.

5 Remove the 120V receptacle.

Installation Procedures



1 Move the 120V receptacle to the mounting position.

2 Connect 1 harness connector of the 120V receptacle.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Connect the battery negative cable.

4 Close the front flip cover plate.

5 Close the door.

7.6.2.4 Replacement of Rear USB Interface

Removal Procedures

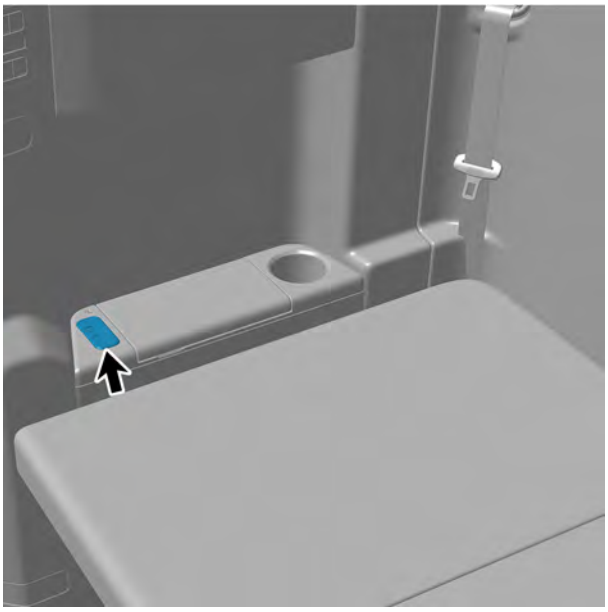
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Detach the rear USB interface.

5 Disconnect 1 harness connector of the rear USB interface.

6 Remove the rear USB interface.



Installation Procedures

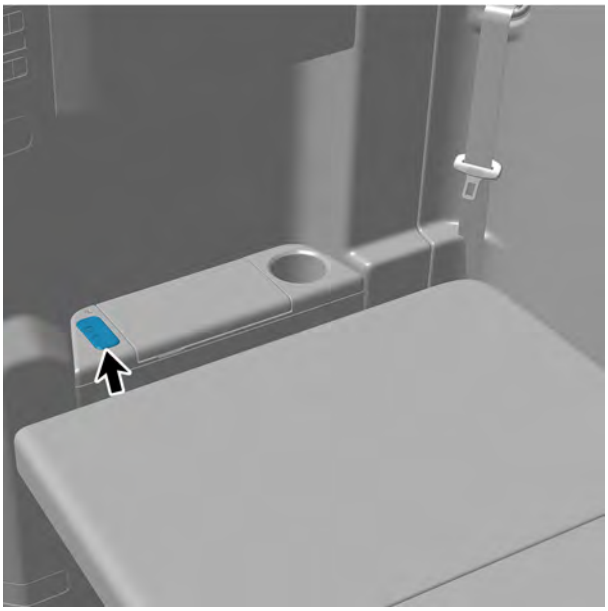


1 Move the rear USB interface to the mounting position.

2 Connect 1 harness connector of the rear USB interface.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install the rear USB interface.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.6.2.5 Replacement of Front USB Interface

Removal Procedures

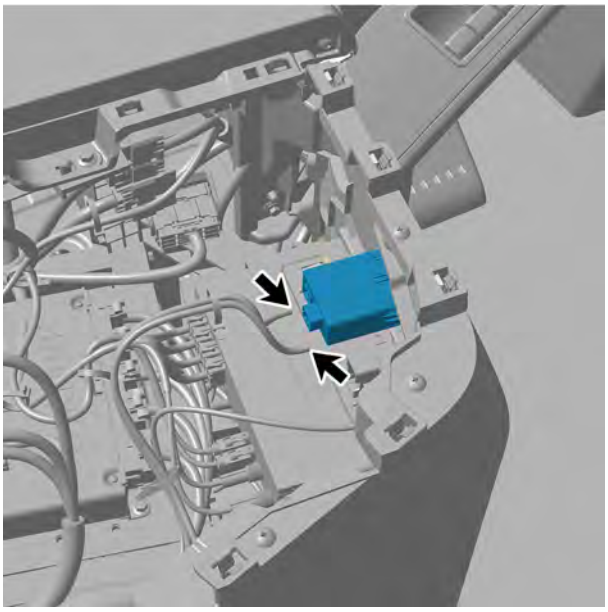
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

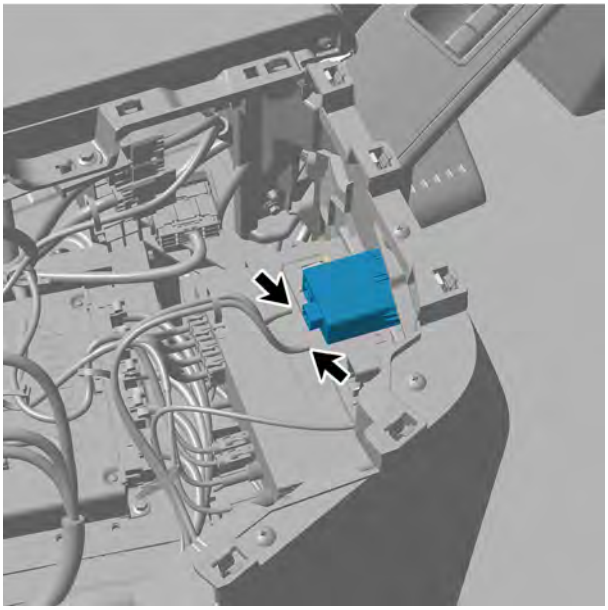
power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Disconnect 2 harness connectors of the front USB interface.

5 Remove the front USB interface.

Installation Procedures



1 Move the front USB interface to the mounting position.

2 Connect 2 harness connectors of the front USB interface.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Connect the battery negative cable.

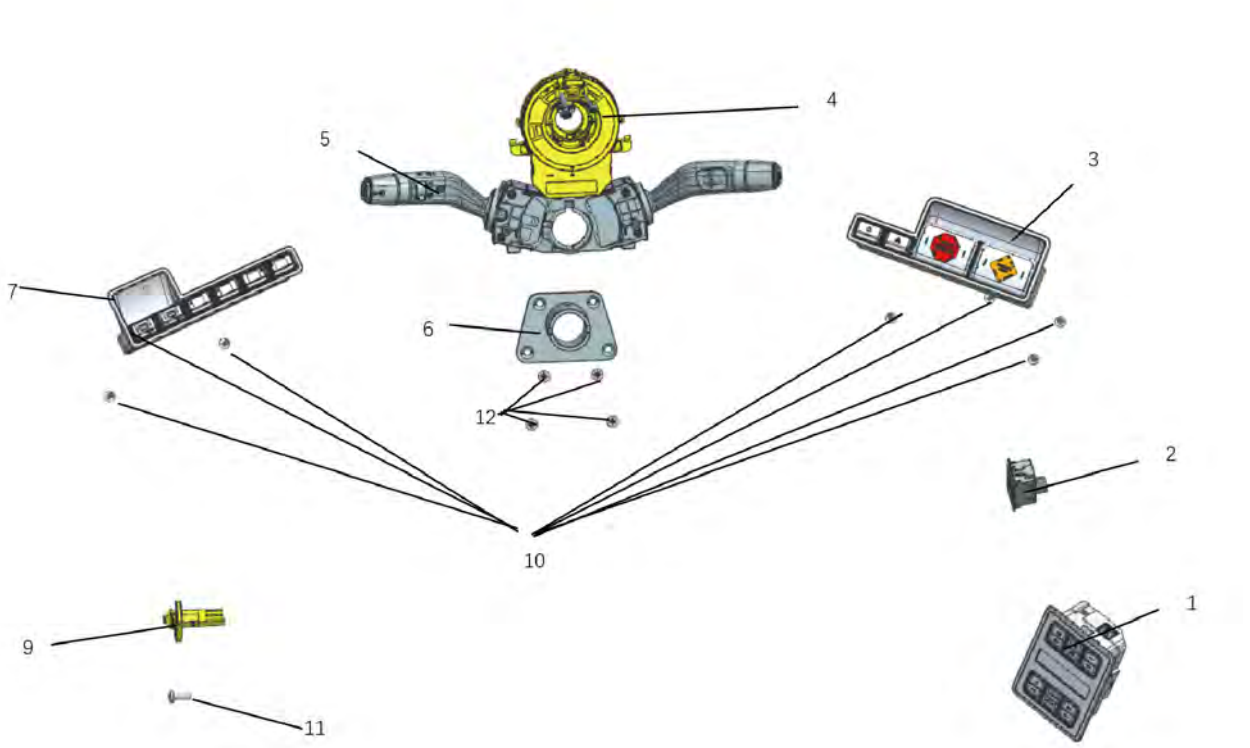
4 Close the front flip cover plate.

5 Close the door.

7.7 Switch Device

7.7.1 Decomposition Diagram

7.7.1.1 Decomposition Diagram

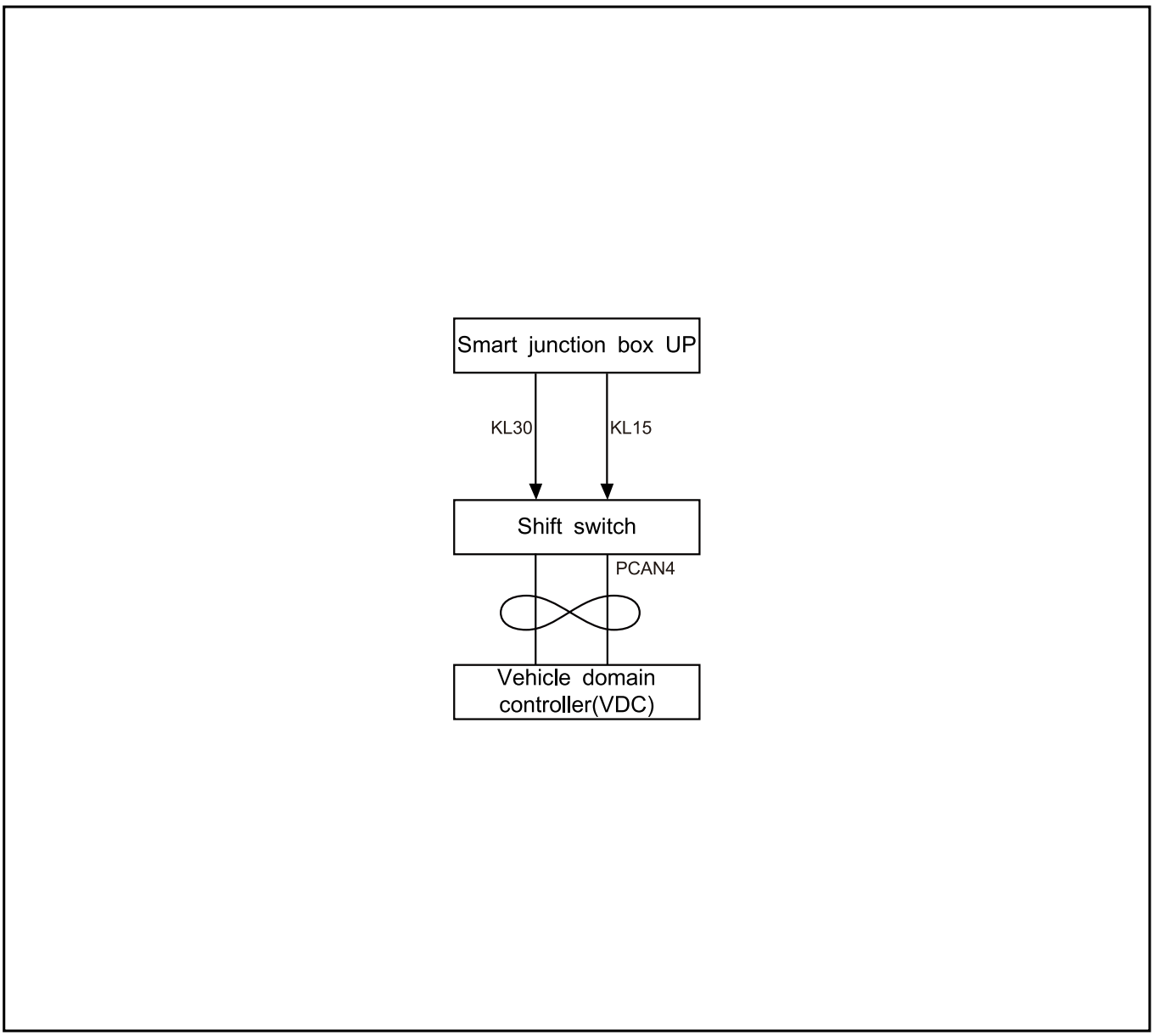


1. Sleeper Switch Devices
2. Power Sliding Door
3. Rh Switch Group at Instrument Panel
4. Clock-Spring
5. Multi-Function Switch
6. Multi-Function Switch Bracket
7. Lh Switch Group at Instrument Panel
9. Switch-Locker Lighting
10. Self-Tapping Screw
11. Hex Socket Set Screw
12. Hex Socket Set Screw

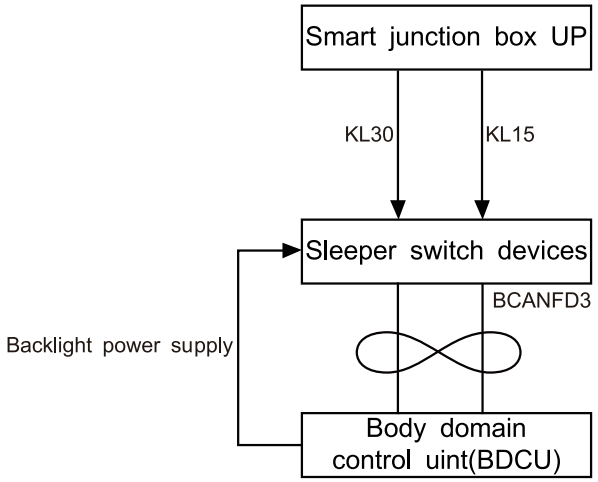
7.7.2 System Schematic Diagram

7.7.2.1 Electrical Schematic Diagram

Right combination switch - gear position



Sleeper switch devices


Smart junction box UP
KL30
KL15
Sleeper switch devices
BCANFD3
Backlight power supply
Body domain
control uint(BDCU)

7.7.3 Diagnostic Information and Steps

7.7.3.1 Diagnostic Description

Before diagnosing faults in the switch device, it is important to understand and familiarize oneself with the working principle of the switch device before starting the system diagnosis. This will help determine the correct fault diagnosis steps when a fault occurs, and more importantly, it will help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of switch devices should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

7.7.3.2 Routine Inspection

- Check for aftermarket installation devices that may affect the operation of the switchgear system, ensuring that these devices do not affect the operation of the switchgear system.
- Check system components that are easily accessible or visible to ensure that there is no obvious damage or potential malfunction.

7.7.3.3 Fault Symptom Table

Symptom	Suspected Faulty Project	Measures
The vehicle cannot shift gears	1.Shift switch stuck or damaged	Check the gear shift switch and replace it if necessary. Refer to Replacement Of Combination Switch
	2. Shift switch malfunction	Refer to Shift Switch Power Failure

7.7.3.4 DTC Confirmation

1. Connect the diagnostic tool to the diagnostic interface, read and record the DTC, and then clear the DTC.
2. Run the vehicle again.
3. Read the fault code of the control system again to confirm if there is any fault code output from the system.
   – Yes:Diagnose based on the output fault code.
   – No:Perform intermittent fault check, refer to Inspection Of Intermittent Faults

7.7.3.5 List Of Diagnostic Trouble Codes (DTC)

GSM

Fault Code	Fault Description	Exclusion Method
B111717	Battery voltage is too high	Refer to Shift Switch Power Fault
B111716	Battery voltage is too low	
U008E88	PCAN4 BusOff	Refer to Shift Switch Communication Fault
U019887	Lost communication with TGW	
U015687	Communication with CDCU is lost	
U012287	Communication with VDC is lost	
P280096	Shift switch sensor malfunction	Refer to Shift Switch Internal Fault
P280171	Gear shift lever jamming failure	

SSM

Fault Code	Fault Description	Exclusion Method
B111716	Power supply voltage below threshold	Refer to Sleeper Switch Devices Power Fault
B111717	Power supply voltage above threshold	

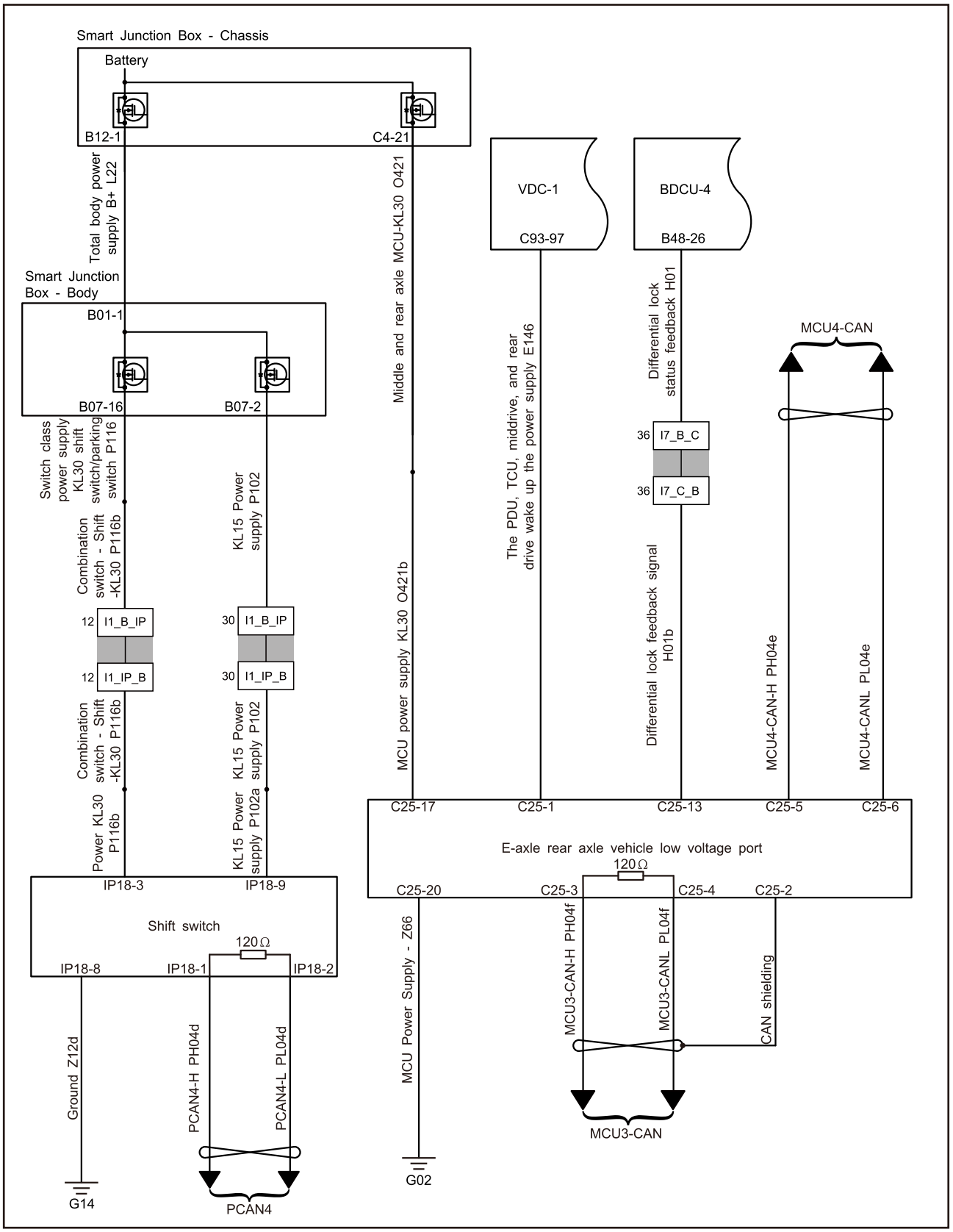
Fault Code	Fault Description	Exclusion Method
U007E88	BCANFD3 BusOff	Refer to Sleeper Switch Devices Communication Fault
U019887	lost communication with T-BOX	
U014087	lost communication with BDCU	
U016487	lost communication with A/C	
U015687	lost communication with CDCU	
U012287	lost communication with VDC	
U220A00	CANFD3 network management limp home	

7.7.3.6 Shift Switch Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	Battery voltage is too high	Voltage > 32V, t > 2000ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.Shift switch
B111716	Battery voltage is too low	Voltage < 18V, t > 2000ms	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides the shift switch?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power supply and grounding harness of the gear shift switch.

Step 5:Rewrite the configuration code for the gear shift switch, reload the software, and upgrade.

Step 6:Replace the gear shift switch. Refer to Replacement Of Combination Switch

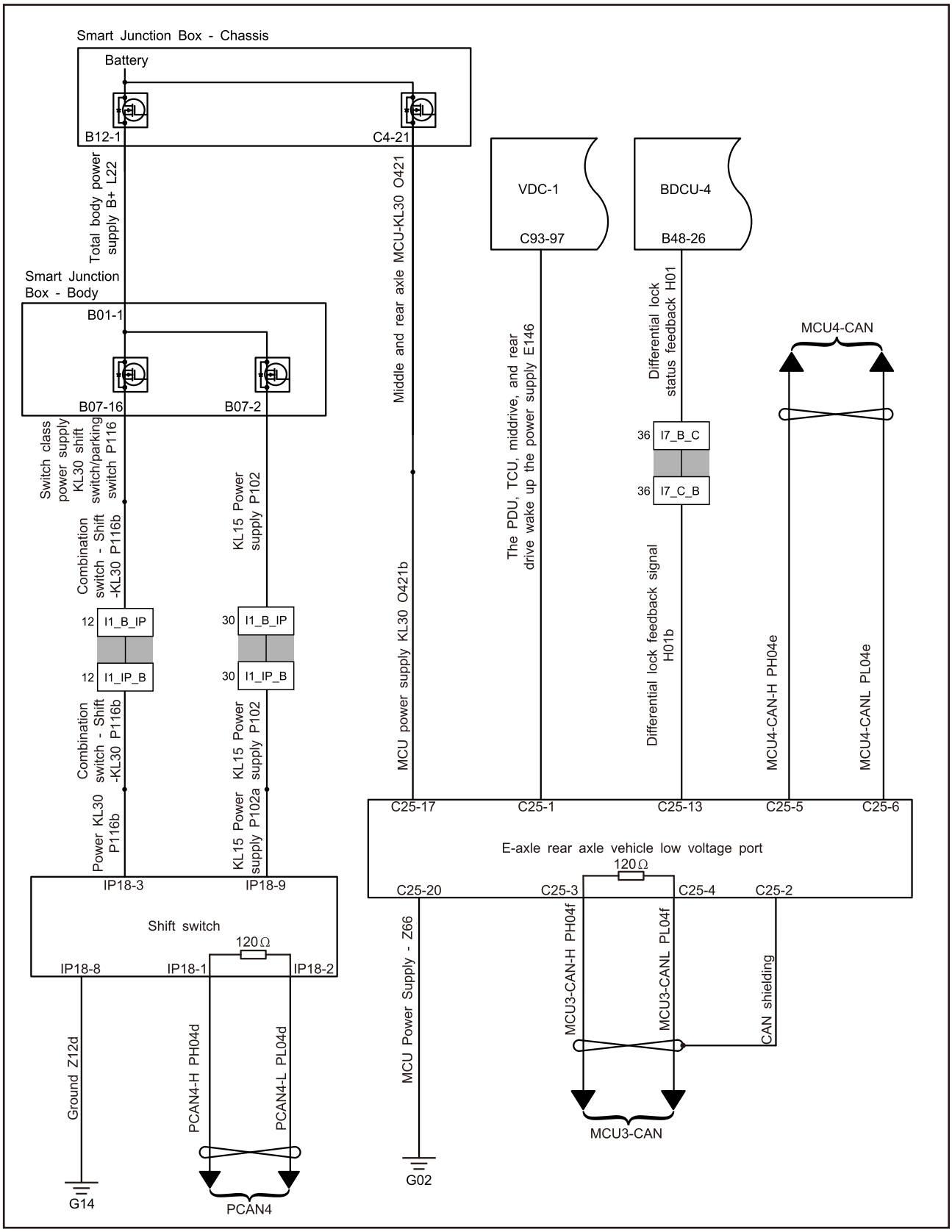
Step 7:Clear and confirm DTC.

7.7.3.7 Shift Switch Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U008E88	PCAN4 BusOff	1.BUSOFF lasts more than 8 times 2.The current voltage is 18~32V	1. Wiring harness 2. Shift switch
U019887	Lost communication with TGW	1.KL15 ON; 2.The current voltage is 18~32V 3.When GSM loses communication with TGW (0x18FEE6EEx) for more than 5000ms, GSM sets the current DTC	
U015687	Communication with CDCU is lost	1.KL15 ON; 2.The current voltage is 18~32V 3.When GSM loses communication with CDCU (0x18FEC1EEx) for more than 5000 ms, GSM sets the current DTC	
U012287	Communication with VDC is lost	1.KL15 ON; 2.The current voltage is 18~32V 3.When GSM loses communication with VDC (0x18FEF100x) for more than 1000 ms, GSM sets the current DTC	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the PCAN4 bus communication harness. Refer to Inspection Of PCAN4 Bus Network Integrity

Step 4:Rewrite the configuration code for the gear shift switch, reload the software, and upgrade.

Step 5:Replace the gear shift switch. Refer to Replacement Of Combination Switch

Step 6:Clear and confirm DTC.

7.7.3.8 Shift Switch Internal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
P280096	Shift switch sensor malfunction	1.Gear sensor failure lasts for 3S 2.The current voltage is 18~32V	1.Shift switch
P280171	Gear shift lever jamming failure	1.The gear stays in a non-default position for 60 seconds 2.The current voltage is between 18 and 32V	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Rewrite the configuration code for the gear shift switch, reload the software, and upgrade.

Step 4:Replace the gear shift switch. Refer to Replacement Of Combination Switch

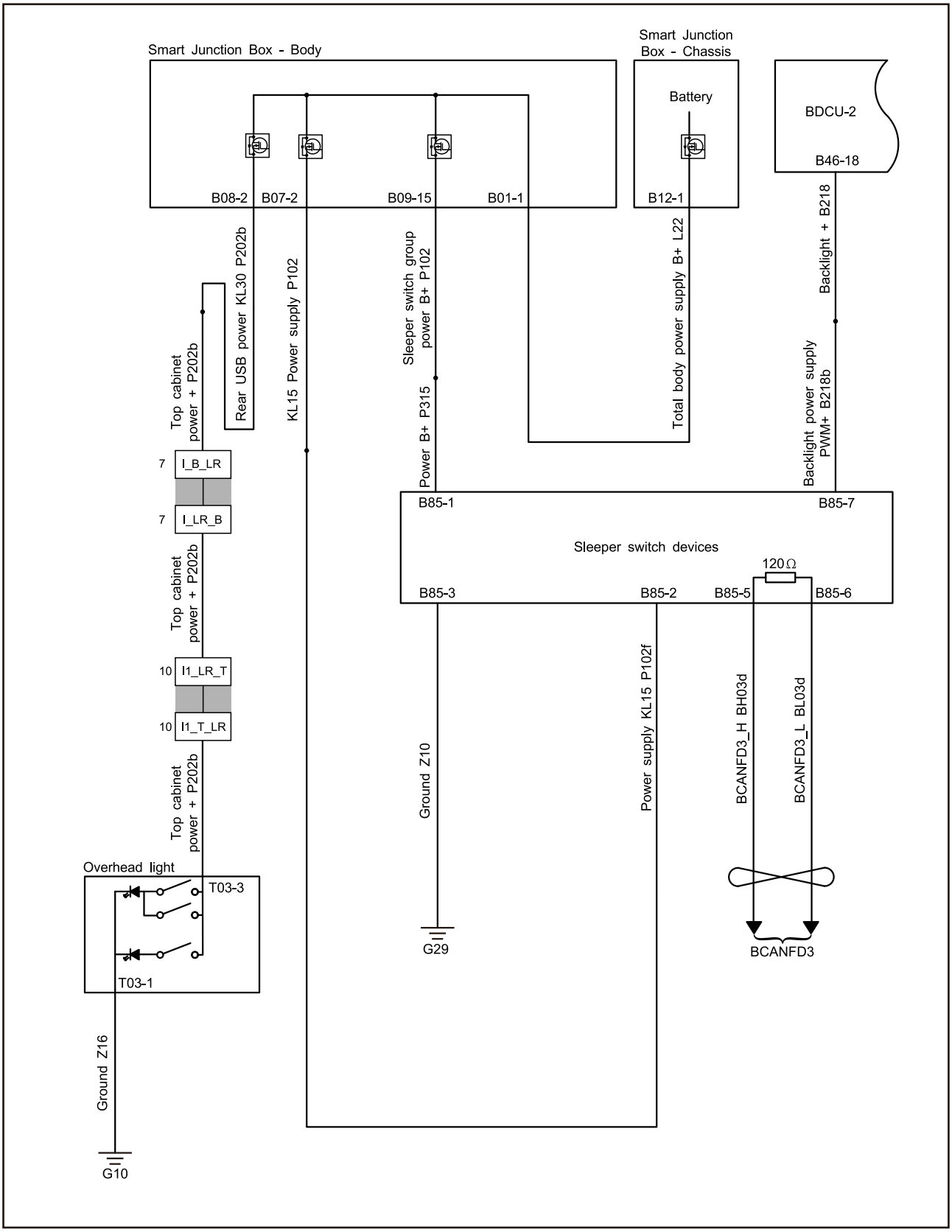
Step 5:Clear and confirm DTC.

7.7.3.9 Sleeper Switch Devices Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111716	Low Battery Voltage	Voltage < 18V, t > 500ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.Sleeper switch devices
B111717	High battery voltage	Voltage > 32V, t > 500ms	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides the sleeper switch devices?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to Inspection Of The Main Battery

– No: Next step

Step 4:Check the power and grounding harnesses of the sleep switch devices.

Step 5:Sleep switch devices rewrite configuration code, software reload, upgrade.

Step 6:Replace the sleeper switch devices. Refer to Replacement Of Sleep Switch Devices

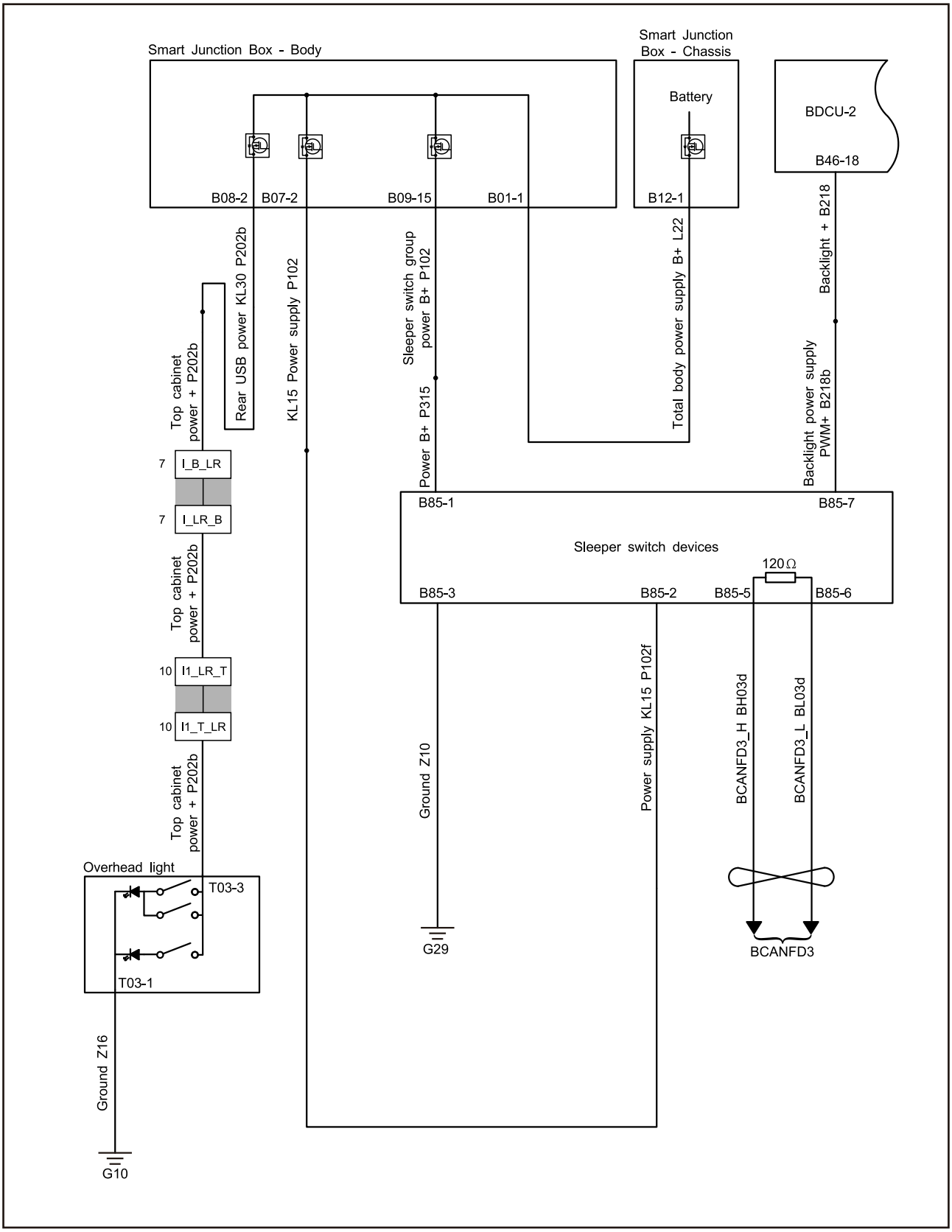
Step 7:Clear and confirm DTC.

7.7.3.10 Sleeper Switch Devices Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007E88	BCANFD3 BusOff	eight times in a row	1. Wiring harness 2.Sleeper switch devices
U019887	Lost Communication With T-Box	0x18FEE6EE(T>50ms:5*T;or else:250ms)	
U014087	lost communication with BDCU	0x14FD1721(T>50ms:5*T;or else:250ms)	
U016487	lost communication with A/C	0x18FF2419(T>50ms:5*T;or else:250ms)	
U015687	Lost Communication With CDCU	0x18FEC1EE(T>50ms:5*T;or else:250ms)	
U012287	Lost Communication With VDC	0x18FEF100(T>50ms:5*T;or else:250ms)	
U220A00	CANFD3 network management limp home	2 seconds in limphome state	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the BCANFD3 bus communication harness. Refer to BInspection Of CANFD3 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the sleep switch devices.

Step 5:Replace the sleeper switch devices. Refer to Replacement Of Sleep Switch Devices

Step 6:Clear and confirm DTC.

7.7.3.11 Inspection Of PCAN4 Bus Network Integrity

Step 1	Check the PCAN4 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
PCAN4(H) and PCAN4 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the PCAN4 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
PCAN4 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
PCAN4 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
PCAN4 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
PCAN4 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the PCAN4 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the PCAN4 bus.

C. Measure the PCAN4 bus resistance between each module and the shift switch in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of PCAN4 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the PCAN4 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace PCAN4 bus.

Yes

Step 7	Disconnect the modules on the PCAN4 bus in sequence and observe the bus communication voltage/resistance.

Disconnect the modules on the PCAN4 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.7.4 Dismantling and Installation

7.7.4.1 Replacement of Left Central Control Switch Group

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left switch panel assembly.

5 Remove 3 fixing screws of the left central control switch group.

6 Remove the left central control switch group.



Installation Procedures

1 Move the left central control switch group to the mounting position.

2 Install 3 fixing screws of the left central control switch group.



3 Install the left switch panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.7.4.2 Replacement of Right Central Control Switch Group

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

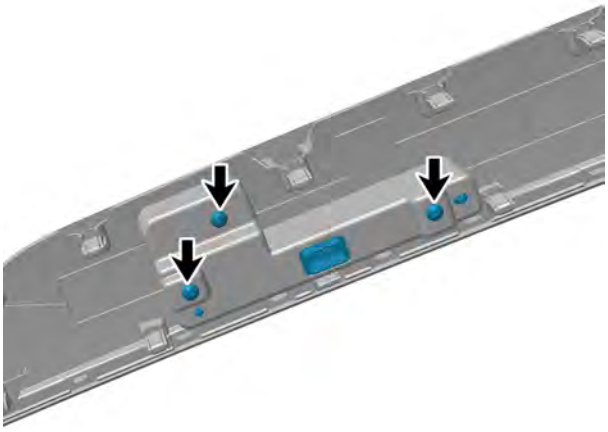
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

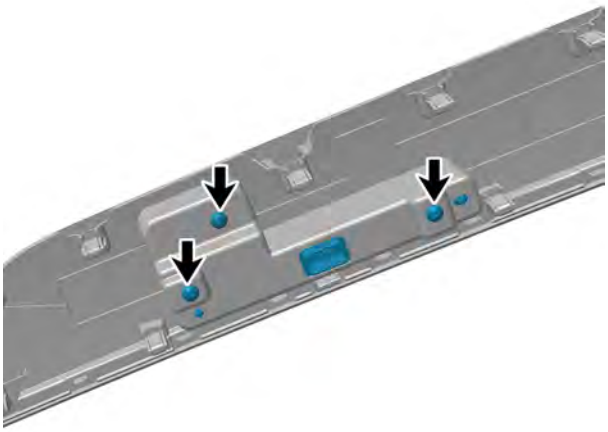
4 Remove the right switch panel assembly.

5 Remove 3 fixing screws of the right central control switch group.



6 Remove the right central control switch group.

Installation Procedures



1 Move the right central control switch group to the mounting position.

2 Install 3 fixing screws of the right central control switch group.

3 Install the right switch panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.7.4.3 Replacement of SSM

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Pry off the SSM.

5 Disconnect 1 harness connector of the SSM.

6 Remove the SSM.



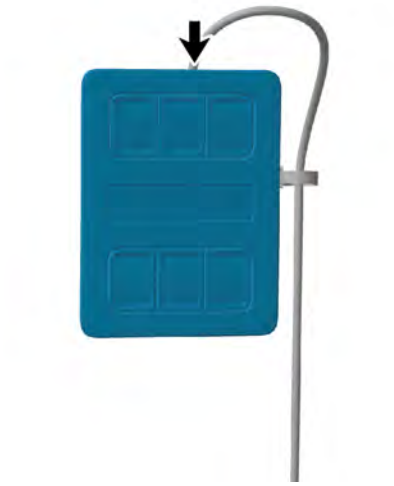
Installation Procedures

1 Move the SSM to the mounting position.

2 Connect 1 harness connector of the SSM.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".





3 Install the SSM.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

caution

After part replacement, it is necessary to rewrite the configuration word.

7.7.4.4 Replacement of Electric Sliding Door Switch

Removal Procedures

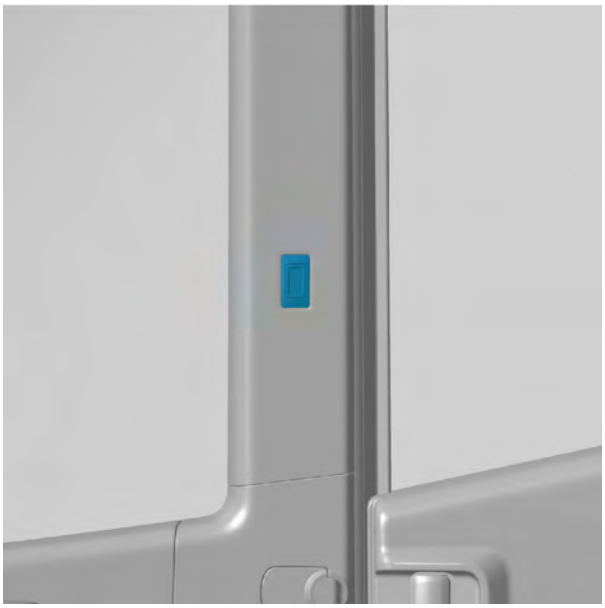
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

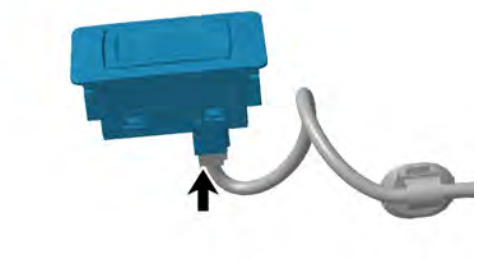
power down the high-voltage system before disconnecting the negative pole of the storage battery.



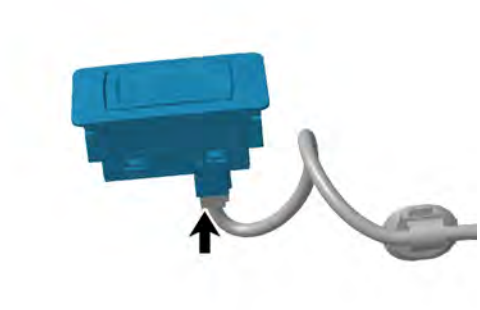
4 Pry off the electric sliding door switch.

5 Disconnect 1 harness connector of the electric sliding door switch.

6 Remove the electric sliding door switch.



Installation Procedures

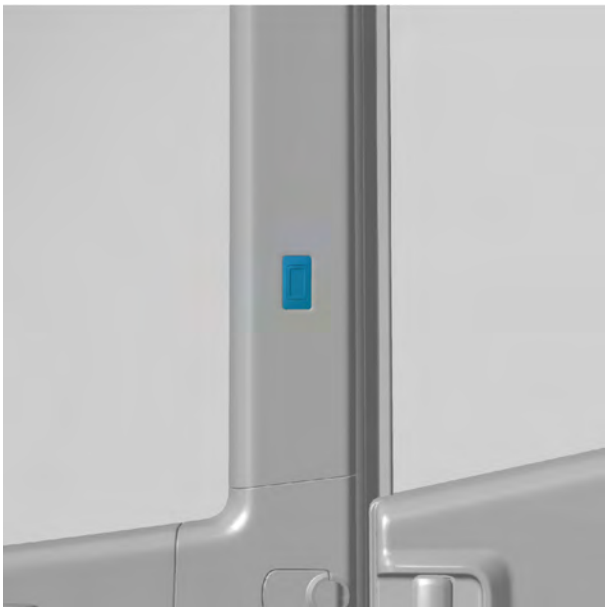


1 Move the electric sliding door switch to the mounting position.

2 Connect1 harness connector of the electric sliding door switch.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install the electric sliding door switch.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.7.4.5 Replacement of Combination Switch

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the combination switch upper shield assembly.

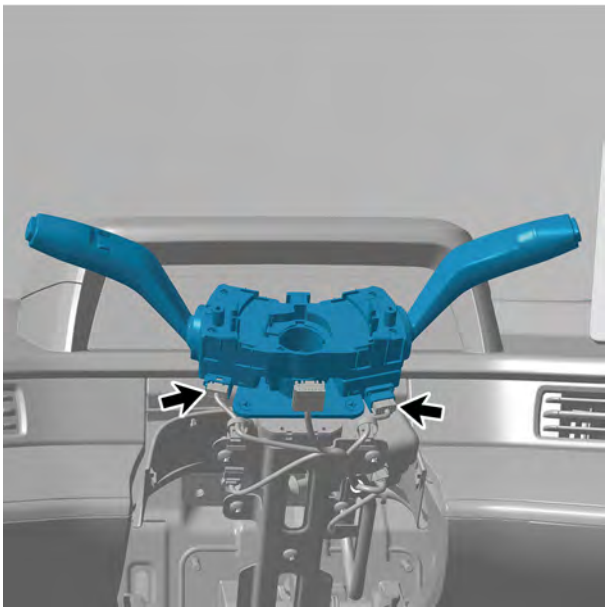
5 Remove the combination switch lower shield.

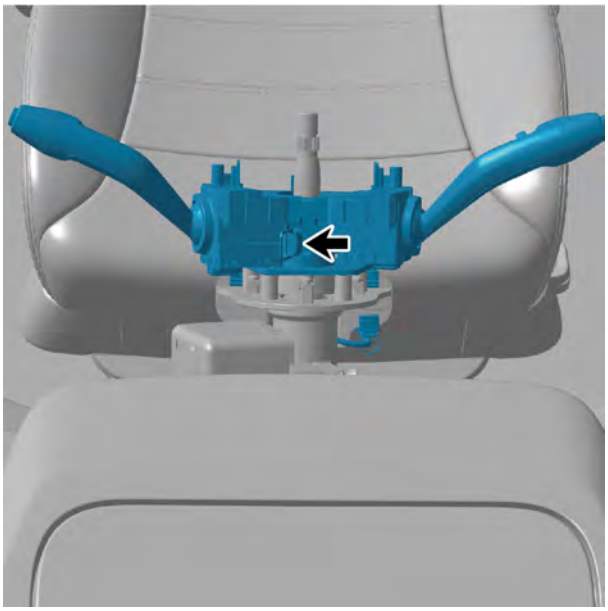
6 Remove the driver horn cover assembly.

7 Remove the steering wheel assembly.

8 Remove the clock spring.

9 Disconnect 2 harness connectors of the combination switch.

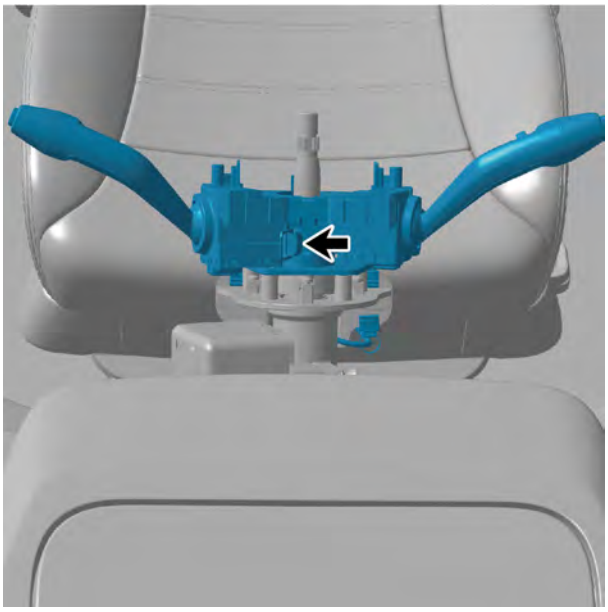




10 Detach the combination switch clip.

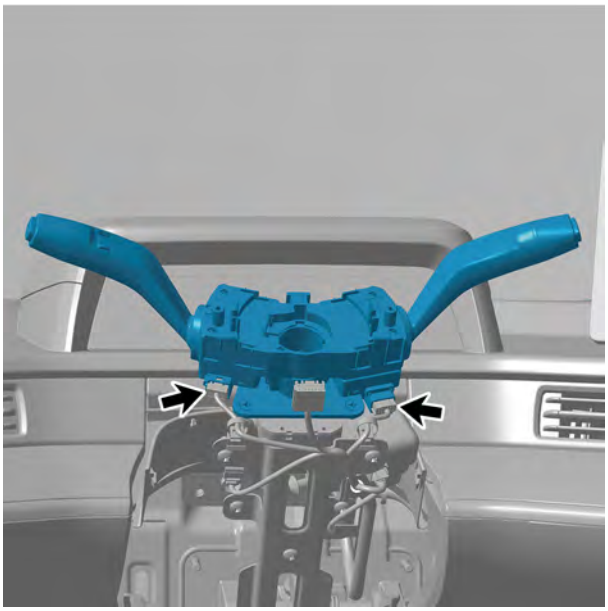
11 Remove the combination switch.

Installation Procedures



10 Move the combination switch to the mounting position.

11 Connect the combination switch clip.



3 Connect 2 harness connectors of the combination switch.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the clock spring.

5 Install the steering wheel assembly.

6 Install the driver horn cover assembly.

7 Install the combination switch lower shield.

8 Install the combination switch upper shield assembly.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

7.7.4.6 Replacement of Clock Spring

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

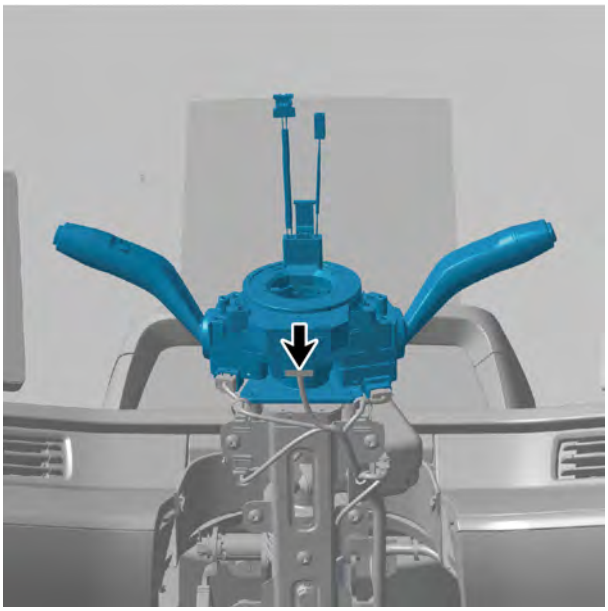
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the combination switch upper shield assembly.

5 Remove the combination switch lower shield.

6 Remove the driver horn cover assembly.

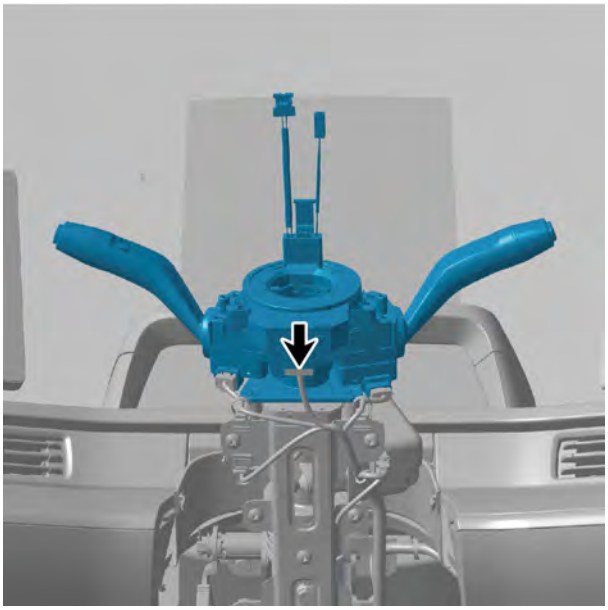
7 Remove the steering wheel assembly.



8 Disconnect 1 harness connector of the clock spring.

9 Remove the clock spring.

Installation Procedures



1 Move the clock spring to the mounting position.

2 Install 1 harness connector of the clock spring.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Install the steering wheel assembly.

4 Install the driver horn cover assembly.

5 Install the combination switch lower shield.

6 Install the combination switch upper shield assembly.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

7.7.4.7 Replacement of Storage Compartment Lamp Switch

Removal Procedures

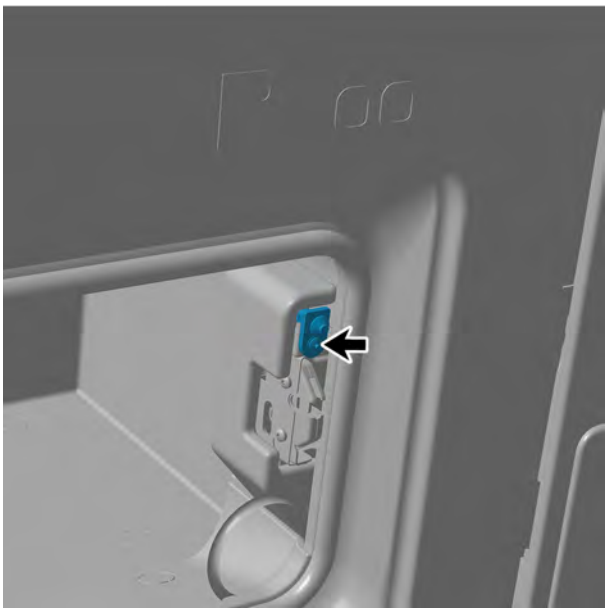
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Remove 1 fixing screw of the storage compartment lamp switch.



5 Disconnect 1 harness connector of the storage compartment lamp switch.

6 Remove the storage compartment lamp switch.

Installation Procedures

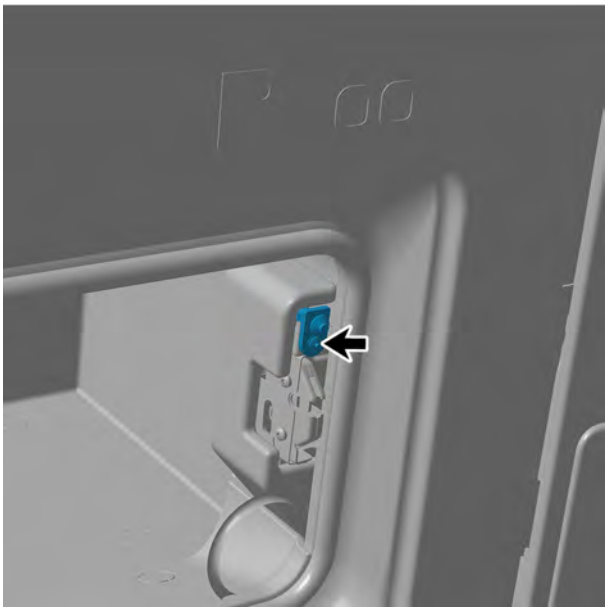


1 Move the storage compartment lamp switch to the mounting position.

2 Connect 1 harness connector of the storage compartment lamp switch.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install 1 fixing screw of the storage compartment lamp switch.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.8 Body Control Module (BCM) Device

7.8.1 Description and Operation

7.8.1.1 Description and Operation

1. Mobile phone wireless charging is a wireless energy transfer process in which the energy is transferred from the transmitting coil to the receiving coil based on the principle of electromagnetic induction.

2. The mobile phone wireless charging function can be achieved by placing a mobile phone that supports wireless charging on a charging surface.

3. The mobile phone wireless charging function is not applicable to all mobile phones, but only to "Qi" certified mobile phones.

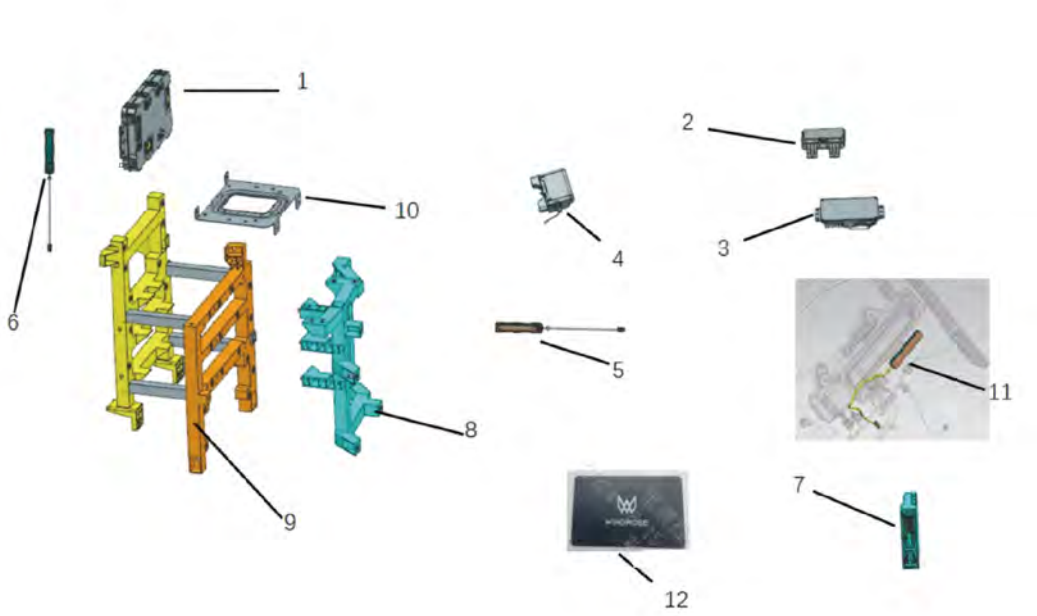
7.8.2 Specifications

7.8.2.1 Fastener Specifications

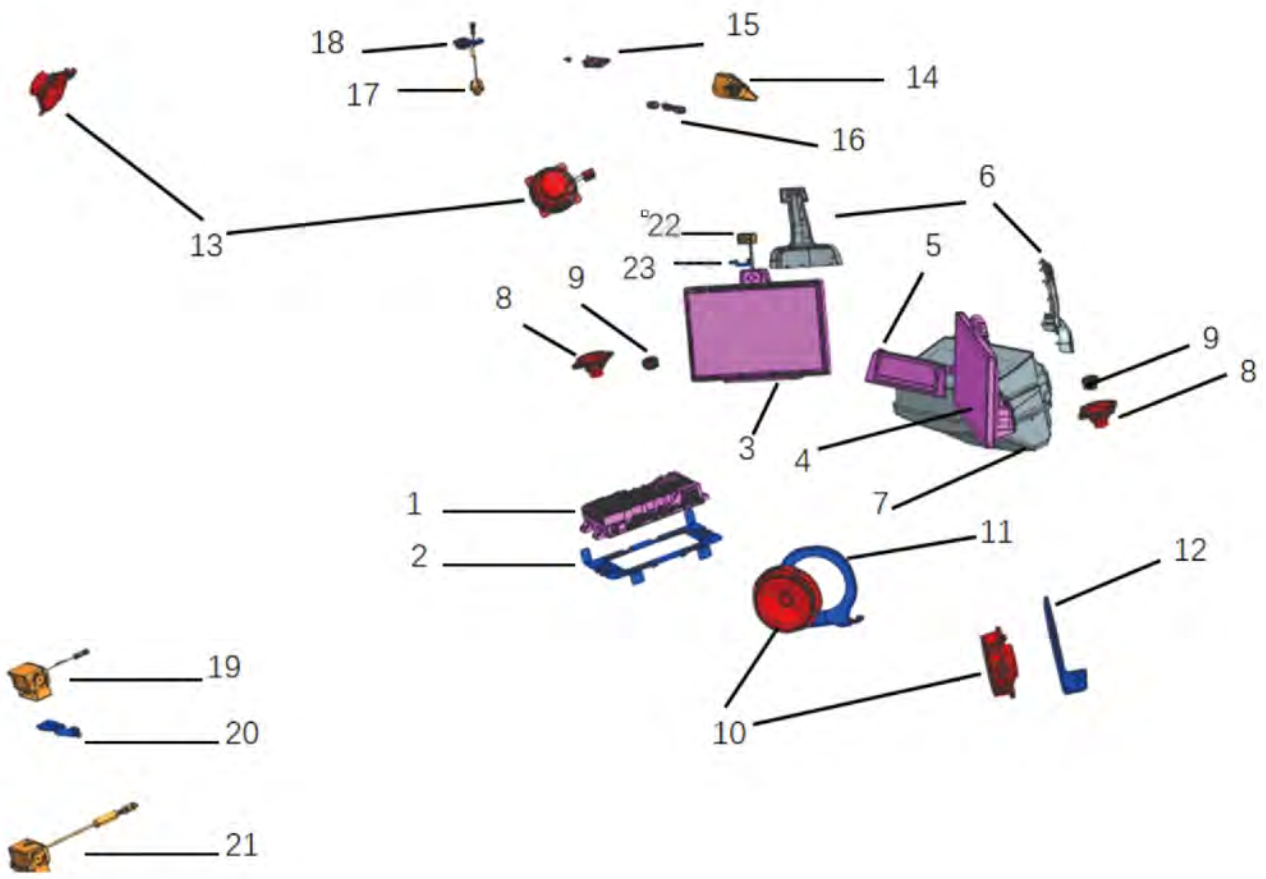
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the low-speed alarm module (AVAS) and the low-speed alarm bracket assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the body controller and the lower left dashboard controller fixing bracket	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the lower left dashboard controller bracket to the white body assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the lower left dashboard controller bracket to the white body assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the lower left dashboard controller bracket to the dashboard device	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the lower left dashboard controller bracket and the lower left bracket	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the EBS bracket to the lower left instrument panel controller fixing bracket	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the column lock and the steering column assembly	M8	(6.5 +/- .75) ft lbs

7.8.3 Decomposition Diagram

7.8.3.1 Decomposition Diagram



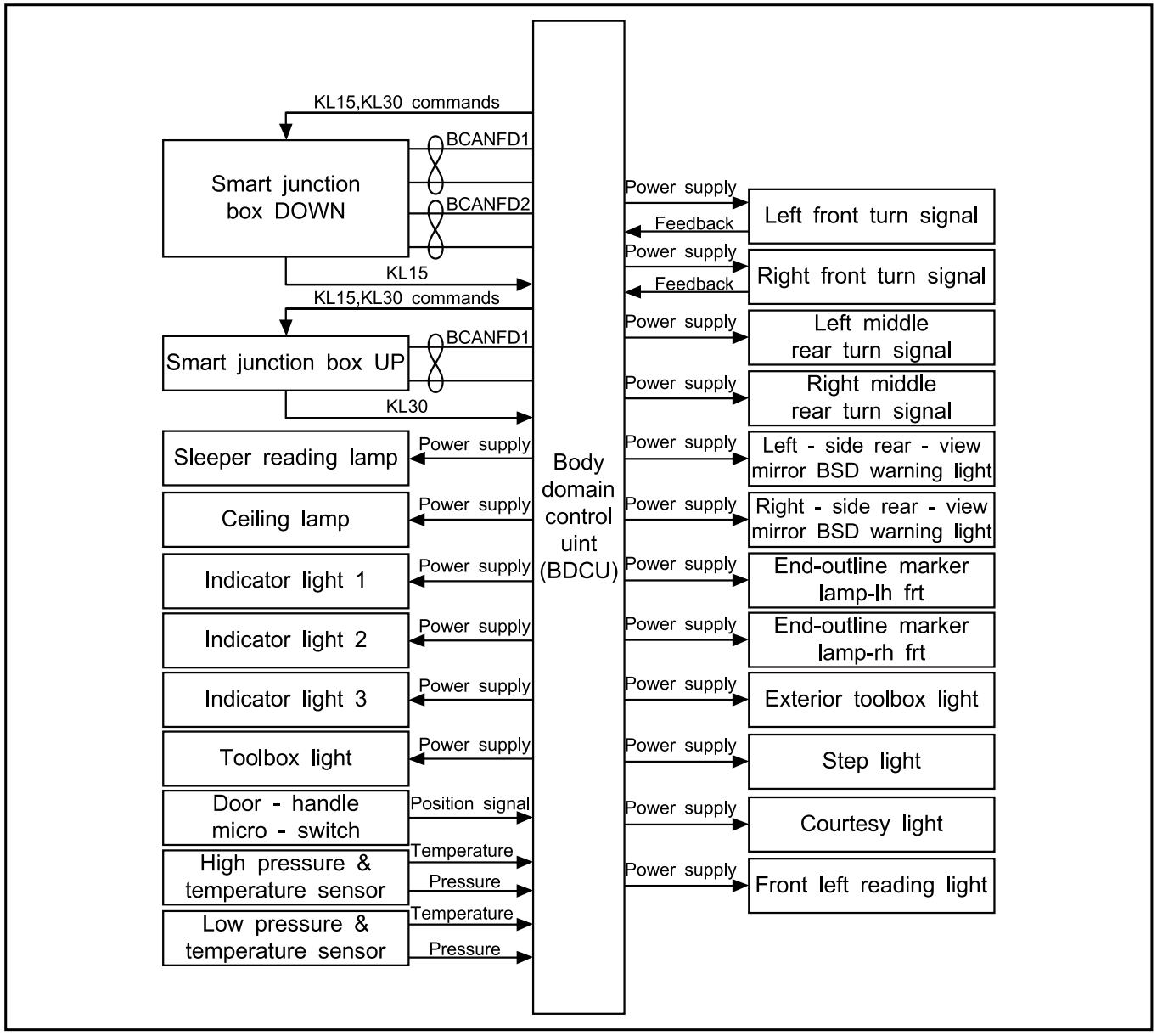
1.	Body Domain Control Uint	7.	DCM
2.	NFC Antenna	8.	Fixing Bracket-Lh
3.	Wpc(Wireless Power Consortium)	9.	Controller Bracket Assy
4.	Electrical Steering Colum Lock	10.	EBS Bracket
5.	Bluetooth Antenna-Frt	11.	NFC+Bluetooth Antenna
6.	Bluetooth Antenna (Left) In New Energy Vehicles	12.	NFC Key

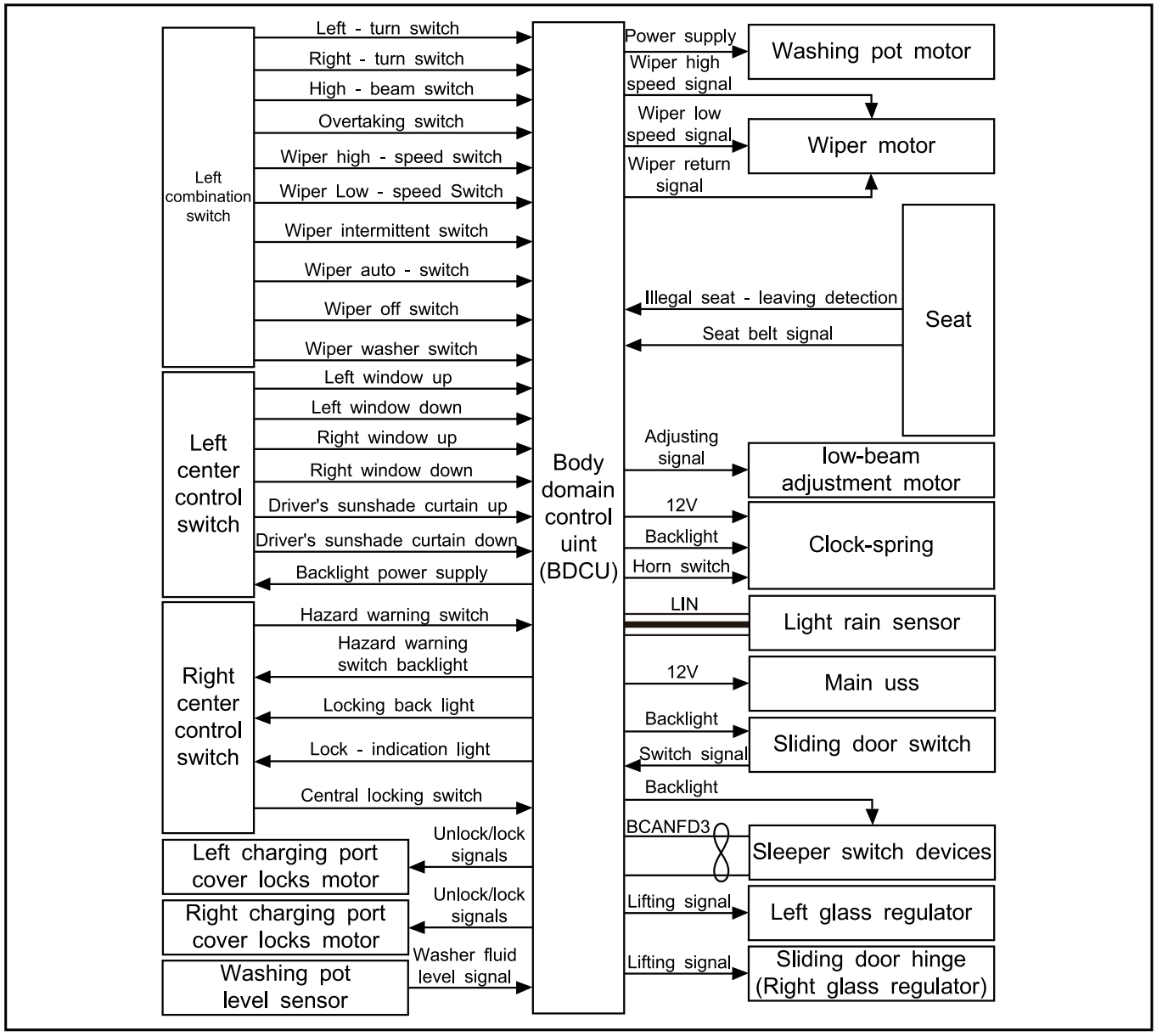


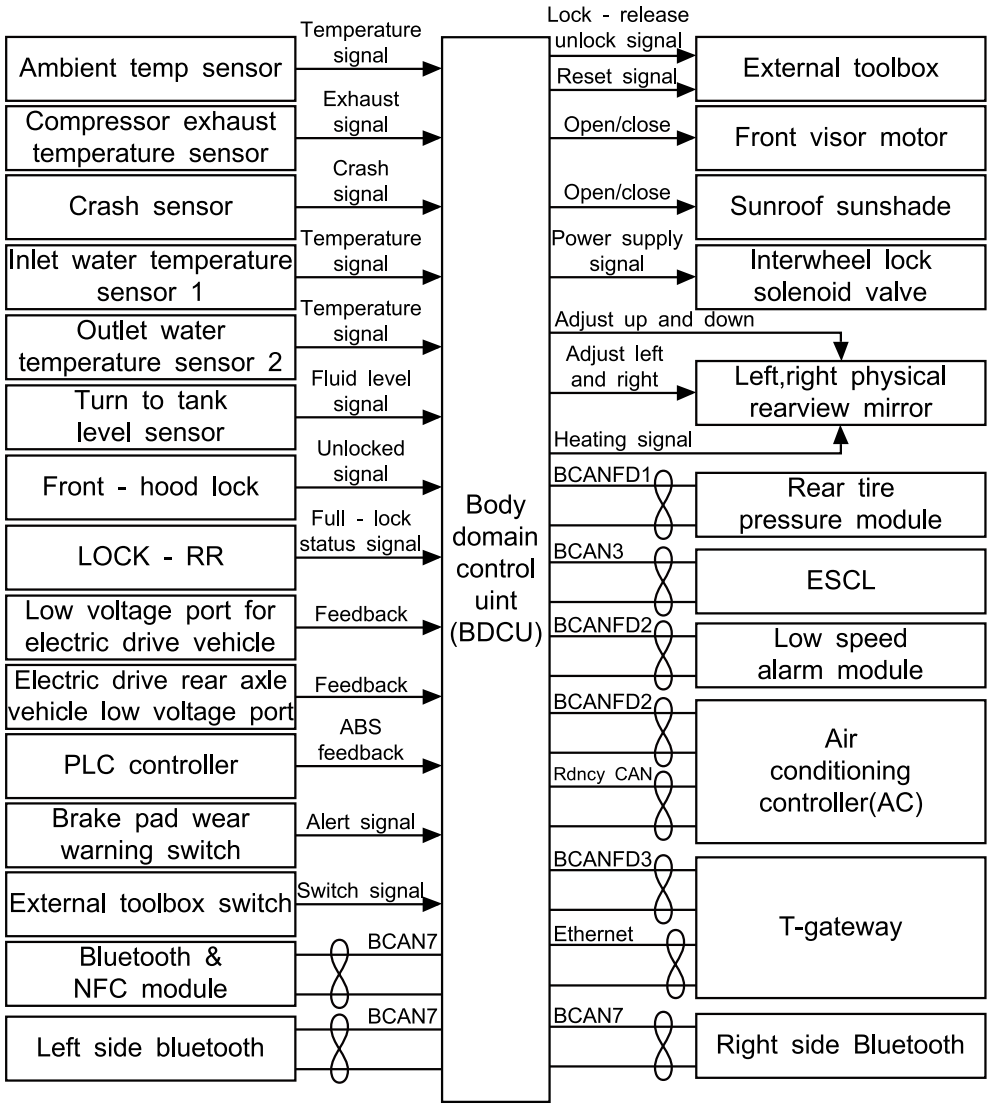
1. Cockpit Domain Controller
2. Cockpit Domain Controller Bracket
3. IVI Screen
4. CAR Screen
5. IPC Screen
6. Rear Shell Plugged Cover
7. AR-HUD
8. Squawker
9. Tweeter
10. Woofer
11. Woofer Bracket Left
12. Woofer Bracket Right
13. Surround-Sound Speaker
14. DVR Camera(Digital Video Recorder Camera)
15. Glass Antenna Amplifier
16. MIC
17. Occupancy Monitoring System Camera
18. Selfie Camera Bracket
19. Rear-View Camera
20. Rear-View Camera Bracket
21. Rear View Camera
22. Driver Monitor System Camera
23. Driver Monitor System Camera Mount

7.8.4 System Schematic Diagram

7.8.4.1 Electrical Schematic Diagram




Left combination switch
Left - turn switch
Right - turn switch
High - beam switch
Overtaking switch
Wiper high - speed switch
Wiper Low - speed Switch
Wiper intermittent switch
Wiper auto - switch
Wiper off switch
Wiper washer switch
Left center control switch
Left window up
Left window down
Right window up
Right window down
Driver's sunshade curtain up
Driver's sunshade curtain down
Backlight power supply
Right center control switch
Hazard warning switch
Hazard warning switch backlight
Locking back light
Lock - indication light
Central locking switch
Left charging port cover locks motor
Right charging port cover locks motor
Washing pot level sensor
Unlock/lock signals
Unlock/lock signals
Washer fluid level signal
Body domain control uint (BDCU)
Power supply
Wiper high speed signal
Washing pot motor
Wiper low speed signal
Wiper return signal
Wiper motor
Illegal seat - leaving detection
Seat belt signal
Seat
Adjusting signal
low-beam adjustment motor
12V
Backlight
Horn switch
Clock-spring
LIN
Light rain sensor
12V
Main uss
Backlight
Switch signal
Sliding door switch
Backlight
BCANFD3
Sleeper switch devices
Lifting signal
Left glass regulator
Lifting signal
Sliding door hinge (Right glass regulator)


Ambient temp sensor
Temperature signal
Compressor exhaust temperature sensor
Exhaust signal
Crash sensor
Crash signal
Inlet water temperature sensor 1
Temperature signal
Outlet water temperature sensor 2
Temperature signal
Turn to tank level sensor
Fluid level signal
Front - hood lock
Unlocked signal
LOCK - RR
Full - lock status signal
Low voltage port for electric drive vehicle
Feedback
Electric drive rear axle vehicle low voltage port
Feedback
PLC controller
ABS feedback
Brake pad wear warning switch
Alert signal
External toolbox switch
Switch signal
Bluetooth & NFC module
BCAN7
Left side bluetooth
BCAN7
Body domain control uint (BDCU)
Lock - release unlock signal
External toolbox
Reset signal
Open/close
Front visor motor
Open/close
Sunroof sunshade
Power supply signal
Interwheel lock solenoid valve
Adjust up and down
Adjust left and right
Left,right physical rearview mirror
Heating signal
BCANFD1
Rear tire pressure module
BCAN3
ESCL
BCANFD2
Low speed alarm module
BCANFD2
Rdncy CAN
Air conditioning controller(AC)
BCANFD3
Ethernet
T-gateway
BCAN7
Right side Bluetooth

7.8.5 Diagnostic Information and Steps

7.8.5.1 Diagnostic Description

Before diagnosing faults in the vehicle body controller device, refer toDescription And OperationUnderstanding and familiarizing oneself with the working principle of the vehicle body controller device before starting system diagnosis can help determine the correct fault diagnosis steps when a fault occurs, and more importantly, it can help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of the vehicle body controller device should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

7.8.5.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the vehicle body control system, ensuring that these devices do not affect the operation of the vehicle body control system.
- Check system components that are easily accessible or visible to ensure that there is no obvious damage or potential malfunction.

7.8.5.3 DTC Confirmation

1. Connect the diagnostic tool to the diagnostic interface, read and record the DTC, and then clear the DTC.
2. Run the vehicle again.
3. Read the fault code of the control system again to confirm if there are any fault codes output from the system.
   - Yes:Diagnose based on the output fault code.
   - No:Perform intermittent fault checks, refer to Inspection Of Intermittent Faults

7.8.5.4 List Of Diagnostic Trouble Codes (DTC)

BDCU

Fault Code	Fault Description	Exclusion Method
B111717	High battery voltage	Refer to BDCU Power Fault
B111716	Low Battery Voltage	
U015787	On the BCANFD4 network, the BDCU cannot receive the CAN packet ADCU_LCMD whose ID is 0x18FE4131, and the communication between the BDCU and the ADCU node fails. Procedure	Refer to BDCU Communication Fault
U220200	The BDCU on BCANFD3 limps home (send ID: 0x18FFF021 (BDCU_NM_Limphome). Receive ID:0x18FFF058, (SSM_NM_Limphome)). The send or receive timeout occurred. Procedure	
U018087	There is no CAN message ABL_Light with the ID of 0x18FF1455 received by BDCU on the BCANFD1 network, and the communication with the ADBL node is lost	
U018087	The Ethernet MDIO chip is abnormal	

Fault Code	Fault Description	Exclusion Method
U01A187	The BDCU on the BCANFD2 network fails to receive the CAN message SJBUN_Status with the ID of 0x18FF1659, losing communication with the SJBUN node	
U01A087	The BDCU on the BCANFD1 network fails to receive the CAN message SJBUP_Status with the ID of 0x18FF1554, losing communication with the SJBUP node	
U012787	The BDCU on the BCANFD1 network is unable to receive the CAN message TPMS_F_TirePressure with the ID of 0x18FEF433, losing communication with the TPMS_F node	
U016487	The BDCU on the BCANFD2 network fails to receive the CAN message AC_RearStatus with the ID of 0x18FF2419, losing communication with the AC node	
U018187	The BDCU on the BCANFD2 network fails to receive the CAN message ADBR_Light with the ID of 0x18FF145A, losing communication with the ADBR node	
U014187	The BDCU on the BCAND2 network cannot receive the CAN message AVA_Status with ID 0x18FF0E57 and has lost communication with the AVAS node	
U02A687	The BDCU on the BCANFD2 network fails to receive the CAN message SDM_Status with the ID of 0x18FF0F1D, losing communication with the SDM node	
U019987	The BDCU on the BCANFD3 network fails to receive the CAN message DCM_DC2 with the ID of 0x18FDA54F, losing communication with the DCM node	
U018887	The BDCU on the CANFD3 network fails to receive the CAN message EPM_Motor with the ID of 0x18F00E52, losing communication with the EPM node	

Fault Code	Fault Description	Exclusion Method
U014487	The BDCU on the BCANFD3 network is unable to receive the CAN message PWC_CS with the ID of 0x18FF0953 and loses communication with the PWC node	
U024A87	The BDCU on the BCANFD3 network fails to receive the CAN message SSM_ Status with the ID of 0x18FF0F58 and loses communication with the SSM node	
U012F87	The BDCU on the BCANFD4 network fails to receive the CAN message TPMS_Trailer_TirePressure with the ID of 0x18FEF45D and loses communication with the TPMS_Trailer node	
U021287	The BDCU on the BCAN5 network fails to receive the CAN message ESCL_ STATUS with the ID of 0x18FE054D and loses communication with the ESCL node	
U019887	The BDCU on the CANFD3 network fails to receive the CAN message TGW_TD_Time with the ID of 0x18FEE6EE and loses communication with the TGW node	
U007C88	BCANFD1 network Busoff	
U007D88	BCANFD2 network Busoff	
U007E88	BCANFD3 network Busoff	
U007F88	BCANFD4 network Busoff	
U008388	BCANFD5 network Busoff	
U008488	BCAN6 network Busoff	
U10538A	The BDCU on the BCAN6 network fails to receive the CAN message BCANFD6_RXID_NBSM_0x200 with the ID of 0x200 and loses communication with the Bluetooth node	

Fault Code	Fault Description	Exclusion Method
U015687	The BDCU on CANFD3 fails to receive the message with the ID of 0x18FEC1EE (CDCU_VDHR), resulting in a timeout error and leading to the belief that it has lost contact with the CDCU	
U012287	The BDCU on CANFD3 fails to receive the message with the ID of 0x18FCC231 (VDC_HSS1), which leads to a timeout error and makes it consider that it has lost contact with the VDCU	
U012187	The BDCU on CANFD3 fails to receive the message with the ID of 0x08FE6E0B (EBS_HRW) and thus generates a timeout error, believing that it has lost contact with the EBS	
U012887	The BDCU on CANFD3 fails to receive the message with the ID of 0x18FE1250 (EPBS1_EPB), which results in a timeout error and leads to the belief that it has lost contact with the EPB	
U007588	CANFD3 BusOff	
U220600	On BCANFD1, the BDCU enters limp - home mode (sends ID:0x18FFF021 (BDCU_NM_Limphome), and receives IDs:0x18FFF054 (SJBUP_NM_ Limphome), 0x18FFF055 (ADBL_NM_ Limphome), 0x18FFF059 (SJBUN_NM_ Limphome)), and a send or receive timeout occurs	
U220700	On BCANFD2, the BDCU enters limp - home mode (sending ID:0x18FFF021 (BDCU_NM_Limphome) and receiving IDs: 0x18FFF05A (ADBR_NM_ Limphome), 0x18FFF059 (SJBUN_NM_ Limphome)), resulting in a send or receive timeout	

Fault Code	Fault Description	Exclusion Method
U220A00	On BCANFD3, the BDCU enters limp-home mode (sending ID:0x18FFF021 (BDCU_NM_Limphome) and receiving ID:0x18FFF058 (SSM_NM_ Limphome)), which results in a send or receive timeout	
U015788	Communication with CAMF is lost	
U238084	SQI insufficient	Refer to BDCU Internal Fault
U238208	The Ethernet MDIO chip is abnormal	
U238108	Unexpected Ethernet connection loss	Refer to BDCU Ethernet Fault
U120387	The BDCU on the LIN1 network fails to receive the slave - response message RSL1 with the ID of 0x12, and the communication with the RSL node is abnormal	Refer to BDCU LIN1 Communication Fault
U105388	The BDCU on the LIN1 network can't receive the slave - response message RSL2 with the ID of 0x13, and there is an abnormal communication with the RSL node	
U105389	On the LIN1 network, the BDCU is unable to receive the slave - response message RSL3 with an ID of 0x14, and the communication with the RSL node is abnormal	
B151635	Main vehicle right front turn signal Fault	Refer to Right Front Turn Signal Fault
B151735	Main vehicle left front turn signal Fault	Refer to Left Front Turn Signal Fault
B152532	The high beam/overtaking switch is faulty	Refer to High Beam Overtaking Switch Fault
B152632	The wiper combination switch is faulty	Refer to Wiper Switch Fault
B152933	The high voltage pressure signal input is faulty	Refer to High Pressure & Temperature Sensor Fault
B152A33	The high voltage pressure signal input is faulty	
B153036	The ON power feedback of the electrical box is faulty	Refer to KL15 Power Feedback Signal Fault
B15353F	The power-on command output is faulty	Refer to KL15 Power On/off Command Output Signal Fault
B15363F	The power-off command output is faulty	
B153831	The power supply to the height adjustment module of the low light is faulty	Refer to Headlight Adjustment Motor Fault

Fault Code	Fault Description	Exclusion Method
B153C31	The power supply to the left center left rear turn signal of the main vehicle is faulty	Refer to Left Center Rear Turn Signal Fault
B153D31	The power supply of the right, middle and right rear turn signal of the main vehicle is faulty	Refer to Right Center Rear Turn Signal Fault
B15403F	The wiper is faulty at low speed	Refer to Wiper Motor Low-speed Signal Fault
B15413F	High-speed wiper failure	Refer to High Speed Signal Fault Of Wiper Motor
B15423F	The wiper washing motor is faulty	Refer to Washing Motor Fault
B154437	Rearview Mirror Heating Failure	Refer to Rearview Mirror Heating Fault
B15453F	The charging port is unlocked. Procedure	Refer to Charging Port Cover Lock Motor Fault
B15463F	The charging port is blocked	
B15493F	External toolbox motor unlocking failure	Refer to External Toolbox Motor Fault
B154A3F	External toolbox motor lockout failure	
B154B3F	The skylight visor opening function failed	Refer to Fault Of The Sunroof Sunshade
B154C3F	The awning curtain closing function is faulty	
B154D37	The upward adjustment of the left rearview mirror fails	Refer to Left Physical Rearview Mirror Adjustment Signal Fault
B154E37	The downward adjustment of the left rearview mirror fails	
B154F37	The left rearview mirror fails to adjust to the left	
B155037	The left rearview mirror fails to adjust to the right	
B155137	The right rearview mirror fails to adjust upwards	Refer to Right Physical Rearview Mirror Adjustment Signal Fault
B155237	Right rearview mirror downward adjustment failure	
B155337	The left adjustment of the right rearview mirror fails	
B155437	The right rearview mirror fails to adjust to the right	
B15573F	The interwheel solenoid valve is faulty	Refer to Interwheel Lock Solenoid Valve Fault
B155D31	Main driver reading light power supply failure	Refer to Front Left Reading Light Fault

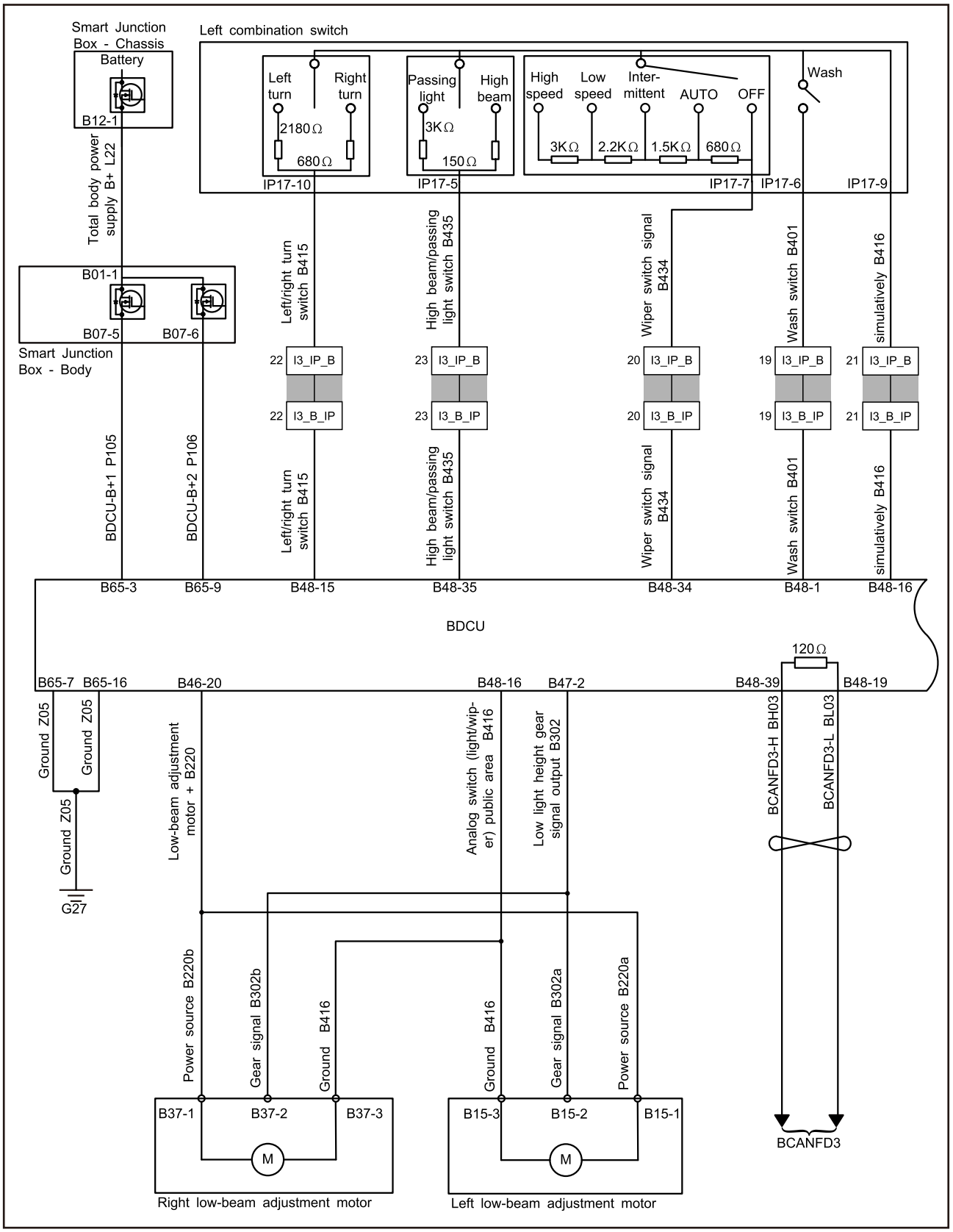
Fault Code	Fault Description	Exclusion Method
B155E31	Sleeper reading lamp power supply failure	Refer to Sleeper Reading Light Fault
B155F31	The ceiling light power supply is faulty	Refer to Sky Roof Light Fault
B156031	The power supply of the indicator lamp is faulty	Refer to Position Lamp Fault
B156331	The backlight lighting power supply is faulty	Refer to Backlight Power Fault
B156431	Danger alarm indicator key light power supply failure	Refer to Hazard Alarm Switch Backlight Power Fault
B156B31	Secondary car window rising power supply failure	Refer to Right window regulator Fault
B156C31	Secondary car window down power supply failure	
B156931	Main driving window rising power supply failure	Refer to Left window regulator Fault
B156A31	Main driving window down power supply failure	

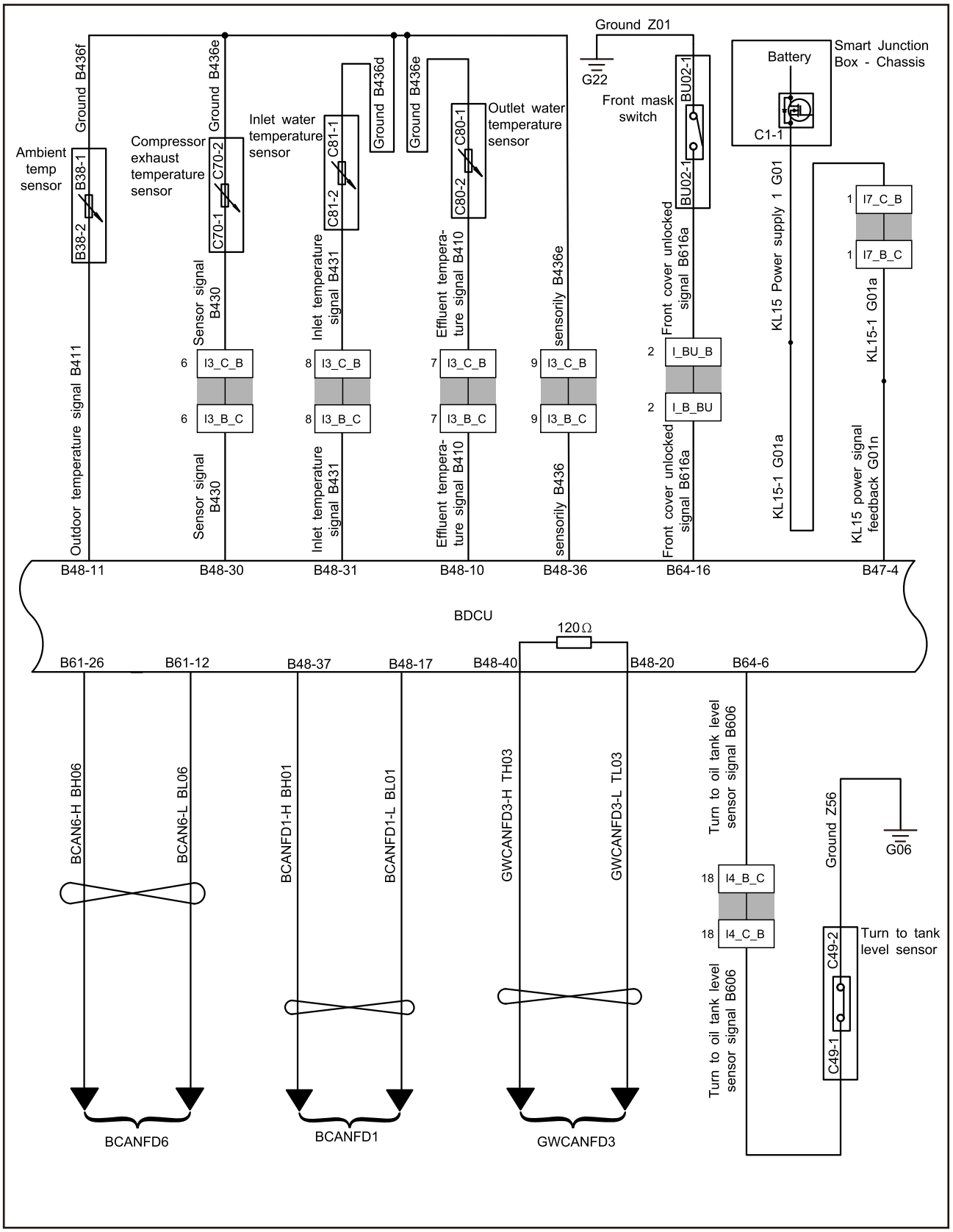
7.8.5.5 BDCU Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	High battery voltage	When the supply voltage rises to the upper limit of the diagnostic voltage, the ECU immediately stops the network-related diagnostic function. When the supply voltage is in the overvoltage state for 2 seconds, the overvoltage DTC is recorded	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.BDCU
B111716	Low Battery Voltage	When the supply voltage drops below the diagnostic voltage limit, the ECU immediately stops the network-related diagnostic function. When the supply voltage is in the undervoltage state for 2 seconds, the undervoltage DTC is recorded	

2.Circuit Diagram


Smart Junction Box - Chassis
Battery
B12-1
Total body power supply B+ L22
Left combination switch
Left turn
Right turn
2180Ω
680Ω
Passing light
High beam
3KΩ
150Ω
High speed
Low speed
Inter-mittent
AUTO
OFF
3KΩ
2.2KΩ
1.5KΩ
680Ω
Wash
IP17-10
IP17-5
IP17-7
IP17-6
IP17-9
B01-1
B07-5
B07-6
Smart Junction Box - Body
Left/right turn switch B415
High beam/passing light switch B435
Wiper switch signal B434
Wash switch B401
simulatively B416
22 I3_IP_B
22 I3_B_IP
23 I3_IP_B
23 I3_B_IP
20 I3_IP_B
20 I3_B_IP
19 I3_IP_B
19 I3_B_IP
21 I3_IP_B
21 I3_B_IP
BDCU-B+1 P105
BDCU-B+2 P106
B65-3
B65-9
B48-15
B48-35
B48-34
B48-1
B48-16
BDCU
120Ω
B65-7
B65-16
B46-20
B48-16
B47-2
B48-39
B48-19
Ground Z05
Ground Z05
Ground Z05
G27
Low-beam adjustment motor + B220
Analog switch (light/wiper) public area B416
Low light height gear signal output B302
BCANFD3-H BH03
BCANFD3-L BL03
Power source B220b
Gear signal B302b
Ground B416
Ground B416
Gear signal B302a
Power source B220a
B37-1
B37-2
B37-3
B15-3
B15-2
B15-1
M
M
BCANFD3
Right low-beam adjustment motor
Left low-beam adjustment motor



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides BDCU?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the BDCU power supply and grounding harness.

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

Step 7:Clear and confirm DTC.

7.8.5.6 BDCU Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U015787	On the BCANFD4 network, the BDCU cannot receive the CAN packet ADCU_ LCMD whose ID is 0x18FE4131, and the communication between the BDCU and the ADCU node fails. Procedure	1.The timeout period for receiving CAN ADCU_LCMD reaches 10 *Cycle (Cycle = 100 ms). 2.KL30 on; 3. Diagnostic voltage range;	1. Wiring harness 2.BDCU
U220200	The BDCU on BCANFD3 limps home (send ID:0x18FFF021 (BDCU_NM_ Limphome). Receive ID:0x18FFF058, (SSM_NM_ Limphome)). The send or receive timeout occurred. Procedure	The BDCU on the BCANFD3 limps home, resulting in a send or receive timeout.	
U018087	There is no CAN message ABL_Light with the ID of 0x18FF1455 received by BDCU on the BCANFD1 network, and the communication with the ADBL node is lost	1. The timeout period for receiving CAN packets ABL_ LightJIE reaches 10 *Cycle (Cycle = 100 ms). 2.KL15 on; 3. Diagnostic voltage range;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U018087	The Ethernet MDIO chip is abnormal	1.In section 1 and 4_1, add DID:2506 Debug log path information, 2507 Bluetooth primary node VIN code, 2508 Bluetooth primary node serial number, 2509 Bluetooth primary node software version, 250A Bluetooth left node software version, 250B Bluetooth right node software version, and 250C Bluetooth front node software version	
U01A187	The BDCU on the BCANFD2 network fails to receive the CAN message SJBUN_Status with the ID of 0x18FF1659, losing communication with the SJBUN node	1. The timeout period for receiving CAN message SJBUN_Status reaches 10 *Cycle (Cycle = 100 ms). 2.network wake up; 3.Diagnostic voltage range;	
U01A087	The BDCU on the BCANFD1 network fails to receive the CAN message SJBUP_Status with the ID of 0x18FF1554, losing communication with the SJBUP node	1. The timeout period for receiving CAN message SJBUP_Status reaches 10 *Cycle (Cycle = 100 ms). 2.network wake up; 3. Diagnostic voltage range;	
U012787	The BDCU on the BCANFD1 network is unable to receive the CAN message TPMS_F_TirePressure with the ID of 0x18FEF433, losing communication with the TPMS_F node	1. The TPMS_F_TirePressure receiving timeout period reaches 10 *Cycle (Cycle = 500 ms). 2.KL15 on; 3. Diagnostic voltage range;	
U016487	The BDCU on the BCANFD2 network fails to receive the CAN message AC_RearStatus with the ID of 0x18FF2419, losing communication with the AC node	1.The receiving timeout of the CAN message AC_RearStatus reaches 10 * Cycle (where Cycle = 100 ms). 2.KL15 on; 3. Diagnostic voltage range;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U018187	The BDCU on the BCANFD2 network fails to receive the CAN message ADBR_Light with the ID of 0x18FF145A, losing communication with the ADBR node	1.The receiving timeout of the CAN message ADBR_Light reaches 10 * Cycle (where Cycle = 100 ms). 2.KL15 on; 3. Diagnostic voltage range;	
U014187	The BDCU on the BCANFD2 network fails to receive the CAN message AVAS_Status with the ID of 0x18FF0E57, losing communication with the AVAS node	1. The timeout period for receiving CAN packet AVAS_Status reaches 10 *Cycle (Cycle = 500 ms). 2.KL15 on; 3. Diagnostic voltage range;	
U02A687	The BDCU on the BCANFD2 network fails to receive the CAN message SDM_Status with the ID of 0x18FF0F1D, losing communication with the SDM node	1. The timeout period for receiving CAN SJBUN_Status packets reaches 5000 ms(Cycle = 1000 ms). 2.network wake up; 3. Diagnostic voltage range;	
U019987	The BDCU on the BCANFD3 network fails to receive the CAN message DCM_DC2 with the ID of 0x18FDA54F, losing communication with the DCM node	1. The timeout period for receiving CAN DCM_DC2 packets reaches 10 *Cycle (Cycle = 100 ms). 2. Power on the DCM. 3. Diagnostic voltage range;	
U018887	The BDCU on the CANFD3 network fails to receive the CAN message EPM_Motor with the ID of 0x18F00E52, losing communication with the EPM node	1. The timeout period for receiving CAN packet EPM_Motor reaches 10 *Cycle (Cycle = 200 ms). 2.KL15 on; 3. Diagnostic voltage range;	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U014487	The BDCU on the BCANFD3 network is unable to receive the CAN message PWC_CS with the ID of 0x18FF0953 and loses communication with the PWC node	1. The timeout period for receiving CAN packets PWC_CS reaches 5000(Cycle = 1000 ms). 2.KL15 on; 3. Diagnostic voltage range;	
U024A87	The BDCU on the BCANFD3 network fails to receive the CAN message SSM_Status with the ID of 0x18FF0F58 and loses communication with the SSM node	1. The timeout period for receiving CAN packet SSM_Status reaches 10 *Cycle (Cycle = 200 ms). 2.KL15 on; 3. Diagnostic voltage range;	
U012F87	The BDCU on the BCANFD4 network fails to receive the CAN message TPMS_Trailer_TirePressure with the ID of 0x18FEF45D and loses communication with the TPMS_Trailer node	1. The TPMS_Trailer_TirePressure receive timeout period reaches 5000 (Cycle = 50000 ms). 2.KL15 on; 3. Diagnostic voltage range;	
U021287	The BDCU on the BCAN5 network fails to receive the CAN message ESCL_STATUS with the ID of 0x18FE054D and loses communication with the ESCL node	1.The receiving timeout of the CAN message ESCL_STATUS reaches 10 * Cycle (where Cycle = 50 ms). 2.KL15 on; 3. Diagnostic voltage range;	
U019887	The BDCU on the CANFD3 network fails to receive the CAN message TGW_TD_Time with the ID of 0x18FEE6EE and loses communication with the TGW node	1. The timeout period for receiving CAN TGW_TD_Time packets reaches 5000(Cycle = 1000 ms). 2.KL15 on; 3. Diagnostic voltage range;	

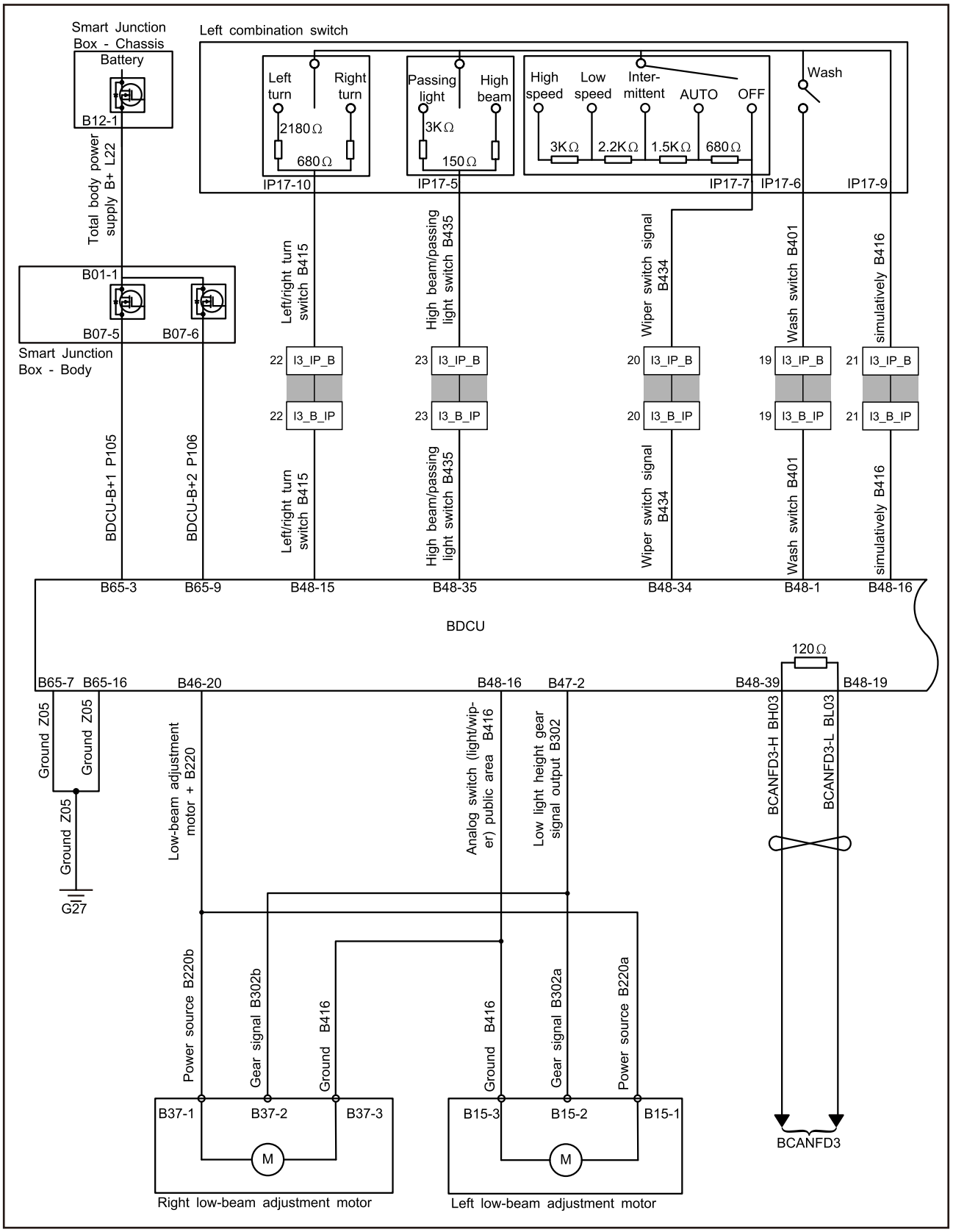
DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007C88	BCANFD1 network Busoff	1. The BCANFD1 network CAN controller enters the BusOff state. 2.network wake up; 3. Diagnostic voltage range;	
U007D88	BCANFD2 network Busoff	1. The BCANFD2 network CAN controller enters the BusOff state. 2.network wake up; 3. Diagnostic voltage range;	
U007E88	BCANFD3 network Busoff	1. The BCANFD3 network CAN controller enters BusOff state; 2.network wake up; 3. Diagnostic voltage range;	
U007F88	BCANFD4 network Busoff	1. The BCANFD4 network CAN controller enters BusOff state; 2.network wake up; 3. Diagnostic voltage range;	
U008388	BCANFD5 network Busoff	1. The BCANFD5 network CAN controller enters BusOff state; 2.network wake up; 3. Diagnostic voltage range;	
U008488	BCAN6 network Busoff	1. The BCAN6 network CAN controller enters the BusOff state; 2.network wake up; 3. Diagnostic voltage range;	
U10538A	The BDCU on the BCAN6 network fails to receive the CAN message BCANFD6_ RXID_NBSM_0x200 with the ID of 0x200 and loses communication with the Bluetooth node	1. The timeout period for receiving CAN packets BCANFD6_RXID_NBSM_0x200 reaches 10 x Cycle (Cycle = 100 ms). 2.KL15 on; 3. Diagnostic voltage range;	

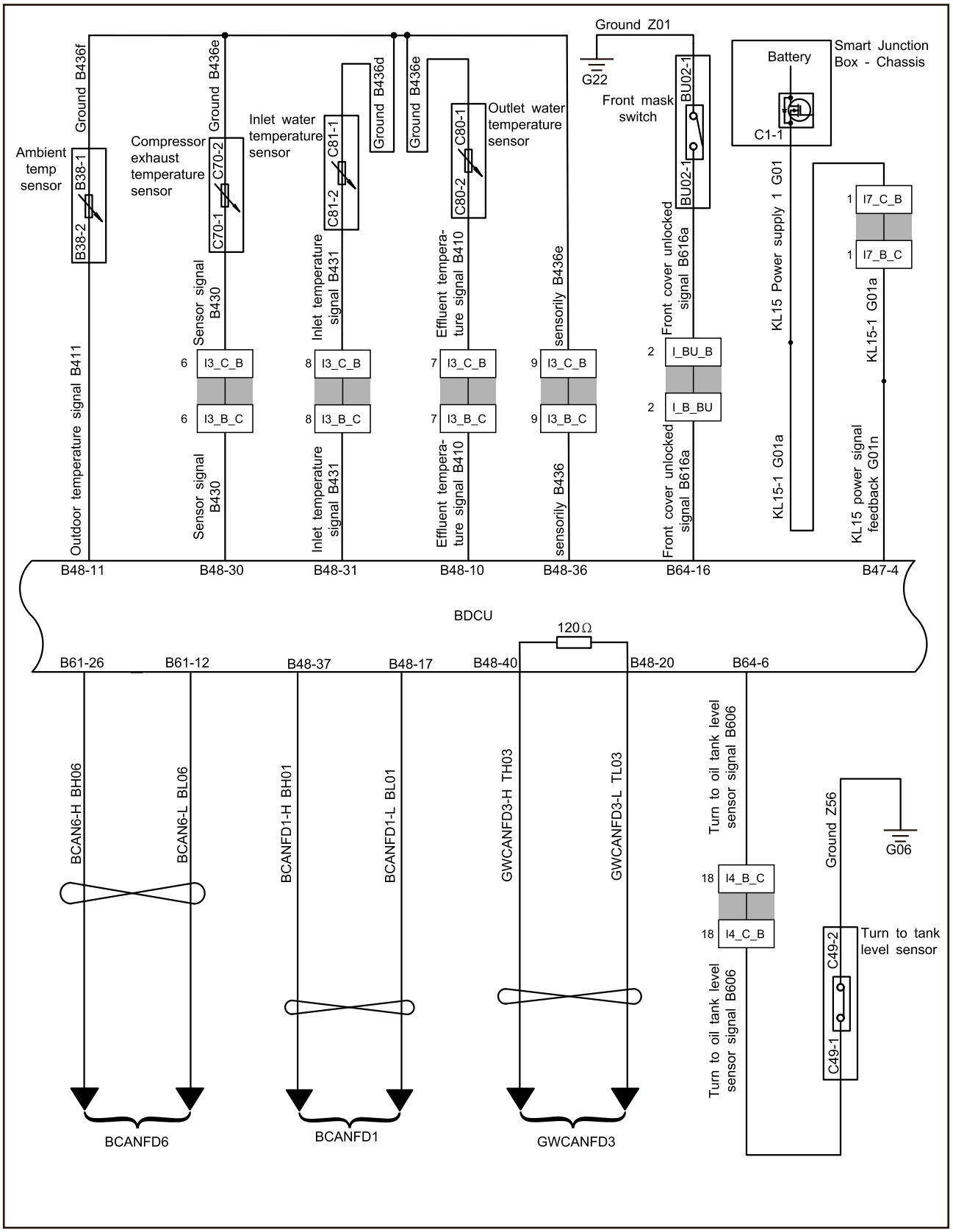
DTC Code	Description	DTC Trigger Conditions	Faulty Part
U015687	The BDCU on CANFD3 fails to receive the message with the ID of 0x18FEC1EE (CDCU_VDHR), resulting in a timeout error and leading to the belief that it has lost contact with the CDCU	1. The timeout period for receiving CAN CDCU_VDHR packets reaches 10000(Cycle = 1000ms). 2.KL15 on; 3. Diagnostic voltage range;	
U012287	The BDCU on CANFD3 fails to receive the message with the ID of 0x18FCC231 (VDC_HSS1), which leads to a timeout error and makes it consider that it has lost contact with the VDCU	1. The timeout period for receiving CAN packets VDC_HSS1 reaches 1000(Cycle = 100ms). 2.KL15 on; 3. Diagnostic voltage range;	
U012187	The BDCU on CANFD3 fails to receive the message with the ID of 0x08FE6E0B (EBS_HRW) and thus generates a timeout error, believing that it has lost contact with the EBS	1. The timeout period for receiving CAN EBS_HRW packets reaches 20(Cycle = 200ms). 2.KL15 on; 3. Diagnostic voltage range;	
U012887	The BDCU on CANFD3 fails to receive the message with the ID of 0x18FE1250 (EPBS1_EPB), which results in a timeout error and leads to the belief that it has lost contact with the EPB	1. The timeout period for receiving CAN packets VDC_HSS1 reaches 1000(Cycle = 100ms). 2.KL15 on; 3. Diagnostic voltage range;	
U007588	CANFD3 BusOff	CANFD3 BusOff occurs for five consecutive times	

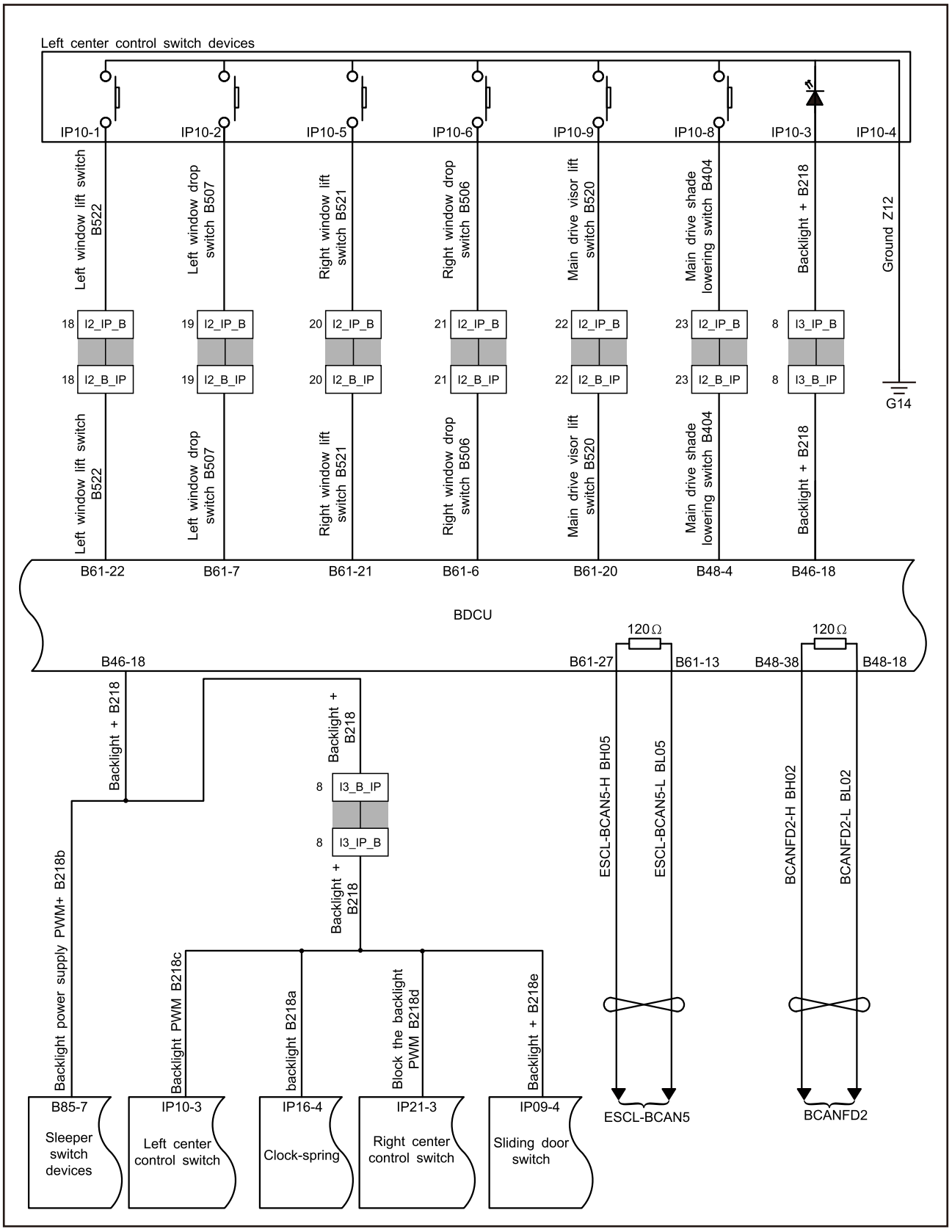
DTC Code	Description	DTC Trigger Conditions	Faulty Part
U220600	On BCANFD1, the BDCU enters limp - home mode (sends ID:0x18FFF021 (BDCU_NM_ Limphome), and receives IDs:0x18FFF054 (SJBUP_NM_ Limphome), 0x18FFF055 (ADBL_ NM_Limphome), 0x18FFF059 (SJBUN_ NM_Limphome)), and a send or receive timeout occurs	The BDCU on BCANFD1 limps home, resulting in sending or receiving timeout.	
U220700	On BCANFD2, the BDCU enters limp - home mode (sending ID:0x18FFF021 (BDCU_NM_ Limphome) and receiving IDs:0x18FFF05A (ADBR_NM_ Limphome), 0x18FFF059 (SJBUN_ NM_Limphome)), resulting in a send or receive timeout	The BDCU on BCANFD2 limps home, resulting in sending or receiving timeout.	
U220A00	On BCANFD3, the BDCU enters limp- home mode (sending ID:0x18FFF021 (BDCU_NM_ Limphome) and receiving ID:0x18FFF058 (SSM_NM_ Limphome)), which results in a send or receive timeout	The BDCU on the BCANFD3 limps home, resulting in a send or receive timeout.	

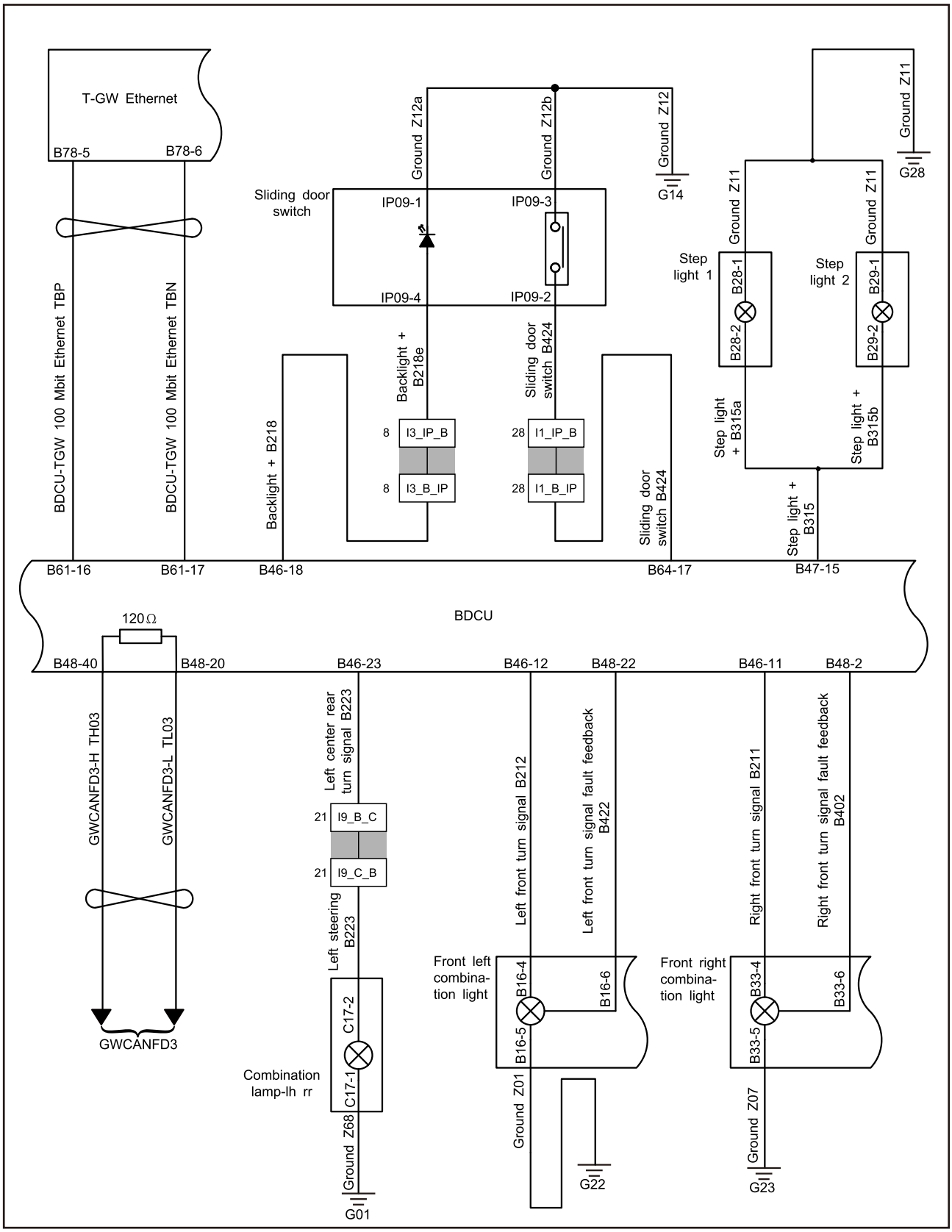
DTC Code	Description	DTC Trigger Conditions	Faulty Part
U015788	Communication with CAMF is lost	1. The timeout period for receiving CAN CAMF_Stauts reaches 10 x Cycle (Cycle =100 ms). 2.KL15 on; 3. Diagnostic voltage range;	

2.Circuit Diagram


Smart Junction Box - Chassis
Battery
B12-1
Total body power supply B+ L22
Left combination switch
Left turn
Right turn
2180Ω
680Ω
Passing light
High beam
3KΩ
150Ω
High speed
Low speed
Inter-mittent
AUTO
OFF
3KΩ
2.2KΩ
1.5KΩ
680Ω
Wash
IP17-10
IP17-5
IP17-7
IP17-6
IP17-9
B01-1
B07-5
B07-6
Smart Junction Box - Body
Left/right turn switch B415
High beam/passing light switch B435
Wiper switch signal B434
Wash switch B401
simulatively B416
22 I3_IP_B
22 I3_B_IP
23 I3_IP_B
23 I3_B_IP
20 I3_IP_B
20 I3_B_IP
19 I3_IP_B
19 I3_B_IP
21 I3_IP_B
21 I3_B_IP
BDCU-B+1 P105
BDCU-B+2 P106
B65-3
B65-9
B48-15
B48-35
B48-34
B48-1
B48-16
BDCU
120Ω
B65-7
B65-16
B46-20
B48-16
B47-2
B48-39
B48-19
Ground Z05
Ground Z05
Ground Z05
G27
Low-beam adjustment motor + B220
Analog switch (light/wiper) public area B416
Low light height gear signal output B302
BCANFD3-H BH03
BCANFD3-L BL03
Power source B220b
Gear signal B302b
Ground B416
Ground B416
Gear signal B302a
Power source B220a
B37-1
B37-2
B37-3
B15-3
B15-2
B15-1
M
M
BCANFD3
Right low-beam adjustment motor
Left low-beam adjustment motor


Ground Z01
G22
Front mask switch
BU02-1
BU02-1
Front cover unlocked signal B616a
Battery
Smart Junction Box - Chassis
C1-1
KL15 Power supply 1 G01
KL15-1 G01a
KL15 power signal feedback G01n
KL15-1 G01a
1 I7_C_B
1 I7_B_C
2 I_BU_B
2 I_B_BU
Ground B436f
Ground B436e
Ground B436d
Ground B436e
Ambient temp sensor
B38-1
B38-2
Compressor exhaust temperature sensor
C70-2
C70-1
Inlet water temperature sensor
C81-1
C81-2
C80-1
C80-2
Outlet water temperature sensor
Outdoor temperature signal B411
Sensor signal B430
Inlet temperature signal B431
Effluent tempera-ture signal B410
sensorily B436e
6 I3_C_B
6 I3_B_C
8 I3_C_B
8 I3_B_C
7 I3_C_B
7 I3_B_C
9 I3_C_B
9 I3_B_C
Sensor signal B430
Inlet temperature signal B431
Effluent tempera-ture signal B410
sensorily B436
B48-11
B48-30
B48-31
B48-10
B48-36
B64-16
B47-4
BDCU
120Ω
B61-26
B61-12
B48-37
B48-17
B48-40
B48-20
B64-6
BCAN6-H BH06
BCAN6-L BL06
BCANFD1-H BH01
BCANFD1-L BL01
GWCANFD3-H TH03
GWCANFD3-L TL03
Turn to oil tank level sensor signal B606
18 I4_B_C
18 I4_C_B
Turn to oil tank level sensor signal B606
Ground Z56
G06
C49-2
C49-1
Turn to tank level sensor
BCANFD6
BCANFD1
GWCANFD3


Left center control switch devices
IP10-1
IP10-2
IP10-5
IP10-6
IP10-9
IP10-8
IP10-3
IP10-4
Left window lift switch B522
Left window drop switch B507
Right window lift switch B521
Right window drop switch B506
Main drive visor lift switch B520
Main drive shade lowering switch B404
Backlight + B218
Ground Z12
18 I2_IP_B
19 I2_IP_B
20 I2_IP_B
21 I2_IP_B
22 I2_IP_B
23 I2_IP_B
8 I3_IP_B
18 I2_B_IP
19 I2_B_IP
20 I2_B_IP
21 I2_B_IP
22 I2_B_IP
23 I2_B_IP
8 I3_B_IP
G14
B61-22
B61-7
B61-21
B61-6
B61-20
B48-4
B46-18
BDCU
120Ω
120Ω
B46-18
B61-27
B61-13
B48-38
B48-18
Backlight + B218
Backlight + B218
8 I3_B_IP
8 I3_IP_B
Backlight + B218
Backlight power supply PWM+ B218b
Backlight PWM B218c
backlight B218a
Block the backlight PWM B218d
Backlight + B218e
ESCL-BCAN5-H BH05
ESCL-BCAN5-L BL05
BCANFD2-H BH02
BCANFD2-L BL02
B85-7
Sleeper switch devices
IP10-3
Left center control switch
IP16-4
Clock-spring
IP21-3
Right center control switch
IP09-4
Sliding door switch
ESCL-BCAN5
BCANFD2



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the BCAN6 bus communication harness. Refer to Inspection Of BCAN6 Bus Network Integrity

Step 4:Check the BCANFD3 bus communication harness. Refer to Inspection Of BCAND3 Bus Network Integrity

Step 5:Check the BCAN5 bus communication harness. Refer to Inspection Of BCAN5 Bus Network Integrity

Step 6:Check the BCAND2 bus communication harness. Refer to Inspection Of BCAND2 Bus Network Integrity

Step 7:Check the CANFD3 bus communication harness. Refer to Inspection Of CANFD3 Bus Network Integrity

Step 8:Check the BCANFD1 bus communication harness. Refer to Inspection Of BCAND1 Bus Network Integrity

Step 9:BDCU rewrite configuration code, software reload, upgrade.

Step 10:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

Step 11:Clear and confirm DTC.

7.8.5.7 BDCU Internal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U238084	SQI insufficient	SQI below the threshold occurs 20 times within 60s	1.BDCU
U238208	The Ethernet MDIO chip is abnormal	Unable to read SWITCH chip register	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:BDCU rewrite configuration code, software reload, upgrade.

Step 4:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

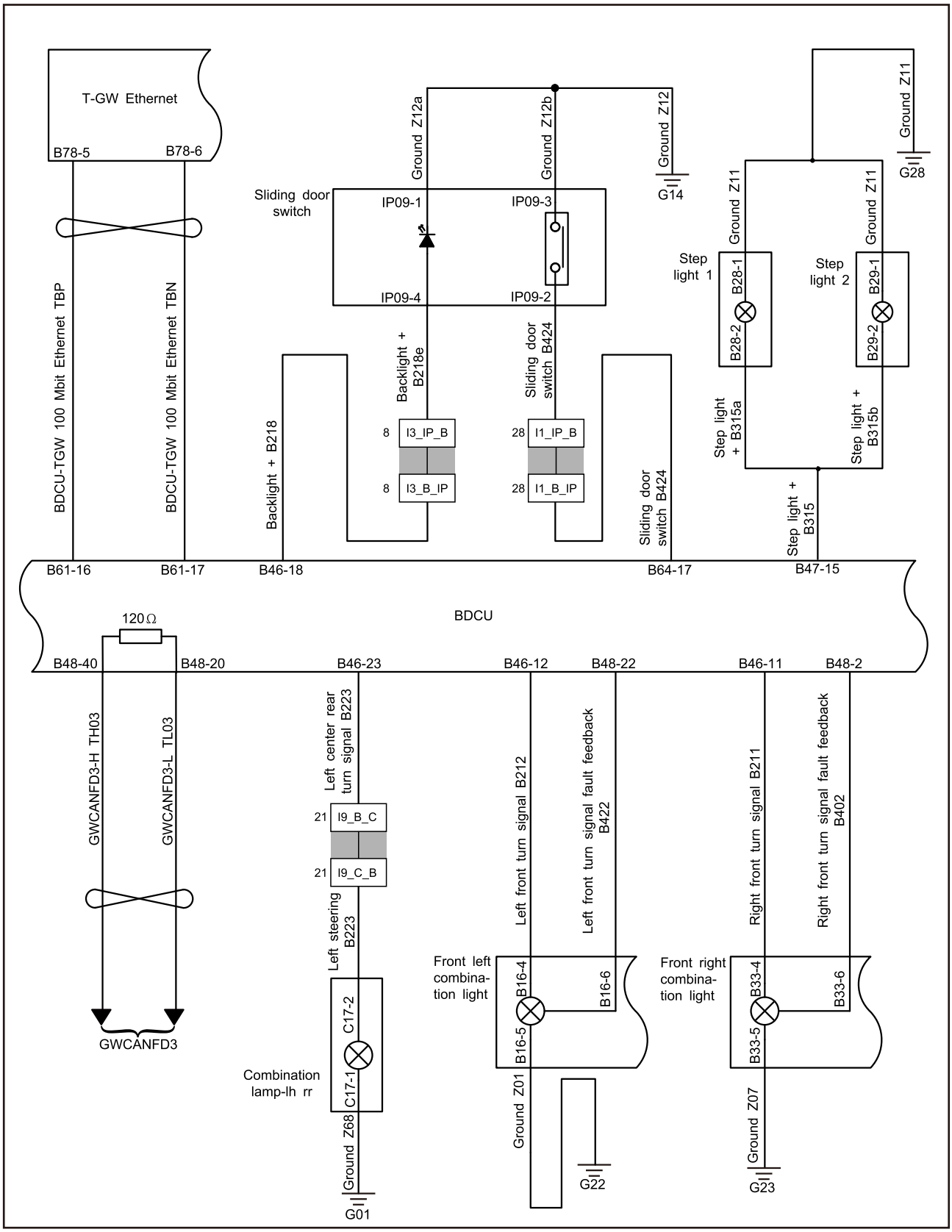
Step 5:Clear and confirm DTC.

7.8.5.8 BDCU Ethernet Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U238108	Unexpected Ethernet connection loss	If the current link status of the Ethernet port is not link-Up, the counter increases by 1. If the current link status is not link-Up for 10 consecutive times, a fault is reported	1. Wiring harness 2.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the BDCU Ethernet harness.

Step 4:BDCU rewrite configuration code, software reload, upgrade.

Step 5:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

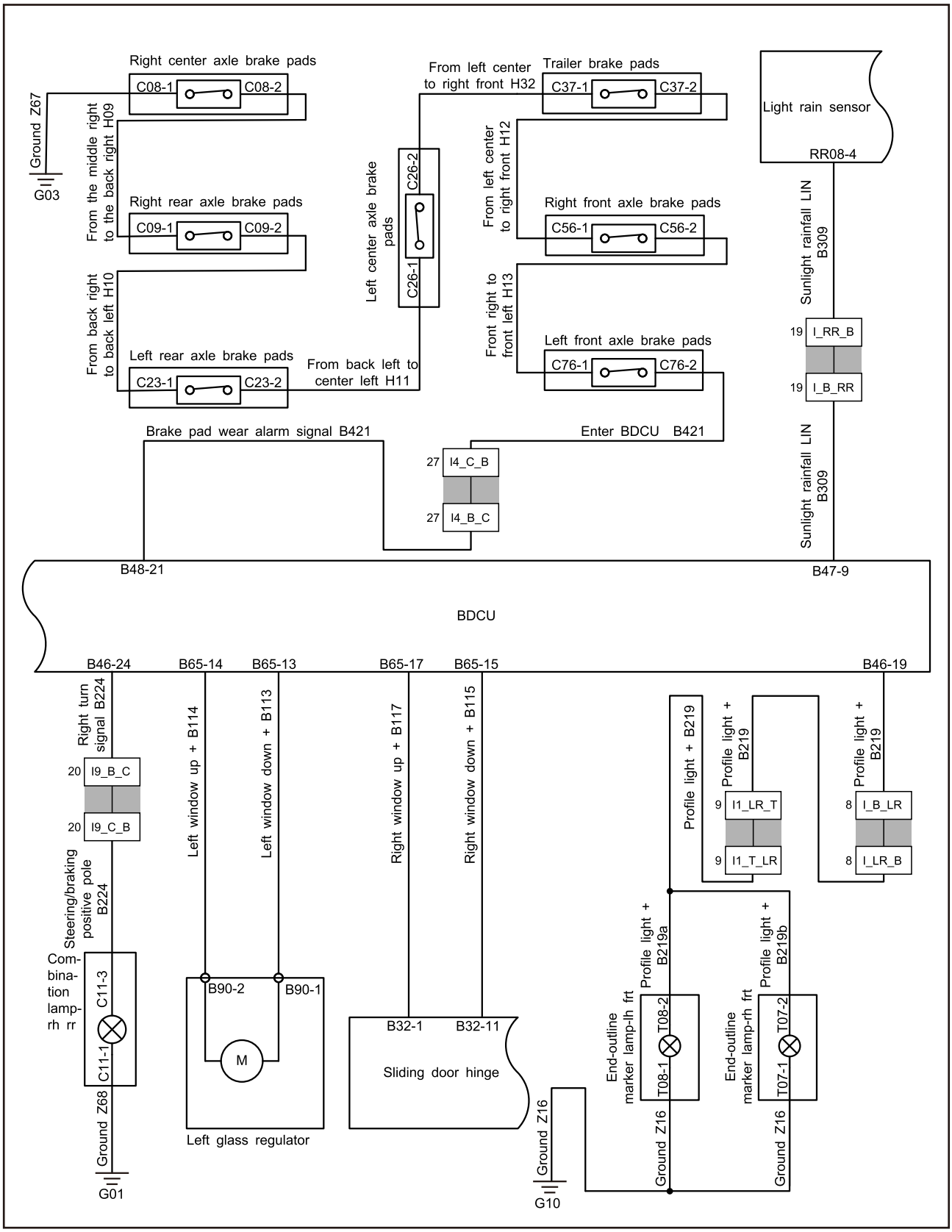
Step 6:Clear and confirm DTC.

7.8.5.9 BDCU LIN1 Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U120387	The BDCU on the LIN1 network fails to receive the slave - response message RSL1 with the ID of 0x12, and the communication with the RSL node is abnormal	1. The BDCU cannot receive response packet RSL1 from the slave whose ID is 0x12. 2, KL15 on; 3, diagnostic voltage range;	1. Wiring harness 2.Sunshine and rainfall sensor 3.BDCU
U105388	The BDCU on the LIN1 network can't receive the slave - response message RSL2 with the ID of 0x13, and there is an abnormal communication with the RSL node	1. The BDCU cannot receive response packet RSL3 from the slave machine whose ID is 0x13. 2, KL15 on; 3, diagnostic voltage range;	
U105389	On the LIN1 network, the BDCU is unable to receive the slave - response message RSL3 with an ID of 0x14, and the communication with the RSL node is abnormal	1. The BDCU cannot receive response packet RSL3 from the slave whose ID is 0x14. 2, KL15 on; 3, diagnostic voltage range;	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the LIN1 network harness between the BDCU and the sunlight rain sensor.

Step 4:Replace the sunlight and rain sensor. Refer to Replacement Of Sunshine Rainfall Sensor

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

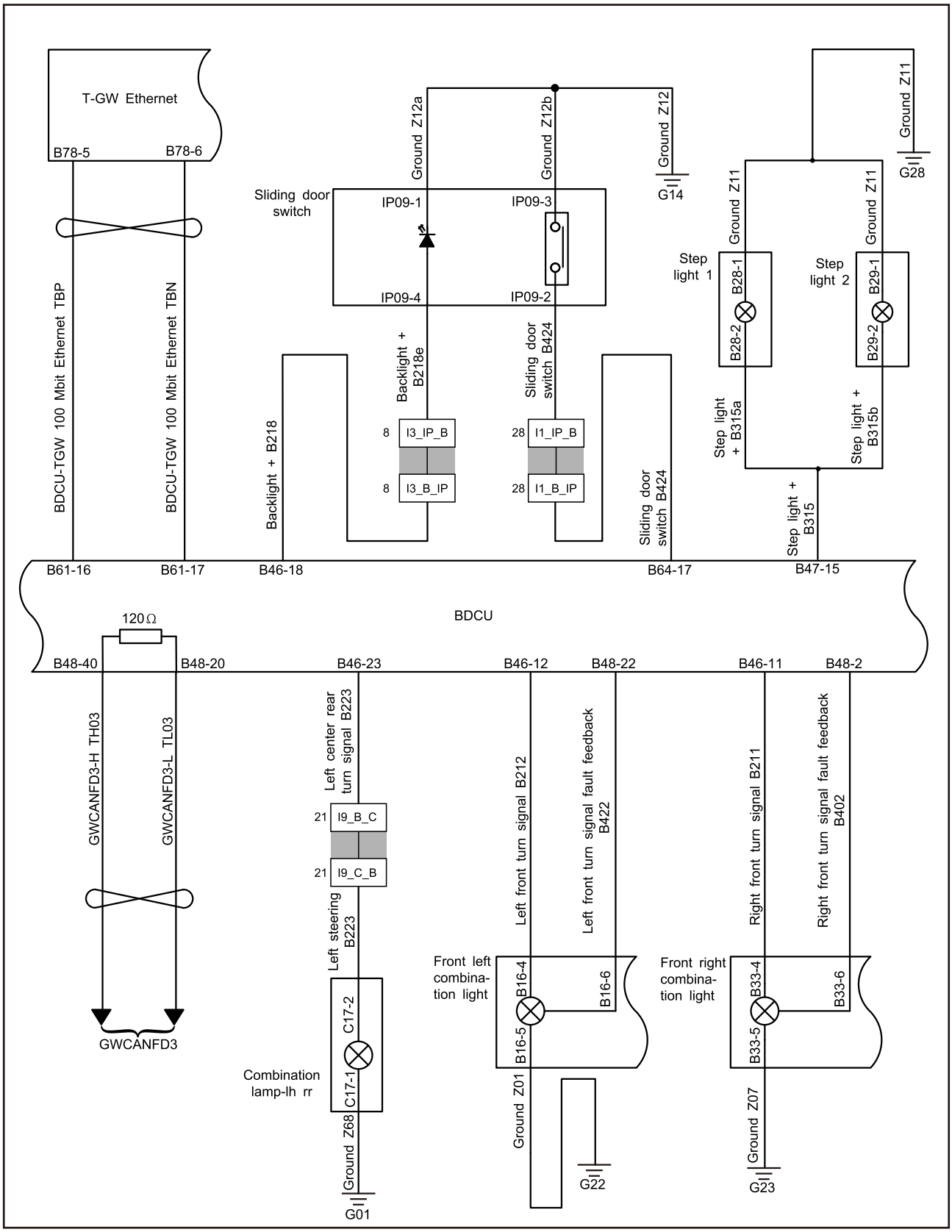
Step 7:Clear and confirm DTC.

7.8.5.10 Right Front Turn Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B151635	Main vehicle right front turn signal malfunction	1, KL15 on; 2. After the switch is turned on/off, the voltage collected by the controller does not change;	1. Wiring harness 2.Front right combination lamp (right front turn signal) 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the front right combination light (right front turn signal light).

Step 4:Check the grounding harness of the front right combination lamp (right front turn signal lamp).

Step 5:Connect the front right combination lamp (right front turn signal) to an external 12V power supply. Observe if the front right combination lamp (right front turn signal) lights up?

- Yes: Next step
- No: Replace the front right combination light (right front turn signal light). Refer to Replacement Of Right Front Combination Lamp

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

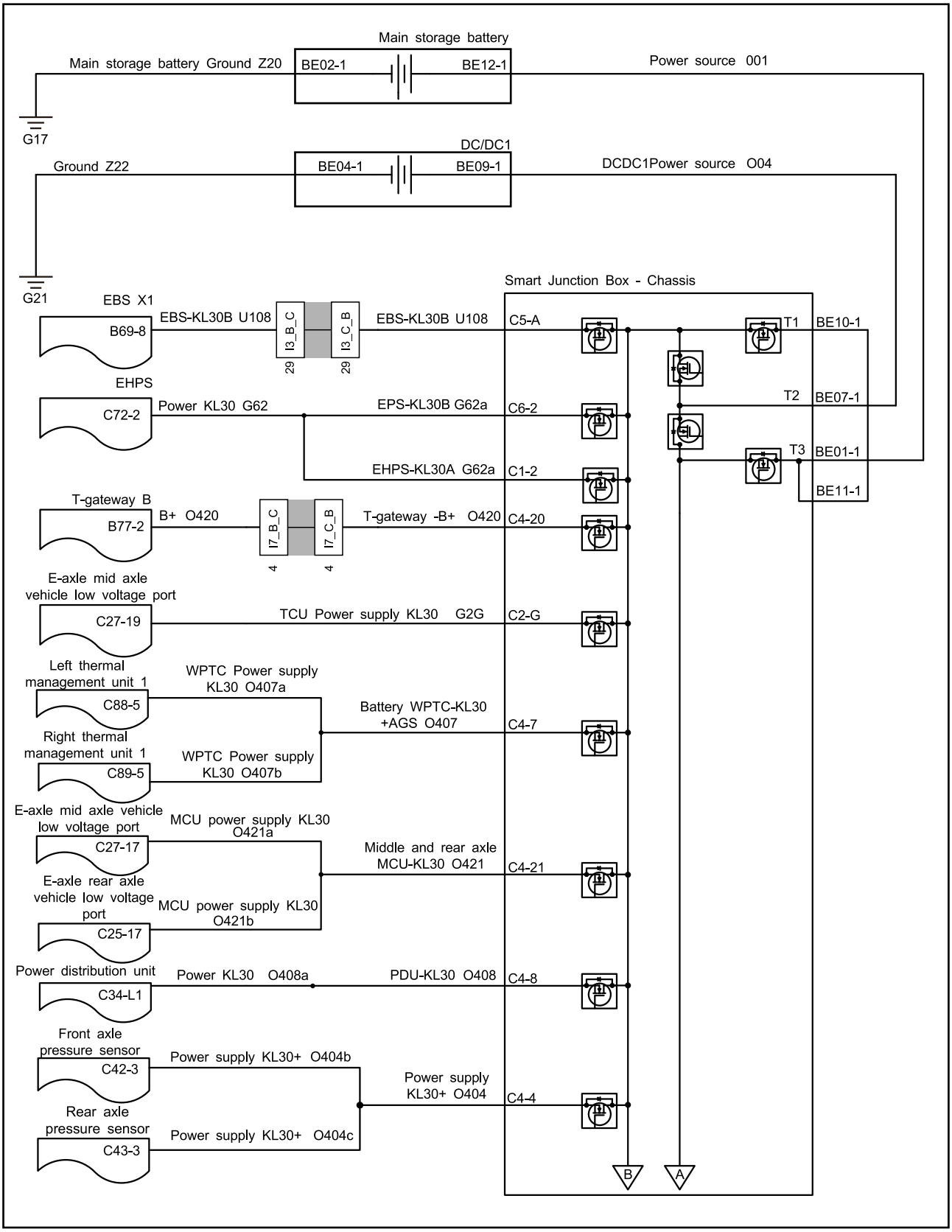
Step 8:Clear and confirm DTC.

7.8.5.11 Left Front Turn Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B151735	Main vehicle left front turn signal malfunction	1.KL15 on; 2.After the switch is turned on/off, the voltage collected by the controller does not change;	1. Wiring harness 2.Front left combination lamp (left front turn signal) 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the front left combination lamp (left front turn signal).

Step 4:Check the grounding harness of the front left combination lamp (left front turn signal).

Step 5:Connect the front left combination lamp (left front turn signal) to an external 12V power supply. Observe if the front left combination lamp (left front turn signal) lights up?

- Yes: Next step
- No: Replace the front left combination lamp (left front turn signal). Refer to Replacement Of Left Front Combination Lamp

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

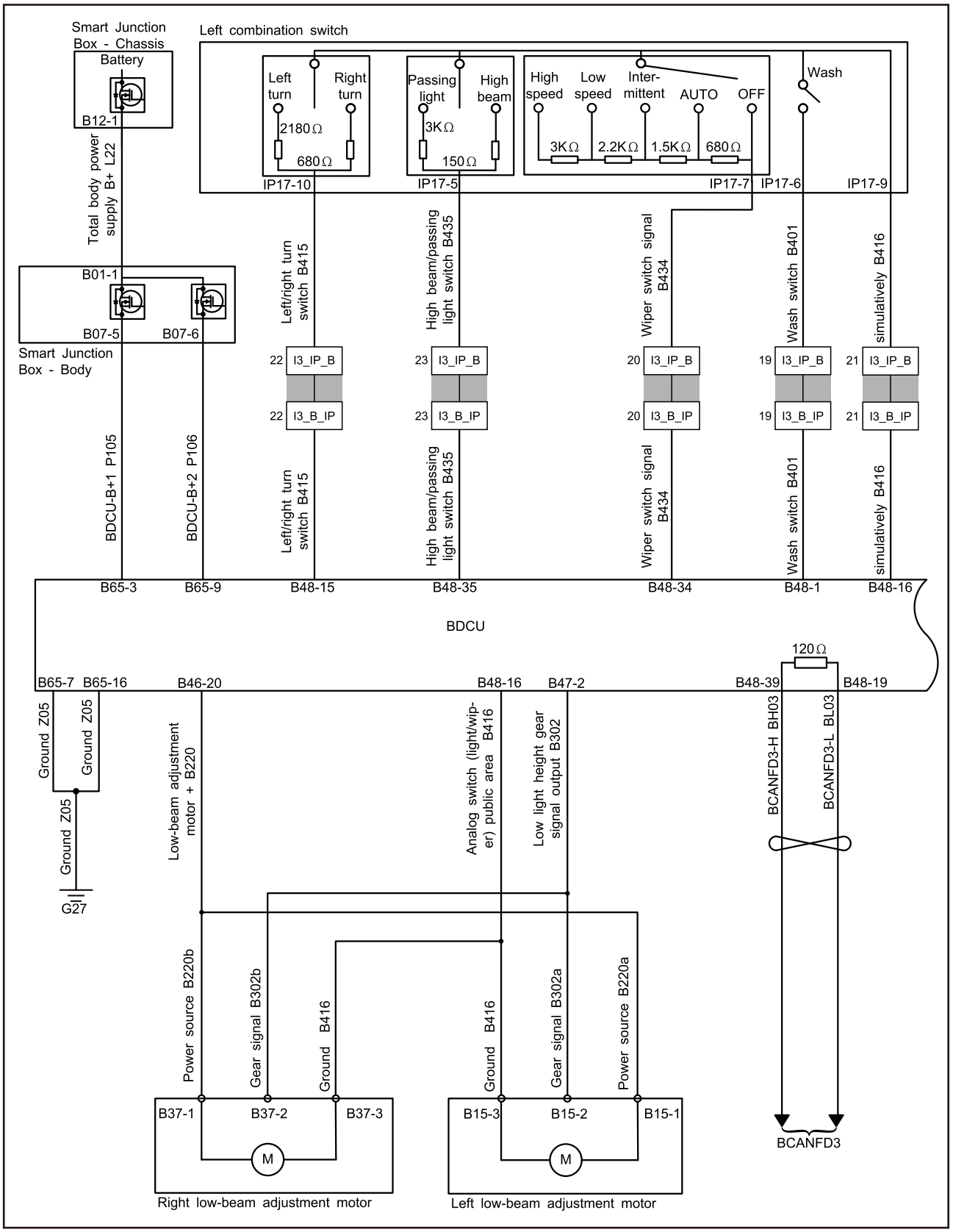
Step 8:Clear and confirm DTC.

7.8.5.12 High Beam Overtaking Switch Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B152532	The high beam/ overtaking switch is faulty	1.KL15 on; 2.After the switch is turned on/off, the voltage collected by the controller does not change;	1. Wiring harness 2.Left combination switch (high beam overtaking switch) 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the left combination switch (high beam overtaking switch).

Step 4:Check if the left combination switch (high beam overtaking switch) is functioning properly?

Operation	Switch Status
Turn on high beam/passing lights	Turn on the high beam/overtaking switch
Turn off high beam/passing lights	High beam/overtaking switch disconnected

– Yes: Next step

– No: Replace the left combination switch (high beam overtaking switch). Refer to Replacement Of Combination Switch

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

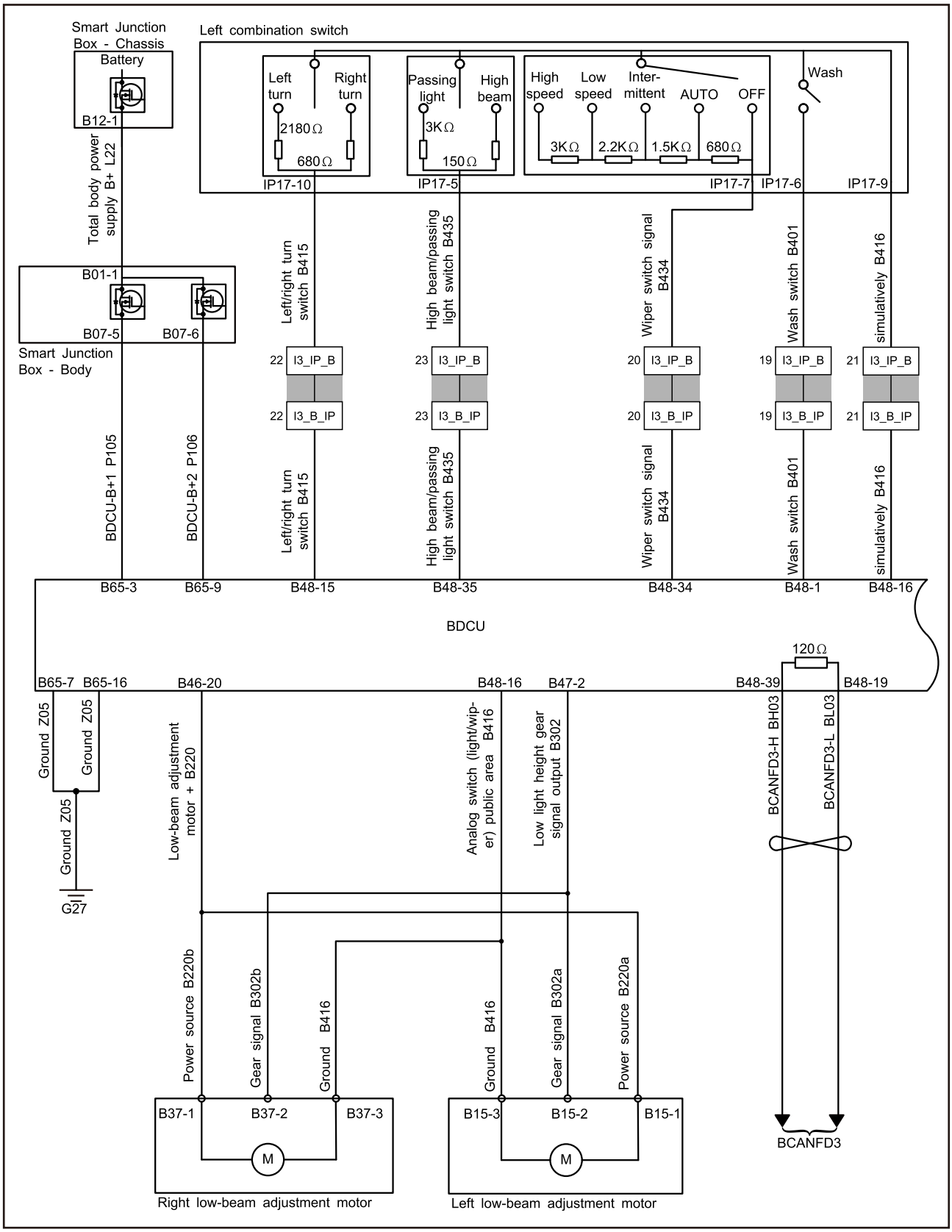
Step 7:Clear and confirm DTC.

7.8.5.13 Wiper Switch Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B152632	The wiper combination switch is faulty	1, KL15 on; 2. After the switch is turned on/off, the voltage collected by the controller does not change;	1. Wiring harness 2. Left combination switch (wiper switch) 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the left combination switch (wiper switch).

Step 4:Check if the left combination switch (wiper switch) is functioning properly?

Operation	Switch Status
Turn on the wiper at low speed	Wiper switch low gear on
Turn off the wiper at low speed	Wiper switch low gear disconnected
Turn on the wiper high gear	Wiper switch on high gear
Turn off the windshield wipers in high gear	Wiper switch high gear disconnected

– Yes: Next step

– No: Replace the left combination switch (wiper switch). Refer to Replacement Of Combination Switch

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

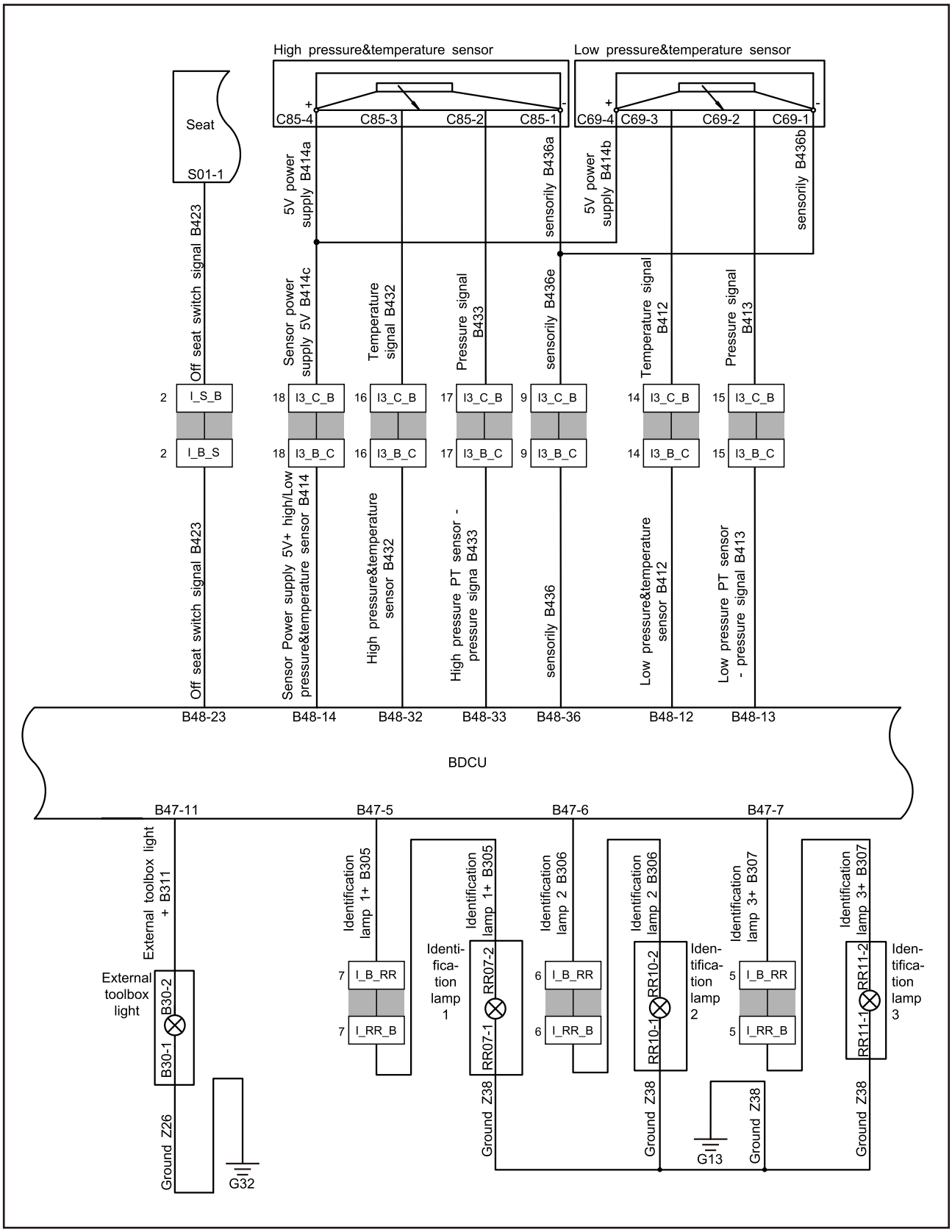
Step 7:Clear and confirm DTC.

7.8.5.14 High Pressure & Temperature Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B152933	The high voltage pressure signal input is faulty	1, KL15 on; 2, the controller can not collect the input voltage	1. Wiring harness 2.Left thermal management unit (left thermal management unit (high pressure & temperature sensor)) 3.BDCU
B152A33	The high voltage pressure signal input is faulty	1, KL15 on; 2, the controller can not collect the input voltage	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the left thermal management unit (high pressure & temperature sensor).

Step 4:Check if the left thermal management unit (high pressure & temperature sensor) is functioning properly?

– Yes: Next step

– No: Replace the left thermal management unit (high pressure & temperature sensor). Refer to Replacement Of Thermal Management Unit (Left)

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

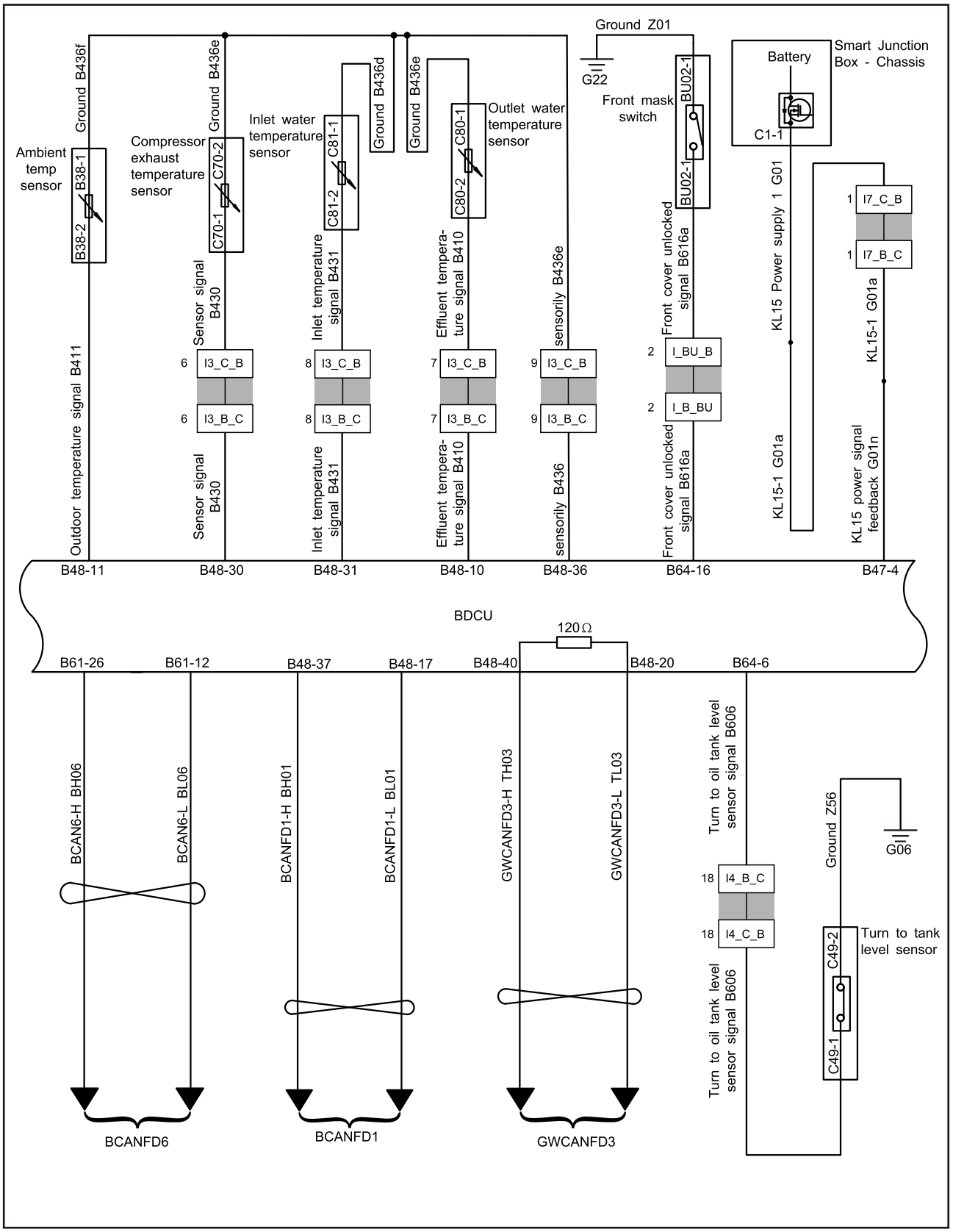
Step 7:Clear and confirm DTC.

7.8.5.15 KL15 Power Feedback Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B153036	The ON power feedback of the electrical box is faulty	1.KL15 on; 2.the controller can not collect the input voltage	1. Wiring harness 2.Smart junction box DOWN 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any fault codes related to the power supply circuit?

- Yes: Prioritize troubleshooting power supply circuit related faults.
- No: Next step

Step 4:Check the KL15 power feedback harness between the BDCU and the smart junction box DOWN.

Step 5:Rewrite the configuration code, reload the software, and upgrade the smart junction box DOWN.

Step 6:Replace the smart junction box DOWN. Refer to Replacement Of Chassis Smart Electrical Box

Step 7:BDCU rewrite configuration code, software reload, upgrade.

Step 8:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

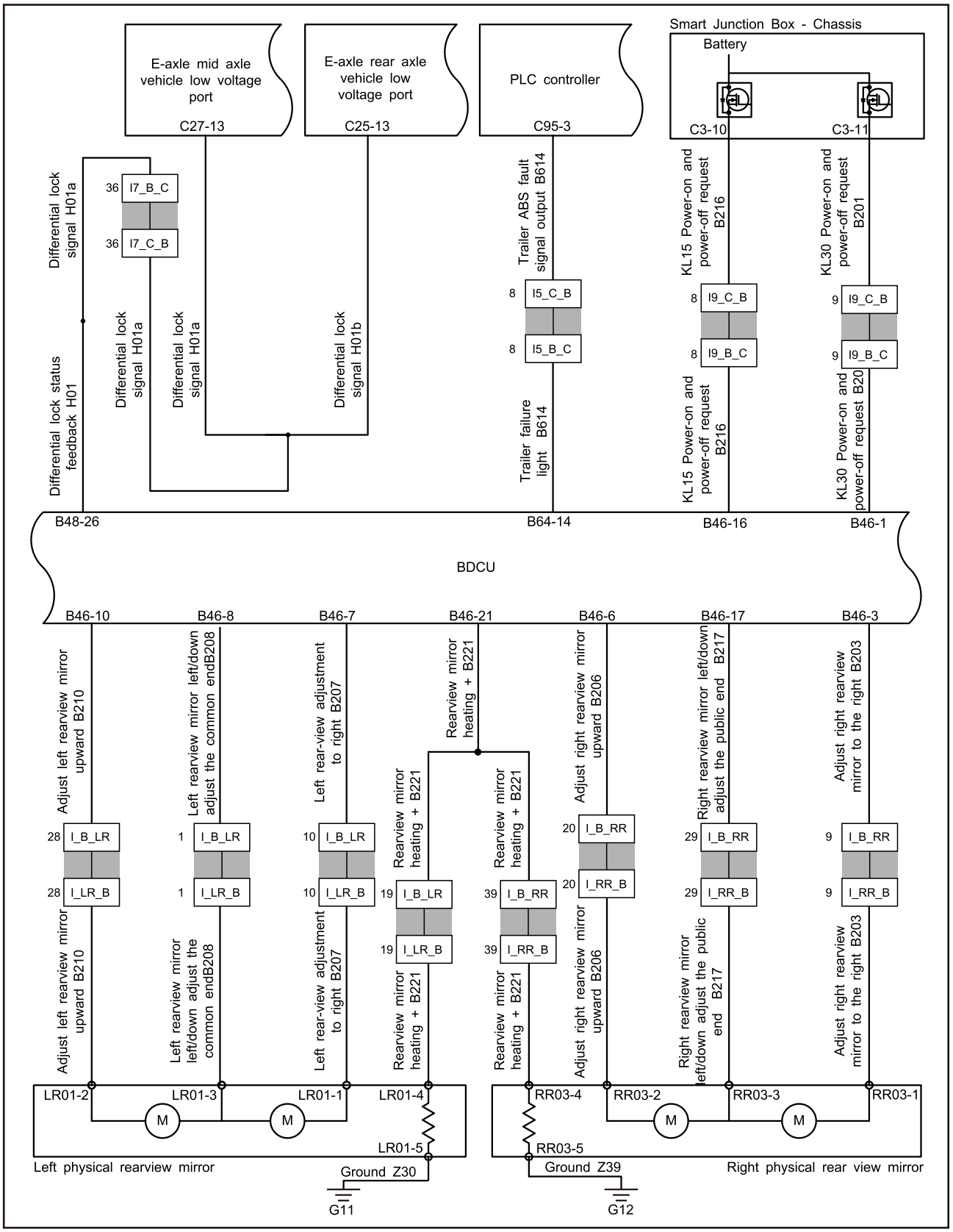
Step 9:Clear and confirm DTC.

7.8.5.16 KL15 Power On/off Command Output Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B15353F	The power-on command output is faulty	1, KL15 on; 2, the controller can not collect the input voltage	1. Wiring harness 2.BDCU
B15363F	The power-off command output is faulty	1, KL15 on; 2, the controller can not collect the input voltage	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any fault codes related to the power supply circuit?

- Yes: Prioritize troubleshooting power supply circuit related faults.
- No: Next step

Step 4:Check the hard wire collection harness between BDCU, smart junction box DOWN, and smart junction box UP.

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

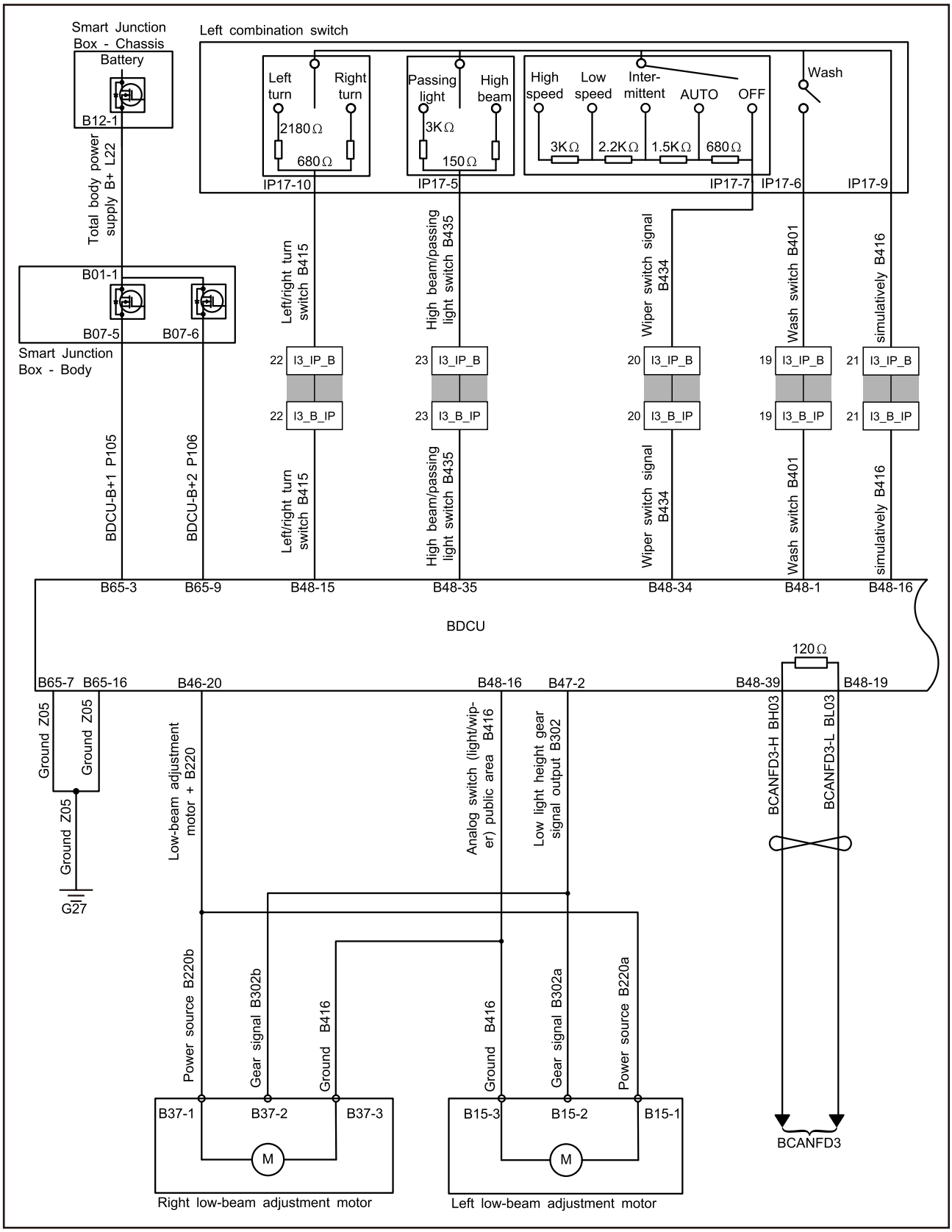
Step 7:Clear and confirm DTC.

7.8.5.17 Headlight Adjustment Motor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B153831	The power supply to the height adjustment module of the low light is faulty	1.KL15 on; 2.the controller can not collect the input voltage	1. Wiring harness 2.Headlight adjustment motor 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the BDCU and the headlight adjustment motor.

Step 4:The headlight adjustment motor is connected to an external 12V power supply. observe the headlight adjustment motor is functioning properly?

– Yes: Next step

– No: Replace the headlight adjustment motor. Refer to Replacement of left headlight.Replacement Of Right Headlight

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

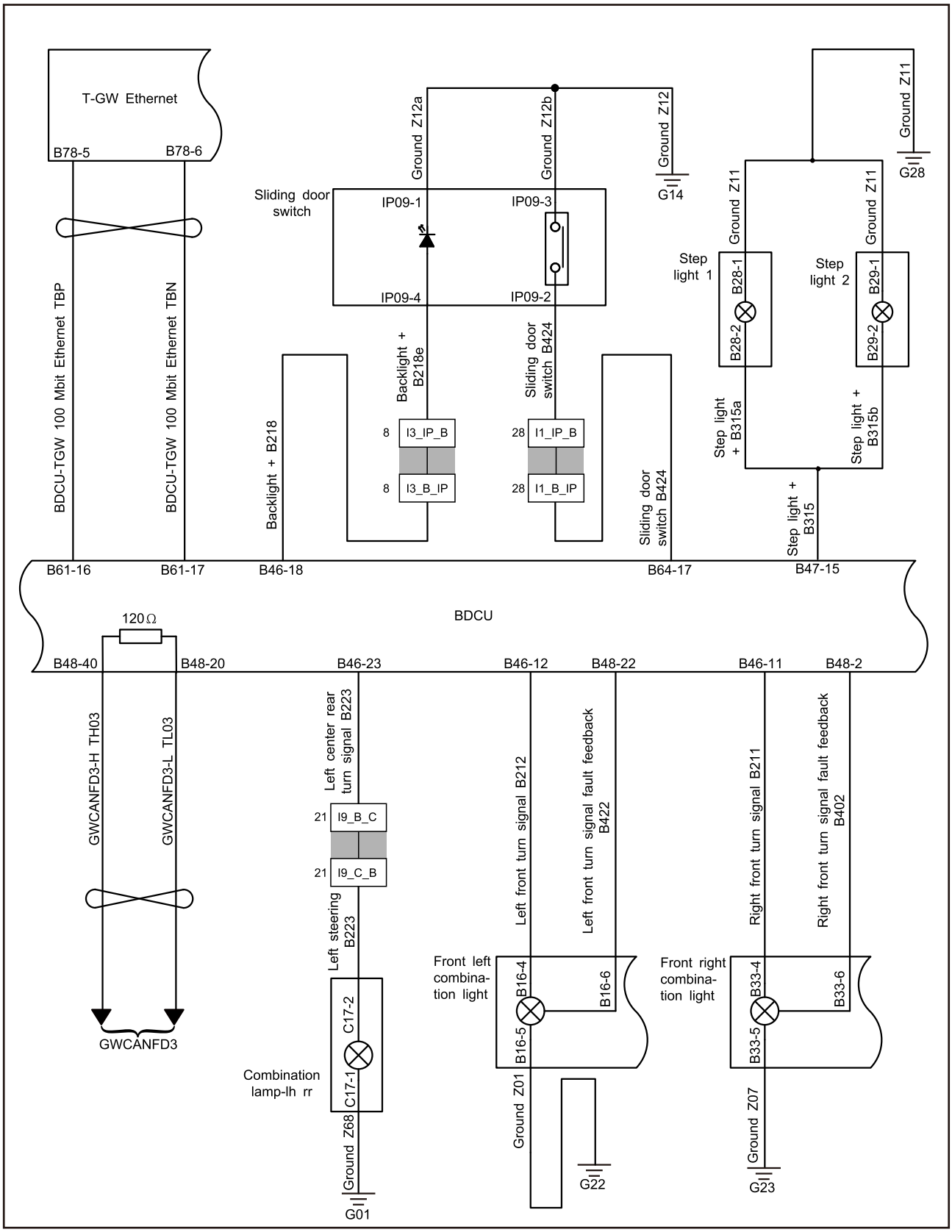
Step 7:Clear and confirm DTC.

7.8.5.18 Left Center Rear Turn Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B153C31	The power supply to the left center left rear turn signal of the main vehicle is faulty	1.KL15 on; 2.the controller can not collect the input voltage	1. Wiring harness 2.Left middle rear turn signal 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the left middle rear turn signal.

Step 4:Check the grounding harness of the left middle rear turn signal.

Step 5:Connect the left middle rear turn signal to an external 12V power supply. Observe if the left middle rear turn signal lights up?

- Yes: Next step
- No: Replace the left middle rear turn signal. Refer to Replacement Of Left-Side Combination Marker Lamp

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

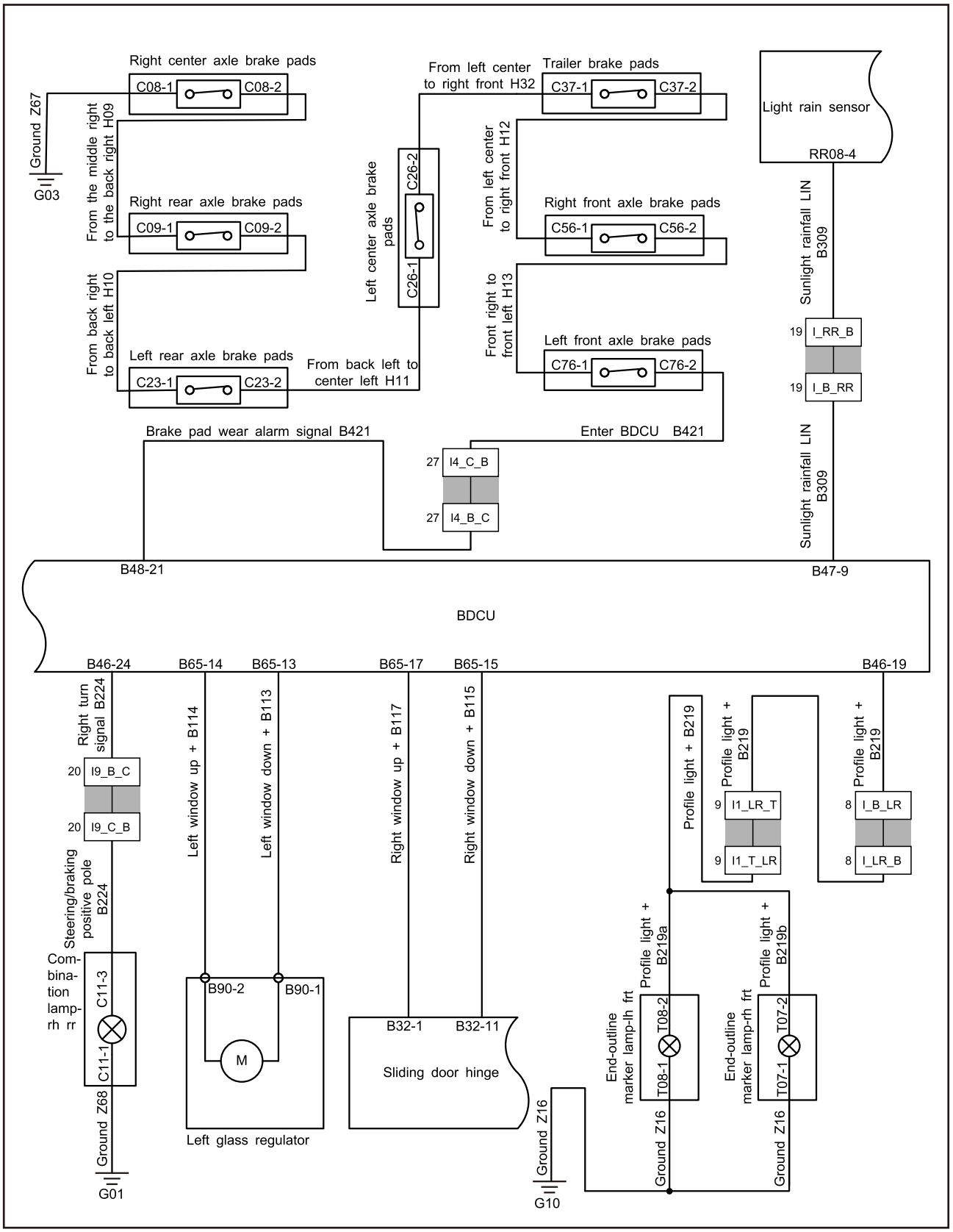
Step 8:Clear and confirm DTC.

7.8.5.19 Right Center Rear Turn Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B153D31	The power supply of the right, middle and right rear turn signal of the main vehicle is faulty	1.KL15 on; 2.the controller can not collect the input voltage	1. Wiring harness 2.Right center rear turn signal 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the right center rear turn signal.

Step 4:Check the grounding harness of the right middle rear turn signal.

Step 5:Connect the right center rear turn signal to an external 12V power supply. Observe if the right center rear turn signal lights up?

- Yes: Next step
- No: Replace the right center rear turn signal. Refer to Replacement Of Right-Side Combination Marker Lamp

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

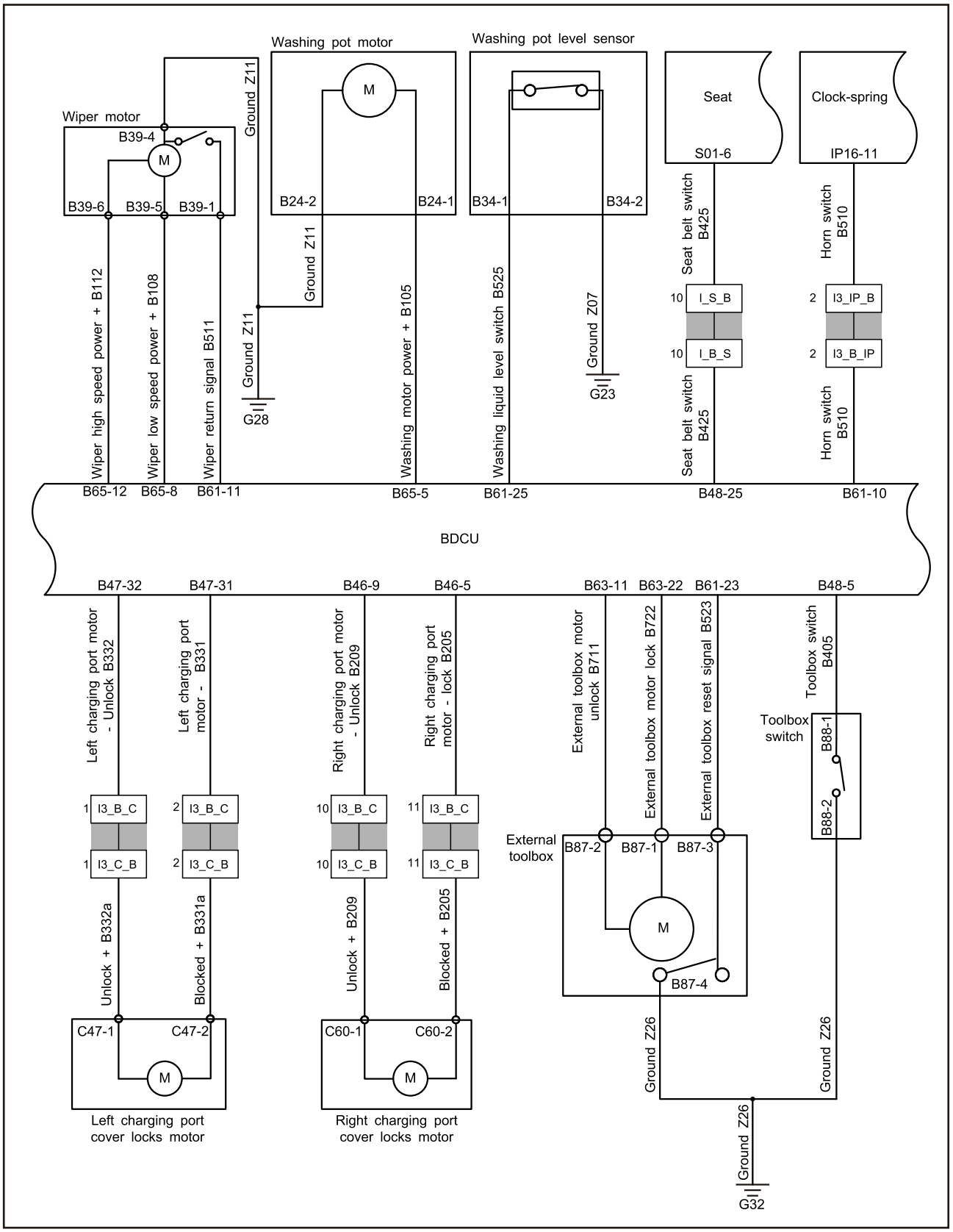
Step 8:Clear and confirm DTC.

7.8.5.20 Wiper Motor Low-speed Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B15403F	The wiper is faulty at low speed	1.KL15 on; 2.After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2. Wiper motor 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the low-speed power harness between BDCU and wiper motor.

Step 4:Check the grounding harness of the wiper motor.

Step 5:The wiper motor is connected to an external 12V power supply. observe the wiper motor is operating?

- Yes: Next step
- No: Replace the wiper motor. Refer to Replacement Of Wiper Motor Assembly

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

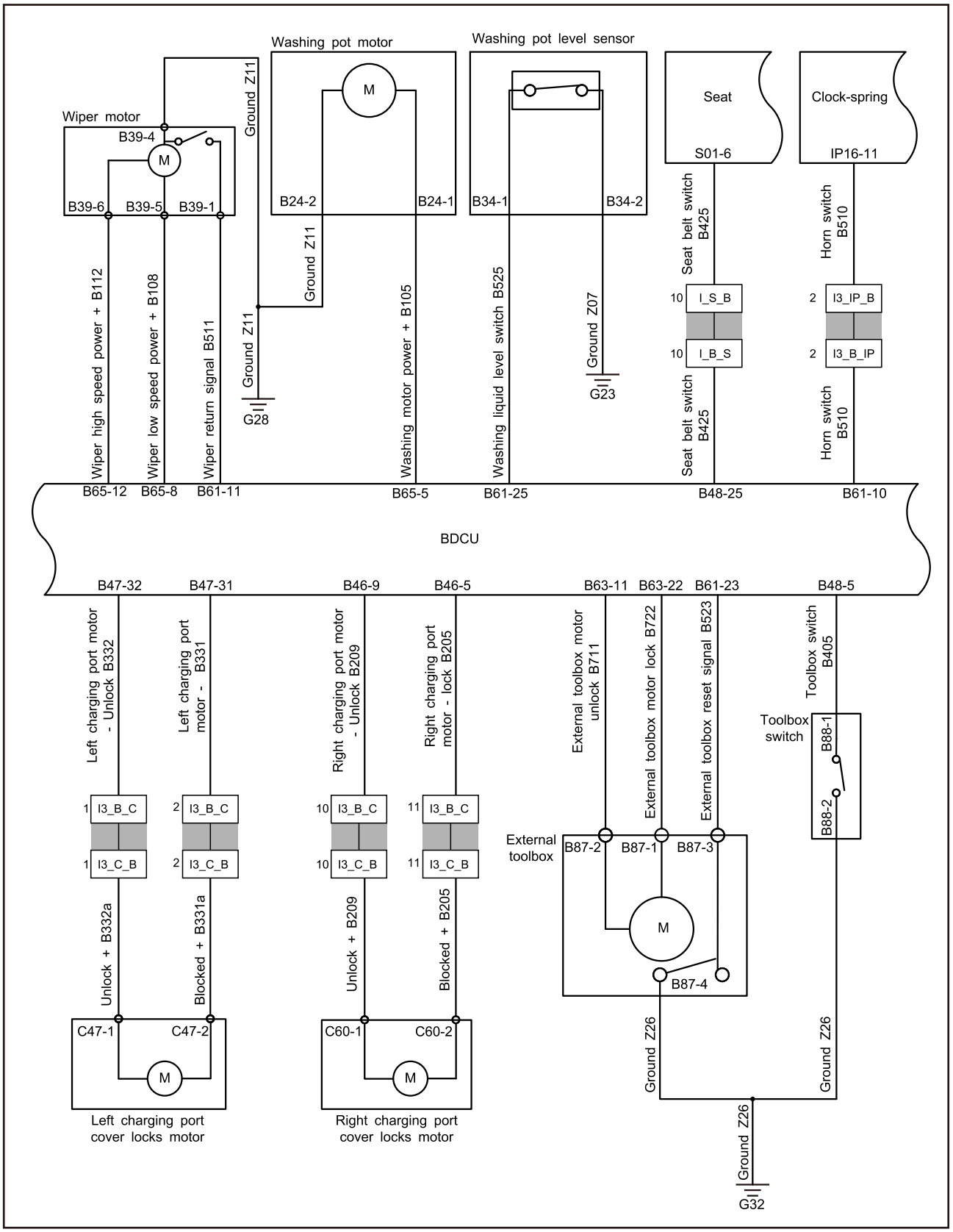
Step 8:Clear and confirm DTC.

7.8.5.21 High Speed Signal Fault Of Wiper Motor

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B15413F	High-speed wiper failure	1.KL15 on; 2.After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2.Wiper motor 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the high-speed power harness between BDCU and wiper motor.

Step 4:Check the grounding harness of the wiper motor.

Step 5:The wiper motor is connected to an external 12V power supply. observe the wiper motor is operating?

- Yes: Next step
- No: Replace the wiper motor. Refer to Replacement Of Wiper Motor Assembly

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

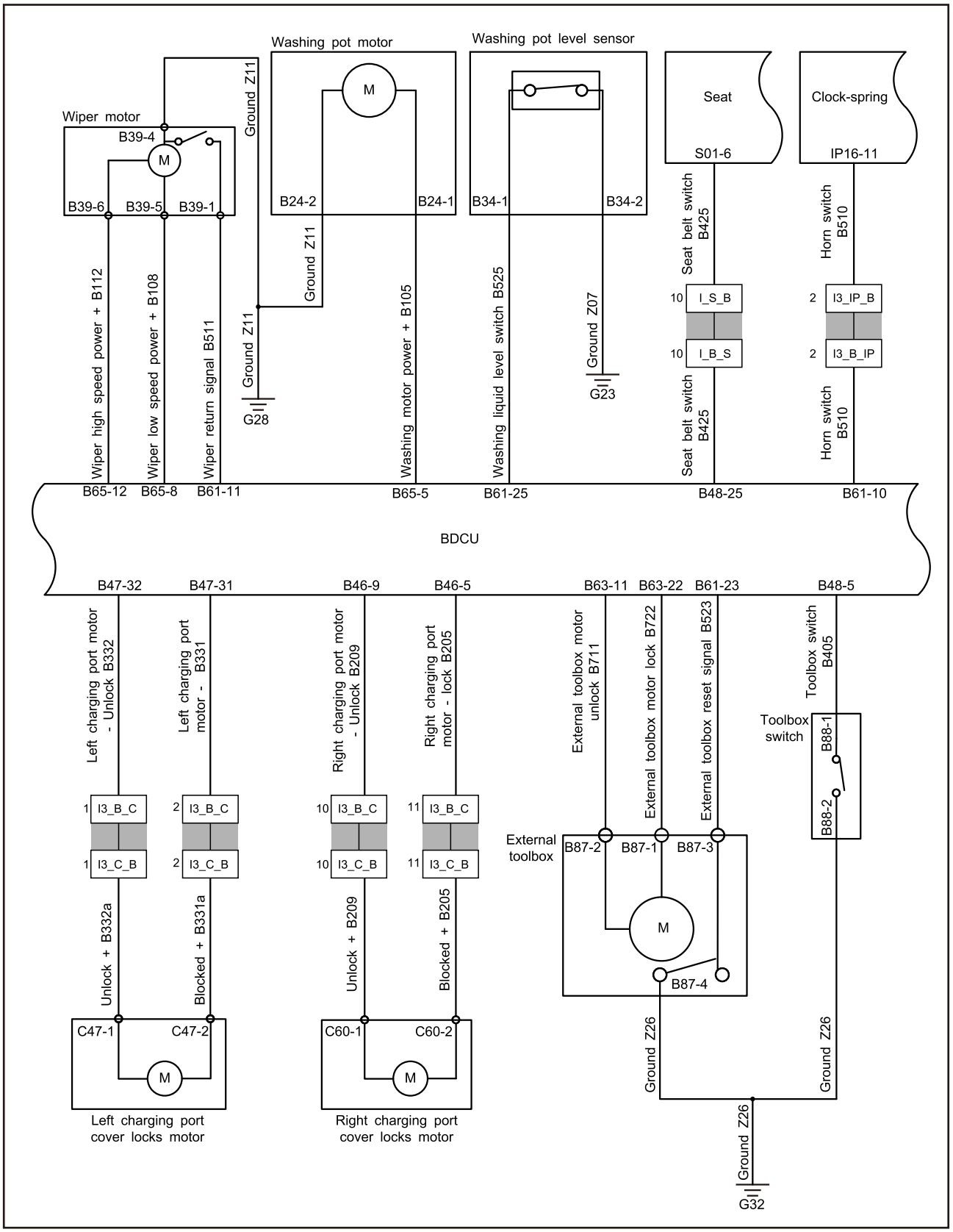
Step 8:Clear and confirm DTC.

7.8.5.22 Washing Motor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B15423F	The wiper washing motor is faulty	1.KL15 on; 2.After the body end output power supply, the voltage collected by the controller does not change;	1.Wiring harness 2.Wiper motor 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and washing motor.

Step 4:Check the grounding harness of the washing motor.

Step 5:Connect the washing motor to an external 12V power supply and observe the washing motor is operating?

- Yes: Next step
- No: Replace the washing motor. Refer to Replacement Of Washing Pot Assembly

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

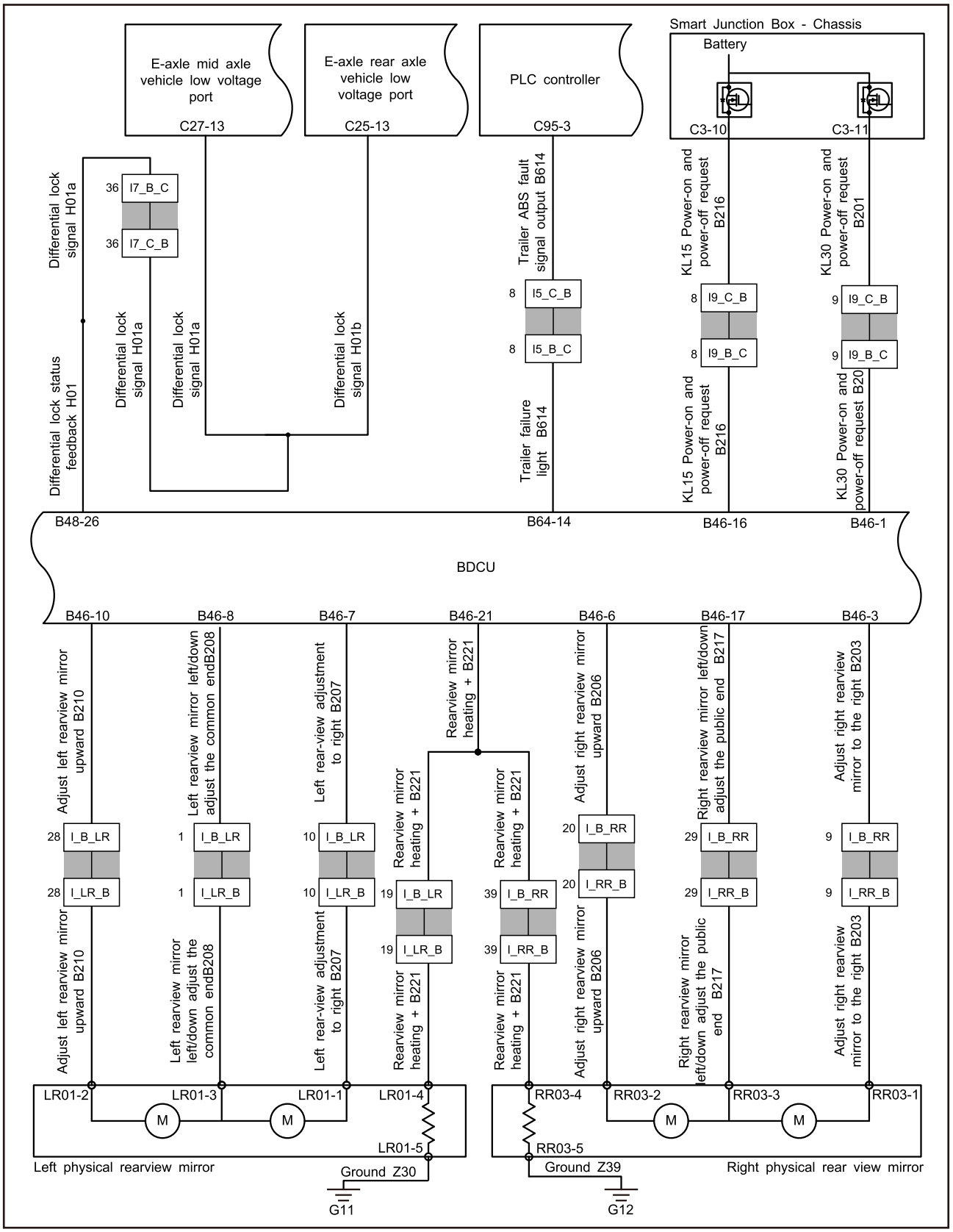
Step 8:Clear and confirm DTC.

7.8.5.23 Rearview Mirror Heating Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B154437	Rearview Mirror Heating Failure	1.KL15 on; 2.After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2.Physical rearview mirror 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the physical rearview mirror heating wire.

Step 4:Check the grounding harness of the physical rearview mirror heating wire.

Step 5:Check if the heating wire of the physical rearview mirror is normal?

- Yes: Next step
- No: Replace the physical rearview mirror. Refer to Replacement Of The Left Physical Exterior Rearview Mirror Assembly.Replacement Of The Right Physical Exterior Rearview Mirror Assembly

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

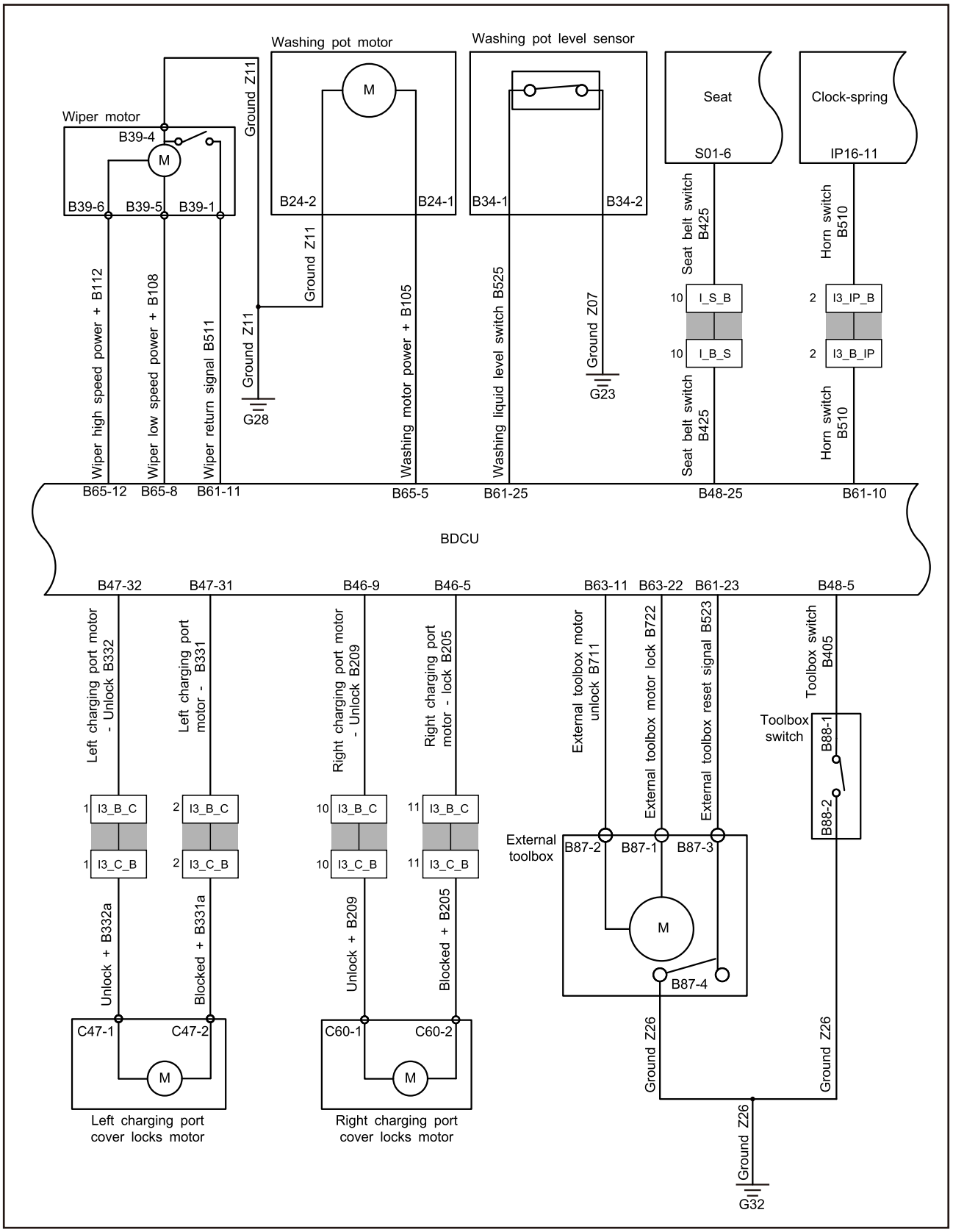
Step 8:Clear and confirm DTC.

7.8.5.24 Charging Port Cover Lock Motor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B15453F	The charging port is unlocked. Procedure	1, KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2.Charging port cover lock motor 3.BDCU
B15463F	The charging port is blocked	1, KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the charging port cover lock motor.

Step 4:Connect the charging port cover lock motor to an external 12V power supply and observe the charging port cover lock motor is operating?

– Yes: Next step

– No: Replace the charging port cover lock motor.

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

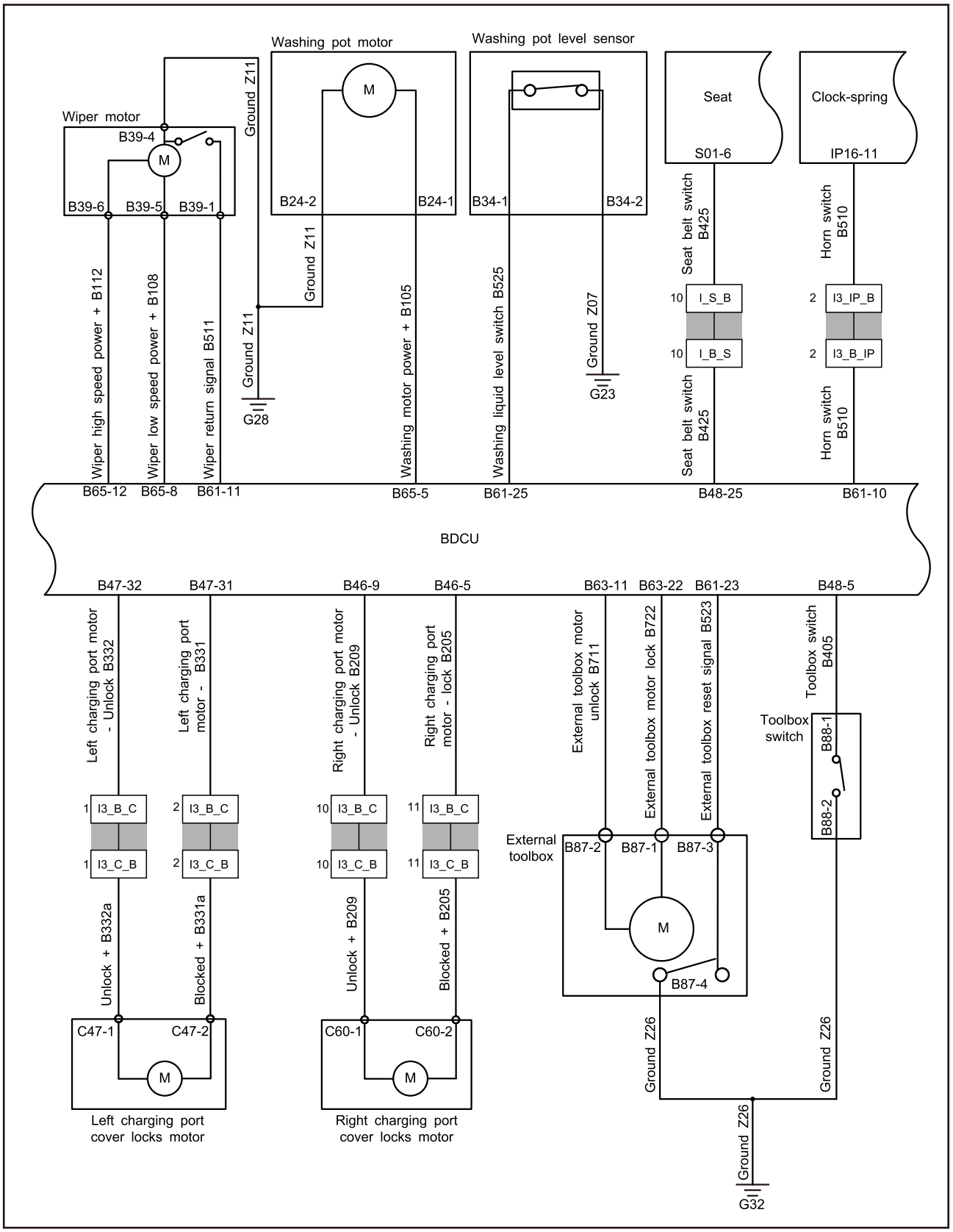
Step 7:Clear and confirm DTC.

7.8.5.25 External Toolbox Motor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B15493F	External toolbox motor unlocking failure	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2. External toolbox motor 3.BDCU
B154A3F	External toolbox motor lockout failure	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the external toolbox motor.

Step 4:External toolbox motor connected to 12V power supply, observe whether the external toolbox motor performs any action?

- Yes: Next step
- No: Replace the external toolbox motor. Refer to Replacement Of Toolbox Assembly

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

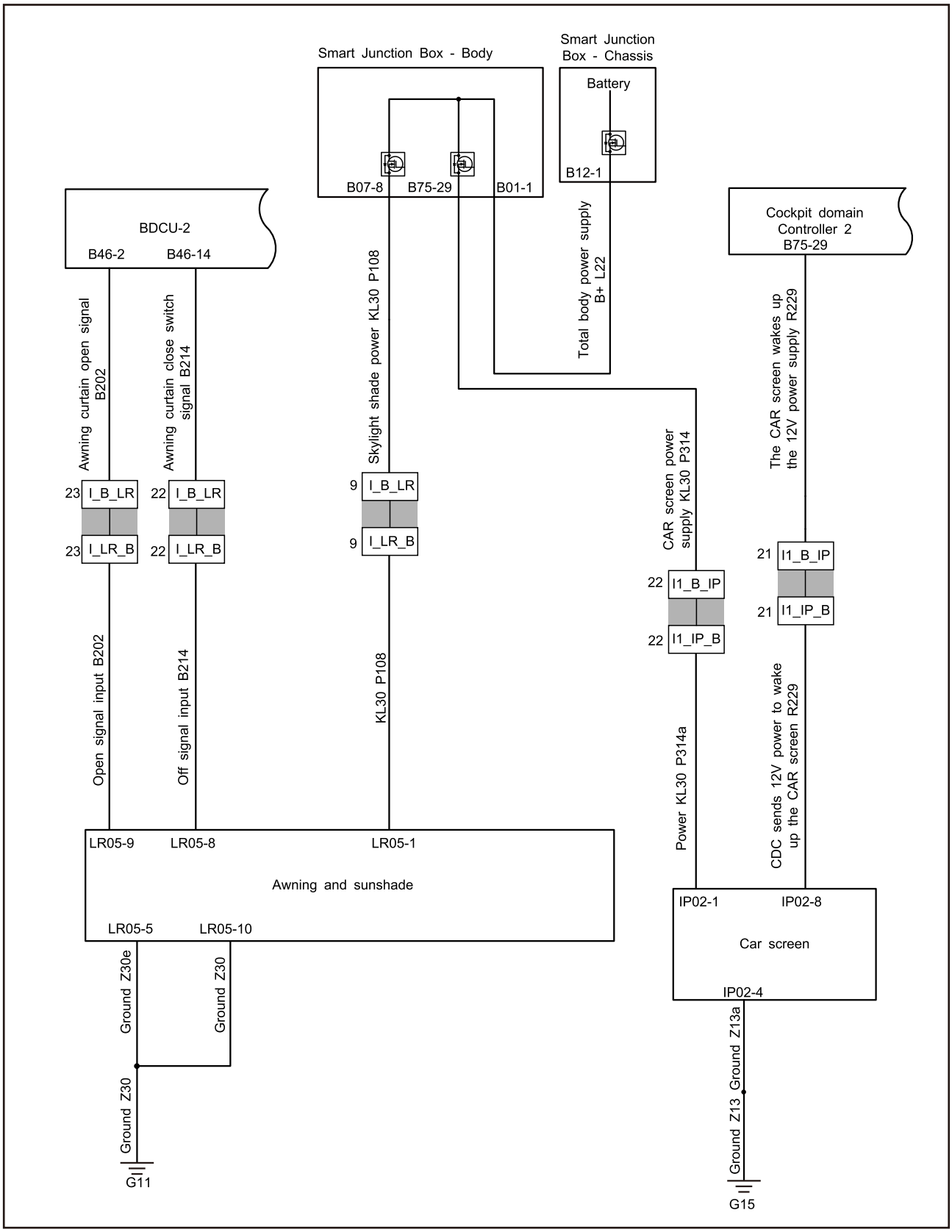
Step 7:Clear and confirm DTC.

7.8.5.26 Fault Of The Sunroof Sunshade

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B154B3F	The skylight visor opening function failed	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2. Skyline sunshade 3.BDCU
B154C3F	The awning curtain closing function is faulty	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the sunroof sunshade.

Step 4:Replace the sunroof sunshade. Refer to Replacement Of The Sky Sunshade Assembly

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

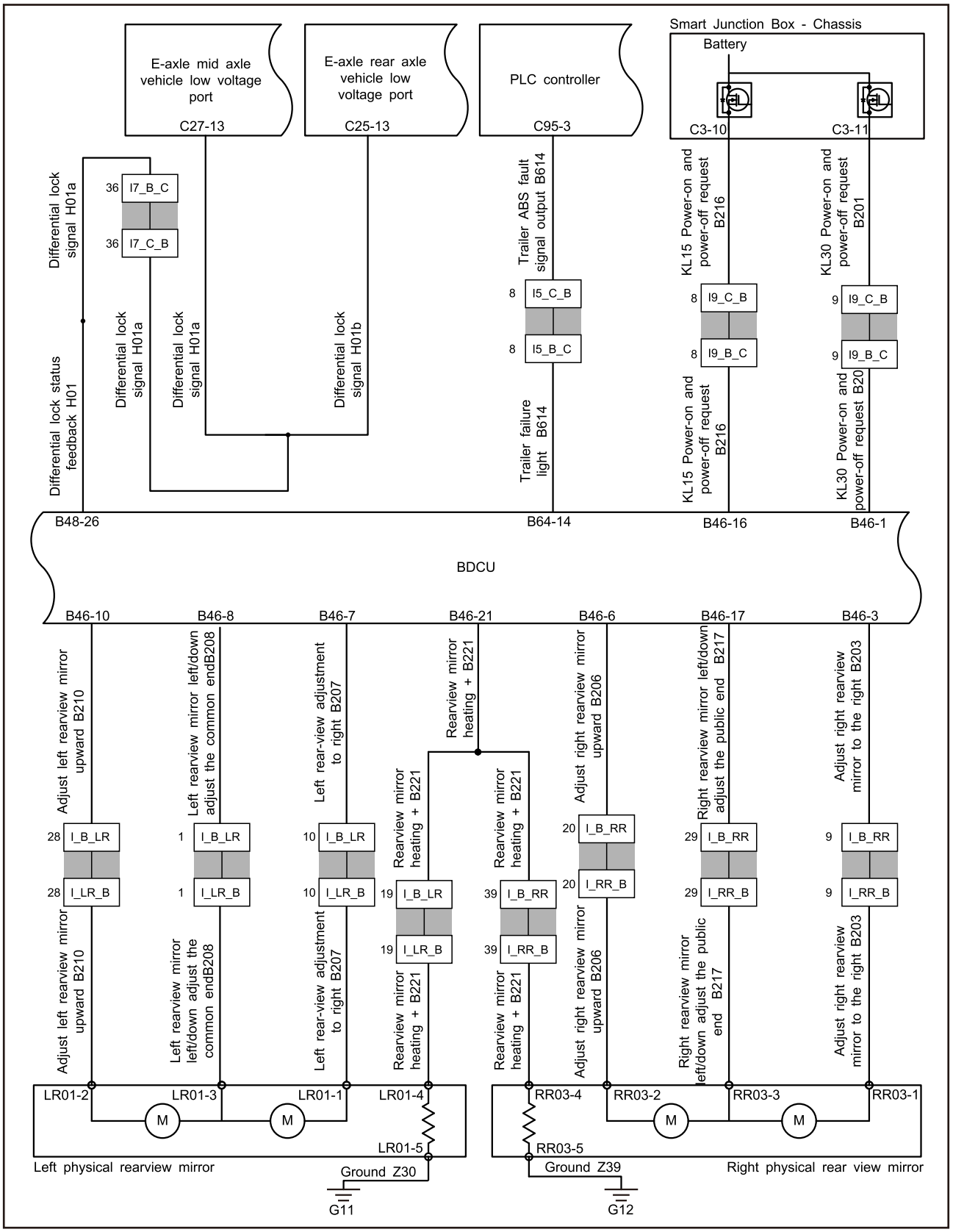
Step 7:Clear and confirm DTC.

7.8.5.27 Left Physical Rearview Mirror Adjustment Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B154D37	The upward adjustment of the left rearview mirror fails	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2. Left physical rearview mirror 3.BDCU
B154E37	The downward adjustment of the left rearview mirror fails	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	
B154F37	The left rearview mirror fails to adjust to the left	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	
B155037	The left rearview mirror fails to adjust to the right	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the left physical rearview mirror.

Step 4:Replace the left physical rearview mirror. Refer to Replacement Of The Left Physical Exterior Rearview Mirror Assembly

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

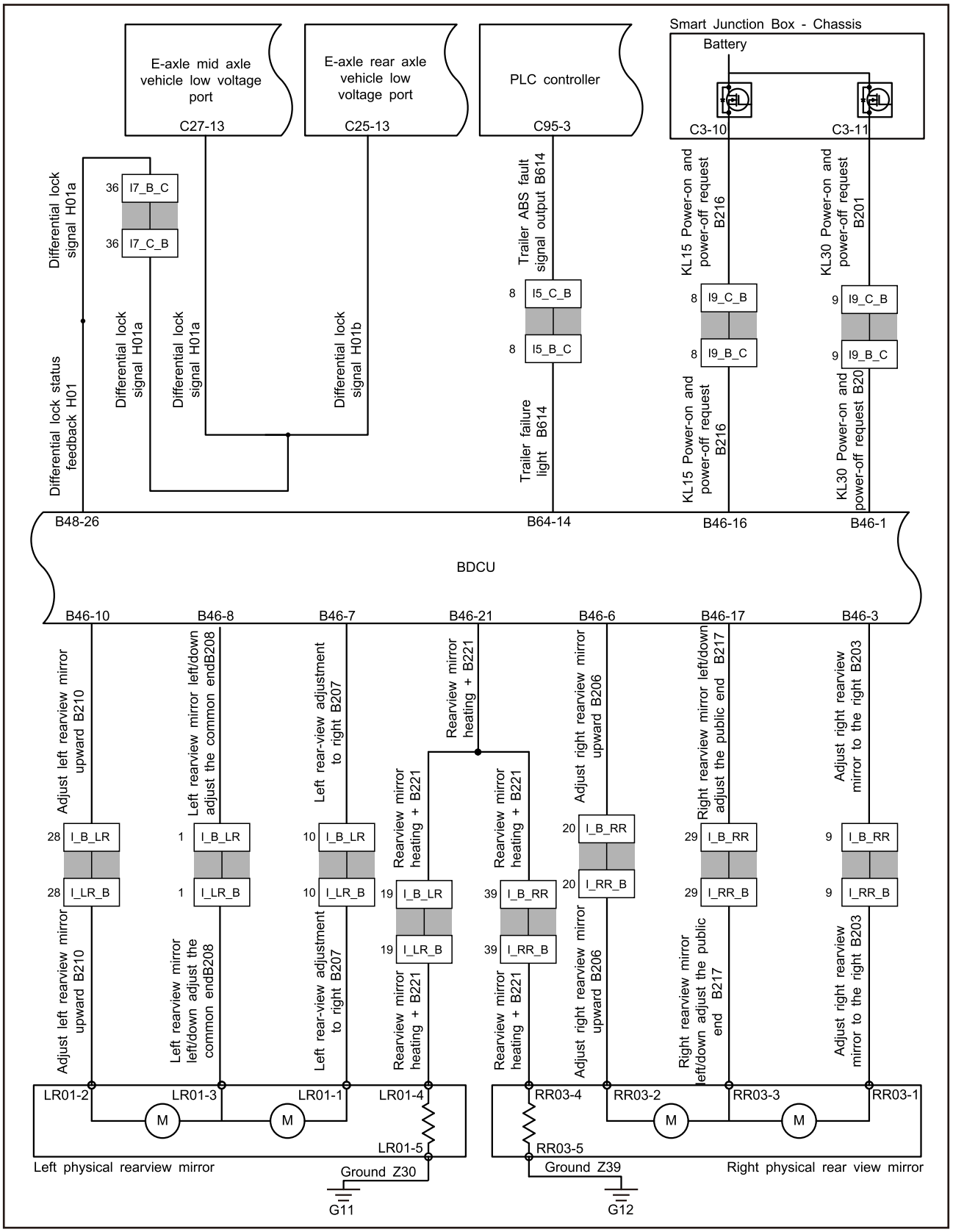
Step 7:Clear and confirm DTC.

7.8.5.28 Right Physical Rearview Mirror Adjustment Signal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B155137	The right rearview mirror fails to adjust upwards	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2. Right physical rearview mirror 3.BDCU
B155237	Right rearview mirror downward adjustment failure	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	
B155337	The left adjustment of the right rearview mirror fails	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	
B155437	The right rearview mirror fails to adjust to the right	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the right physical rearview mirror.

Step 4:Replace the right physical rearview mirror. Refer to Replacement Of The Right Physical Exterior Rearview Mirror Assembly

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

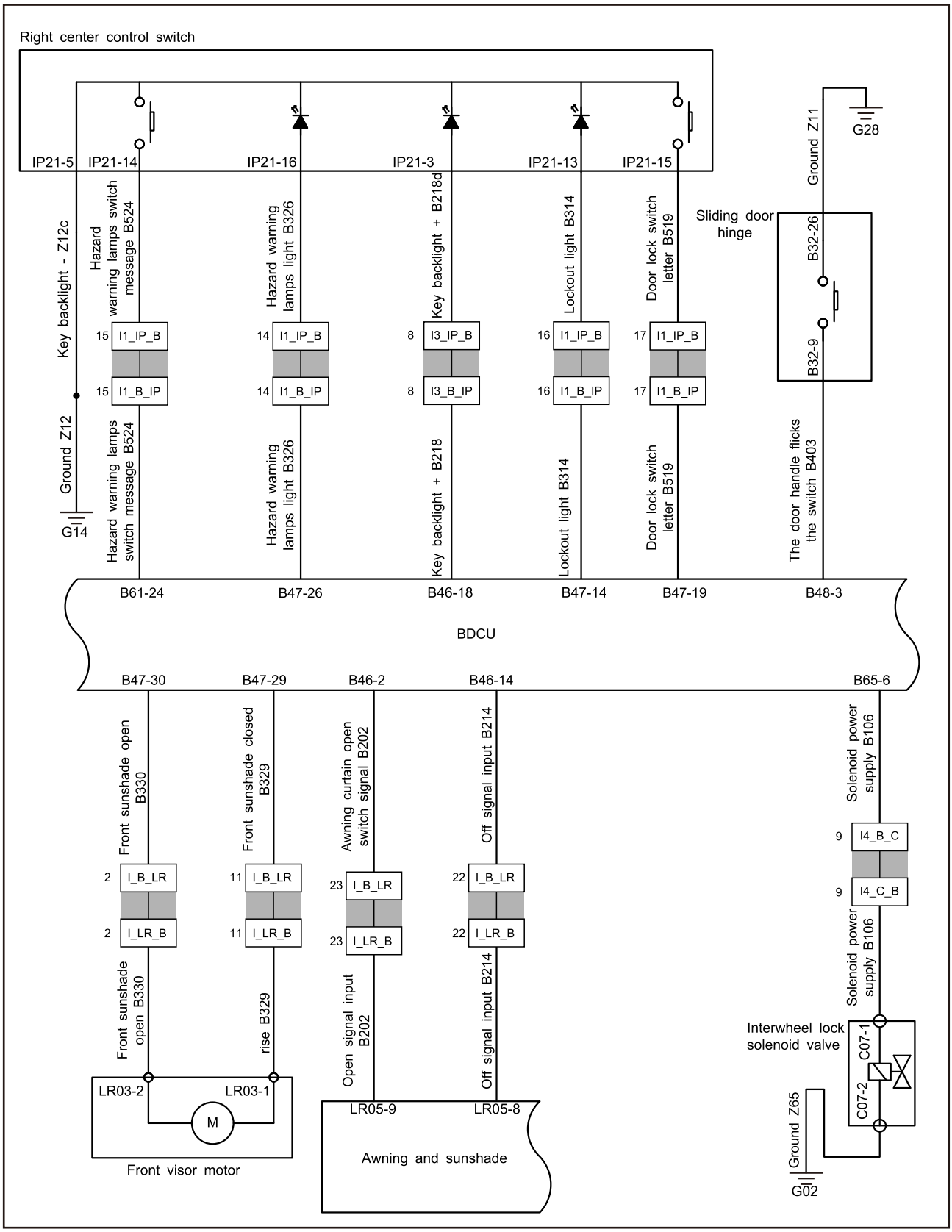
Step 7:Clear and confirm DTC.

7.8.5.29 Interwheel Lock Solenoid Valve Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B15573F	The interwheel solenoid valve is faulty	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2. Interlocking solenoid valve between wheels 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the inter wheel locking solenoid valve.

Step 4:Check the grounding harness of the inter wheel locking solenoid valve.

Step 5:Replace the inter wheel locking solenoid valve. Refer to Replacement Of Differential Lock Solenoid Valve

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

Step 8:Clear and confirm DTC.

7.8.5.30 Front Left Reading Light Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B155D31	Main driver reading light power supply failure	1. KL15 on; 2. After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2. Front left reading light 3.BDCU

2.Circuit Diagram

3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the front left reading light.

Step 4:Check the grounding harness of the left front reading light.

Step 5:Connect the front left reading light to an external 12V power supply, observe if the front left reading light is on?

- Yes: Next step
- No: Replace the front left reading light. Refer to Replacement Of Front Reading Light

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

Step 8:Clear and confirm DTC.

7.8.5.31 Sleeper Reading Light Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B155E31	Sleeper reading lamp power supply failure	1.KL15 on; 2.After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2.Sleeping reading light 3.BDCU

2.Circuit Diagram

3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and sleeper reading light.

Step 4:Check the grounding harness of the sleeper reading light.

Step 5:Connect the sleeper reading light to an external 12V power supply and observe if the sleeper reading light is on?

- Yes: Next step
- No: Replace the sleeper reading light. Refer to Replacement Of Sleeper Reading Light

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

Step 8:Clear and confirm DTC.

7.8.5.32 Sky Roof Light Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B155F31	The ceiling light power supply is faulty	1.KL15 on; 2.After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2.Sky roof light 3.BDCU

2.Circuit Diagram

3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the sky roof light.

Step 4:Check the grounding harness of the sky roof light.

Step 5:Connect the sky roof light to an external 12V power supply and observe if the sky roof light is on?

- Yes: Next step
- No: Replace the sky roof light. Refer to Replacement Of Lighting Fixtures

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

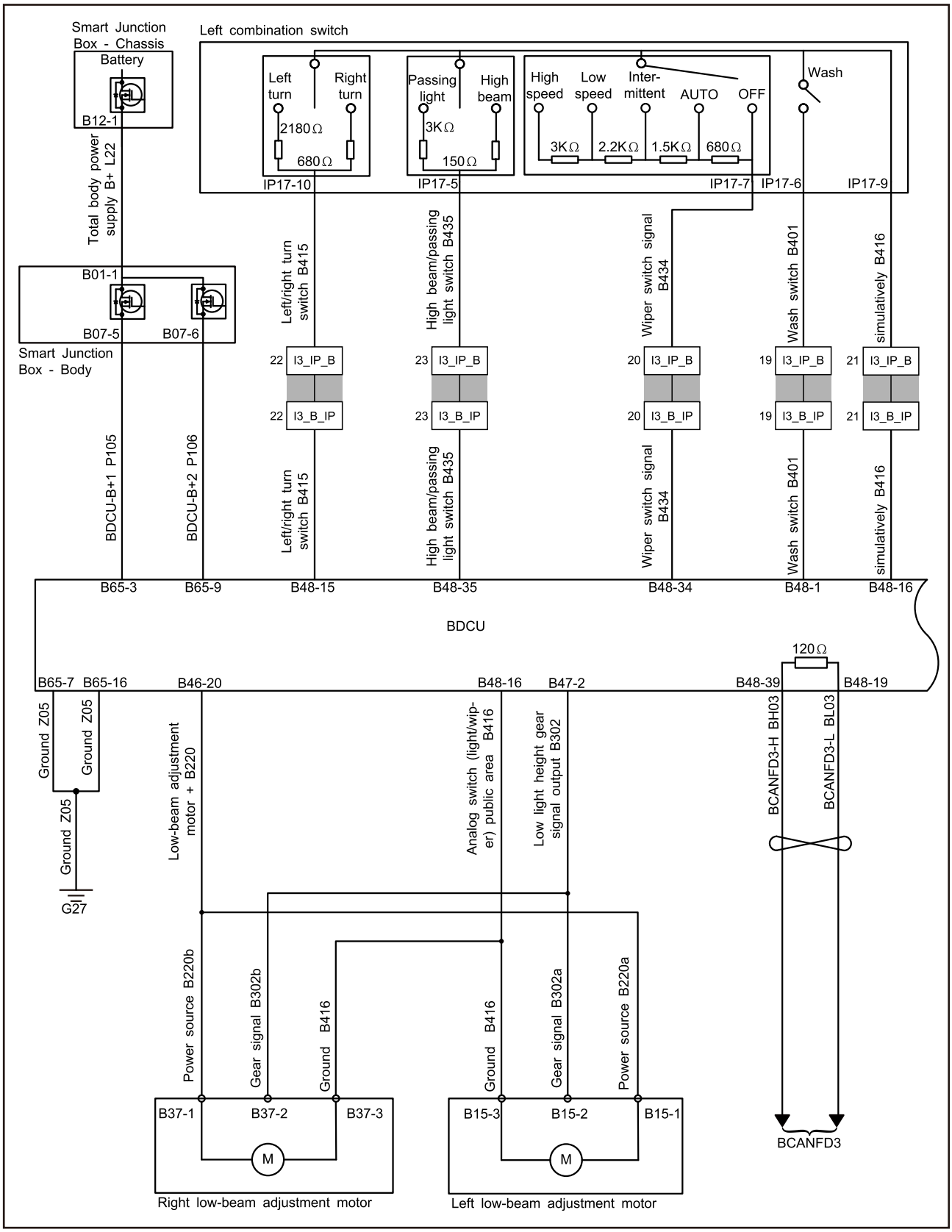
Step 8:Clear and confirm DTC.

7.8.5.33 Position Lamp Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B156031	The power supply of the indicator lamp is faulty	1.KL15 on; 2.After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2.Position lamp 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the BDCU and the position light.

Step 4:Check the grounding harness of the position light.

Step 5:Connect the position light to an external 12V power supply and observe if the position light is on?

- Yes: Next step
- No: Replace the position light. Refer to Replacement Of Left Front Clearance Lights.Replacement of Right Front Clearance Lights

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

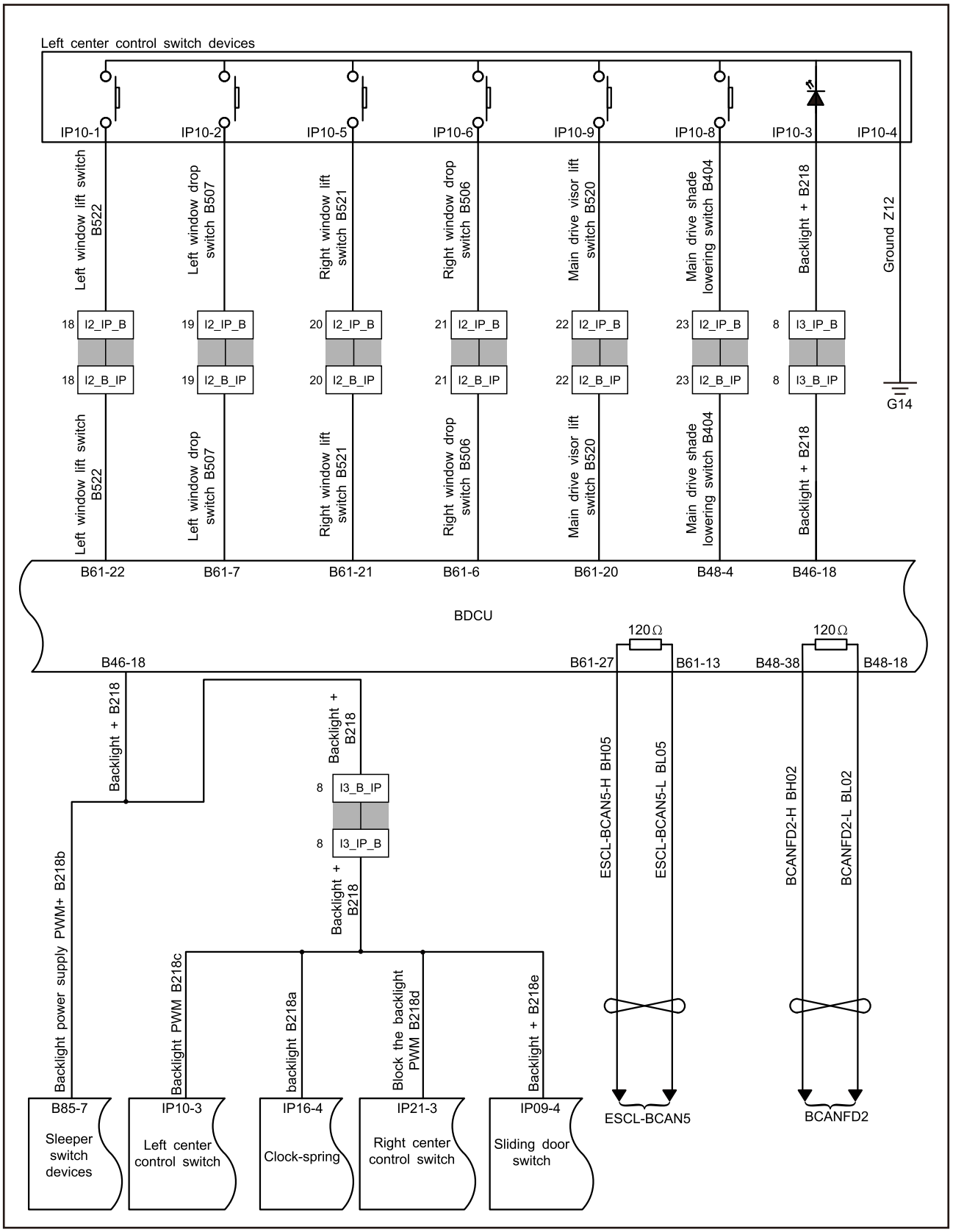
Step 8:Clear and confirm DTC.

7.8.5.34 Backlight Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B156331	The backlight lighting power supply is faulty	1.KL15 on; 2.After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2.Backlight 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the backlight power harness between BDCU and sleeper switch devices, left central control switch group, clock spring, right central control switch group, and sliding door switch.

Step 4:Replace the backlight. Refer to Replacement Of Sleeper Toolbox.Replacement Of The Left Switch Panel Assembly. Replacement Of Combination Switch.Replacement Of The Right Switch Panel Assembly.Replacement Of Electric Sliding Door Switch

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

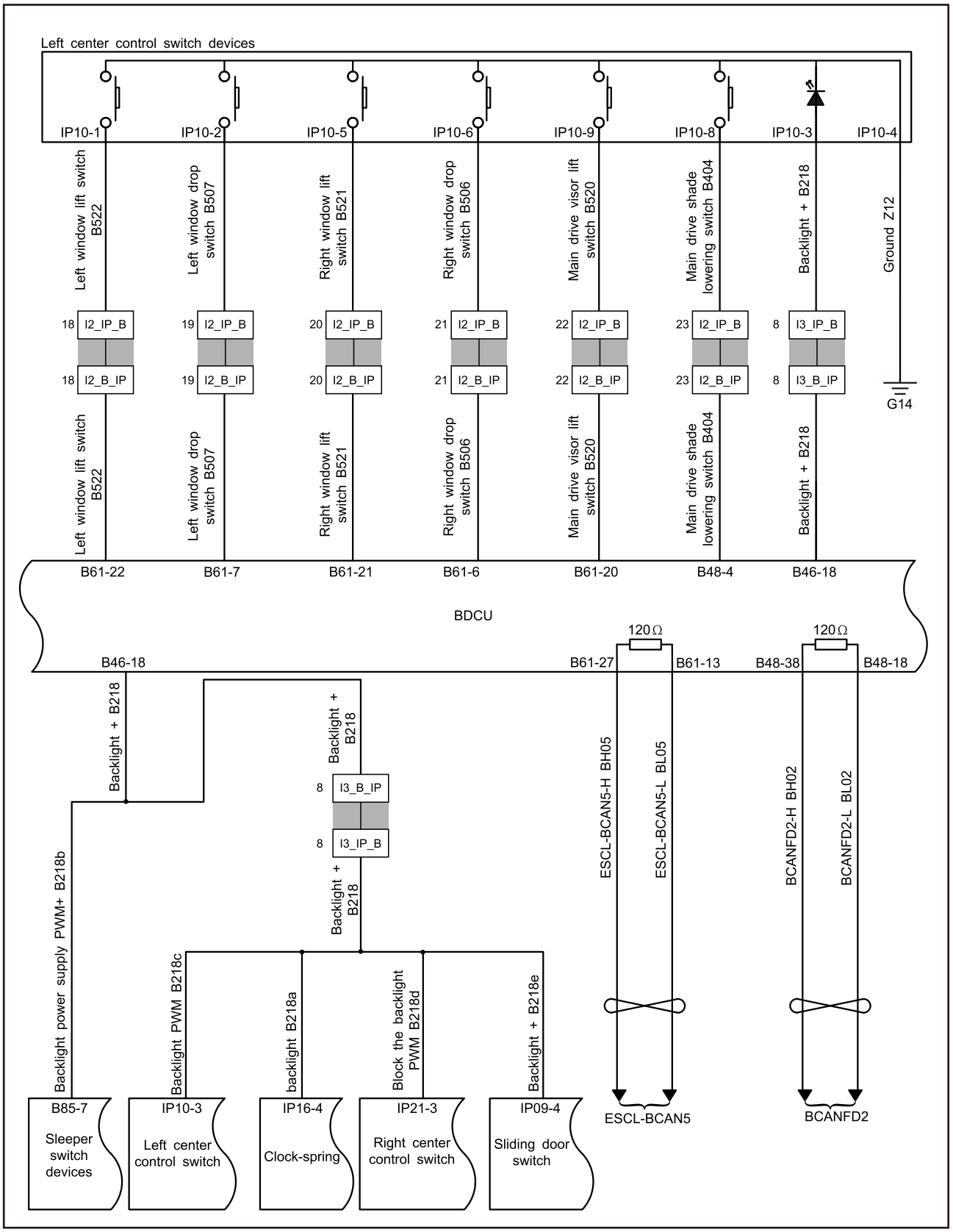
Step 7:Clear and confirm DTC.

7.8.5.35 Hazard Alarm Switch Backlight Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B156431	Danger alarm indicator key light power supply failure	1.KL15 on; 2.After the body end output power supply, the voltage collected by the controller does not change;	1. Wiring harness 2.Right central control switch (hazard alarm switch backlight) 3.BDCU

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the backlight power harness between BDCU and the right central control switch (hazard alarm switch backlight).

Step 4:Check the grounding harness of the right central control switch (hazard alarm switch backlight).

Step 5:Connect the right central control switch (hazard alarm switch backlight) to an external 12V power supply, and observe if the right central control switch (hazard alarm switch backlight) lights up?

– Yes: Next step

– No: Replace the right central control switch (hazard alarm switch backlight). Refer to Replacement Of The Right Central Control Switch Group

Step 6:BDCU rewrite configuration code, software reload, upgrade.

Step 7:Replace BDCU. Refer to Replacement Of Body Domain Control Uint

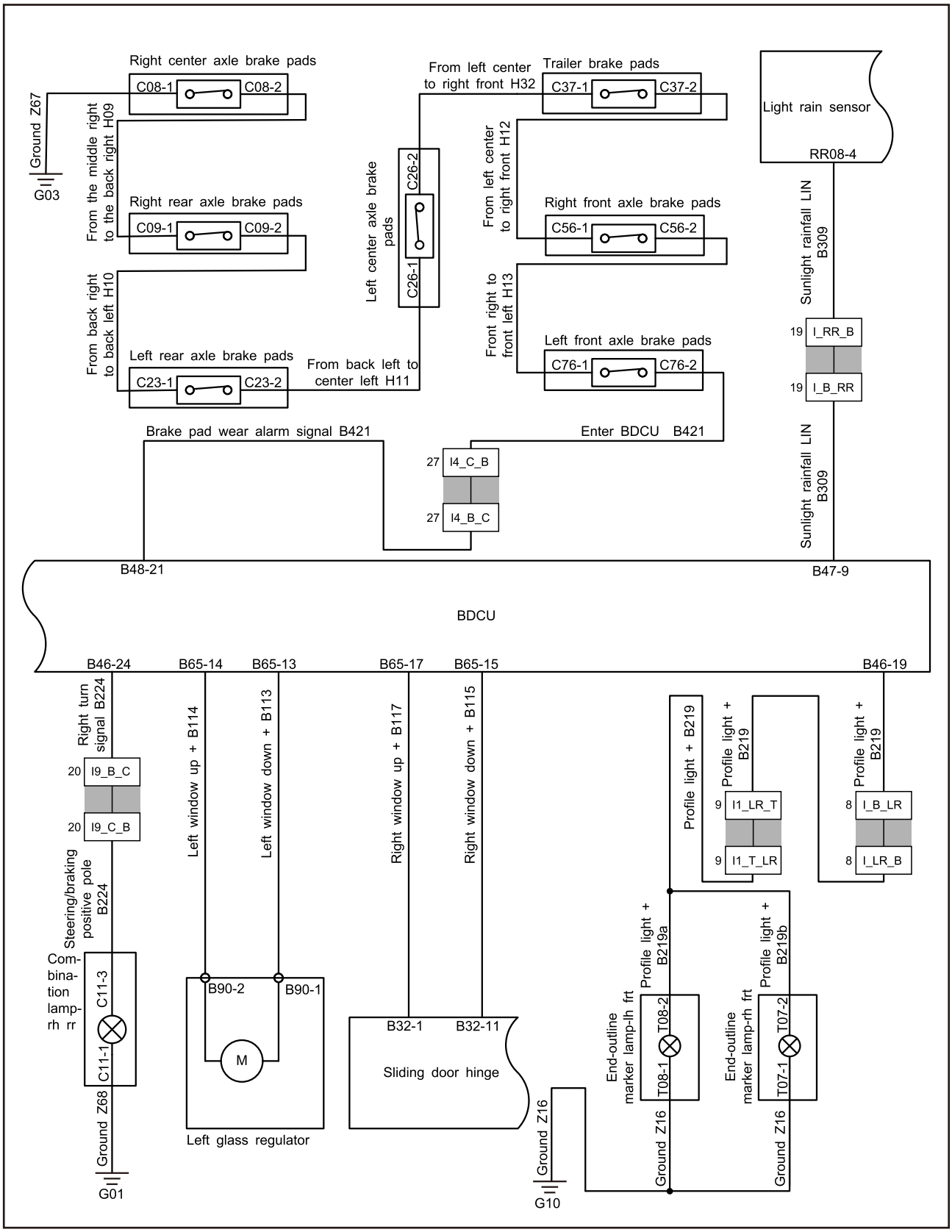
Step 8:Clear and confirm DTC.

7.8.5.36 Right window regulator Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B156B31	Secondary car window rising power supply failure	1.KL15 on; 2.After the power is supplied from the vehicle body end, there is no change in the voltage collected by the controller.	1. Wiring harness 2.Sliding door hinge (right window regulator) 3.BDCU
B156C31	Secondary car window down power supply failure	1.KL15 on; 2.After the power is supplied from the vehicle body end, there is no change in the voltage collected by the controller.	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and sliding door hinge (right glass lifter).

Step 4:The sliding door hinge (right glass lifter) is connected to an external 12V power supply. observe the sliding door hinge (right glass lifter) is functioning properly?

– Yes: Next step

– No: Replace the sliding door hinge (right window regulator). Refer to Replacement Of The Right Window Regulator Assembly

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

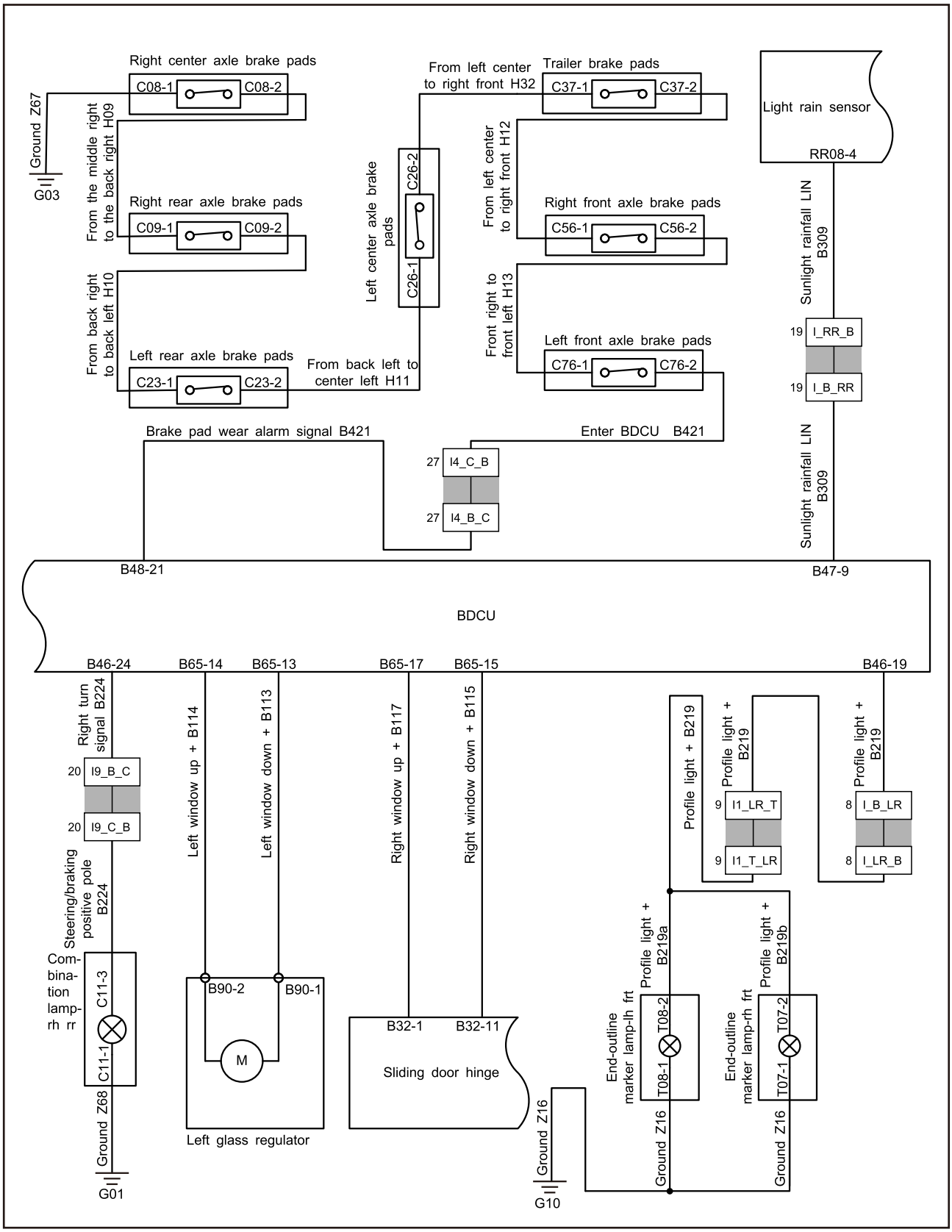
Step 7:Clear and confirm DTC.

7.8.5.37 Left window regulator Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B156931	Main driving window rising power supply failure	1.KL15 on; 2.After the power is supplied from the vehicle body end, there is no change in the voltage collected by the controller.	1. Wiring harness 2.Left window regulator 3.BDCU
B156A31	Main driving window down power supply failure	1.KL15 on; 2.After the power is supplied from the vehicle body end, there is no change in the voltage collected by the controller.	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between BDCU and the left window regulator.

Step 4:Connect the left glass lifter to an external 12V power supply and observe if the left glass lifter is functioning properly?

– Yes: Next step

– No: Replace the left window regulator. Refer to Replacement Of Left Window Regulator Assembly

Step 5:BDCU rewrite configuration code, software reload, upgrade.

Step 6:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

Step 7:Clear and confirm DTC.

7.8.5.38 BInspection Of CANFD3 Bus Network Integrity

Step 1	Check the terminal resistance of BCAND3 bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCANFD3(H) and BCANFD3(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the bus voltage of BCAND3.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCANFD3 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCANFD3 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
BCANFD3 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCANFD3 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the BCAND3 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the BCAND3 bus.

C. Measure the BCAND3 bus resistance between each module and the vehicle domain controller in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of the BCAND3 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the BCAND3 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the BCAND3 bus.

Yes

Step 7	Disconnect the modules on the BCAND3 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the BCAND3 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.8.5.39 Inspection Of BCAN5 Bus Network Integrity

Step 1	Check the terminal resistance of BCAN5 bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCAN5(H) and BCAN5 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the BCAN5 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCAN5 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAN5 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
BCAN5 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAN5 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the BCAN5 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the BCAN5 bus.

C. Measure the BCAN5 bus resistance between each module and the vehicle domain controller in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of BCAN5 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the BCAN5 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the BCAN5 bus.

Yes

Step 7	Disconnect the modules on the BCAN5 bus in sequence and observe the bus communication voltage/resistance.

Disconnect the modules on the BCAN5 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.8.5.40 Inspection Of BCAN6 Bus Network Integrity

Step 1	Check the terminal resistance of BCAN6 bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCAN6(H) and BCAN6 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the BCAN6 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCAN6 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAN6 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
BCAN6 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAN6 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the BCAN6 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the BCAN6 bus.

C. Measure the BCAN6 bus resistance between each module and the sliding door hinge(door handle) in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of BCAN6 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the BCAN6 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the BCAN6 bus.

Yes

Step 7	Disconnect the modules on the BCAN6 bus in sequence and observe the bus communication voltage/resistance.

Disconnect the modules on the BCAN6 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.8.5.41 BCAN7 Bus Network Integrity Check

Step 1	Check the BCAN7 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCAN7(H) and BCAN7 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the BCAN7 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCAN7(H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAN7(L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
BCAN7(H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAN7(L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the BCAN7 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the BCAN7 bus.

C. Measure the ADCAN1 bus resistance between each module and the body domain control uint sequentially to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the resistance of BCAN7 bus to ground is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the BCAN7 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the BCAN7 bus.

Yes

Step 7	Disconnect the modules on the BCAN7 bus in sequence and observe the bus communication voltage/resistance.

Disconnect the modules on the BCAN7 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.8.6 Dismantling and Installation

7.8.6.1 Replacement of BCM

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

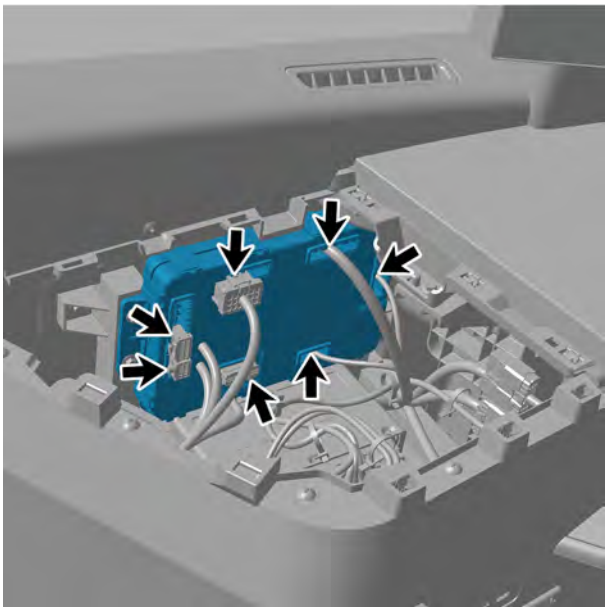
3 Disconnect the battery negative cable.

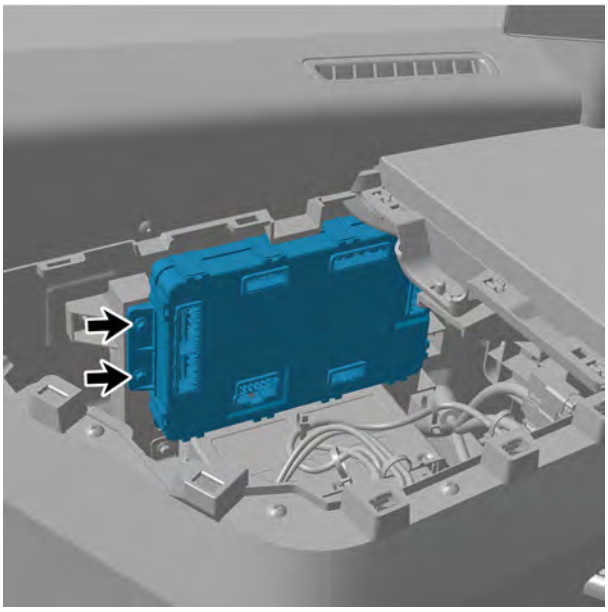
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

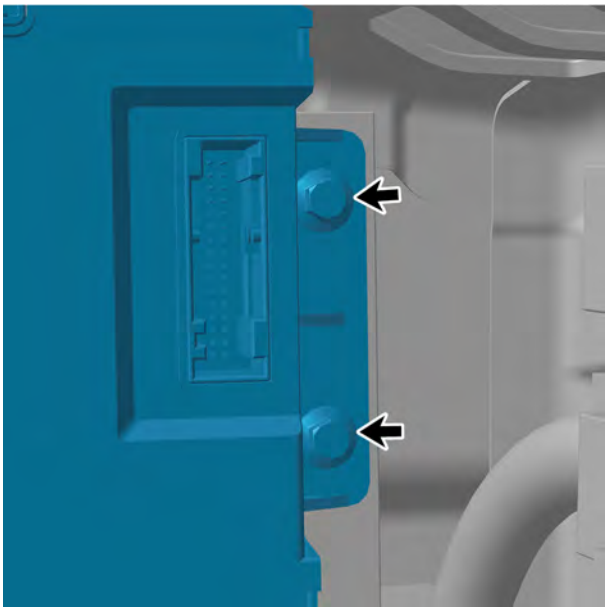
4 Remove the IP left upper trim panel assembly.

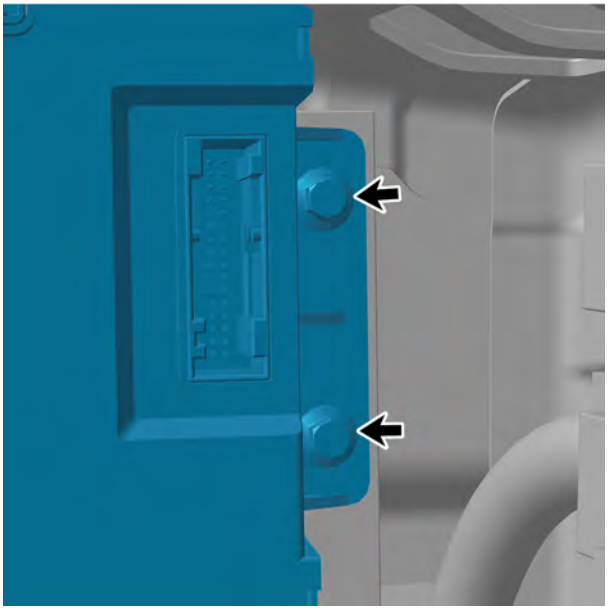
5 Disconnect 7 harness connectors of the BCM.





6 Remove 4 fixing bolts of the BCM, and remove the BCM.



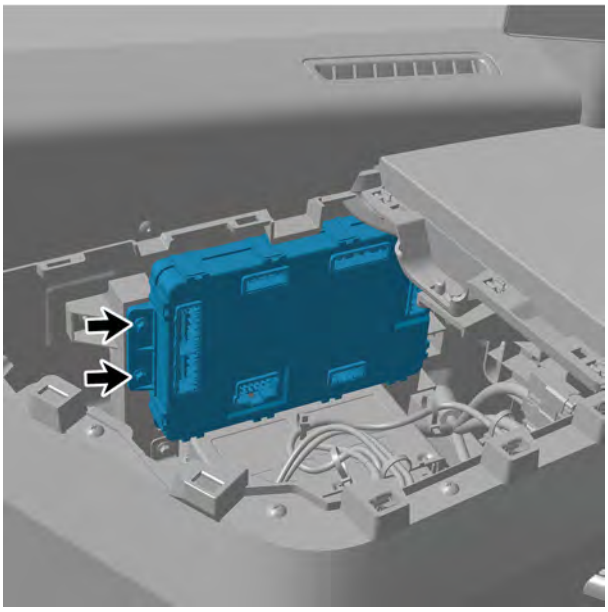


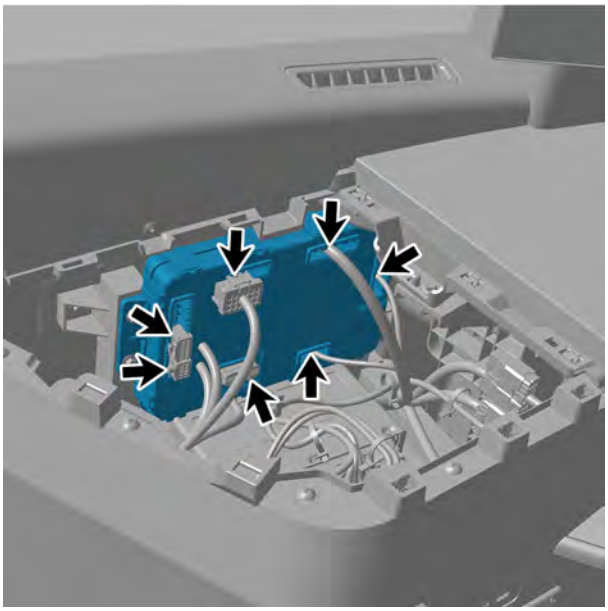
Installation Procedures

1 Move the BCM to the mounting position.

2 Install 4 fixing bolts of the BCM.

Torque:(6.5 +/- .75) ft lbs





3 Connect 7 harness connectors of the BCM.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the IP left upper trim panel assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

caution

After replacing the BCM, it is necessary to connect a scan tool for flashing, read VIN, and write the configuration word.

7.8.6.2 Replacement of Pillar Lock

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

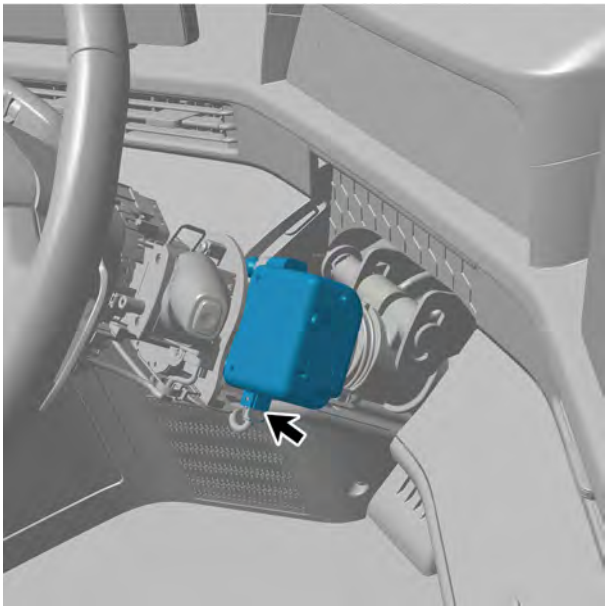
caution

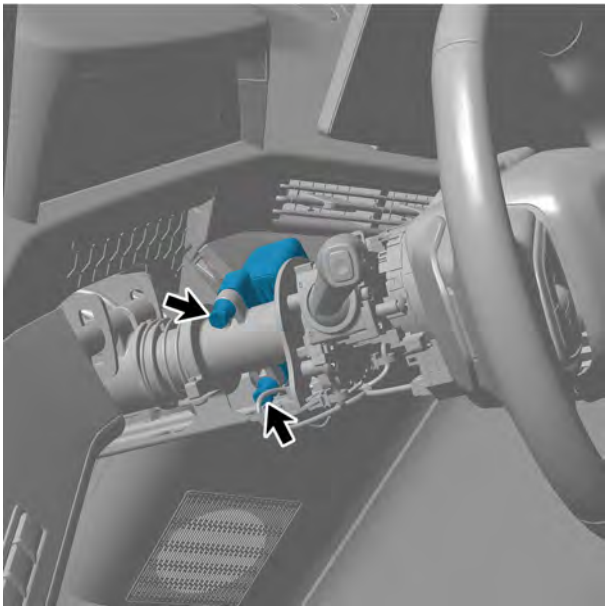
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the combination switch upper shield assembly.

5 Remove the combination switch lower shield.

6 Disconnect 1 harness connector of the pillar lock.



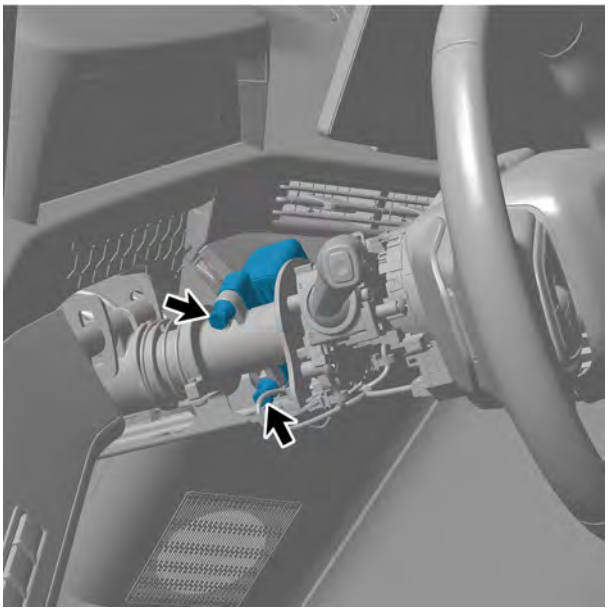


7 Drill one hole on the anti-theft bolt using a drill bit with a diameter of (3-4) mm.

8 Remove 2 anti-theft bolts with a screw extractor.

9 Remove the pillar lock.

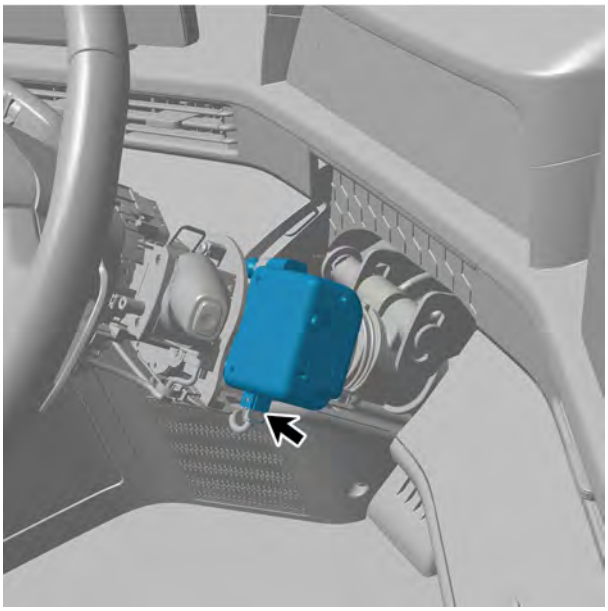
Installation Procedures



1 Move the pillar lock to the mounting position.

2 Install 2 anti-theft bolts of the pillar lock.

Torque: (6.5 +/- .75) ft lbs



3 Connect 1 harness connector of the pillar lock.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the combination switch lower shield.

5 Install the combination switch upper shield assembly.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

caution

The anti-theft bolt is a disposable part and shall not be reused.

When reinstalling the pillar lock, the anti-theft bolt needs to be replaced with a new one, and the upper part of the anti-theft bolt needs to be twisted off during installation.

7.8.6.3 Replacement of Bluetooth Antenna (front)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the front MMW radar adapter bracket.

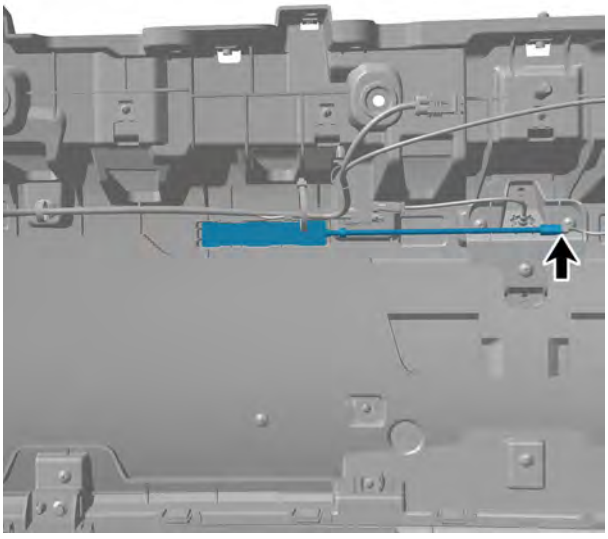
9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

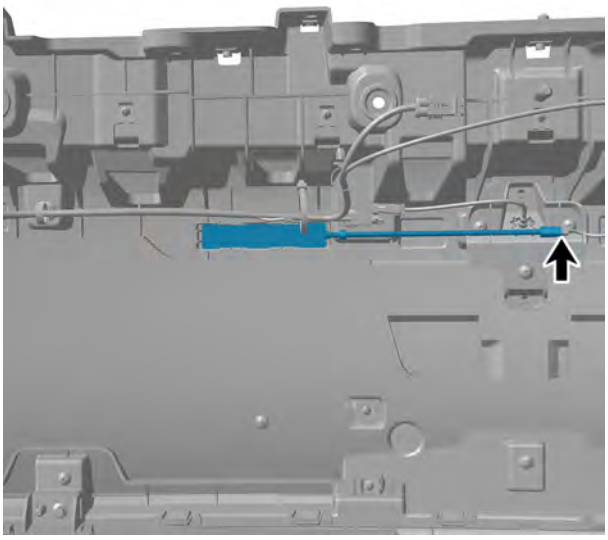
11 Remove the front bumper assembly.

12 Disconnect 1 harness connector of the Bluetooth antenna (front).

13 Remove the Bluetooth antenna (front).



Installation Procedures



1 Move the Bluetooth antenna (front) to the mounting position.

2 Connect 1 harness connector of the Bluetooth antenna (front).

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Install the front bumper assembly.

4 Install the right cover plate of the corner radar.

5 Install the left cover plate of the corner radar.

6 Install the front MMW radar adapter bracket.

7 Install the forward MMW radar.

8 Install the front MMW radar shield.

9 Install the through-type lamp.

10 Install the engine compartment trim panel body.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

7.8.6.4 Replacement of The Bluetooth Antenna-lh

Removal Procedures

1 Open the car door.

2 Open the front flip cover.

3 Disconnect the negative cable of the storage battery.

caution

power off the high-voltage system before disconnecting the negative pole of the battery.

4 Remove the panel-cabin decoration.

5 Remove the a-pillar guard assy-lh.

6 Remove the left side physical exterior rearview mirror assembly.

7 Remove the front wheel arch body-lh frt.

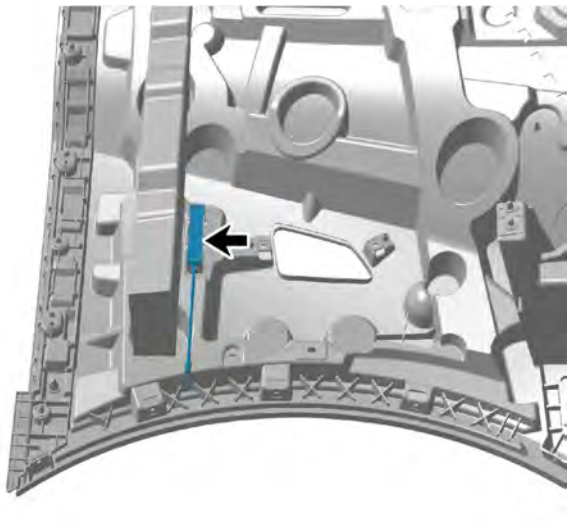
8 Remove the wiper arm assy.

9 Remove the front windshield cover assembly.

10 Remove the seal fender-lh.

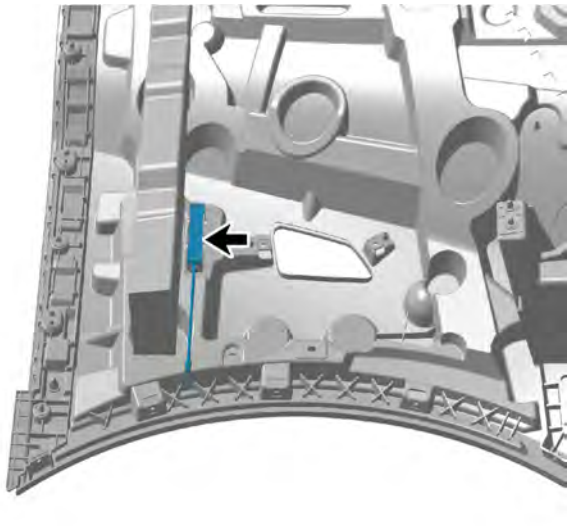
11 Remove the fender assy-rh

12 Take off the bluetooth antenna-lh.



Installation Procedures

1 Fit the bluetooth antenna-lh.



2 Install the fender assy-rh

3 Install the seal fender-lh.

4 Install the front windshield cover assembly.

5 Install the wiper arm assy.

6 Install the front wheel arch body-lh frt.

7 Install the left side physical exterior rearview mirror assembly.

8 Install the a-pillar guard assy-lh.

9 Install the panel-cabin decoration.

10 Connect the negative cable of the storage battery.

11 Close the front flip cover.

12 Close the car door.

7.8.6.5 Replacement of NFC Antenna

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

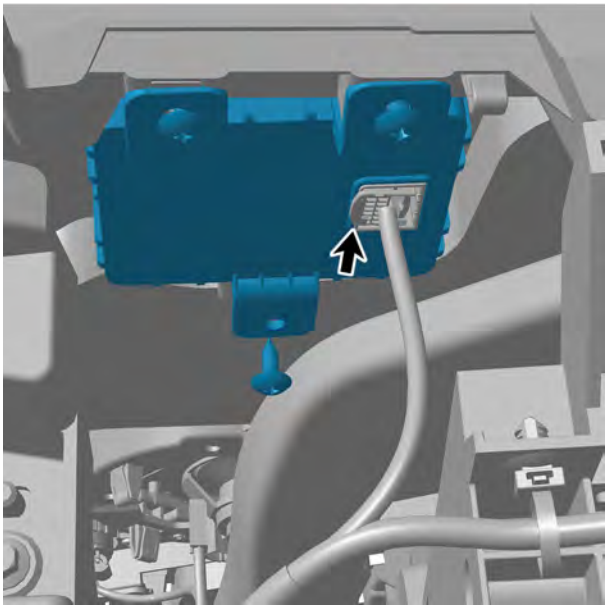
3 Disconnect the battery negative cable.

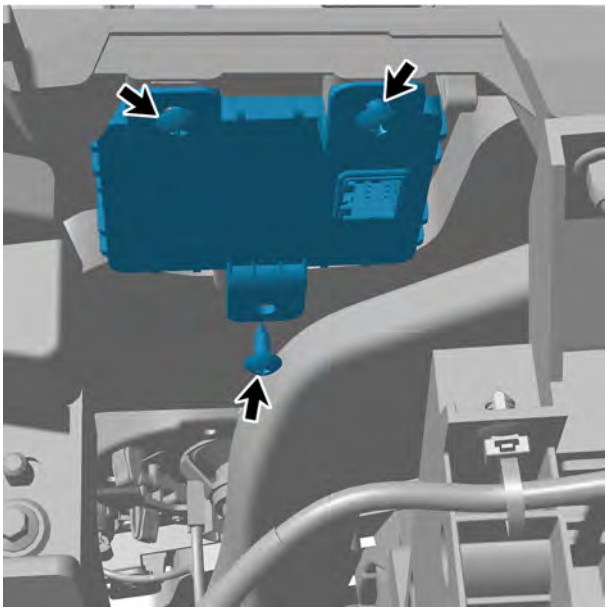
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP right upper trim panel assembly.

5 Disconnect 1 harness connector of the NFC antenna.

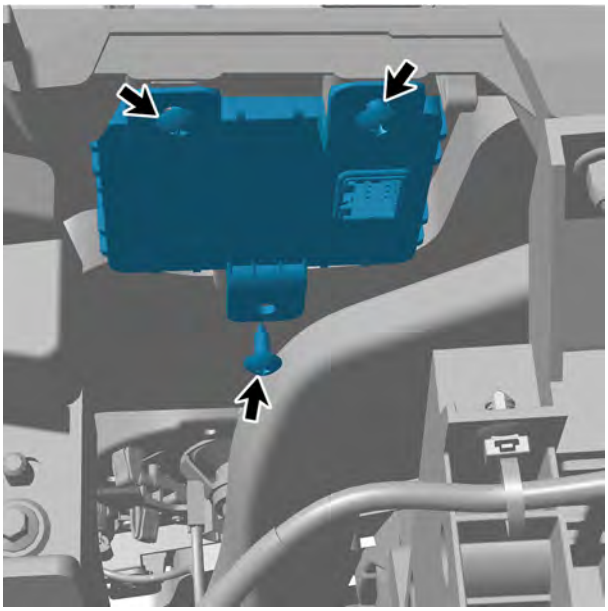




6 Remove 3 fixing screws of the NFC antenna.

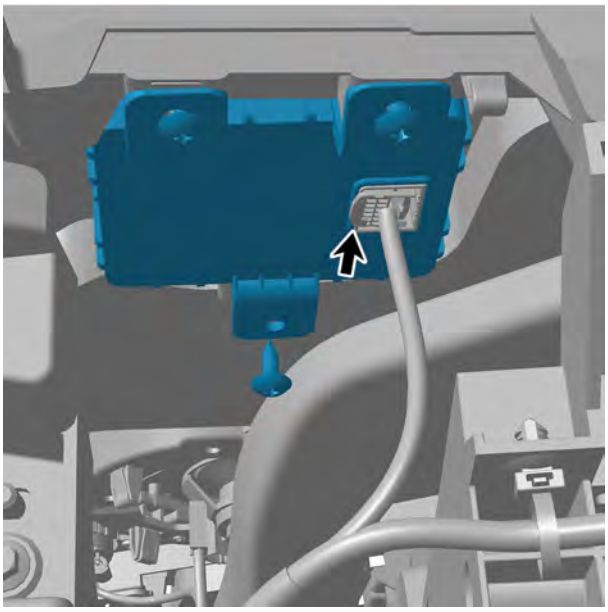
7 Remove the NFC antenna.

Installation Procedures



1 Move the NFC antenna to the mounting position.

2 Install 3 fixing screws of the NFC antenna.



3 Connect 1 harness connector of the NFC antenna.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the IP right upper trim panel assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.8.6.6 Replacement of Wireless Charging Module

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP right upper trim panel assembly.



5 Remove 4 fixing screws of the wireless charging module.

6 Remove the wireless charging module.

Installation Procedures



1 Move the wireless charging module to the mounting position.

2 Install 4 fixing screws of the wireless charging module.

3 Install the IP right upper trim panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.8.6.7 Replacement of DCM

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right sill molding assembly.

5 Remove the door opening sealing strip assembly.

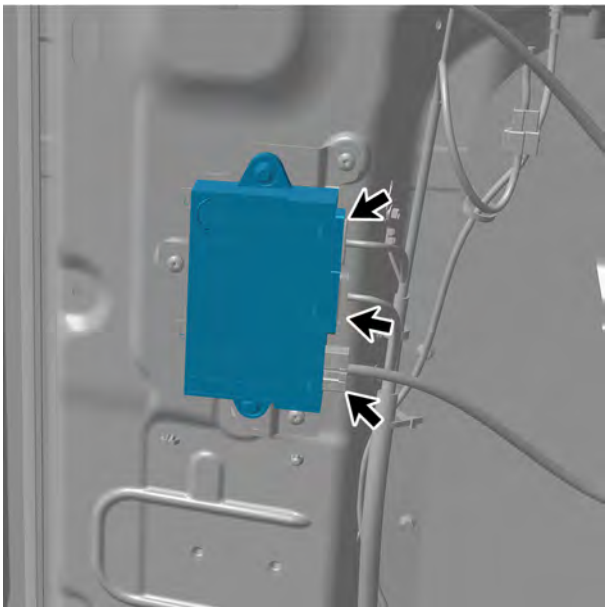
6 Remove the safety hammer fixing bracket.

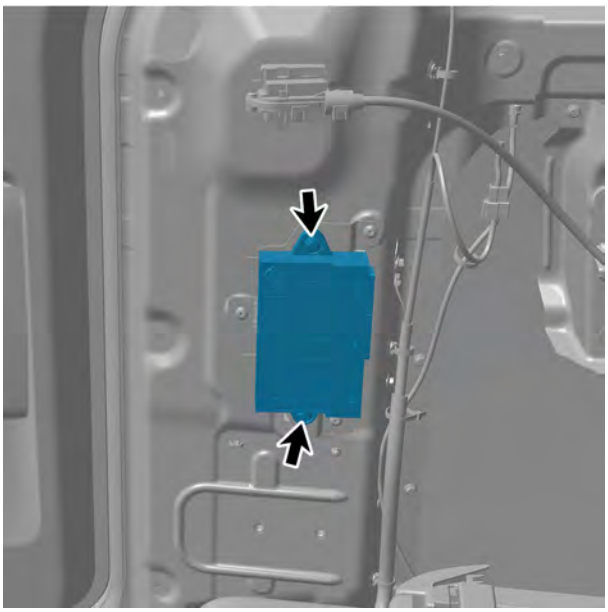
7 Remove the rear boarding handrail assembly.

8 Remove the SSM.

9 Remove the right rear side wall protective plate assembly.

10 Disconnect 3 harness connector of the DCM.

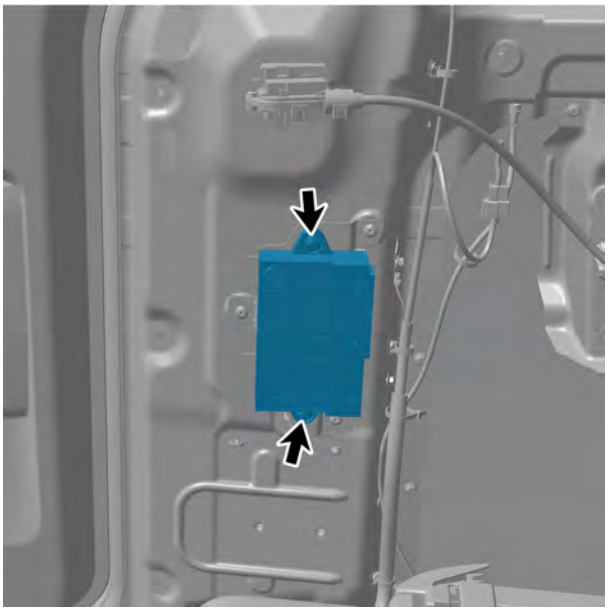




11 Remove 2 fixing bolts of the DCM.

12 Remove the DCM.

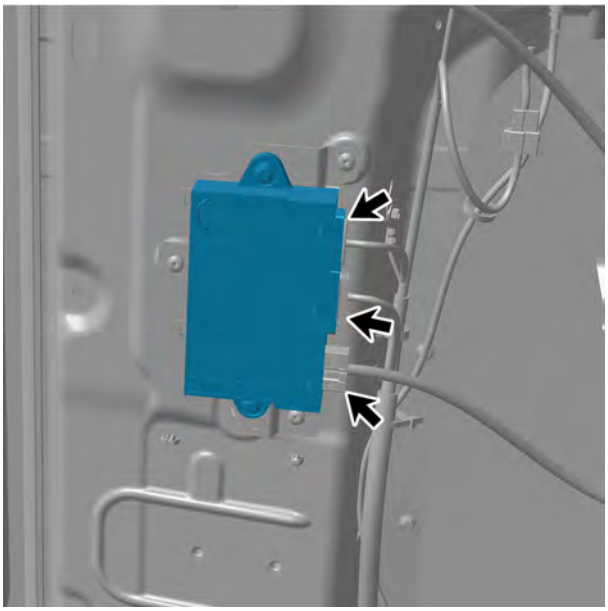
Installation Procedures



1 Move the DCM to the mounting position.

2 Install 2 fixing bolts of the DCM.

Torque: (6.5 +/- .75) ft lbs



3 Connect 3 harness connector of the DCM.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the right rear side wall protective plate assembly.

5 Install the SSM.

6 Install the rear boarding handrail assembly.

7 Install the safety hammer fixing bracket.

8 Install the door opening sealing strip assembly.

9 Install the right sill molding assembly.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

caution

After replacing the DCM, it is necessary to connect a scan tool for flashing.

7.9 Vehicle Body Harness Device

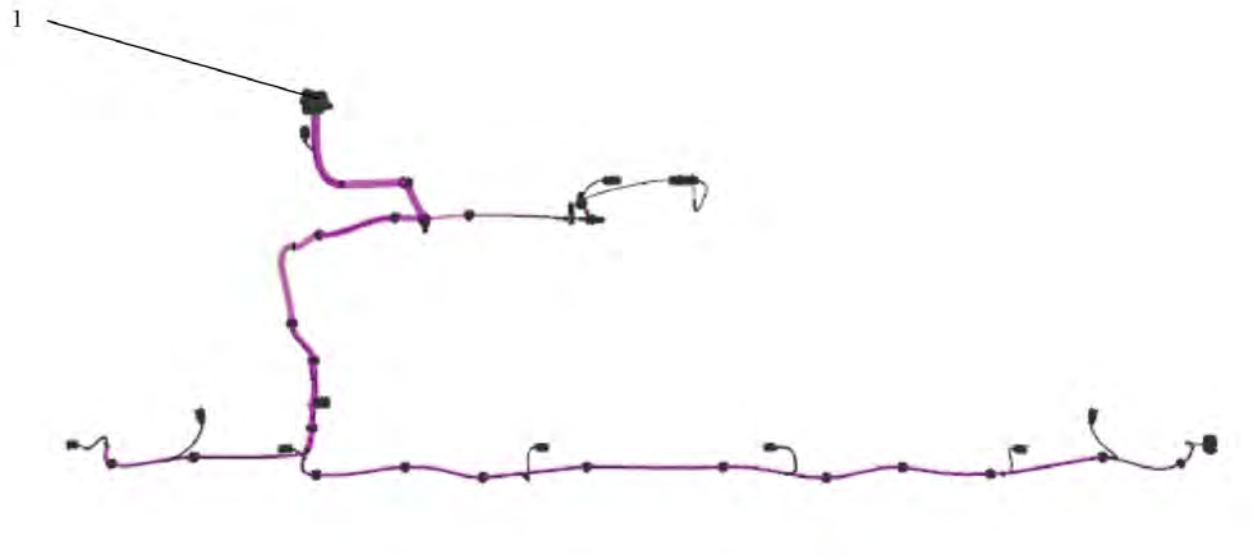
7.9.1 Specifications

7.9.1.1 Fastener Specifications

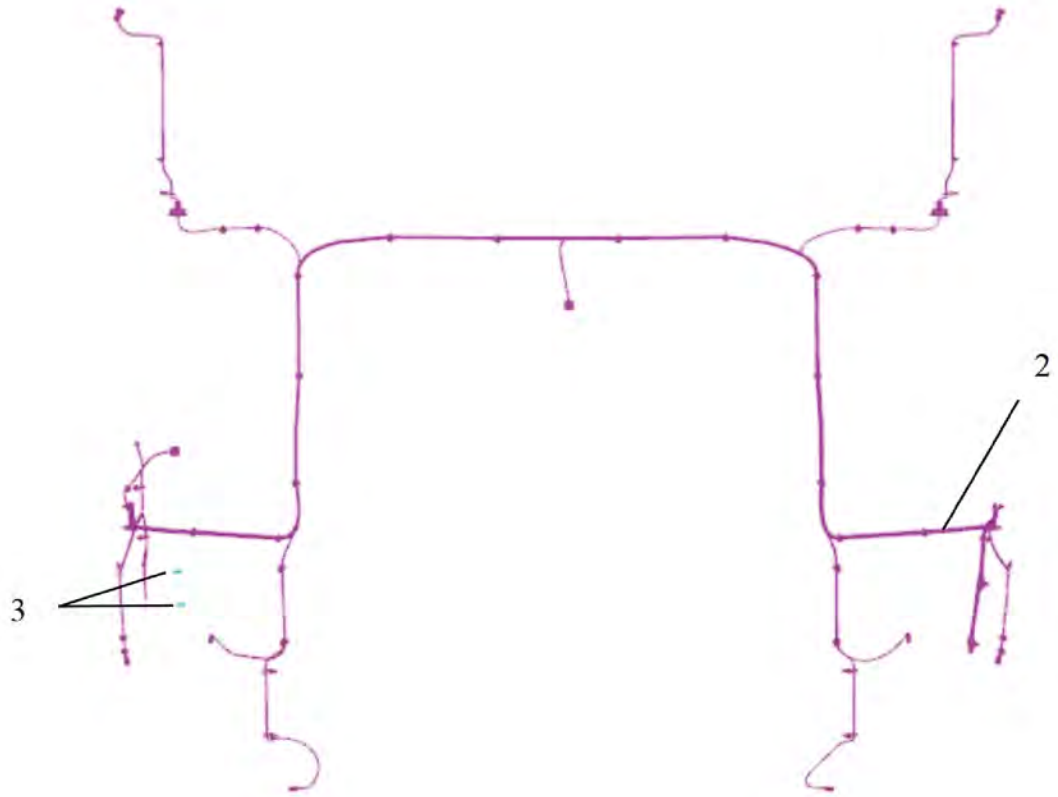
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting Left Junction Box and the floor harness	M8	(18.5 +/- 2) ft lbs
The fixing nut connecting Right Junction Box and the floor harness	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the cab grounding harness to the frame assembly	M10	(37 +/- 3.5) ft lbs
The fixing nut connecting the cab grounding harness and the frame assembly	M10	(37 +/- 3.5) ft lbs
The fixing bolts connecting the floor harness and the chassis intelligent box	M8	(18.5 +/- 2) ft lbs

7.9.2 Decomposition Diagram

7.9.2.1 Decomposition Diagram



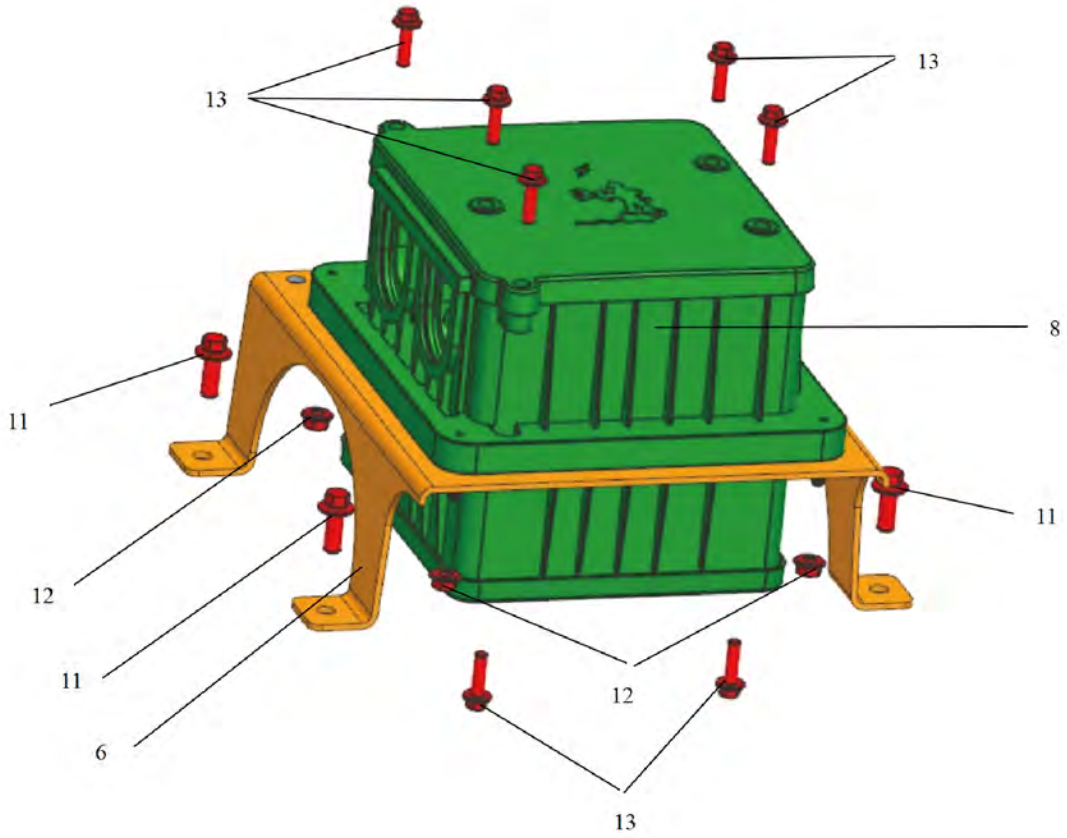
1. Bumper Wiring Harness



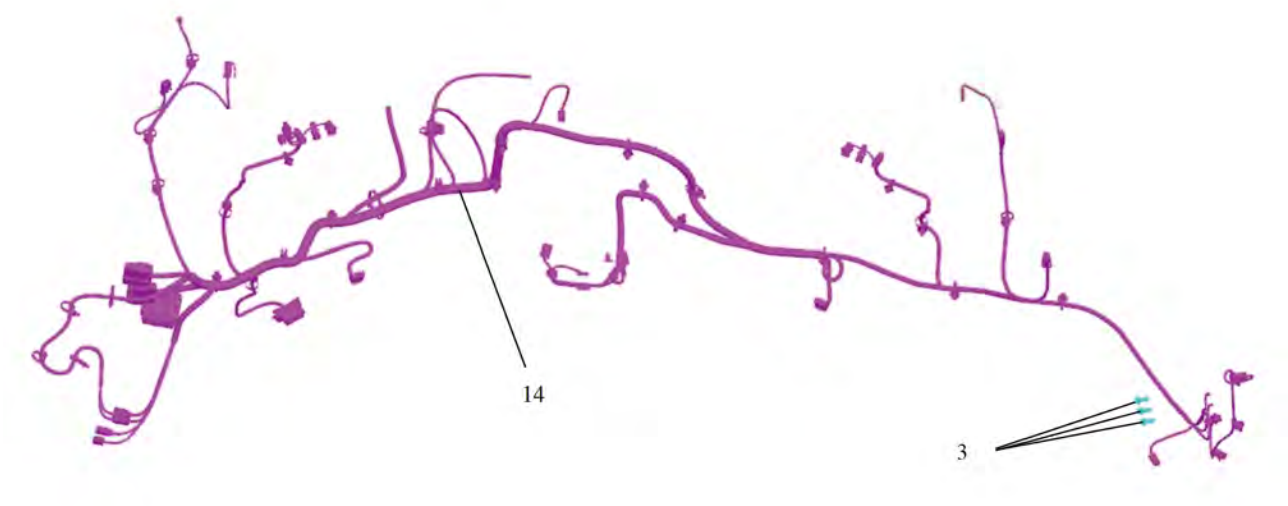
2. Top Cover Wiring Harness
3. Hexagon Flange Bolt



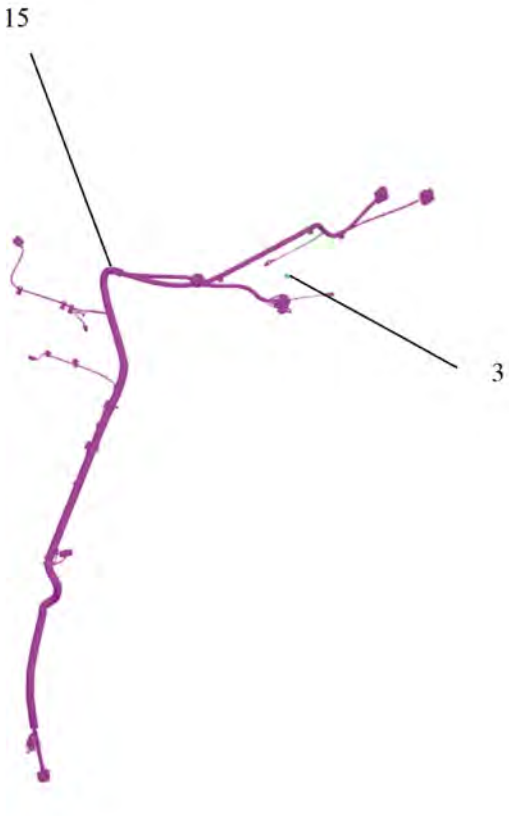
3.	Hexagon Flange Bolt	7.	Left Junction Box
4.	Floor Wire Harness	8.	Right Junction Box
5	Floor Harness Fixing Support 2	9.	Floor Harness Fixing Support 1
6.	Left Junction Box Bracket	10.	Seat Harness



6. Left Junction Box Bracket
8. Right Junction Box
11. Hexagon Flange Bolt
12. Hexagon Flange Nut
13. Hexagon Flange Bolt

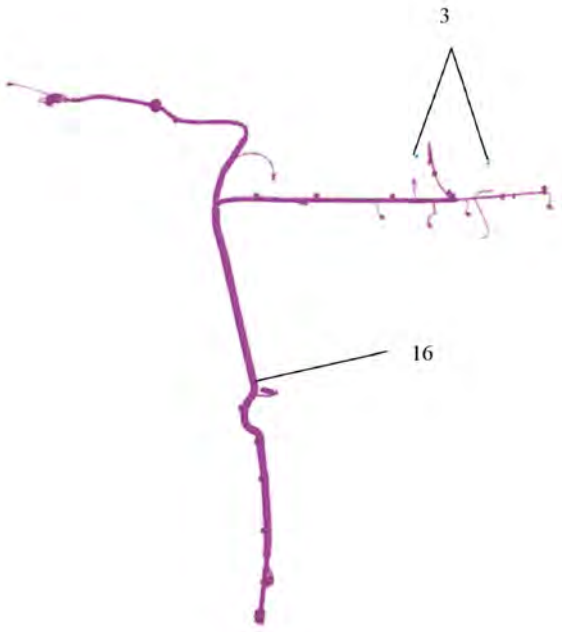


3. Hexagon Flange Bolt
14. Instrument Harness



3. Hexagon Flange Bolt

15. Left Roof Harness

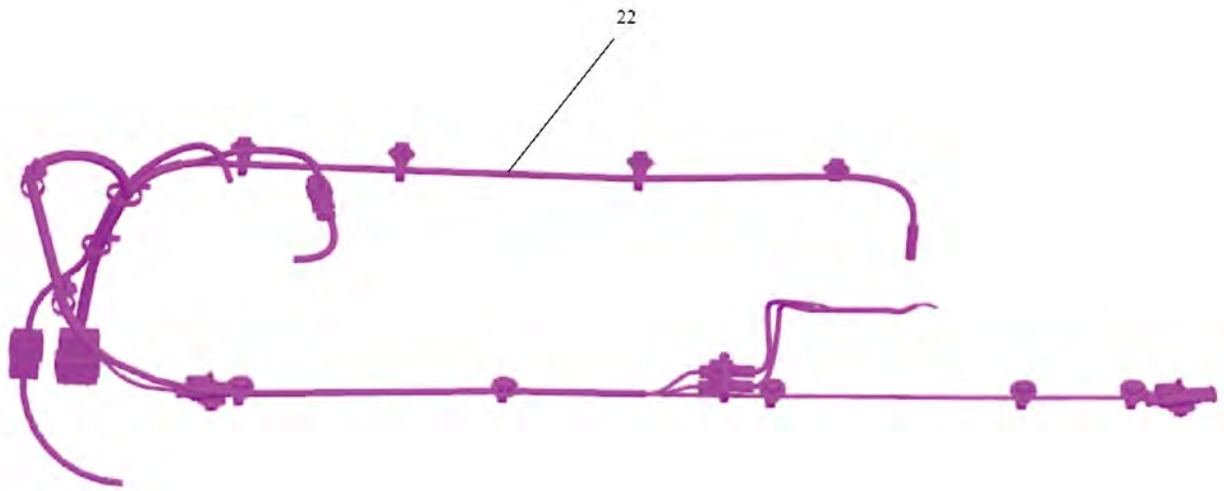


3. Hexagon Flange Bolt

16. Right Roof Harness



17. Cab Grounding Harness
18. Hexagon Flange Bolt
19. Hexagon Flange Nut
20. Inside and Out Teeth Serrated Lock Washer
21. Hexagon Flange Bolt



22. Bar Counter Wiring Harness In New Energy Vehicles

7.10 Chassis Harness Device

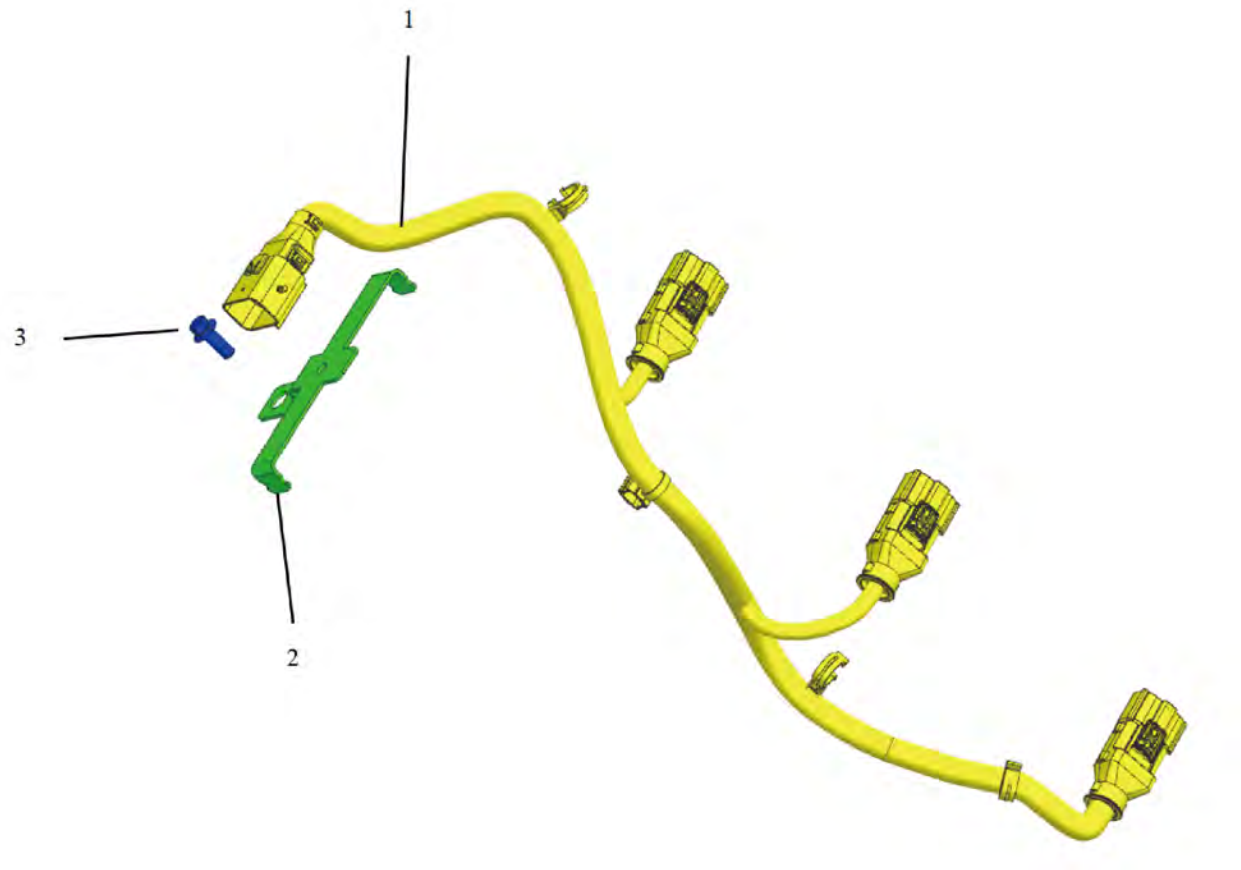
7.10.1 Specifications

7.10.1.1 Fastener Specifications

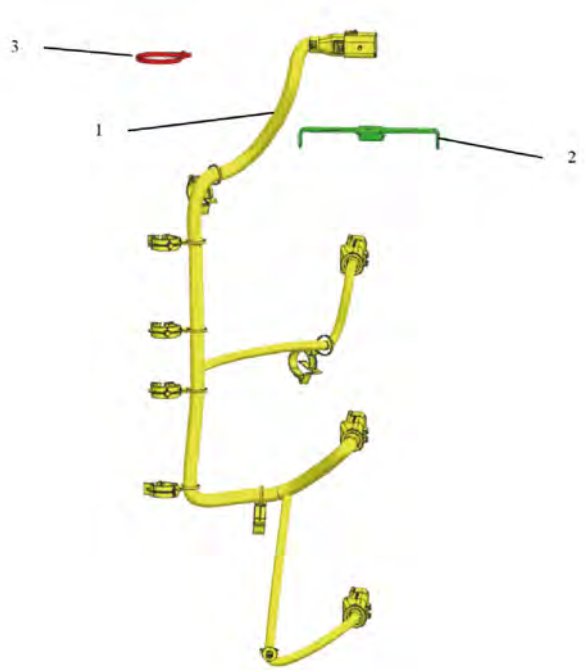
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the chassis harness and the frame assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the negative terminal harness of the left battery to the frame assembly	M10	(37 +/- 3.5) ft lbs
The fixing nut connecting the negative terminal harness of the left battery to the frame assembly	M10	(37 +/- 3.5) ft lbs
The fixing bolt connecting the L-shaped bracket and the air conditioning compressor assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the L-shaped bracket and the frame assembly	M12	(40.5 +/- 3.5) ft lbs
The fixing bolts connecting the L-shaped bracket and the frame assembly	M14	(103 +/- 7.5) ft lbs
Fixed nut connecting L-shaped bracket and air conditioning compressor assembly	M8	(18.5 +/- 2) ft lbs
The fixing nut connecting the L-shaped bracket and the frame assembly	M14	(103 +/- 7.5) ft lbs
The fixing bolts connecting the flange bracket and the frame assembly	M14	(103 +/- 7.5) ft lbs
The fixing nut connecting the flange bracket and the frame assembly	M14	(103 +/- 7.5) ft lbs
The fixing bolts connecting the wire harness bracket and the frame assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolts connecting the chassis harness and harness bracket II	M8	(18.5 +/- 2) ft lbs

7.10.2 Decomposition Diagram

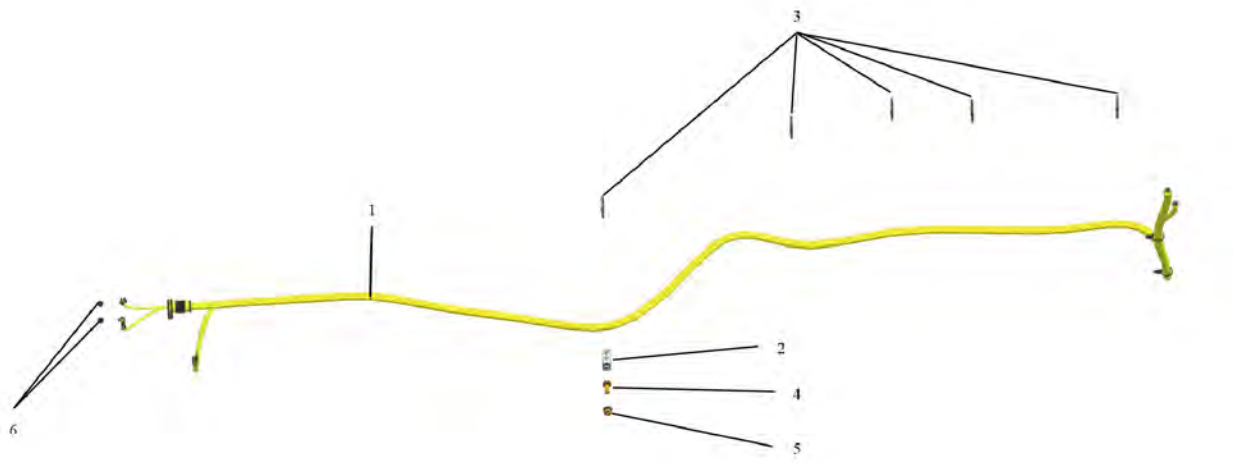
7.10.2.1 Decomposition Diagram



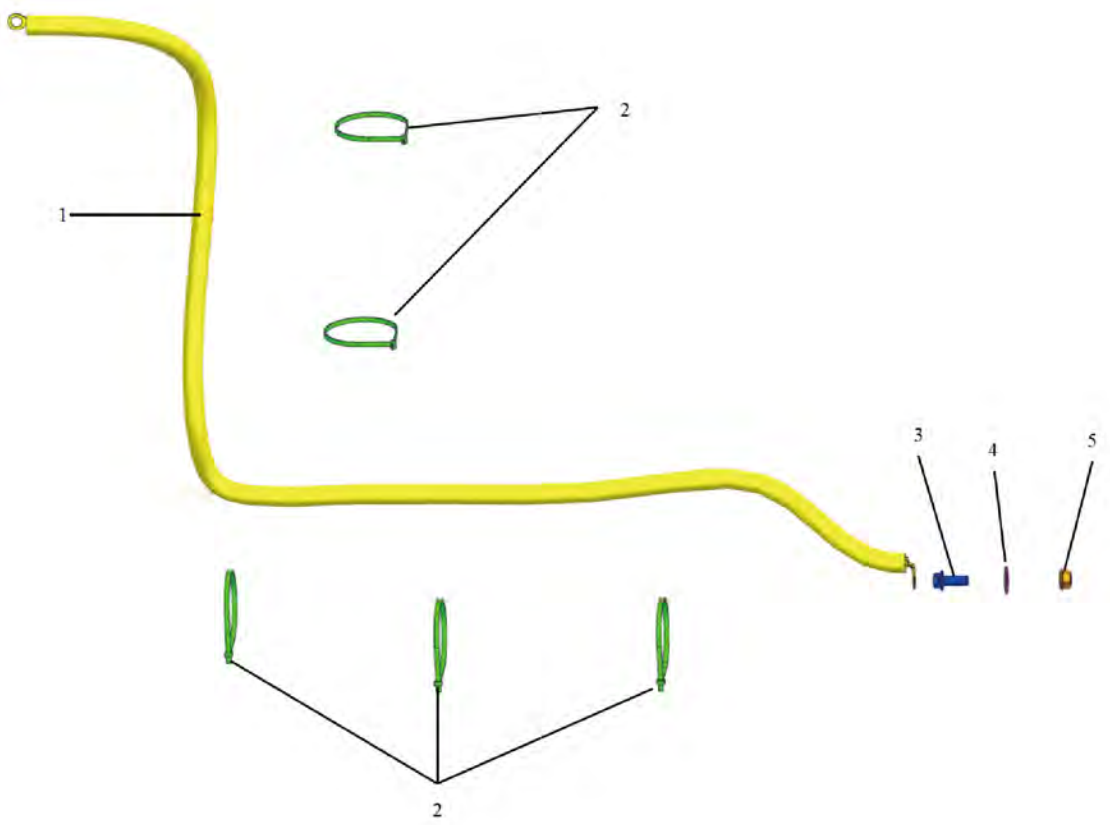
1. Battery Pack Wiring HarnessLH
2. Wire Harness Bracket
3. Hexagon Flange Bolt



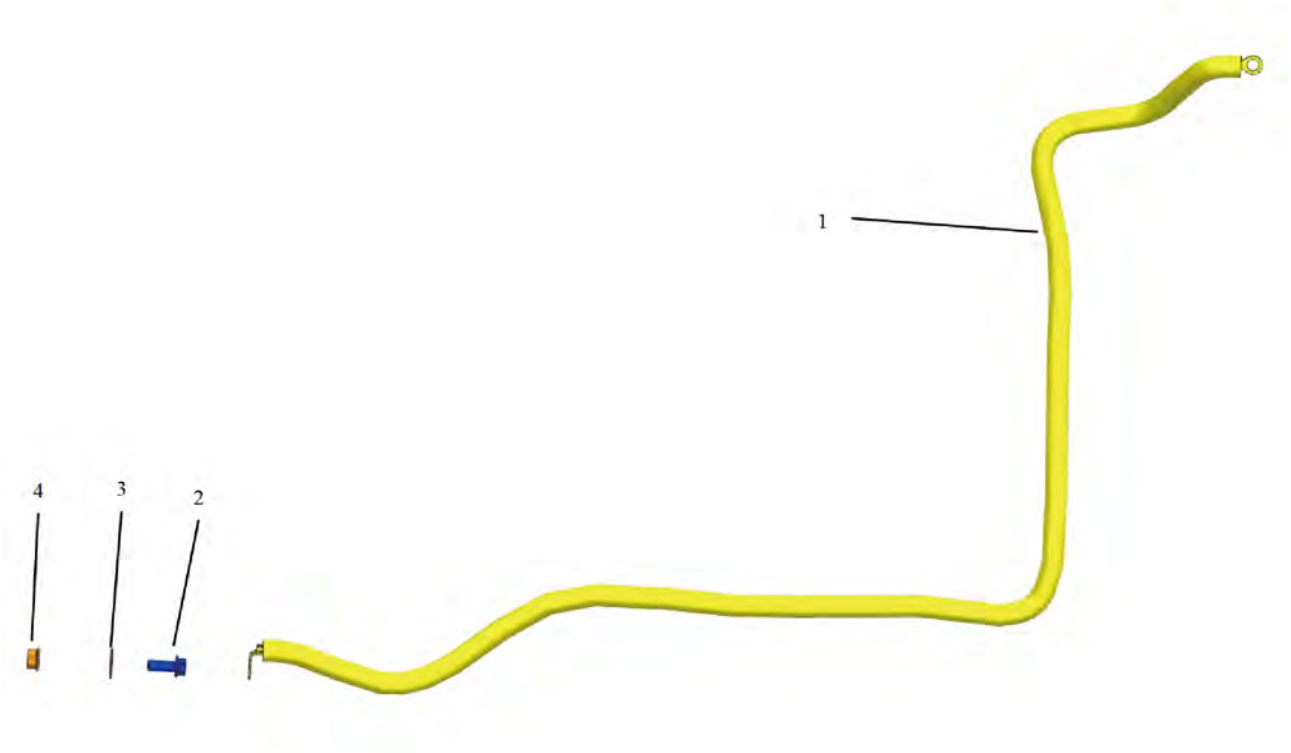
1. Battery Pack Wiring Harness RH
2. Wire Harness Bracket
3. Cable Ties 2



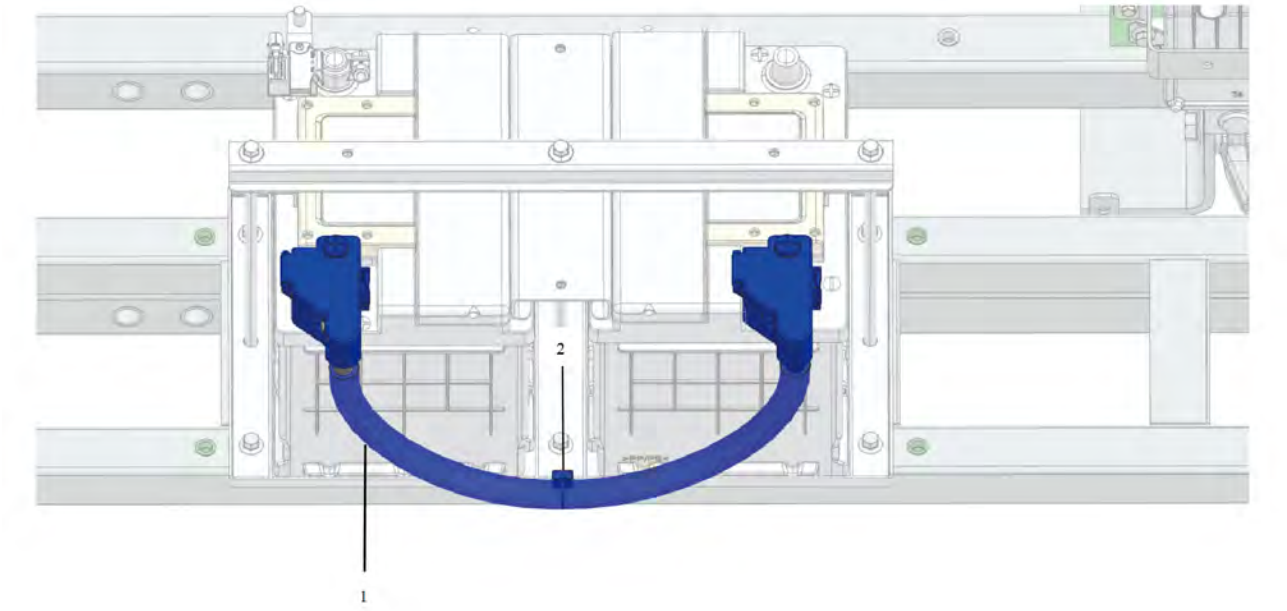
1. DC/DC Power Cord 1
2. Wire Harness Bracket
3. Cable Ties 1
4. Hexagon Flange Bolt
5. Hexagon Flange Nut
6. Hexagon Flange Lock Nut_All Metal



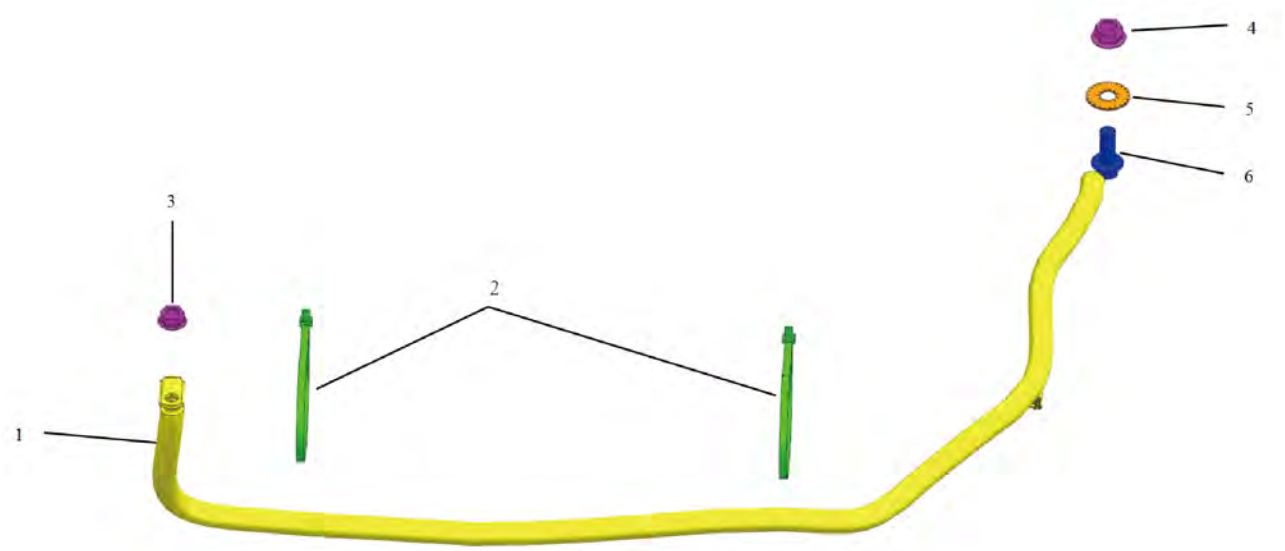
1. DC/DC Grounding Harness 1
2. Cable Ties 1
3. Hexagon Flange Bolt
4. Inside and Out Teeth Serrated Lock Washer
5. Hexagon Flange Nut



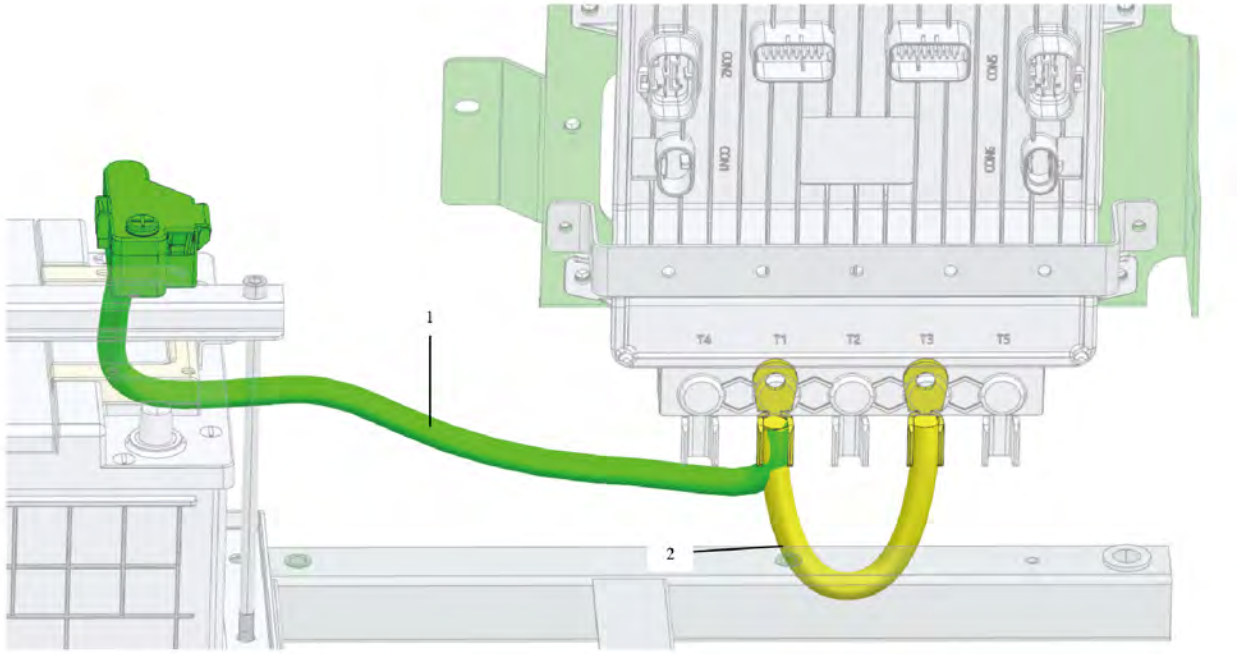
1. DC/DC Grounding Harness 2
2. Hexagon Flange Bolt
3. Inside and Out Teeth Serrated Lock Washer
4. Hexagon Flange Nut



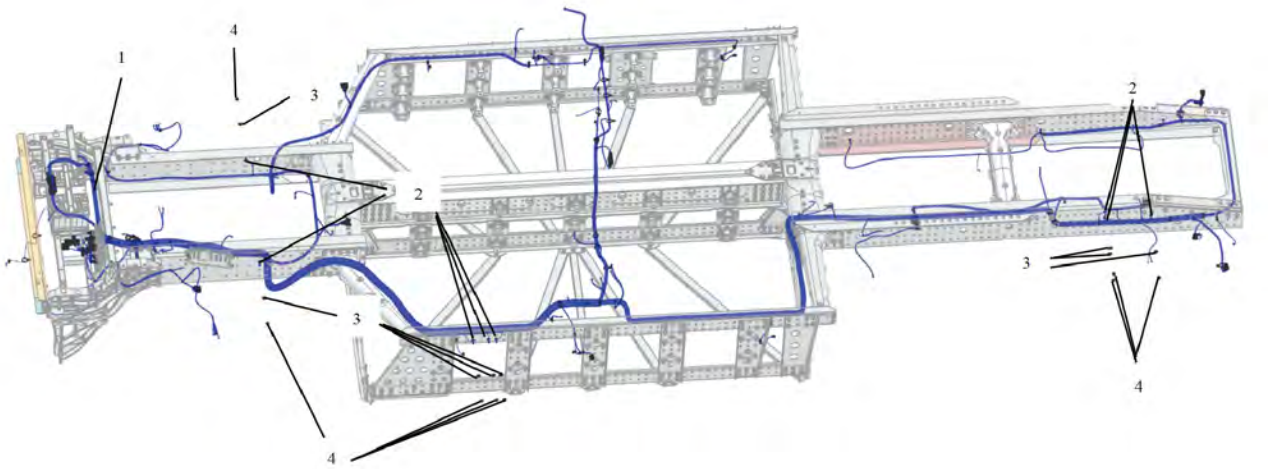
1. Battery Connecting Cable
2. Sheet Metal Cable Ties In New Energy Vehicles



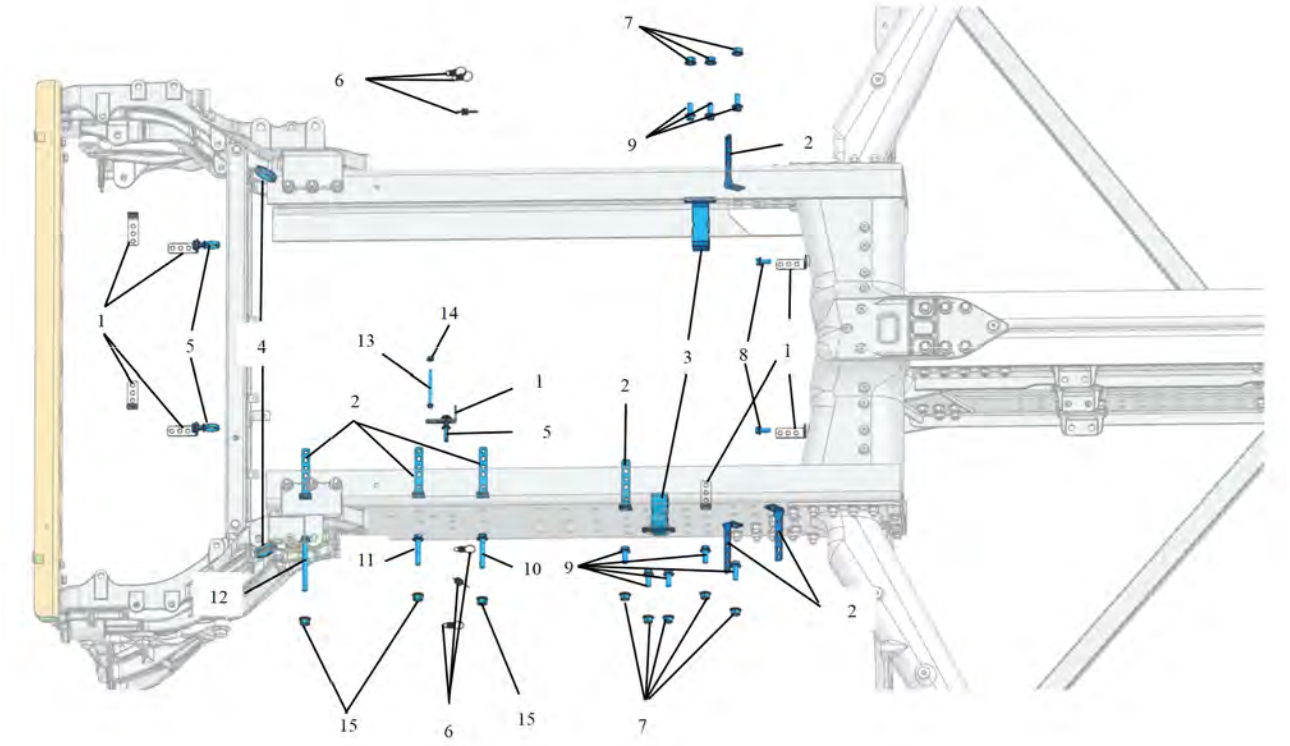
1. LH Battery Negative Wire Harness
2. Cable Ties 1
3. Hexagon Flange Nut
4. Hexagon Flange Bolt
5. Inside and Out Teeth Serrated Lock Washer
6. Hexagon Flange Nut



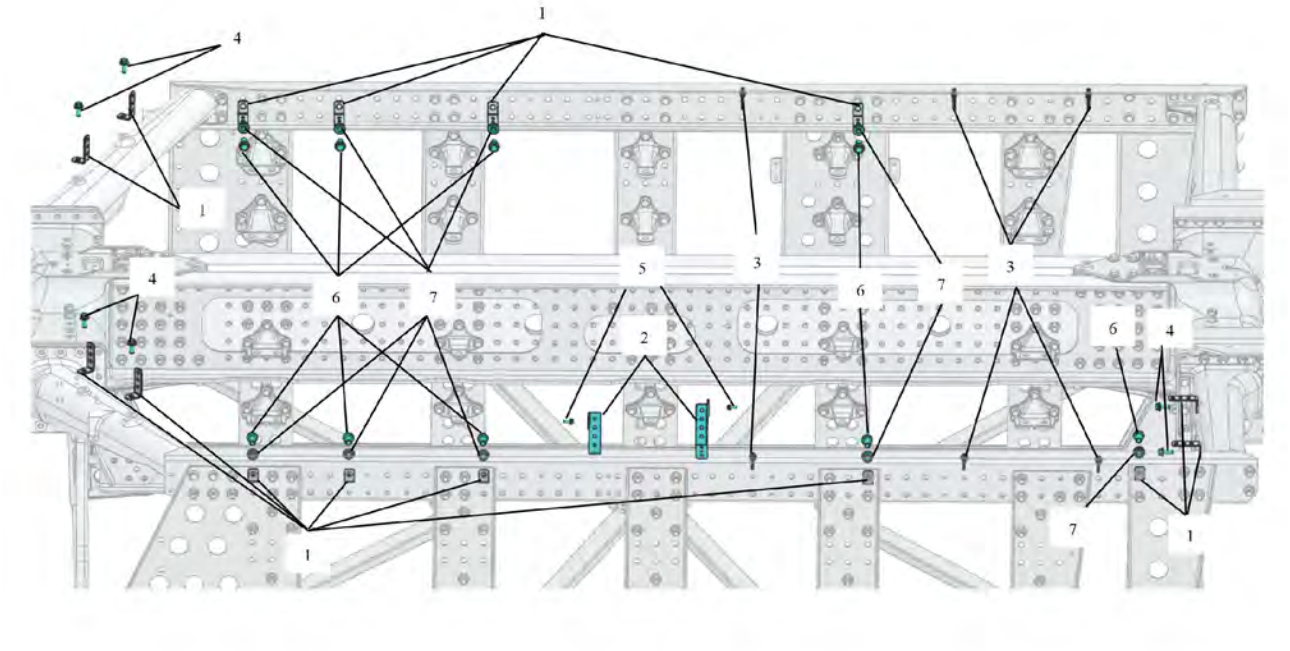
1. LH Battery Positive Wire Harness
2. Smart Appliance Box Harness



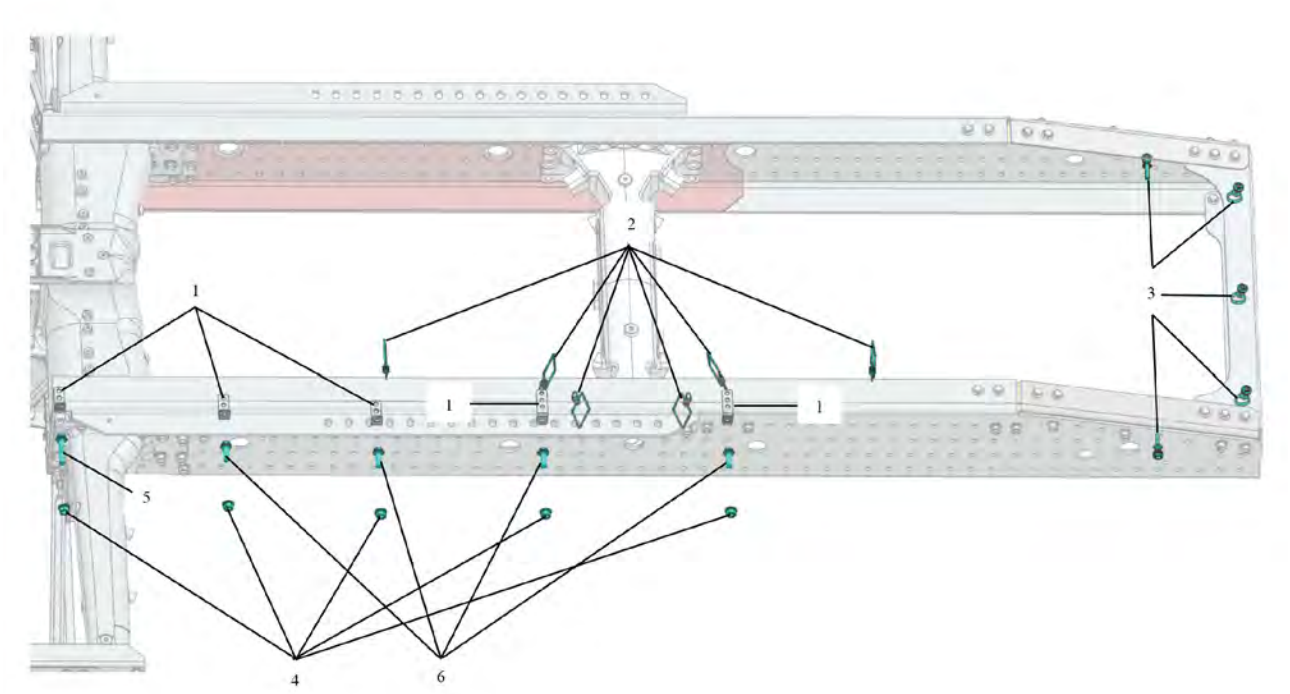
1. Chassis Harness
2. Hexagon Flange Bolt
3. Inside and Out Teeth Serrated Lock Washer
4. Hexagon Flange Nut



1. Wire Harness Bracket
2. Water Pipe Fixing Bracket 1
3. Flanging Bracket
4. Through the Hole Sheath 2
5. Mountable Head Ties
6. Interactive Fixed Ties
7. Hexagon Flange Nut
8. Hexagon Flange Bolt
9. Hexagon Flange Bolt
10. Hexagon Flange Bolt
11. Hexagon Flange Bolt
12. Hexagon Flange Bolt
13. Hexagon Flange Bolt
14. Hexagon Flange Nut
15. Hexagon Flange Lock Nut_All Metal



1. Wire Harness Bracket
2. Wire Harness BracketII
3. Tie-Fir Tree
4. Hexagon Flange Bolt
5. Hexagon Flange Bolt
6. Hexagon Flange Bolt
7. Hexagon Flange Lock Nut_All Metal



1. Wire Harness Bracket
2. Interactive Fixed Ties
3. Mountable Head Ties
4. Hexagon Flange Lock Nut_All Metal
5. Hexagon Flange Bolt
6. Hexagon Flange Bolt

7.11 Exterior Vehicle Body Lamp Device

7.11.1 Specifications

7.11.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the left headlight to the left headlight bracket	M8	(6 +/- .75) ft lbs
The fixing bolt connecting the left headlight bracket to the front lower protective assembly	M12	(18.5 +/- 2) ft lbs
The fixing bolt connecting the left headlight bracket to the A-pillar exterior decoration assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the left headlight bracket and the side fender bracket assembly	M8	(6.5 +/- .75) ft lbs
The fixing bolt connecting the left headlight bracket to the left front connecting beam	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the right headlight to the right headlight bracket	M8	(6 +/- .75) ft lbs
The fixing bolt connecting the right headlight bracket to the front lower protective assembly	M12	(17 +/- 2) ft lbs
The fixing bolt connecting the right headlight bracket to the A-pillar exterior decoration assembly	M8	(17 +/- 2) ft lbs
The fixing bolt connecting the right headlight bracket and the side fender bracket assembly	M8	(6.5 +/- .75) ft lbs
The fixing bolt connecting the right headlight bracket to the right front connecting beam	M8	(17 +/- 2) ft lbs
The fixing bolt connecting the through light and the bumper body skeleton assembly	M6	(6.5+/- .75) ft lb
The fixing bolt connecting the right front combination lamp and the right front headlight bracket	M6	(6.5+/- .75) ft lb

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the left front combination lamp and the left fender bracket assembly	M6	(6.5+/- .75) ft lb
The fixing bolt connecting the right front combination lamp and the left fender bracket assembly	M6	(6.5+/- .75) ft lb
The fixing nut connecting the left front clearance lamp to the top cover assembly	M6	(6.5+/- .75) ft lb
The fixing nut connecting the right front clearance lamp to the top cover assembly	M6	(6.5+/- .75) ft lb
The fixing bolt connecting the rear clearance lamp and the rear clearance lamp mounting bracket	M6	(4.5 +/- .75) ft lbs
The fixing nut connecting the rear clearance lamp and the rear clearance lamp mounting bracket	M6	(4.5 +/- .75) ft lbs
The fixing nut connecting the rear work light bracket to the integrated frame	M8	(18.5 +/- 2) ft lbs
Fixed bolts connecting the rear work light bracket to the integrated frame	M8	(18.5 +/- 2) ft lbs
The fixing nut connecting the side marker combination light and the lower decorative panel assembly of the side panel	M6	(4.5 +/- .75) ft lbs
The fixing nut connecting the side marker combination light and the side skirt assembly	M6	(4.5 +/- .75) ft lbs

7.11.1.2 Technical Parameters

Name of Light Bulb	Quantity	Model of Light Bulb	Power
Low beam	2	40W each	LED
High beam	2	40W each	LED
Front turn signal lamp	2	14W each	LED
Daytime running lamp	2	14W each	LED
Front position lamp	2	6.6W each	LED
End-outline marker lamp	2	1.7W each	LED
Side turn signal lamp	2	5.1W each	LED
Side marker lamp	8	0.82W each	LED

Name of Light Bulb	Quantity	Model of Light Bulb	Power
Reversing lamp	2	2.5W each	LED
Rear end-outline marker lamp	4	1.3W for the rear upper, 0.63W for the rear lower	LED
Brake lamp	2	2.9W each	LED
Rear working lamp	1	9W	LED
License plate lamp	1	2.5W	LED
Rear turn signal lamp	2	2.1W	LED

7.11.2 Dismantling and Installation

7.11.2.1 Replacement of Left Headlamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

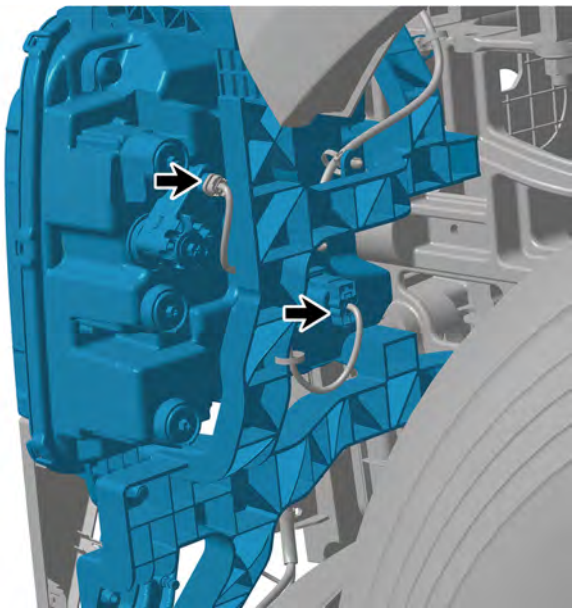
8 Remove the front MMW radar adapter bracket.

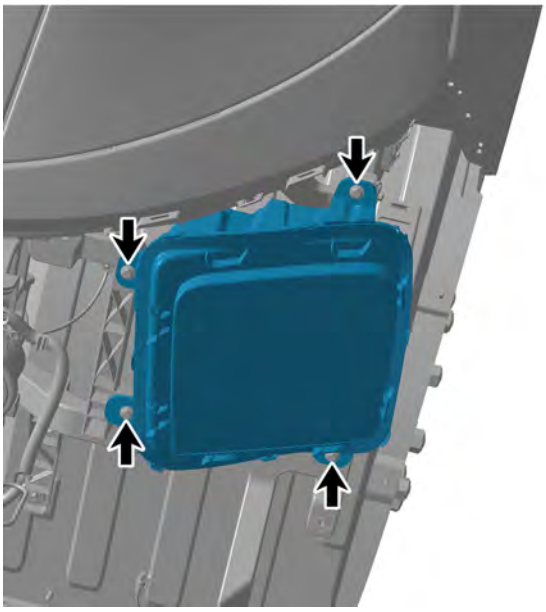
9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Disconnect 2 harness connectors of the left headlamp.

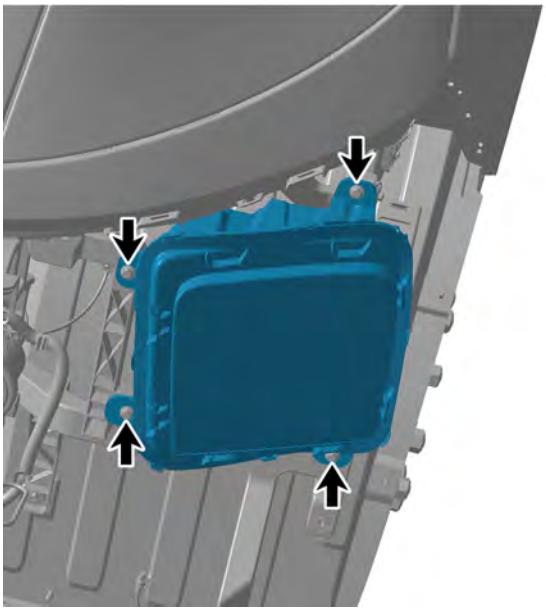




13 Remove 4 fixing bolts of the left headlamp.

14 Remove the left headlamp.

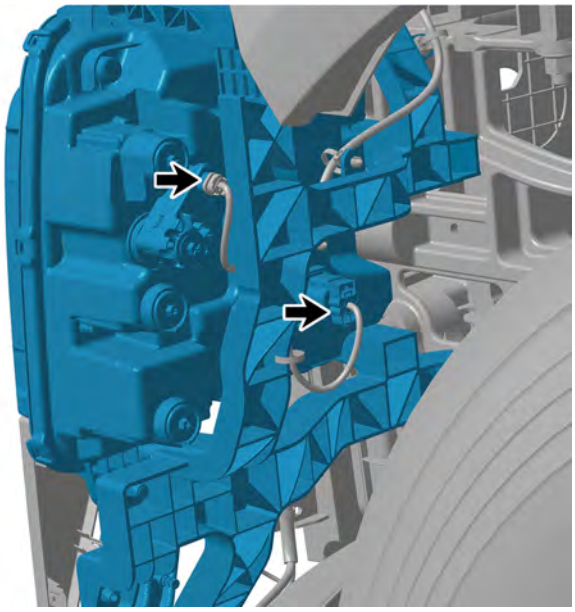
Installation Procedures



1 Move the left headlamp to the mounting position.

2 Install 4 fixing bolts of the left headlamp.

Torque:(6 +/- .75) ft lbs



3 Connect 2 harness connectors of the left headlamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the front bumper assembly.

5 Install the right cover plate of the corner radar.

6 Install the left cover plate of the corner radar.

7 Install the front MMW radar adapter bracket.

8 Install the forward MMW radar.

9 Install the front MMW radar shield.

10 Install the through-type lamp.

11 Install the engine compartment trim panel body.

12 Connect the battery negative cable.

13 Close the front flip cover plate.

14 Close the door.

caution

After replacing the headlamps, it is necessary to recalibrate the position of the lights.

7.11.2.2 Replacement of Right Headlamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

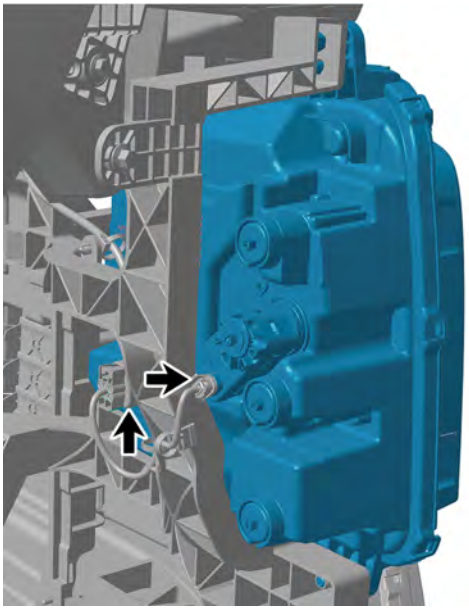
8 Remove the front MMW radar adapter bracket.

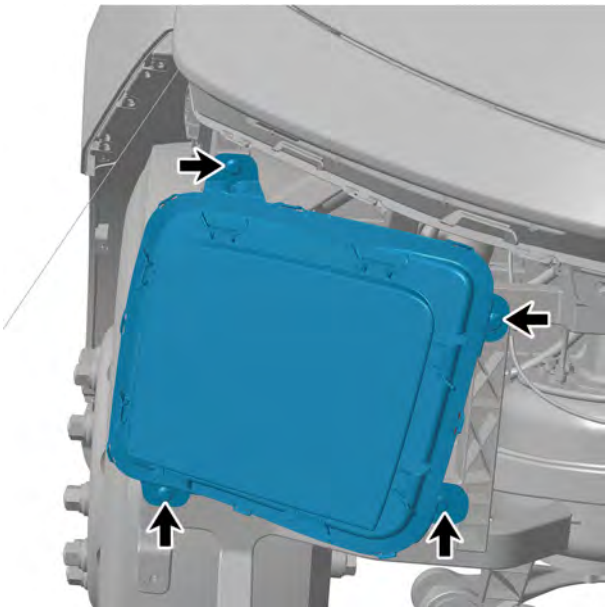
9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Disconnect 2 harness connectors of the right headlamp.

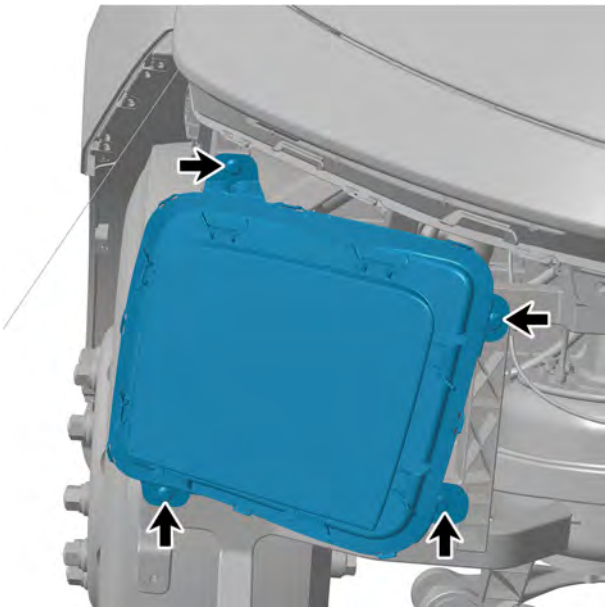




13 Remove 4 fixing bolts of the right headlamp.

14 Remove the right headlamp.

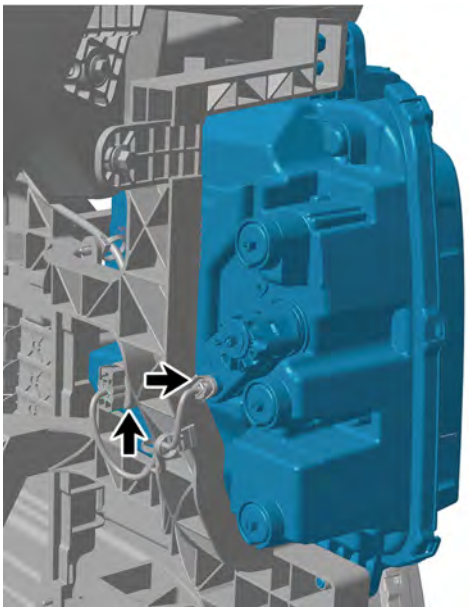
Installation Procedures



1 Move the right headlamp to the mounting position.

2 Install 4 fixing bolts of the right headlamp.

Torque: (6 +/- .75) ft lbs



3 Connect 2 harness connector of the right headlamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the front bumper assembly.

5 Install the right cover plate of the corner radar.

6 Install the left cover plate of the corner radar.

7 Install the front MMW radar adapter bracket.

8 Install the forward MMW radar.

9 Install the front MMW radar shield.

10 Install the through-type lamp.

11 Install the engine compartment trim panel body.

12 Connect the battery negative cable.

13 Close the front flip cover plate.

14 Close the door.

caution

After replacing the headlamps, it is necessary to recalibrate the position of the lights.

7.11.2.3 Replacement of Through-type Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

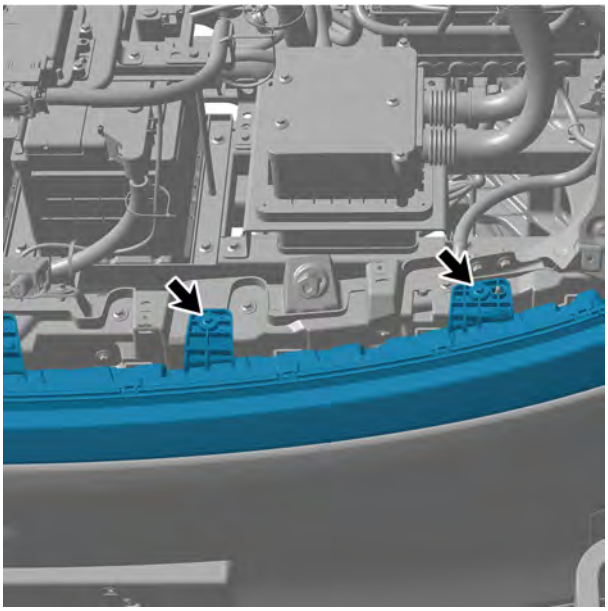
3 Disconnect the battery negative cable.

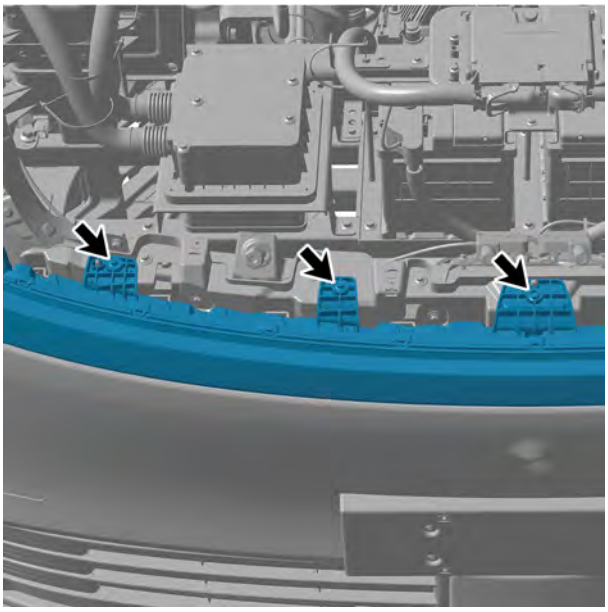
caution

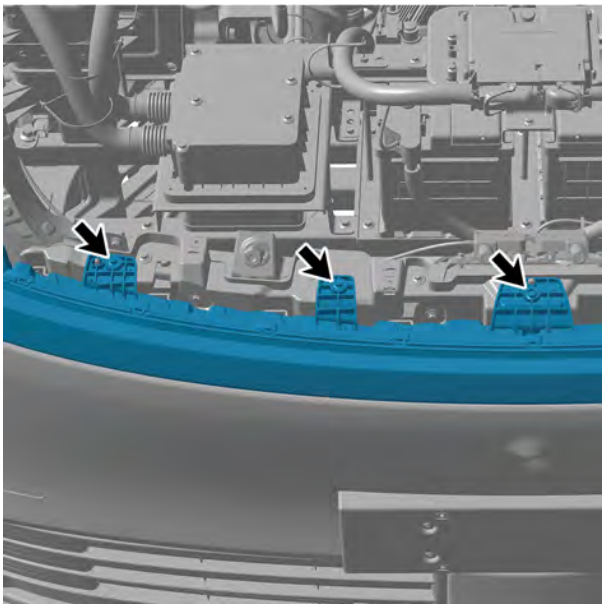
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove 5 fixing bolts of the through-type lamp, and remove the through-type lamp.





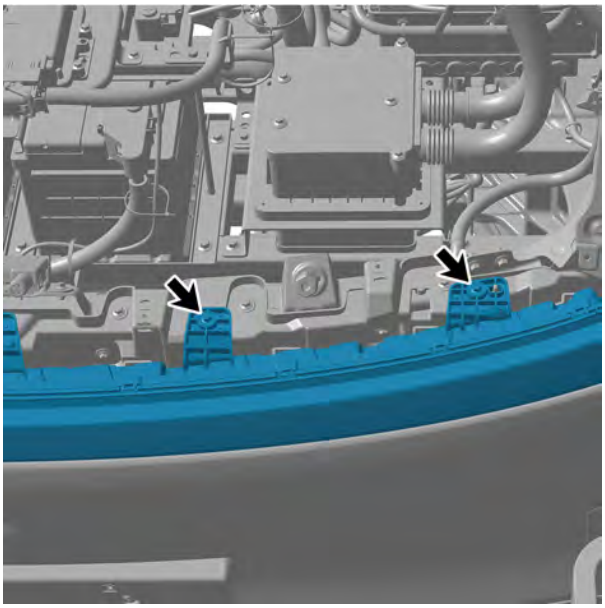


Installation Procedures

1 Move the through-type lamp to the mounting position.

2 Install 5 fixing bolts of the through-type lamp.

Torque: (6.5 +/- .75) ft lbs



3 Install the engine compartment trim panel body.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.11.2.4 Replacement of Left Front Combination Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the front MMW radar adapter bracket.

9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Remove the left physical exterior rearview mirror assembly.

13 Remove the left front wheel housing body.

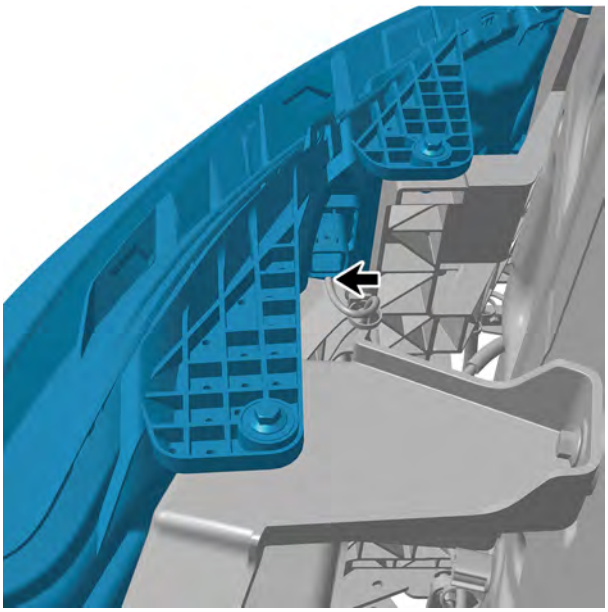
14 Remove the primary wiper arm blade assembly (nozzle and hose).

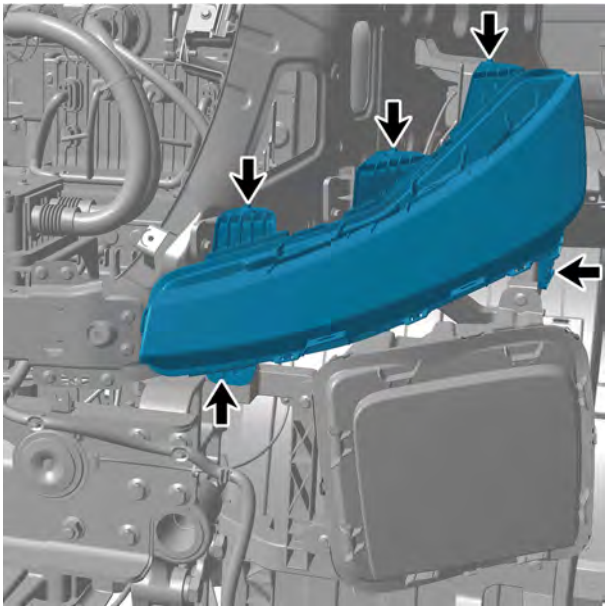
15 Remove the front windshield cover plate assembly.

16 Remove the left fender trim strip.

17 Remove the left fender assembly.

18 Disconnect 1 harness connector of the left front combination lamp.

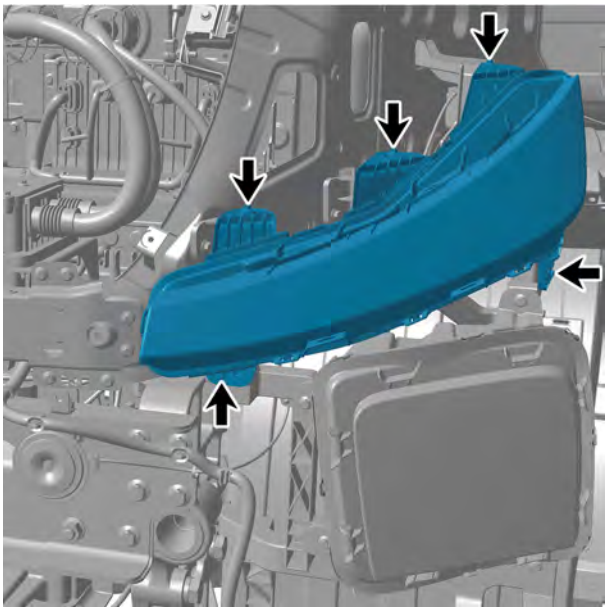




19 Remove 5 fixing bolts of the left front combination lamp.

20 Remove the left front combination lamp.

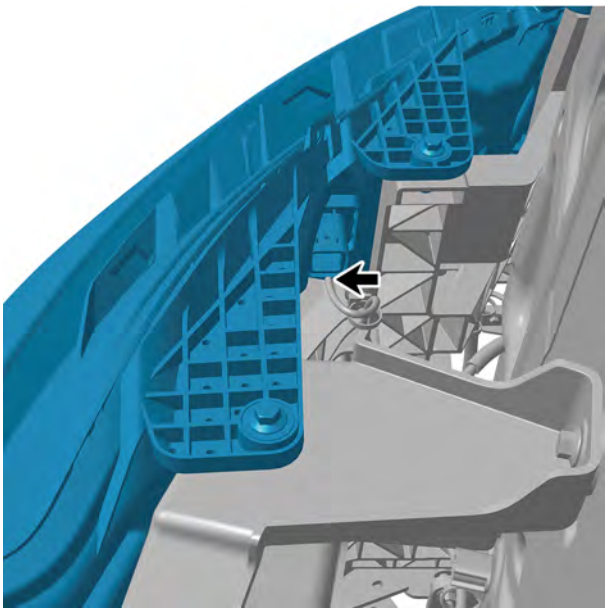
Installation Procedures



1 Move the left front combination lamp to the mounting position.

2 Install 5 fixing bolts of the left front combination lamp.

Torque:(6.5 +/- .75) ft lbs



3 Connect 1 harness connector of the left front combination lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the left fender assembly.

5 Install the left fender trim strip.

6 Install the front windshield cover plate assembly.

7 Install the primary wiper arm blade assembly (nozzle and hose).

8 Install the left front wheel housing body.

9 Install the left physical exterior rearview mirror assembly.

10 Install the front bumper assembly.

11 Install the right cover plate of the corner radar.

12 Install the left cover plate of the corner radar.

13 Install the front MMW radar adapter bracket.

14 Install the forward MMW radar.

15 Install the front MMW radar shield.

16 Install the through-type lamp.

17 Install the engine compartment trim panel body.

18 Connect the battery negative cable.

19 Close the front flip cover plate.

20 Close the door.

7.11.2.5 Replacement of Right Front Combination Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the through-type lamp.

6 Remove the front MMW radar shield.

7 Remove the forward MMW radar.

8 Remove the front MMW radar adapter bracket.

9 Remove the left cover plate of the corner radar.

10 Remove the right cover plate of the corner radar.

11 Remove the front bumper assembly.

12 Remove the right triangular cover plate assembly.

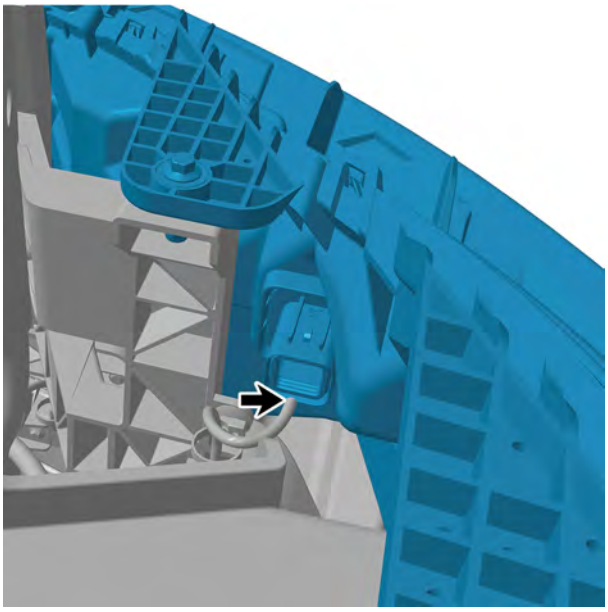
13 Remove the right front wheel housing body.

14 Remove the primary wiper arm blade assembly (nozzle and hose).

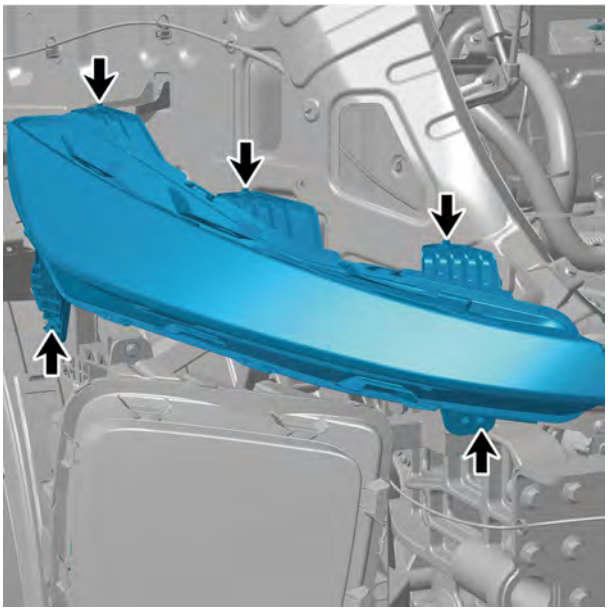
15 Remove the front windshield cover plate assembly.

16 Remove the right fender trim strip.

17 Remove the right fender assembly.



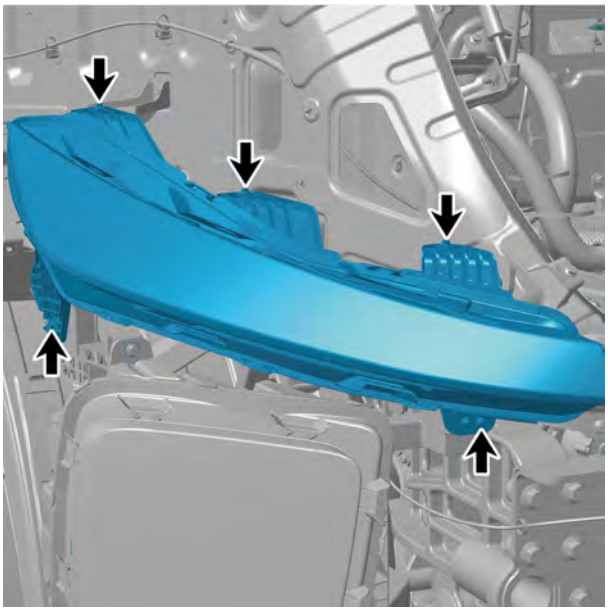
18 Disconnect 1 harness connector of the right front combination lamp.



19 Remove 5 fixing bolts of the right front combination lamp.

20 Remove the right front combination lamp.

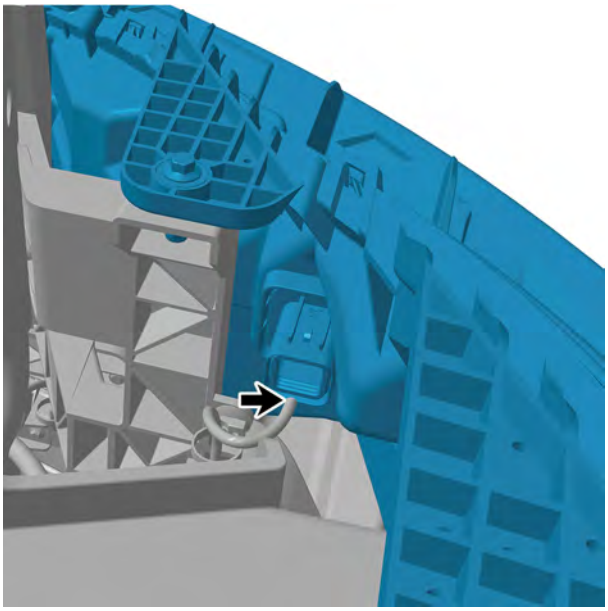
Installation Procedures



1 Move the right front combination lamp to the mounting position.

2 Install 5 fixing bolts of the right front combination lamp.

Torque: (6.5 +/- .75) ft lbs



3 Connect 1 harness connector of the right front combination lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the right fender assembly.

5 Install the right fender trim strip.

6 Install the front windshield cover plate assembly.

7 Install the primary wiper arm blade assembly (nozzle and hose).

8 Install the right front wheel housing body.

9 Install the right triangular cover plate assembly.

10 Install the front bumper assembly.

11 Install the right cover plate of the corner radar.

12 Install the left cover plate of the corner radar.

13 Install the front MMW radar adapter bracket.

14 Install the forward MMW radar.

15 Install the front MMW radar shield.

16 Install the through-type lamp.

17 Install the engine compartment trim panel body.

18 Connect the battery negative cable.

19 Close the front flip cover plate.

20 Close the door.

7.11.2.6 Replacement of Left Front End-outline Marker Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

8 Remove the sunshade cover plate assembly.

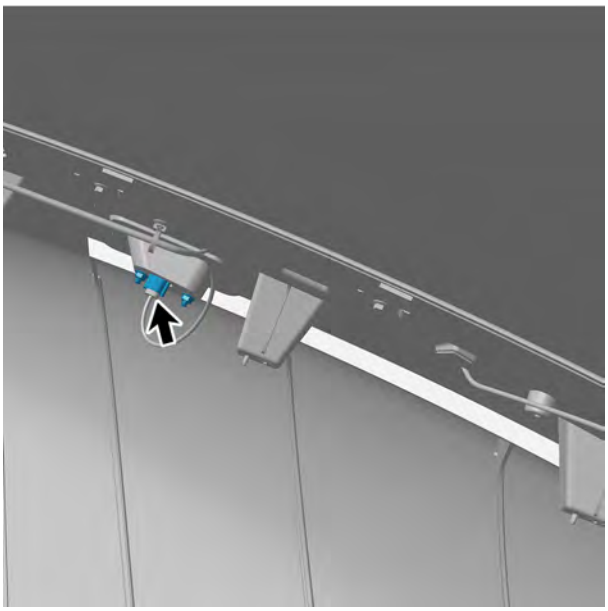
9 Remove the left ceiling lamp.

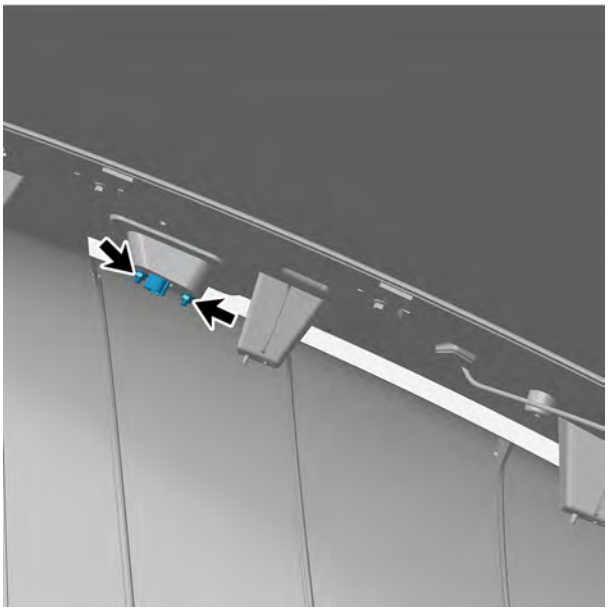
10 Remove the right ceiling lamp.

11 Remove the curtain rail assembly.

12 Remove the middle ceiling assembly.

13 Disconnect 1 harness connector of the left front end-outline marker lamp.

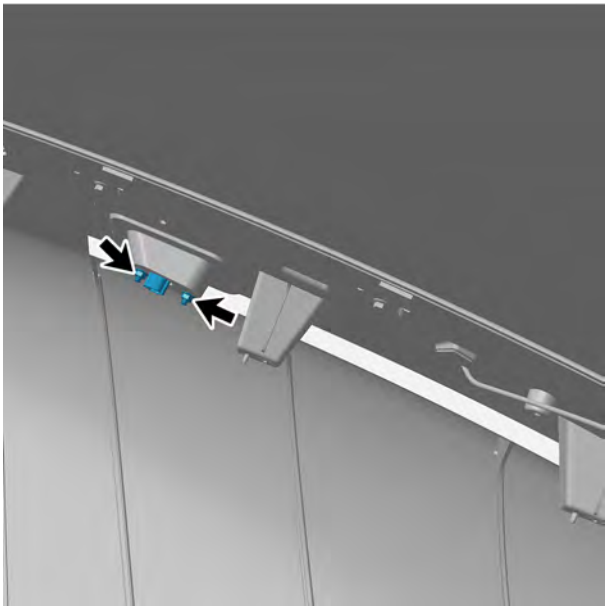




14 Remove 2 fixing nuts of the left front end-outline marker lamp.

15 Remove the left front end-outline marker lamp.

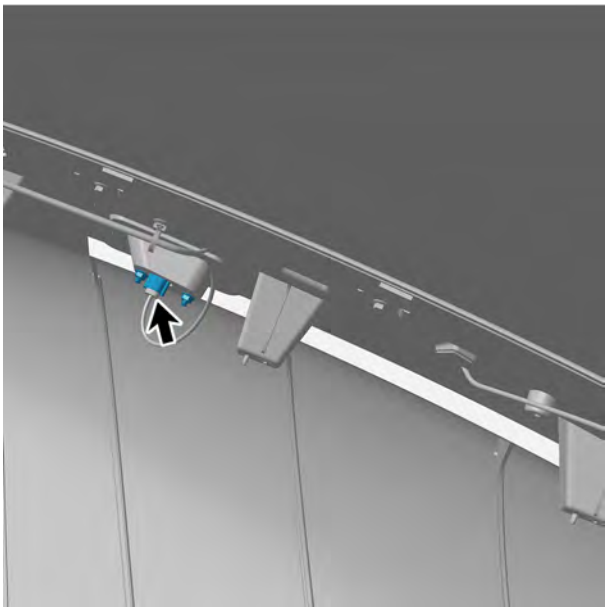
Installation Procedures



1 Move the left front end-outline marker lamp to the mounting position.

2 Install 2 fixing nuts of the left front end-outline marker lamp.

Torque:(6.5 +/- .75) ft lbs



3 Connect 1 harness connector of the left front end-outline marker lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the middle ceiling assembly.

5 Install the curtain rail assembly.

6 Install the right ceiling lamp.

7 Install the left ceiling lamp.

8 Install the sunshade cover plate assembly.

9 Install the front camera trim cover assembly.

10 Install the sunshade rail assembly.

11 Install the right A-pillar protective plate assembly.

12 Install the left A-pillar protective plate assembly.

13 Connect the battery negative cable.

14 Close the front flip cover plate.

15 Close the door.

7.11.2.7 Replacement of Right Front End-outline Marker Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

8 Remove the sunshade cover plate assembly.

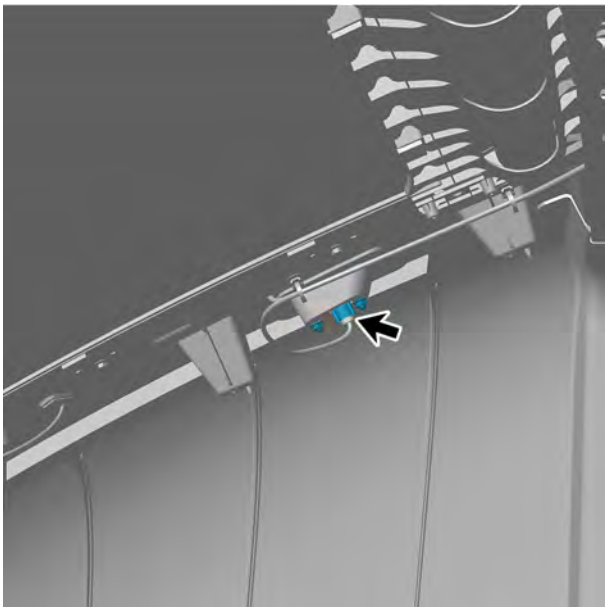
9 Remove the left ceiling lamp.

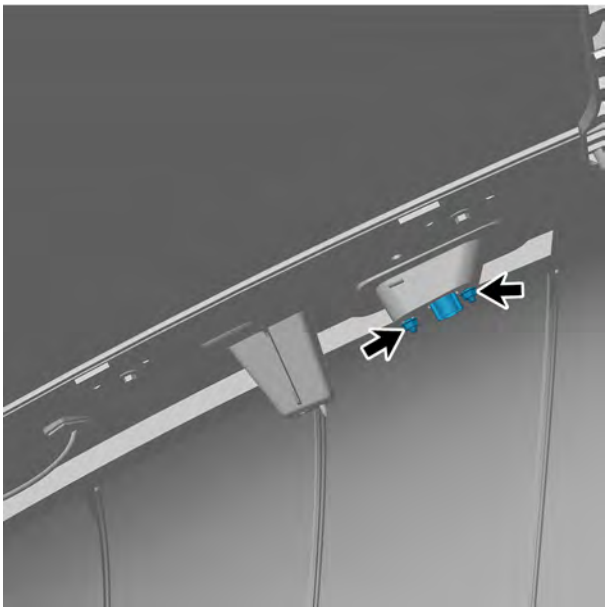
10 Remove the right ceiling lamp.

11 Remove the curtain rail assembly.

12 Remove the middle ceiling assembly.

13 Disconnect 1 harness connector of the right front end-outline marker lamp.

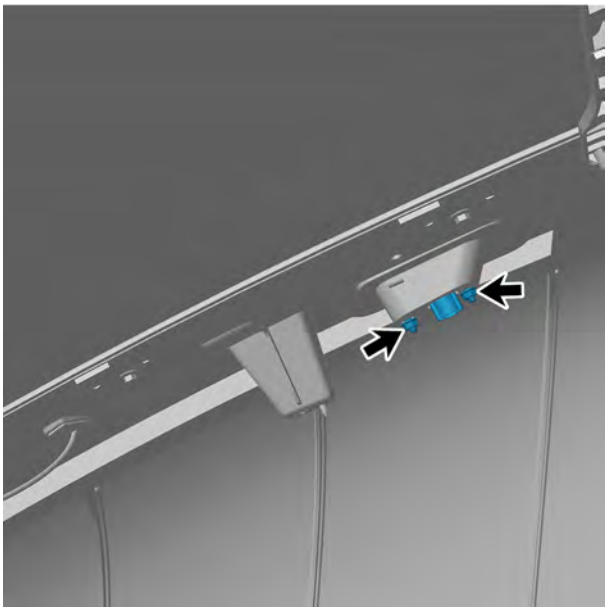




14 Remove 2 fixing nuts of the right front end-outline marker lamp.

15 Remove the right front end-outline marker lamp.

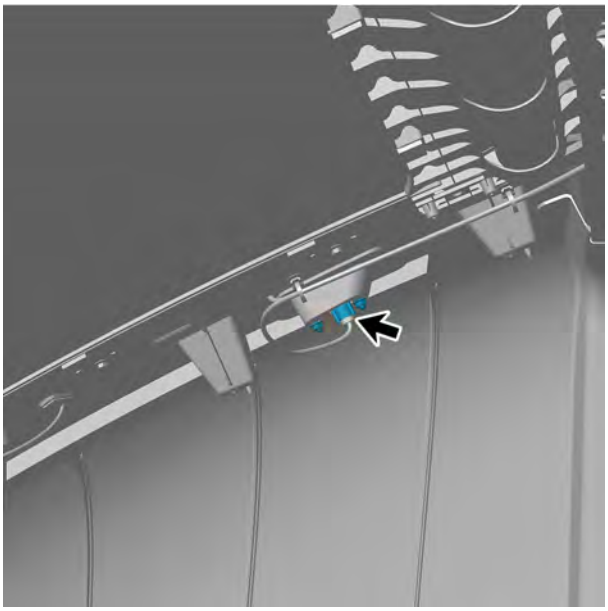
Installation Procedures



1 Move the right front end-outline marker lamp to the mounting position.

2 Install 2 fixing nuts of the right front end-outline marker lamp.

Torque:(6.5 +/- .75) ft lbs



3 Connect 1 harness connector of the right front end-outline marker lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the middle ceiling assembly.

5 Install the curtain rail assembly.

6 Install the right ceiling lamp.

7 Install the left ceiling lamp.

8 Install the sunshade cover plate assembly.

9 Install the front camera trim cover assembly.

10 Install the sunshade rail assembly.

11 Install the right A-pillar protective plate assembly.

12 Install the left A-pillar protective plate assembly.

13 Connect the battery negative cable.

14 Close the front flip cover plate.

15 Close the door.

7.11.2.8 Identification marker light

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

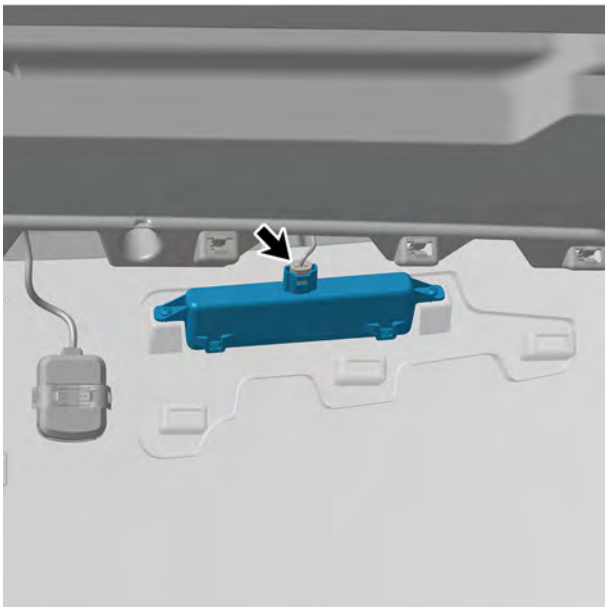
3 Disconnect the battery negative cable.

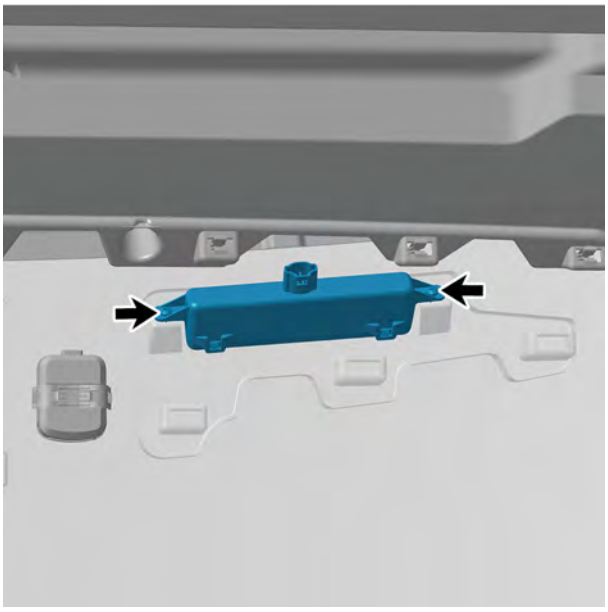
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the front camera trim cover assembly.

5 Disconnect 1 harness connector of the identification marker light.

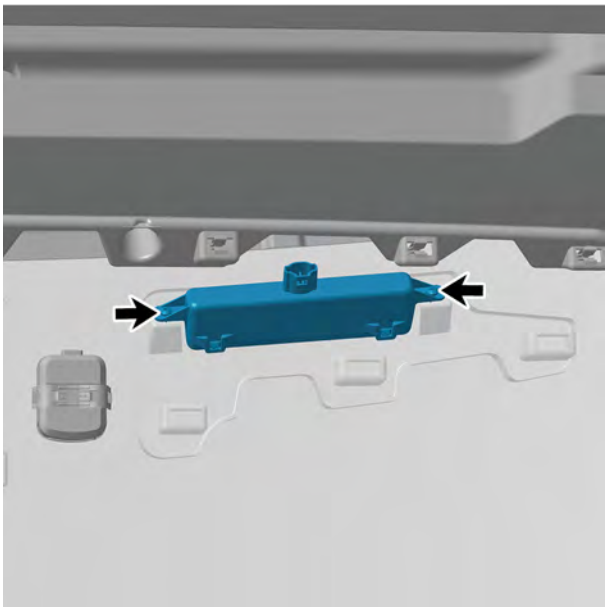




6 Remove 2 fixing screws of the identification marker light.

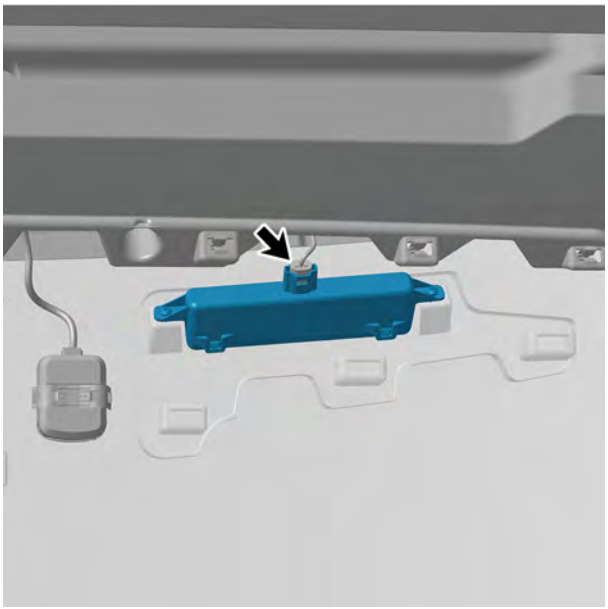
7 Remove the identification marker light.

Installation Procedures



1 Move the identification marker light to the mounting position.

2 Install 2 fixing screws of the identification marker light.



3 Connect 1 harness connector of the identification marker light.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the front camera trim cover assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.11.2.9 Replacement of Left side Combination Marker Light

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the left physical exterior rearview mirror assembly.

6 Remove the left front wheel housing body.

7 Remove the primary wiper arm blade assembly (nozzle and hose).

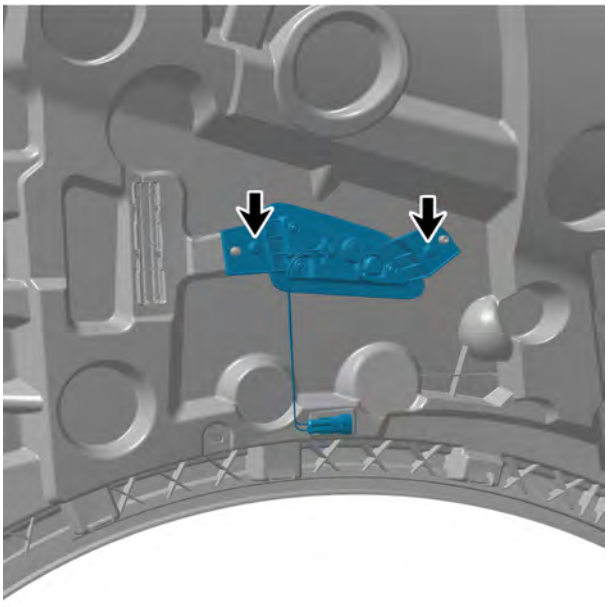
8 Remove the front windshield cover plate assembly.

9 Remove the left fender trim strip.

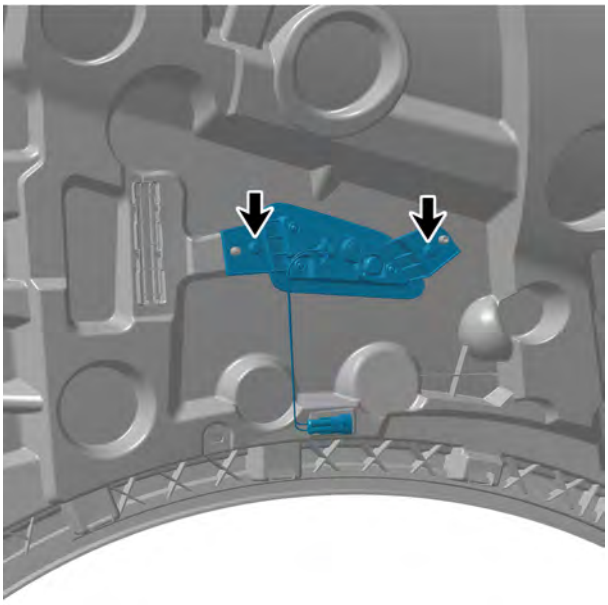
10 Remove the left fender assembly.

11 Remove 2 fixing bolts of the left side combination marker light.

12 Remove the left side combination marker light.



Installation Procedures



1 Move the left side combination marker light to the mounting position.

2 Install 2 fixing bolts of the left side combination marker light.

Torque:(4.5 +/- .75) ft lbs

3 Install the left fender assembly.

4 Install the left fender trim strip.

5 Install the front windshield cover plate assembly.

6 Install the left front wheel housing body.

7 Install the primary wiper arm blade assembly (nozzle and hose).

8 Install the left physical exterior rearview mirror assembly.

9 Install the engine compartment trim panel body.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

7.11.2.10 Replacement of Right Side Combination Marker Light

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the engine compartment trim panel body.

5 Remove the right triangular cover plate assembly.

6 Remove the right front wheel housing body.

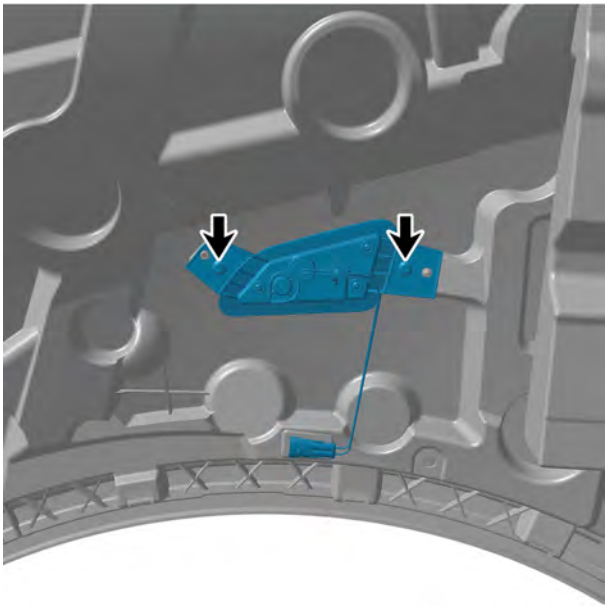
7 Remove the primary wiper arm blade assembly (nozzle and hose).

8 Remove the front windshield cover plate assembly.

9 Remove the right fender trim strip.

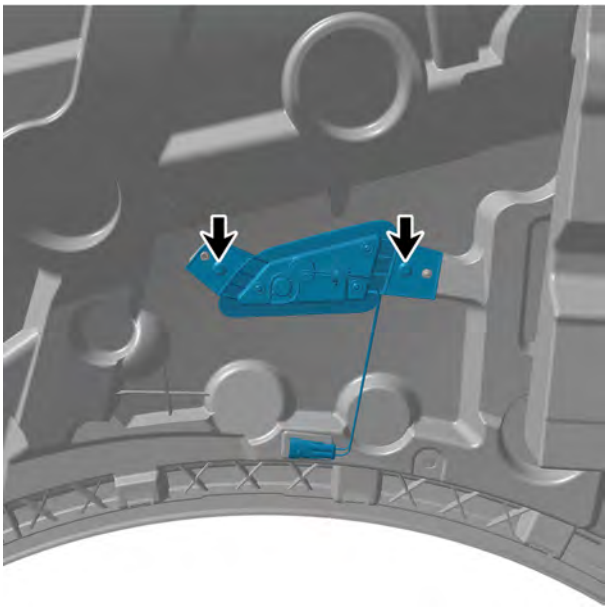
10 Remove the right fender assembly.

11 Remove 2 fixing bolts of the right side combination marker light.



12 Remove the right side combination marker light.

Installation Procedures



1 Move the right side combination marker light to the mounting position.

2 Install 2 fixing bolts of the right side combination marker light.

Torque: (4.5 +/- .75) ft lbs

3 Install the right fender assembly.

4 Install the right fender trim strip.

5 Install the front windshield cover plate assembly.

6 Install the right front wheel housing body.

7 Install the primary wiper arm blade assembly (nozzle and hose).

8 Install the right triangular cover plate assembly.

9 Install the engine compartment trim panel body.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

7.11.2.11 Replacement of Rear Working Lamp

Removal Procedures

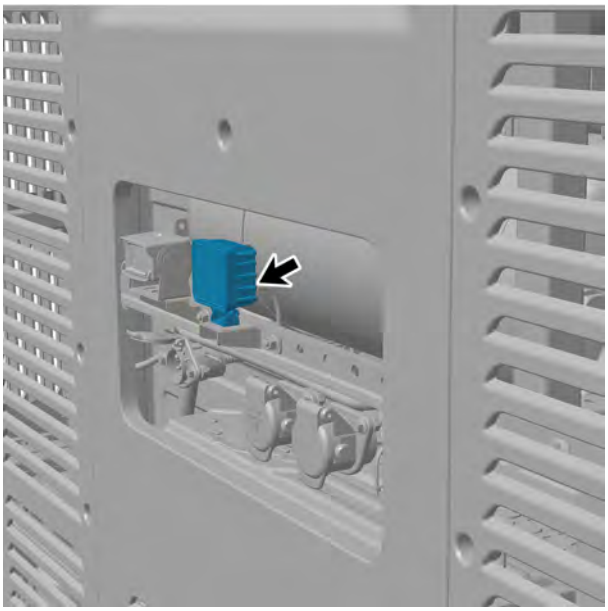
1 Open the door.

2 Open the front flip cover plate.

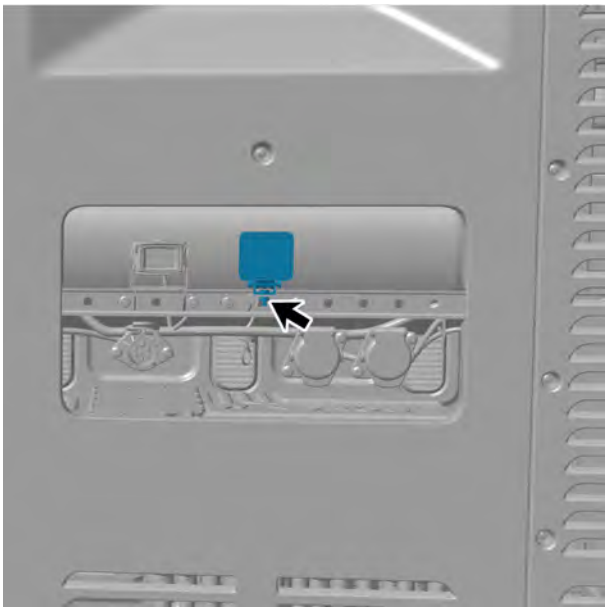
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



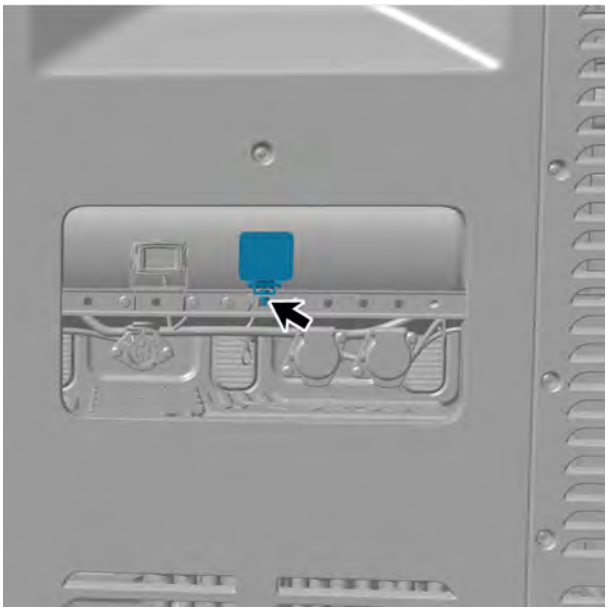
4 Disconnect 1 harness connector of the rear working lamp.



5 Remove 1 fixing bolt of the rear working lamp.

6 Remove the rear working lamp.

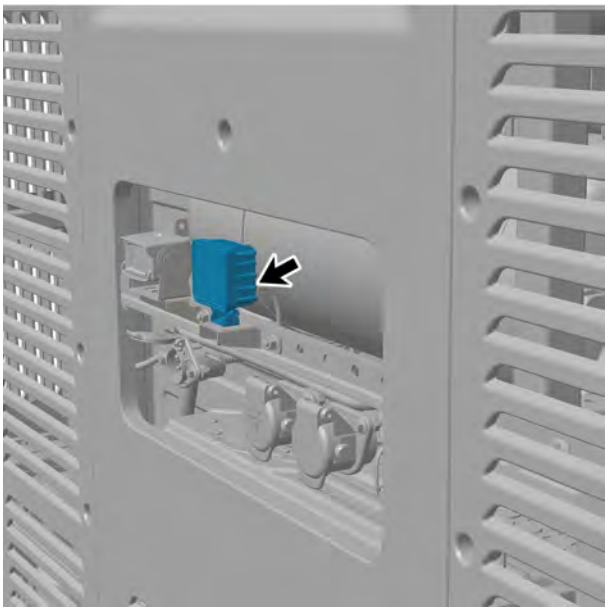
Installation Procedures



1 Move the rear working lamp to the mounting position.

2 Install 1 fixing bolt of the rear working lamp.

Torque:(18.5 +/- 2) ft lbs



3 Connect 1 harness connector of the rear working lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.11.2.12 Replacement of Side Marker Combination Lamp (right middle)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

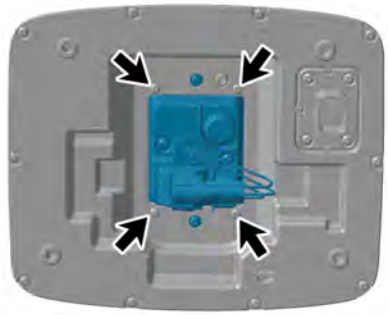
4 Remove the right side wall lower trim panel assembly.

5 Remove the right skirt plate assembly.

6 Remove the MMWRR.

7 Remove 4 fixing screws of the side marker combination lamp (right middle).

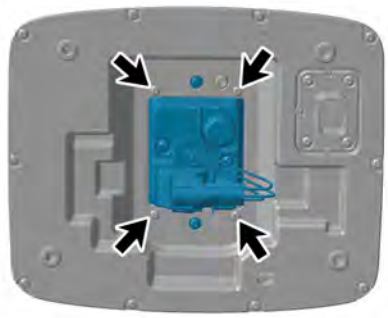
8 Remove the side marker combination lamp (right middle).



Installation Procedures

1 Move the side marker combination lamp (left middle) to the mounting position.

2 Install 4 fixing screws of the side marker combination lamp (left middle).



3 Install the MMWRR.

4 Install the right skirt plate assembly.

5 Attach the right side wall lower trim panel assembly.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

7.11.2.13 Replacement of Side Marker Combination Lamp (right front)

Removal Procedures

1 Open the door.

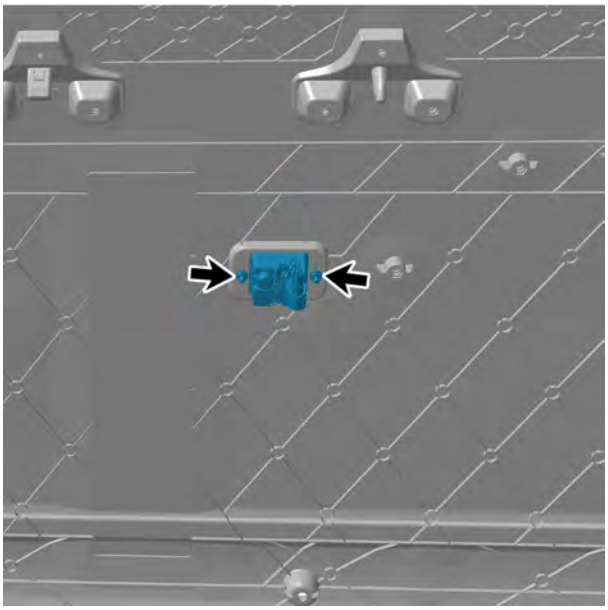
2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

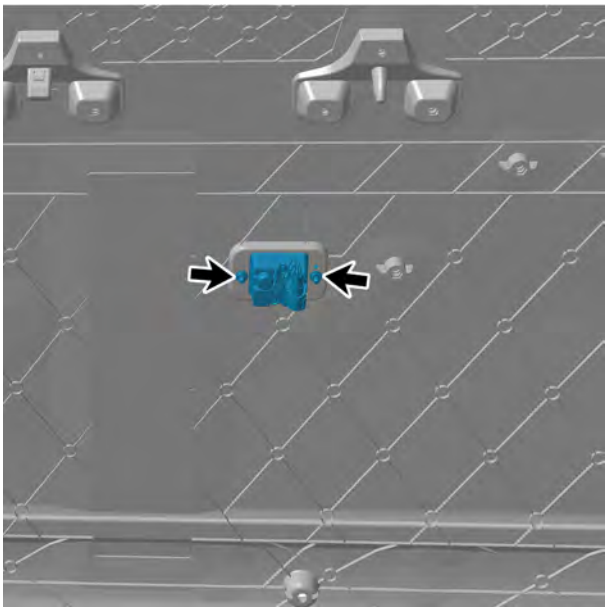
4 Remove the right side wall lower trim panel assembly.



5 Remove 2 fixing nuts of the side marker combination lamp (right front).

6 Remove the side marker combination lamp (right front).

Installation Procedures



1 Move the side marker combination lamp (right front) to the mounting position.

2 Install 2 fixing nuts of the side marker combination lamp (right front).

Torque: (.4.5 +/- .75) ft lbs

3 Attach the right side wall lower trim panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.11.2.14 Replacement of Side Marker Combination Lamp (right rear)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

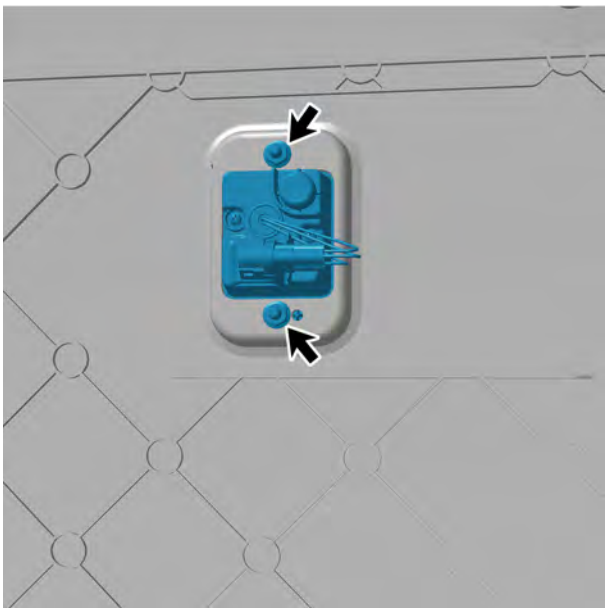
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right side wall lower trim panel assembly.

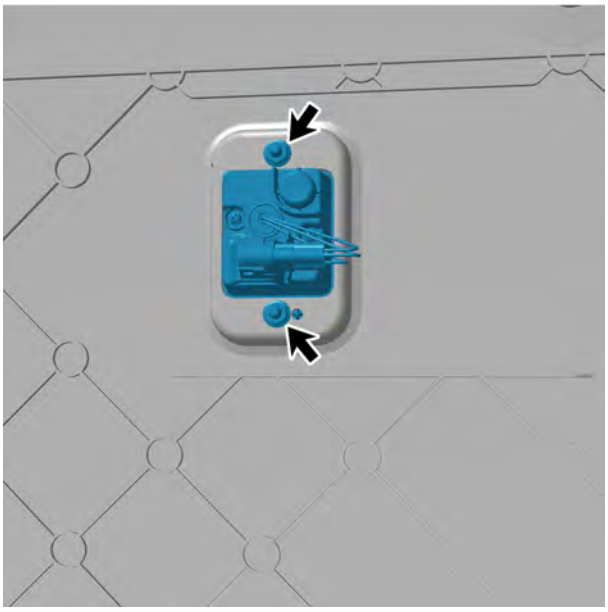
5 Remove the right skirt plate assembly.

6 Remove 2 fixing nuts of the side marker combination lamp (right rear).



7 Remove the side marker combination lamp (right rear).

Installation Procedures



1 Move the side marker combination lamp (right rear) to the mounting position.

2 Install 2 fixing nuts of the side marker combination lamp (right rear).

Torque: (.4.5 +/- .75) ft lbs

3 Install the right skirt plate assembly.

4 Attach the right side wall lower trim panel assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.11.2.15 Replacement of Side Marker Combination Lamp (left middle)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

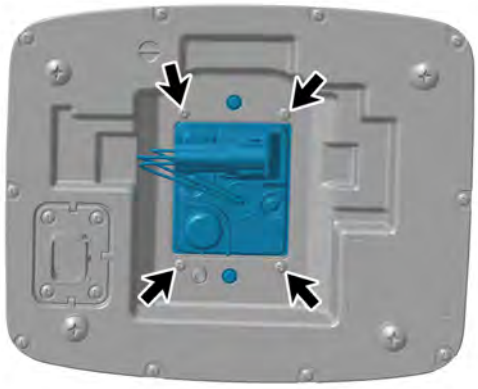
4 Remove the left side wall lower trim panel assembly.

5 Remove the left skirt plate assembly.

6 Remove the MMWRL.

7 Remove 4 fixing screws of the side marker combination lamp (left middle).

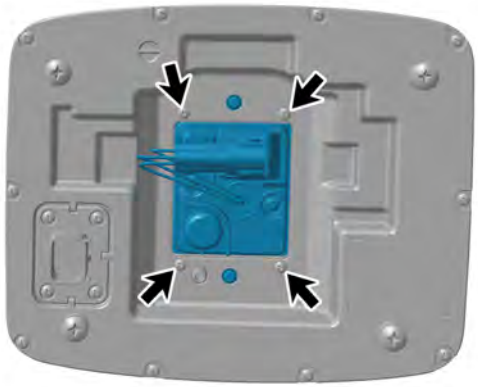
8 Remove the side marker combination lamp (left middle).



Installation Procedures

1 Move the side marker combination lamp (left middle) to the mounting position.

2 Install 4 fixing screws of the side marker combination lamp (left middle).



3 Install the MMWRL.

4 Install the left skirt plate assembly.

5 Install the left side wall lower trim panel assembly.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

7.11.2.16 Replacement of Side Marker Combination Lamp (left front)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

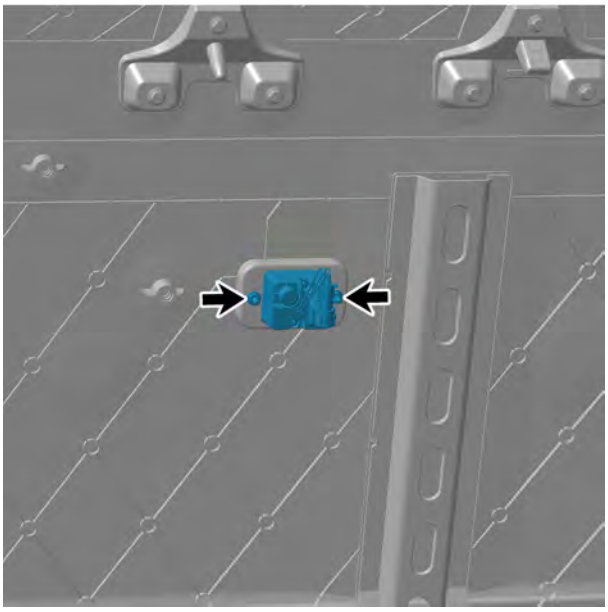
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

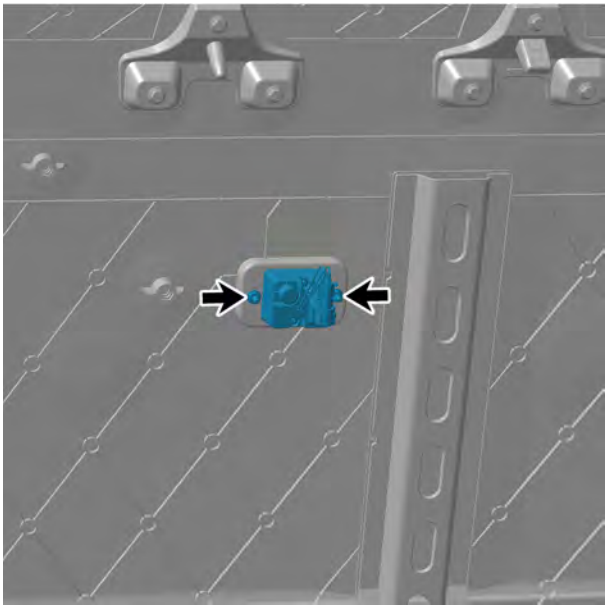
4 Remove the left side wall lower trim panel assembly.

5 Remove 2 fixing nuts of the side marker combination lamp (left front).

6 Remove the side marker combination lamp (left front).



Installation Procedures



1 Move the side marker combination lamp (left front) to the mounting position.

2 Install 2 fixing nuts of the side marker combination lamp (left front).

Torque: (.4.5 +/- .75) ft lbs

3 Install the left side wall lower trim panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.11.2.17 Replacement of Side Marker Combination Lamp (left rear)

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

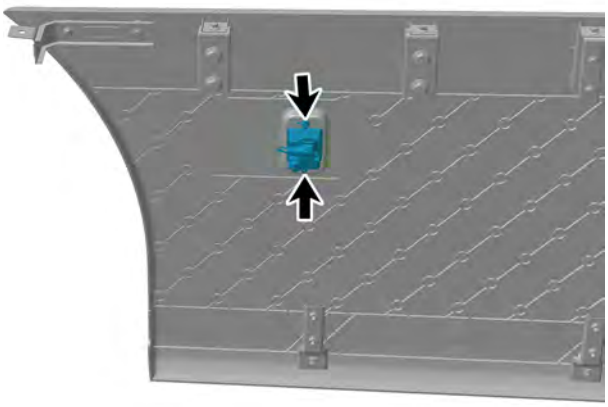
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left side wall lower trim panel assembly.

5 Remove the left skirt plate assembly.

6 Remove 2 fixing nuts of the side marker combination lamp (left rear).

7 Remove the side marker combination lamp (left rear).

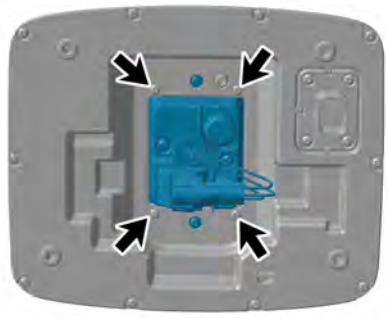


Installation Procedures

1 Move the side marker combination lamp (left rear) to the mounting position.

2 Install 2 fixing nuts of the side marker combination lamp (left rear).

Torque: (.4.5 +/- .75) ft lbs



3 Install the left skirt plate assembly.

4 Install the left side wall lower trim panel assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.11.2.18 Replacement of Reversing Lamp

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

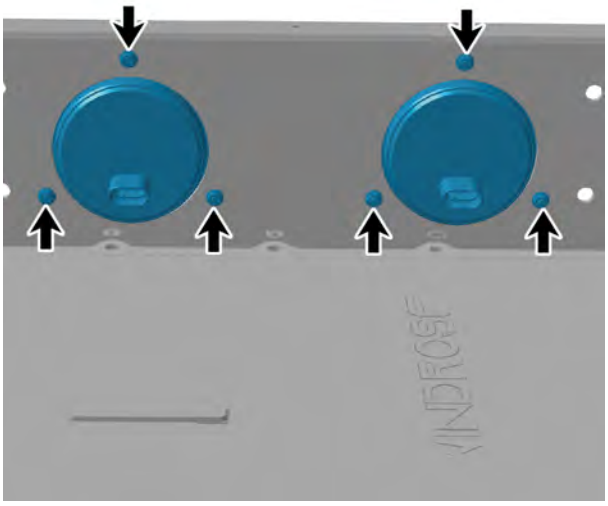
power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the air reservoir assembly (rear upper).

6 Disconnect 2 harness connectors of the reversing lamp.



7 Remove 6 fixing nuts of the reversing lamp.

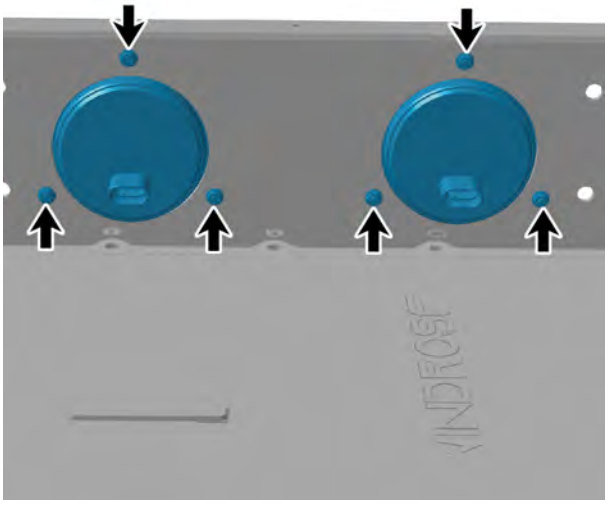


8 Remove the reversing lamp.

Installation Procedures

1 Move the reversing lamp to the mounting position.

2 Install 6 fixing nuts of the reversing lamp.





3 Connect 2 harness connectors of the reversing lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the air reservoir assembly (rear upper).

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.11.2.19 Replacement of the License Plate Light

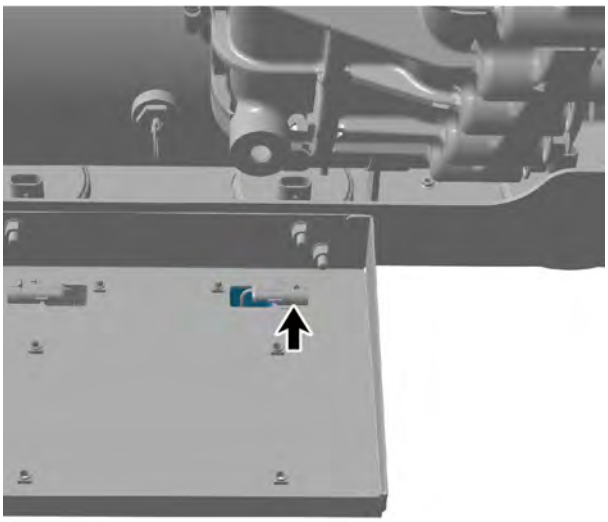
Disassembly Procedure

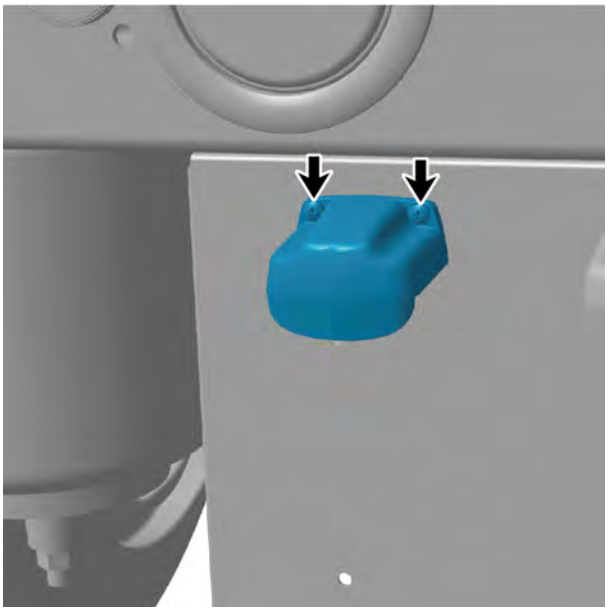
1 Open the car door.

2 Open the front flip cover plate.

3 Disconnect the negative battery cable.

4 Disconnect one wire harness connector of the license plate light.

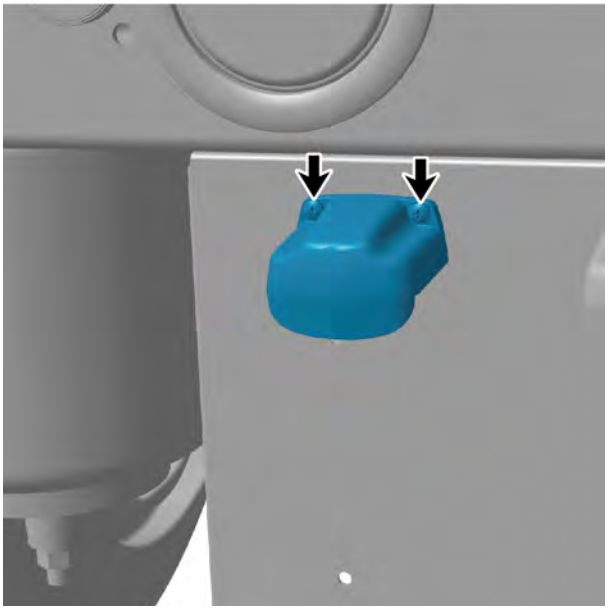




5 Remove the two fixing screws of the license plate light.

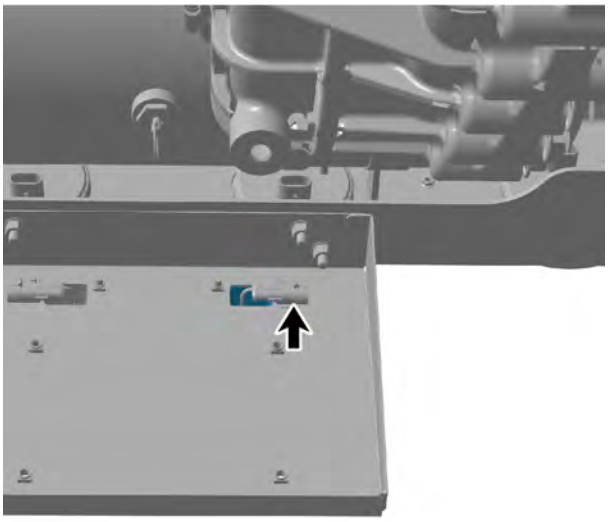
6 Take down the license plate light.

Installation Procedure



1 Install the license plate light.

2 Install the two fixing screws of the license plate light.



3 Connect one wire harness connector of the license plate light.

4 Connect the negative cable of the storage battery.

5 Close the front flip cover panel.

6 Close the car door.

7.11.2.20 Replacement of Left Rear Combination Lamp

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

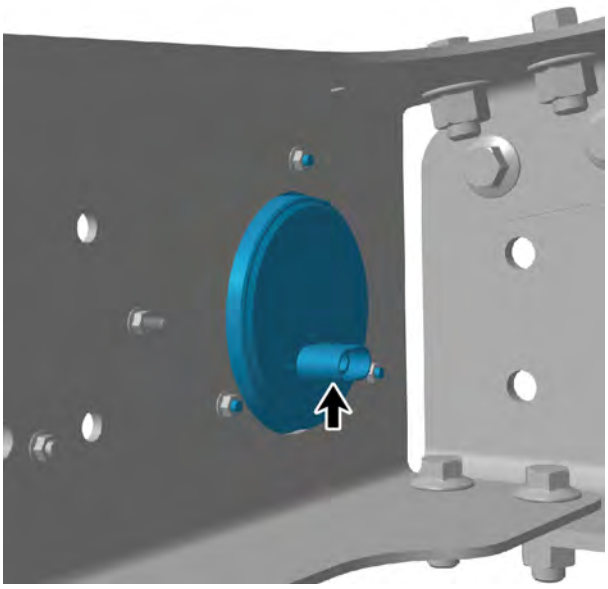
3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

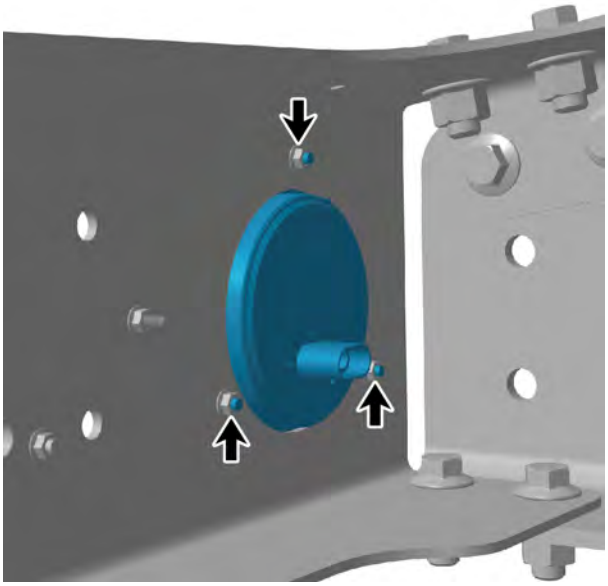
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the air reservoir assembly (rear upper).



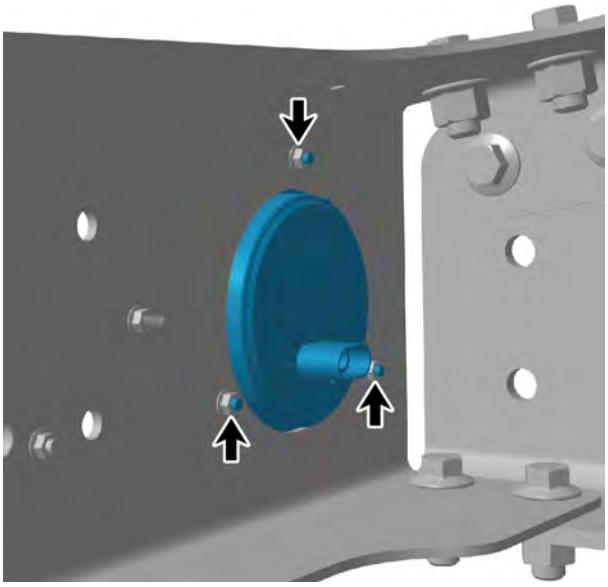
6 Disconnect 1 harness connector of the left rear combination lamp.



7 Remove 3 fixing nuts of the left rear combination lamp.

8 Remove the left rear combination lamp.

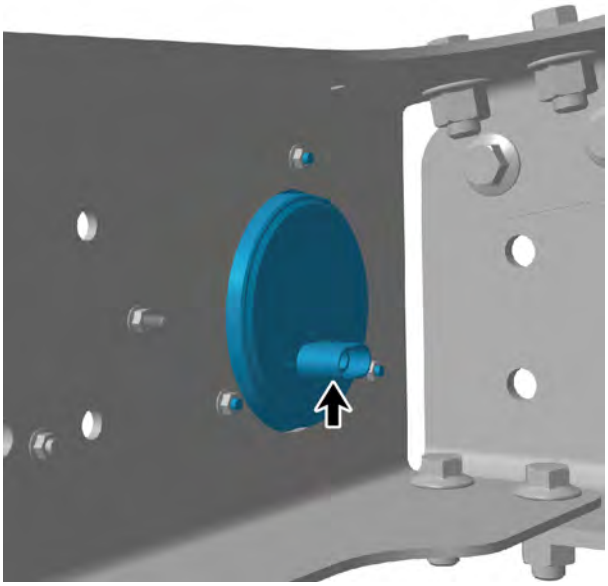
Installation Procedures



1 Move the left rear combination lamp to the mounting position.

2 Install 3 fixing nuts of the left rear combination lamp.

Torque: (18.5 +/- 2) ft lbs



3 Connect 1 harness connector of the left rear combination lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the air reservoir assembly (rear upper).

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.11.2.21 Replacement of Right Rear Combination Lamp

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

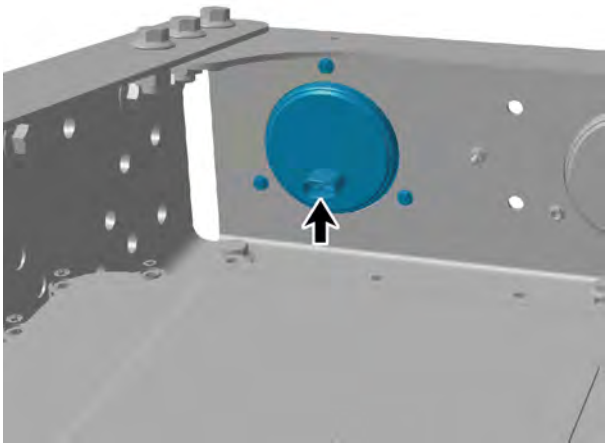
4 Disconnect the battery negative cable.

caution

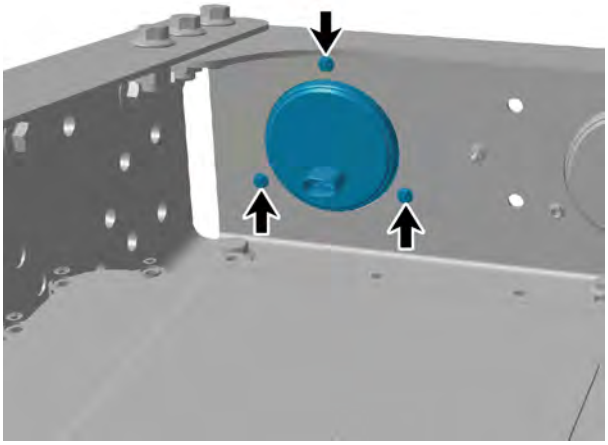
power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the air reservoir assembly (rear upper).

6 Disconnect 1 harness connector of the right rear combination lamp.



7 Remove 3 fixing nuts of the right rear combination lamp.

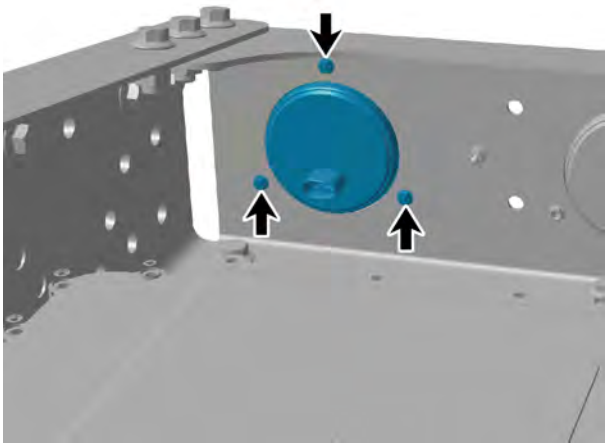


8 Remove the right rear combination lamp.

Installation Procedures

1 Move the right rear combination lamp to the mounting position.

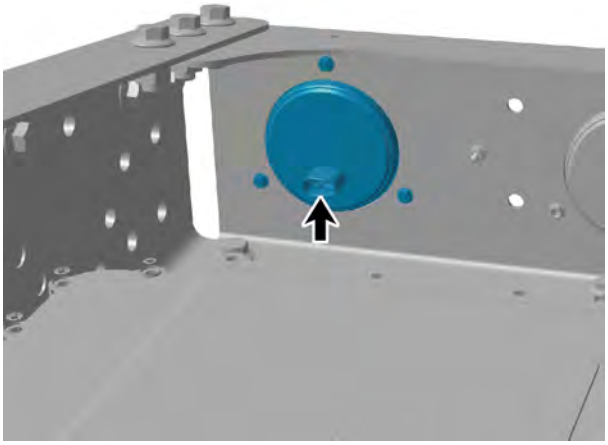
2 Install 3 fixing nuts of the right rear combination lamp.



3 Connect 1 harness connector of the right rear combination lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



4 Install the air reservoir assembly (rear upper).

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.11.2.22 Replacement of Rear Retro-reflector

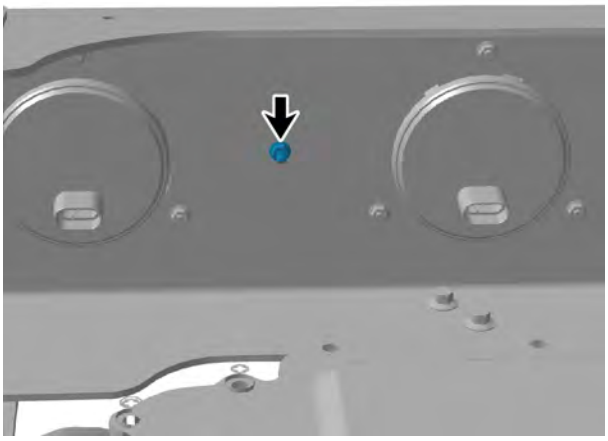
Removal Procedures

1 Release air pressure from the brake system.

2 Remove the air reservoir assembly (rear upper).

3 Remove 1 fixing nut of the rear retro-reflector.

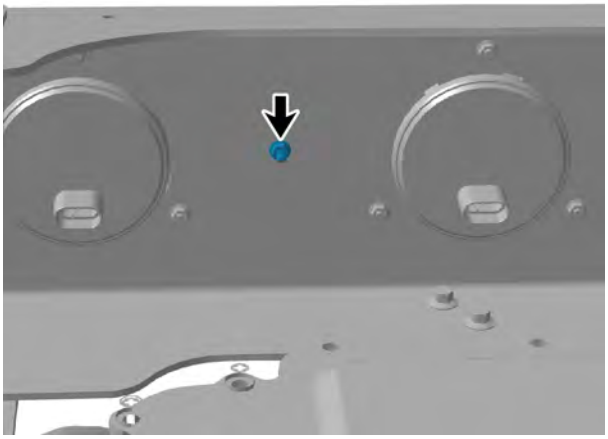
4 Remove the rear retro-reflector.



Installation Procedures

1 Move the rear retro-reflector to the mounting position.

2 Install 1 fixing nut of the rear retro-reflector.



3 Install the air reservoir assembly (rear upper).

7.12 Interior Vehicle Body Lamp Device

7.12.1 Specifications

7.12.1.1 Fastener Specifications

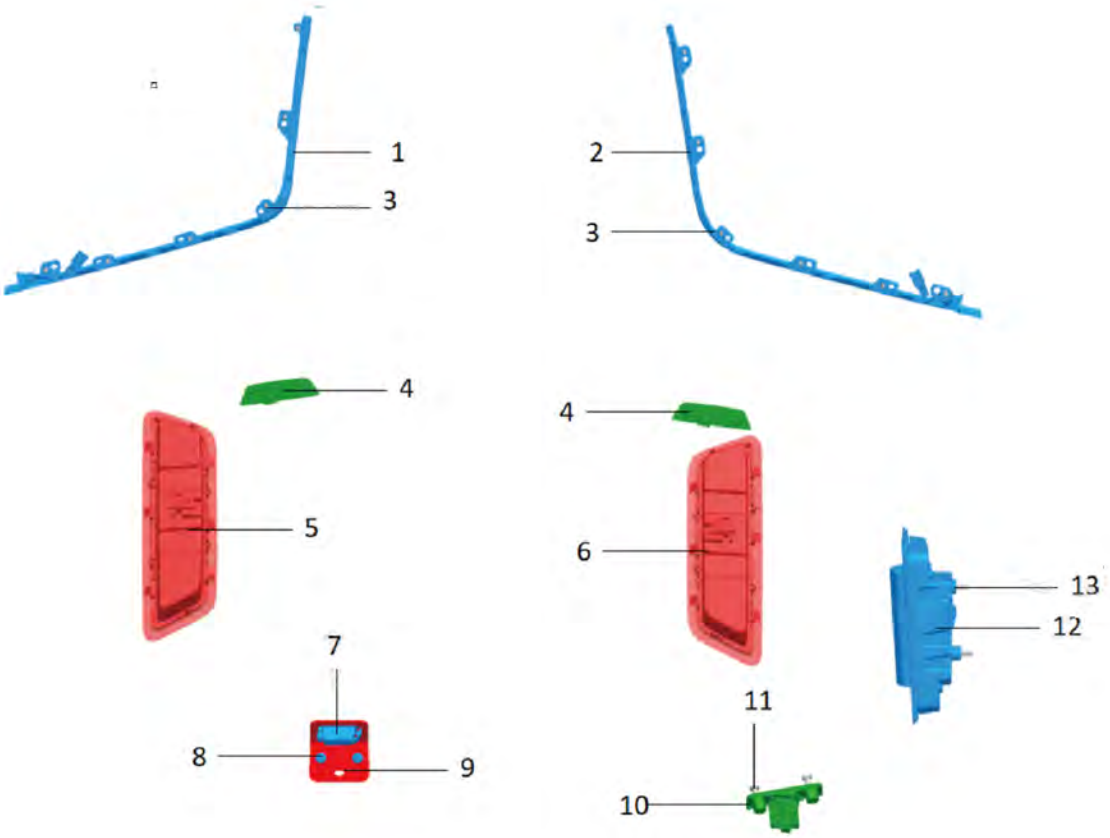
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the toolbox light bracket to the sleeper toolbox	M6	(6.5 +/- .75) ft lbs

7.12.1.2 Technical Parameters

Name of Llight Bulb	Quantity	Model of Light Bulb	Power
Brake light	2	LED	1.1W
Turn signal	2	LED	1.1W
Position light	2	LED	0.2W
Reverse light	2	LED	1.5W
License plate light	2	LED	0.7W
High beam	2	LED	32.0W
Low beam	2	LED	40.0W
Daytime Running Lights	2	LED	14.0W
Front turn signal	2	LED	14.0W
Front position light	2	LED	6.6W
Front side marker light	2	LED	1.7W
Identification Light	3	LED	1.7W
Rear work light	1	LED	9.0W
Side marker light	2	LED	1.5W
Ceiling light	2	LED	9.5W
Front reading light	2	LED	0.6W
Berth reading light	1	LED	1.3W
Illuminating lamp	3	LED	0.5W
Ambient light	2	LED	0.4W

7.12.2 Decomposition Diagram

7.12.2.1 Decomposition Diagram



1. Atmosphere Lamp -Instrument Trim Panel Lh Upr
2. Atmosphere Lamp of Right Workbench
3. Self-Tapping Screw
4. Reading Lamp-Frt
5. Ceiling Lamp-Lh
6. Ceiling lamp-rh
7. Lamp
8. Hexagon Flange Bolt
9. Tool Box Lamp Bracket
10. Courtesy Lamp
11. Hexalobular Socket Pan Head Screw In New Energy Vehicles
12. Sleeper Reading Lamp
13. Cross Recessed Pan Head Machine Screw

7.12.3 Dismantling and Installation

7.12.3.1 Replacement of Lighting Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



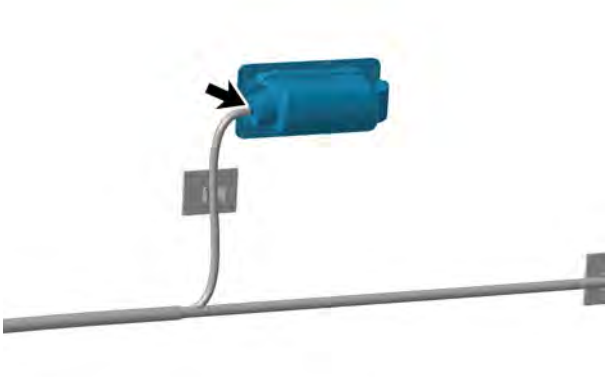
4 Detach the lighting lamp.

5 Disconnect 1 harness connector of the lighting lamp.

6 Remove the lighting lamp.



Installation Procedures



1 Move the lighting lamp to the mounting position.

2 Connect 1 harness connector of the lighting lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install the lighting lamp.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.12.3.2 Replacement of Courtesy Lamp

Removal Procedures

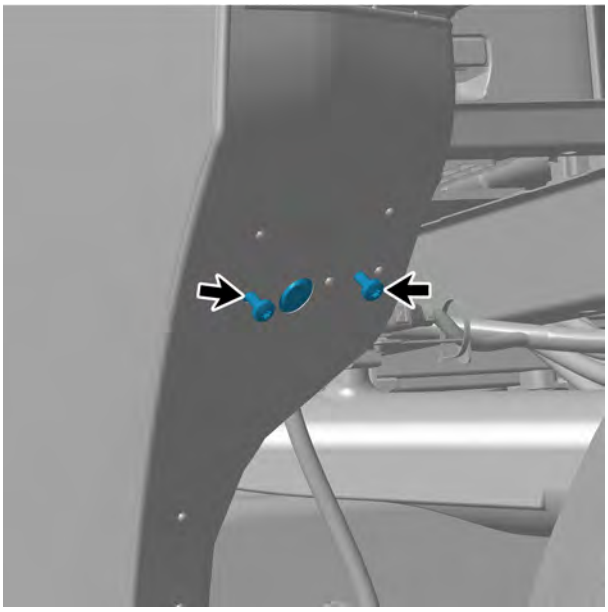
1 Open the door.

2 Open the front flip cover plate.

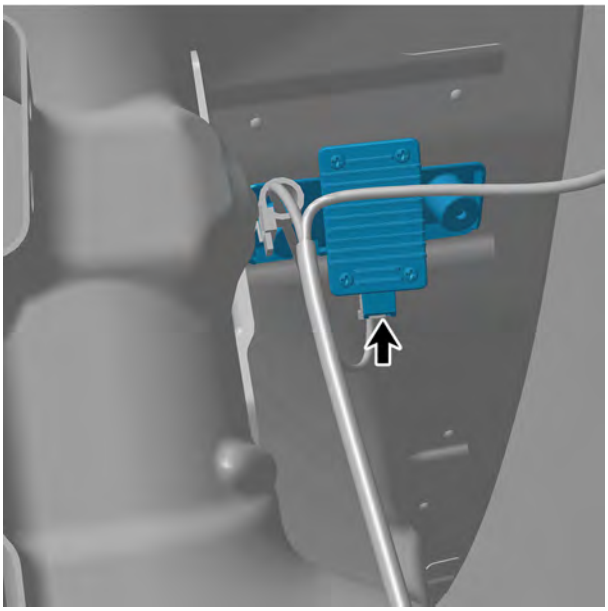
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



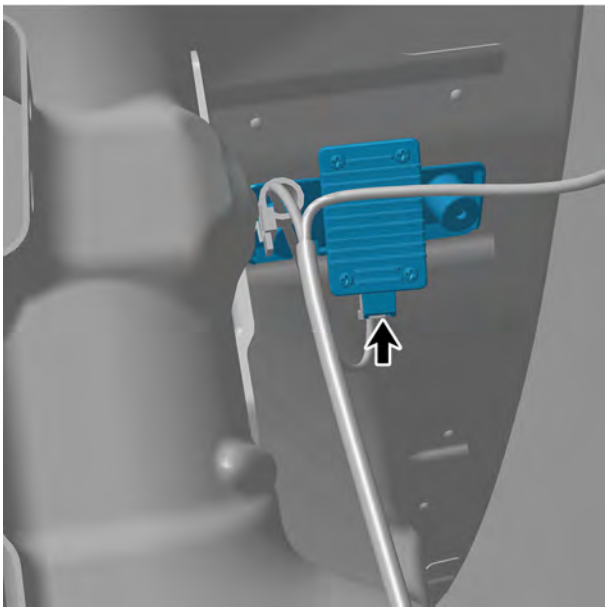
4 Remove 2 fixing screws of the courtesy lamp, and detach the courtesy lamp.



5 Disconnect 1 harness connector of the courtesy lamp.

6 Remove the courtesy lamp.

Installation Procedures

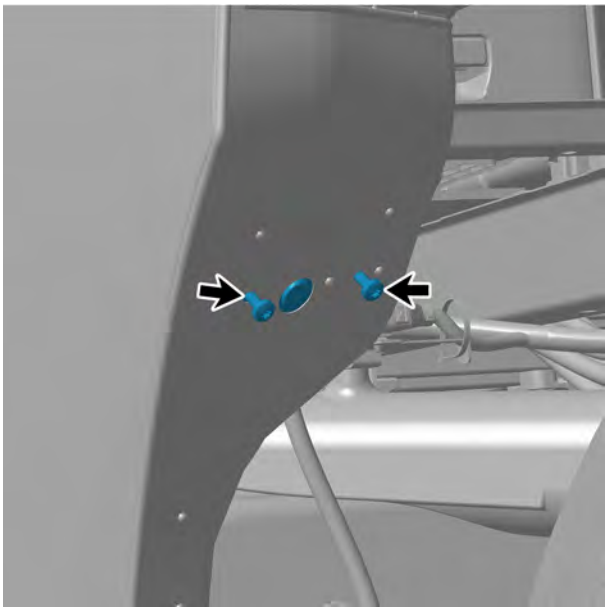


1 Move the courtesy lamp to the mounting position.

2 Connect 1 harness connector of the courtesy lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install 2 fixing screws of the courtesy lamp.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.12.3.3 Replacement of Sleeper Reading Lamp

Removal Procedures

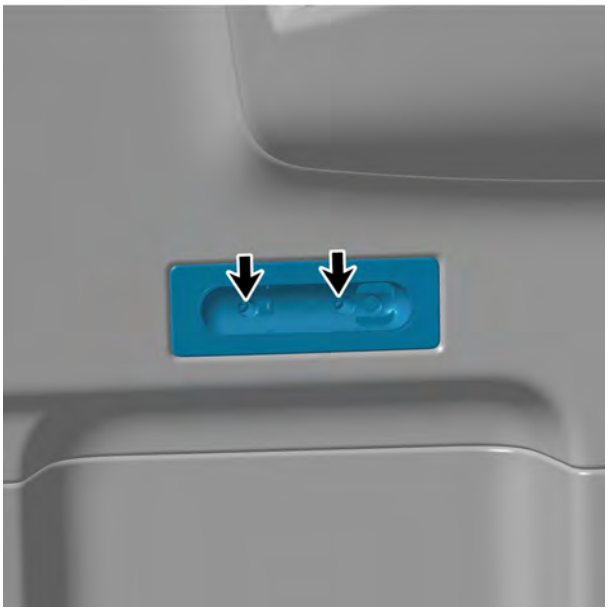
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Remove 2 fixing screws of the sleeper reading lamp.



5 Disconnect 1 harness connector of the sleeper reading lamp.

6 Remove the sleeper reading lamp.

Installation Procedures

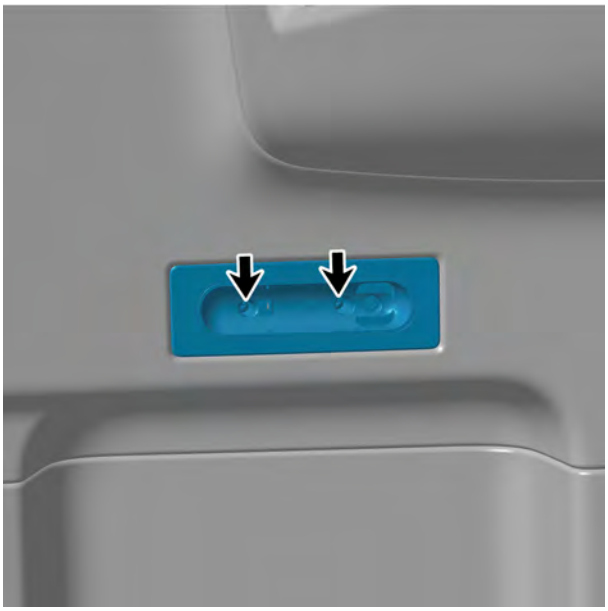


1 Move the sleeper reading lamp to the mounting position.

2 Connect 1 harness connector of the sleeper reading lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install 2 fixing screws of the sleeper reading lamp.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.12.3.4 Replacement of Instrument Left Upper Trim Panel Ambient Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Remove the IP left upper trim panel assembly.

5 Remove 6 fixing screws on the instrument left upper trim panel ambient lamp.

6 Remove the instrument left upper trim panel ambient lamp.

Installation Procedures



1 Move the instrument left upper trim panel ambient lamp to the mounting position.

2 Install 6 fixing screws on the instrument left upper trim panel ambient lamp.

3 Install the IP left upper trim panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.12.3.5 Replacement of Right Workbench Ambient Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP right upper trim panel assembly.

5 Remove 6 fixing screws on the right workbench ambient lamp.

6 Remove the right workbench ambient lamp.



Installation Procedures

1 Move the right workbench ambient lamp to the mounting position.

2 Install 6 fixing screws on the right workbench ambient lamp.



3 Install the IP right upper trim panel assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.12.3.6 Replacement of Toolbox Lamp Bracket

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

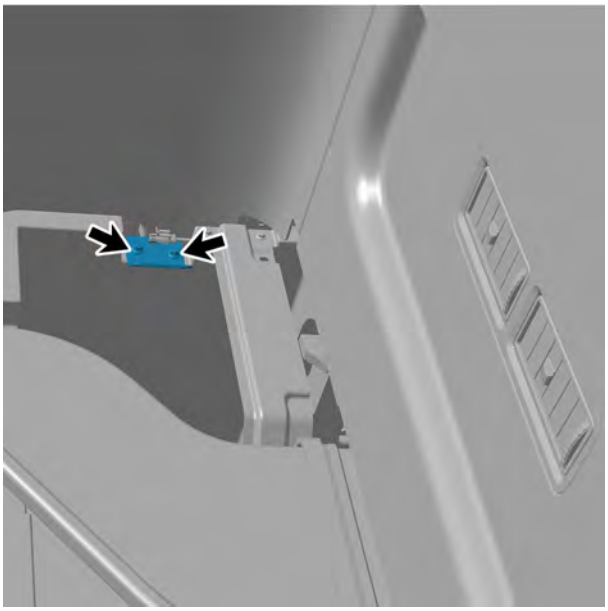
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

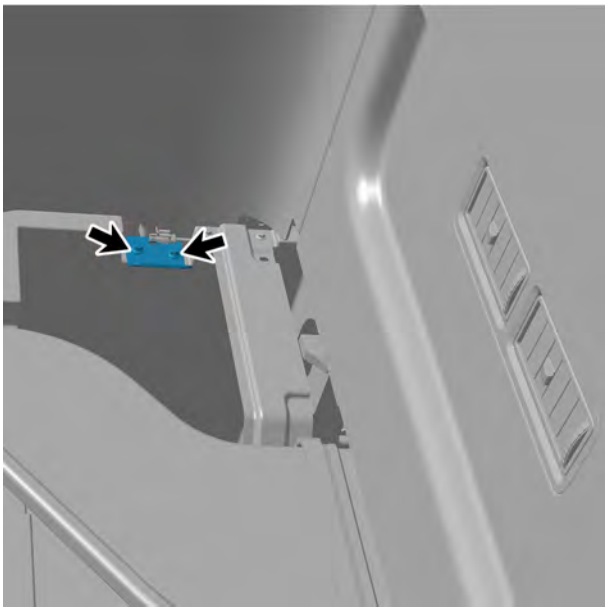
4 Remove the toolbox lamp.

5 Remove 2 fixing bolts of the toolbox lamp bracket

6 Remove the toolbox lamp bracket.



Installation Procedures



1 Move the toolbox lamp bracket to the mounting position.

2 Install 2 fixing bolts of the toolbox lamp bracket

Torque: (6.5 +/- .75) ft lbs

3 Install the toolbox lamp.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.12.3.7 Replacement of Left Ceiling Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

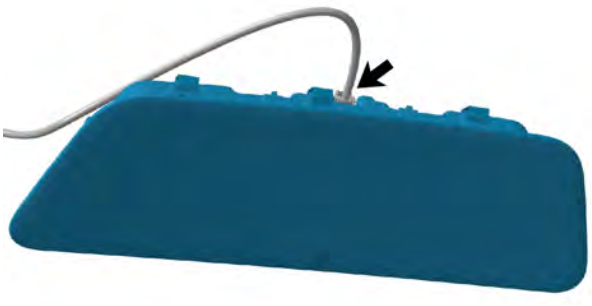
power down the high-voltage system before disconnecting the negative pole of the storage battery.



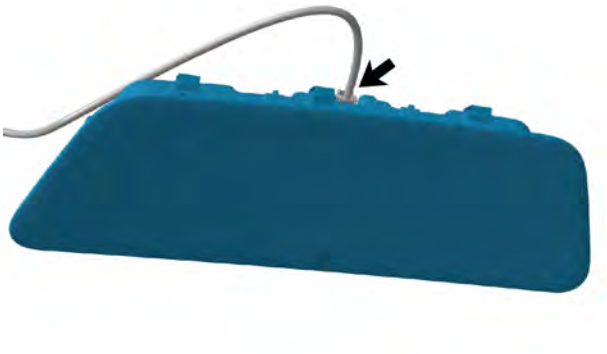
4 Pry off the left ceiling lamp.

5 Disconnect 1 harness connector of the left ceiling lamp.

6 Remove the left ceiling lamp.



Installation Procedures

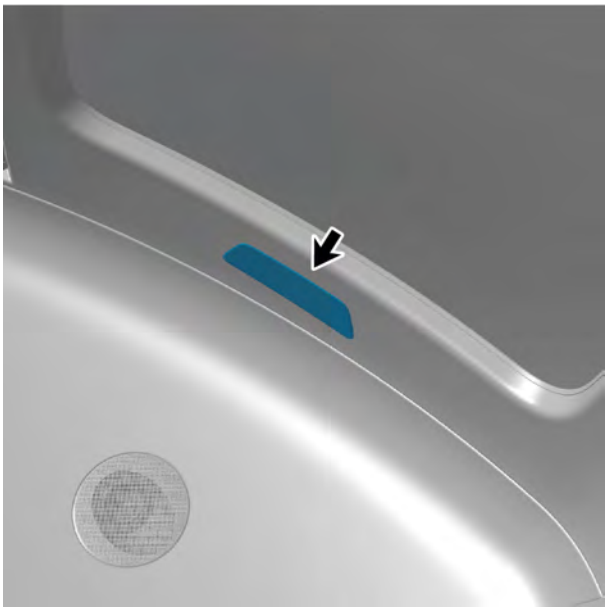


1 Move the left ceiling lamp to the mounting position.

2 Connect 1 harness connector of the left ceiling lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install the left ceiling lamp.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.12.3.8 Replacement of Right Ceiling Lamp

Removal Procedures

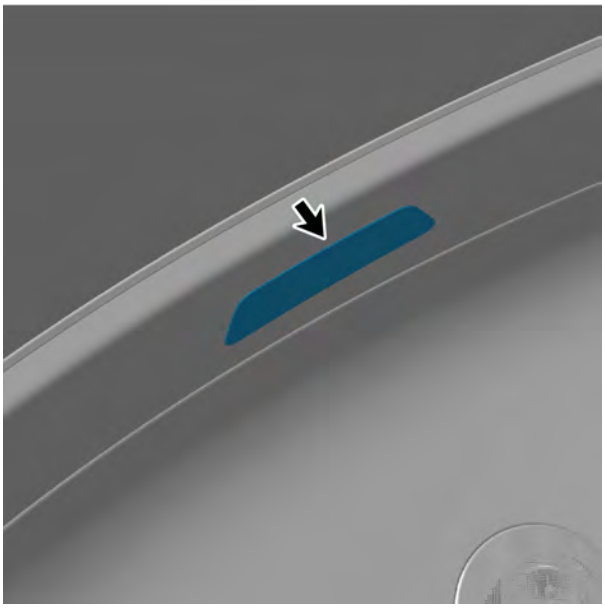
1 Open the door.

2 Open the front flip cover plate.

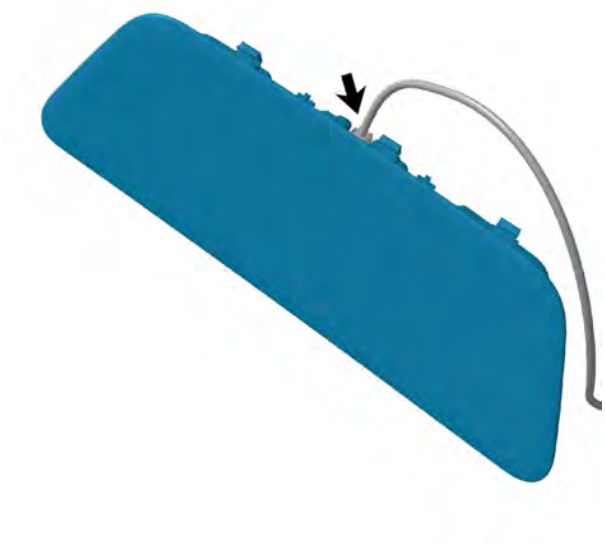
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



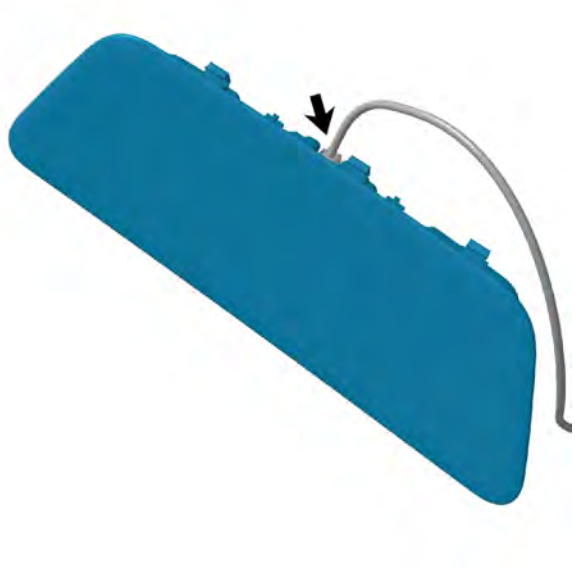
4 Pry off the right ceiling lamp.



5 Disconnect 1 harness connector of the right ceiling lamp.

6 Remove the right ceiling lamp.

Installation Procedures

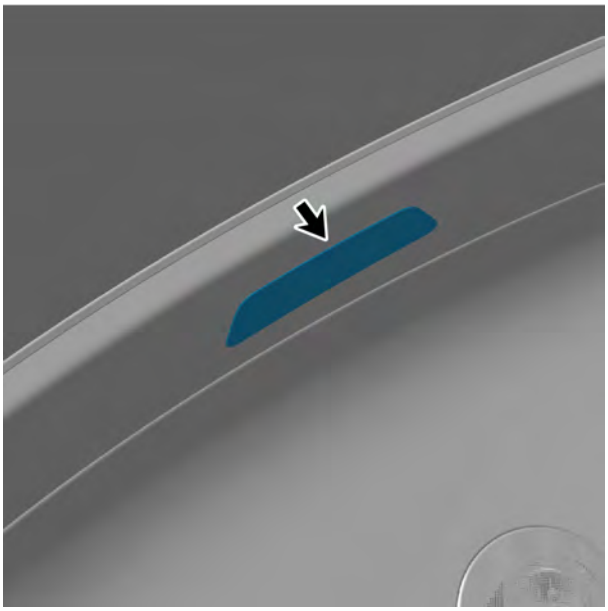


1 Move the right ceiling lamp to the mounting position.

2 Connect 1 harness connector of the right ceiling lamp.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



3 Install the right ceiling lamp.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.12.3.9 Replacement of Front Reading Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

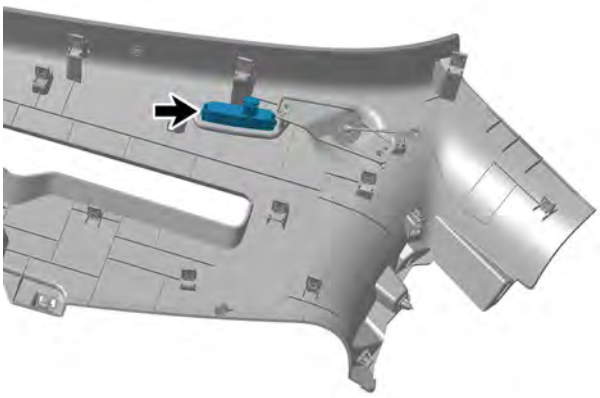
5 Remove the right A-pillar protective plate assembly.

6 Remove the sunshade rail assembly.

7 Remove the front camera trim cover assembly.

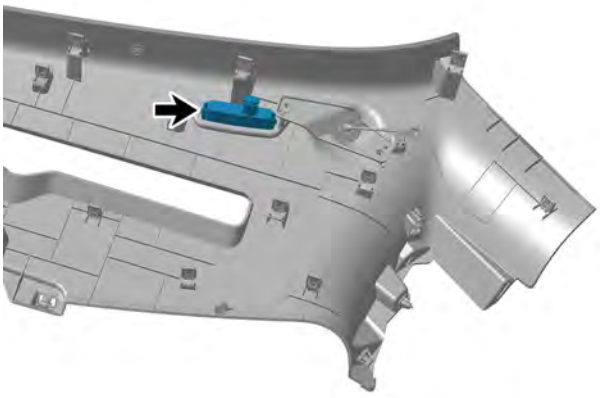
8 Remove the sunshade cover plate assembly.

9 Remove the front reading lamp.



Installation Procedures

1 Install the front reading lamp.



2 Install the sunshade cover plate assembly.

3 Install the front camera trim cover assembly.

4 Install the sunshade rail assembly.

5 Install the right A-pillar protective plate assembly.

6 Install the left A-pillar protective plate assembly.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

7.12.3.10 Replacement of Top Cabinet Lamp

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Open the top cabinet assembly.

5 Detach the top cabinet lamp.

6 Disconnect 1 harness connector of the top cabinet lamp.

7 Remove the top cabinet lamp.



Installation Procedures

1 Move the top cabinet lamp to the mounting position.

2 Connect 1 harness connector of the top cabinet lamp.





3 Install the top cabinet lamp.

4 Close the top cabinet assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.13 Wiper Device

7.13.1 Description and Operation

7.13.1.1 Description and Operation

The windshield washer system employs CEM to collect and determine the gear position of the combination switch handle, and then turns on the windshield washer motor to transport the washer fluid to the front/rear nozzles through the washer fluid pipe, and the washer fluid is sprayed from the nozzle position, combined with the rotation of the wiper, to achieve the cleaning of the windshield.

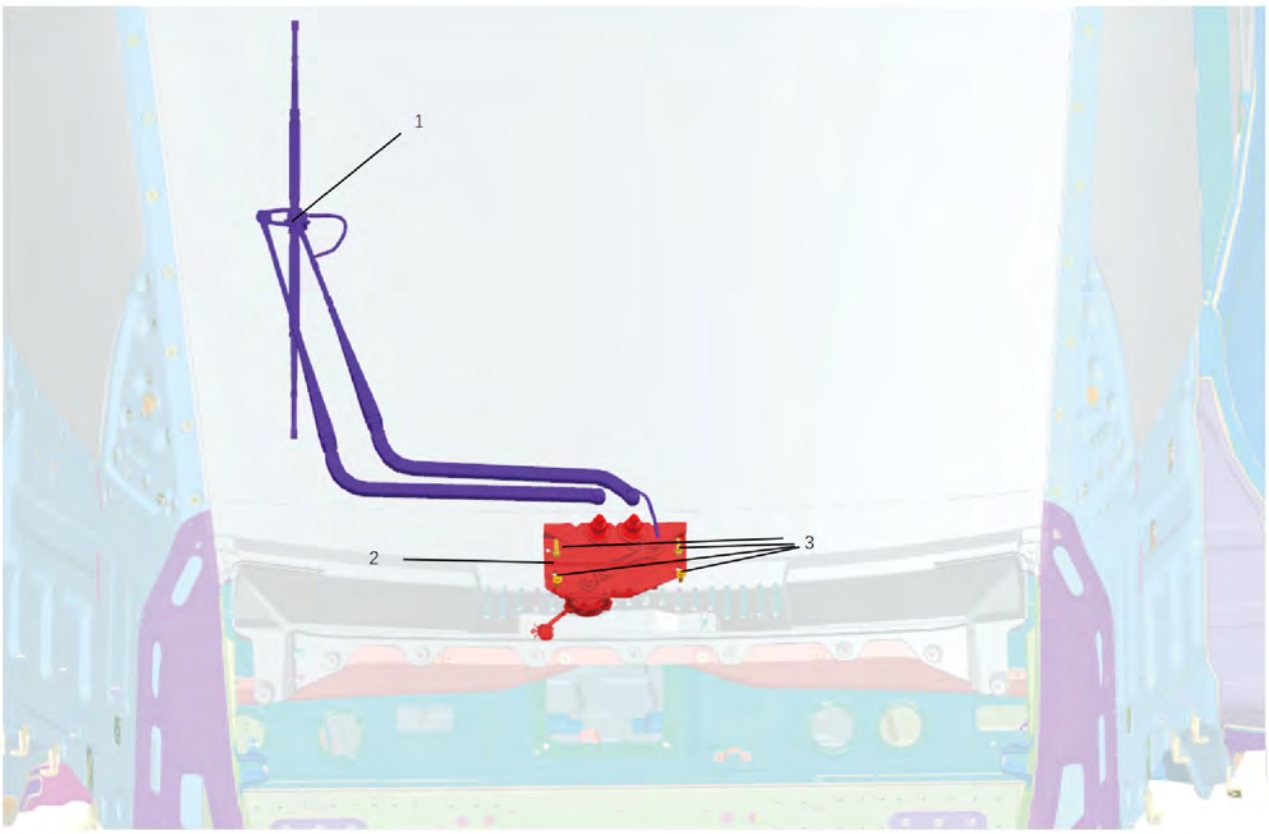
7.13.2 Specifications

7.13.2.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the wiper motor assembly and the wiper motor mounting bracket	M8	(18.5 +/- 2) ft lbs
The fixing nut connecting the main wiper arm blade assembly (nozzle and hose) to the wiper motor assembly	M8	(14.75 - 17) ft lbs

7.13.3 Decomposition Diagram

7.13.3.1 Decomposition Diagram



1. Wiper Arm Assy
2. Wiper Motor Assy
3. Hexagon Flange Bolt

7.13.4 Inspect

7.13.4.1 Inspection of Wiper

Power on the vehicle, turn on the wiper switch, and check the wiper is working properly at each gear.

7.13.5 Dismantling and Installation

7.13.5.1 Replacement of Wiper Motor Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

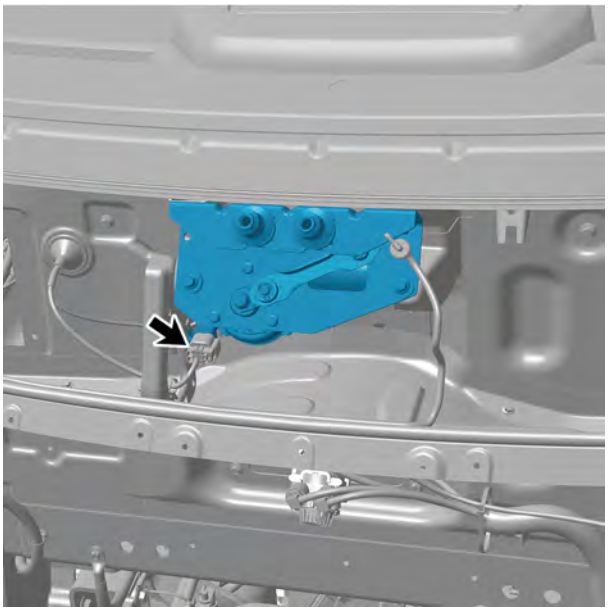
caution

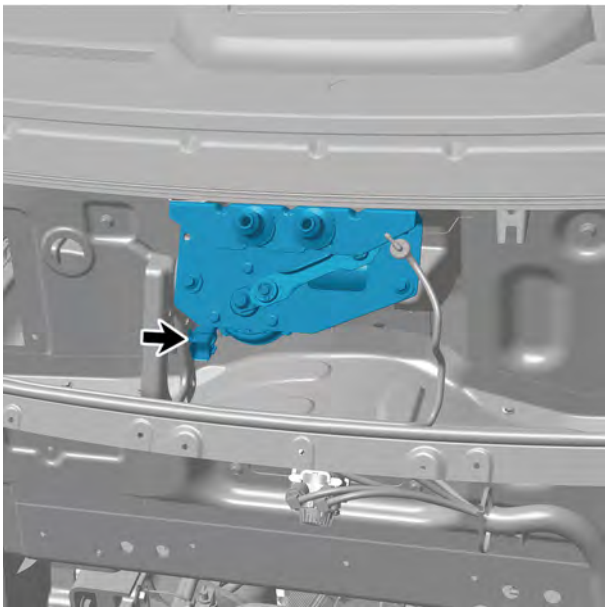
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the primary wiper arm blade assembly (nozzle and hose).

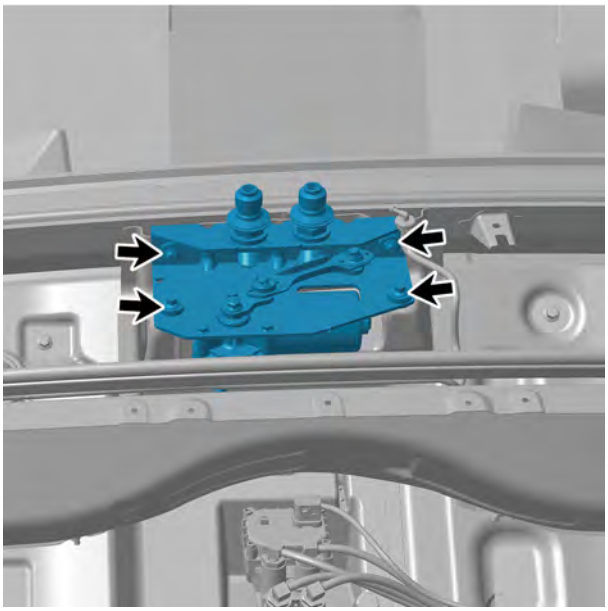
5 Remove the front windshield cover plate assembly.

6 Disconnect 1 harness connector of the wiper motor assembly.





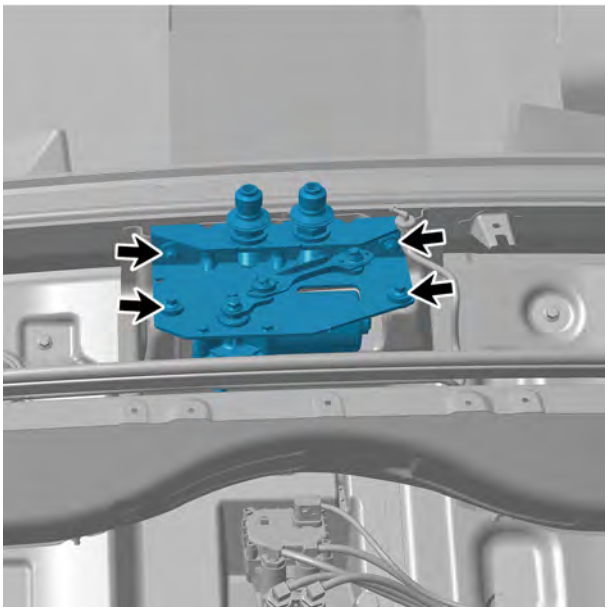
7 Disengage 1 clip of the wiper motor assembly.



8 Remove 4 fixing bolts of the wiper motor assembly.

9 Remove the wiper motor assembly.

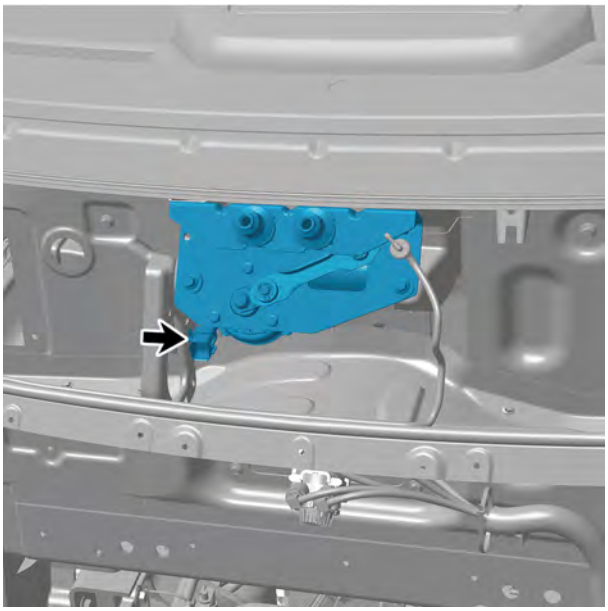
Installation Procedures



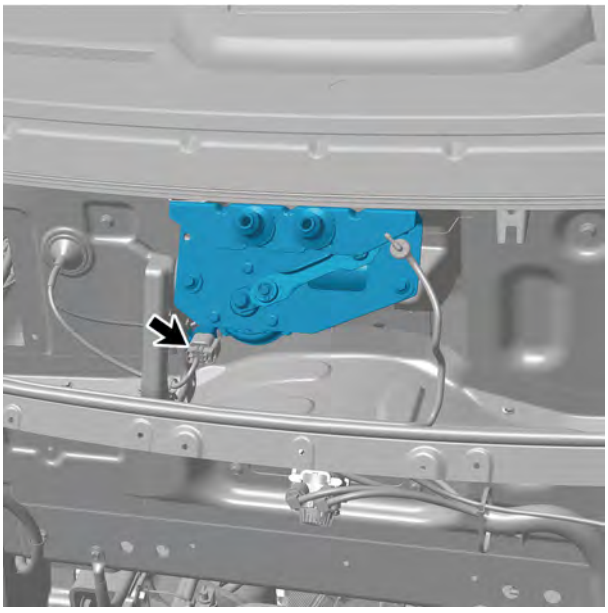
1 Move the wiper motor assembly to the mounting position.

2 Install 4 fixing bolts of the wiper motor assembly.

Torque: (18.5 +/- 2) ft lbs



3 Install 1 clip of the wiper motor assembly.



4 Connect 1 harness connector of the wiper motor assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the front windshield cover plate assembly.

6 Install the primary wiper arm blade assembly (nozzle and hose).

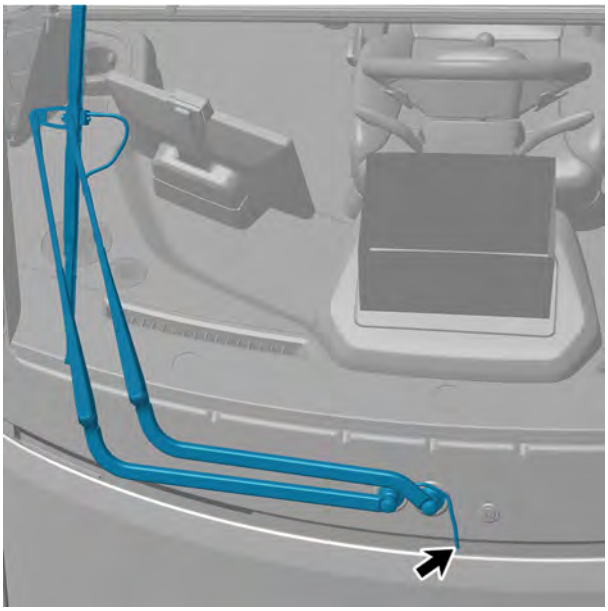
7 Connect the battery negative cable.

8 Close the front flip cover plate.

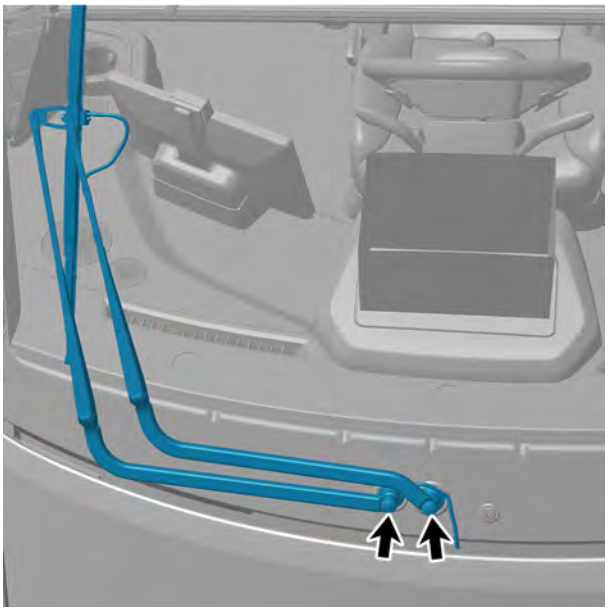
9 Close the door.

7.13.5.2 Replacement of Primary Wiper Arm Blade Assembly (nozzle and hose)

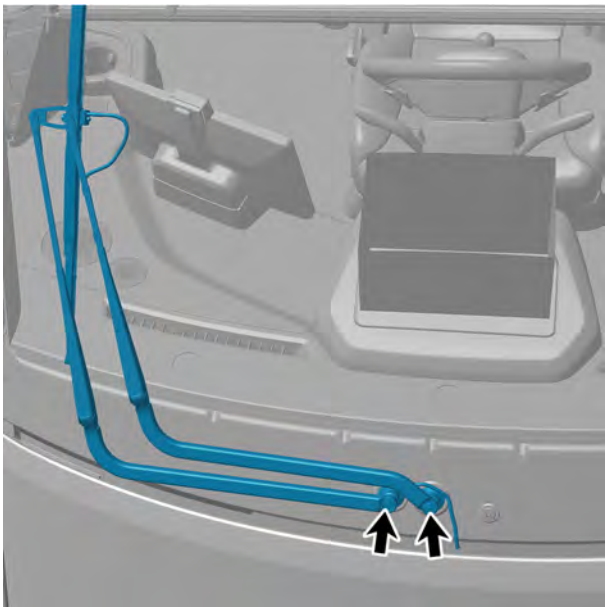
Removal Procedures



1 Disconnect the hose.



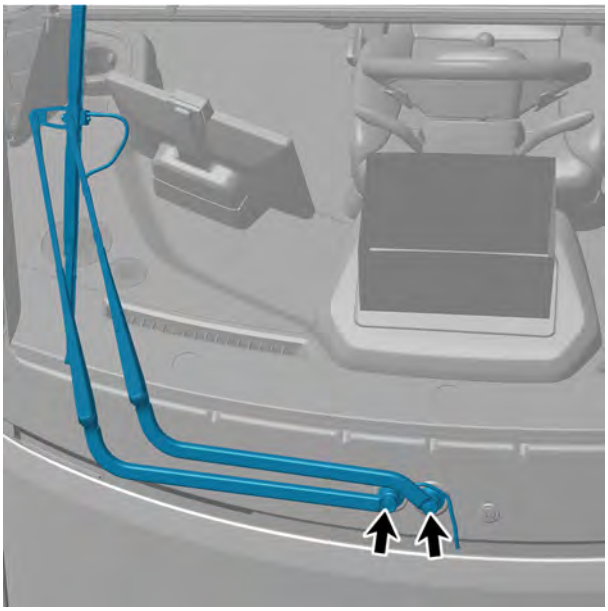
2 Remove 2 plug caps.



3 Remove 2 fixing nuts of the primary wiper arm blade assembly (nozzle and hose).

4 Remove the primary wiper arm blade assembly (nozzle and hose).

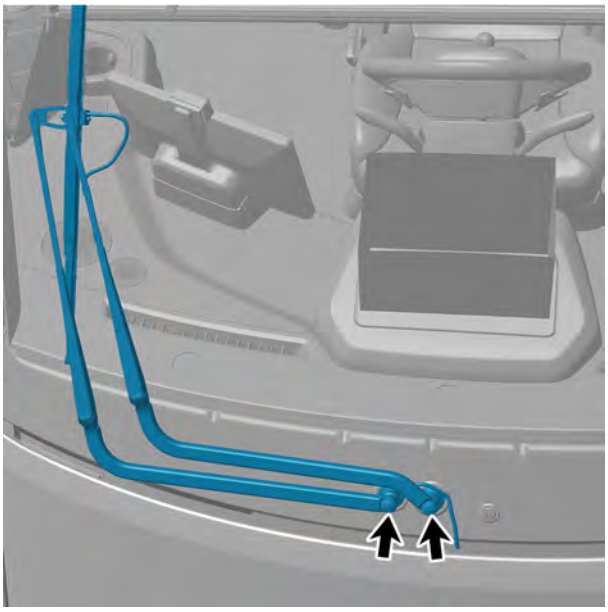
Installation Procedures



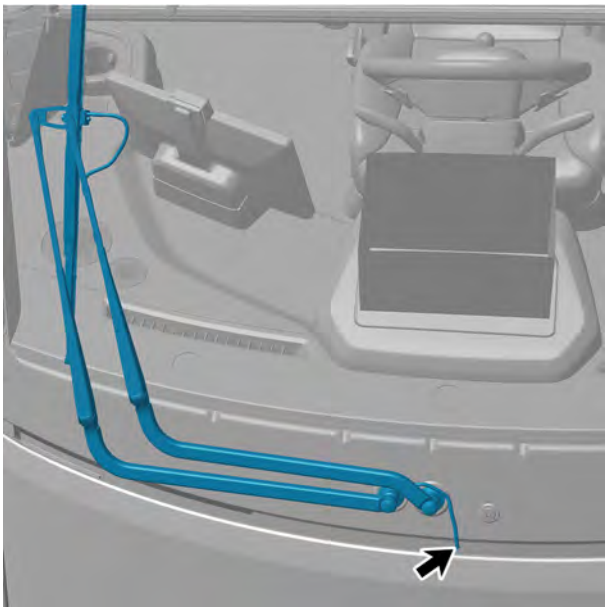
1 Move the primary wiper arm blade assembly (nozzle and hose) to the mounting position.

2 Install 2 fixing nuts of the primary wiper arm blade assembly (nozzle and hose).

Torque: (14.5 +/- 17) ft lbs



3 Install 2 plug caps.



4 Connect the hose.

7.14 Windshield Washer Device

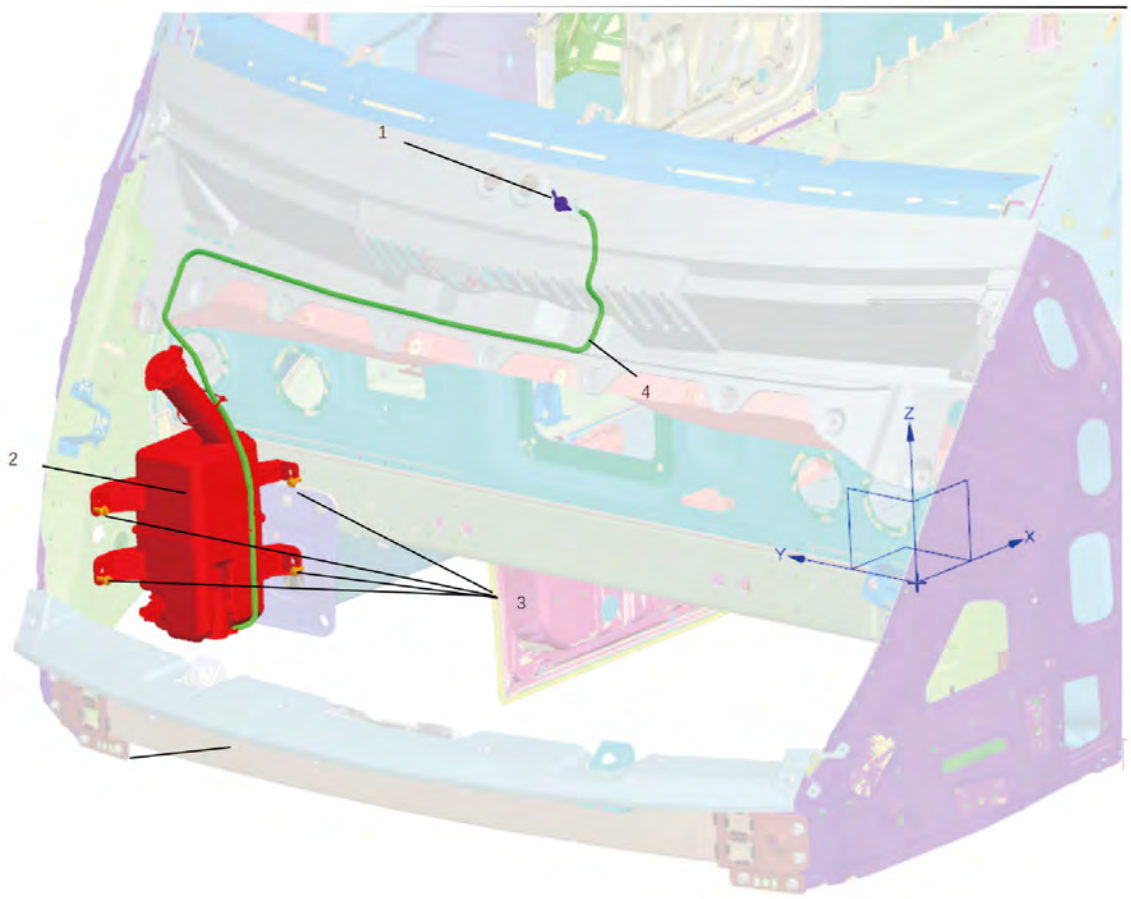
7.14.1 specifications

7.14.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the inner panel of the right enclosure plate to the washing pot assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the front outer crossbeam assembly of the floor to the washing pot assembly	M6	(6.5 +/- .75) ft lbs

7.14.2 Decomposition Diagram

7.14.2.1 Decomposition Diagram



1. Two-Way Connector for Windshield Wiper Water Pipe In New Energy Vehicles
2. Wash reservoir Assy
3. Hexagon Flange Bolt
4. Windshield Wiper Water Pipe In New Energy Vehicles

7.14.3 Dismantling and Installation

7.14.3.1 Replacement of Washer Fluid Reservoir Assembly

Removal Procedures

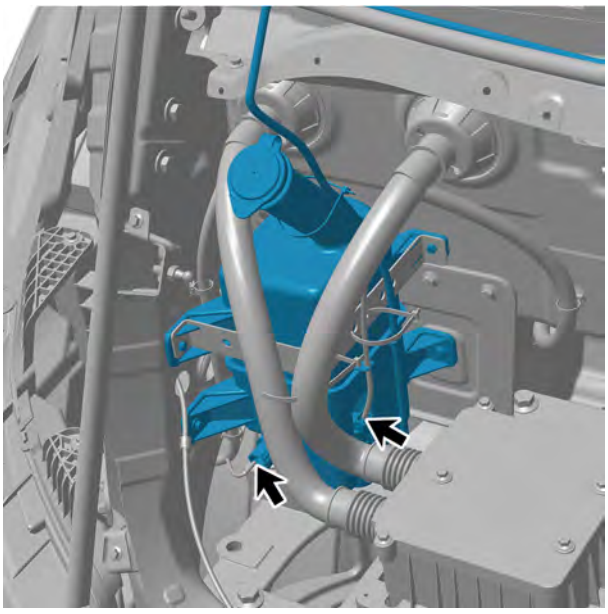
1 Open the door.

2 Open the front flip cover plate.

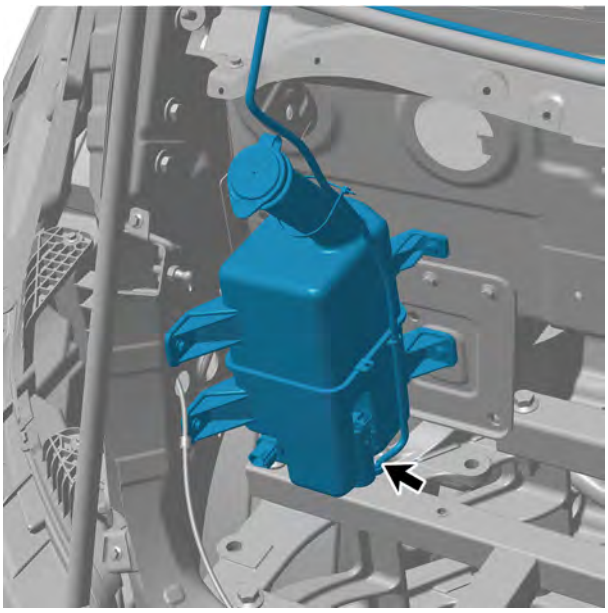
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



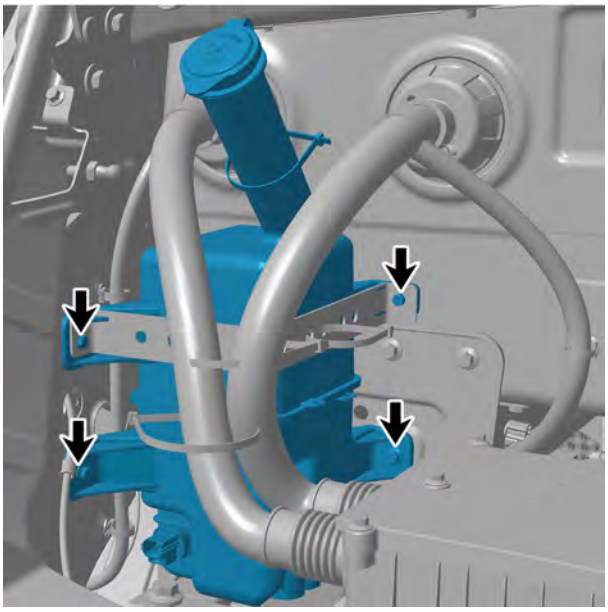
4 Disconnect 2 harness connectors of the washer fluid reservoir assembly.



5 Disconnect the washer fluid reservoir water pipe, and use a container to catch the overflowing washer fluid.

caution

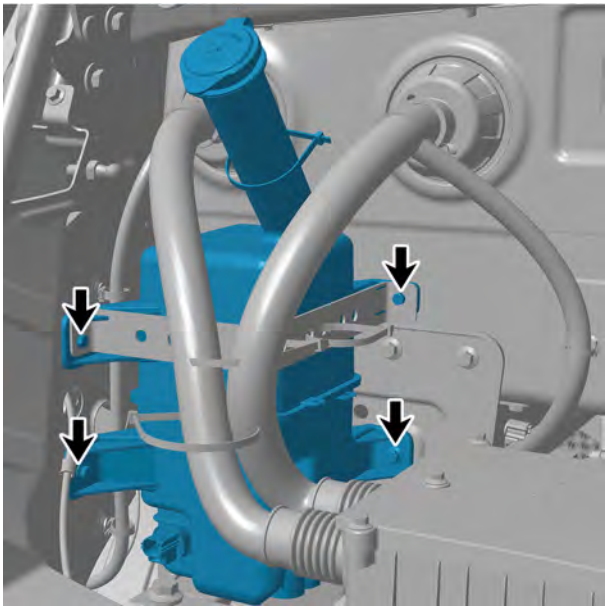
Use a clean container to receive the discharged washer fluid.



6 Remove 4 fixing bolts of the washer fluid reservoir assembly.

7 Remove the washer fluid reservoir assembly.

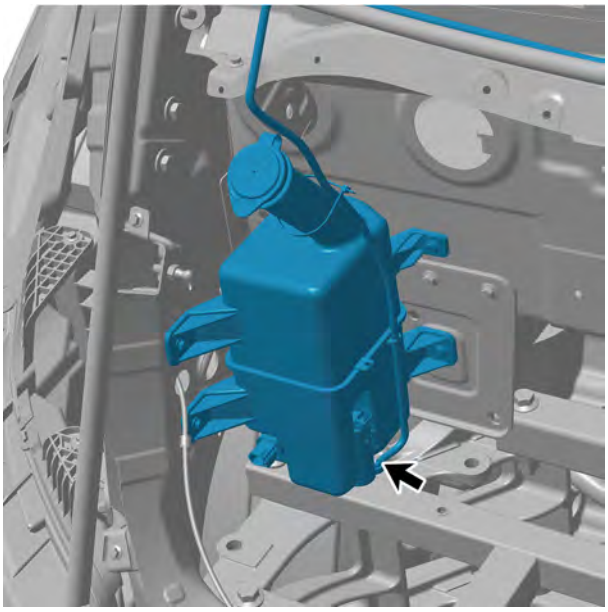
Installation Procedures



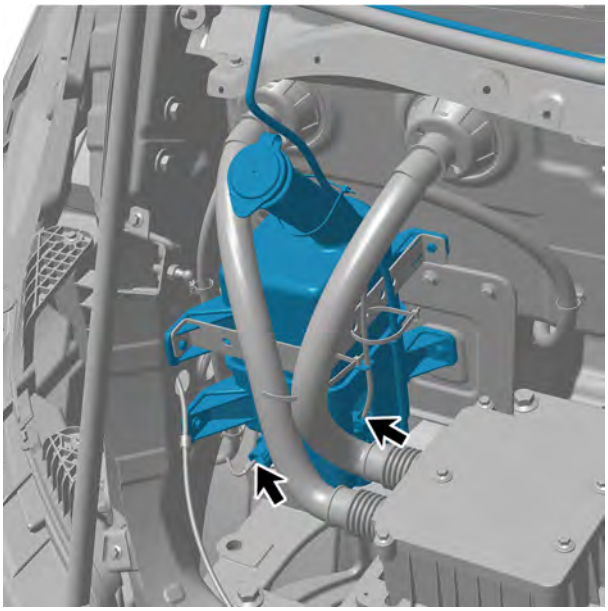
1 Move the washer fluid reservoir assembly to the mounting position.

2 Install 4 fixing bolts of the washer fluid reservoir assembly.

Torque:(6.5 +/- .75) ft lbs



3 Connect the washer fluid reservoir water pipe.



4 Connect 2 harness connectors of the washer fluid reservoir assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

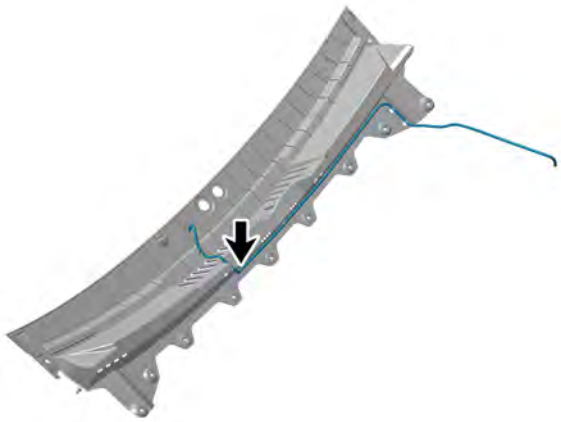
7.14.3.2 Replacement of Washer Fluid Reservoir Water Pipe

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

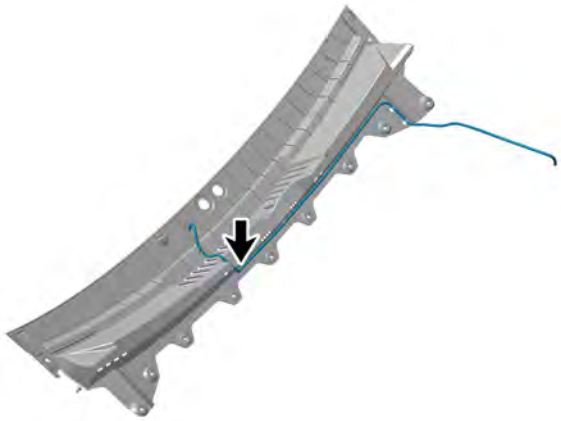
3 Remove the primary wiper arm blade assembly (nozzle and hose).



4 Remove the front windshield cover plate assembly.

5 Remove the washer fluid reservoir water pipe.

Installation Procedures



1 Install the washer fluid reservoir water pipe.

2 Install the front windshield cover plate assembly.

3 Install the primary wiper arm blade assembly (nozzle and hose).

4 Close the front flip cover plate.

5 Close the door.

7.15 Information and Communication Device

7.15.1 Description and Operation

7.15.1.1 Description and Operation

The relevant communication devices between the vehicle and the outside are as follows:

1. TGW and TBOX functions: It serves as the on-board terminal and the key device in the Internet of Vehicles (IOV), which integrates GPS and communication modules and interacts with vehicle information through the gateway, and collects and uploads GB/T 32960 data and Windrose enterprise standard data, realizes remote control, fault diagnosis, position query, OTA tasks, and other functions. It serves as the central gateway for the vehicle, implements the CAN signal routing function at the vehicle end, and provides an OBD diagnostic interface;

2. Combination antenna: It provides 5G communication and BD/GPS positioning signals for the TGW, and 4G communication and BD/GPS positioning signals for the VTDR;

3. VTDR: It is a regulatory part approved by the Ministry of Transport, which provides position query, vehicle and driver information;

4. ETC: Electronic Toll Collection.

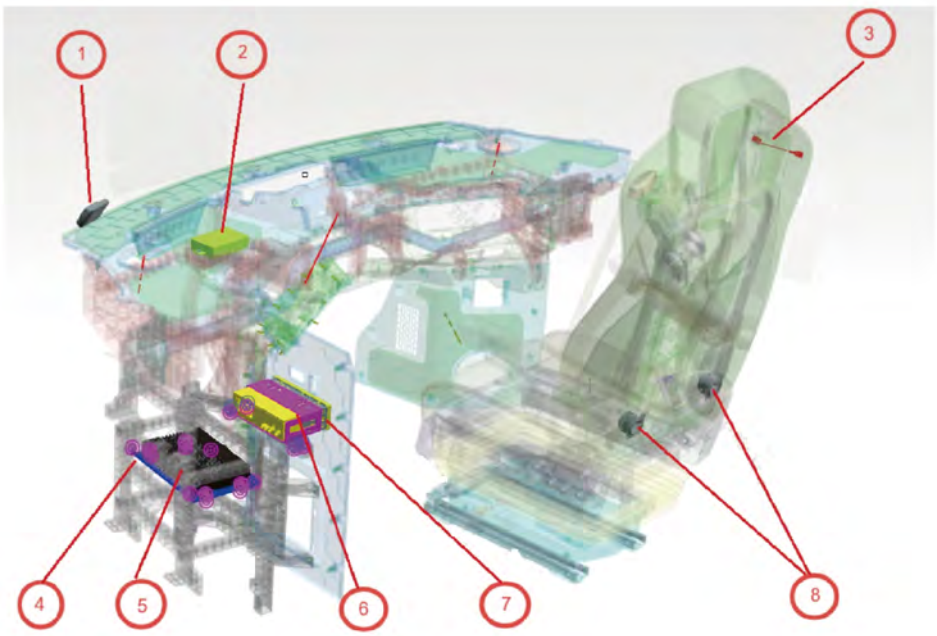
7.15.2 Specifications

7.15.2.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the driving recorder bracket to the lower left instrument panel controller bracket	M6	(6.5 +/- .75) ft lbs
The fixing bolts connecting the T gateway and the T gateway bracket	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the lower left dashboard controller bracket to the T gateway bracket	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the combination antenna and the pipe beam assembly	M6	(6.5 +/- .75) ft lbs
The fixing bolts connecting the T gateway and the T gateway bracket	M6	(6.5 +/- .75) ft lbs

7.15.3 Decomposition Diagram

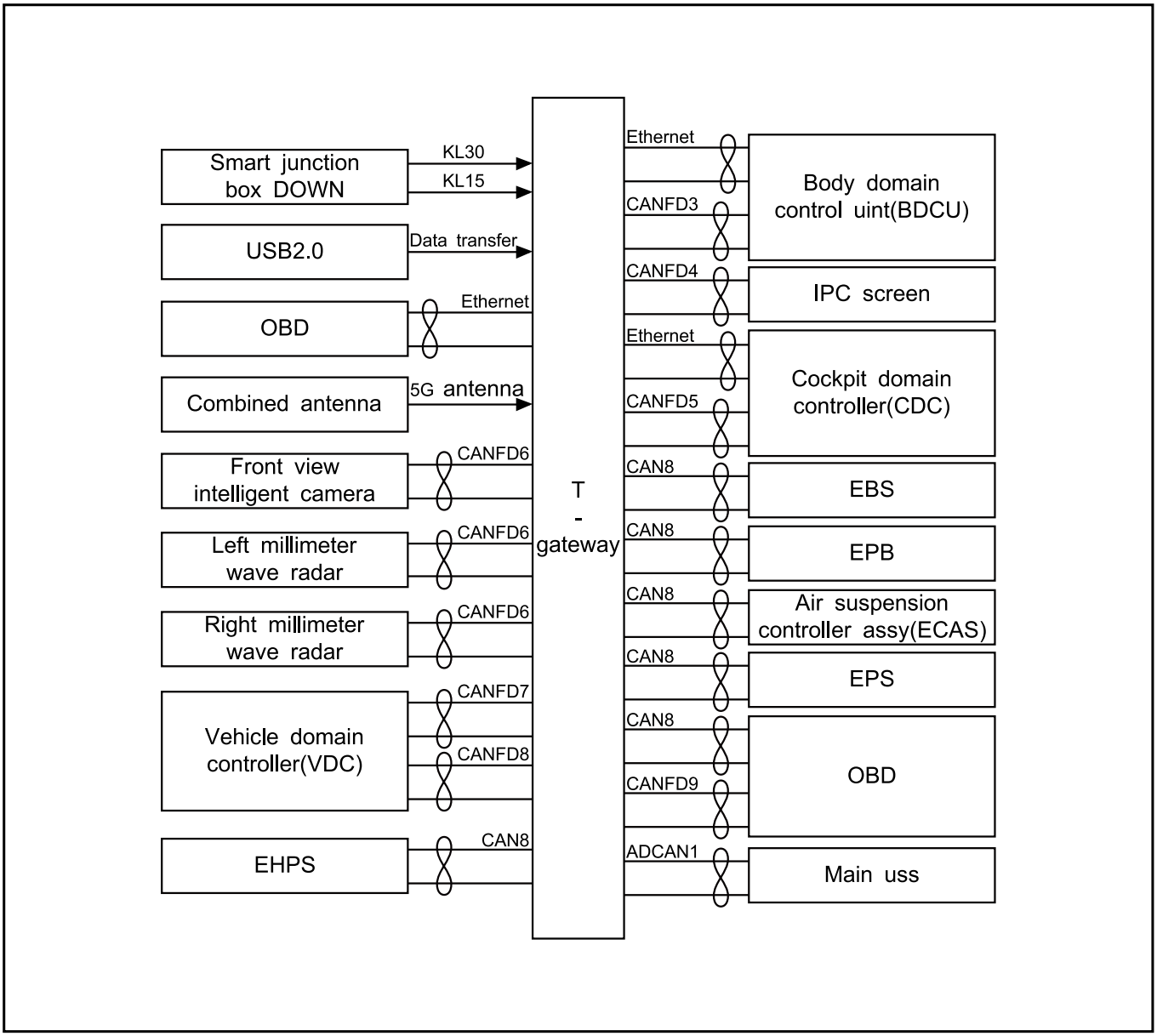
7.15.3.1 Decomposition Diagram



1. ETC(Electronic Toll Collection)
2. Composite Antenna(Gnss+5g/4g)
3. ECALL Mic
4. Tbox-Gw Bracke
5. Tbox-Gw
6. Vehicle Travelling Data Recorder Bracket
7. Vehicle Travelling Data Recorder
8. Emergency Call for Help Loudspeakers

7.15.4 System Schematic Diagram

7.15.4.1 Electrical Schematic Diagram



7.15.5 Diagnostic Information and Steps

7.15.5.1 Diagnostic Description

Before diagnosing faults in information communication devices, refer to Description And OperationUnderstanding and familiarizing oneself with the working principle of information and communication devices before starting system diagnosis can help determine the correct fault diagnosis steps in the event of a malfunction, and more importantly, it can help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of information and communication devices should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

7.15.5.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the information and communication device system, ensuring that these devices do not affect the operation of the information and communication device system.
- Check system components that are easily accessible or visible to ensure that there is no obvious damage or potential malfunction.

7.15.5.3 Fault Symptom Table

Symptom	Suspected Faulty Project	Measures
The diagnostic tool cannot communicate with the vehicle	1.The diagnostic tool version is too low	Update the diagnostic tool to the latest version.
	2.OBD power supply circuit fault	Refer to OBD Power Supply Circuit Fault
	3. OBD CAN communication harness malfunction	Check the OBD CAN communication harness.
	4. OBD Ethernet harness malfunction	Check the OBD Ethernet harness.

7.15.5.4 DTC Confirmation

1. Connect the diagnostic tool to the diagnostic interface, read and record the DTC, and then clear the DTC.
2. Run the vehicle again.
3. Read the fault code of the control system again to confirm if there is any fault code output from the system.
   - Yes:Diagnose based on the output fault code.
   - No:Perform intermittent fault check, refer to Inspection Of Intermittent Faults

7.15.5.5 List Of Diagnostic Trouble Codes (DTC)

GW

Fault Code	Fault Description	Exclusion Method
B111717	High battery voltage	Refer to GW Power Fault
B111716	Low Battery Voltage	
U018787	Lost Communication With CMS_L	Refer to GW Communication Fault
U014087	Lost Communication With BDCU communication with BDCU	
U01A087	Lost Communication With SJB_UP	
U019987	Lost Communication With DCM	
U014187	Lost Communication With AVAS	
U01A187	Lost Communication With SJB_UN	
U012787	Lost Communication With TPMS_F	

Fault Code	Fault Description	Exclusion Method
U016487	Lost Communication With A/C	
U015687	Lost Communication With CDCU	
U015787	Lost Communication With CAMF	
U026487	Lost Communication With USS	
U026687	Lost Communication With MMWR_L	
U026887	Lost Communication With MMWR_R	
U012287	Lost Communication With VDC	
U015A87	Lost Communication With FCU1	
U015B87	Lost Communication With FCU2	
U015C87	Lost Communication With HCU	
U012187	Lost Communication With EBS	
U013287	Lost Communication With ECAS	
U012887	Lost Communication With EPB	
U007388	CANFD1 BusOff	
U007488	CANFD2 BusOff	
U007588	CANFD3 BusOff	
U007688	CANFD4 BusOff	
U007788	CANFD5 BusOff	
U007888	CANFD6 BusOff	
U007988	CANFD7 BusOff	
U007A88	CAN8 BusOff	
U007B88	CANFD9 BusOff	
U008088	CANFD10 BusOff	
U220200	CANFD3 network limp home	
U220300	CANFD4 network limp home	
U220400	CANFD5 network limp home	
U220900	CANFD6 network limp home	
U220500	CANFD7 network limp home	
U220800	CANFD10 network limp home	
U238208	The Ethernet MDIO chip is abnormal	Refer to GW Internal Fault
B100000	RTC chip error	
B100001	MCU temperature is too high	
B100002	CPU temperature is too high	
B100004	Backup battery not connected	
B100005	End of backup battery life	
U100001	BDC Ethernet T1 port connection abnormality	Refer to GW Ethernet Fault
U100002	CDC Ethernet link failure	
U100003	ADC Ethernet link failure	

Fault Code	Fault Description	Exclusion Method
U100004	BDC Ethernet insufficient SQI	
U100005	CDC Ethernet insufficient SQI	
U100006	ADC Ethernet insufficient SQI	
U100007	BDC Ethernet CRC error	
U100008	CDC Ethernet CRC error	
U100009	ADC Ethernet CRC error	
U10000A	Gateway certificate exception	Refer to GW Certificate Abnormality
U10000B	Gateway certificate application failed	
U10000C	Root certificate exception	

TBOX

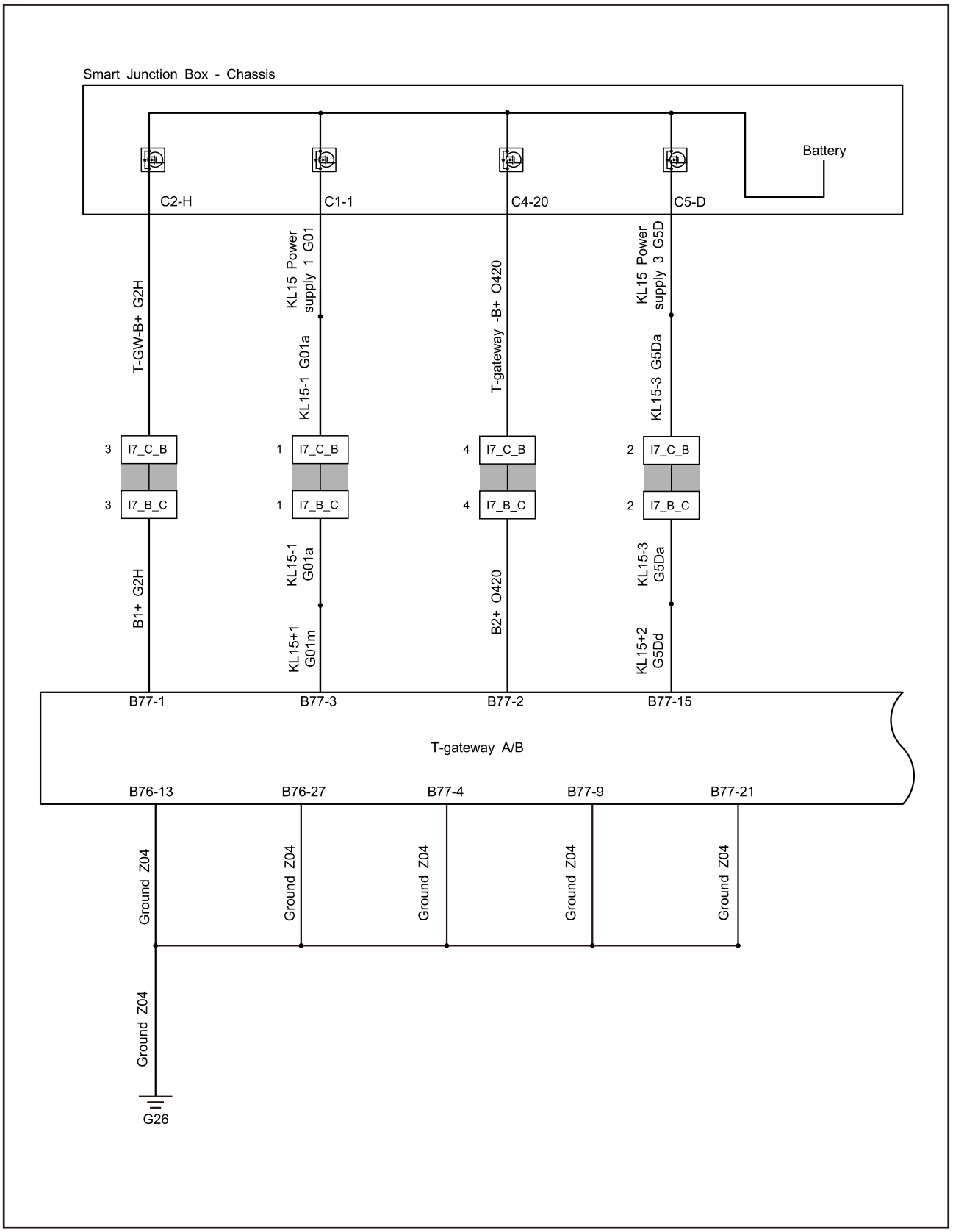
Fault Code	Fault Description	Exclusion Method
U019887	Lost Communication With GW	Refer to TBOX Communication Fault
U015687	Lost Communication With CDCU	
B10FF96	Safety Chip Failure	Refer to TBOX Internal Fault
B10FE96	CODEC Module Failure	
B10FA11	5G Antenna Shorted To The Ground	Refer to Combination Antenna Fault
B10FA13	5G Antenna Open Circuit	
B10F996	5G Module Failure	
U10000A	Gateway certificate exception	Refer to TBOX Certificate Abnormality
U10000B	Gateway certificate application failed	
U10000C	Root certificate exception	
B10FB00	No SIM Card	Please reinsert the SIM card

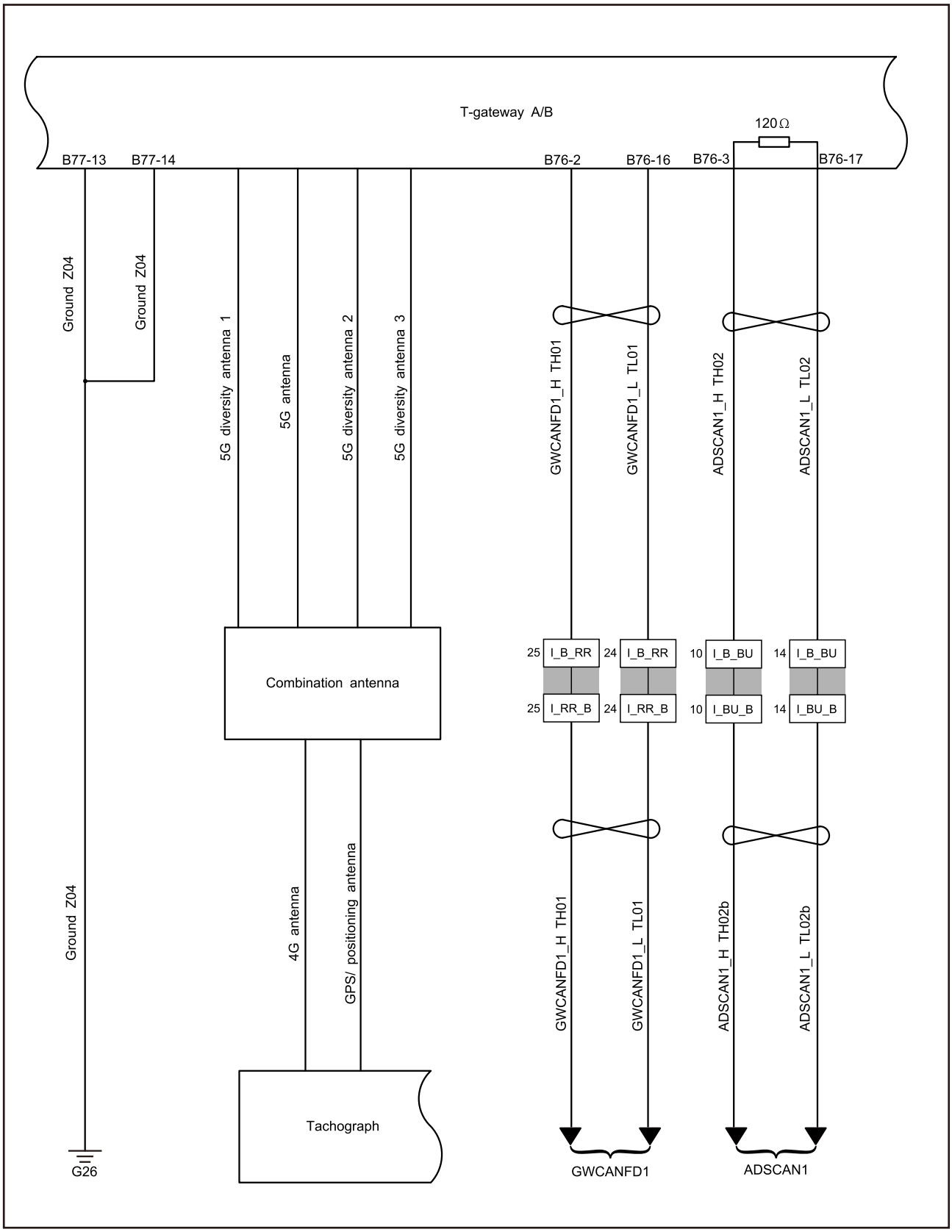
7.15.5.6 GW Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	High battery voltage	Voltage measured > 32V for 5000ms(Deviation not exceeding 1000ms)	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.T-Gateway
B111716	Low Battery Voltage	Voltage measured < 16V for 5000ms(Deviation not exceeding 1000ms)	

2.Circuit Diagram


Smart Junction Box - Chassis
Battery
C2-H
C1-1
C4-20
C5-D
T-GW-B+ G2H
KL15 Power supply 1 G01
KL15-1 G01a
T-gateway -B+ O420
KL15 Power supply 3 G5D
KL15-3 G5Da
3 I7_C_B
3 I7_B_C
1 I7_C_B
1 I7_B_C
4 I7_C_B
4 I7_B_C
2 I7_C_B
2 I7_B_C
B1+ G2H
KL15-1 G01a
KL15+1 G01m
B2+ O420
KL15-3 G5Da
KL15+2 G5Dd
B77-1
B77-3
B77-2
B77-15
T-gateway A/B
B76-13
B76-27
B77-4
B77-9
B77-21
Ground Z04
Ground Z04
Ground Z04
Ground Z04
Ground Z04
Ground Z04
G26



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides GW?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the T-gateway power and grounding harness.

Step 5:T-Gateway rewrites configuration codes, software reloads, upgrades.

Step 6:Replace the T-gateway. Refer to Replacement Of T Gateway

Step 7:Clear and confirm DTC.

7.15.5.7 GW Communication Fault

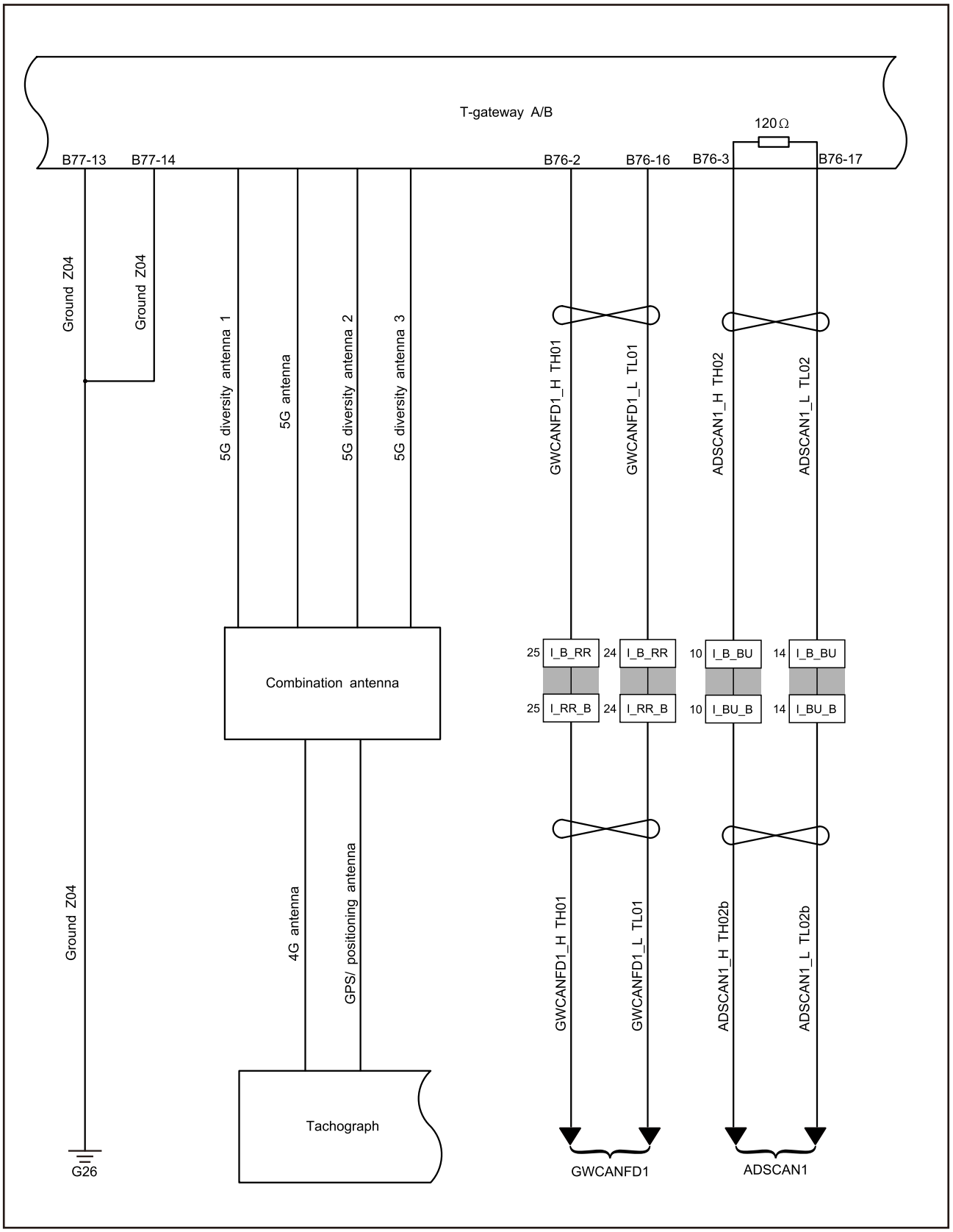
1. DTC Monitoring Logic

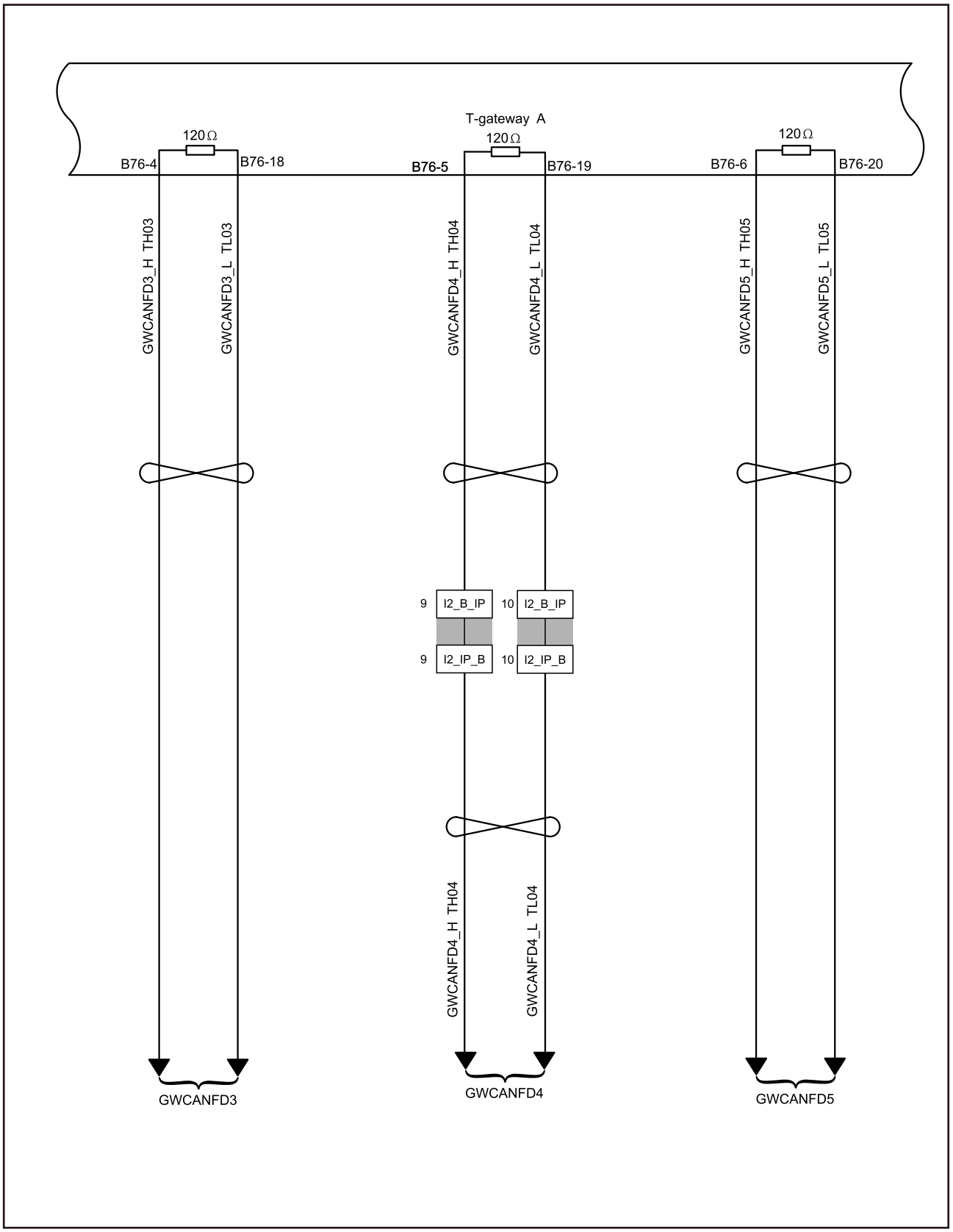
DTC Code	Description	DTC Trigger Conditions	Faulty Part
U018787	Lost Communication With CMS_L	1.Message 0x18FF0351 timeout for 10cycle(Cycle = 50 ms) 2.battery in normal voltage(16v-32v)	1. Wiring harness 2. T-Gateway
U014087	Lost Communication With BDCU communication with BDCU	1.Message 0x0CFDCC21 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(16v-32v)	
U01A087	Lost Communication With SJB_UP	1.Message 0x18FF3354 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(16v-32v)	
U019987	Lost Communication With DCM	1.Message 0x18FDA54F timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(16v-32v)	
U014187	Lost Communication With AVAS	1.Message 0x18FF0E57 timeout for 10cycle(Cycle = 500 ms) 2.battery in normal voltage(16v-32v)	
U01A187	Lost Communication With SJB_UN	1.Message 0x18FF2359 timeout for 10cycle(Cycle = 500 ms) 2.battery in normal voltage(16v-32v)	
U012787	Lost Communication With TPMS_F	1.Message 0x18FEF433 timeout for 10cycle(Cycle = 500 ms) 2.battery in normal voltage(18v-32v)	
U016487	Lost Communication With A/C	1.Message 0x18FF0B19 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U015687	Lost Communication With CDCU	1.Message 0x18FF0841 timeout for 10cycle(Cycle = 1000 ms) 2.battery in normal voltage(18v-32v)	

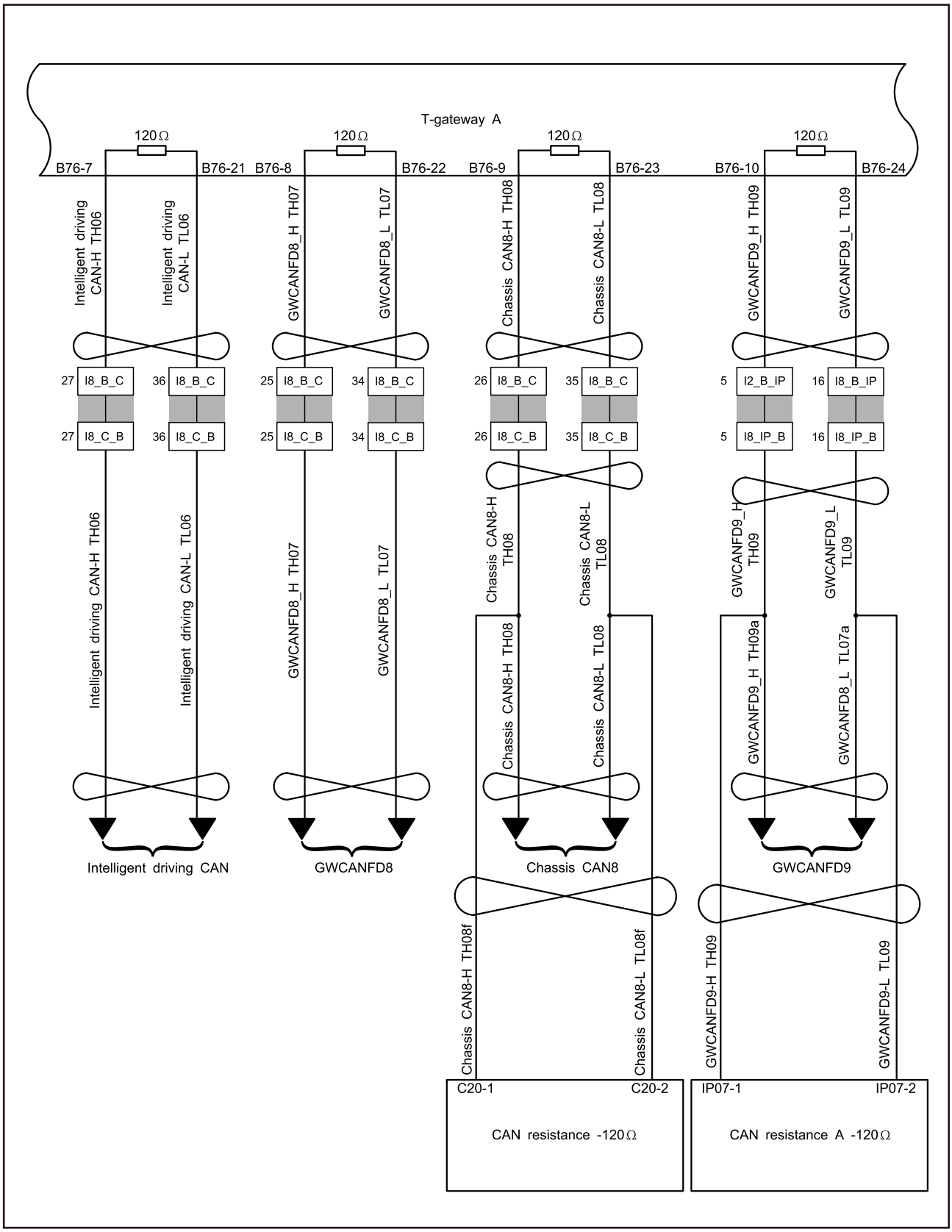
DTC Code	Description	DTC Trigger Conditions	Faulty Part
U015787	Lost Communication With CAMF	1.Message 0x18FF3531 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U026487	Lost Communication With USS	1.Message 0x18FF5C5F timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U026687	Lost Communication With MMWR_L	1.Message 0x18FF4361 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U026887	Lost Communication With MMWR_R	1.Message 0x18FF4263 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U012287	Lost Communication With VDC	1.Message 0x18FEF100 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U015A87	Lost Communication With FCU1	1.Message 0x18102465 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U015B87	Lost Communication With FCU2	1.Message 0x181024A5 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U015C87	Lost Communication With HCU	1.Message 0x18f30189 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U012187	Lost Communication With EBS	1.Message 0x18F0010B timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U013287	Lost Communication With ECAS	1.Message 0x18FEEA2F timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U012887	Lost Communication With EPB	1.Message 0x18FE1250 timeout for 10cycle(Cycle = 100 ms) 2.battery in normal voltage(18v-32v)	
U007388	CANFD1 BusOff	CANFD1 bus communication failure	
U007488	CANFD2 BusOff	CANFD2 bus communication failure	
U007588	CANFD3 BusOff	CANFD3 bus communication failure	
U007688	CANFD4 BusOff	CANFD4 bus communication failure	
U007788	CANFD5 BusOff	CANFD5 bus communication failure	
U007888	CANFD6 BusOff	CANFD6 bus communication failure	
U007988	CANFD7 BusOff	CANFD7 bus communication failure	
U007A88	CAN8 BusOff	CANFD8 bus communication failure	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007B88	CANFD9 BusOff	CANFD9 bus communication failure	
U008088	CANFD10 BusOff	CANFD10 bus communication failure	
U220200	CANFD3 network limp home	CANFD3 NM in limp home state	
U220300	CANFD4 network limp home	CANFD4 NM in limp home state	
U220400	CANFD5 network limp home	CANFD5 NM in limp home state	
U220900	CANFD6 network limp home	CANFD6 NM in limp home state	
U220500	CANFD7 network limp home	CANFD7 NM in limp home state	
U220800	CANFD10 network limp home	CANFD10 NM in limp home state	

2.Circuit Diagram


T-gateway A/B
120Ω
B77-13
B77-14
B76-2
B76-16
B76-3
B76-17
Ground Z04
Ground Z04
Ground Z04
5G diversity antenna 1
5G antenna
5G diversity antenna 2
5G diversity antenna 3
GWCANFD1_H TH01
GWCANFD1_L TL01
ADSCAN1_H TH02
ADSCAN1_L TL02
Combination antenna
25 I_B_RR
24 I_B_RR
10 I_B_BU
14 I_B_BU
25 I_RR_B
24 I_RR_B
10 I_BU_B
14 I_BU_B
4G antenna
GPS/ positioning antenna
GWCANFD1_H TH01
GWCANFD1_L TL01
ADSCAN1_H TH02b
ADSCAN1_L TL02b
Tachograph
G26
GWCANFD1
ADSCAN1


T-gateway A
120Ω
120Ω
120Ω
B76-4
B76-18
B76-5
B76-19
B76-6
B76-20
GWCANFD3_H TH03
GWCANFD3_L TL03
GWCANFD4_H TH04
GWCANFD4_L TL04
GWCANFD5_H TH05
GWCANFD5_L TL05
9 I2_B_IP
10 I2_B_IP
9 I2_IP_B
10 I2_IP_B
GWCANFD4_H TH04
GWCANFD4_L TL04
GWCANFD3
GWCANFD4
GWCANFD5



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the CANFD1 bus communication harness. Refer to Inspection Of CANFD1 Bus Network Integrity

Step 4:Check the CANFD3 bus communication harness. Refer to Inspection Of CANFD3 Bus Network Integrity

Step 5:Check the CANFD4 bus communication harness. Refer to Inspection Of CANFD4 Bus Network Integrity

Step 6:Check the CANFD5 bus communication harness. Refer to Inspection Of CANFD5 Bus Network Integrity

Step 7:Check the CANFD6 bus communication harness. Refer to Inspection Of CANFD6 Bus Network Integrity

Step 8:Check the CANFD7 bus communication harness. Refer to Inspection Of CANFD7 Bus Network Integrity

Step 9:Check the CAN8 bus communication harness. Refer to Inspection Of CAN8 Bus Network Integrity

Step 10:Check the CANFD9 bus communication harness. Refer to Inspection Of CANFD9 Bus Network Integrity

Step 11:T-Gateway rewrites configuration codes, software reloads, upgrades.

Step 12:Replace the T-gateway. Refer to Replacement Of T Gateway

Step 13:Clear and confirm DTC.

7.15.5.8 GW Internal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U238208	The Ethernet MDIO chip is abnormal	Unable to read SWITCH chip register	1. T-Gateway
B100000	RTC chip error	Get RTC time error lasts 5s	
B100001	MCU temperature is too high	Temperature measurement > 110℃ for 5s	
B100002	CPU temperature is too high	Temperature measurement > 110℃ for 5s	
B100004	Backup battery not connected	Backup battery not connected for more than 5s	
B100005	End of backup battery life	Backup battery life less than 10%	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:T-Gateway rewrites configuration codes, software reloads, upgrades.

Step 4:Replace the T-gateway. Refer to Replacement Of T Gateway

Step 5:Clear and confirm DTC.

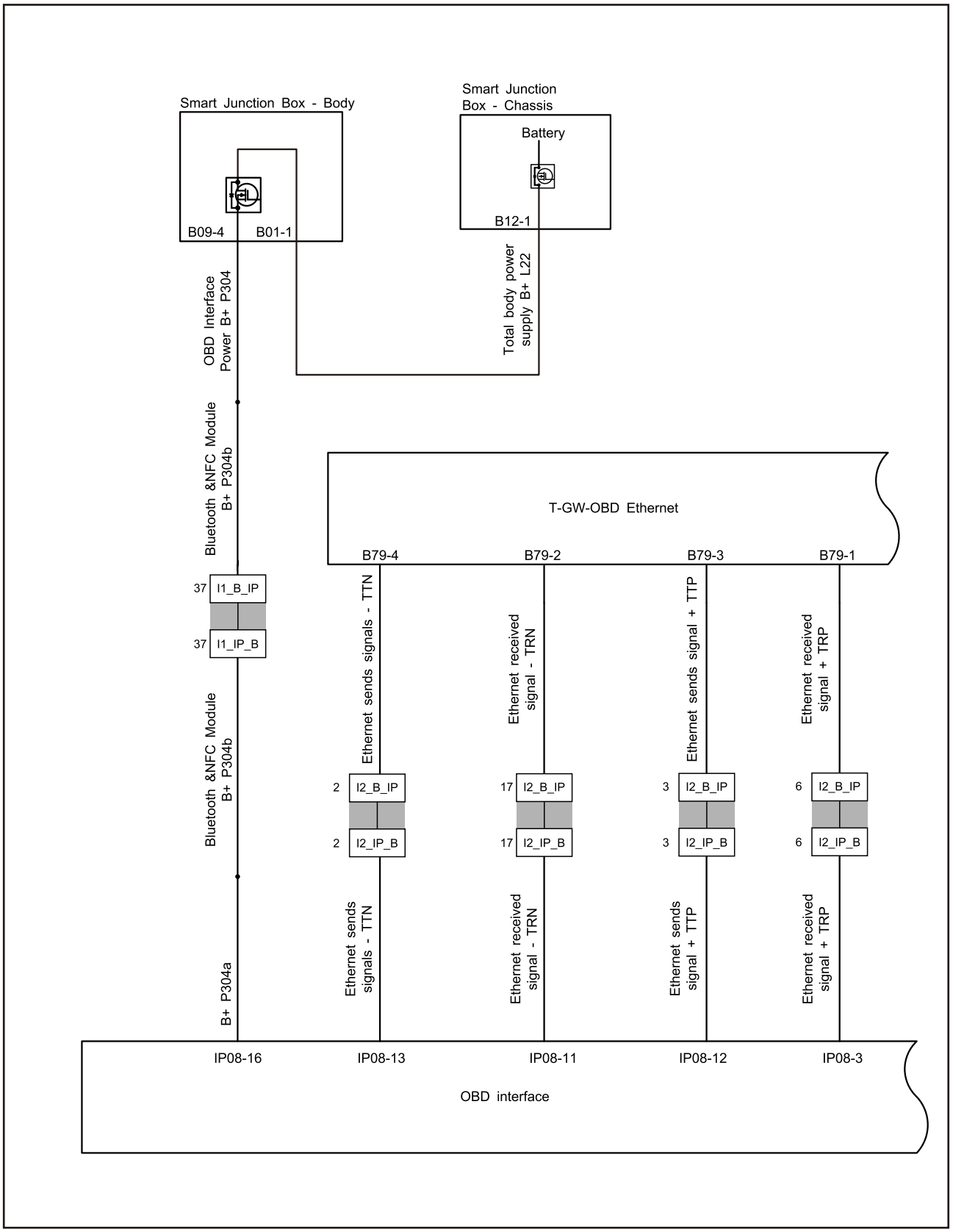
7.15.5.9 GW Ethernet Fault

1.DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U100001	BDC Ethernet T1 port connection abnormality	If the current link status of the Ethernet port is not link-Up, the counter increases by 1. If the current link status is not link-Up for 10 consecutive times, a fault is reported	1. Wiring harness 2. T-Gateway

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U100002	CDC Ethernet link failure	If the current link status of the Ethernet port is not link-Up, the counter increases by 1. If the current link status is not link-Up for 10 consecutive times, a fault is reported	
U100003	ADC Ethernet link failure	If the current link status of the Ethernet port is not link-Up, the counter increases by 1. If the current link status is not link-Up for 10 consecutive times, a fault is reported	
U100004	BDC Ethernet insufficient SQI	SQI below the threshold occurs 20 times within 60s	
U100005	CDC Ethernet insufficient SQI	SQI below the threshold occurs 20 times within 60s	
U100006	ADC Ethernet insufficient SQI	SQI below the threshold occurs 20 times within 60s	
U100007	BDC Ethernet CRC error	Read the Ethernet chip CRC value and report a fault if there is a single CRC error	
U100008	CDC Ethernet CRC error	Read the Ethernet chip CRC value and report a fault if there is a single CRC error	
U100009	ADC Ethernet CRC error	Read the Ethernet chip CRC value and report a fault if there is a single CRC error	

2. Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation.Refer to DTC Confirmation

Step 2:Routine Inspection.Refer to Routine Inspection

Step 3:Check the T-gateway Ethernet harness.

Step 4:T-Gateway rewrites configuration codes, software reloads, upgrades.

Step 5:Replace the T-gateway. Refer to Replacement Of T Gateway

Step 6:Clear and confirm DTC.

7.15.5.10 GW Certificate Abnormality

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U10000A	Gateway certificate exception	Report a fault if the certificate is abnormal	1. T-Gateway
U10000B	Gateway certificate application failed	If the certificate application fails, a fault will be reported	
U10000C	Root certificate exception	The root certificate does not exist or its content is empty	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Reapply for the certificate.

Step 4:T-Gateway rewrites configuration codes, software reloads, upgrades.

Step 5:Replace the T-gateway. Refer to Replacement Of T Gateway

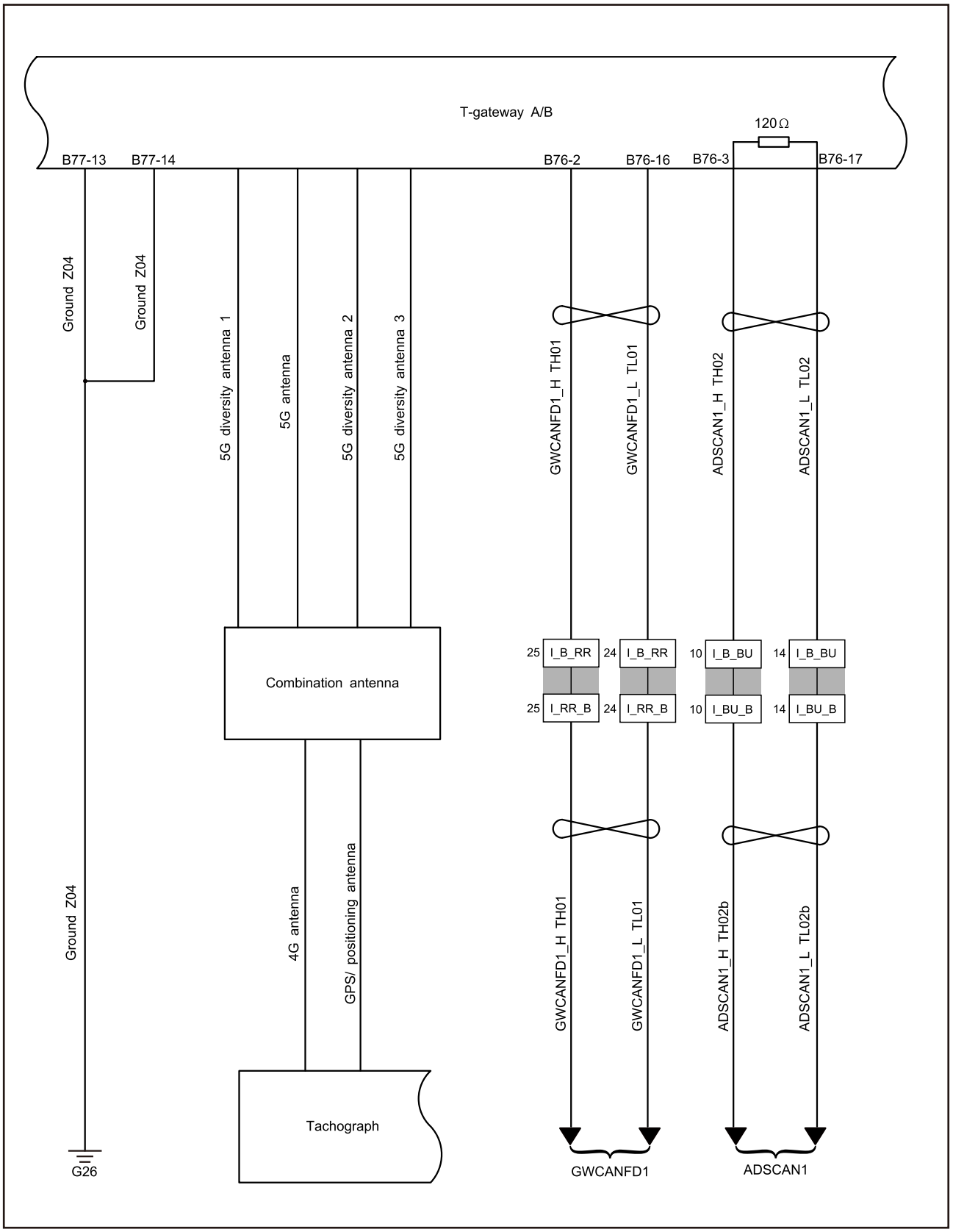
Step 6:Clear and confirm DTC.

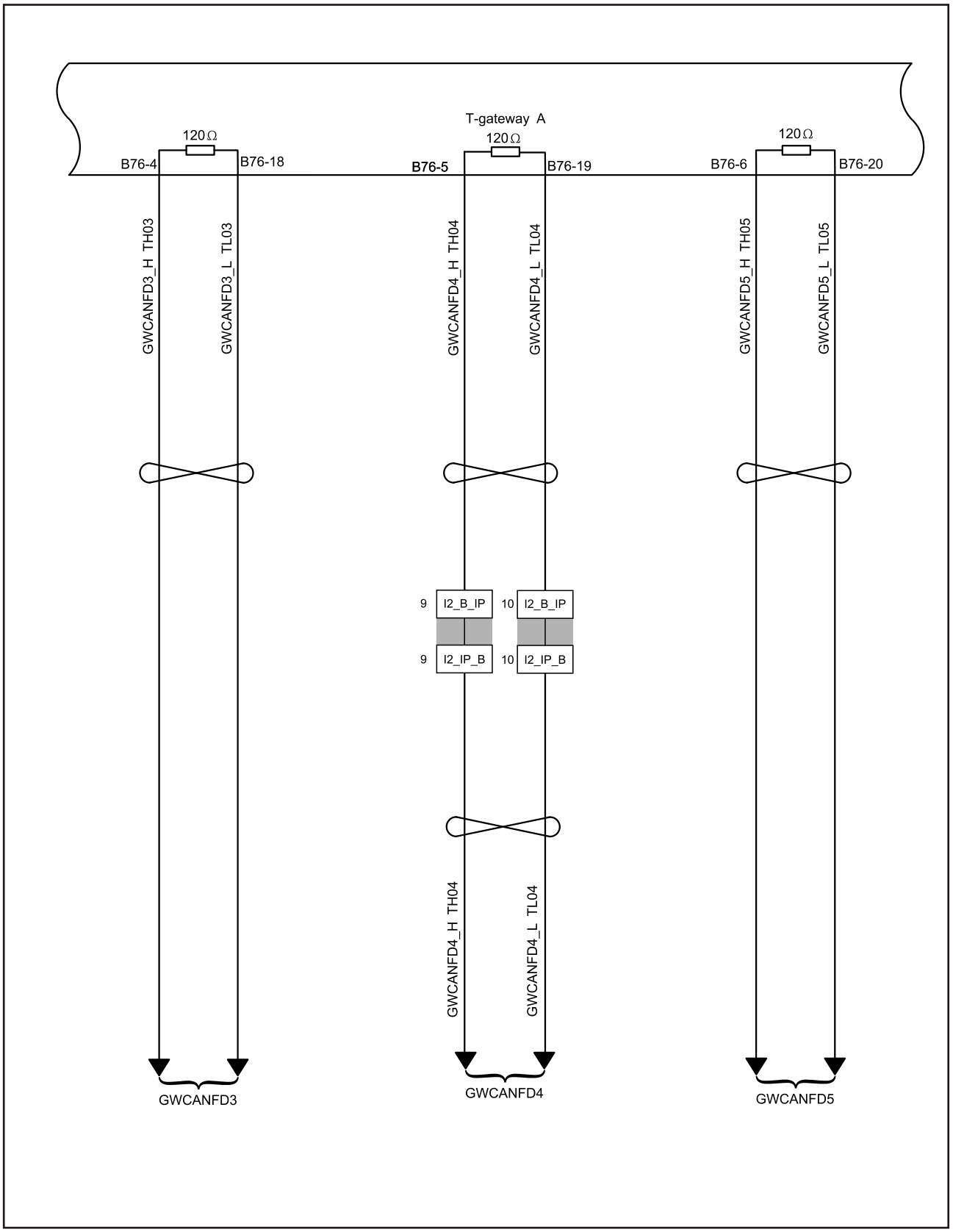
7.15.5.11 TBOX Communication Fault

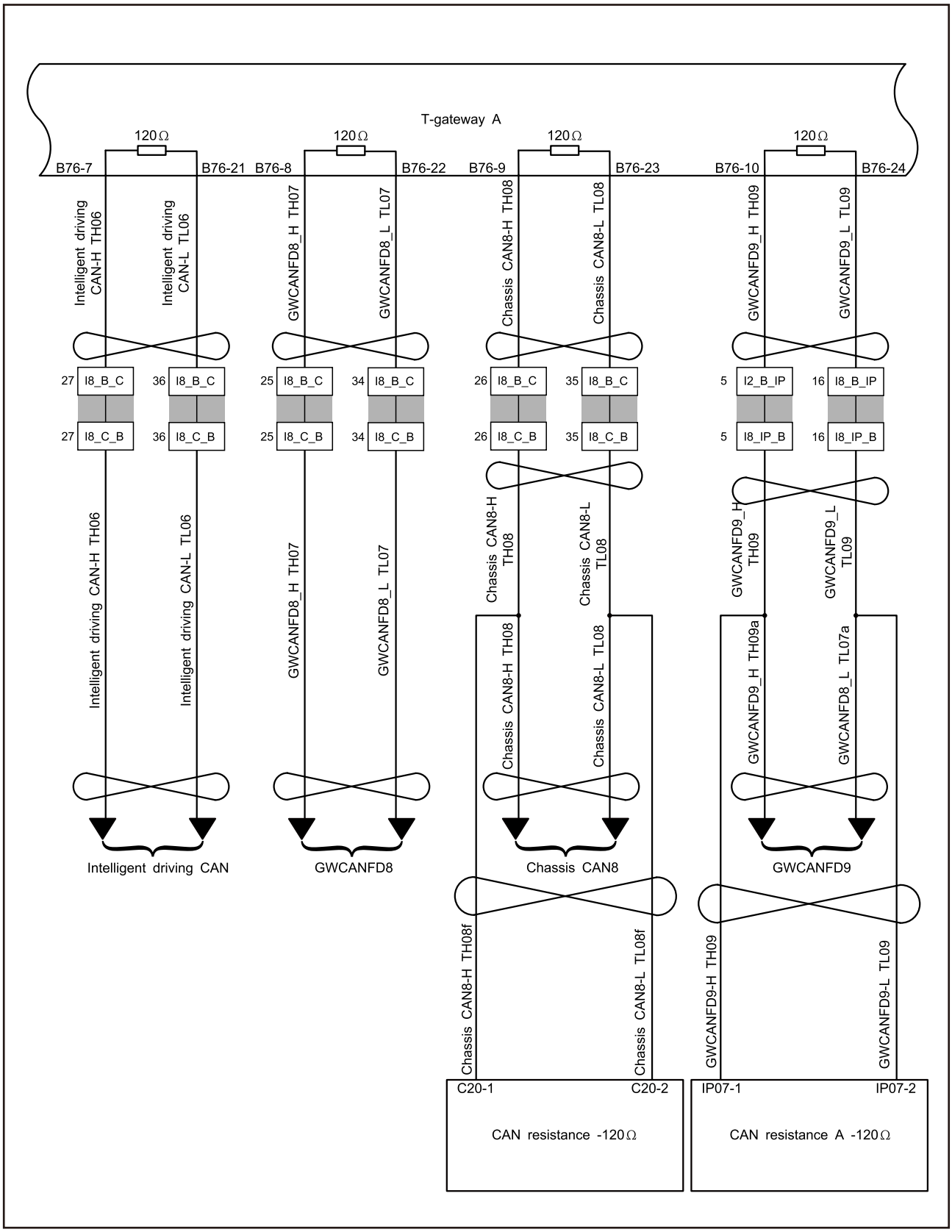
1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U019887	Lost Communication With GW	No GW heartbeat received, lasting for 60 seconds	1. Wiring harness 2. T-Gateway
U015687	Lost Communication With CDCU	No USB channel communication heartbeat received from CDCU, lasting for 60 seconds	

2.Circuit Diagram


T-gateway A/B
120Ω
B77-13
B77-14
B76-2
B76-16
B76-3
B76-17
Ground Z04
Ground Z04
5G diversity antenna 1
5G antenna
5G diversity antenna 2
5G diversity antenna 3
GWCANFD1_H TH01
GWCANFD1_L TL01
ADSCAN1_H TH02
ADSCAN1_L TL02
25 I_B_RR
24 I_B_RR
10 I_B_BU
14 I_B_BU
25 I_RR_B
24 I_RR_B
10 I_BU_B
14 I_BU_B
Combination antenna
Ground Z04
4G antenna
GPS/ positioning antenna
GWCANFD1_H TH01
GWCANFD1_L TL01
ADSCAN1_H TH02b
ADSCAN1_L TL02b
Tachograph
G26
GWCANFD1
ADSCAN1


T-gateway A
120Ω
120Ω
120Ω
B76-4
B76-18
B76-5
B76-19
B76-6
B76-20
GWCANFD3_H TH03
GWCANFD3_L TL03
GWCANFD4_H TH04
GWCANFD4_L TL04
GWCANFD5_H TH05
GWCANFD5_L TL05
9 I2_B_IP
10 I2_B_IP
9 I2_IP_B
10 I2_IP_B
GWCANFD4_H TH04
GWCANFD4_L TL04
GWCANFD3
GWCANFD4
GWCANFD5



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the CANFD1 bus communication harness. Refer to Inspection Of CANFD1 Bus Network Integrity

Step 4:Check the CANFD3 bus communication harness. Refer to Inspection Of CANFD3 Bus Network Integrity

Step 5:Check the CANFD4 bus communication harness. Refer to Inspection of CANFD4 bus network integrity

Step 6:Check the CANFD5 bus communication harness. Refer to Inspection of CANFD5 bus network integrity

Step 7:Check the CANFD6 bus communication harness. Refer to Inspection Of CANFD6 Bus Network Integrity

Step 8:Check the CANFD7 bus communication harness. Refer to Inspection Of CANFD7 Bus Network Integrity

Step 9:Check the CAN8 bus communication harness. Refer to Inspection Of CAN8 Bus Network Integrity

Step 10:Check the CANFD9 bus communication harness. Refer to Inspection Of CANFD9 Bus Network Integrity

Step 11:T-Gateway rewrites configuration codes, software reloads, upgrades.

Step 12:Replace the T-gateway. Refer to Replacement Of T Gateway

Step 13:Clear and confirm DTC.

7.15.5.12 TBOX Internal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B10FF96	Safety Chip Failure	command timeout	1. T-Gateway
B10FE96	CODEC Module Failure	codec Module initialization failed or Codec the module cannot communicate	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:T-Gateway rewrites configuration codes, software reloads, upgrades.

Step 4:Replace the T-gateway. Refer to Replacement Of T Gateway

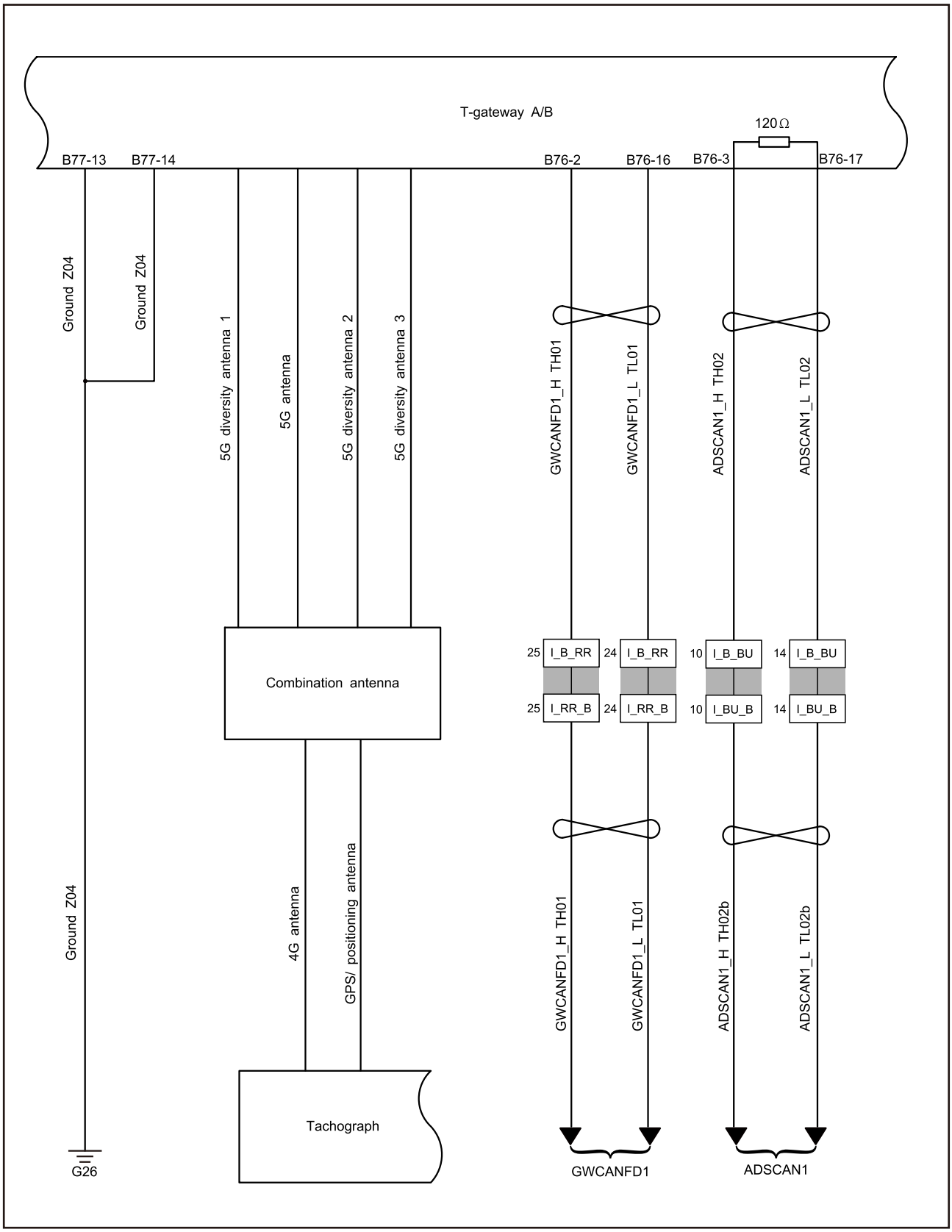
Step 5:Clear and confirm DTC.

7.15.5.13 Combination Antenna Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B10FA11	5G Antenna Shorted To The Ground	KL15 OFF->ON In 60s, a short circuit is detected for 5s	1. Wiring harness 2. Combination antenna 3. T-Gateway
B10FA13	5G Antenna Open Circuit	KL15 OFF->ON In 60s, an open circuit is detected for 5s	
B10F996	5G Module Failure	In normal mode, failure to connect to the network is detected for 10 minutes	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the T-gateway and the combination antenna.

Step 4:Replace the combination antenna. Refer to Replacement of combination antenna

Step 5:T-Gateway rewrites configuration codes, software reloads, upgrades.

Step 6:Replace the T-gateway. Refer to Replacement Of T Gateway

Step 7:Clear and confirm DTC.

7.15.5.14 TBOX Certificate Abnormality

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U10000A	Gateway certificate exception	Report a fault if the certificate is abnormal	1. T-Gateway
U10000B	Gateway certificate application failed	If the certificate application fails, a fault will be reported	
U10000C	Root certificate exception	The root certificate does not exist or its content is empty	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Reapply for the certificate.

Step 4:T-Gateway rewrites configuration codes, software reloads, upgrades.

Step 5:Replace the T-gateway. Refer to Replacement Of T Gateway

Step 6:Clear and confirm DTC.

7.15.5.15 Inspection Of CAN8 Bus Network Integrity

Step 1	Check the terminal resistance of CAN8 bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CAN8(H) and CAN8(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the CAN8 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CAN8 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CAN8 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
CAN8 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CAN8 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the CAN8 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the CAN8 bus.

C. Measure the CAN8 bus resistance between each module and the T-gateway sequentially to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of CAN8 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the CAN8 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the CAN8 bus.

Yes

Step 7	Disconnect the modules on the CAN8 bus in sequence and observe the bus communication voltage/resistance.

Disconnect the modules on the CAN8 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.15.5.16 Inspection Of CANFD1 Bus Network Integrity

Step 1	Check the terminal resistance of CANFD1 bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD1(H) and CANFD1(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the CANFD1 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
CANFD1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the CANFD1 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the CANFD1 bus.

C. Measure the CANFD1 bus resistance between each module and the T-gateway sequentially to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of CANFD1 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the CANFD1 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the CANFD1 bus.

Yes

Step 7	Disconnect the modules on the CANFD1 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the CANFD1 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.15.5.17 Inspection Of CANFD3 Bus Network Integrity

Step 1	Check the CANFD3 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD3(H) and CANFD3(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the CANFD3 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD3 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD3 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
CANFD3 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD3 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the CANFD3 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the CANFD3 bus.

C. Measure the CANFD3 bus resistance between each module and the T-gateway sequentially to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of CANFD3 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the CANFD3 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the CANFD3 bus.

Yes

Step 7	Disconnect the modules on the CANFD3 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the CANFD3 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.15.5.18 Inspection Of CANFD4 Bus Network Integrity

Step 1	Check the CANFD4 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD4(H)与CANFD4 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the CANFD4 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD4 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD4 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
CANFD4 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD4 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the CANFD4 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the CANFD4 bus.

C. Measure the CANFD4 bus resistance between each module and the T-gateway sequentially to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of CANFD4 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the CANFD4 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the CANFD4 bus.

Yes

Step 7	Disconnect the modules on the CANFD4 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the CANFD4 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.15.5.19 Inspection of CANFD5 bus network integrity

Step 1	Check the CANFD5 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD5(H) and CANFD5(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the CANFD5 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD5 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD5 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
CANFD5 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD5 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the CANFD5 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the CANFD5 bus.

C. Measure the CANFD5 bus resistance between each module and the T-gateway sequentially to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of CANFD5 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the CANFD5 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the CANFD5 bus.

Yes

Step 7	Disconnect the modules on the CANFD5 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the CANFD5 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.15.5.20 Inspection Of CANFD7 Bus Network Integrity

Step 1	Check the CANFD7 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD7(H) and CANFD7(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the CANFD7 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD7 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD7 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
CANFD7 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD7 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the CANFD7 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the CANFD7 bus.

C. Measure the CANFD7 bus resistance between each module and the T-gateway sequentially to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of CANFD7 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the CANFD7 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the CANFD7 bus.

Yes

Step 7	Disconnect the modules on the CANFD7 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the CANFD7 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.15.5.21 Inspection Of CANFD9 Bus Network Integrity

Step 1	Check the CANFD9 bus terminal resistance.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD9(H) and CANFD9(L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the CANFD9 bus voltage.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
CANFD9 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD9 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
CANFD9 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
CANFD9 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the CANFD9 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the CANFD9 bus.

C. Measure the CANFD9 bus resistance between each module and the T-gateway sequentially to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of CANFD9 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the CANFD9 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the CANFD9 bus.

Yes

Step 7	Disconnect the modules on the CANFD9 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the CANFD9 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

7.15.6 Dismantling and Installation

7.15.6.1 Replacement of TGW

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Remove the front USB interface.

6 Remove the IP left access cover plate assembly.

7 Remove the left switch panel assembly.

8 Remove the left switch panel lower trim panel assembly.

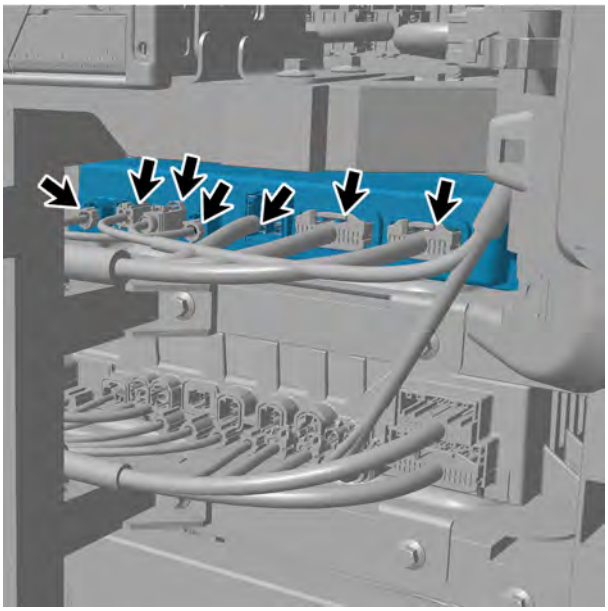
9 Remove the IP left lower trim panel assembly.

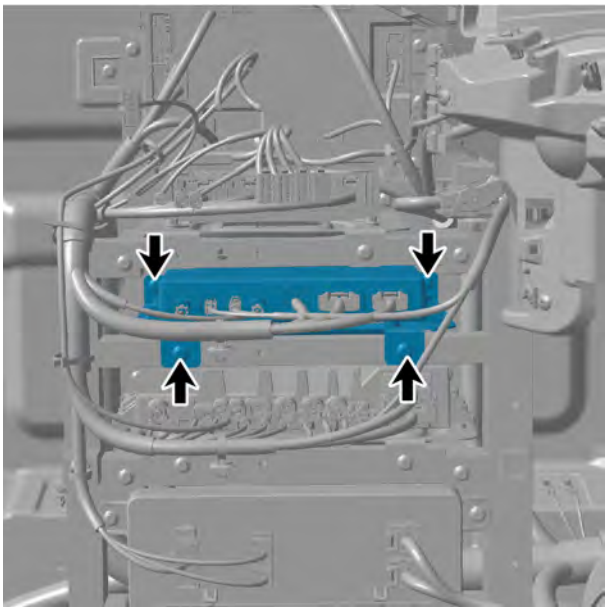
10 Remove the VTDR.

11 Remove the VTDR bracket.

12 Remove the left lower fixing bracket.

13 Disconnect 7 harness connectors of the TGW.

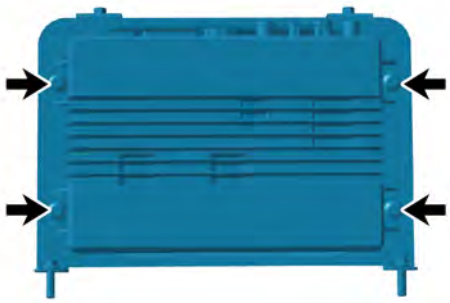




14 Remove 4 fixing bolts of the TGW with bracket, and remove the TGW with bracket.

15 Remove 4 fixing bolts of the TGW.

16 Remove the TGW.



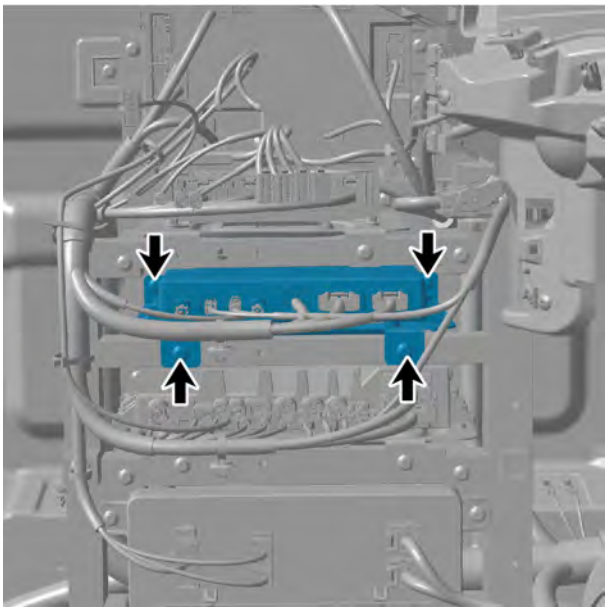
Installation Procedures



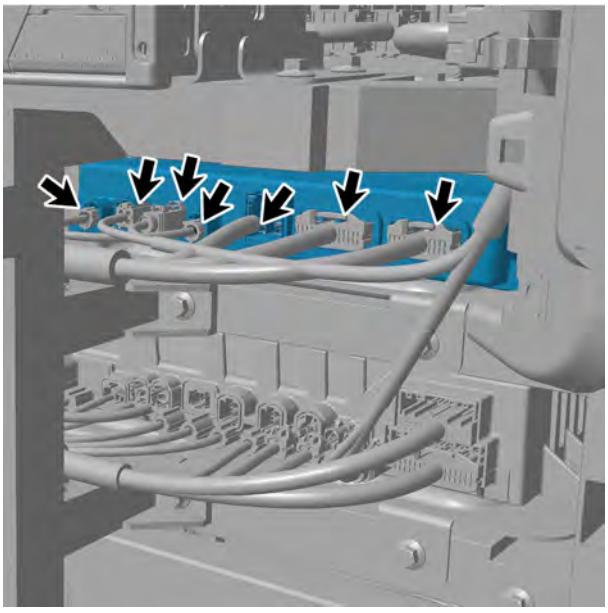
1 Move the TGW to the mounting position.

2 Install 4 fixing bolts of the TGW.

Torque:(6.5 +/+.75) ft lbs



3 Install the TGW with bracket, and install 4 fixing bolts of the TGW with bracket.



4 Connect 7 harness connectors of the TGW.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the left lower fixing bracket.

6 Install the VTDR bracket.

7 Install the VTDR.

8 Install the IP left lower trim panel assembly.

9 Install the left switch panel lower trim panel assembly.

10 Install the left switch panel assembly.

11 Install the IP left access cover plate assembly.

12 Install the IP left upper trim panel assembly.

13 Install the front USB interface.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

7.15.6.2 Replacement of Speaker - emergency Call

Removal Procedures

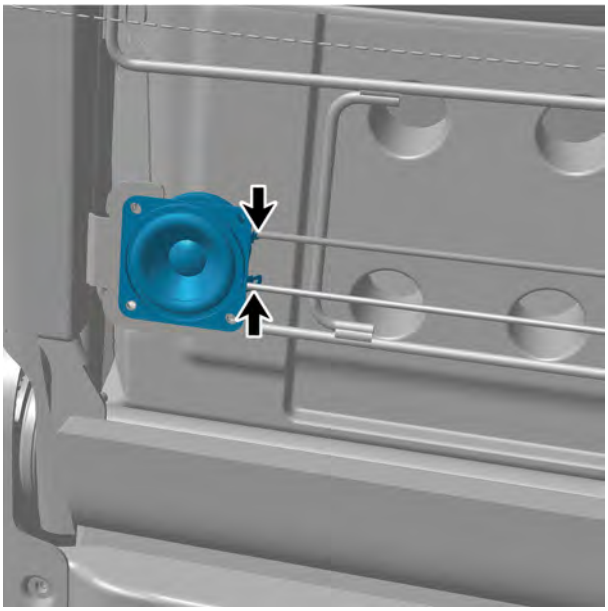
1 Open the door.

2 Open the front flip cover plate.

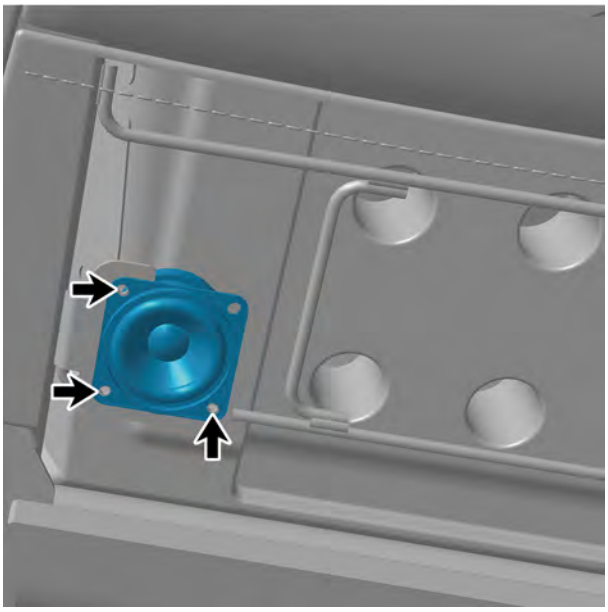
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



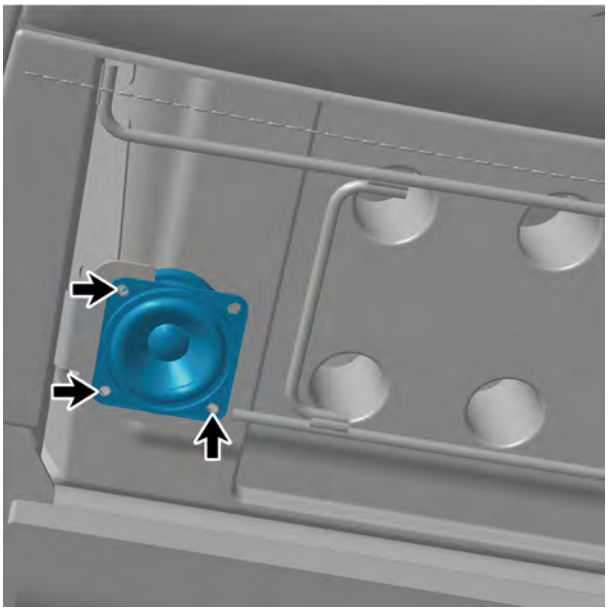
4 Pull open the seat backrest cushion, and disconnect 2 harness connectors of the speaker - emergency call.



5 Remove 3 fixing screws of the speaker - emergency call.

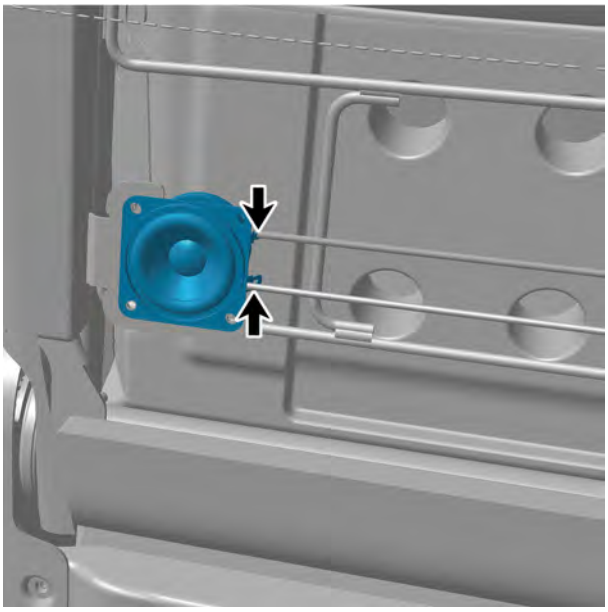
6 Remove the speaker - emergency call.

Installation Procedures



1 Move the speaker - emergency call to the mounting position.

2 Install 3 fixing screws of the speaker - emergency call.



3 Connect 2 harness connectors of the speaker - emergency call, and pull up the seat backrest cushion.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

7.15.6.3 Replacement of E-CALL Mic

Removal Procedures

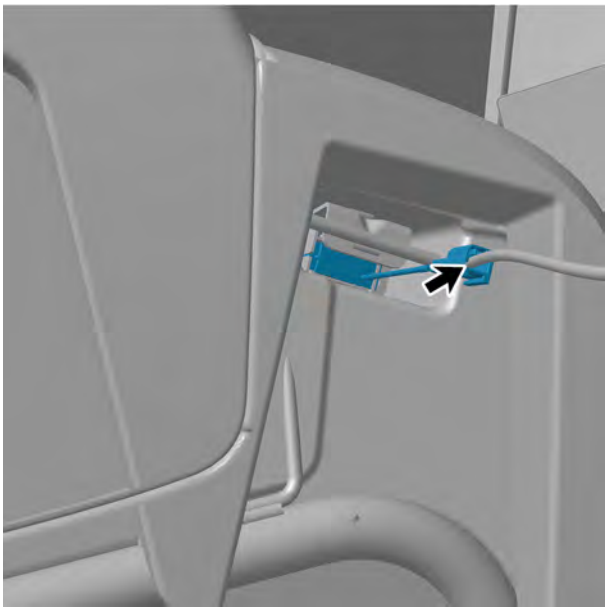
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

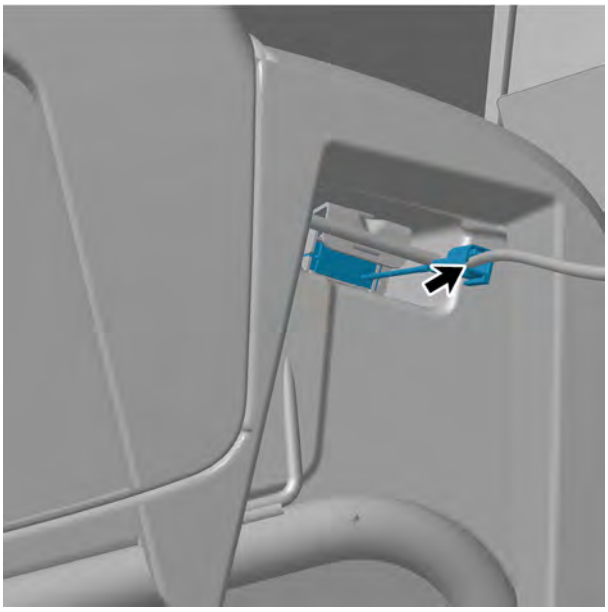
power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Pull open the seat backrest cushion, and disconnect 1 harness connector of the E-CALL Mic.

5 Remove the E-CALL Mic.

Installation Procedures



1 Move the E-CALL Mic to the mounting position.

2 Connect 1 harness connector of the E-CALL Mic, and pull up the seat backrest cushion.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Connect the battery negative cable.

4 Close the front flip cover plate.

5 Close the door.

7.15.6.4 Replacement of Combination Antenna

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the ip brim assy.

5 Remove the IVI screen.

6 Remove the CAR screen.

7 Remove the IPC screen.

8 Remove the upr cover- lh camera brkt.

9 Remove the camera monitor screen.

10 Remove the base-lh display brkt.

11 Remove the upr cover- rh camera brkt.

12 Remove the camera monitor screen-rh.

13 Remove the base-rh display brkt.

14 Remove the a-pillar guard assy-lh.

15 Remove the a-pillar guard assy-rh.

16 Remove the assembly of the instrument panel trim panel assy- lowerr lh.

17 Remove the front side enclosure assy-lh.

18 Remove the assembly of the cover assy-steering under column guard.

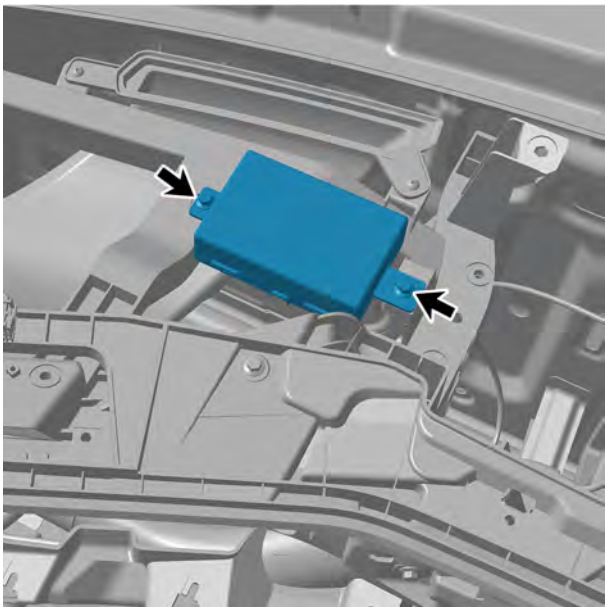
19 Remove the front side enclosure assy-rh.

20 Remove the ontology assy on the dashboard.

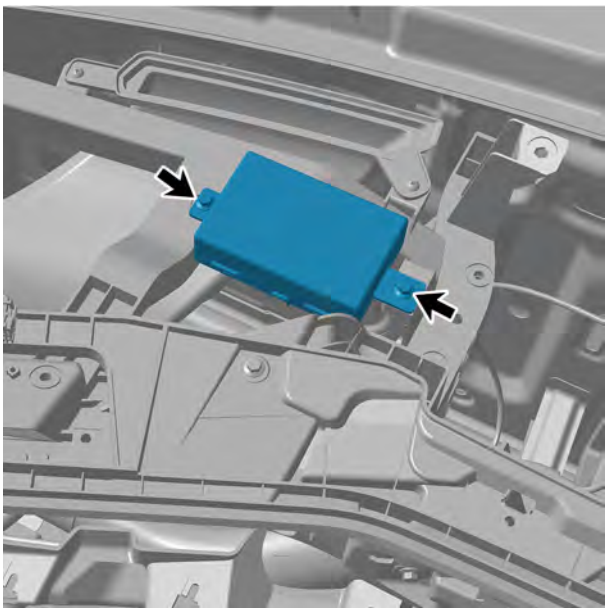
21 Disconnect the two wire harness connectors that connect the combined antenna to the Tbox-gw, and disconnect the two wire harness connectors that connect the combined antenna to the tachograph.

22 Remove 2 fixing bolts of the combination antenna.

23 Remove the combination antenna.



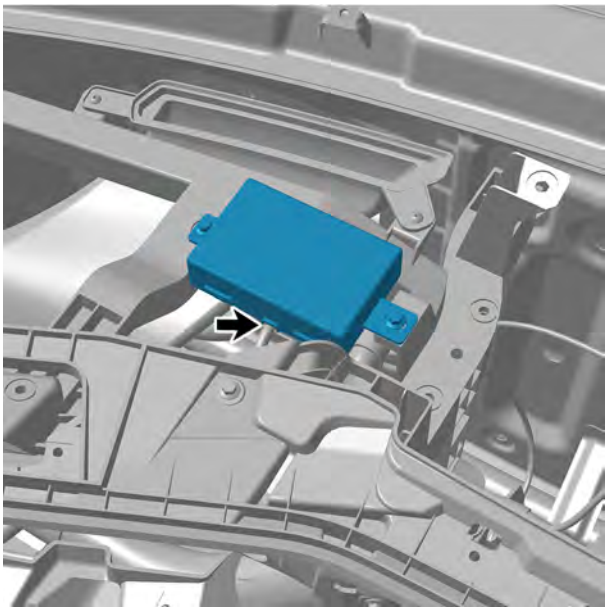
Installation Procedures



1 Move the combination antenna to the mounting position.

2 Install 2 fixing bolts of the combination antenna.

Torque: (6.5 +/- .75) ft lbs



3 Straighten out the wire harnesses, connect the two wire harness connectors that connect the combined antenna to the Tbox-gw, and connect the two wire harness connectors that connect the combined antenna to the tachograph.

caution

The wire harness should be plugged firmly, following the principle of "first plugging, second clicking, third confirming".

4 Install the ontology assy on the dashboard.

5 Install the front side enclosure assy-rh.

6 Install the assembly of the cover assy-steering under column guard.

7 Install the front side enclosure assy-lh.

8 Install the assembly of the instrument panel trim panel assy- lowerr lh.

9 Install the a-pillar guard assy-rh.

10 Install the a-pillar guard assy-lh.

11 Install the base-rh display brkt.

12 Install the camera monitor screen-rh.

13 Install the upr cover- rh camera brkt.

14 Install the base-lh display brkt.

15 Install the camera monitor screen.

16 Install the upr cover- lh camera brkt.

17 Install the IPC screen.

18 Install the CAR screen.

19 Install the IVI screen.

20 Install the ip brim assy.

21 Connect the battery negative cable.

22 Close the front flip cover plate.

23 Close the door.

7.15.6.5 Replacement of VTDR

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

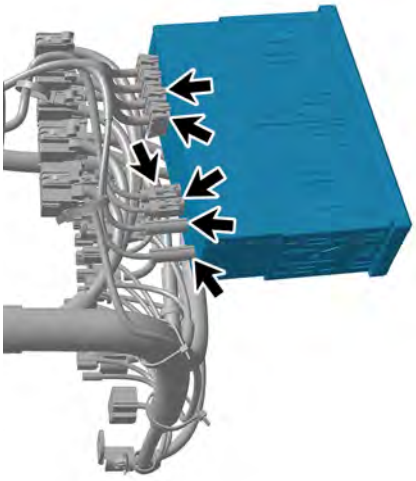
power down the high-voltage system before disconnecting the negative pole of the storage battery.



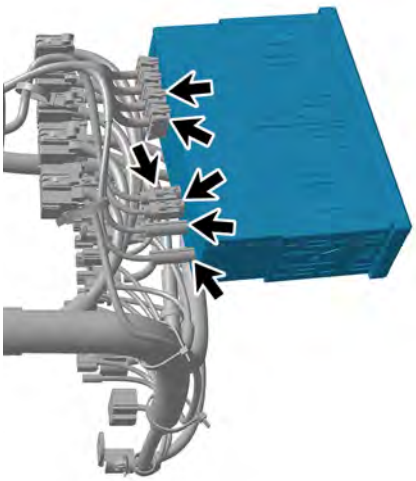
4 Insert and remove the VTDR from the two end holes using the built-in tool.

5 Disconnect 6 harness connectors of the VTDR.

6 Remove the VTDR.



Installation Procedures



1 Connect 6 harness connectors of the VTDR.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".



2 Slowly push the VTDR into the mounting position to install it.

3 Connect the battery negative cable.

4 Close the front flip cover plate.

5 Close the door.

7.15.6.6 Replacement of ETC

Removal Procedures

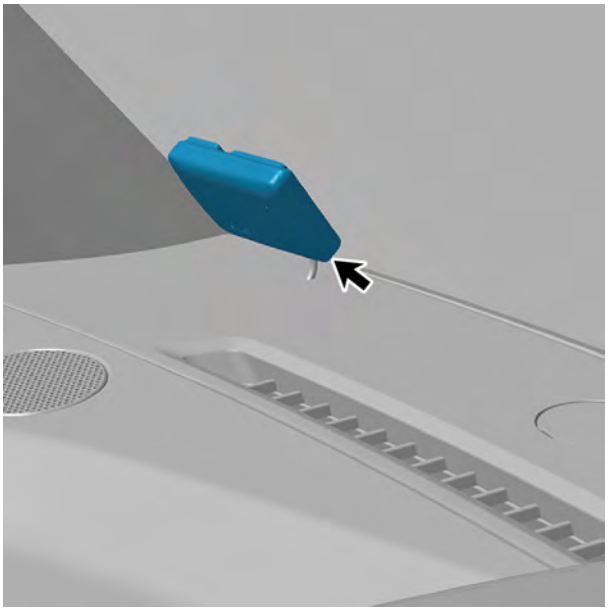
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

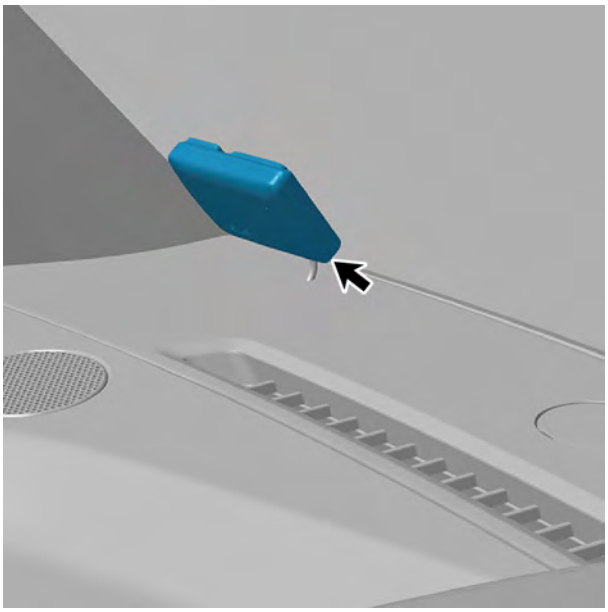
power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Disconnect 1 harness connector of the ETC.

5 Remove the ETC.

Installation Procedures



1 Move the ETC to the mounting position.

2 Connect 1 harness connector of the ETC.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Connect the battery negative cable.

4 Close the front flip cover plate.

5 Close the door.

7.16 Physical Exterior Rearview Mirror Device

7.16.1 Specifications

7.16.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the left physical exterior rearview mirror assembly and the white body assembly	M8	(18.5 +/- 2) ft lbs
The fixing nut connecting the right physical exterior rearview mirror assembly and the white body assembly	M8	(18.5 +/- 2) ft lbs

7.16.2 Dismantling and Installation

7.16.2.1 Replacement of Left Physical Exterior Rearview Mirror Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

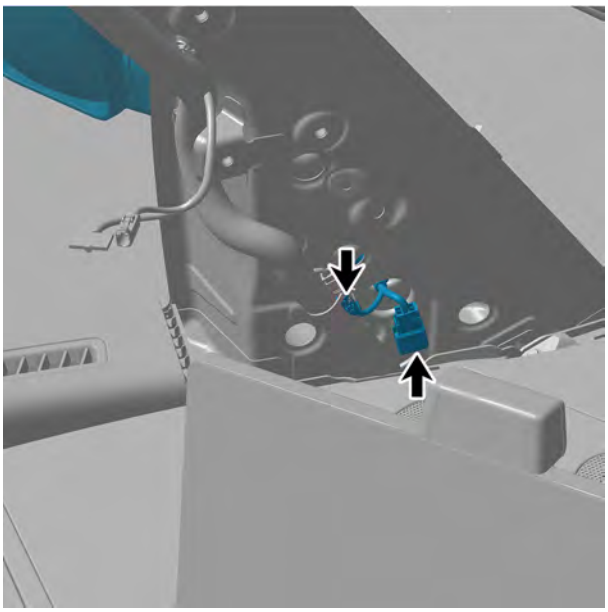
3 Disconnect the battery negative cable.

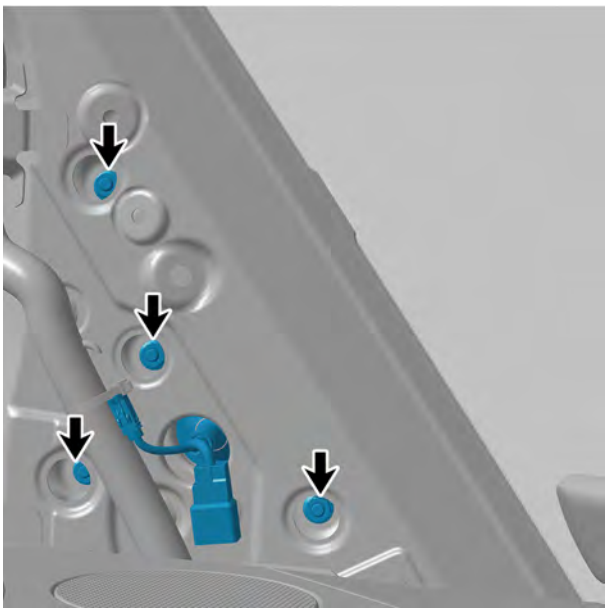
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the left A-pillar protective plate assembly.

5 Disconnect 2 harness connectors of the left physical exterior rearview mirror assembly.

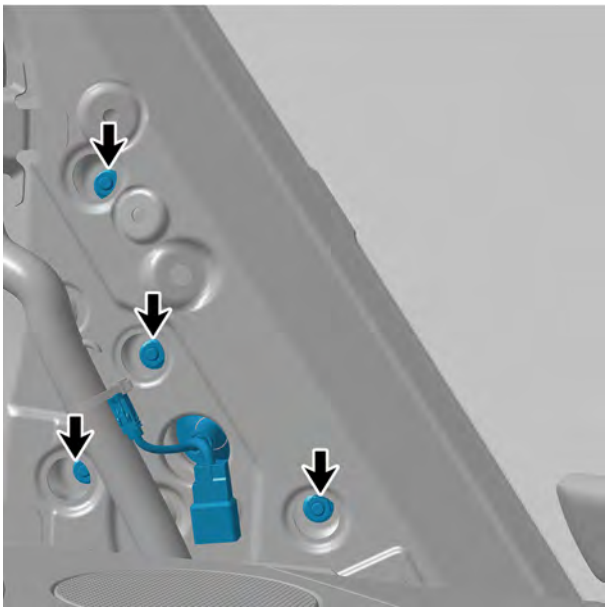




6 Remove 4 fixing nuts of the left physical exterior rearview mirror assembly.

7 Remove the left physical exterior rearview mirror assembly.

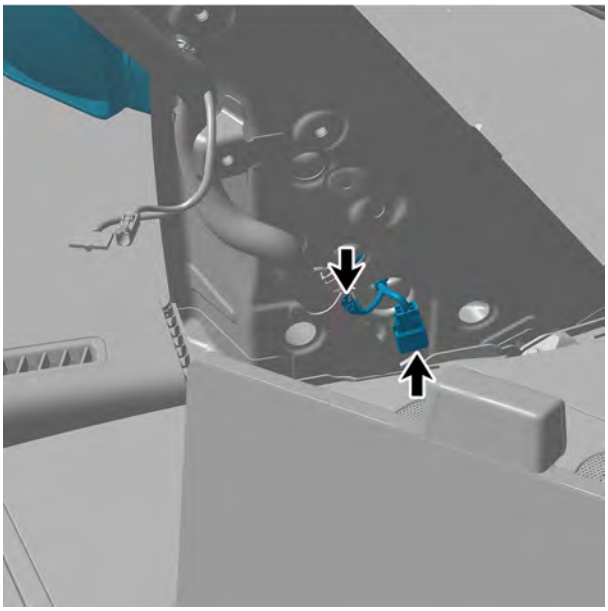
Installation Procedures



1 Move the left physical exterior rearview mirror assembly to the mounting position.

2 Install 4 fixing nuts of the left physical exterior rearview mirror assembly.

Torque: (18.5 +/- 2) ft lbs



3 Connect 2 harness connectors of the left physical exterior rearview mirror assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the left A-pillar protective plate assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.16.2.2 Replacement of Right Physical Exterior Rearview Mirror Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

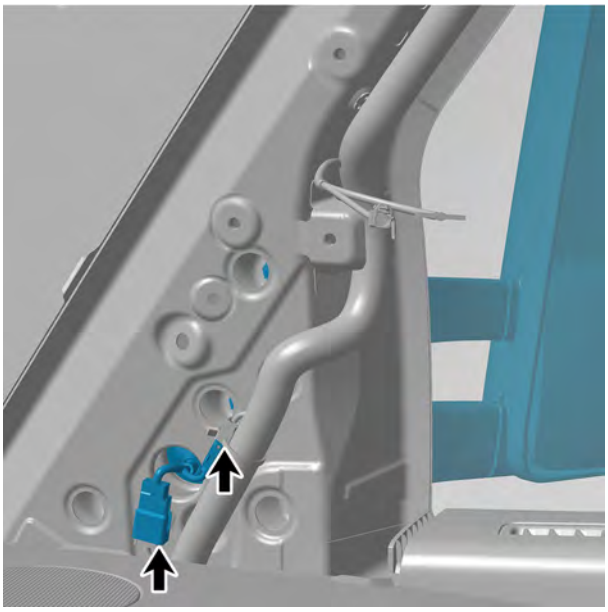
3 Disconnect the battery negative cable.

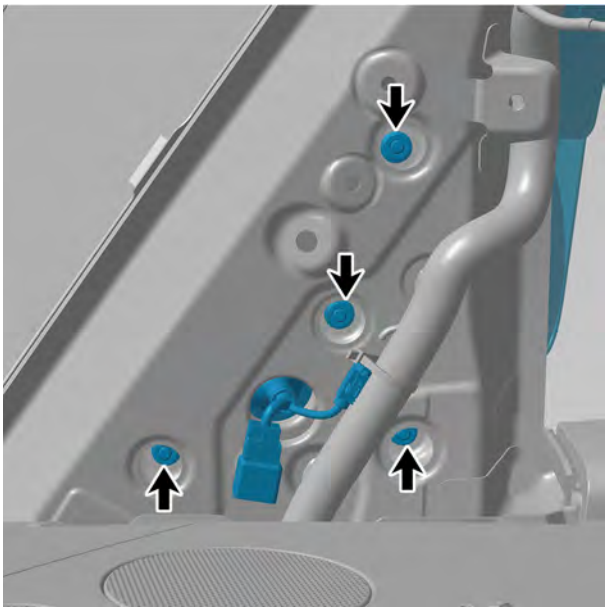
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the right A-pillar protective plate assembly.

5 Disconnect 2 harness connectors of the right physical exterior rearview mirror assembly.

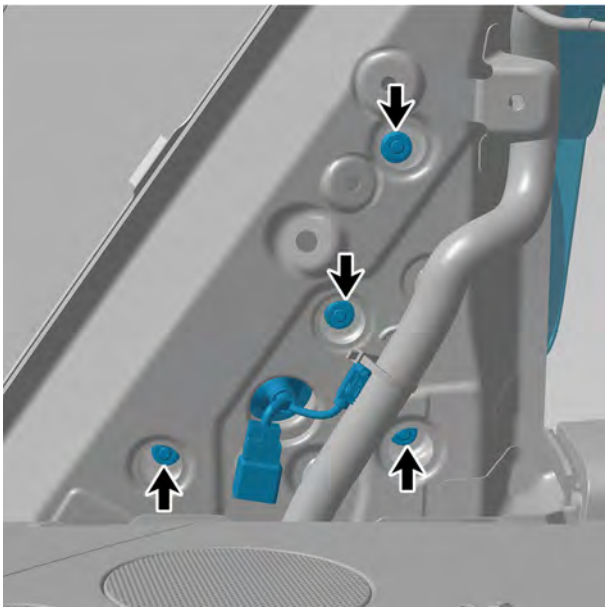




6 Remove 4 fixing nuts of the right physical exterior rearview mirror assembly.

7 Remove the right physical exterior rearview mirror assembly.

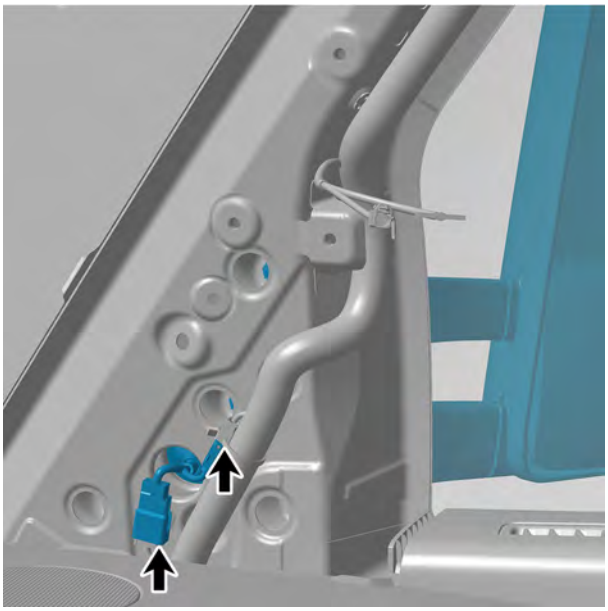
Installation Procedures



1 Move the right physical exterior rearview mirror assembly to the mounting position.

2 Install 4 fixing nuts of the right physical exterior rearview mirror assembly.

Torque:(18.5 +/- 2) ft lbs



3 Connect 2 harness connectors of the right physical exterior rearview mirror assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the right A-pillar protective plate assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

7.16.2.3 Replacement Of The Blind Spot Filling Camera

Removal Procedures

1 Open the car door.

2 Open the front flip cover.

3 Disconnect the negative cable of the storage battery.

caution

power off the high-voltage system before disconnecting the negative pole of the battery.

4 Remove the a-pillar guard assy-lh.

5 Remove the left physical exterior rearview mirror assembly.

6 Remove the lower lens of the physical exterior rearview mirror.

7 Remove the upper lens of the physical exterior rearview mirror.

8 Remove the inner mounting plate of the lens.

9 Remove the rear cover assembly of the physical exterior rearview mirror.

10 Remove the blind spot filling camera bracket.

11 Remove the blind spot filling camera.



Installation Procedures



1 Fit the Blind spot filling camera.

2 Install the blind spot filling camera bracket.

3 Install the rear cover assembly of the physical exterior rearview mirror.
4 Install the inner mounting plate of the lens.
5 Install the upper lens of the physical exterior rearview mirror.
6 Install the lower lens of the physical exterior rearview mirror.
7 Install the left physical exterior rearview mirror assembly.
8 Install the a-pillar guard assy-lh.
9 Connect the negative cable of the storage battery.
10 Close the front flip cover.
11 Close the car door.

8.1 Fifth Wheel Device

8.1.1 Specifications

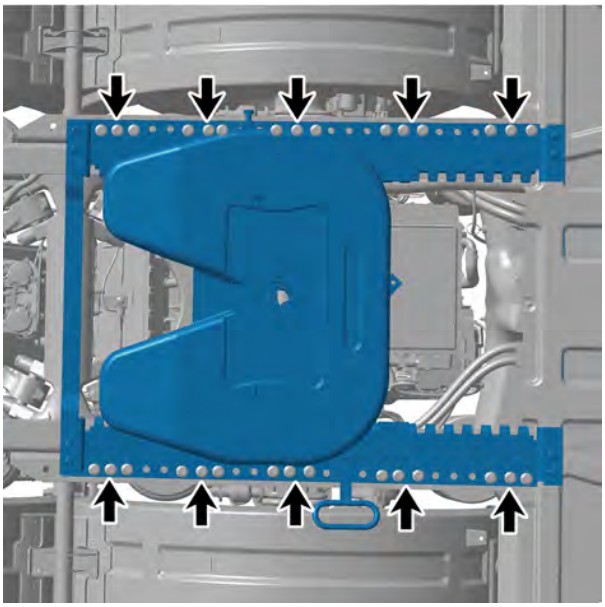
8.1.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the traction seat assembly and the corrugated plate	M16	240 +/- 18.5 (ft lbs)
The fixing nut connecting the traction seat assembly and the corrugated plate	M16	240 +/- 18.5 (ft lbs)
The fixing bolts connecting the corrugated plate and the frame assembly	M16	240 +/- 18.5 (ft lbs)
The fixing nut connecting the corrugated plate to the frame assembly	M16	240 +/- 18.5 (ft lbs)

8.1.2 Dismantling and Installation

8.1.2.1 Replacement of Fifth Wheel Assembly

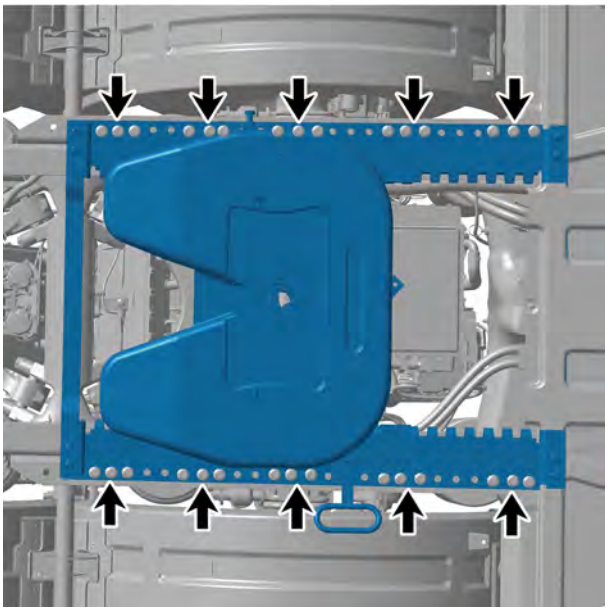
Removal Procedures



1 Remove 30 fixing nuts of the fifth wheel assembly front bracket.

2 Remove the fifth wheel assembly.

Installation Procedures



1 Move the fifth wheel assembly to the mounting position.

2 Install 30 fixing nuts of the fifth wheel assembly.

8.2 Vehicle Frame Device

8.2.1 Specifications

8.2.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
NCM - fixing bolts connecting the battery pack assembly (AVIC 161Ah) to the battery support	M12	88.5 +/- 6 (ft lbs)
NCM - fixing nut connecting battery pack assembly (AVIC 161Ah) to battery support	M12	88.5 +/- 6 (ft lbs)
The fixing bolt connecting the bottom inclined beam bracket 2 to the frame assembly	M12	88.5 +/- 6 (ft lbs)
The fixing nut connecting the bottom inclined beam bracket 2 to the frame assembly	M12	88.5 +/- 6 (ft lbs)
The fixing bolts connecting the lower protective installation bracket to the frame assembly	M20	420 +/- 14.75 (ft lbs)
The fixing bolts connecting the front beam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the front beam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolts connecting the middle cast crossbeam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the middle cast crossbeam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the middle cast crossbeam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the middle longitudinal beam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolt connecting the internal battery support (NCM) to the frame assembly	M14	155 +/- 14.75 (ft lbs)

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the internal battery support (NCM) to the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolt connecting the external battery support (NCM) to the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the external battery support (NCM) to the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolts connecting the external battery mounting plate to the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the external battery mounting plate to the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolts connecting the internal battery mounting plate to the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the internal battery mounting plate to the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolts connecting the lining beam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the lining beam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolts connecting the tail crossbeam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the tail crossbeam and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolts connecting the bThe fixing bolts connecting the first crossbeam and the front connecting beameam and the front connecting beam	M14	155 +/- 14.75 (ft lbs)
The fixing bolt connecting the first crossbeam 2 and the front connecting beam	M14	155 +/- 14.75 (ft lbs)

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
Fixed bolts connecting the pipe beam and X-shaped control arm assembly	M22	516 +/- 37 (ft lbs)
The fixing bolts connecting the pipe beam and the frame assembly	M14	155 +/- 14.75 (ft lbs)

8.2.2 Dismantling and Installation

8.2.2.1 Replacement of Frame Assembly

Removal Procedures

1 Release air pressure from the brake system.
2 Open the door.
3 Open the front flip cover plate.
4 Disconnect the battery negative cable.
5 Perform power-off of high voltage system.
6 Recycle A/C refrigerant.
7 Jack the front end of the vehicle.
8 Drain the transmission hydraulic oil.
9 Drain coolant from the power system.
10 Drain coolant from battery thermal management system.
11 Remove the left front wheel housing body.
12 Remove the right front wheel housing body.
13 Remove the left front wheel housing rear body.
14 Remove the right front wheel housing rear body.
15 Remove the roof deflector body.
16 Remove the roof deflector middle bracket.
17 Remove the left deflector upper body.
18 Remove the roof deflector mounting bracket.
19 Remove the left deflector lower body.
20 Remove the upper deflector mounting bracket.
21 Remove the right deflector upper body.
22 Remove the right deflector lower body.
23 Remove the back integrated bracket side cover plate assembly (left).
24 Remove the back integrated bracket side cover plate assembly (right).
25 Remove the back integrated bracket middle cover plate assembly.
26 Remove the back integrated bracket upper cover plate filler cap.
27 Remove the back integrated bracket upper cover plate.
28 Remove the engine compartment trim panel body.
29 Remove the through-type lamp.
30 Remove the front MMW radar shield.
31 Remove the forward MMW radar.
32 Remove the front MMW radar adapter bracket.

33 Remove the left cover plate of the corner radar.

34 Remove the right cover plate of the corner radar.

35 Remove the front bumper assembly.

36 Remove the left physical exterior rearview mirror assembly.

37 Remove the primary wiper arm blade assembly (nozzle and hose).

38 Remove the front windshield cover plate assembly.

39 Remove the left fender trim strip.

40 Remove the left fender assembly.

41 Remove the left front combination lamp.

42 Remove the left headlamp.

43 Remove the left headlamp bracket.

44 Remove the right triangular cover plate assembly.

45 Remove the right fender trim strip.

46 Remove the right fender assembly.

47 Remove the right front combination lamp.

48 Remove the right headlamp.

49 Remove the right headlamp bracket.

50 Remove the left side wall lower trim panel assembly.

51 Remove the side wall upper mounting bracket assembly 2.

52 Remove the left side wall mounting bracket 1.

53 Remove the left side wall mounting bracket 2.

54 Remove the left side wall lower trim panel mounting frame assembly.

55 Remove the lamp (upper).

56 Remove the lamp (lower).

57 Remove the boarding step body assembly.

58 Remove the boarding step bracket.

59 Remove the upper wheel housing connecting bracket.

60 Remove the lower wheel housing connecting bracket.

61 Remove the boarding step tubular beam.

62 Remove the frame main truss.

63 Remove the BIW assembly.

64 Remove the electric horn assembly - low-pitch.

65 Remove the electric horn assembly - high-pitch.

66 Remove the sealing cross beam.

67 Remove the MMW radar bracket.

68 Remove the front lower protection assembly.

69 Remove the deflector assembly.

70 Remove the condenser.

71 Remove the front end module.

72 Remove the guide wheel (left).

73 Remove the front spring left upper mounting plate.

74 Remove the pressure sensor assembly.

75 Remove the front air spring assembly (left).

76 Remove the brake chamber (left).

77 Remove the front shock absorber assembly (left).

78 Remove the left front wheel end assembly.

79 Remove the ABS sensor (left).

80 Remove the guide wheel (right).

81 Remove the front spring right upper mounting plate.

82 Remove the front air spring assembly (right).

83 Remove the brake chamber (right).

84 Remove the front shock absorber assembly (right).

85 Remove the right front wheel end assembly.

86 Remove the ABS sensor (right).

87 Remove the steering fluid reservoir.

88 Remove the electric oil pump.

89 Remove the low pressure oil pipe.

90 Remove the high pressure oil pipe.

91 Remove the A/C compressor assembly.

92 Remove the integrated EHPS assembly.

93 Remove the driving rocker arm.

94 Remove the driven rocker arm.

95 Remove the ABS solenoid valve assembly.

96 Remove the brake hose assembly (left).

97 Remove the ABS solenoid valve bracket.

98 Remove the brake hose assembly (right).

99 Remove the brake pipe bundle assembly.

100 Remove the single channel module assembly.

101 Remove the electronic water pump (front).

102 Remove the electronic water pump (rear).

103 Remove the walking platform rear trim panel.

104 Remove the front walking platform.

105 Remove the shock absorber assembly (rear).

106 Remove the corrugated plate.

107 Removal the fifth wheel assembly.

108 Remove the drive wheel (front left).

109 Remove the rear left wheel housing middle body assembly.

110 Removal the rear wheel housing left front assembly.

111 Remove the rear air spring assembly - 260 (left front).

112 Remove the rear air spring assembly - 280 (left front).

113 Remove the longitudinal thrust rod assembly.

114 Remove the rear spring U-bolt.

115 Remove the rear spring U-bolt 2.

116 Remove the balance beam (left).

117 Remove the drive wheel (right front)

118 Remove the rear wheel housing right front assembly.

119 Remove the rear air spring assembly - 260 (right front).

120 Remove the rear air spring assembly - 280 (right front).

121 Remove the balance beam (right).

122 Remove the X-shaped control arm assembly (front).

123 Remove the integrated axle - intermediate axle.

124 Remove the drive wheel (rear left).

125 Remove the height adjustment device assembly (left).

126 Remove the rear air spring assembly - 260 (rear left).

127 Remove the rear air spring assembly - 280 (rear left).

128 Remove the drive wheel (rear right).

129 Remove the height adjustment device assembly (right).

130 Remove the rear air spring assembly - 260 (rear right).

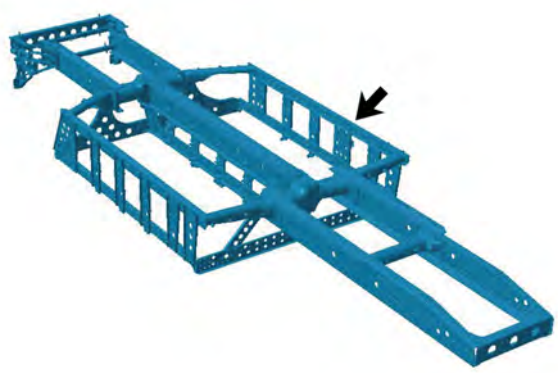
131 Remove the rear air spring assembly - 280 (rear right).

132 Remove the dual channel module assembly.

133 Remove the X-shaped control arm assembly (rear).

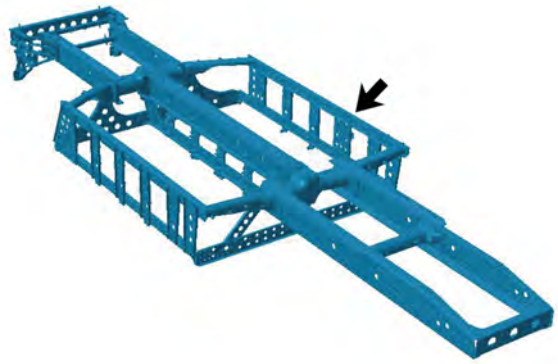
134 Remove the integrated axle - rear axle.

135 Remove the frame assembly.



Installation Procedures

1 Install the frame assembly.



2 Install the integrated axle - rear axle.

3 Install the X-shaped control arm assembly (rear).

4 Install the dual channel module assembly.

5 Install the rear air spring assembly - 280 (rear right).

6 Install the rear air spring assembly - 260 (rear right).

7 Install the height adjustment device assembly (right).

8 Install the drive wheel (rear right).

9 Install the rear air spring assembly - 280 (rear left).

10 Install the rear air spring assembly - 260 (rear left).

11 Install the height adjustment device assembly (left).

12 Install the drive wheel (rear left).

13 Install the integrated axle - intermediate axle.

14 Install the X-shaped control arm assembly (front).

15 Install the balance beam (right).

16 Install the rear air spring assembly - 280 (right front).

17 Install the rear air spring assembly - 260 (right front).

18 Install the rear wheel housing right front assembly.

19 Install the drive wheel (right front).

20 Install the balance beam (left).

21 Install the rear spring U-bolt 2.

22 Install the rear spring U-bolt.

23 Install the longitudinal thrust rod assembly.

24 Install the rear air spring assembly - 280 (left front).

25 Install the rear air spring assembly - 260 (left front).

26 Install the rear wheel housing left front assembly.

27 Install the drive wheel (left front).

28 Install the fifth wheel assembly.

29 Install the corrugated plate.

30 Install the shock absorber assembly (rear).

31 Install the front walking platform.

32 Install the walking platform rear trim panel.

33 Install the electronic water pump (rear).

34 Install the electronic water pump (front).

35 Install the single channel module assembly.

36 Install the brake pipe bundle assembly.

37 Install the brake hose assembly (right).

38 Install the ABS solenoid valve bracket.

39 Install the brake hose assembly (left).

40 Install the ABS solenoid valve assembly.

41 Install the driven rocker arm.

42 Install the driving rocker arm.

43 Install the integrated EHPS assembly.

44 Install the A/C compressor assembly.

45 Install the high pressure oil pipe.

46 Install the low pressure oil pipe.

47 Install the electric oil pump.

48 Install the steering fluid reservoir.

49 Install the ABS sensor (right).

50 Install the right front wheel end assembly.
51 Install the front shock absorber assembly (right).
52 Install the brake chamber (right).
53 Install the front air spring assembly (right).
54 Install the front spring right upper mounting plate.
55 Install the guide wheel (right).
56 Install the ABS sensor (left).
57 Install the left front wheel end assembly.
58 Install the front shock absorber assembly (left).
59 Install the brake chamber (left).
60 Install the front air spring assembly (left).
61 Install the pressure sensor assembly.
62 Install the front spring left upper mounting plate.
63 Install the guide wheel (left).
64 Install the front end module.
65 Install the condenser.
66 Install the deflector assembly.
67 Install the front lower protection assembly.
68 Install the MMW radar bracket.
69 Install the sealing cross beam.
70 Install the electric horn assembly - high-pitch.
71 Install the electric horn assembly - low-pitch.
72 Install the BIW assembly.
73 Install the frame main truss.
74 Install the right deflector lower body.
75 Install the left deflector lower body.
76 Install the boarding step tubular beam.
77 Install the lower wheel housing connecting bracket.
78 Install the upper wheel housing connecting bracket.
79 Install the boarding step bracket.
80 Install the boarding step body assembly.
81 Install the lamp (lower).
82 Install the lamp (upper).
83 Install the left side wall lower trim panel mounting frame assembly.
84 Install the left side wall mounting bracket 2.
85 Install the left side wall mounting bracket 1.
86 Install the side wall upper mounting bracket assembly 2.

87 Install the left side wall lower trim panel assembly.

88 Install the right headlamp bracket.

89 Install the right headlamp.

90 Install the right front combination lamp.

91 Install the right fender assembly.

92 Install the right fender trim strip.

93 Install the right triangular cover plate assembly.

94 Install the left headlamp bracket.

95 Install the left headlamp.

96 Install the left front combination lamp.

97 Install the left fender assembly.

98 Install the left fender trim strip.

99 Install the front windshield cover plate assembly.

100 Install the primary wiper arm blade assembly (nozzle and hose).

101 Install the left physical exterior rearview mirror assembly.

102 Install the front bumper assembly.

103 Install the right cover plate of the corner radar.

104 Install the left cover plate of the corner radar.

105 Install the front MMW radar adapter bracket.

106 Install the forward MMW radar.

107 Install the front MMW radar shield.

108 Install the through-type lamp.

109 Install the engine compartment trim panel body.

110 Install the back integrated bracket upper cover plate.

111 Install the back integrated bracket upper cover plate filler cap.

112 Install the back integrated bracket middle cover plate assembly.

113 Install the back integrated bracket side cover plate assembly (right).

114 Install the back integrated bracket side cover plate assembly (left).

115 Install the right deflector upper body.

116 Install the upper deflector mounting bracket.

117 Install the deflector mounting bracket.

118 Install the left deflector upper body.

119 Install the roof deflector middle bracket.

120 Install the roof deflector body.

121 Install the rear end-outline marker lamp mounting bracket.

122 Install the rear end-outline marker lamp.

123 Install the right front wheel housing rear body.

124 Install the left front wheel housing rear body.

125 Install the right front wheel housing body.

126 Install the left front wheel housing body.

127 Fill coolant in the battery thermal management system.

128 Lower the front end of the vehicle.

129 Fill with A/C refrigerant.

130 Perform power-on of the high voltage system.

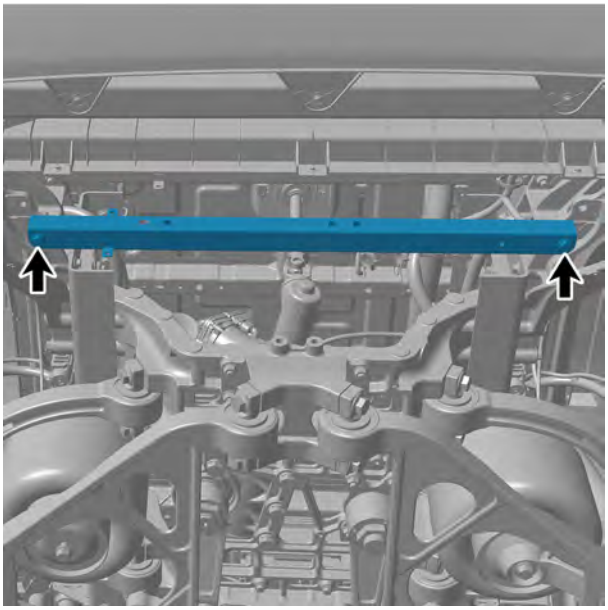
131 Connect the battery negative cable.

132 Close the front flip cover plate.

133 Close the door.

8.2.2.2 Replacement of Head Cross Beam 2

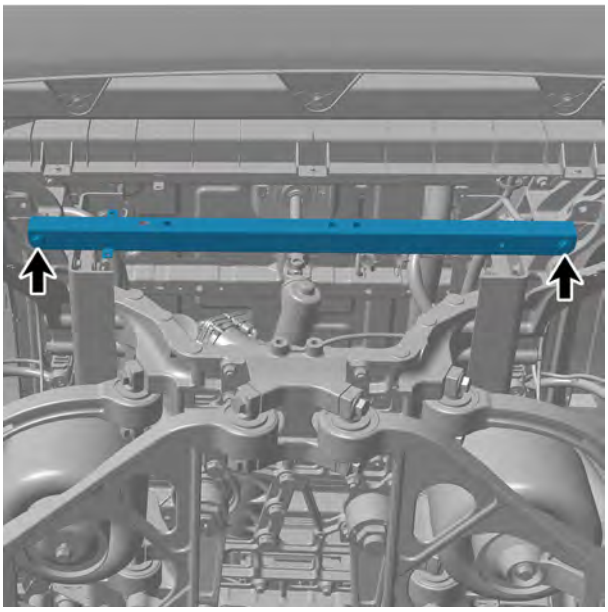
Removal Procedures



1 Remove 2 fixing bolts and nuts of the head cross beam 2.

2 Remove the head cross beam 2.

Installation Procedures



1 Move the head cross beam 2 to the mounting position.

2 Install 2 fixing bolts and nuts of the head cross beam 2.

Torque:140 - 170 (ft lbs)

8.2.2.3 Replacement of Left Front Joint Beam

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

5 Perform power-off of high voltage system.

6 Recycle A/C refrigerant.

7 Jack the front end of the vehicle.

8 Drain coolant from the power system.

9 Drain coolant from battery thermal management system.

10 Remove the left front wheel housing body.

11 Remove the right front wheel housing body.

12 Remove the left front wheel housing rear body.

13 Remove the right front wheel housing rear body.

14 Remove the roof deflector body.

15 Remove the roof deflector middle bracket.

16 Remove the left deflector upper body.

17 Remove the roof deflector mounting bracket.

18 Remove the left deflector lower body.

19 Remove the upper deflector mounting bracket.

20 Remove the right deflector upper body.

21 Remove the right deflector lower body.

22 Remove the back integrated bracket side cover plate assembly (left).

23 Remove the back integrated bracket side cover plate assembly (right).

24 Remove the back integrated bracket middle cover plate assembly.

25 Remove the back integrated bracket upper cover plate filler cap.

26 Remove the back integrated bracket upper cover plate.

27 Remove the engine compartment trim panel body.

28 Remove the through-type lamp.

29 Remove the front MMW radar shield.

30 Remove the forward MMW radar.

31 Remove the front MMW radar adapter bracket.

32 Remove the left cover plate of the corner radar.

33 Remove the right cover plate of the corner radar.

34 Remove the front bumper assembly.

35 Remove the left physical exterior rearview mirror assembly.

36 Remove the primary wiper arm blade assembly (nozzle and hose).

37 Remove the front windshield cover plate assembly.

38 Remove the left fender trim strip.

39 Remove the left fender assembly.

40 Remove the left front combination lamp.

41 Remove the left headlamp.

42 Remove the left headlamp bracket.

43 Remove the right triangular cover plate assembly.

44 Remove the right fender trim strip.

45 Remove the right fender assembly.

46 Remove the right front combination lamp.

47 Remove the right headlamp.

48 Remove the right headlamp bracket.

49 Remove the left side wall lower trim panel assembly.

50 Remove the side wall upper mounting bracket assembly 2.

51 Remove the left side wall mounting bracket 1.

52 Remove the left side wall mounting bracket 2.

53 Remove the left side wall lower trim panel mounting frame assembly.

54 Remove the lamp (upper).

55 Remove the lamp (lower).

56 Remove the boarding step body assembly.

57 Remove the boarding step bracket.

58 Remove the upper wheel housing connecting bracket.

59 Remove the lower wheel housing connecting bracket.

60 Remove the boarding step tubular beam.

61 Remove the frame main truss.

62 Remove the BIW assembly.

63 Remove the MMW radar bracket.

64 Remove the front lower protection assembly.

65 Remove the lower protection left mounting support.

66 Remove the sealing cross beam.

67 Remove the VDC assembly.

68 Remove the VDC bracket.

69 Remove the battery rod.

70 Remove the battery pressure plate 3.

71 Remove the battery pressure plate 2.

72 Remove the auxiliary battery.

73 Remove the battery backing plate.

74 Remove Left Junction Box.

75 Remove Right Junction Box.

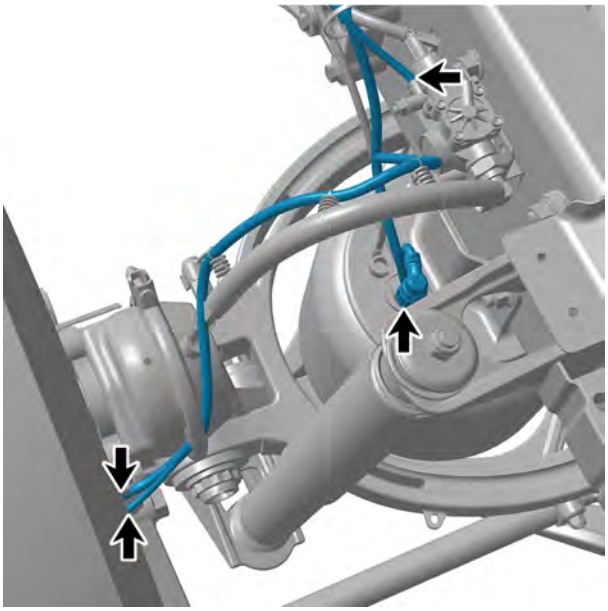
76 Remove the battery assembly bracket.

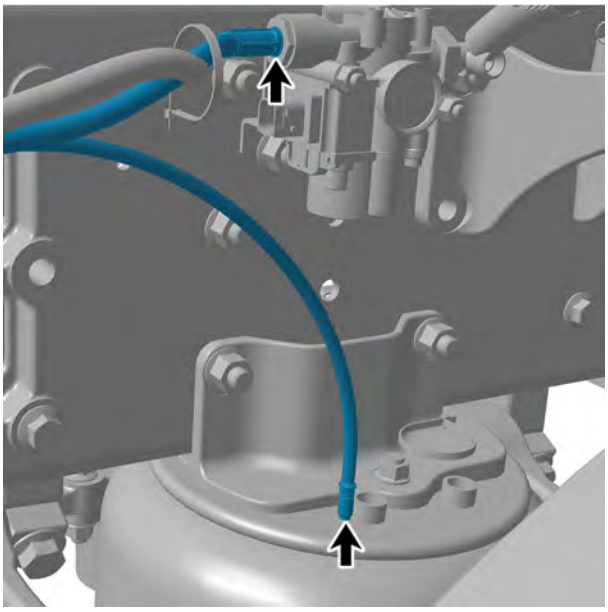
77 Removal the head cross beam.

78 Removal the head cross beam 2.

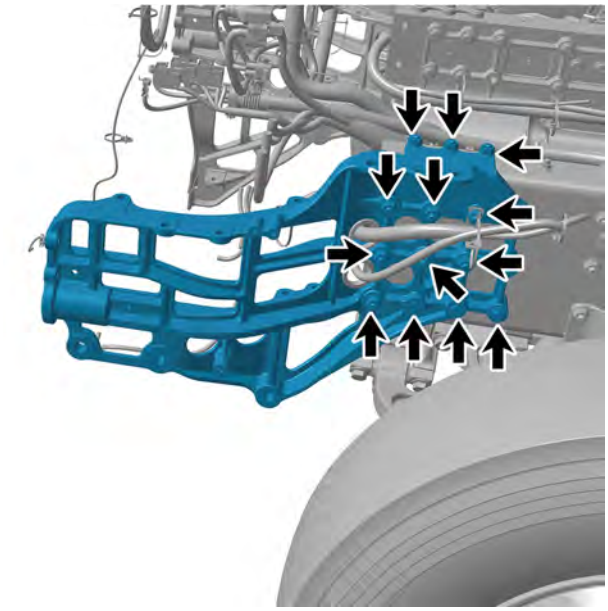
79 Remove the upper wheel housing mounting bracket (left).

80 Disconnect 4 harness connectors of the left front joint beam.





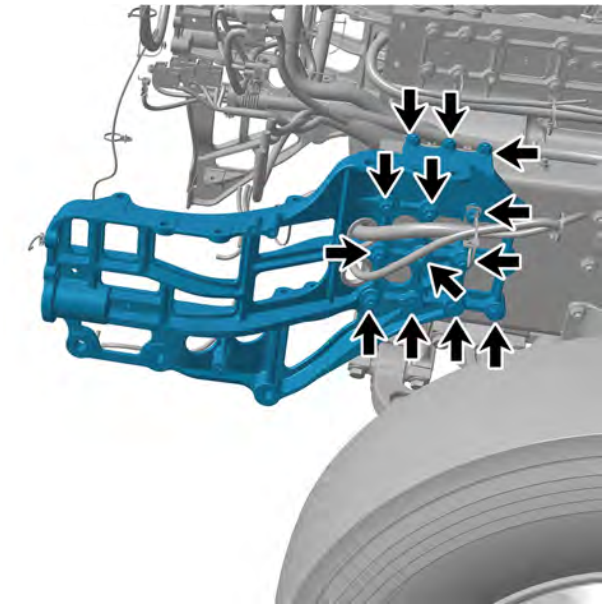
81 Disconnect 2 air pipes of the left front joint beam.



82 Remove 13 fixing bolts and nuts of the left front joint beam.

83 Remove the left front joint beam.

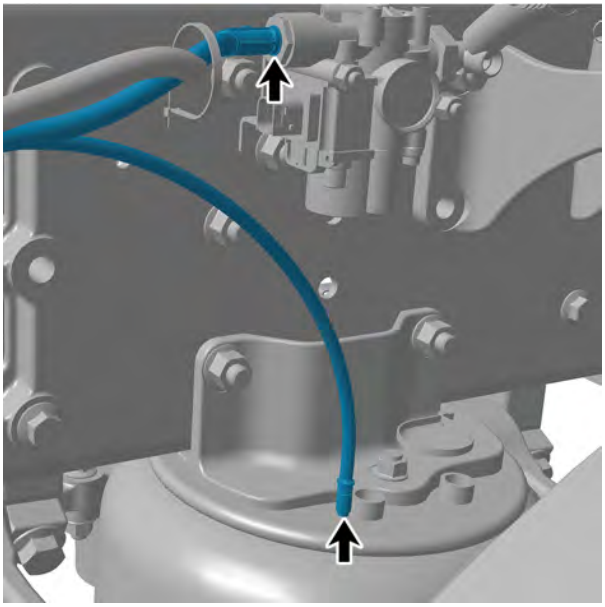
Installation Procedures



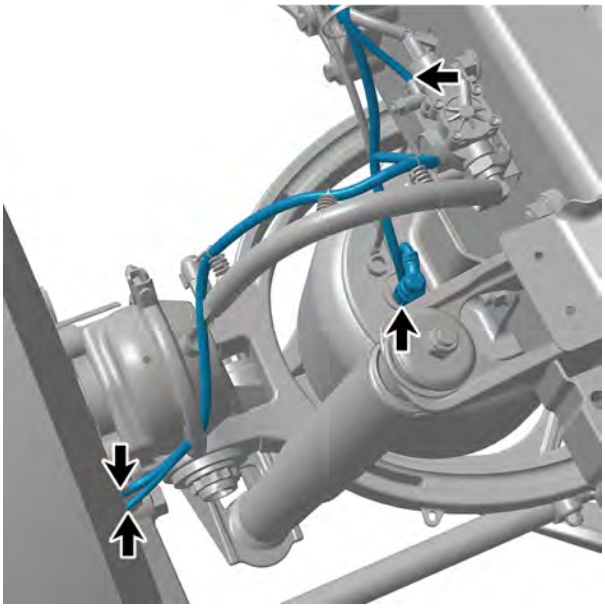
1 Move the left front joint beam to the mounting position.

2 Install 13 fixing bolts and nuts of the left front joint beam.

Torque: 140 +/- 170 (ft lbs)



3 Connect 2 air pipes of the left front joint beam.



4 Connect 4 harness connectors of the left front joint beam.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the upper wheel housing mounting bracket (left).
6 Install the head cross beam 2.
7 Install the head cross beam.
8 Install the battery assembly bracket.
9 Install Right Junction Box.
10 Install Left Junction Box.
11 Install the battery backing plate.
12 Install the auxiliary battery.
13 Install the battery pressure plate 2.
14 Install the battery pressure plate 3.
15 Install the battery rod.
16 Install the VDC bracket.
17 Install the VDC assembly.
18 Install the sealing cross beam.
19 Install the lower protection left mounting support.
20 Install the front lower protection assembly.
21 Install the MMW radar bracket.
22 Install the BIW assembly.
23 Install the frame main truss.
24 Install the right deflector lower body.
25 Install the left deflector lower body.
26 Install the boarding step tubular beam.
27 Install the lower wheel housing connecting bracket.
28 Install the upper wheel housing connecting bracket.
29 Install the boarding step bracket.
30 Install the boarding step body assembly.
31 Install the lamp (lower).
32 Install the lamp (upper).
33 Install the left side wall lower trim panel mounting frame assembly.
34 Install the left side wall mounting bracket 2.
35 Install the left side wall mounting bracket 1.
36 Install the side wall upper mounting bracket assembly 2.
37 Install the left side wall lower trim panel assembly.
38 Install the right headlamp bracket.
39 Install the right headlamp.
40 Install the right front combination lamp.
41 Install the right fender assembly.

42 Install the right fender trim strip.

43 Install the right triangular cover plate assembly.

44 Install the left headlamp bracket.

45 Install the left headlamp.

46 Install the left front combination lamp.

47 Install the left fender assembly.

48 Install the left fender trim strip.

49 Install the front windshield cover plate assembly.

50 Install the primary wiper arm blade assembly (nozzle and hose).

51 Install the left physical exterior rearview mirror assembly.

52 Install the front bumper assembly.

53 Install the right cover plate of the corner radar.

54 Install the left cover plate of the corner radar.

55 Install the front MMW radar adapter bracket.

56 Install the forward MMW radar.

57 Install the front MMW radar shield.

58 Install the through-type lamp.

59 Install the engine compartment trim panel body.

60 Install the back integrated bracket upper cover plate.

61 Install the back integrated bracket upper cover plate filler cap.

62 Install the back integrated bracket middle cover plate assembly.

63 Install the back integrated bracket side cover plate assembly (right).

64 Install the back integrated bracket side cover plate assembly (left).

65 Install the right deflector upper body.

66 Install the upper deflector mounting bracket.

67 Install the deflector mounting bracket.

68 Install the left deflector upper body.

69 Install the roof deflector middle bracket.

70 Install the roof deflector body.

71 Install the right front wheel housing rear body.

72 Install the left front wheel housing rear body.

73 Install the right front wheel housing body.

74 Install the left front wheel housing body.

75 Fill coolant in the battery thermal management system.

76 Fill coolant in the power system.

77 Lower the front end of the vehicle.

78 Fill with A/C refrigerant.

79 Perform power-on of the high voltage system.

80 Connect the battery negative cable.

81 Close the front flip cover plate.

82 Close the door.

8.2.2.4 Replacement of Right Front Joint Beam

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

5 Perform power-off of high voltage system.

6 Recycle A/C refrigerant.

7 Jack the front end of the vehicle.

8 Drain coolant from the power system.

9 Drain coolant from battery thermal management system.

10 Remove the left front wheel housing body.

11 Remove the right front wheel housing body.

12 Remove the left front wheel housing rear body.

13 Remove the right front wheel housing rear body.

14 Remove the roof deflector body.

15 Remove the roof deflector middle bracket.

16 Remove the left deflector upper body.

17 Remove the roof deflector mounting bracket.

18 Remove the left deflector lower body.

19 Remove the upper deflector mounting bracket.

20 Remove the right deflector upper body.

21 Remove the right deflector lower body.

22 Remove the back integrated bracket side cover plate assembly (left).

23 Remove the back integrated bracket side cover plate assembly (right).

24 Remove the back integrated bracket middle cover plate assembly.

25 Remove the back integrated bracket upper cover plate filler cap.

26 Remove the back integrated bracket upper cover plate.

27 Remove the engine compartment trim panel body.

28 Remove the through-type lamp.

29 Remove the front MMW radar shield.

30 Remove the forward MMW radar.

31 Remove the front MMW radar adapter bracket.

32 Remove the left cover plate of the corner radar.

33 Remove the right cover plate of the corner radar.

34 Remove the front bumper assembly.

35 Remove the left physical exterior rearview mirror assembly.

36 Remove the primary wiper arm blade assembly (nozzle and hose).

37 Remove the front windshield cover plate assembly.

38 Remove the left fender trim strip.

39 Remove the left fender assembly.

40 Remove the left front combination lamp.

41 Remove the left headlamp.

42 Remove the left headlamp bracket.

43 Remove the right triangular cover plate assembly.

44 Remove the right fender trim strip.

45 Remove the right fender assembly.

46 Remove the right front combination lamp.

47 Remove the right headlamp.

48 Remove the right headlamp bracket.

49 Remove the left side wall lower trim panel assembly.

50 Remove the side wall upper mounting bracket assembly 2.

51 Remove the left side wall mounting bracket 1.

52 Remove the left side wall mounting bracket 2.

53 Remove the left side wall lower trim panel mounting frame assembly.

54 Remove the lamp (upper).

55 Remove the lamp (lower).

56 Remove the boarding step body assembly.

57 Remove the boarding step bracket.

58 Remove the upper wheel housing connecting bracket.

59 Remove the lower wheel housing connecting bracket.

60 Remove the boarding step tubular beam.

61 Remove the frame main truss.

62 Remove the BIW assembly.

63 Remove the MMW radar bracket.

64 Remove the front lower protection assembly.

65 Remove the lower protection right mounting support.

66 Remove the sealing cross beam.

67 Remove the VDC assembly.

68 Remove the VDC bracket.

69 Remove the battery rod.

70 Remove the battery pressure plate 3.

71 Remove the battery pressure plate 2.

72 Remove the auxiliary battery.

73 Remove the battery backing plate.

74 Remove Left Junction Box.

75 Remove Right Junction Box.

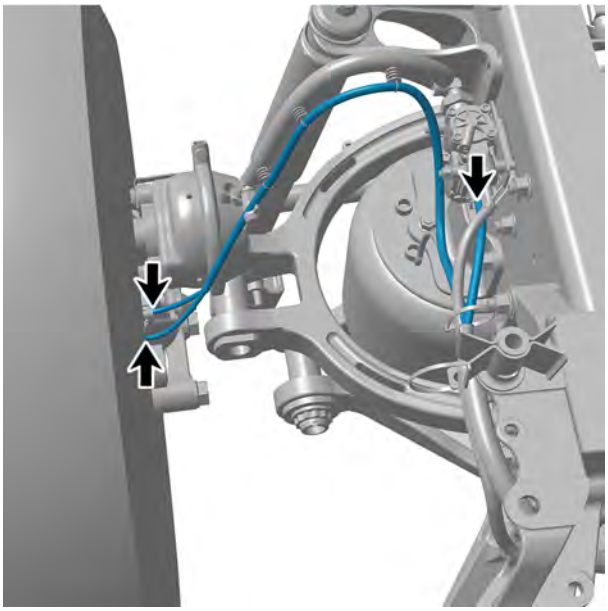
76 Remove the battery assembly bracket.

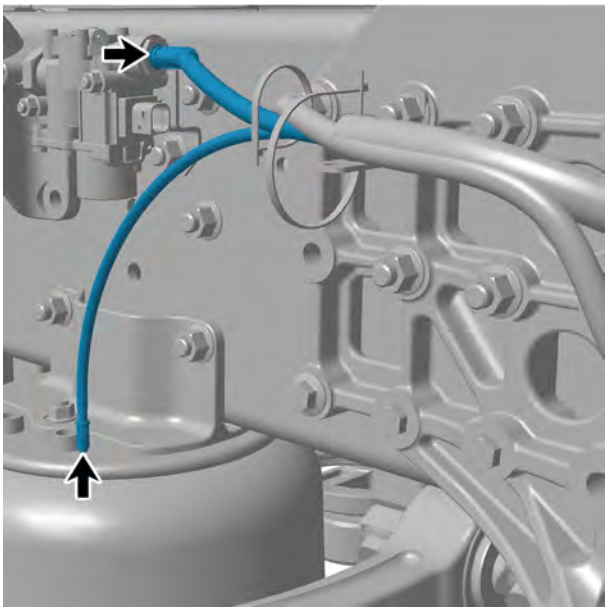
77 Removal the head cross beam.

78 Removal the head cross beam 2.

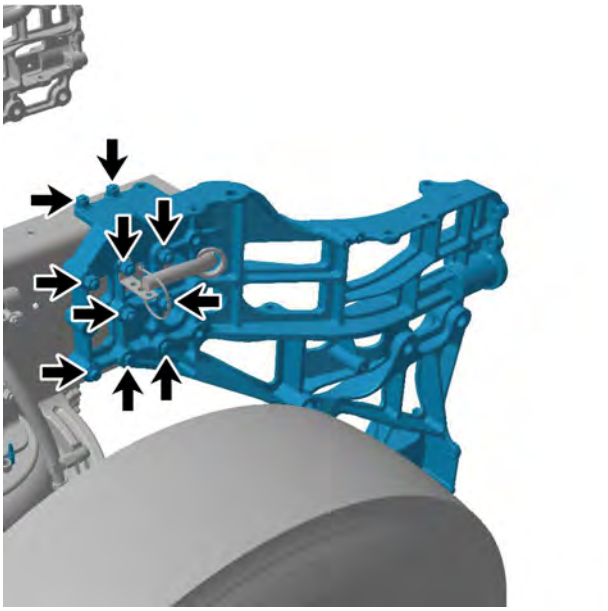
79 Remove the upper wheel housing mounting bracket (right).

80 Disconnect 3 harness connectors of the right front joint beam.





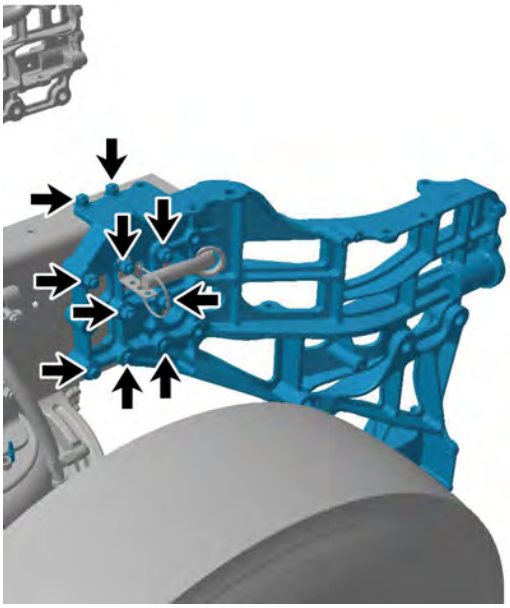
81 Disconnect 2 air pipes of the right front joint beam.



82 Remove 10 fixing bolts and nuts of the right front joint beam.

83 Remove the right front joint beam.

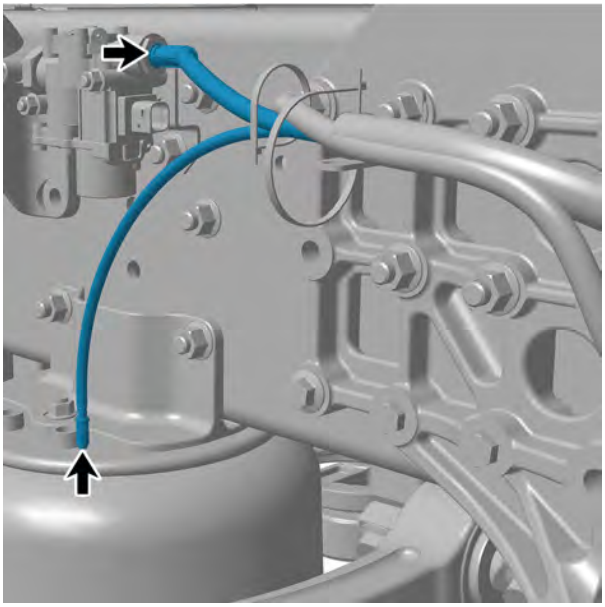
Installation Procedures



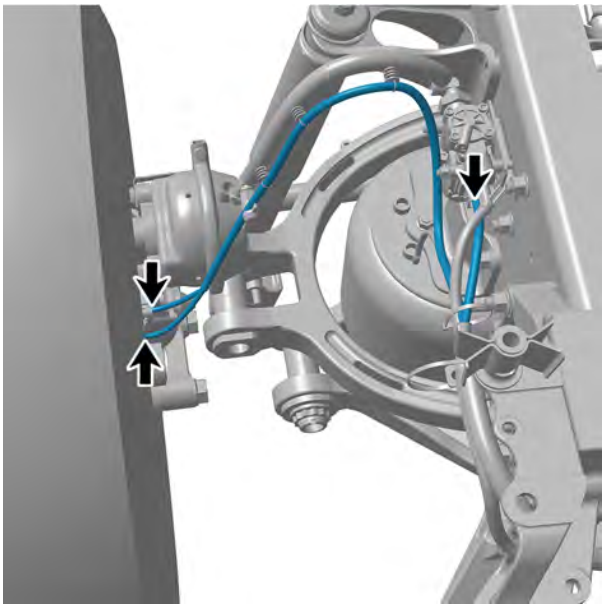
1 Move the right front joint beam to the mounting position.

2 Install 10 fixing bolts and nuts of the right front joint beam.

Torque: 140 +/- 170 (ft lbs)



3 Connect 2 air pipes of the right front joint beam.



4 Connect 3 harness connectors of the right front joint beam.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the upper wheel housing mounting bracket (right).
6 Install the head cross beam 2.
7 Install the head cross beam.
8 Install the battery assembly bracket.
9 Install Right Junction Box.
10 Install Left Junction Box.
11 Install the battery backing plate.
12 Install the auxiliary battery.
13 Install the battery pressure plate 2.
14 Install the battery pressure plate 3.
15 Install the battery rod.
16 Install the VDC bracket.
17 Install the VDC assembly.
18 Install the sealing cross beam.
19 Install the lower protection right mounting support.
20 Install the front lower protection assembly.
21 Install the MMW radar bracket.
22 Install the BIW assembly.
23 Install the frame main truss.
24 Install the right deflector lower body.
25 Install the left deflector lower body.
26 Install the boarding step tubular beam.
27 Install the lower wheel housing connecting bracket.
28 Install the upper wheel housing connecting bracket.
29 Install the boarding step bracket.
30 Install the boarding step body assembly.
31 Install the lamp (lower).
32 Install the lamp (upper).
33 Install the left side wall lower trim panel mounting frame assembly.
34 Install the left side wall mounting bracket 2.
35 Install the left side wall mounting bracket 1.
36 Install the side wall upper mounting bracket assembly 2.
37 Install the left side wall lower trim panel assembly.
38 Install the right headlamp bracket.
39 Install the right headlamp.
40 Install the right front combination lamp.
41 Install the right fender assembly.

42 Install the right fender trim strip.

43 Install the right triangular cover plate assembly.

44 Install the left headlamp bracket.

45 Install the left headlamp.

46 Install the left front combination lamp.

47 Install the left fender assembly.

48 Install the left fender trim strip.

49 Install the front windshield cover plate assembly.

50 Install the primary wiper arm blade assembly (nozzle and hose).

51 Install the left physical exterior rearview mirror assembly.

52 Install the front bumper assembly.

53 Install the right cover plate of the corner radar.

54 Install the left cover plate of the corner radar.

55 Install the front MMW radar adapter bracket.

56 Install the forward MMW radar.

57 Install the front MMW radar shield.

58 Install the through-type lamp.

59 Install the engine compartment trim panel body.

60 Install the back integrated bracket upper cover plate.

61 Install the back integrated bracket upper cover plate filler cap.

62 Install the back integrated bracket middle cover plate assembly.

63 Install the back integrated bracket side cover plate assembly (right).

64 Install the back integrated bracket side cover plate assembly (left).

65 Install the right deflector upper body.

66 Install the upper deflector mounting bracket.

67 Install the deflector mounting bracket.

68 Install the left deflector upper body.

69 Install the roof deflector middle bracket.

70 Install the roof deflector body.

71 Install the right front wheel housing rear body.

72 Install the left front wheel housing rear body.

73 Install the right front wheel housing body.

74 Install the left front wheel housing body.

75 Fill coolant in the battery thermal management system.

76 Fill coolant in the power system.

77 Lower the front end of the vehicle.

78 Fill with A/C refrigerant.

79 Perform power-on of the high voltage system.

80 Connect the battery negative cable.

81 Close the front flip cover plate.

82 Close the door.

8.2.2.5 Replacement of Tail Cross Beam

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the air reservoir assembly (rear).

6 Remove the license plate lamp.

7 Remove the rear license plate mounting plate assembly.

8 Remove the left rear combination lamp.

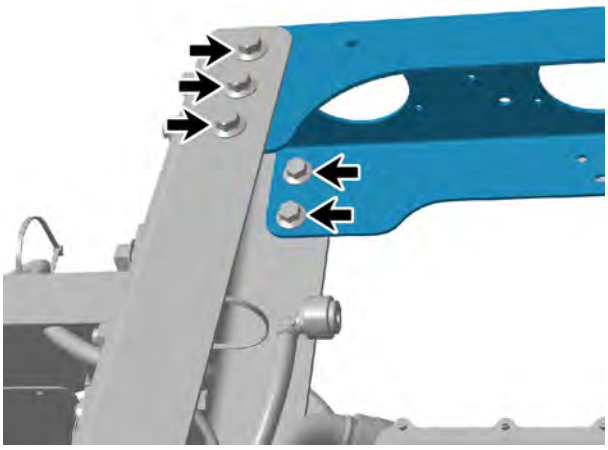
9 Remove the right rear combination lamp.

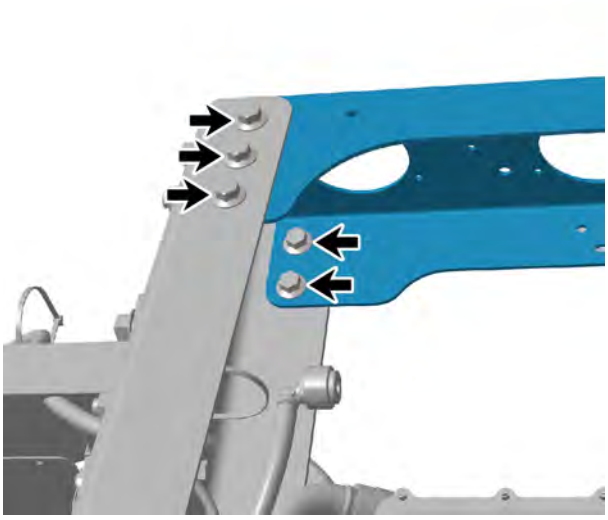
10 Remove the reversing lamp.

11 Remove the rear retro-reflector.

12 Remove 10 fixing bolts and nuts of the tail cross beam.

13 Remove the tail cross beam.

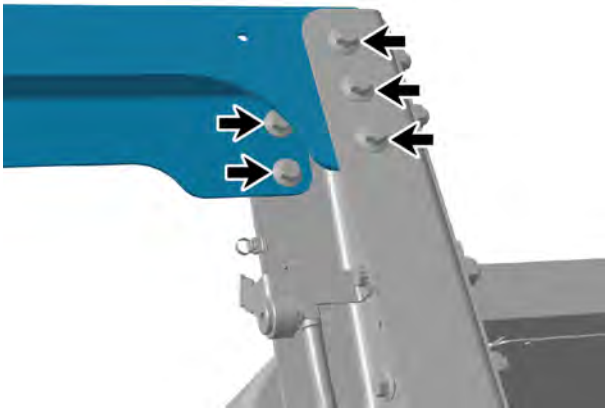


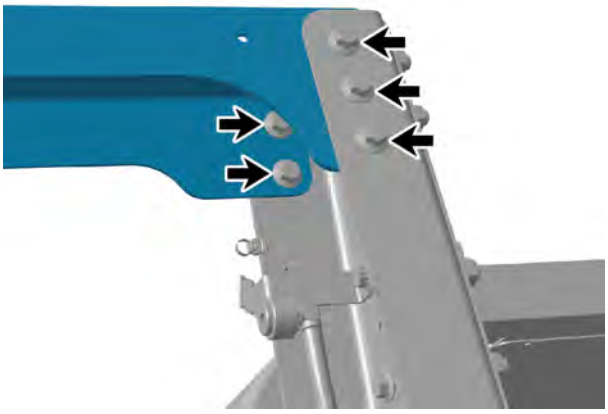


Installation Procedures

1 Move the tail cross beam to the mounting position.

2 Install 10 fixing bolts and nuts of the tail cross beam.





3 Install the rear retro-reflector.

4 Install the reversing lamp.

5 Install the right rear combination lamp.

6 Install the left rear combination lamp.

7 Install the rear license plate mounting plate assembly.

8 Install the license plate lamp.

9 Install the air reservoir assembly (rear).

10 Connect the battery negative cable.

11 Close the front flip cover plate.

5 Close the door.

8.2.2.6 Replacement of Tubular Beam

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

5 Perform power-off of high voltage system.

6 Jack the rear end of the vehicle.

7 Drain coolant from the power system.

8 Remove the drive wheel (rear left).

9 Remove the air reservoir bracket.

10 Removal the tail cross beam.

11 Remove the left tail cross beam reinforcement plate.

12 Remove the tail cross beam reinforcement plate connecting plate.

13 Remove the air spring upper bracket 1.

14 Remove the rear air spring assembly - 260 (rear left).

15 Remove the height adjustment device assembly (left).

16 Remove the limit buffer assembly.

17 Remove the limit buffer assembly bracket.

18 Remove the shock absorber assembly (rear).

19 Remove the shock absorber bracket.

20 Remove the air spring upper bracket 3 (left rear).

21 Remove the rear air spring assembly - 280 (rear left).

22 Remove the longitudinal thrust rod assembly.

23 Remove the thrust bar bracket (left).

24 Remove the rear spring U-bolt.

25 Remove the balance beam (left).

26 Remove the airbag solenoid valve assembly (rear).

27 Remove the parking solenoid valve assembly.

28 Remove the drive wheel (rear right).

29 Remove the right tail cross beam reinforcement plate.

30 Remove the air spring upper bracket 2.

31 Remove the rear air spring assembly - 260 (rear right).

32 Remove the height adjustment device assembly (right).

33 Remove the air spring upper bracket 4 (right rear).

34 Remove the rear air spring assembly - 280 (rear right).

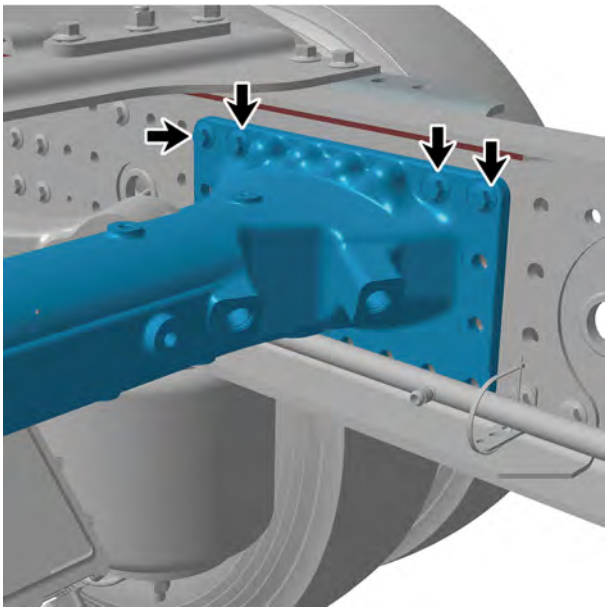
35 Remove the thrust bar bracket (right).

36 Remove the balance beam (right).

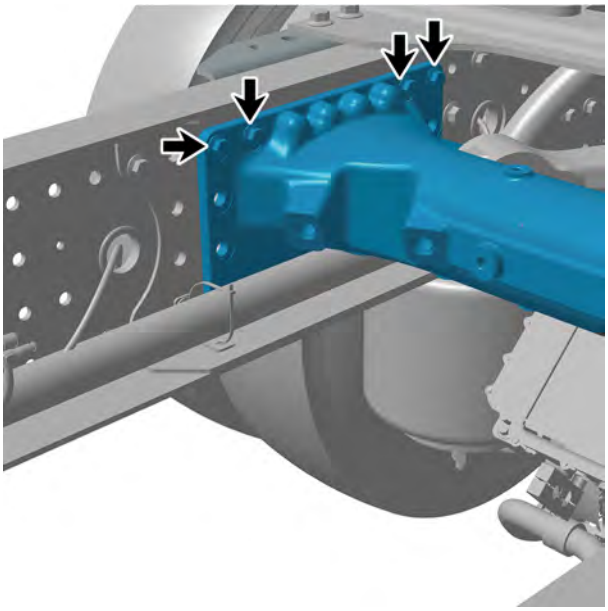
37 Remove the dual channel module assembly.

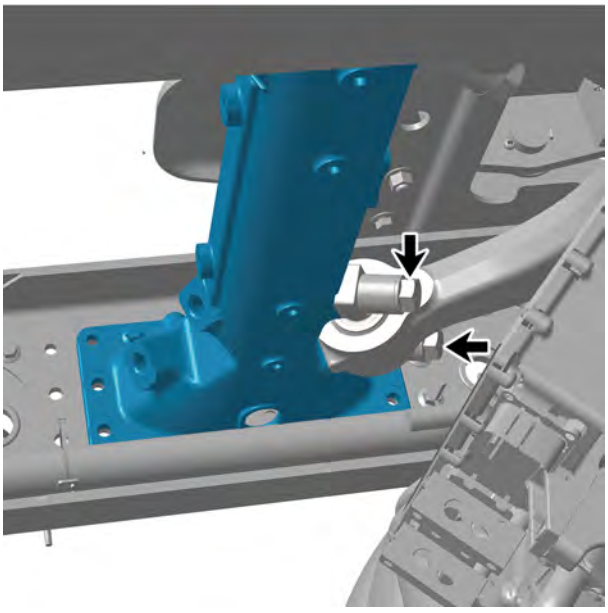
38 Remove the X-shaped control arm assembly (rear).

39 Remove the integrated axle - rear axle.

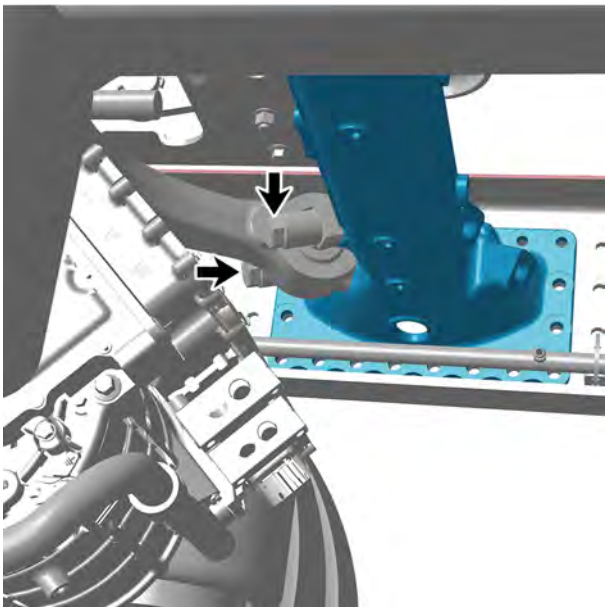


40 Remove 8 fixing bolts and nuts of the tubular beam.





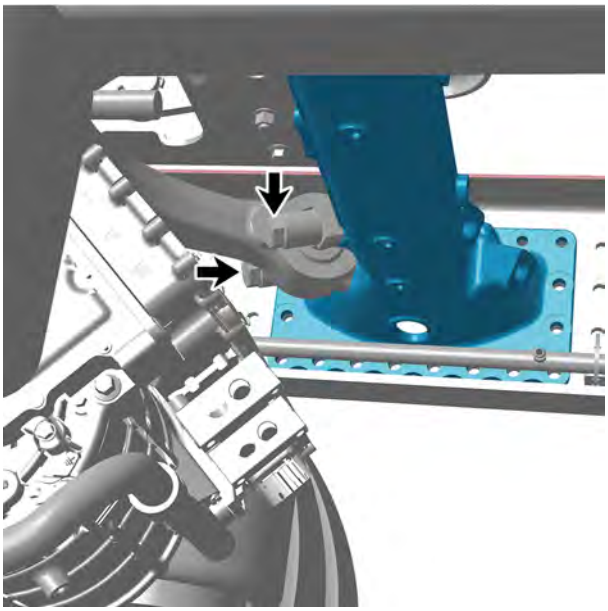
41 Remove 4 fixing bolts of the tubular beam.



42 Remove the tubular beam.

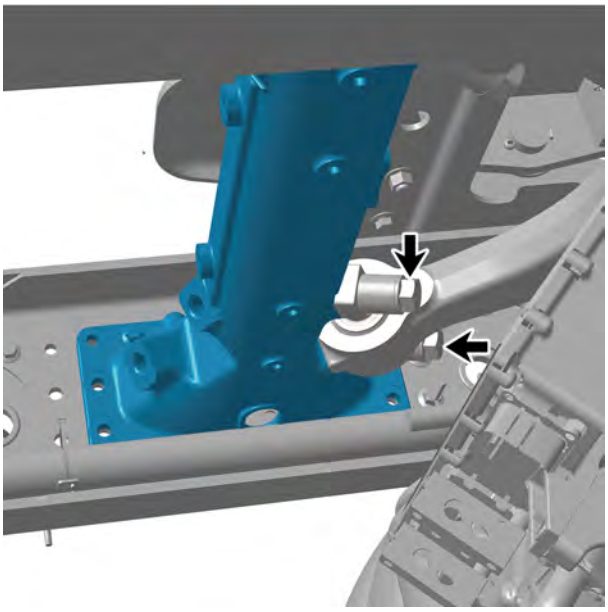
Installation Procedures

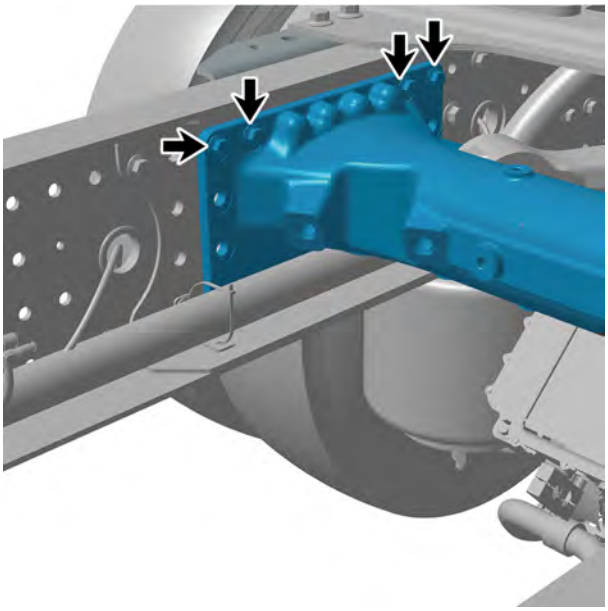
1 Move the tubular beam to the mounting position.

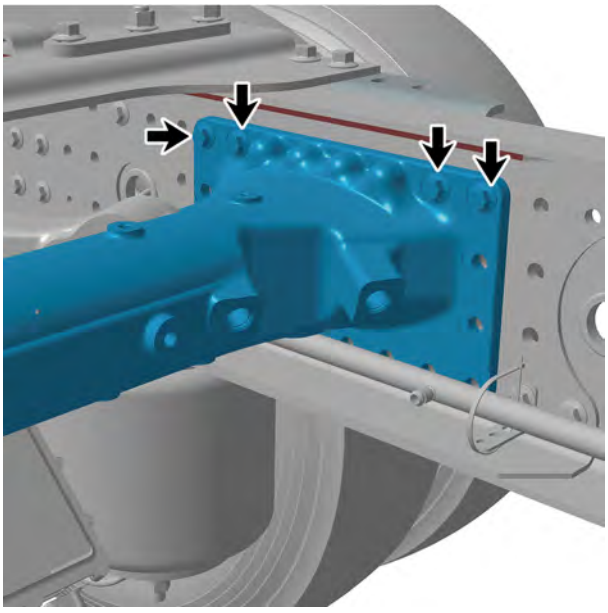


2 Install 4 fixing bolts of the tubular beam.

Torque: 516 +/- 37 (ft lbs)







3 Install 8 fixing bolts and nuts of the tubular beam.

Torque: 155 +/- 14.75 (ft lbs)

4 Install the integrated axle - rear axle.
5 Install the X-shaped control arm assembly (rear).
6 Install the dual channel module assembly.
7 Install the balance beam (right).
8 Install the thrust bar bracket (right).
9 Install the rear air spring assembly - 280 (rear right).
10 Install the air spring upper bracket 4 (right rear).
11 Install the height adjustment device assembly (right).
12 Install the rear air spring assembly - 260 (rear right).
13 Install the air spring upper bracket 2.
14 Install the right tail cross beam reinforcement plate.
15 Install the drive wheel (rear right).
16 Install the parking solenoid valve assembly.
17 Install the airbag solenoid valve assembly (rear).
18 Install the balance beam (left).
19 Install the rear spring U-bolt.
20 Install the thrust bar bracket (left).
21 Install the longitudinal thrust rod assembly.
22 Install the rear air spring assembly - 280 (rear left).
23 Install the air spring upper bracket 3 (left rear).
24 Install the shock absorber bracket.
25 Install the shock absorber assembly (rear).
26 Install the limit buffer assembly bracket.
27 Install the limit buffer assembly.
28 Install the height adjustment device assembly (left).
29 Install the rear air spring assembly - 260 (rear left).
30 Install the air spring upper bracket 1.
31 Install the tail cross beam reinforcement plate connecting plate.
32 Install the left tail cross beam reinforcement plate.
33 Install the tail cross beam.
34 Install the air reservoir bracket.
35 Install the drive wheel (rear left).
36 Fill coolant in the power system.
37 Lower the rear end of the vehicle.
38 Perform power-on of the high voltage system.
39 Connect the battery negative cable.

40 Close the front flip cover plate.

41 Close the door.

8.3 Subframe Device

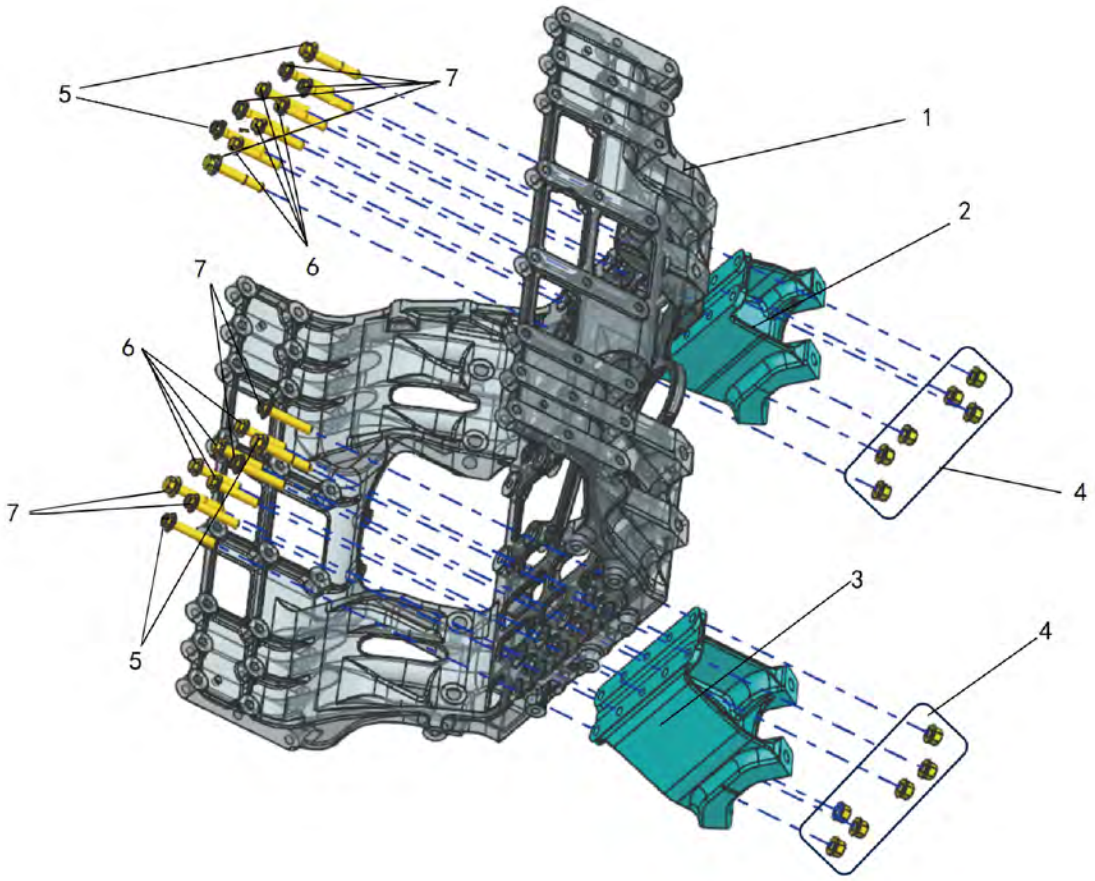
8.3.1 Specifications

8.3.1.1 Fastener Specifications

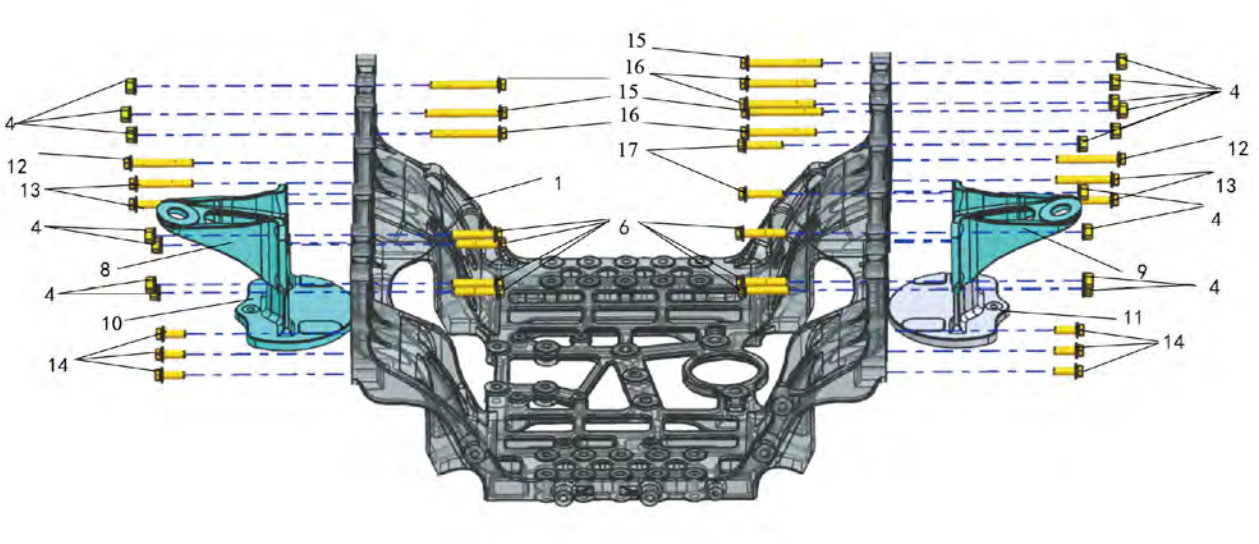
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the upper skeleton of the subframe to the lower connecting bracket of the subframe	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the upper skeleton of the subframe to the lower connecting bracket of the subframe	M14	155 +/- 14.75 (ft lbs)

8.3.2 Decomposition Diagram

8.3.2.1 Decomposition Diagram



1. Middle Skeleton_Sub Frame
2. Brkt-Connection Subframe Lor Frt
3. Brkt-Connection Subframe Lor Rr
4. Hexagon Flange Nut
5. Sub-frame positioning bolt 14×78 in new energy vehicles
6. Hexagon Flange Bolt
7. Hexagon Flange Bolt



1. Middle Skeleton_Sub Frame
4. Hexagon Flange Nut
6. Hexagon Flange Bolt
8. Upr Mounting Bracket-Frt Damper Lh
9. Upr Mounting Bracket-Frt Damper Rh
10. Mounting Plate-Front Spring Upr Lh
11. Mounting Plate-Front Spring Upr Rh
12. Hexagon Flange Bolt
13. Hexagon Flange Bolt
14. Hexagon Flange Bolt
15. Hexagon Flange Bolt
16. Hexagon Flange Bolt
17. Hexagon Flange Bolt

8.4 Rear Integrated Frame Device

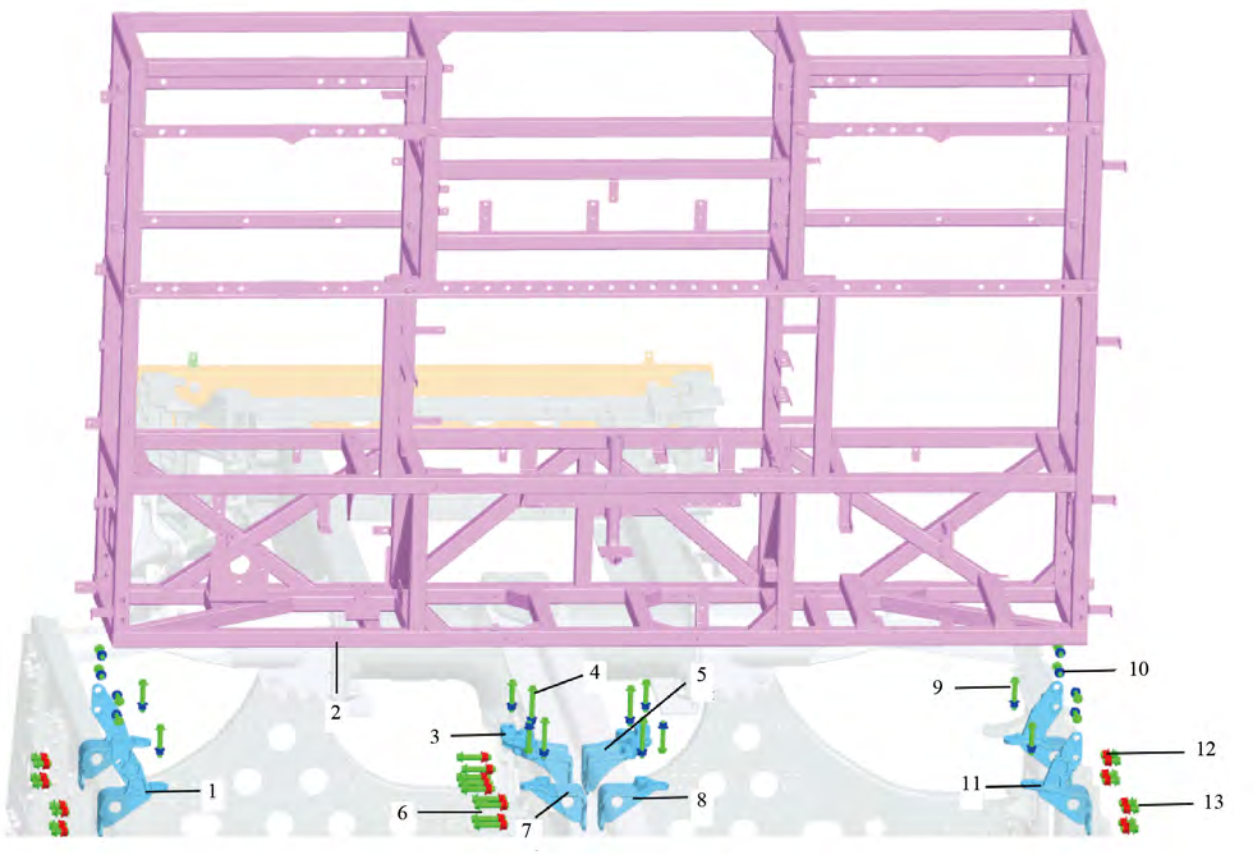
8.4.1 Specifications

8.4.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
Fixed bolts connecting the integrated framework and frame assembly	M12	88.5 +/- 6 (ft lbs)
Fixed bolts connecting the fixed support to the frame	M14	155 +/- 14.75 (ft lbs)
Fixed bolts connecting the integrated framework and fixed bracket	M12	88.5 +/- 6 (ft lbs)

8.4.2 Decomposition Diagram

8.4.2.1 Decomposition Diagram



1. Outer Overiap Casting 2
2. Integrated Framework
3. Intermediate Overiap Casting 3
4. Hexagon Flange Bolt
5. Intermediate Overiap Casting 4
6. Hexagon Flange Bolt
7. Intermediate Overiap Casting 1
8. Intermediate Overiap Casting 2
9. Hexagon Flange Bolt
10. Hexagon Flange Lock Nut_All Metal
11. Outer Overiap Casting 1
12. Hexagon Flange Lock Nut_All Metal
13. Hexagon Flange Bolt

8.5 Walkway Plate Device

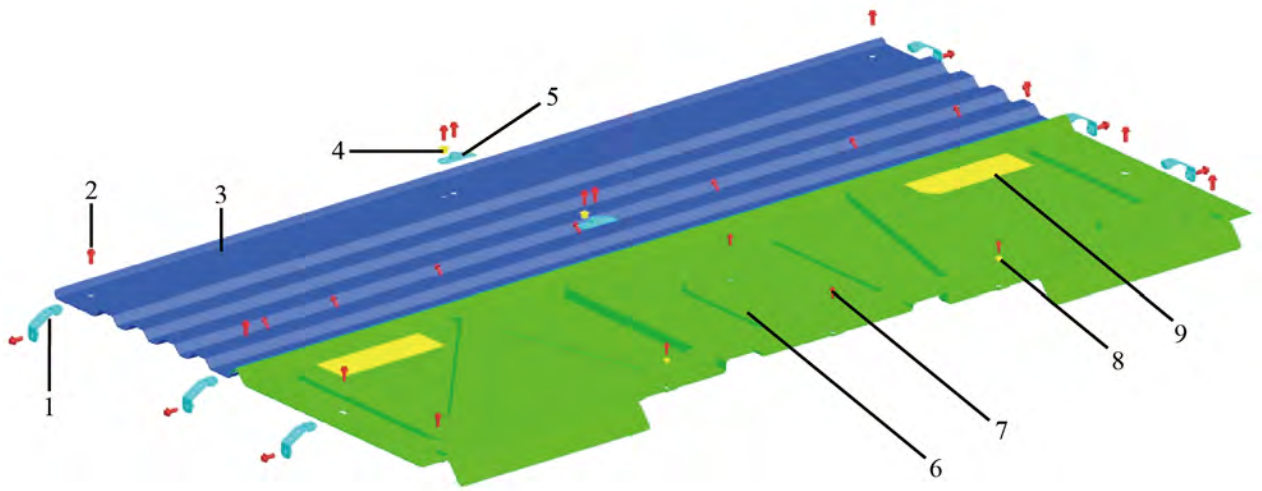
8.5.1 Specifications

8.5.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the front walking platform and the frame assembly	M10	37 +/- 3.5 (ft lbs)
The fixing bolts between the rear walkway decorative panel and the frame assembly	M8	11 +/- 2 (ft lbs)

8.5.2 Decomposition Diagram

8.5.2.1 Decomposition Diagram

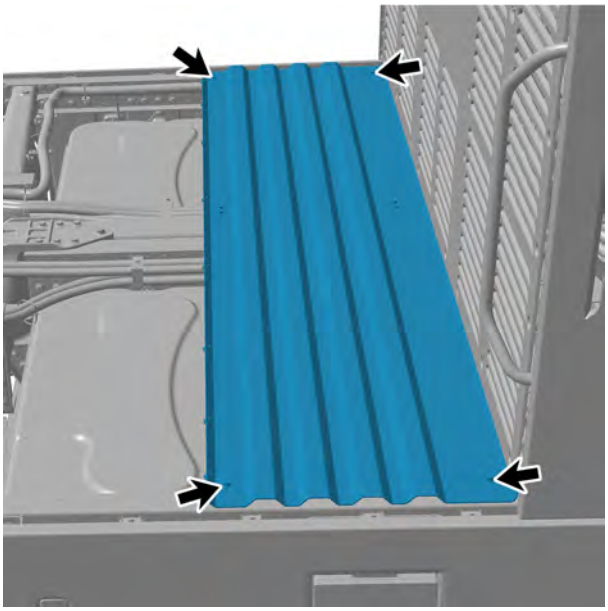


1. Fixed Bracket for Catwalk Plate In New Energy Vehicles
2. Hexagon Flange Bolt
3. Front Walking Platform
4. Hexagon Flange Lock Nut_All Metal
5. Fixed Bracket 2 For Catwalk Plate In New Energy Vehicles
6. Rear Trim Panel of Catwalk Plate In New Energy Vehicles
7. Hexagon Flange Bolt
8. Hexagon Flange Nut
9. No Stepping Warning Label

8.5.3 Dismantling and Installation

8.5.3.1 Replacement of Front Walking Platform

Removal Procedures



1 Remove the walking platform rear trim panel.

2 Remove 4fixing bolts of the front walking platform.

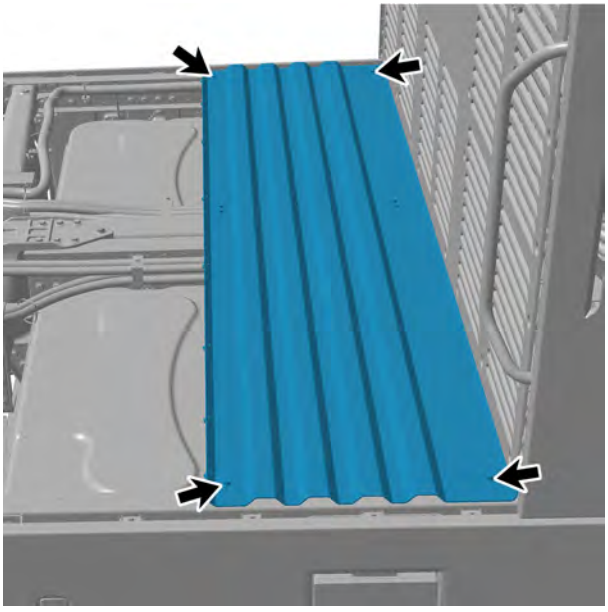
3 Remove the front walking platform.

caution

1. Due to the heavy weight of the front walking platform, it shall be removed with the help of an assistant.

2. Just loosen the two fixing bolts in the middle. there is no need to remove them completely.

Installation Procedures



1 Move the front walking platform to the mounting position.

caution

1. Due to the heavy weight of the front walking platform, it shall be moved to the mounting position with the help of an assistant.

2. Install the fixing brackets first before installing the front walking platform, and tighten the two fixing bolts in the middle.

2 Install 4fixing bolts of the front walking platform.

Torque:37 +/- 3.5 (ft lbs)

3 Install the walking platform rear trim panel.

8.6 Front Suspension Device

8.6.1 Specifications

8.6.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the upper swing arm assembly and the upper frame of the subframe	M20	420 +/- 22 (ft lbs) (Loctite 680)
The fixing bolts connecting the lower arm assembly and the frame on the subframe	M20	420 +/- 22 (ft lbs) (Loctite 680)
The fixing nut connecting the front air spring assembly and the mounting plate on the front spring	M12	40.5 +/- 3.5 (ft lbs)
The fixing bolt connecting the front air spring assembly and the left steering knuckle bracket assembly	M18	199 +/- 18.5 (ft lbs)
The fixing nut connecting the front shock absorber assembly to the lower mounting bracket of the front shock absorber	M16	66 +/- 7.5 (ft lbs)
The fixing nut connecting the front shock absorber assembly and the mounting bracket on the front shock absorber	M16	66 +/- 7.5 (ft lbs)
The fixing bolt connecting the front brake assembly and the steering knuckle	M20	405 +/- 18.5 (ft lbs)
The fixing nut connecting the upper end of the steering knuckle and the left steering knuckle bracket assembly	M40	800 +/- 37 (ft lbs)
The fixing nut connecting the lower end of the steering knuckle and the left steering knuckle bracket assembly	M40	89 +/- 7.5 (ft lbs
Wheel hub flange fixing bolt	M16	243 +/- 18.5 (ft lbs)
The fixing nut connecting the brake chamber to the front brake assembly	M16	133 +/- 7.5 (ft lbs)
The fixing bolt connecting the steering arm and the steering knuckle	M22	627 +/- 37 (ft lbs)
The fixing nut connecting the steering arm and the tie rod	M24	254 +/- 11 (ft lbs)

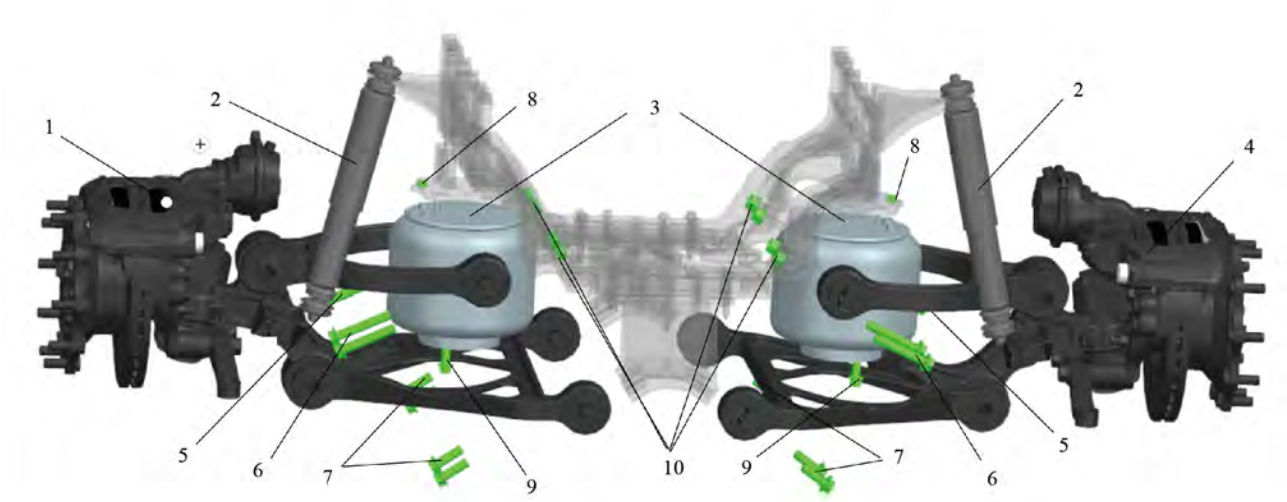
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the wheel hub bearing unit and the steering knuckle	M45	442.5 +/- 37 (ft lbs)
Upper end cover and steering knuckle	/	147.5 +/- 14.75 (ft lbs)
Lower end cover steering knuckle	/	147.5 +/- 14.75 (ft lbs)

8.6.1.2 Technical Parameters

Brake system parameters			
Item	Unit Adjustment	Numerical Value	Remark
Brake lining - outside - new	mm	31	Disc
Minimum thickness of brake lining - outside	mm	11	Disc
Brake lining - inside - new	mm	30	Disc
Minimum thickness of brake lining - inside	mm	10	Disc
Brake caliper type	mm	Floating	Disc
Thickness of brake disc - new	mm	45	Disc
Scrap thickness of brake disc	mm	37	Disc

8.6.2 Decomposition Diagram

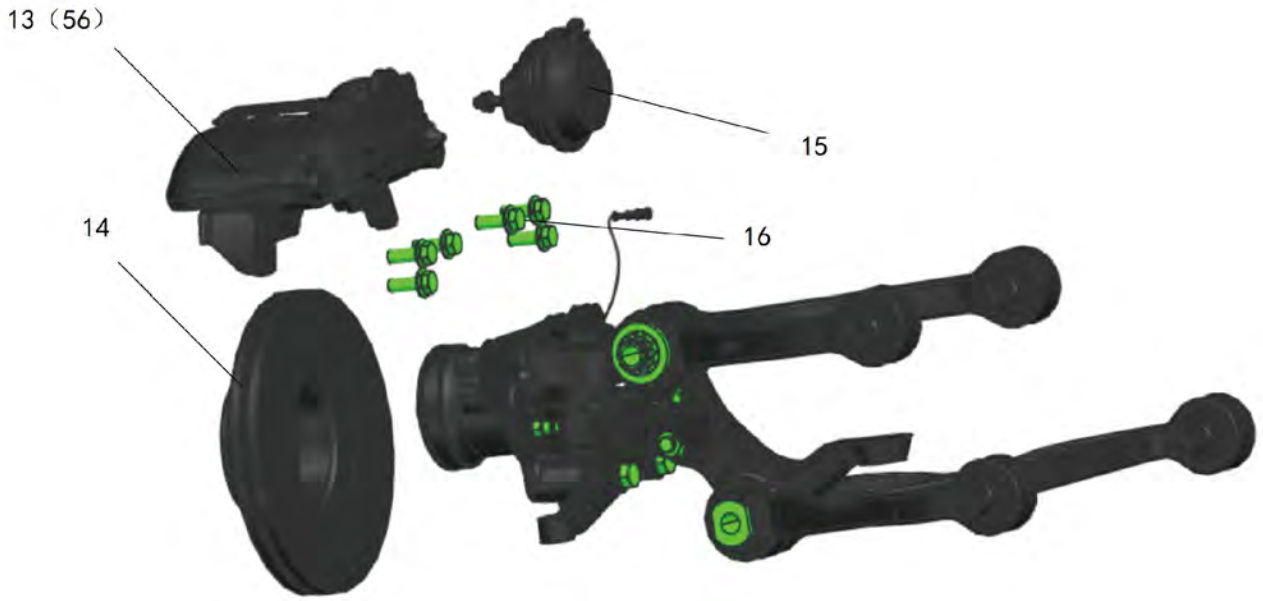
8.6.2.1 Decomposition Diagram



1. Left Front Wheel End Assy
2. Front Shock Absorber
3. Front Airspring
4. Right Front Wheel End Assy
5. Upper Swing Arm Mounting Bolt(Rear)
6. Upper Swing Arm Mounting Bolt(Rear)
7. Inner Pivot Nut
8. Nut M12x1.5 (Spiralock) In New Energy Vehicles
9. Hexagon Flange Bolt
10. Nut M20x1.5 (Spiralock)



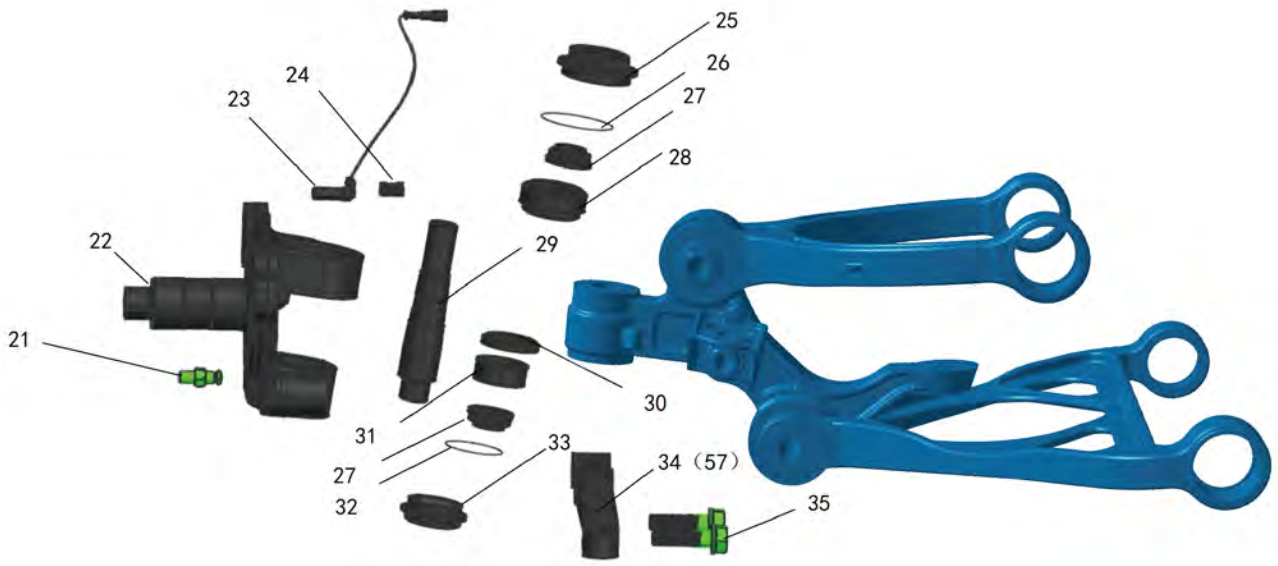
11. Flange Bolt
12. Hub Flange Assembly



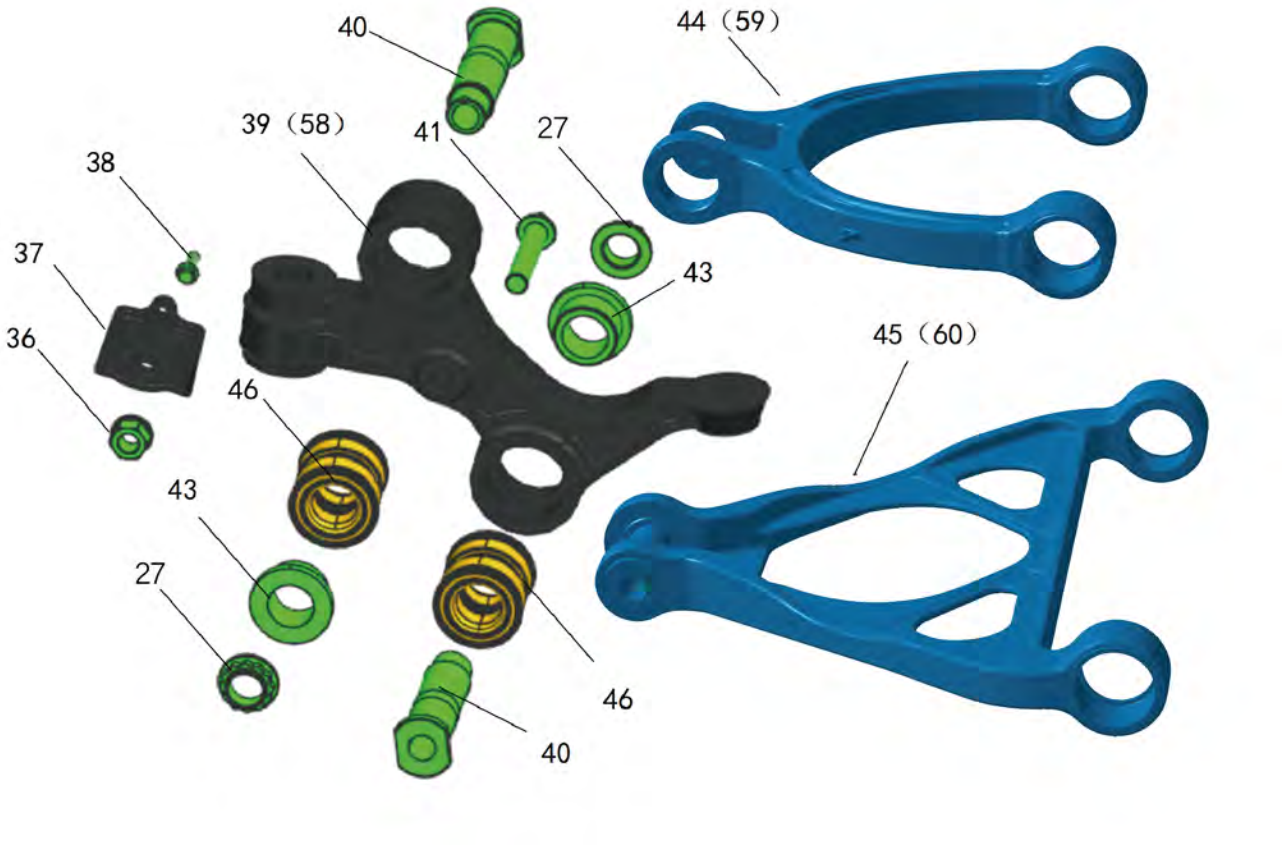
13. Brake Caliper Assy-Lh Frt
14. Brake Disc
15. Brake Chamber
16. Brake Bolts
56. Brake Caliper Assy-Rh Frt



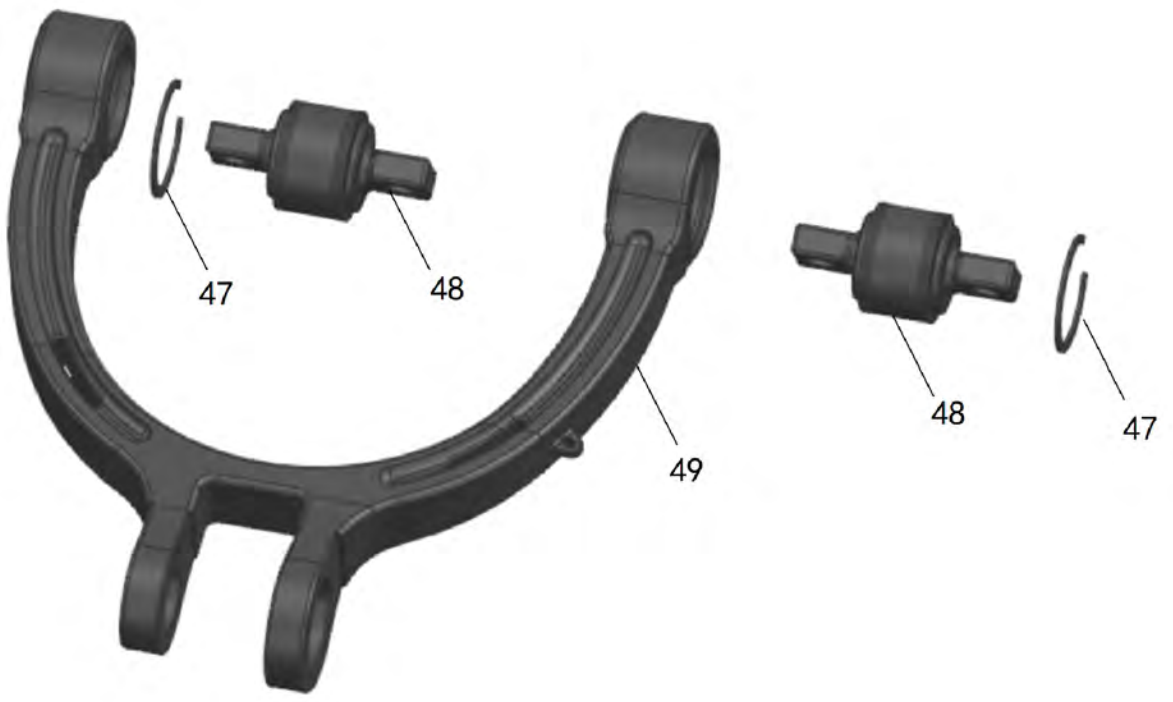
17. Snap Ring
18. Hub Lock Nut
19. Stop Washer
20. Hub Bearing Units



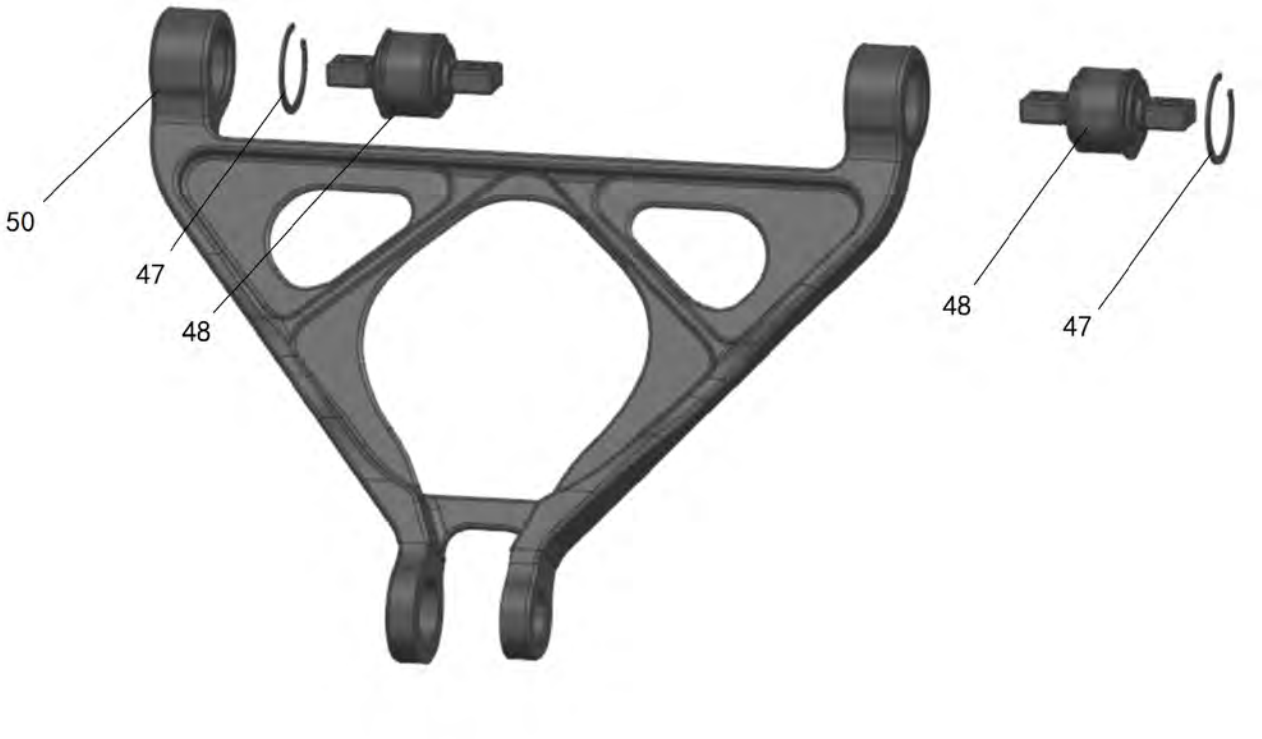
21. Limit Screw And Nut
22. Steering Knuckle
23. ABS Sensor
24. SensorAbs Sensor Bushing
25. Upper End Cap
26. Upper O-Ring
27. Kingpin Lock Nut
28. Thrust Bearings
29. Kingpin
30. Sealing Rings
31. Spherical Bearings
32. Lower O-Ring
33. Lower End Cap
34. Steering Arm_Left
35. Hexagon Flange Bolt
57. Right Steering Arm



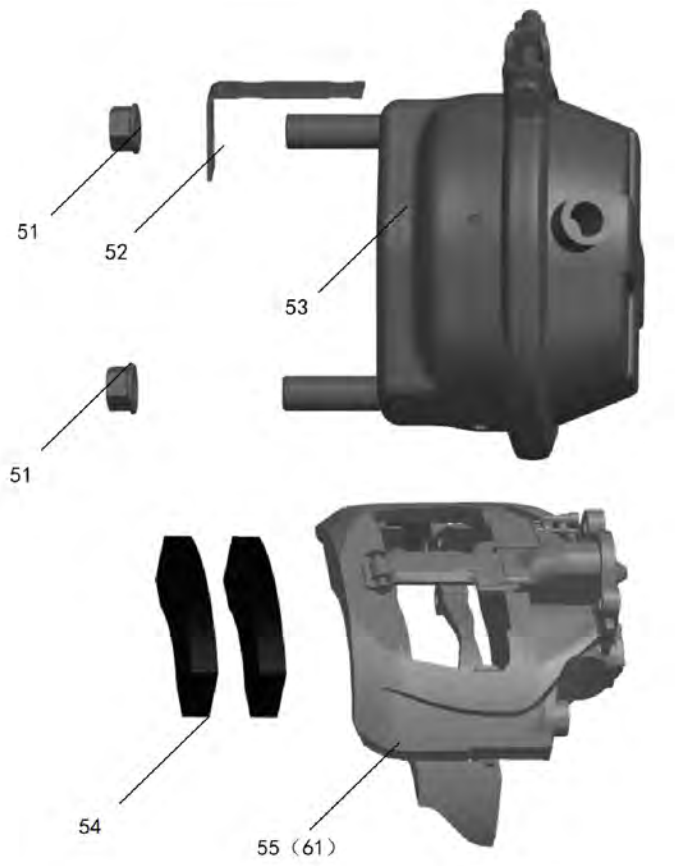
36.	Stabilizer Rod Tie Rod Support Fixing Nut	43.	Outer Pivot Self-Aligning Washer In New Energy Vehicles
37.	Lower Mounting Bracket_Shock Absorber	44.	Upper Arm_Left
38.	Hexagon Flange Bolt	45.	Swing Arm Assy-Lh Lor
39.	Knuckle Carrier-Lh	46.	Outer Bearing Assembly of Swing Arm In New Energy Vehicles
40.	Outer Pivot_Lower Arm	58.	Right Steering Knuckle Bracket Assembly In New Rnergy Vehicles
41.	Damper Bracket Fixing Bolt	59.	Swing Arm - Right
42.	Kingpin Lock Nut	60.	Swing Arm Assy-Lor Rh



47. Snap Ring
48. Ball Joint Bushing In New Energy Vehicles
49. Left Upper Swing Arm Body In New Energy Vehicles



47. Snap Ring
48. Ball Joint Bushing In New Energy Vehicles
50. Left Lower Swing Arm Body In New Energy Vehicles



51. Brake Chamber Fixing Nut In New Energy Vehicles
52. Brake Chamber Gasket In New Energy Vehicles
53. Brake Chamber Body In New Energy Vehicles
54. Friction Plate
55. Left Front Brake Caliper Body
61. Brake Caliper Assy-Rh Frt

8.6.3 Dismantling and Installation

8.6.3.1 Replacement of Brake Disc

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

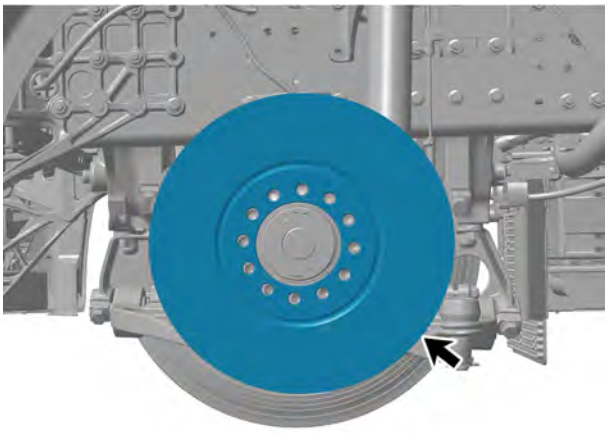
6 Remove the guide wheel (left).

7 Remove the brake chamber (left).

8 Remove the left front brake assembly.

9 Remove the hub flange assembly (left).

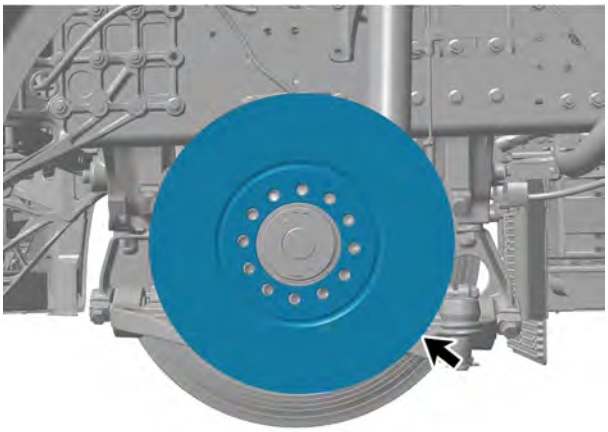
10 Remove the brake disc (left).



caution

Due to the heavy weight of the brake disc (left), it shall be removed with the help of an assistant.

Installation Procedures



1 Install the brake disc (left).

caution

Due to the heavy weight of brake disc (left), it shall be moved to the mounting position with the help of an assistant.

2 Install the hub flange assembly (left).

3 Install the left front brake assembly.

4 Install the brake chamber (left).

5 Install the guide wheel (left).

6 Lower the front end of the vehicle.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

8.6.3.2 Replacement of Left Front Brake Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

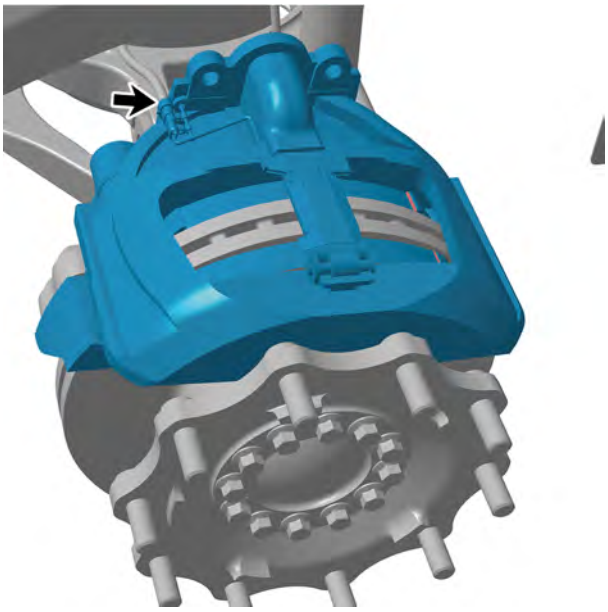
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

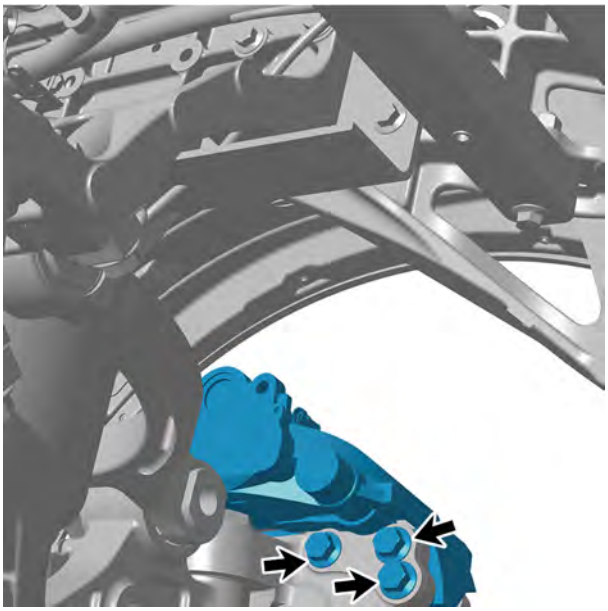
5 Jack the front end of the vehicle.

6 Remove the guide wheel (left).

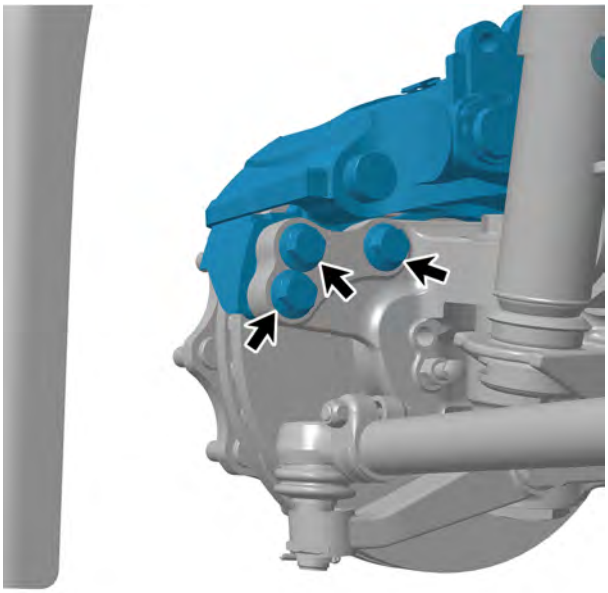
7 Remove the brake chamber (left).

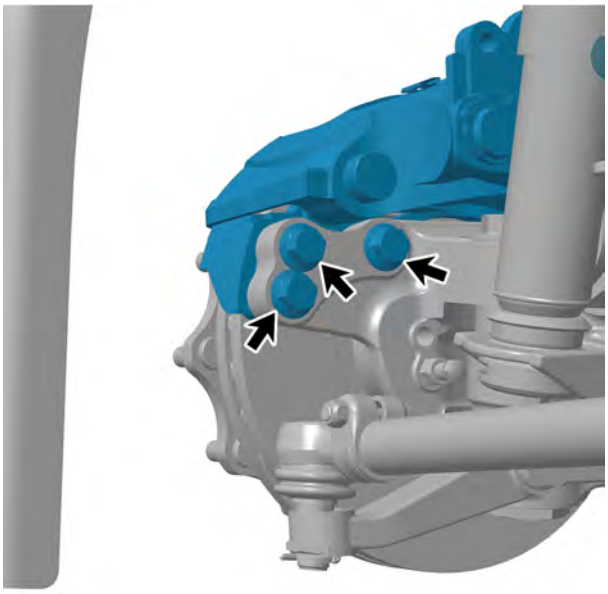


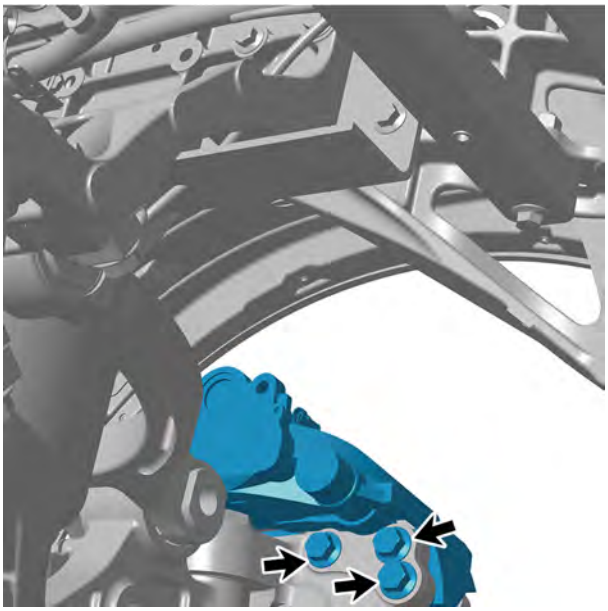
8 Disconnect 1 harness connector of the left front brake assembly.



9 Remove 6 fixing bolts of the left front brake assembly, and remove the left front brake assembly.





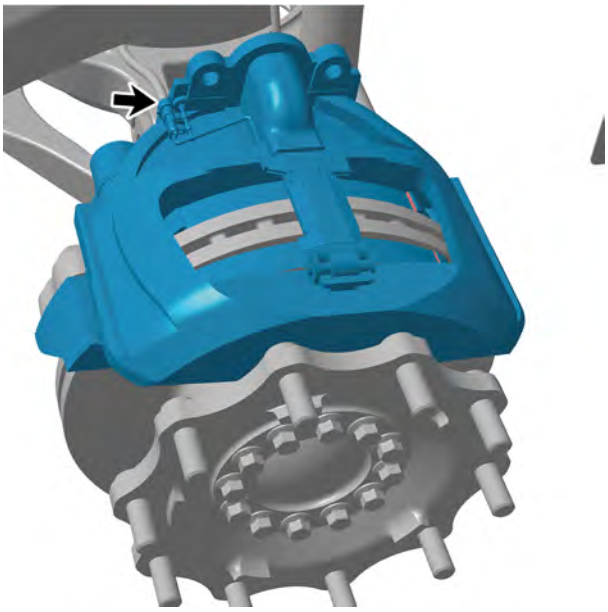


Installation Procedures

1 Move the left front brake assembly to the mounting position.

2 Install 6 fixing bolts of the left front brake assembly.

Torque: 406 +/- 18.5 (ft lbs)



3 Connect 1 harness connector of the left front brake assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the brake chamber (left).

5 Install the guide wheel (left).

6 Lower the front end of the vehicle.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

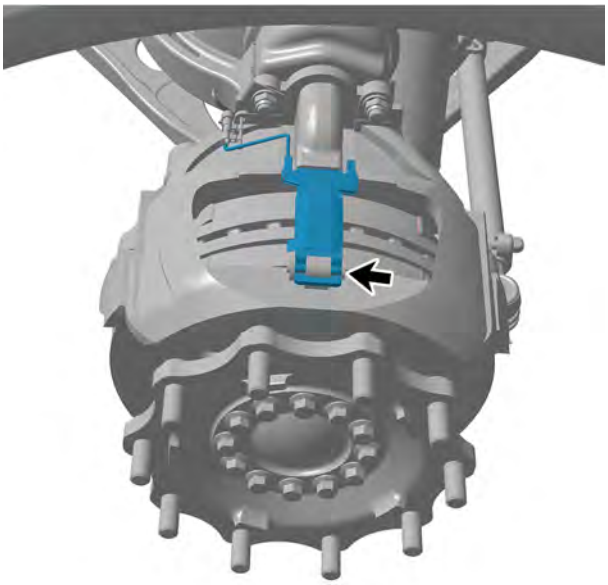
9 Close the door.

8.6.3.3 Replacement of Friction Plate

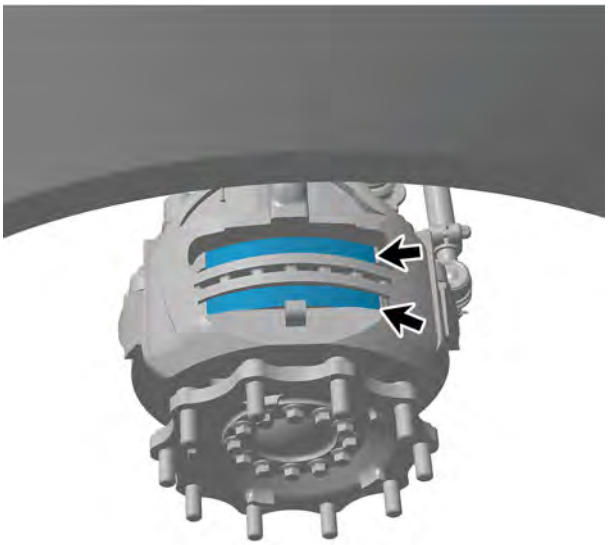
Removal Procedures

1 Jack the front end of the vehicle.

2 Remove the guide wheel (left).

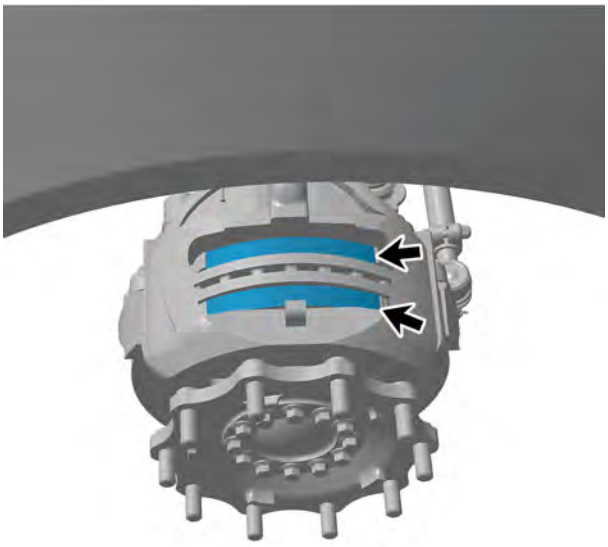


3 Remove 1 fixing pin of the friction plate (left) cover plate, and open the friction plate (left) cover plate.

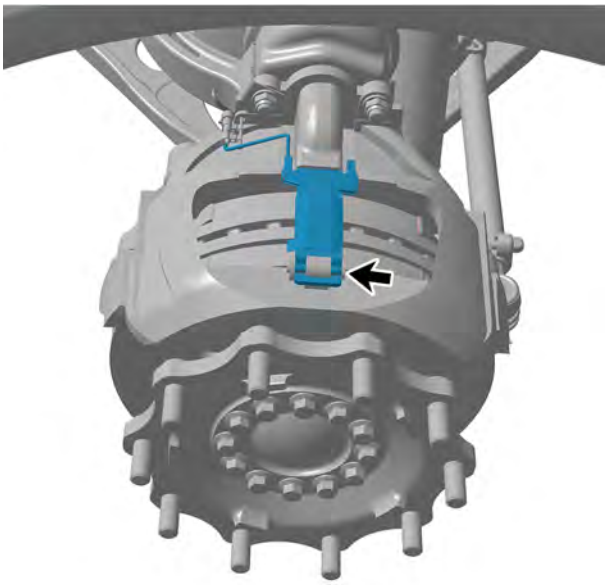


4 Remove the friction plate (left).

Installation Procedures



1 Install the friction plate (left).



2 Close the friction plate (left) cover plate, and install 1 fixing pin of the friction plate (left) cover plate.

3 Install the guide wheel (left).

4 Lower the front end of the vehicle.

8.6.3.4 Replacement of Left Front Brake Body

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

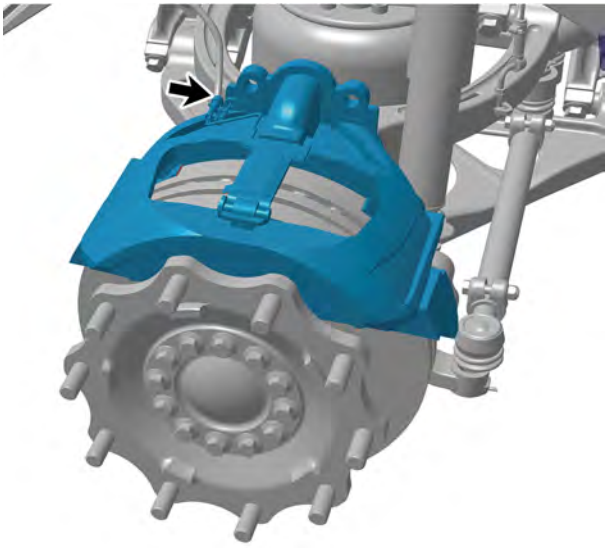
5 Jack the front end of the vehicle.

6 Remove the guide wheel (left).

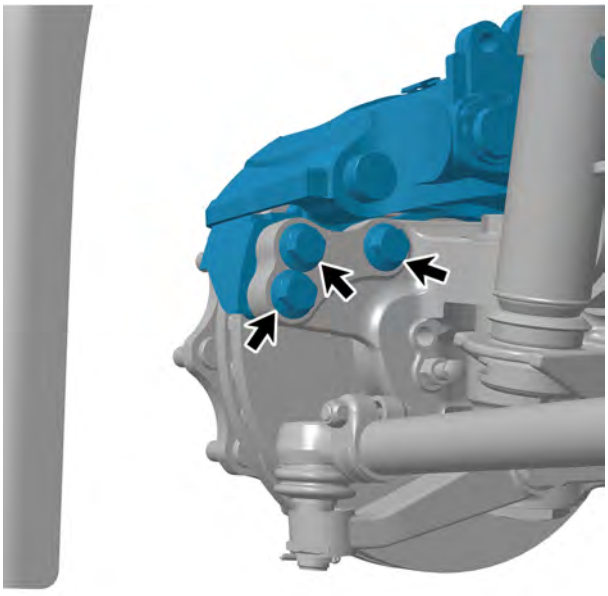
7 Remove the brake chamber (left).

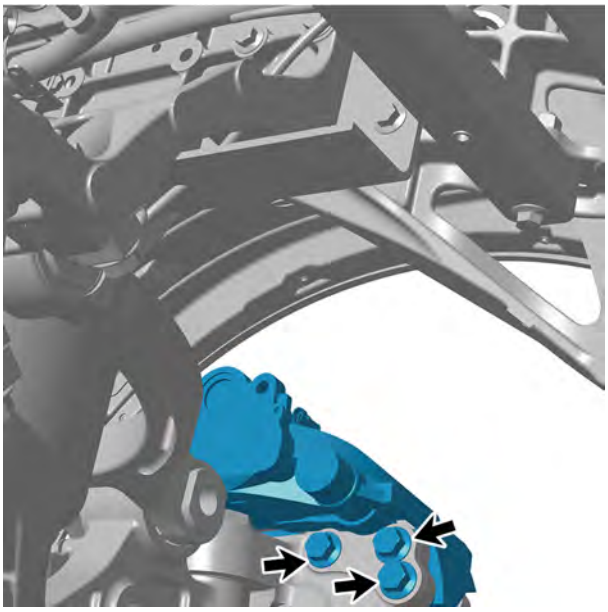
8 Remove the friction plate (left).

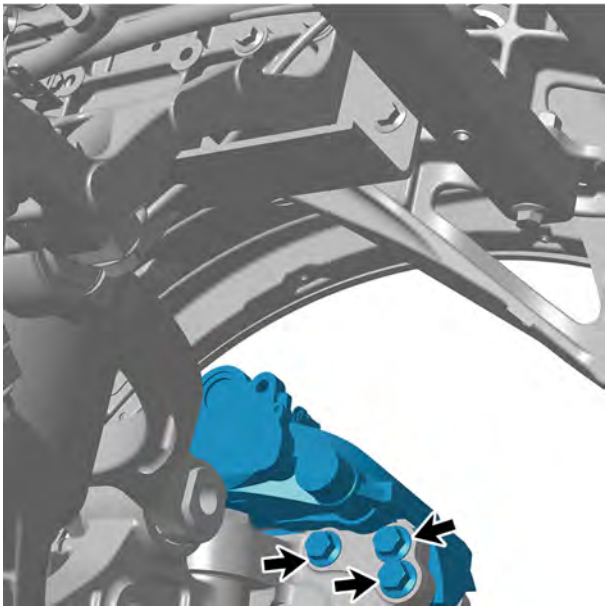
9 Disconnect 1 harness connector of the left front brake body.



10 Remove 6 fixing bolts of the left front brake body and remove the left front brake body.





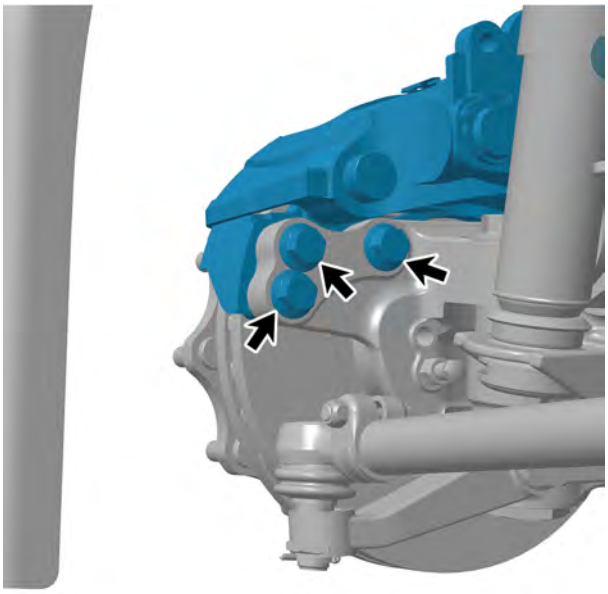


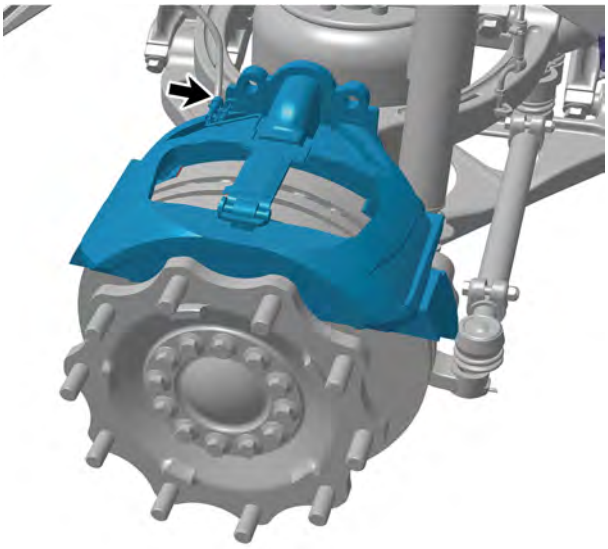
Installation Procedures

1 Move the left front brake body to the mounting position.

2 Install 6 fixing bolts of the left front brake body.

Torque: 405 +/- 18.5 (ft lbs)





3 Connect 1 harness connector of the left front brake body.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the friction plate (left).

5 Install the left front brake assembly.

6 Install the brake chamber (left).

7 Install the guide wheel (left).

8 Lower the front end of the vehicle.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

8.6.3.5 Replacement of Hub Bearing Unit

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

6 Remove the guide wheel (left).

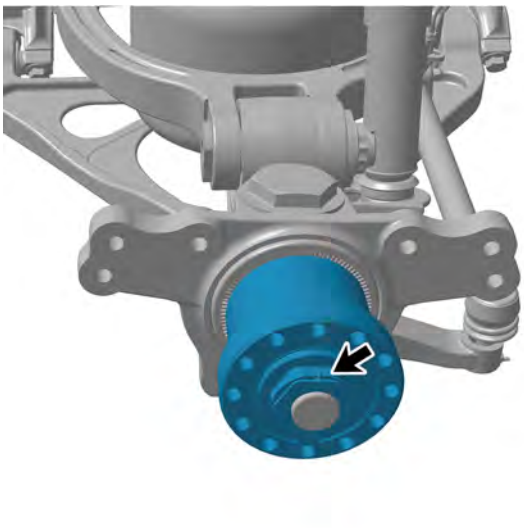
7 Remove the brake chamber (left).

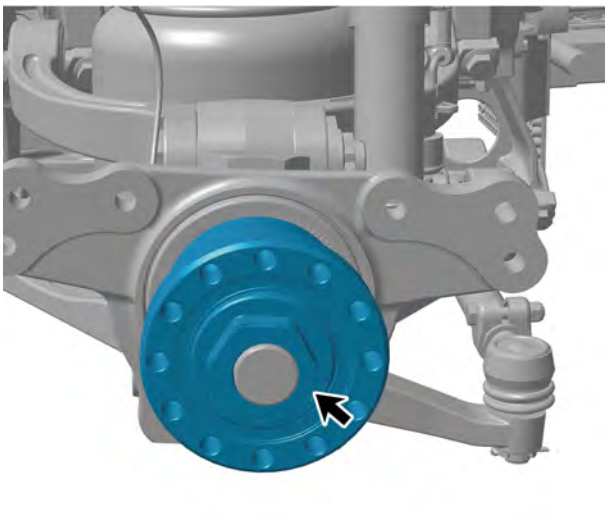
8 Remove the left front brake assembly.

9 Remove the hub flange assembly (left) .

10 Remove the brake disc (left).

11 Remove the circlip.

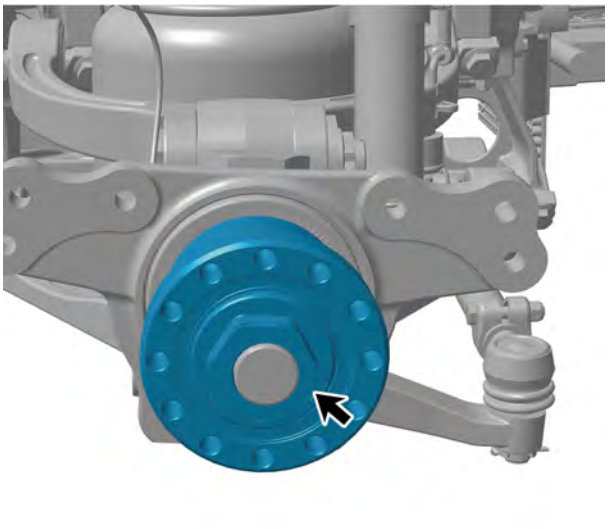




12 Remove 1 lock nut of the hub bearing unit (left).

13 Remove the hub bearing unit (left).

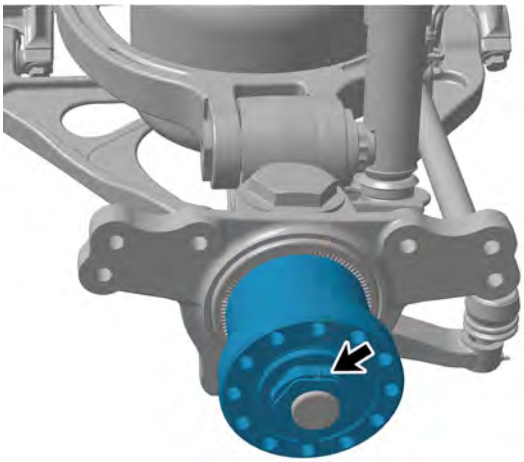
Installation Procedures



1 Move the hub bearing unit (left) to the mounting position.

2 Install 1 lock nut of the hub bearing unit (left).

Torque:442.5 +/- 37 (ft lbs)



3 Install the circlip.

4 Install the brake disc (left).

5 Install the hub flange assembly (left) .

6 Install the left front brake assembly.

7 Install the brake chamber (left).

8 Install the guide wheel (left).

9 Lower the front end of the vehicle.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

8.6.3.6 Replacement of Steering Knuckle

Removal Procedures



1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

6 Remove the guide wheel (left).

7 Remove the brake chamber (left).

8 Remove the left front brake assembly.

9 Remove the hub flange assembly (left).

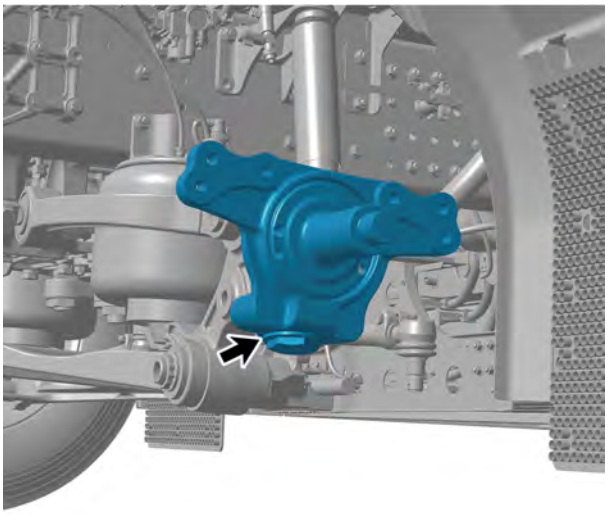
10 Remove the brake disc (left).

11 Remove the hub bearing unit (left).

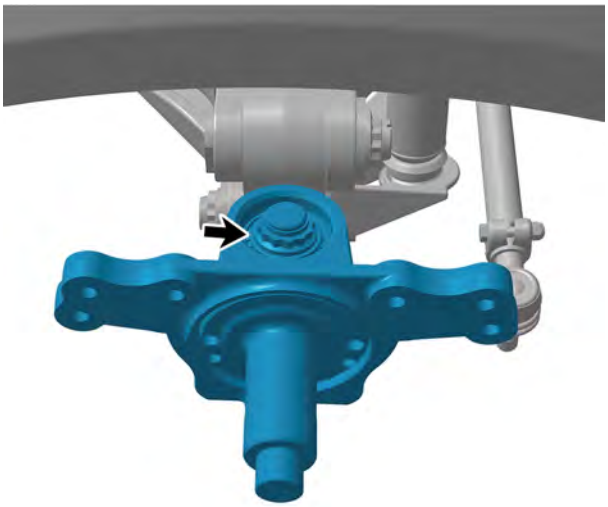
12 Remove the left steering arm.

13 Remove the ABS sensor.

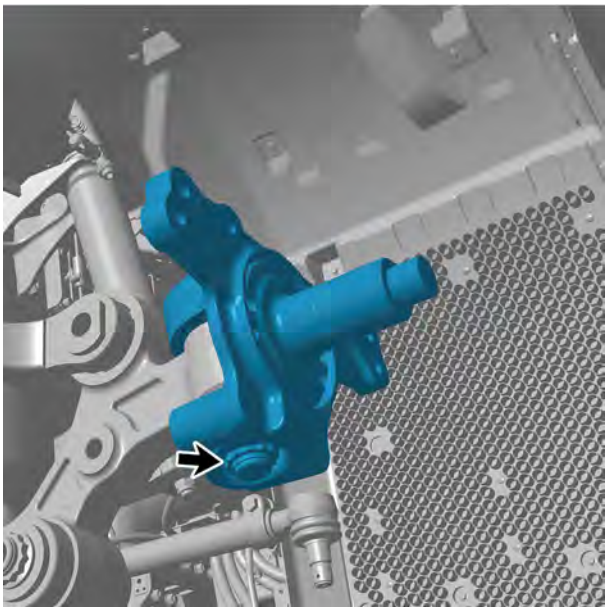
14 Remove the upper end cover.



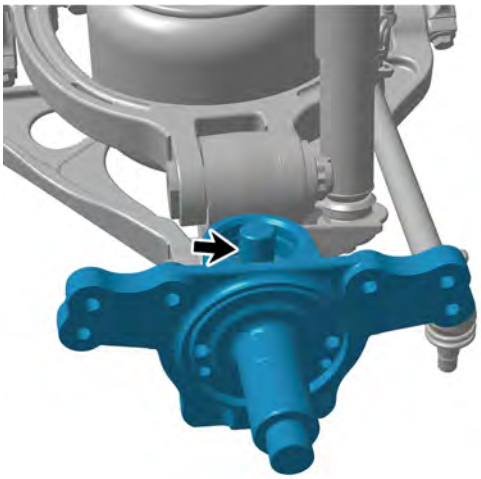
15 Remove the lower end cover.



16 Remove 1 fixing nut at the upper end of the steering knuckle (left).



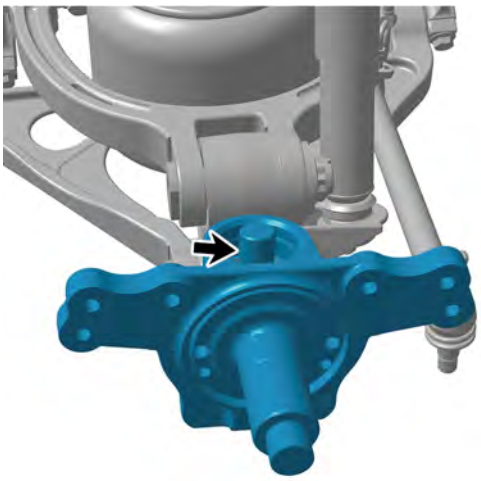
17 Remove 1 fixing nut at the lower end of the steering knuckle (left).



18 Remove the kingpin.

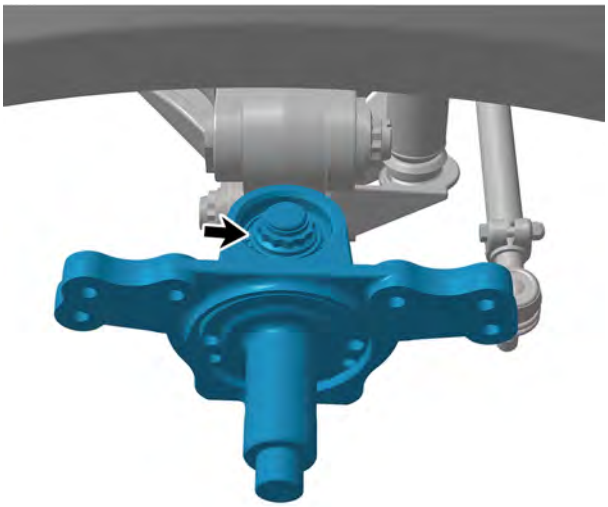
19 Remove the steering knuckle (left) and sealing ring.

Installation Procedures



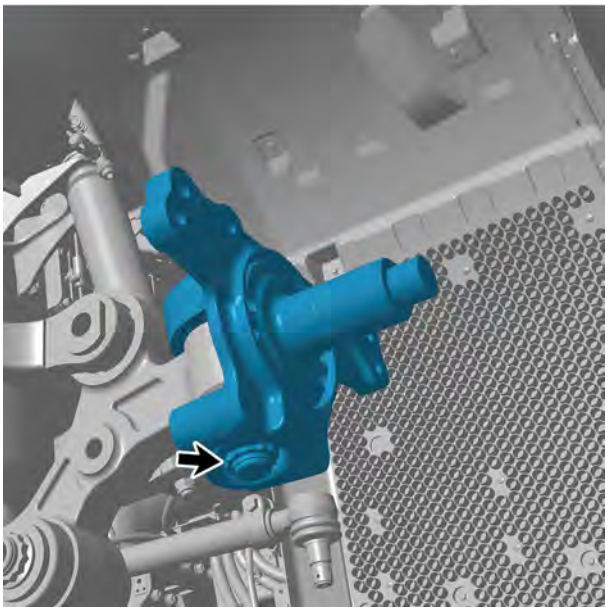
1 Press the thrust bearing and joint bearing into the steering knuckle hole, and then install the sealing ring into the steering knuckle.

2 Install the kingpin and connect the knuckle carrier.



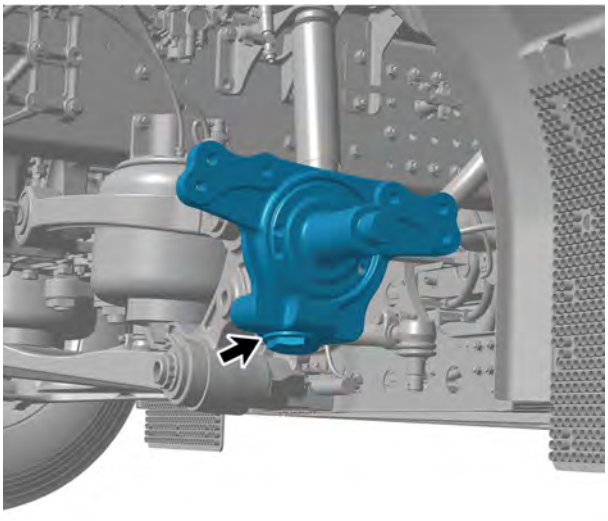
3 Install 1 fixing nut at the upper end of the steering knuckle (left).

Torque: 590 +/- 37 (ft lbs)



4 Install 1 fixing nut at the lower end of the steering knuckle (left).

Torque: 59 +/- 7.5 (ft lbs)



5 Install the lower end cover.

Torque: 147.5 +/- 14.75 (ft lbs)



6 Install the upper end cover.

Torque: 147.5 +/- 14.75 (ft lbs)

7 Install the ABS sensor.

8 Install the left steering arm.

9 Install the hub bearing unit (left).

10 Install the brake disc (left).

11 Install the hub flange assembly (left).

12 Install the left front brake assembly.

13 Install the brake chamber (left).

14 Install the guide wheel (left).

15 Lower the front end of the vehicle.

16 Connect the battery negative cable.

17 Close the front flip cover plate.

18 Close the door.

8.6.3.7 Replacement of Left Lower Swing Arm Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

6 Remove the guide wheel (left).

7 Remove the front spring left upper mounting plate.

8 Remove the pressure sensor assembly.

9 Remove the front air spring assembly (left).

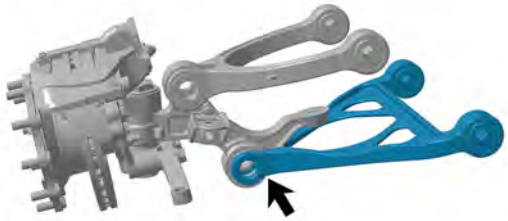
10 Remove the brake chamber (left).

11 Remove the front shock absorber assembly (left).

12 Remove the left front wheel end assembly.

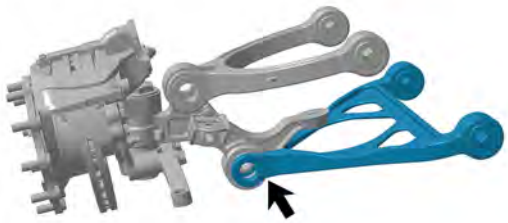
13 Remove the swing arm outside pivot (left).

14 Remove the left lower swing arm assembly.



Installation Procedures

1 Install the left lower swing arm assembly.



2 Install the swing arm outside pivot (left).

3 Install the left front wheel end assembly.

4 Install the front shock absorber assembly (left).

5 Install the brake chamber (left).

6 Install the front air spring assembly (left).

7 Install the pressure sensor assembly.

8 Install the front spring left upper mounting plate.

9 Install the guide wheel (left).

10 Lower the front end of the vehicle.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

8.6.3.8 Replacement of Right Lower Swing Arm Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

6 Remove the guide wheel (right).

7 Remove the front spring right upper mounting plate.

8 Remove the front air spring assembly (right).

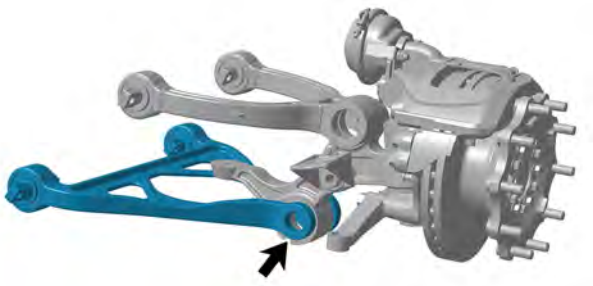
9 Remove the brake chamber (right).

10 Remove the front shock absorber assembly (right).

11 Remove the right front wheel end assembly.

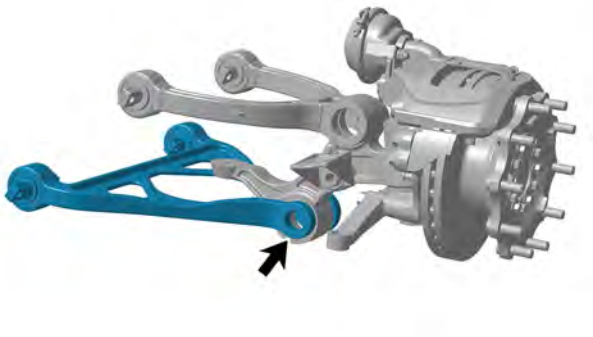
12 Remove the swing arm outside pivot (right).

13 Remove the right lower swing arm assembly.



Installation Procedures

1 Install the right lower swing arm assembly.



2 Install the swing arm outside pivot (right).

3 Install the right front wheel end assembly.

4 Install the front shock absorber assembly (right).

5 Install the brake chamber (right).

6 Install the front air spring assembly (right).

7 Install the front spring right upper mounting plate.

8 Install the guide wheel (right).

9 Lower the front end of the vehicle.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

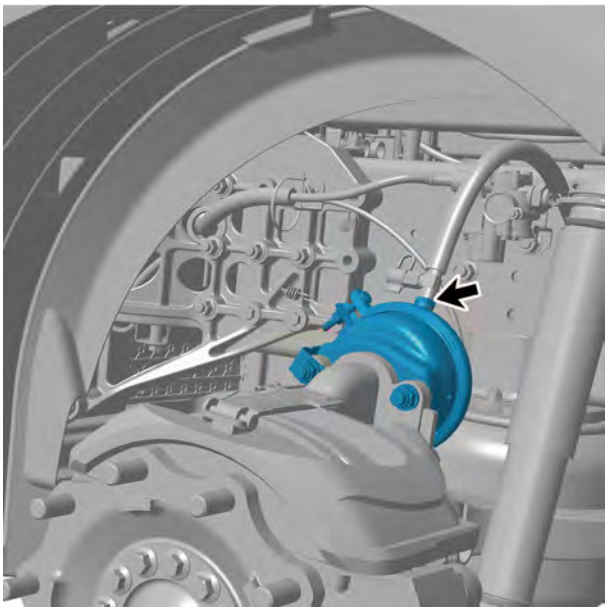
8.6.3.9 Replacement of Brake Chamber

Removal Procedures

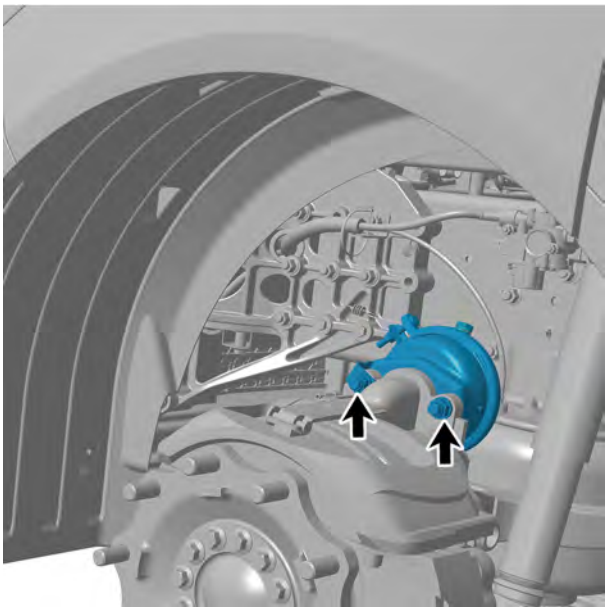
1 Release air pressure from the brake system.

2 Jack the front end of the vehicle.

3 Remove the guide wheel (left).



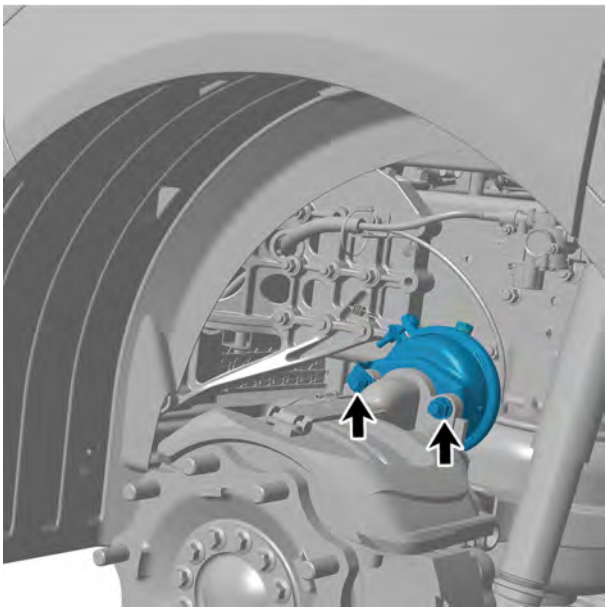
4 Disconnect 1 air pipe of the brake chamber (left).



5 Remove 2 fixing nuts of the brake chamber (left).

6 Remove the brake chamber (left).

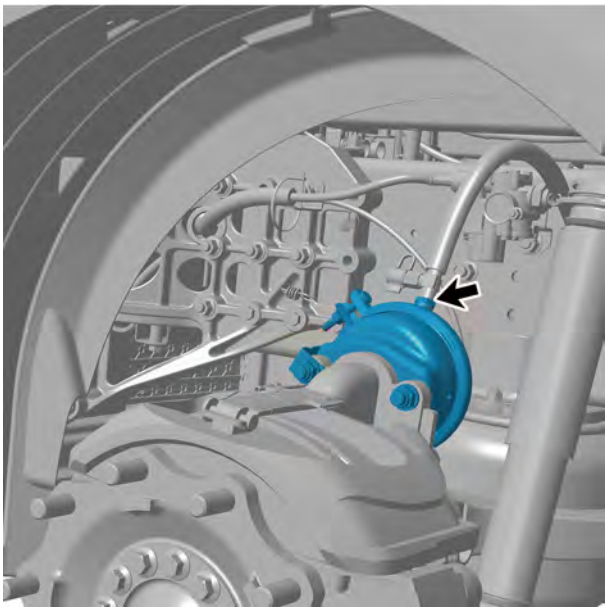
Installation Procedures



1 Move the brake chamber (left) to the mounting position.

2 Install 2 fixing nuts of the brake chamber (left).

Torque: 133 +/- 7.5 (ft lbs)



3 Connect 1 air pipe of the brake chamber (left).

4 Install the guide wheel (left).

5 Lower the front end of the vehicle.

8.6.3.10 Replacement of Left Upper Swing Arm Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

6 Remove the guide wheel (left).

7 Remove the front spring left upper mounting plate.

8 Remove the pressure sensor assembly.

9 Remove the front air spring assembly (left).

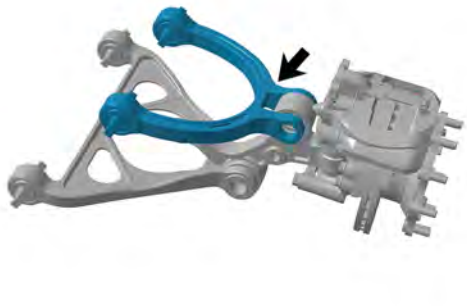
10 Remove the brake chamber (left).

11 Remove the front shock absorber assembly (left).

12 Remove the left front wheel end assembly.

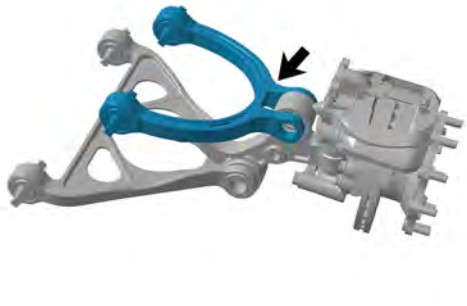
13 Remove the swing arm outside pivot (left).

14 Remove the left upper swing arm assembly.



Installation Procedures

1 Install the left upper swing arm assembly.



2 Install the swing arm outside pivot (left).

3 Install the left front wheel end assembly.

4 Install the front shock absorber assembly (left).

5 Install the brake chamber (left).

6 Install the front air spring assembly (left).

7 Install the pressure sensor assembly.

8 Install the front spring left upper mounting plate.

9 Install the guide wheel (left).

10 Lower the front end of the vehicle.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

caution

After part replacement, it is necessary to perform four-wheel alignment.

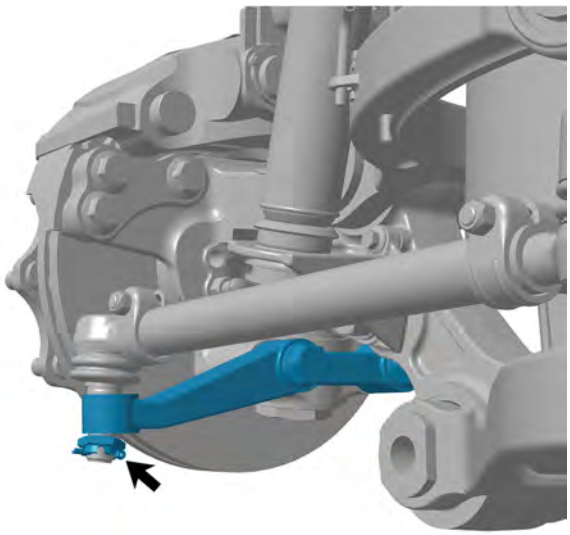
8.6.3.11 Replacement of Left Steering Arm

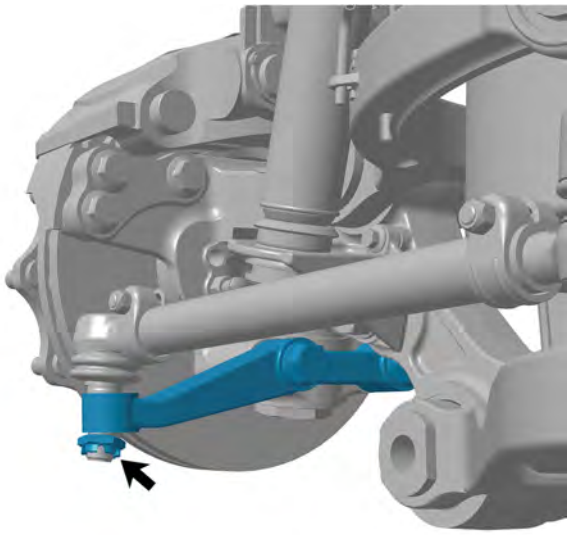
Removal Procedures

1 Jack the front end of the vehicle.

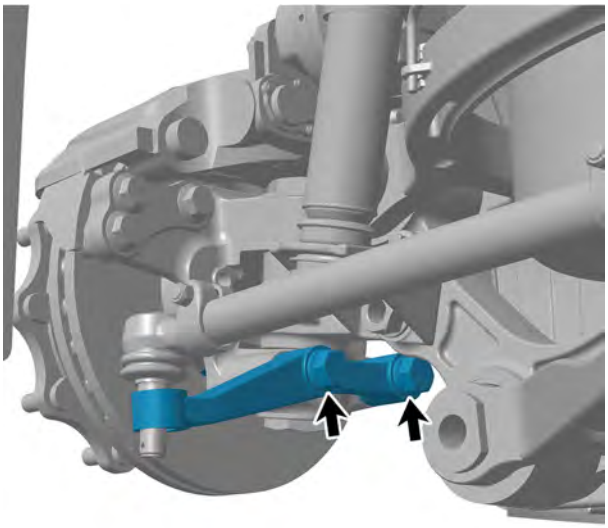
2 Remove the guide wheel (left).

3 Remove 1 cotter pin at the connection between the tie rod (left) and the left steering arm.





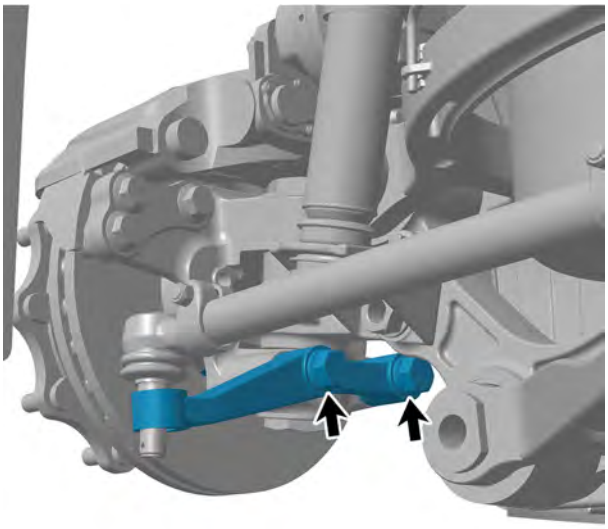
4 Remove 1 fixing nut at the connection between the tie rod (left) and the left steering arm to separate the tie rod (left).



5 Remove 2 fixing bolts of the left steering arm.

6 Remove the left steering arm.

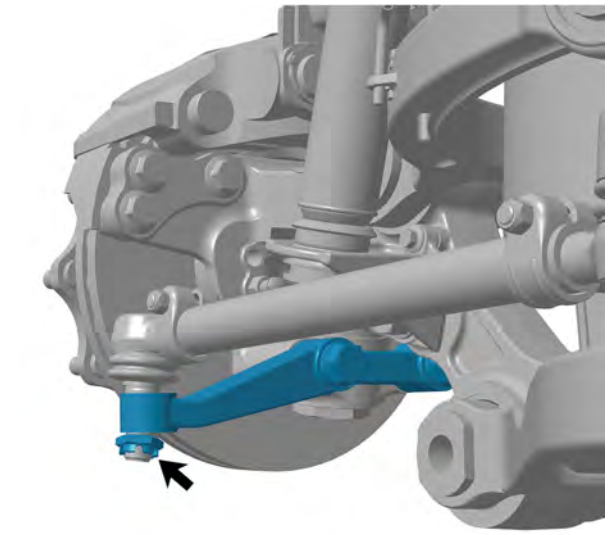
Installation Procedures



1 Move the left steering arm to the mounting position.

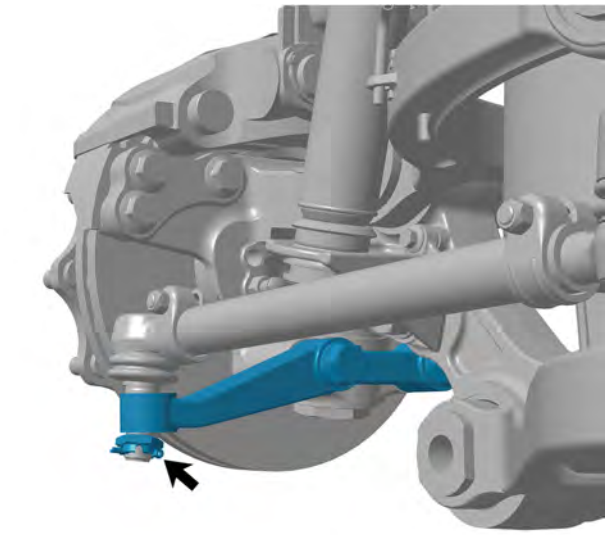
2 Install 2 fixing bolts of the left steering arm.

Torque:627 +/- 37 (ft lbs)



3 Install 1 fixing nut at the connection between the tie rod (left) and the left steering arm.

Torque:254.5 +/- 11 (ft lbs)



4 Install 1 cotter pin at the connection between the tie rod (left) and the left steering arm.

5 Install the guide wheel (left).

6 Lower the front end of the vehicle.

8.6.3.12 Replacement of Steering Knuckle

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

6 Remove the guide wheel (right).

7 Remove the brake chamber (right).

8 Remove the right front brake assembly.

9 Remove the hub flange assembly (left).

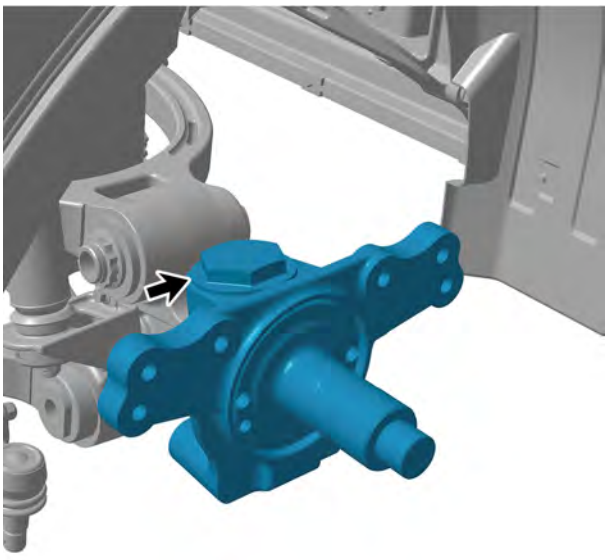
10 Remove the brake disc (right).

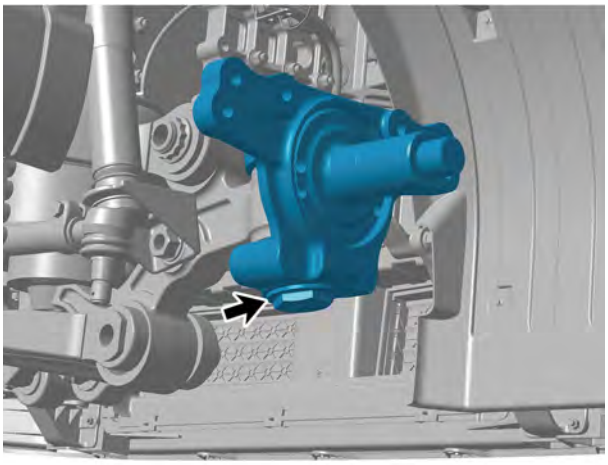
11 Remove the hub bearing unit (right).

12 Remove the right steering arm.

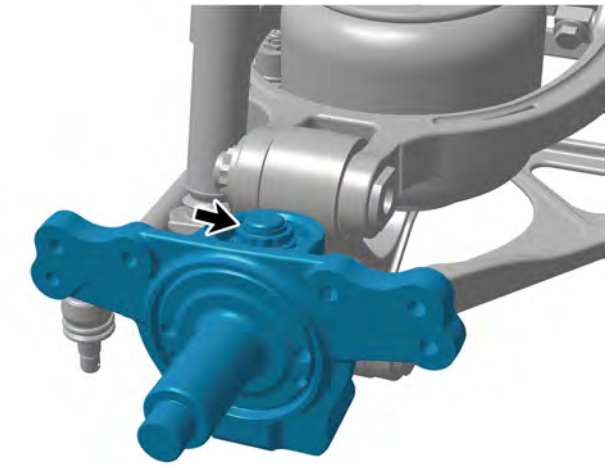
13 Remove the ABS sensor.

14 Remove the upper end cover.

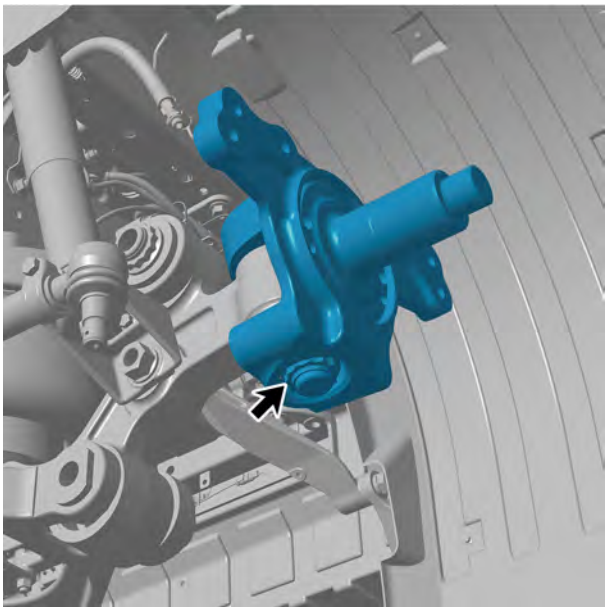




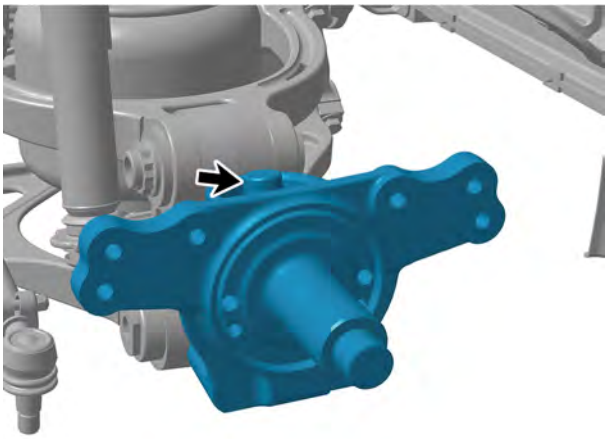
15 Remove the lower end cover.



16 Remove 1 fixing nut at the upper end of the steering knuckle (right).



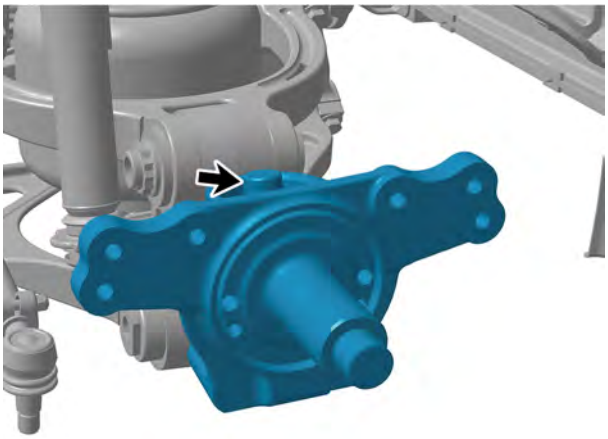
17 Remove 1 fixing nut at the lower end of the steering knuckle (right).



18 Remove the spindle.

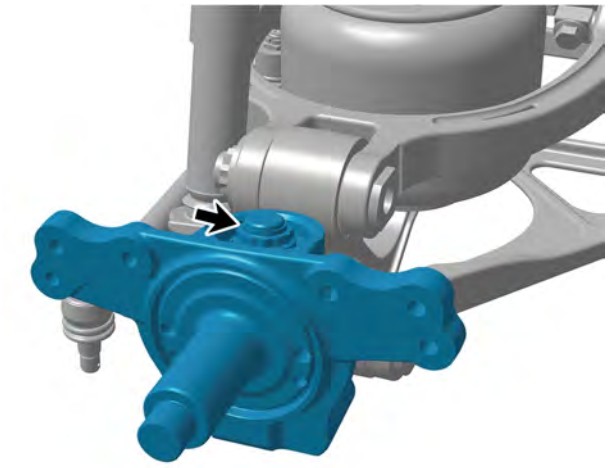
19 Remove the steering knuckle (right) and sealing ring.

Installation Procedures



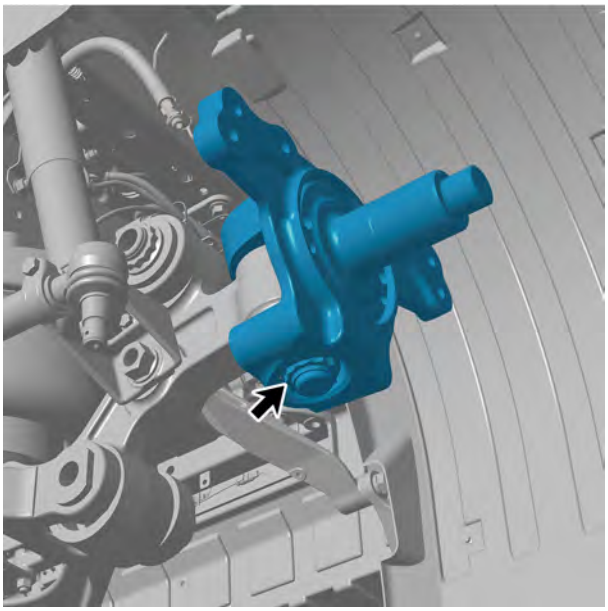
1 Press the thrust bearing and joint bearing into the steering knuckle hole, and then install the sealing ring into the steering knuckle.

2 Install the kingpin and connect the knuckle carrier.



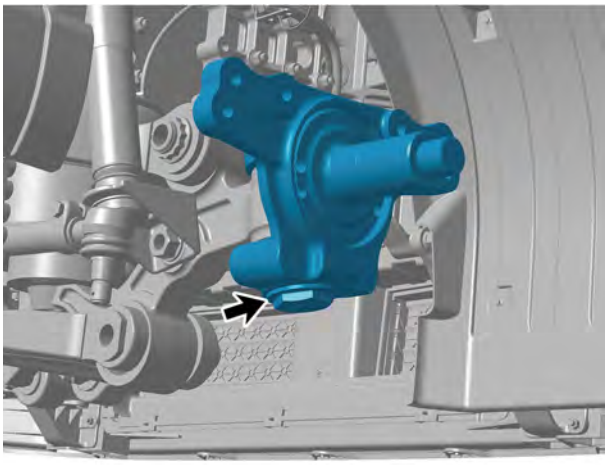
3 Install 1 fixing nut at the upper end of the steering knuckle (right).

Torque: 627 +/- 37 (ft lbs)



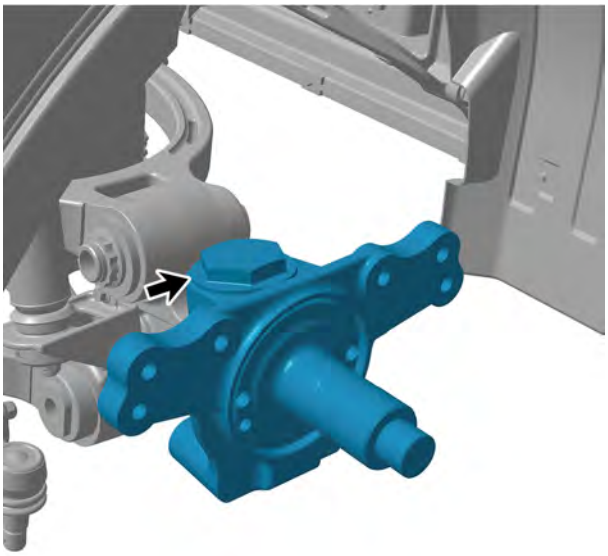
4 Install 1 fixing nut at the lower end of the steering knuckle (right).

Torque: 59 +/- 7.5 (ft lbs)



5 Install the lower end cover.

Torque: 147.5 +/- 14.75 (ft lbs)



6 Install the upper end cover.

Torque: 147.5 +/- 14.75 (ft lbs)

7 Install the ABS sensor.

8 Install the right steering arm.

9 Install the hub bearing unit (right).

10 Install the brake disc (right).

11 Install the hub flange assembly (left).

12 Install the right front brake assembly.

13 Install the brake chamber (right).

14 Install the guide wheel (right).

15 Lower the front end of the vehicle.

16 Connect the battery negative cable.

17 Close the front flip cover plate.

18 Close the door.

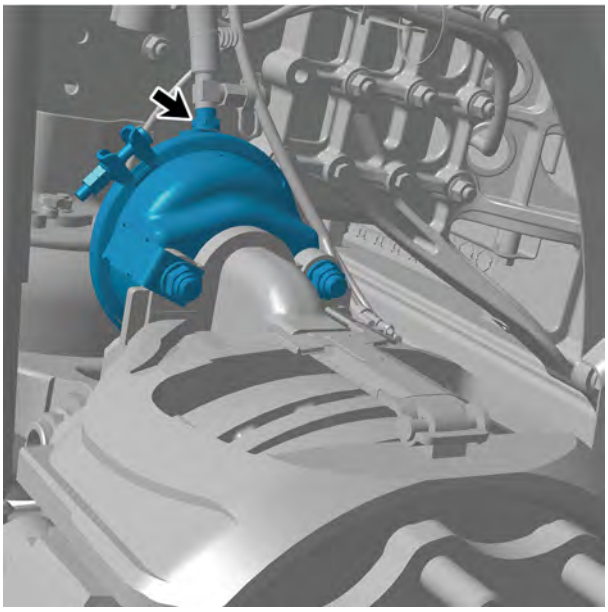
8.6.3.13 Replacement of Brake Chamber

Removal Procedures

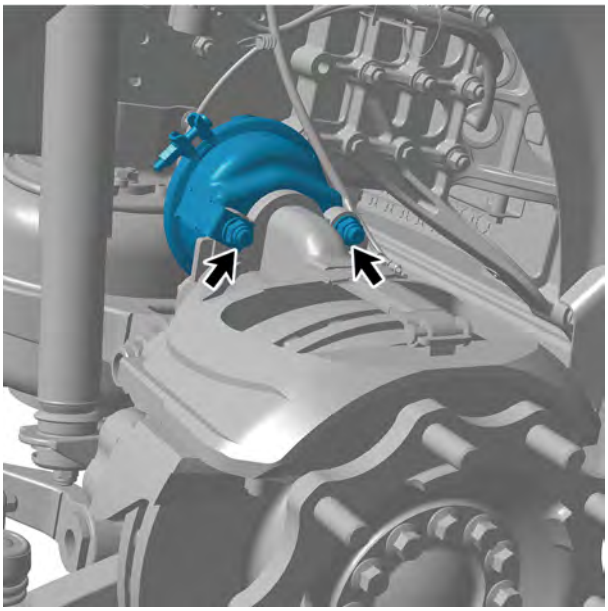
1 Release air pressure from the brake system.

2 Jack the front end of the vehicle.

3 Remove the guide wheel (right).



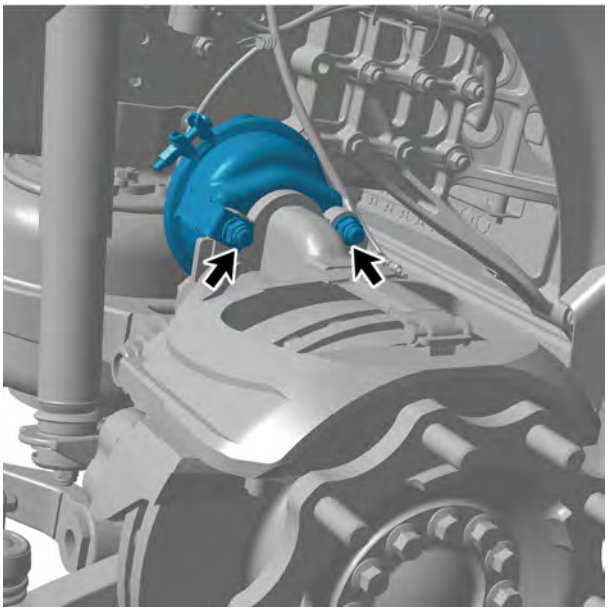
4 Disconnect 1 air pipe of the brake chamber (right).



5 Remove 2 fixing nuts of the brake chamber (right).

6 Remove the brake chamber (right).

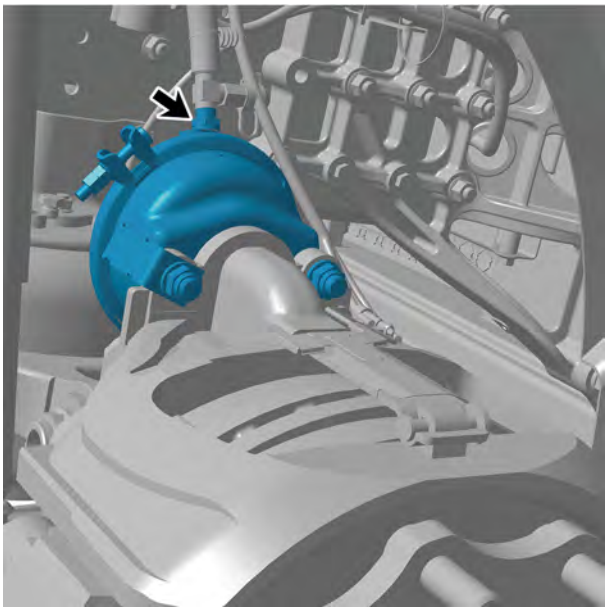
Installation Procedures



1 Move the brake chamber (right) to the mounting position.

2 Install 2 fixing nuts of the brake chamber (right).

Torque:133 +/- 7.5 (ft lbs)



3 Connect 1 air pipe of the brake chamber (right).

4 Install the guide wheel (right).

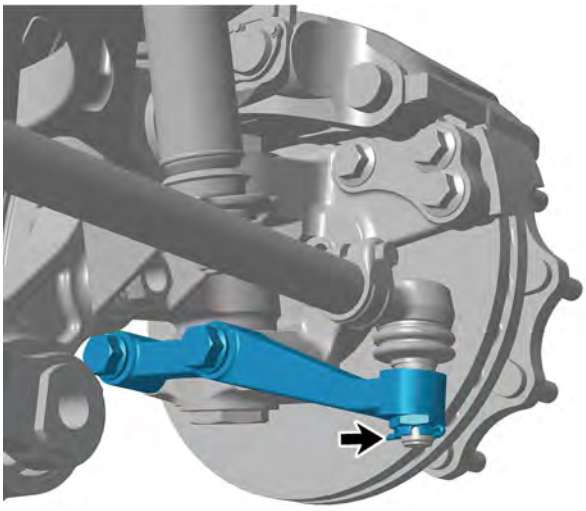
5 Lower the front end of the vehicle.

8.6.3.14 Replacement of Right Steering Arm

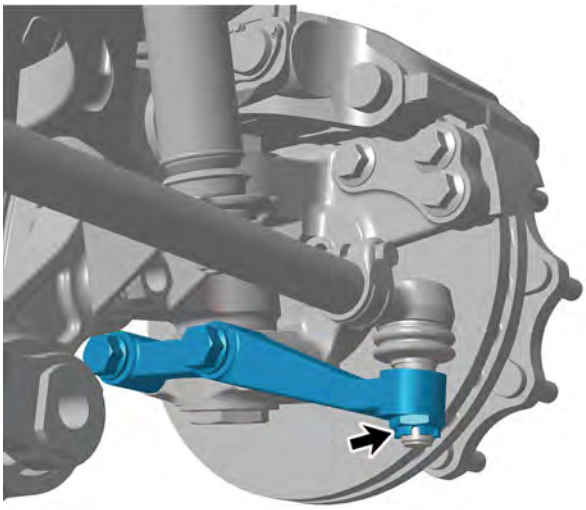
Removal Procedures

1 Jack the front end of the vehicle.

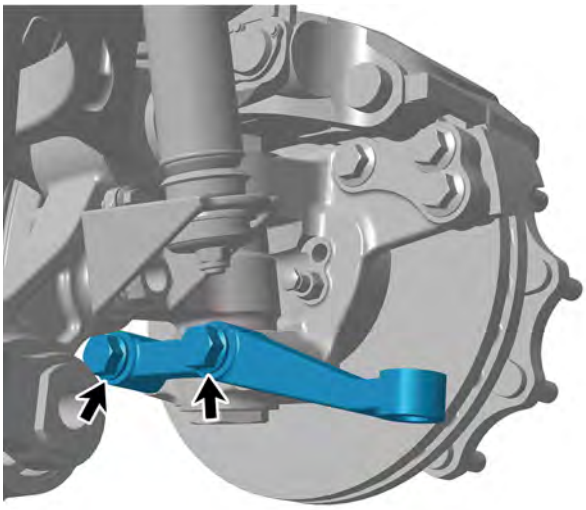
2 Remove the guide wheel (right).



3 Remove 1 cotter pin at the connection between the tie rod (right) and the right steering arm.



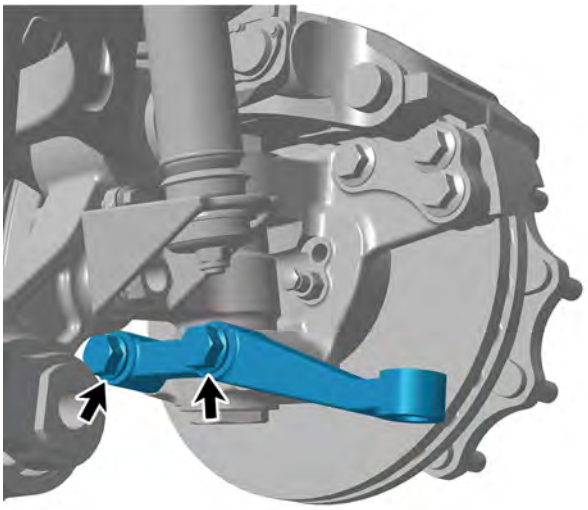
4 Remove 1 fixing nut at the connection between the tie rod (right) and the right steering arm to separate the tie rod (right).



5 Remove 2 fixing bolts of the right steering arm.

6 Remove the right steering arm.

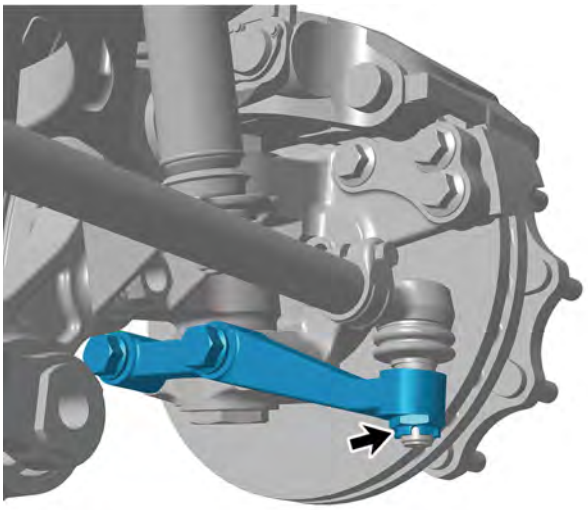
Installation Procedures



1 Move the right steering arm to the mounting position.

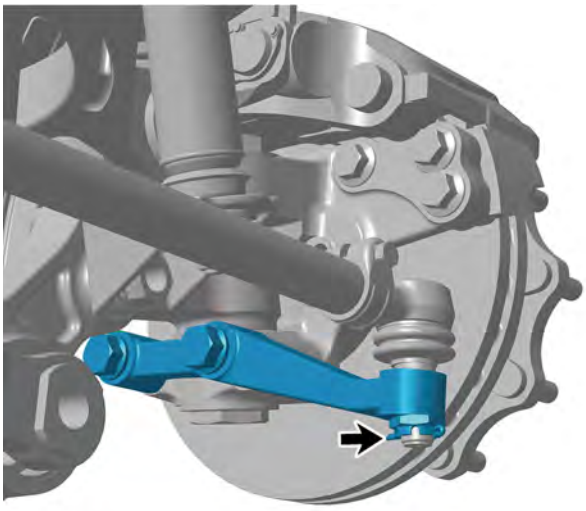
2 Install 2 fixing bolts of the right steering arm.

Torque:627 +/- 37 (ft lbs)



3 Install 1 fixing nut at the connection between the tie rod (right) and the right steering arm.

Torque: 255 +/- 11 (ft lbs)



4 Install 1 cotter pin at the connection between the tie rod (right) and the right steering arm.

5 Install the guide wheel (right).

6 Lower the front end of the vehicle.

8.6.3.15 Replacement of Brake Disc

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

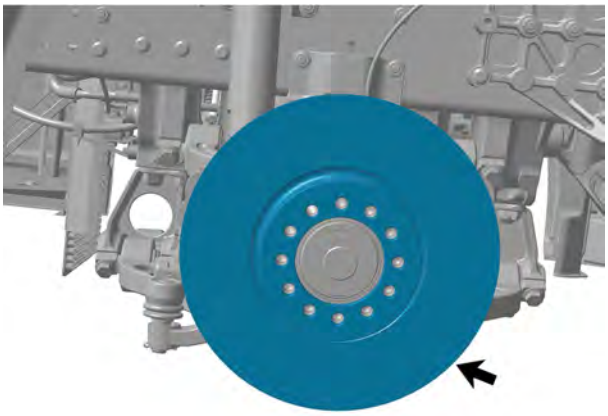
power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

6 Remove the guide wheel (right).

7 Remove the brake chamber (right).

8 Remove the right front brake assembly.



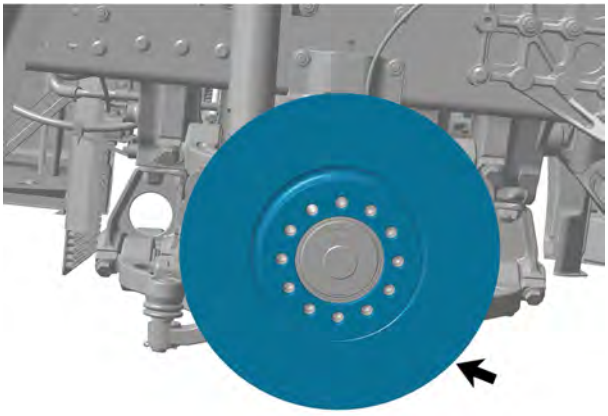
9 Remove the hub flange assembly (right) .

10 Remove the brake disc (right).

caution

Due to the heavy weight of the brake disc (right), it shall be removed with the help of an assistant.

Installation Procedures



1 Install the brake disc (right).

caution

Due to the heavy weight of brake disc (right), it shall be moved to the mounting position with the help of an assistant.

2 Install the hub flange assembly (right).

3 Install the right front brake assembly.

4 Install the brake chamber (right).

5 Install the guide wheel (right).

6 Lower the front end of the vehicle.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

8.6.3.16 Replacement of Right Front Brake Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

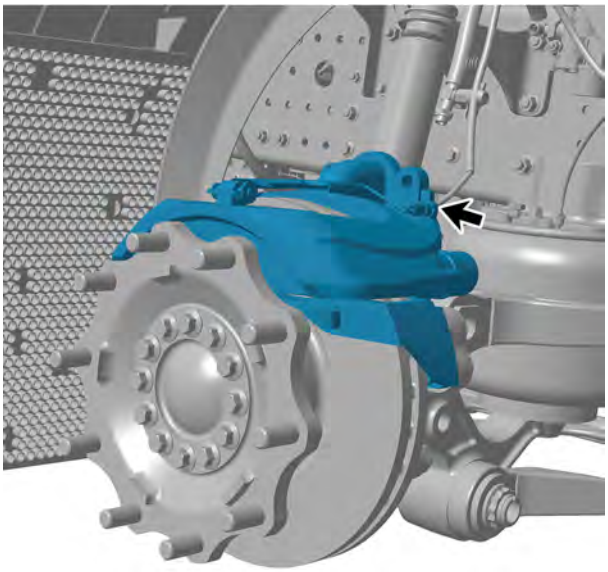
power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

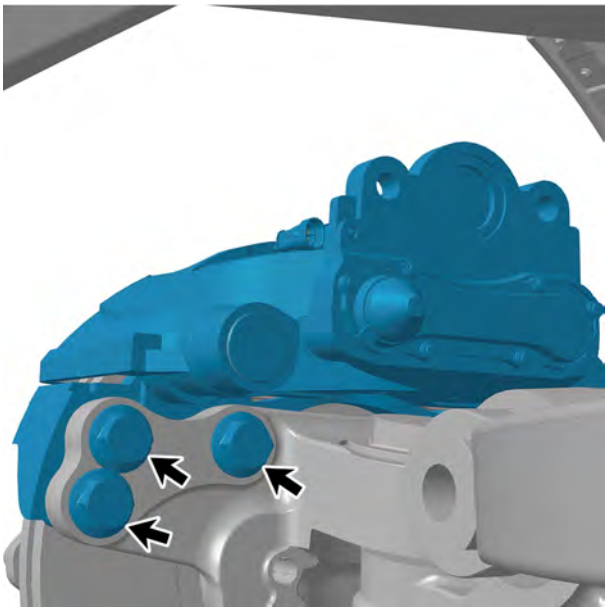
6 Remove the guide wheel (right).

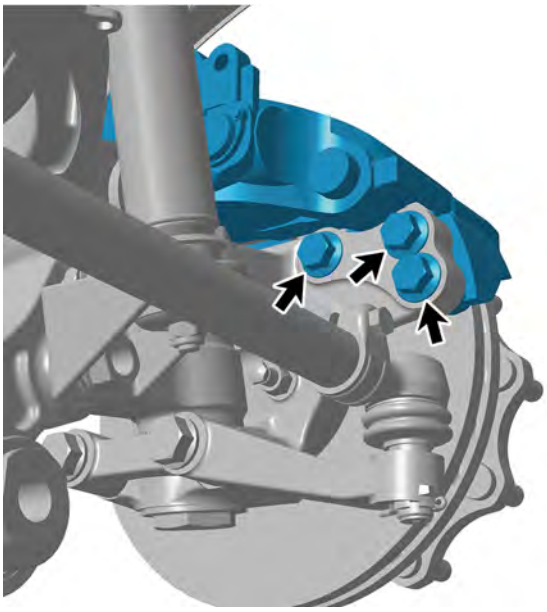
7 Remove the brake chamber (right).

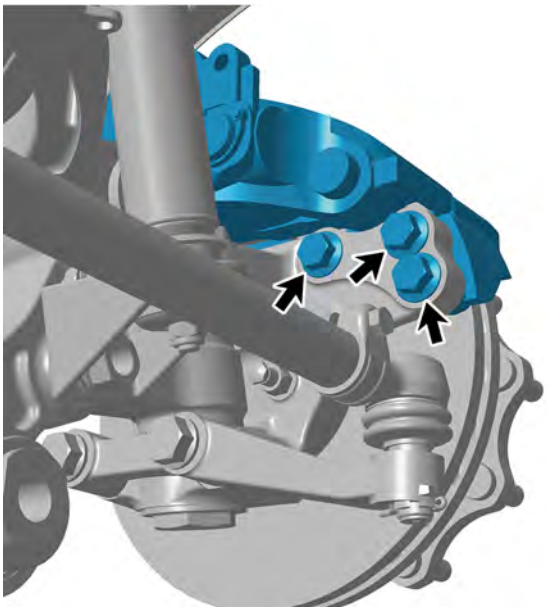
8 Disconnect 1 harness connector of the right front brake assembly.



9 Remove 6 fixing bolts of the right front brake assembly, and remove the right front brake assembly.





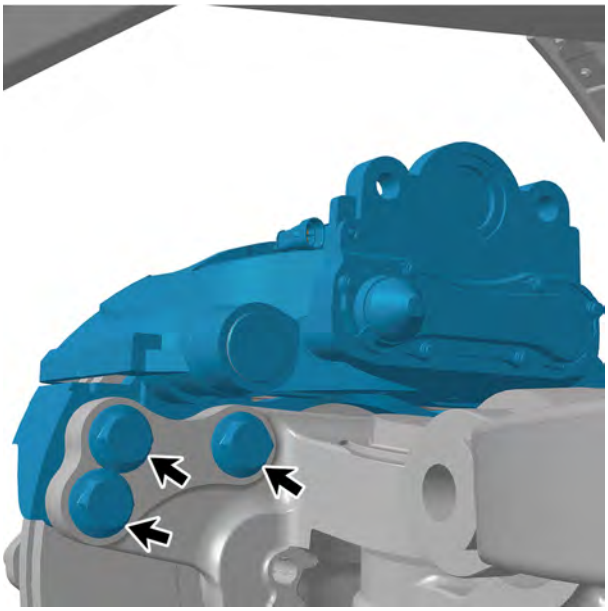


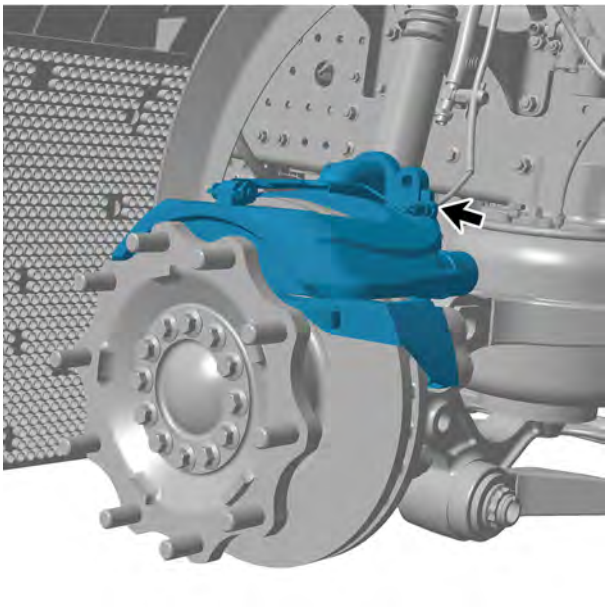
Installation Procedures

1 Move the right front brake assembly to the mounting position.

2 Install 6 fixing bolts of the right front brake assembly.

Torque:406 +/- 18.5 (ft lbs)





3 Connect 1 harness connector of the right front brake assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the brake chamber (right).

5 Install the guide wheel (right).

6 Lower the front end of the vehicle.

7 Connect the battery negative cable.

8 Close the front flip cover plate.

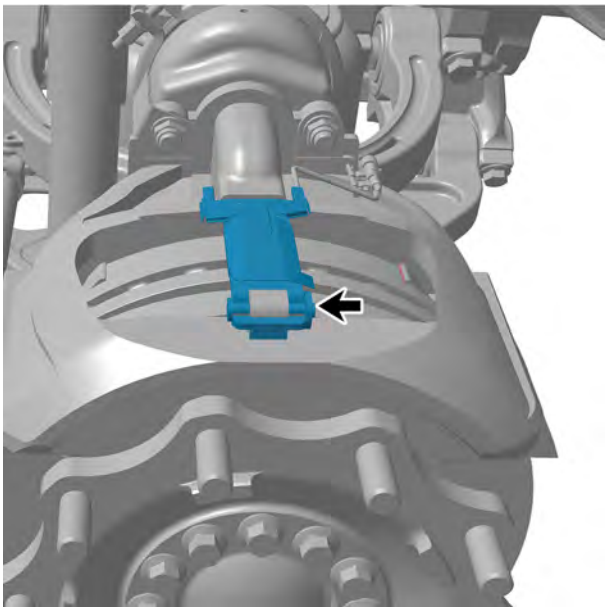
9 Close the door.

8.6.3.17 Replacement of Friction Plate

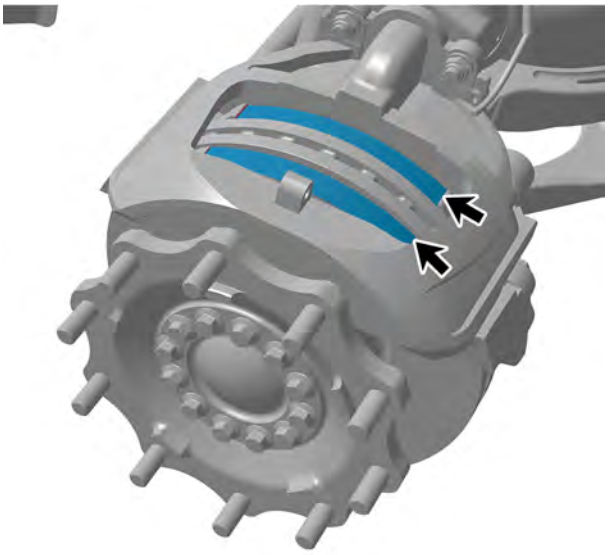
Removal Procedures

1 Jack the front end of the vehicle.

2 Remove the guide wheel (right).

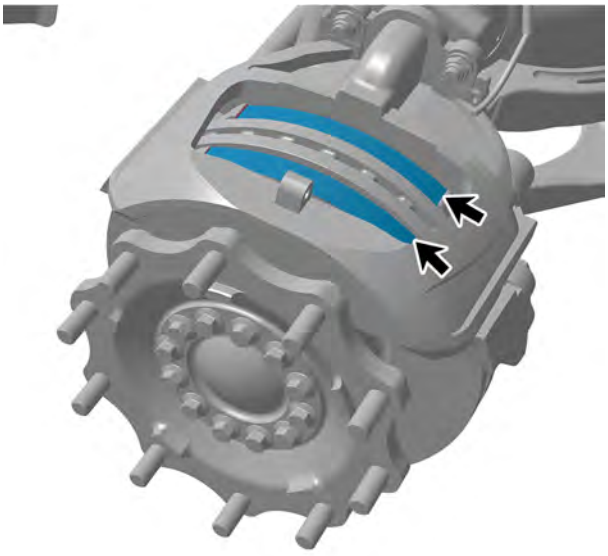


3 Remove 1 fixing pin of the friction plate (right) cover plate, and open the friction plate (right) cover plate.

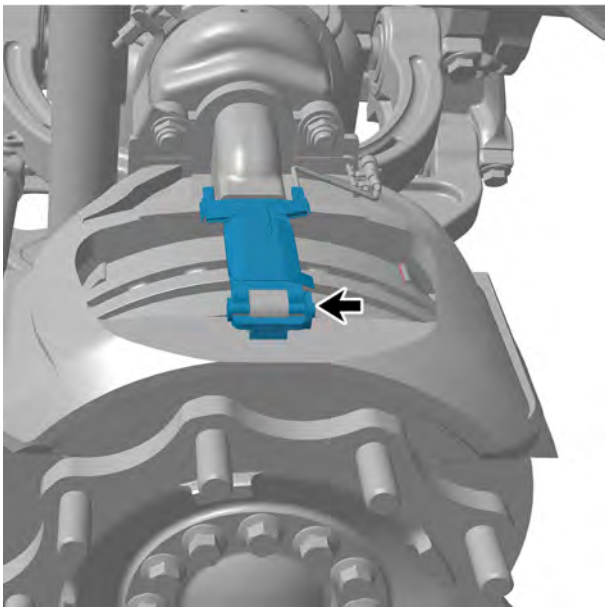


4 Remove the friction plate (right).

Installation Procedures



1 Install the friction plate (right).



2 Close the friction plate (right) cover plate, and install 1 fixing pin of the friction plate (right) cover plate.

3 Install the guide wheel (right).

4 Lower the front end of the vehicle.

8.6.3.18 Replacement of Right Front Brake Body

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

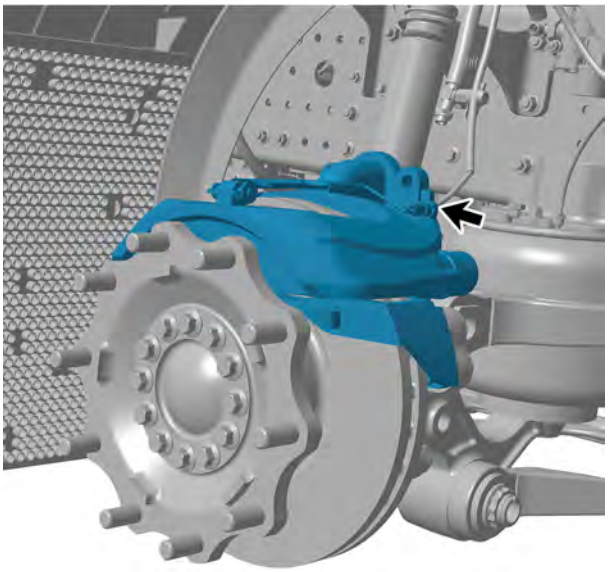
power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

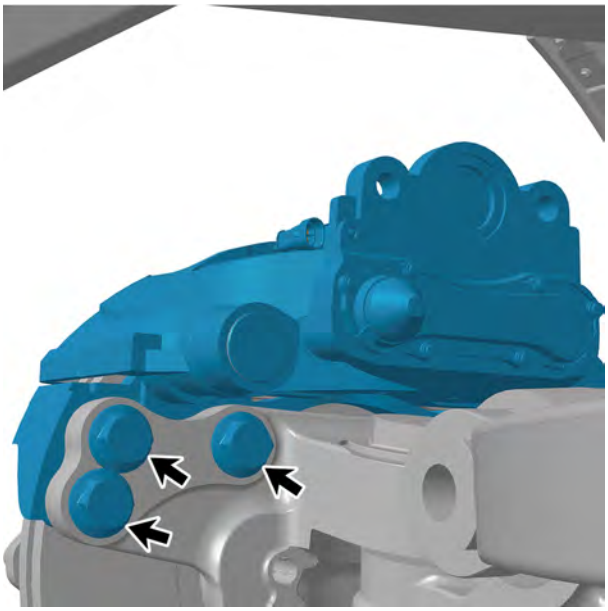
6 Remove the guide wheel (right).

7 Remove the brake chamber (right).

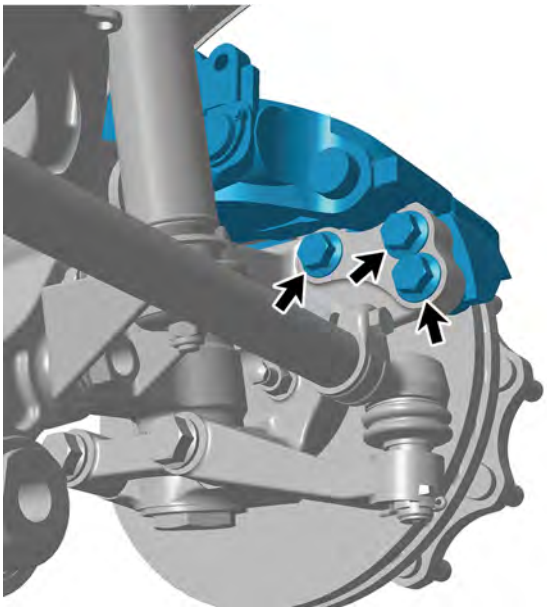
8 Remove the friction plate (right).

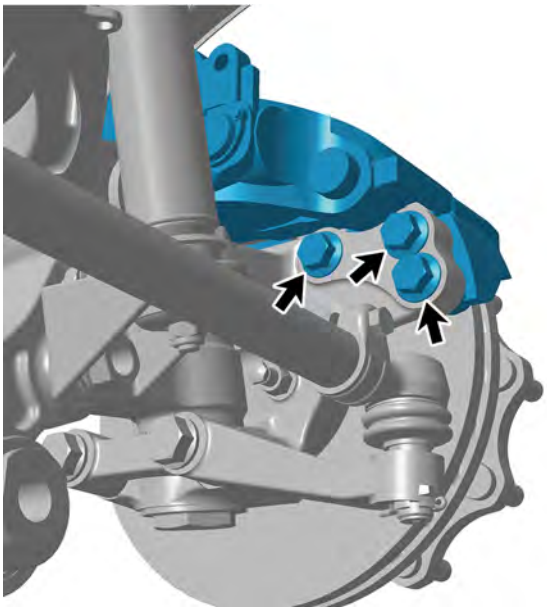


9 Disconnect 1 harness connector of the right front brake body.



10 Remove 6 fixing bolts of the right front brake body and remove the right front brake body.



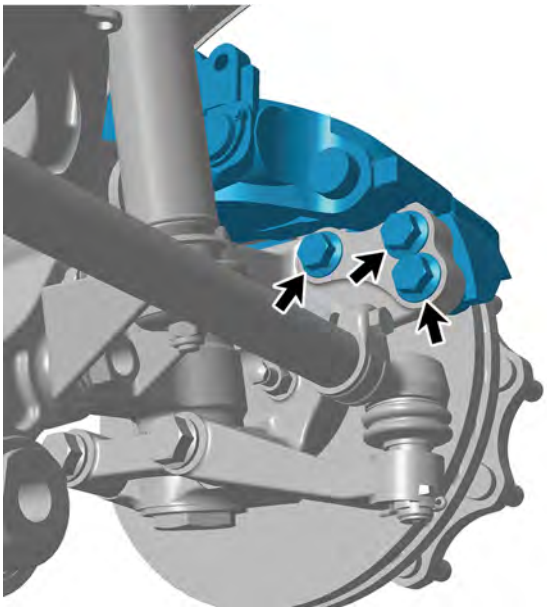


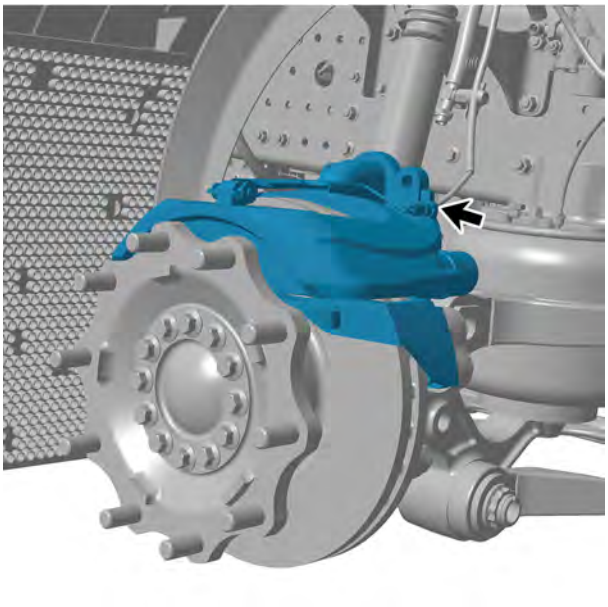
Installation Procedures

1 Move the right front brake body to the mounting position.

2 Install 6 fixing bolts of the right front brake body.

Torque: 405.5 +/- 18.5 (ft lbs)





3 Connect 1 harness connector of the right front brake body.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the friction plate (right).

5 Install the brake chamber (right).

6 Install the guide wheel (right).

7 Lower the front end of the vehicle.

8 Connect the battery negative cable.

9 Close the front flip cover plate.

10 Close the door.

8.6.3.19 Replacement of Hub Bearing Unit

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

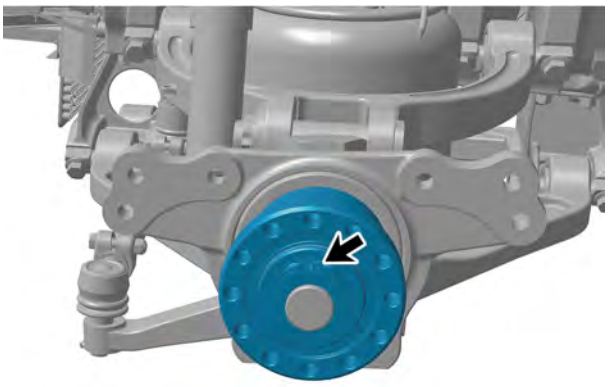
6 Remove the guide wheel (right).

7 Remove the brake chamber (right).

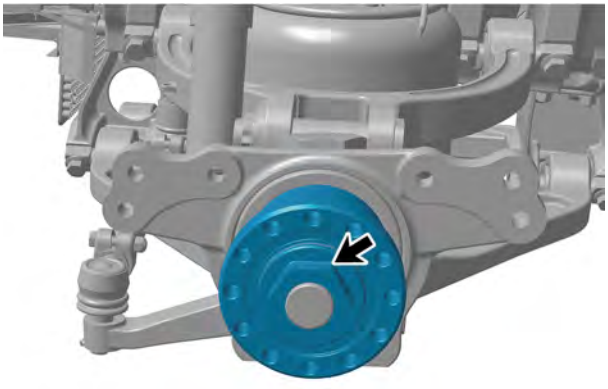
8 Remove the right front brake assembly.

9 Remove the hub flange assembly (right).

10 Remove the brake disc (right).



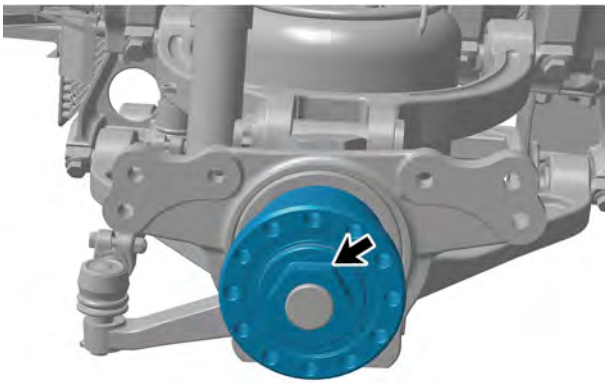
11 Remove the circlip.



12 Remove 1 lock nut of the hub bearing unit (right).

13 Remove the hub bearing unit (right).

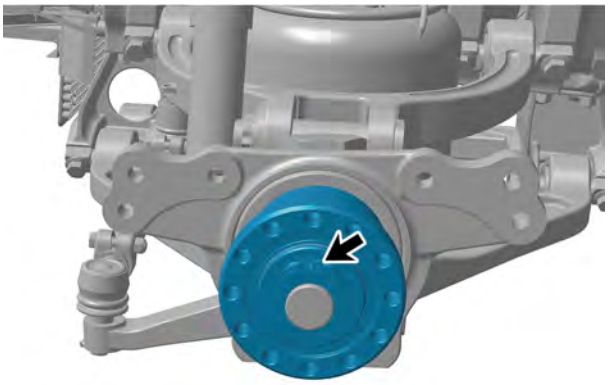
Installation Procedures



1 Move the hub bearing unit (right) to the mounting position.

2 Install 1 lock nut of the hub bearing unit (right).

Torque: 442.5 +/- 37 (ft lbs)



3 Install the circlip.

4 Install the brake disc (right).

5 Install the hub flange assembly (right).

6 Install the right front brake assembly.

7 Install the brake chamber (right).

8 Install the guide wheel (right).

9 Lower the front end of the vehicle.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

8.6.3.20 Replacement of Right Upper Swing Arm Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Jack the front end of the vehicle.

6 Remove the guide wheel (right).

7 Remove the front spring right upper mounting plate.

8 Remove the front air spring assembly (right).

9 Remove the brake chamber (right).

10 Remove the front shock absorber assembly (right).

11 Remove the right front wheel end assembly.

12 Remove the swing arm outside pivot (right).

13 Remove the right upper swing arm assembly.



Installation Procedures

1 Install the right upper swing arm assembly.



2 Install the swing arm outside pivot (right).

3 Install the right front wheel end assembly.

4 Install the front shock absorber assembly (right).

5 Install the brake chamber (right).

6 Install the front air spring assembly (right).

7 Install the front spring right upper mounting plate.

8 Install the guide wheel (right).

9 Lower the front end of the vehicle.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

12 Close the door.

caution

After part replacement, it is necessary to perform four-wheel alignment.

8.6.3.21 Replacement of Front Air Spring Assembly (left)

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

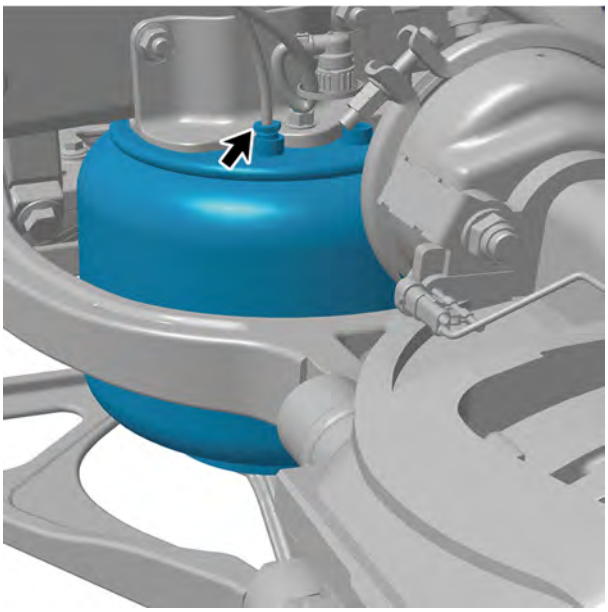
5 Jack the front end of the vehicle.

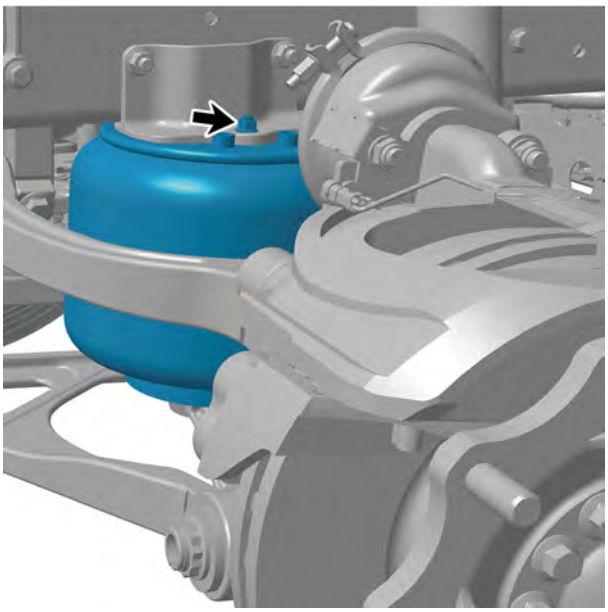
6 Remove the guide wheel (left).

7 Remove the front spring left upper mounting plate.

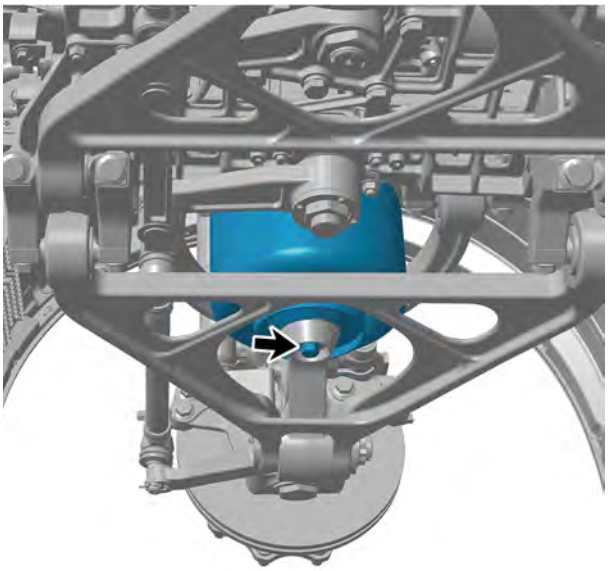
8 Remove the pressure sensor assembly.

9 Disconnect 1 air pipe of the front air spring assembly (left).





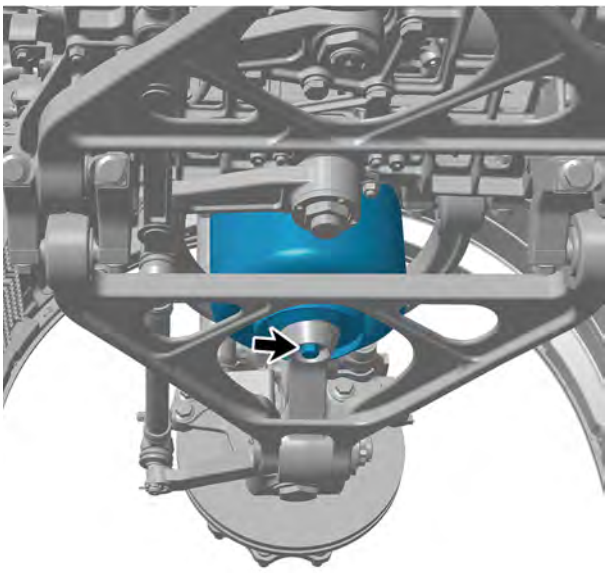
10 Remove 1 fixing nut at the upper part of the front air spring assembly (left).



11 Remove 1 fixing nut at the lower part of the front air spring assembly (left).

12 Remove the front air spring assembly (left).

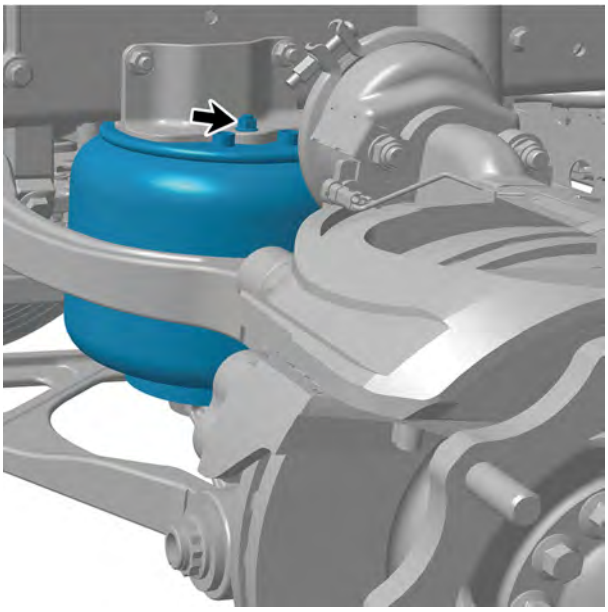
Installation Procedures



1 Move the front air spring assembly (left) to the mounting position.

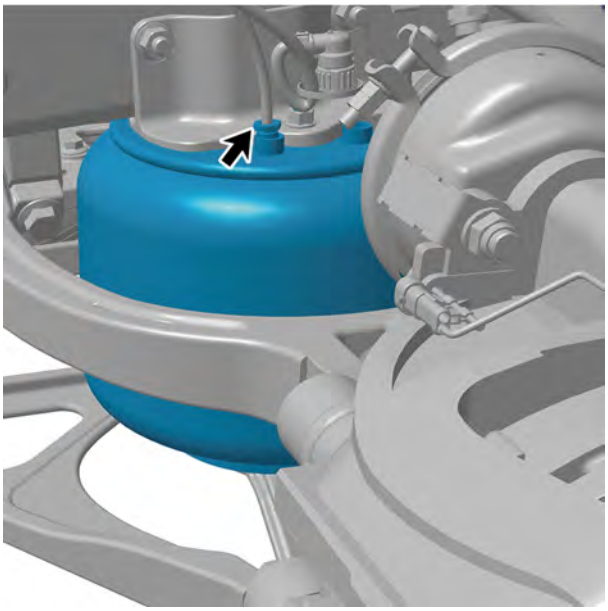
2 Install 1 fixing nut at the lower part of the front air spring assembly (left).

Torque: 199 +/- 18.5 (ft lbs)



3 Install 1 fixing nut at the upper part of the front air spring assembly (left).

Torque:40.5 +/- 3.5 (ft lbs)



4 Connect 1 air pipe of the front air spring assembly (left).

5 Install the pressure sensor assembly.

6 Install the front spring left upper mounting plate.

7 Install the guide wheel (left).

8 Lower the front end of the vehicle.

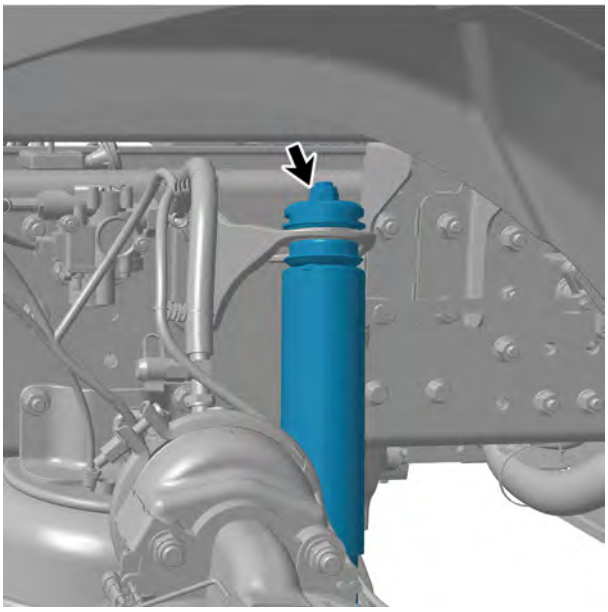
9 Connect the battery negative cable.

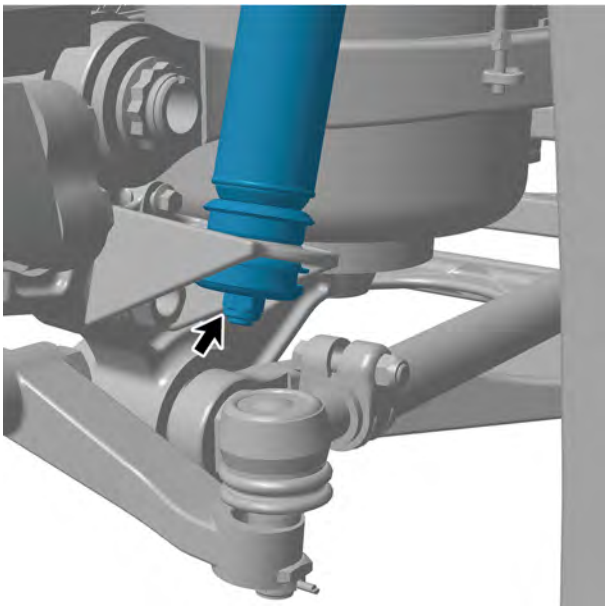
10 Close the front flip cover plate.

11 Close the door.

8.6.3.22 Replacement of Front Shock Absorber Assembly

Removal Procedures

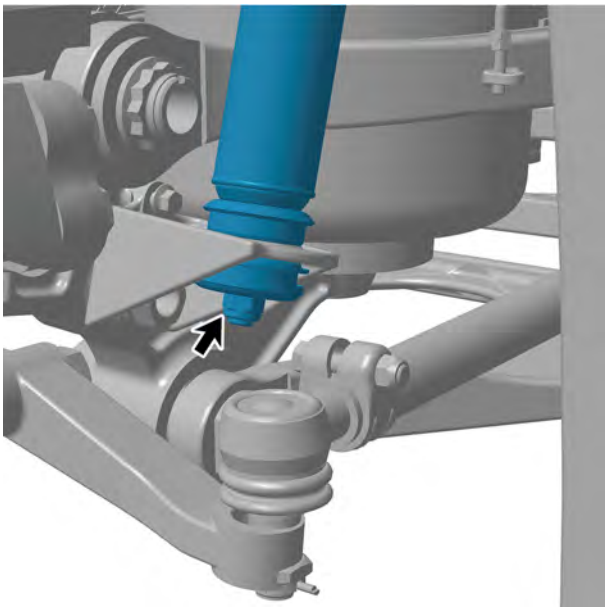


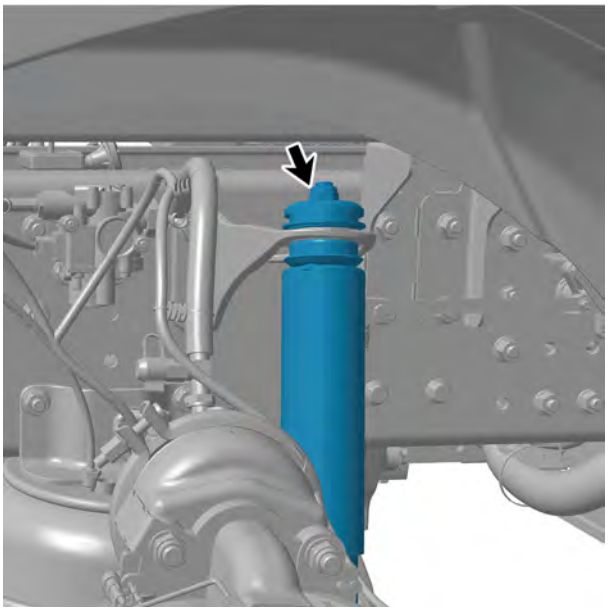


1 Jack the front end of the vehicle.

2 Remove 2 fixing nuts of the front shock absorber assembly, and remove the front shock absorber assembly.

Installation Procedures





1 Move the front shock absorber assembly to the mounting position.

2 Install 2 fixing nuts of the front shock absorber assembly.
Torque:66 +/- 7.5 (ft lbs)

3 Lower the front end of the vehicle.

8.7 Rear Suspension Device

8.7.1 Specifications

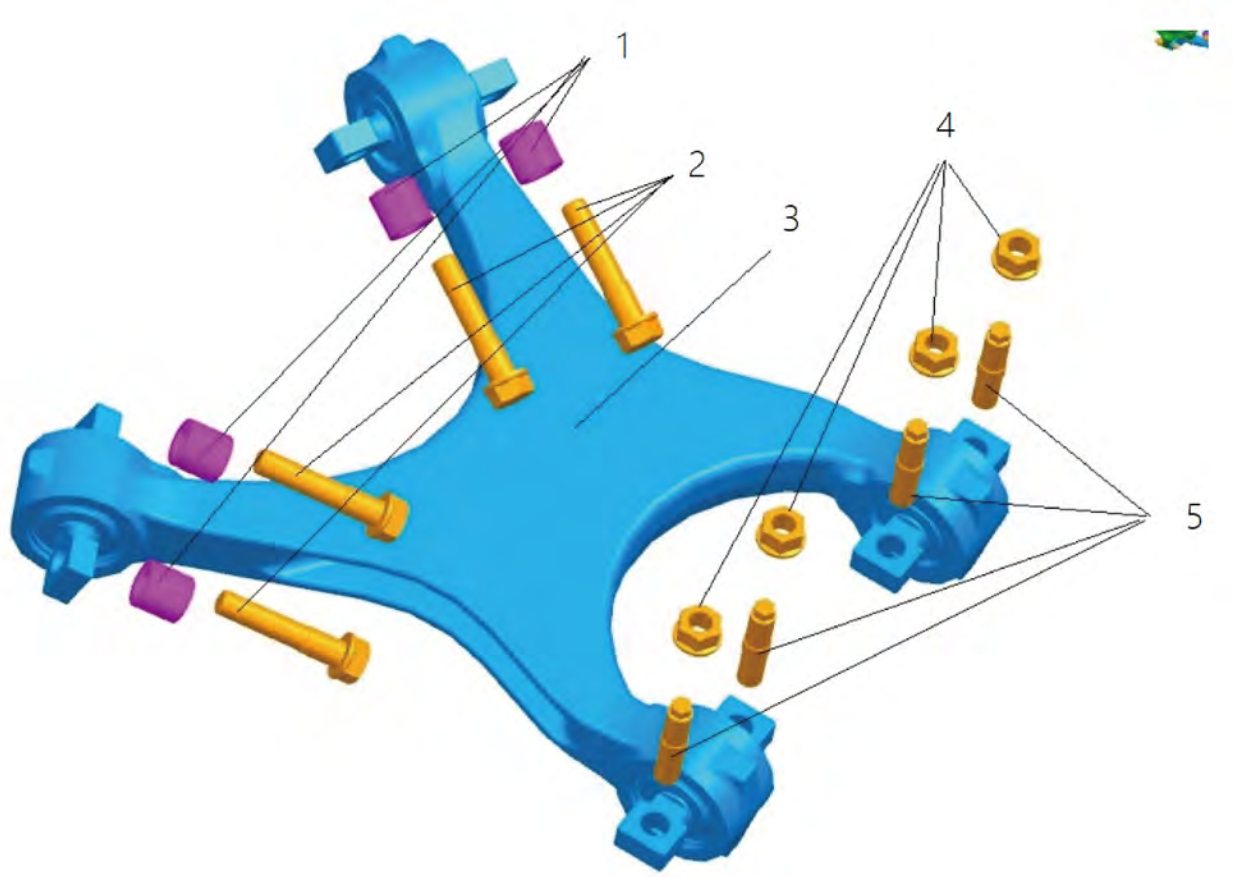
8.7.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the rear air spring assembly to the upper bracket of the air spring	M12	40.5 +/- 3.5 (ft lbs)
The fixing nut connecting the rear air spring assembly and the balance beam	M18	199 +/- 18.5 (ft lbs)
The fixing bolt connecting the bracket on the air spring to the frame assembly	M14	155 +/- 14.75 (ft lbs)
Fixed nut for balancing beam and integrated axle rear axle connection	M22	516 +/- 37 (ft lbs)
Fixed bolts connecting the pipe beam and thrust rod bracket	M16	228.5 +/- 84.5 (ft lbs)
The fixing nut connecting the pipe beam and the thrust rod bracket	M16	228.5 +/- 84.5 (ft lbs)
The fixing nut connecting the thrust rod bracket to the frame assembly	M16	228.5 +/- 84.5 (ft lbs)
The fixing bolt connecting the X-shaped control arm assembly to the pipe beam	M22	516 +/- 37 (ft lbs) (Loctite 680)
The fixing nut for the X-shaped control arm assembly and the integrated axle rear axle connection	M22	516 +/- 37 (ft lbs) (Loctite 680)
The fixed nut connecting the X-shaped control arm assembly and the integrated axle middle axle	M22	516 +/- 37 (ft lbs) (Loctite 680)
The fixing bolt connecting the shock absorber assembly (rear) and the balance beam	M20	516 +/- 37 (ft lbs) (Loctite 680)
The fixing bolt connecting the shock absorber assembly (rear) to the shock absorber bracket	M20	516 +/- 37 (ft lbs) (Loctite 680)
The fixing nut connecting the shock absorber assembly (rear) to the shock absorber bracket	M20	516 +/- 37 (ft lbs) (Loctite 680)
The fixing bolts connecting the shock absorber bracket to the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the shock absorber bracket to the frame assembly	M14	155 +/- 14.75 (ft lbs)

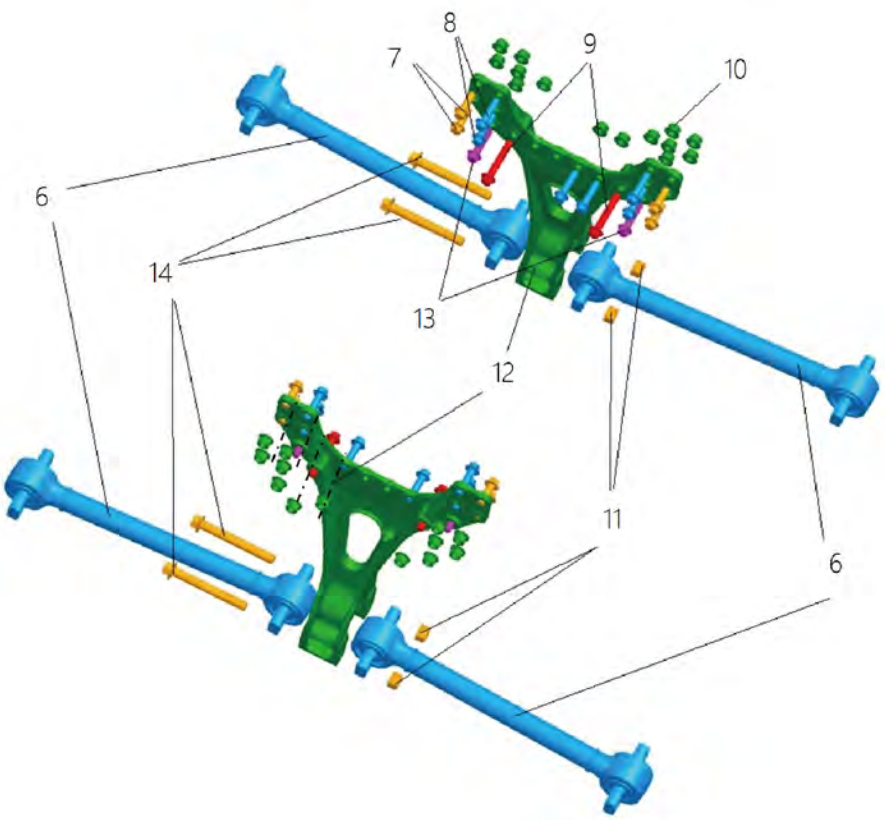
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the limit buffer block assembly and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolt connecting the limit buffer block assembly and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolts connecting the longitudinal thrust rod assembly and the thrust rod bracket	M20	516 +/- 37 (ft lbs) (Loctite 680)
The fixing nut connecting the longitudinal thrust rod assembly and the thrust rod bracket	M20	516 +/- 37 (ft lbs) (Loctite 680)
The fixing bolts connecting the longitudinal thrust rod assembly and the balance beam	M20	516 +/- 37 (ft lbs) (Loctite 680)
The fixing bolts connecting the longitudinal thrust rod assembly and the balance beam	M20	516 +/- 37 (ft lbs) (Loctite 680)

8.7.2 Decomposition Diagram

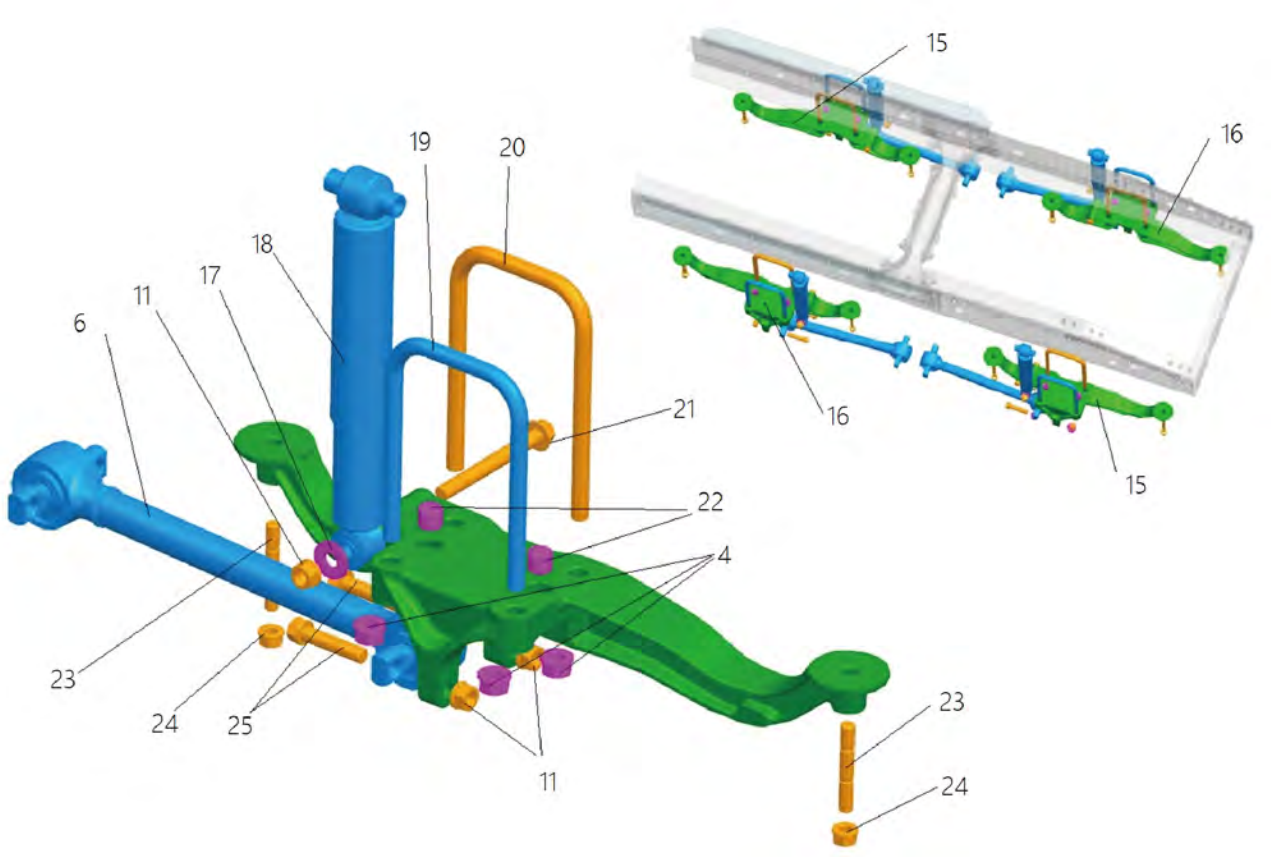
8.7.2.1 Decomposition Diagram



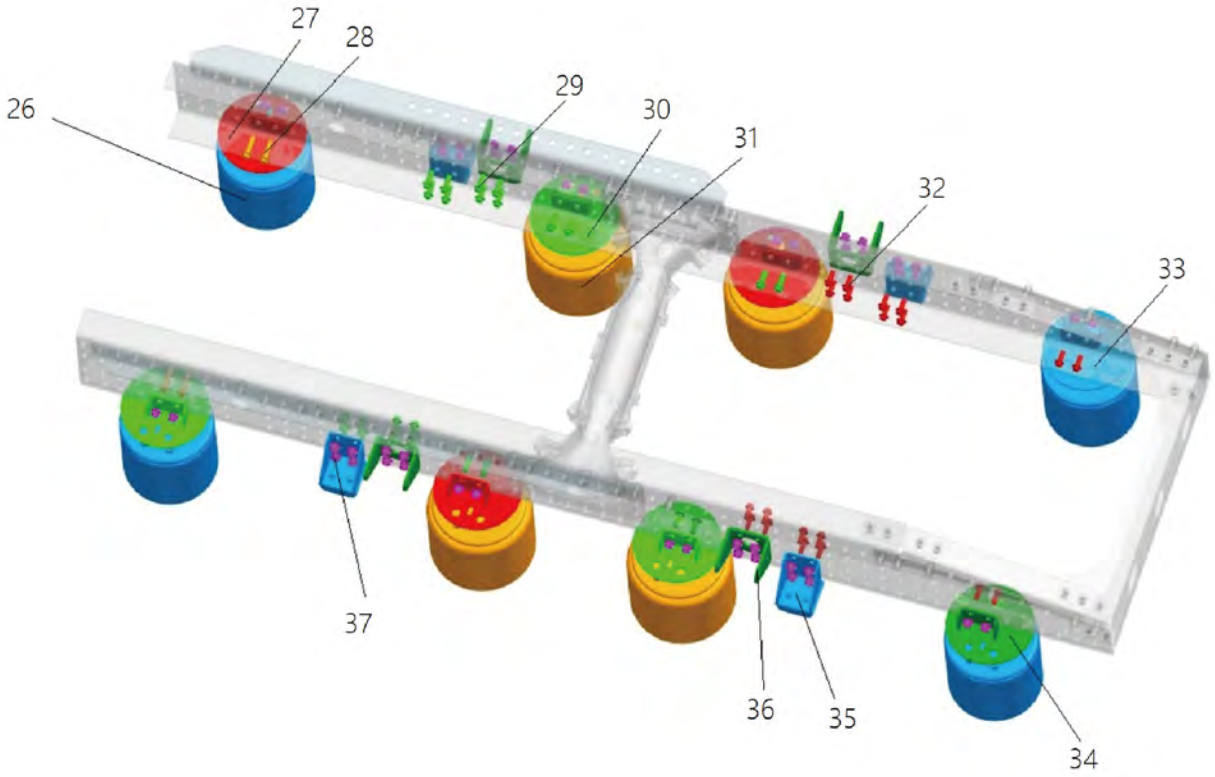
1. Bush
2. Hexagon Flange Bolt M22x1.5
3. X-Link Bracket Assy
4. Nut M22x1.5(Spiralock)
5. Double Stud M22x2.5x1.5



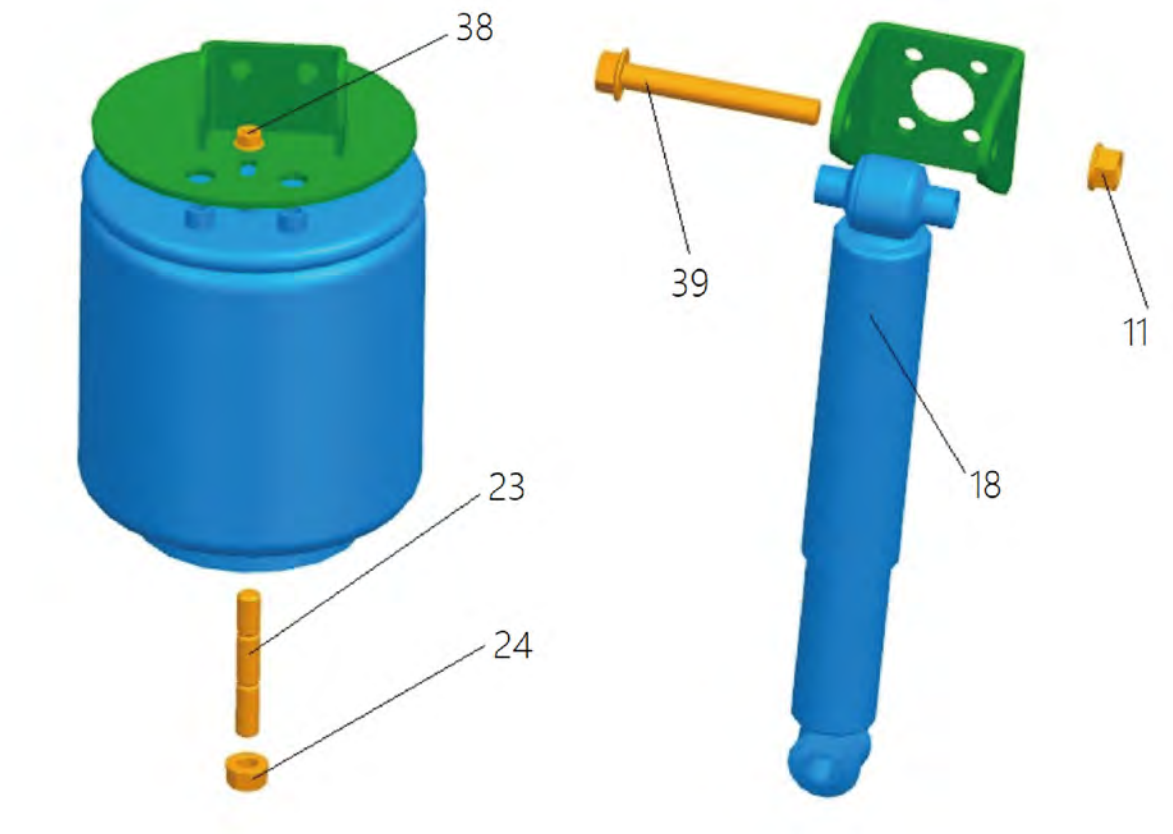
6. Trailing Arm Assy
7. Hexagon Flange Bolt
8. Hexagon Flange Bolt
9. Hexagon Flange Bolt
10. Hexagon Flange Lock Nut_All Metal
11. Nut M20x1.5(Spiralock)
12. Trailing Arm Bravket
13. Hexagon Flange Bolt
14. Hexagon Flange Bolt



4.	Nut M22x1.5(Spiralock)	19.	U-Bolt1
6.	Trailing Arm Assy	20.	U-Bolt2
11.	Nut M20x1.5(Spiralock)	21.	Hexagon Flange Bolt
15.	Axle Pressure Equalizer-Left	22.	Equalizer Pin
16.	Axle Pressure Equalizer-Right	23.	Double Stud M18x2x1.5
17.	Shock Absorber Lower Gasket	24.	Nut M18x1.5(Spiralock)
18.	Rear Shock Absorber Assy	25.	Hexagon Flange Bolt



26.	Air Spring-260	32.	Hexagon Flange Bolt
27.	Air Spring Mounting Bracket 4	33.	Air Spring Mounting Bracket 2
28.	Hexagon Flange Bolt	34.	Air Spring Mounting Bracket 1
29.	Hexagon Flange Bolt	35.	Buffering Stopper Assy
30.	Air Spring Mounting Bracket 3	36.	Shock Absorber Bracket
31.	Air Spring-280	37.	Hexagon Flange Lock Nut_All Metal



11. Nut M20x1.5(Spiralock)
18. Rear Shock Absorber Assy
23. Double Stud M18x2x1.5
24. Nut M18x1.5(Spiralock)
38. Nut M12x1.5(Spiralock)
39. Hexagon Flange Bolt

8.7.3 Dismantling and Installation

8.7.3.1 Replacement of Rear Air Spring Assembly - 260

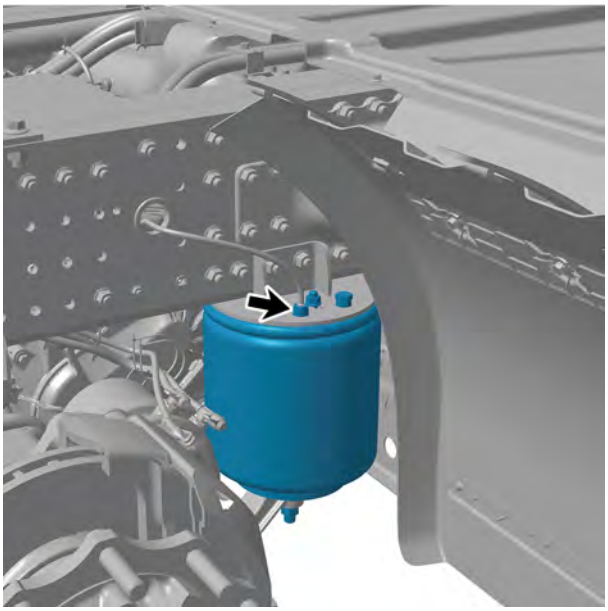
Removal Procedures

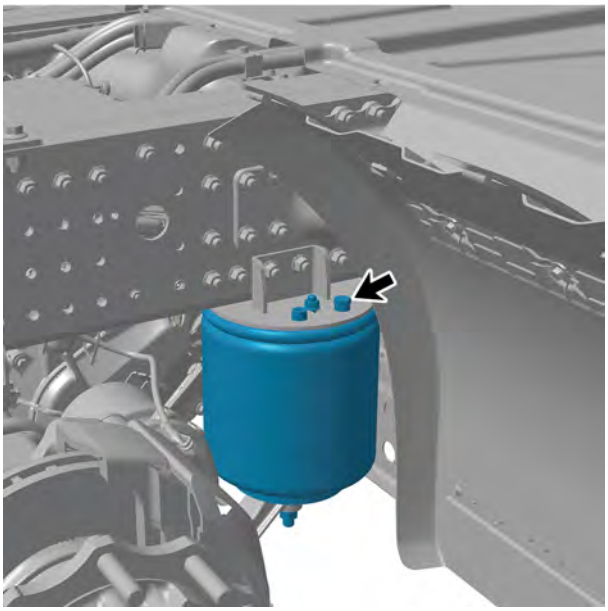
1 Turn off the vehicle power and place the parking wedge to prevent the vehicle from rolling.

2 Jack the rear end of the vehicle.

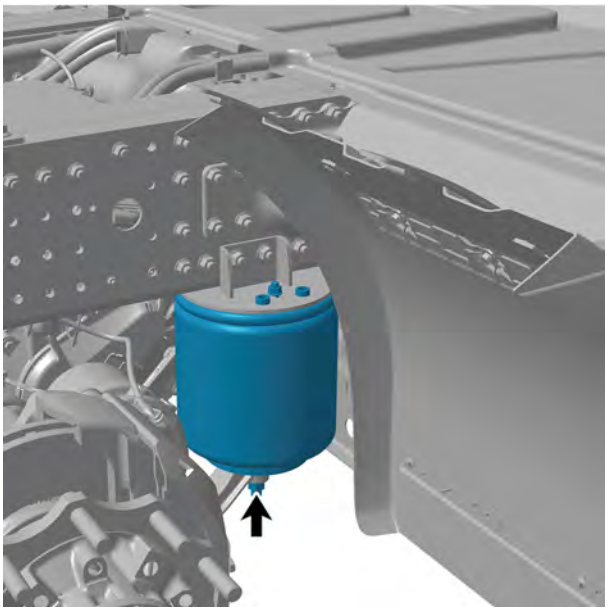
3 Remove the drive wheel (right front)

4 Disconnect 1 pipeline of the rear air spring assembly - 260.

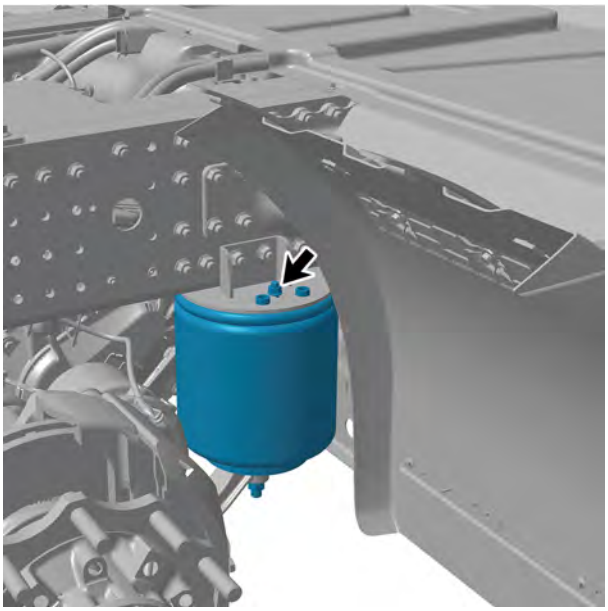




5 Remove 1 plug of the rear air spring assembly - 260.



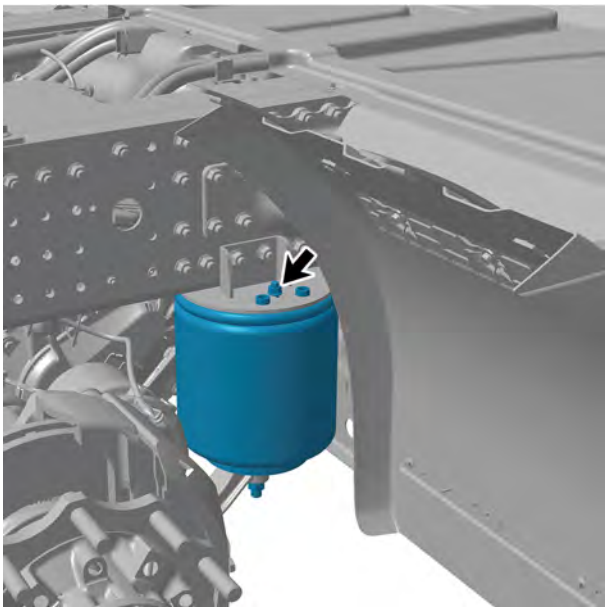
6 Remove 1 fixing nut of the rear air spring assembly - 260.



7 Remove 1 fixing nut of the rear air spring assembly - 260.

8 Remove the rear air spring assembly - 260.

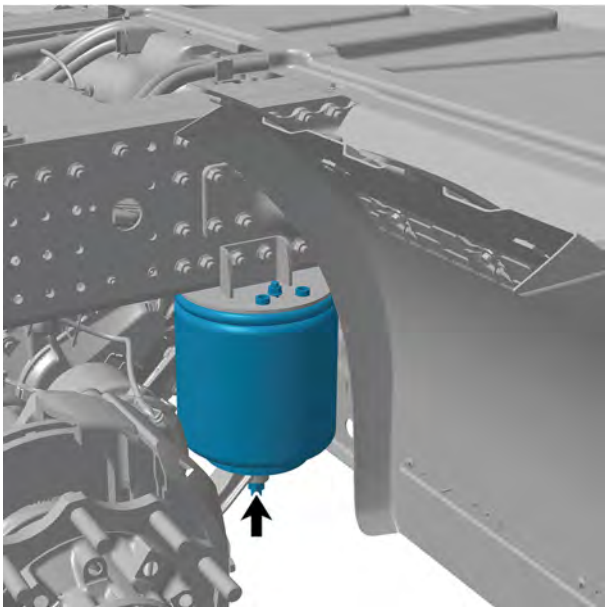
Installation Procedures



1 Move the rear air spring assembly - 260 to the mounting position.

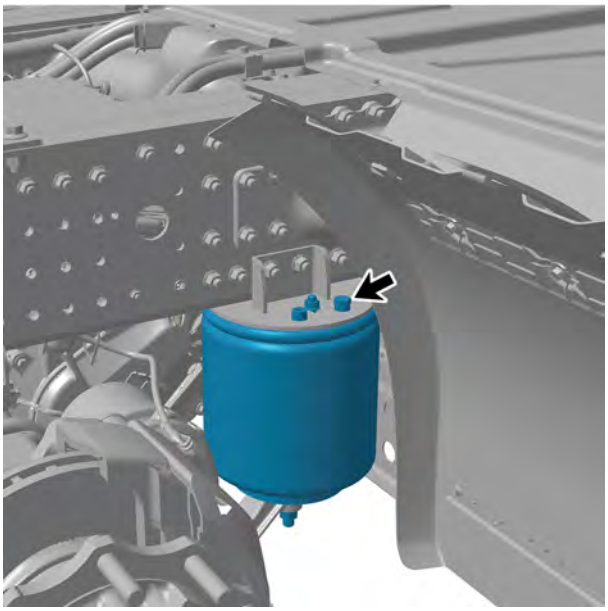
2 Install 1 fixing nut of the rear air spring assembly - 260.

Torque: 40.5 +/- 3.5 (ft lbs)



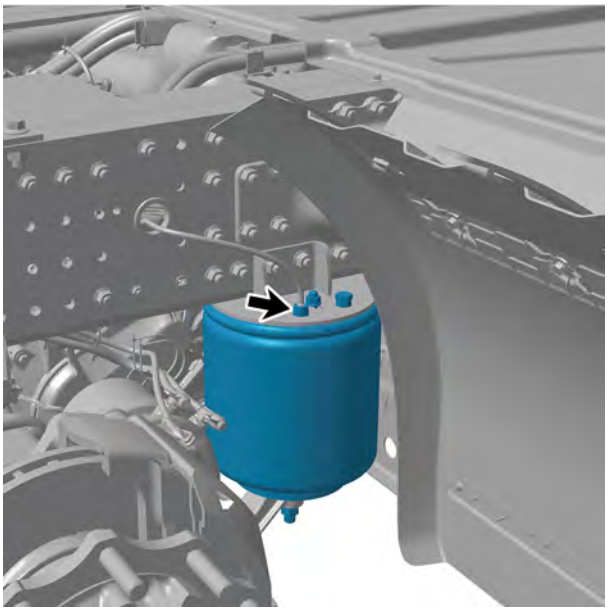
3 Install 1 fixing nut of the rear air spring assembly - 260.

Torque: 199 +/- 18.5 (ft lbs)



4 Install 1 plug of the rear air spring assembly - 260.

Torque:7.5 - 12 (ft lbs)



5 Connect 1 pipeline of the rear air spring assembly - 260.

6 Install the drive wheel (right front).

7 Lower the rear end of the vehicle.

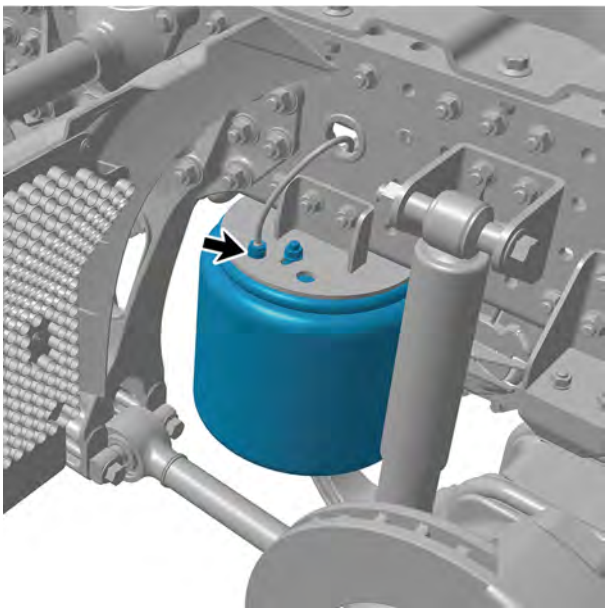
8.7.3.2 Replacement of Rear Air Spring Assembly - 280

Removal Procedures

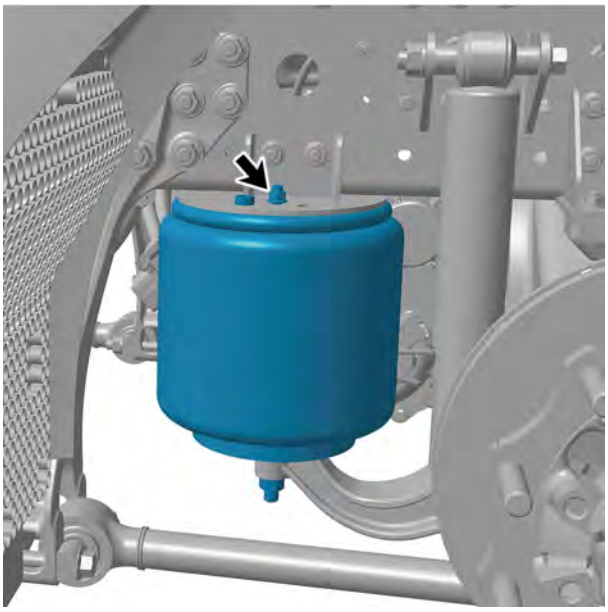
1 Turn off the vehicle power and place the parking wedge to prevent the vehicle from rolling.

2 Jack the rear end of the vehicle.

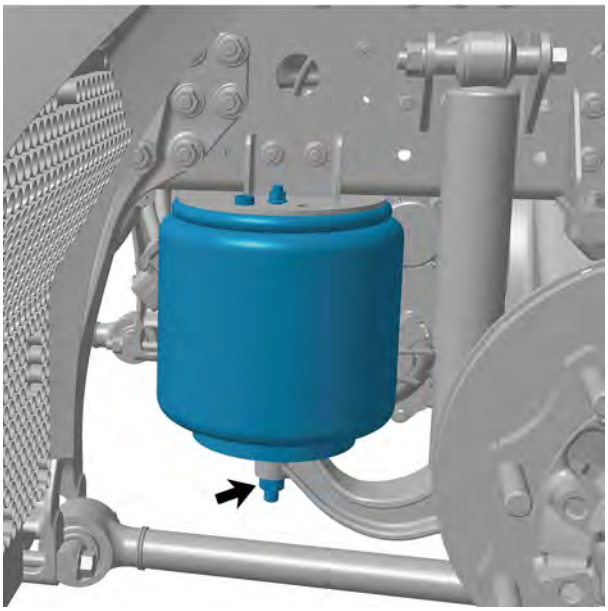
3 Remove the drive wheel (right front)



4 Disconnect 1 pipeline of the rear air spring assembly - 280.



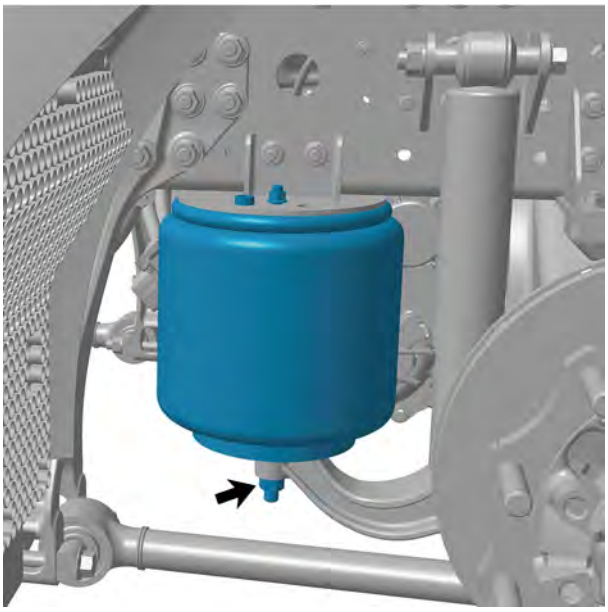
5 Remove 1 fixing nut of the rear air spring assembly - 280.



6 Remove 1 fixing nut of the rear air spring assembly - 280.

7 Remove the rear air spring assembly - 280.

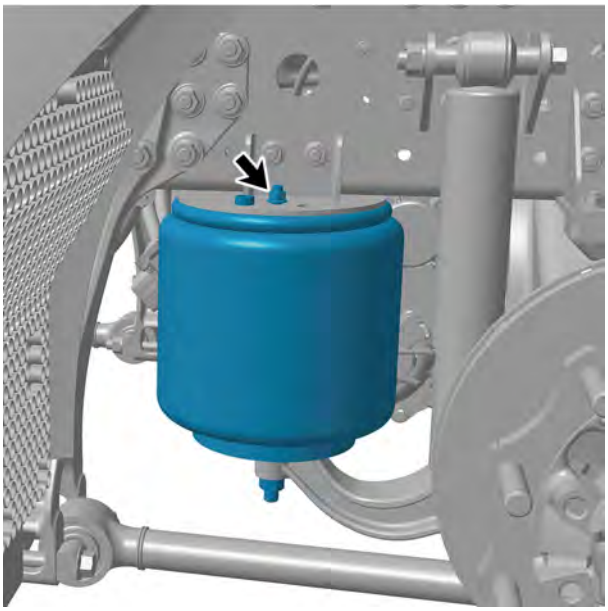
Installation Procedures



1 Move the rear air spring assembly - 280 to the mounting position.

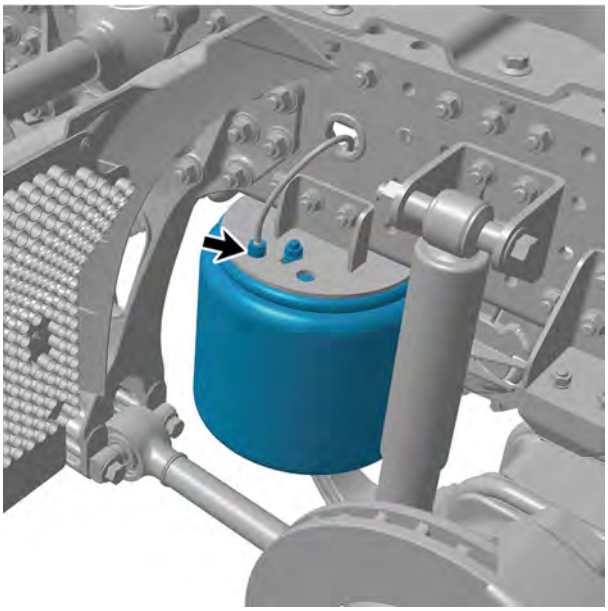
2 Install 1 fixing nut of the rear air spring assembly - 280.

Torque: 199 +/- 18.5 (ft lbs)



3 Install 1 fixing nut of the rear air spring assembly - 280.

Torque:40.5 +/- 3.5 (ft lbs)



4 Connect 1 pipeline of the rear air spring assembly - 280.

5 Install the drive wheel (right front).

6 Lower the rear end of the vehicle.

8.7.3.3 Replacement of Balance Beam (left)

Removal Procedures

1 Turn off the vehicle power and place the parking wedge to prevent the vehicle from rolling.

2 Jack the rear end of the vehicle.

3 Loosen the air spring air pipe joint and exhaust the air inside.

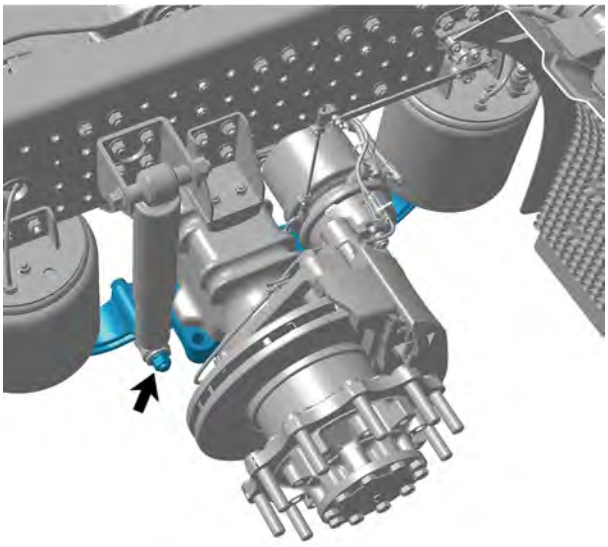
4 Remove the drive wheel (rear left).

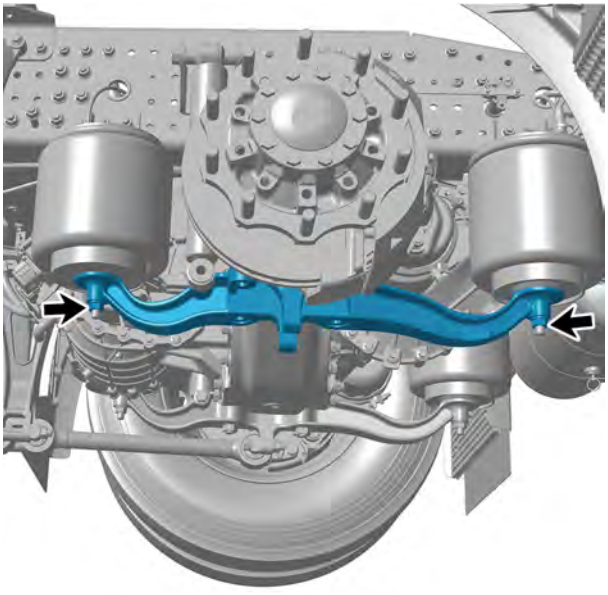
5 Remove the shock absorber assembly (rear).

6 Remove the longitudinal thrust rod assembly.

7 Remove the rear spring U-bolt.

8 Remove 1 fixing bolt and nut of the balance beam (left).

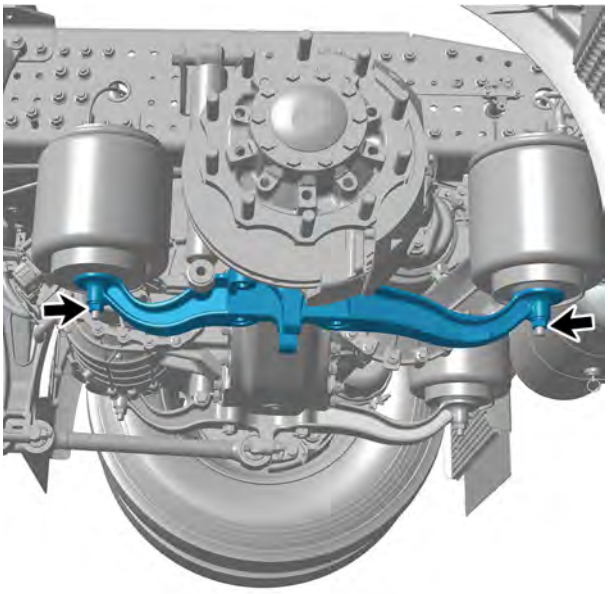




9 Remove 2 fixing nuts of the balance beam (left).

10 Remove the balance beam (left).

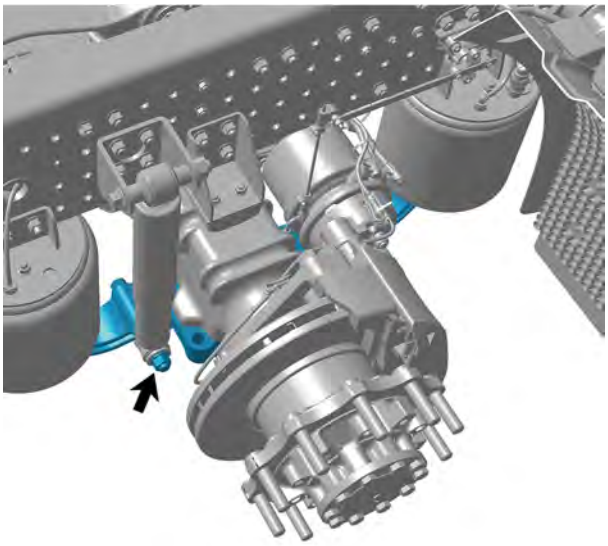
Installation Procedures



1 Move the balance beam (left) to the mounting position.

2 Install 2 fixing nuts of the balance beam (left).

Torque: 199 +/- 18.5 (ft lbs)



3 Install 1 fixing bolt and nut of the balance beam (left).

Torque: 405.5 +/- 37 (ft lbs)

4 Install the rear spring U-bolt.

5 Install the longitudinal thrust rod assembly.

6 Install the shock absorber assembly (rear).

7 Install the drive wheel (rear left).

8 Lower the rear end of the vehicle.

8.7.3.4 Replacement of Balance Beam (right)

Removal Procedures

1 Turn off the vehicle power and place the parking wedge to prevent the vehicle from rolling.

2 Jack the rear end of the vehicle.

3 Loosen the air spring air pipe joint and exhaust the air inside.

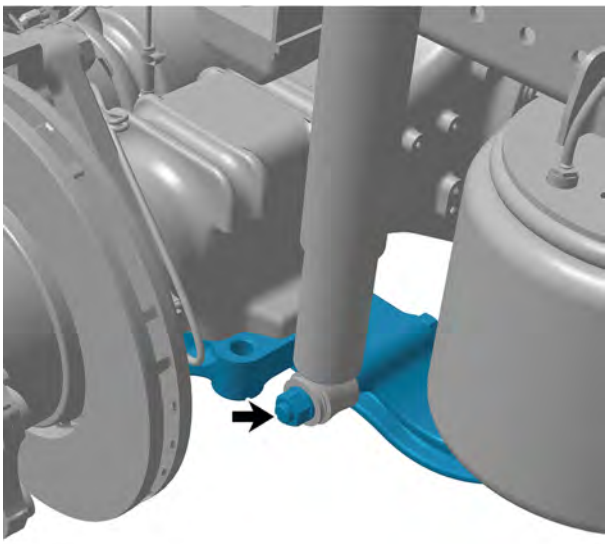
4 Remove the drive wheel (rear right).

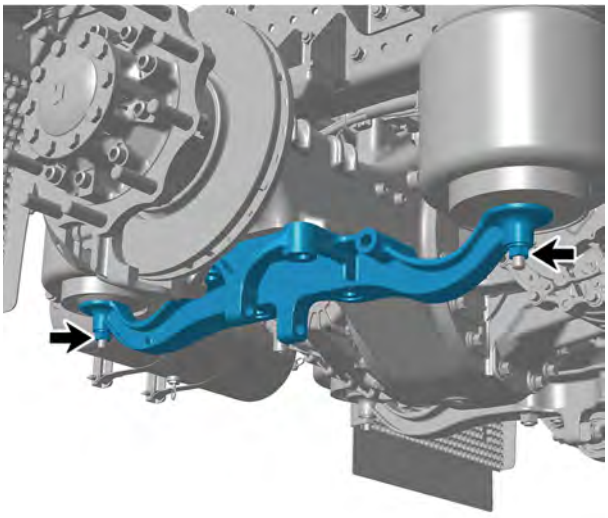
5 Remove the shock absorber assembly (rear).

6 Remove the longitudinal thrust rod assembly.

7 Remove the rear spring U-bolt.

8 Remove 1 fixing bolt and nut of the balance beam (right).

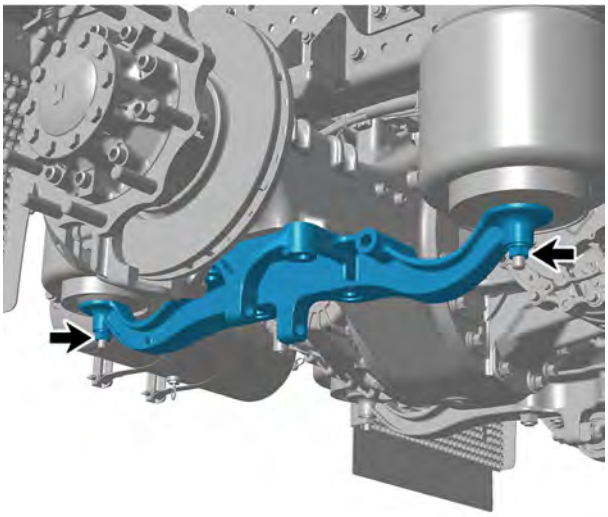




9 Remove 2 fixing nuts of the balance beam (right).

10 Remove the balance beam (right).

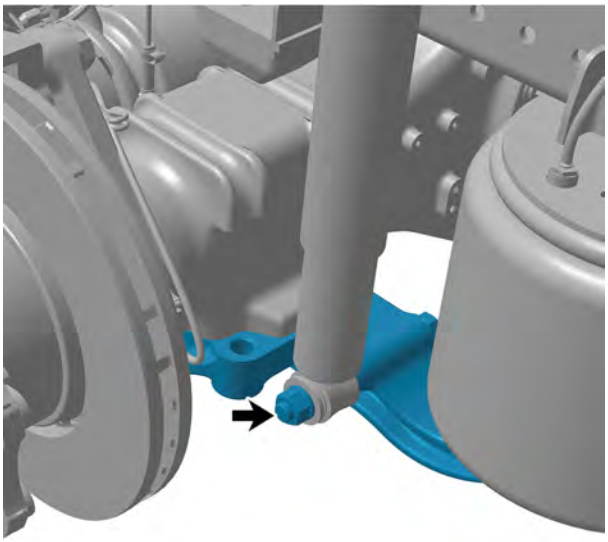
Installation Procedures



1 Move the balance beam (right) to the mounting position.

2 Install 2 fixing nuts of the balance beam (right).

Torque:199 +/- 18.5 (ft lbs)



3 Install 1 fixing bolt and nut of the balance beam (right).

Torque:405.5 +/- 37 (ft lbs)

4 Install the rear spring U-bolt.

5 Install the longitudinal thrust rod assembly.

6 Install the shock absorber assembly (rear).

7 Install the drive wheel (rear right).

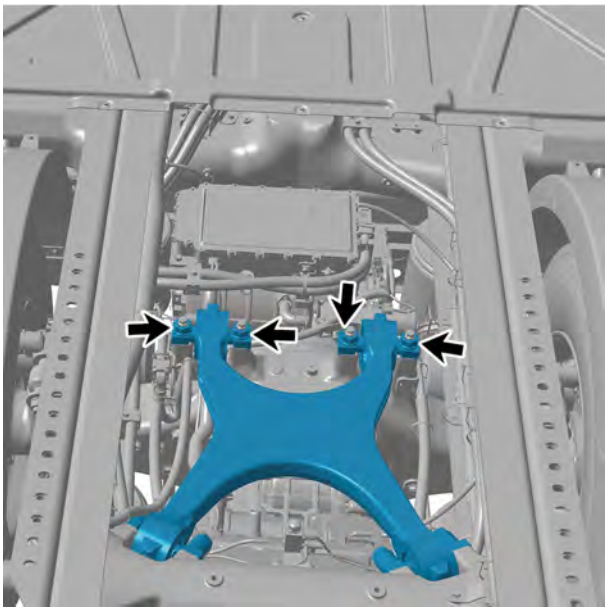
8 Lower the rear end of the vehicle.

8.7.3.5 Replacement of X-shaped Control Arm Assembly (front)

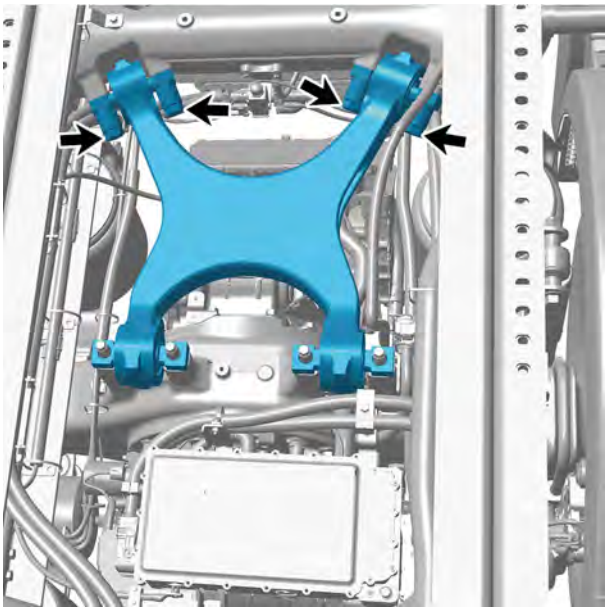
Removal Procedures

1 Removal the fifth wheel assembly.

2 Remove the corrugated plate.



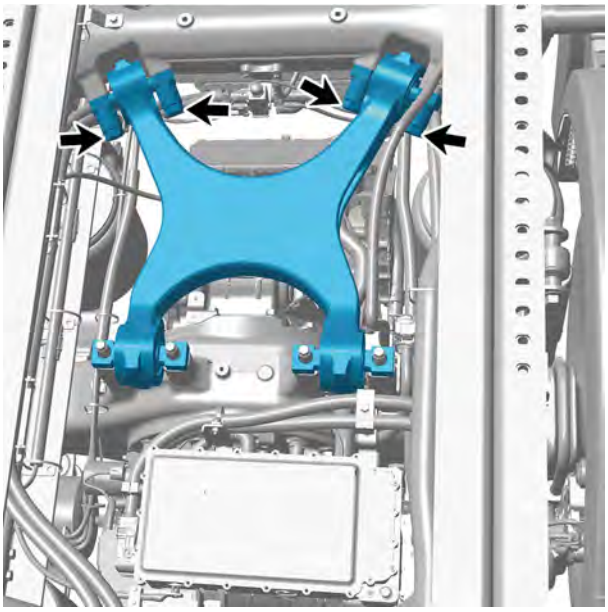
3 Remove 4 fixing nuts of the X-shaped control arm assembly (front).



4 Remove 4 fixing bolts of the X-shaped control arm assembly (front).

5 Remove the X-shaped control arm assembly (front).

Installation Procedures



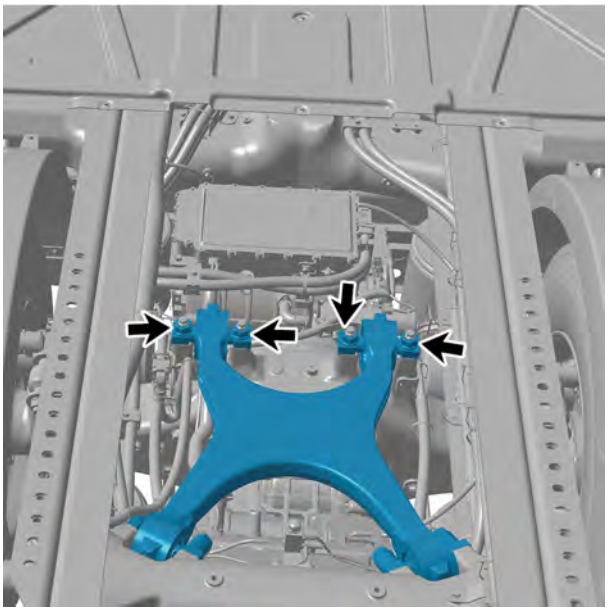
1 Move the X-shaped control arm assembly (front) to the mounting position.

2 Install 4 fixing bolts of the X-shaped control arm assembly (front).

Torque:516 +/- 37 (ft lbs)

caution

Simply screw in the thread and tighten it after the other end is secured.



3 Install 4 fixing nuts of the X-shaped control arm assembly (front).

Torque:516 +/- 37 (ft lbs)

4 Install the corrugated plate.

5 Install the fifth wheel assembly.

8.7.3.6 Replacement of X-shaped Control Arm Assembly (rear)

Removal Procedures

1 Open the door.

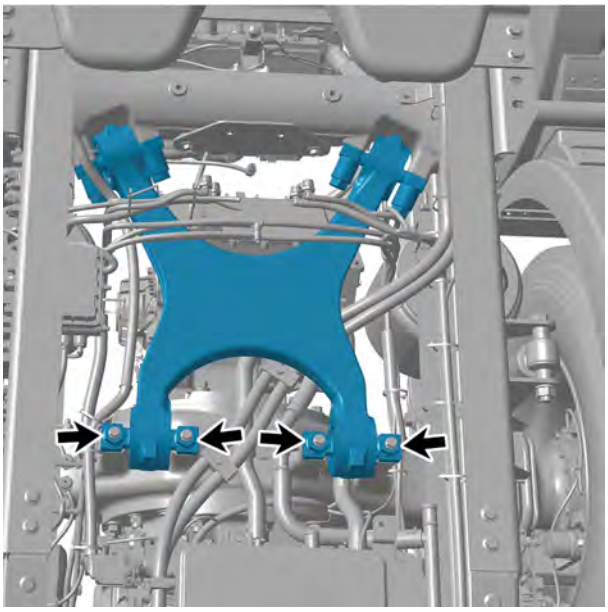
2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

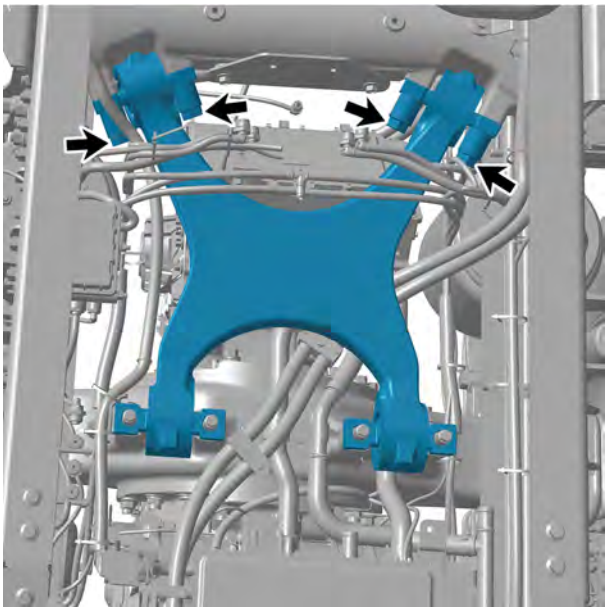
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the dual channel module assembly.



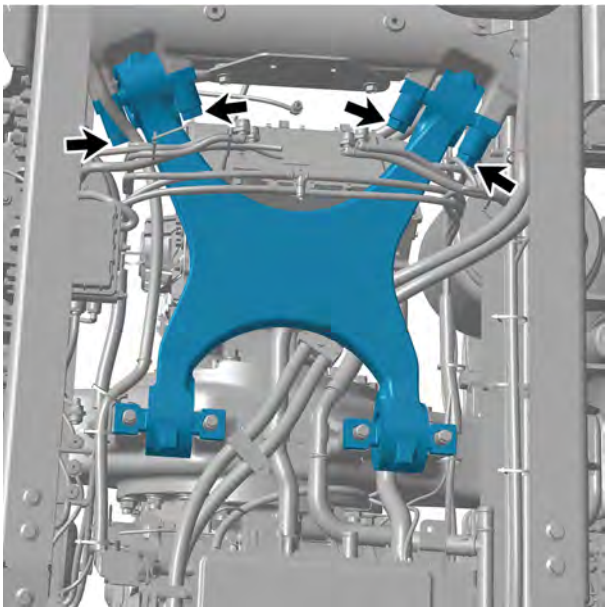
5 Remove 4 fixing nuts of the X-shaped control arm assembly (rear).



6 Remove 4 fixing bolts of the X-shaped control arm assembly (rear).

7 Remove the X-shaped control arm assembly (rear).

Installation Procedures



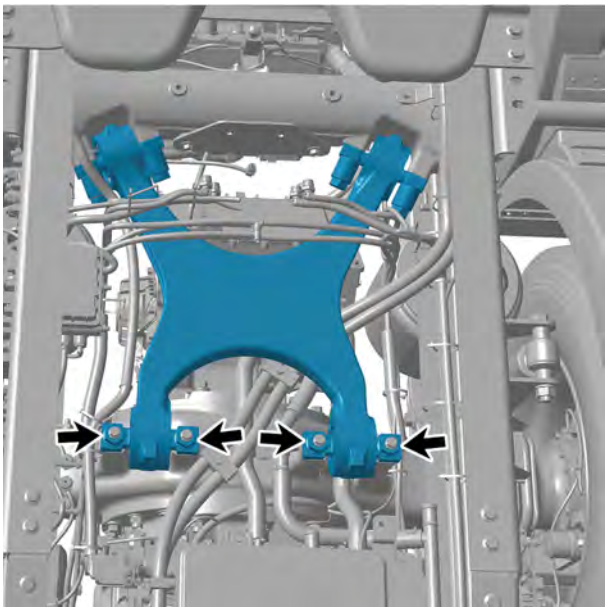
1 Move the X-shaped control arm assembly (rear) to the mounting position.

2 Install 4 fixing bolts of the X-shaped control arm assembly (rear).

Torque: 516 +/- 37 (ft lbs)

caution

Simply screw in the thread and tighten it after the other end is secured.



3 Install 4 fixing nuts of the X-shaped control arm assembly (rear).

Torque: 516 +/- 37 (ft lbs)

4 Install the dual channel module assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

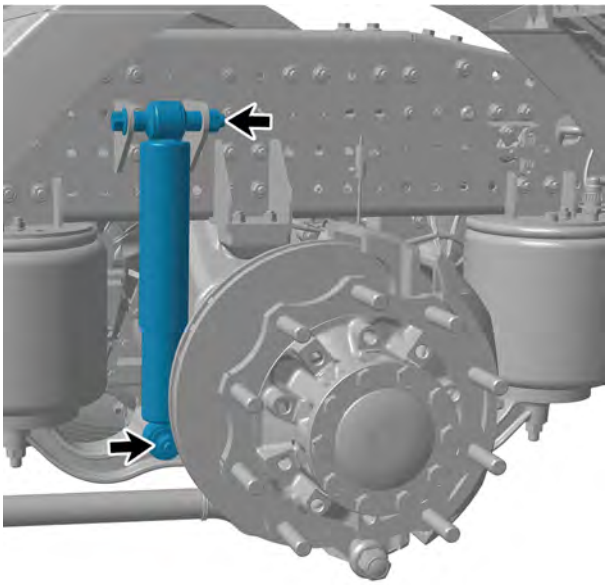
7 Close the door.

8.7.3.7 Replacement of Shock Absorber Assembly (rear)

Removal Procedures

1 Jack the rear end of the vehicle.

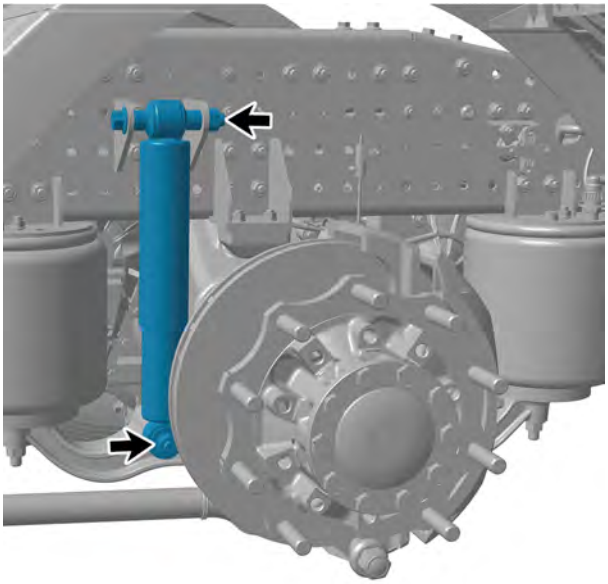
2 Remove the drive wheel (front left).



3 Remove 2 fixing bolts and nuts of the shock absorber assembly (rear).

4 Remove the shock absorber assembly (rear).

Installation Procedures



1 Move the shock absorber assembly (rear) to the mounting position.

2 Install 2 fixing bolts and nuts of the shock absorber assembly (rear).

Torque:516 +/- 37 (ft lbs)

3 Install the drive wheel (left front).

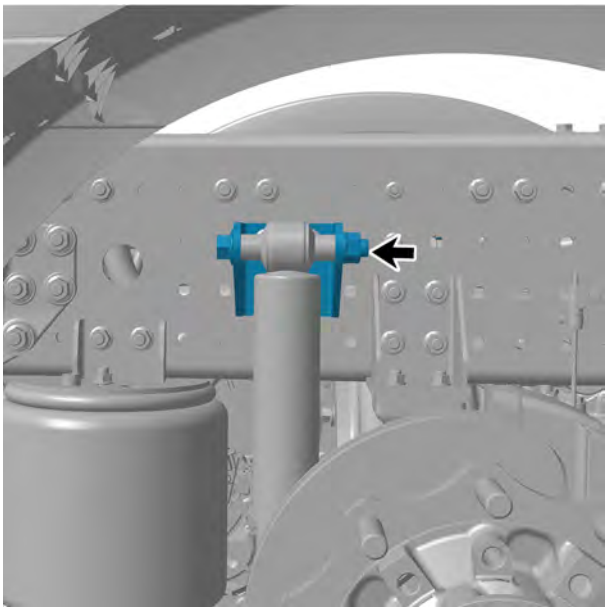
4 Lower the rear end of the vehicle.

8.7.3.8 Replacement of Shock Absorber Bracket

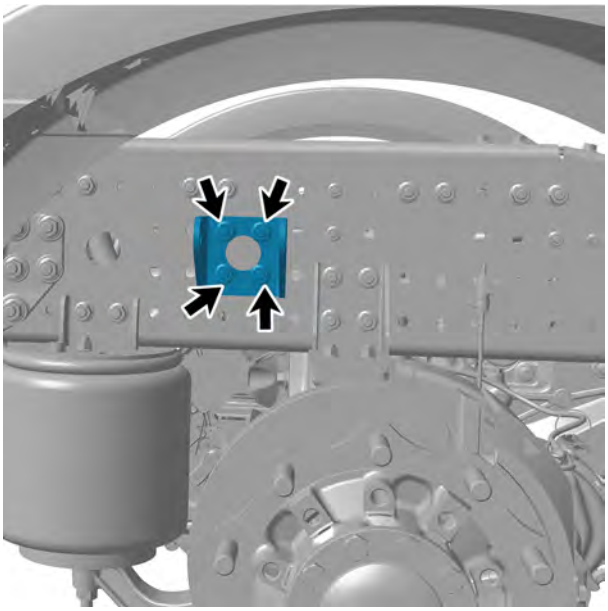
Removal Procedures

1 Jack the rear end of the vehicle.

2 Remove the drive wheel (front left).



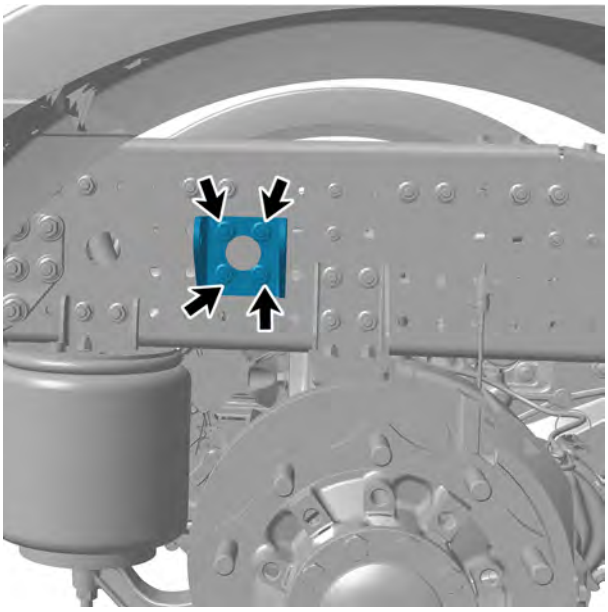
3 Remove 1 fixing bolt and nut connecting the shock absorber bracket to the shock absorber assembly (rear), and separate the shock absorber assembly (rear).



4 Remove 4 fixing bolts and nuts of the shock absorber bracket.

5 Remove the shock absorber bracket.

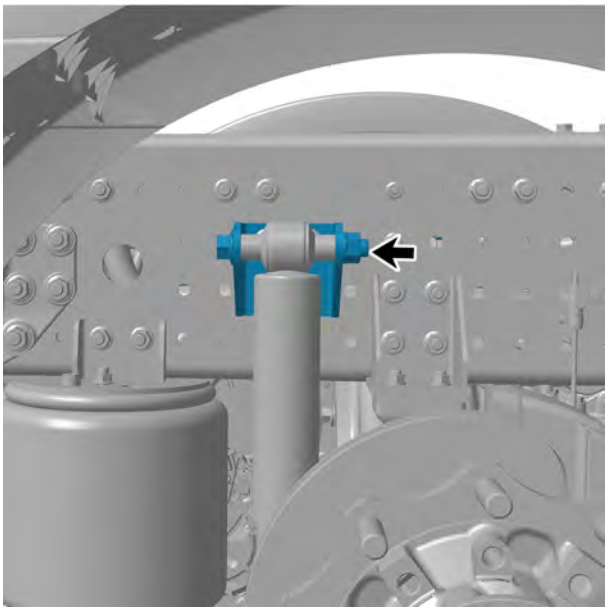
Installation Procedures



1 Move the shock absorber bracket to the mounting position.

2 Install 4 fixing bolts and nuts of the shock absorber bracket.

Torque: 155 +/- 14.5 (ft lbs)



3 Install 1 fixing bolt and nut connecting the shock absorber bracket to the shock absorber assembly (rear), and separate the shock absorber assembly (rear).

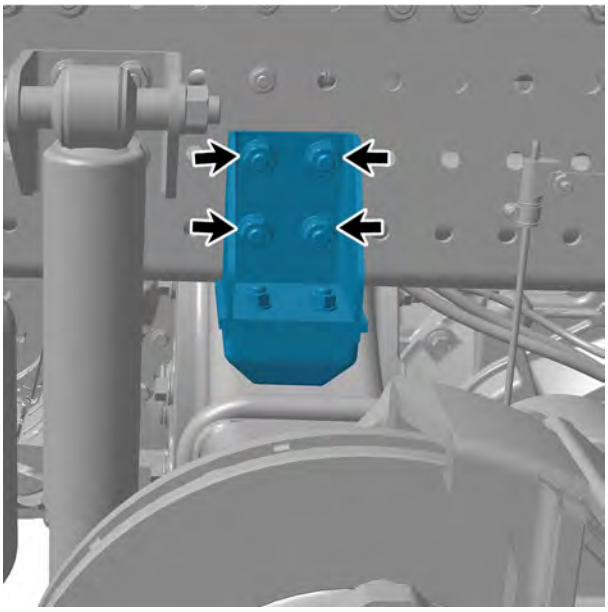
Torque:405.5 +/- 37 (ft lbs)

4 Install the drive wheel (left front).

5 Lower the rear end of the vehicle.

8.7.3.9 Replacement of Limit Buffer Assembly

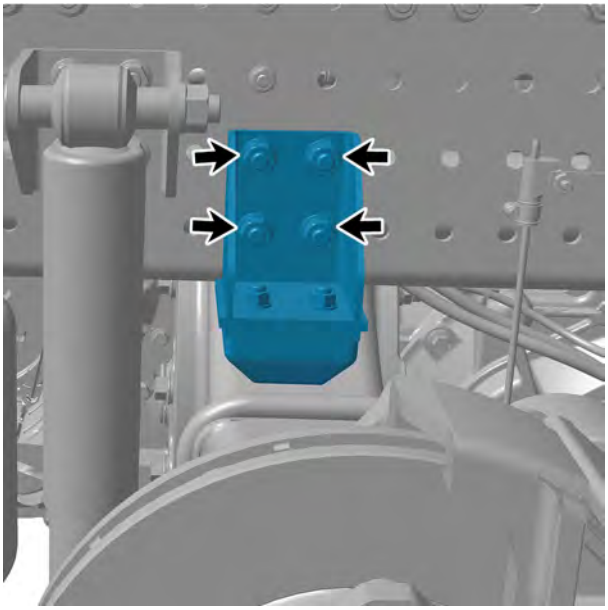
Removal Procedures



1 Remove 4 fixing bolts and nuts of the limit buffer assembly.

2 Remove the limit buffer assembly.

Installation Procedures



1 Move the limit buffer assembly to the mounting position.

2 Install 4 fixing bolts and nuts of the limit buffer assembly.

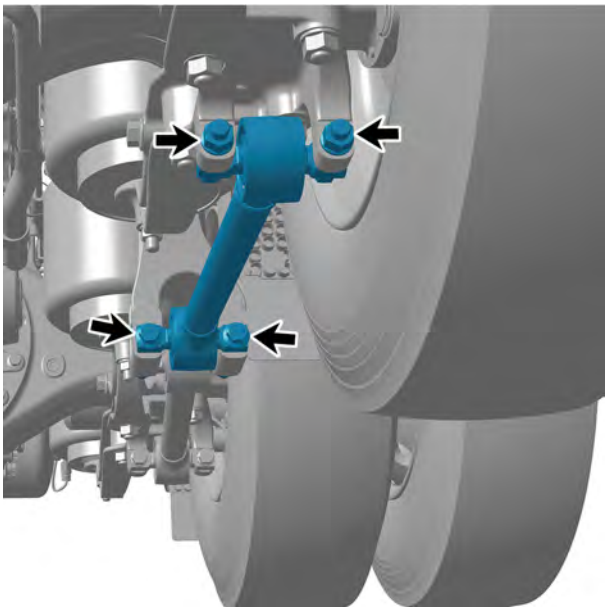
Torque:155 +/- 14.75 (ft lbs)

8.7.3.10 Replacement of Longitudinal Thrust Rod Assembly

Removal Procedures

1 Jack the rear end of the vehicle.

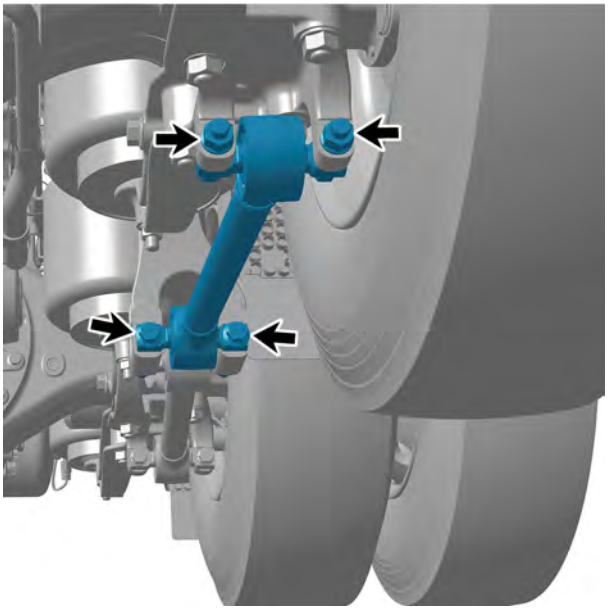
2 Remove the drive wheel (front left).



3 Remove 4 fixing bolts and nuts of the longitudinal thrust rod assembly.

4 Remove the longitudinal thrust rod assembly.

Installation Procedures



1 Move the longitudinal thrust rod assembly to the mounting position.

2 Install 4 fixing bolts and nuts of the longitudinal thrust rod assembly.

Torque:405.5 +/- 37 (ft lbs)

3 Install the drive wheel (left front).

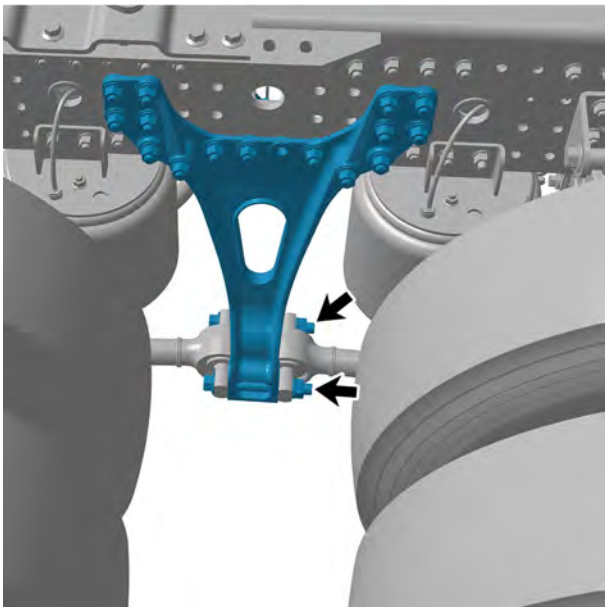
4 Lower the rear end of the vehicle.

8.7.3.11 Replacement of Thrust Bar Bracket

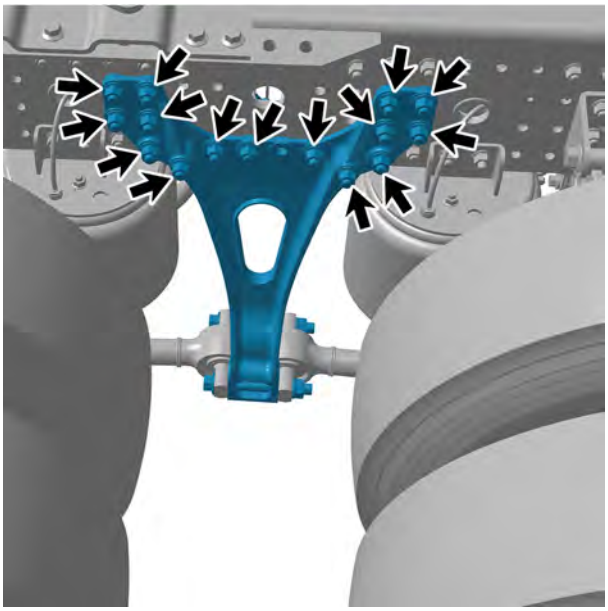
Removal Procedures

1 Jack the rear end of the vehicle.

2 Remove the drive wheel (rear left).



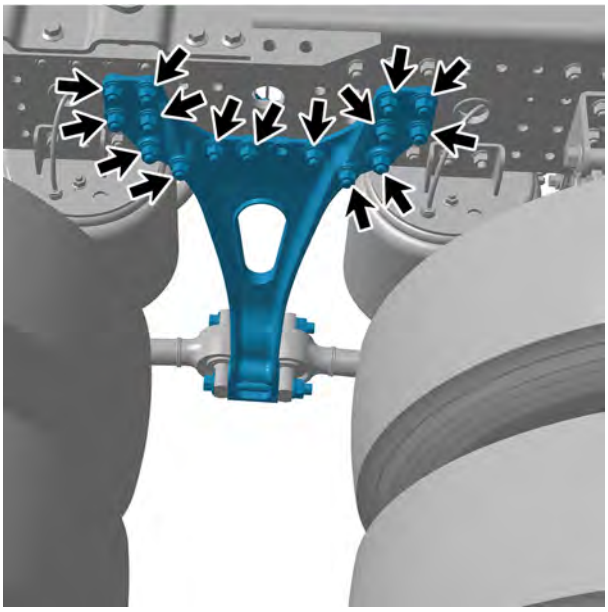
3 Remove 2 fixing bolts and nuts connecting the thrust bar bracket to the thrust bar.



4 Remove 15 fixing bolts and nuts of the thrust bar bracket.

5 Remove the thrust bar bracket.

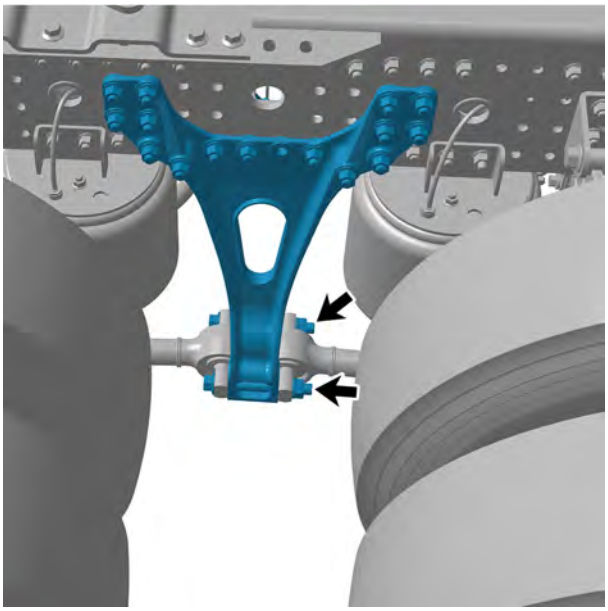
Installation Procedures



1 Move the thrust bar bracket to the mounting position.

2 Install 15 fixing bolts and nuts of the thrust bar bracket.

Torque:234.5 +/- 18.5 (ft lbs)



3 Install 2 fixing bolts and nuts connecting the thrust bar bracket to the thrust bar.

Torque: 405.5 +/- 37 (ft lbs)

4 Install the drive wheel (rear left).

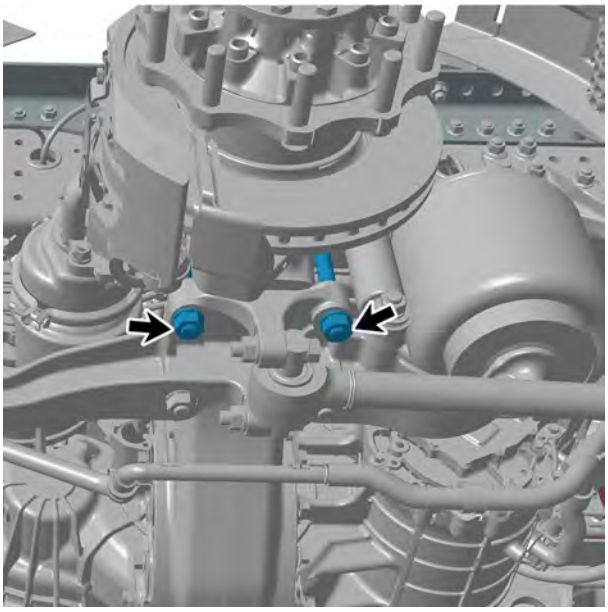
5 Lower the rear end of the vehicle.

8.7.3.12 Replacement of Rear Spring U-bolt

Removal Procedures

1 Jack the rear end of the vehicle.

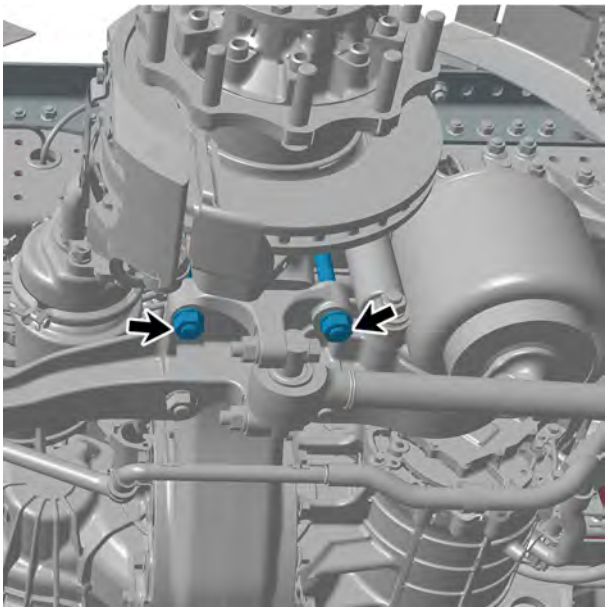
2 Remove the drive wheel (rear left).



3 Remove 2 fixing nuts of the rear spring U-bolt.

4 Remove the rear spring U-bolt.

Installation Procedures



1 Move the rear spring U-bolt to the mounting position.

2 Install 2 fixing nuts of the rear spring U-bolt.

Torque: 516 +/- 37 (ft lbs)

3 Install the drive wheel (rear left).

4 Lower the rear end of the vehicle.

8.8 ECU Actuator of Air Suspension

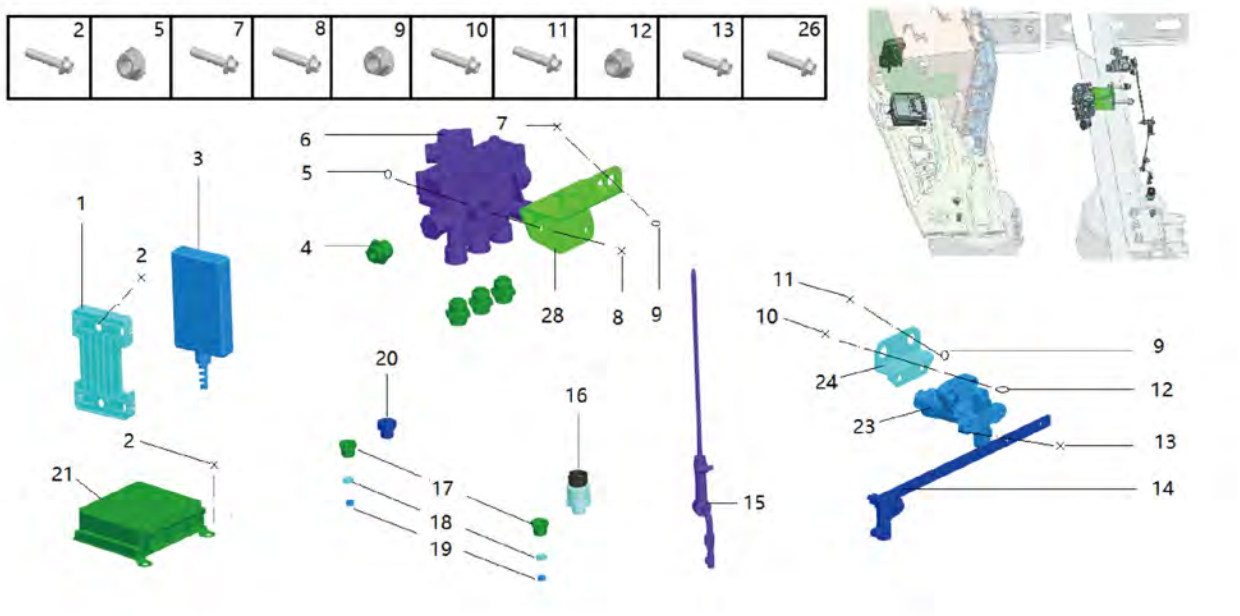
8.8.1 Specifications

8.8.1.1 Fastener Specifications

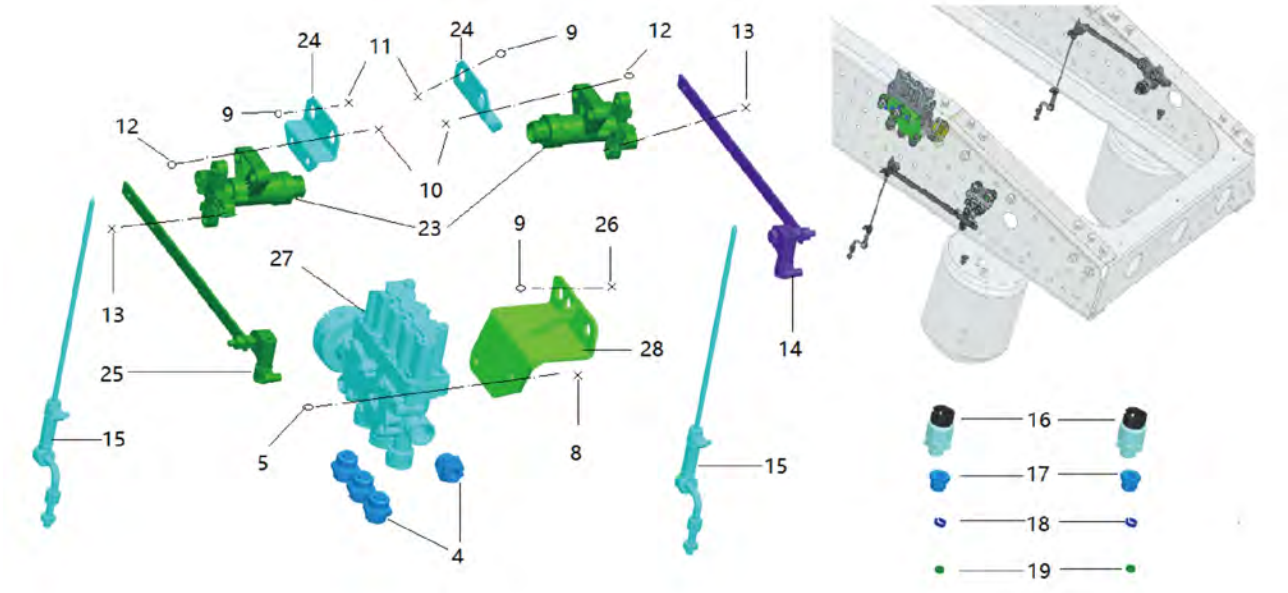
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the airbag solenoid valve bracket to the frame assembly	M14	103 +/- 7.5 (ft lbs)
The fixing bolt connecting the height sensor bracket to the frame assembly	M14	103 +/- 7.5 (ft lbs)
The fixing bolt connecting the airbag solenoid valve assembly to the airbag solenoid valve bracket	M8	18.5 +/- 2 (ft lbs)
The fixing bolt connecting the airbag solenoid va The fixing bolt connecting the height sensor assembly and the height sensor bracketIve assembly to the airbag solenoid valve bracket	M8	18.5 +/- 2 (ft lbs)
The fixing bolt connecting the remote control assembly and the white body assembly assembly	M6	8 +/- .75 (ft lbs)
The fixing bolt connecting the remote control bracket to the right storage box assembly	M6	8 +/- .75 (ft lbs)
The fixing bolt connecting the height sensor assembly and the swing rod	M6	8 +/- .75 (ft lbs)
NG8 nut seat on airbag solenoid valve tracheal interface	M16	7.5 - 12 (ft lbs)
NG8 nut seat on the air spring assembly air pipe interface	M16	7.5 - 12 (ft lbs)
Pressure sensor on the air spring assembly air pipe interface	M16	18.5 +/- 2 (ft lbs)
The fixing bolts connecting the air suspension controller assembly to the floor sheet metal	M6	8 +/- .75 (ft lbs)
The direct head connecting the airbag solenoid valve assembly and the overflow valve assembly	M22	7.5 - 12 (ft lbs)

8.8.2 Decomposition Diagram

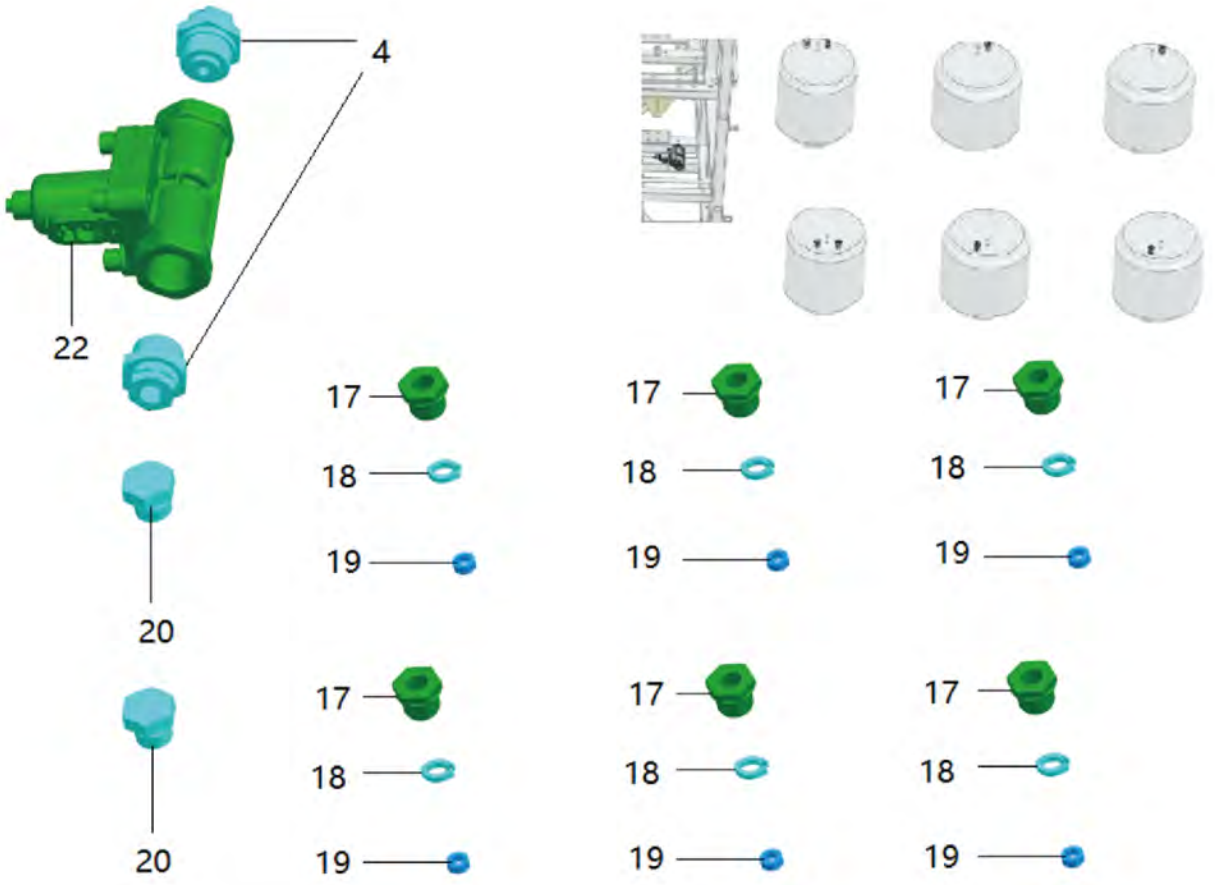
8.8.2.1 Decomposition Diagram



1. Remote Control Stand
2. Hexagon Flange Bolt
3. Remote Control Assy
4. Direct Head
5. Hexagon Nut_Type 1
6. Airbag Solenoid Valve Assy
7. Hexagon Flange Bolt
8. Hexagon Flange Bolt
9. Hexagon Flange Lock Nut_All Metal
10. Hexagon Flange Bolt
11. Hexagon Flange Bolt
12. Hexagon Flange Lock Nut_All Metal
13. Hexagon Flange Bolt
14. Pendulum Bar
15. Connecting Rod
16. Pressure Sensor Assy
17. Nut Seat NG8
18. Snap Ring NG8
19. Washer Ng8
20. Plug
21. Air Suspension Controller Assy
23. Height Sensor Assy
24. Distance Sensor Bracket
26. Hexagon Flange Bolt
28. Brkt-Air Bag Solenoid Valve



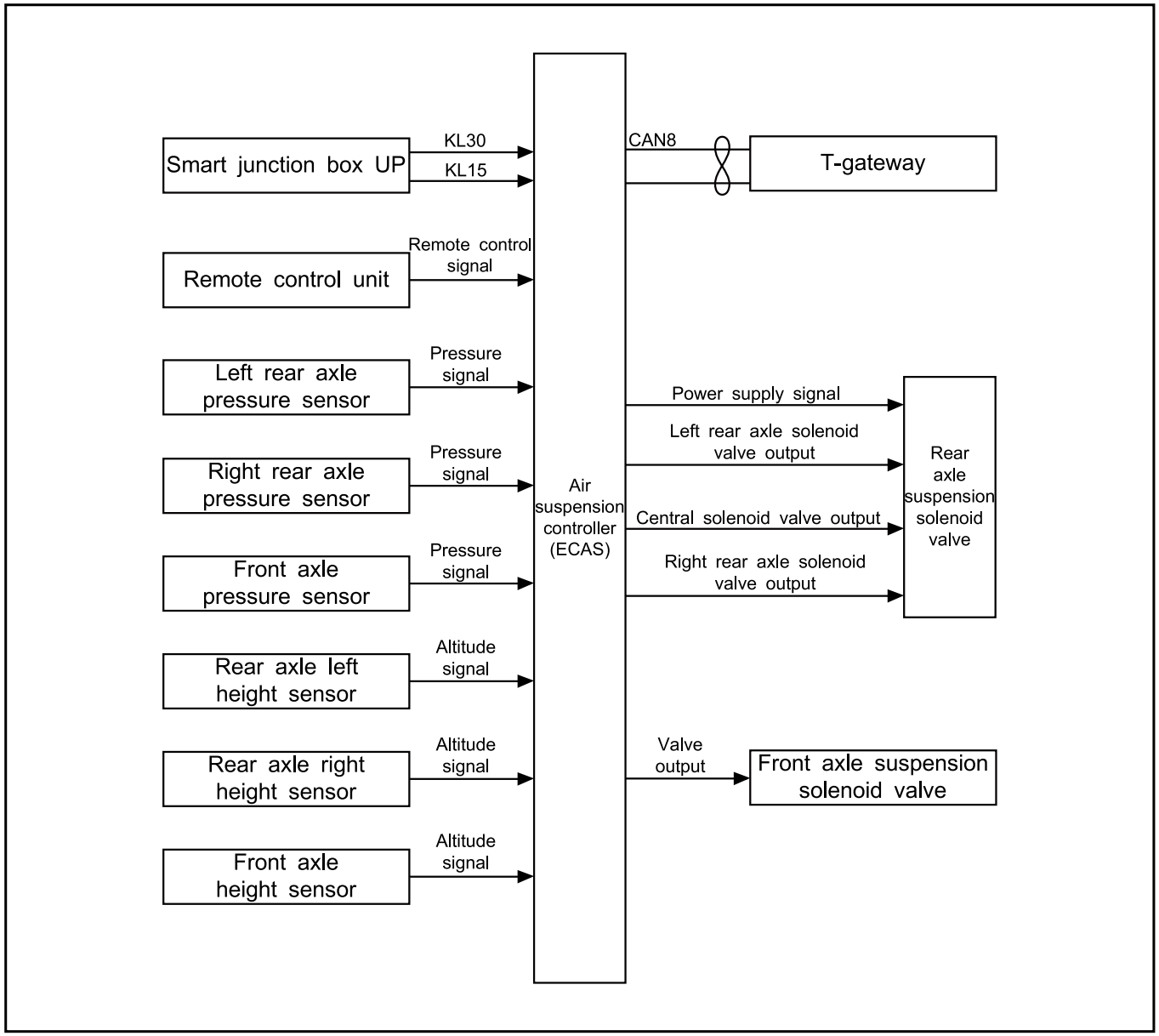
4. Direct Head
5. Hexagon Nut_Type 1
8. Hexagon Flange Bolt
9. Hexagon Flange Lock Nut_All Metal
10. Hexagon Flange Bolt
11. Hexagon Flange Bolt
12 Hexagon Flange Lock Nut_All Metal
13. Hexagon Flange Bolt
14. Pendulum Bar
15. Connecting Rod
16. Pressure Sensor Assy
17. Nut Seat NG8
18. Snap Ring NG8
19. Washer Ng8
24. Distance Sensor Bracket
25. Pendulum Bar
26. Hexagon Flange Bolt
27. Airbag Solenoid Valve Assy
28. Brkt-Air Bag Solenoid Valve



4. Direct Head
17. Nut Seat NG8
18. Snap Ring NG8
19. Washer Ng8
20. Plug
22. Solenoid Modulator Valve Assy

8.8.3 System Schematic Diagram

8.8.3.1 Electrical Schematic Diagram



8.8.4 Diagnostic Information and Steps

8.8.4.1 Diagnostic Description

Before diagnosing the malfunction of the air suspension electronic control unit actuator, it is important to understand and familiarize oneself with the working principle of the air suspension electronic control unit actuator before starting the system diagnosis. This will help determine the correct fault diagnosis steps when a malfunction occurs, and more importantly, it will help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of the air suspension electronic control unit execution device should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

8.8.4.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the air suspension electronic control unit execution device system, ensuring that these devices do not affect the operation of the air suspension electronic control unit execution device system.
- Check system components that are easily accessible or visible to ensure that there is no obvious damage or potential malfunction.

8.8.4.3 DTC Confirmation

1. Connect the diagnostic tool to the diagnostic interface, read and record the DTC, and then clear the DTC.
2. Run the vehicle again.
3. Read the fault code of the control system again to confirm if there is any fault code output from the system.
   - Yes:Diagnose based on the output fault code.
   - No:Perform intermittent fault check, refer to Inspection Of Intermittent Faults

8.8.4.4 List Of Diagnostic Trouble Codes (DTC)

ECAS

Fault Code	Fault Description	Exclusion Method
U152017	Over-voltage	Refer to ECAS Power Fault
U152016	Under-voltage	
U15CD08	CCVS Communication Timeout	Refer to ECAS Communication Fault
U15D408	TCO1 Communication Timeout	
U15DB08	ASC2 Communication Timeout	
U15CE08	AIR1 Communication Timeout	
C12FE42	ECU general memory failure	Refer to ECAS Internal Fault
C12FE49	VFF power failure	
C121011	Front height sensor short to gnd	Refer to Front Axle Height Sensor Fault
C121015	Front height sensor short to battery	
C121014	Front height sensor out of range	
C121311	Rear left height sensor short to gnd	Refer to Rear Axle Left Height Sensor Fault
C121315	Rear left height sensor short to battery	
C121314	Rear left height sensor out of range	
C121211	Rear right height sensor short to gnd	Refer to Rear Axle Right Height Sensor Fault
C121215	Rear right height sensor short to battery	
C121214	Rear right height sensor out of range	

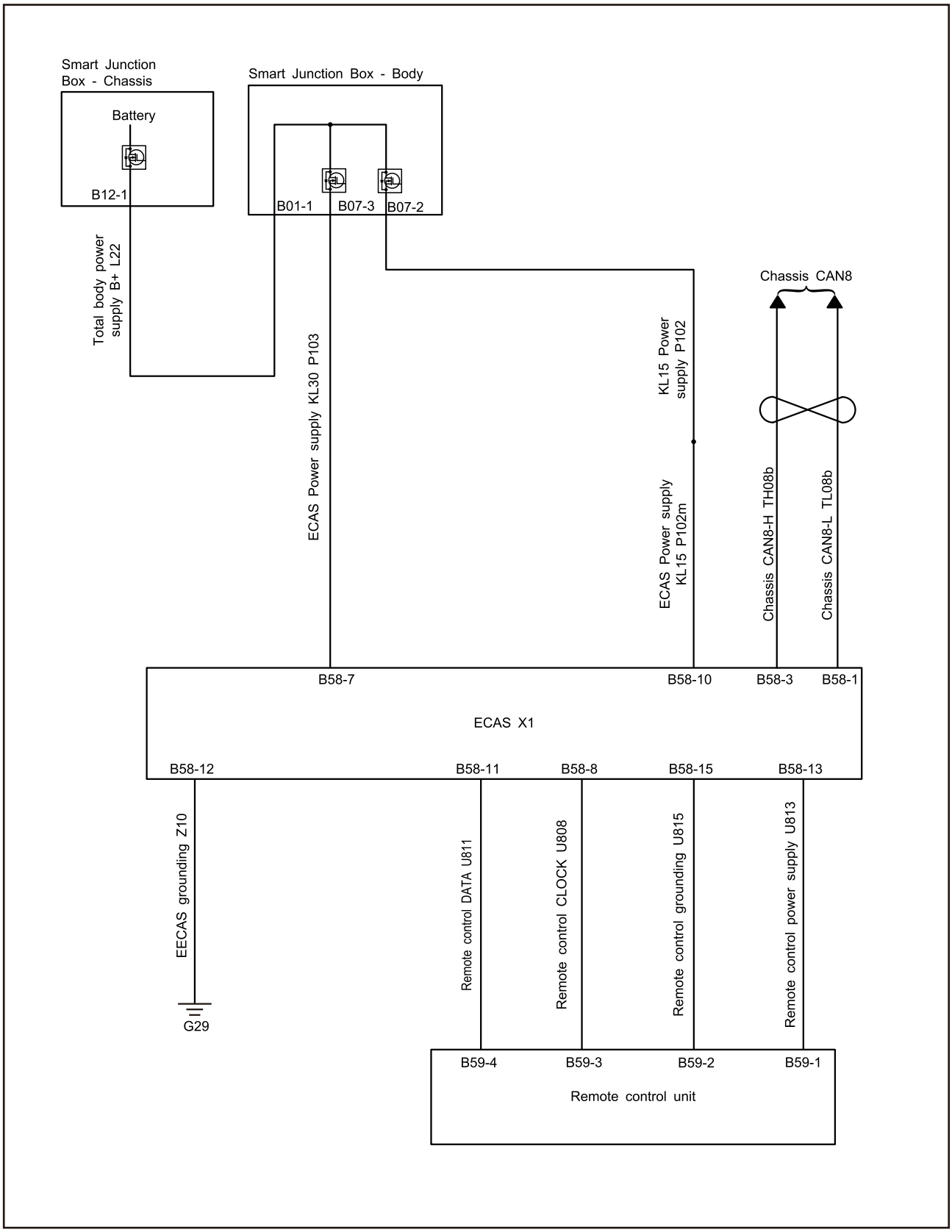
Fault Code	Fault Description	Exclusion Method
C121611	Front pressure sensor short to gnd	Refer to Front Axle Pressure Sensor Fault
C121612	Front pressure sensor short to vcc	
C121613	Front pressure Sensor open	
C121911	Rear Left pressure sensor short to gnd	Refer to Left Rear Axle Pressure Sensor Fault
C121912	Rear Left pressure sensor short to vcc	
C121913	Rear Left pressure Sensor open	
C121811	Rear Right pressure sensor short to gnd	Refer to Right Rear Axle Pressure Sensor Fault
C121812	Rear Right pressure sensor short to vcc	
C121813	Rear Right pressure sensor open	
C120111	Front solenoid vavle short to gnd	Refer to Front Axle Suspension Solenoid Valve Fault
C120112	Front solenoid vavle short to vcc	
C120113	Front solenoid vavle open	
C120411	Rear left solenoid vavle short to gnd	Refer to Rear Axle Suspension Solenoid Valve Fault
C120412	Rear left solenoid vavle short to vcc	
C120413	Rear left solenoid vavle open	
C120711	Rear central solenoid vavle short to gnd	
C120712	Rear central solenoid vavle short to vcc	
C120713	Rear central solenoid vavle open	
C120311	Rear right solenoid vavle short to gnd	
C120312	Rear right solenoid vavle short to vcc	
C120313	Rear right solenoid vavle open	
C122E94	Pressure power failure	Refer to Pressure Sensor Power Fault
C122212	solenoid valve power short to vcc	Refer to Suspension Solenoid Valve Power Fault
C122211	solenoid valve power short to gnd	
C122F12	RCU power short circuit	Refer to Remote Control Fault
C123013	RCU control signal not issued	

8.8.4.5 ECAS Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
U152017	Over-voltage	Over-voltage Timeout 2s	Ignition ON	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.ECAS
U152016	Under-voltage	Under-voltage Timeout 2s	Ignition ON	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides ECAS?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the ECAS power and grounding harness.

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

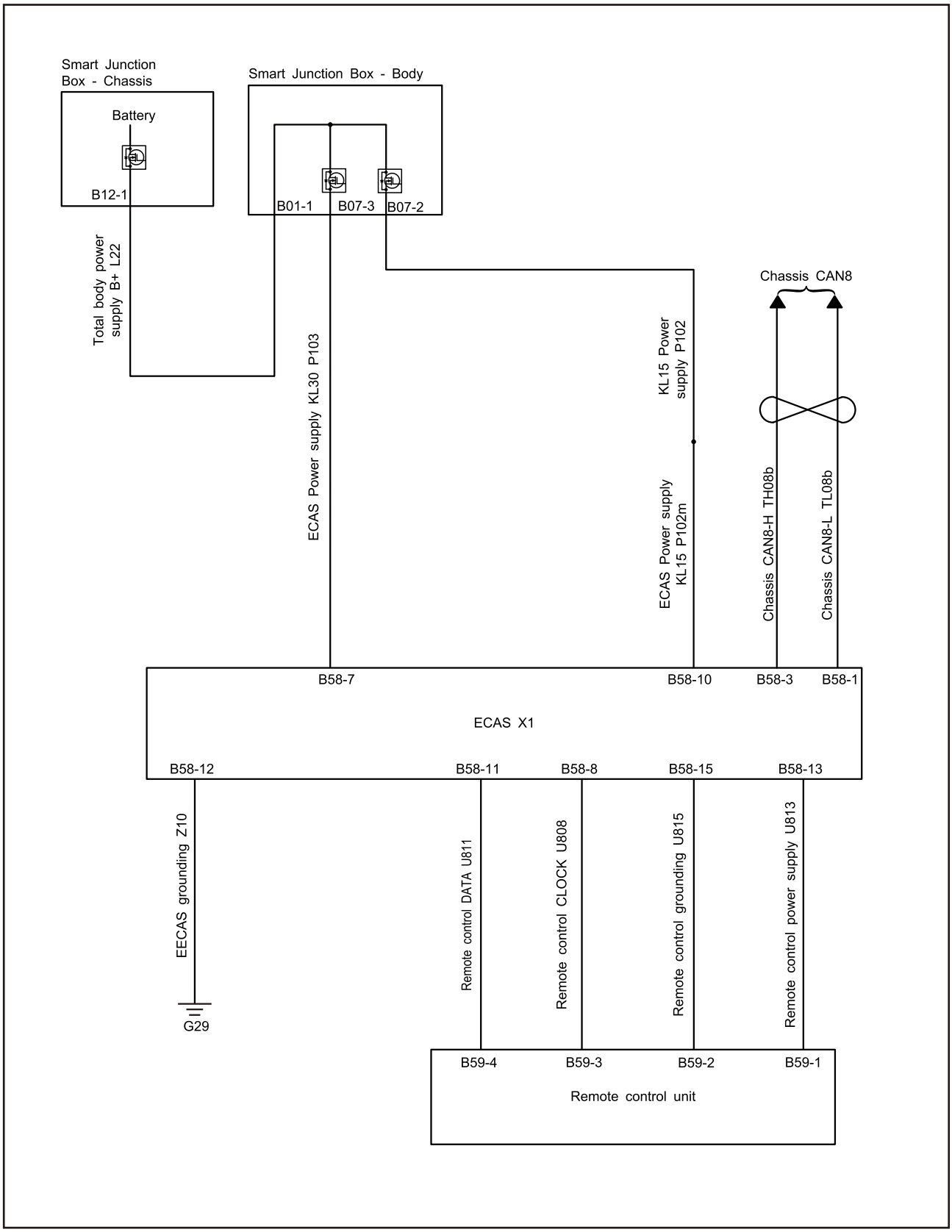
Step 7:Clear and confirm DTC.

8.8.4.6 ECAS Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
U15CD08	CCVS Communicati-on Timeout	CAN message CCVS Communication Timeout 8s	Ignition ON	1. Wiring harness 2.ECAS
U15D408	TCO1 Communicati-on Timeout	CAN message TCO1 Communication Timeout 8s	Ignition ON	
U15DB08	ASC2 Communicati-on Timeout	CAN message ASC2 Communication Timeout 8s	Ignition ON	
U15CE08	AIR1 Communicati-on Timeout	CAN message AIR1 Communication Timeout 8s	Ignition ON	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the CAN8 bus communication harness. Refer to Inspection Of CAN8 Bus Network Integrity

Step 4:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 5:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

Step 6:Clear and confirm DTC.

8.8.4.7 ECAS Internal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C12FE42	ECU general memory failure	There was one write - failure of the EEPROM during the ECU inspection process	Ignition ON	1.ECAS
C12FE49	VFF power failure	VFF power failures occurred more than three times out of five detections	Ignition ON	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 4:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

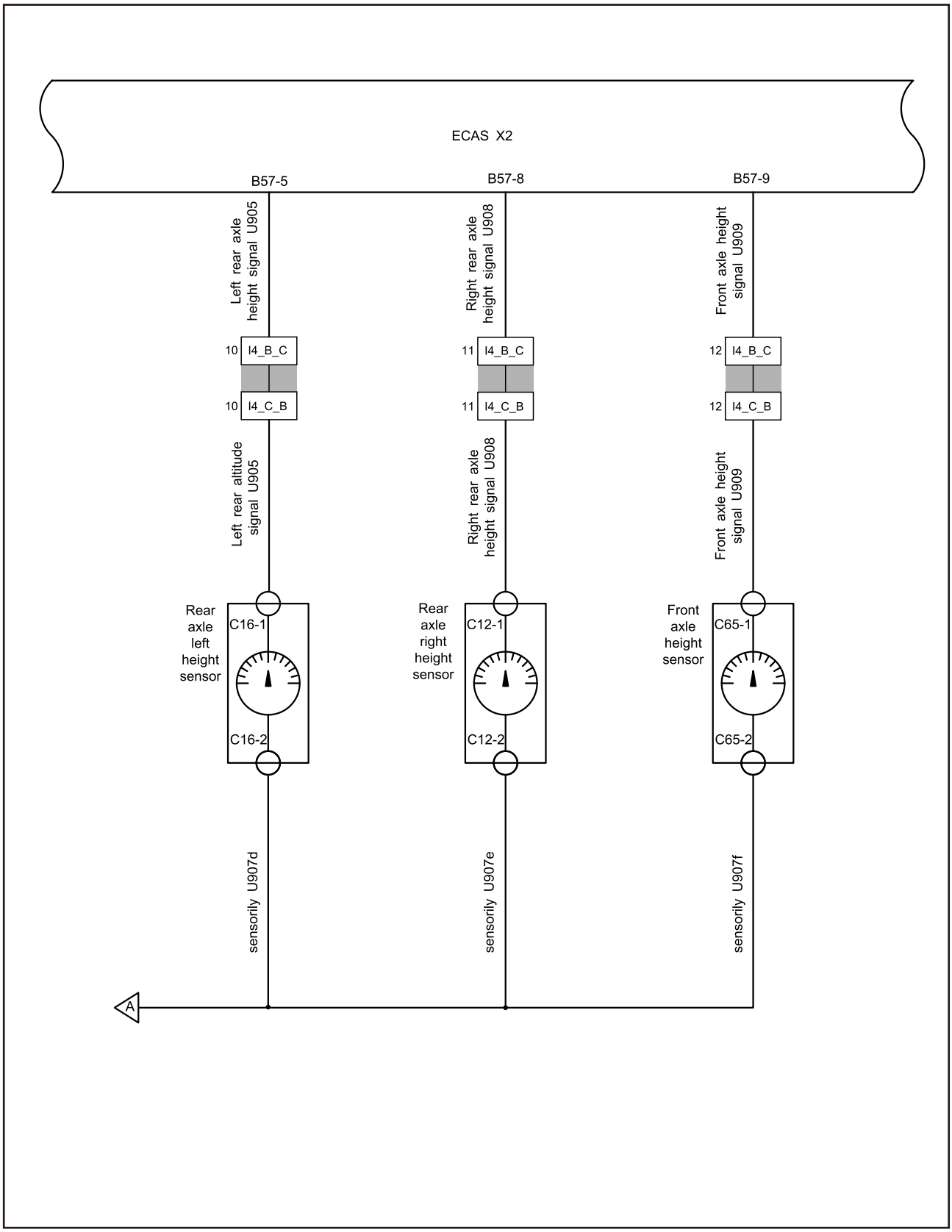
Step 5:Clear and confirm DTC.

8.8.4.8 Front Axle Height Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C121011	Front height sensor short to gnd	ECU received fault signal from front height sensor continually after 0.5s , set the DTC immediately.	Ignition ON	1. Wiring harness 2.Front axle height sensor 3.ECAS
C121015	Front height sensor short to battery	ECU received fault signal from front height sensor continually after 0.5s , set the DTC immediately.	Ignition ON	
C121014	Front height sensor out of range	ECU received fault signal from front height sensor continually after 0.5s , set the DTC immediately.	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the front axle height sensor and ECAS.

Step 4:Replace the front axle height sensor. Refer to Replacement Of Height Sensor Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

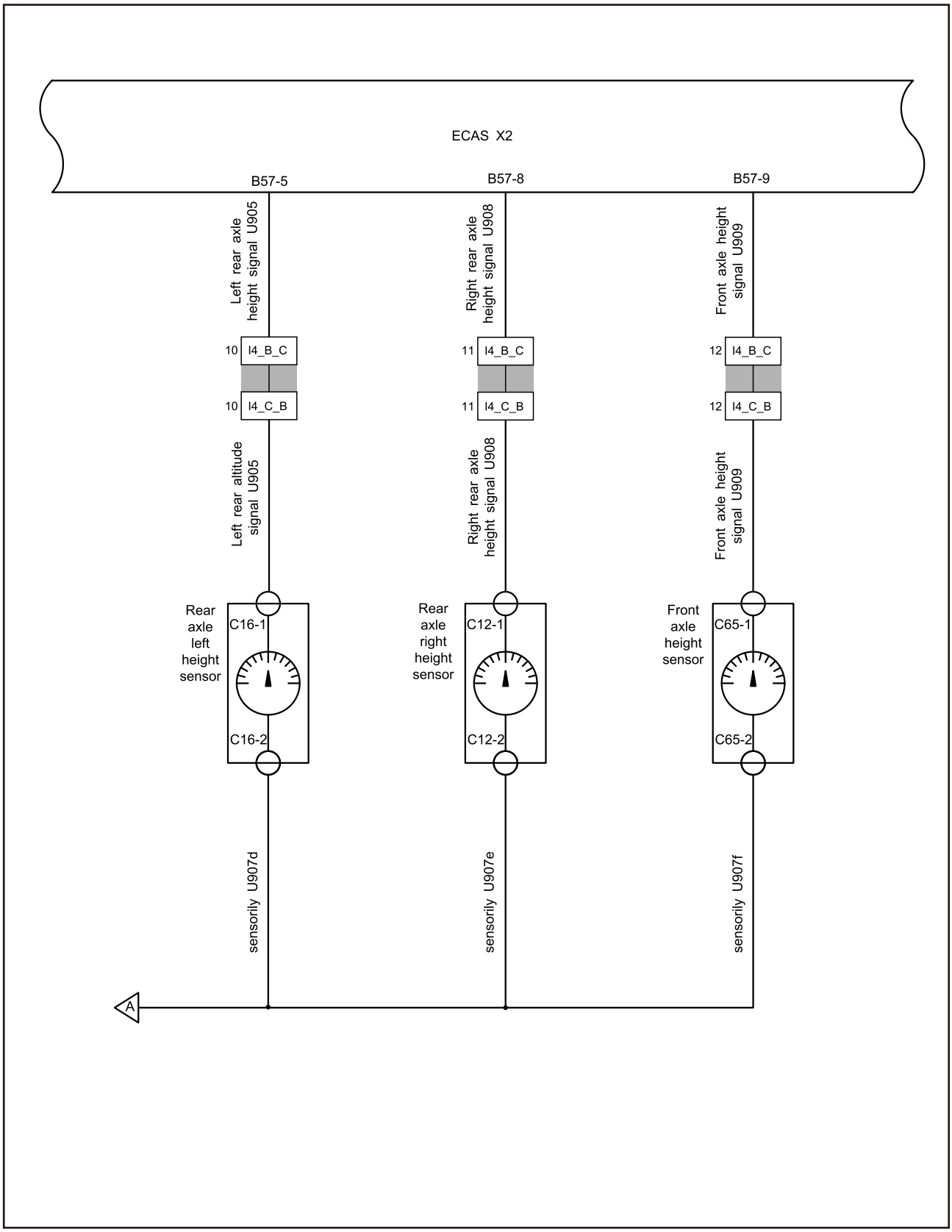
Step 7:Clear and confirm DTC.

8.8.4.9 Rear Axle Left Height Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C121311	Rear left height sensor short to gnd	ECU received fault signal from front height sensor continually after 0.5s , set the DTC immediately.	Ignition ON	1. Wiring harness 2.Rear axle left height sensor 3.ECAS
C121315	Rear left height sensor short to battery	ECU received fault signal from front height sensor continually after 0.5s , set the DTC immediately.	Ignition ON	
C121314	Rear left height sensor out of range	ECU received fault signal from rear left height sensor continually after 0.5s ,set the DTC immediately.	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the rear axle left height sensor and ECAS.

Step 4:Replace the left rear axle height sensor. Refer to Replacement Of Height Sensor Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

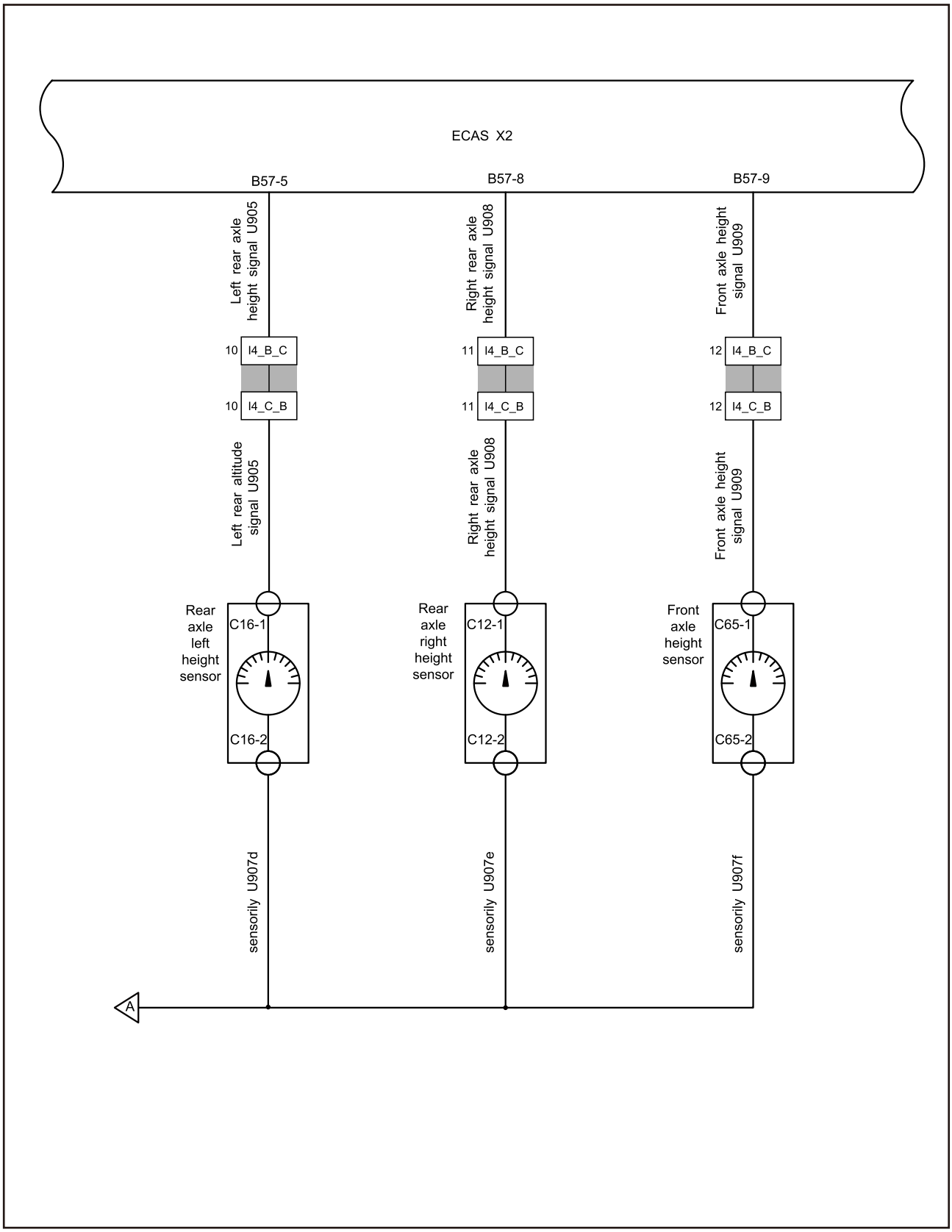
Step 7:Clear and confirm DTC.

8.8.4.10 Rear Axle Right Height Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C121211	Rear right height sensor short to gnd	ECU received fault signal from front height sensor continually after 0.5s , set the DTC immediately.	Ignition ON	1. Wiring harness 2.Rear axle right height sensor 3.ECAS
C121215	Rear right height sensor short to battery	ECU received fault signal from front height sensor continually after 0.5s , set the DTC immediately.	Ignition ON	
C121214	Rear right height sensor out of range	ECU received fault signal from rear rightheight sensor continually after 0.5s ,set the DTC immediately.	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the rear axle right height sensor and ECAS.

Step 4:Replace the rear axle right height sensor. Refer to Replacement Of Height Sensor Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

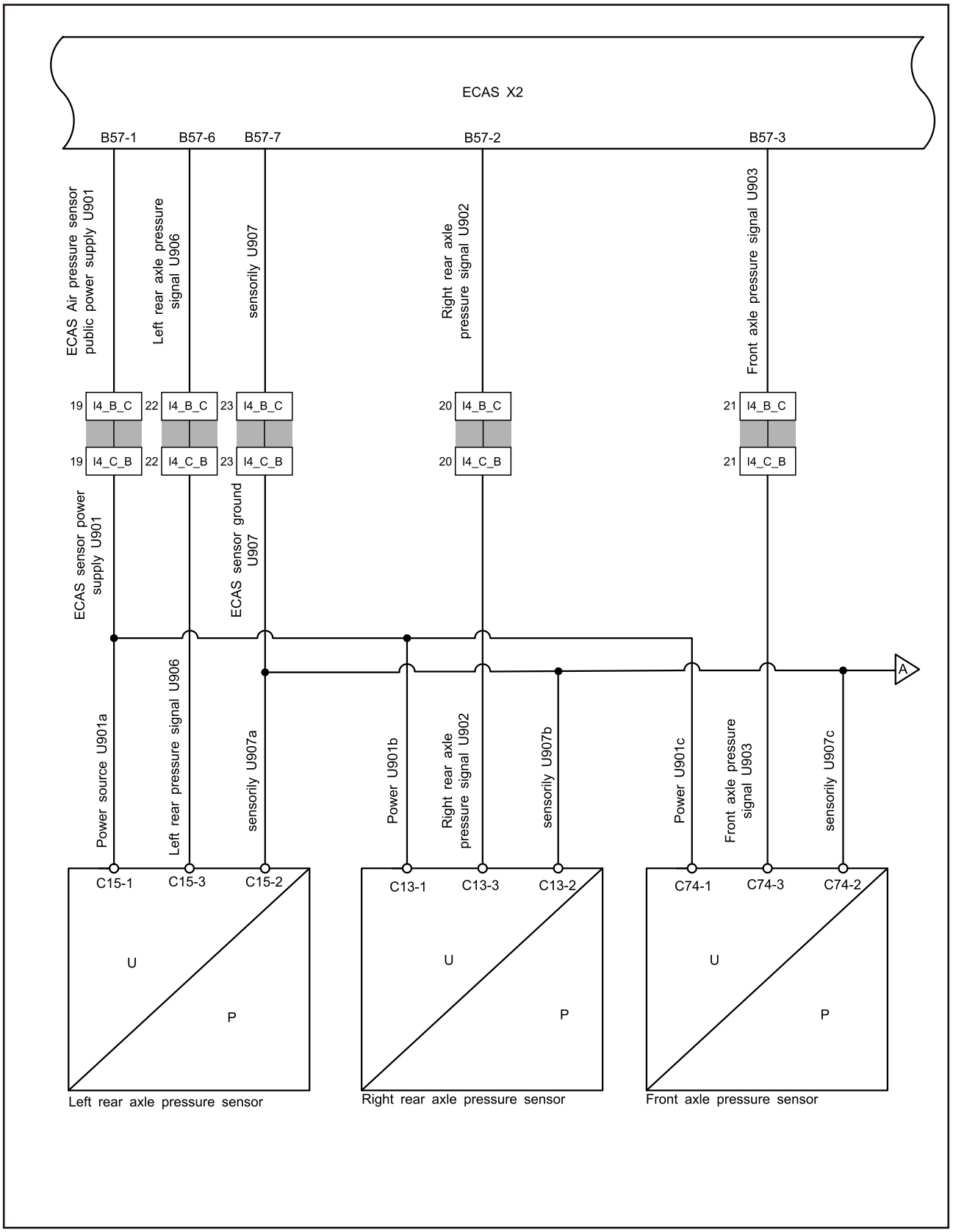
Step 7:Clear and confirm DTC.

8.8.4.11 Front Axle Pressure Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C121611	Front pressure sensor short to gnd	Pressure signal <0.14V continually after 0.5s,set the DTC immediately.	Ignition ON	1. Wiring harness 2.Front axle pressure sensor 3.ECAS
C121612	Front pressure sensor short to vcc	Pressure signal >4.65V continually after 0.5s,set the DTC immediately.	Ignition ON	
C121613	Front pressure Sensor open	0.14V<Pressure signal <0.4V continually after 0.5s,set the DTC immediately.	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the front axle pressure sensor and ECAS.

Step 4:Replace the front axle pressure sensor. Refer to Replacement Of Pressure Sensor Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

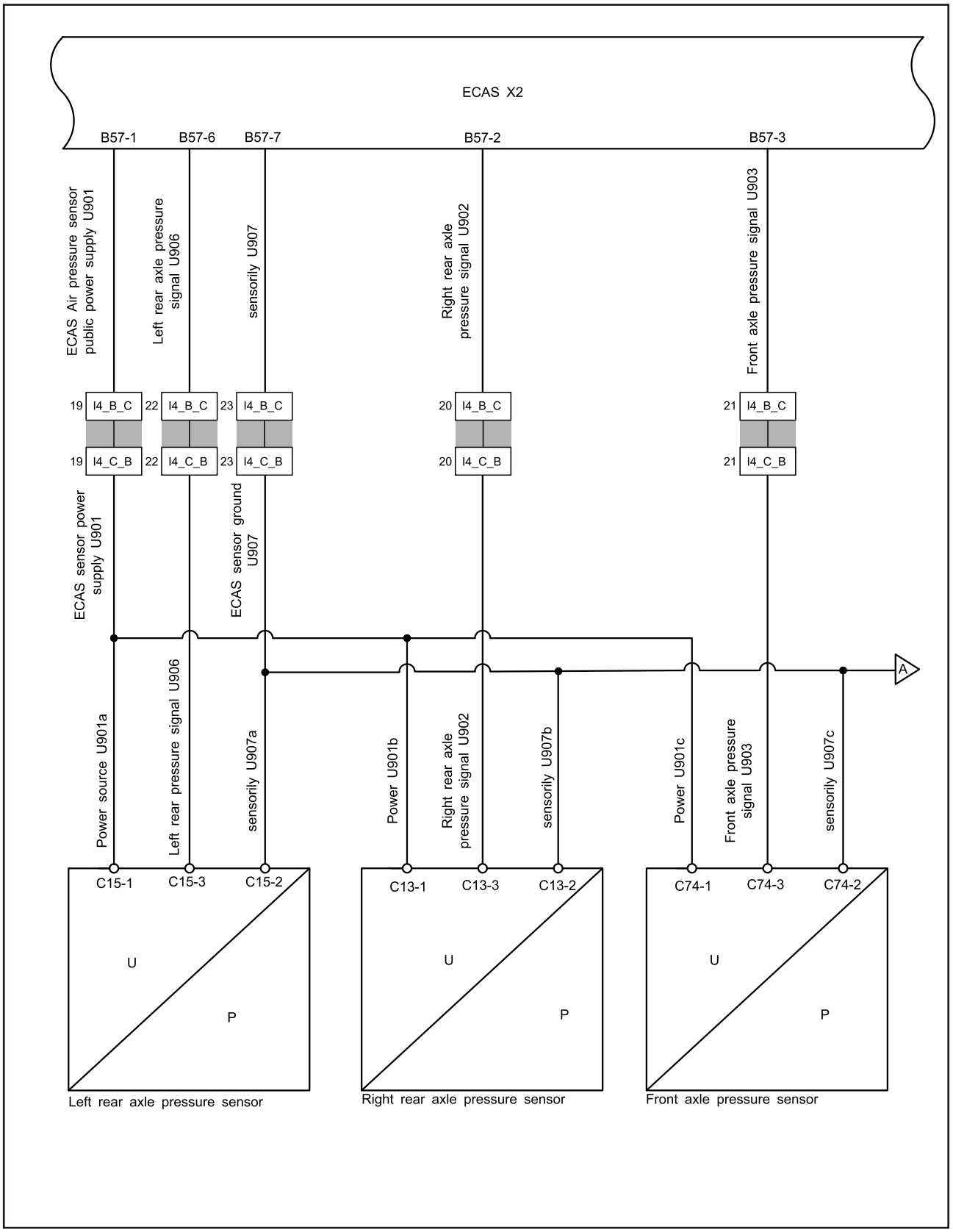
Step 7:Clear and confirm DTC.

8.8.4.12 Left Rear Axle Pressure Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C121911	Rear Left pressure sensor short to gnd	Pressure signal <0.14V continually after 0.5s,set the DTC immediately.	Ignition ON	1. Wiring harness 2. Left rear axle pressure sensor 3.ECAS
C121912	Rear Left pressure sensor short to vcc	Pressure signal >4.65V continually after 0.5s,set the DTC immediately.	Ignition ON	
C121913	Rear Left pressure Sensor open	0.14V<Pressure signal <0.4V continually after 0.5s,set the DTC immediately.	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the left rear axle pressure sensor and ECAS.

Step 4:Replace the left rear axle pressure sensor. Refer to Replacement Of Pressure Sensor Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

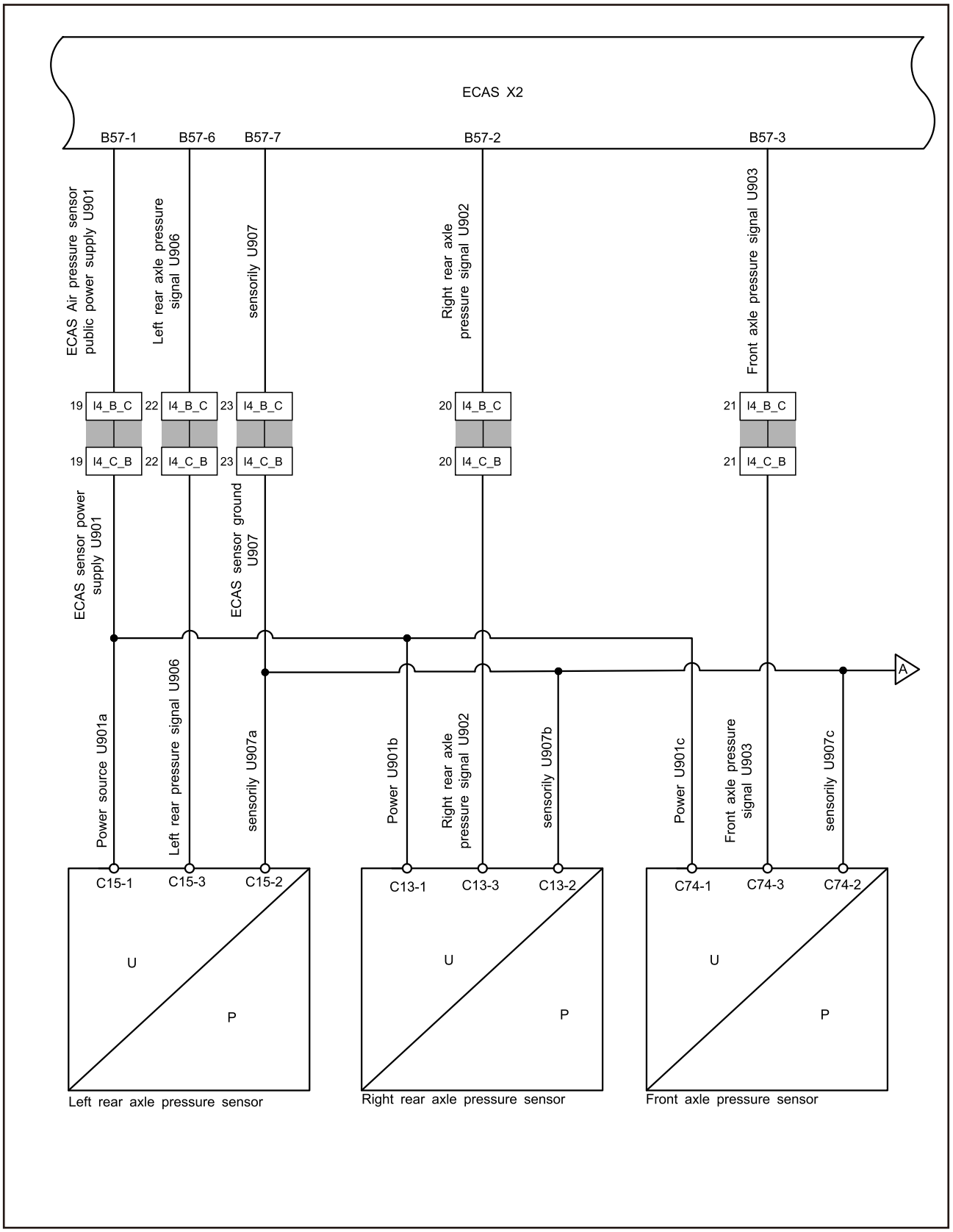
Step 7:Clear and confirm DTC.

8.8.4.13 Right Rear Axle Pressure Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C121811	Rear Right pressure sensor short to gnd	Pressure signal <0.14V continually after 0.5s,set the DTC immediately.	Ignition ON	1. Wiring harness 2. Right rear axle pressure sensor 3.ECAS
C121812	Rear Right pressure sensor short to vcc	Pressure signal >4.65V continually after 0.5s,set the DTC immediately.	Ignition ON	
C121813	Rear Right pressure sensor open	0.14V<Pressure signal <0.4V continually after 0.5s,set the DTC immediately.	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the right rear axle pressure sensor and ECAS.

Step 4:Replace the right rear axle pressure sensor. Refer to Replacement Of Pressure Sensor Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

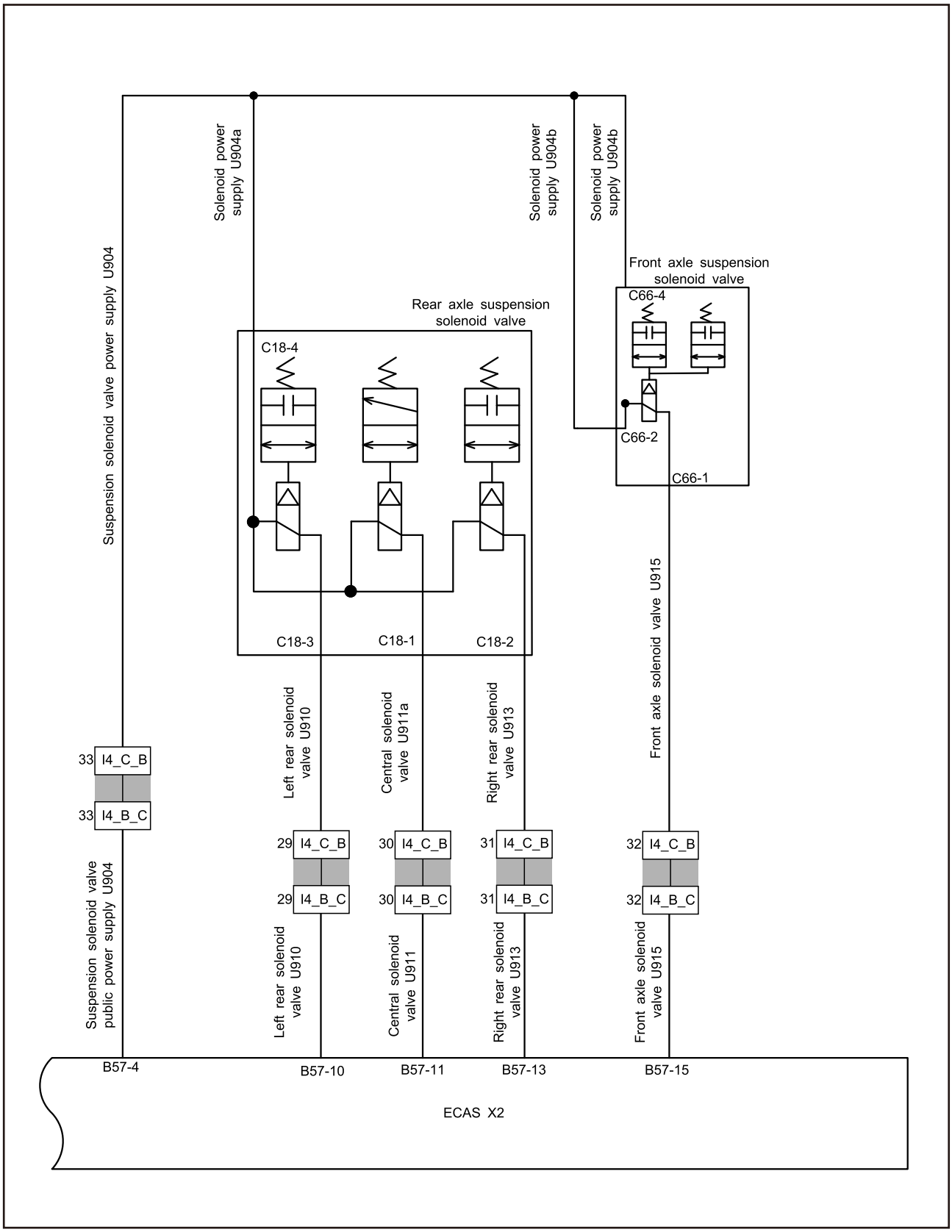
Step 7:Clear and confirm DTC.

8.8.4.14 Front Axle Suspension Solenoid Valve Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C120111	Front solenoid vavle short to gnd	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	1. Wiring harness 2.Front axle suspension solenoid valve 3.ECAS
C120112	Front solenoid vavle short to vcc	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	
C120113	Front solenoid vavle open	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the front axle suspension solenoid valve and ECAS.

Step 4:Replace the front axle suspension solenoid valve. Refer to Replacement Of Airbag Solenoid Valve Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

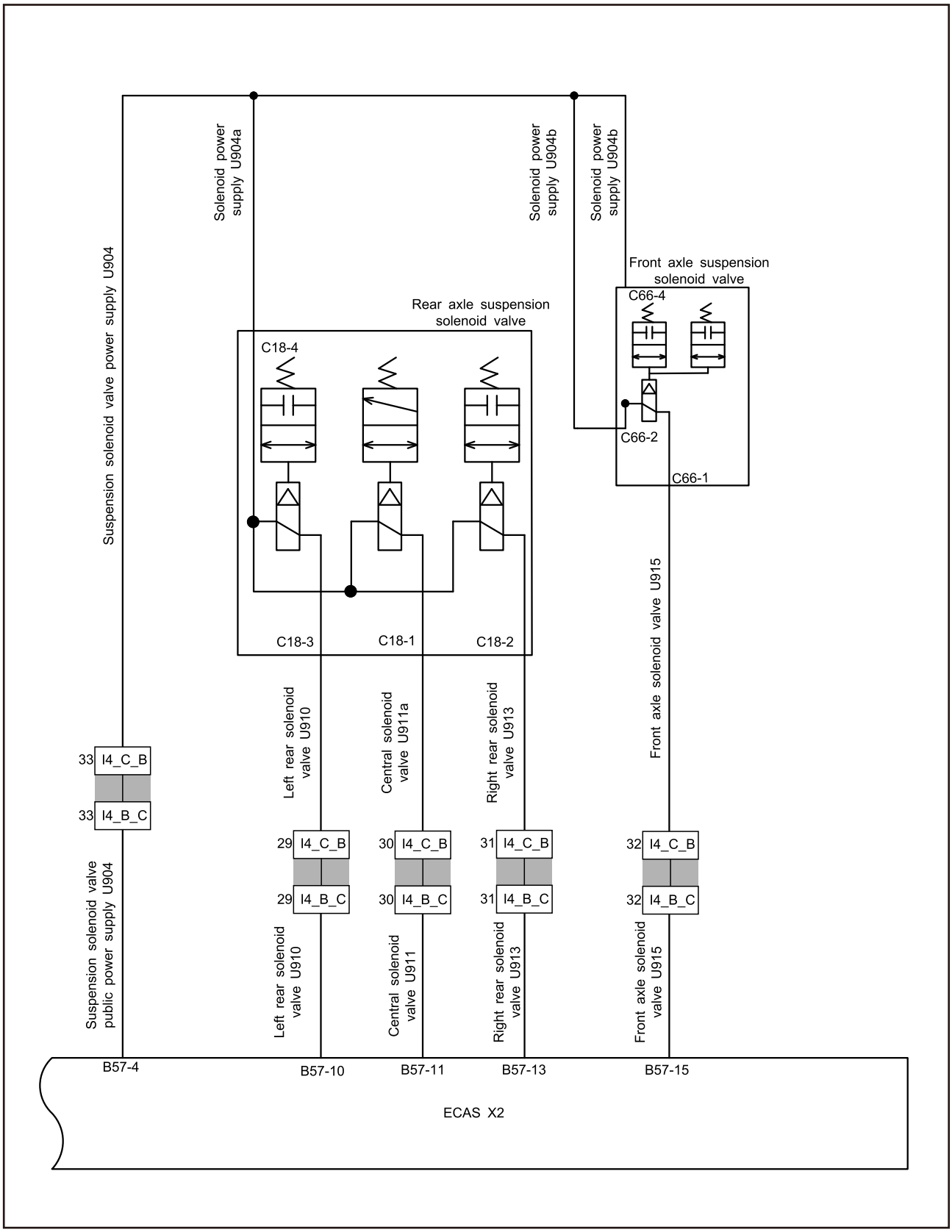
Step 7:Clear and confirm DTC.

8.8.4.15 Rear Axle Suspension Solenoid Valve Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C120411	Rear left solenoid vavle short to gnd	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	1. Wiring harness 2.Rear axle suspension solenoid valve 3.ECAS
C120412	Rear left solenoid vavle short to vcc	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	
C120413	Rear left solenoid vavle open	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	
C120711	Rear central solenoid vavle short to gnd	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	
C120712	Rear central solenoid vavle short to vcc	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	
C120713	Rear central solenoid vavle open	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	
C120311	Rear right solenoid vavle short to gnd	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	
C120312	Rear right solenoid vavle short to vcc	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	
C120313	Rear right solenoid vavle open	solenoid valve control pin unexpected operation continually after 1s,set the DTC immediately.	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the rear axle suspension solenoid valve and ECAS.

Step 4:Replace the rear axle suspension solenoid valve. Refer to Replacement Of Airbag Solenoid Valve Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

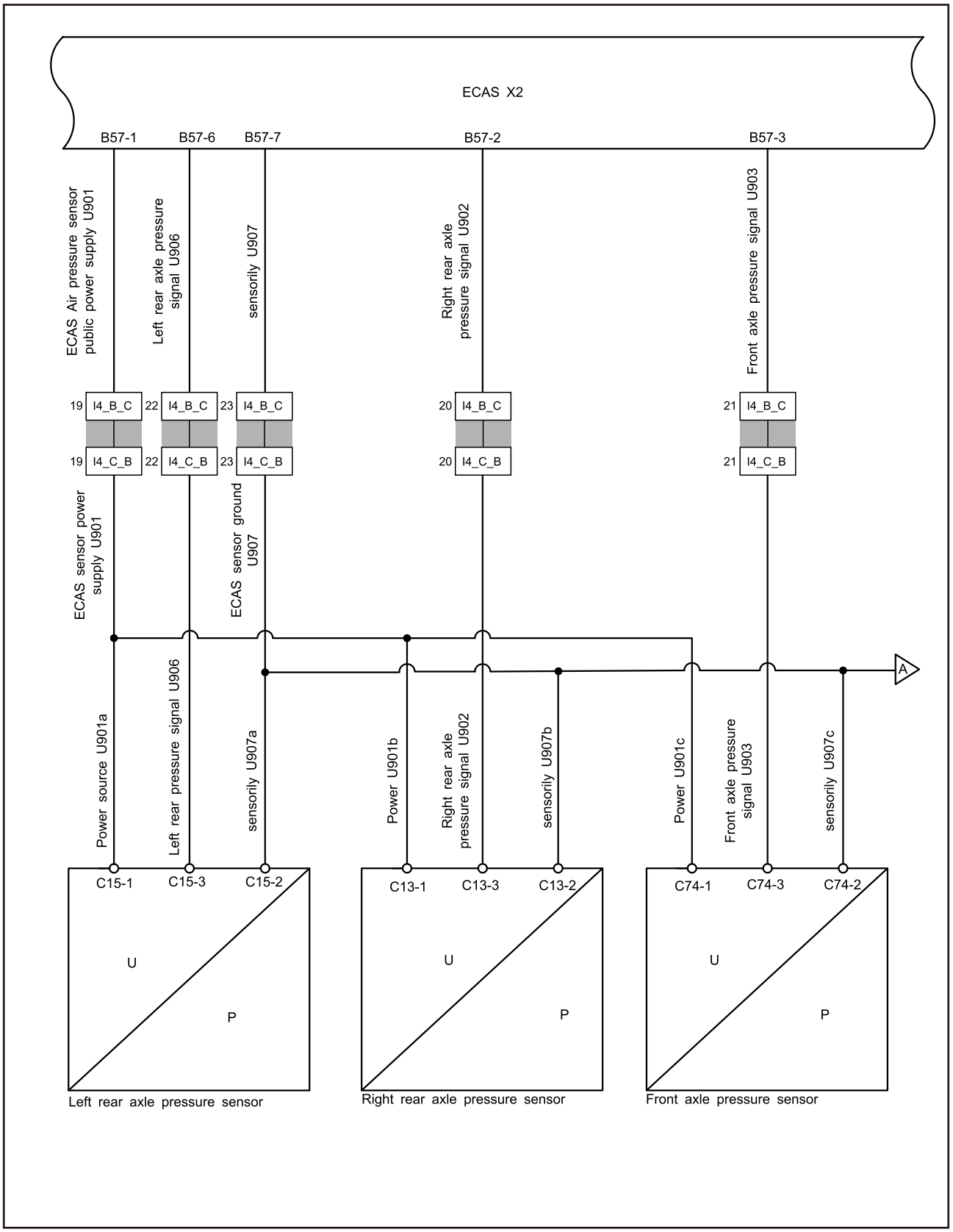
Step 7:Clear and confirm DTC.

8.8.4.16 Pressure Sensor Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C122E94	Pressure power failure	There were more than three air - pressure - sensor - power - related failures in five detections	Ignition ON	1. Wiring harness 2.Pressure sensor 3.ECAS

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the pressure sensor and ECAS.

Step 4:Replace the pressure sensor. Refer to Replacement Of Pressure Sensor Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

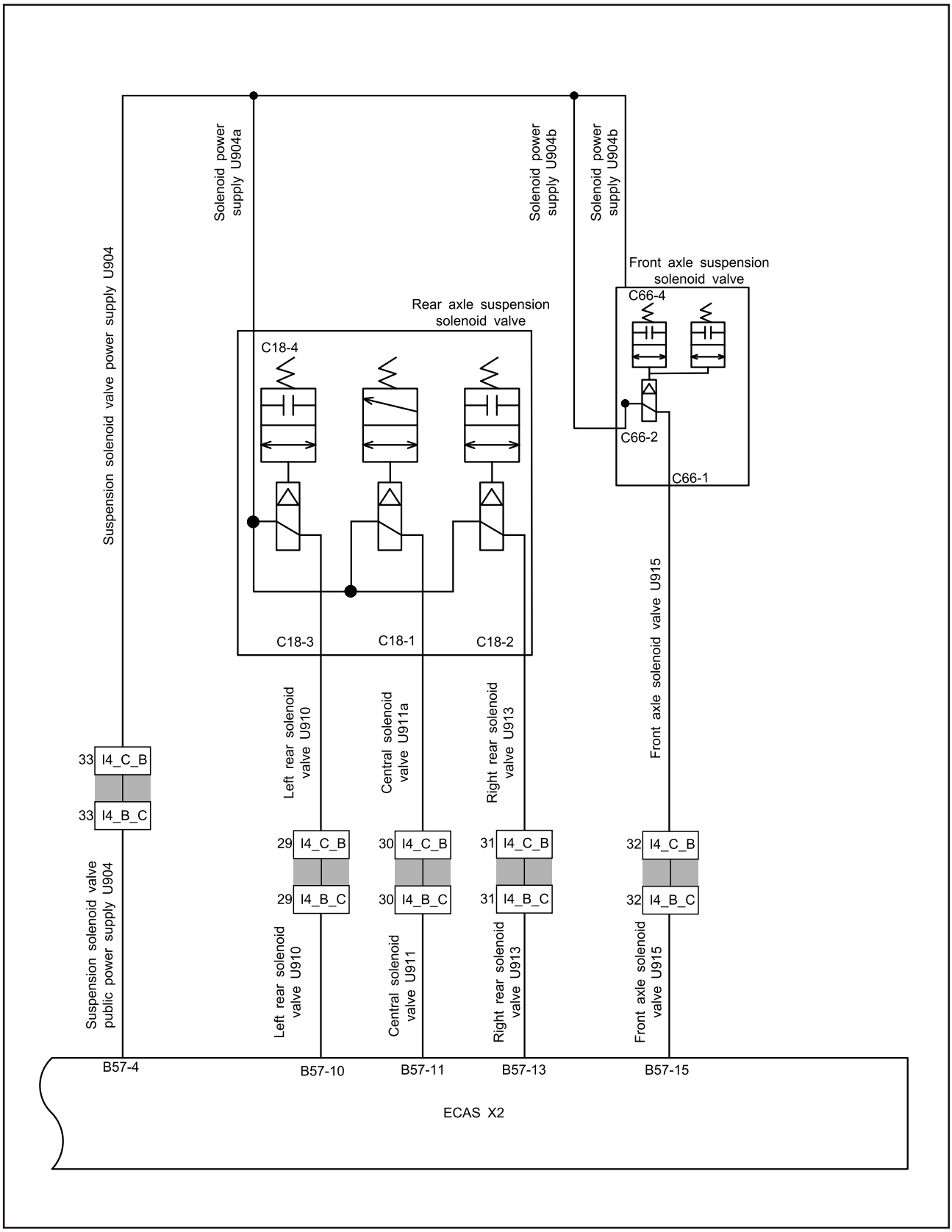
Step 7:Clear and confirm DTC.

8.8.4.17 Suspension Solenoid Valve Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C122212	solenoid valve power short to vcc	There were more than three solenoid valve short-circuit faults to the power supply in five detections	Ignition ON	1. Wiring harness 2. Suspensio-n solenoid valve 3.ECAS
C122211	solenoid valve power short to gnd	There were more than three solenoid - valve - to - ground short - circuit faults in five detections	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the suspension solenoid valve and ECAS.

Step 4:Replace the suspension solenoid valve. Refer to Replacement Of Airbag Solenoid Valve Assembly

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

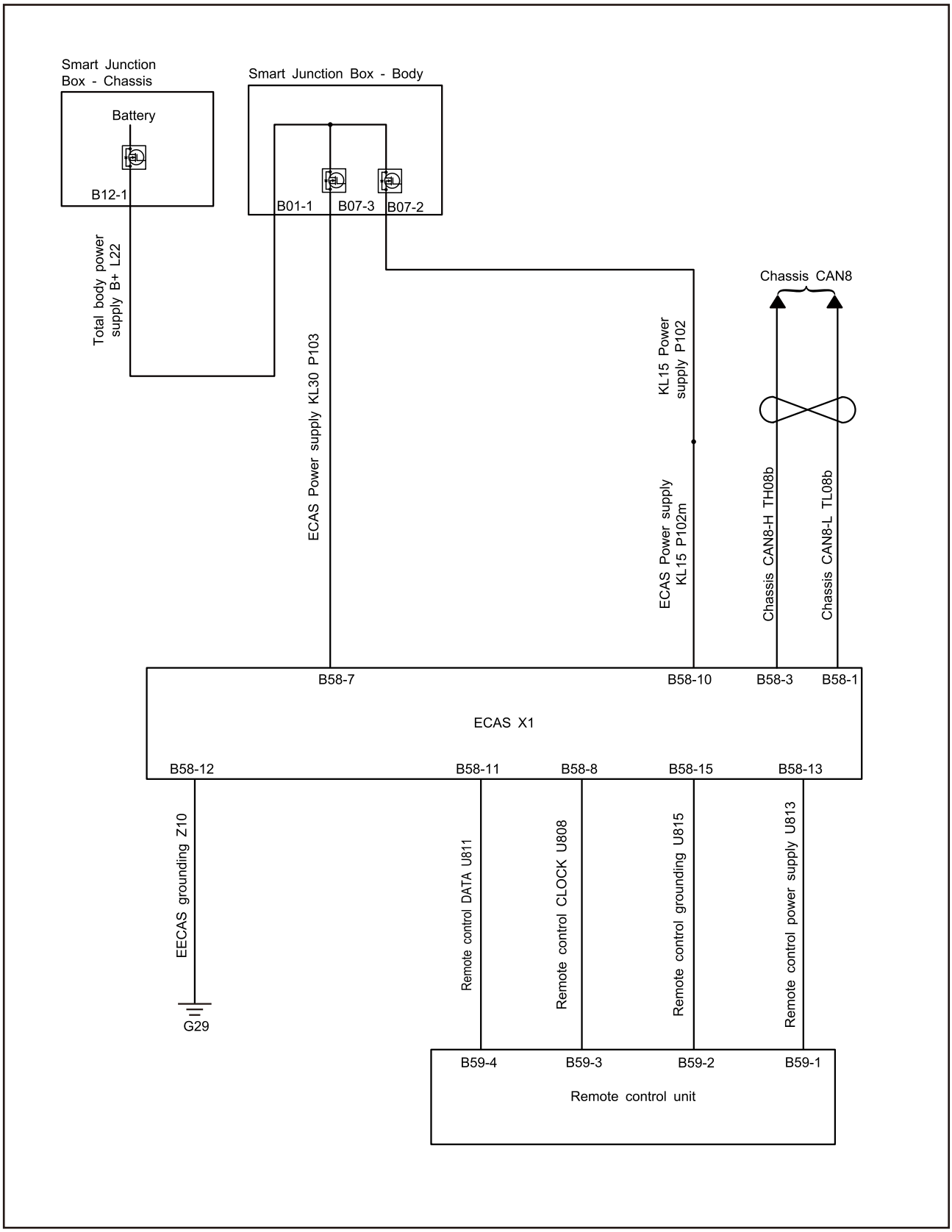
Step 7:Clear and confirm DTC.

8.8.4.18 Remote Control Malfunction

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C122F12	RCU power short circuit	There were more than three RCU (Remote Control Unit) remote - control - power - supply faults in five detections	Ignition ON	1. Wiring harness 2.Remote control 3.ECAS
C123013	RCU control signal not issued	ECU received fault signal from RCU continually after 3.5s,set the DTC immediately.	Ignition ON	

2.Circuit Diagram



2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the remote control and ECAS.

Step 4:Replace the remote control.

Step 5:ECAS rewrites configuration codes, reloads software, and upgrades.

Step 6:Replace ECAS. Refer to Replacement Of Air Suspension Controller Assembly

Step 7:Clear and confirm DTC.

8.8.5 Dismantling and Installation

8.8.5.1 Replacement of Air Suspension Controller Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

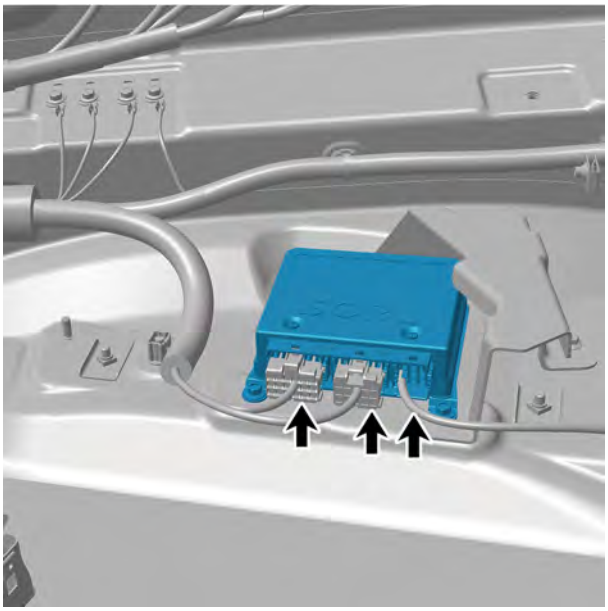
caution

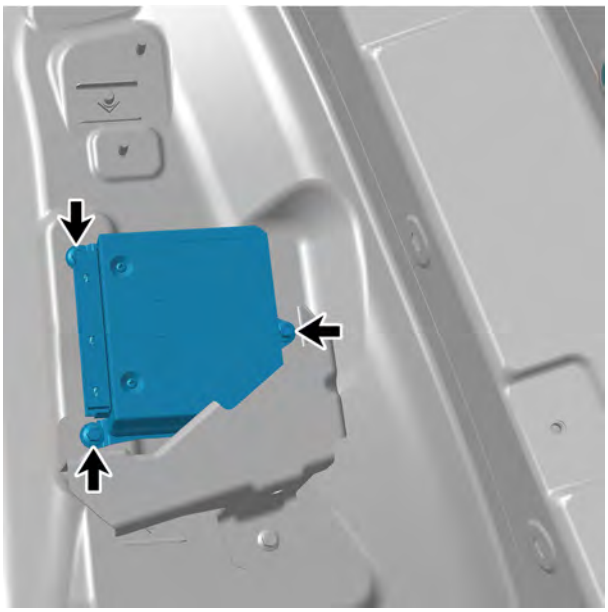
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP right upper trim panel assembly.

5 Remove the right storage box assembly.

6 Disconnect 3 harness connectors of the air suspension controller assembly.

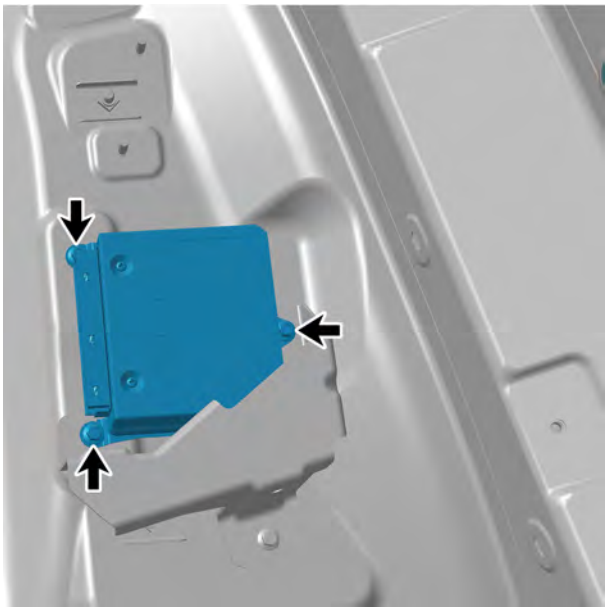




7 Remove 3 fixing bolts of the air suspension controller assembly.

8 Remove the air suspension controller assembly.

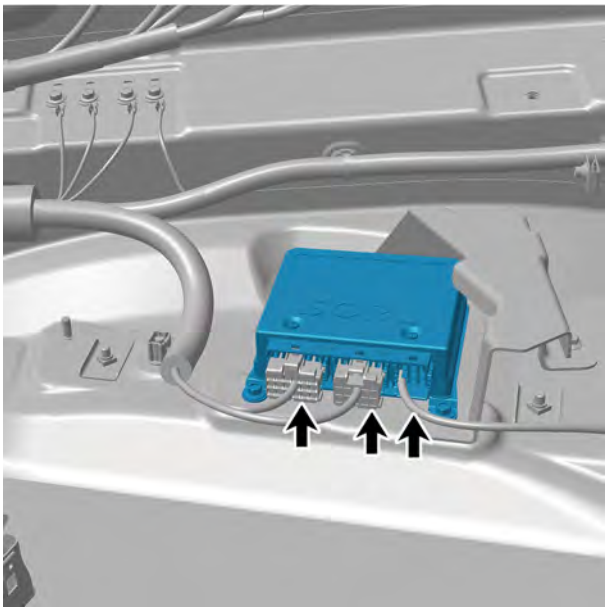
Installation Procedures



1 Move the air suspension controller assembly to the mounting position.

2 Install 3 fixing bolts of the air suspension controller assembly.

Torque: (8 +/- .75) ft lbs



3 Connect 3 harness connectors of the air suspension controller assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the right storage box assembly.

5 Install the IP right upper trim panel assembly.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

caution

After replacing the air suspension controller assembly, it is necessary to connect a scan tool for flashing and recalibrate the height.

8.8.5.2 Replacement of Airbag Solenoid Valve Assembly

Removal Procedures

1 Release air pressure from the brake system.

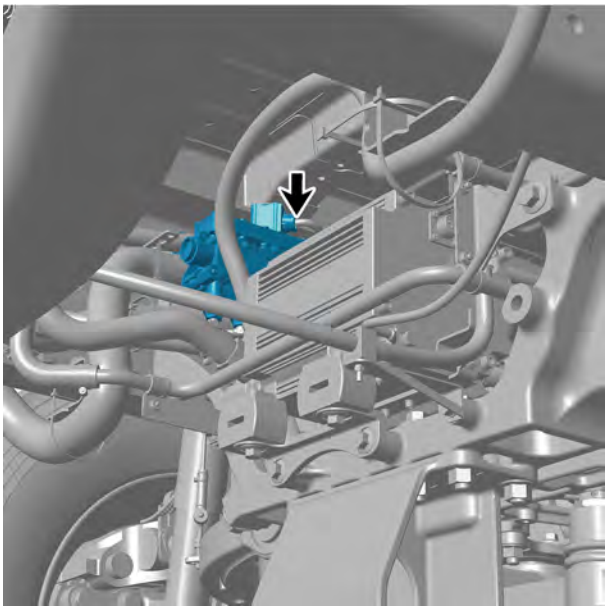
2 Open the door.

3 Open the front flip cover plate.

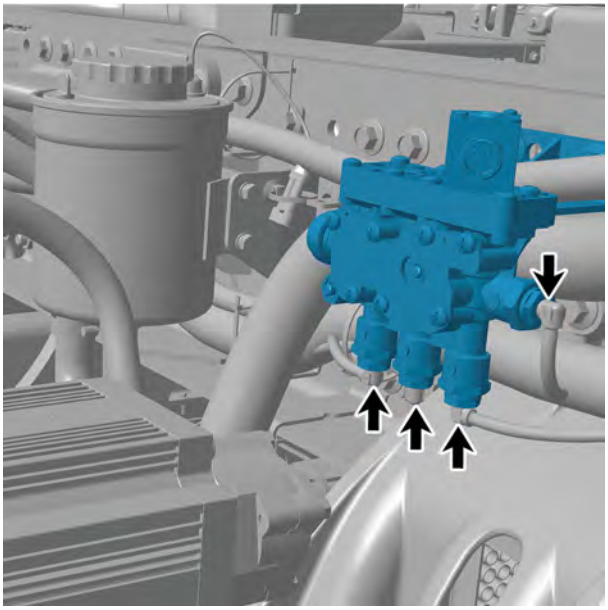
4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



5 Disconnect 1 harness connector of the airbag solenoid valve assembly.



6 Disconnect 4 air pipes of the airbag solenoid valve assembly.



7 Remove 2 fixing bolts and nuts of the airbag solenoid valve assembly.

8 Remove the airbag solenoid valve assembly.

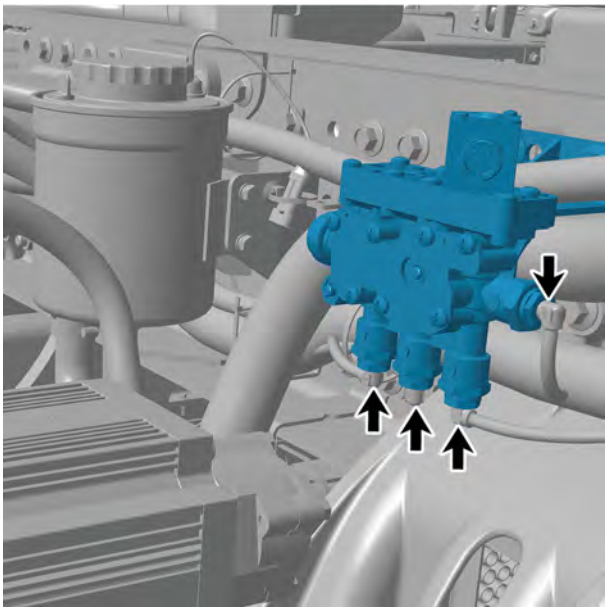
Installation Procedures



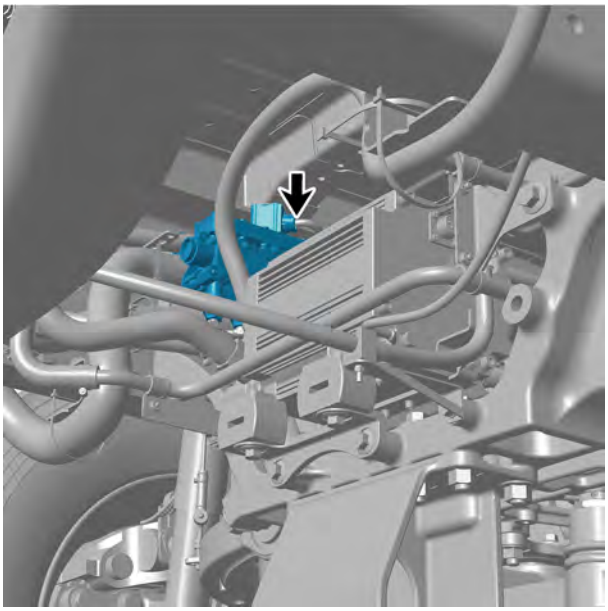
1 Move the airbag solenoid valve assembly to the mounting position.

2 Install 2 fixing bolts and nuts of the airbag solenoid valve assembly.

Torque: (103 +/- 7.5) ft lbs



3 Connect 4 air pipes of the airbag solenoid valve assembly.



4 Connect 1 harness connector of the airbag solenoid valve assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

8.8.5.3 Replacement of Airbag Solenoid Valve Bracket

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

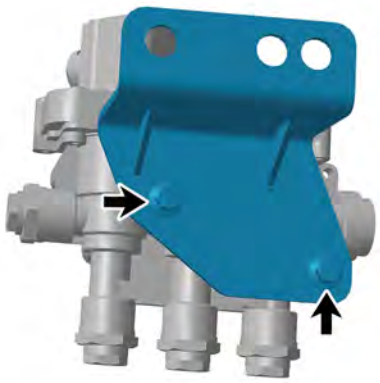
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the airbag solenoid valve assembly with bracket.

6 Remove 2 fixing bolts of the airbag solenoid valve bracket.

7 Remove the airbag solenoid valve bracket.

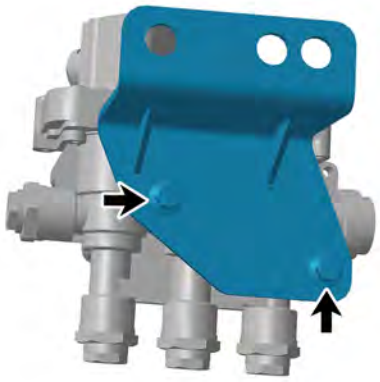


Installation Procedures

1 Move the airbag solenoid valve bracket to the mounting position.

2 Install 2 fixing bolts of the airbag solenoid valve bracket.

Torque:(18.5 +/- 2 (ft lbs)



3 Install the airbag solenoid valve assembly with bracket.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

8.8.5.4 Replacement of Overflow Valve Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

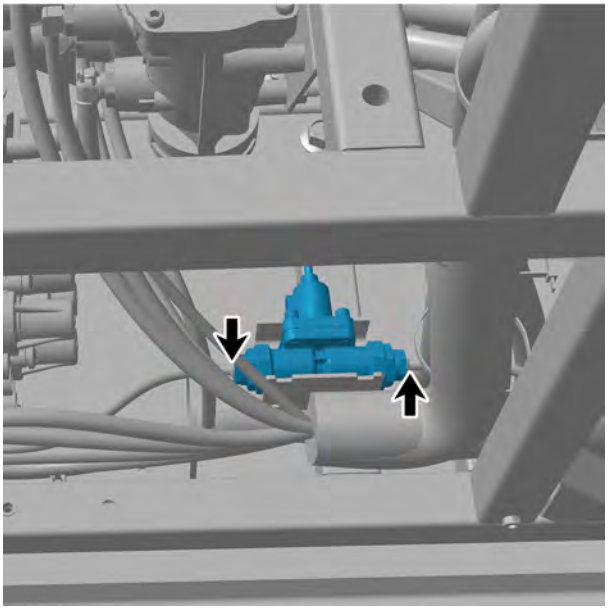
power down the high-voltage system before disconnecting the negative pole of the storage battery.

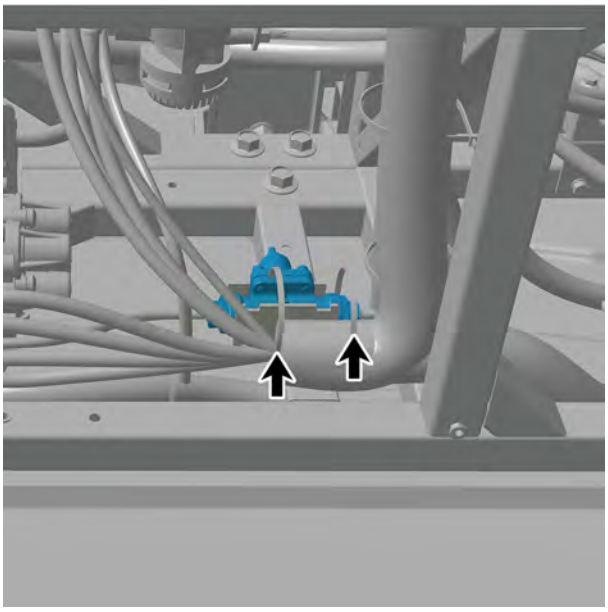
4 Remove the back integrated bracket side cover plate assembly (left).

5 Remove the back integrated bracket side cover plate assembly (right).

6 Remove the back integrated bracket middle cover plate assembly.

7 Disconnect 2 air pipes of the overflow valve assembly.

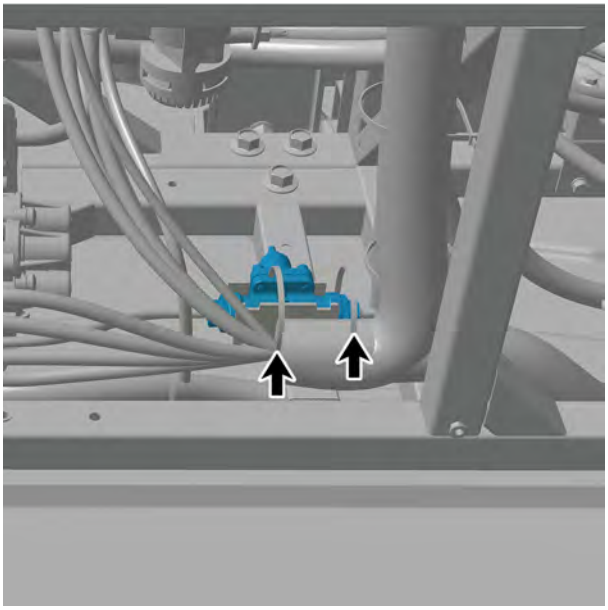




8 Remove 2 straps of the overflow valve assembly.

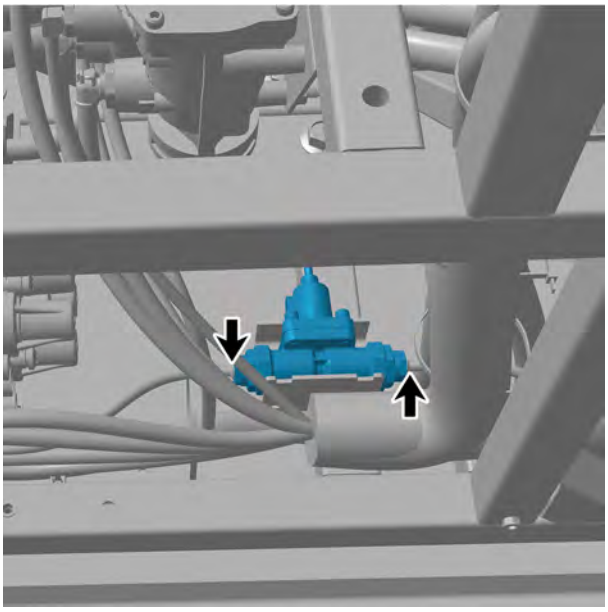
9 Remove the overflow valve assembly.

Installation Procedures



1 Move the overflow valve assembly to the mounting position.

2 Install 2 straps of the overflow valve assembly.



3 Connect 2 air pipes of the overflow valve assembly.

4 Install the back integrated bracket middle cover plate assembly.

5 Install the back integrated bracket side cover plate assembly (right).

6 Install the back integrated bracket side cover plate assembly (left).

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

8.8.5.5 Replacement of Pressure Sensor Assembly

Removal Procedures

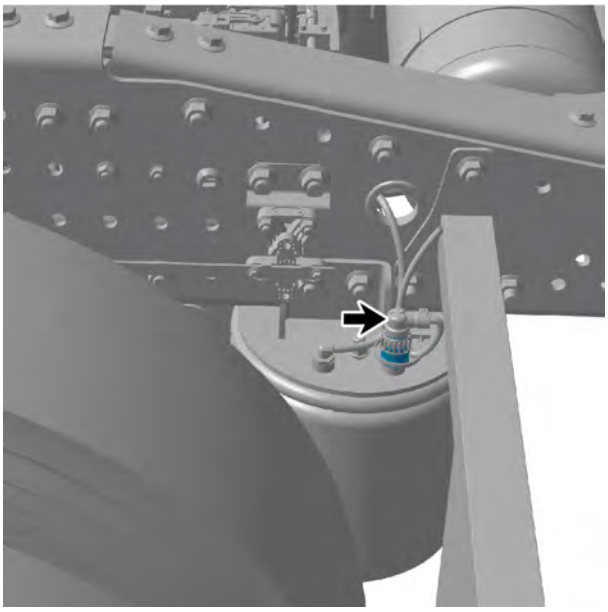
1 Open the door.

2 Open the front flip cover plate.

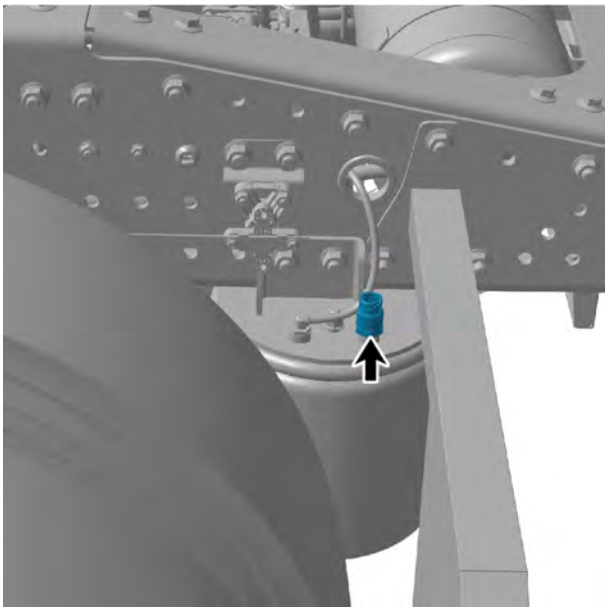
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

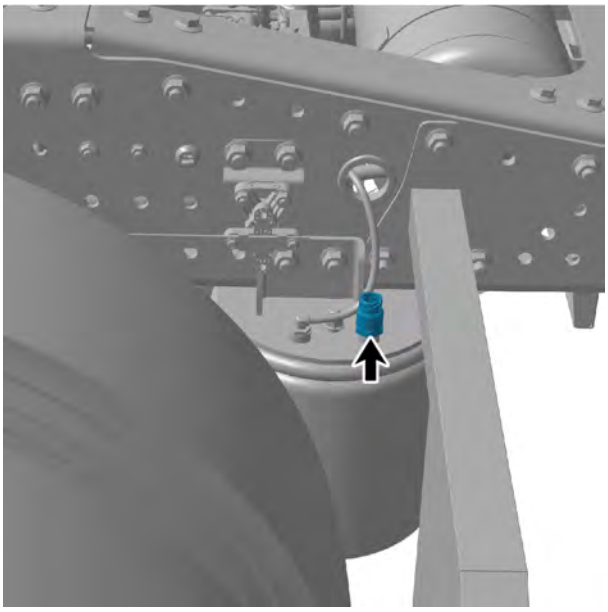


4 Disconnect 1 harness connector of the pressure sensor assembly.

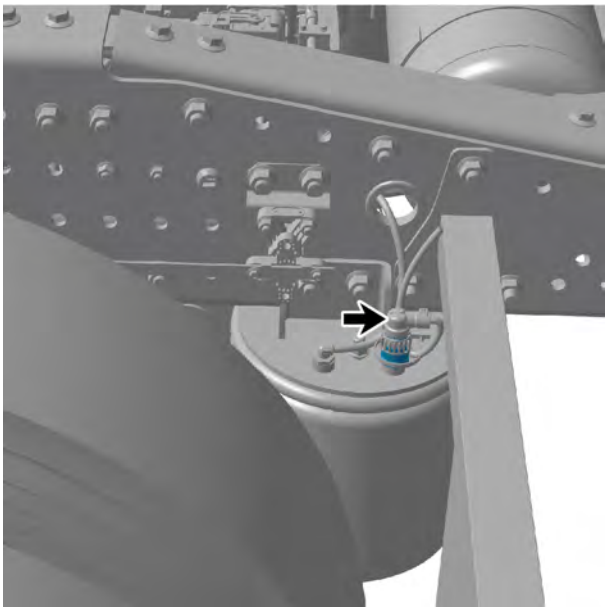


5 Remove the pressure sensor assembly.

Installation Procedures



1 Move the pressure sensor assembly to the mounting position.



2 Connect 1 harness connector of the pressure sensor assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Connect the battery negative cable.

4 Close the front flip cover plate.

5 Close the door.

8.8.5.6 Replacement of Height Sensor Assembly

Removal Procedures

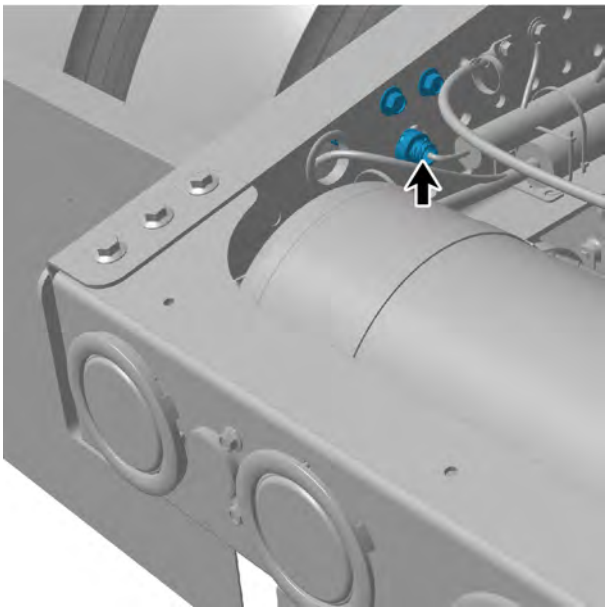
1 Open the door.

2 Open the front flip cover plate.

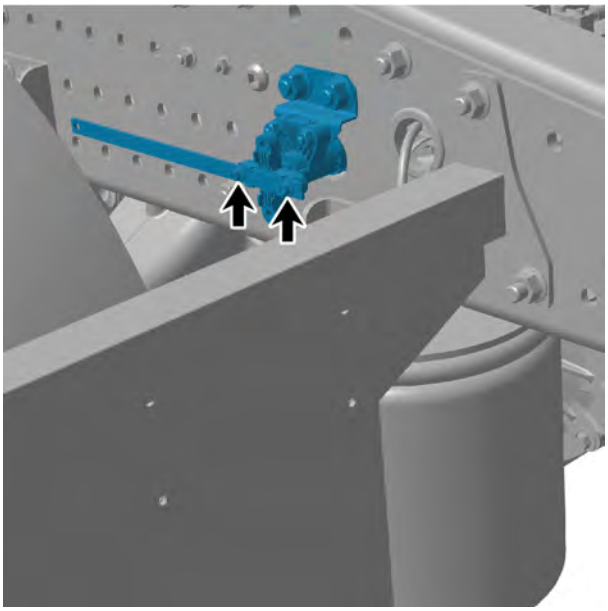
3 Disconnect the battery negative cable.

caution

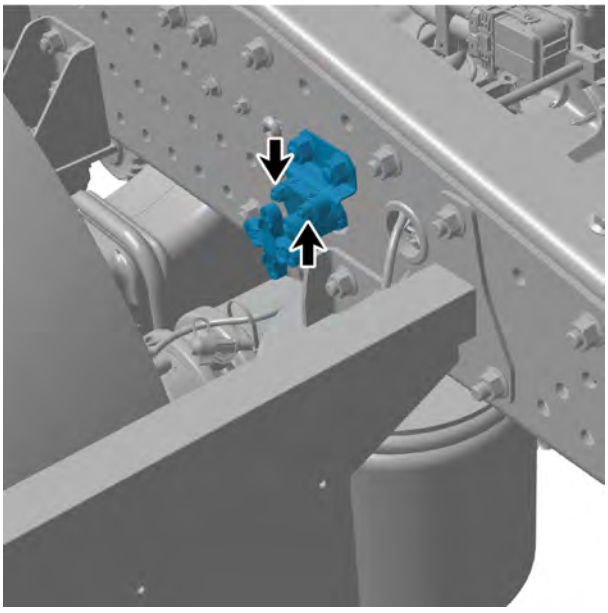
power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Disconnect 1 harness connector of the height sensor assembly.



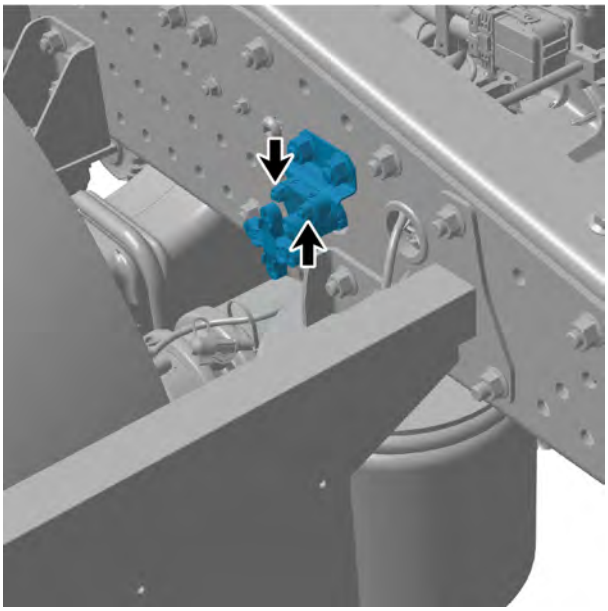
5 Remove 2 fixing bolts of the height sensor assembly.



6 Remove 2 fixing nuts of the height sensor assembly.

7 Remove the height sensor assembly.

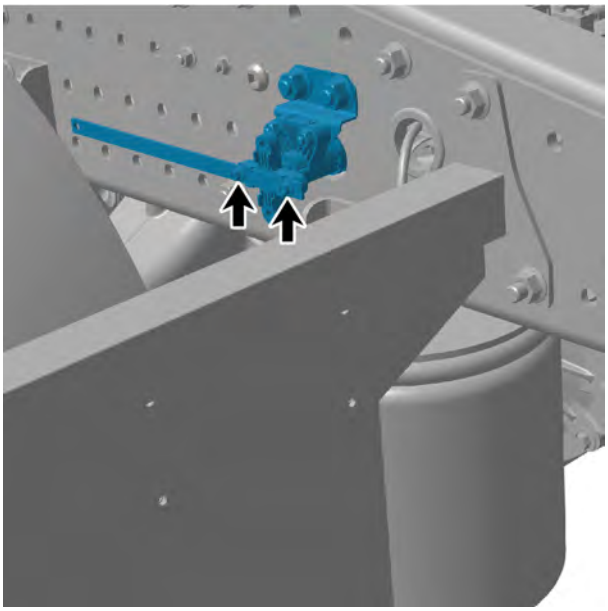
Installation Procedures



1 Move the height sensor assembly to the mounting position.

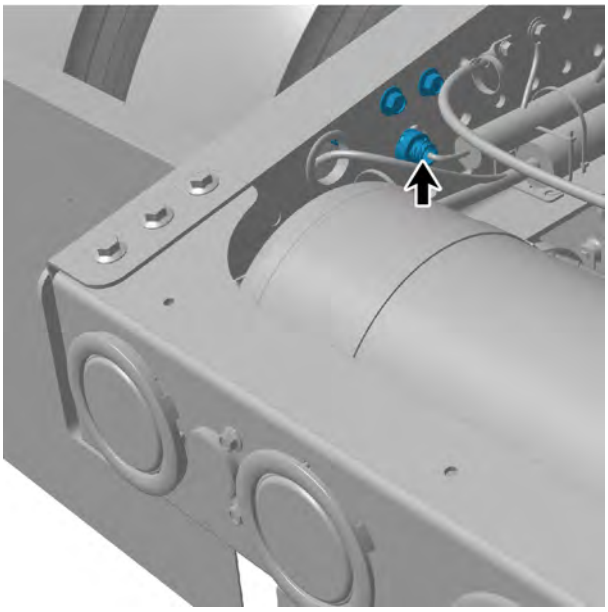
2 Install 2 fixing nuts of the height sensor assembly.

Torque: (18.5 +/- 2) ft lbs



3 Install 2 fixing bolts of the height sensor assembly.

Torque: (18.5 +/- 2) ft lbs



4 Connect 1 harness connector of the height sensor assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

8.9 Wheel Device

8.9.1 Quality Warranty Statement

8.9.1.1 Tire Quality Warranty Statement

Windrose warrants that its vehicles are (1) designed, built and equipped with tires that conform, at the time of sale, with requirements of vehicle manufacturers whose vehicles are designed to meet applicable 2014 and later, U.S. Environmental Protection Agency and National Highway Traffic and Safety Administration greenhouse gas and fuel efficiency standards, and (2) those tires are free from defects in material and workmanship which cause the vehicle to fail to conform with the vehicle manufacturer's requirements for a period of 2 years or 24,000 miles, whichever occurs first.

8.9.2 Specifications

8.9.2.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the wheel hub and the wheel rim	M22	(479 +/- 37) ft lbs

8.9.2.2 Technical Parameters

Four-wheel Alignment Parameters		
Item	Unit Adjustment	Numerical Value
Kingpin inclination	°	7.9°±30′
Kingpin caster	°	2.5°±30′
Wheel camber	°	0.65°±30′
Front wheel toe-in	mm	0-1 (left/right)

Note: The camber and toe-in of the wheels are important parameters that shall be prioritized. The difference in left and right angles shall be ≤ 0.5 °, and the toe-in of the left and right wheels shall be ensured.

Driving Tire Model				
Item	Axle	Form 1	Form 2	Form 3
Tire specifications	Input shaft	12R22.5	295/80R22.5	315/70R22.5 Z2
	Output shaft	12R22.5	295/80R22.5	315/70R22.5 D2
	3rd shaft	12R22.5	295/80R22.5	315/70R22.5 D2

Wheel Rim Model			
Item	Form 1	Form 2	Form 3
Rim specifications	9.00×22.5	9.00×22.5	9.00×22.5

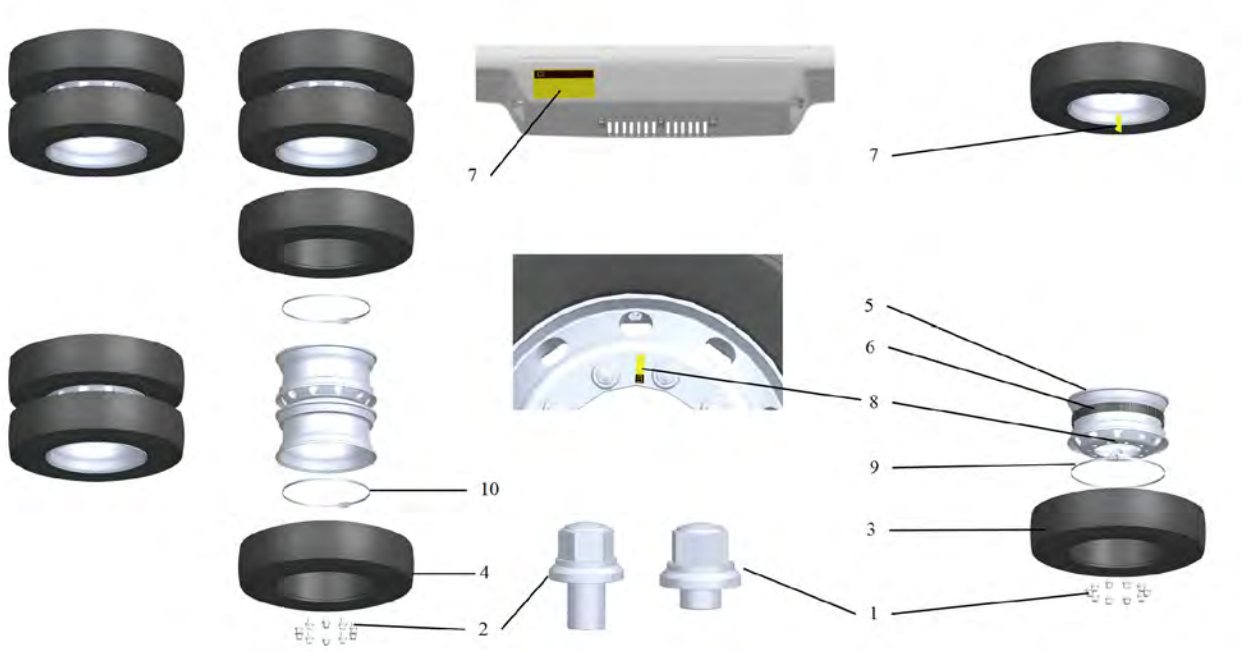
Tire Dynamic Unbalance			
Item	Unit Adjustment	Wheel Rim Form 1	Wheel Rim Form 2
Dynamic unbalance	g	≤50 (after balance)	≤50 (after balance)

Tire Pressure (cold state)				
Wheel	Unit	Form 1	Form 2	Form 3
Front wheels	psi	135 +/- 3 (psi)	135 +/- 3 (psi)	135 +/- 3 (psi)
Rear wheels	psi	135 +/- 3 (psi)	135 +/- 3 (psi)	135 +/- 3 (psi)

Name	Parameter
Wheel radial runout	≤0.5mm
Wheel face flatness	≤0.1mm

8.9.3 Decomposition Diagram

8.9.3.1 Decomposition Diagram



1. Wheel Nut (Front) In New Energy Vehicles
2. Wheel Nut (rear) In New Energy Vehicles
3. Tire Assembly - Guide Wheel
4. Tire Assembly - Drive Wheel
5. Wheel Assembly In New Energy Vehicles
6. Tyre Blowout Emergency Safety Device In New Energy Vehicles
7. Tyre Blowout Emergency Identification (Indoor) In New Energy Vehicles
8. Tyre Blowout Emergency Identification (wheel side) In New Energy Vehicles
9. Front Tire Pressure Monitoring Sensor
10. Rear Tire Pressure Monitoring Front Tire Pressure Monitoring Sensor

8.9.4 Inspect

8.9.4.1 Inspection of Tire

Inspection of Air Pressure

The tire pressure shall comply with the specified value in the user manual. Regularly check the tire pressure, as high or low pressure can cause abnormal tire wear. If the air pressure is too high, it will cause excessive wear in the middle of the tire; If the air pressure is too low, it will cause excessive wear on both sides of the tire. In addition, incorrect tire pressure can also cause reduced ride comfort, heavy steering, braking deviation, and other faults.

Inspection of Crack and Pattern

Regularly inspect the surface of the tire for defects such as cracks and deformations, and if any, replace the tire promptly. Regularly inspect the surface of the tire for defects such as cracks and deformations, and if any, replace the tire promptly. Tire with the pattern wear reaching the height of the TWI (the depth of the tire pattern must not be less than 1.6 mm) must be replaced.

Lifespan Inspection and Rotation

Tires that have been in use for more than 5 years must be replaced by force.

Inspection of Tire Tread

Regularly check the tire tread is punctured and whether there are any stones stuck between the two wheels. Remove the stones embedded in the tire. If small holes are found on the tread, they shall be filled with rubber to prevent sand and mud from entering the cord layer and causing voids.

Vehicle Parking

When parking the vehicle, it is also important to protect the tires and avoid parking on roads with large, sharp, or sharp obstacles. In addition, it is advisable to avoid contact between passenger cars and petroleum products, acidic substances, and other materials that may affect rubber deterioration.

Handling of Overheating

Tires are prone to overheating and increased air pressure during summer or high-speed driving. In this case, the vehicle shall be parked to dissipate heat, and deflation, pressure reduction, or water splashing to cool down are strictly prohibited.

Tire Replacement

When installing tires, tires of the same specification, size, pattern, and number of cord layers shall be installed on the same axle. When replacing tires, it is best to replace all tires at the same time, at least in pairs. For the replacement of the steerable wheel (front wheel), new tires must be used and it is never allowed to replace tires with worn old tires.

Tire Usage

1. Limiting driving speed

The increased driving speed, especially frequent high-speed driving, significantly reduces the service life of tires.

2. Driving according to road conditions

The type and condition of road surface have a significant impact on the service life of tires. The driver shall choose the road surface according to the road conditions and select the appropriate driving speed to increase the mileage of tires.

3. Mastering tire temperature changes

a. When driving in hot weather, due to the high external temperature, the accumulated heat in the tires is difficult to dissipate, causing a sharp rise in tire temperature and an increase in tire pressure, thereby accelerating rubber aging. Therefore, when driving in hot weather, attention shall be paid to controlling the temperature of the tires. In addition to appropriately reducing the vehicle speed, if conditions permit, driving can be done in the morning and evening when the temperature is low, or after driving a certain distance, stopping and resting to prevent tire temperature from being too high.

b. It is prohibited to deflate to reduce pressure. In the season of low temperature, as tires dissipate heat faster during use, they are less prone to high heat, and the tread is more wear-resistant. In seasons with low temperatures, especially in severe cold weather, it is advisable to drive at low speeds for the first few kilometers after starting in order to increase tire temperature when the vehicle is parked overnight or after a long period of time. In short, mastering tire temperature changes during driving is extremely important.

4. Adopting the correct driving method

The car shall not start too aggressively, and both empty and heavy vehicles shall start smoothly at low speed. Avoid dragging the tires on the ground to reduce tread wear.

When driving on a good road surface, keep moving in a straight line, and avoid swaying left and right or making sharp turns, except when meeting vehicles or avoiding obstacles, to prevent lateral cutting between the tire and the wheel rim from damaging the tire.

When the vehicle goes down a long slope, the vehicle speed shall be appropriately controlled according to the slope size, length, and road conditions. In situations where the slope is long, the road is steep, and the road conditions are complex, it is advisable to shift into low gear and use light braking to

control the vehicle speed downhill. This not only avoids emergency braking and reduces tire wear, but also ensures safe driving.

When the vehicle is going uphill, try to use inertia to drive, change gears at the right time, maintain appropriate residual force, and do not wait for the car to stop before restarting to reduce tire wear.

When turning while driving, the vehicle speed shall be controlled according to the situation of the curve. Do not turn at high speed, otherwise the vehicle will generate a large centrifugal force, causing the loaded cargo to tilt, the center of mass to shift to one side, and the single-sided tire to be overloaded and dragged, accelerating wear, and the tire to be cut horizontally by the wheel rim, causing damage.

When driving in complex situations (such as meeting, overtaking, passing through towns, intersections, and crossing railways), it is important to maintain an appropriate driving speed, reduce frequent braking, and avoid emergency braking. Otherwise, sliding friction between the tire and the ground will occur, resulting in severe wear of the tread.

On bad roads, slow down and observe carefully, choose a path to pass through, and stop to check if there are stones between the twin tires. If there are, they shall be removed in a timely manner.

When parking on the way or on site, it is important to develop a habit of safe sliding when parking. Before parking, choose a flat, clean, and oil-free ground. Each tire shall land smoothly, especially if the vehicle is loaded overnight, attention shall be paid to choosing a good parking place, and the rear wheel shall be lifted if necessary.

8.9.4.2 Four-wheel Alignment

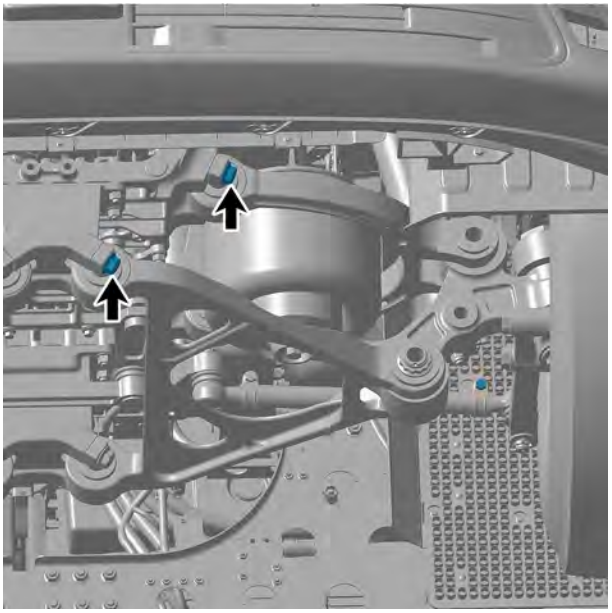
1. Jack the vehicle.
2. Check the tires.
3. Check the front suspension.

   caution

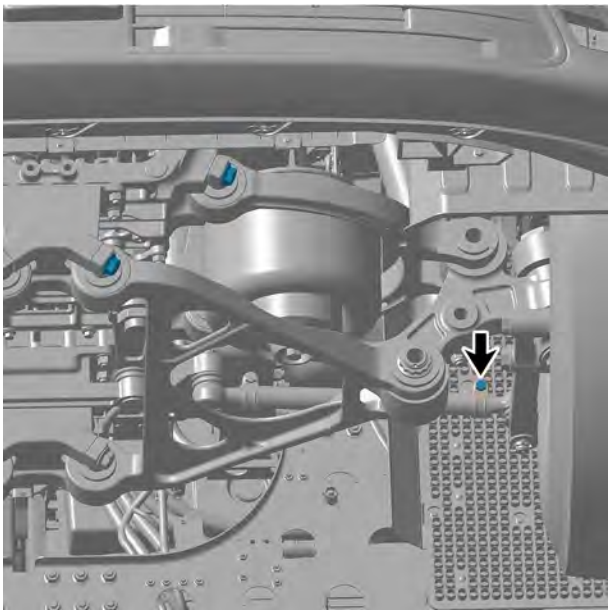
   Check the suspension for wear, looseness, deformation, and damage. In case of any of the above defects, adjust, tighten, or replace accordingly.
4. Check the steering angle of the wheels.

   caution

   If the measured value is not within the specified range, the steering tie rod needs to be checked.
5. Loosen the fixing bolts of the upper and lower swing arms, and add shims between the ball joint and the subframe to change the value of the camber angle.



6. Tighten the fixing bolts of the upper and lower swing arms.
7. Loosen the adjustment bolt of the steering rod, adjust the length of the rod by rotating the ball joint, observe the direction of the toe in change, and determine the adjustment value.



caution

1. After adjustment, the difference in length between the left and right tie rods shall be ≤ 2mm;

2. After adjustment, fix the inner clamp bolt above the rod.

8. Tighten the adjustment bolt of the steering rod.

9. Lower the vehicle.

8.9.4.3 Tire Rotation

caution

If there is obvious uneven tire wear, the cause of this wear shall be ruled out.

In case of tire rotation, it is recommended to check the balance of both the tire and wheel assemblies simultaneously.

1. When performing brake checks on tires according to the prescribed maintenance schedule, it is recommended to perform tire cross rotation.

2. Jack the vehicle.

caution

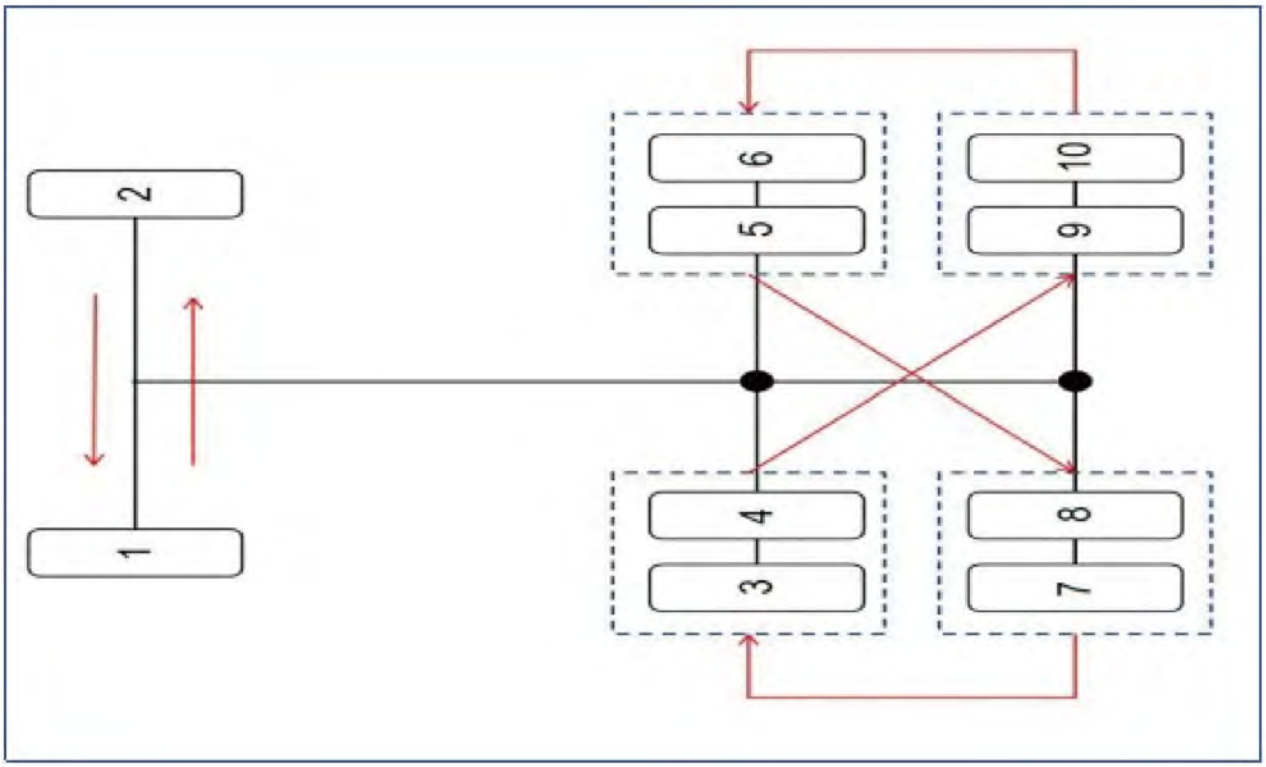
Record the original position of each tire and wheel assembly relative to the vehicle.

3. Remove the wheel assembly.

4. Perform rotation to the tire and wheel assembly according to the following diagram.

caution

Perform tire cross rotation as shown below.



caution

1. The front axle tires shall not be interchanged with the intermediate and rear axle tires;

2. If there Is a rotation direction on the tire, and after tire rotation,make sure that the direction of rotation is the forward direction of the vehicle;

3. After the tire rotation is completed, recalibrate the tire pressure for all tires.

5. Install the wheel assembly.

6. Lower the vehicle.

7. Check and adjust the tire inflation pressure.

8.9.5 Dismantling and Installation

8.9.5.1 Replacement of Tire Assembly

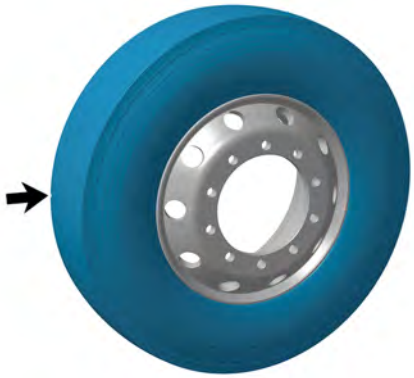
Removal Procedures

1 Jack the front end of the vehicle.

2 Remove the guide wheel.

3 Release the air from the tire and use a pry bar to pry off the tire.

4 Remove the tire assembly.

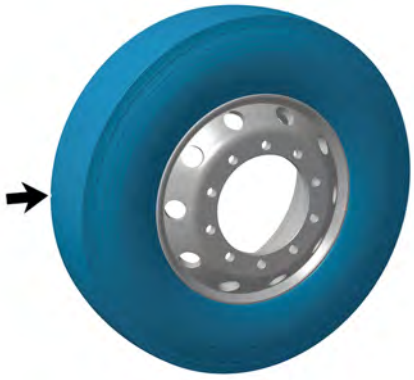


caution

Due to the heavy weight of the tire, it shall be removed with the help of an assistant.

Installation Procedures

1 Move the tire assembly to the mounting position.



caution

Due to the heavy weight of the tire, it shall be moved to the mounting position with the help of an assistant.

2 Measure the tire pressure on both sides with a pressure gauge to ensure that the tire pressure remains consistent.

3 Perform tire dynamic balancing.

4 Install the guide wheel.

5 Lower the front end of the vehicle.

8.9.5.2 Replacement of TESD

Removal Procedures



1 Jack the front end of the vehicle.

2 Remove the driven wheel.

3 Deflate the tyre and then separate the tyre from the rim, and remove the TESD.

caution

Do not damage the wheels during removal.

Installation Procedures



1 Install the TESD and inflate the tyre assembly after pre-installation.

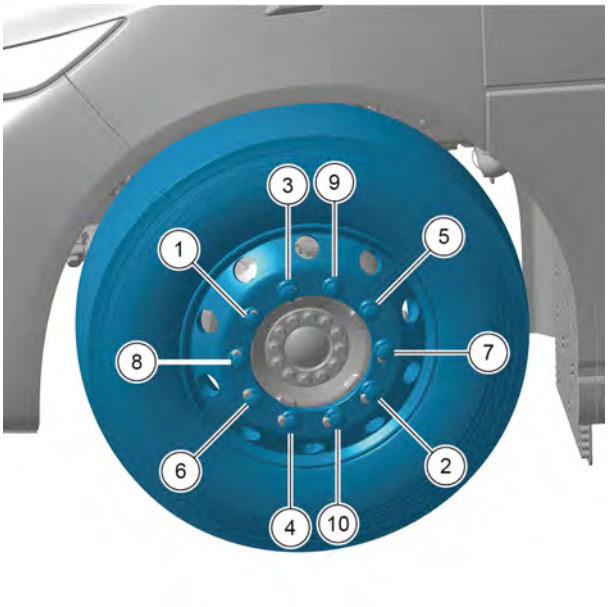
Torque: (7.5 - ft lbs)

2 Install the driven wheel.

3 Lower the front end of the vehicle.

8.9.5.3 Replacement of Wheel Assembly

Removal Procedures



caution

The removal and installation procedure for all tires is the same.

To maintain wheel balance, mark the relative position of the wheels before removing the tires.

1 When removing the wheel assembly, first loosen the 10 wheel nuts that connect the wheel assembly to the outer flange connection plate assembly, and then use a jack.

2 Put the jack on the front axle assembly and tighten the control valve clockwise to fix the jack.

3 Insert the jack rocker into jack sleeve to lift the vehicle.

caution

1. The jack must be used on a hard bearing surface and must be supported on the plane position of the vehicle jacking point. It is prohibited to use the jack on an inclined plane with an inclination angle greater than 6° to avoid violent vibration or sliding of the jack.

2. Use the jack within its load limit to avoid abnormalities such as failure caused by overload. After the vehicle is lifted, support the vehicle with solid objects of equal height in the area around to avoid personal injury caused by jack failure. When unloading the jack, open the control valve slightly to allow the jack to drop slowly to avoid slipping or damage due to the jack dropping too fast. Besides, the sudden drop of the vehicle will also threaten personal safety.

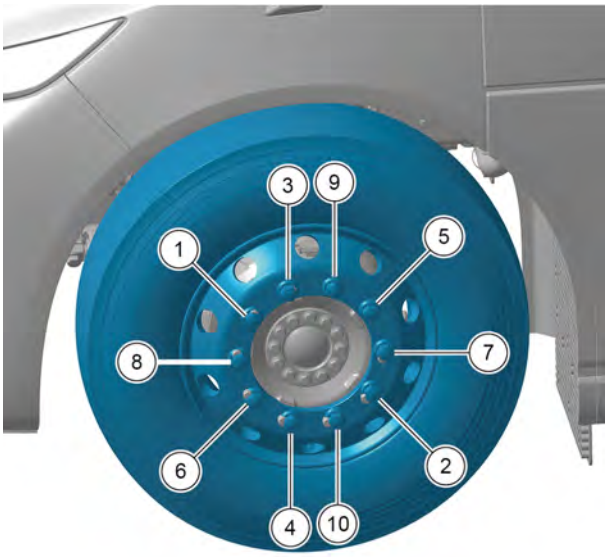
4 When the wheel assembly is off the ground, unscrew the 10 wheel nuts that connect the wheel assembly to the outer flange connection plate assembly.

caution

Tighten in the order of diagonal 1 to 10.

5 Remove the wheel assembly.

Installation Procedures



1 Move the wheel assembly to the mounting position.

caution

1. When replacing the tires, the tires on the same axle shall be replaced at the same time.

2. The inner and outer valves shall be staggered to facilitate the tire inflation.

2 Lubricate the threaded surface of the nuts with engine oil, gear oil or grease to achieve a slight degree of wetting.

caution

1. Do not use lubricants containing molybdenum disulfide, organic molybdenum, or other molybdenum additives to avoid corrosion of the tire.

2. Do not apply oil to the tire rims and axle end surfaces that contact with bolts and nuts.

3 Tighten the 10 wheel nuts that connect the wheel assembly to the outer flange connection plate assembly, release the jack and lower the vehicle, then tighten the nuts diagonally again.

Torque: (479 +/- 37) ft lbs

4 After the wheel touches the ground, turn the tire half a circle and tighten the 10 wheel nuts of the wheel assembly again.

Torque:(479 +/- 37) ft lbs

caution

After replacing the tire, conduct an initial test run, and tighten again to the specified torque after driving 30-60 miles.

8.10 Tire Pressure Monitoring System

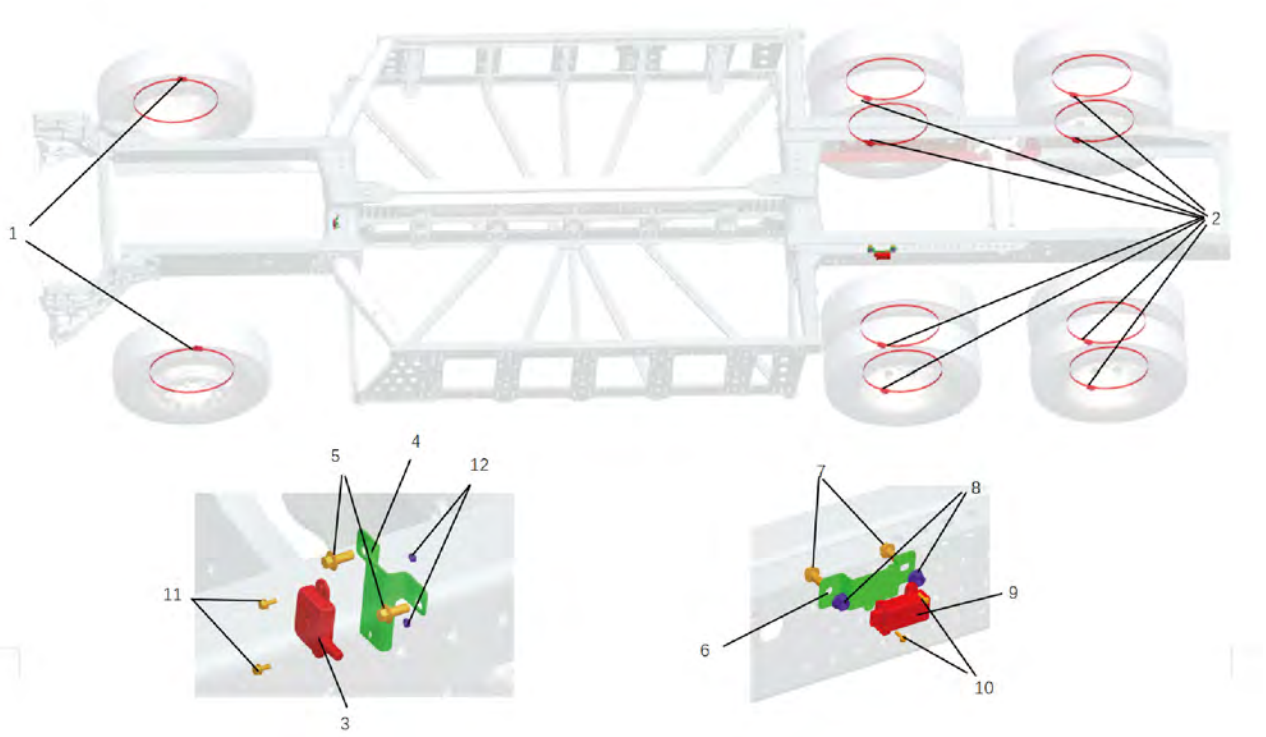
8.10.1 Specifications

8.10.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing nut connecting the tire pressure relay and the tire preThe fixing bolt connecting the tire pressure relay and the tire pressure monitoring module bracket 2ssure monitoring module bracket 2	M4	(2 +/- .5) ft lbs
The fixing nut connecting the tire pressure relay and the tire pressure monitoring module bracket 2	M4	(2 +/- .5) ft lbs
The fixing bolt connecting the tire pressure monitoring module bracket 2 to the frame assembly	M8	(18.5 +/- 2) ft lbs
The fixing bolt connecting the tire pressure CAN module and the tire pressure monitoring module bracket	M6	(6.5 +/- .75) ft lbs
The fixing bolt connecting the tire pressure monitoring module bracket to the frame assembly	M14	(133 +/- 11) ft lbs
The fixing nut connecting the tire pressure monitoring module bracket to the frame assembly	M14	(133 +/- 11) ft lbs

8.10.2 Decomposition Diagram

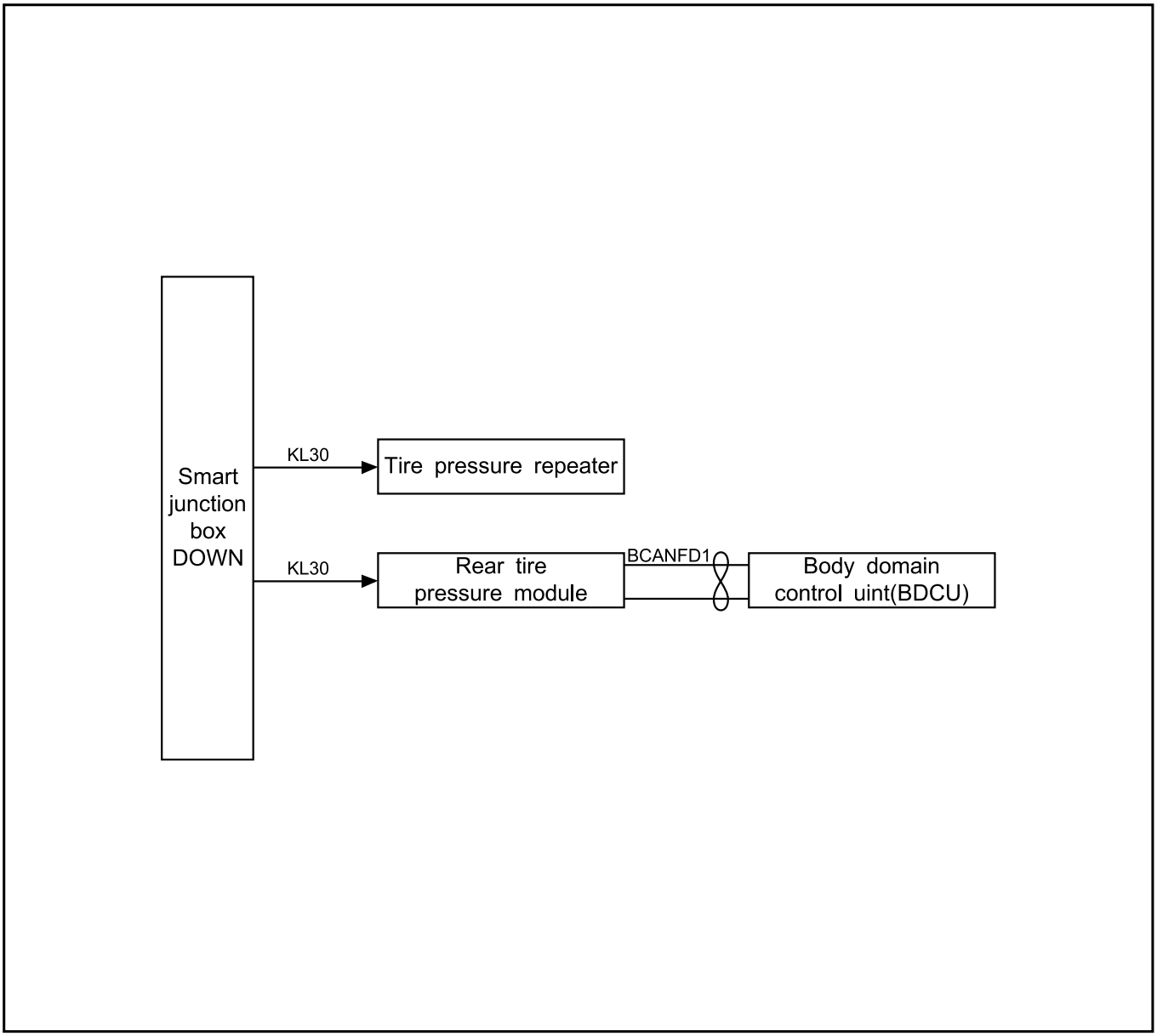
8.10.2.1 Decomposition Diagram



1.	Front Tire Pressure Monitoring Sensor	7.	Hexagon Flange Bolt
2.	Rear Tire Pressure Monitoring Front Tire Pressure Monitoring Sensor	8.	Hexagon Flange Lock Nut_All Metal
3.	Tire Pressure Repeater	9.	Tire Pressure CAN Module
4.	Tire Pressure Monitoring System Bracket 2	10.	Hexagon Flange Bolt
5.	Hexagon Flange Bolt	11.	Hexagon Head Bolt Assy
6.	Tire Pressure Monitoring System Bracket 2	12.	Hexagon Nut_Type 1

8.10.3 System Schematic Diagram

8.10.3.1 Electrical Schematic Diagram



8.10.4 Diagnostic Information and Steps

8.10.4.1 Diagnostic Description

Before diagnosing the malfunction of the tire pressure monitoring device, it is important to understand and familiarize oneself with the working principle of the tire pressure monitoring device before starting the system diagnosis. This will help determine the correct fault diagnosis steps when a malfunction occurs, and more importantly, it will help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of tire pressure monitoring devices should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

8.10.4.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the tire pressure monitoring system, ensuring that these devices do not affect the operation of the tire pressure monitoring system.
- Check system components that are easily accessible or visible to ensure that there is no obvious damage or potential malfunction.

8.10.4.3 Fault Symptom Table

Symptom	Suspected Faulty Project	Measures
Abnormal tire pressure system malfunction indicator light	1.Low or high tire pressure	Adjust the tire pressure to the standard pressure range.
	2.Modified tires or wheels	Restore the vehicle and recalibrate the tire pressure system.
	3.Rear tire pressure module power failure	Refer to Rear Tire Pressure Module Power Failure

8.10.4.4 DTC Confirmation

1. Connect the diagnostic tool to the diagnostic interface, read and record the DTC, and then clear the DTC.
2. Run the vehicle again.
3. Read the fault code of the control system again to confirm if there is any fault code output from the system.
   - Yes:Diagnose based on the output fault code.
   - No:Perform intermittent fault check, refer to Inspection Of Intermittent Faults

8.10.4.5 List Of Diagnostic Trouble Codes (DTC)

TMPS

Fault Code	Fault Description	Exclusion Method
B111716	Battery Voltage Tool low	Refer to Rear Tire Pressure Module Power Fault
B111717	Battery Voltage Too High	
U007C88	BCANFD1 BusOff	Refer to Rear Tire Pressure Module Communication Fault
U012287	Lost Communication With VDC	
U015687	Lost Communication With CDCU	
U019887	Lost Communication With TGW	
B220000	The transmitter of the No.1 wheel position is faulty	Refer to Wheel Position Transmitter Fault
B220001	The battery of the transmitter at the No.1 wheel position is running low	

Fault Code	Fault Description	Exclusion Method
B220002	The transmitter of the No.1 wheel position gives a high - temperature alarm	
B220003	The transmitter of the No.2 wheel position is faulty	
B220004	The battery of the transmitter at the No.2 wheel position is running low	
B220005	The transmitter of the No.2 wheel position gives a high-temperature alarm	
B220006	The transmitter of the No.3 wheel position is faulty	
B220007	The battery of the transmitter at the No.3 wheel position is running low	
B220008	The transmitter of the No.3 wheel position gives a high-temperature alarm	
B220009	The transmitter of the No.4 wheel position is faulty	
B22000A	The battery of the transmitter at the No.4 wheel position is running low	
B22000B	The transmitter of the No.4 wheel position gives a high-temperature alarm	
B22000C	The transmitter of the No.5 wheel position is faulty	
B22000D	The battery of the transmitter at the No.5 wheel position is running low	
B22000E	The transmitter of the No.5 wheel position gives a high-temperature alarm	
B22000F	The transmitter of the No.6 wheel position is faulty	
B220010	The battery of the transmitter at the No.6 wheel position is running low	
B220011	The transmitter of the No.6 wheel position gives a high-temperature alarm	
B220012	The transmitter of the No.7 wheel position is faulty	
B220013	The battery of the transmitter at the No.7 wheel position is running low	
B220014	The transmitter of the No.7 wheel position gives a high-temperature alarm	

Fault Code	Fault Description	Exclusion Method
B220015	The transmitter of the No.8 wheel position is faulty	
B220016	The battery of the transmitter at the No.8 wheel position is running low	
B220017	The transmitter of the No.8 wheel position gives a high-temperature alarm	
B220018	The transmitter of the No.9 wheel position is faulty	
B220019	The battery of the transmitter at the No.9 wheel position is running low	
B22001A	The transmitter of the No.9 wheel position gives a high-temperature alarm	
B22001B	The transmitter of the No.10 wheel position is faulty	
B22001C	The battery of the transmitter at the No.10 wheel position is running low	
B22001D	The transmitter of the No.10 wheel position gives a high-temperature alarm	
B22001E	The transmitter of the No.11 wheel position is faulty	
B22001F	The battery of the transmitter at the No.11 wheel position is running low	
B220020	The transmitter of the No.11 wheel position gives a high-temperature alarm	
B220021	The transmitter of the No.12 wheel position is faulty	
B220022	The battery of the transmitter at the No.12 wheel position is running low	
B220023	The transmitter of the No.12 wheel position gives a high-temperature alarm	
B220024	The transmitter of the No.13 wheel position is faulty	
B220025	The battery of the transmitter at the No.13 wheel position is running low	
B220026	The transmitter of the No.13 wheel position gives a high-temperature alarm	
B220027	The transmitter of the No.14 wheel position is faulty	
B220028	The battery of the transmitter at the No.14 wheel position is running low	

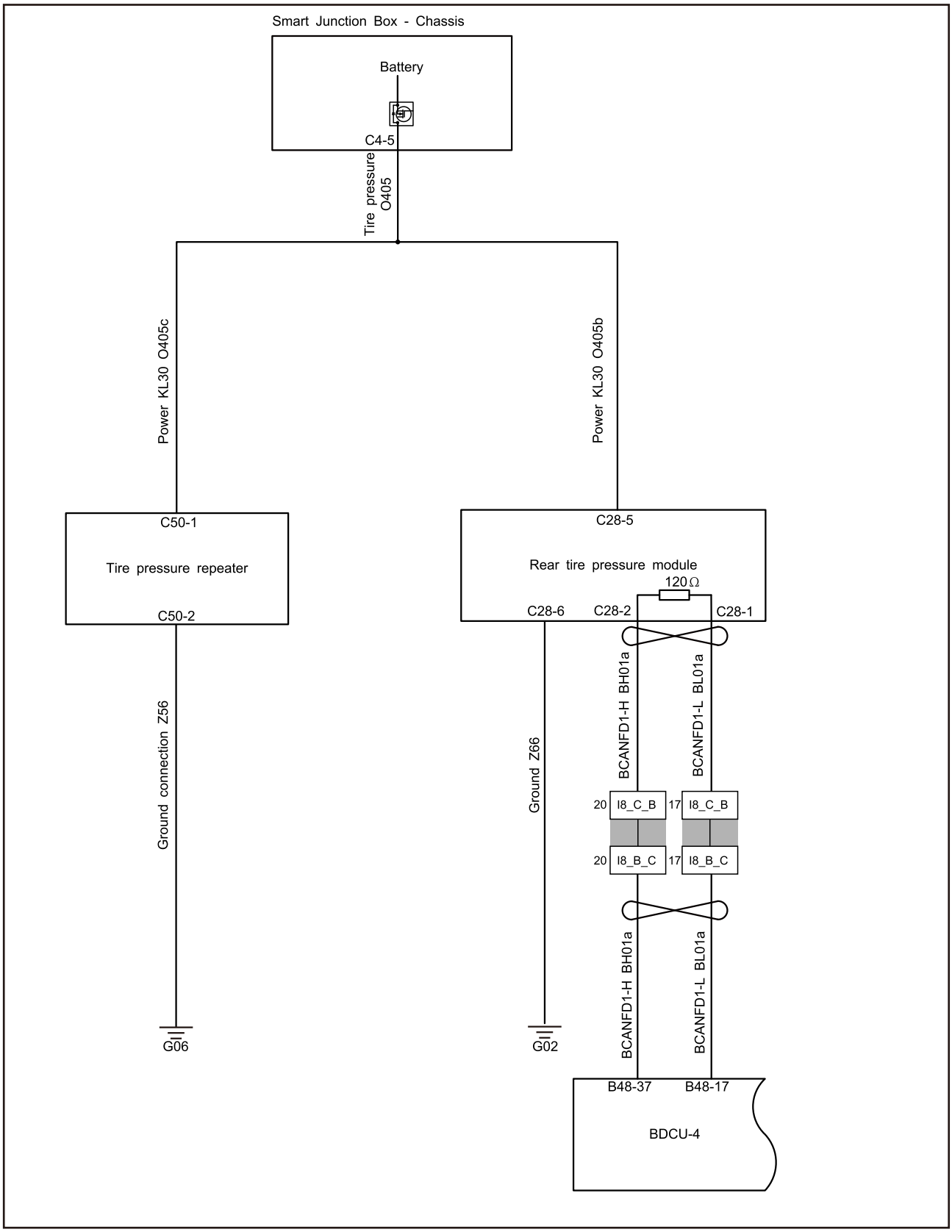
Fault Code	Fault Description	Exclusion Method
B220029	The transmitter of the No.14 wheel position gives a high-temperature alarm	

8.10.4.6 Rear Tire Pressure Module Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111716	Battery Voltage Tool low	Voltage < 18V, t > 1000ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.Rear tire pressure module
B111717	Battery Voltage Too High	Voltage > 32V, t > 1000ms	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power failure codes besides the rear tire pressure module?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the power supply and grounding harness of the rear tire pressure module.

Step 5:Rewrite the configuration code, reload the software, and upgrade the rear tire pressure module.

Step 6:Replace the rear tire pressure module. Refer to Replacement Of Tire Pressure CAN Module

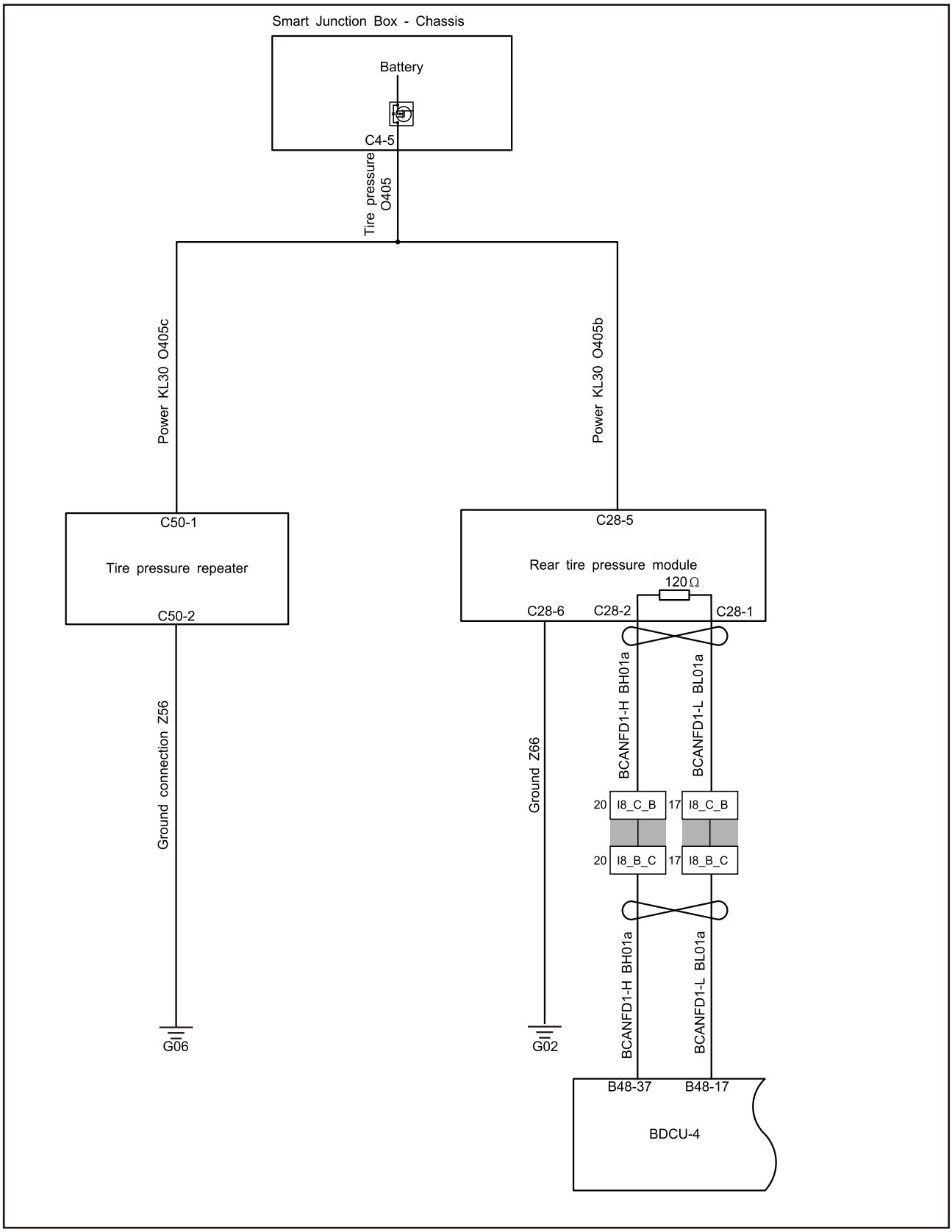
Step 7:Clear and confirm DTC.

8.10.4.7 Rear Tire Pressure Module Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007C88	BCANFD1 BusOff	Busoff occurred ten times in a row	1. Wiring harness 2.Rear tire pressure module
U012287	Lost Communication With VDC	Detected signal (ID :0x18FEF100 lost, t > 1000ms	
U015687	Lost Communication With CDCU	Detected signal (ID :0x18FEC1EE) lost, t > 5000ms	
U019887	Lost Communication With TGW	Detected signal (ID :0x18FEE6EE) lost, t > 5000ms	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the BCANFD1 bus communication harness. Refer to Inspection Of BCAND1 Bus Network Integrity

Step 4:Rewrite the configuration code, reload the software, and upgrade the rear tire pressure module.

Step 5:Replace the rear tire pressure module. Refer to Replacement Of Tire Pressure CAN Module

Step 6:Clear and confirm DTC.

8.10.4.8 Wheel Position Transmitter Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B220000	The transmitter of the No.1 wheel position is faulty	When the vehicle speed is greater than 20 mph, the transmitter information has not been received continuously for 10 minutes	1. Wiring harness 2.Wheel position transmitter 3.Rear tire pressure module
B220001	The battery of the transmitter at the No.1 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B220002	The transmitter of the No.1 wheel position gives a high - temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B220003	The transmitter of the No.2 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B220004	The battery of the transmitter at the No.2 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B220005	The transmitter of the No.2 wheel position gives a high- temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B220006	The transmitter of the No.3 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B220007	The battery of the transmitter at the No.3 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B220008	The transmitter of the No.3 wheel position gives a high- temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B220009	The transmitter of the No.4 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B22000A	The battery of the transmitter at the No.4 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B22000B	The transmitter of the No.4 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B22000C	The transmitter of the No.5 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B22000D	The battery of the transmitter at the No.5 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B22000E	The transmitter of the No.5 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B22000F	The transmitter of the No.6 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B220010	The battery of the transmitter at the No.6 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B220011	The transmitter of the No.6 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B220012	The transmitter of the No.7 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B220013	The battery of the transmitter at the No.7 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B220014	The transmitter of the No.7 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B220015	The transmitter of the No.8 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B220016	The battery of the transmitter at the No.8 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B220017	The transmitter of the No.8 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B220018	The transmitter of the No.9 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B220019	The battery of the transmitter at the No.9 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B22001A	The transmitter of the No.9 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B22001B	The transmitter of the No.10 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B22001C	The battery of the transmitter at the No.10 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B22001D	The transmitter of the No.10 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B22001E	The transmitter of the No.11 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B22001F	The battery of the transmitter at the No.11 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B220020	The transmitter of the No.11 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B220021	The transmitter of the No.12 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B220022	The battery of the transmitter at the No.12 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B220023	The transmitter of the No.12 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B220024	The transmitter of the No.13 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B220025	The battery of the transmitter at the No.13 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B220026	The transmitter of the No.13 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	
B220027	The transmitter of the No.14 wheel position is faulty	When the vehicle speed is over 20 mph, the transmitter information has not been received continuously for 10 minutes	
B220028	The battery of the transmitter at the No.14 wheel position is running low	Two consecutive frames of the transmitter battery voltage less than 1.9V are received	
B220029	The transmitter of the No.14 wheel position gives a high-temperature alarm	Two consecutive frames of the detected temperature value of the transmitter that is greater than or equal to 194 degrees ferenhieght are received	

32. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Re calibrate tire pressure. Refer to Tire Pressure Calibration Program

Step 4:Replace the wheel position transmitter. Refer to Replacement Of Front Tire Pressure Monitoring Sensor.Replacement Of Rear Tire Pressure Monitoring Sensor

Step 5:Rewrite the configuration code, reload the software, and upgrade the rear tire pressure module.

Step 6:Replace the rear tire pressure module. Refer to Replacement Of Tire Pressure CAN Module

Step 7:Clear and confirm DTC.

8.10.4.9 Inspection Of BCAND1 Bus Network Integrity

Step 1	Check the terminal resistance of BCANFD1 bus.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCANFD1 (H) and BCANFD1 (L)	Resistance:55 - 63 Ω

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 2	Check the bus voltage of BCANFD1.

A. Perform vehicle power on operation.

B. Do not disconnect the wiring harness connector. Use a multimeter to measure each terminal according to the following table:

Measuring Terminals	Standard Value
BCANFD1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAND1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the measured values meet the standards.

No → Up to step 6.

Yes

Step 3	Check the bus voltage of each module.

A. Perform vehicle power on operation.

B. Measure the bus voltage of each module in sequence (do not disconnect the harness connectors).

Measuring Terminals	Standard Value
BCANFD1 (H) and vehicle grounding	Voltage:2.5 - 3.5 V
BCAND1 (L) and vehicle grounding	Voltage:1.5 - 2.5 V

C. Confirm the bus voltage of each module meets the standard.

No → Up to step 6.

Yes

Step 4	Check the power grounding of the communication loss module.

A. Check the power grounding of the communication loss module.

B. Confirm if the module power grounding is normal.

No → Repair or replace the wiring harness.

Yes

Step 5	Replace the communication loss module.

A. Replace the communication loss module.

B. Confirm if the system is functioning properly.

Yes → The system is functioning properly.

No

Step 6	Check the BCAND1 bus harness.

A. Perform vehicle power-off operation.

B. Disconnect all module harness connectors on the BCANFD1 bus.

C. Measure the BCAND1 bus resistance between each module and the rear tire pressure module in sequence to see if it is normal.

Standard resistance:less than 1 Ω

D. Measure the ground resistance of the BCAND1 bus is normal.

Standard resistance:10K Ω or higher

E. Perform vehicle power on operation.

F. Measure the BCAND1 bus is short circuited to the power supply.

Standard voltage:0 V

G. Confirm the measured values meet the standards.

No → Repair or replace the BCANFD1 bus.

Yes

Step 7	Disconnect the modules on the BCAND1 bus in sequence and observe the bus communication voltage/ resistance.

Disconnect the modules on the BCAND1 bus in sequence and observe the bus communication voltage/resistance returns to normal. If it returns to normal, determine that the disconnected module is faulty.

8.10.5 Dismantling and Installation

8.10.5.1 Replacement of Front Tire Pressure Monitoring Sensor

Removal Procedures

1 Jack the front end of the vehicle.

2 Remove the guide wheel (right).

3 Remove the tire assembly.

4 Remove the front tire pressure monitoring sensor and TESD.



Installation Procedures

1 Move the front tire pressure monitoring sensor and TESD to the mounting position.



2 Install the tire assembly.

3 Install the guide wheel (right).

4 Lower the front end of the vehicle.

caution

After replacing the tire pressure monitoring sensor, it is necessary to connect a scan tool for flashing and recalibrate the tire pressure.

8.10.5.2 Replacement of Tire Pressure Repeater

Removal Procedures

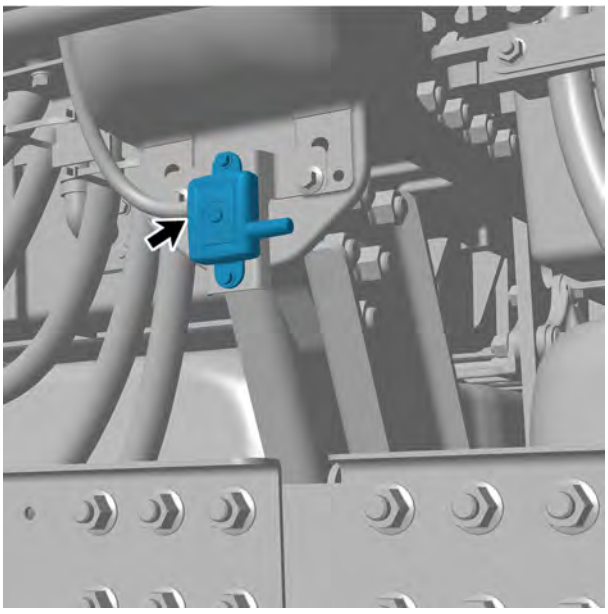
1 Open the door.

2 Open the front flip cover plate.

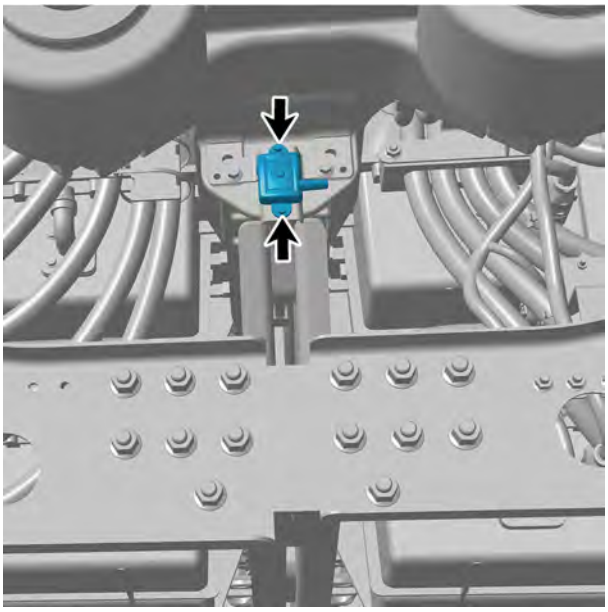
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



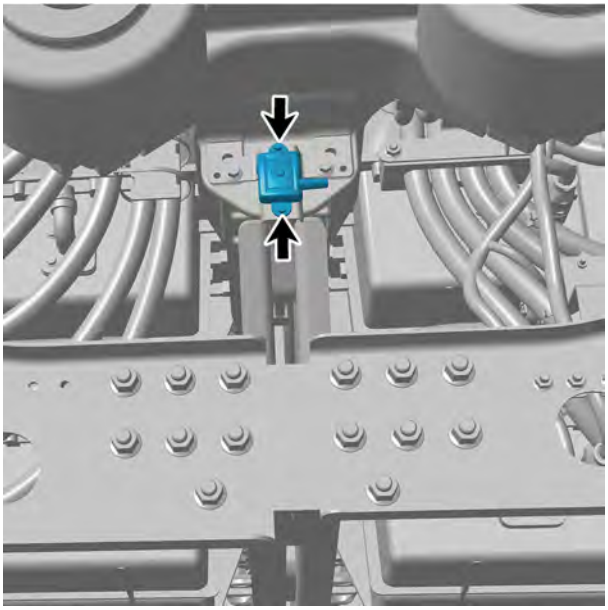
4 Disconnect 1 harness connector of the tire pressure repeater.



5 Remove 2 fixing bolts of the tire pressure repeater.

6 Remove the tire pressure repeater.

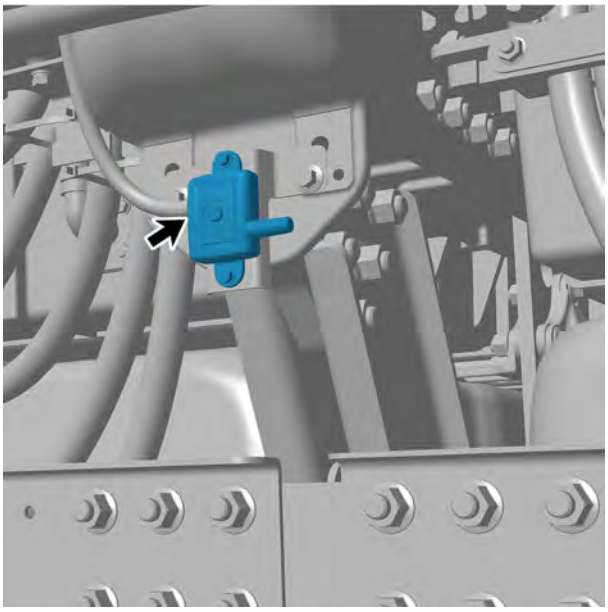
Installation Procedures



1 Move the tire pressure repeater to the mounting position.

2 Install 2 fixing bolts of the tire pressure repeater.

Torque: (2 +/- .5) ft lbs



3 Connect 1 harness connector of the tire pressure repeater.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

8.10.5.3 Replacement of Rear Tire Pressure Monitoring Sensor

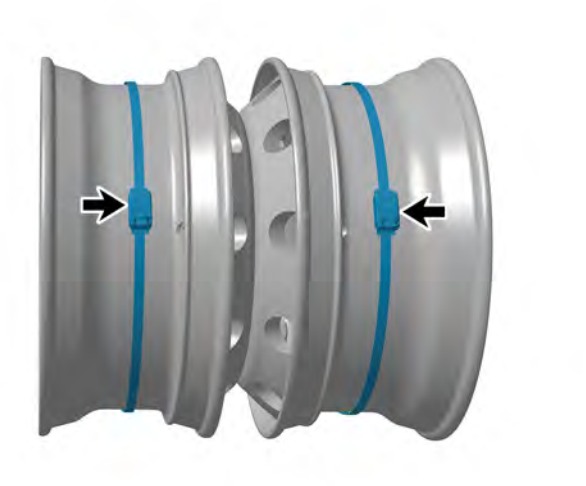
Removal Procedures

1 Jack the rear end of the vehicle.

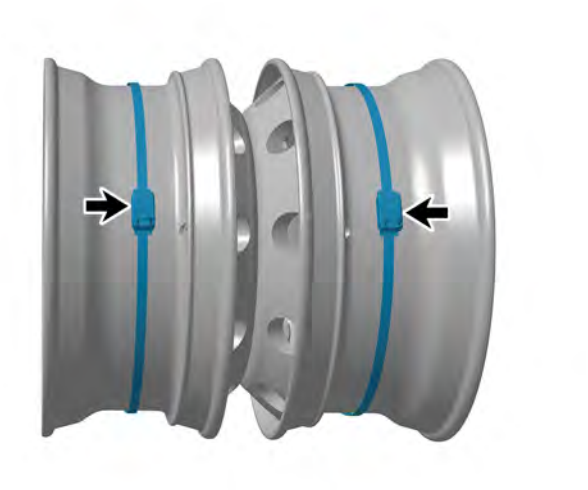
2 Remove the drive wheel (right front)

3 Remove the tire assembly.

4 Remove the rear tire pressure monitoring sensor.



Installation Procedures



1 Move the rear tire pressure monitoring sensor to the mounting position.

2 Install the tire assembly.

3 Install the drive wheel (right front).

4 Lower the rear end of the vehicle.

caution

After replacing the tire pressure monitoring sensor, it is necessary to connect a scan tool for flashing and recalibrate the tire pressure.

8.10.5.4 Replacement of Tire Pressure CAN Module

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

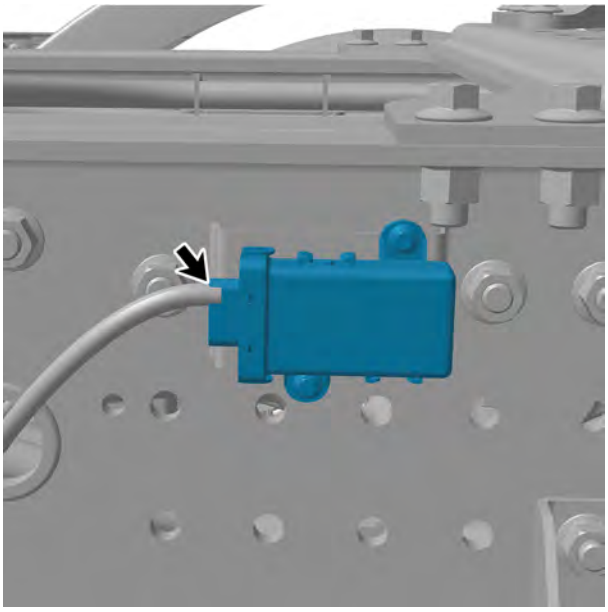
3 Disconnect the battery negative cable.

caution

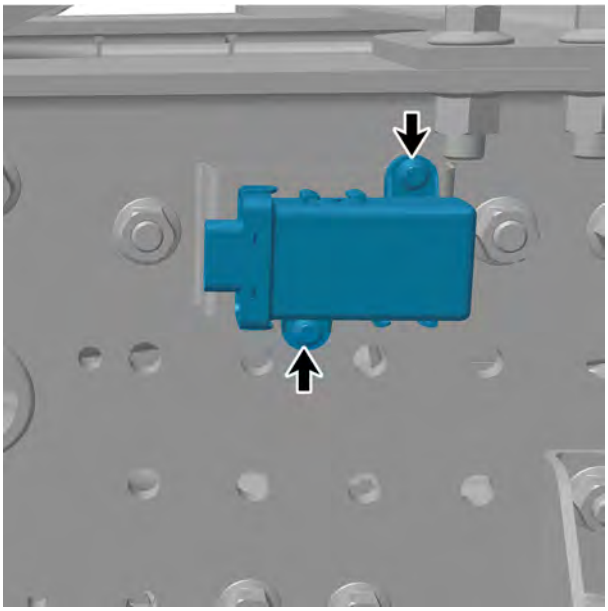
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Jack the rear end of the vehicle.

5 Remove the drive wheel (front left).



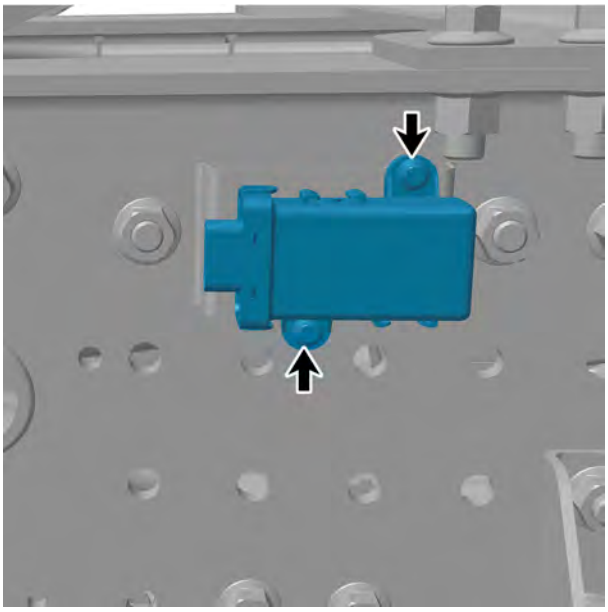
6 Disconnect 1 harness connector of the tire pressure CAN module.



7 Remove 2 fixing bolts of the tire pressure CAN module.

8 Remove the tire pressure CAN module.

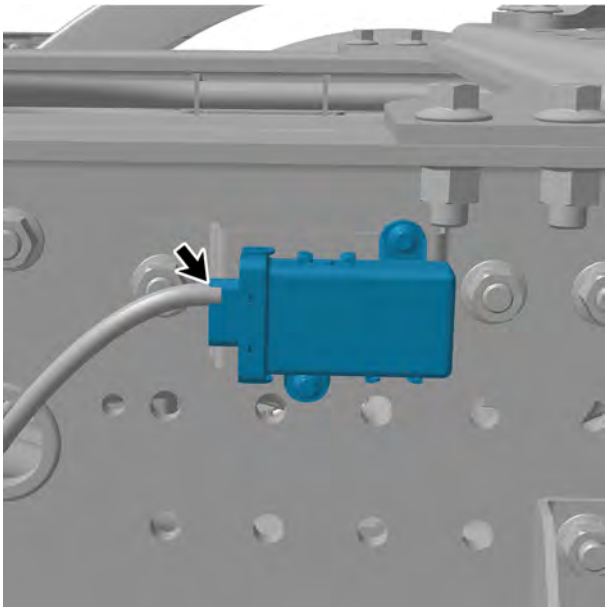
Installation Procedures



1 Move the tire pressure CAN module to the mounting position.

2 Install 2 fixing bolts of the tire pressure CAN module.

Torque:(6.5 +/- .75) ft lbs



3 Connect 1 harness connector of the tire pressure CAN module.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the drive wheel (left front).

5 Lower the rear end of the vehicle.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

8.11 Steering Rod Device

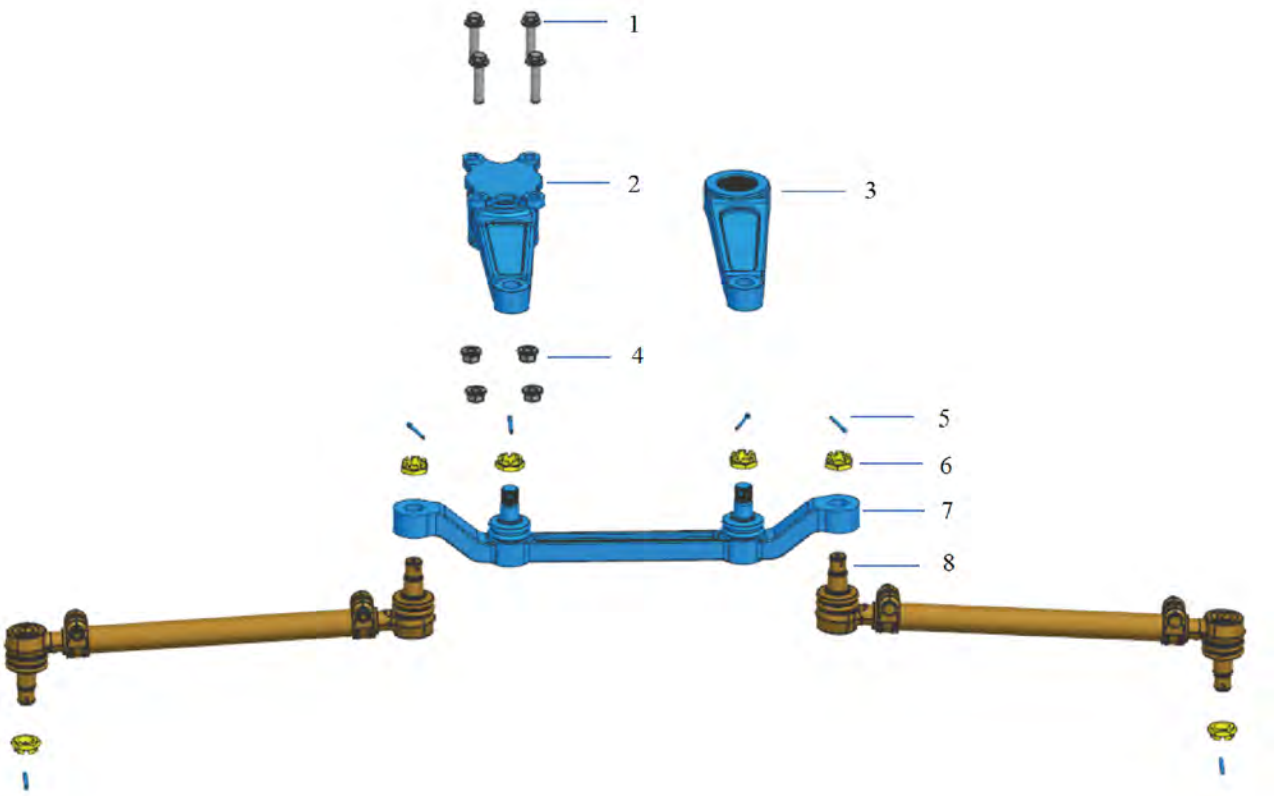
8.11.1 Specifications

8.11.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
Fixed bolts connecting the driven rocker arm to the frame on the subframe	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the driven rocker arm and the frame on the subframe	M14	155 +/- 14.75 (ft lbs)
The fixing nut connecting the tie rod and relay rod	M24	254 +/- 11 (ft lbs)
The fixing nut connecting the tie rod and relay rod	M45	498 +/- 18.5 (ft lbs)
The fixing nut connecting the active rocker arm and the relay rod	M24	254 +/- 11 (ft lbs)

8.11.2 Decomposition Diagram

8.11.2.1 Decomposition Diagram



1.	Hexagon Flange Bolt	5.	Split Pin
2.	Idlerarm	6.	Hexagon Slotted Thin Nut
3.	Pitman Arm	7.	Relay Rod
4.	Hexagon Flange Nut	8.	Tie Rod

8.11.3 Dismantling and Installation

8.11.3.1 Replacement of Relay Rod

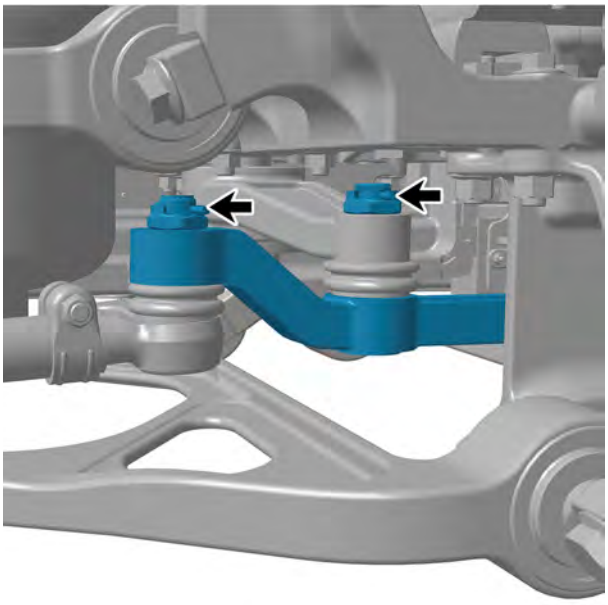
Removal Procedures

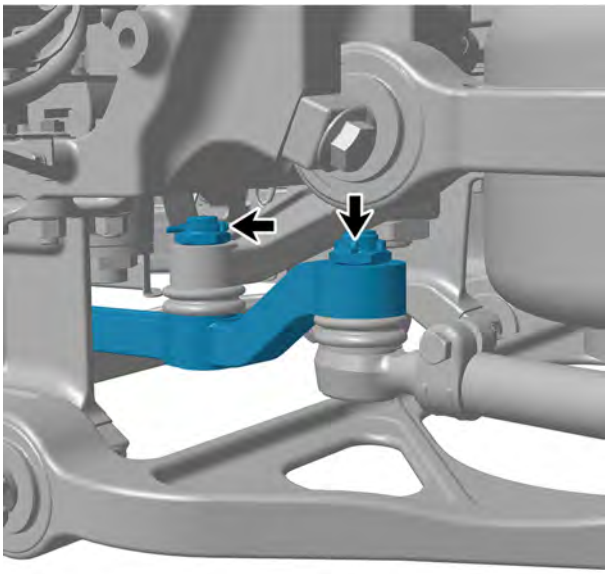
1 Jack the front end of the vehicle.

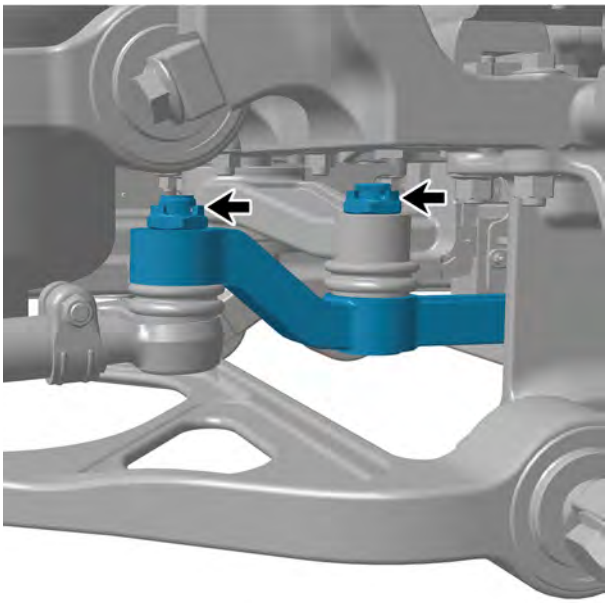
2 Remove the guide wheel (left).

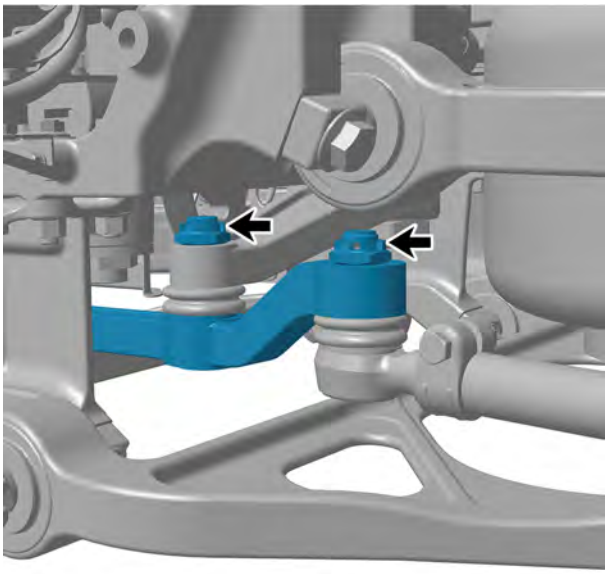
3 Remove the guide wheel (right).

4 Remove 4 fixing pins of the relay rod.



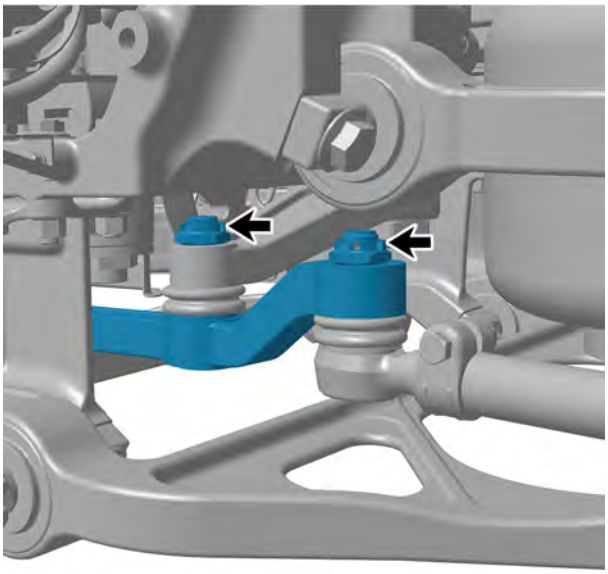






5 Remove 4 fixing nuts of the relay rod, and remove the relay rod.

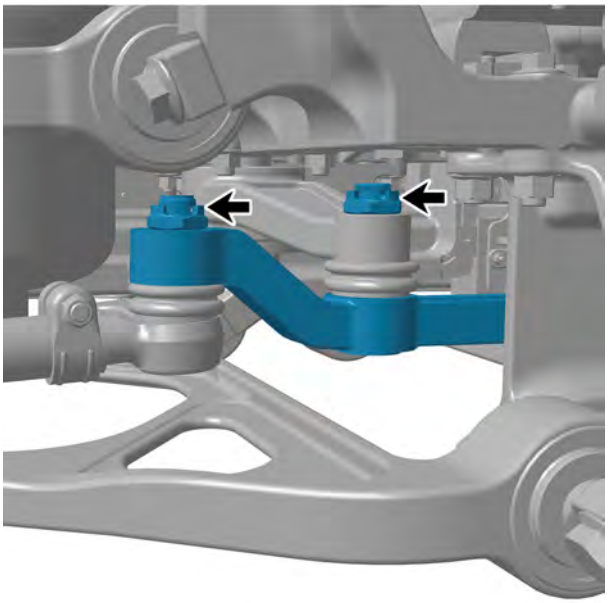
Installation Procedures

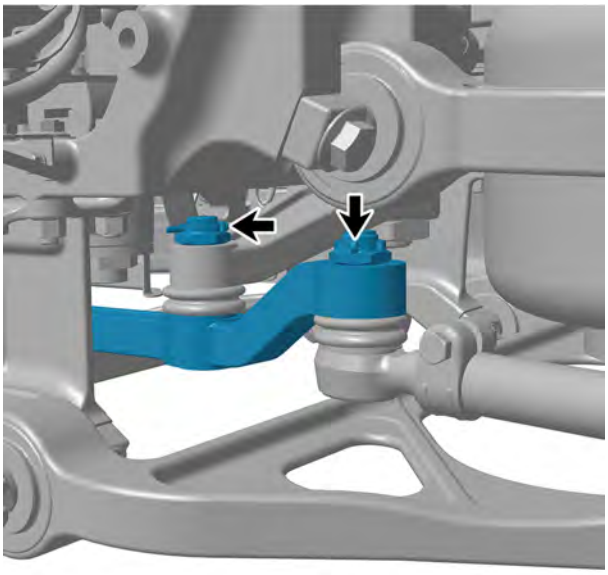


1 Move the relay rod to the mounting position.

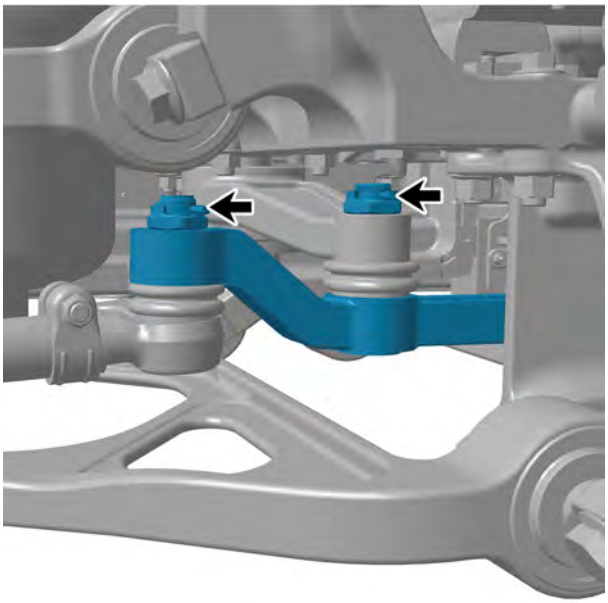
2 Install 4 fixing nuts of the relay rod.

Torque: 243 - 266 (ft lbs)





3 Install 4 fixing pins of the relay rod.



4 Remove the guide wheel (right).

5 Install the guide wheel (left).

6 Lower the front end of the vehicle.

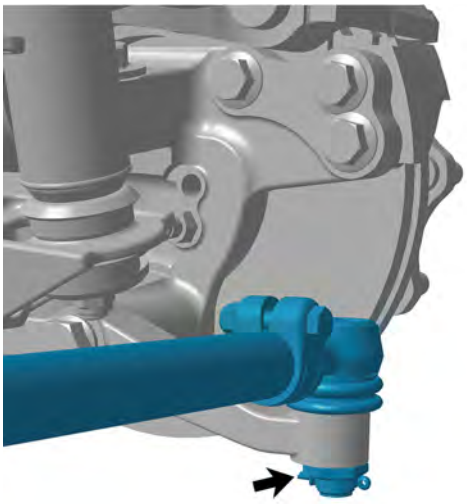
8.11.3.2 Replacement of Driving Rocker Arm

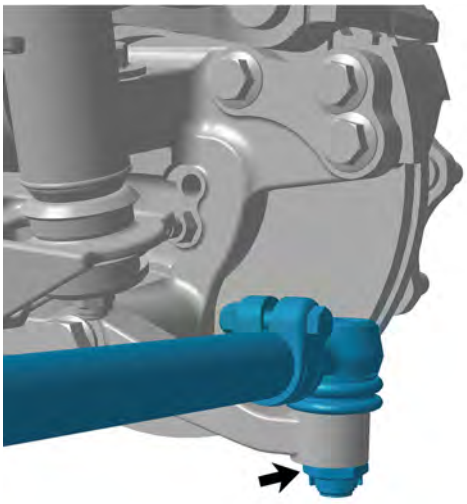
Removal Procedures

1 Jack the front end of the vehicle.

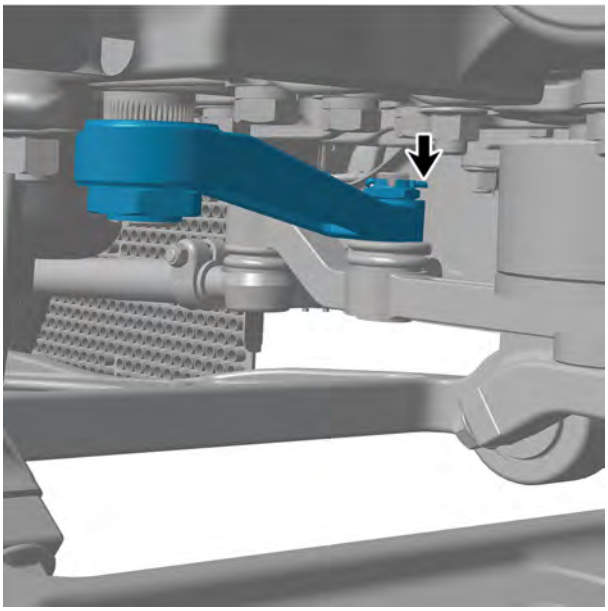
2 Remove the guide wheel.

3 Remove 1 fixing pin.

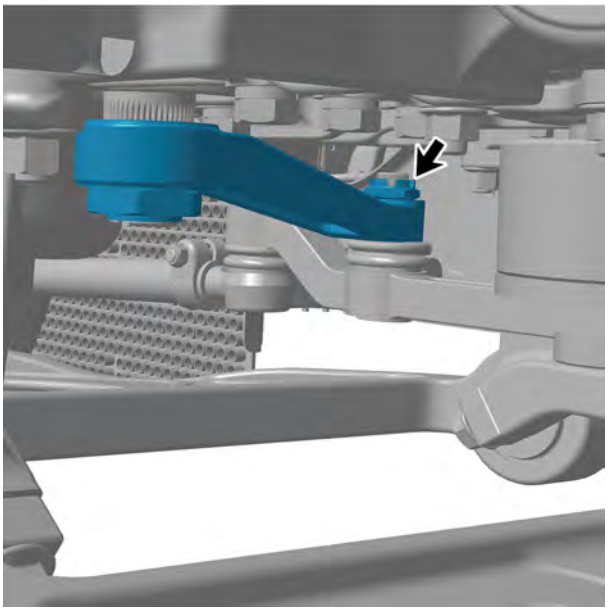




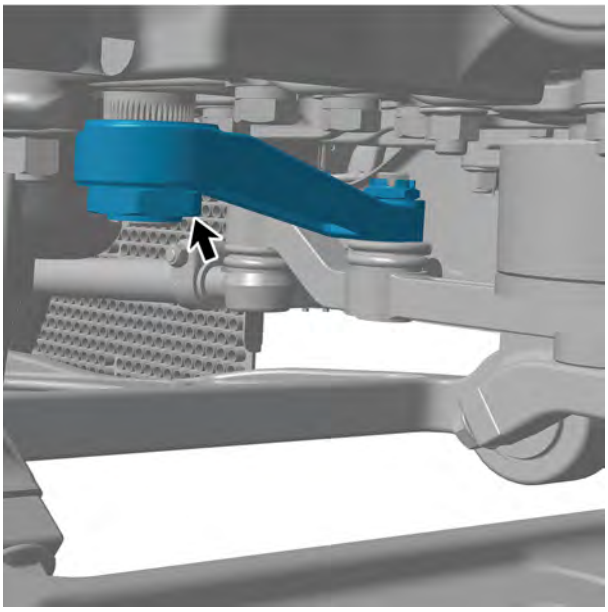
4 Remove 1 fixing nut of the tie rod.



5 Remove 1 fixing pin.



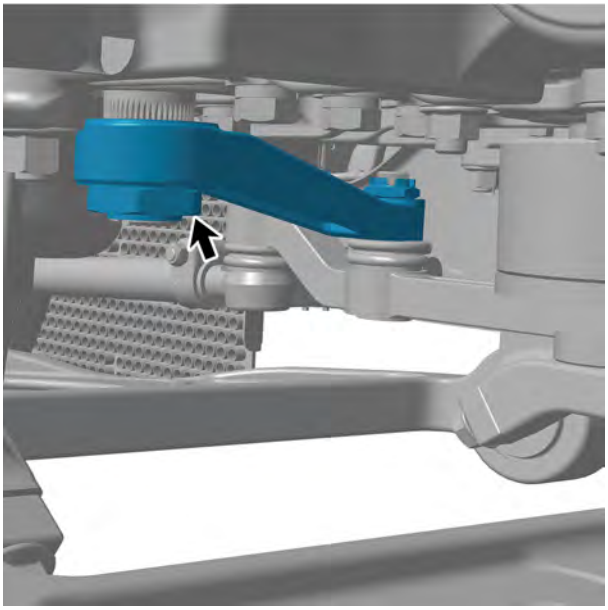
6 Remove 1 fixing nut of the driving rocker arm.



7 Remove 1 fixing nut of the driving rocker arm.

8 Remove the driving rocker arm.

Installation Procedures



1 Move the driving rocker arm to the mounting position.

caution

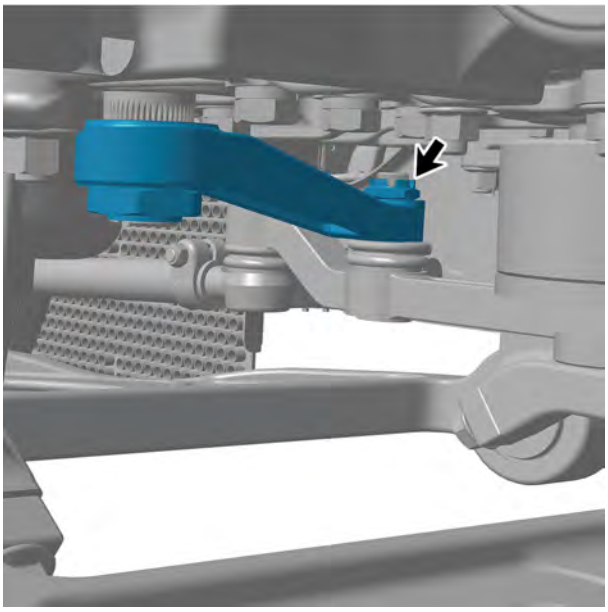
It is necessary to align the engraved lines during installation.

2 Install 1 fixing nut of the driving rocker arm.

Torque: 498 +/- 18.5 (ft lbs)

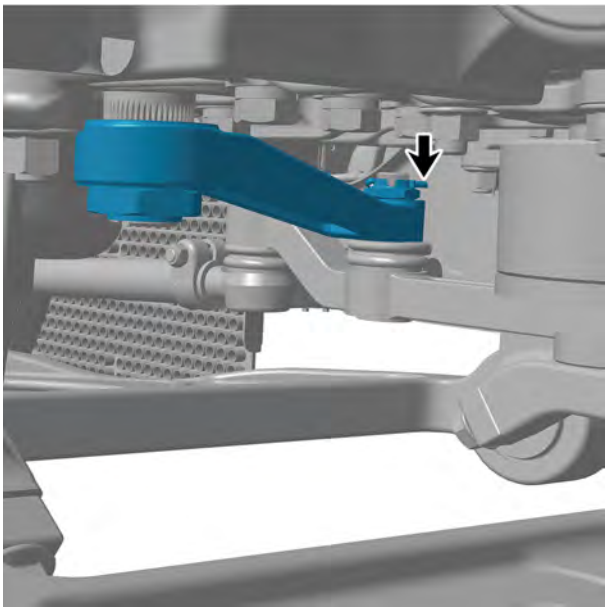
caution

When installing the nuts, it is necessary to fix the pitman armto prevent the excessive rotation angle from damaging the unloading valve.

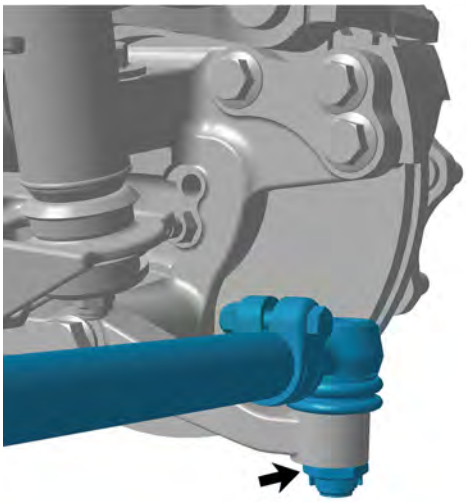


3 Install 1 fixing nut of the driving rocker arm.

Torque: 243 - 266 (ft lbs)

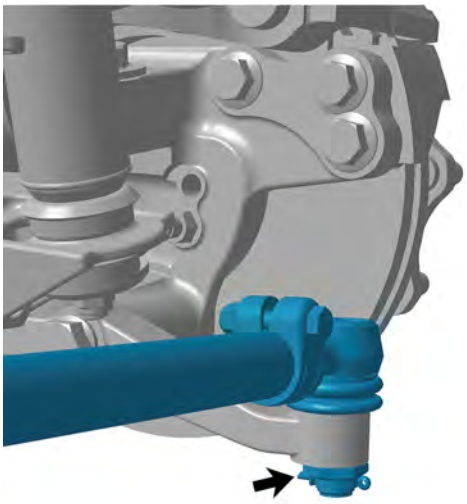


4 Install 1 fixing pin.



5 Install 1 fixing nut of the tie rod.

Torque: 254 +/- 11 (ft lbs)



6 Install 1 fixing pin.

7 Install the guide wheel.

8 Lower the front end of the vehicle.

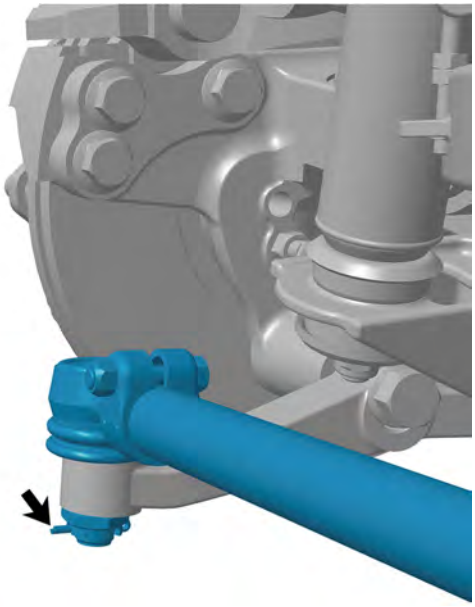
8.11.3.3 Replacement of Driven Rocker Arm

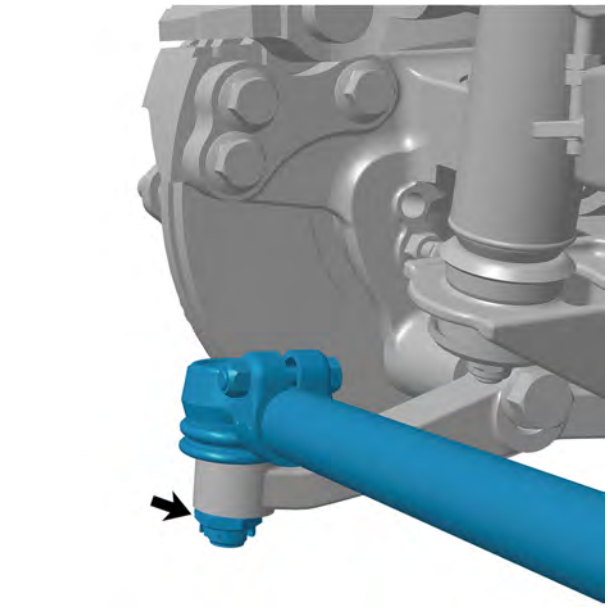
Removal Procedures

1 Jack the front end of the vehicle.

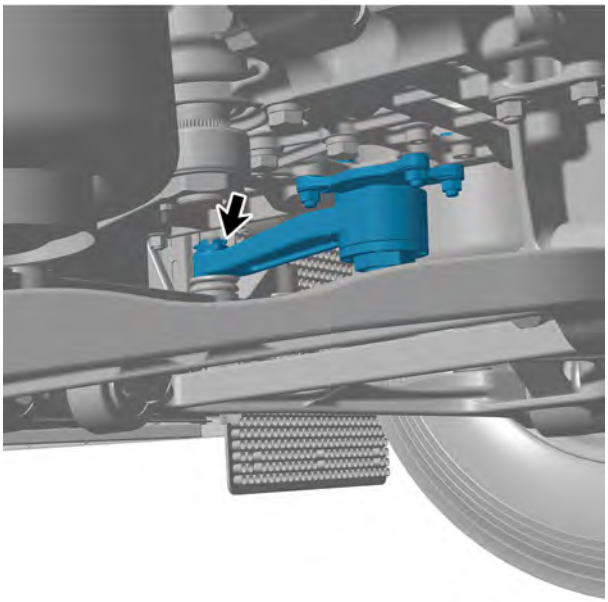
2 Remove the guide wheel (left).

3 Remove 1 fixing pin.

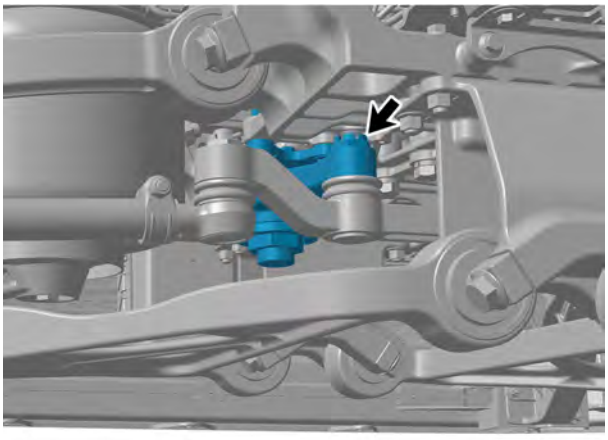




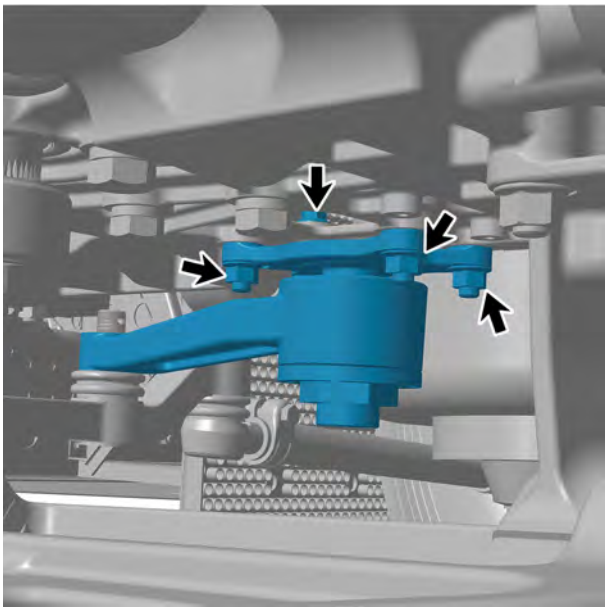
4 Remove 1 fixing nut of the relay rod.



5 Remove 1 fixing pin.



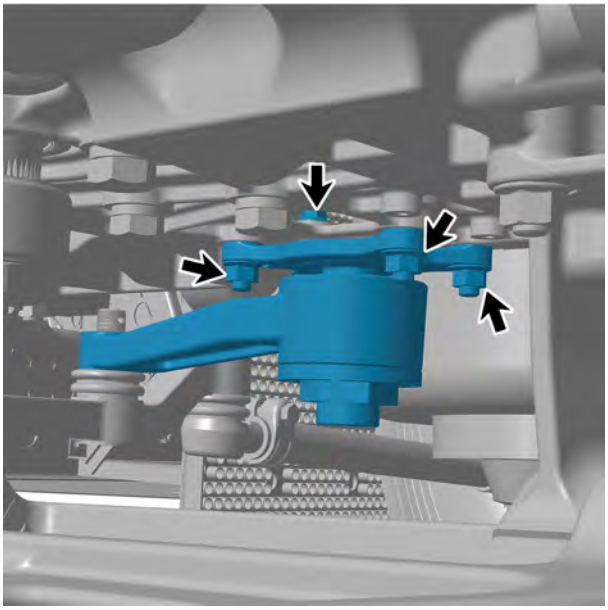
6 Remove 1 fixing nut of the driven rocker arm.



7 Remove 4 bolts and nuts of the driven rocker arm.

8 Remove the driven rocker arm.

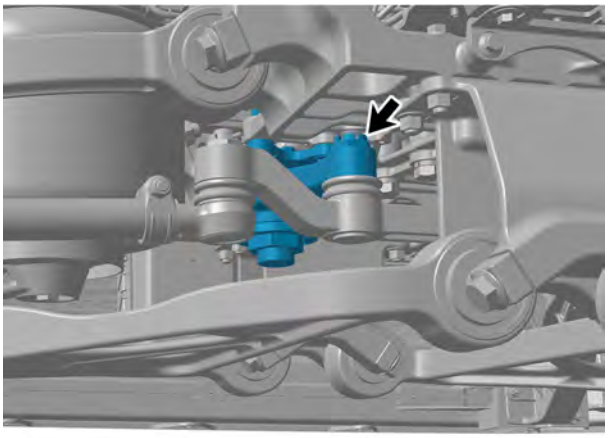
Installation Procedures



1 Move the driven rocker arm to the mounting position.

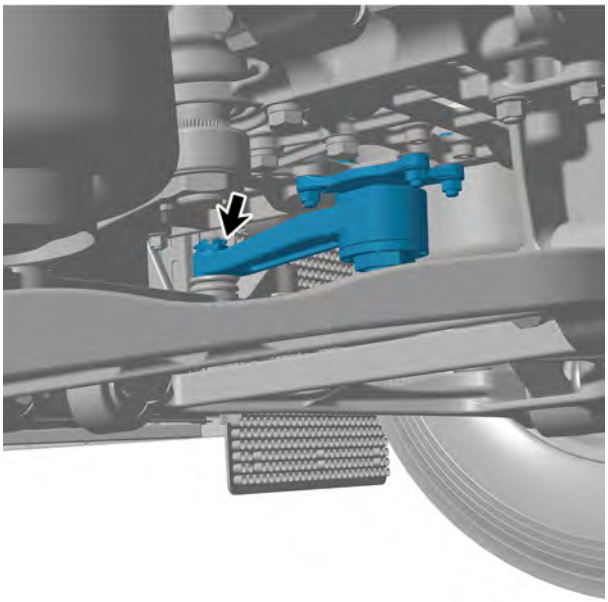
2 Install 4 bolts and nuts of the driven rocker arm.

Torque: 155 +/- 14.75 (ft lbs)

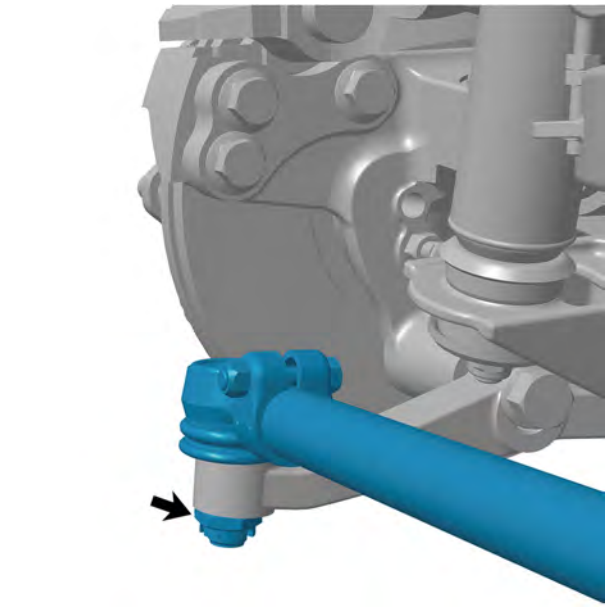


3 Install 1 fixing nut of the driven rocker arm.

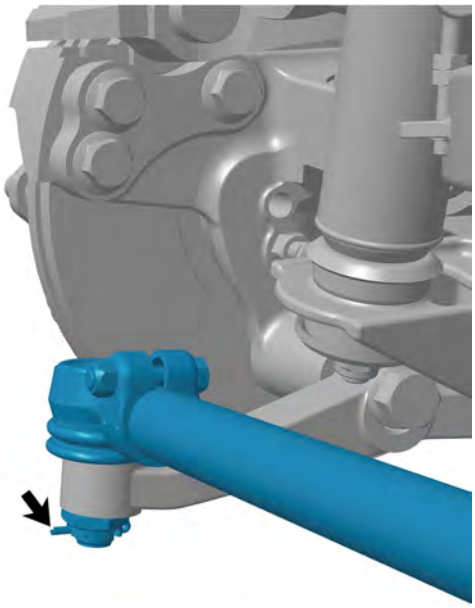
Torque:243 - 266 (ft lbs)



4 Install 1 fixing pin.



5 Install 1 fixing nut of the relay rod.



6 Install 1 fixing pin.

7 Install the guide wheel (right).

8 Lower the front end of the vehicle.

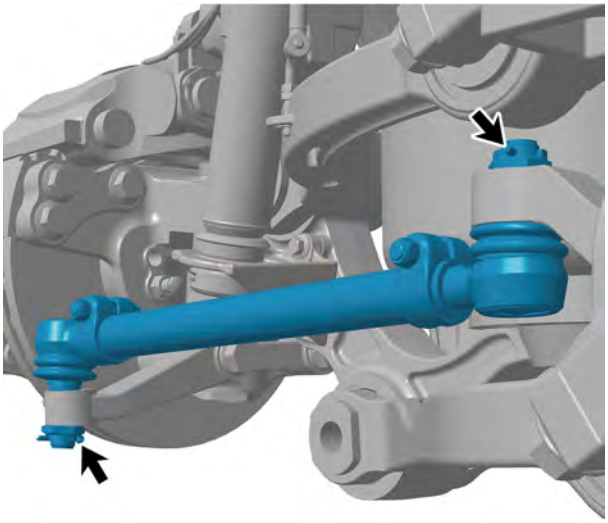
8.11.3.4 Replacement of Tie Rod

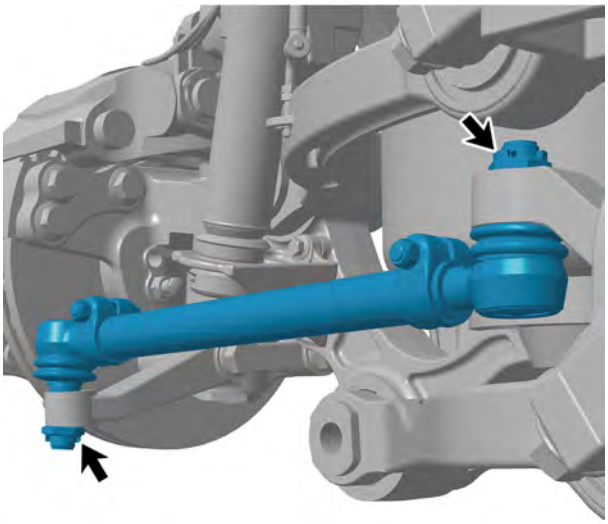
Removal Procedures

1 Jack the front end of the vehicle.

2 Remove the guide wheel.

3 Remove 2 fixing pins of the tie rod.

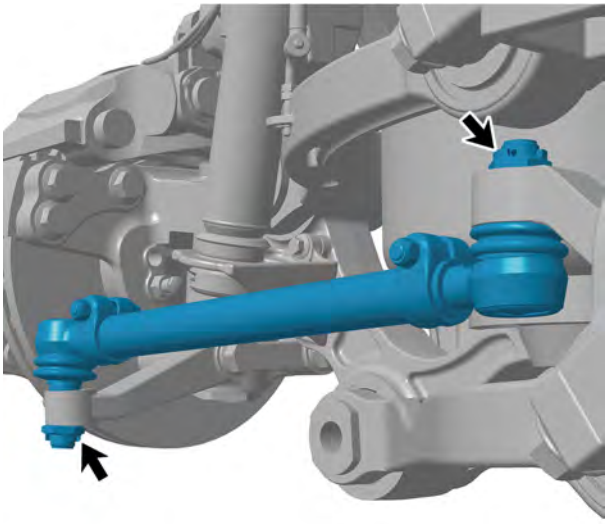




4 Remove 2 fixing nut of the tie rod.

5 Remove the tie rod.

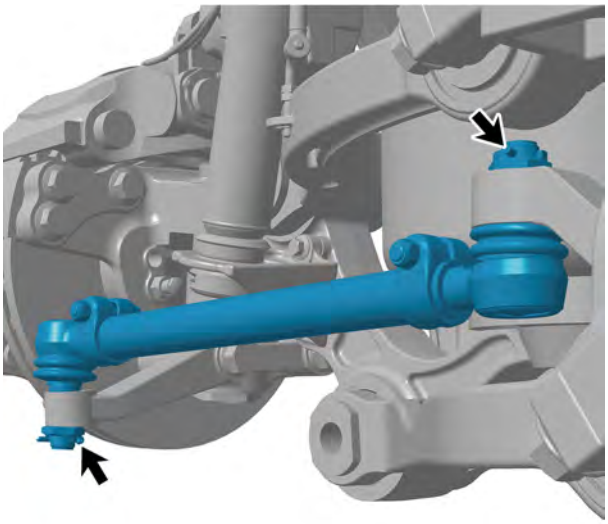
Installation Procedures



1 Move the tie rod to the mounting position.

2 Install 2 fixing nuts of the tie rod.

Torque: 254 +/- 11 (ft lbs)



3 Install 2 fixing pins of the tie rod.

4 Install the guide wheel.

5 Lower the front end of the vehicle.

caution

After part replacement, it is necessary to perform four-wheel alignment.

8.12 Steering Control Device

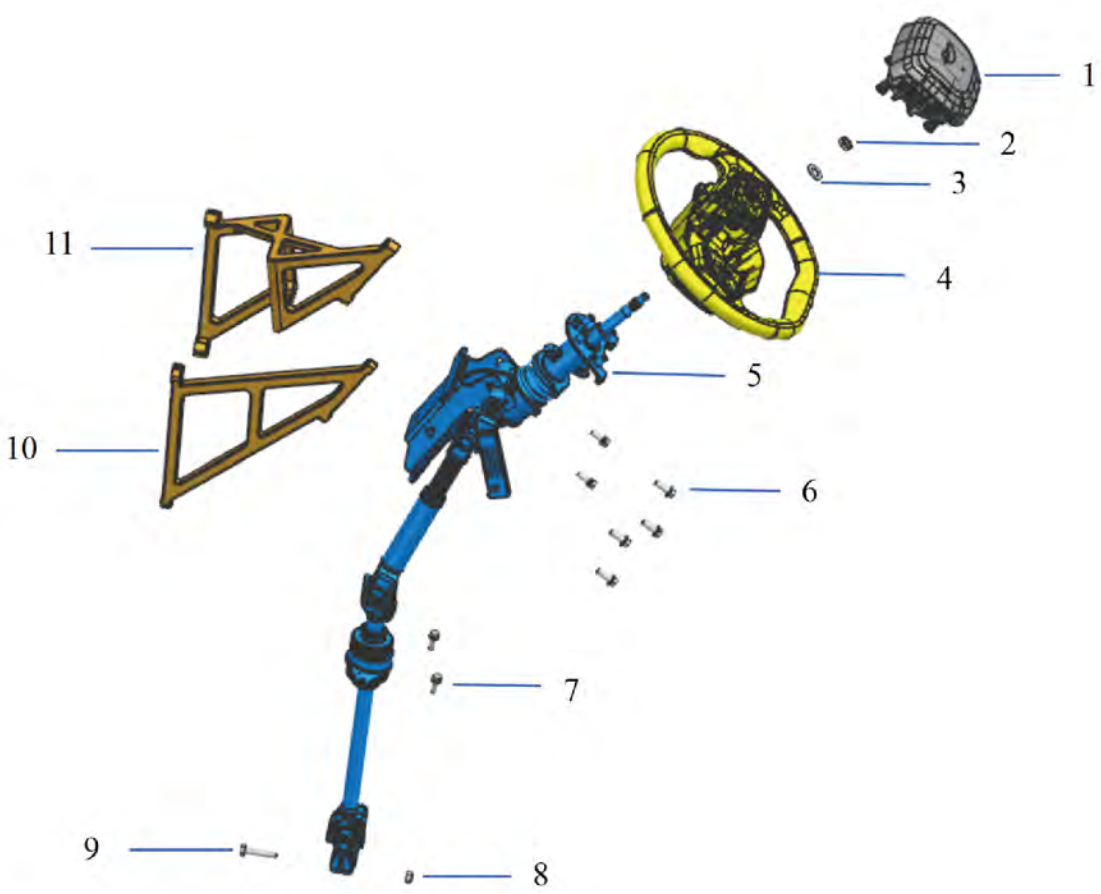
8.12.1 Specifications

8.12.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolts connecting the steering column assembly and the steering column fixing bracket	M10	26 +/- 3.5 (ft lbs)
The fixing bolts connecting the steering column assembly and the pipe beam assembly	M8	18.5 +/- 2 (ft lbs)
The fixing bolts connecting the steering column assembly and the integrated EHPS assembly	M10	39 +/- 5 (ft lbs)
Cross joint of steering column assembly - fixing bolt for steering gear	M10	39 +/- 5 (ft lbs)
Cross joint of steering column assembly - fixing nut for steering gear	M10	39 +/- 5 (ft lbs)
The fixing nut connecting the steering column assembly and the steering wheel assembly	M14	44 +/- 3.5 (ft lbs)

8.12.2 Decomposition Diagram

8.12.2.1 Decomposition Diagram



1. Dab Decorative Cove
2. Hex Thin Nut
3. Flat Washer
4. Steering Wheel Assy
5. Steering Column Assy
6. Hexagon Flange Bolt
7. Hexagon Head Bolt Assy
8. Hexagon Flange Lock Nut_All Metal
9. Hexagon Bolt
10. Fixing Bracket of Steering Column 1
11. Fixing Bracket of Steering Column 2

8.12.3 Dismantling and Installation

8.12.3.1 Replacement of Steering Wheel Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the combination switch lower shield.

5 Remove the driver horn cover assembly.

6 Disconnect 1 harness connector of the steering wheel assembly.





7 Remove 1 fixing nut of the steering wheel assembly.

caution

Place the wheels in front of the vehicle and mark the connection between the steering wheel assembly and the steering column with intermediate axle assembly with a marker pen.

8 Remove the steering wheel assembly.

caution

Do not rotate the clock spring after removing the steering wheel assembly to prevent damage to the clock spring.

Installation Procedures



1 Place the front wheels in front and install the steering wheel assembly. Align the installation marks made with a marker pen before removing the steering wheel assembly.

2 Install 1 fixing nut of the steering wheel assembly.

Torque: 44 +/- 3.5 (ft lbs)



3 Connect 1 harness connector of the steering wheel assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the driver horn cover assembly.

5 Install the combination switch lower shield.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

8.12.3.2 Replacement of Steering Column Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the combination switch upper shield assembly.

5 Remove the combination switch lower shield.

6 Remove the IP left access cover plate assembly.

7 Remove the left switch panel assembly.

8 Remove the left switch panel lower trim panel assembly.

9 Remove the IP left front trim panel assembly.

10 Remove the IP right access cover plate assembly.

11 Remove the right switch panel assembly.

12 Remove the right switch panel lower trim panel assembly.

13 Remove the IP right front lower trim panel assembly.

14 Remove the IP right front upper trim panel assembly.

15 Remove the steering column lower shield assembly.

16 Remove the driver horn cover assembly.

17 Remove the steering wheel assembly.

18 Remove the clock spring.

19 Remove the combination switch.

20 Remove the combination switch fixing bracket.

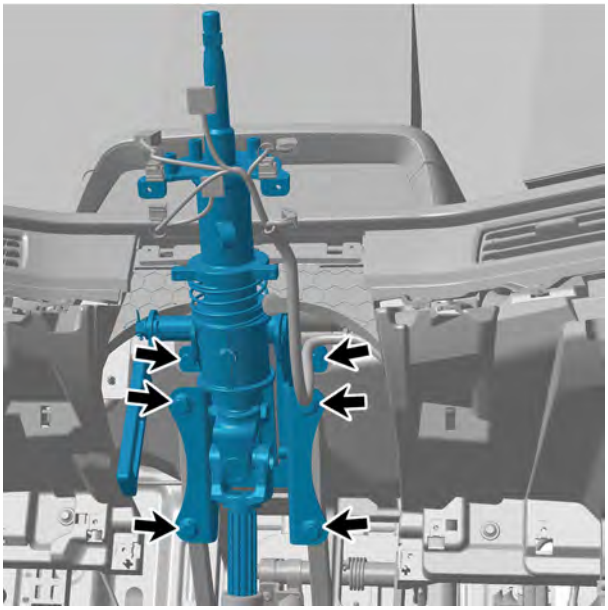
21 Remove the steering angle sensor assembly.

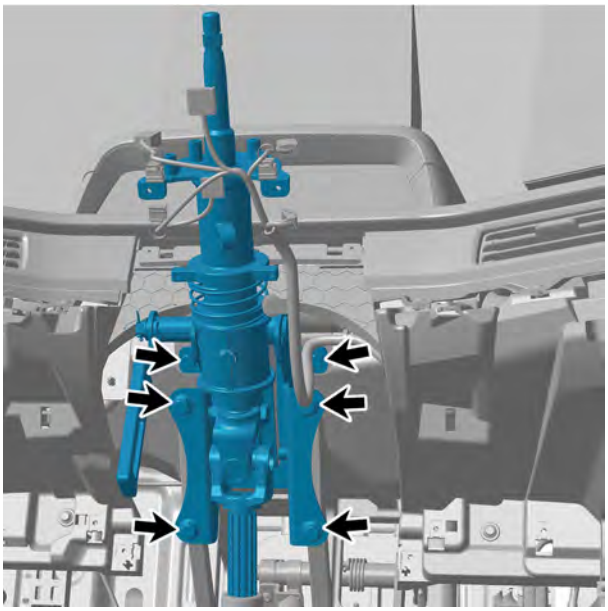
22 Remove the pillar lock.

23 Remove the combination switch lower shield mounting bracket.

24 Remove 6 fixing bolts of the steering column assembly.

25 Remove the steering column assembly.





Installation Procedures

1 Move the steering column assembly to the mounting position.

2 Install 6 fixing bolts of the steering column assembly.

Torque: 18.5 +/- 2 (ft lbs)

3 Install the pillar lock.

4 Install the combination switch lower shield mounting bracket.

5 Install the steering angle sensor assembly.

6 Install the combination switch fixing bracket.

7 Install the combination switch.

8 Install the clock spring.

9 Install the steering wheel assembly.

10 Install the driver horn cover assembly.

11 Install the steering column lower shield assembly.

12 Install the IP right front upper trim panel assembly.

13 Install the IP right front lower trim panel assembly.

14 Install the right switch panel lower trim panel assembly.

15 Install the right switch panel assembly.

16 Install the IP right access cover plate assembly.

17 Install the IP left front trim panel assembly.

18 Install the left switch panel lower trim panel assembly.

19 Install the left switch panel assembly.

20 Install the IP left access cover plate assembly.

21 Install the combination switch lower shield.

22 Install the combination switch upper shield assembly.

23 Connect the battery negative cable.

24 Close the front flip cover plate.

25 Close the door.

8.12.3.3 Replacement of Driver Horn Cover Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

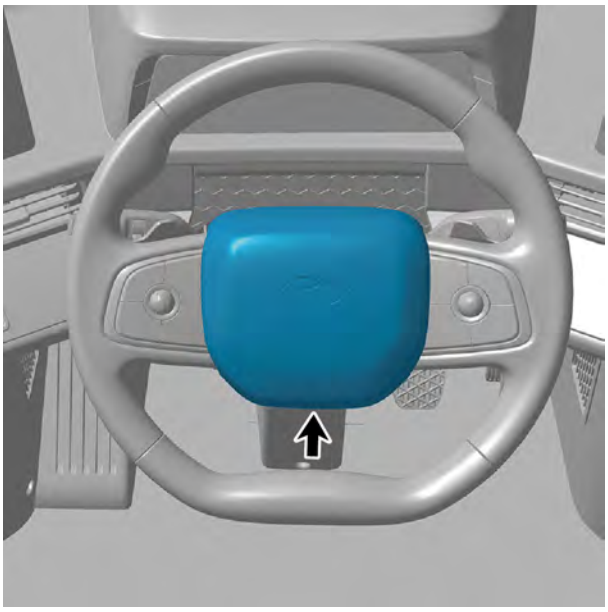
power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the combination switch upper shield assembly.

5 Remove the combination switch lower shield.

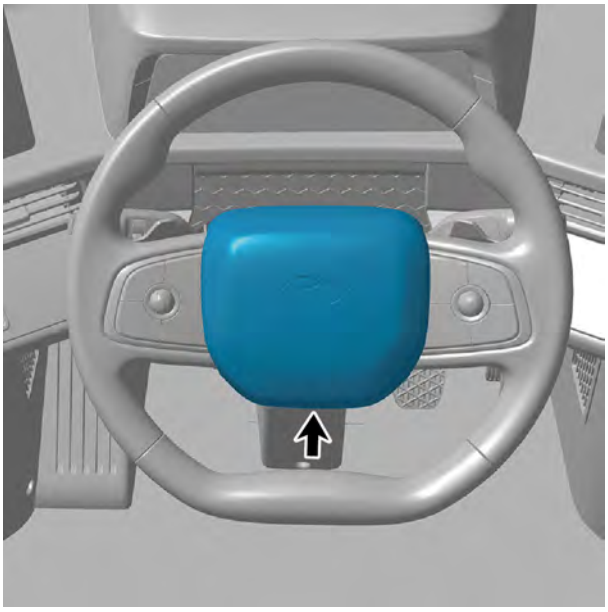
6 Release 3 circlips of the driver horn cover assembly.





7 Disconnect one harness connector,Remove the driver horn cover assembly.

Installation Procedures



1 Install the driver horn cover assembly,connect one harness connector.

2 Install the combination switch lower shield.

3 Install the combination switch upper shield assembly.

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

8.13 Steering Gear Device

8.13.1 Specifications

8.13.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
Fixed bolts connecting the integrated EHPS assembly to the frame on the subframe	M20	406 +/- 14.75 (ft lbs)
Fixed bolts connecting the integrated EHPS assembly to the steering column	M10	39 +/- 5 (ft lbs)
The fixing nut connecting the electric oil pump and the active rocker arm	M45	498 +/- 18.5 (ft lbs)
The joint connecting the electric oil pump and the oil inlet hose	M26	92 +/- 3.5 (ft lbs)
The joint connecting the integrated EHPS assembly to the high-pressure oil pipe	M18	55 +/- 3.5 (ft lbs)
Fixing nut for high-pressure oil pipe	M22	81 +/- 7.5 (ft lbs)
Fixing nut for low-pressure oil pipe	M22	81 +/- 7.5 (ft lbs)
The fixing bolt connecting the electric oil pump and the electric oil pump bracket	M12	48 +/- 3.5 (ft lbs)
The fixing bolts connecting the electric oil pump bracket to the frame on the subframe	M12	48 +/- 3.5 (ft lbs)
The fixing bolts connecting the electric oil pump to the frame on the subframe	M12	48 +/- 3.5 (ft lbs)
The grounding wire fixing bolt connecting the chassis harness and the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolt connecting the steering oil tank and the steering oil tank bracket	M8	18.5 +/- 2 (ft lbs)
The fixing bolt connecting the steering oil pot bracket to the frame assembly	M14	155 +/- 14.75 (ft lbs)
The fixing bolts connecting the frame assembly and the electric oil pump bracket	M14	155 +/- 14.75 (ft lbs)
The fixing bolts connecting the frame on the subframe to the electric oil pump bracket	M14	155 +/- 14.75 (ft lbs)

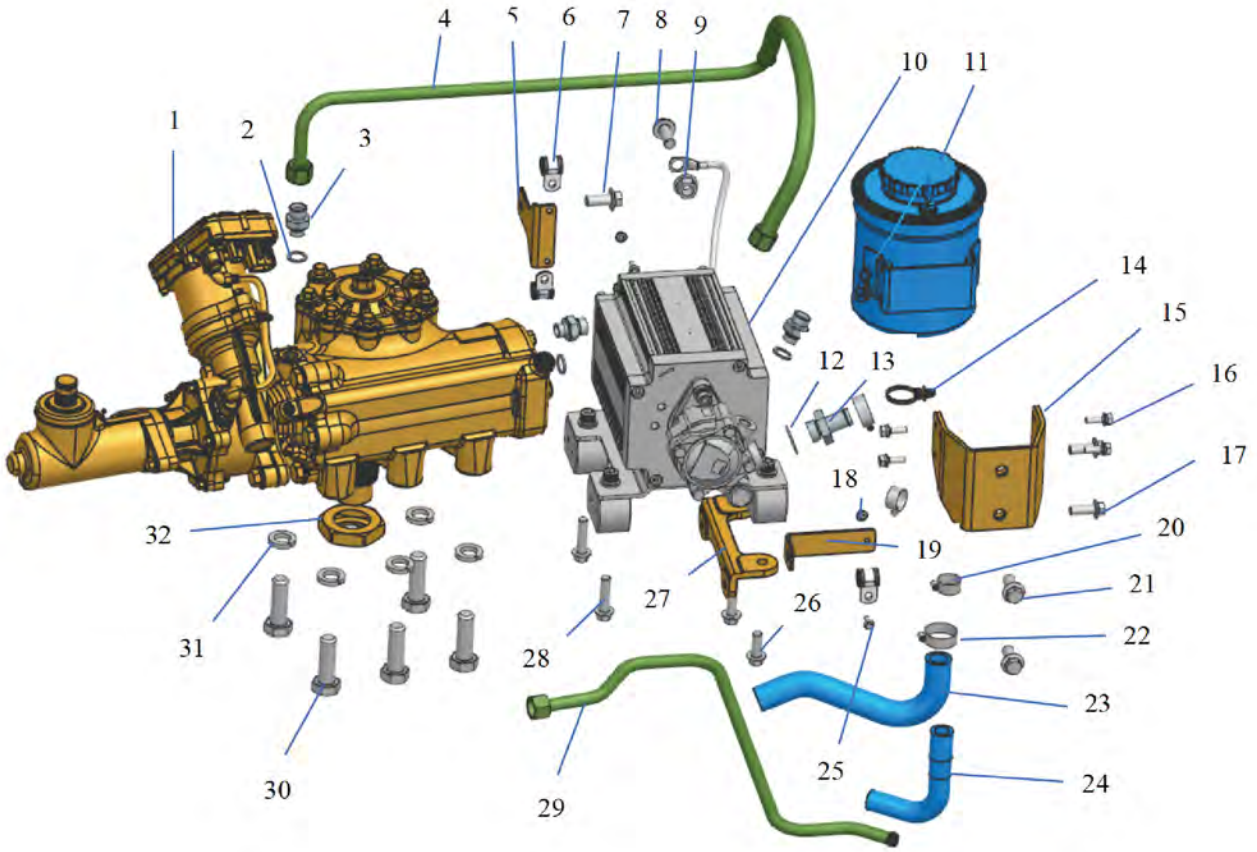
Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the steering oil pipe fixing clamp and the steering oil pipe fixing bracket 2	M8	6 +/- .75 (ft lbs)
The fixing bolt connecting the electric oil pump to the chassis harness	M12	48 +/- 3.5 (ft lbs)
The fixing bolt connecting the electric oil pump to the chassis harness bracket	M12	48 +/- 3.5 (ft lbs)

8.13.1.2 Technical Parameters

Item	Parameter
Model of steering gear	34061X91
Manufacturer of steering gear	Shashi Jiulong Automotive Power Steering Gear Co., Ltd.
Steering gear type	Electro-hydraulic circulation ball type
Model of steering wheel	3402010X9D01
Diameter of steering wheel (mm)	380
Structure type of steering column	Mechanical adjustable type
Manufacturer of steering column	Yuyao Wanguo Machinery Co., Ltd.
Side angle of steering shaft α (°)	50
Plane angle of steering shaft β (°)	0
Steering boost type	Electric hydraulic power assistance
Manufacturer of steering booster	Shashi Jiulong Automotive Power Steering Gear Co., Ltd.

8.13.2 Decomposition Diagram

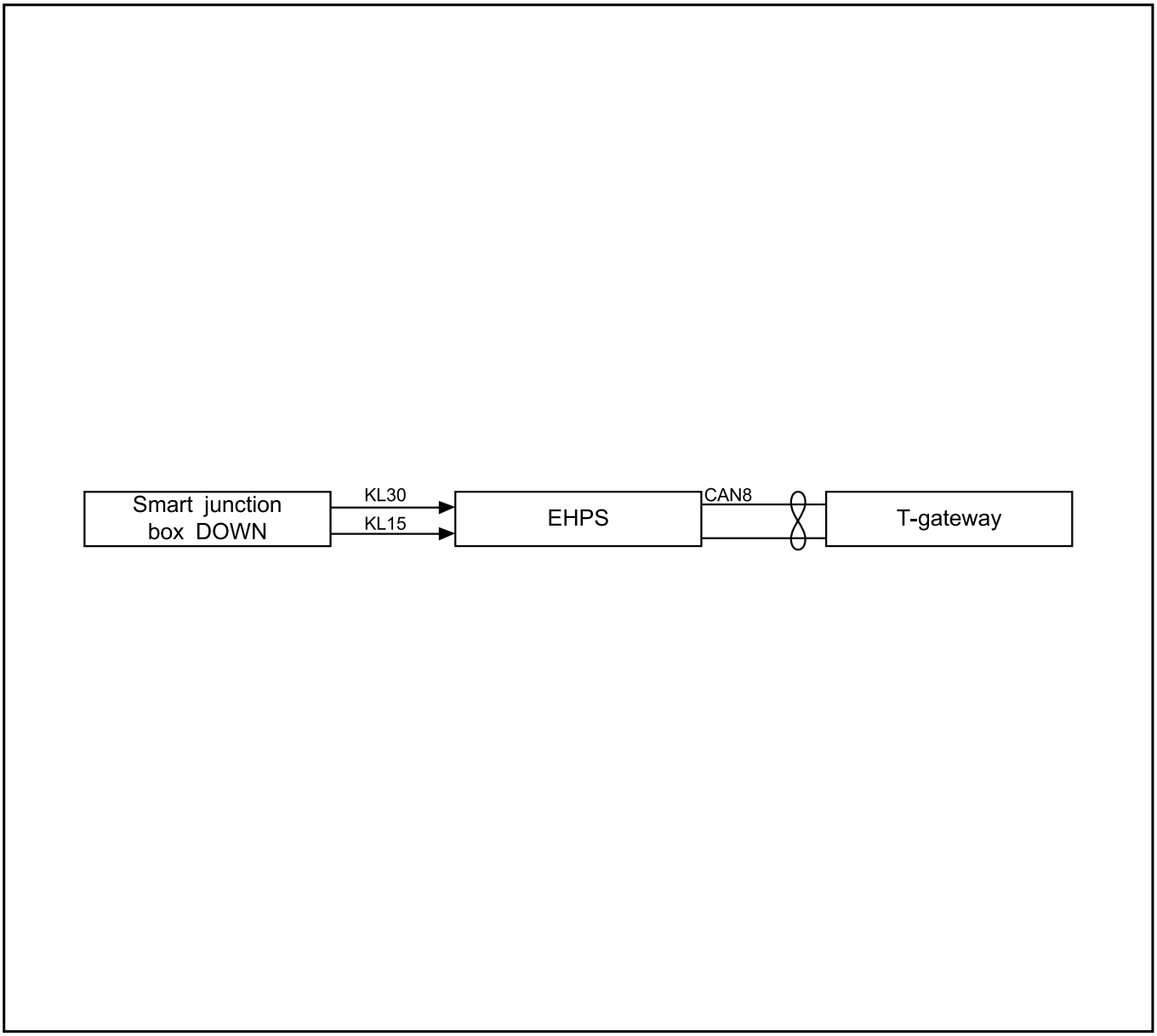
8.13.2.1 Decomposition Diagram



1.	Integrated EHPS Assembly	17.	Hexagon Flange Bolt
2.	Sealing Gasket	18.	Hexagon Flange Nut
3.	Straight-Through Joint	19.	Fixing Brkt-Steering Oil Pipe
4.	High Pressure Tubing	20.	Hose Hoop-Type B and Type c
5.	Steering Oil Pipe Fixing Bracket 2	21.	Hexagon Flange Bolt
6.	Fixing Clip-Steering Oil Pipe	22.	Hose Hoop-Type B and Type c
7.	Hexagon Flange Bolt	23.	Oil Inlet Hose
8.	Hexagon Flange Bolt	24.	Oil Return Hose
9.	Hexagon Flange Lock Nut_All Metal	25.	Hexagon Flange Bolt
10.	Electric Oil Pump	26.	Hexagon Flange Bolt
11.	Oil Can	27.	Electric Oil Pump bracket
12.	Oil Pump Inlet Tubing Connection	28.	Hexagon Flange Bolt
13.	Sealing Gasket	29.	Low Pressure Tubing
14.	Tie-Fir Tree	30.	Hexagon Bolt
15.	Oil Pot Holder	31.	Heavy Spring Washer
16.	Assembly of Hexagon Head Bolt, Spring Washer and Flat Washer In New Energy Vehicles	32.	Steering Gear Nut

8.13.3 System Schematic Diagram

8.13.3.1 Electrical Schematic Diagram



8.13.4 Diagnostic Information and Steps

8.13.4.1 Diagnostic Description

Before diagnosing the malfunction of the steering gear device, it is important to understand and familiarize oneself with the working principle of the steering gear device before starting the system diagnosis. This will help determine the correct fault diagnosis steps when a malfunction occurs, and more importantly, it will help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of the steering gear device should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

8.13.4.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the steering system, ensuring that these devices do not affect the operation of the steering system.
- Check system components that are easily accessible or visible to ensure that there is no obvious damage or potential malfunction.

8.13.4.3 Fault Symptom Table

Symptom	Suspected Faulty Project	Measures
The steering wheel has no or little power assistance	1. The steering column is deformed or stuck	Check the appearance of the steering column.
	2.Low transmission hydraulic oil level	Check for leaks in the transmission system oil pipes.
	3.EHPS malfunction	Refer to EHPS Power Failure

8.13.4.4 DTC Confirmation

1. Connect the diagnostic tool to the diagnostic interface, read and record the DTC, and then clear the DTC.
2. Run the vehicle again.
3. Read the fault code of the control system again to confirm if there is any fault code output from the system.
   – Yes:Diagnose based on the output fault code.
   – No:Perform intermittent fault check, refer to Inspection Of Intermittent Faults

8.13.4.5 List Of Diagnostic Trouble Codes (DTC)

EHPS

Fault Code	Fault Description	Exclusion Method
B111717	High battery voltage	Refer to EHPS Power Fault
B111716	Low Battery Voltage	
C1EE54F	Supply voltage monitoring voltage too high (warning)	
C1EE651	Supply voltage monitoring voltage too low (warning)	
C1EF84C	The igition signal is lost	
U007A88	Network CAN bus - communication failure	Refer to EHPS Communication Fault
U012287	Lost communication with VDC	
U143873	VDC message is invalid	
U143587	Lost communication with VDC_HSS1	

Fault Code	Fault Description	Exclusion Method
U143253	Lost communication with VDC_HSS1	
U015687	Lost communication with CDCU	
U143353	CDCU message is invalid	
U019887	Lost communication with TGW	
U143453	TGW message is invalid	
U015788	Lost communication with CAMF	
U143553	CAMF function is invalid or incorrect	
C1EE75F	System entry thermal protection	Refer to EHPS Internal Fault
C1EE15F	ECU overtemperature failure	
C1EE24C	Temperature sensor failure	
C1EE3EC	ECU unexpected reset	
C1EE4EC	ECU Hardware detection failure(Error correction)	
C1EF24C	ECU Internal electrical Faults	
C1EE94C	ECU internal power supply Faults	
C1EE85C	ECU internal predrive faults	
C1EE342	ECU internal magneto resistive chip faults	
C1EE86C	ECU internal current detection loop faults	
C1EE88C	ECU internal motor three-phase current fault	
C1EE362	Invaild Torque Sensor value	
C1EF25F	Abnormal Power Supply to the sensor	
C1EF342	Invaild Angle Sensor value	
U14351F	CRC check is invalid	
C1EE35F	Steering wheel center position not calibrated	Perform center calibration to set the steering gear to 0 position when the vehicle is driving straight
C1EE59F	EPS end protection is not learned	
C1EE45F	EPS end protection is not learned	

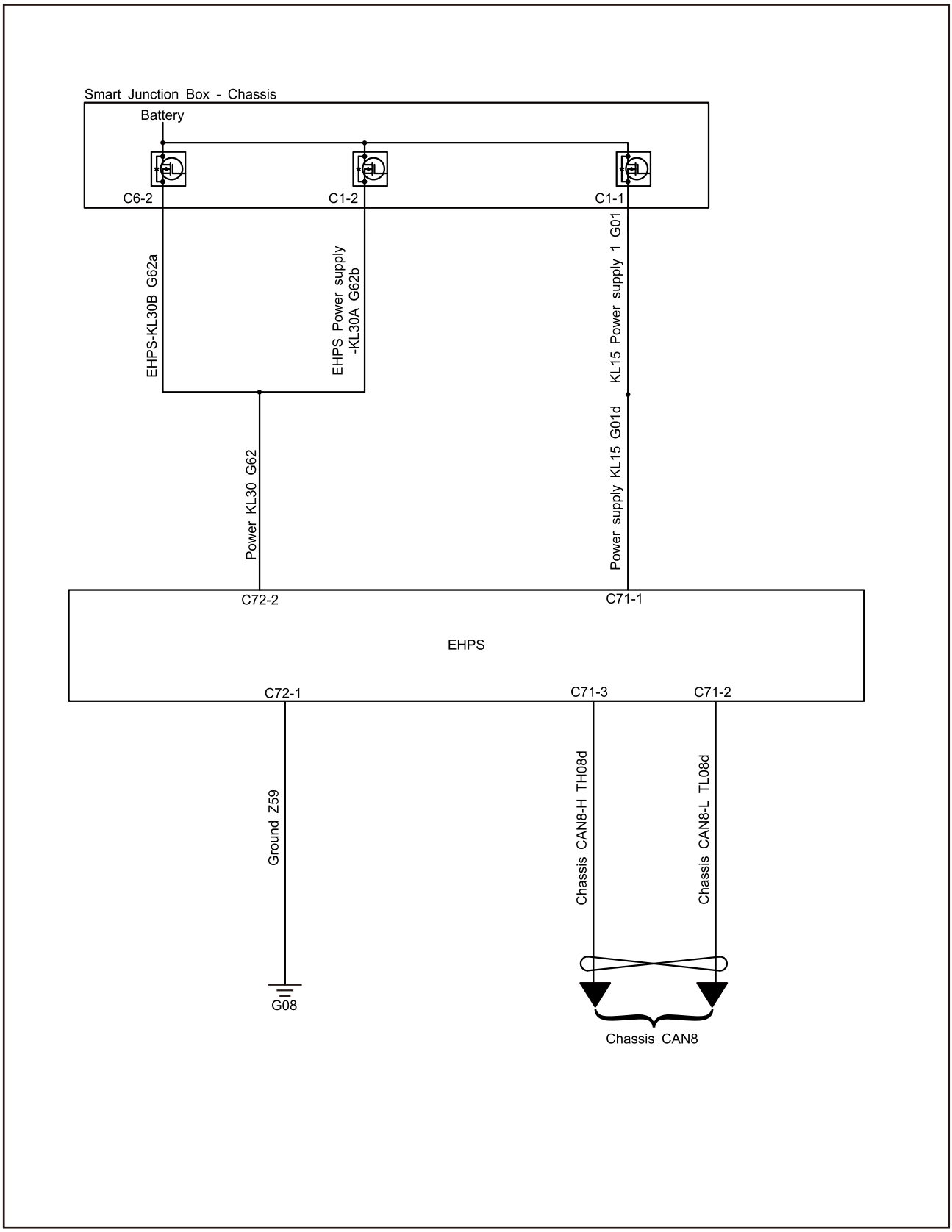
8.13.4.6 EHPS Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
B111717	High battery voltage	Supply voltage above limit and the duration of more than 1000ms	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.EHPS
B111716	Low Battery Voltage	Supply voltage below limit and the duration of more than 1000ms	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C1EE54F	Supply voltage monitoring voltage too high (warning)	The power supply voltage is higher than the voltage threshold . Enable power degradation.	
C1EE651	Supply voltage monitoring voltage too low (warning)	The power supply voltage is lower than the voltage threshold. Enable power degradatio	
C1EF84C	The igition signal is lost	The engine is in the state of the operator. The controller cannot detect the ignition signal, and the controller reports a failure after 20s.	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power failure codes besides EHPS?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4:Check the EHPS power supply and grounding harness.

Step 5:Rewrite configuration codes, reload software, and upgrade EHPS.

Step 6:Replace EHPS. Refer to Replacement Of Integrated EHPS Assembly

Step 7:Clear and confirm DTC.

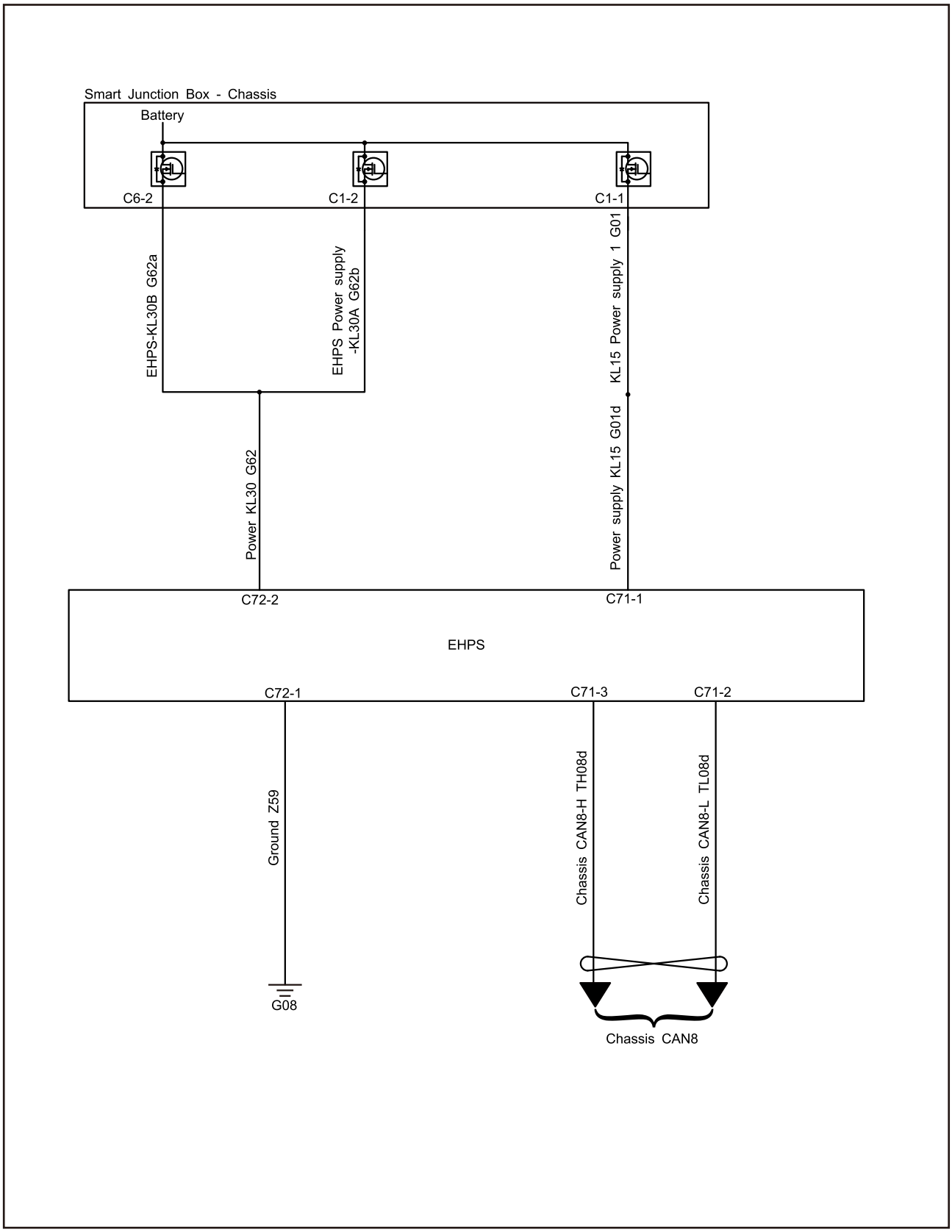
8.13.4.7 EHPS Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U007A88	Network CAN bus - communication failure	8 consecutive busoffs without successful message transmission	1. Wiring harness 2.EHPS
U012287	Lost communication with VDC	Continuous 500ms without receiving message VDC_TCO1 (0x0CFE6CEE)	
U143873	VDC message is invalid	If message VDC_TCO1 (0x0CFE6CEE) is not received for 500ms continuously, any of the following situations will occur for 10 consecutive frames:1. DLC is not equal to 8; 2. The physical value exceeds the range of 0~155.999 mph	
U143587	Lost communication with VDC_HSS1	Continuous 1000ms without receiving message VDC_HSS1 (0x18FCC231)	
U143253	Lost communication with VDC_HSS1	Any of the following situations occur in 10 consecutive frames of message VDC_HSS1 (0x18FCC231):1. DLC is not equal to 8; 2.When receiving a signal of 0x2 or 0x3	
U015687	Lost communication with CDCU	Continuous 5000ms without receiving message CDCU_VDHR (0x18FEC1EEx)	
U143353	CDCU message is invalid	The message CDCU_VDHR (0x18FEC1EEx) shows any of the following situations for 10 consecutive frames:1. DLC is not equal to 8; 2. The physical value exceeds the range of 0~99999995m	
U019887	Lost communication with TGW	shows any of the following situations for 10 consecutive frames:1. DLC is not equal to 8; 2. The physical value exceeds the range of 0~99999995m and the message TGW_TD_Time (0x18FEE6EEx) has not been received for 5000ms continuously	

DTC Code	Description	DTC Trigger Conditions	Faulty Part
U143453	TGW message is invalid	occur in 10 consecutive frames of message TGW-TD_ Time (0x18FEE6EEx):1. DLC is not equal to 8; 2. When the physical value of TGW_Seconds signal exceeds 0-59; 3. When the physical value of the TGW.Minute signal exceeds 0-59; 4. When the physical value of the TGW_Hours signal exceeds 0-23; 5. When the physical value of the TGWIMench signal exceeds 1-12; 6. When the physical value of the TGW-Day signal exceeds 1-31; 7. When the physical value of the TGW_Year signal exceeds 1985-2235; 8.When the physical value of the TGW_LocalMinuteOffset signal exceeds 0-59; 9.When the physical value of the TGW_LocalHourOffset signal exceeds If any of the following situations 0-59	
U015788	Lost communication with CAMF	Continuous 1000ms without receiving message EHPSI1_LKA_CAMF (0x18FF0031x)	
U143553	CAMF function is invalid or incorrect	Message ADCU_SPSI1_LKA (0x18FF0031x) shows any of the following situations for 10 consecutive frames:1. CRC does not comply with the algorithm; 2. The MC signal is discontinuous; 3. DLC is not equal to 8; 4. The EPS_VibAct signal value is 0x2-0x3	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine Inspection. Refer to Routine Inspection

Step 3:Check the CAN8 bus communication harness. Refer to Inspection of CAN8 bus network integrity

Step 4:Rewrite configuration codes, reload software, and upgrade EHPS.

Step 5:Replace EHPS. Refer to Replacement Of Integrated EHPS Assembly

Step 6:Clear and confirm DTC.

8.13.4.8 EHPS Internal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	Faulty Part
C1EE75F	System entry thermal protection	The internal temperature of the controller or motor exceeds the limit (standardised value)	1.EHPS
C1EE15F	ECU overtemperature failure	ECU temperature exceeds normal range (T>257°F)	
C1EE24C	Temperature sensor failure	Abnormal voltage range of temperature sensor	
C1EE3EC	ECU unexpected reset	MCU initialization reset error	
C1EE4EC	ECU Hardware detection failure(Error correction)	MCU ECC Fault	
C1EF24C	ECU Internal electrical Faults	1.MCU related faults 2.The internal electrical fault occurs in the controller	
C1EE94C	ECU internal power supply Faults	Internal power chip faults of the ECU	
C1EE85C	ECU internal predrive faults	Internal predrive chip faults of the ECU	
C1EE342	ECU internal magneto resistive chip faults	The reluctance sensor faults	
C1EE86C	ECU internal current detection loop faults	current detection loop fault	
C1EE88C	ECU internal motor three-phase current fault	Motor three-phase current fault	
C1EE362	Invaild Torque Sensor value	Sensor torque signal out of range or abnormal synchronization or torque signal sampling timeout	
C1EF25F	Abnormal Power Supply to the sensor	The power supply voltage of the sensor is beyond the normal range	
C1EF342	Invaild Angle Sensor value	Angle sensor signal anomalies or angle signal sampling timeout	
U14351F	CRC check is invalid	Invalid SW flashed (Wrong layout Data Flash)	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Rewrite configuration codes, reload software, and upgrade EHPS.

Step 4:Replace EHPS. Refer to Replacement Of Integrated EHPS Assembly

Step 5:Clear and confirm DTC.

8.13.5 Dismantling and Installation

8.13.5.1 Replacement of Integrated EHPS Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Jack the front end of the vehicle.

6 Drain the transmission hydraulic oil.

7 Remove the guide wheel (right).

8 Remove the left front wheel housing rear body.

9 Remove the left side wall lower trim panel assembly.

10 Remove the side wall upper mounting bracket assembly 2.

11 Remove the left side wall mounting bracket 1.

12 Remove the left side wall mounting bracket 2.

13 Remove the left side wall lower trim panel mounting frame assembly.

14 Remove the electric oil pump.

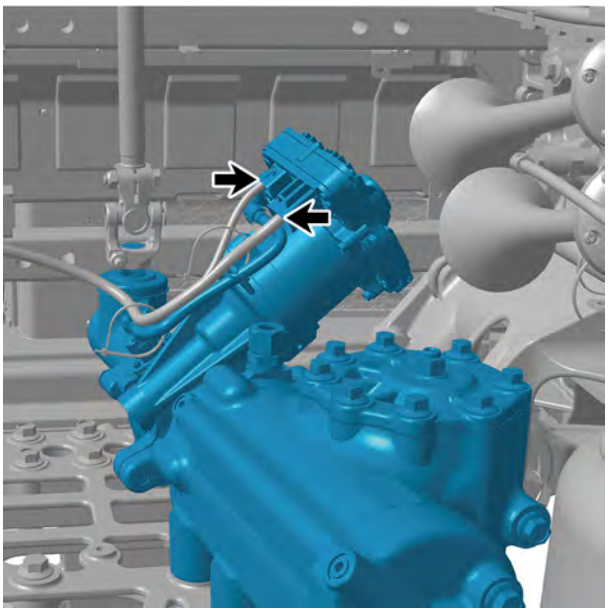
15 Remove the low pressure oil pipe.

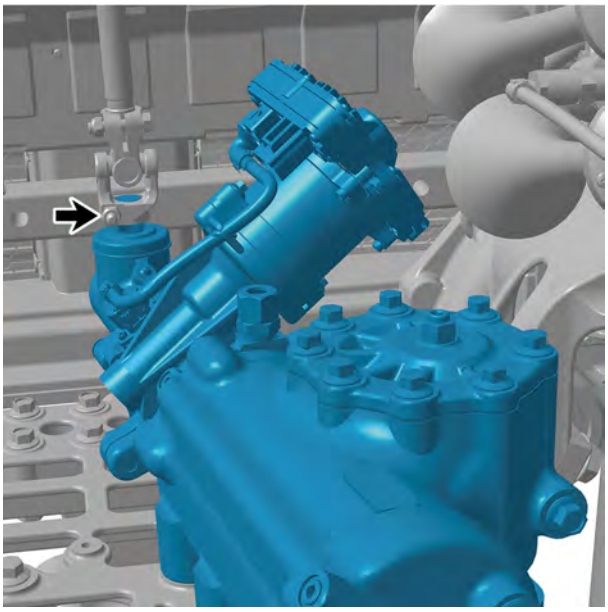
16 Remove the high pressure oil pipe.

17 Remove the A/C compressor assembly.

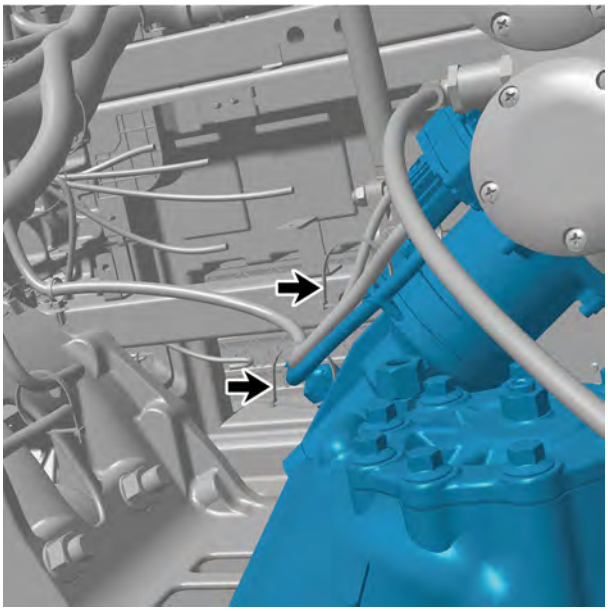
18 Remove the driving rocker arm.

19 Disconnect 2 harness connectors of the integrated EHPS assembly.

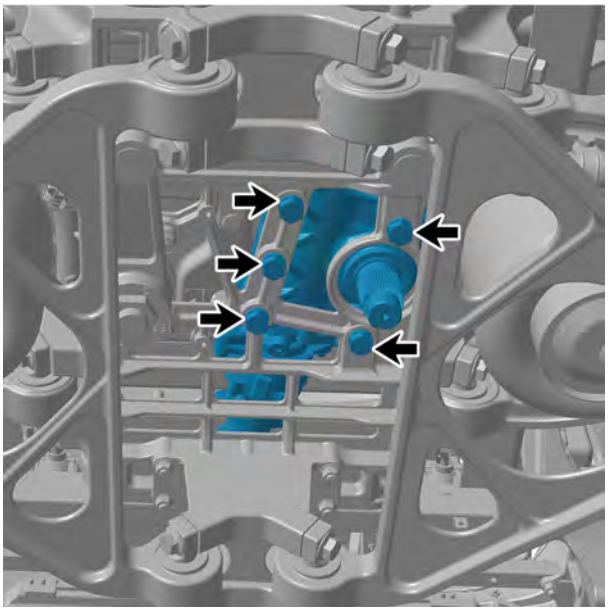




20 Remove 1 fixing bolt connecting the integrated EHPS assembly to the steering drive shaft.



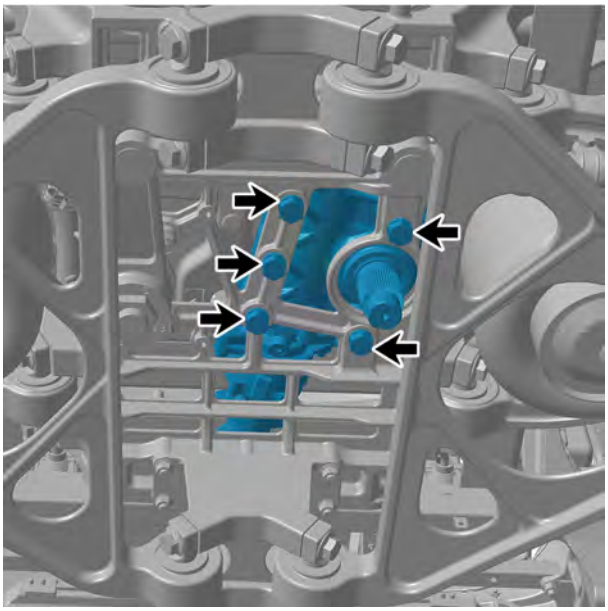
21 Remove 2 straps of the integrated EHPS assembly.



22 Remove 5 fixing bolts of the integrated EHPS assembly.

23 Remove the integrated EHPS assembly.

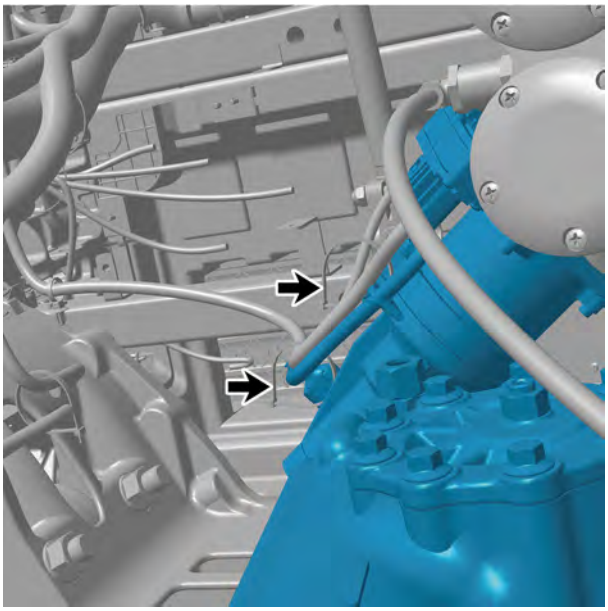
Installation Procedures



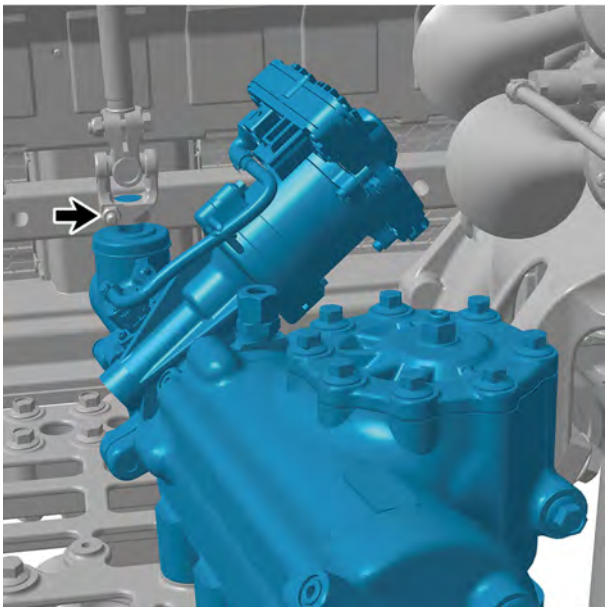
1 Move the integrated EHPS assembly to the mounting position.

2 Install 5 fixing bolts of the integrated EHPS assembly.

Torque: 442.5 +/- 37 (ft lbs)

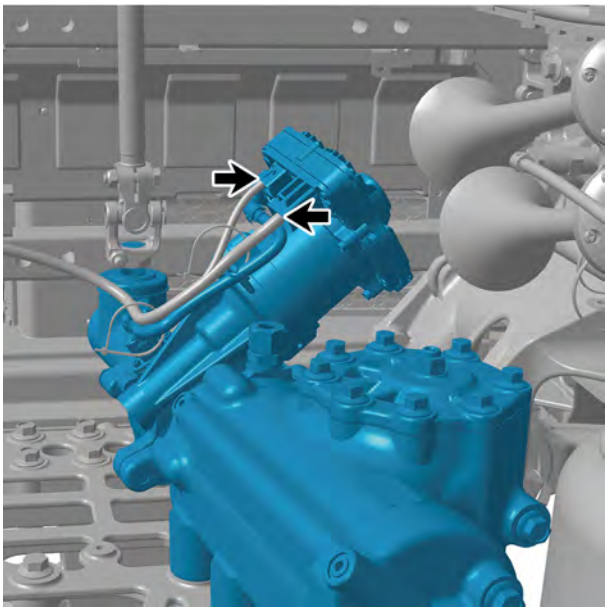


3 Install 2 straps of the integrated EHPS assembly.



4 Install 1 fixing bolt connecting the integrated EHPS assembly to the steering drive shaft.

Torque:37 +/- 3.5 (ft lbs)



5 Connect 2 harness connectors of the integrated EHPS assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

6 Install the driving rocker arm.

7 Install the A/C compressor assembly.

8 Install the high pressure oil pipe.

9 Install the low pressure oil pipe.

10 Install the electric oil pump.

11 Install the left side wall lower trim panel mounting frame assembly.

12 Install the left side wall mounting bracket 2.

13 Install the left side wall mounting bracket 1.

14 Install the side wall upper mounting bracket assembly 2.

15 Install the left side wall lower trim panel assembly.

16 Install the left front wheel housing rear body.

17 Install the guide wheel (right).

18 Add the transmission hydraulic oil.

19 Lower the front end of the vehicle.

20 Perform power-on of the high voltage system.

21 Connect the battery negative cable.

22 Close the front flip cover plate.

23 Close the door.

caution

After part replacement, it is necessary to recalibrate the zero position.

8.13.5.2 Replacement of Electric Oil Pump

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

4 Perform power-off of high voltage system.

5 Jack the front end of the vehicle.

6 Drain the transmission hydraulic oil.

7 Remove the left front wheel housing rear body.

8 Remove the left side wall lower trim panel assembly.

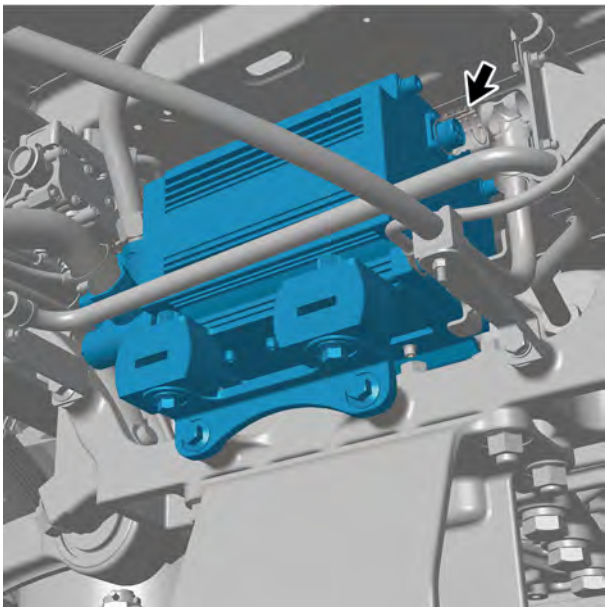
9 Remove the side wall upper mounting bracket assembly 2.

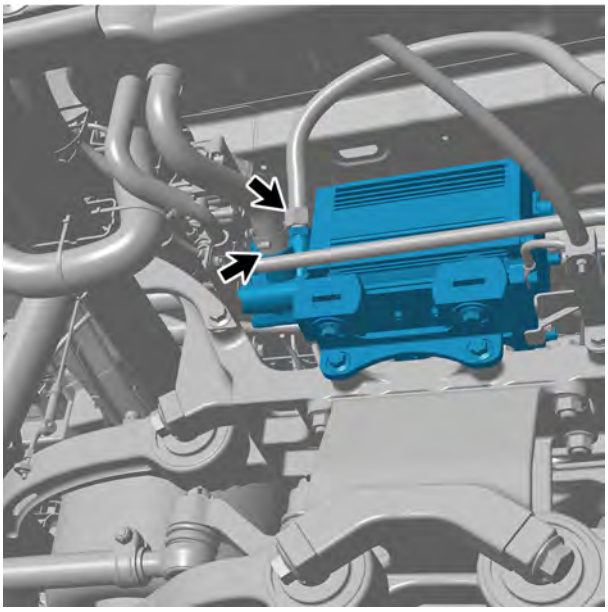
10 Remove the left side wall mounting bracket 1.

11 Remove the left side wall mounting bracket 2.

12 Remove the left side wall lower trim panel mounting frame assembly.

13 Disconnect 1 high voltage harness connector of the electric oil pump.

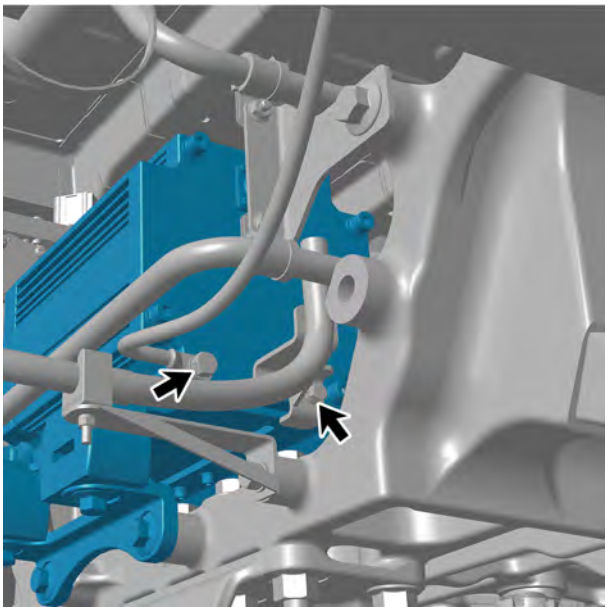




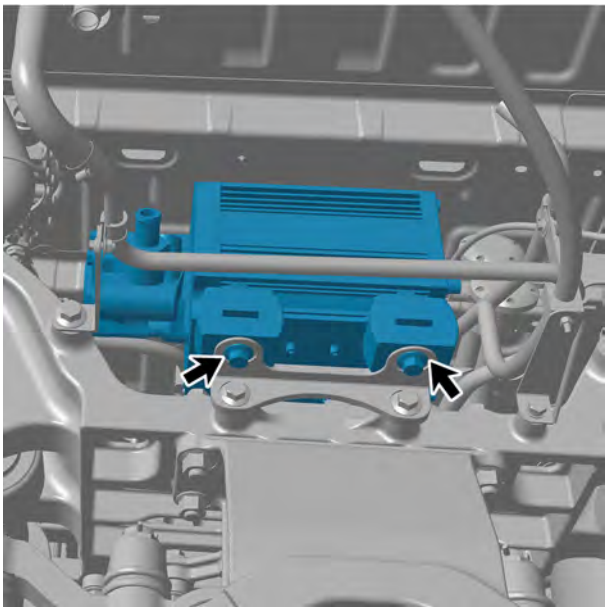
14 Disconnect 2 pipelines of the electric oil pump.

caution

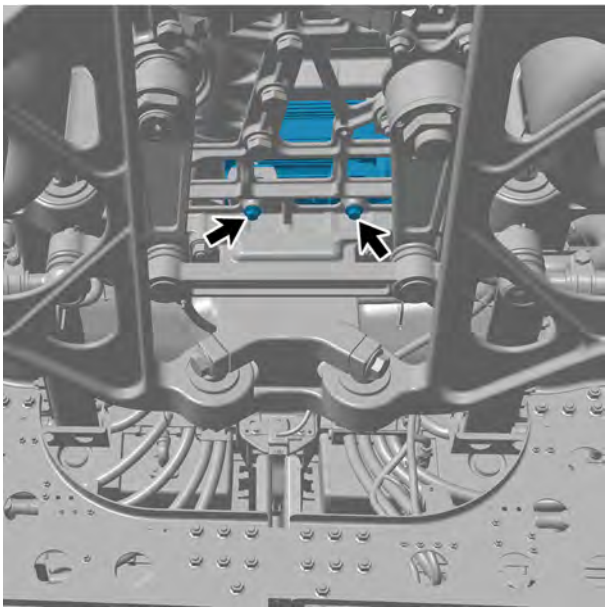
All disconnected oil pipe joints shall be sealed to prevent the entry of debris and residual oil from flowing out.

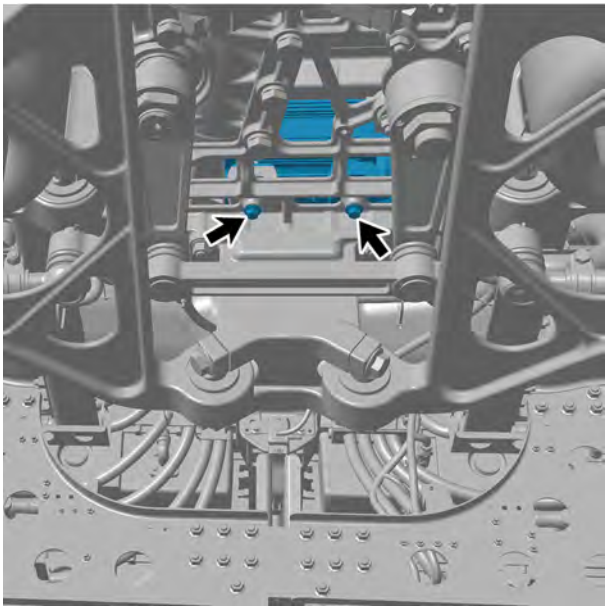


15 Remove 2 fixing bolts of the harness accessory.



16 Remove 4 fixing bolts of the electric oil pump, and remove the electric oil pump.



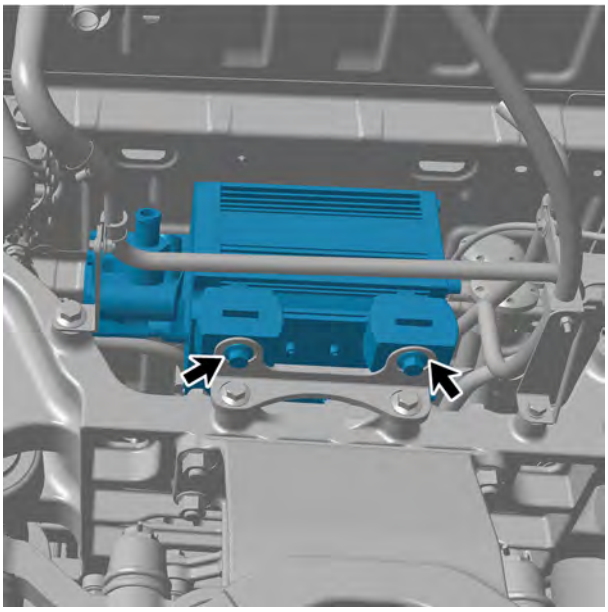


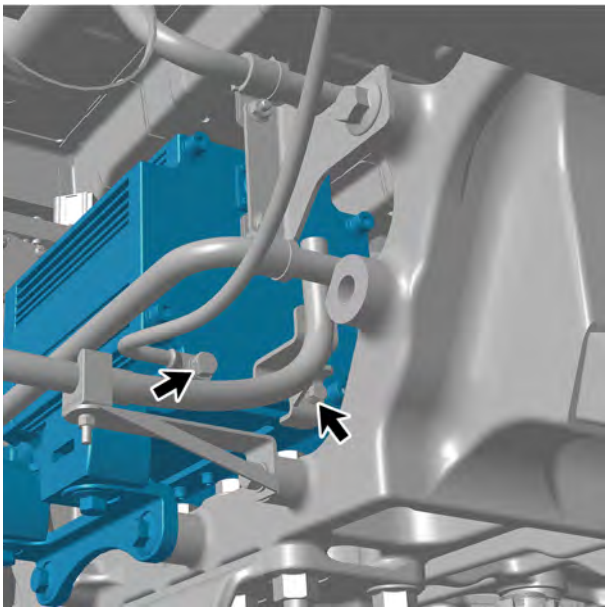
Installation Procedures

1 Move the electric oil pump to the mounting position.

2 Install 4 fixing bolts of the electric oil pump.

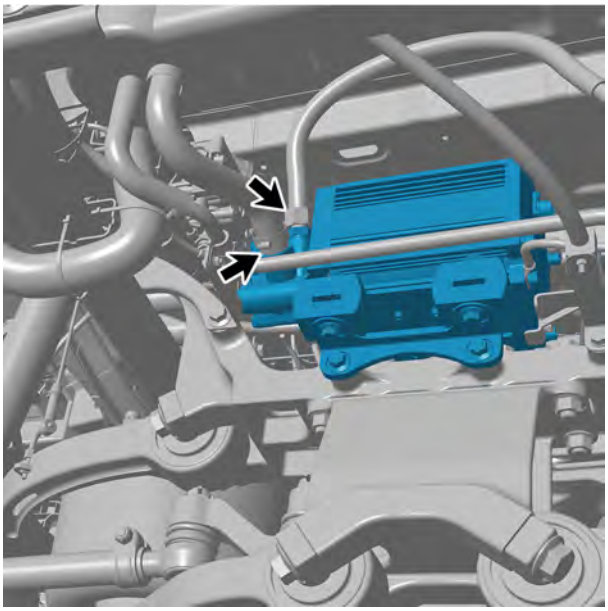
Torque: 44 +/- 3.5 (ft lbs)



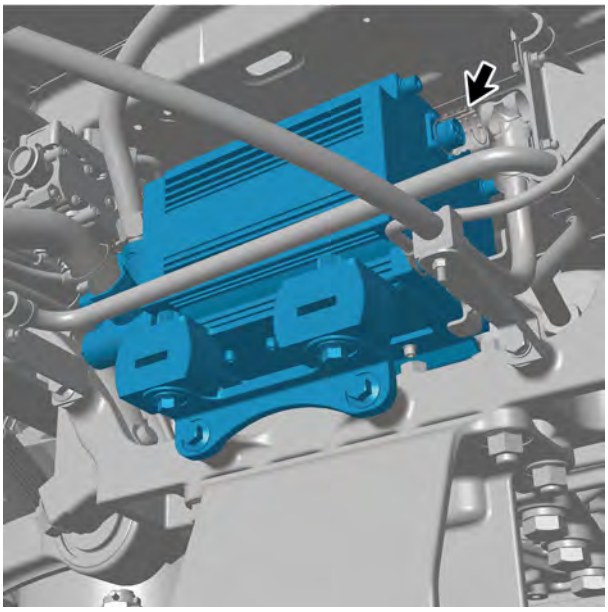


3 Install 2 fixing bolts of the harness accessory.

Torque: 44 +/- 3.5 (ft lbs)



4 Connect 2 pipelines of the electric oil pump.



5 Connect 1 high voltage harness connector of the electric oil pump.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

6 Install the left side wall lower trim panel mounting frame assembly.

7 Install the left side wall mounting bracket 2.

8 Install the left side wall mounting bracket 1.

9 Install the side wall upper mounting bracket assembly 2.

10 Install the left side wall lower trim panel assembly.

11 Install the left front wheel housing rear body.

12 Add the transmission hydraulic oil.

13 Lower the front end of the vehicle.

14 Perform power-on of the high voltage system.

15 Connect the battery negative cable.

16 Close the front flip cover plate.

17 Close the door.

8.13.5.3 Replacement of Steering Fluid Reservoir

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

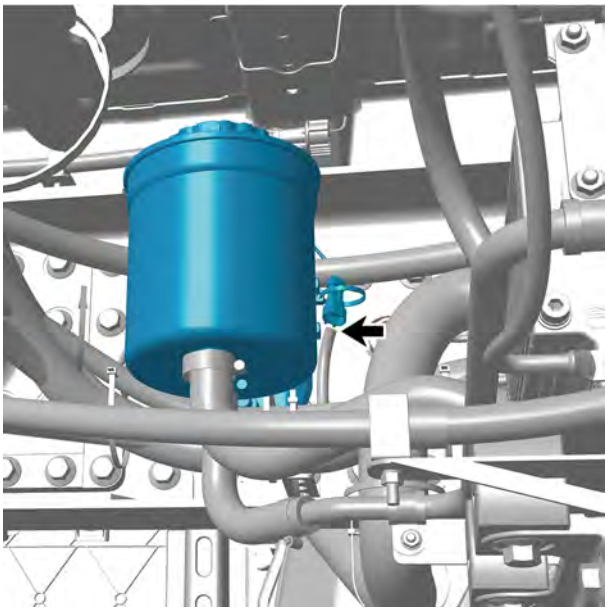
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

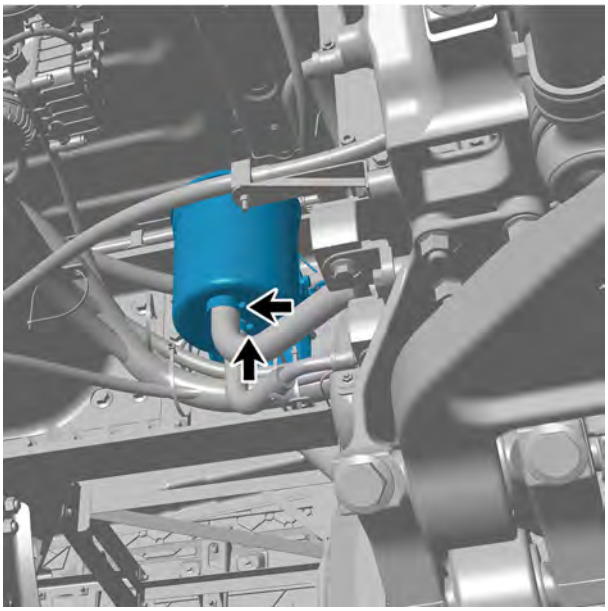
4 Jack the front end of the vehicle.

5 Drain the transmission hydraulic oil.

6 Remove the steering fluid reservoir assembly.



7 Disconnect 1 harness connector of the steering fluid reservoir.



8 Disconnect 2 pipelines of the steering fluid reservoir.

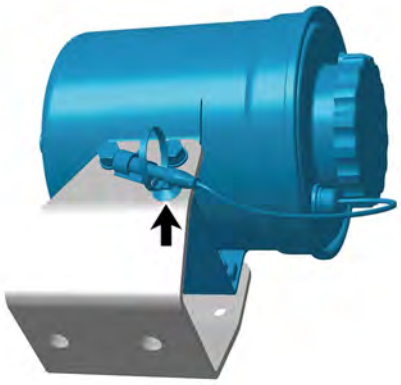
caution

All disconnected oil pipe joints shall be sealed to prevent the entry of debris and residual oil from flowing out.



9 Remove 2 fixing bolts and nuts of the steering fluid reservoir, and remove the steering fluid reservoir with bracket.

10 Disengage 1 fixing clip of the steering fluid reservoir.



11 Remove 4 fixing bolts and nuts connecting the steering fluid reservoir to the steering fluid reservoir bracket.

12 Remove the steering fluid reservoir.



Installation Procedures

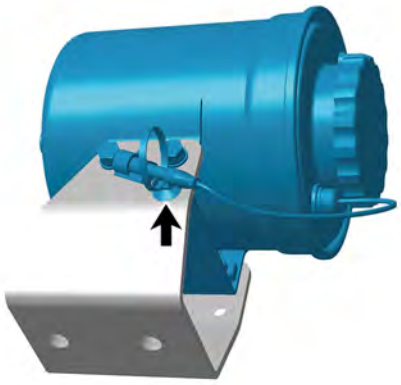


1 Move the steering fluid reservoir to the mounting position.

2 Install 4 fixing bolts and nuts connecting the steering fluid reservoir to the steering fluid reservoir bracket.

Torque: 18.5 +/- 2 (ft lbs)

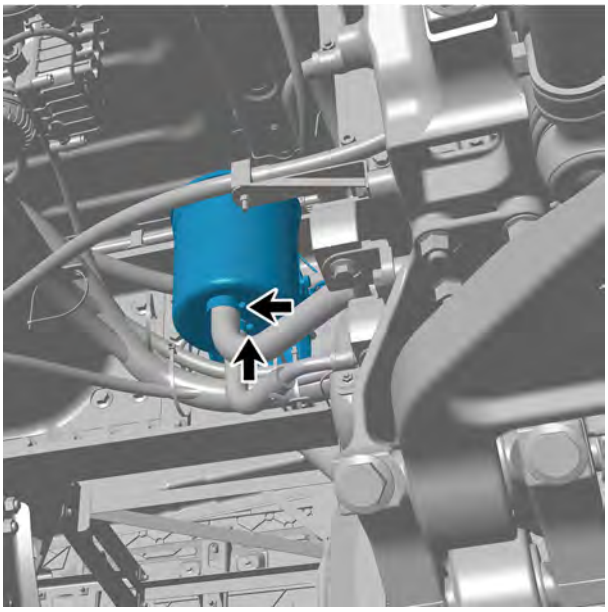
3 Install 1 fixing clip of the steering fluid reservoir.



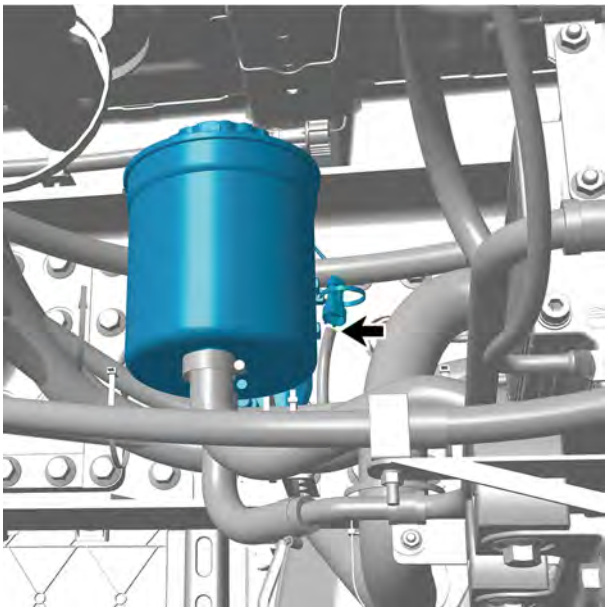


4 Install 2 fixing bolts and nuts of the steering fluid reservoir with bracket.

Torque: 155 +/- 14.75 (ft lbs)



5 Connect 2 pipelines of the steering fluid reservoir.



6 Connect 1 harness connector of the steering fluid reservoir.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

7 Install the steering fluid reservoir assembly.

8 Add the transmission hydraulic oil.

9 Lower the front end of the vehicle.

10 Connect the battery negative cable.

11 Close the front flip cover plate.

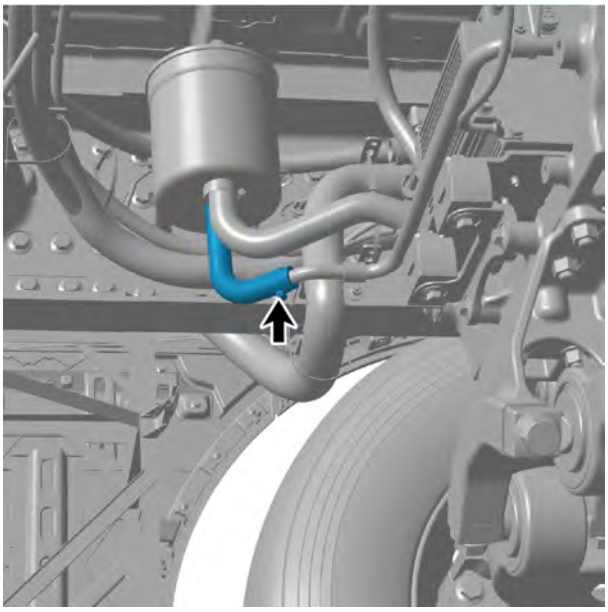
12 Close the door.

8.13.5.4 Replacement of Transmission Hydraulic Oil

Removal Procedures

1 Jack the front end of the vehicle.

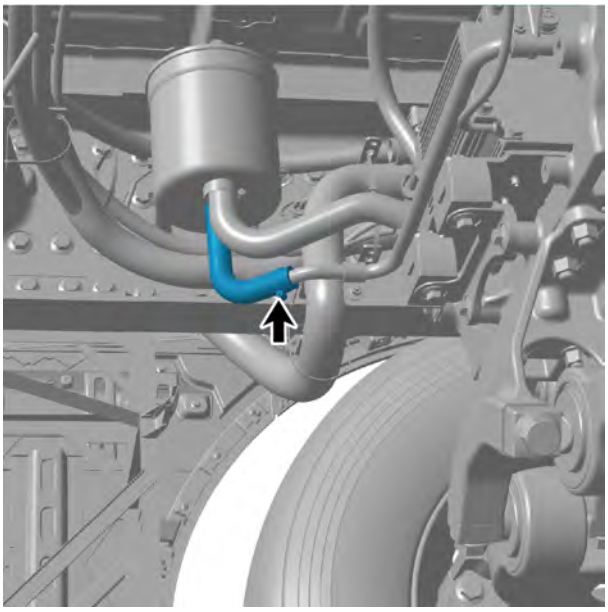
2 Remove the transmission hydraulic oil filter element.



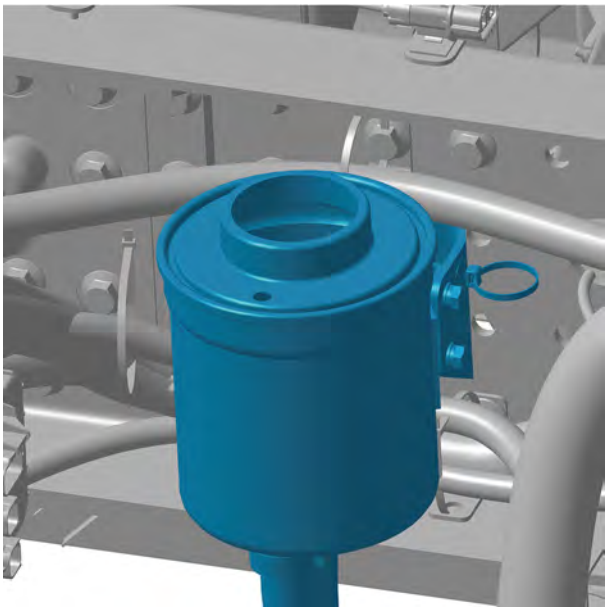
3 Disconnect the oil inlet hose.

4 Drain the transmission hydraulic oil.

Installation Procedures



1 Connect the oil inlet hose.



2 Add the transmission hydraulic oil.

3 Turn the steering wheel several times between the extreme positions on the left and right sides until the steering fluid level in the steering fluid reservoir no longer drops and no bubbles are generated.

caution

The steering wheel shall not stay in the extreme position for more than 5 seconds to avoid damaging the steering gear.

4 Check the steering hydraulic oil level.

caution

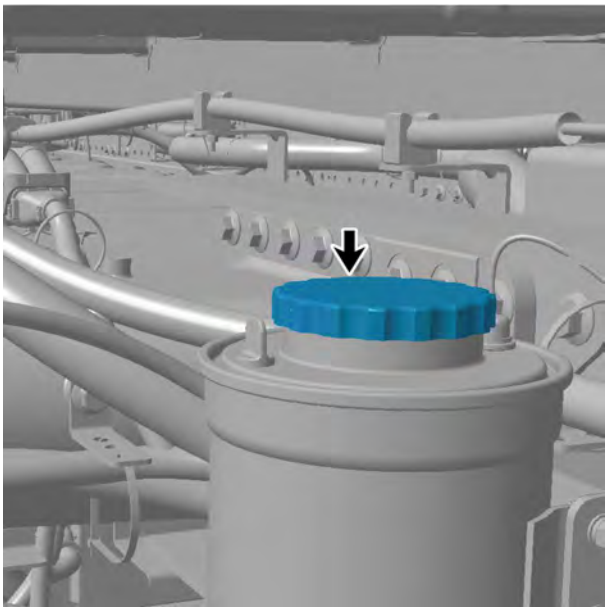
It is normal for the oil level to exceed the upper limit scale by 1-2mm.

5 Install the transmission hydraulic oil filter element.

6 Lower the front end of the vehicle.

8.13.5.5 Replacement of Transmission Hydraulic Oil Filter Element

Removal Procedures



1 Jack the front end of the vehicle.

2 Remove the filler cap.

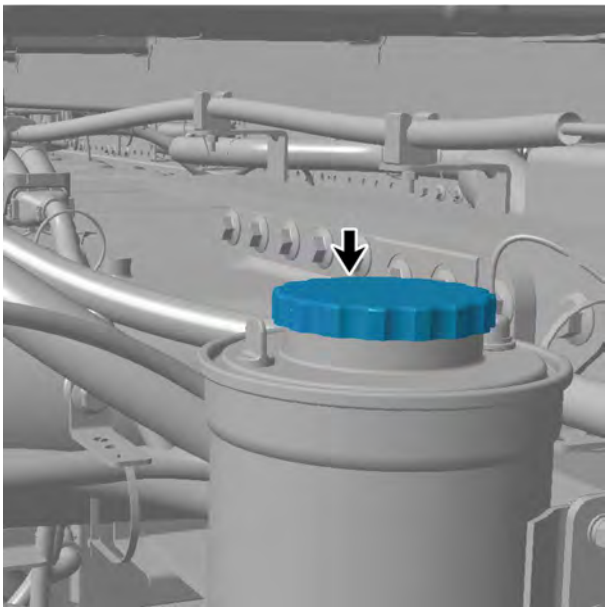


3 Remove the transmission hydraulic oil filter element.

Installation Procedures



1 Install the transmission hydraulic oil filter element.



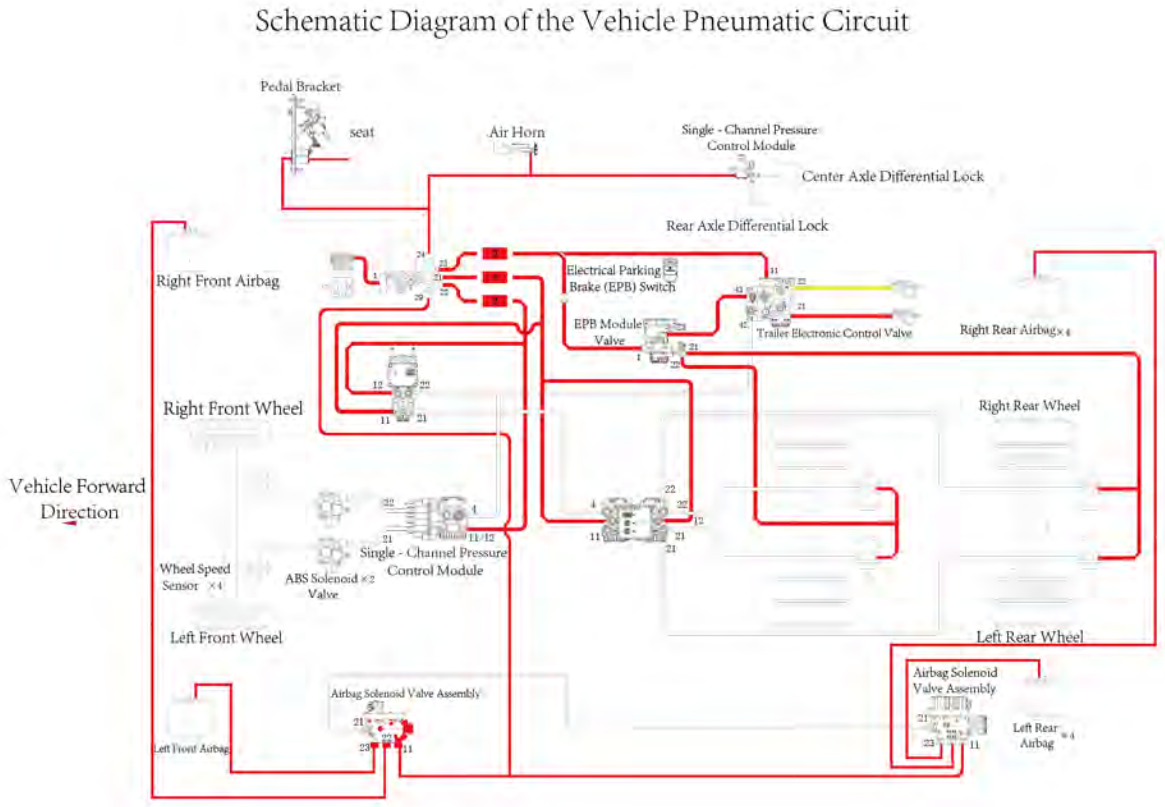
2 Install the filler cap.

3 Lower the vehicle.

8.14 Brake Pedal and Transmission Device

8.14.1 Braking Schematic Diagram

8.14.1.1 Braking Schematic Diagram



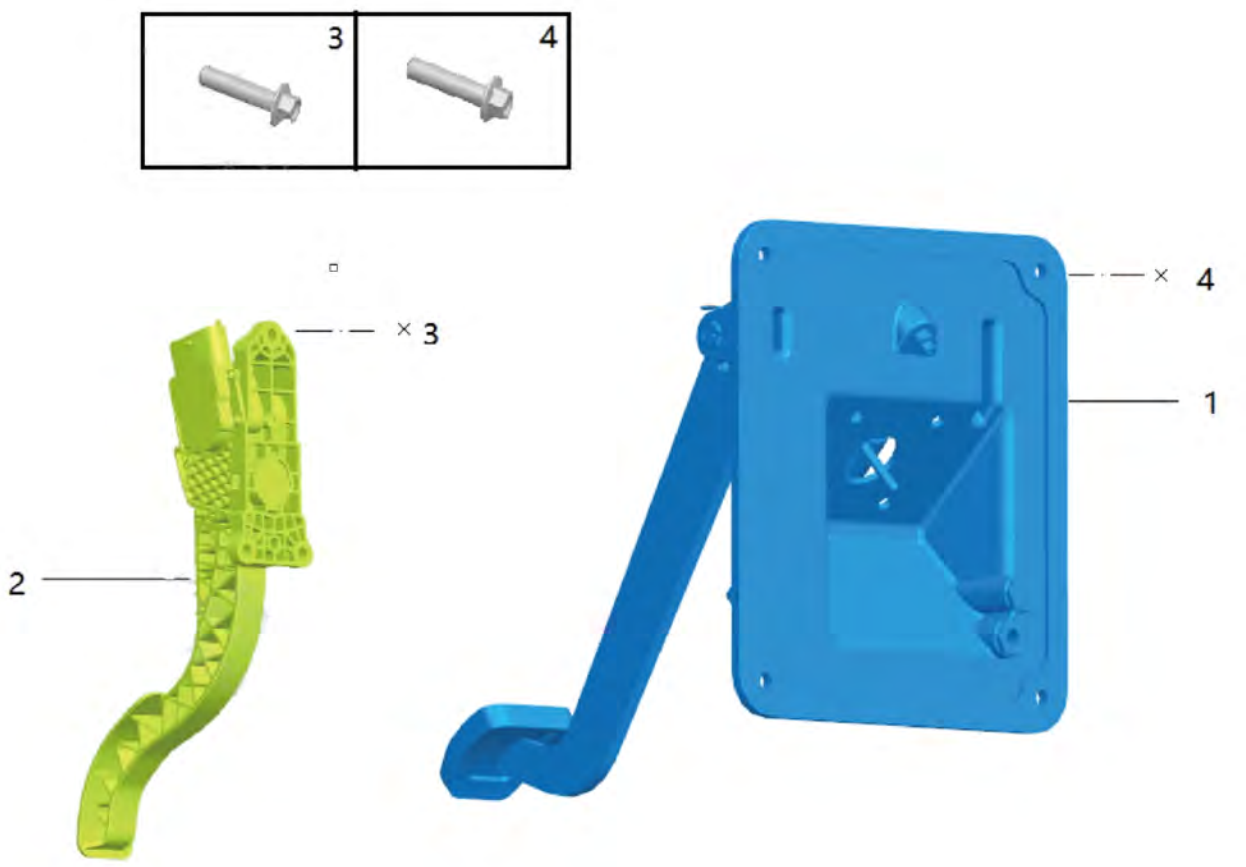
8.14.2 Specifications

8.14.2.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the electric oil pump to the chassis harness bracket, and the fixing bolt connecting the brake pedal assembly to the white body assembly	M8	(18.5 +/- 2) ft lbs

8.14.3 Decomposition Diagram

8.14.3.1 Decomposition Diagram



1.	Brake Pedal Assy	3.	Hexagon Flange Bolt
2.	Accelerator Pedal Assy	4.	Hexagon Flange Bolt

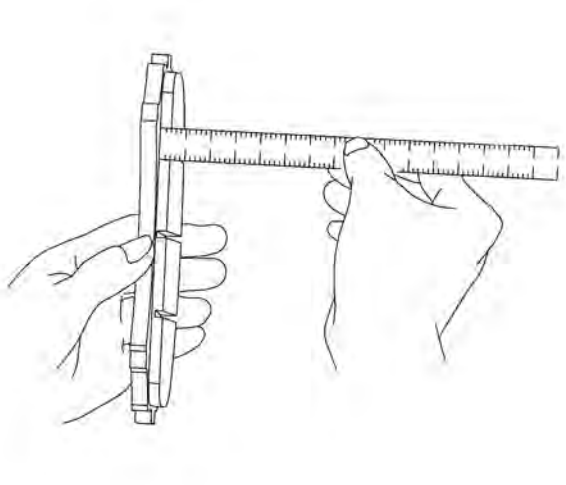
8.14.4 Inspect

8.14.4.1 Inspection of Brake System

1. Check the working condition of the vehicle's braking system. When fully braking, the pedal travel shall not exceed 3/4 of the full travel.
2. Check the sealing condition of the brake pipeline and joints, and confirm that there is no leakage.
3. Check the valve joints for looseness or air leakage.

8.14.4.2 Inspection of Brake Pad for Wear

1. Lift the vehicle to the appropriate position and remove the wheels.
2. Check the thickness of the inner and outer friction plates through the observation holes on the clamp body.
3. Remove the rear friction plate.
4. Check the thickness of the rear friction plate.



caution

If the thickness is less than the minimum thickness, replace the friction plates as a set.

If the thickness of the inner and outer friction plates is less than the specified minimum thickness or if there is cracking, rupture or damage to the friction plates, they need to be replaced as a set.

8.14.5 Dismantling and Installation

8.14.5.1 Replacement of Accelerator Pedal Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP right access cover plate assembly.

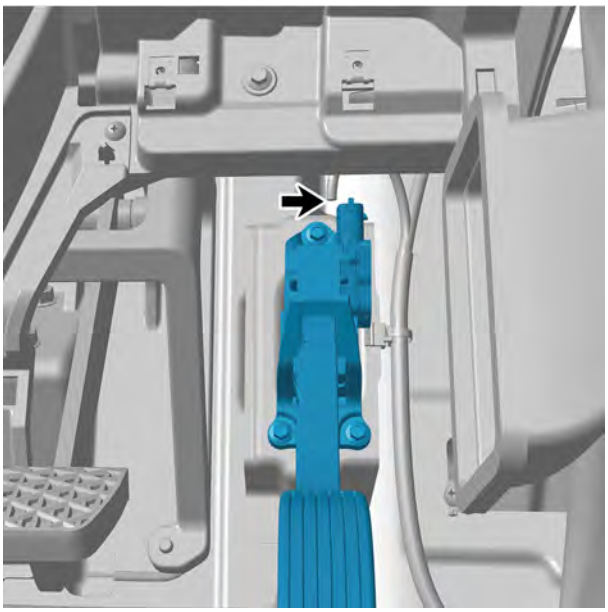
5 Remove the IP right front lower trim panel assembly.

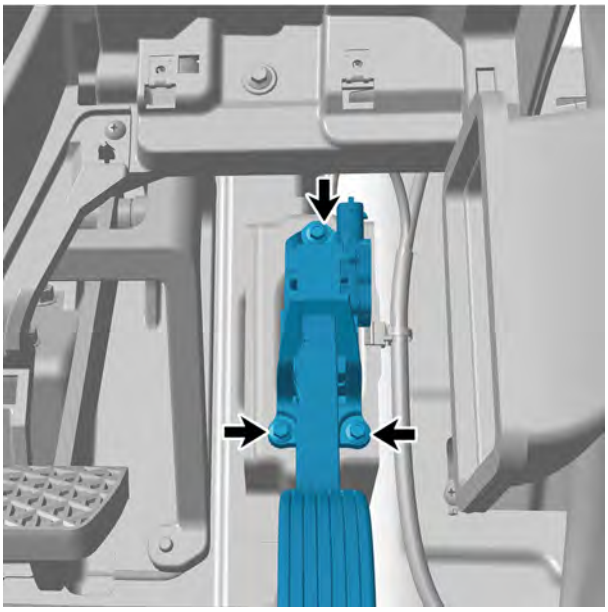
6 Remove the right switch panel assembly.

7 Remove the right switch panel lower trim panel assembly.

8 Remove the IP right front upper trim panel assembly.

9 Disconnect 1 harness connector of the accelerator pedal assembly.

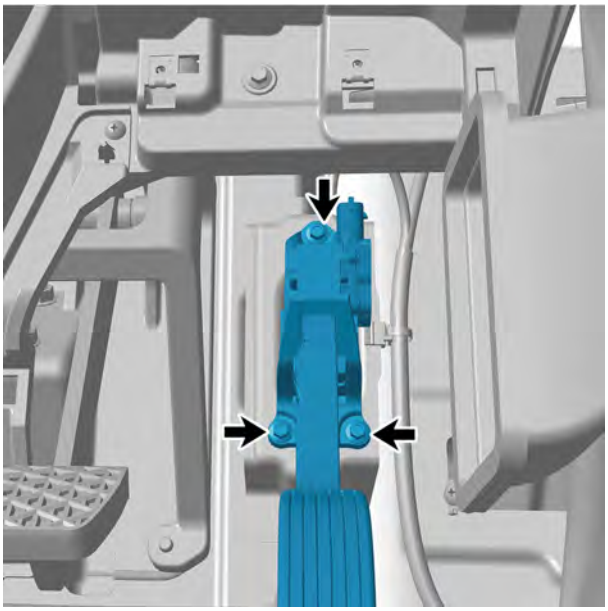




10 Remove 3 fixing bolts of the accelerator pedal assembly.

11 Remove the accelerator pedal assembly.

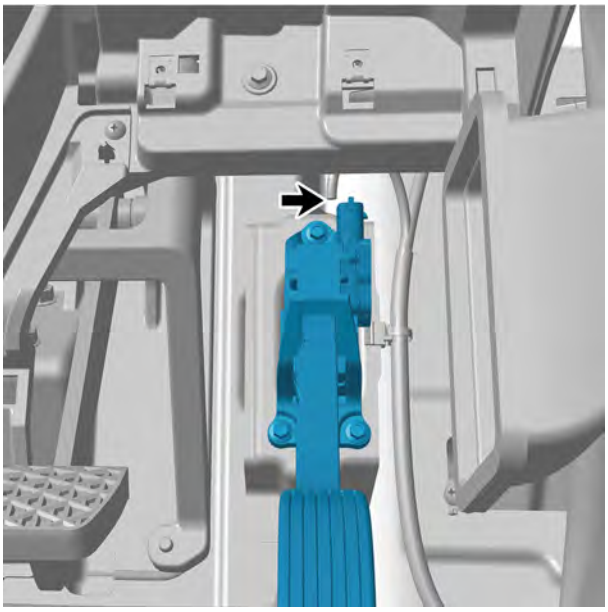
Installation Procedures



1 Move the accelerator pedal assembly to the mounting position.

2 Install 3 fixing bolts of the accelerator pedal assembly.

Torque: 8 +/- .75 (ft lbs)



3 Connect 1 harness connector of the accelerator pedal assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the IP right front upper trim panel assembly.

5 Install the right switch panel lower trim panel assembly.

6 Install the right switch panel assembly.

7 Install the IP right front lower trim panel assembly.

8 Install the IP right access cover plate assembly.

9 Connect the battery negative cable.

10 Close the front flip cover plate.

11 Close the door.

8.14.5.2 Replacement of Brake Pedal Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the combination switch upper shield assembly.

6 Remove the combination switch lower shield.

7 Remove the IP left access cover plate assembly.

8 Remove the left switch panel assembly.

9 Remove the left switch panel lower trim panel assembly.

10 Remove the IP left front trim panel assembly.

11 Remove the IP right access cover plate assembly.

12 Remove the right switch panel assembly.

13 Remove the right switch panel lower trim panel assembly.

14 Remove the IP right front lower trim panel assembly.

15 Remove the IP right front upper trim panel assembly.

16 Remove the steering column lower shield assembly.

17 Remove the primary wiper arm blade assembly (nozzle and hose).

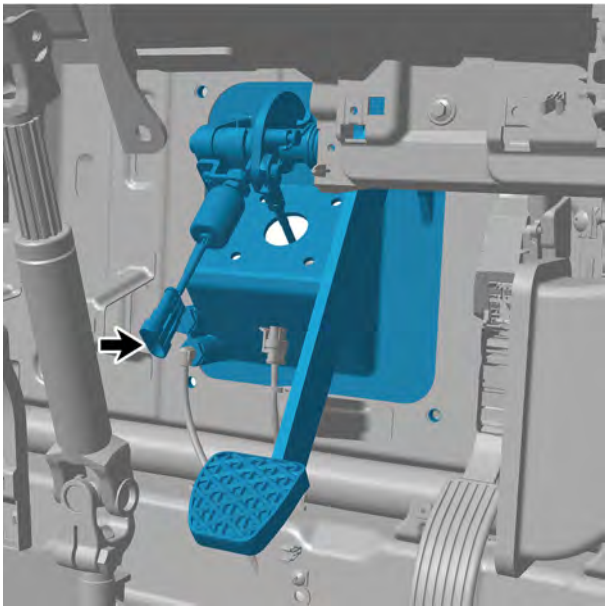
18 Remove the front windshield cover plate assembly.

19 Remove the steering column fixing bracket 1.

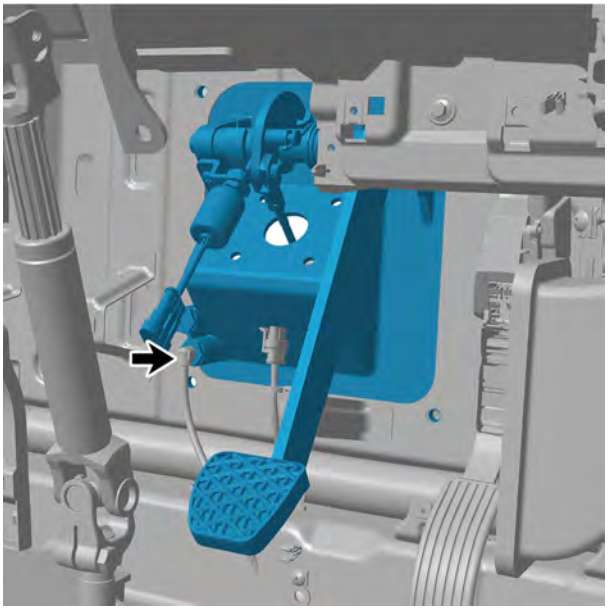
20 Remove the steering column fixing bracket 2.

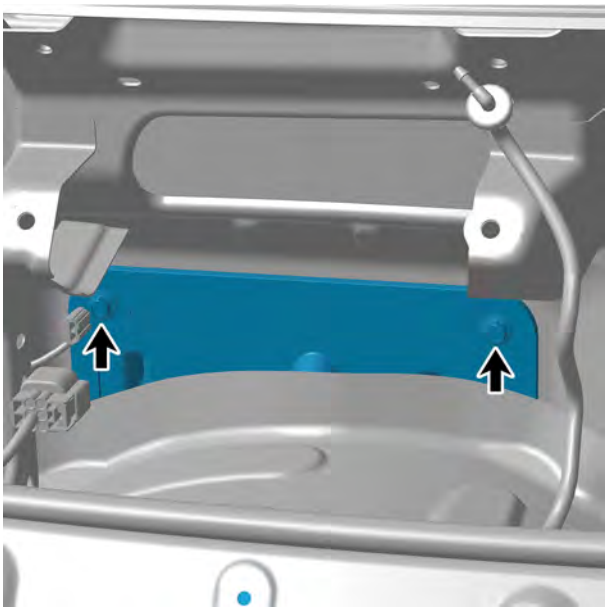
21 Remove the brake signal transmitter assembly.

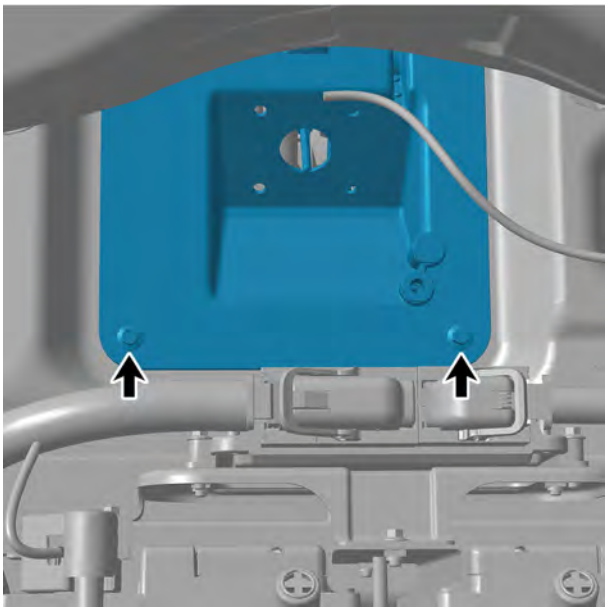
22 Disconnect 1 harness connector of the brake pedal assembly.



23 Disconnect 1 air pipe of the brake pedal assembly.

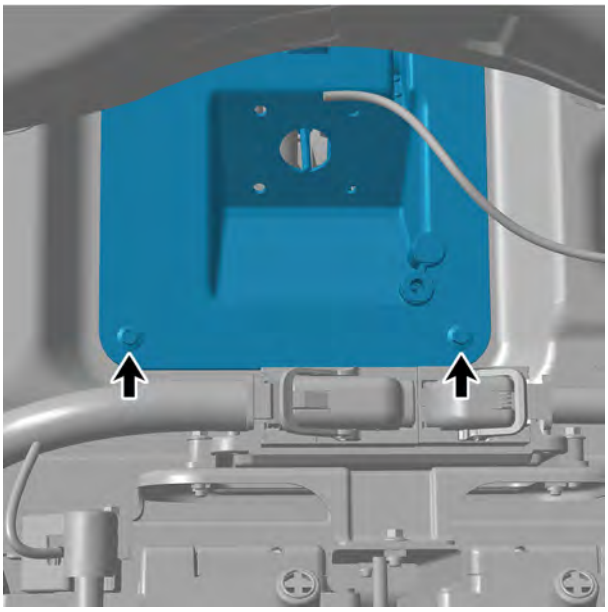


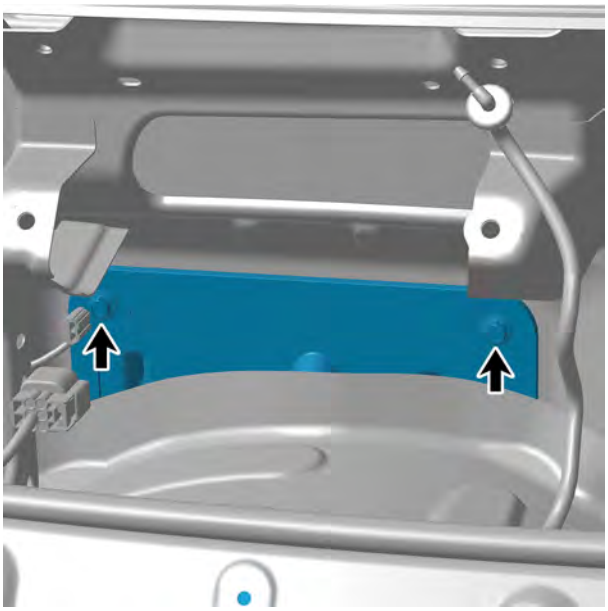




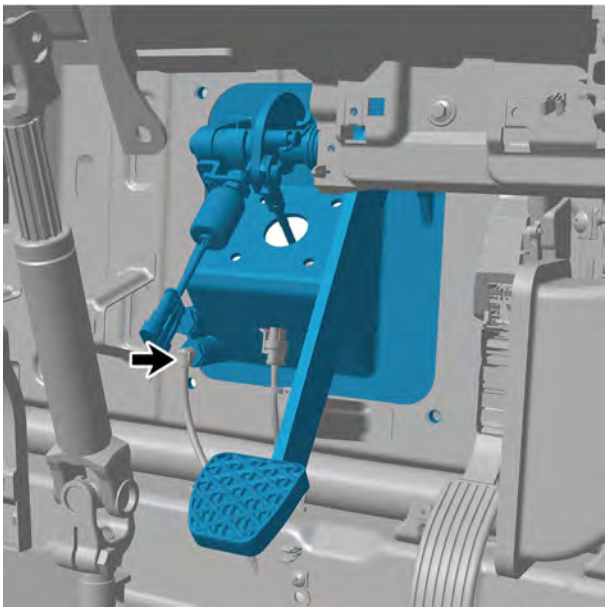
24 Remove 4 fixing bolts of the brake pedal assembly, and remove the brake pedal assembly.

Installation Procedures

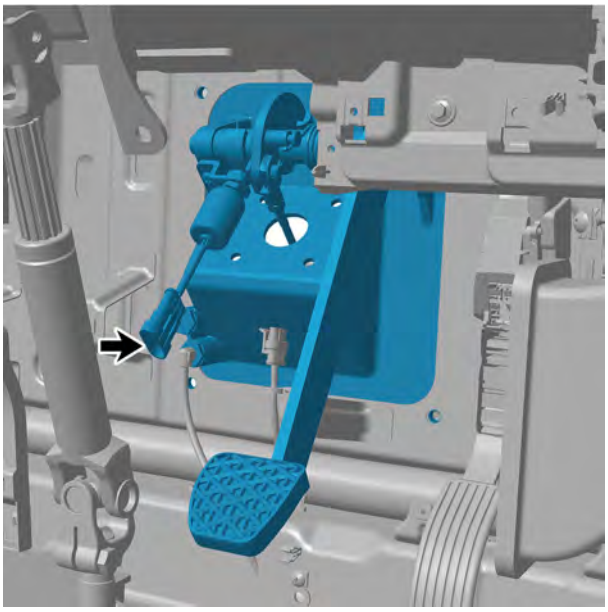




1 Move the brake pedal assembly to the mounting position, and install the 4 fixing bolts of the brake pedal assembly.
Torque: 18.5 +/- 2 (ft lbs)



2 Connect 1 air pipe of the brake pedal assembly.



3 Connect 1 harness connector of the brake pedal assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the brake signal transmitter assembly.

5 Install the steering column fixing bracket 2.

6 Install the steering column fixing bracket 1.

7 Install the front windshield cover plate assembly.

8 Install the primary wiper arm blade assembly (nozzle and hose).

9 Install the steering column lower shield assembly.

10 Install the IP right front upper trim panel assembly.

11 Install the IP right front lower trim panel assembly.

12 Install the right switch panel lower trim panel assembly.

13 Install the right switch panel assembly.

14 Install the IP right access cover plate assembly.

15 Install the IP left front trim panel assembly.

16 Install the left switch panel lower trim panel assembly.

17 Install the left switch panel assembly.

18 Install the IP left access cover plate assembly.

19 Install the combination switch lower shield.

20 Install the combination switch upper shield assembly.

21 Connect the battery negative cable.

22 Close the front flip cover plate.

23 Close the door.

8.15 Brake Line Device

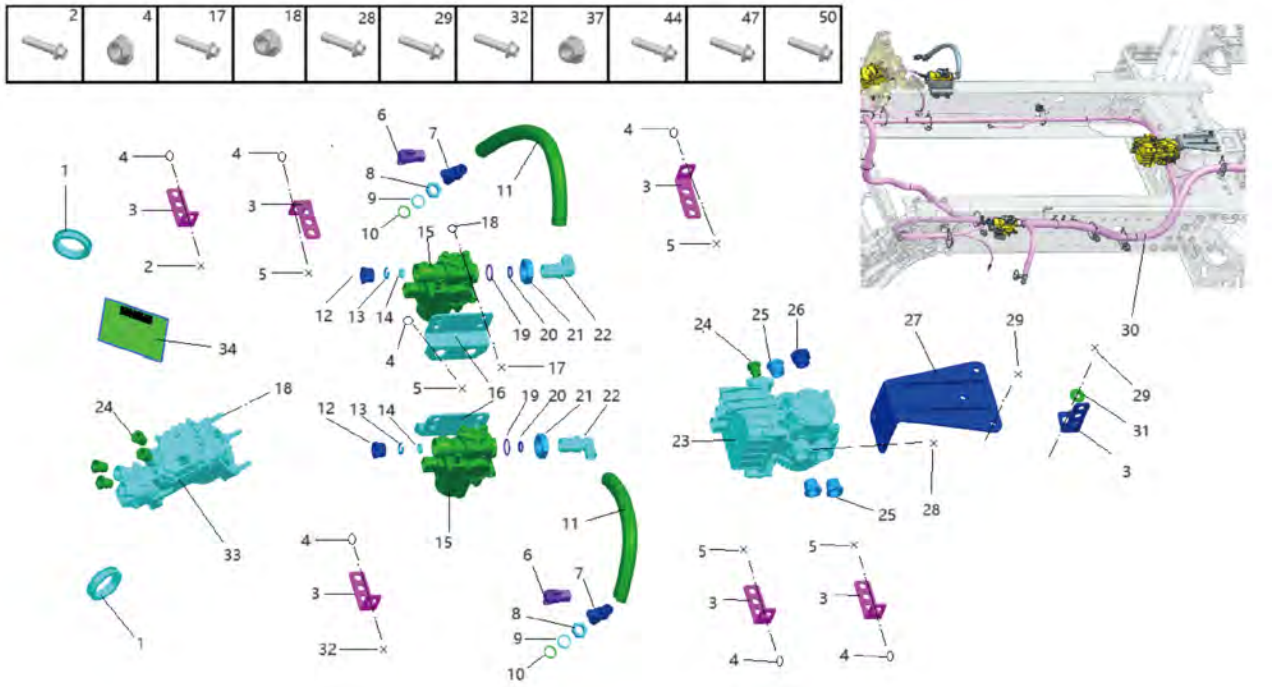
8.15.1 Specifications

8.15.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the ABS solenoid valve bracket to the frame assembly	M14	103 +/-7.52 (ft lbs)
Fixed bolts connecting the single channel module assembly to the single channel module bracket	M12	70 +/- 3.5 (ft lbs)
The fixing bolts connecting the dual channel module assembly and the dual channel module bracket	M12	70 +/- 3.5 (ft lbs)
The fixing bolt connecting the ABS solenoid valve assembly to the ABS solenoid valve bracket	M8	18.5 +/- 2 (ft lbs)
The fixing bolts connecting the trailer module assembly to the trailer connection bracket	M8	18.5 +/- 2 (ft lbs)
Pressure sensor fixed on the three-way joint interface of the gas storage cylinder	M12	18.5 +/- 2 (ft lbs)
Low pressure alarm switch fixed on the valve tee joint interface	M12	18.5 +/- 2 (ft lbs)
Test connector fixed on T-shaped tee	M12	18.5 +/- 2 (ft lbs)
The fixing nut for the direct connector fixed trailer connector bracket connection	M18	37 +/- 3.5 (ft lbs)
Bent joint fixed on valve interface	M22	22 +/- 2 (ft lbs)
Fixed on the T-shaped joint at the air chamber interface	M16	18.5 +/- 2 (ft lbs)
The fixing nut of the brake spiral pipe assembly	M18	37 +/- 3.5 (ft lbs)
Fixed nut of brake hose assembly	M18	37 +/- 3.5 (ft lbs)

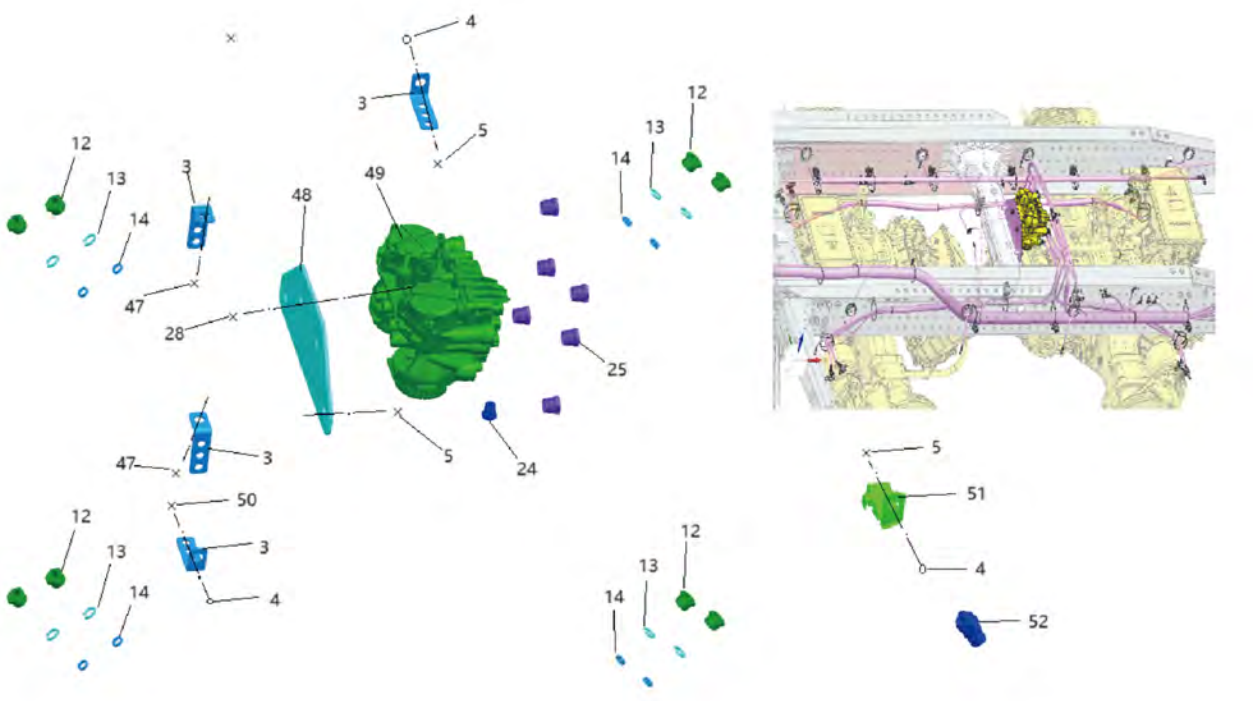
8.15.2 Decomposition Diagram

8.15.2.1 Decomposition Diagram



1.	Through The Hole Sheath	20.	Sealing Gasket
2.	Hexagon Flange Bolt	21.	Hex Thin Nut
3.	Wire Harness Bracket	22.	Bend Joint
4.	Hexagon Flange Lock Nut_All Metal	23.	Ebs Axle Modulator Assy
5.	Hexagon Flange Bolt	24.	Nut Seat NG8
6.	Test Connector	25.	Nut Seat Ng12
7.	Sealing Gasket	26.	Plug
8.	Hex Thin Nut	27.	Ebs Axle Modulator Bracket
9.	Sealing Gasket	28.	Hexagon Flange Bolt
10.	O-Ring	29.	Hexagon Flange Bolt
11.	Brake Hose Assy	30.	Brake Bundle Assy
12.	Nut Seat Ng12	31.	Large Washer
13.	Snap Ring Ng12	32.	Hexagon Flange Bolt
14.	Washer Ng12	33.	Brake Signal Transmitter Assy
15.	ABS Solenoid Valve Assy	34.	Brake System Parameter Label
16.	Solenoid Modulator Valve Brakecket	37.	Hexagon Flange Bolt
17.	Hexagon Flange Bolt	44.	Hexagon Flange Bolt

18. Hexagon Flange Lock Nut_All Metal
19. O-Ring
47. Hexagon Flange Bolt
50. Hexagon Flange Bolt



3.	Wire Harness Bracket	28.	Hexagon Flange Bolt
4.	Hexagon Flange Lock Nut_All Metal	47.	Hexagon Flange Bolt
5.	Hexagon Flange Bolt	48.	Ebs Axle Modulator Bracket
12.	Nut Seat Ng12	49.	Ebs Axle Modulator Assy
13.	Snap Ring Ng12	50.	Hexagon Flange Bolt
14.	Washer Ng12	51.	Bundle Fixing Bracket
24.	Nut Seat NG8	52.	Low Pressure Warning Switch
25.	Nut Seat Ng12		

8.15.3 Dismantling and Installation

8.15.3.1 Replacement of Brake Signal Transmitter Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the combination switch upper shield assembly.

5 Remove the combination switch lower shield.

6 Remove the IP left access cover plate assembly.

7 Remove the left switch panel assembly.

8 Remove the left switch panel lower trim panel assembly.

9 Remove the IP left front trim panel assembly.

10 Remove the IP right access cover plate assembly.

11 Remove the right switch panel assembly.

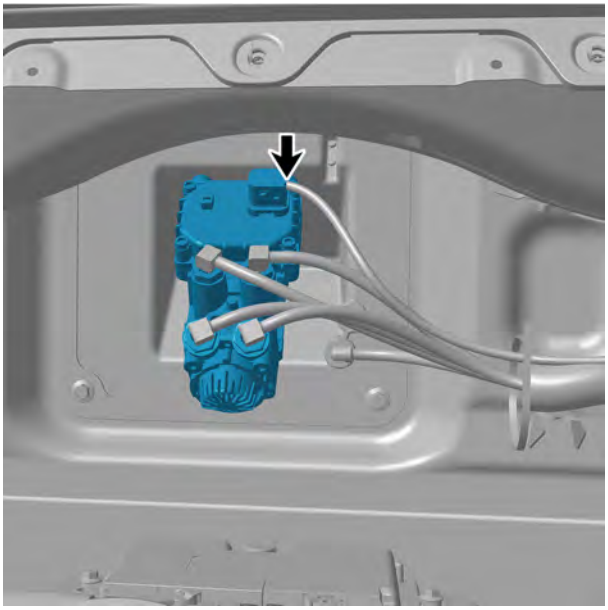
12 Remove the right switch panel lower trim panel assembly.

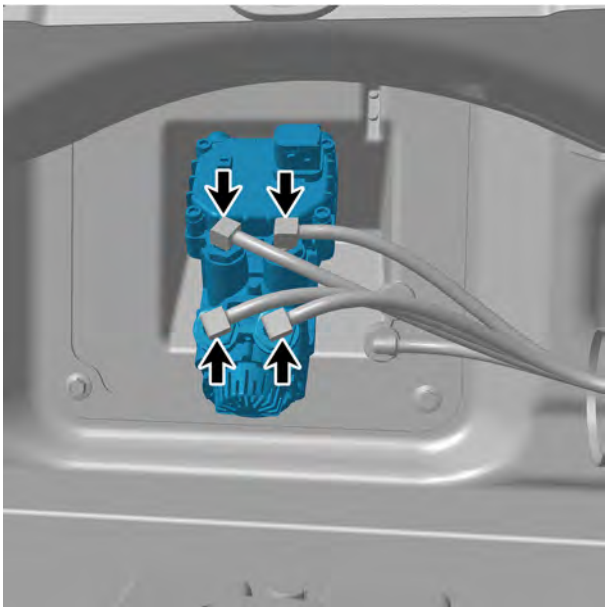
13 Remove the IP right front lower trim panel assembly.

14 Remove the IP right front upper trim panel assembly.

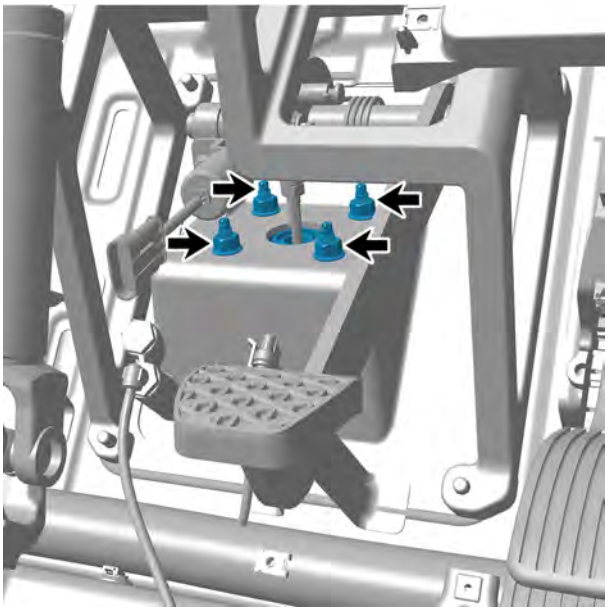
15 Remove the steering column lower shield assembly.

16 Disconnect 1 harness connector of the brake signal transmitter assembly.





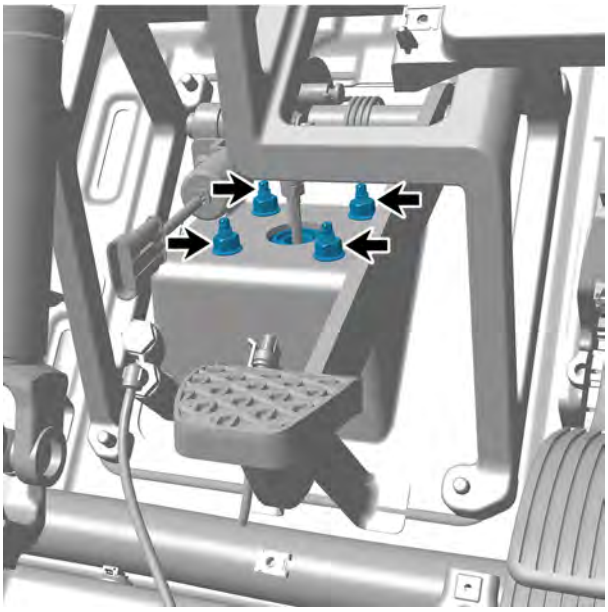
17 Disconnect 4 air pipes of the brake signal transmitter assembly.



18 Remove 4 fixing nuts of the brake signal transmitter assembly.

19 Remove the brake signal transmitter assembly.

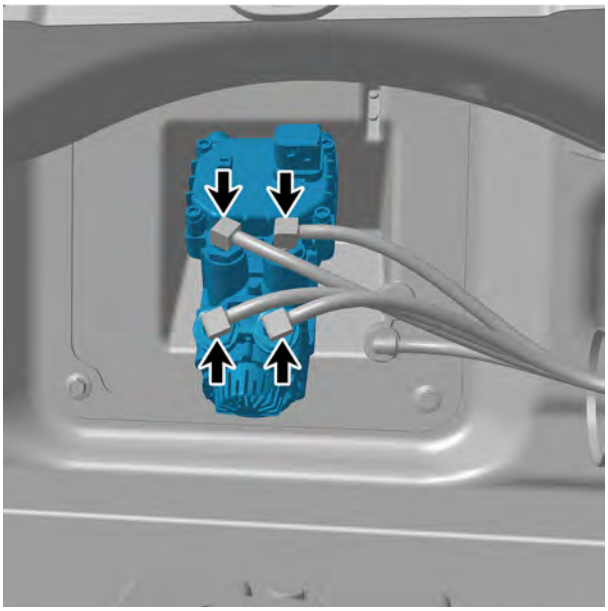
Installation Procedures



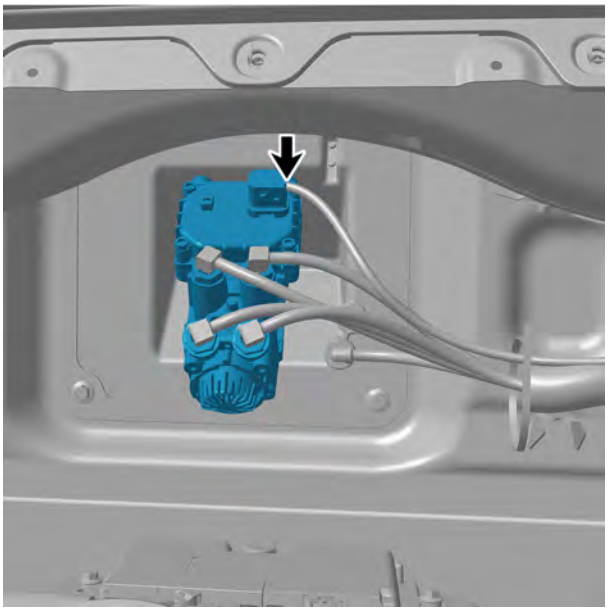
1 Move the brake signal transmitter assembly to the mounting position.

2 Install 4 fixing nuts of the brake signal transmitter assembly.

Torque: 18.5 +/- 2 (ft lbs)



3 Connect 4 air pipes of the brake signal transmitter assembly.



4 Connect 1 harness connector of the brake signal transmitter assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the steering column lower shield assembly.

6 Install the IP right front upper trim panel assembly.

7 Install the IP right front lower trim panel assembly.

8 Install the right switch panel lower trim panel assembly.

9 Install the right switch panel assembly.

10 Install the IP right access cover plate assembly.

11 Install the IP left front trim panel assembly.

12 Install the left switch panel lower trim panel assembly.

13 Install the left switch panel assembly.

14 Install the IP left access cover plate assembly.

15 Install the combination switch lower shield.

16 Install the combination switch upper shield assembly.

17 Connect the battery negative cable.

18 Close the front flip cover plate.

19 Close the door.

8.15.3.2 Replacement of ABS Solenoid Valve Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

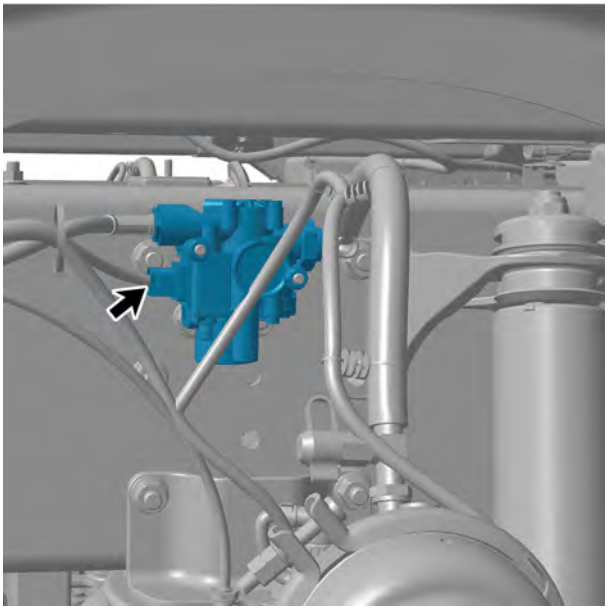
3 Open the front flip cover plate.

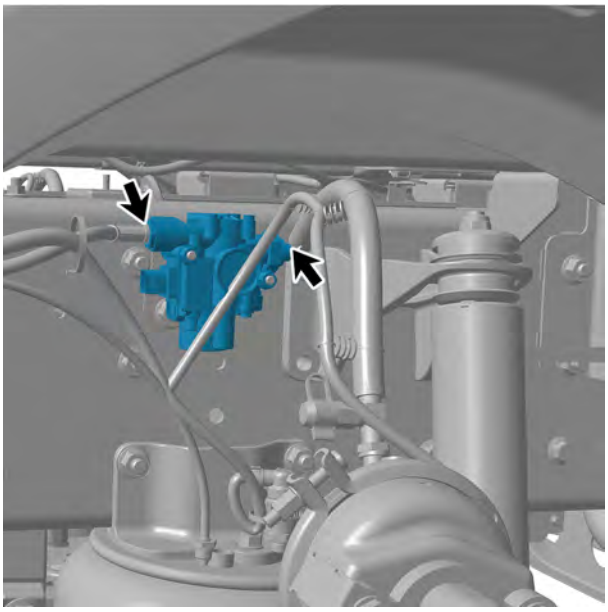
4 Disconnect the battery negative cable.

caution

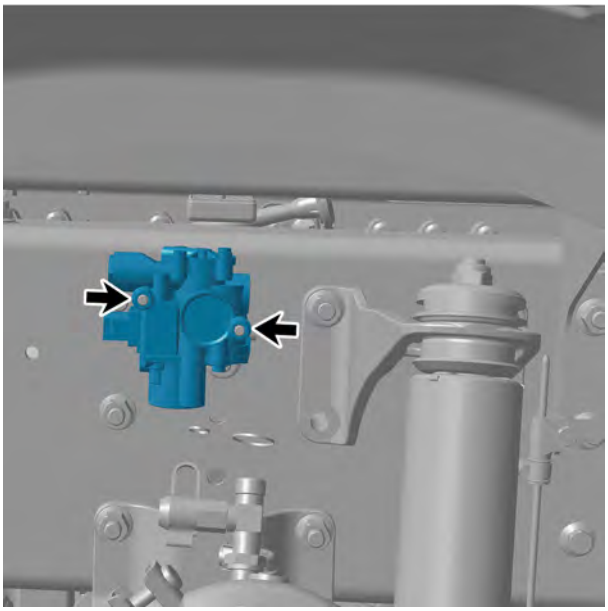
power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Disconnect 1 harness connector of the ABS solenoid valve assembly.





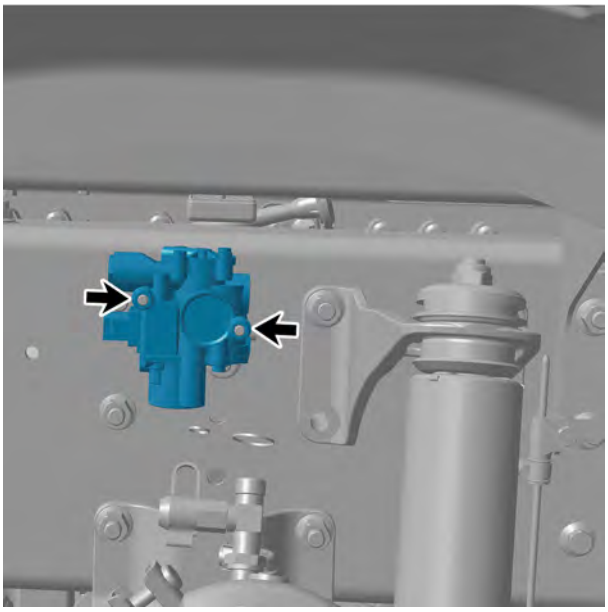
6 Disconnect 2 air pipes of the ABS solenoid valve assembly.



7 Remove 2 fixing nuts of the ABS solenoid valve assembly.

8 Remove the ABS solenoid valve assembly.

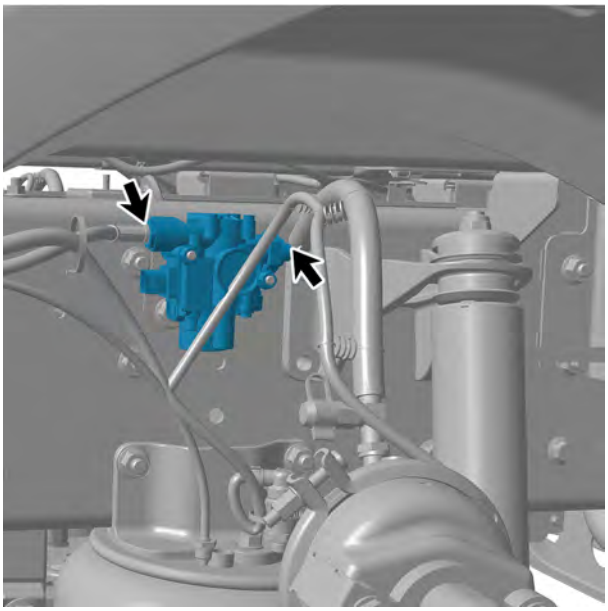
Installation Procedures



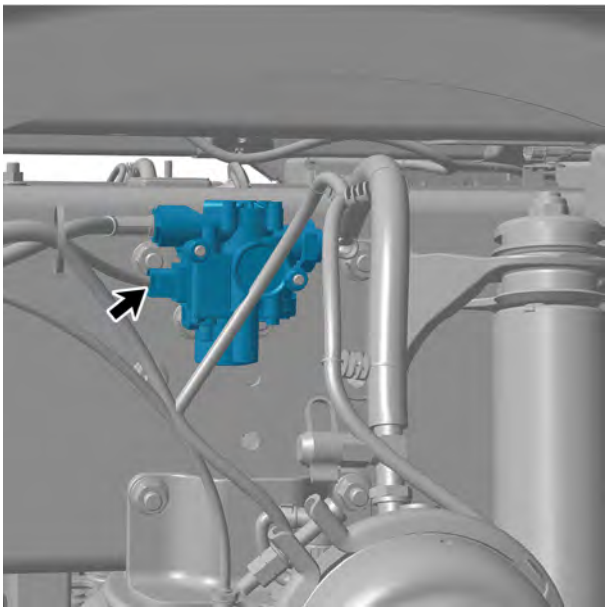
1 Move the ABS solenoid valve assembly to the mounting position.

2 Install 2 fixing nuts of the ABS solenoid valve assembly.

Torque: 44 +/- 3.5 (ft lbs)



3 Connect 2 air pipes of the ABS solenoid valve assembly.



4 Connect 1 harness connector of the ABS solenoid valve assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Connect the battery negative cable.

6 Close the front flip cover plate.

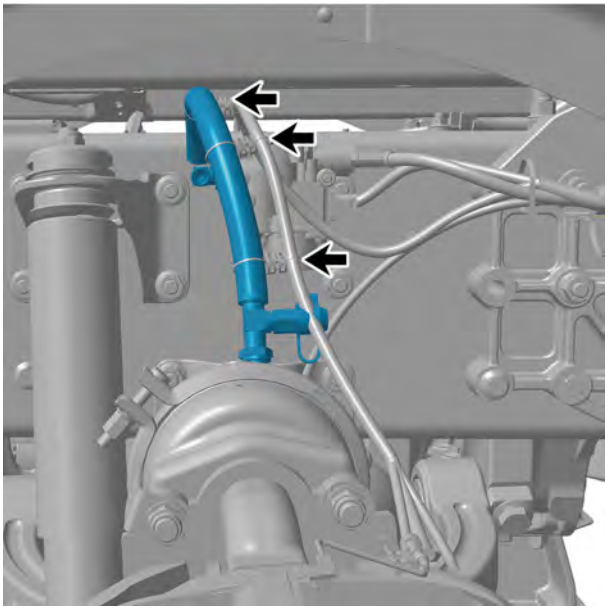
7 Close the door.

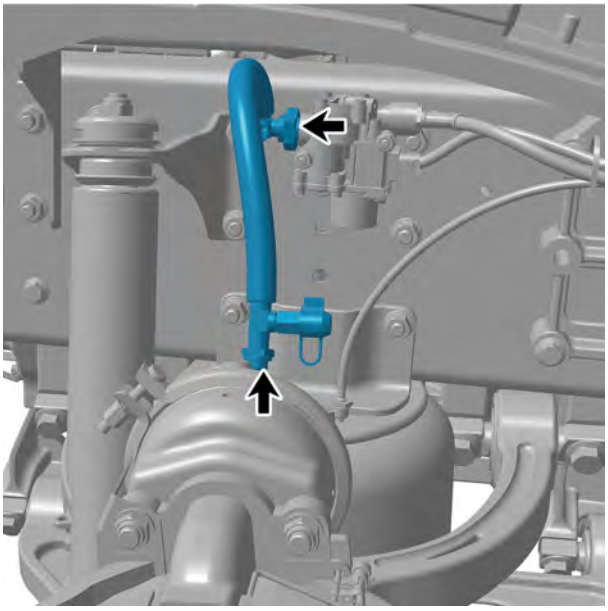
8.15.3.3 Replacement of Brake Hose Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Disconnect 3 harness straps of the brake hose assembly.

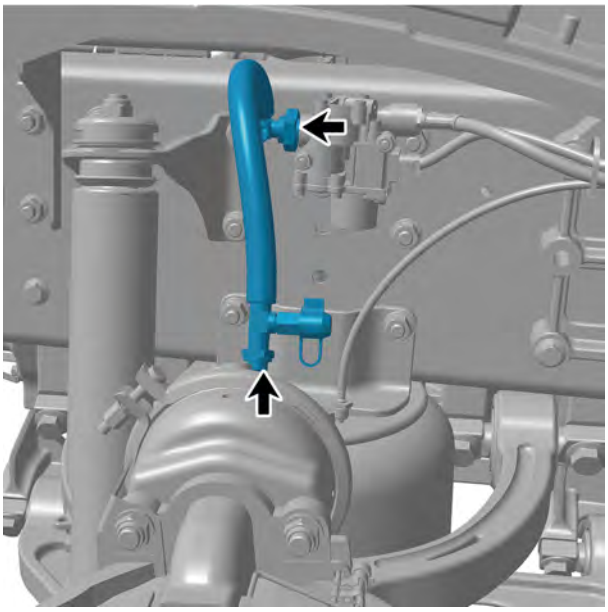




3 Remove 2 joints of the brake hose assembly.

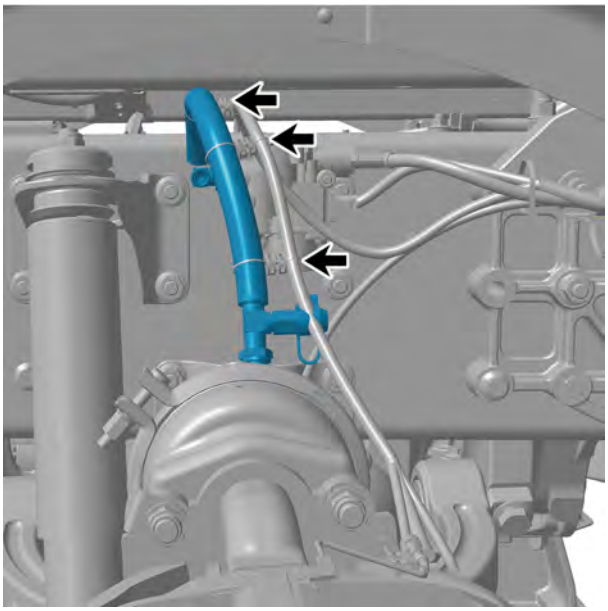
4 Remove the brake hose assembly.

Installation Procedures



1 Move the brake hose assembly to the mounting position.

2 Install 2 joints of the brake hose assembly.



3 Connect 3 harness straps of the brake hose assembly.

8.15.3.4 Replacement of Single Channel Module Assembly

Removal Procedures

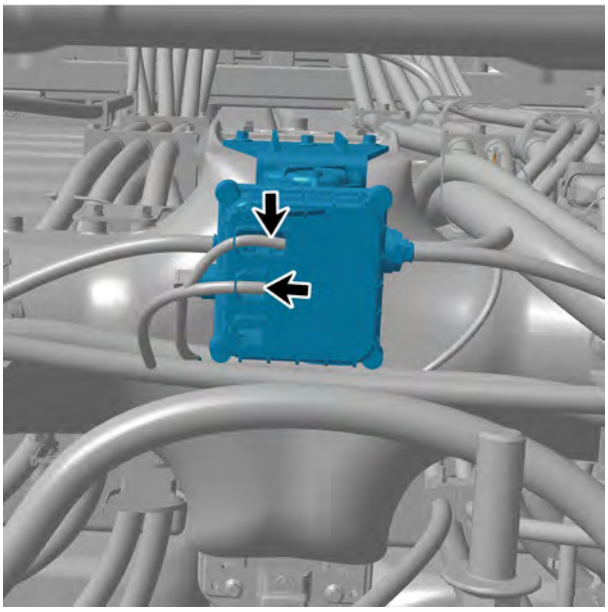
1 Release air pressure from the brake system.

2 Open the door.

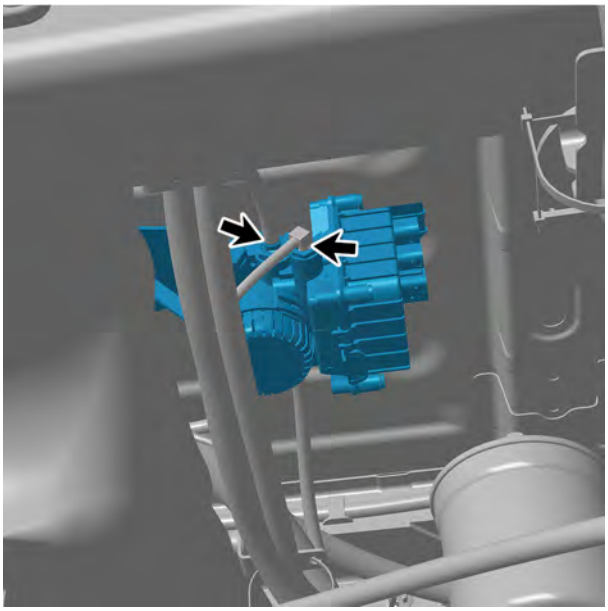
3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

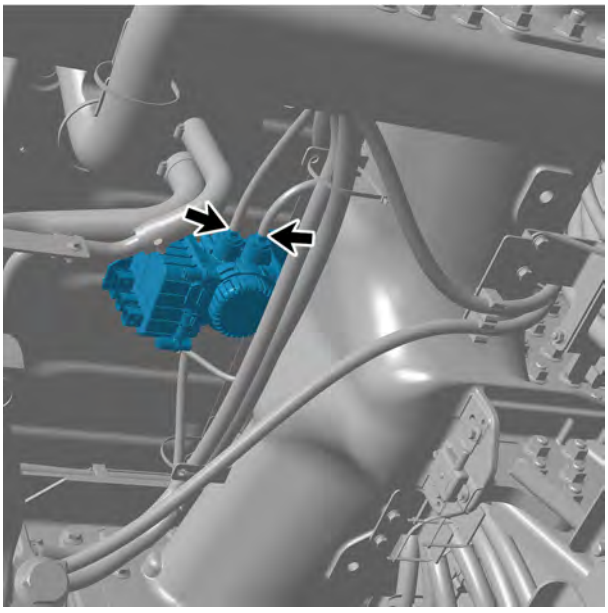
5 Remove the single channel module assembly with bracket.

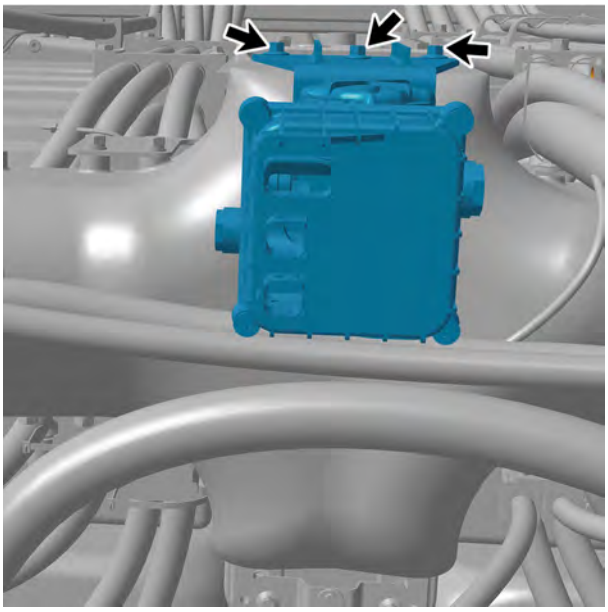


6 Disconnect 2 harness connectors of the single channel module assembly.



7 Disconnect 4 air pipes of the single channel module assembly.

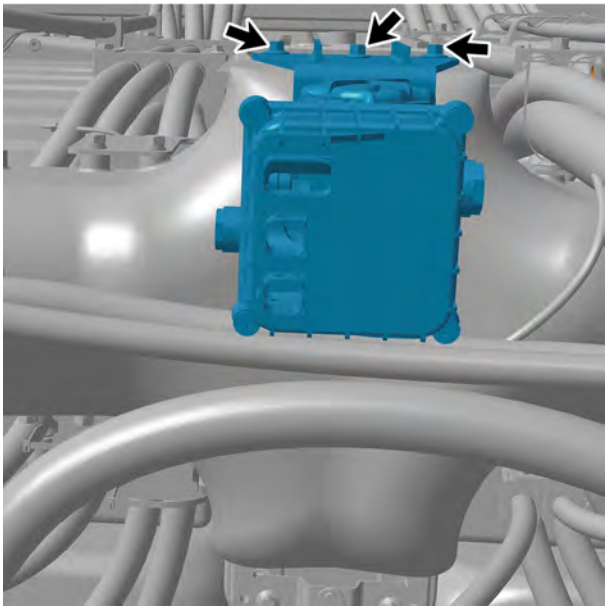




8 Remove 3 fixing bolts of the single channel module assembly.

9 Remove the single channel module assembly.

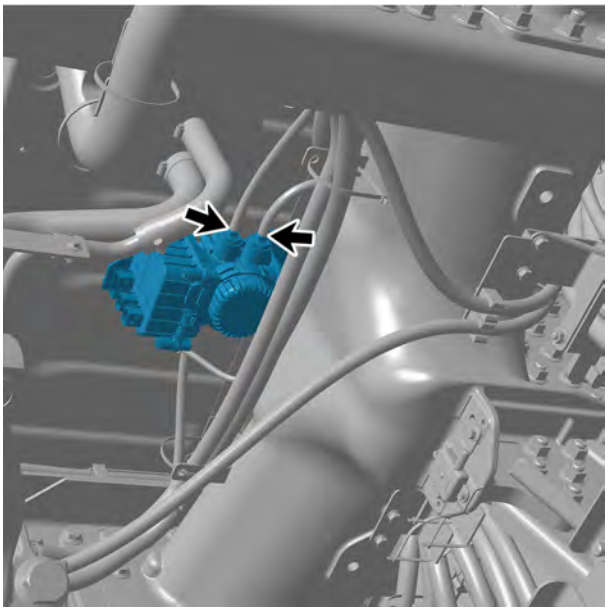
Installation Procedures

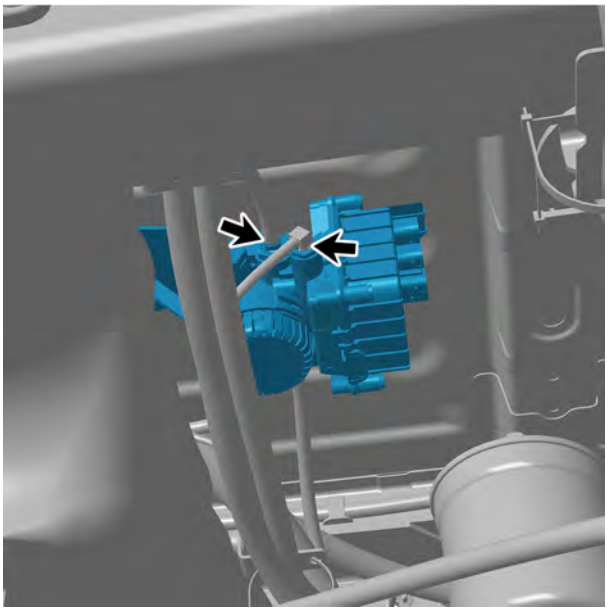


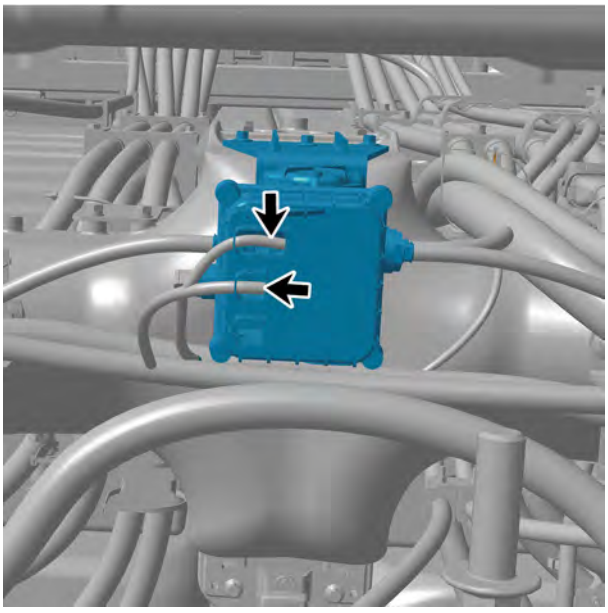
1 Move the single channel module assembly to the mounting position.

2 Install 3 fixing bolts of the single channel module assembly.

Torque:18.5 +/- 2 (ft lbs)







3 Connect 4 air pipes of the single channel module assembly.

4 Connect 2 harness connectors of the single channel module assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the single channel module assembly with bracket.

6 Connect the battery negative cable.

7 Close the front flip cover plate.

8 Close the door.

8.15.3.5 Replacement of Trailer Control Module Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

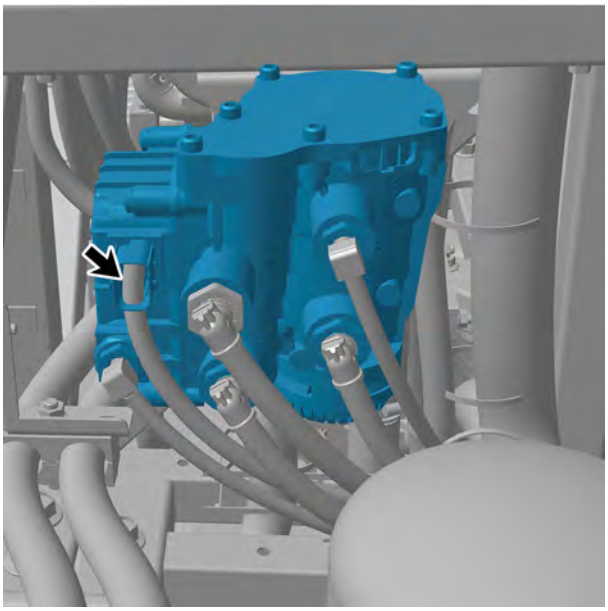
power down the high-voltage system before disconnecting the negative pole of the storage battery.

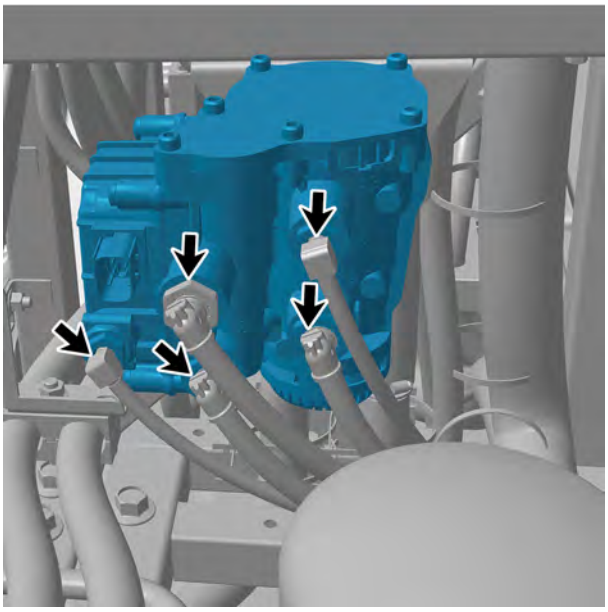
5 Remove the back integrated bracket side cover plate assembly (left).

6 Remove the back integrated bracket side cover plate assembly (right).

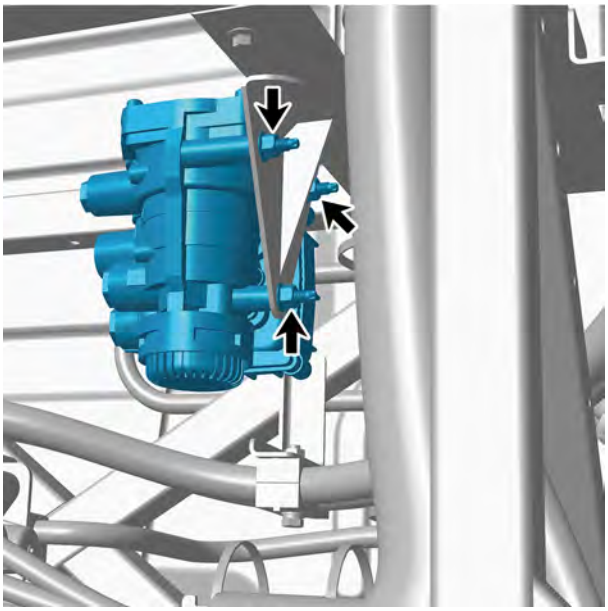
7 Remove the back integrated bracket middle cover plate assembly.

8 Disconnect 1 harness connector of the trailer control module assembly.





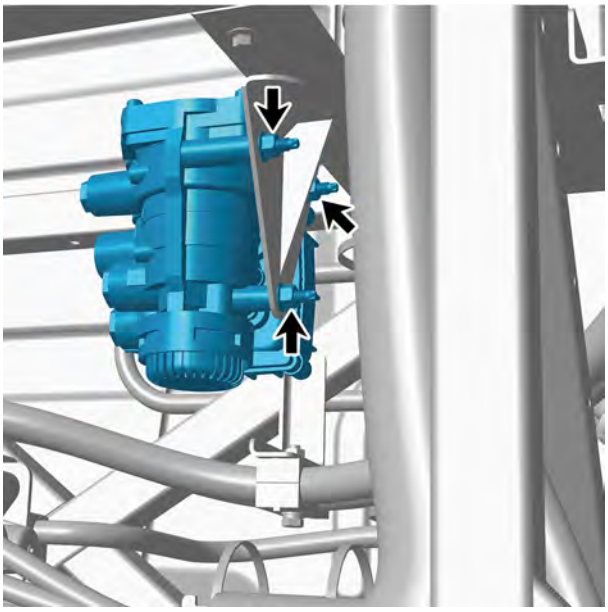
9 Disconnect 5 air pipes of the trailer control module assembly.



10 Remove 3 fixing nuts of the trailer control module assembly.

11 Remove the trailer control module assembly.

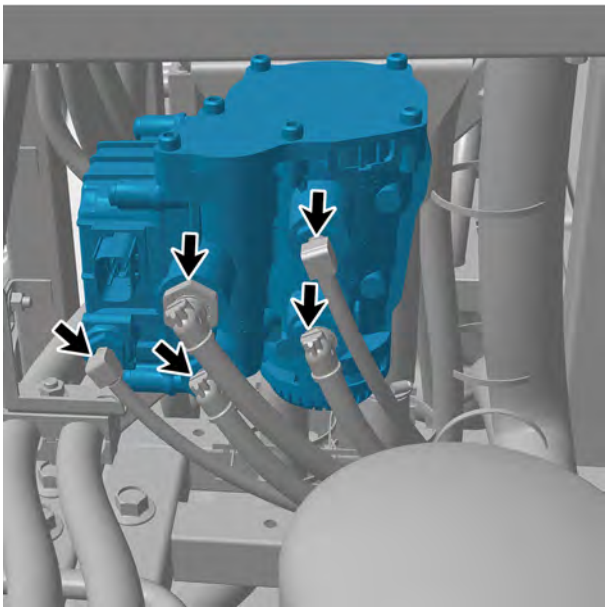
Installation Procedures



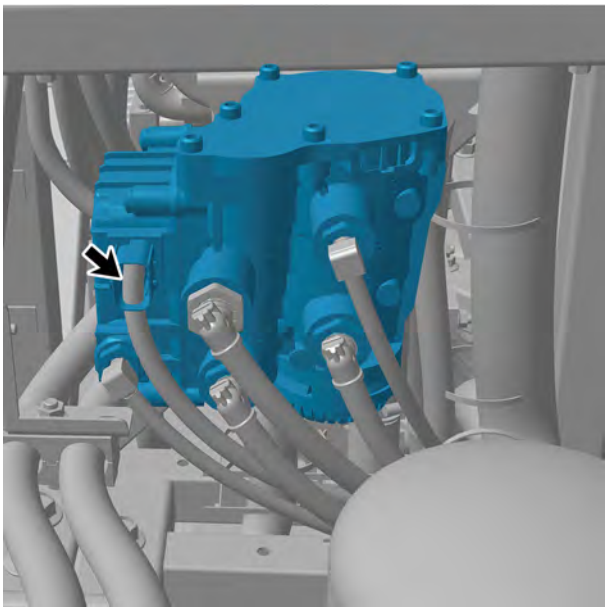
1 Move the trailer control module assembly to the mounting position.

2 Install 3 fixing nuts of the trailer control module assembly.

Torque: 103 +/- 7.5 (ft lbs)



3 Connect 5 air pipes of the trailer control module assembly.



4 Connect 1 harness connector of the trailer control module assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the back integrated bracket middle cover plate assembly.

6 Install the back integrated bracket side cover plate assembly (right).

7 Install the back integrated bracket side cover plate assembly (left).

8 Connect the battery negative cable.

9 Close the front flip cover plate.

10 Close the door.

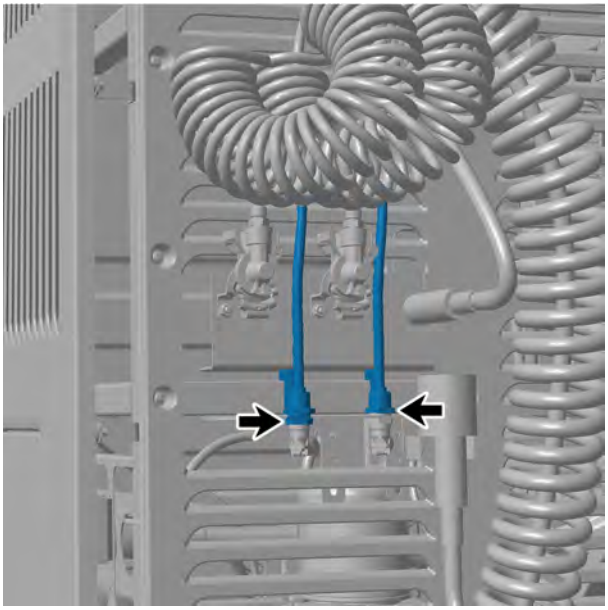
8.15.3.6 Replacement of Brake Spiral Tube Assembly

Removal Procedures

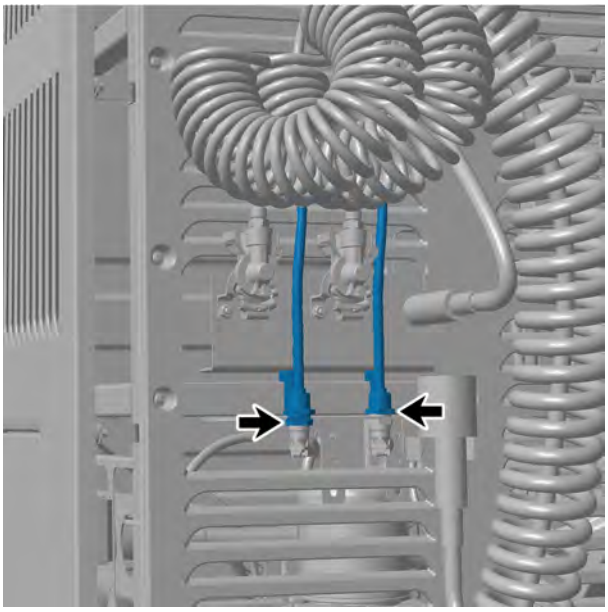
1 Release air pressure from the brake system.

2 Disconnect 2 air pipes of the brake spiral tube assembly.

3 Remove the brake spiral tube assembly.



Installation Procedures

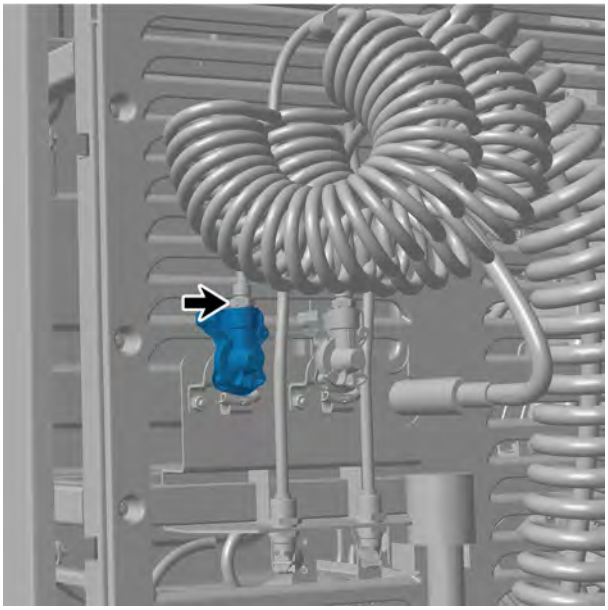


1 Move the brake spiral tube assembly to the mounting position.

2 Connect 2 air pipes of the brake spiral tube assembly.

8.15.3.7 Replacement of Trailer Connector Assembly

Removal Procedures

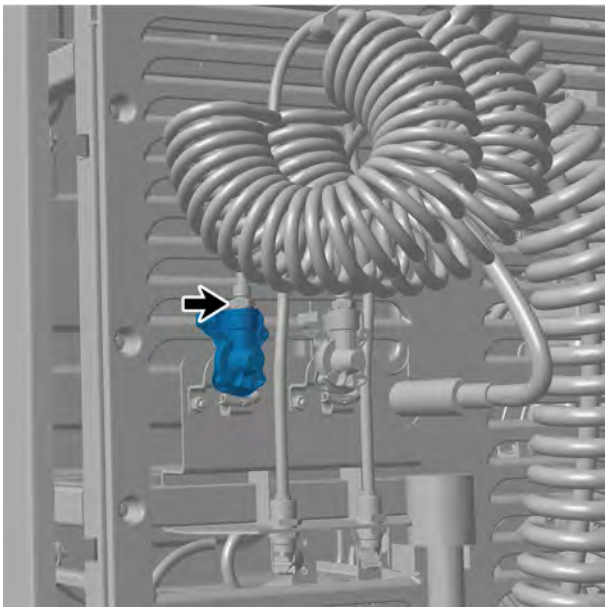


1 Release air pressure from the brake system.

2 Disconnect 1 air pipe of the trailer connector assembly.

3 Remove the trailer connector assembly.

Installation Procedures

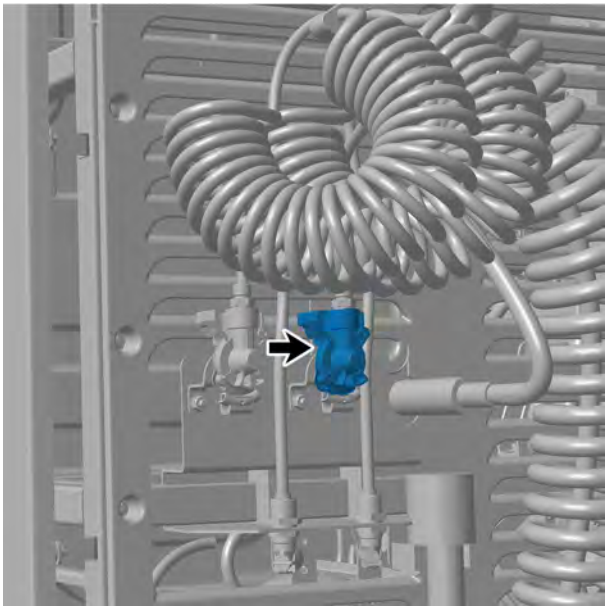


1 Move the trailer connector assembly to the mounting position.

2 Connect 1 air pipe of the trailer connector assembly.

8.15.3.8 Replacement of Trailer Connector Assembly (control)

Removal Procedures

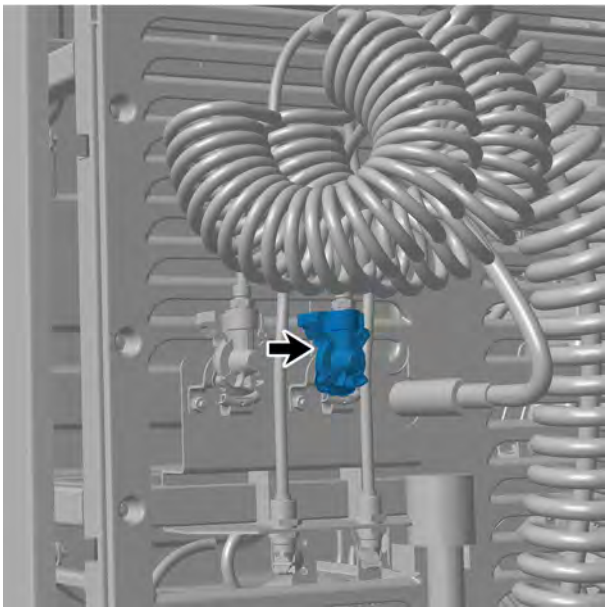


1 Release air pressure from the brake system.

2 Disconnect 1 air pipe of the trailer connector assembly (control).

3 Remove the trailer connector assembly (control).

Installation Procedures



1 Move the trailer connector assembly (control) to the mounting position.

2 Connect 1 air pipe of the trailer connector assembly (control).

8.15.3.9 Replacement of Dual Channel Module Assembly

Removal Procedures

1 Release air pressure from the brake system.

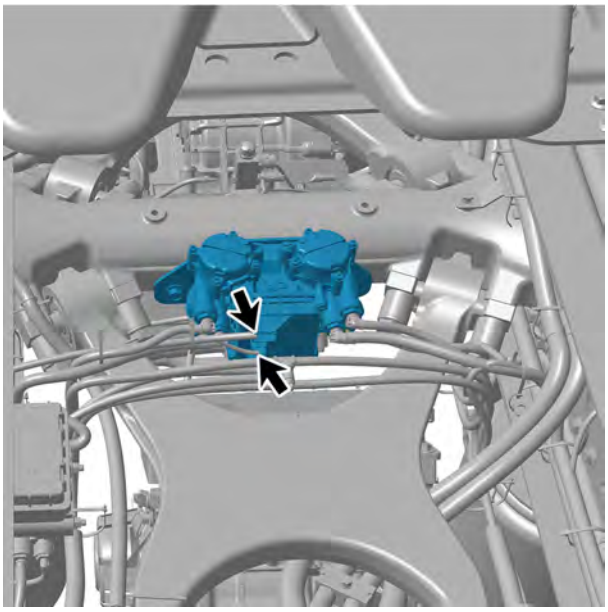
2 Open the door.

3 Open the front flip cover plate.

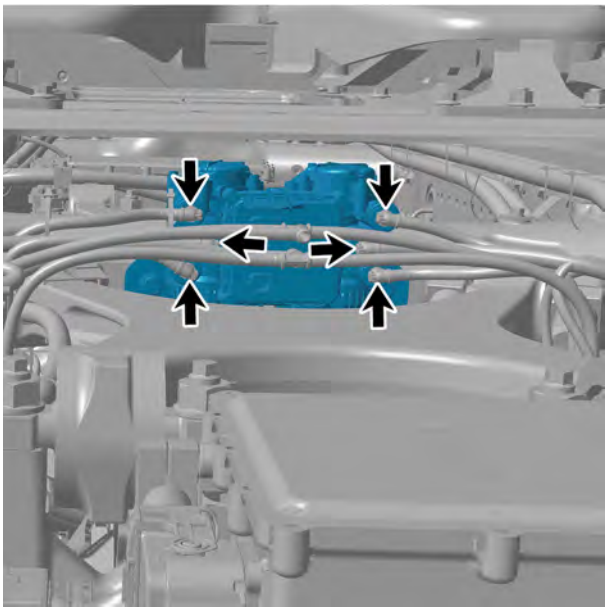
4 Disconnect the battery negative cable.

caution

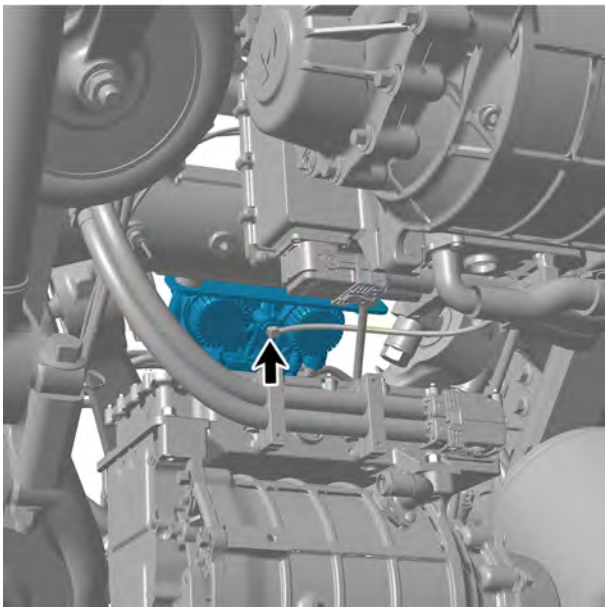
power down the high-voltage system before disconnecting the negative pole of the storage battery.

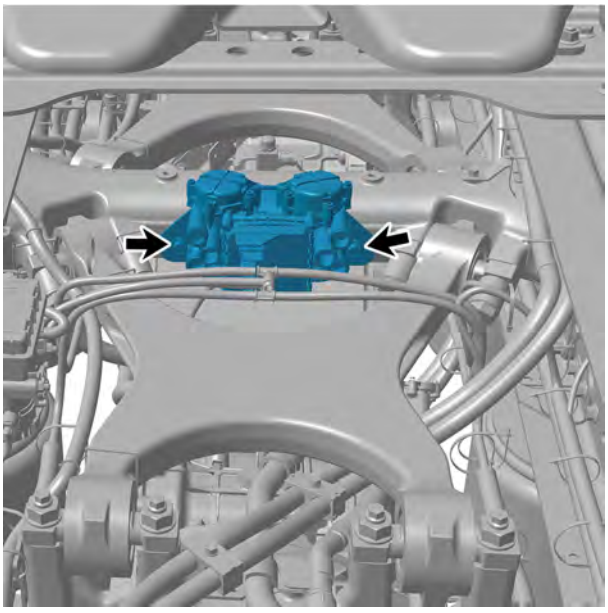


5 Disconnect 2 harness connectors of the dual channel module assembly.



6 Disconnect 7 air pipes of the dual channel module assembly.

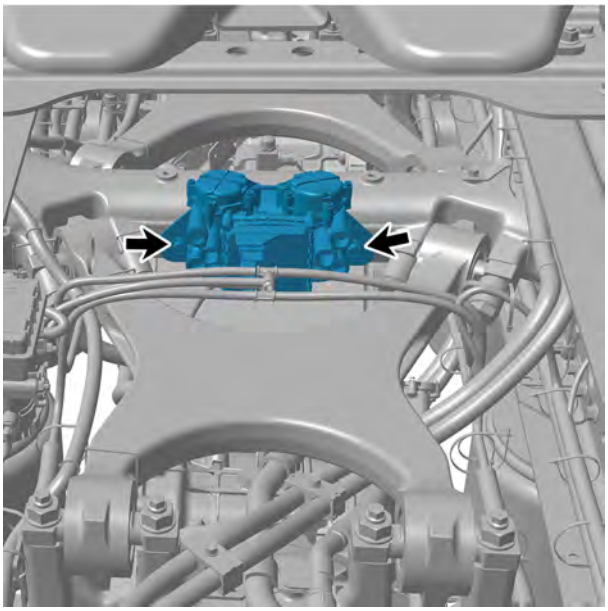




7 Remove 2 fixing bolts of the dual channel module assembly.

8 Remove the dual channel module assembly.

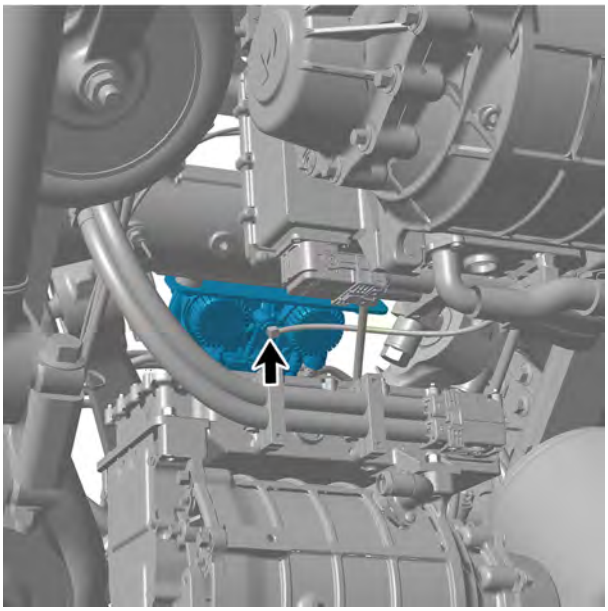
Installation Procedures



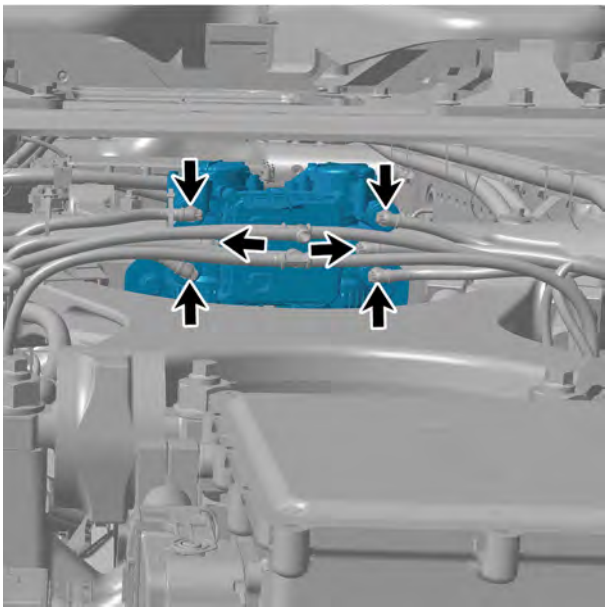
1 Move the dual channel module assembly to the mounting position.

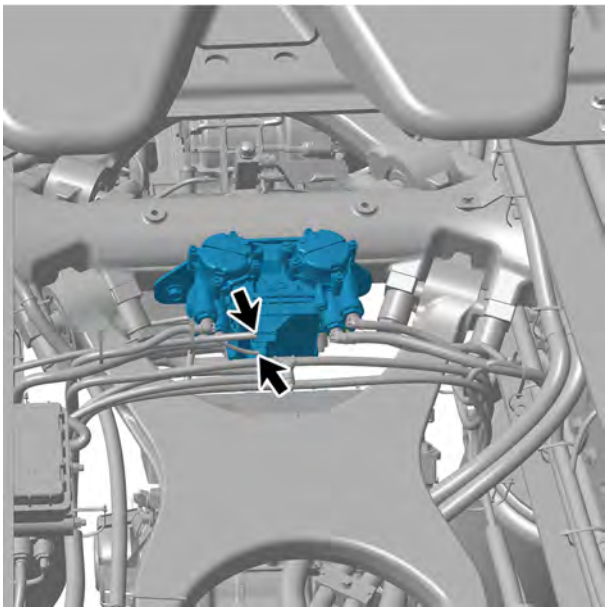
2 Install 2 fixing bolts of the dual channel module assembly.

Torque: 70 +/- 3.5 (ft lbs)



3 Connect 7 air pipes of the dual channel module assembly.





4 Connect 2 harness connectors of the dual channel module assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

8.15.3.10 Replacement of Low Pressure Alarm Switch

Removal Procedures

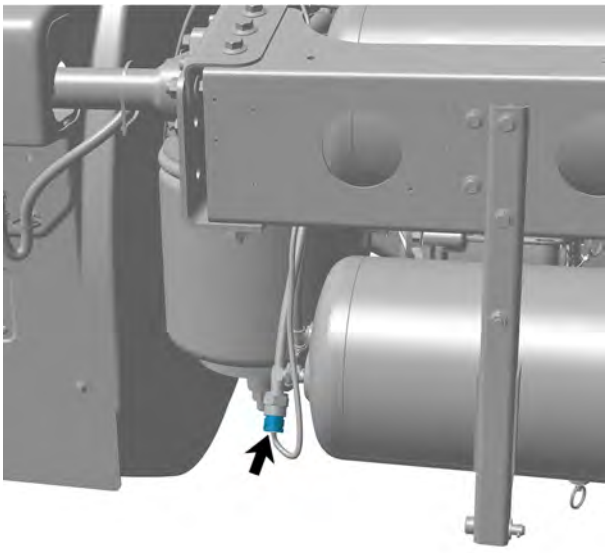
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

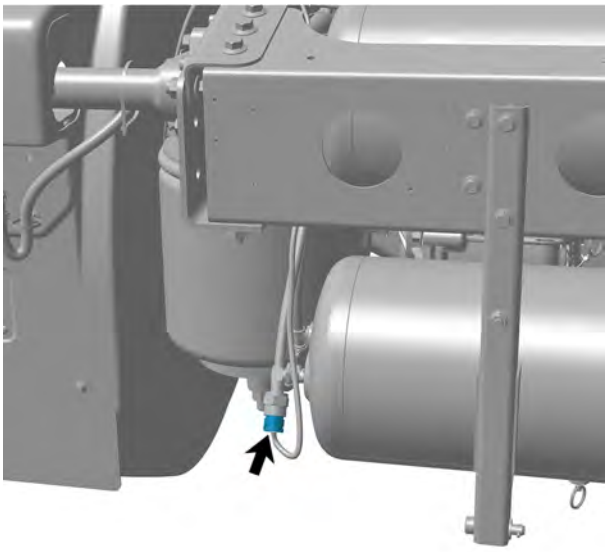
power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Disconnect 1 harness connector of the low pressure alarm switch.

5 Remove the low pressure alarm switch.

Installation Procedures



1 Move the low pressure alarm switch to the mounting position.

2 Connect 1 harness connector of the low pressure alarm switch.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Connect the battery negative cable.

4 Close the front flip cover plate.

5 Close the door.

8.15.3.11 Replacement of Pressure Sensor

Removal Procedures

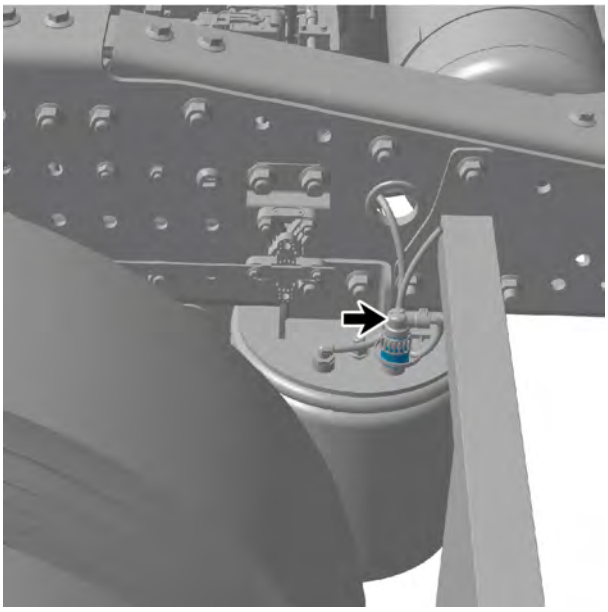
1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

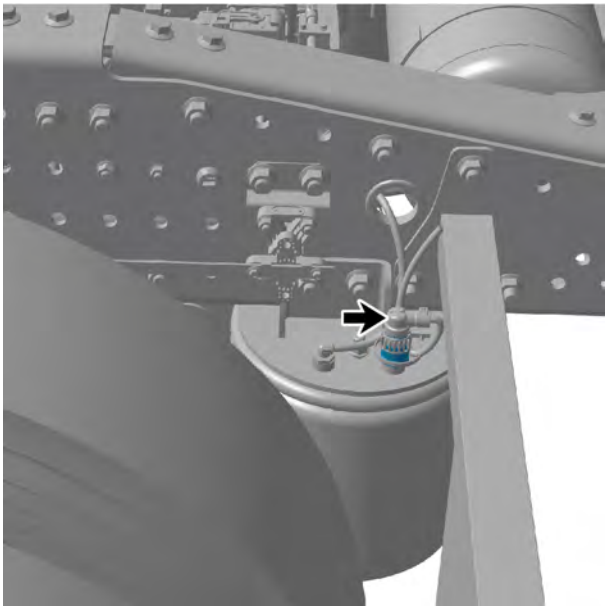
power down the high-voltage system before disconnecting the negative pole of the storage battery.



4 Disconnect 1 harness connector of the pressure sensor.

5 Remove the pressure sensor.

Installation Procedures



1 Move the pressure sensor to the mounting position.

2 Connect 1 harness connector of the pressure sensor.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

3 Connect the battery negative cable.

4 Close the front flip cover plate.

5 Close the door.

8.16 Parking Brake Control Device

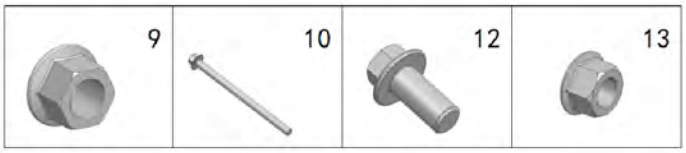
8.16.1 Specifications

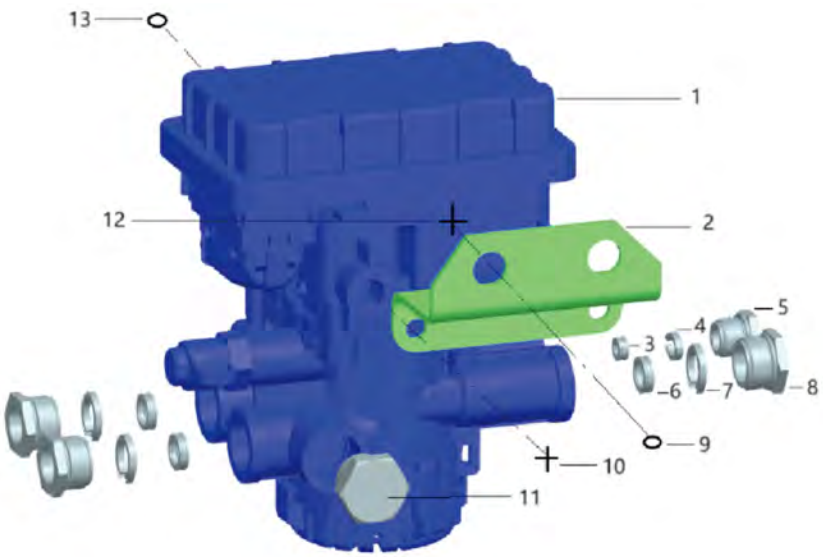
8.16.1.1 Fastener Specifications

Fastener Specifications	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the parking solenoid valve assembly and the frame assembly	M14	103 +/- 7.5 (ft lbs)
The fixing bolt connecting the parking solenoid valve assembly and the parking solenoid valve bracket	M8	18.5 +/- 2 (ft lbs)
NG8 nut seat on the interface of the parking solenoid valve assembly	M16	7.5 - 12 (ft lbs)
NG12 nut seat on the interface of the parking solenoid valve assembly	M22	7.5 - 12 (ft lbs)

8.16.2 Decomposition Diagram

8.16.2.1 Decomposition Diagram



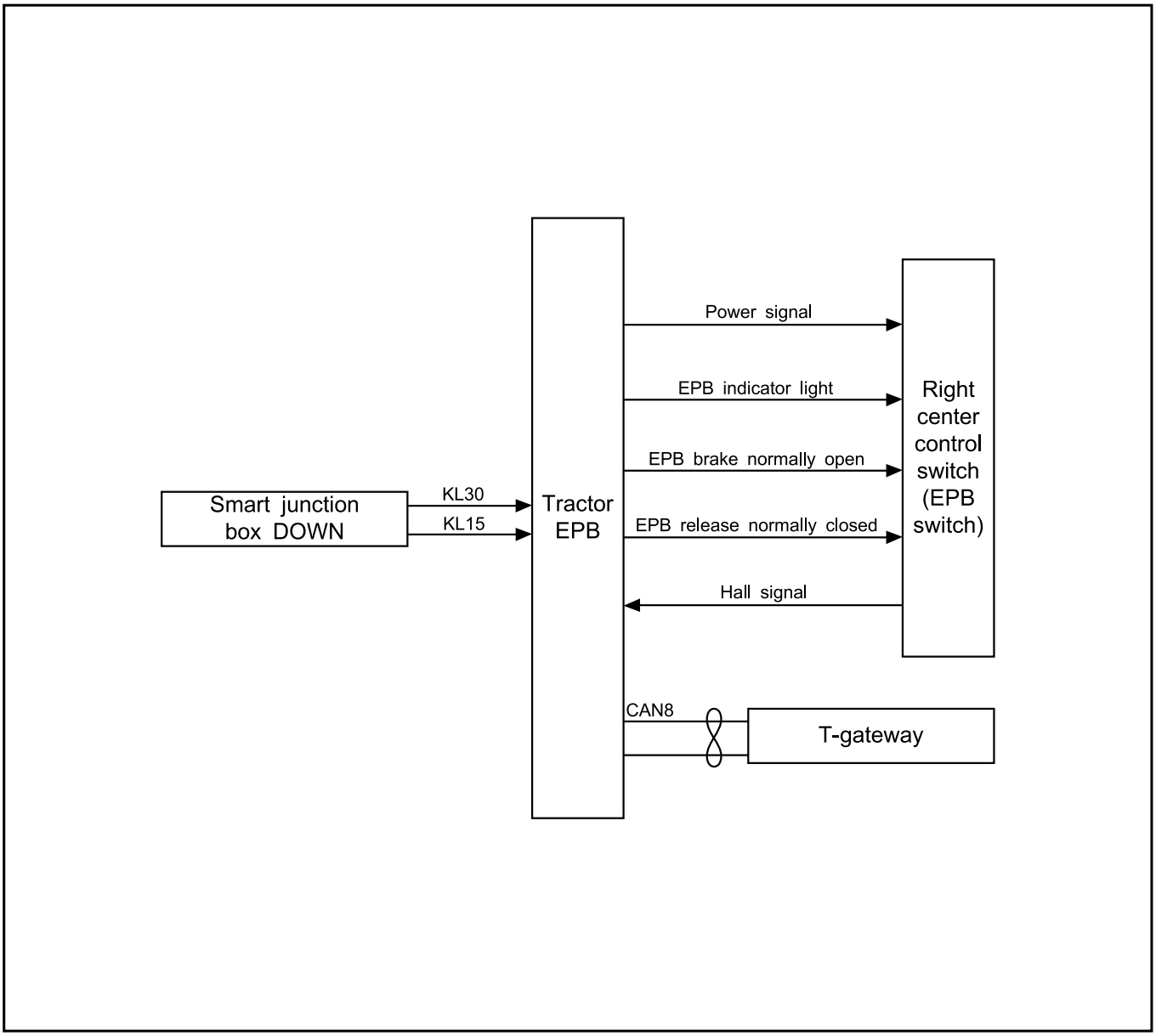


1. Parking Solenoid Valve Assy
2. Parking Solenoid Valve Bracket
3. Washer Ng8
4. Snap Ring NG8
5. Nut seat NG8
6. Washer Ng12
7. Snap Ring Ng12
8. Nut Seat Ng12
9. Hexagon Flange Lock Nut_All Metal
10. Hexagon Flange Bolt
11. Plug
12. Hexagon Flange Bolt
13. Hexagon Flange Lock Nut_All Metal

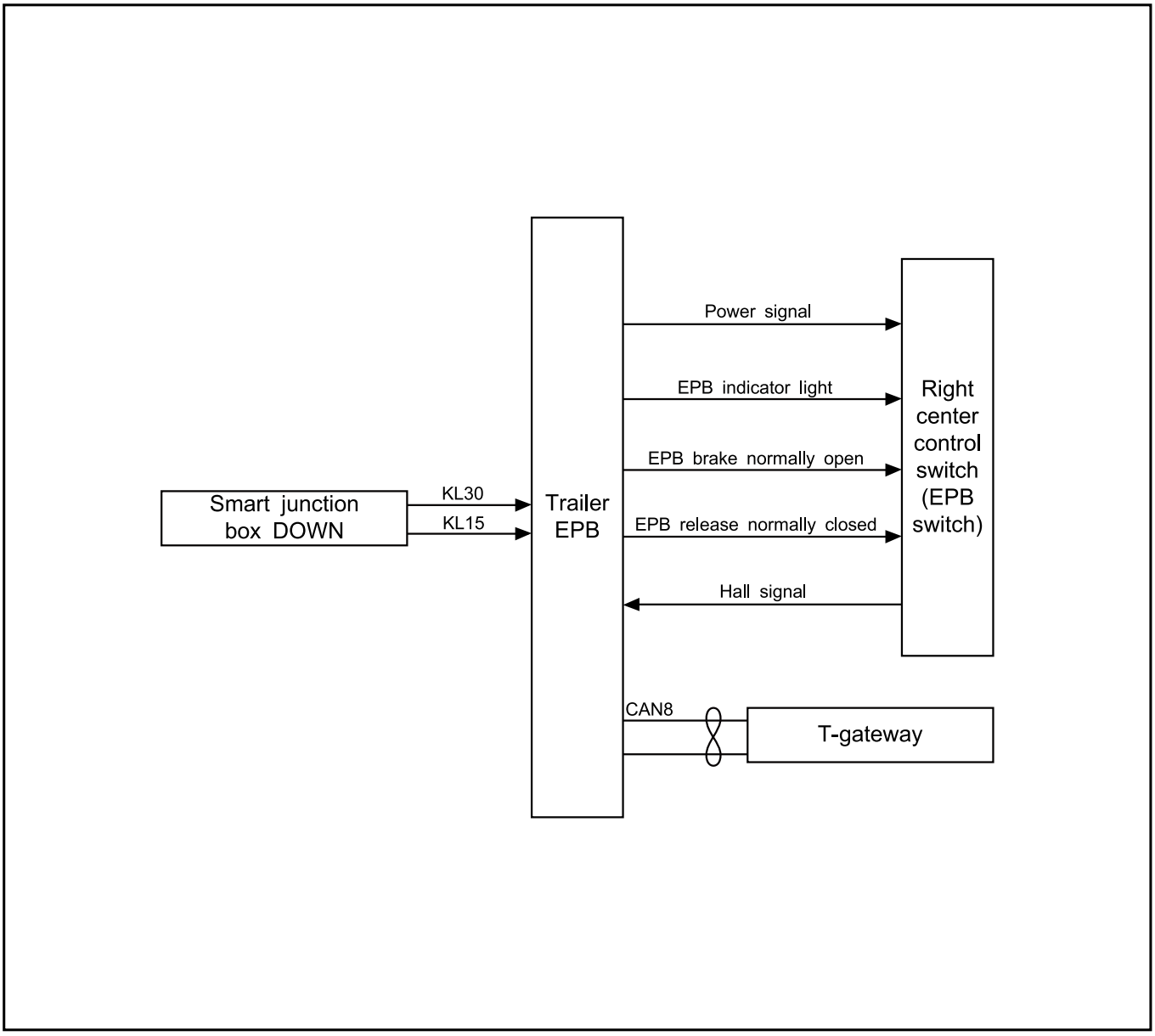
8.16.3 System Schematic Diagram

8.16.3.1 Electrical Schematic Diagram

Tractor EPB



Trailer EPB


Smart junction box DOWN
KL30
KL15
Trailer EPB
Power signal
EPB indicator light
EPB brake normally open
EPB release normally closed
Hall signal
Right center control switch (EPB switch)
CAN8
T-gateway

8.16.4 Diagnostic Information and Steps

8.16.4.1 Diagnostic Description

Before diagnosing the malfunction of the parking brake control device, it is important to understand and familiarize oneself with the working principle of the parking brake control device before starting the system diagnosis. This will help determine the correct fault diagnosis steps in the event of a malfunction, and more importantly, it will help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of the parking brake control device should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

8.16.4.2 Routine Inspection

- Check for aftermarket devices that may affect the operation of the parking brake control system, ensuring that these devices do not affect the operation of the parking brake control system.
- Check system components that are easily accessible or visible to ensure that there is no obvious damage or potential malfunction.

8.16.4.3 List Of Diagnostic Trouble Codes (SPN, FMI)

EPB

SPN,FMI	Fault Description	Exclusion Method
13138,3	ON power supply voltage is too high (greater than 32V)	Refer to EPB Power Fault
13138,4	ON supply voltage is too low (less than 16V)	
13138,5	The EPB module assembly valve is powered off (normally powered)	
15186,3	The main valve voltage is higher than 32V	
15186,4	The main valve voltage is lower than 16V	
15186,5	The main valve is disconnected	
13650,5	The standby valve is disconnected	
14418,3	ON the power supply is too high	
14418,4	ON power The power supply is too low	
13650,3	The power supply to the standby valve is too high	
13650,4	The power supply to the standby valve is too low	
193,9	CAN packets are lost or delayed. Procedure	Refer to EPB Communication Fault
4289,5	The CAN cable is disconnected	
22465,19	The whole car CAN Busoff	
19393,9	The AutoDrive_ADCU message is lost	
19393,19	The AutoDrive_ADCU check error	
19393,8	AutoDrive_ADCU Counter error	
19649,9	The AutoDrive_rADCU message is lost	

SPN,FMI	Fault Description	Exclusion Method
19649,19	The AutoDrive_rADCU check error	
19649,8	AutoDrive_rADCU Counter error	
19137,9	EPBC1_ADCU is lost	
19137,19	EPBC1_ADCU check error	
19137,8	EPBC1_ADCU Counter is incorrect	
20161,9	EPBC1_rADCU is lost	
20161,19	EPBC1_rADCU check error	
20161,8	EPBC1_rADCU Counter is incorrect	
15811,9	Clutch signal is lost	
20417,2	The clutch signal is invalid	
22721,19	Redundant CANbusoff	
195,9	Packets required by EPB in the redundant can are lost Procedure	
14674,11	The EPB module assembly valve body is faulty	Refer to EPB Internal Fault
13906,3	The trailer independent brake solenoid valve shorted the power supply	
13906,6	Trailer independent brake solenoid valve short circuit to the ground	
13906,5	Trailer independent brake solenoid valve disconnected	
23122,4	The output of the parking pressure sensor is abnormal	
23122,3	The output of the parking pressure sensor is abnormal	
135250,2	Tilt sensor fault	
16722,3	The parking solenoid is short circuiting the power supply	
16722,6	Parking solenoid to ground short circuit	
16722,5	Parking solenoid valve disconnected	
16978,3	Release solenoid valve short circuit to power supply	
16978,6	Release solenoid valve to ground short circuit	
16978,5	Release solenoid valve disconnected	
17234,3	The trailer detects the short circuit of the solenoid valve to the power supply	
17234,6	Trailer detects short circuit of solenoid valve to ground	

SPN,FMI	Fault Description	Exclusion Method
17234,5	Trailer detection solenoid valve disconnected	
21330,25	The ECU failed to read the memory	
21330,24	The ECU write memory is faulty. Procedure	
12882,4	Main valve electric relay cannot drive output	
12626,4	Backup valve electrical relay cannot drive output	
12882,3	Main valve electric relay cannot cut off output	
12626,3	The backup valve electrical relay cannot cut off the output	
34898,11	The EPB system is seriously faulty	
14418,11	The EPB switch is faulty. Procedure	Refer to Right Central Control Switch - Electronic Parking Switch Fault
17794,3	The release end of the switch is short circuited	
17794,6	The release end of the switch is short circuited to the ground	
17794,5	The switch release end is disconnected	
18050,3	Switch parking terminal electrical short circuit	
18050,6	Switch parking terminal to ground short circuit	
18050,5	The switch parking terminal is disconnected	
18050,0	The switching linearity is not proportional	
18050,10	Switch card lag	
18050,2	Switch missing	
18306,5	Switch power supply exception	
18562,4	The closing position of the parking switch is abnormal	
18818,3	Relieve abnormal switch closing position	
19074,3	Parking indicator light to electric short circuit	
19330,5	Parking indicator disconnected	
9603,5	Hard line parking light disconnected	
9603,3	Hard parking lights are short circuited	

SPN,FMI	Fault Description	Exclusion Method
9859,5	The redundant hard cable of the parking switch is abnormal	
10115,5	Alleviates redundant switch hard line anomalies	
12995,9	The gear signal is lost	Refer to EPB Reports GSM Related Fault
12993,2	The gear signal is invalid	
13251,9	Throttle signal loss	Refer to EPB Reports VDC Related Fault
13507,9	Torque signal loss	
13763,9	The foot brake signal is missing	
14019,9	Barometric signal loss	
15299,9	HaltBrakeMode signal is lost	
15555,9	The XBR signal is lost	
13249,2	Invalid throttle signal	
13505,2	Torque signal invalid	
13761,2	The foot brake signal is invalid	
14017,2	Barometric failure	
15297,2	The HaltBrakeMode signal is invalid	
15553,2	The XBR signal is invalid	
16323,9	The vehicle ready signal is lost	
16321,2	The vehicle ready signal is invalid	
26450,3	The EBS system cannot respond to XBR requests	Refer to EPB Reports EBS Related Fault
14162,3	The EBS system cannot respond to temporary parking brake requests	
14275,9	Speed signal loss	
14531,9	Speed signal loss	
14787,9	ABS wheel speed report lost	
14273,2	Speed signal invalid	
14529,2	Invalid speed signal	
14785,2	The ABS wheel speed signal is invalid	
8899,10	Abnormal speed jump	
8899,26	Excessive speed error	
12739,9	Loss of seat belt signal	Refer to EPB Reports BDCU Related Fault
15043,9	Ready signal loss	
14737,2	Invalid seat belt sign	
15041,2	Invalid Ready signal	
16067,9	Gate signal loss	Refer to EPB Reports DCM Related Fault
16065,2	Gate signal invalid	

SPN,FMI	Fault Description	Exclusion Method
16579,9	The rear axle running pressure signal is lost	Refer to EPB Reports CDC Related Fault
16577,2	The rear axle running pressure signal is invalid	
19026,1	When the vehicle is braking, there is no air in the brake line	Refer to Parking Pipeline Leakage Fault
19282,0	There is air in the brake line when the vehicle is not braking	
19538,10	The brake line is leaking	
18770,7	Parking system inflation time out	
22866,7	Parking system exhaust time out	
19539,10	Parking pipe leakage rate is too large	
19027,1	Parking status The parking pressure is too high	Refer to Abnormal Pressure In The Parking Pipeline
19283,0	Running status Parking pressure is too low	
29009,6	The left sensor is short-circuited to the ground	Refer to Left ABS Sensor Fault
29009,3	The sensor on the left is short-circuited	
29009,5	The left sensor is disconnected. Procedure	
29009,7	Missing tooth on left sensor	
29009,1	The sensor gap on the left is too large	
33105,6	The right sensor is short-circuited to the ground	Refer to Right ABS Sensor Fault
33105,3	The right sensor is short circuited Procedure	
33105,5	The right sensor is disconnected Procedure	
33105,7	Missing tooth on right sensor	
33105,1	The sensor gap on the right is too large	

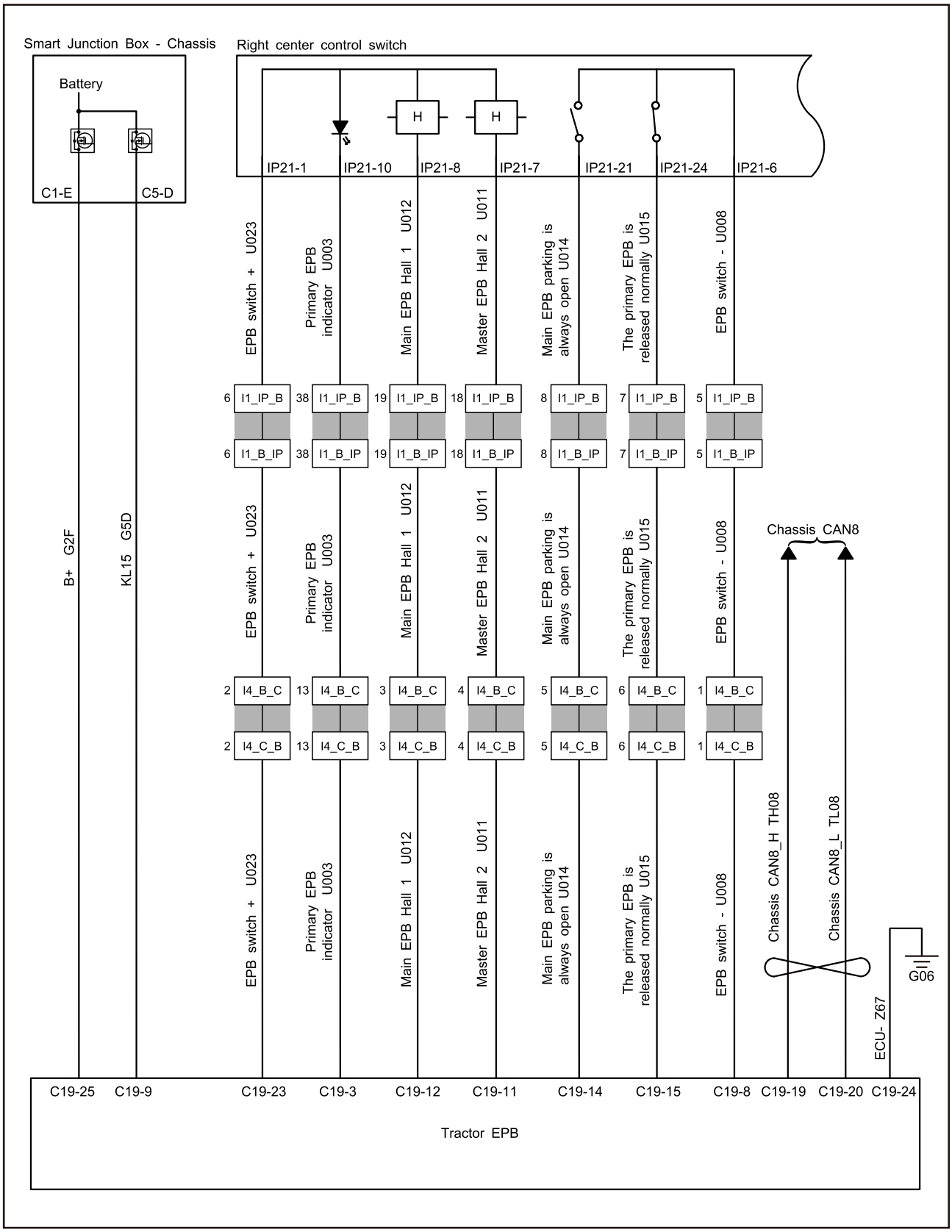
8.16.4.4 EPB Power Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
13138,3	ON power supply voltage is too high (greater than 32V)	The voltage of pin 25 on the controller is higher than 32V for more than 5 seconds	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.Tractor EPB
13138,4	ON supply voltage is too low (less than 16V)	The voltage of pin 25 at the controller end is lower than 16V for more than 5 seconds	

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
13138,5	The EPB module assembly valve is powered off (normally powered)	Pin 25 on the controller does not detect the voltage for more than 1 second	
15186,3	The main valve voltage is higher than 32V	The input voltage of pin 25 at the controller end is higher than 32V for more than 5 seconds	
15186,4	The main valve voltage is lower than 16V	The input voltage of pin 25 at the controller end is lower than 16V for more than 5 seconds	
15186,5	The main valve is disconnected	Pin 25 on the controller does not detect voltage for more than 1 second	
13650,5	The standby valve is disconnected	Pin 9 on the controller does not detect voltage for more than 1 second	
14418,3	ON the power supply is too high	The input voltage of pin 10 at the controller end is higher than 32V for more than 5 seconds	
14418,4	ON power The power supply is too low	The input voltage of pin 10 at the controller end is less than 16V for more than 5 seconds	
13650,3	The power supply to the standby valve is too high	The input voltage of pin 9 at the controller end is higher than 32V for more than 5 seconds	
13650,4	The power supply to the standby valve is too low	The input voltage of pin 9 at the controller end is lower than 16V for more than 5 seconds	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check if there are any other module power fault codes besides Tractor EPB?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Malfunction

– No: Next step

Step 4:Check the Tractor EPB power supply and grounding harness.

Step 5:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 6:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 7:Clear and confirm SPN and FMI.

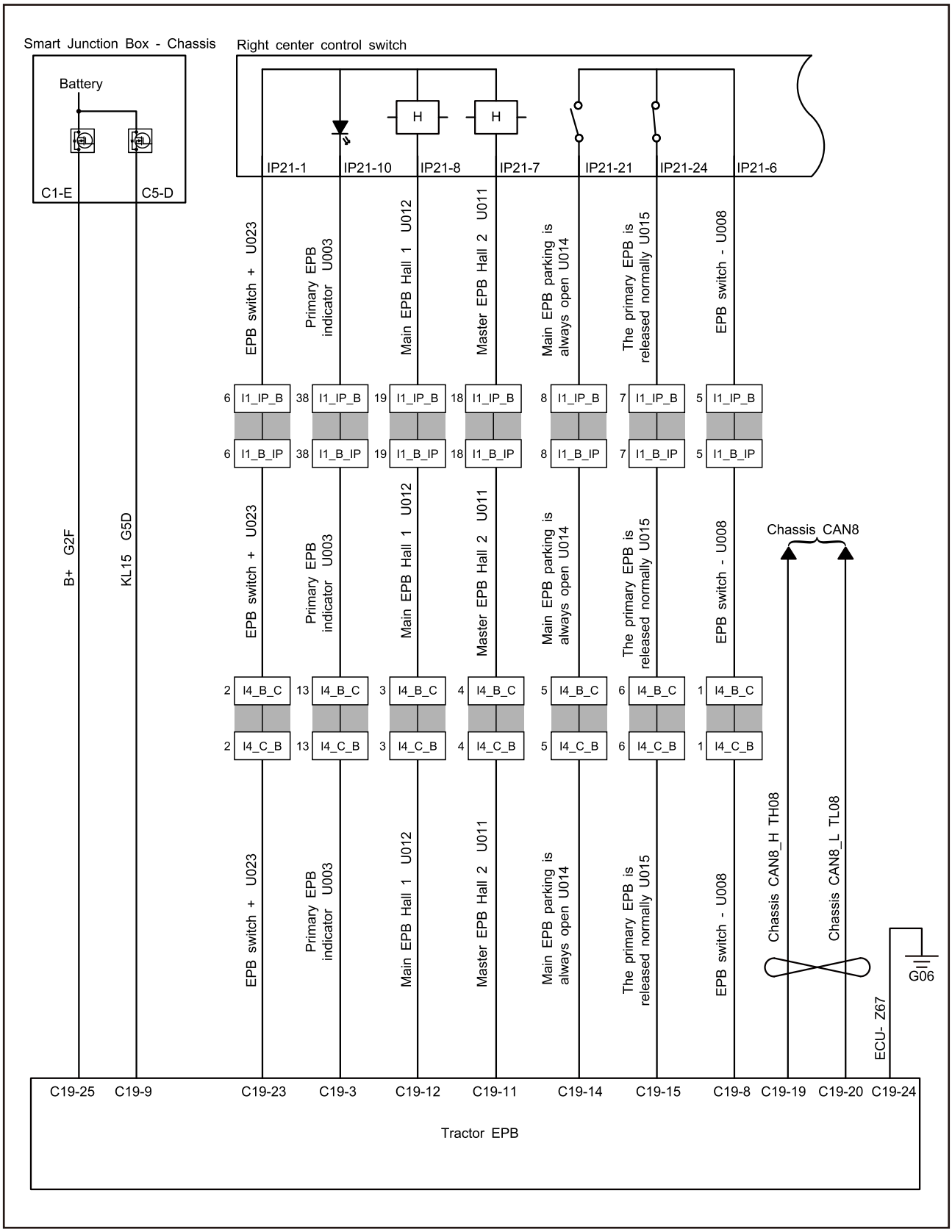
8.16.4.5 EPB Communication Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
193,9	CAN packets are lost or delayed. Procedure	The CAN message is lost or the delay exceeds 3 seconds	1. Wiring harness 2.Tractor EPB
4289,5	The CAN cable is disconnected	The CAN line is disconnected and cannot receive or send packets	
22465,19	The whole car CAN Busoff	EPB system CAN communication detects Bus off	
19393,9	The AutoDrive_ADCU message is lost	AutoDrive_ADCU message is lost, more than 500ms	
19393,19	The AutoDrive_ADCU check error	AutoDrive_ADCU validation error	
19393,8	AutoDrive_ADCU Counter error	AutoDrive_ADCU Counter error	
19649,9	The AutoDrive_rADCU message is lost	AutoDrive_rADCU message is lost, more than 500ms	
19649,19	The AutoDrive_rADCU check error	AutoDrive_rADCU validation error	
19649,8	AutoDrive_rADCU Counter error	AutoDrive_rADCU Counter error	
19137,9	EPBC1_ADCU is lost	The EPBC1_ADCU packet is lost and exceeds 500ms	
19137,19	EPBC1_ADCU check error	EPBC1_ADCU verification error	
19137,8	EPBC1_ADCU Counter is incorrect	EPBC1_ADCU Counter error	
20161,9	EPBC1_rADCU is lost	The EPBC1_rADCU packet is lost and exceeds 500ms	
20161,19	EPBC1_rADCU check error	EPBC1_rADCU verification error	
20161,8	EPBC1_rADCU Counter is incorrect	EPBC1_rADCU Counter error	
15811,9	Clutch signal is lost	Clutch signal loss, more than 500ms	

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
20417,2	The clutch signal is invalid	The clutch signal sends an invalid value	
22721,19	Redundant CANbusoff	EPB redundant CAN communication detects Bus off	
195,9	Packets required by EPB in the redundant can are lost Procedure	Redundant CAN requires packet loss of more than 3s	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the CAN8 bus communication harness. Refer to Inspection Of CAN8 Bus Network Integrity

Step 4:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 5:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 6:Clear and confirm SPN and FMI.

8.16.4.6 EPB Internal Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
14674,11	The EPB module assembly valve body is faulty	There is a failure inside the EPB module assembly for more than 1 second	1.Tractor EPB
13906,3	The trailer independent brake solenoid valve shorted the power supply	The trailer independent brake spool inside the module assembly was shorted with the power supply (24V) for more than 1 second	
13906,6	Trailer independent brake solenoid valve short circuit to the ground	The trailer independent brake valve core inside the module assembly is short-connected to the ground, and the trailer independent brake valve has been working for more than 1 second	
13906,5	Trailer independent brake solenoid valve disconnected	The trailer independent brake spool inside the module assembly is not connected for more than 1 second	
23122,4	The output of the parking pressure sensor is abnormal	The output voltage of the parking pressure sensor inside the EPB module is less than 0.2V, more than 10s	
23122,3	The output of the parking pressure sensor is abnormal	The output voltage of the parking pressure sensor inside the EPB module is greater than 4.8V, more than 10s	
135250,2	Tilt sensor fault	EPB module internal tilt sensor Angle output or output signal is abnormal	
16722,3	The parking solenoid is short circuiting the power supply	The parking solenoid valve spool pair inside the module assembly is shorted with the source (24V) for more than 1 second	
16722,6	Parking solenoid to ground short circuit	the valve core of the parking solenoid valve inside the module assembly is short connected to the ground, and the parking solenoid valve has been working for more than 1 second	
16722,5	Parking solenoid valve disconnected	The parking solenoid valve spool inside the module assembly is not connected for more than 1 second	
16978,3	Release solenoid valve short circuit to power supply	The module assembly internal release solenoid valve spool is shorted with the power supply (24V) for more than 1 second	

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
16978,6	Release solenoid valve to ground short circuit	module assembly internal release solenoid valve spool and ground short, more than 1 second, release parking solenoid valve has been working	
16978,5	Release solenoid valve disconnected	The module assembly internal release solenoid valve spool is not connected for more than 1 second	
17234,3	The trailer detects the short circuit of the solenoid valve to the power supply	The trailer detection spool inside the module assembly is shorted with the power supply (24V) for more than 1 second	
17234,6	Trailer detects short circuit of solenoid valve to ground	The trailer detection valve spool inside the module assembly is short connected to the ground, and the trailer detection solenoid valve has been working for more than 1 second	
17234,5	Trailer detection solenoid valve disconnected	The trailer detection spool inside the module assembly is not connected for more than 1 second	
21330,25	The ECU failed to read the memory	The ECU failed to read memory	
21330,24	The ECU write memory is faulty. Procedure	The ECU failed to write to memory	
12882,4	Main valve electric relay cannot drive output	The EPB system main valve electrical relay cannot drive output, the relay cannot pull, the main valve electrical disconnect, enable the standby valve power	
12626,4	Backup valve electrical relay cannot drive output	The EPB system standby valve electrical relay cannot drive output, the relay cannot pull	
12882,3	Main valve electric relay cannot cut off output	Power-on self-test EPB system main valve electrical relay can not cut off the output, the relay can not be disconnected	
12626,3	The backup valve electrical relay cannot cut off the output	Power-on self-test EPB system standby valve electric relay can not cut off the output, the relay can not be disconnected	
34898,11	The EPB system is seriously faulty	The EPB system has multiple failures, and the electronically controlled parking system cannot be used	

2. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 4:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 5:Clear and confirm SPN and FMI.

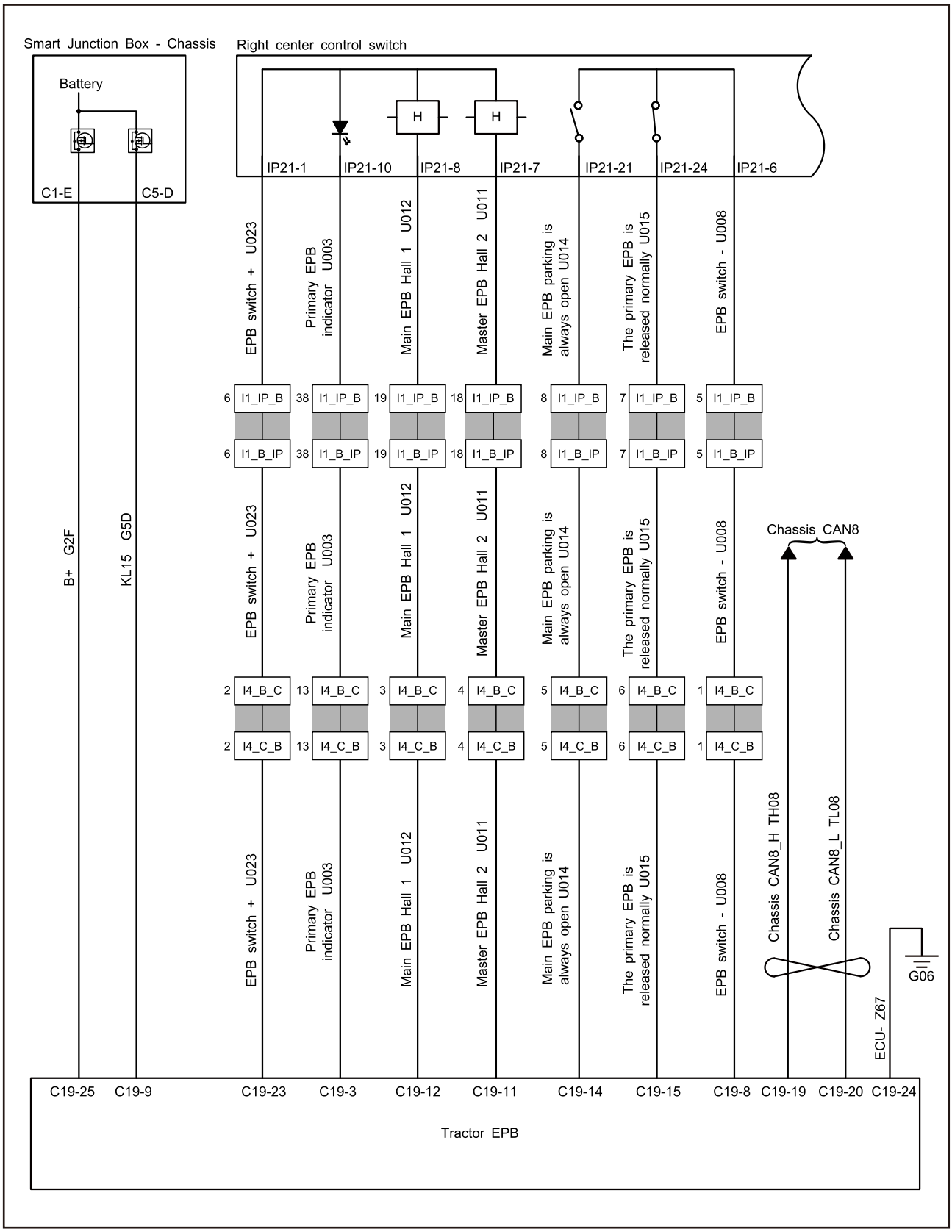
8.16.4.7 Right Central Control Switch - Electronic Parking Switch Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
14418,11	The EPB switch is faulty. Procedure	The EPB switch or connecting harness fails for more than 3 seconds	1. Wiring harness 2.Right central control switch - electronic parking switch 3.Tractor EPB
17794,3	The release end of the switch is short circuited	The internal switch release terminal of the EPB switch is short-circuited with the power supply (24V) for more than 200ms	
17794,6	The release end of the switch is short circuited to the ground	The internal switch release end of the EPB switch is short-circuited with the ground for more than 200ms	
17794,5	The switch release end is disconnected	The internal switch release terminal of the EPB switch is not connected for more than 200ms	
18050,3	Switch parking terminal electrical short circuit	The internal switch parking terminal of the EPB switch is shorted with the power supply (24V), more than 200ms	
18050,6	Switch parking terminal to ground short circuit	EPB switch internal switch parking terminal and ground short, more than 200ms	
18050,5	The switch parking terminal is disconnected	The EPB switch internal switch parking terminal is not connected, more than 200ms	
18050,0	The switching linearity is not proportional	The two routing voltages inside the EPB switch are disproportionate, exceeding 200ms	
18050,10	Switch card lag	The EPB switch is stuck for more than 3s	
18050,2	Switch missing	The controller does not receive the EPB switch for more than 1s	
18306,5	Switch power supply exception	The EPB switch supply voltage is less than 16V or more than 32V, more than 1s	
18562,4	The closing position of the parking switch is abnormal	Abnormal closing position of the parking switch, more than 200ms	
18818,3	Relieve abnormal switch closing position	The closure position of the relief switch is abnormal, exceeding 200ms	
19074,3	Parking indicator light to electric short circuit	Parking indicator shorted with power supply (24V), more than 200ms	
19330,5	Parking indicator disconnected	Parking indicator disconnected for more than 200ms	

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
9603,5	Hard line parking light disconnected	The hard line of the parking P light is disconnected for more than 2s	
9603,3	Hard parking lights are short circuited	A short circuit of more than 2s is detected in the hard wire pair of the parking P-light	
9859,5	The redundant hard cable of the parking switch is abnormal	Switch redundancy Hard line and switch message status are inconsistent for more than 2 seconds	
10115,5	Alleviates redundant switch hard line anomalies	Switch redundancy Hard line and switch message status are inconsistent for more than 2 seconds	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the right central control switch - electronic parking switch and Tractor EPB.

Step 4:Check if the right central control switch group is normal?

Parking Switch Status	Switch Status
Turn off parking brake switch	Turn off the parking brake switch and turn on the parking release switch
Turn on parking brake switch	The parking brake switch is turned on, and the parking release switch is turned off

– Yes: Next step

– No: Replace the right central control switch - electronic parking switch. Refer to Replacement Of The Right Central Control Switch Group

Step 5:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 6:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 7:Clear and confirm SPN and FMI.

8.16.4.8 EPB Reports GSM Related Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
12995,9	The gear signal is lost	The gear signal is lost, more than 500ms	1. Wiring harness 2. Shift switch 3.Tractor EPB
12993,2	The gear signal is invalid	The gear signal sends an invalid value	

2. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check for GSM related fault codes?

– Yes: Prioritize troubleshooting GSM related issues.

– No: Next step

Step 4:Rewrite the configuration code for the gear shift switch, reload the software, and upgrade.

Step 5:Replace the gear shift switch. Refer to Replacement Of Combination Switch

Step 6:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 7:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 8:Clear and confirm SPN and FMI.

8.16.4.9 EPB Reports VDC Related Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
13251,9	Throttle signal loss	Throttle signal is lost, more than 500ms	1. Wiring harness 2.VDC 3.Tractor EPB
13507,9	Torque signal loss	loss of torque signal, over 500ms	
13763,9	The foot brake signal is missing	The foot brake signal is lost, more than 500ms	
14019,9	Barometric signal loss	Air pressure signal is lost for more than 5 seconds	

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
15299,9	HaltBrakeMode signal is lost	HaltBrakeMode signal loss, more than 500ms	
15555,9	The XBR signal is lost	XBR signal loss, more than 500ms	
13249,2	Invalid throttle signal	The throttle signal sends an invalid value	
13505,2	Torque signal invalid	The torque signal sends an invalid value	
13761,2	The foot brake signal is invalid	The foot brake signal sends an invalid value	
14017,2	Barometric failure	The air pressure signal sends an invalid value	
15297,2	The HaltBrakeMode signal is invalid	The HaltBrakeMode signal sent an invalid value	
15553,2	The XBR signal is invalid	The XBR signal sent an invalid value	
16323,9	The vehicle ready signal is lost	Vehicle high voltage ready signal loss, more than 500ms	
16321,2	The vehicle ready signal is invalid	The high voltage ready signal of the vehicle sends an invalid value	

2. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check for VDC related fault codes?

- Yes: Prioritize troubleshooting VDC related faults.
- No: Next step

Step 4:VDC rewrite configuration code, software reload, upgrade.

Step 5:Replace VDC.Refer to Replacement Of Vehicle Domain Controller Assembly

Step 6:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 7:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 8:Clear and confirm SPN and FMI.

8.16.4.10 EPB Reports EBS Related Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
26450,3	The EBS system cannot respond to XBR requests	During emergency braking, the EPB sends a braking request, and the EBS system does not respond to the request within 1 second	1. Wiring harness 2.EBS 3.Tractor EPB
14162,3	The EBS system cannot respond to temporary parking brake requests	Configure for EBS to do stoppage situations When performing near-stop braking, the EPB sends a braking request, and the EBS system does not respond to the request within 1 second	
14275,9	Speed signal loss	The speed signal is lost, more than 500ms	

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
14531,9	Speed signal loss	Loss of speed signal, over 500ms	
14787,9	ABS wheel speed report lost	ABS wheel speed signal is lost, more than 500ms	
14273,2	Speed signal invalid	The speed signal sends an invalid value	
14529,2	Invalid speed signal	The speed signal sends an invalid value	
14785,2	The ABS wheel speed signal is invalid	The ABS wheel speed signal sends an invalid value	
8899,10	Abnormal speed jump	Abnormal jump in the speed signal, deviation of more than 9 mph	
8899,26	Excessive speed error	Different types of speed signals deviate by more than 9 mph for more than 20 seconds	

2. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check for EBS related fault codes?

- Yes: Prioritize troubleshooting EBS related issues.
- No: Next step

Step 4:EBS rewrite configuration code, software reload, upgrade.

Step 5:Replace EBS. Refer to Replacement Of EBS Controller Assembly

Step 6:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 7:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 8:Clear and confirm SPN and FMI.

8.16.4.11 EPB Reports BDCU Related Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
12739,9	Loss of seat belt signal	Seat belt signal lost, more than 500ms	1. Wiring harness 2.BDCU 3.Tractor EPB
15043,9	Ready signal loss	The Ready signal is lost, more than 500ms	
14737,2	Invalid seat belt sign	The seat belt signal sent an invalid value	
15041,2	Invalid Ready signal	The Ready signal sends an invalid value	

2. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check for BDCU related fault codes?

- Yes: Prioritize troubleshooting BDCU related faults.
- No: Next step

Step 4:BDCU rewrite configuration code, software reload, upgrade.

Step 5:Replace the BDCU. Refer to Replacement Of Body Domain Control Uint

Step 6:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 7:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 8:Clear and confirm SPN and FMI.

8.16.4.12 EPB Reports DCM Related Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
16067,9	Gate signal loss	Door signal loss, more than 500ms	1. Wiring harness 2.DCM 3.Tractor EPB
16065,2	Gate signal invalid	The gate signal sends an invalid value	

2. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check for DCM related fault codes?

- Yes: Prioritize troubleshooting DCM related issues.
- No: Next step

Step 4:DCM rewrite configuration code, software reload, upgrade.

Step 5:Replace DCM. Refer to Replacement Of DCM

Step 6:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 7:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 8:Clear and confirm SPN and FMI.

8.16.4.13 EPB Reports CDC Related Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
16579,9	The rear axle running pressure signal is lost	The vehicle rear axle running pressure signal is lost, more than 500ms	1. Wiring harness 2.CDC 3.Tractor EPB
16577,2	The rear axle running pressure signal is invalid	The vehicle running pressure signal sends an invalid value	

2. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check for CDC related fault codes?

- Yes: Prioritize troubleshooting CDC related issues.
- No: Next step

Step 4:CDC rewrites configuration codes, reloads software, and upgrades.

Step 5:Replace CDC.Refer to Replacement Of Cockpit Domain Controller

Step 6:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 7:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 8:Clear and confirm SPN and FMI.

8.16.4.14 Parking Pipeline Leakage Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
19026,1	When the vehicle is braking, there is no air in the brake line	When the stop relay valve is working The pressure sensor detects that the pressure is less than 1bar and more than 1s	1. Braking system 2.Tractor EPB
19282,0	There is air in the brake line when the vehicle is not braking	At speeds greater than 3 mph After stepping on the accelerator, the pressure sensor is monitored to monitor the driving air path, and the air pressure is always higher than 1bar for more than 10s	
19538,10	The brake line is leaking	Near stop relay valve operation The pressure sensor monitors the driving air route and detects frequent air leakage in the pipeline, which fails to establish the pressure set at the stop after continuous working for 3 cycles	
18770,7	Parking system inflation time out	When the parking is released, the parking pressure for 5 seconds is not more than 4.5bar, and the final pressure can be charged more than 6bar	
22866,7	Parking system exhaust time out	When parking, exhaust for 5 seconds parking pressure is not less than 1bar	
19539,10	Parking pipe leakage rate is too large	Release the parking vehicle, the speed is greater than 3 mph, and the continuous air injection is more than 3 times	

2. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the braking system. Refer to Check The Braking System

Step 4:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 5:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 6:Clear and confirm SPN and FMI.

8.16.4.15 Abnormal Pressure In The Parking Pipeline

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
19027,1	Parking status The parking pressure is too high	In the parking state, the parking pressure is greater than 1bar, more than 10 seconds, or the parking pressure is more than 2bar after 5s.	1. Wiring harness 2. Braking system 3.Tractor EPB

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
19283,0	Running status Parking pressure is too low	The speed is more than 3 mph, the parking pressure is less than 5bar, more than 10 seconds	

2. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection.Refer to Routine Inspection

Step 3:Check the braking system. Refer to Check The Braking System

Step 4:Check for brake pipeline leakage faults.

Step 5:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 6:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

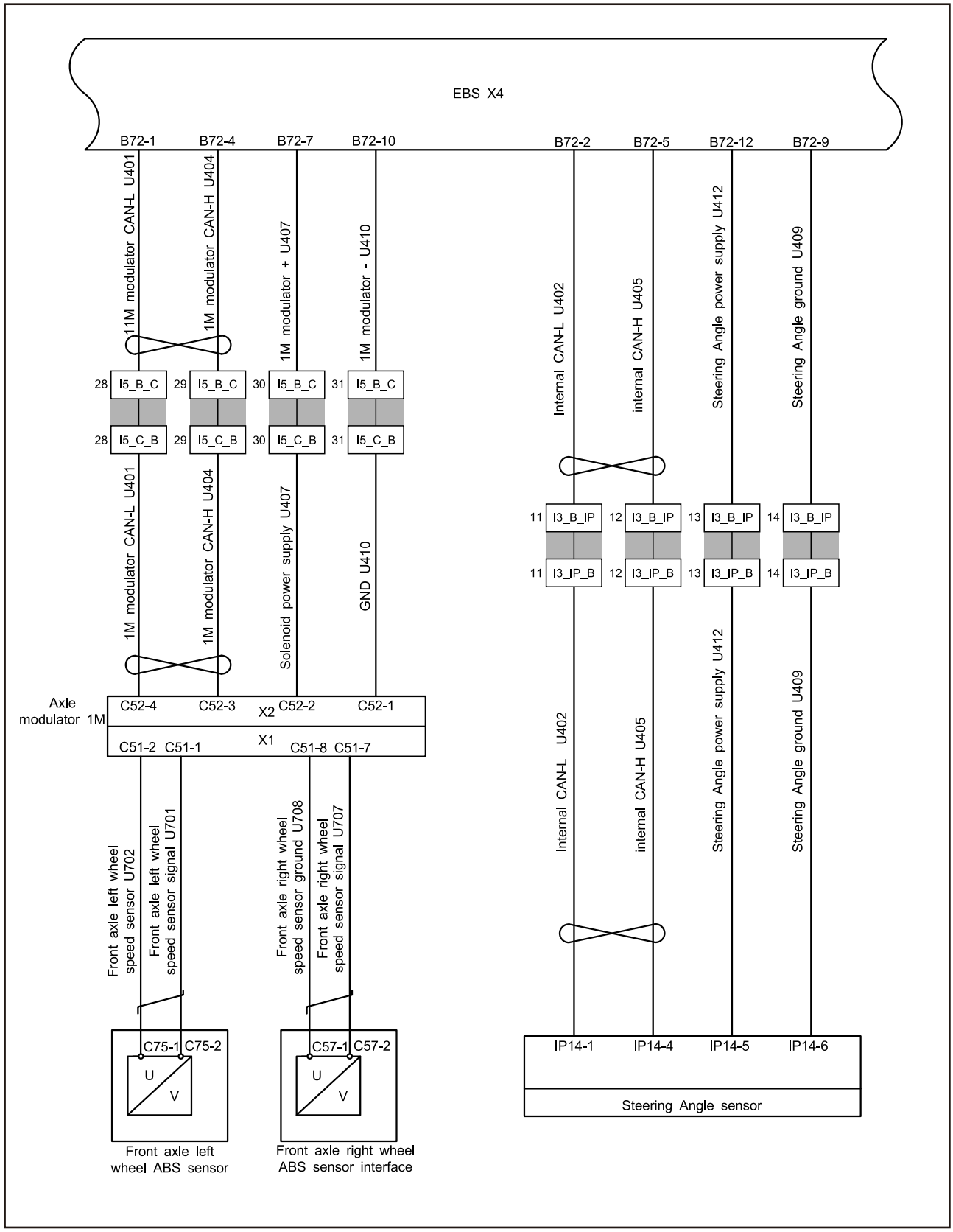
Step 7:Clear and confirm SPN and FMI.

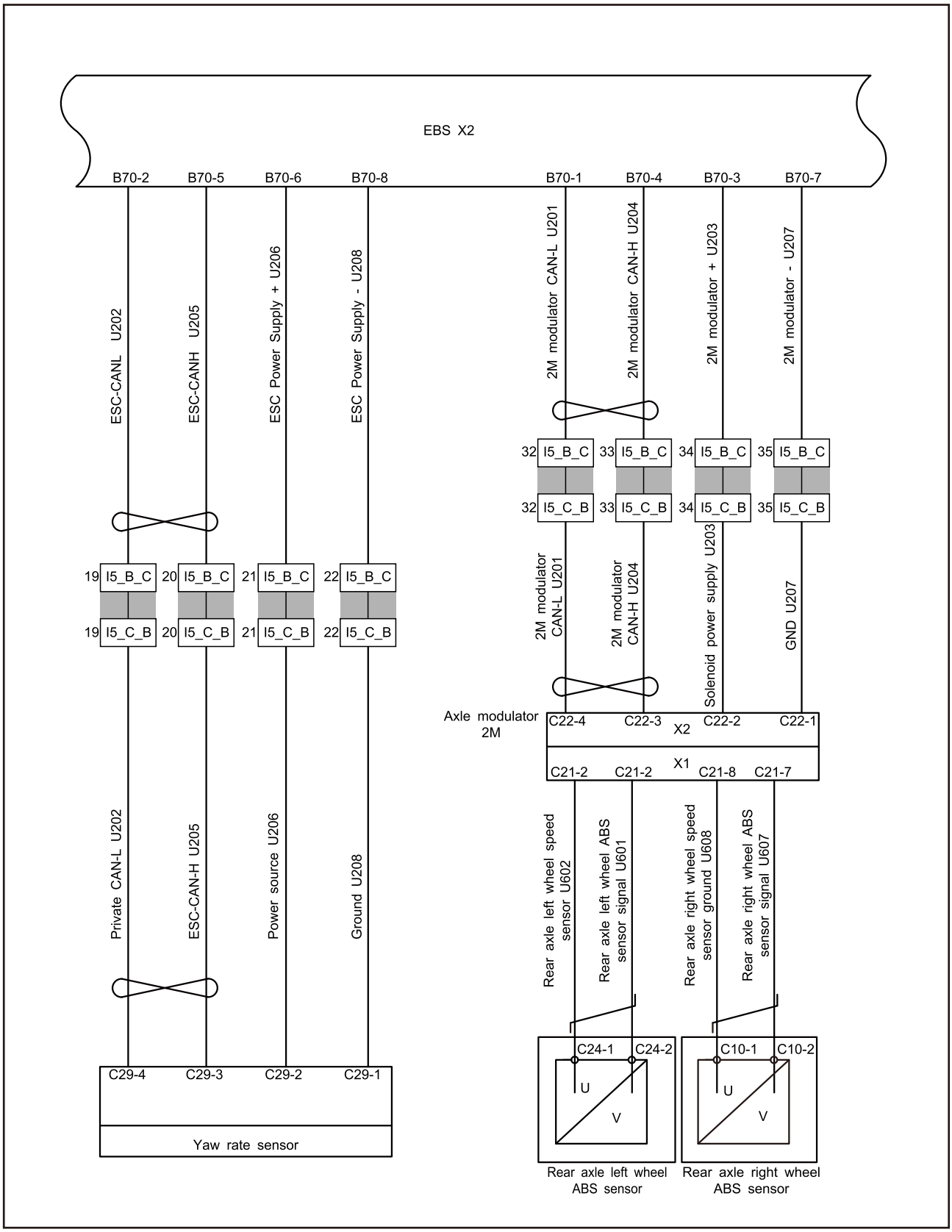
8.16.4.16 Left ABS Sensor Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
29009,6	The left sensor is short-circuited to the ground	The left wheel speed sensor of the EPB system was shorted with the ground wire for more than 1 second	1. Wiring harness 2.Left ABS sensor 3.Tractor EPB
29009,3	The sensor on the left is short-circuited	The left wheel speed sensor of the EPB system was short-circuited with the power supply (24V) for more than 1 second	
29009,5	The left sensor is disconnected. Procedure	The left wheel speed sensor of the EPB system was short-circuited with the power supply (24V) for more than 1 second	
29009,7	Missing tooth on left sensor	The left wheel speed sensor of the EPB system lacks teeth	
29009,1	The sensor gap on the left is too large	Excessive clearance of the left wheel speed sensor of the EPB system	

2.Circuit Diagram


EBS X4
B72-1
B72-4
B72-7
B72-10
B72-2
B72-5
B72-12
B72-9
11M modulator CAN-L U401
1M modulator CAN-H U404
1M modulator + U407
1M modulator - U410
Internal CAN-L U402
internal CAN-H U405
Steering Angle power supply U412
Steering Angle ground U409
28 I5_B_C
29 I5_B_C
30 I5_B_C
31 I5_B_C
28 I5_C_B
29 I5_C_B
30 I5_C_B
31 I5_C_B
11 I3_B_IP
12 I3_B_IP
13 I3_B_IP
14 I3_B_IP
11 I3_IP_B
12 I3_IP_B
13 I3_IP_B
14 I3_IP_B
1M modulator CAN-L U401
1M modulator CAN-H U404
Solenoid power supply U407
GND U410
Axle modulator 1M
C52-4
C52-3
X2
C52-2
C52-1
C51-2
C51-1
X1
C51-8
C51-7
Front axle left wheel speed sensor U702
Front axle left wheel speed sensor signal U701
Front axle right wheel speed sensor ground U708
Front axle right wheel speed sensor signal U707
C75-1
C75-2
C57-1
C57-2
U
V
Front axle left wheel ABS sensor
Front axle right wheel ABS sensor interface
IP14-1
IP14-4
IP14-5
IP14-6
Steering Angle sensor



3. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the left ABS sensor. Refer to Front Axle Left Wheel ABS Sensor Malfunction.Rear Axle Left Wheel ABS Sensor Malfunction

Step 4:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 5:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

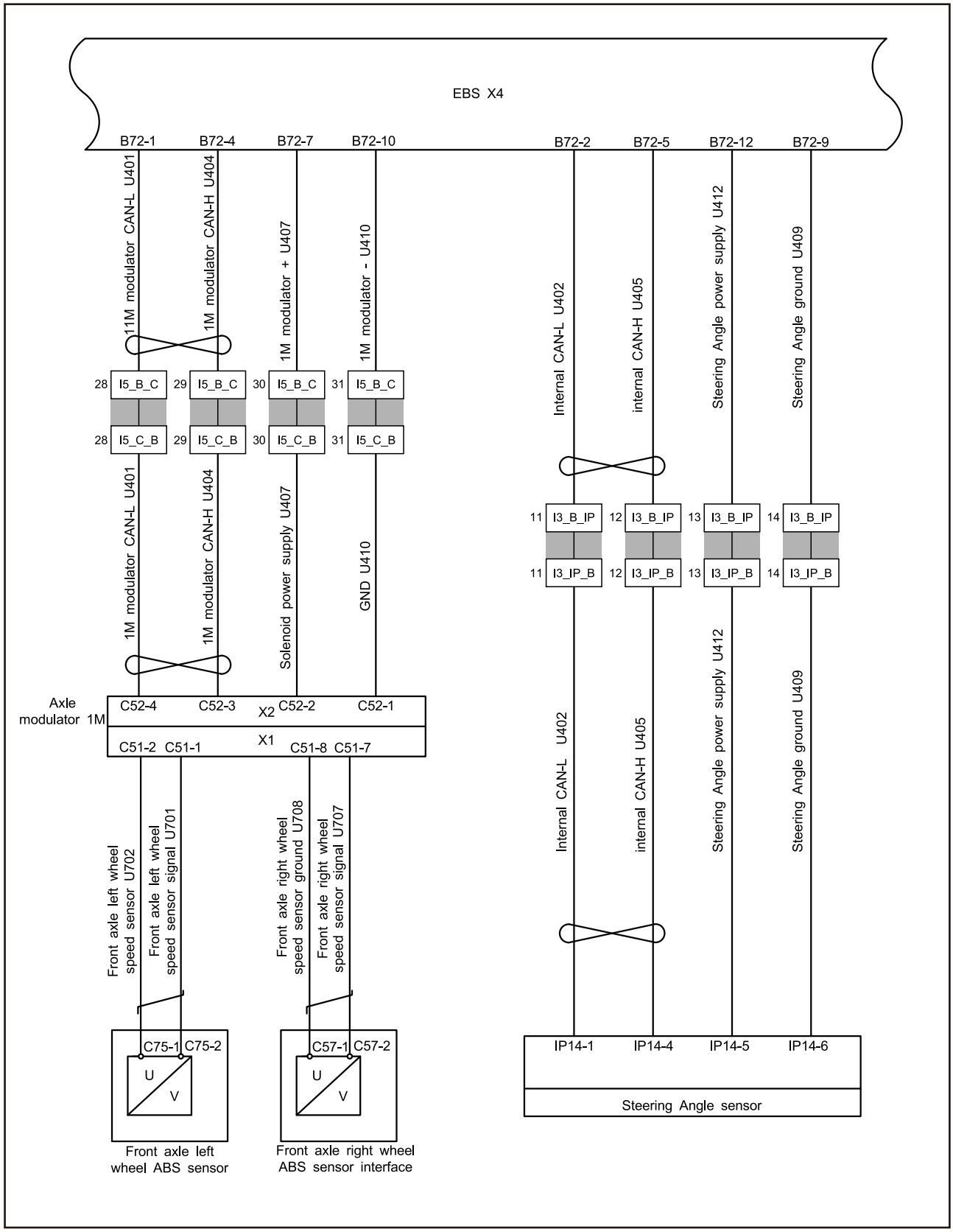
Step 6:Clear and confirm SPN and FMI.

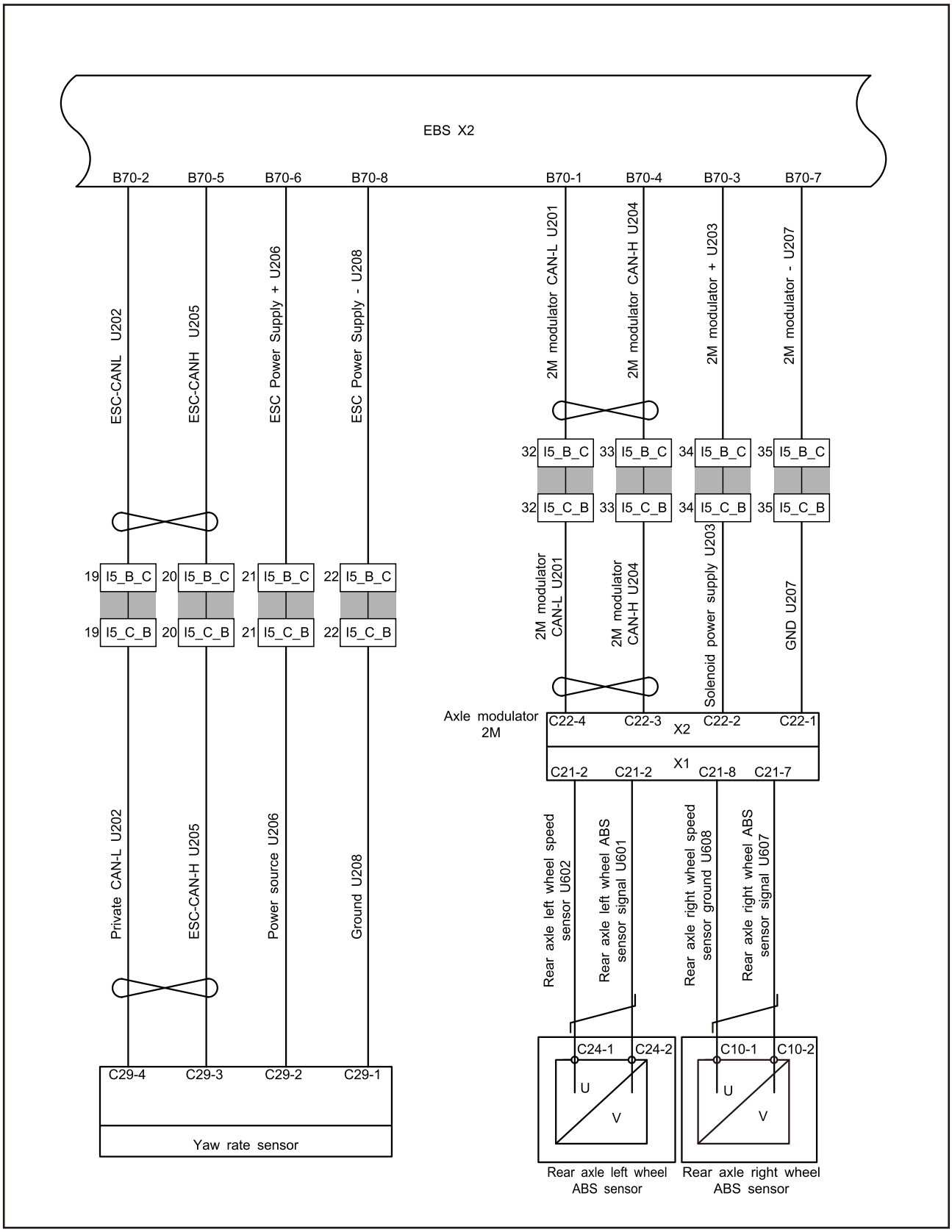
8.16.4.17 Right ABS Sensor Fault

1.SPN, FMI Monitoring Logic

SPN,FMI	Description	DTC Trigger Conditions	Faulty Part
33105,6	The right sensor is short-circuited to the ground	The right wheel speed sensor of the EPB system is short-circuited with the ground wire for more than 1 second	1. Wiring harness 2.Right ABS sensor 3.Tractor EPB
33105,3	The right sensor is short circuited Procedure	The right wheel speed sensor of the EPB system was short-circuited with the power supply (24V) for more than 1 second	
33105,5	The right sensor is disconnected Procedure	The right wheel speed sensor of the EPB system was not connected for more than 1 second	
33105,7	Missing tooth on right sensor	The right wheel speed sensor of the EPB system lacks teeth	
33105,1	The sensor gap on the right is too large	Excessive clearance of the right wheel speed sensor of the EPB system	

2.Circuit Diagram


EBS X4
B72-1
B72-4
B72-7
B72-10
B72-2
B72-5
B72-12
B72-9
11M modulator CAN-L U401
1M modulator CAN-H U404
1M modulator + U407
1M modulator - U410
Internal CAN-L U402
internal CAN-H U405
Steering Angle power supply U412
Steering Angle ground U409
28 I5_B_C
29 I5_B_C
30 I5_B_C
31 I5_B_C
28 I5_C_B
29 I5_C_B
30 I5_C_B
31 I5_C_B
11 I3_B_IP
12 I3_B_IP
13 I3_B_IP
14 I3_B_IP
11 I3_IP_B
12 I3_IP_B
13 I3_IP_B
14 I3_IP_B
1M modulator CAN-L U401
1M modulator CAN-H U404
Solenoid power supply U407
GND U410
Axle modulator 1M
C52-4
C52-3
X2
C52-2
C52-1
C51-2
C51-1
X1
C51-8
C51-7
Front axle left wheel speed sensor U702
Front axle left wheel speed sensor signal U701
Front axle right wheel speed sensor ground U708
Front axle right wheel speed sensor signal U707
C75-1
C75-2
C57-1
C57-2
U
V
Front axle left wheel ABS sensor
Front axle right wheel ABS sensor interface
IP14-1
IP14-4
IP14-5
IP14-6
Steering Angle sensor



3. Diagnostic Steps

Step 1:Confirm that SPN and FMI are displayed correctly on the instrument screen.

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the ABS sensor on the right side. Refer to Front Axle Right Wheel ABS Sensor Malfunction.Rear Axle Right Wheel ABS Sensor Malfunction

Step 4:Tractor EPB rewrite configuration code, software reload, upgrade.

Step 5:Replace the Tractor EPB. Refer to Replacement Of Parking Solenoid Valve Assembly

Step 6:Clear and confirm SPN and FMI.

8.16.5 Dismantling and Installation

8.16.5.1 Replacement of Parking Solenoid Valve Assembly

Removal Procedures

1 Release air pressure from the brake system.

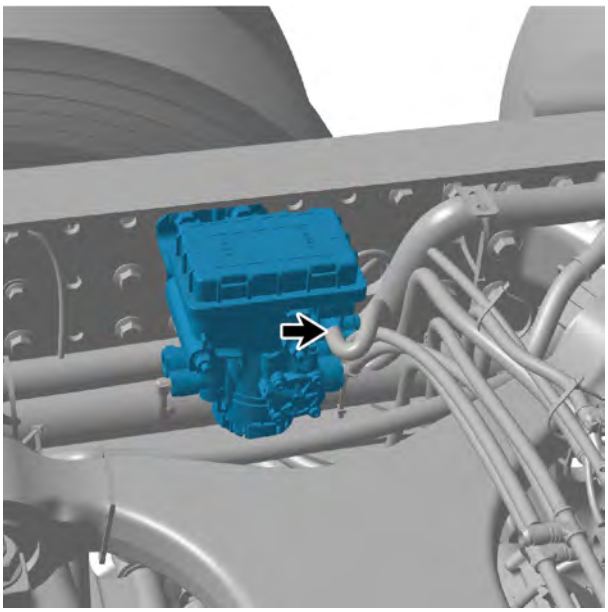
2 Open the door.

3 Open the front flip cover plate.

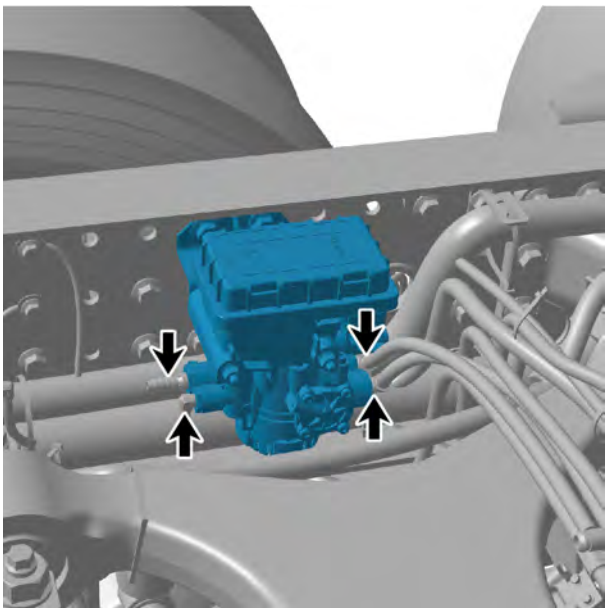
4 Disconnect the battery negative cable.

caution

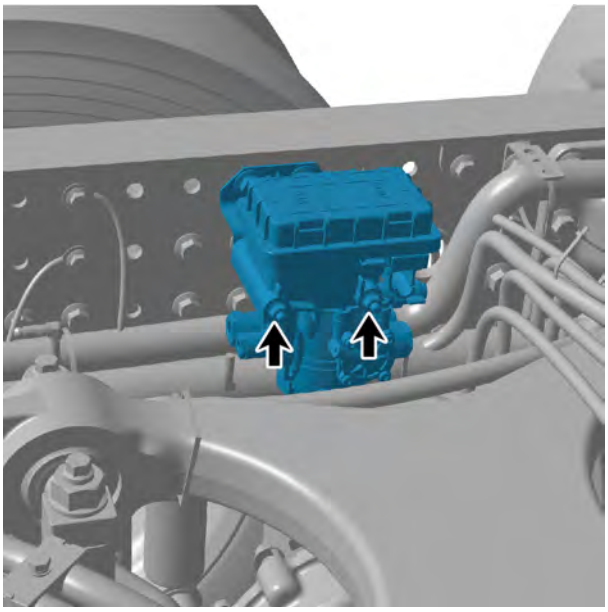
power down the high-voltage system before disconnecting the negative pole of the storage battery.



5 Disconnect 1 harness connector of the parking solenoid valve assembly.



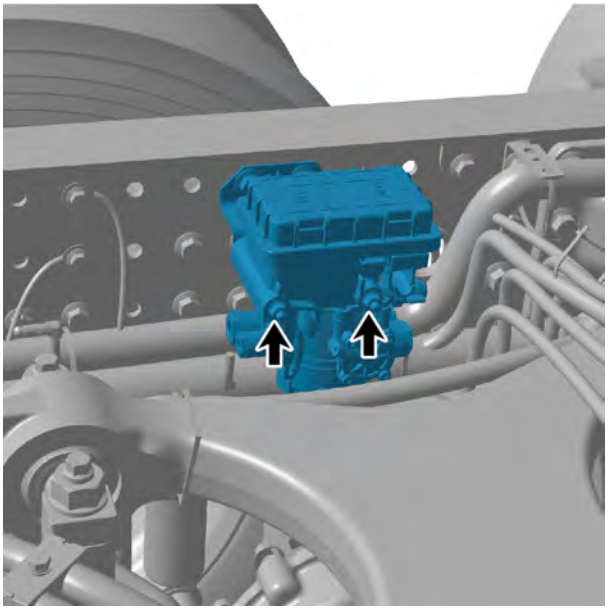
6 Disconnect 4 air pipes of the parking solenoid valve assembly.



7 Remove 2 fixing nuts of the parking solenoid valve assembly.

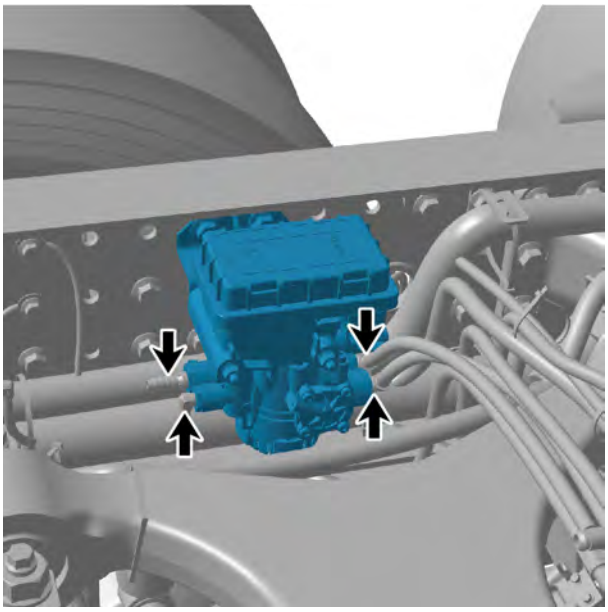
8 Remove the parking solenoid valve assembly.

Installation Procedures

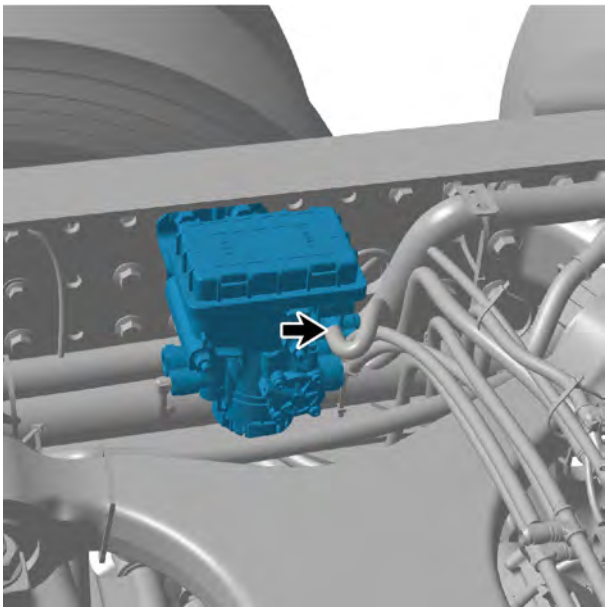


1 Move the parking solenoid valve assembly to the mounting position.

2 Install 2 fixing nuts of the parking solenoid valve assembly.
Torque: 18.5 +/- 2 (ft lbs)



3 Connect 4 air pipes of the parking solenoid valve assembly.



4 Connect 1 harness connector of the parking solenoid valve assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

caution

After replacing the parking solenoid valve assembly, it is necessary to connect a scan tool for flashing and recalibrate the zero position.

8.17 Air Reservoir Device

8.17.1 Dismantling and Installation

8.17.1.1 Replacement of Air Compressor Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

5 Perform power-off of high voltage system.

6 Jack the front end of the vehicle.

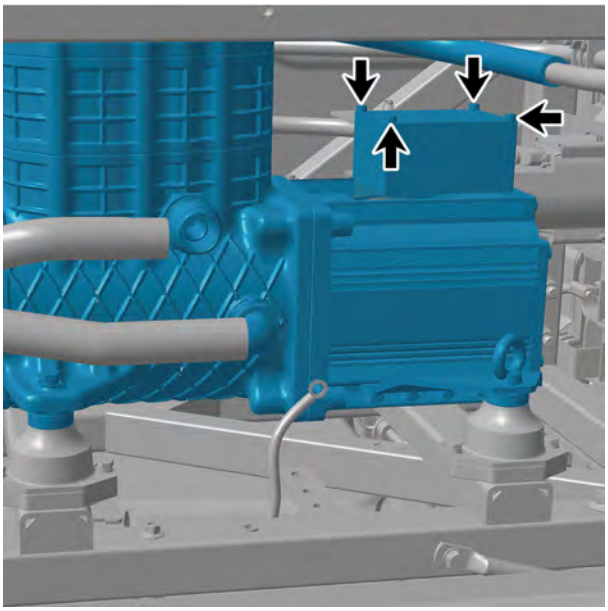
7 Drain coolant from the power system.

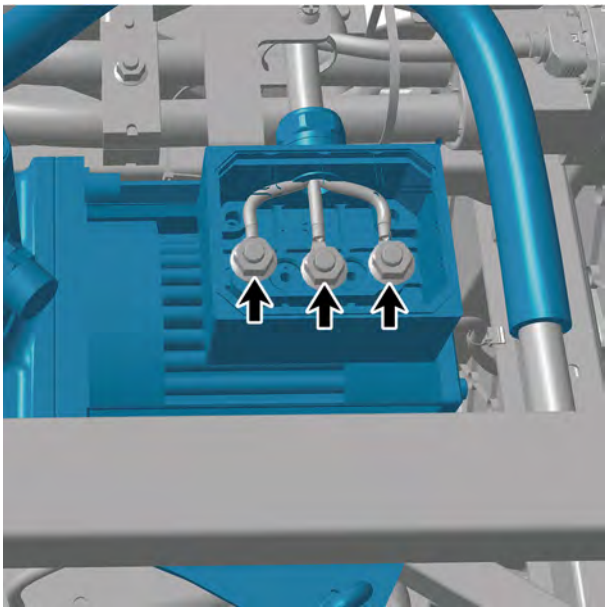
8 Remove the back integrated bracket side cover plate assembly (left).

9 Remove the back integrated bracket side cover plate assembly (right).

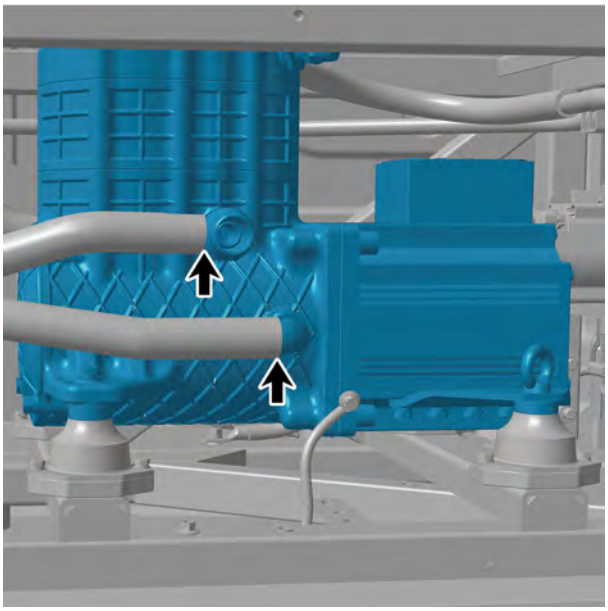
10 Remove the back integrated bracket middle cover plate assembly.

11 Remove the 4 fixing screws of the cover plate and detach the cover plate.

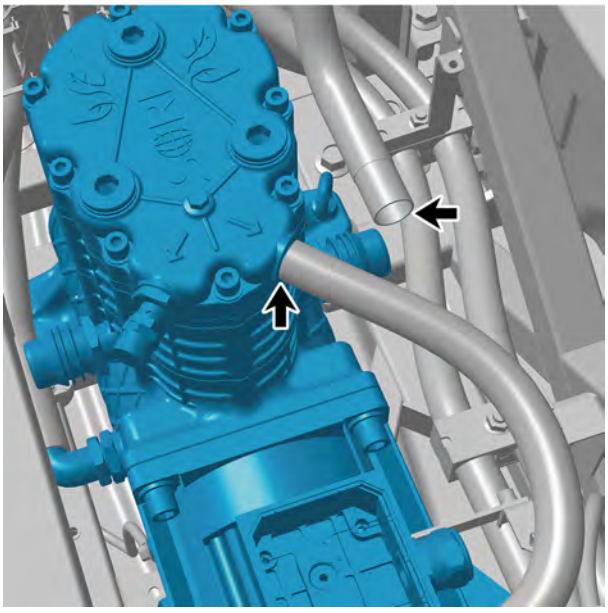


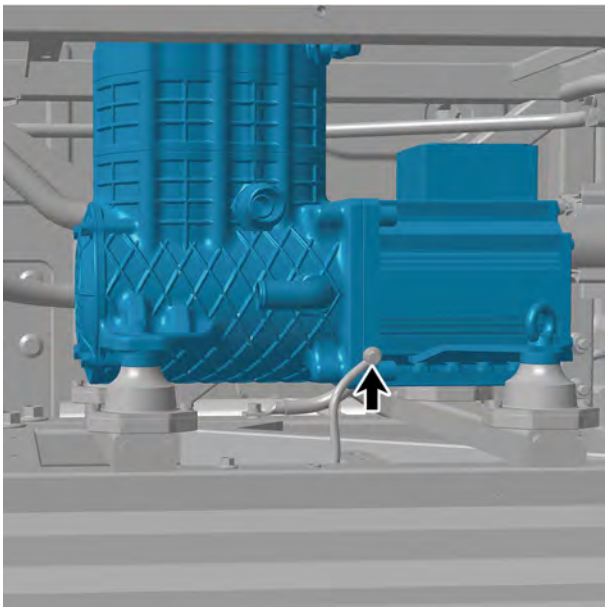


12 Remove the 3 fixing bolts of the harness.

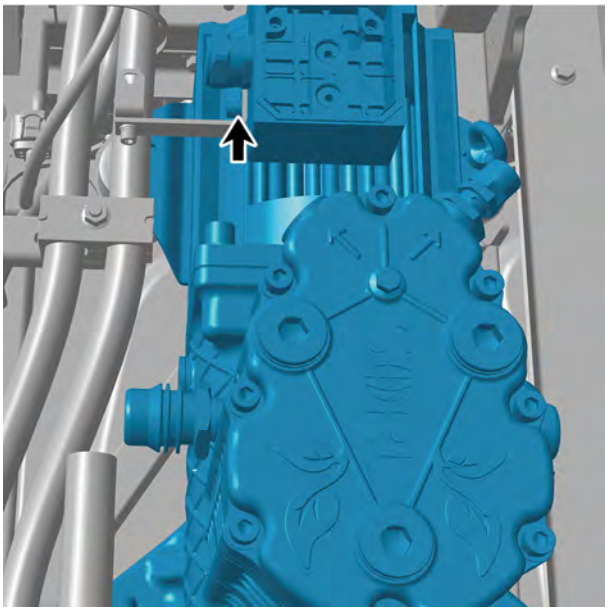


13 Disconnect 4 pipelines of the air compressor assembly.

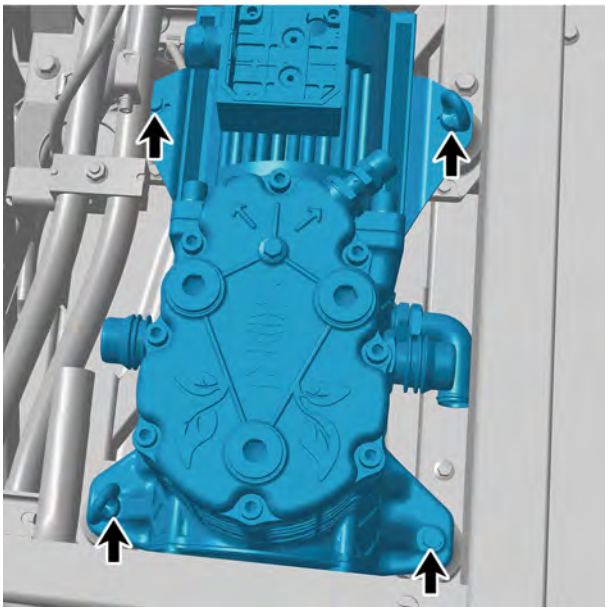




14 Remove 1 fixing bolt of the ground harness.



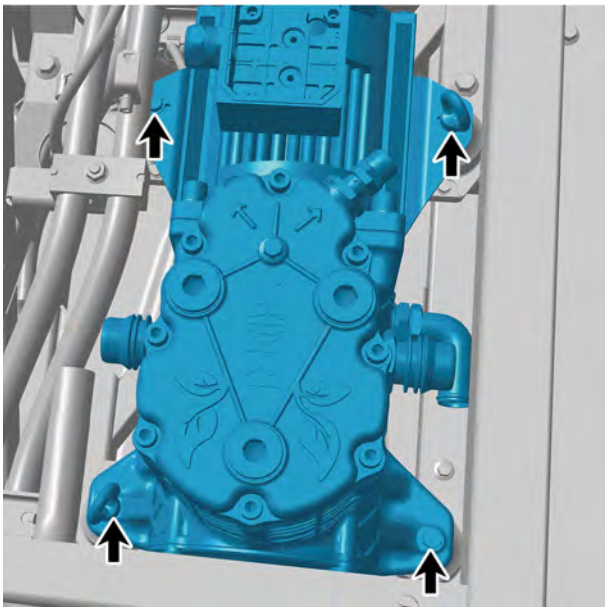
15 Remove 1 fixing bolt of the harness bracket.



16 Remove 4 fixing bolts of the air compressor assembly.

17 Remove the air compressor assembly.

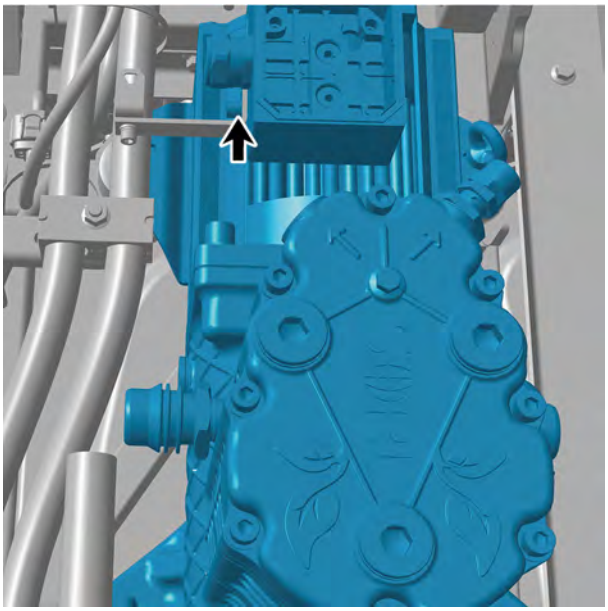
Installation Procedures



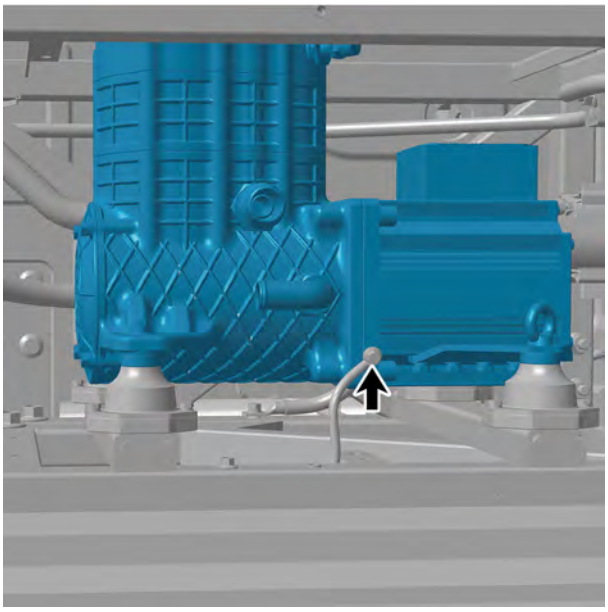
1 Move the air compressor assembly to the mounting position.

2 Install 4 fixing bolts of the air compressor assembly.

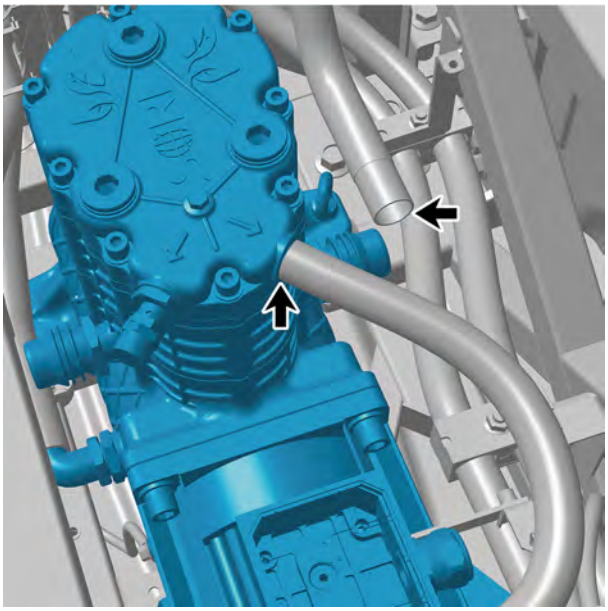
Torque: 70 +/- 3.5 (ft lbs)



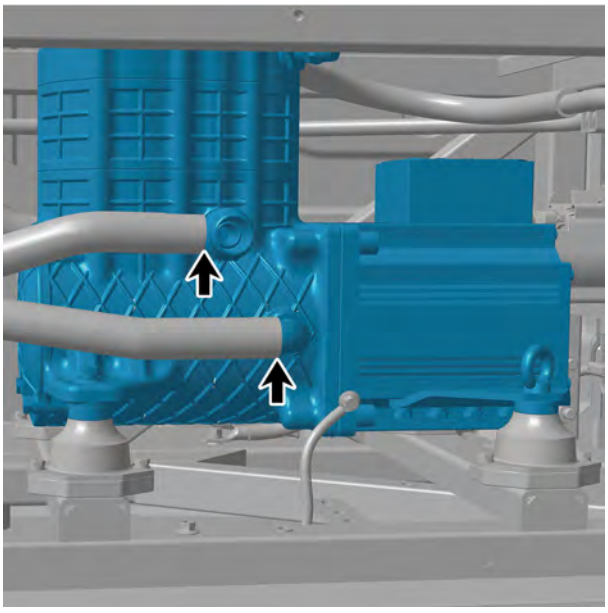
3 Install 1 fixing bolt of the harness bracket.

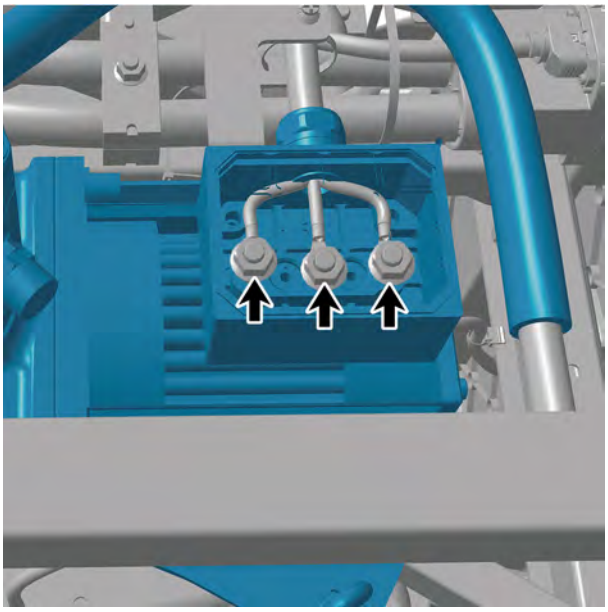


4 Install 1 fixing bolt of the ground wire.

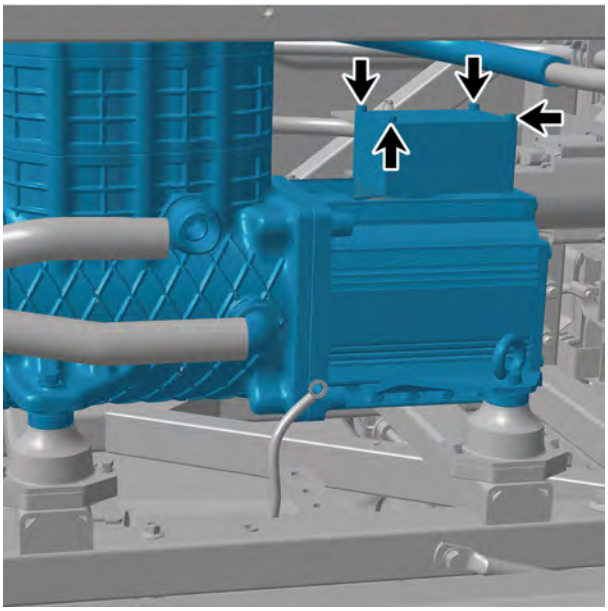


5 Connect 4 pipelines of the air compressor assembly.





6 Install the 3 fixing bolts of the harness.



7 Install the 4 fixing screws of the cover plate.

8 Install the back integrated bracket middle cover plate assembly.

9 Install the back integrated bracket side cover plate assembly (right).

10 Install the back integrated bracket side cover plate assembly (left).

11 Fill coolant in the power system.

12 Lower the front end of the vehicle.

13 Perform power-on of the high voltage system.

14 Connect the battery negative cable.

15 Close the front flip cover plate.

16 Close the door.

8.17.1.2 Replacement of Air Filter Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

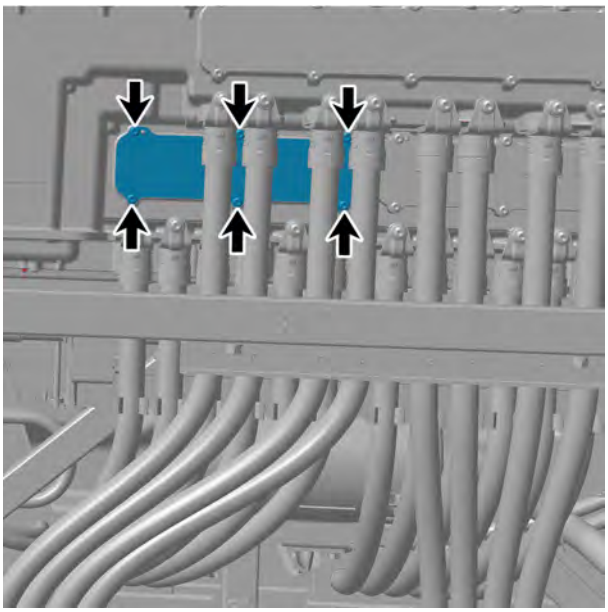
5 Perform power-off of high voltage system.

6 Remove the back integrated bracket side cover plate assembly (left).

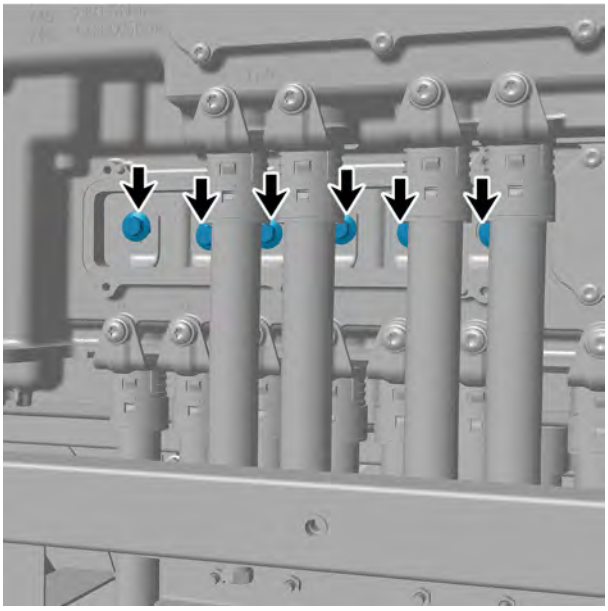
7 Remove the back integrated bracket side cover plate assembly (right).

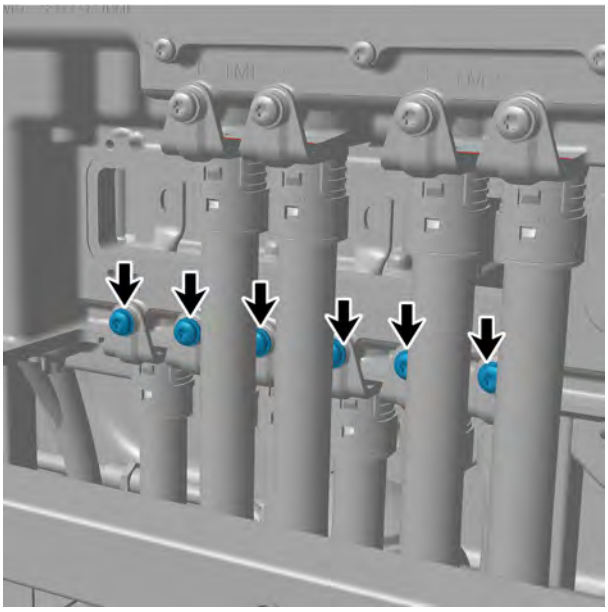
8 Remove the back integrated bracket middle cover plate assembly.

9 Remove 6 fixing screws of the cover plate.

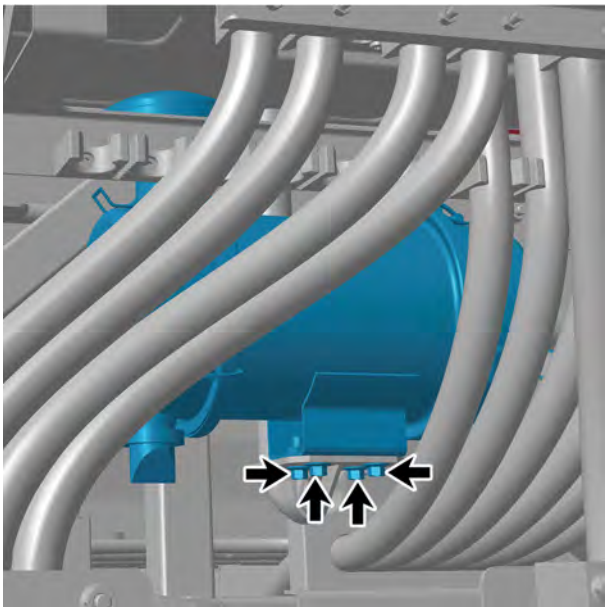


10 Remove 6 fixing bolts of the high voltage harness.

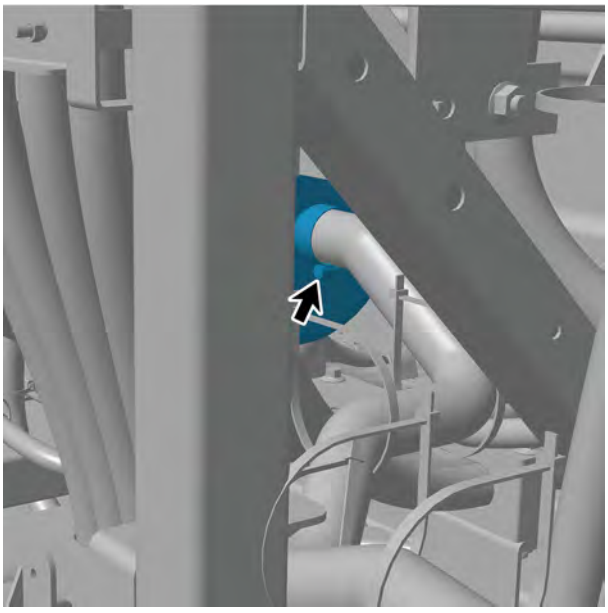




11 Remove 6 fixing bolts of the high voltage harness.



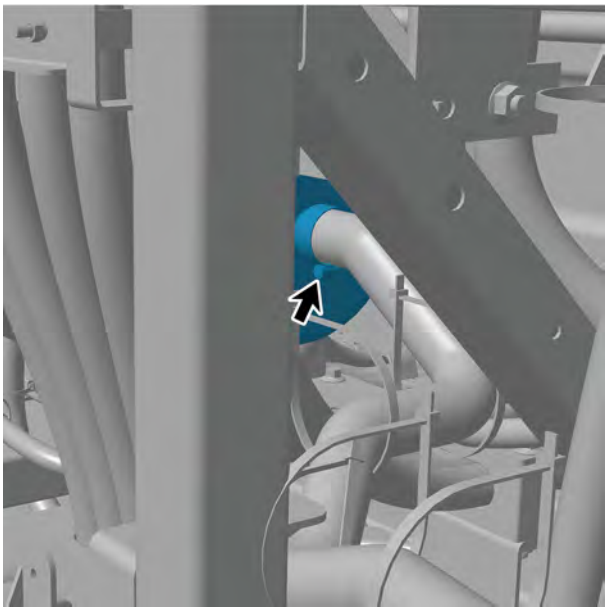
12 Remove 4 fixing bolts of the air filter assembly.



13 Disengage 1 clamp of the air filter assembly.

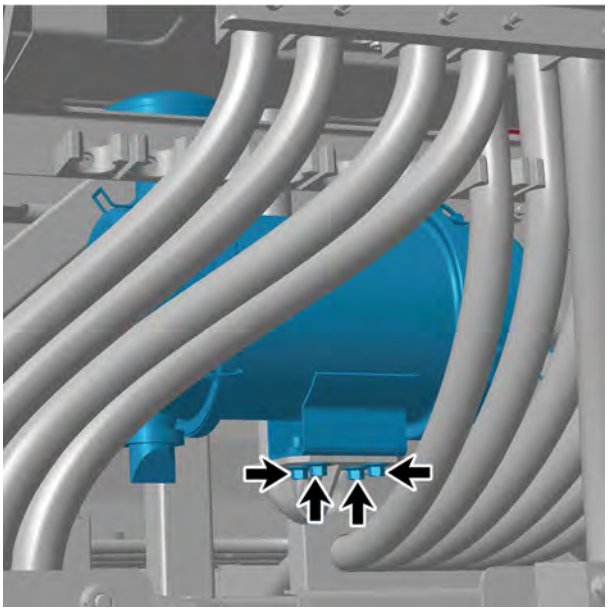
14 Remove the air filter assembly.

Installation Procedures



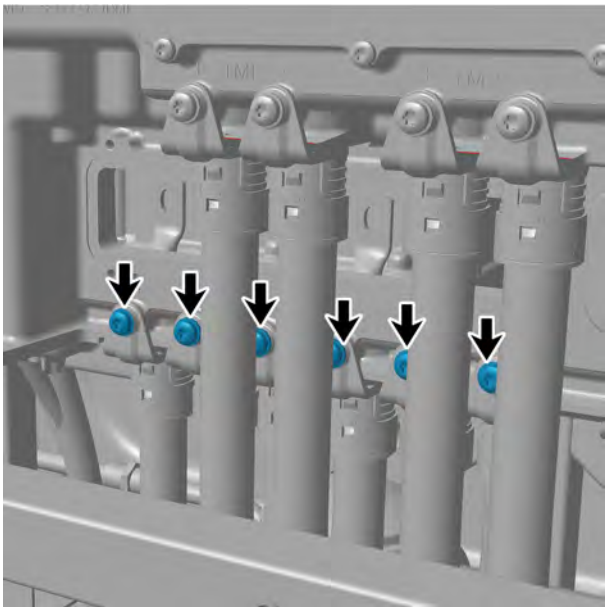
1 Move the air filter assembly to the mounting position.

2 Connect 1 clamp of the air filter assembly.

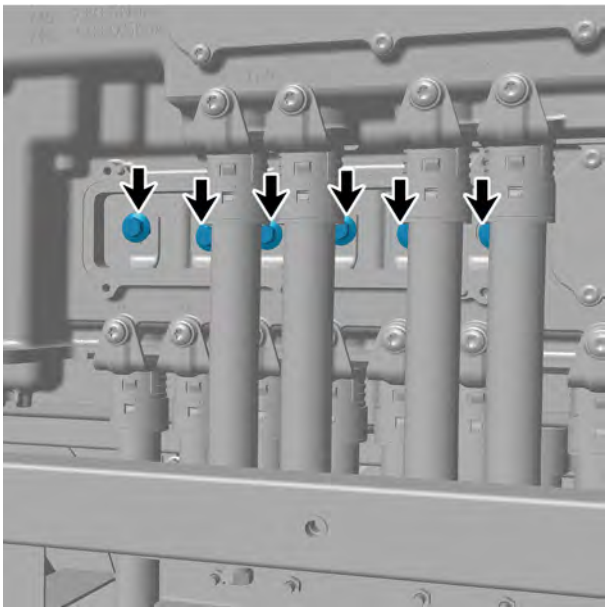


3 Install 4 fixing bolts of the air filter assembly.

Torque: 18.5 +/- 2 (ft lbs)

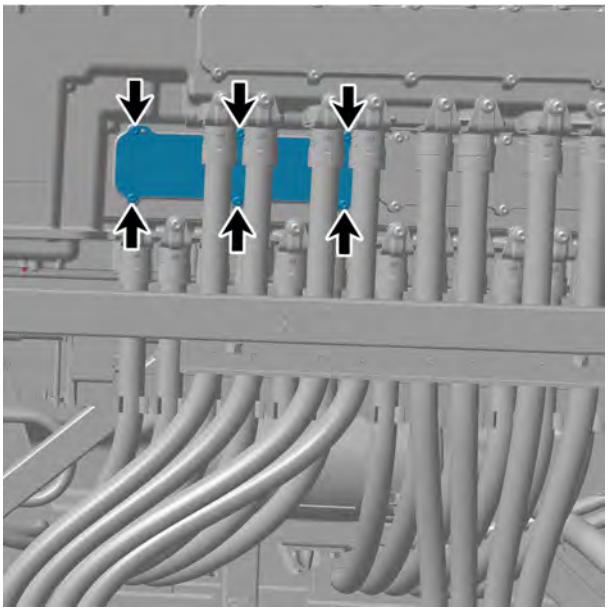


4 Install 6 fixing screws of the high voltage harness.



5 Install 6 fixing bolts of the high voltage harness.

Torque:22 +/- 2 (ft lbs)



6 Install the 6 fixing screws of the cover plate.

7 Install the back integrated bracket middle cover plate assembly.

8 Install the back integrated bracket side cover plate assembly (right).

9 Install the back integrated bracket side cover plate assembly (left).

10 Perform power-on of the high voltage system.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

8.17.1.3 Replacement of Air Inlet Hose

Removal Procedures

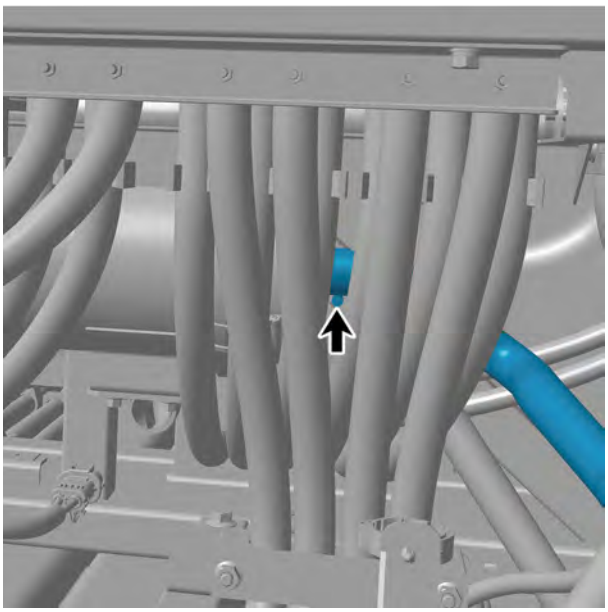
1 Release air pressure from the brake system.

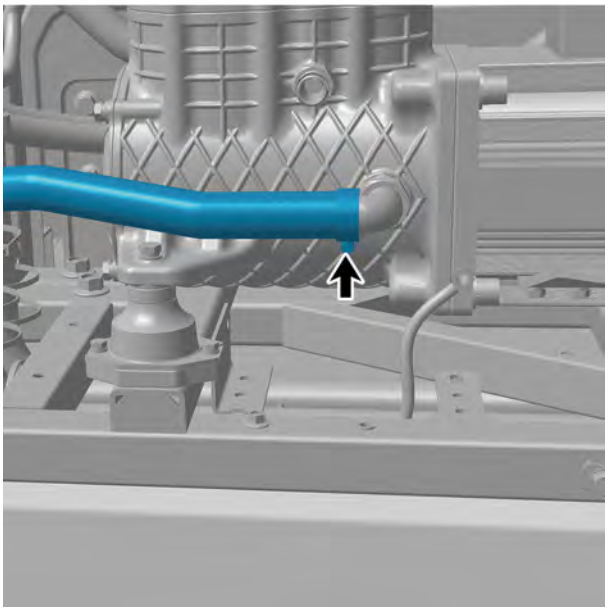
2 Remove the back integrated bracket side cover plate assembly (left).

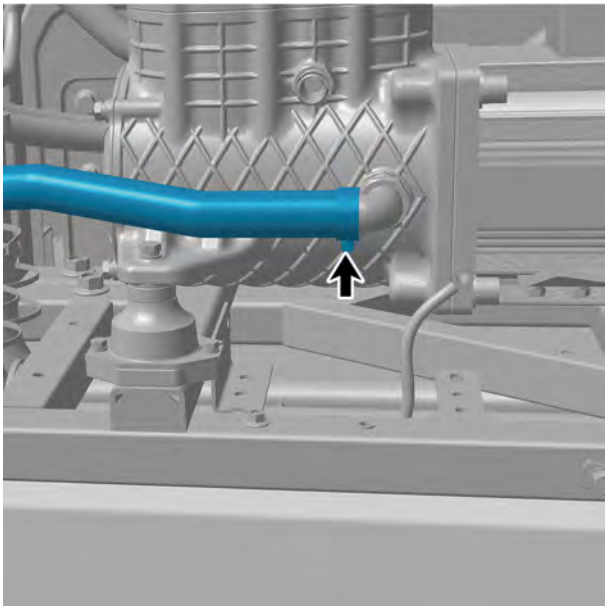
3 Remove the back integrated bracket side cover plate assembly (right).

4 Remove the back integrated bracket middle cover plate assembly.

5 Detach the air inlet hose.

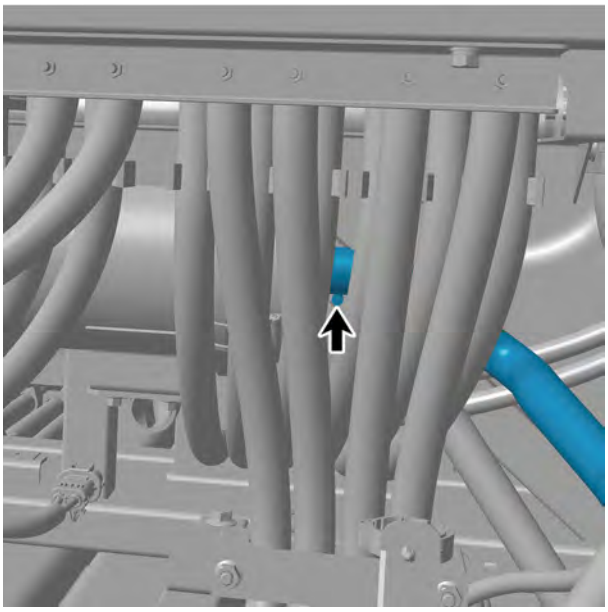






Installation Procedures

1 Install the air inlet hose.



2 Install the back integrated bracket middle cover plate assembly.

3 Install the back integrated bracket side cover plate assembly (right).

4 Install the back integrated bracket side cover plate assembly (left).

8.17.1.4 Replacement of Air Handling Unit Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

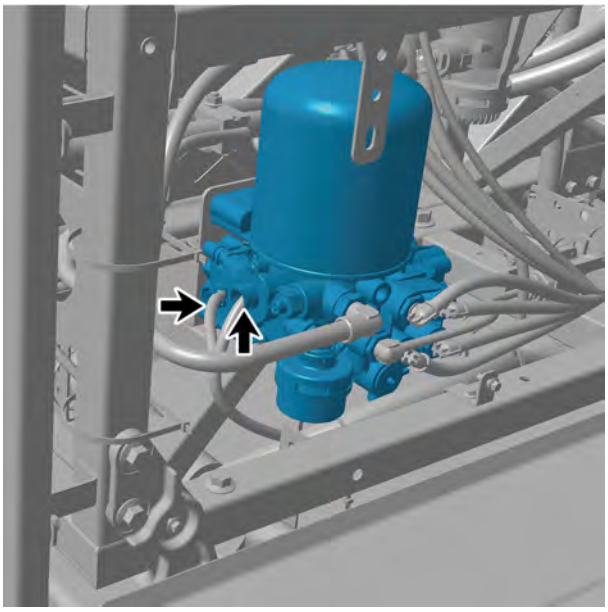
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

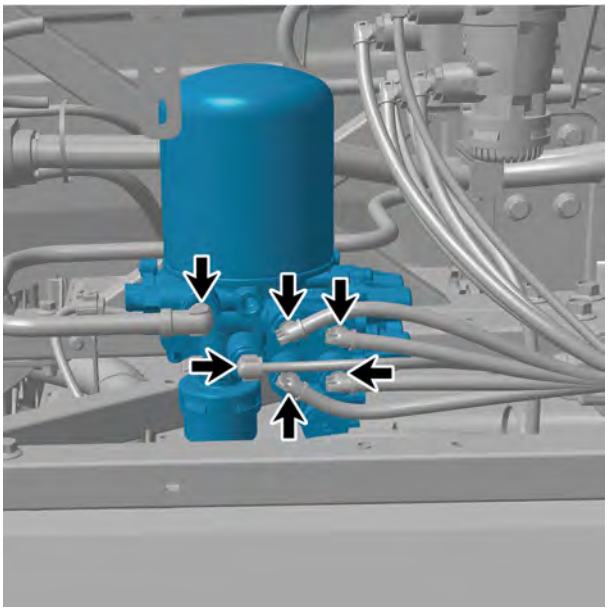
5 Remove the back integrated bracket side cover plate assembly (left).

6 Remove the back integrated bracket side cover plate assembly (right).

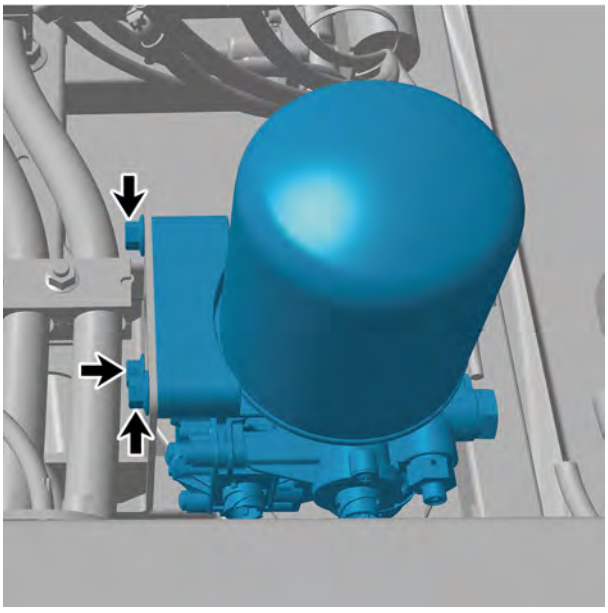
7 Remove the back integrated bracket middle cover plate assembly.



8 Disconnect 2 harness connectors of the air handling unit assembly.



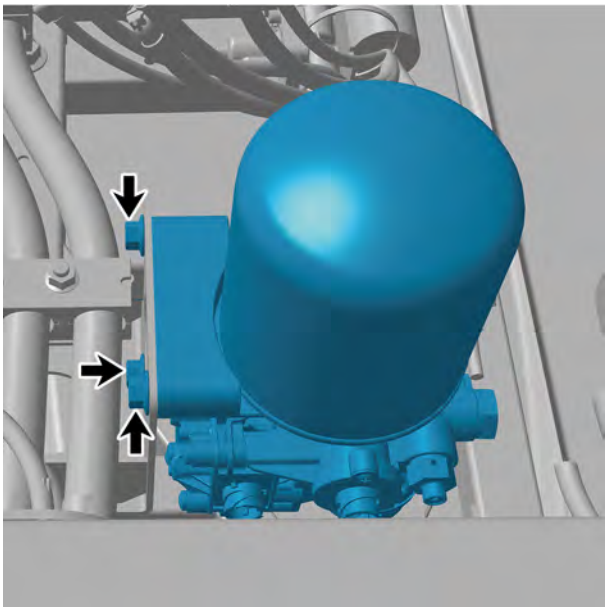
9 Disconnect 6 air pipes of the air handling unit assembly.



10 Remove 3 fixing bolts of the air handling unit assembly.

11 Remove the air handling unit assembly.

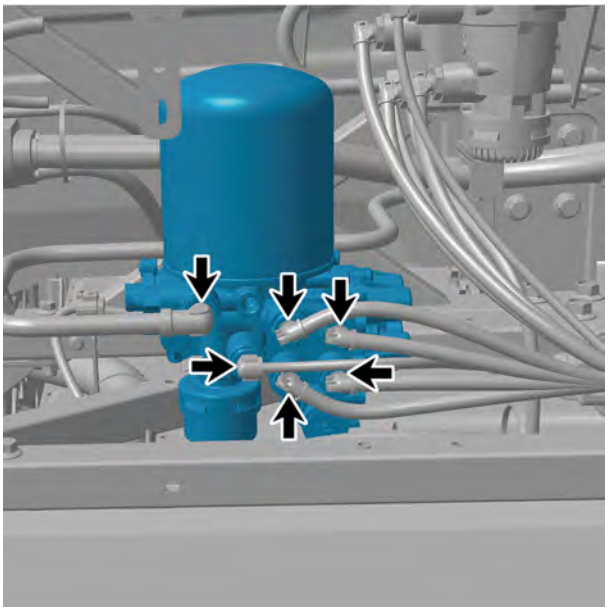
Installation Procedures



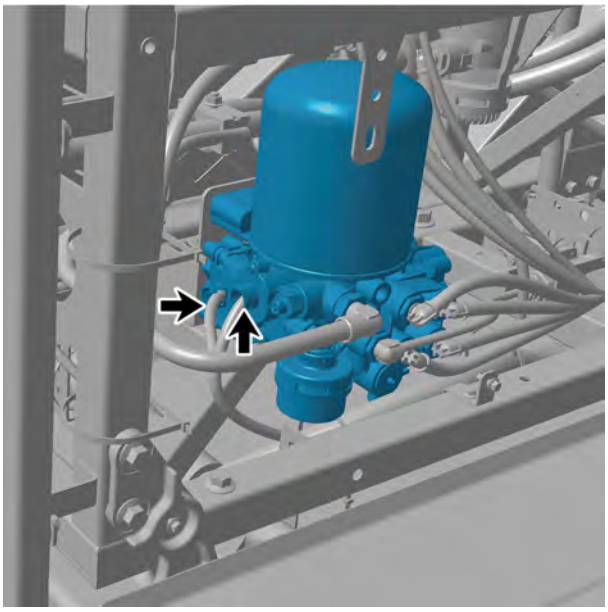
1 Move the air handling unit assembly to the mounting position.

2 Install 3 fixing bolts of the air handling unit assembly.

Torque:70 +/- 3.5 (ft lbs)



3 Connect 6 air pipes of the air handling unit assembly.



4 Connect 2 harness connectors of the air handling unit assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

5 Install the back integrated bracket middle cover plate assembly.

6 Install the back integrated bracket side cover plate assembly (right).

7 Install the back integrated bracket side cover plate assembly (left).

8 Connect the battery negative cable.

9 Close the front flip cover plate.

10 Close the door.

8.17.1.5 Replacement of Drain Valve (front)

Removal Procedures

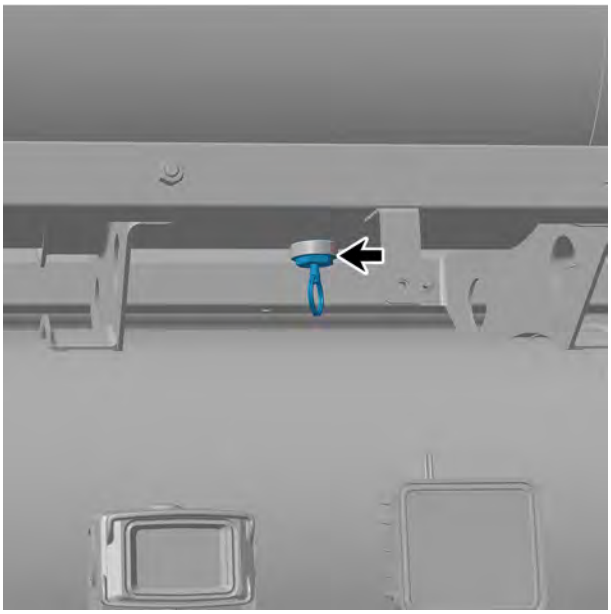
1 Release air pressure from the brake system.

2 Remove the back integrated bracket side cover plate assembly (left).

3 Remove the back integrated bracket side cover plate assembly (right).

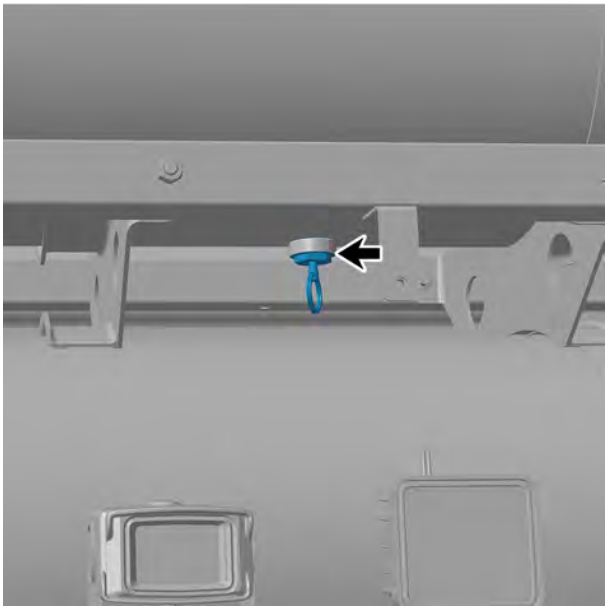
4 Remove the back integrated bracket middle cover plate assembly.

5 Remove the drain valve (front).



Installation Procedures

1 Move the drain valve (front) to the mounting position.



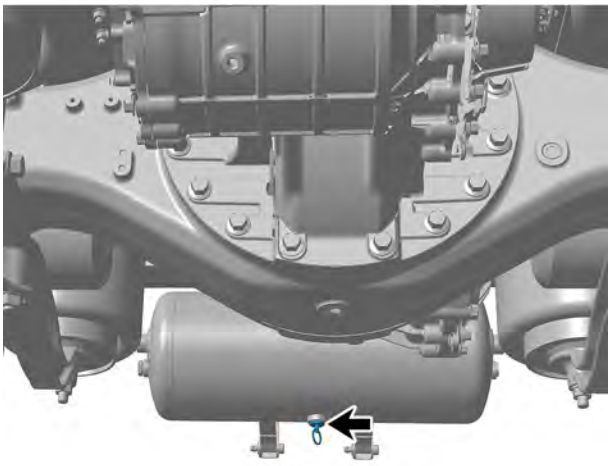
2 Install the back integrated bracket middle cover plate assembly.

3 Install the back integrated bracket side cover plate assembly (right).

4 Install the back integrated bracket side cover plate assembly (left).

8.17.1.6 Replacement of Drain Valve (rear)

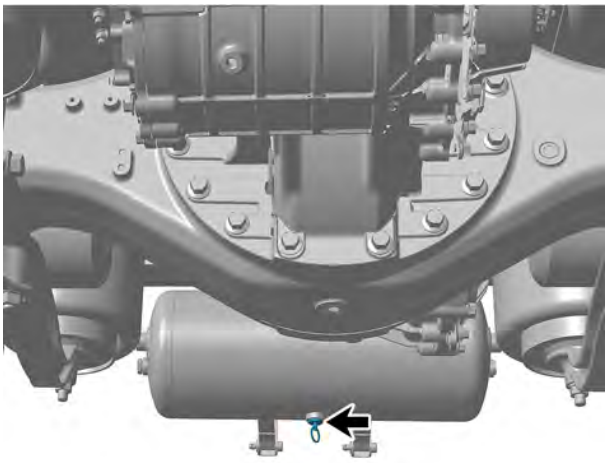
Removal Procedures



1 Release air pressure from the brake system.

2 Remove the drain valve (rear).

Installation Procedures



1 Move the drain valve (rear) to the mounting position.

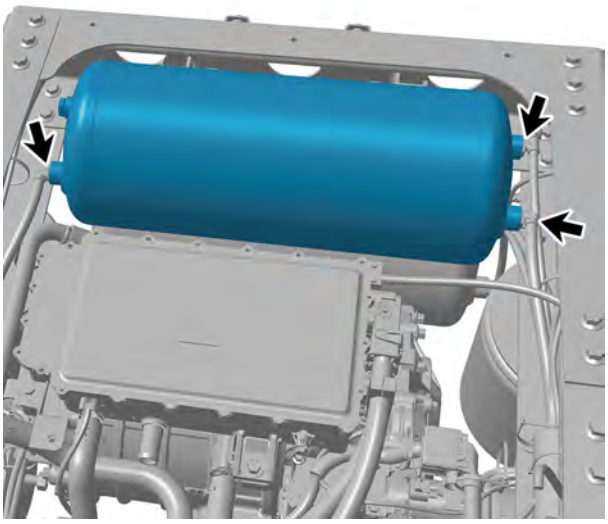
8.17.1.7 Replacement of Air Reservoir Assembly

Removal Procedures

1 Release air pressure from the brake system.

2 Disconnect 3 air pipes of the air reservoir assembly.

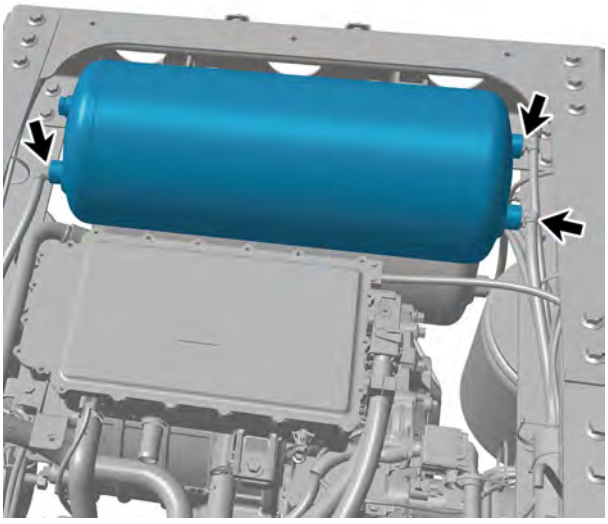
3 Remove the air reservoir assembly.



Installation Procedures

1 Move the air reservoir assembly to the mounting position.

2 Connect 3 air pipes of the air reservoir assembly.



8.17.1.8 Replacement of Air Compressor Steel Pipe Assembly

Removal Procedures

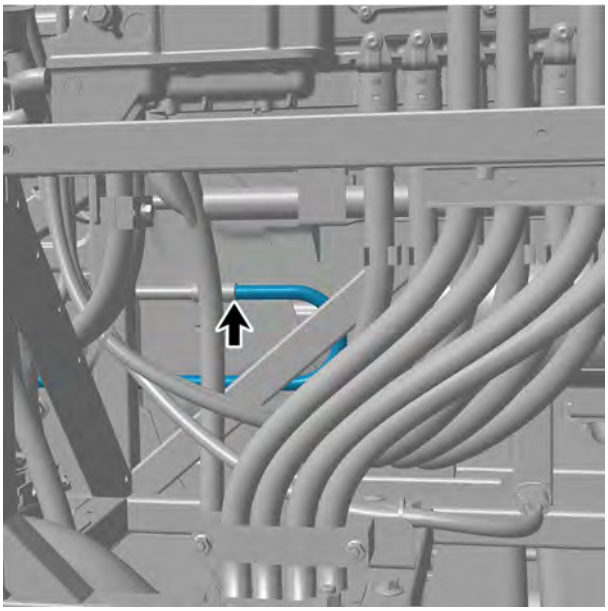
1 Release air pressure from the brake system.

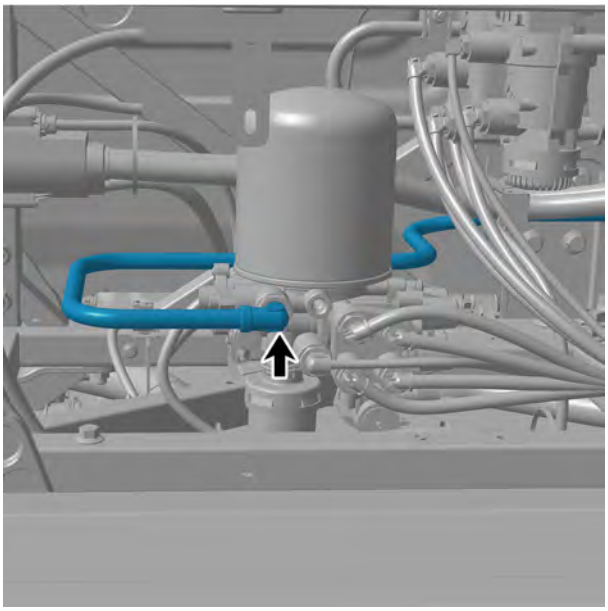
2 Remove the back integrated bracket side cover plate assembly (left).

3 Remove the back integrated bracket side cover plate assembly (right).

4 Remove the back integrated bracket middle cover plate assembly.

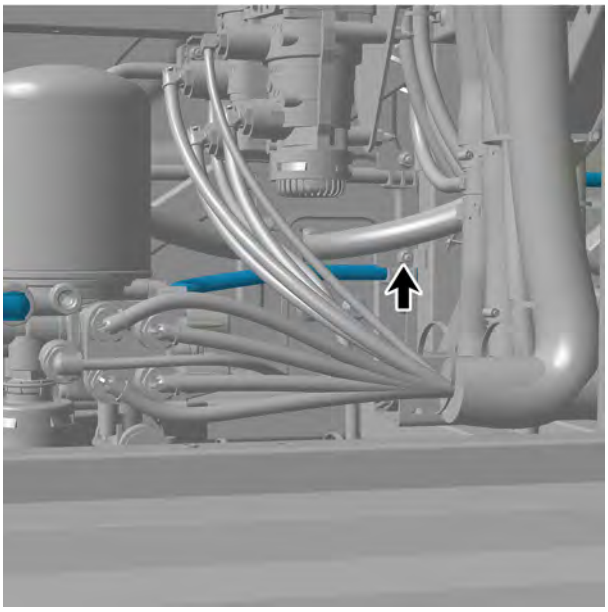
5 Remove the left deflector lower body.

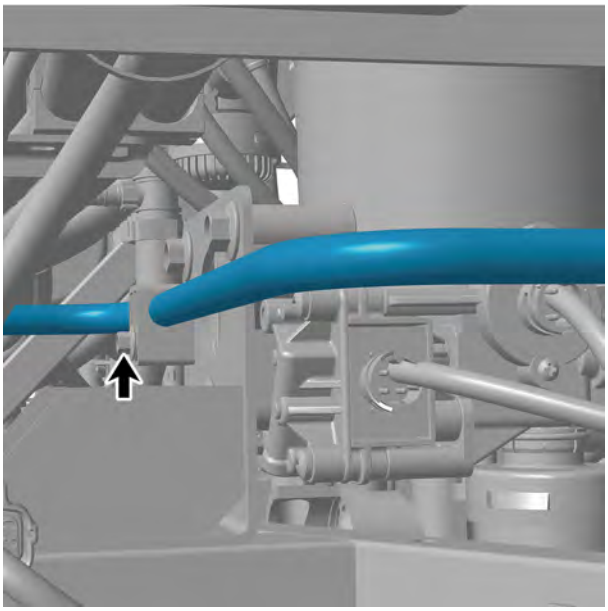




6 Remove the left charging cover plate assembly.

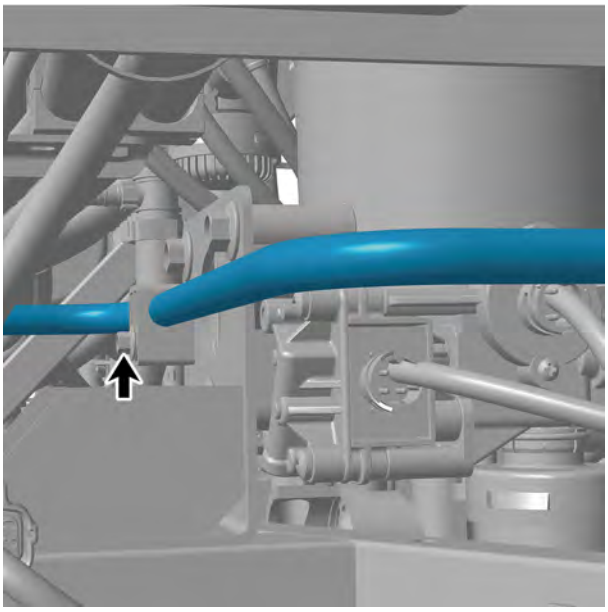
7 Disconnect 2 air pipes of the air compressor steel pipe assembly.

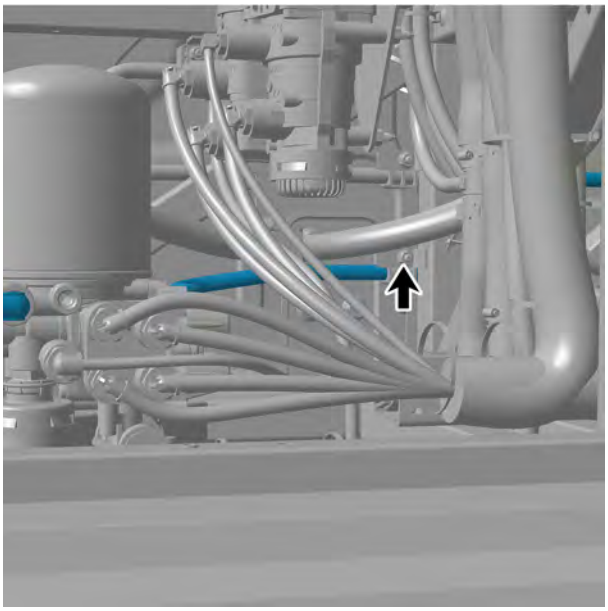


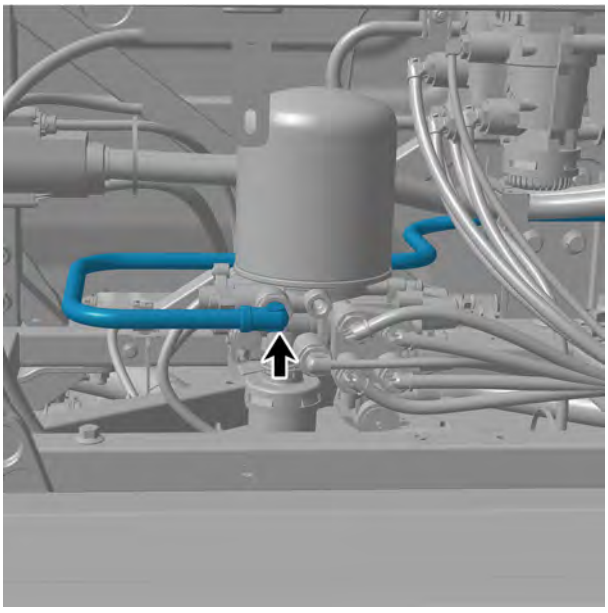


8 Remove 2 pipe clamps of the air compressor steel pipe assembly, and remove the air compressor steel pipe assembly.

Installation Procedures



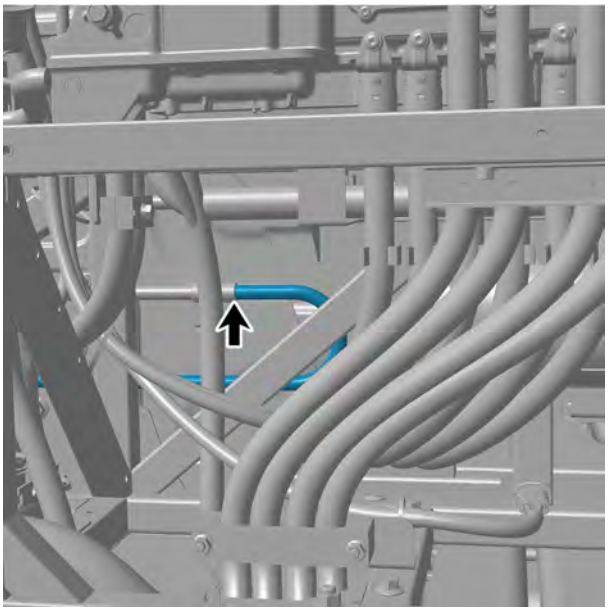




1 Move the air compressor steel pipe assembly to the mounting position.

2 Install 2 pipe clamps of the air compressor steel pipe assembly.

3 Connect 2 air pipes of the air compressor steel pipe assembly.



4 Install the left charging cover plate assembly.

5 Install the left deflector lower body.

6 Install the back integrated bracket middle cover plate assembly.

7 Install the back integrated bracket side cover plate assembly (right).

8 Install the back integrated bracket side cover plate assembly (left).

8.17.1.9 Replacement of Air Compressor Steel Pipe Assembly (left)

Removal Procedures

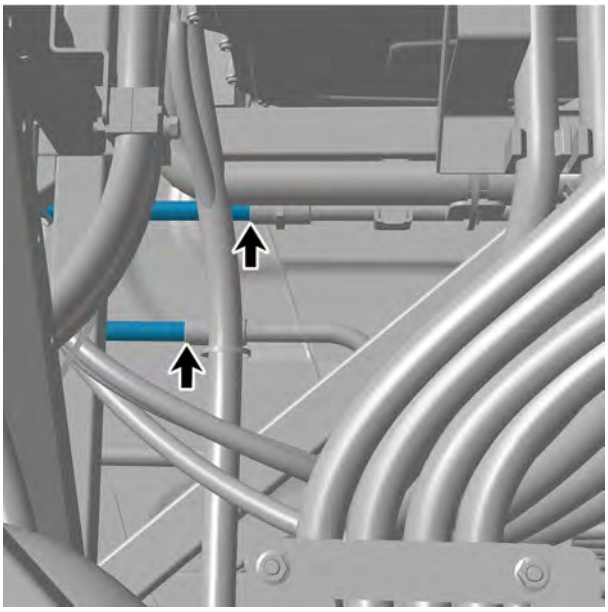
1 Release air pressure from the brake system.

2 Remove the back integrated bracket side cover plate assembly (left).

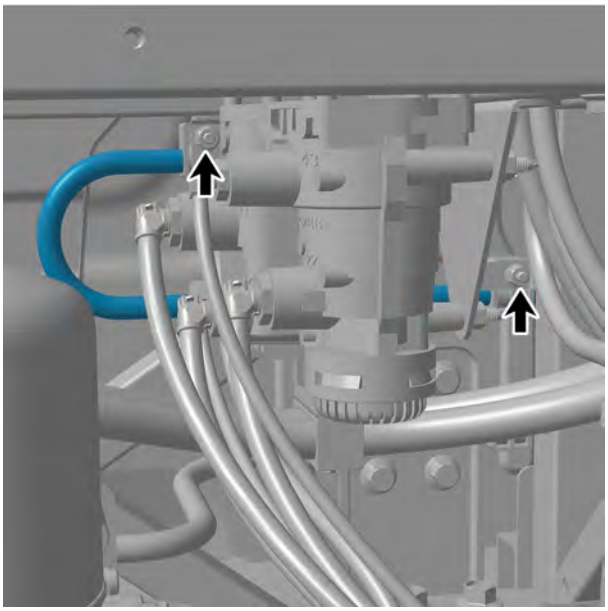
3 Remove the back integrated bracket middle cover plate assembly.

4 Remove the left deflector lower body.

5 Remove the left charging cover plate assembly.



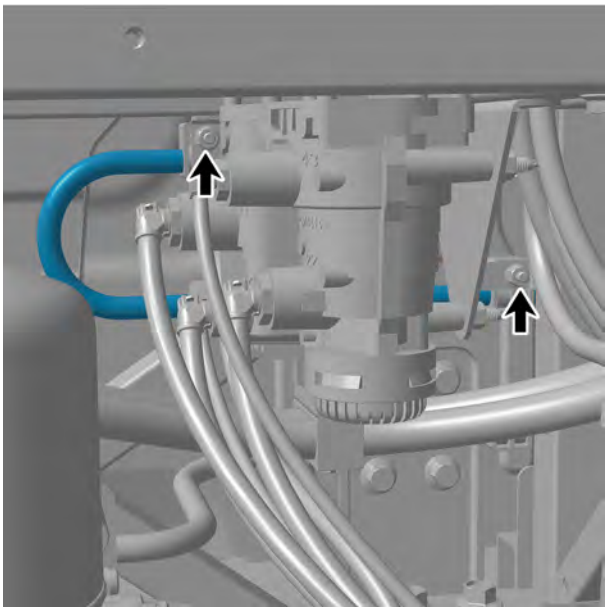
6 Disconnect 2 joints of the air compressor steel pipe assembly (left).



7 Remove 2 fixing bolts and nuts of the 2 pipe clamps of the air compressor steel pipe assembly (left).

8 Remove the air compressor steel pipe assembly (left).

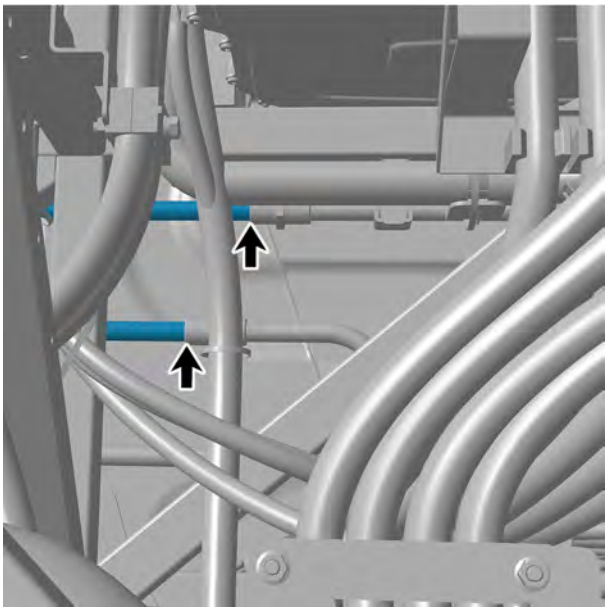
Installation Procedures



1 Move the air compressor steel pipe assembly (left) to the mounting position.

2 Install 2 fixing bolts and nuts of the 2 pipe clamps of the air compressor steel pipe assembly (left).

Torque: 22 +/- 3.5 (ft lbs)



3 Connect 2 joints of the air compressor steel pipe assembly (left).

4 Install the left charging cover plate assembly.

5 Install the left deflector lower body.

6 Install the back integrated bracket middle cover plate assembly.

7 Install the back integrated bracket side cover plate assembly (left).

8.17.1.10 Replacement of Air Filter Element

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the back integrated bracket side cover plate assembly (left).

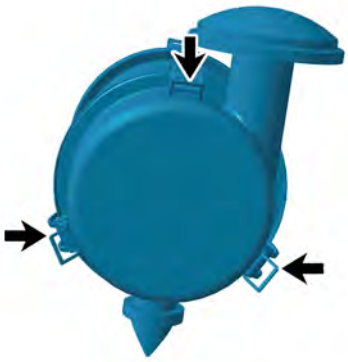
6 Remove the back integrated bracket side cover plate assembly (right).

7 Remove the back integrated bracket middle cover plate assembly.

8 Remove the air filter assembly.

9 Disengage 3 clips of the air filter element.

10 Remove the air filter element.



Installation Procedures

1 Move the air filter element to the mounting position.

2 Install 3 clips of the air filter element.



3 Install the air filter assembly.

4 Install the back integrated bracket middle cover plate assembly.

5 Install the back integrated bracket side cover plate assembly (right).

6 Install the back integrated bracket side cover plate assembly (left).

7 Connect the battery negative cable.

8 Close the front flip cover plate.

9 Close the door.

8.17.1.11 Replacement of Air Filter Element (muffler)

Removal Procedures

1 Release air pressure from the brake system.

2 Open the door.

3 Open the front flip cover plate.

4 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

5 Remove the back integrated bracket side cover plate assembly (left).

6 Remove the back integrated bracket side cover plate assembly (right).

7 Remove the back integrated bracket middle cover plate assembly.

8 Remove the air filter assembly.



9 Disengage 3 clips of the air filter element.

10 Remove the air filter element (muffler).

Installation Procedures



1 Move the air filter element (muffler) to the mounting position.

2 Install 3 clips of the air filter element.

3 Install the air filter assembly.

4 Install the back integrated bracket middle cover plate assembly.

5 Install the back integrated bracket side cover plate assembly (right).

6 Install the back integrated bracket side cover plate assembly (left).

7 Connect the battery negative cable.

8 Close the front flip cover plate.

10 Close the door.

8.18 EBS Electronic Control Unit Execution Device

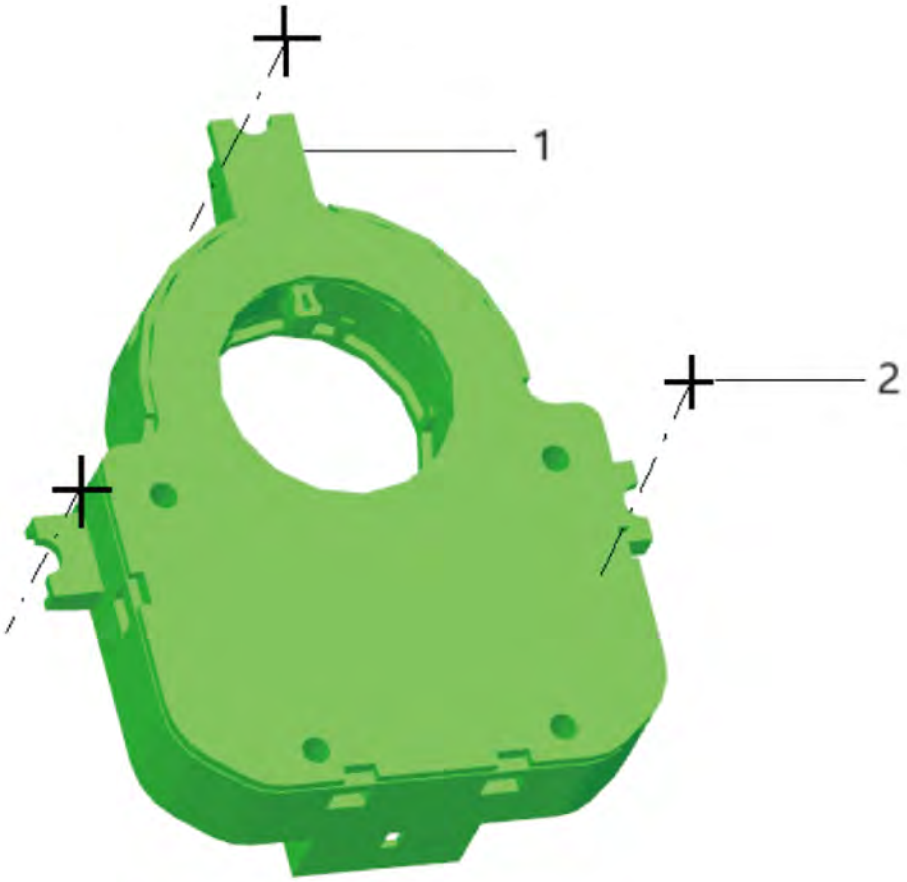
8.18.1 Specifications

8.18.1.1 Fastener Specifications

Fastener name	Specifications	Range Of Torque
		Foot Pounds of Torque (ft lbs)
The fixing bolt connecting the yaw sensor assembly and the frame assembly	M8	18.5 +/- 2 (ft lbs)
The fixing bolts connecting the EBS controller assembly to the EBS bracket	M6	8 +/- .75 (ft lbs)

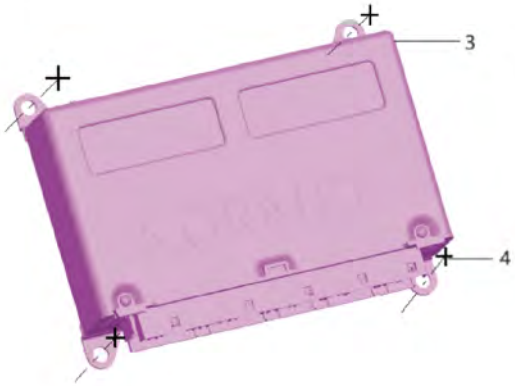
8.18.2 Decomposition Diagram

8.18.2.1 Decomposition Diagram



1. Angle Sensor Assy
2. Cross Recessed Pan Head Machine Screw





3. Ebs Controller Assy

4. Hexagon Flange Bolt



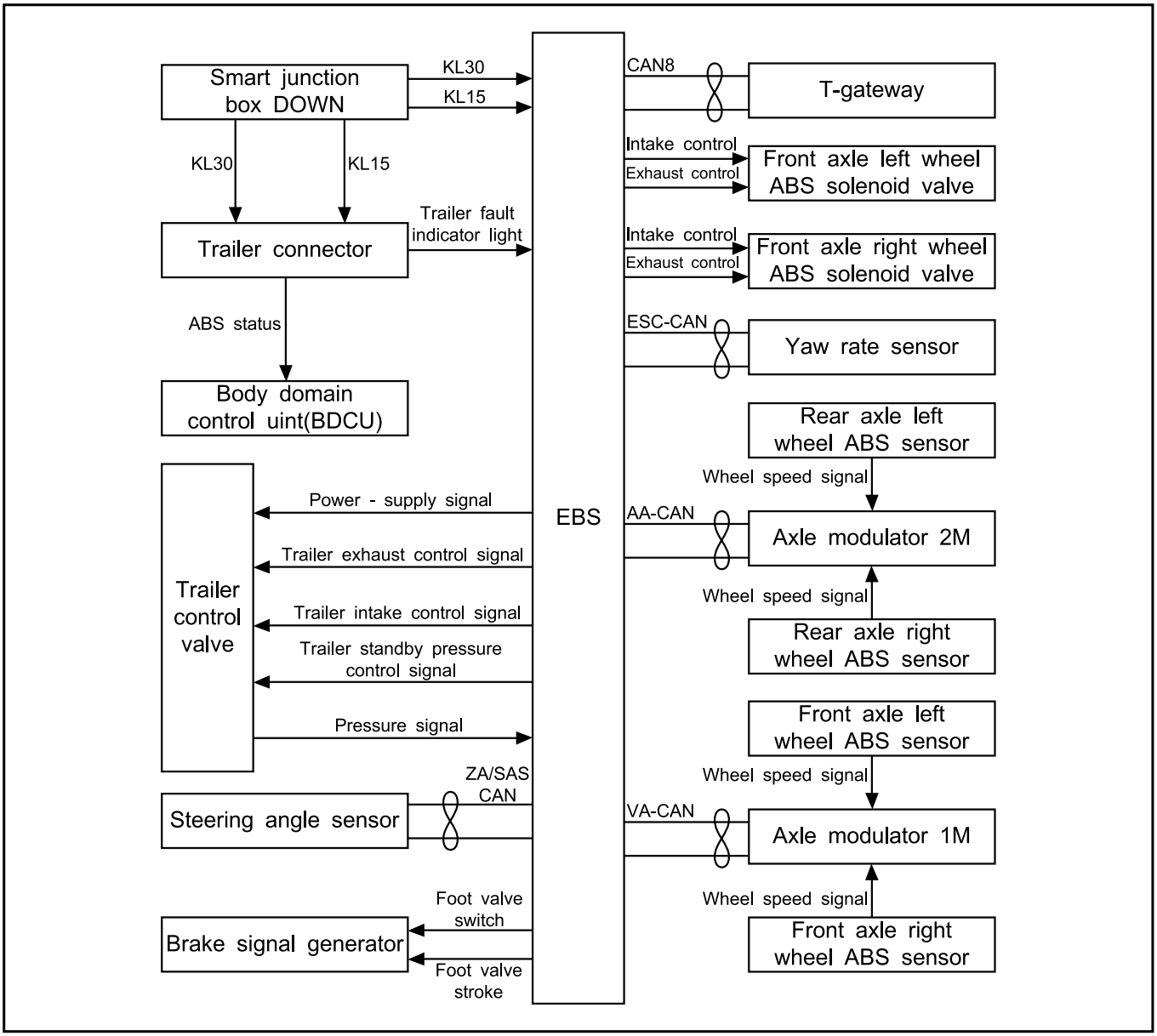


5. Yaw Sensor Assy

6. Hexagon Flange Bolt

8.18.3 System Schematic Diagram

8.18.3.1 Electrical Schematic Diagram



8.18.4 Diagnostic Information and Steps

8.18.4.1 Diagnostic Description

Before diagnosing the malfunction of the EBS electronic control unit execution device, it is important to understand and familiarize oneself with the working principle of the EBS electronic control unit execution device before starting system diagnosis. This will help determine the correct fault diagnosis steps when a malfunction occurs, and more importantly, it will help determine the situation described by the customer belongs to normal operation. Any fault diagnosis of the EBS electronic control unit execution device should start with routine inspection, guiding maintenance personnel to take the next logical step for fault diagnosis. Understanding and correctly using the diagnostic process can shorten the diagnosis time and avoid misjudgment of faulty parts.

8.18.4.2 Routine Inspection

- Check the after-sales installation devices that may affect the operation of the EBS electronic control unit execution device system, ensuring that these devices cannot affect the operation of the EBS electronic control unit execution device system.
- Check system components that are easily accessible or visible to ensure that there is no obvious damage or potential malfunction.

8.18.4.3 Fault Symptom Table

Symptom	Suspected Faulty Project	Measures
The EBS function is always working or not working at any time	1.Wheel speed sensor installation error	Reinstall the wheel speed sensor and adjust the gap between the wheel speed sensor and the signal board. Replace the wheel speed sensor or signal board if necessary.
	2.The gap between the wheel speed sensor and the signal panel is too large or too small, or foreign objects are blocking it	
	3.Wheel speed sensor malfunction	Refer to Front Axle Left Wheel ABS Sensor Fault.Front Axle Right Wheel ABS Sensor Fault.Rear Axle Left Wheel ABS Sensor Fault.Rear Axle Right Wheel ABS Sensor Fault
	4.ABS solenoid valve malfunction	Refer to Front Axle Left Wheel ABS Solenoid Valve Fault.Front Axle Right Wheel ABS Solenoid Valve Fault
	5.EBS module malfunction	Refer to Replacement Of EBS Controller Assembly

8.18.4.4 DTC Confirmation

1. Connect the diagnostic tool to the diagnostic interface, read and record the DTC, and then clear the DTC.

2. Run the vehicle again.

3. Read the fault code of the control system again to confirm if there is any fault code output from the system.

   – Yes:Diagnose based on the output fault code.

   – No:Perform intermittent fault check, refer to Inspection Of Intermittent Faults

8.18.4.5 List Of Diagnostic Trouble Codes (DTC)

EBS

Fault Code	Fault Description	Exclusion Method
C330203	The voltage of the ECU is too high	Refer to EBS Power Fault
C330204	The controller (ECU) voltage is too low	

Fault Code	Fault Description	Exclusion Method
C35020D	Valve power failure	
C3F0205	Vehicle CAN communication failure	Refer to EBS Communication Fault
B030205	The ESC CAN communication is faulty	
C36020C	EEPROM fault	Refer to EBS Internal Fault
P210305	The DBR is disconnected	
P2B0305	ESC not detected	
B010205	The EPM CAN communication of axle 1 and axle 2 is faulty	Refer to EBS Private CAN Communication Fault
P220305	Foot valve failure	Refer to Brake Signal Generator Fault
P340305	Trailer valve failure	Refer to Trailer Control Valve Fault
P390305	The yaw rate sensor is faulty	Refer to Yaw Rate Sensor Fault
P3A0305	The steering Angle sensor is faulty	Refer to Steering Angle Sensor Fault
P150301	The gap between the left front sensor and the gear ring is too large	Refer to Front Axle Left Wheel ABS Sensor Fault
P150306	Short-circuited left front sensor	
P150305	Left front sensor disconnected	
P15030B	Left front ring missing teeth, deflection	
P160301	The gap between the right front sensor and the gear ring is too large	Refer to Front Axle Right Wheel ABS Sensor Fault
P160306	Right front sensor short-circuited	
P160305	Right front sensor disconnected	
P16030B	Right front ring missing teeth, deflection	
P170301	The gap between the left rear/left second sensor and the gear ring is too large	Refer to Rear Axle Left Wheel ABS Sensor Fault
P170306	The left rear/left second sensor is short-circuited	
P170305	The left rear/left second sensor is disconnected	
P17030B	Missing teeth and deflection of left rear/ left second ring	
P180301	The gap between the right rear/right second sensor and the gear ring is too large	Refer to Rear Axle Right Wheel ABS Sensor Fault
P180306	The right rear/right second sensor is short-circuited	
P180305	The right rear/right second sensor is disconnected	
P18030B	Missing teeth and deflection of right rear/right second ring	

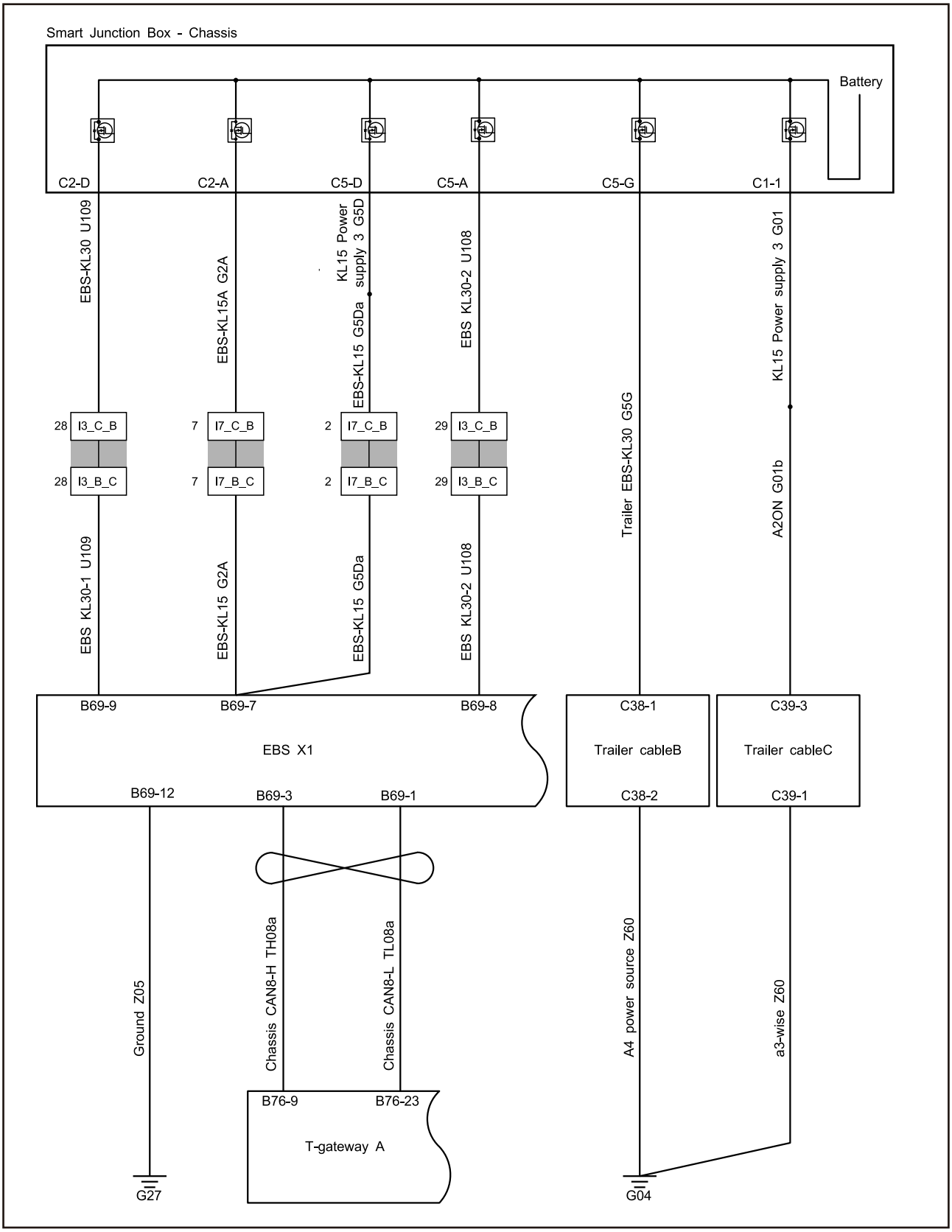
Fault Code	Fault Description	Exclusion Method
P1D0306	Left front solenoid valve short circuit	Refer to Front Axle Left Wheel ABS Solenoid Valve Fault
P1D0305	Left front solenoid valve disconnected	
P1E0306	Right front solenoid valve short circuit	Refer to Front Axle Right Wheel ABS Solenoid Valve Fault
P1E0305	Right front solenoid valve disconnected	
P200306	One axle EPM short-circuit	Refer to Vehicle Axle Modulator 1M Fault
P200309	The Hitotsubashi EPM ECU is faulty	
P20030A	The EPM pressure sensor of Hitotsubashi is faulty	
P200305	One axle EPM is disconnected	
P250306	Second axle EPM short circuit	Refer to Vehicle Axle Modulator 2M Fault
P250309	The EPM ECU of axle two is faulty	
P25030A	The EPM pressure sensor of the second axle is faulty	
P250305	axle 2 EPM is disconnected	

8.18.4.6 EBS Power Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C330203	The voltage of the ECU is too high	The voltage of the ECU is too high	Controller power-on	1. Main battery 2. Low voltage charging system 3. Wiring harness 4.EBS
C330204	The controller (ECU) voltage is too low	The controller (ECU) voltage is too low	Controller power-on	
C35020D	Valve power failure	Valve power failure	Controller power-on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3：Check if there are any other module power fault codes besides EBS?

– Yes: Check the main battery. Refer to Inspection Of The Main Battery
Check the low-voltage charging system. Refer to DCDC1 Low-voltage Charging System Fault

– No: Next step

Step 4：Check the EBS power supply and grounding harness.

Step 5：EBS rewrite configuration code, software reload, upgrade.

Step 6：Replace EBS. Refer to Replacement Of EBS Controller Assembly

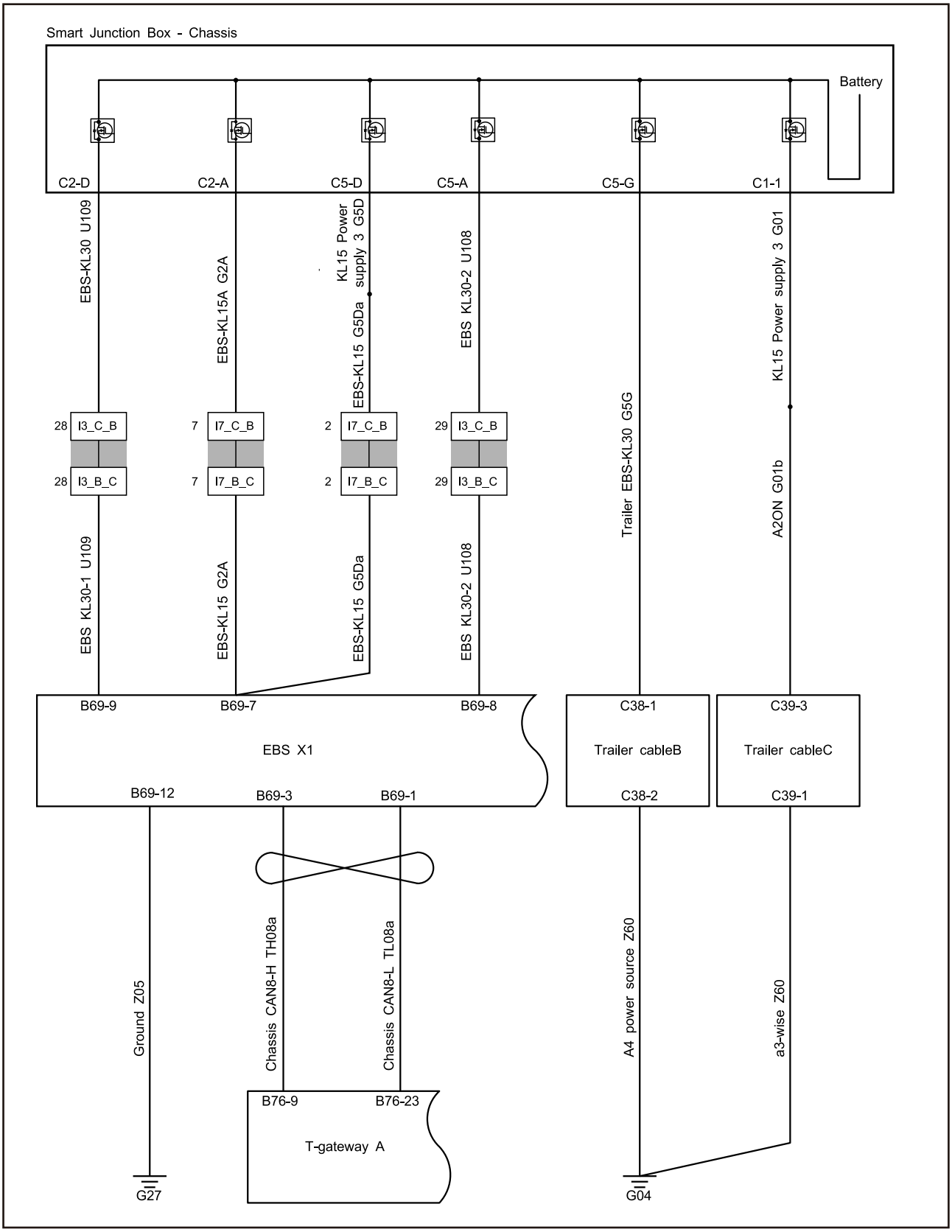
Step 7:Clear and confirm DTC.

8.18.4.7 EBS Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C3F0205	Vehicle CAN communicatio-n failure	The EEC1 packet timed out. Procedure	Controller power-on	1. Wiring harness 2.EBS
B030205	The ESC CAN communicatio-n is faulty	The ESC CAN communication is abnormal	Controller power-on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the CAN8 bus communication harness. Refer to Inspection Of CAN8 Bus Network Integrity

Step 4:EBS rewrite configuration code, software reload, upgrade.

Step 5:Replace EBS. Refer to Replacement Of EBS Controller Assembly

Step 6:Clear and confirm DTC.

8.18.4.8 EBS Internal Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
C36020C	EEPROM fault	EEPROM fault	Controller power-on	1.EBS
P210305	The DBR is disconnected	The DBR is not connected	Controller power-on	
P2B0305	ESC not detected	The SAS static check or ESC dynamic check is incomplete.	Controller power-on	

2. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:EBS rewrite configuration code, software reload, upgrade.

Step 4:Replace EBS. Refer to Replacement Of EBS Controller Assembly

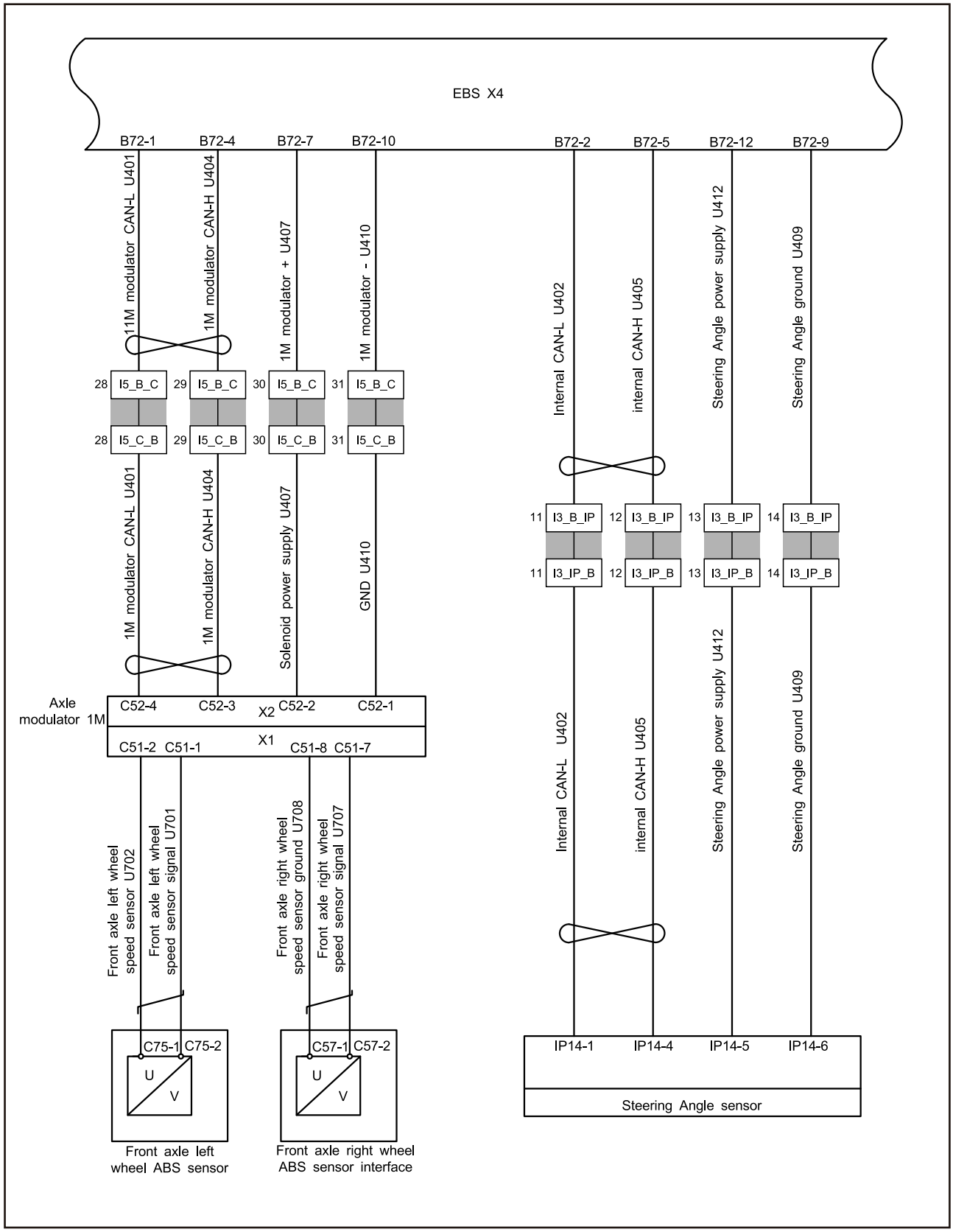
Step 5:Clear and confirm DTC.

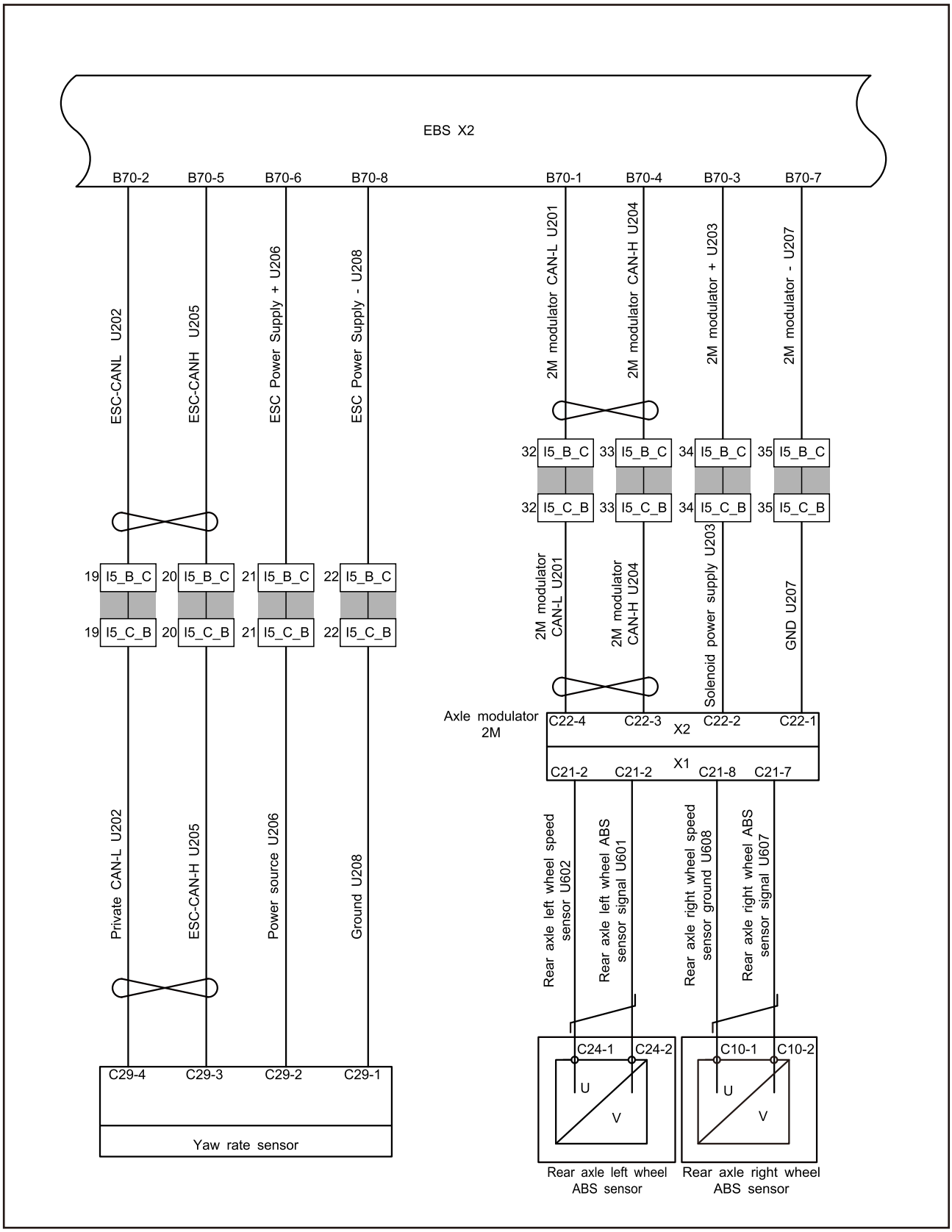
8.18.4.9 EBS Private CAN Communication Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
B010205	The EPM CAN communicatio-n of axle 1 and axle 2 is faulty	EPM CAN communication between axle 1 and axle 2 is abnormal	Controller power-on	1. Wiring harness 2.EBS

2.Circuit Diagram


EBS X4
B72-1
B72-4
B72-7
B72-10
B72-2
B72-5
B72-12
B72-9
11M modulator CAN-L U401
1M modulator CAN-H U404
1M modulator + U407
1M modulator - U410
Internal CAN-L U402
internal CAN-H U405
Steering Angle power supply U412
Steering Angle ground U409
28 I5_B_C
29 I5_B_C
30 I5_B_C
31 I5_B_C
28 I5_C_B
29 I5_C_B
30 I5_C_B
31 I5_C_B
11 I3_B_IP
12 I3_B_IP
13 I3_B_IP
14 I3_B_IP
11 I3_IP_B
12 I3_IP_B
13 I3_IP_B
14 I3_IP_B
1M modulator CAN-L U401
1M modulator CAN-H U404
Solenoid power supply U407
GND U410
Axle modulator 1M
C52-4
C52-3
X2
C52-2
C52-1
C51-2 C51-1
X1
C51-8 C51-7
Front axle left wheel speed sensor U702
Front axle left wheel speed sensor signal U701
Front axle right wheel speed sensor ground U708
Front axle right wheel speed sensor signal U707
C75-1 C75-2
C57-1 C57-2
U
V
Front axle left wheel ABS sensor
Front axle right wheel ABS sensor interface
IP14-1
IP14-4
IP14-5
IP14-6
Steering Angle sensor



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the AA-CAN communication harness between EBS and the axle modulator 1M.

Step 4:Check the VA-CAN communication harness between EBS and the axle modulator 2M.

Step 5:EBS rewrite configuration code, software reload, upgrade.

Step 6:Replace EBS. Refer to Replacement Of EBS Controller Assembly

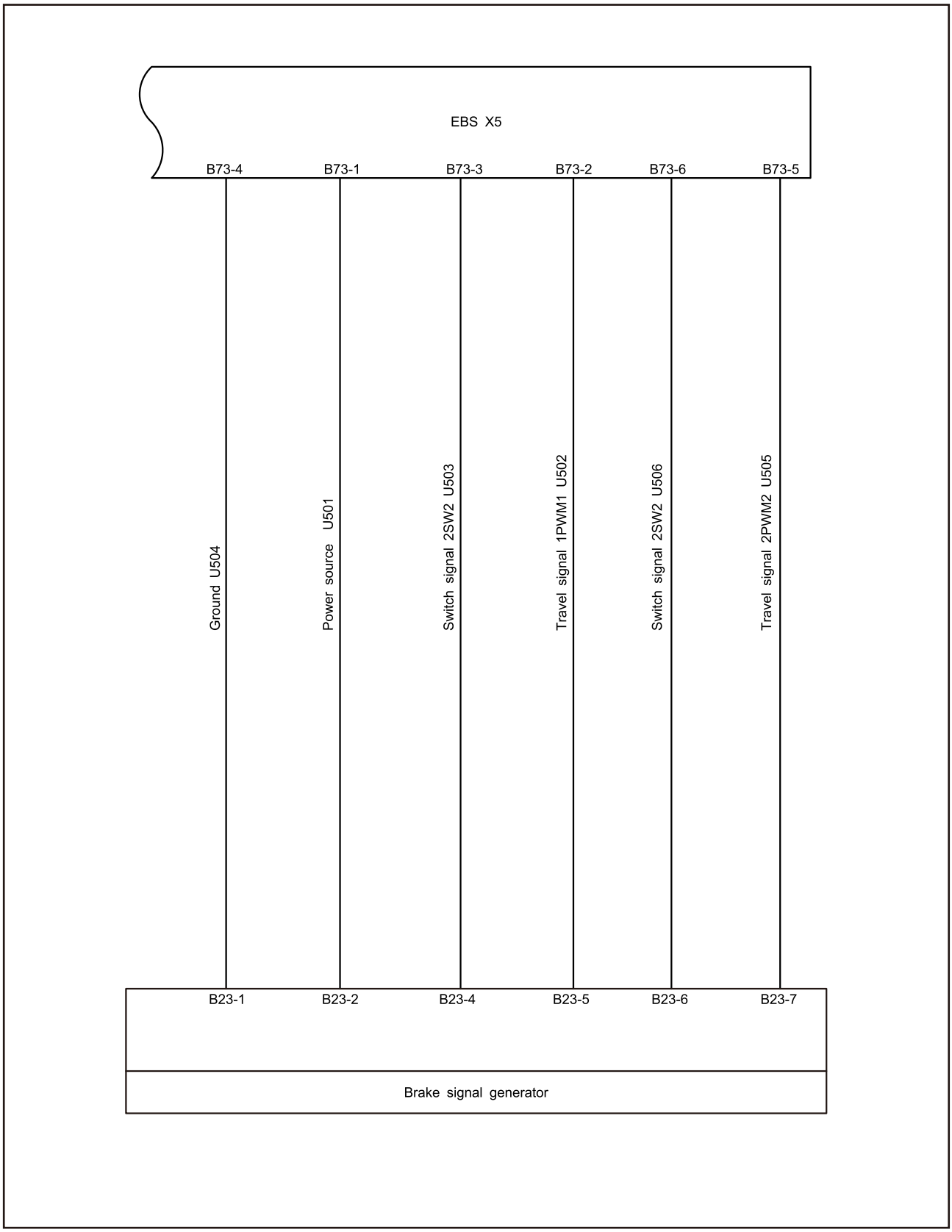
Step 7:Clear and confirm DTC.

8.18.4.10 Brake Signal Generator Malfunction

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P220305	Foot valve failure	Short break of foot valve	Controller power-on	1. Wiring harness 2.Brake signal generator 3.EBS

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the brake signal generator and EBS.

Step 4:Replace the brake signal generator. Refer to Replacement Of Brake Signal Transmitter Assembly

Step 5:EBS rewrite configuration code, software reload, upgrade.

Step 6:Replace EBS. Refer to Replacement Of EBS Controller Assembly

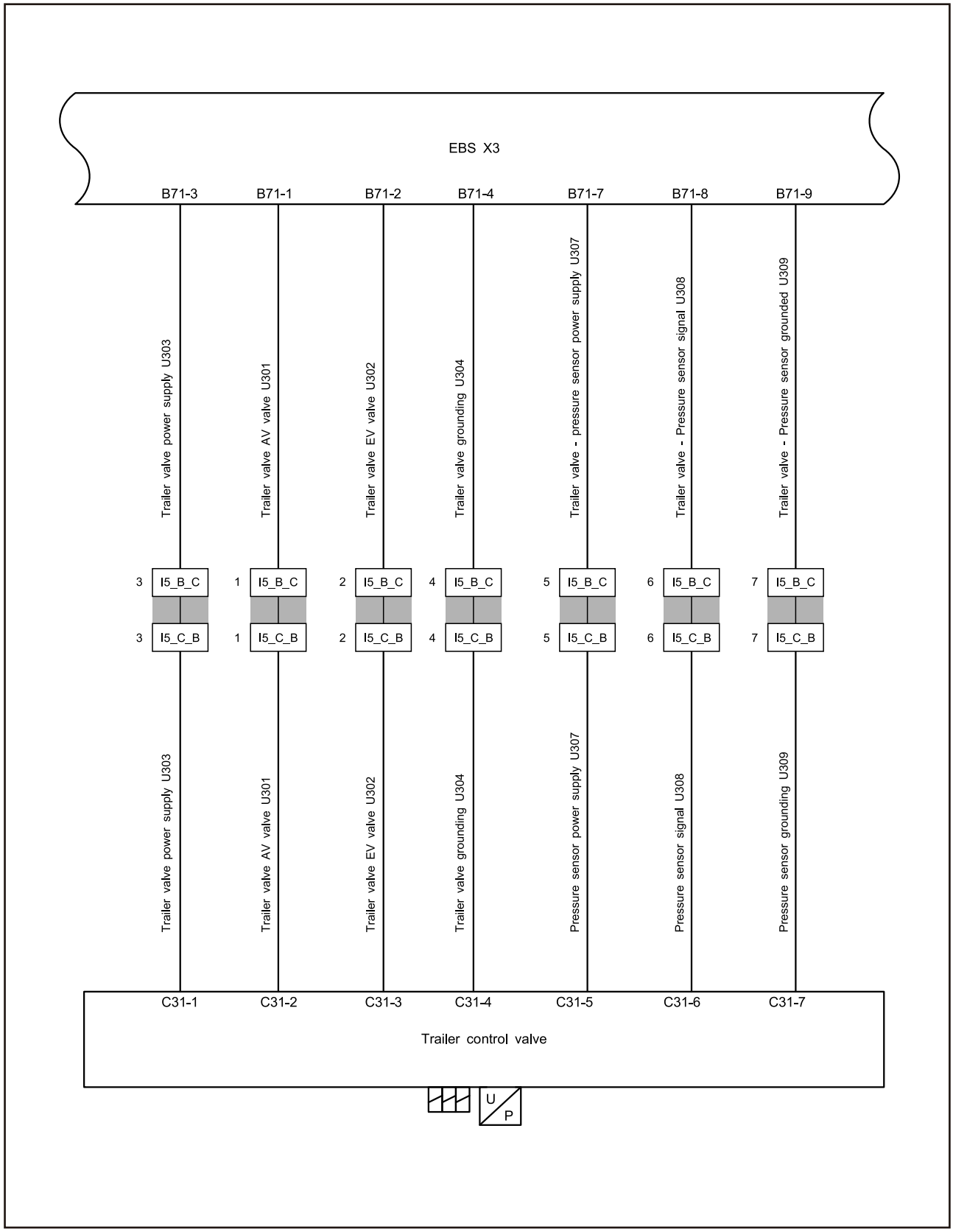
Step 7:Clear and confirm DTC.

8.18.4.11 Trailer Control Valve Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P340305	Trailer valve failure	Trailer valve short break	Controller power-on	1. Wiring harness 2.Trailer control valve 3.EBS

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the trailer control valve and EBS.

Step 4:Replace the trailer control valve. Refer to Replacement Of Trailer Control Module Assembly

Step 5:EBS rewrite configuration code, software reload, upgrade.

Step 6:Replace EBS. Refer to Replacement Of EBS Controller Assembly

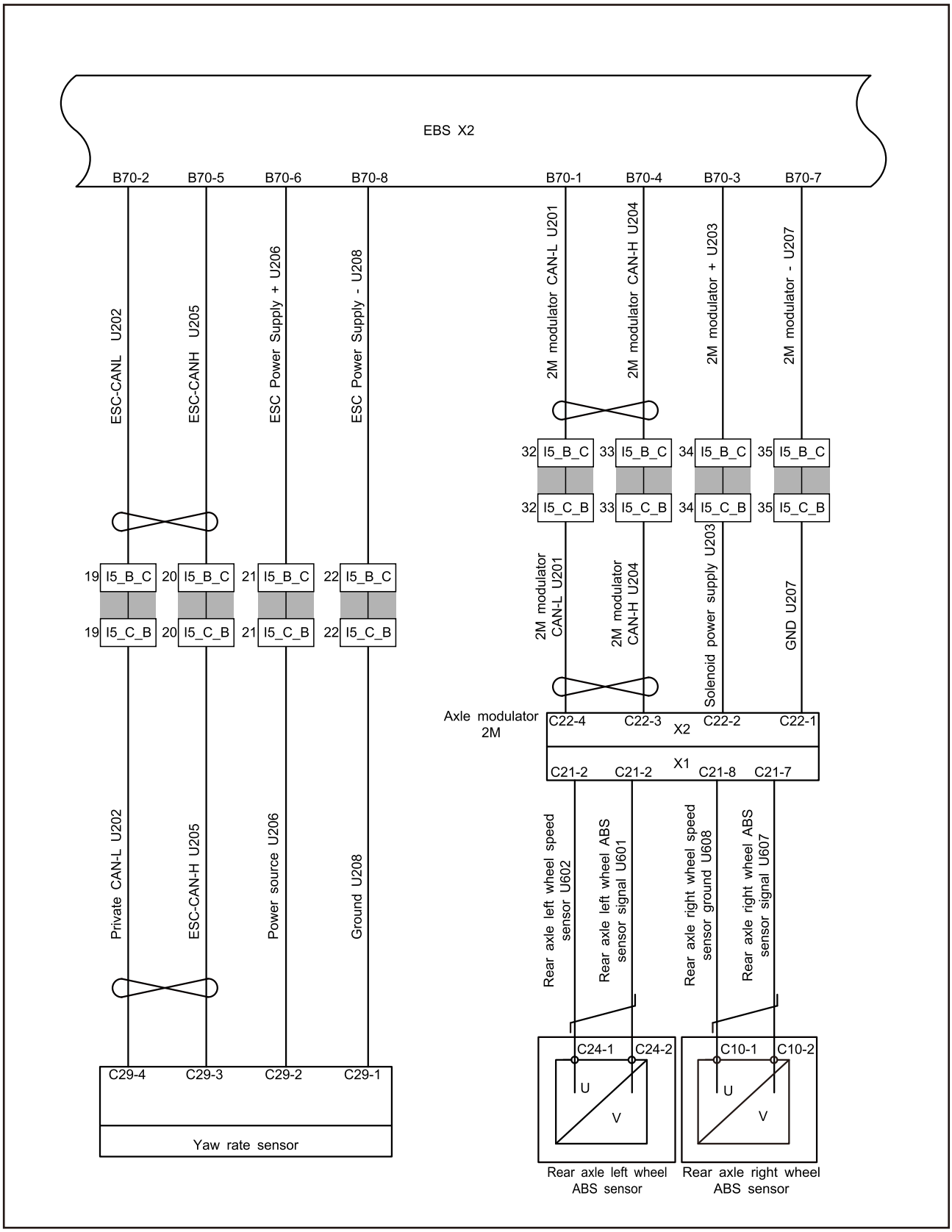
Step 7:Clear and confirm DTC.

8.18.4.12 Yaw Rate Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P390305	The yaw rate sensor is faulty	The yaw rate sensor is faulty	Controller power-on	1. Wiring harness 2.Yaw rate sensor 3.EBS

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the yaw rate sensor and EBS.

Step 4:Replace the yaw rate sensor. Refer to Replacement Of The Yaw Sensor Assembly

Step 5:EBS rewrite configuration code, software reload, upgrade.

Step 6:Replace EBS. Refer to Replacement Of EBS Controller Assembly

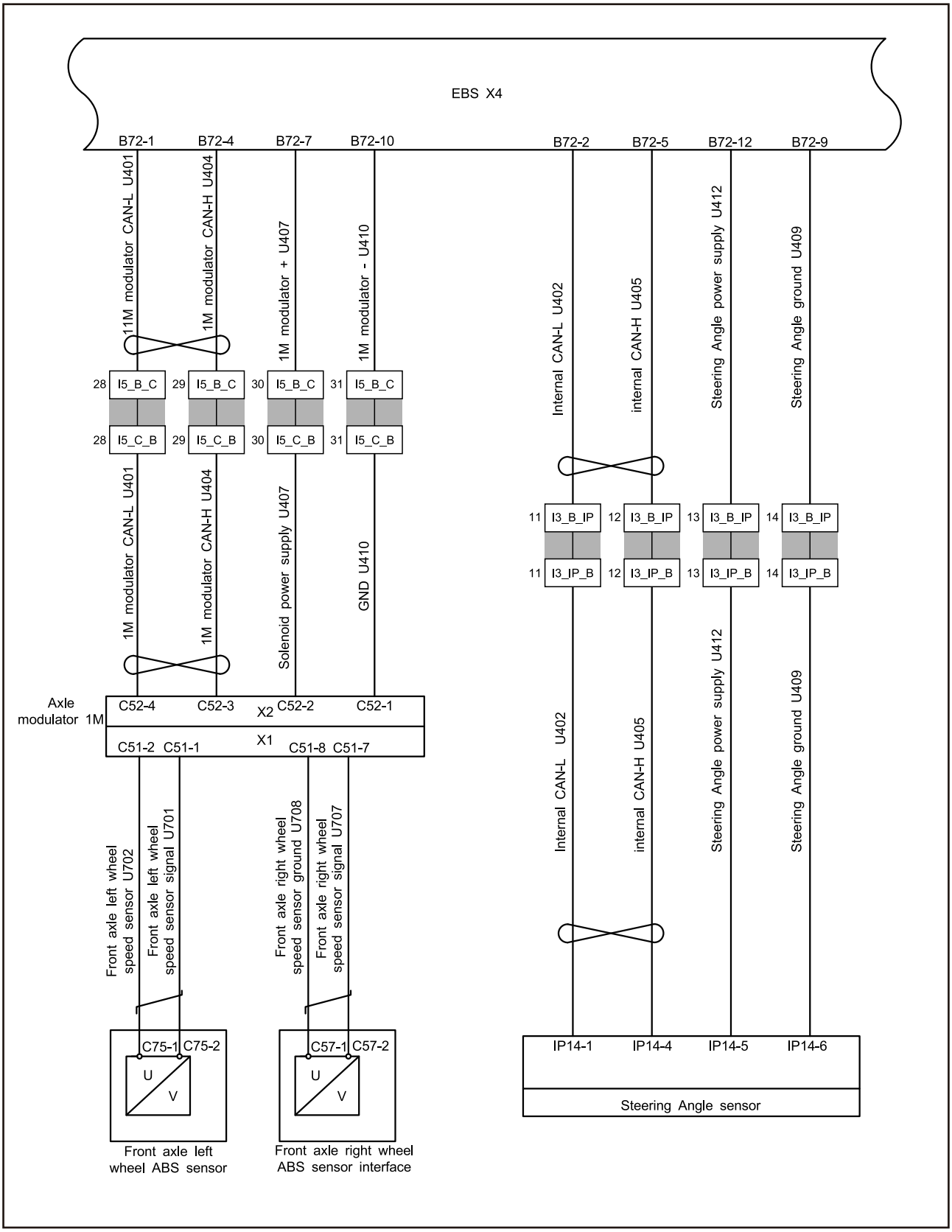
Step 7:Clear and confirm DTC.

8.18.4.13 Steering Angle Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P3A0305	The steering Angle sensor is faulty	The steering Angle sensor is faulty	Controller power-on	1. Wiring harness 2.Steering angle sensor 3.EBS

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the steering angle sensor and EBS.

Step 4:Replace the steering angle sensor. Refer to Replacement Of Angle Sensor Assembly

Step 5:EBS rewrite configuration code, software reload, upgrade.

Step 6:Replace EBS. Refer to Replacement Of EBS Controller Assembly

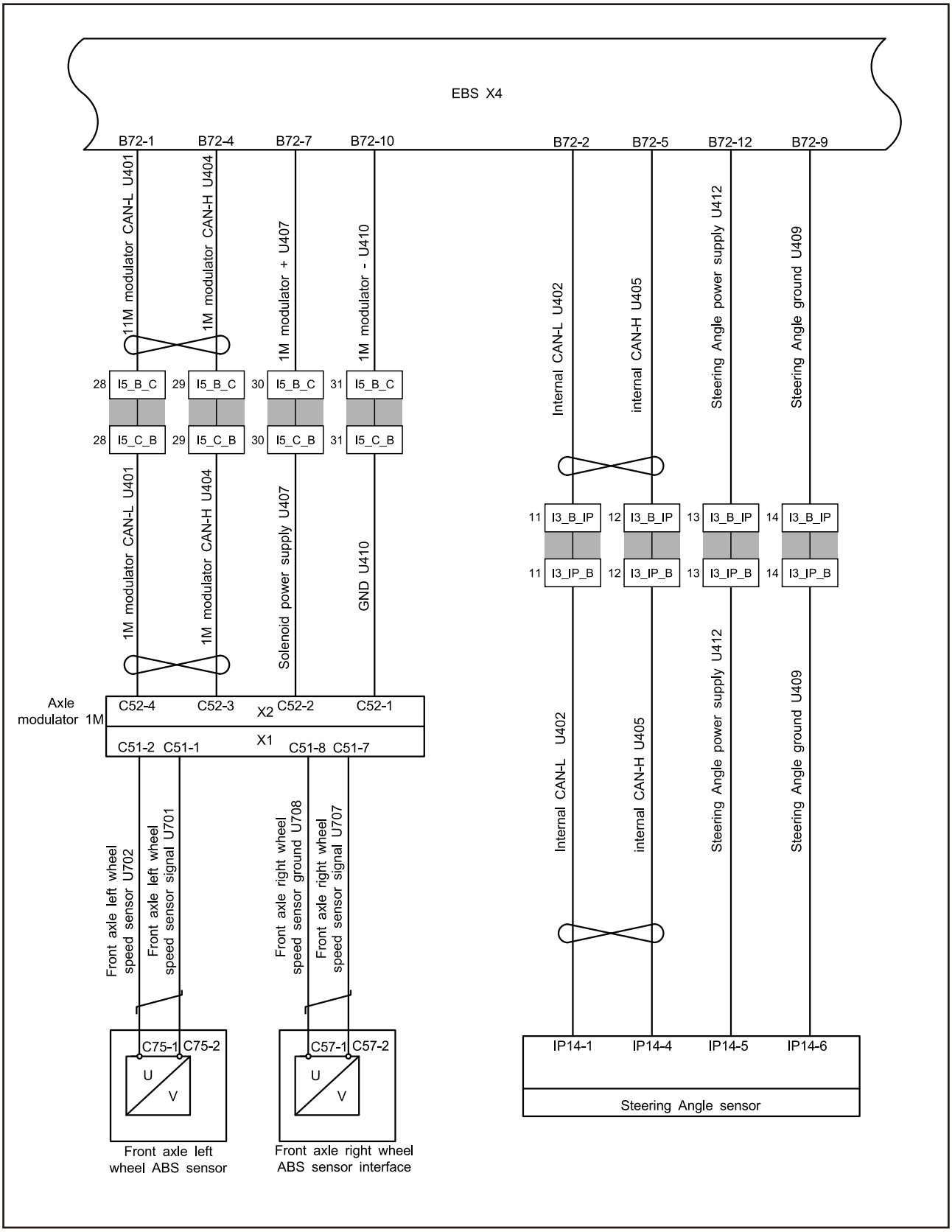
Step 7:Clear and confirm DTC.

8.18.4.14 Front Axle Left Wheel ABS Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P150301	The gap between the left front sensor and the gear ring is too large	The clearance between the sensor and the gear ring is too large	The controller is powered on and the vehicle is in the running state	1. Wiring harness 2.Vehicle axle modulator 1M 3.Front axle left wheel ABS sensor 4.EBS
P150306	Short-circuited left front sensor	Sensor short circuit	Controller power-on	
P150305	Left front sensor disconnected	Sensor break	Controller power-on	
P15030B	Left front ring missing teeth, deflection	Tooth ring missing teeth or deflection	The controller is powered on and the vehicle is in the running state	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the front axle left wheel ABS sensor and the axle modulator 1M.

Step 4:Check the wiring harness between the axle modulator 1M and EBS.

Step 5:Replace the front axle left wheel ABS sensor. Refer to Replacement Of Single Channel Module Assembly

Step 6:Replace the axle modulator 1M. Refer to Replacement Of Single Channel Module Assembly

Step 7:EBS rewrite configuration code, software reload, upgrade.

Step 8:Replace EBS. Refer to Replacement Of EBS Controller Assembly

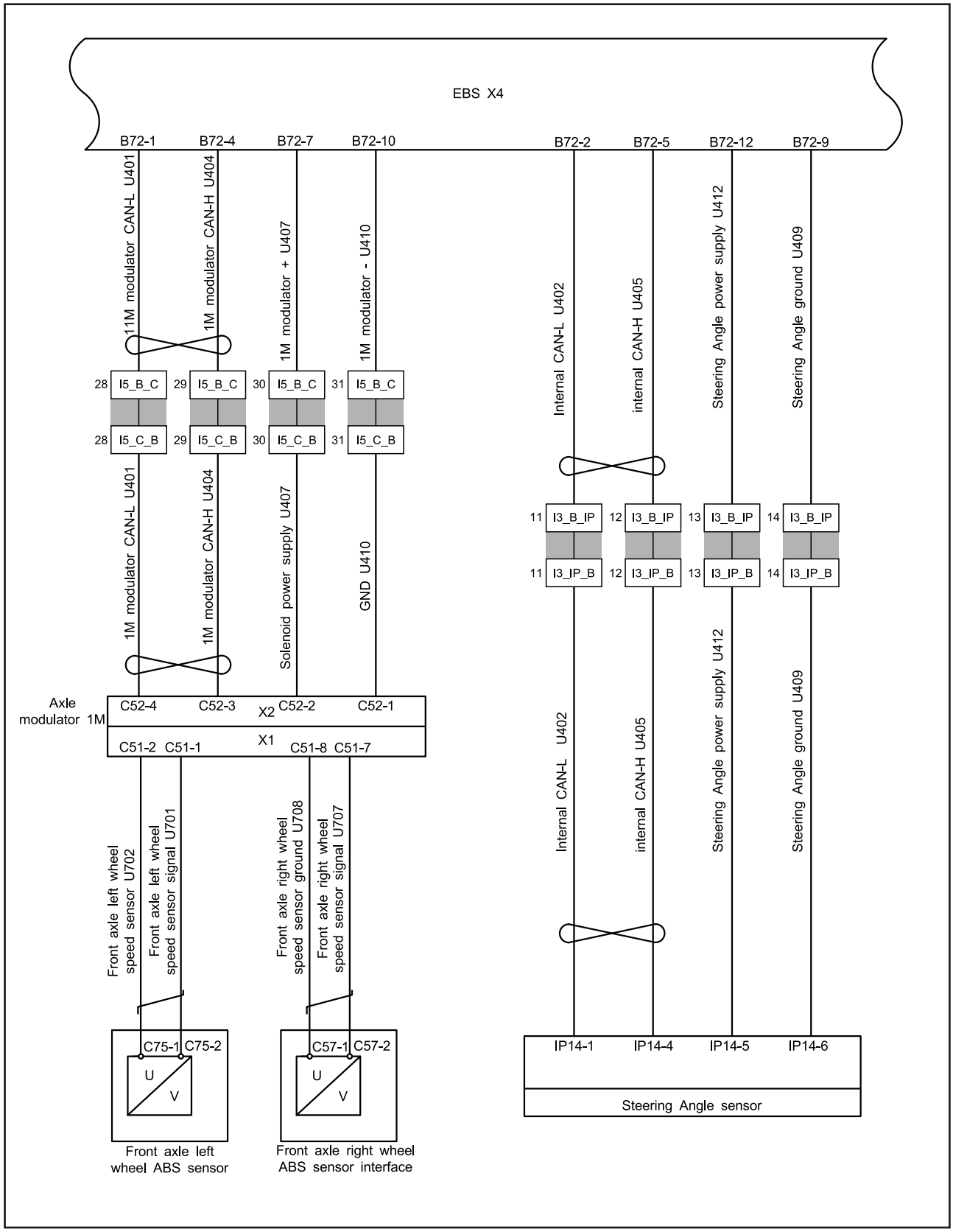
Step 9:Clear and confirm DTC.

8.18.4.15 Front Axle Right Wheel ABS Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P160301	The gap between the right front sensor and the gear ring is too large	The clearance between the sensor and the gear ring is too large	The controller is powered on and the vehicle is in the running state	1. Wiring harness 2.Vehicle axle modulator 1M 3.Front axle right wheel ABS sensor 4.EBS
P160306	Right front sensor short-circuited	Sensor short circuit	Controller power-on	
P160305	Right front sensor disconnected	Sensor break	Controller power-on	
P16030B	Right front ring missing teeth, deflection	Tooth ring missing teeth or deflection	The controller is powered on and the vehicle is in the running state	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC Confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the front axle right wheel ABS sensor and the axle modulator 1M.

Step 4:Check the wiring harness between the axle modulator 1M and EBS.

Step 5:Replace the front axle right wheel ABS sensor. Refer to Replacement Of Single Channel Module Assembly

Step 6:Replace the axle modulator 1M. Refer to Replacement Of Single Channel Module Assembly

Step 7:EBS rewrite configuration code, software reload, upgrade.

Step 8:Replace EBS. Refer to Replacement Of EBS Controller Assembly

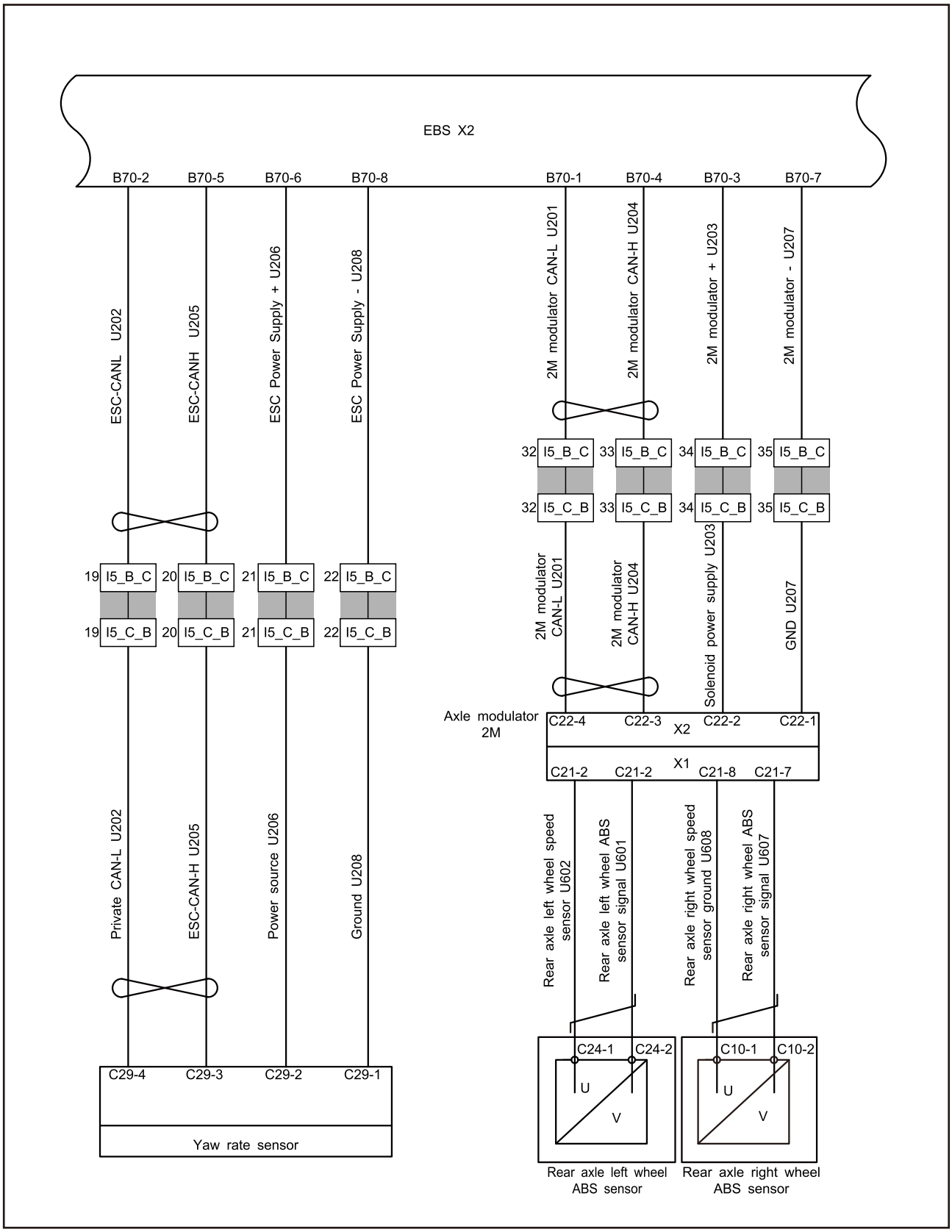
Step 9:Clear and confirm DTC.

8.18.4.16 Rear Axle Left Wheel ABS Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P170301	The gap between the left rear/left second sensor and the gear ring is too large	The clearance between the sensor and the gear ring is too large	The controller is powered on and the vehicle is in the running state	1. Wiring harness 2.Vehicle axle modulator 2M 3.Rear axle left wheel ABS sensor 4.EBS
P170306	The left rear/ left second sensor is short-circuited	Sensor short circuit	Controller power-on	
P170305	The left rear/ left second sensor is disconnected	Sensor break	Controller power-on	
P17030B	Missing teeth and deflection of left rear/left second ring	Tooth ring missing teeth or deflection	The controller is powered on and the vehicle is in the running state	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the rear axle left wheel ABS sensor and the axle modulator 2M

Step 4:Check the wiring harness between the axle modulator 2M and EBS

Step 5:Replace the rear axle left wheel ABS sensor. Refer to Replacement Of Dual Channel Module Assembly

Step 6:Replace the axle modulator 2M. Refer to Replacement Of Dual Channel Module Assembly

Step 7:EBS rewrite configuration code, software reload, upgrade.

Step 8:Replace EBS. Refer to Replacement Of EBS Controller Assembly

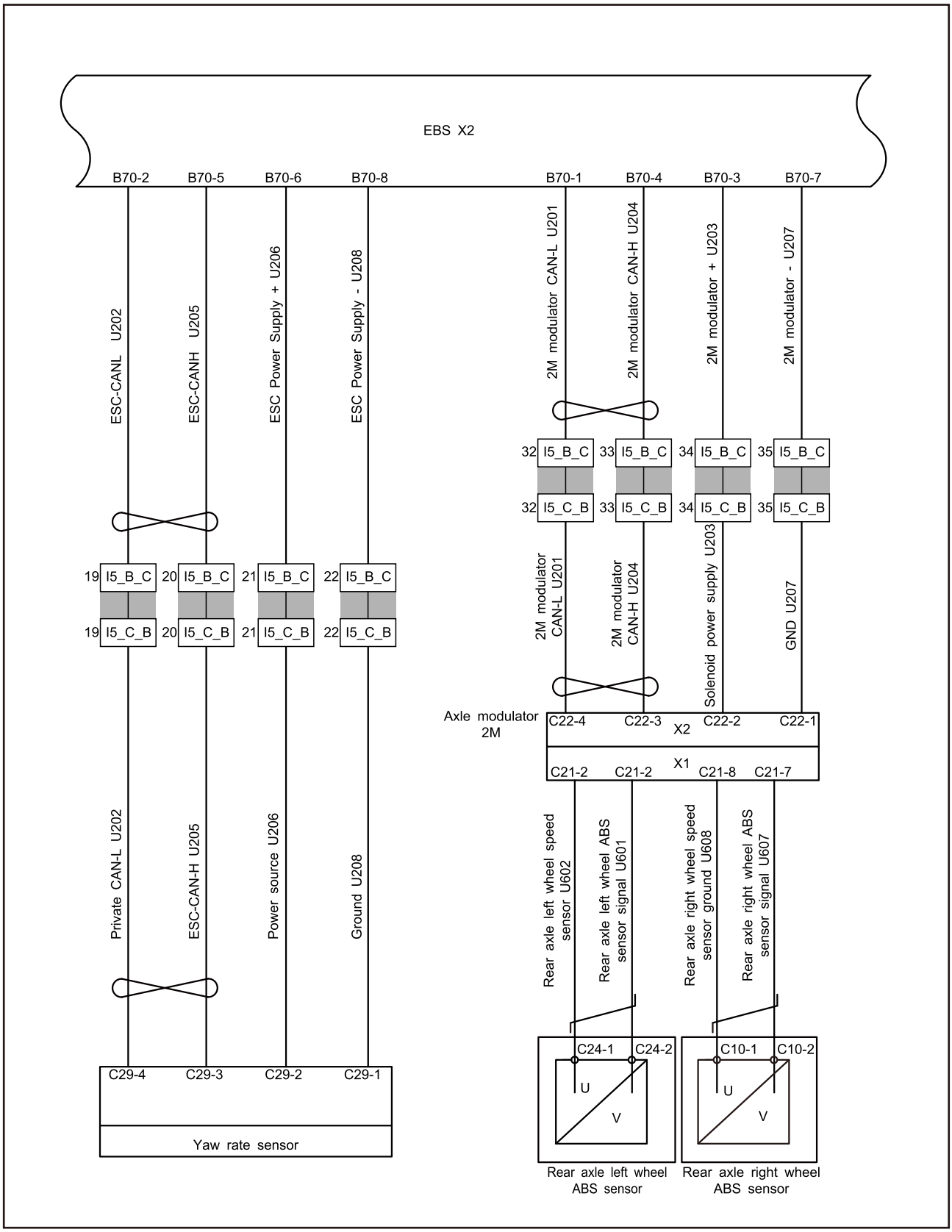
Step 9:Clear and confirm DTC.

8.18.4.17 Rear Axle Right Wheel ABS Sensor Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P180301	The gap between the right rear/right second sensor and the gear ring is too large	The clearance between the sensor and the gear ring is too large	The controller is powered on and the vehicle is in the running state	1. Wiring harness 2.Vehicle axle modulator 2M 3.Rear axle right wheel ABS sensor 4.EBS
P180306	The right rear/ right second sensor is short-circuited	Sensor short circuit	Controller power-on	
P180305	The right rear/ right second sensor is disconnected	Sensor break	Controller power-on	
P18030B	Missing teeth and deflection of right rear/ right second ring	Tooth ring missing teeth or deflection	The controller is powered on and the vehicle is in the running state	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the rear axle right wheel ABS sensor and the axle modulator 2M

Step 4:Check the wiring harness between the axle modulator 2M and EBS

Step 5:Replace the rear axle right wheel ABS sensor. Refer to Replacement Of Dual Channel Module Assembly

Step 6:Replace the axle modulator 2M. Refer to Replacement Of Dual Channel Module Assembly

Step 7:EBS rewrite configuration code, software reload, upgrade.

Step 8:Replace EBS. Refer to Replacement Of EBS Controller Assembly

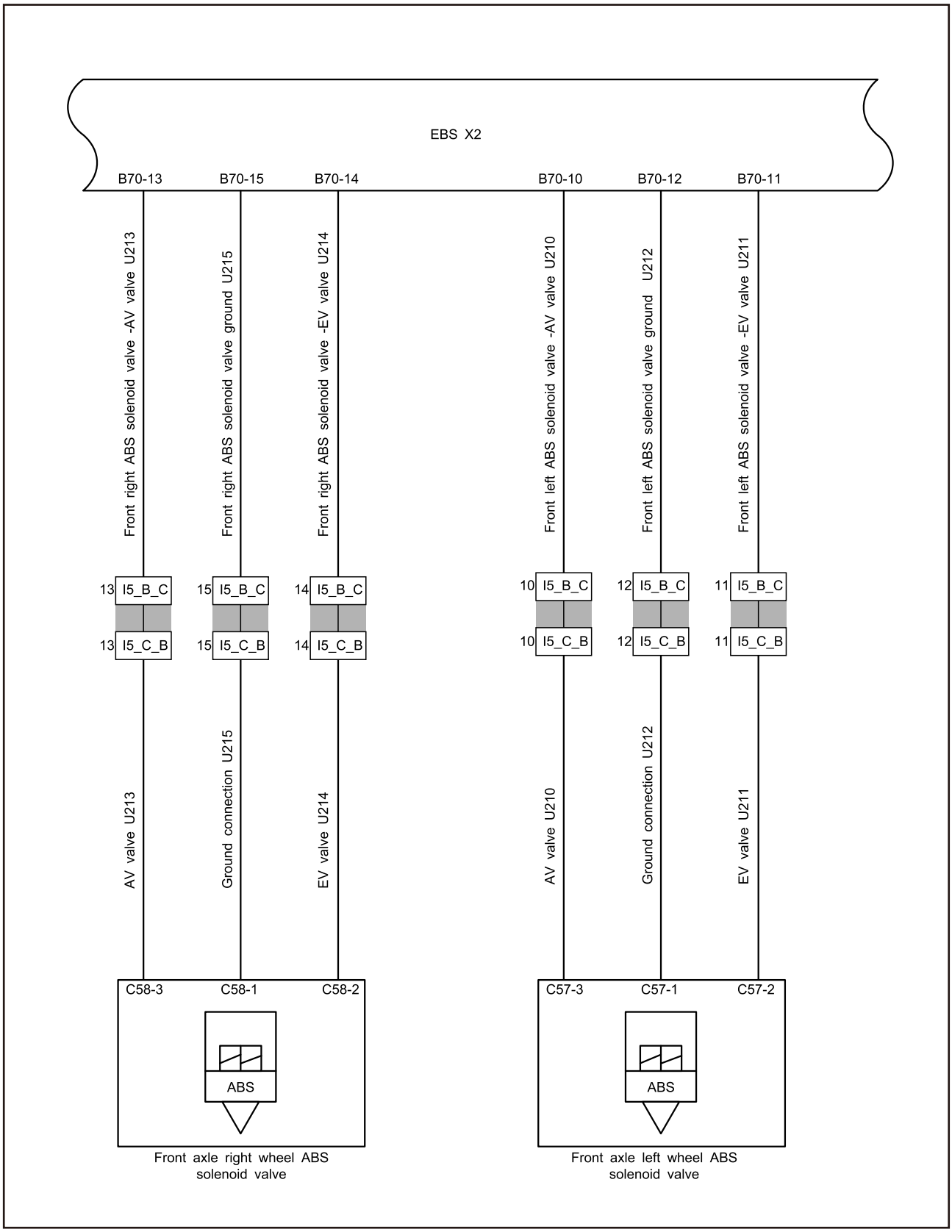
Step 9:Clear and confirm DTC.

8.18.4.18 Front Axle Left Wheel ABS Solenoid Valve Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P1D0306	Left front solenoid valve short circuit	Solenoid short circuit	Controller power-on	1. Wiring harness 2.Front axle left wheel ABS solenoid valve 3.EBS
P1D0305	Left front solenoid valve disconnected	The solenoid valve is disconnected	Controller power-on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the front axle left wheel ABS solenoid valve and EBS

Step 4:Replace the front axle left wheel ABS solenoid valve. Refer to Replacement Of ABS Solenoid Valve Assembly

Step 5:EBS rewrite configuration code, software reload, upgrade.

Step 6:Replace EBS. Refer to Replacement Of EBS Controller Assembly

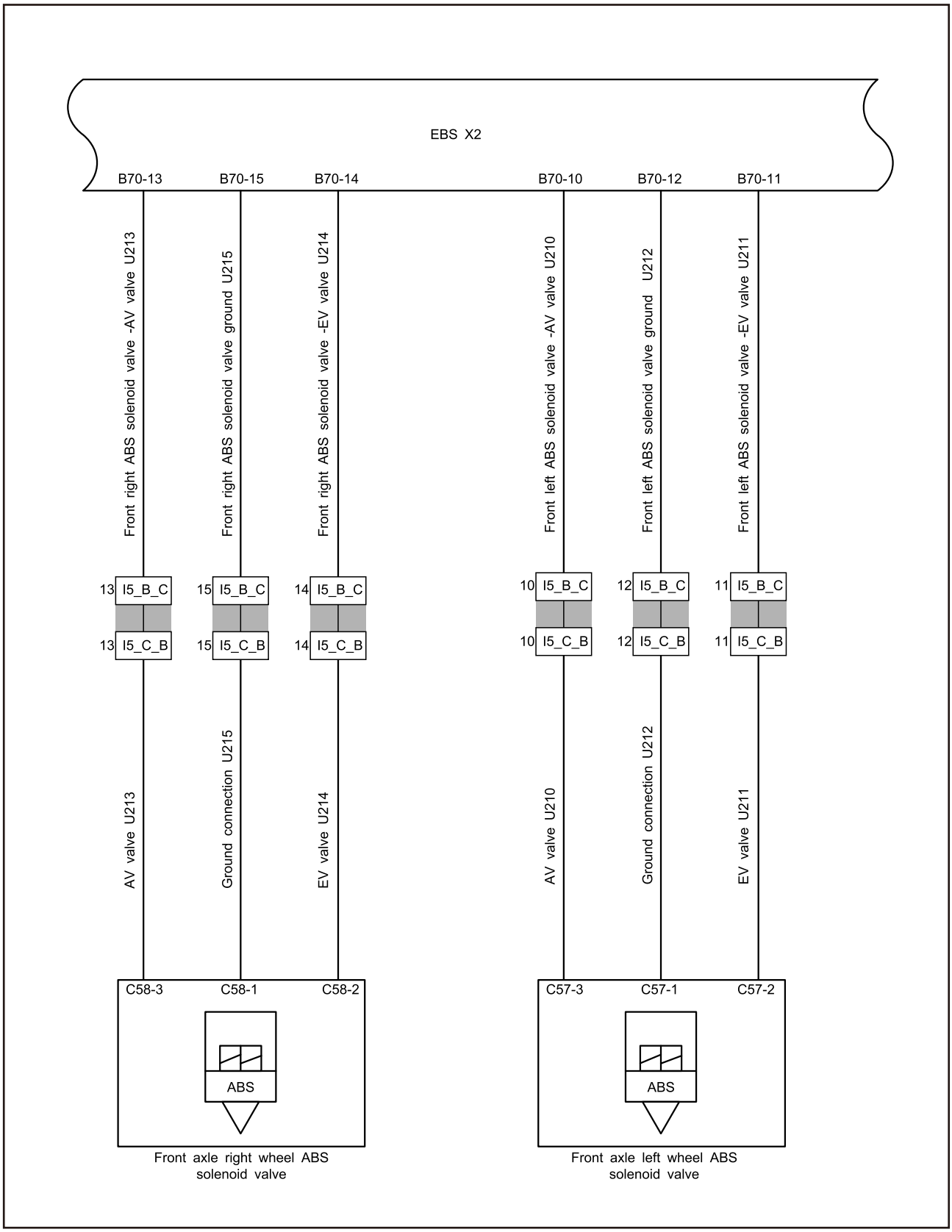
Step 7:Clear and confirm DTC.

8.18.4.19 Front Axle Right Wheel ABS Solenoid Valve Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P1E0306	Right front solenoid valve short circuit	Solenoid short circuit	Controller power-on	1. Wiring harness 2.Front axle right wheel ABS solenoid valve 3.EBS
P1E0305	Right front solenoid valve disconnected	The solenoid valve is disconnected	Controller power-on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the front axle right wheel ABS solenoid valve and EBS

Step 4:Replace the front axle right wheel ABS solenoid valve. Refer to Replacement Of ABS Solenoid Valve Assembly

Step 5:EBS rewrite configuration code, software reload, upgrade.

Step 6:Replace EBS. Refer to Replacement Of EBS Controller Assembly

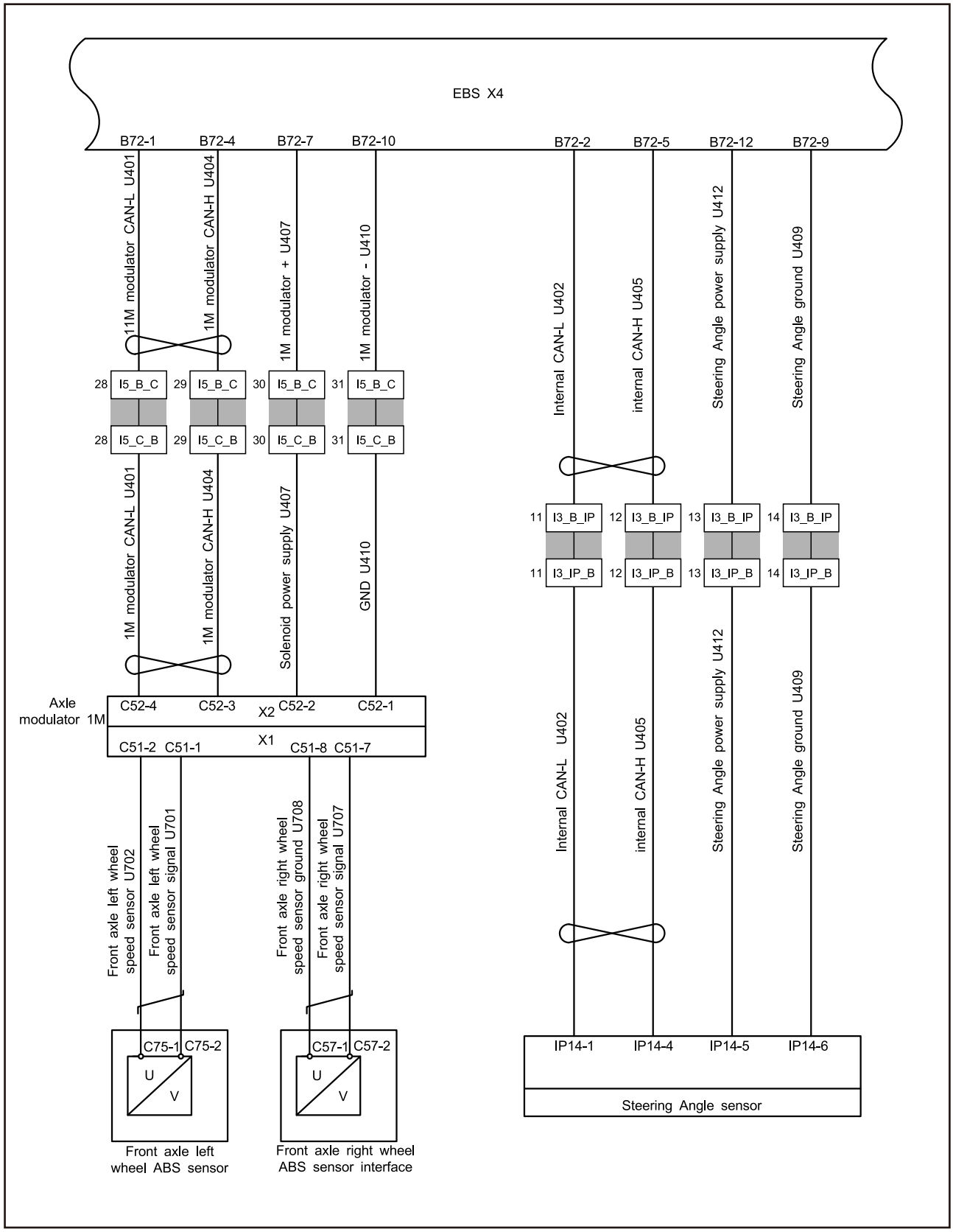
Step 7:Clear and confirm DTC.

8.18.4.20 Vehicle Axle Modulator 1M Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P200306	One axle EPM short-circuit	One axle EPM valve is short-circuited	Controller power-on	1. Wiring harness 2.Vehicle axle modulator 1M 3.EBS
P200309	The Hitotsubashi EPM ECU is faulty	One axle EPM valve ECU is faulty	Controller power-on	
P20030A	The EPM pressure sensor of Hitotsubashi is faulty	One axle EPM valve pressure sensor is faulty	Controller power-on	
P200305	One axle EPM is disconnected	One axle EPM valve is disconnected	Controller power-on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC Confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the axle modulator 1M and EBS.

Step 4:Replace the axle modulator 1M. Refer to Replacement Of Single Channel Module Assembly

Step 5:EBS rewrite configuration code, software reload, upgrade.

Step 6:Replace EBS. Refer to Replacement Of EBS Controller Assembly

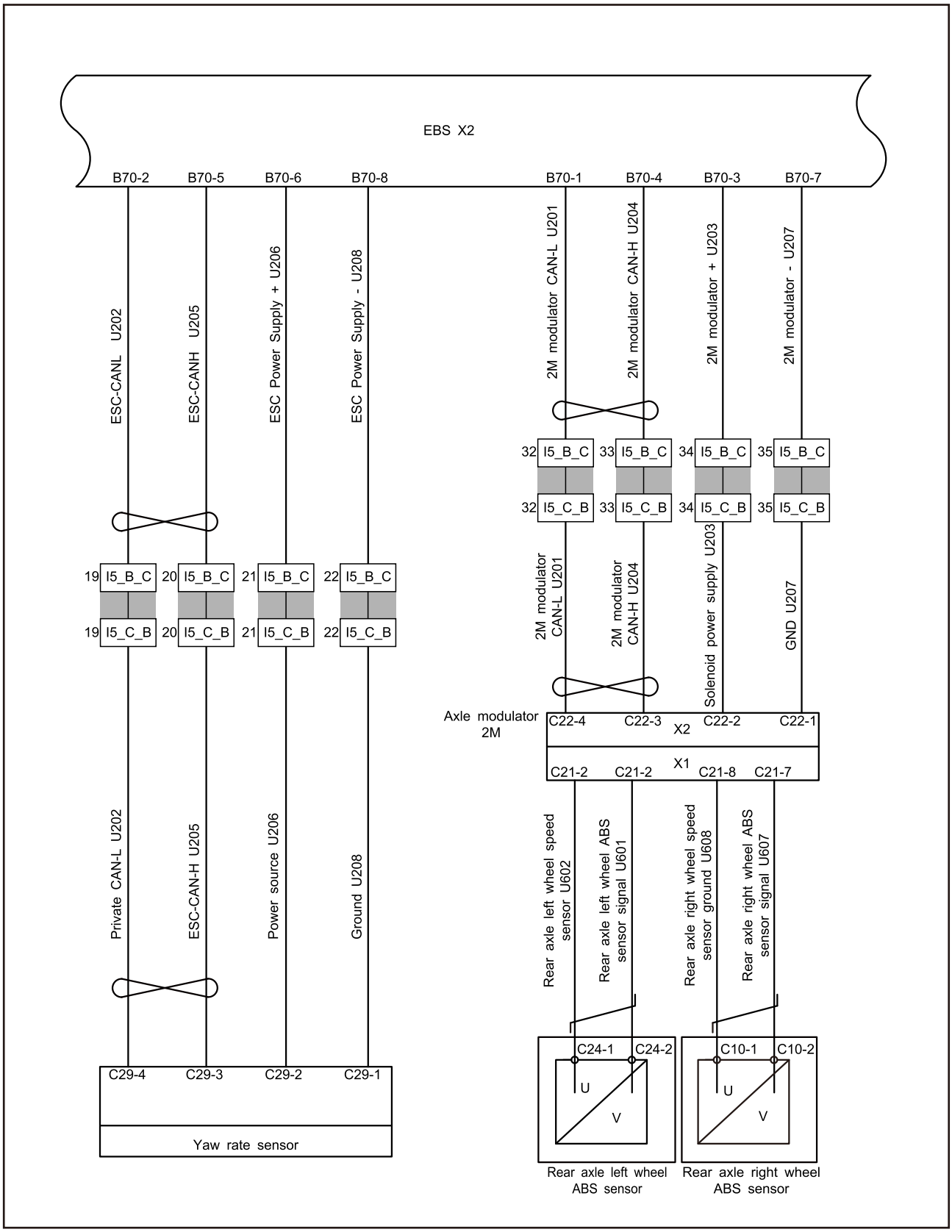
Step 7:Clear and confirm DTC.

8.18.4.21 Vehicle Axle Modulator 2M Fault

1. DTC Monitoring Logic

DTC Code	Description	DTC Trigger Conditions	DTC Detection Conditions (Control Strategy)	Faulty Part
P250306	Second axle EPM short circuit	Second axle EPM short circuit	Controller power-on	1. Wiring harness 2.Vehicle axle modulator 2M 3.EBS
P250309	The EPM ECU of axle two is faulty	The EPM ECU of axle two is faulty	Controller power-on	
P25030A	The EPM pressure sensor of the second axle is faulty	The EPM pressure sensor of the second axle is faulty	Controller power-on	
P250305	axle 2 EPM is disconnected	axle 2 EPM is disconnected	Controller power-on	

2.Circuit Diagram



3. Diagnostic Steps

Step 1:DTC confirmation. Refer to DTC confirmation

Step 2:Routine inspection. Refer to Routine Inspection

Step 3:Check the wiring harness between the axle modulator 2M and EBS.

Step 4:Replace the axle modulator 2M. Refer to Replacement Of Dual Channel Module Assembly

Step 5:EBS rewrite configuration code, software reload, upgrade.

Step 6:Replace EBS. Refer to Replacement Of EBS Controller Assembly

Step 7:Clear and confirm DTC.

8.18.5 Dismantling and Installation

8.18.5.1 Replacement of EBS ECU Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

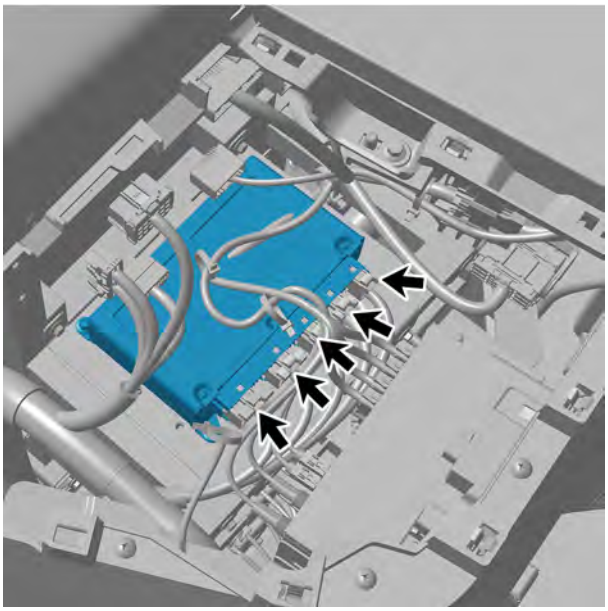
3 Disconnect the battery negative cable.

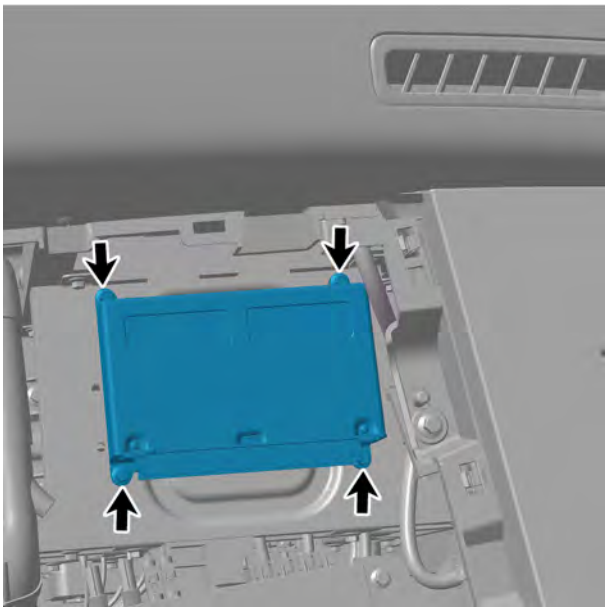
caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the IP left upper trim panel assembly.

5 Disconnect 5 harness connectors of the EBS ECU assembly.

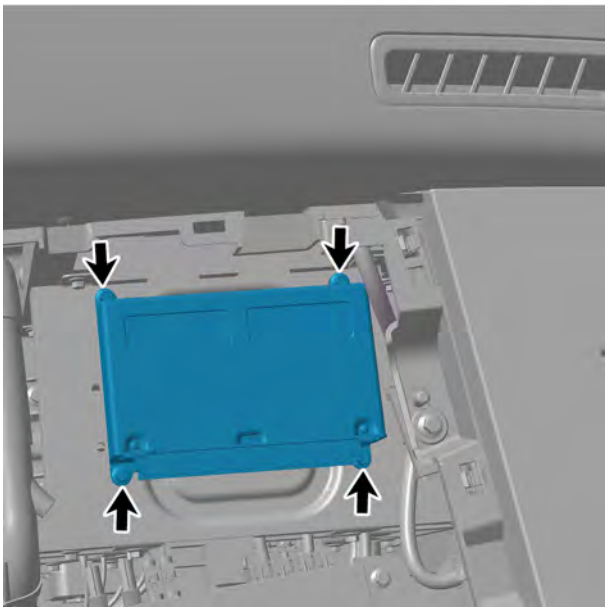




6 Remove 4 fixing bolts of the EBS ECU assembly.

7 Remove the EBS ECU assembly.

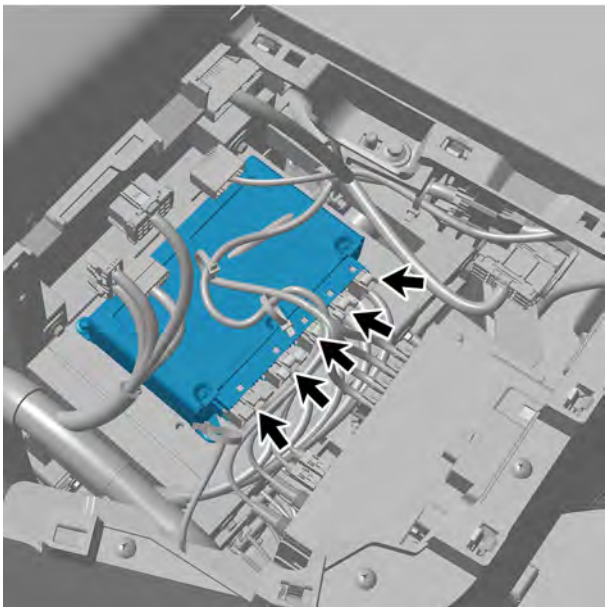
Installation Procedures



1 Move the EBS ECU assembly to the mounting position.

2 Install 4 fixing bolts of the EBS ECU assembly.

Torque: 8 +/- .75 (ft lbs)



3 Connect 5 harness connectors of the EBS ECU assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the IP left upper trim panel assembly.

5 Connect the battery negative cable.

6 Close the front flip cover plate.

7 Close the door.

caution

After replacing the EBS ECU assembly, it is necessary to connect a scan tool for flashing and recalibrate the zero position.

8.18.5.2 Replacement of Steering Angle Sensor Assembly

Removal Procedures

1 Open the door.

2 Open the front flip cover plate.

3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.

4 Remove the combination switch upper shield assembly.

5 Remove the combination switch lower shield.

6 Remove the driver horn cover assembly.

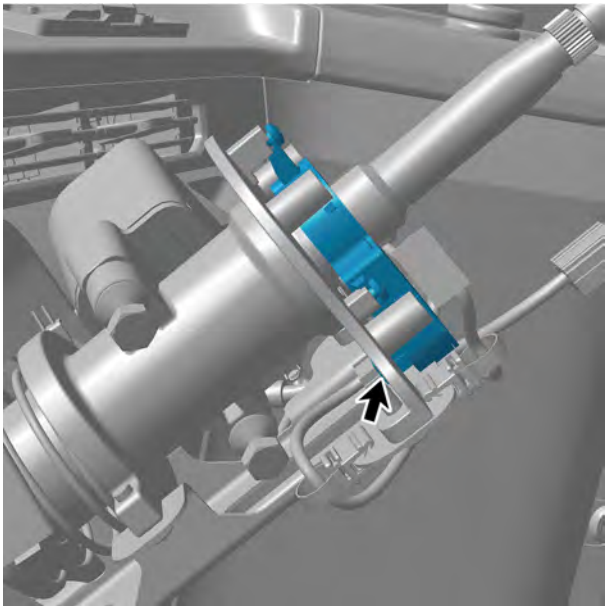
7 Remove the steering wheel assembly.

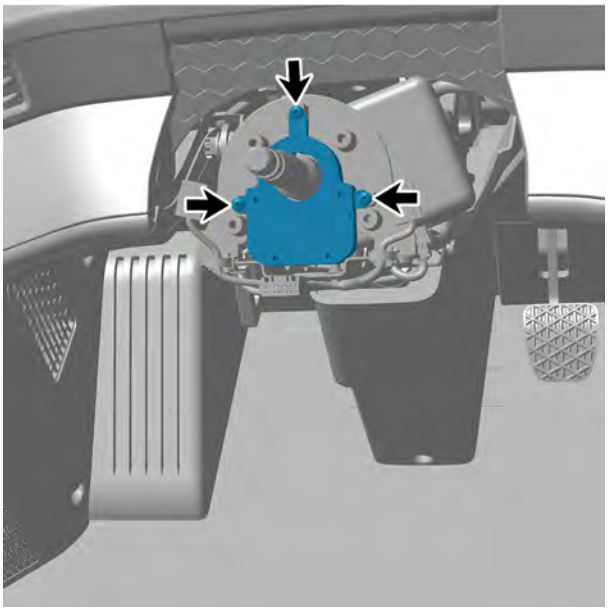
8 Remove the clock spring.

9 Remove the combination switch.

10 Remove the combination switch fixing bracket.

11 Disconnect 1 harness connector of the steering angle sensor assembly.

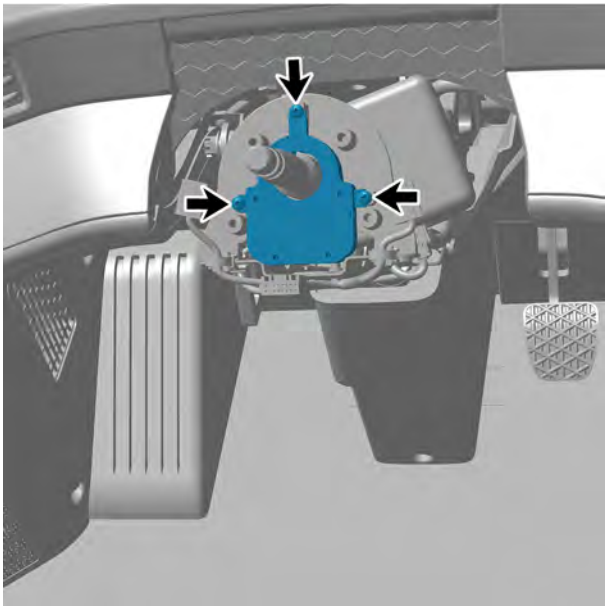




12 Remove 3 fixing screws of the steering angle sensor assembly.

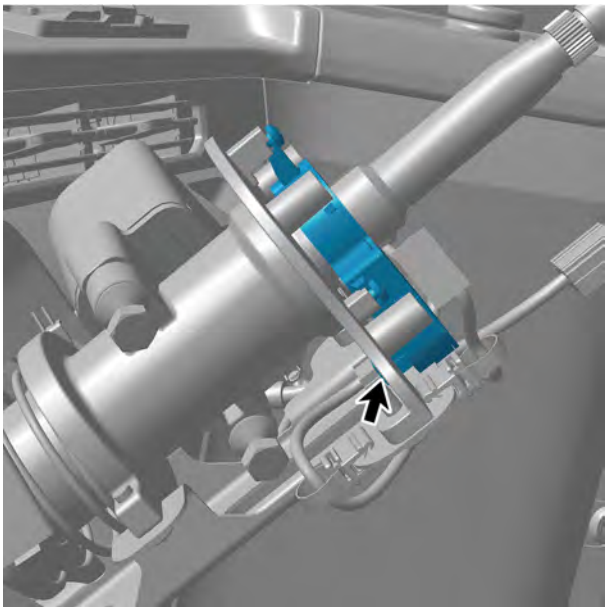
13 Remove the steering angle sensor assembly.

Installation Procedures



1 Move the steering angle sensor assembly to the mounting position.

2 Install 3 fixing screws of the steering angle sensor assembly.



3 Connect 1 harness connector of the steering angle sensor assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Install the combination switch fixing bracket.

5 Install the combination switch.

6 Install the clock spring.

7 Install the steering wheel assembly.

8 Install the driver horn cover assembly.

9 Install the combination switch lower shield.

10 Install the combination switch upper shield assembly.

11 Connect the battery negative cable.

12 Close the front flip cover plate.

13 Close the door.

caution

After part replacement, it is necessary to recalibrate the zero position.

8.18.5.3 Replacement of Yaw Sensor Assembly

Removal Procedures

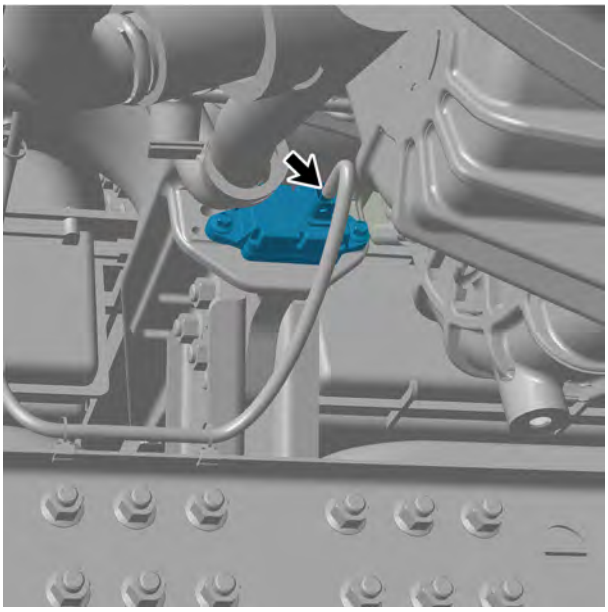
1 Open the door.

2 Open the front flip cover plate.

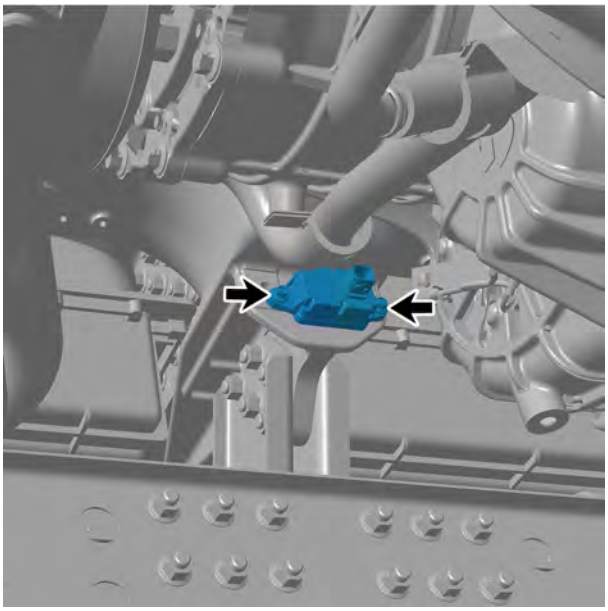
3 Disconnect the battery negative cable.

caution

power down the high-voltage system before disconnecting the negative pole of the storage battery.



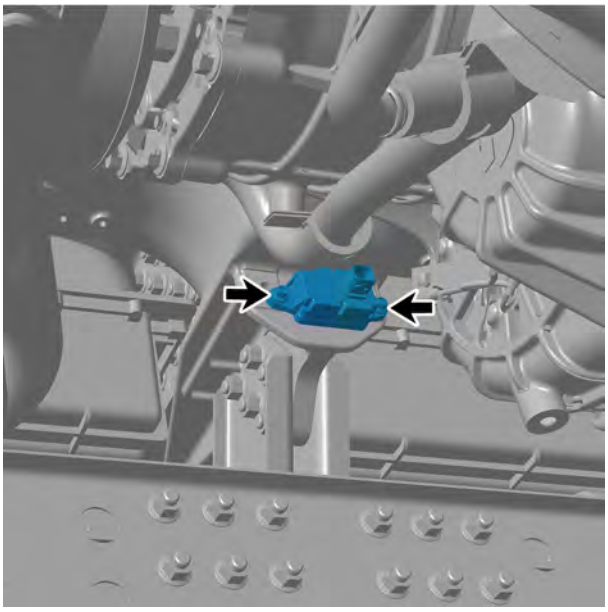
4 Disconnect 1 harness connector of the yaw sensor assembly.



5 Remove 2 fixing bolts of the yaw sensor assembly.

6 Remove the yaw sensor assembly.

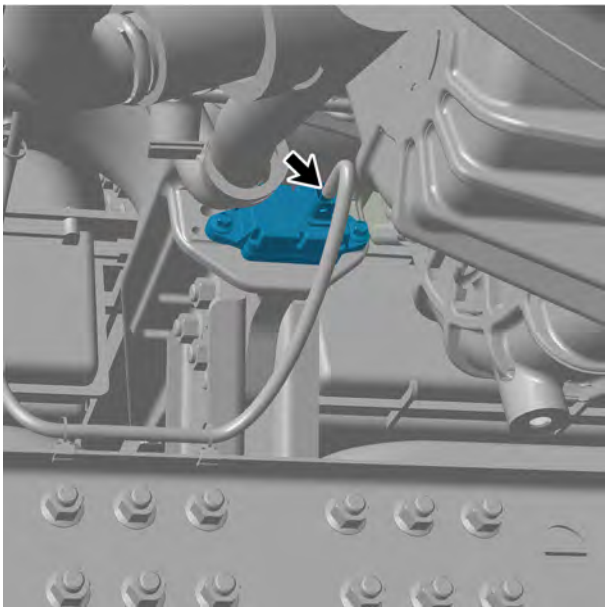
Installation Procedures



1 Move the yaw sensor assembly to the mounting position.

2 Install 2 fixing bolts of the yaw sensor assembly.

Torque:18.5 +/- 2 (ft lbs)



3 Connect 1 harness connector of the yaw sensor assembly.

caution

The harness is firmly connected following the principal of "insert until a click is heard for confirmation".

4 Connect the battery negative cable.

5 Close the front flip cover plate.

6 Close the door.

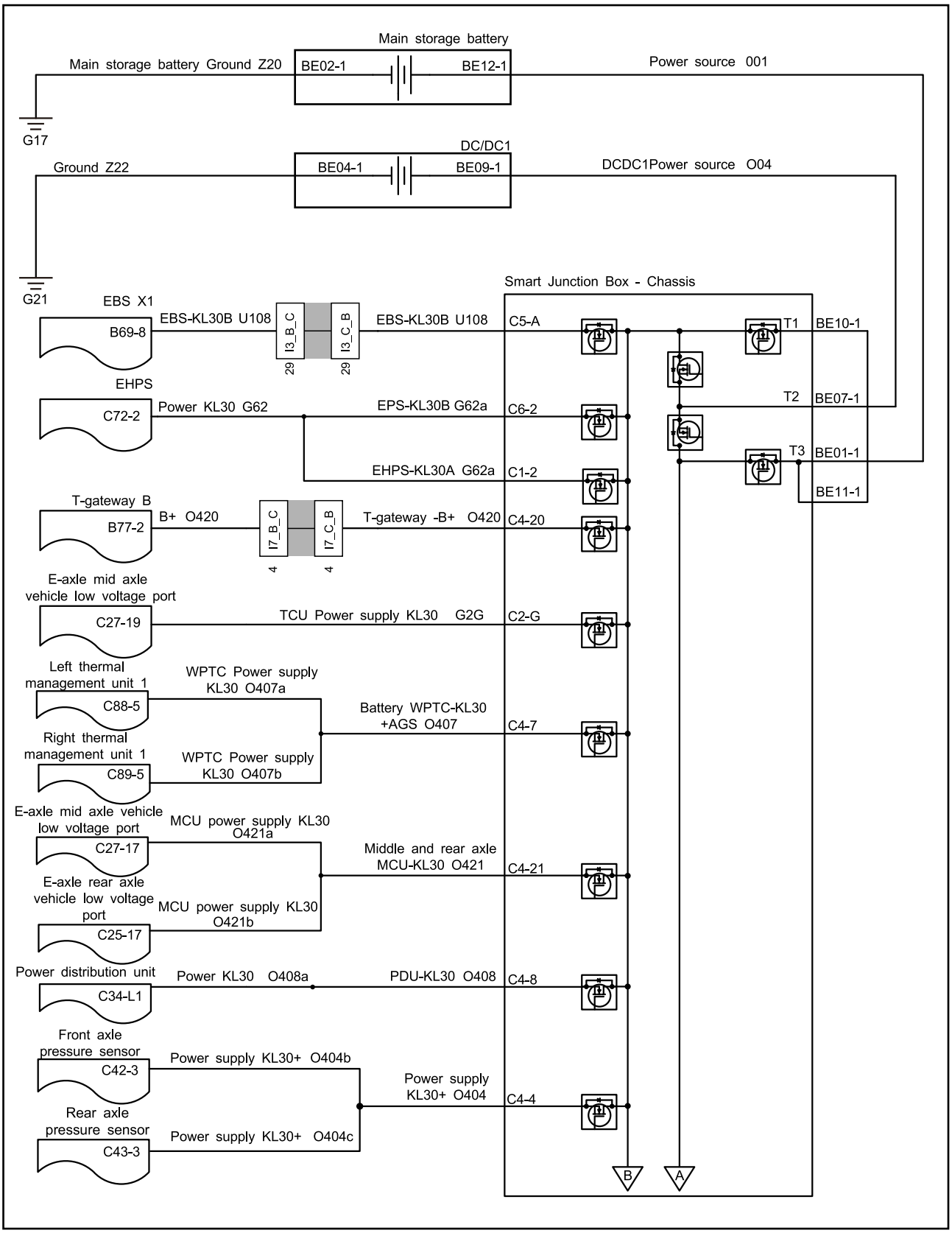
caution

After part replacement, it is necessary to recalibrate the zero position.

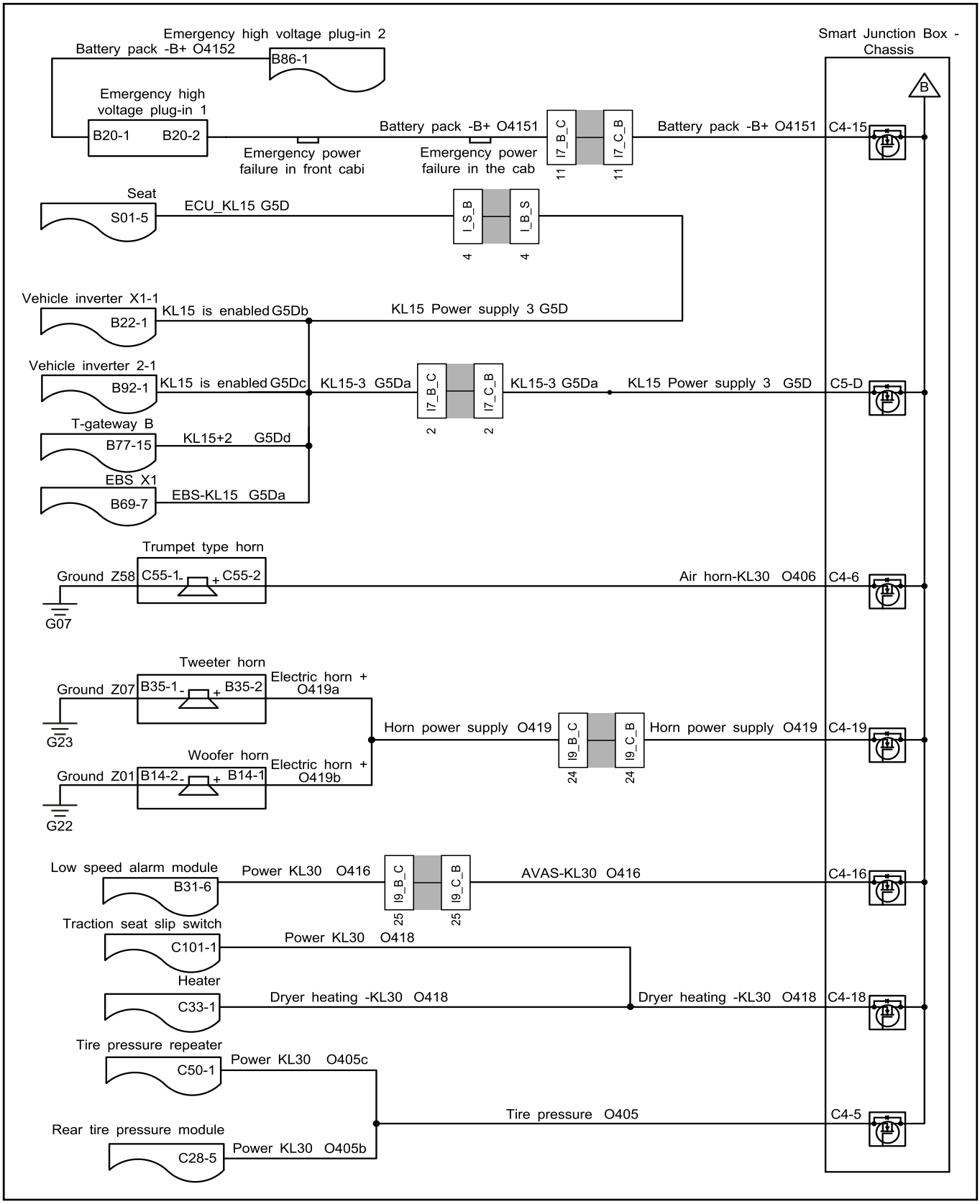
9.1 System Circuit Diagram

9.1.1 Smart Junction Box - Chassis

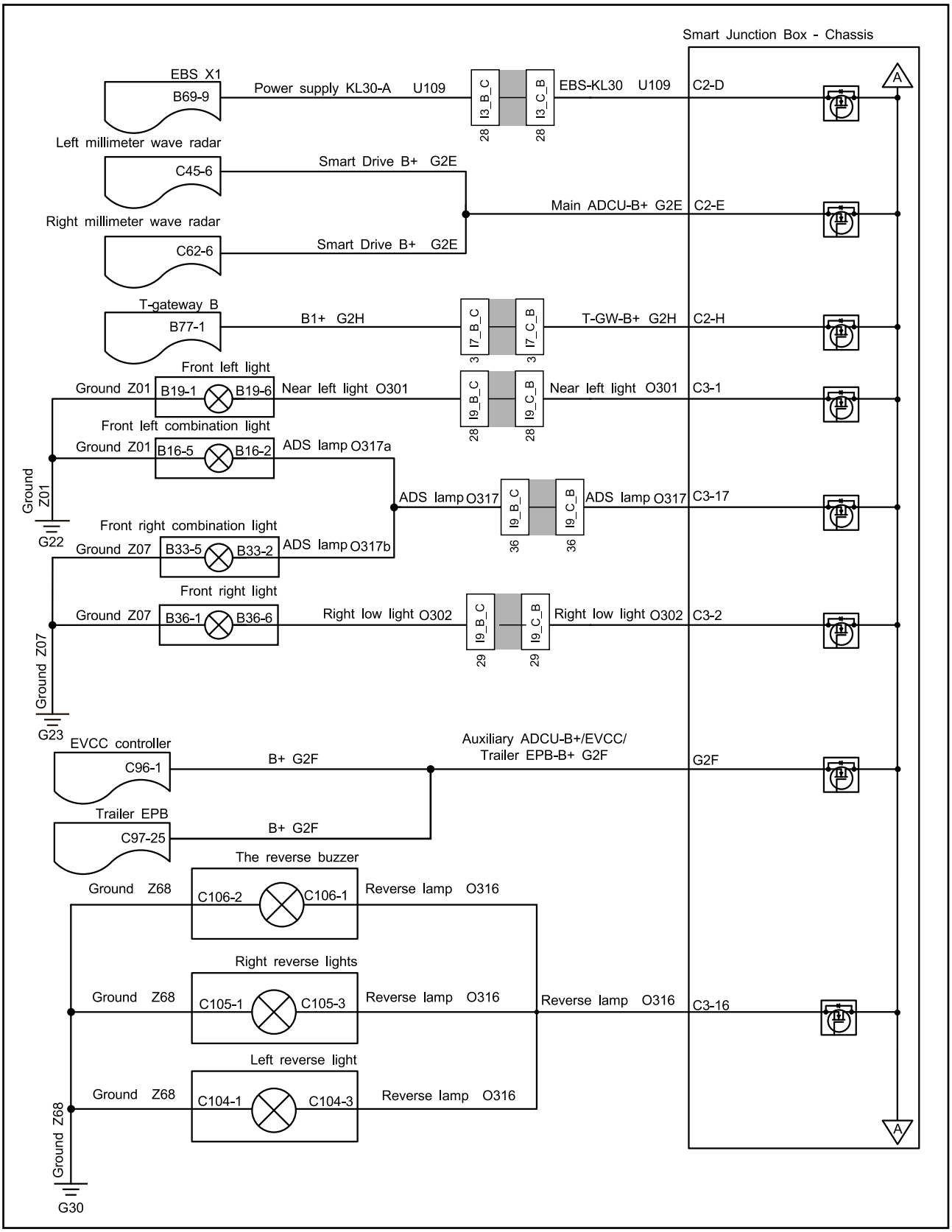
9.1.1.1 Smart Junction Box - Chassis



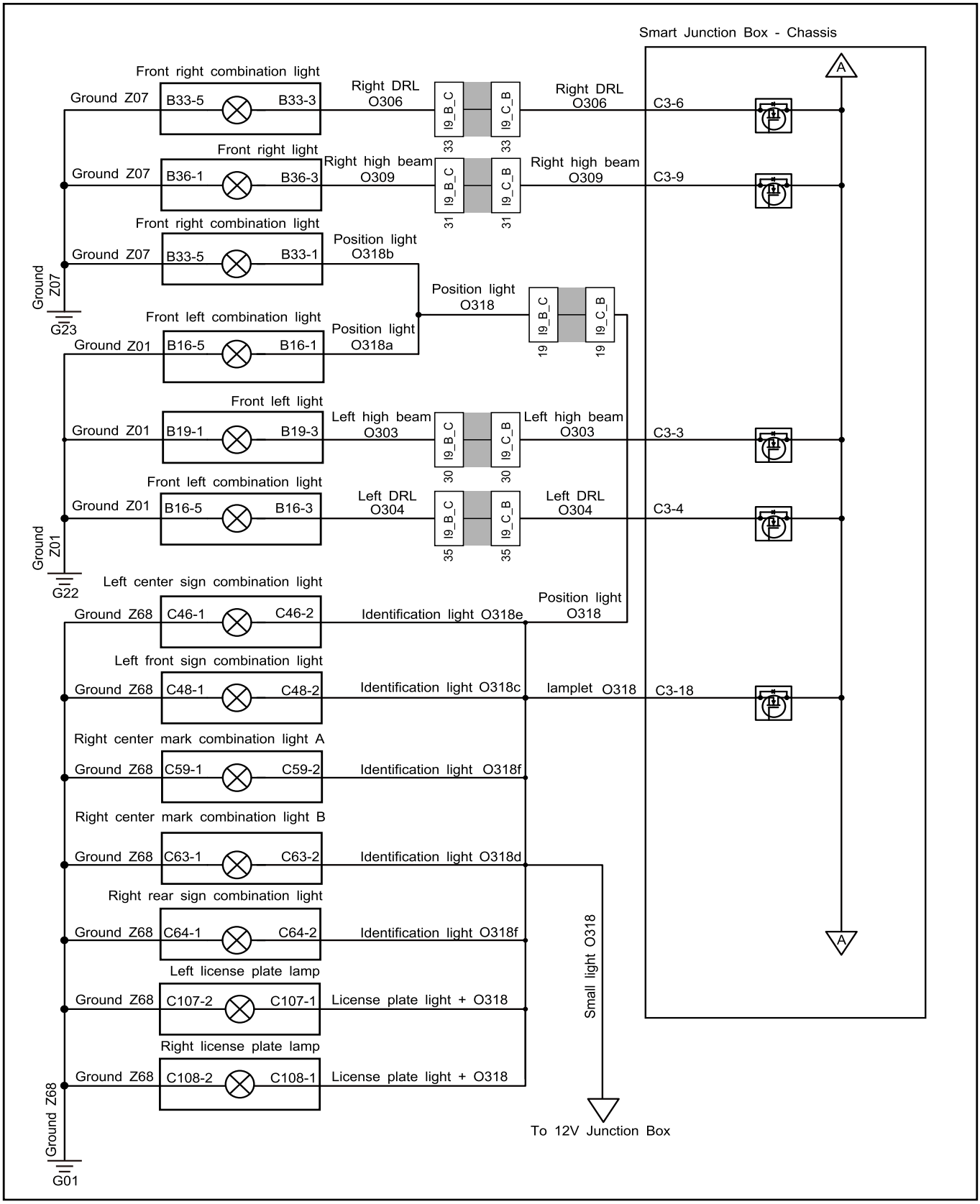
9.1.1.2 Smart Junction Box - Chassis Continued



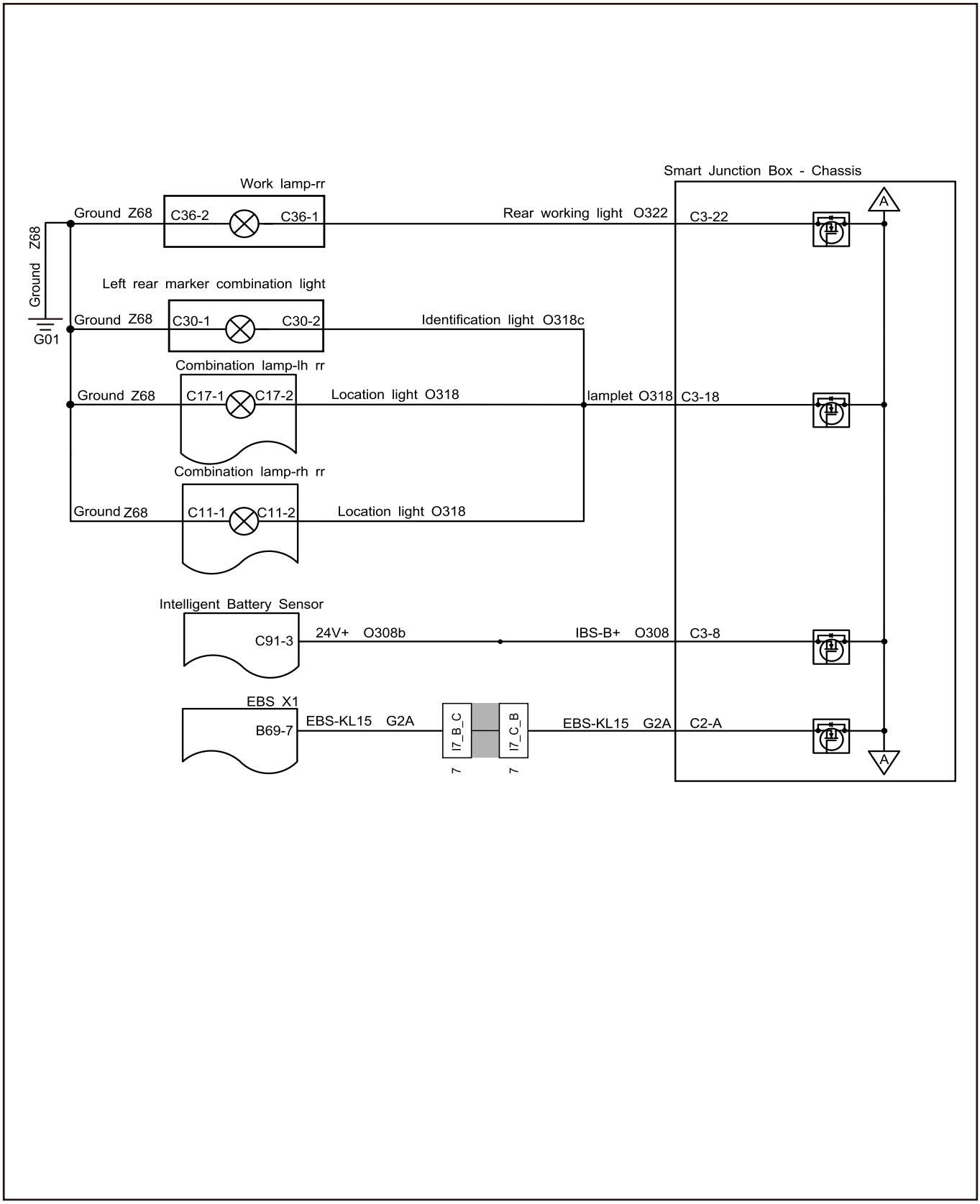
9.1.1.3 Smart Junction Box - Chassis Continued 1



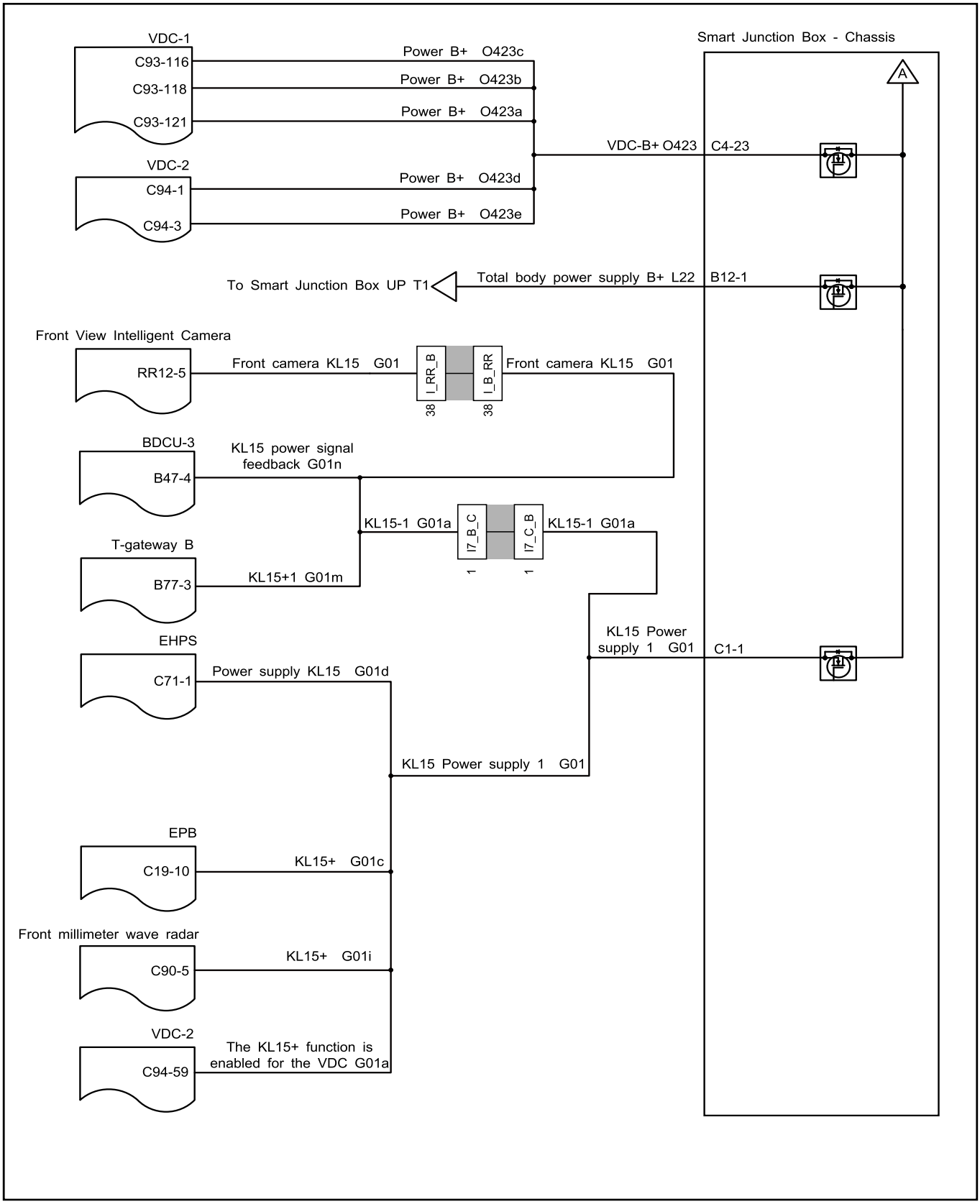
9.1.1.4 Smart Junction Box - Chassis Continued 2



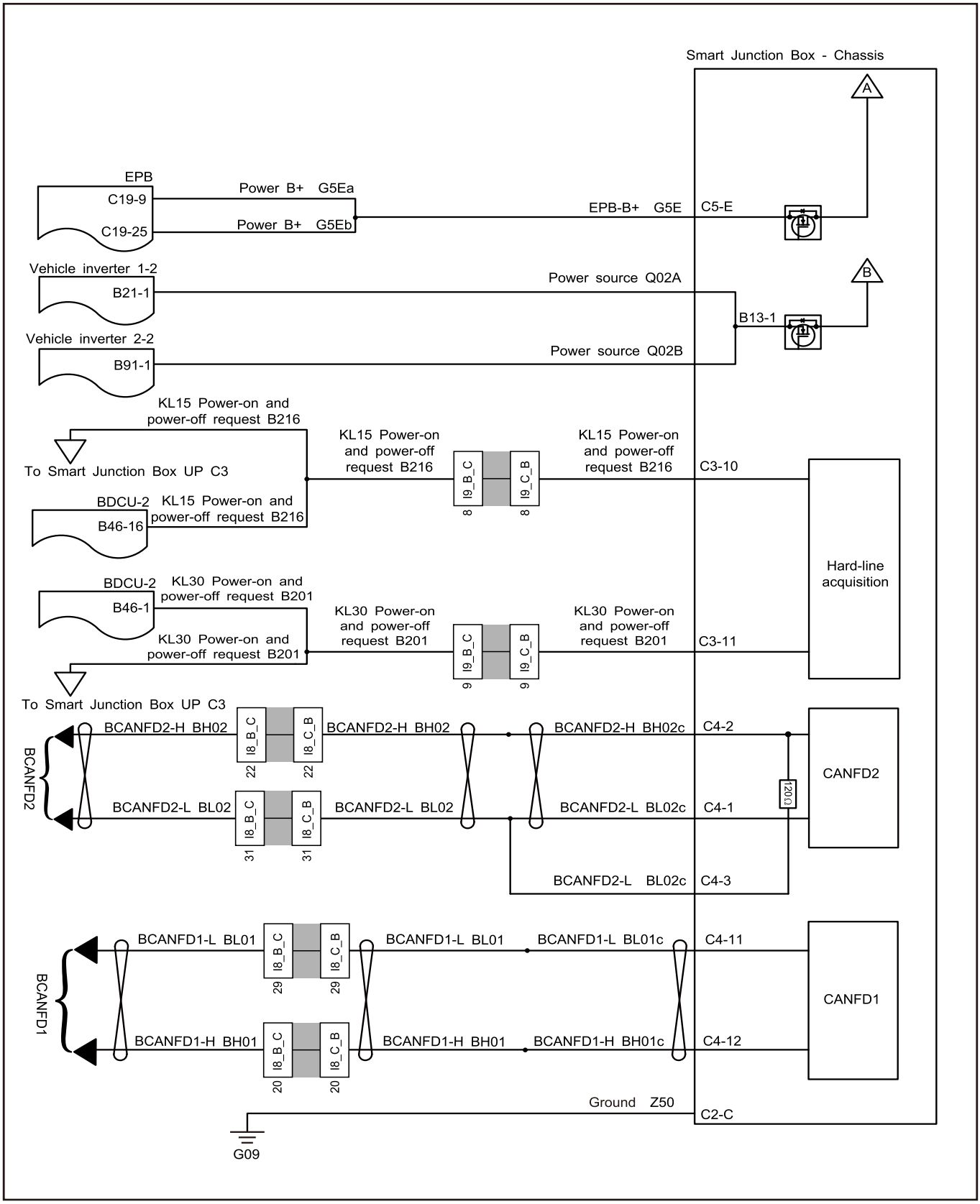
9.1.1.5 Smart Junction Box - Chassis Continued 3



9.1.1.6 Smart Junction Box - Chassis Continued 4

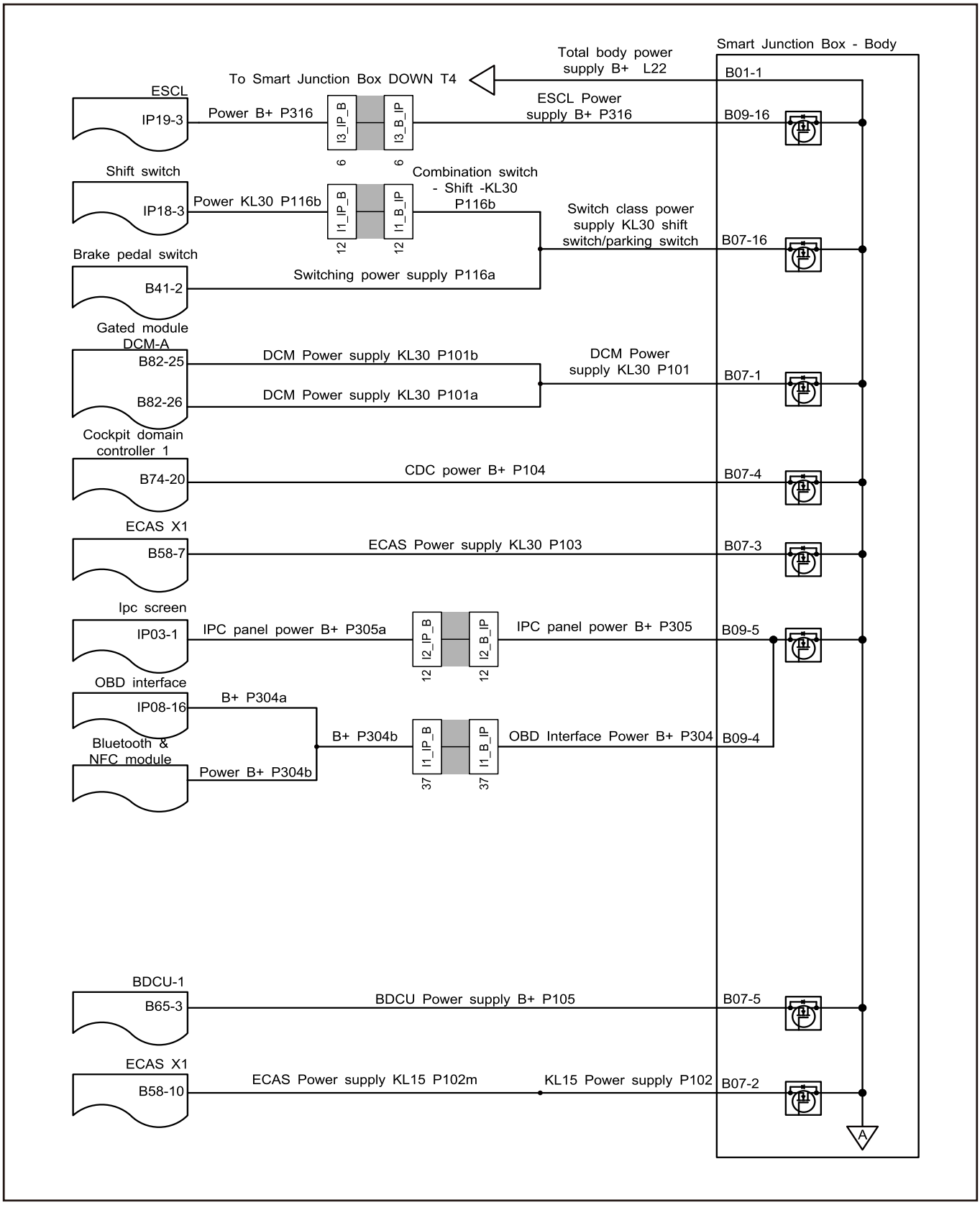


9.1.1.7 Smart Junction Box - Chassis Continued 5

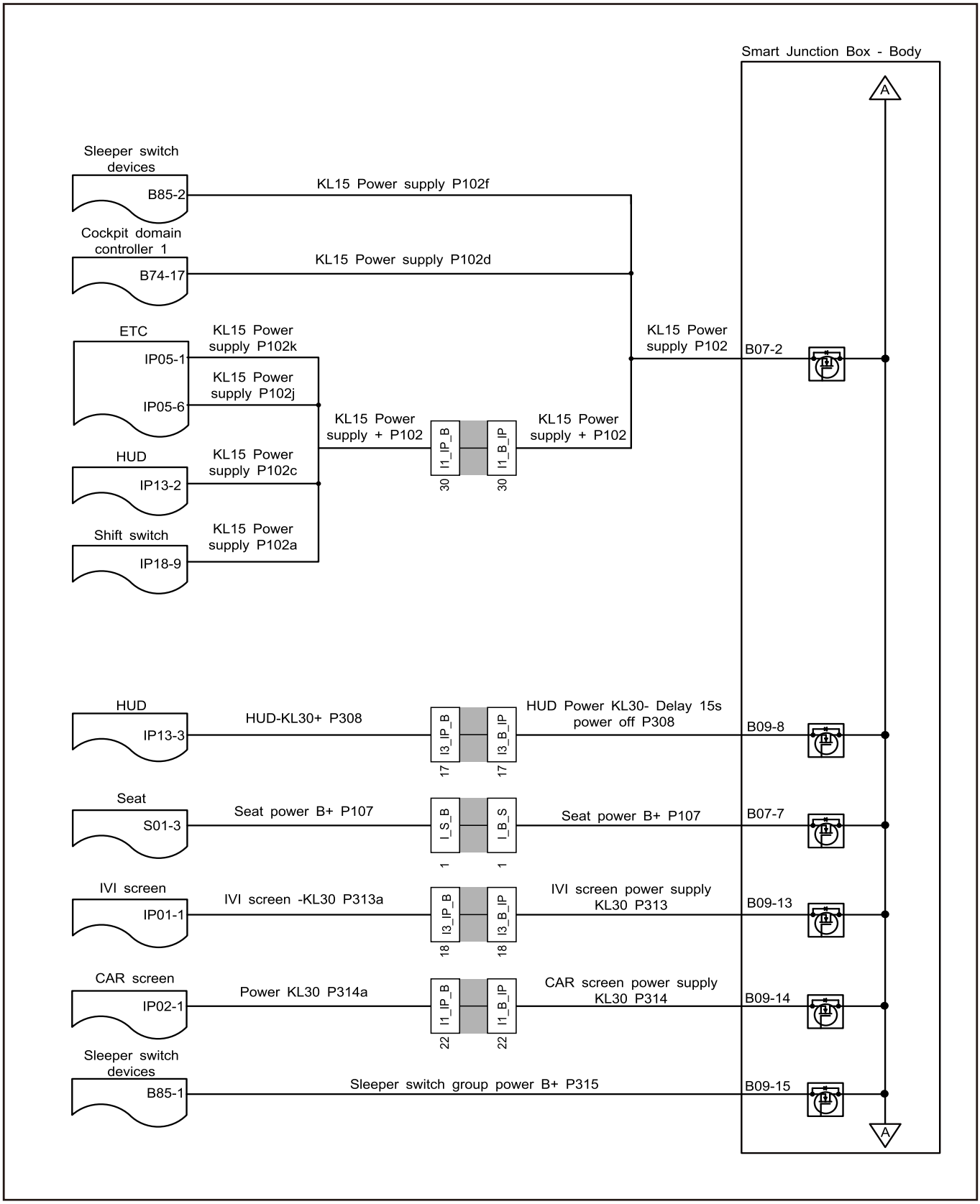


9.1.2 Smart Junction Box - Body

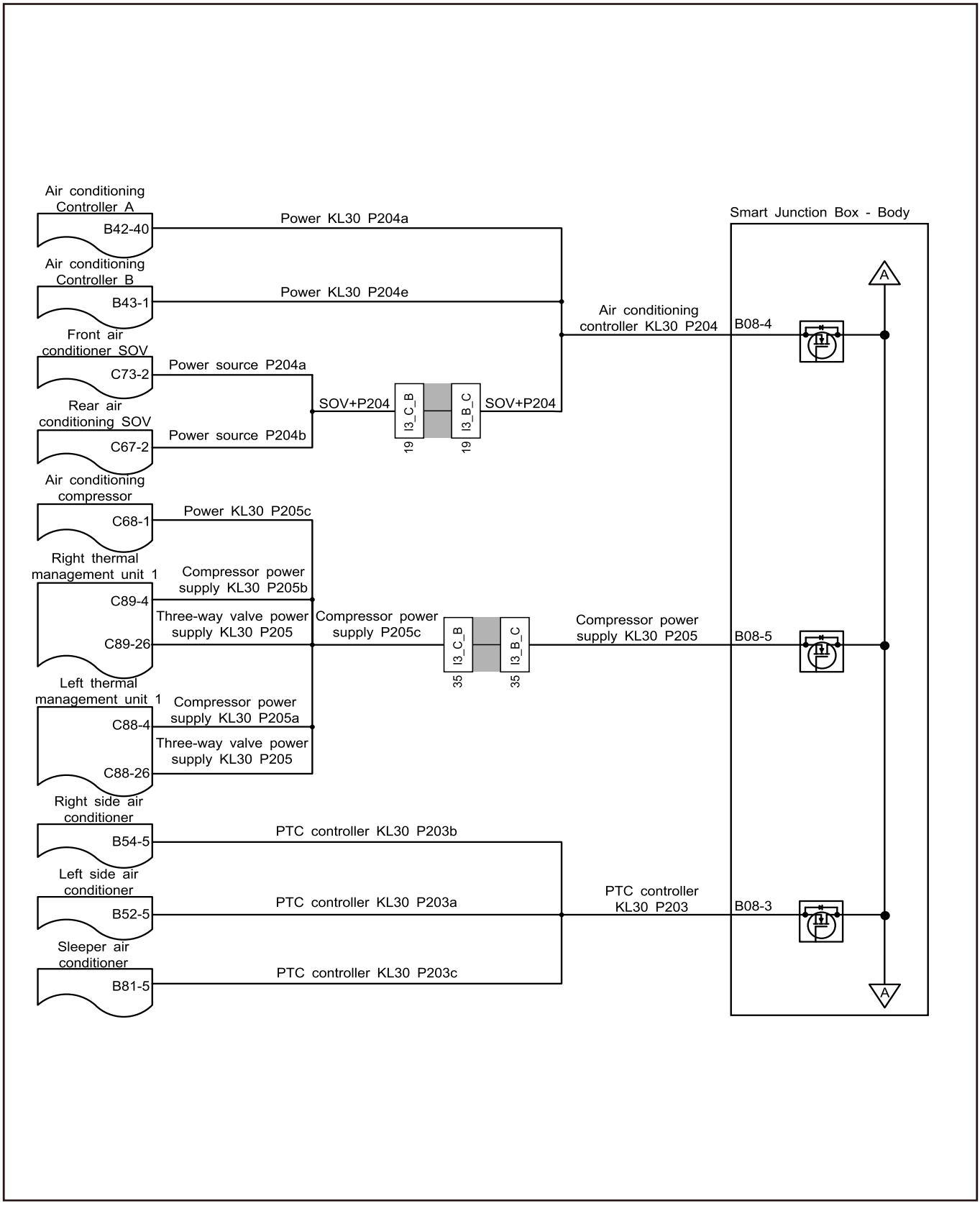
9.1.2.1 Smart Junction Box - Body



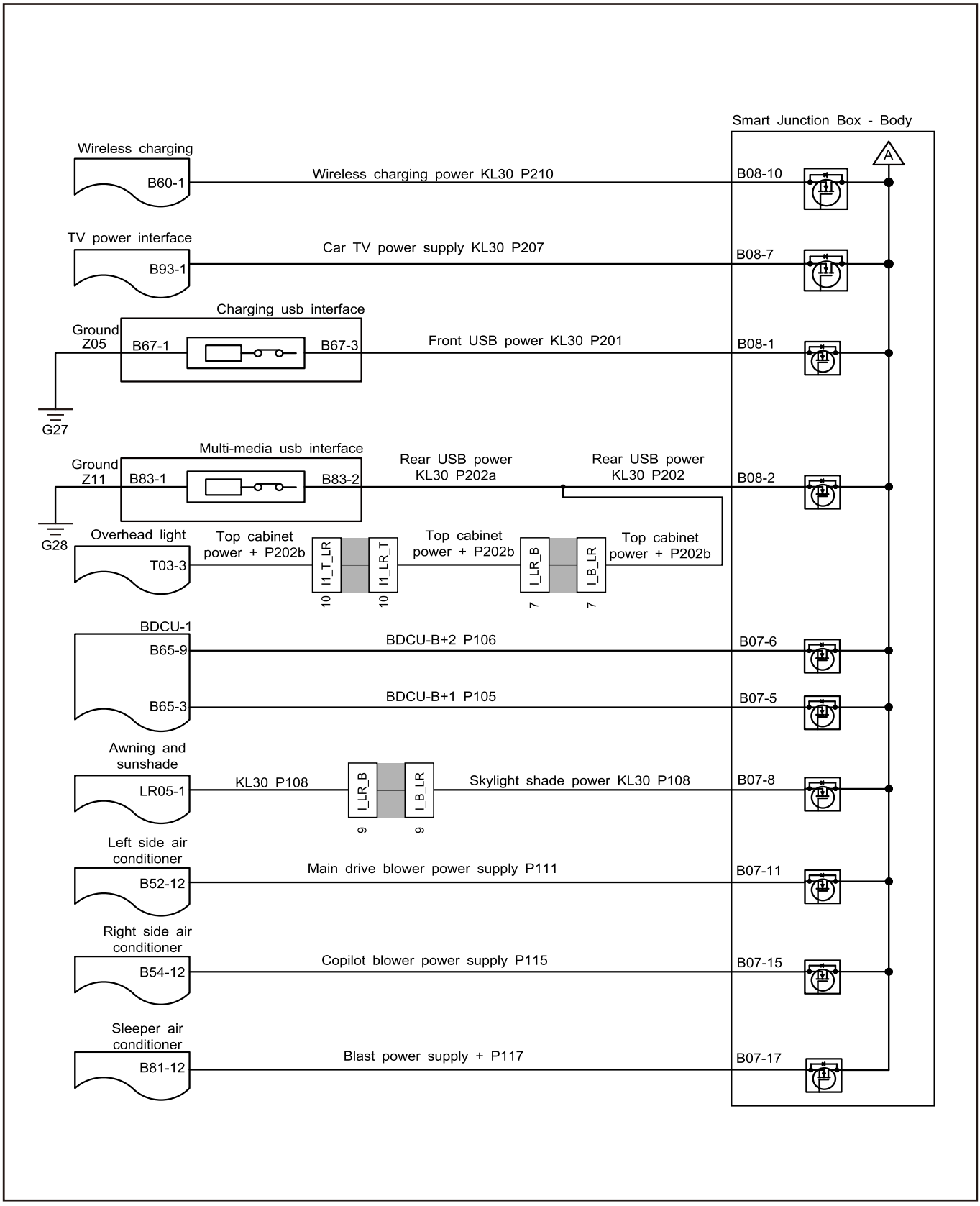
9.1.2.2 Smart Junction Box - Body Continued



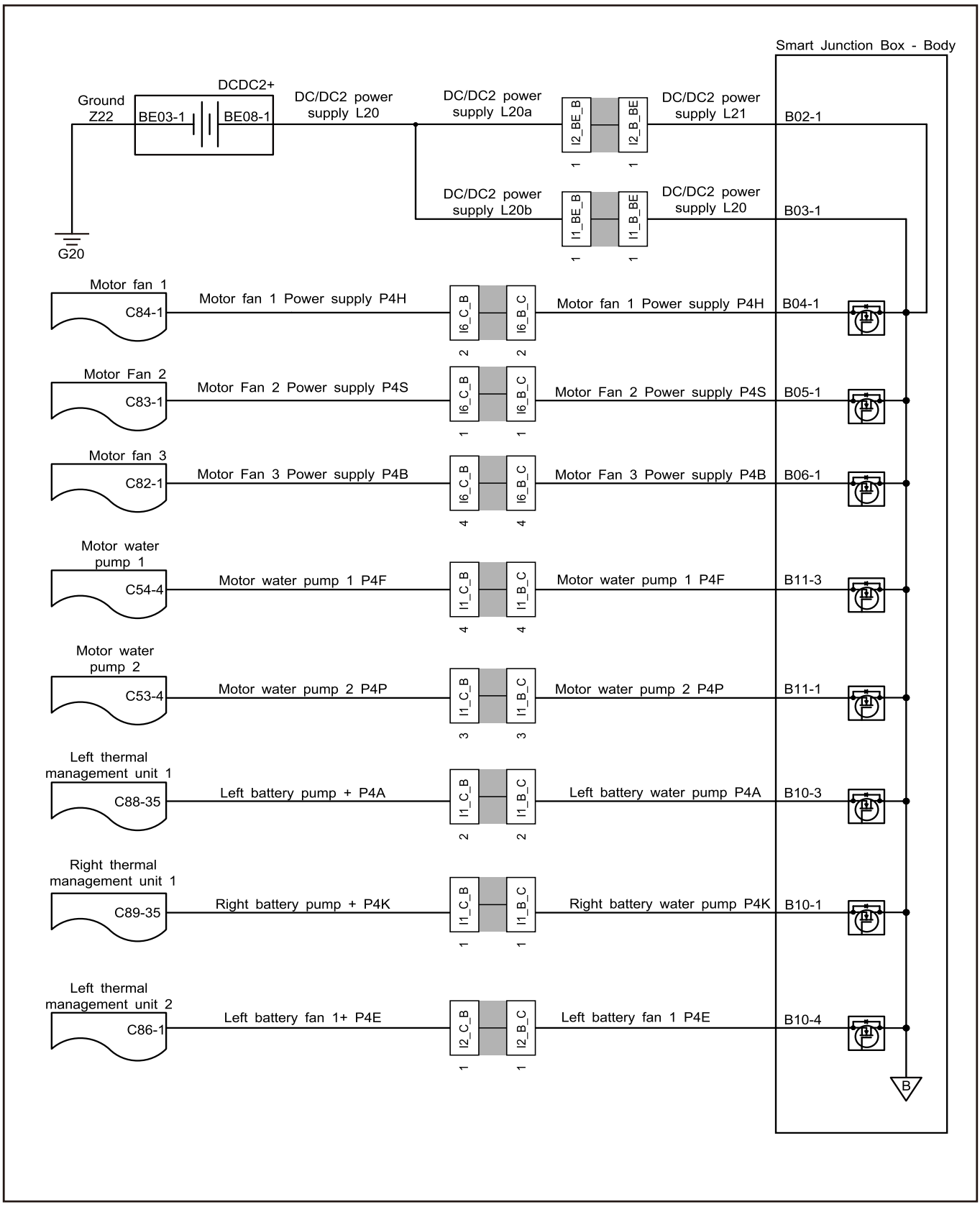
9.1.2.3 Smart Junction Box - Body Continued 1



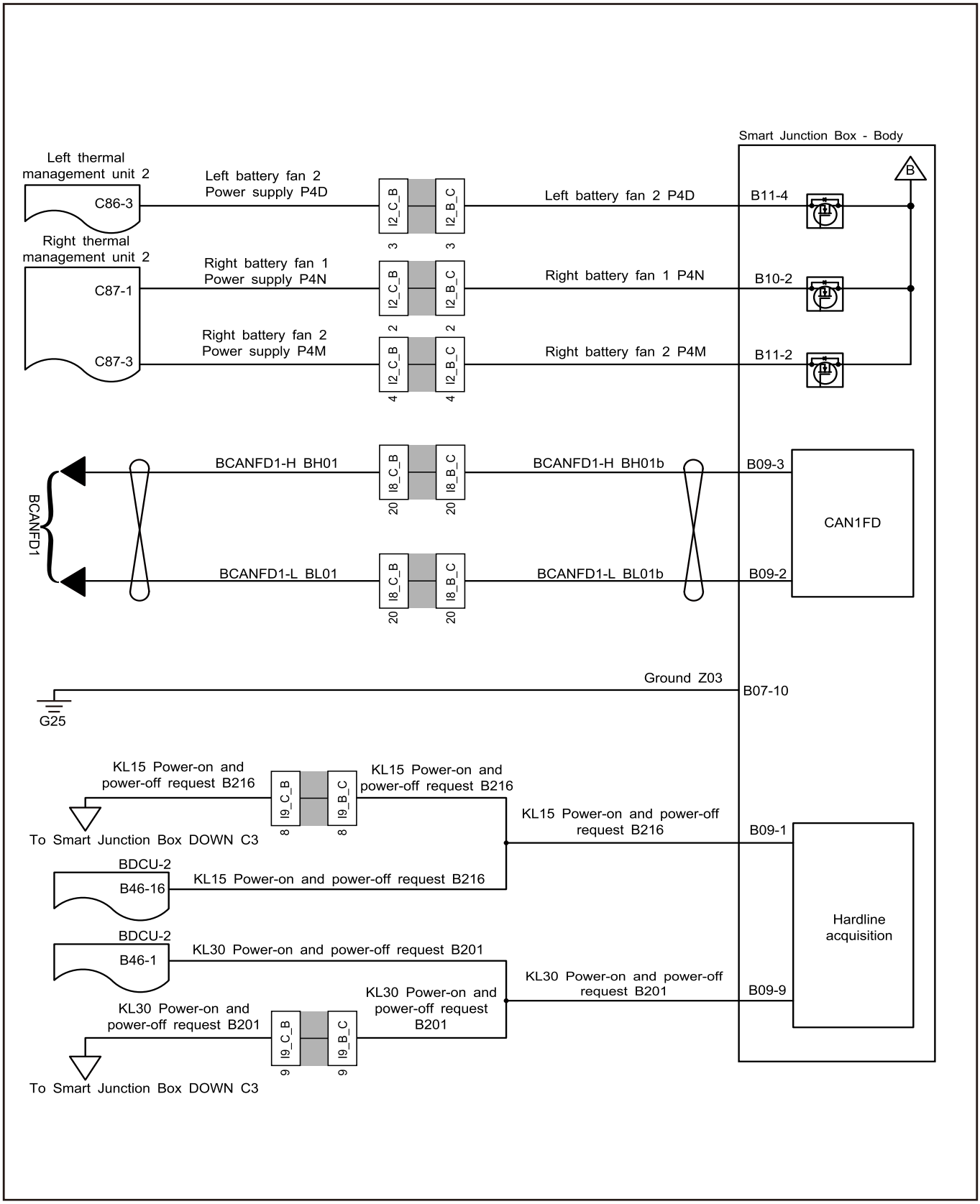
9.1.2.4 Smart Junction Box - Body Continued 2



9.1.2.5 Smart Junction Box - Body Continued 3

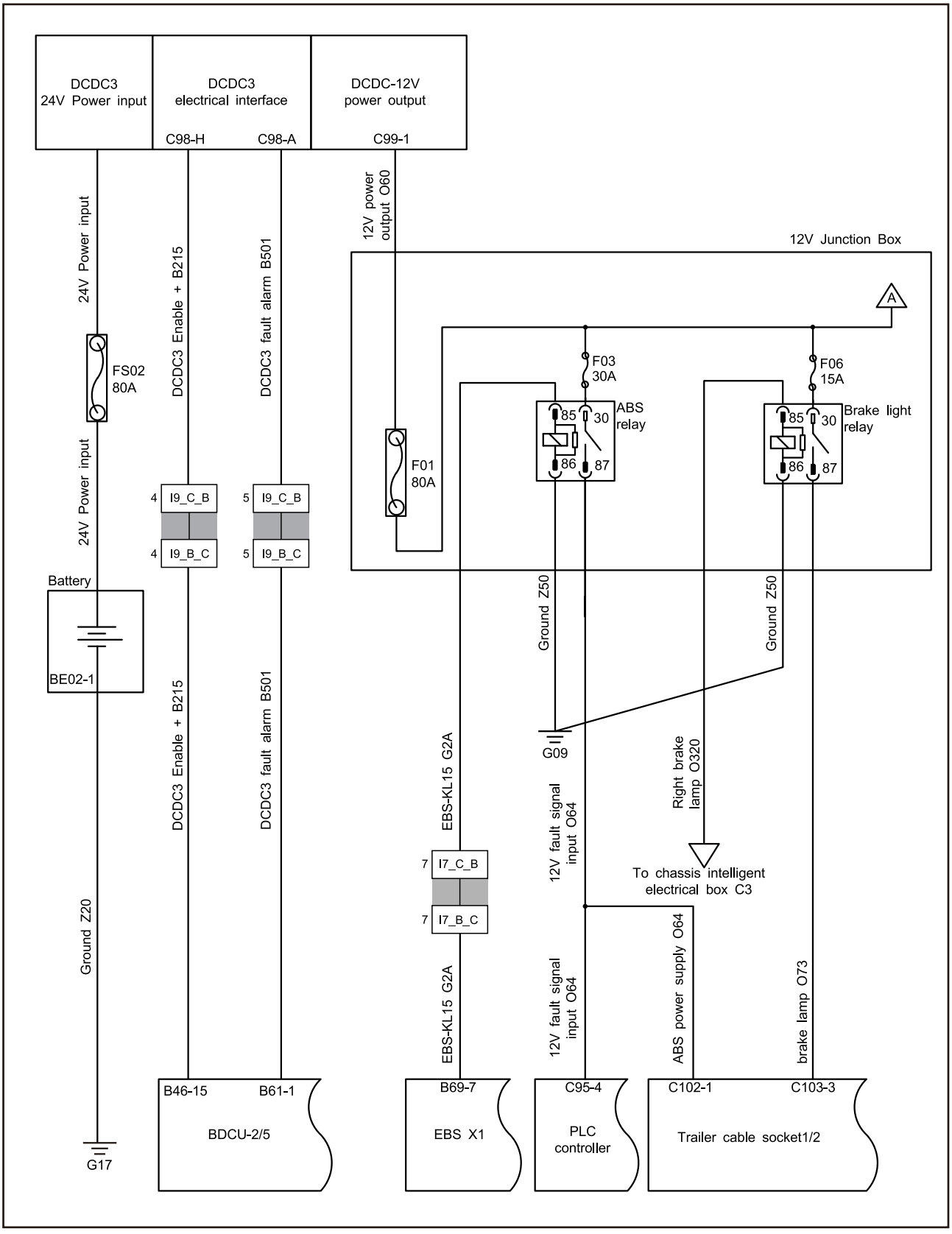


9.1.2.6 Smart Junction Box - Body Continued 4

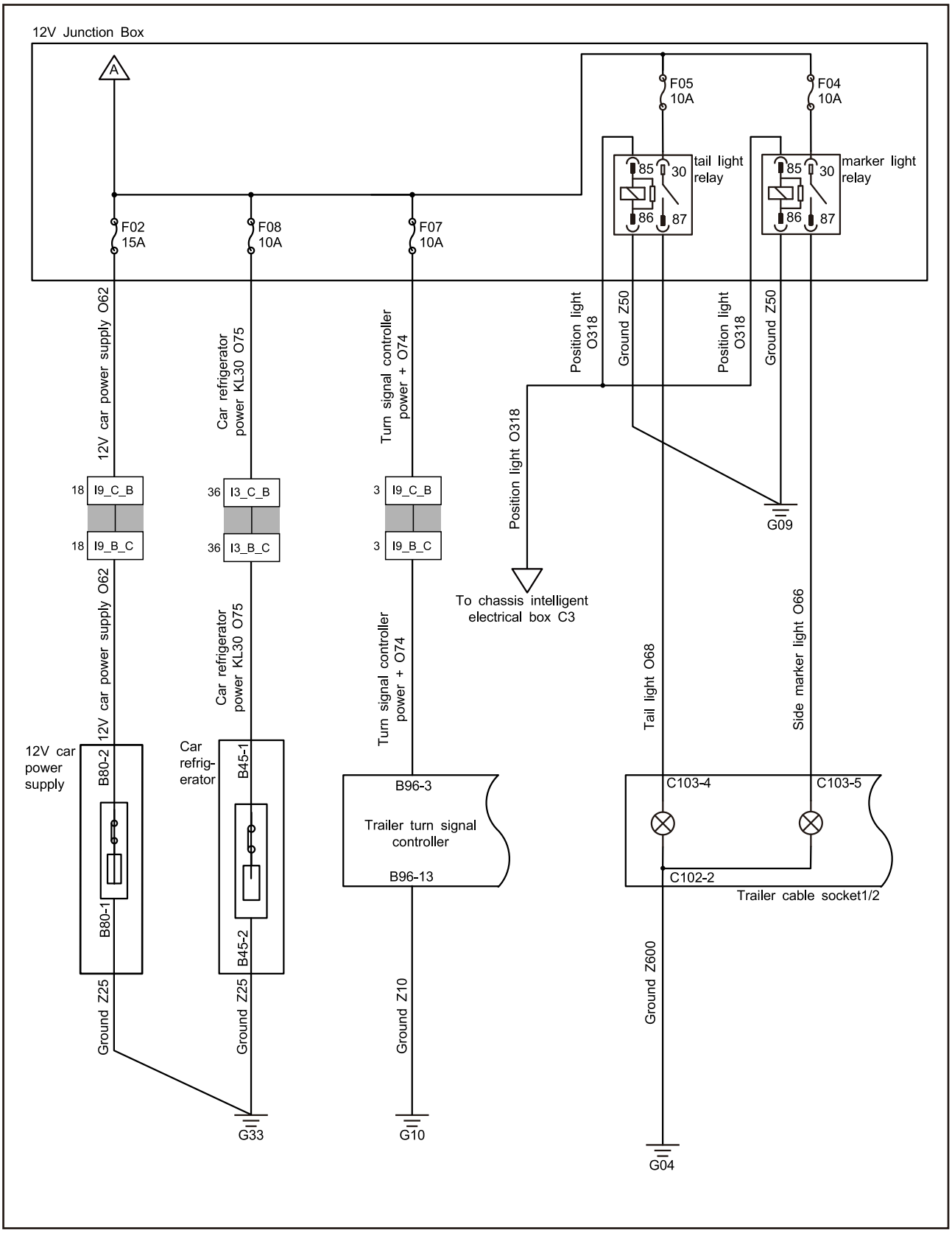


9.1.3 12V Junction Box

9.1.3.1 12V Junction Box

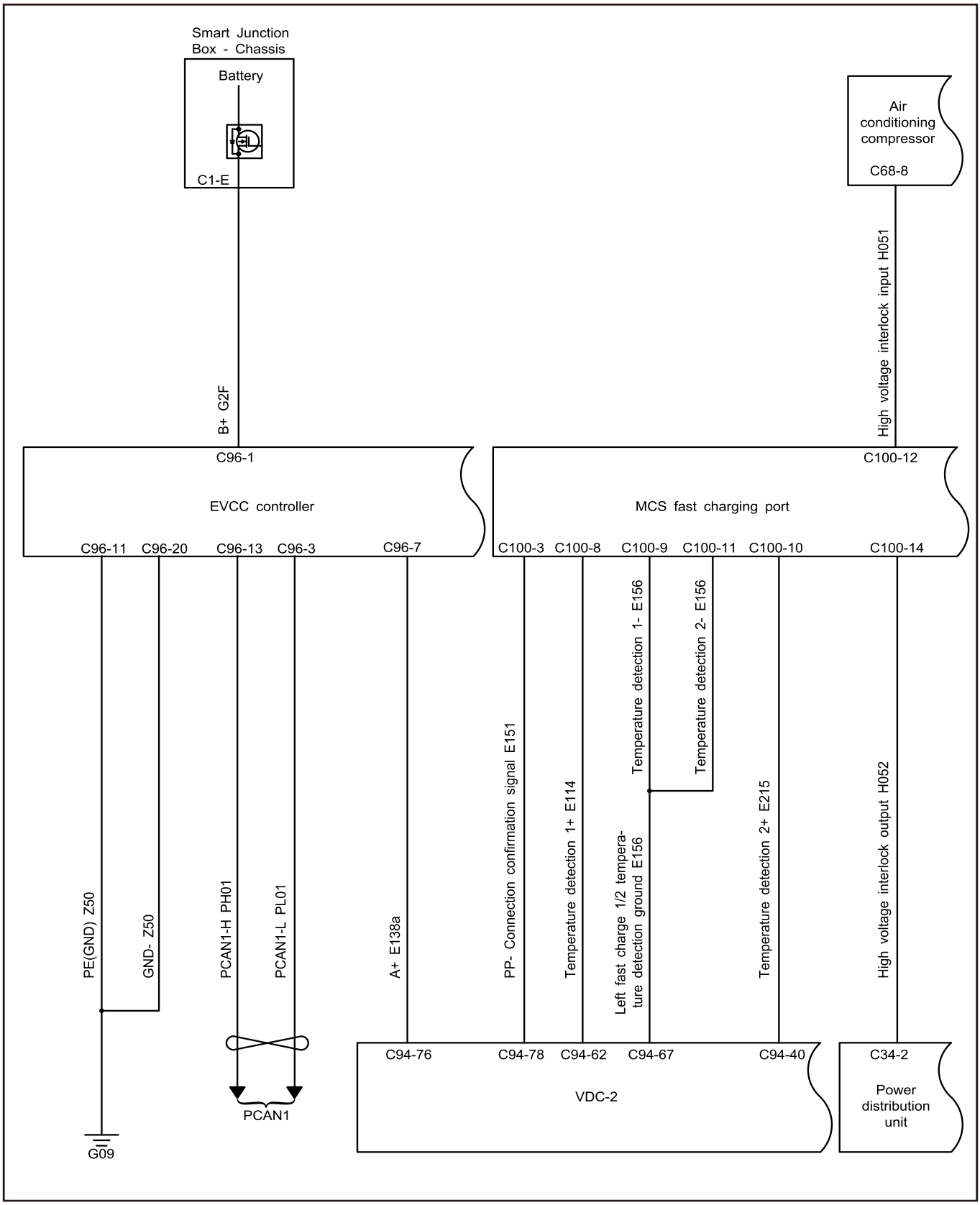


9.1.3.2 12V Junction Box Continued

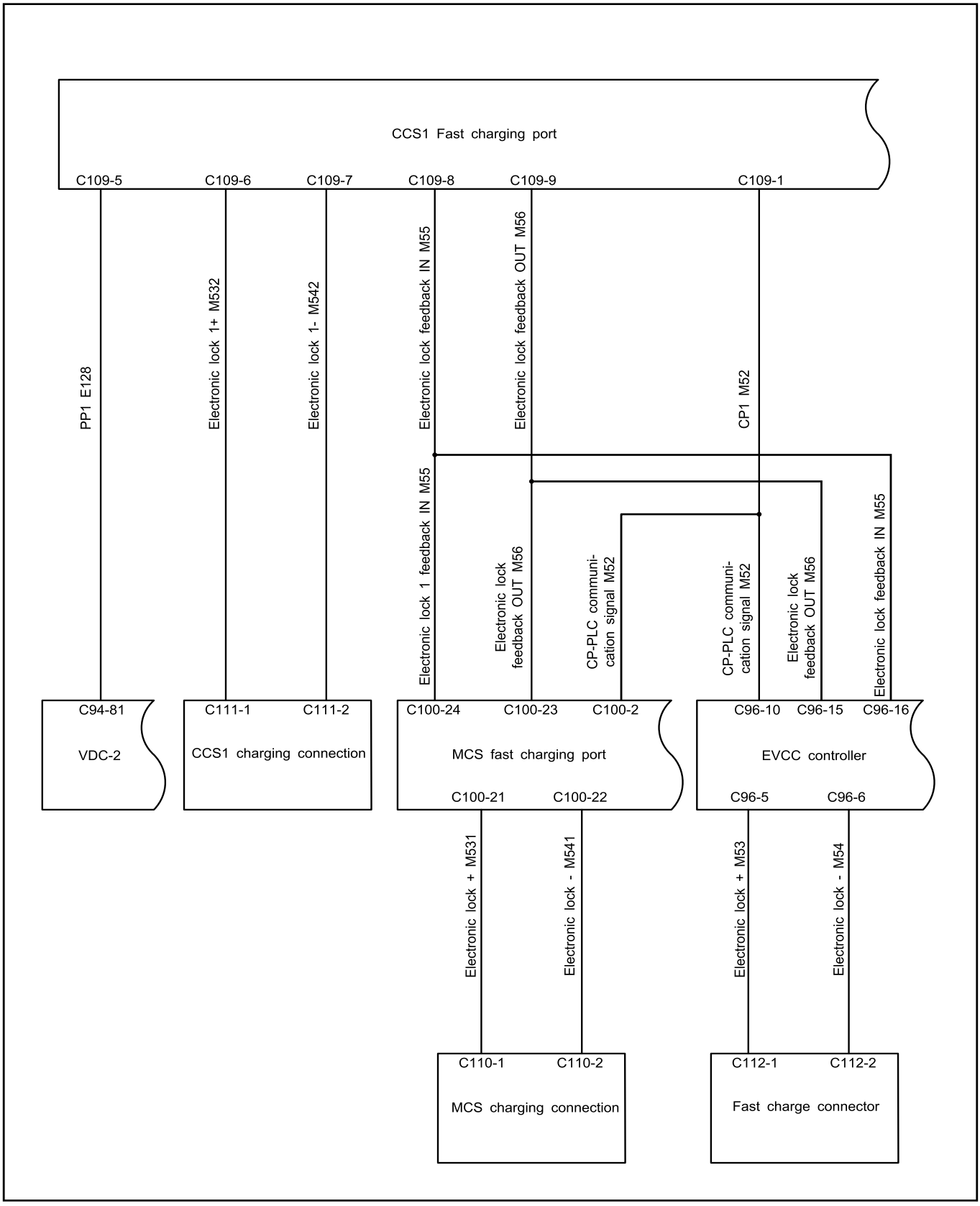


9.1.4 DC Fast Charge

9.1.4.1 DC Fast Charge

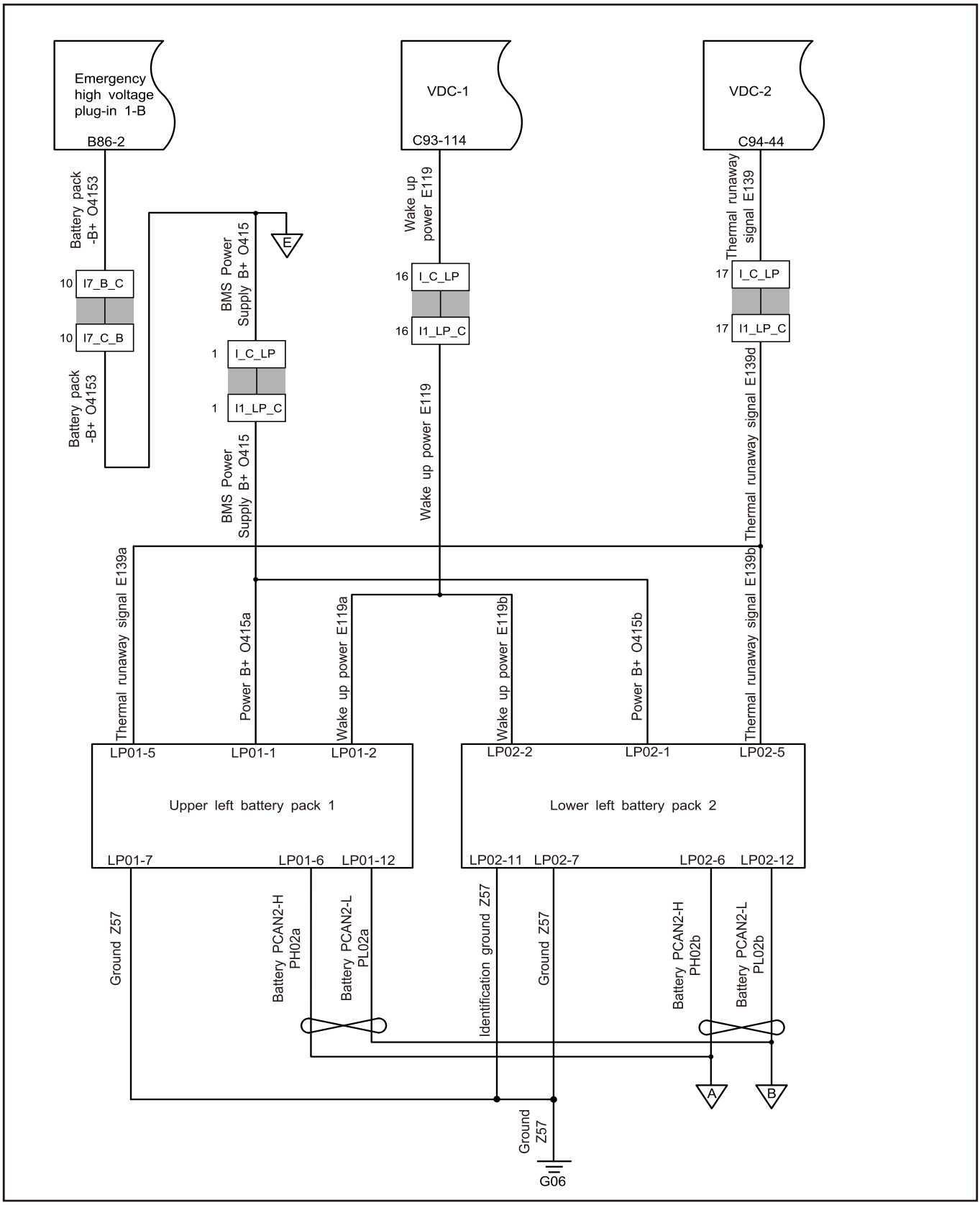


9.1.4.2 DC Fast Charge Continued

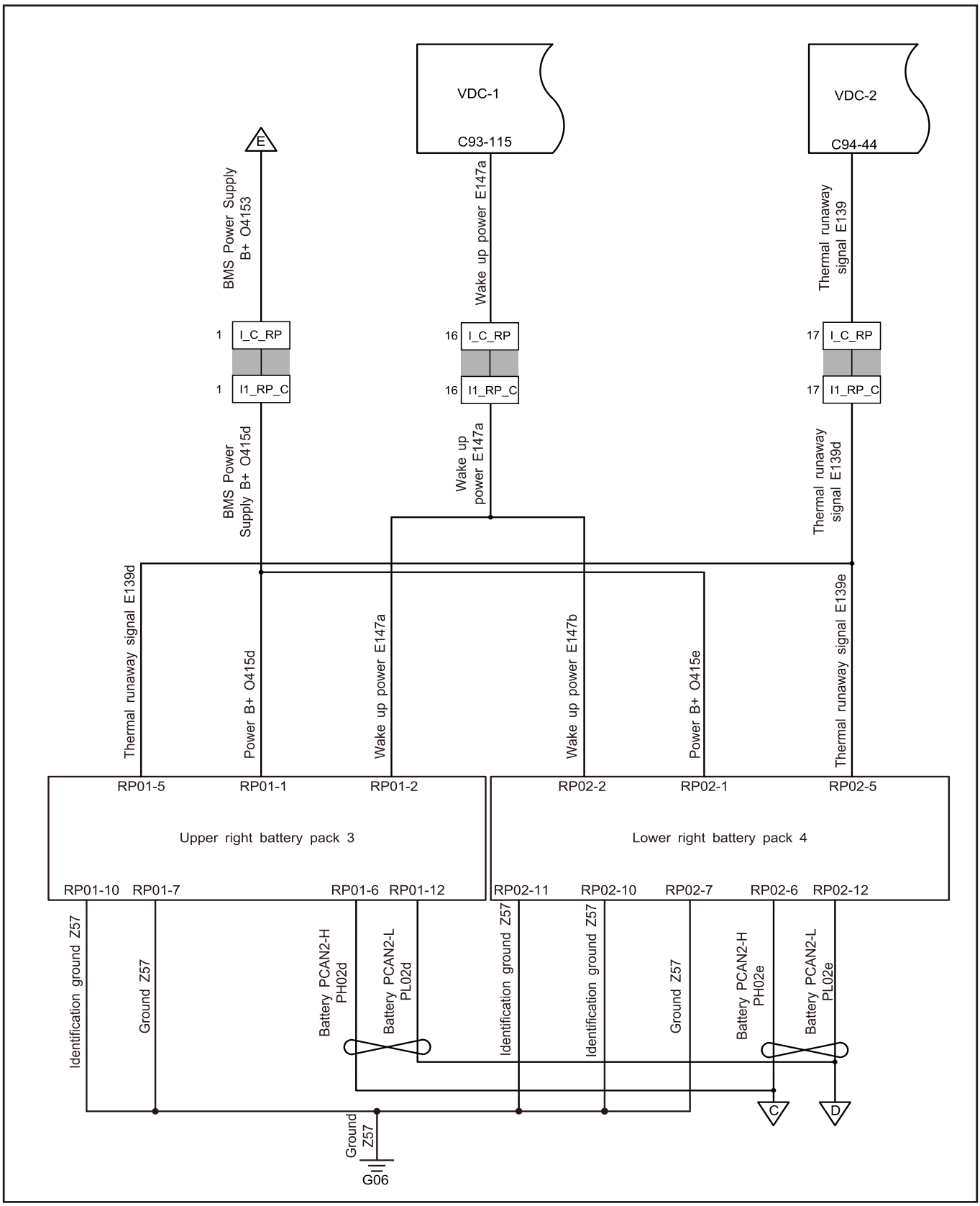


9.1.5 Battery Management System

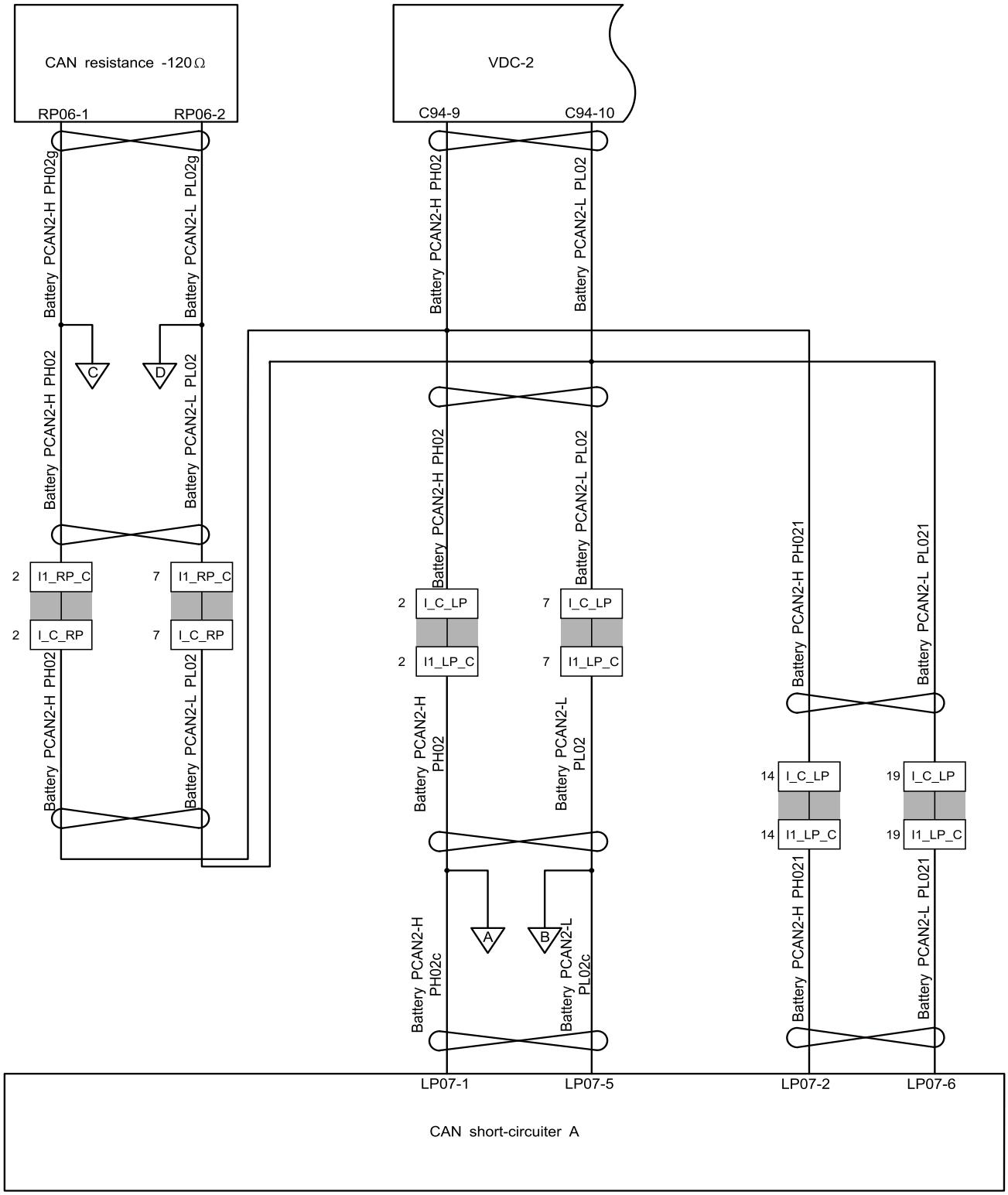
9.1.5.1 Battery Management System



9.1.5.2 Battery Management System Continued

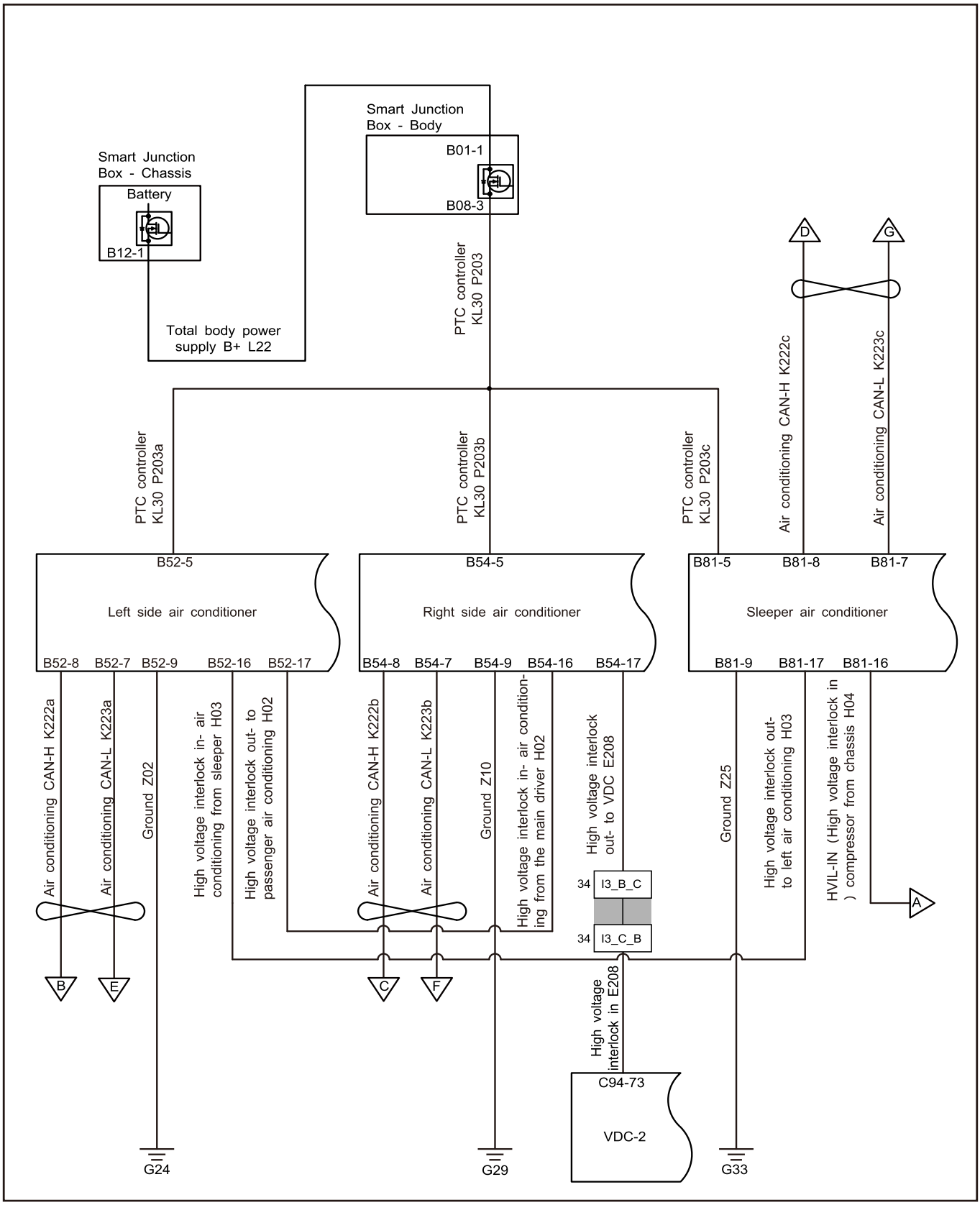


9.1.5.3 Battery Management System Continued 1

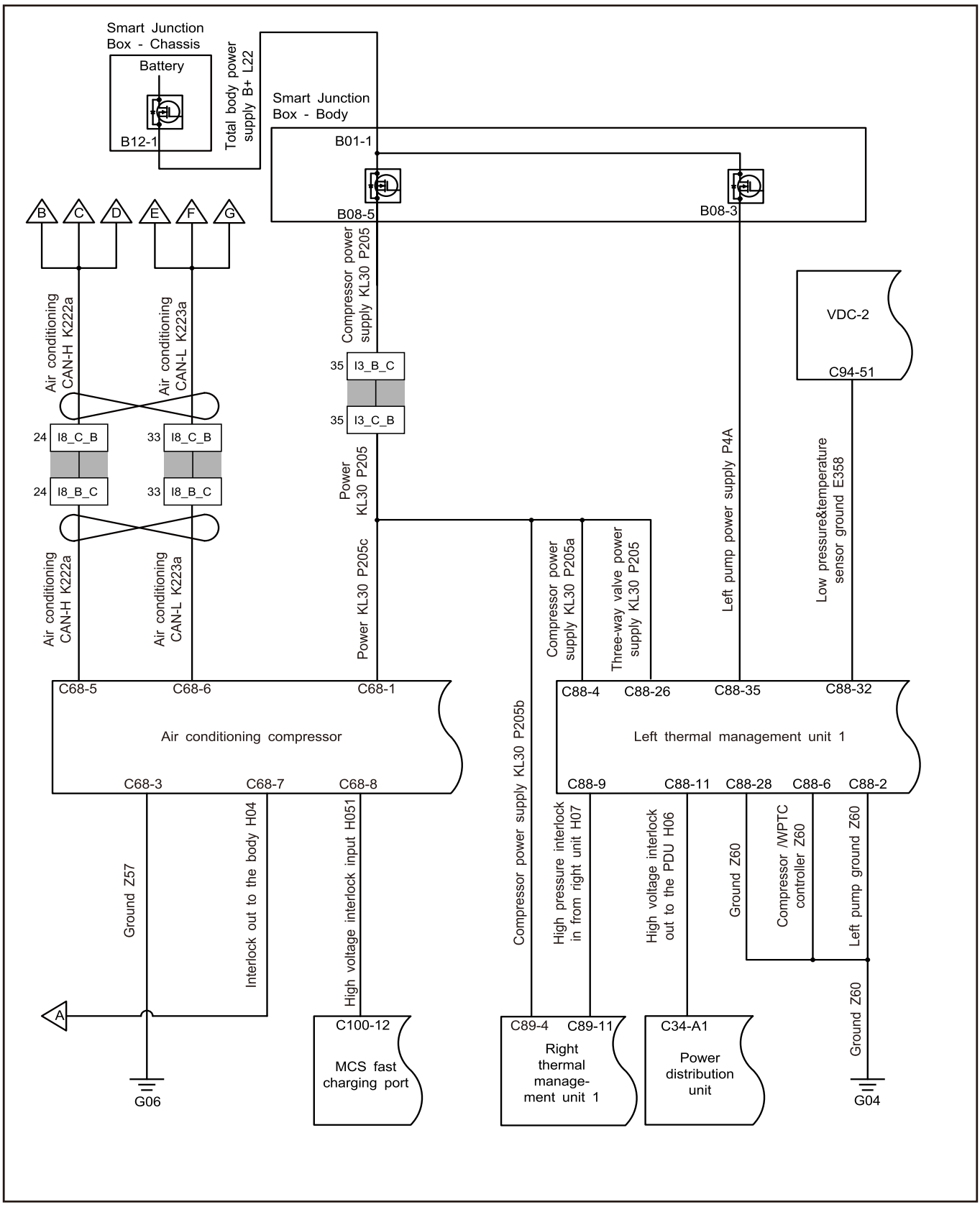


9.1.6 Thermal Management System

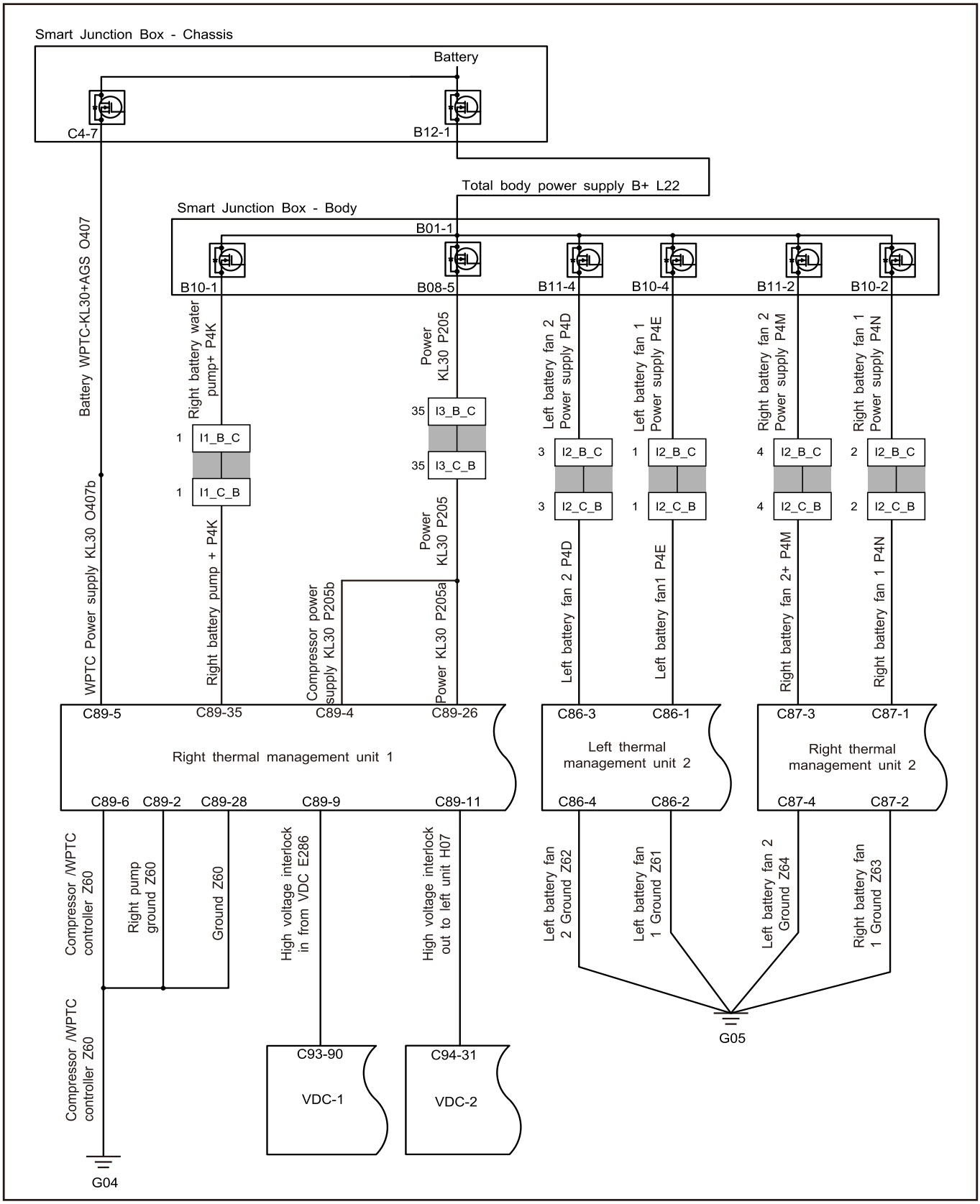
9.1.6.1 Thermal Management System



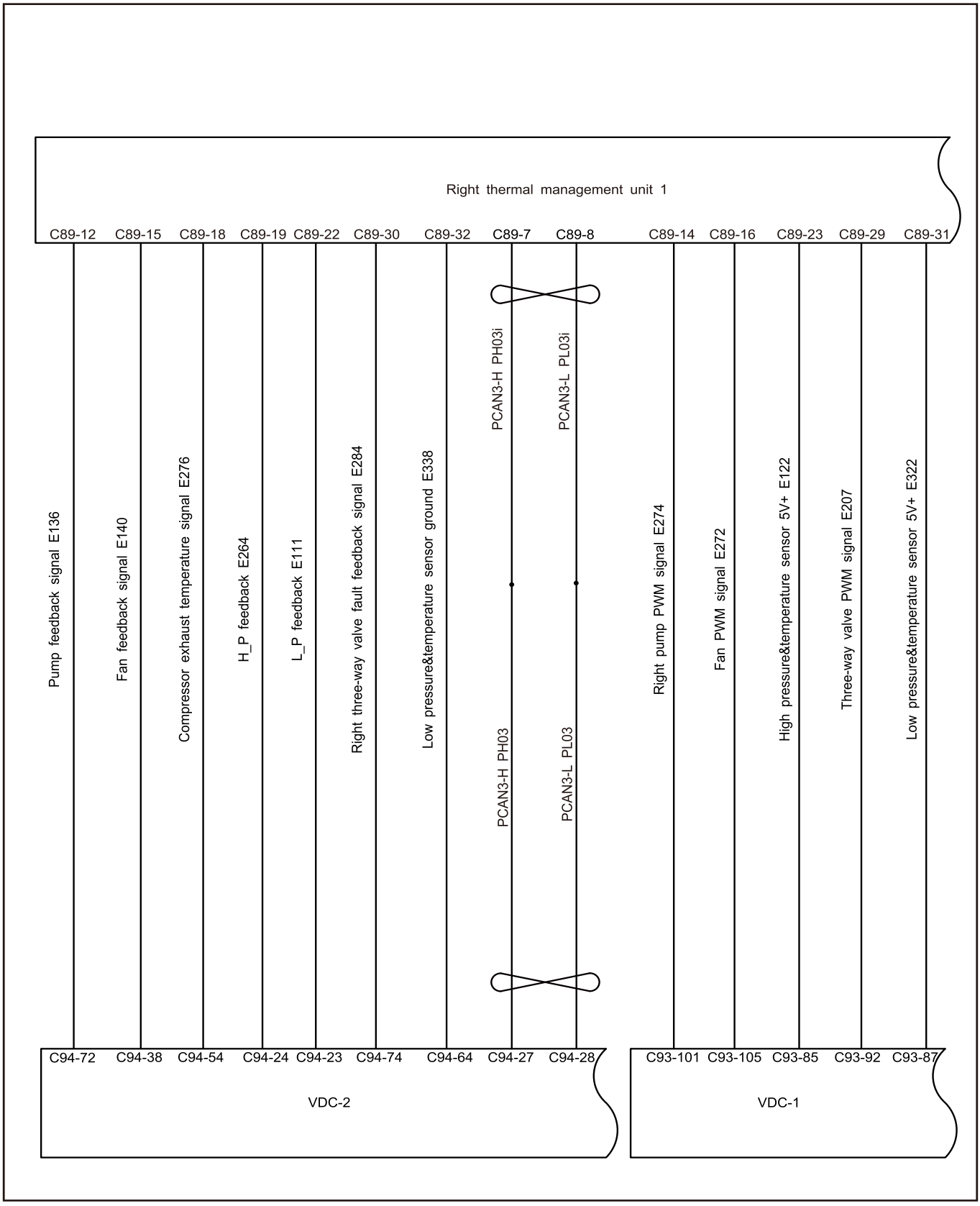
9.1.6.2 Thermal Management System Continued



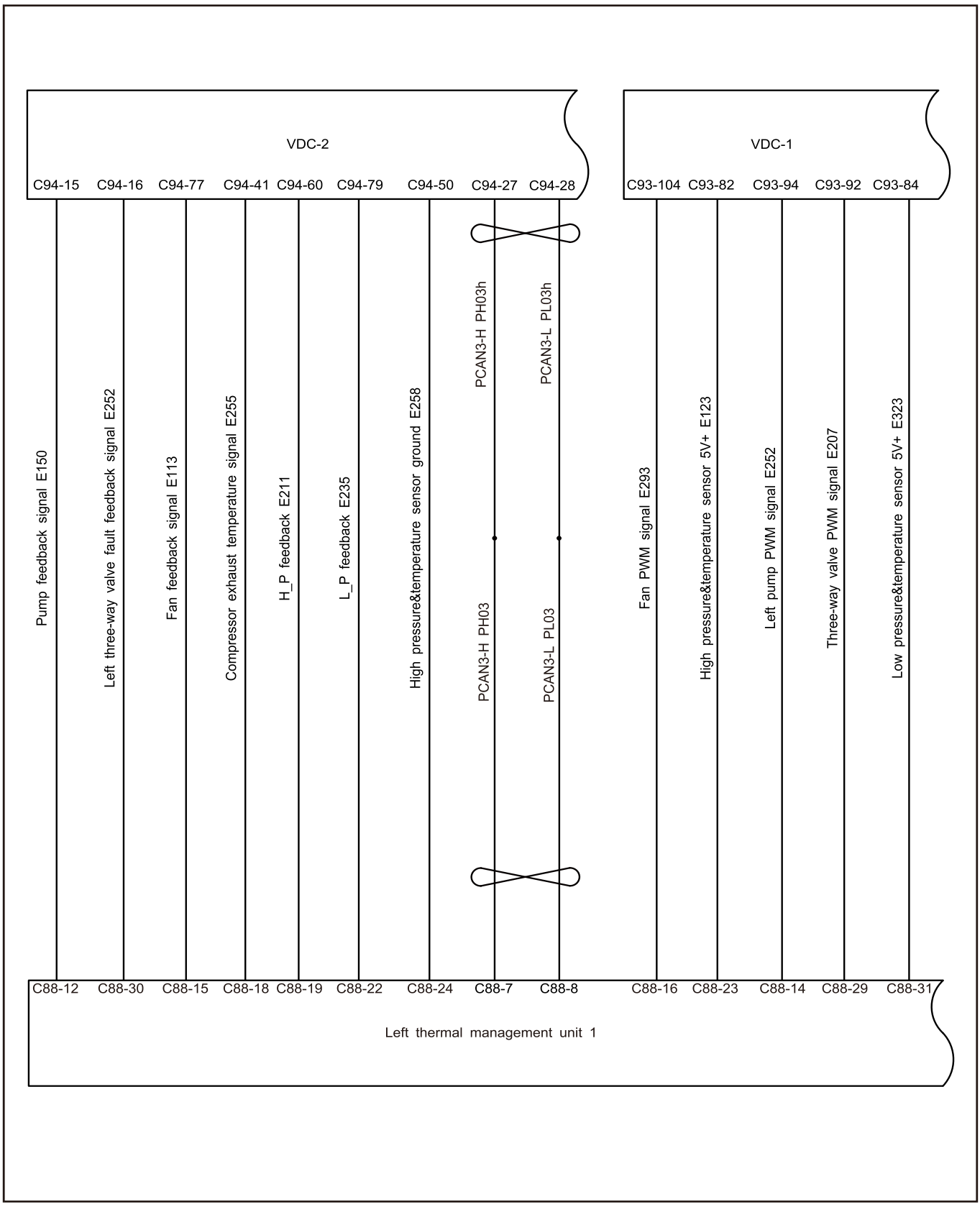
9.1.6.3 Thermal Management System Continued 1



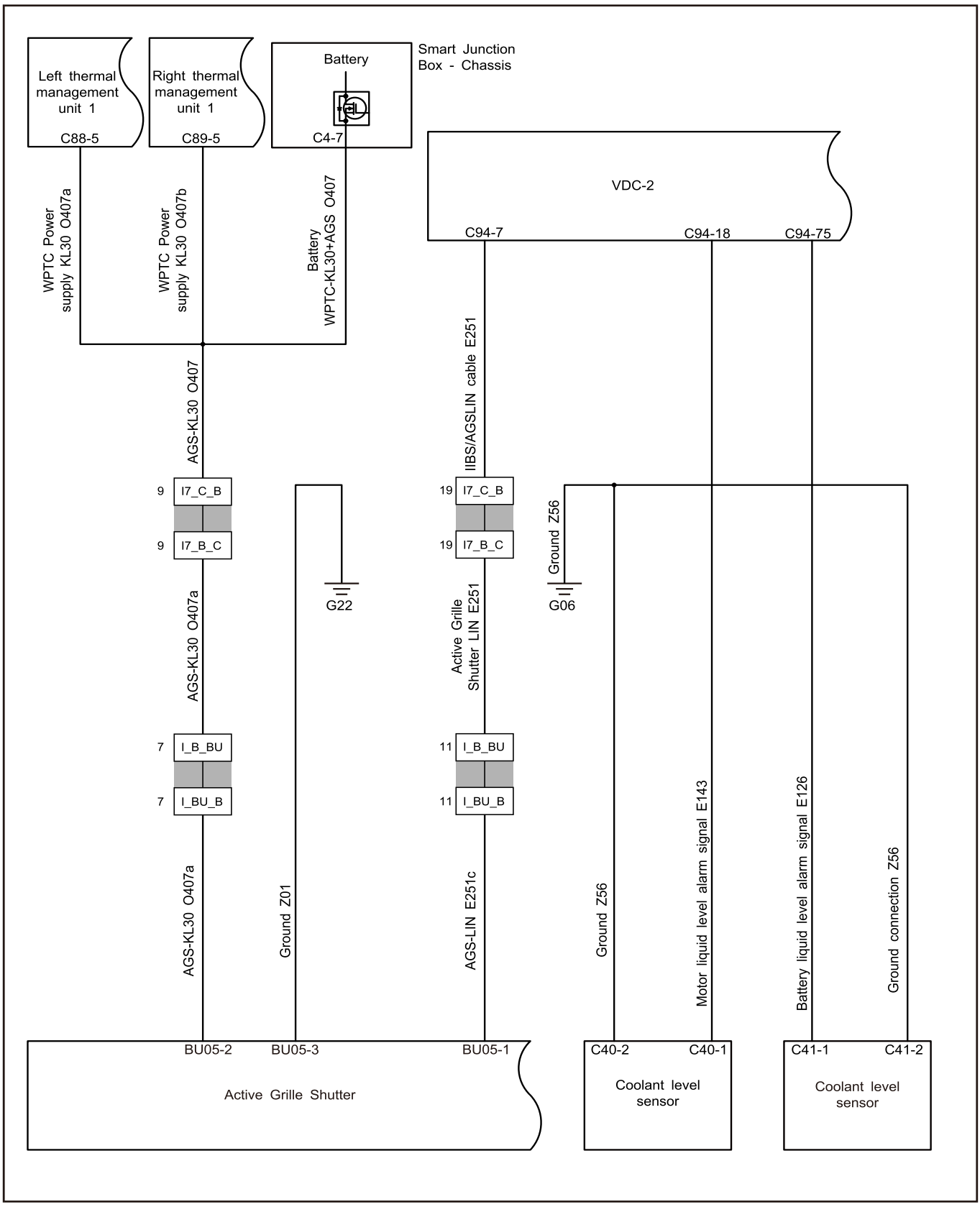
9.1.6.4 Thermal Management System Continued 2



9.1.6.5 Thermal Management System Continued 3

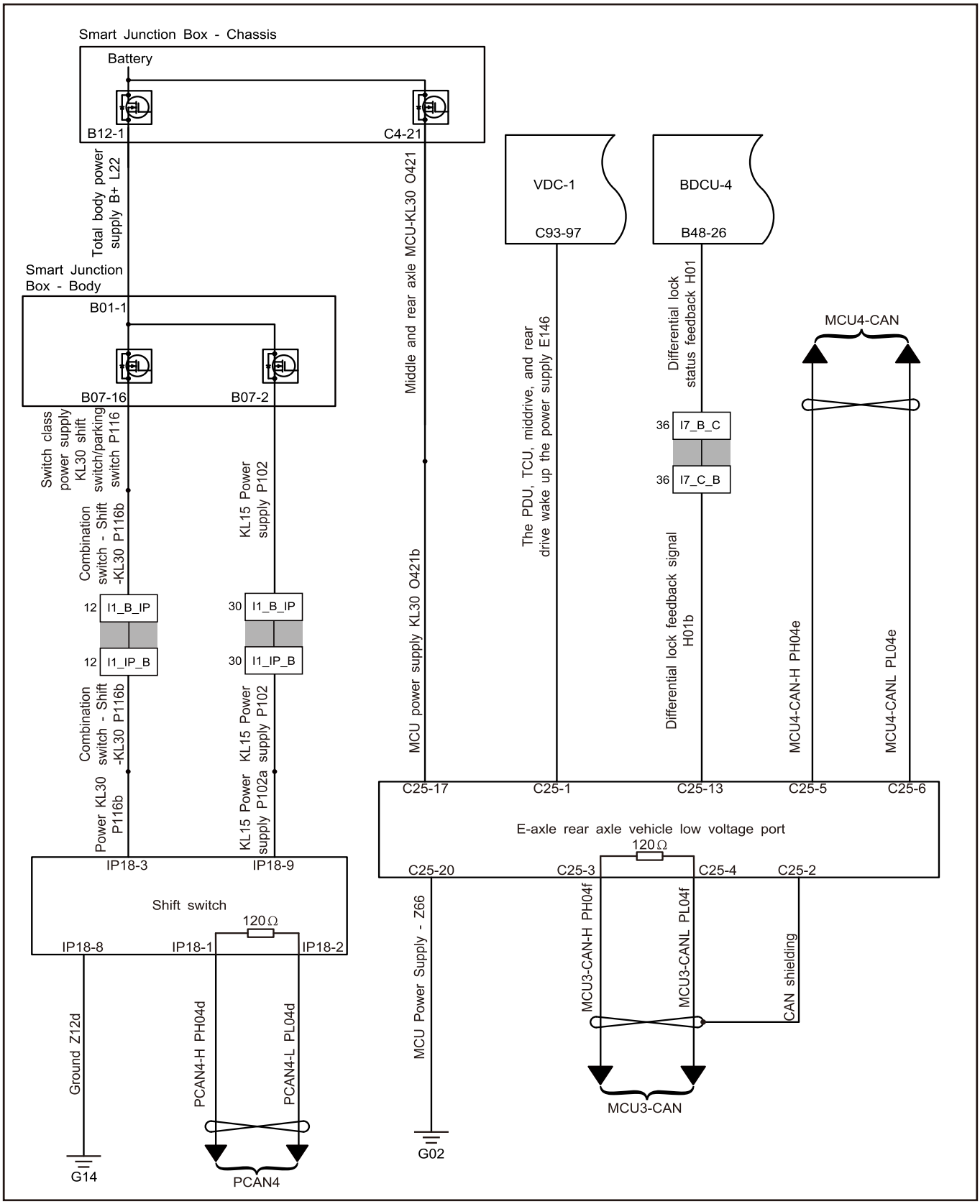


9.1.6.6 Thermal Management System Continued 4

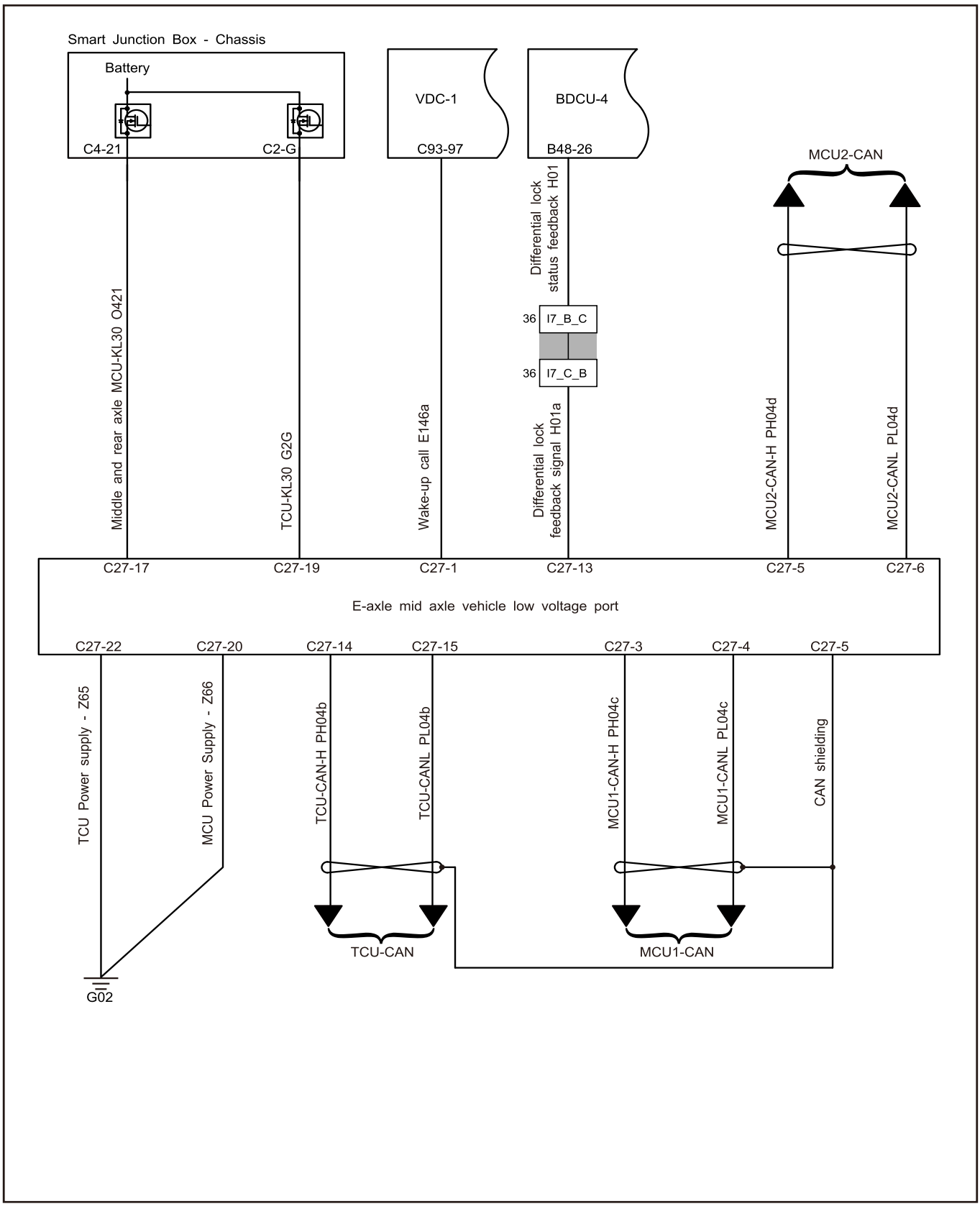


9.1.7 Drive Control System

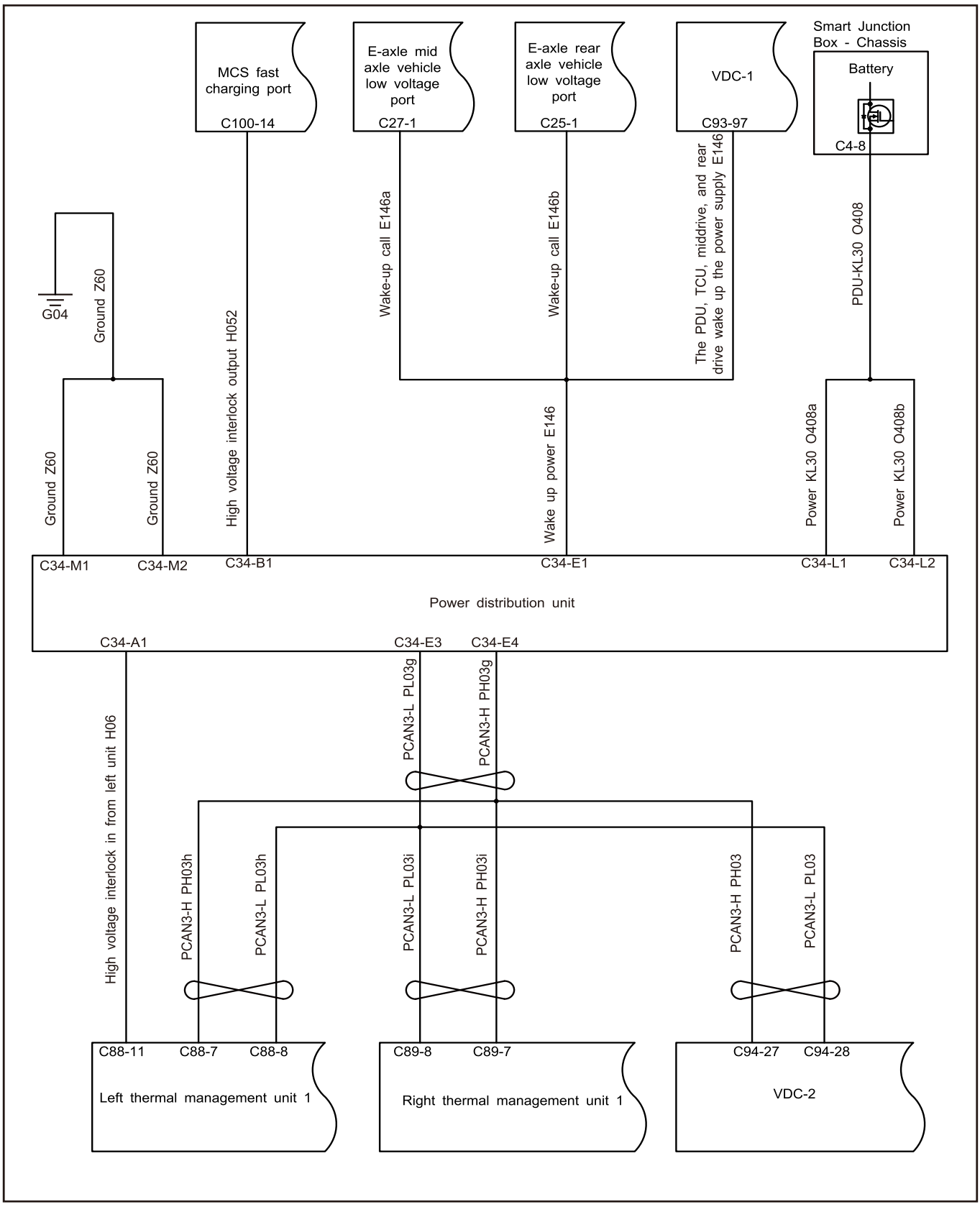
9.1.7.1 Drive Control System



9.1.7.2 Drive Control System Continued

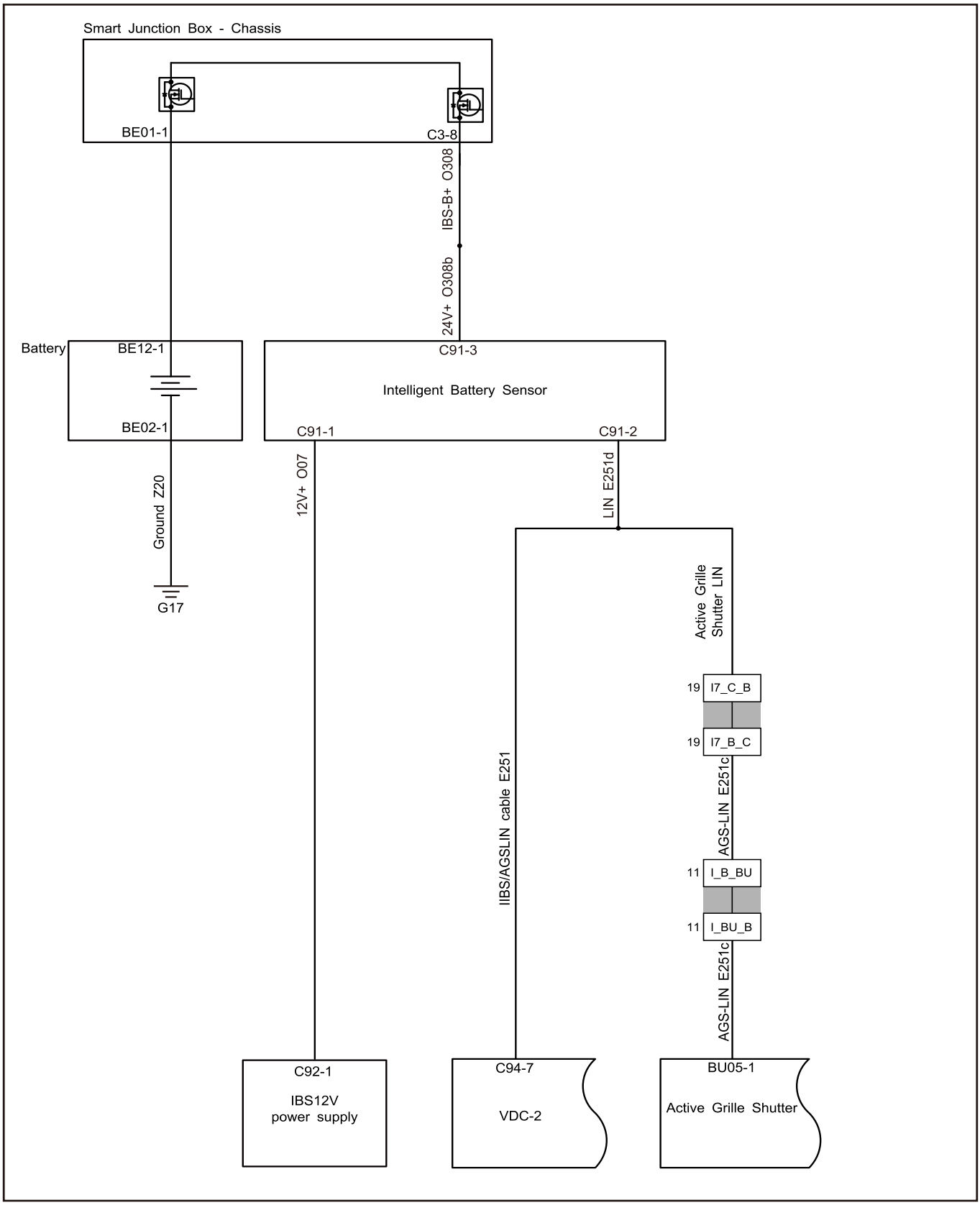


9.1.7.3 Drive Control System Continued 1



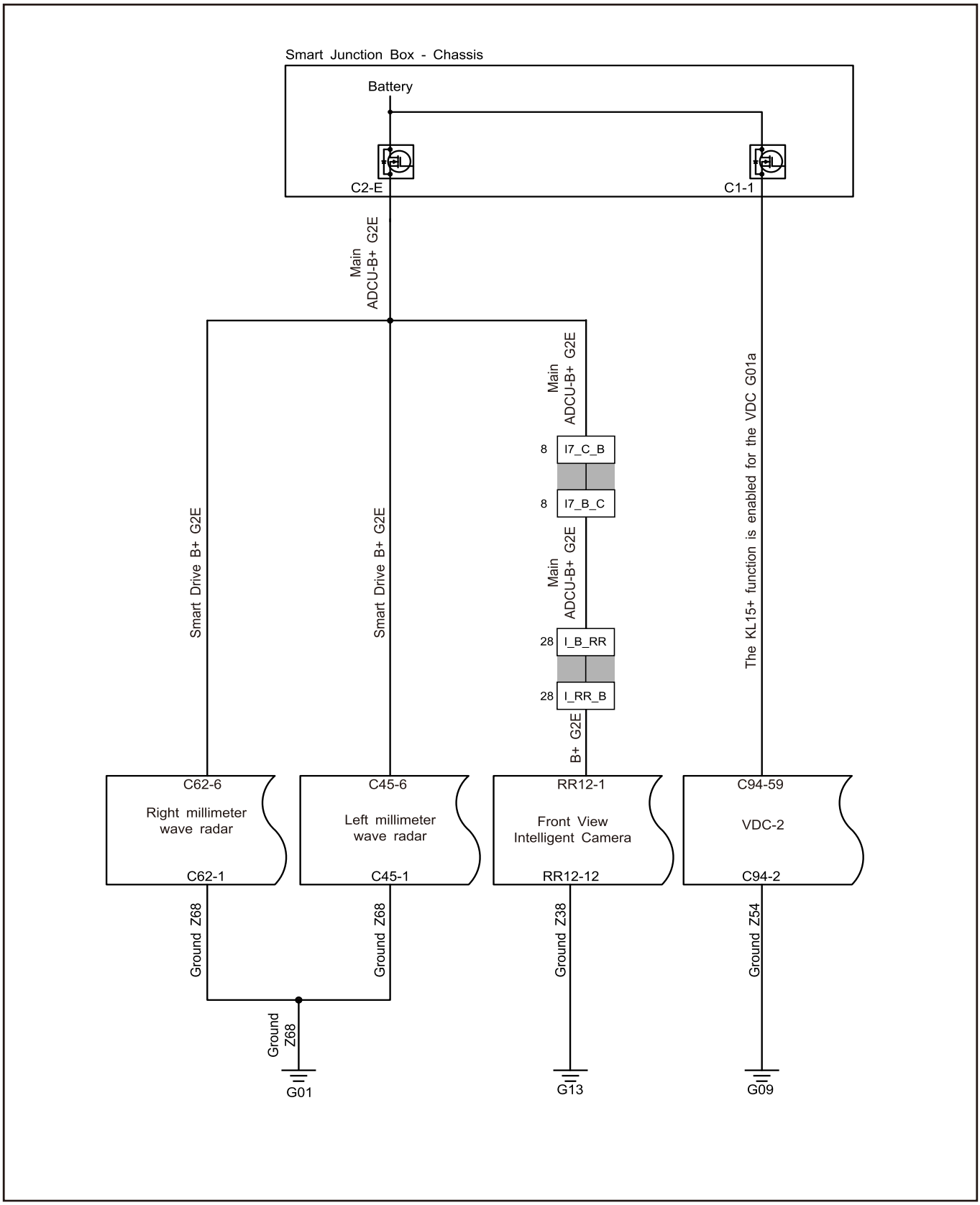
9.1.8 Charging System

9.1.8.1 Charging System

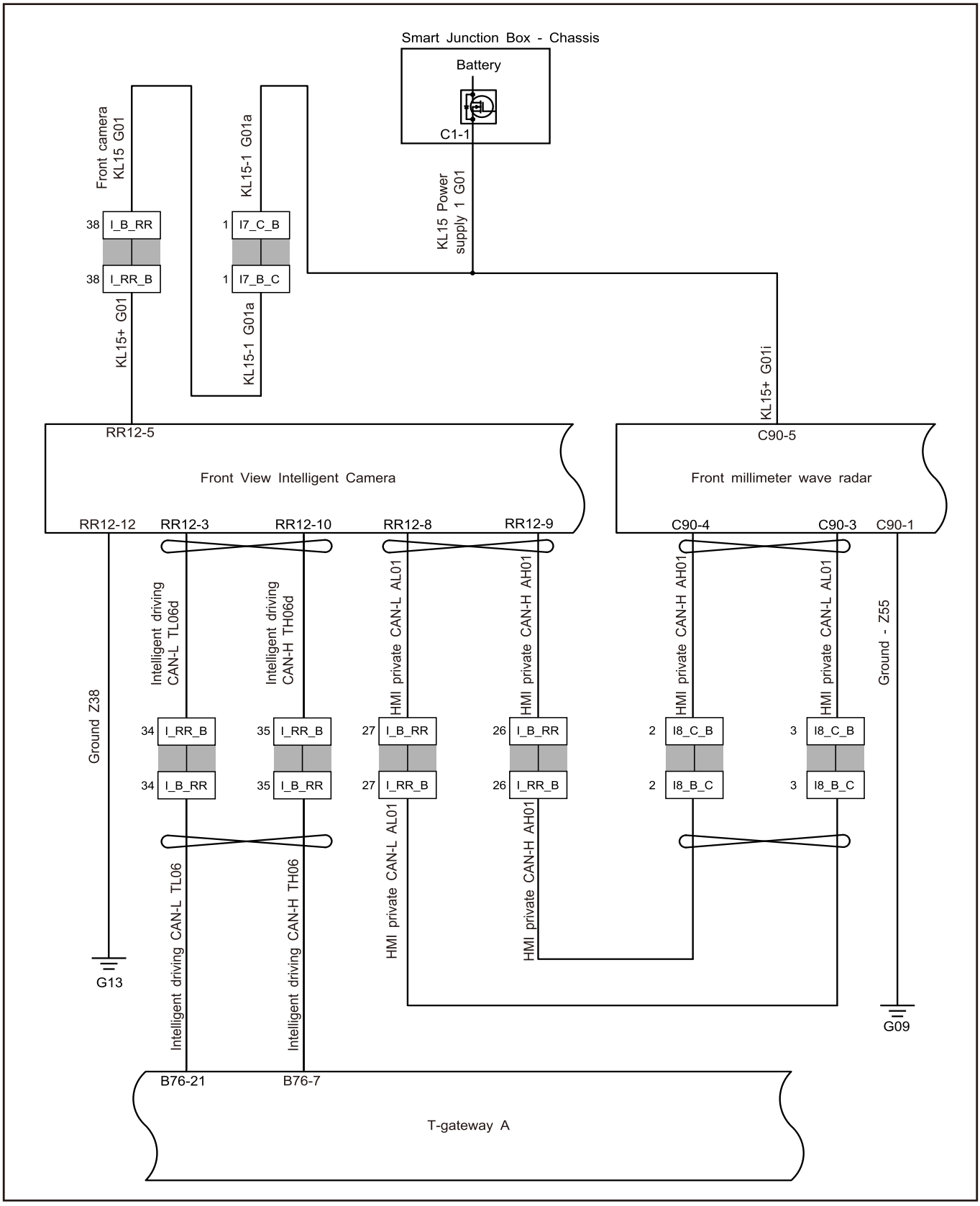


9.1.9 Intelligent Driving

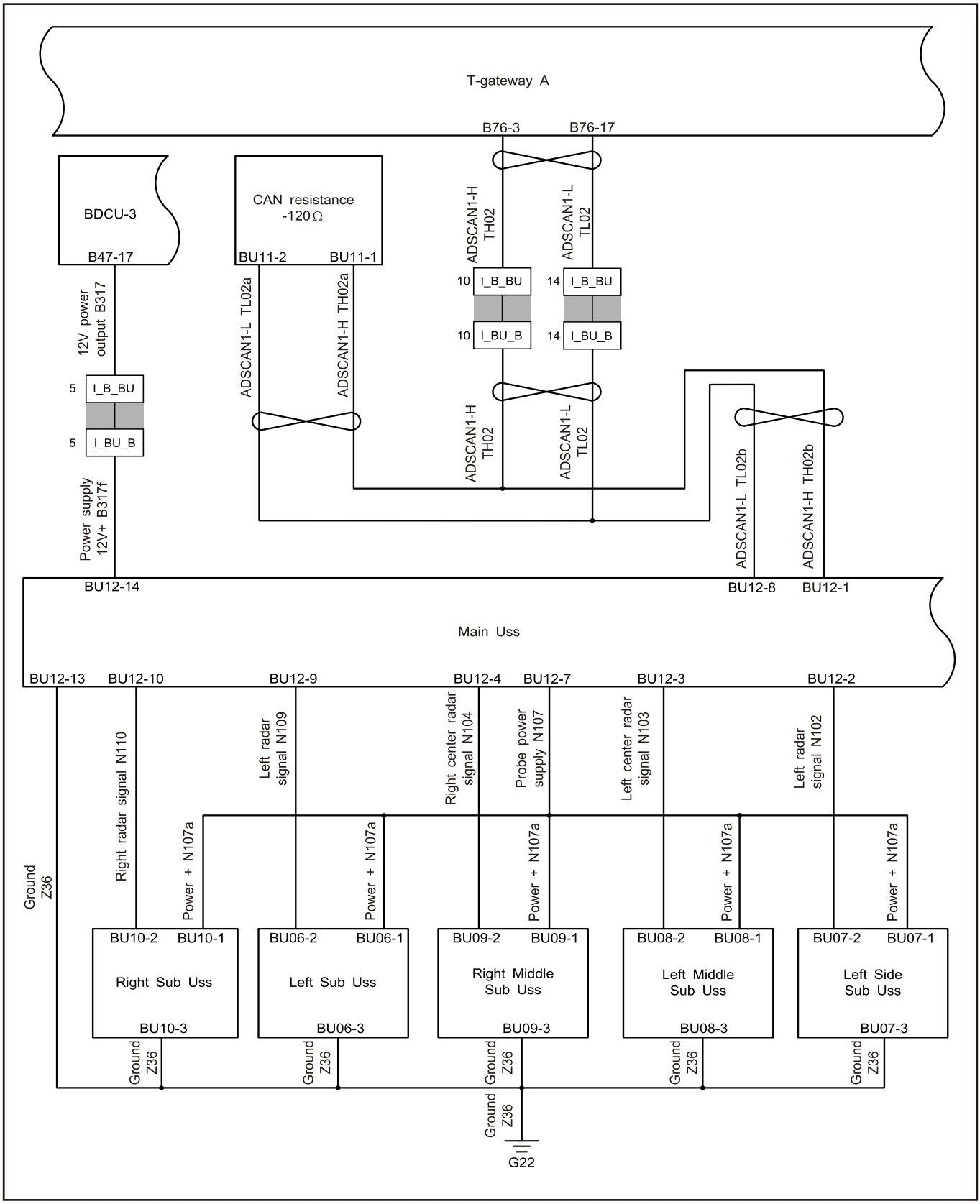
9.1.9.1 Intelligent Driving



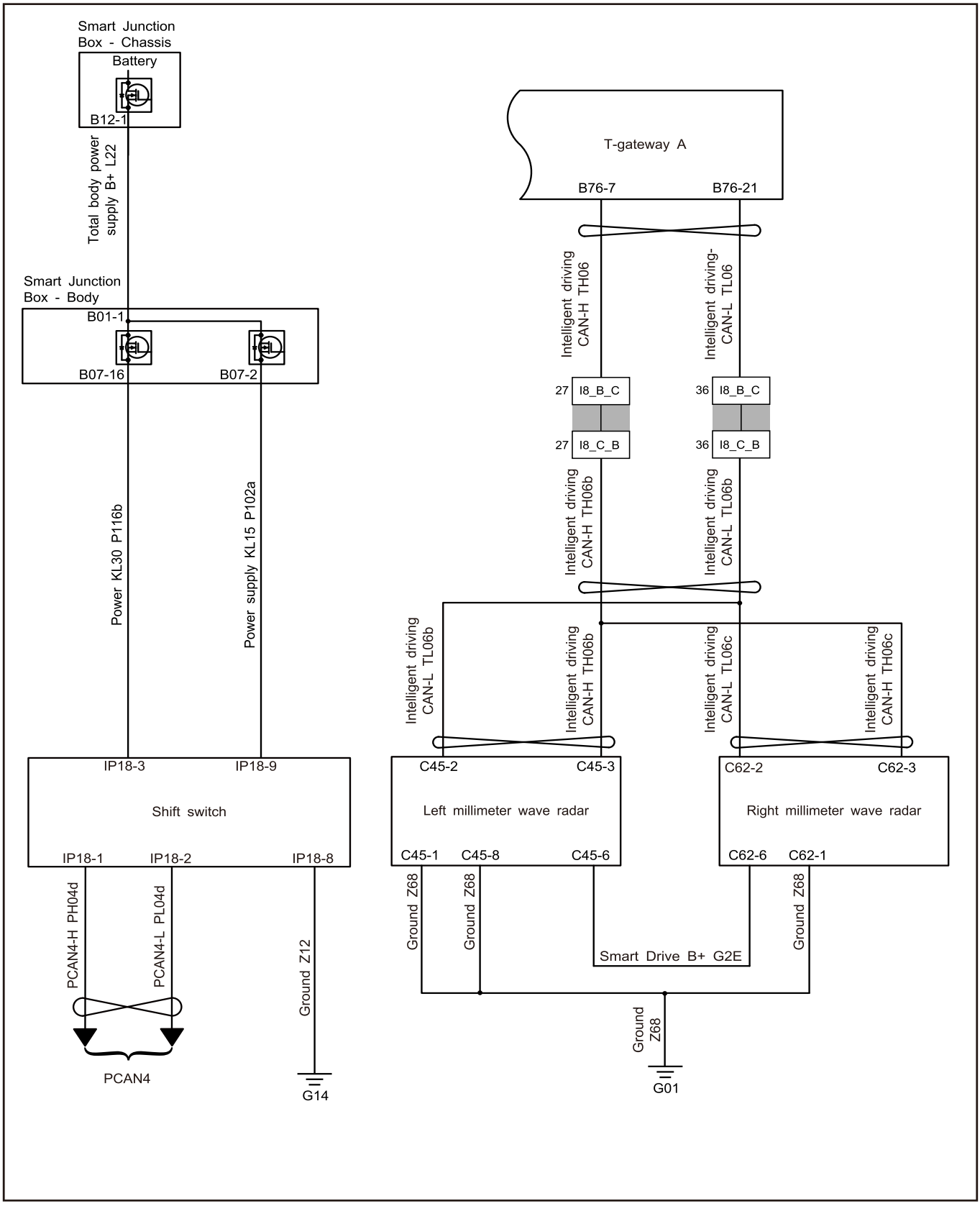
9.1.9.2 Intelligent Driving Continued



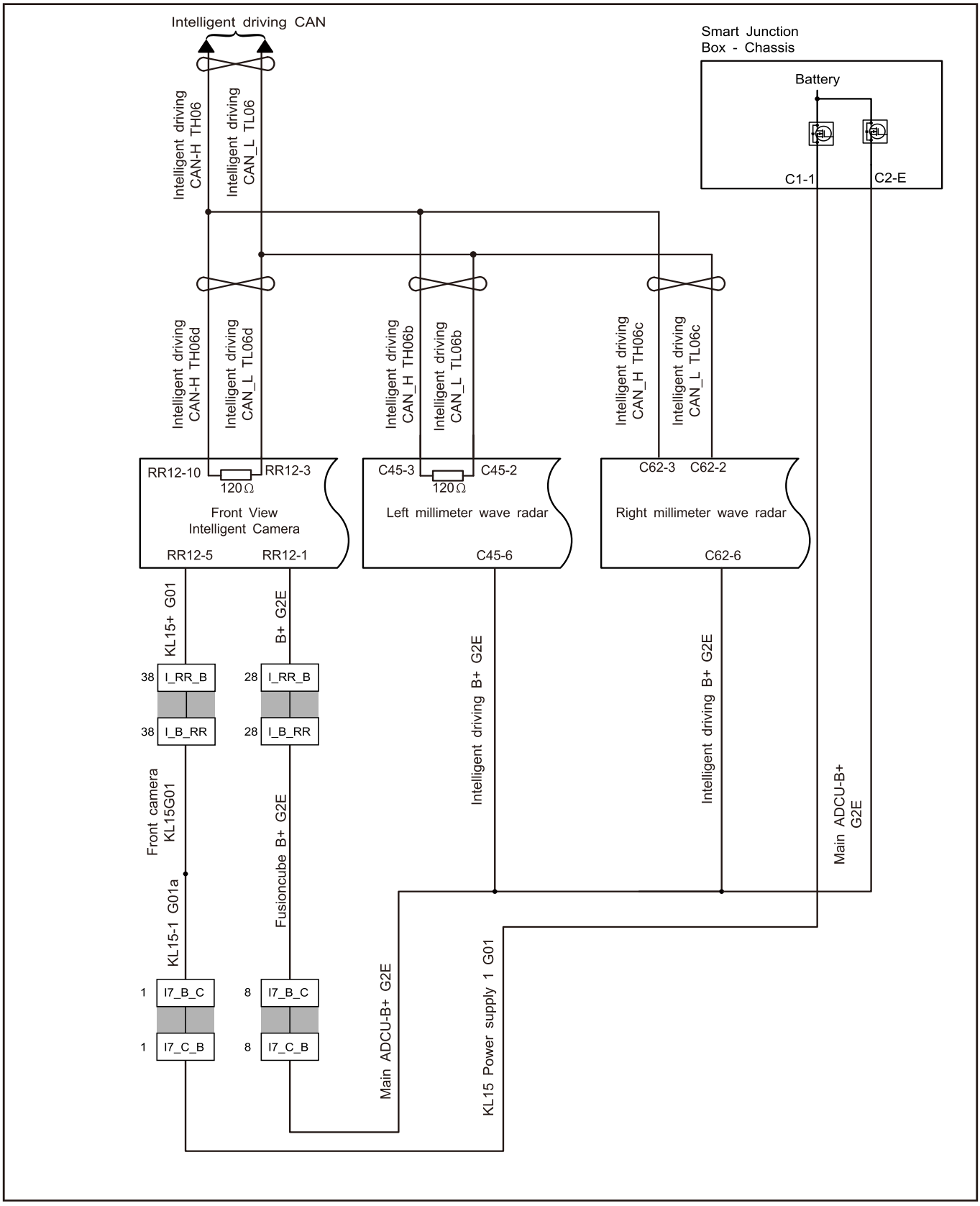
9.1.9.3 Intelligent Driving Continued 1



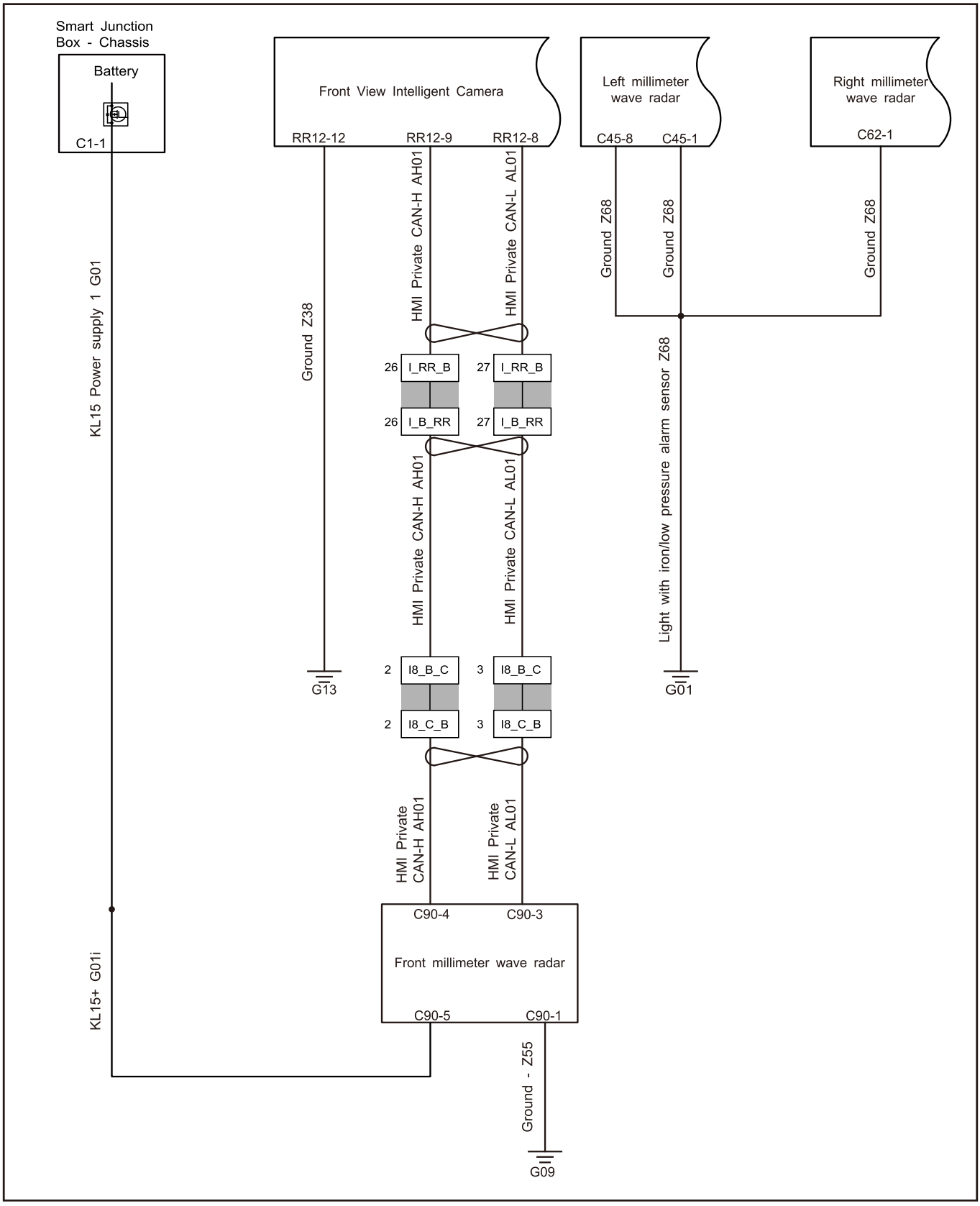
9.1.9.4 Intelligent Driving Continued 2



9.1.9.5 Intelligent Driving Continued 3

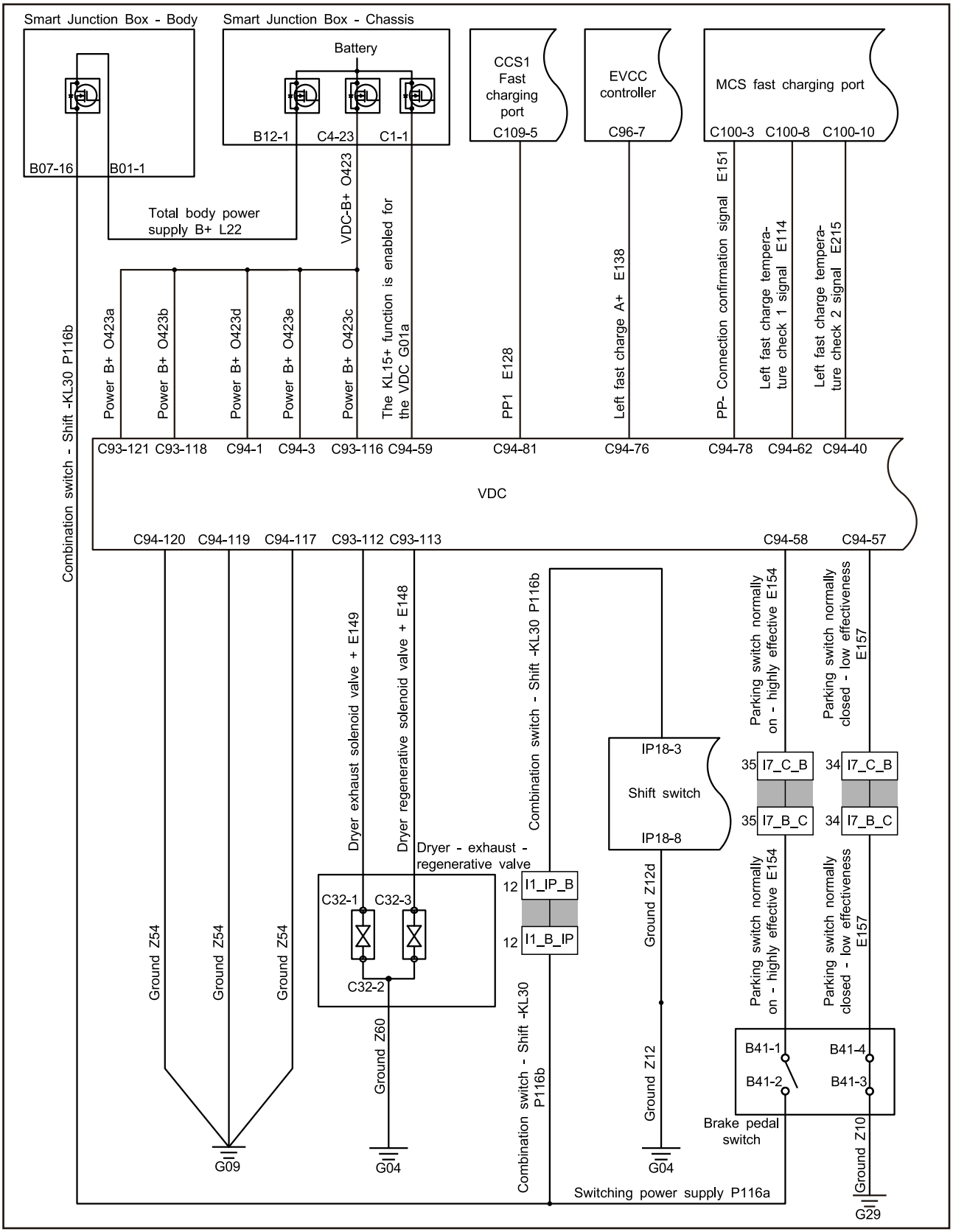


9.1.9.6 Intelligent Driving Continued 4

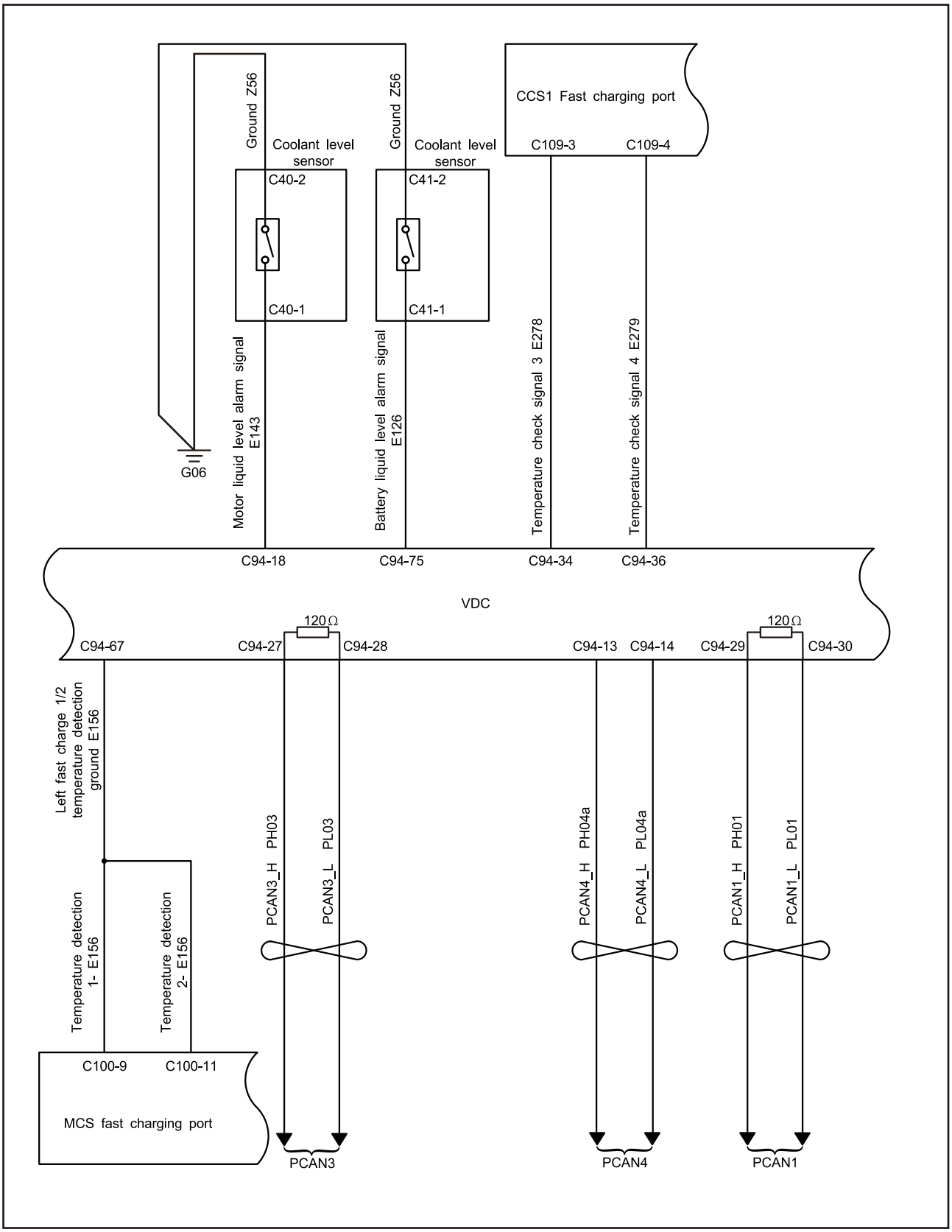


9.1.10 VDC

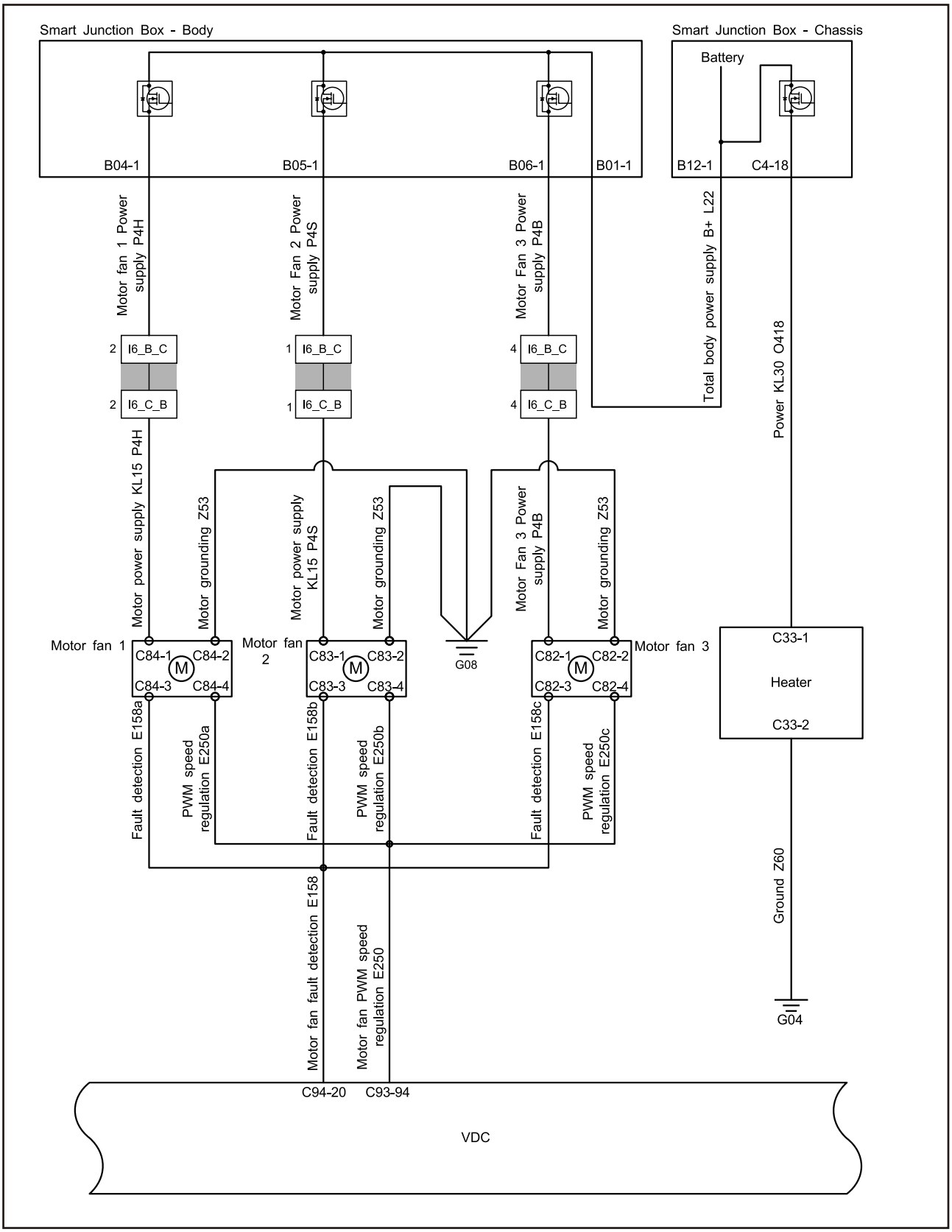
9.1.10.1 VDC



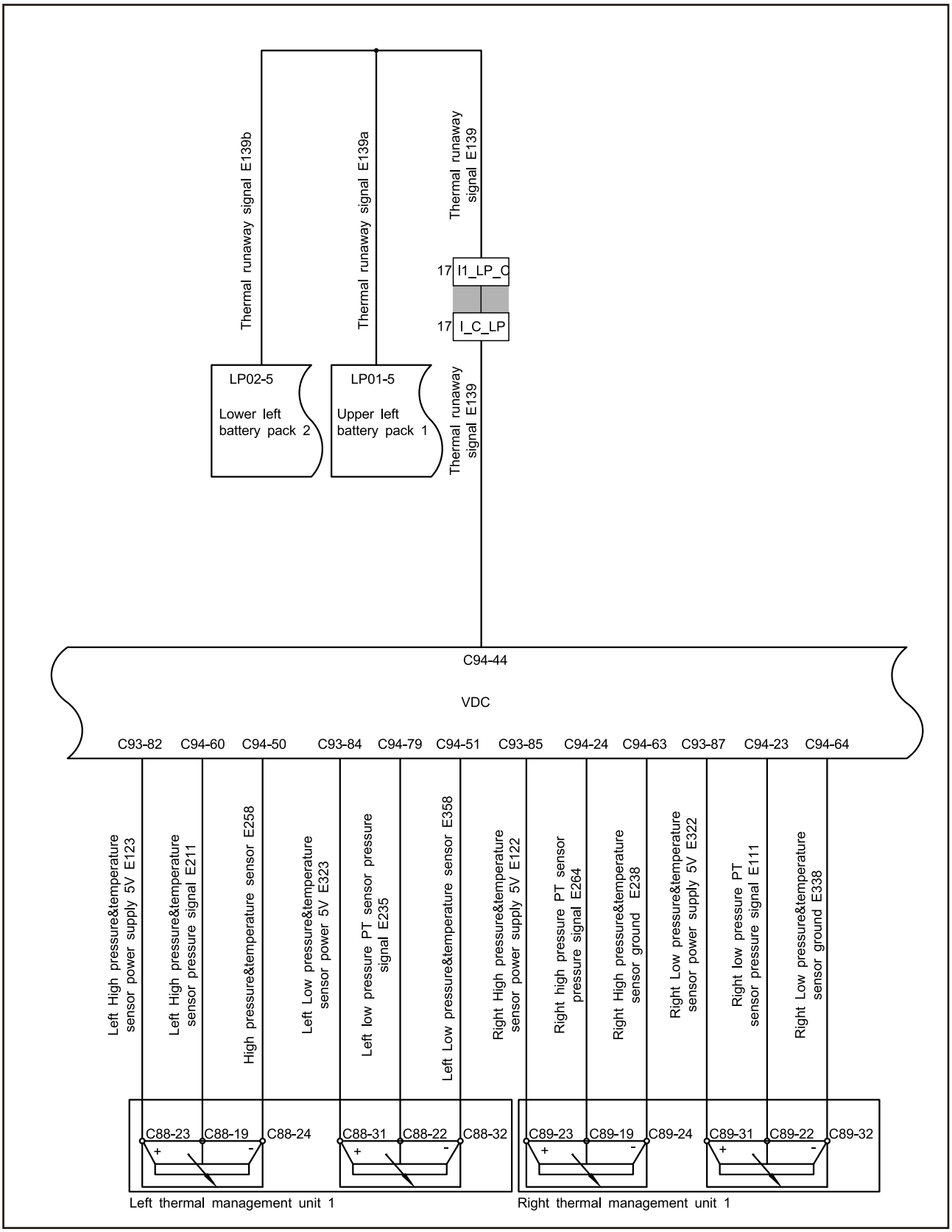
9.1.10.2 VDC Continued



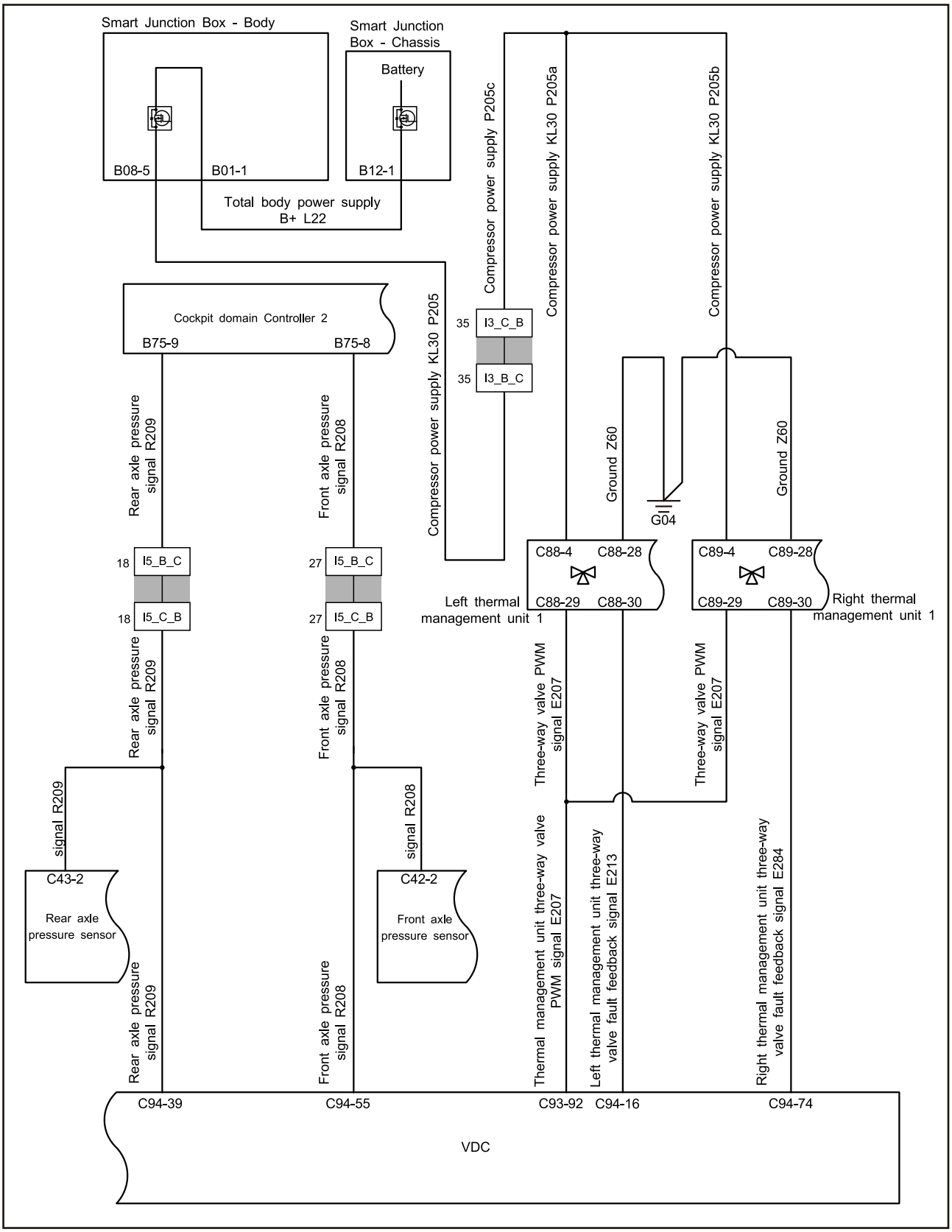
9.1.10.3 VDC Continued 1



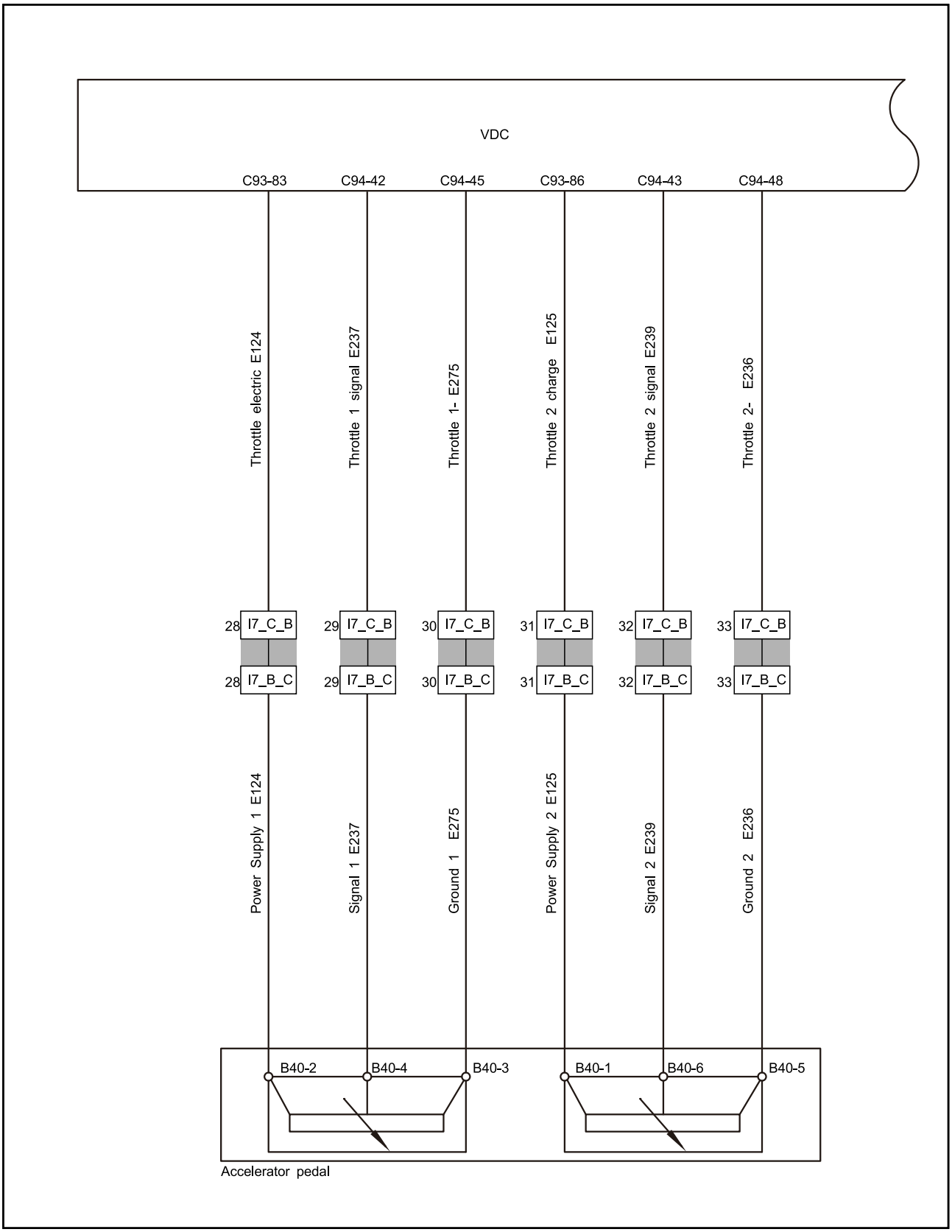
9.1.10.4 VDC Continued 2



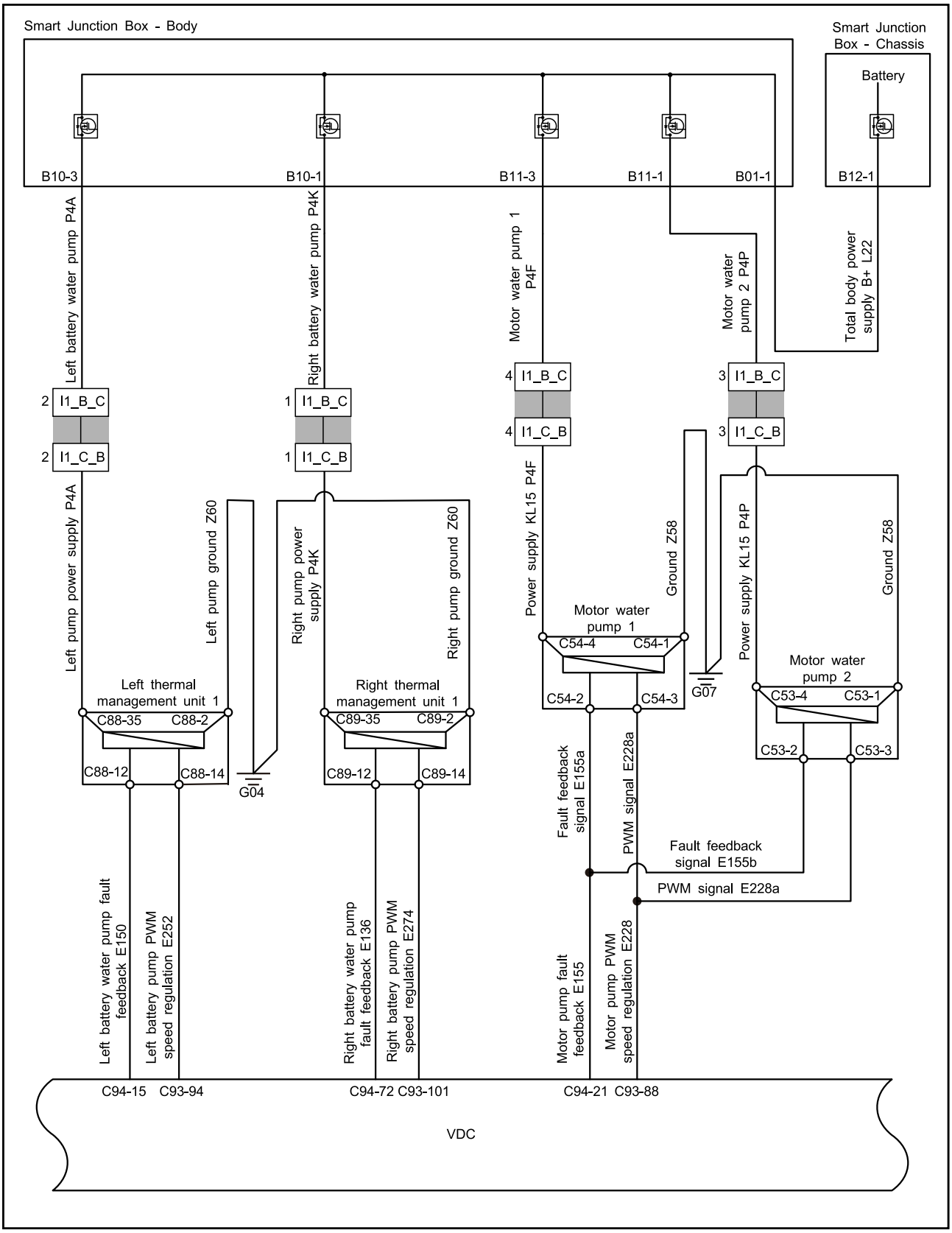
9.1.10.5 VDC Continued 3



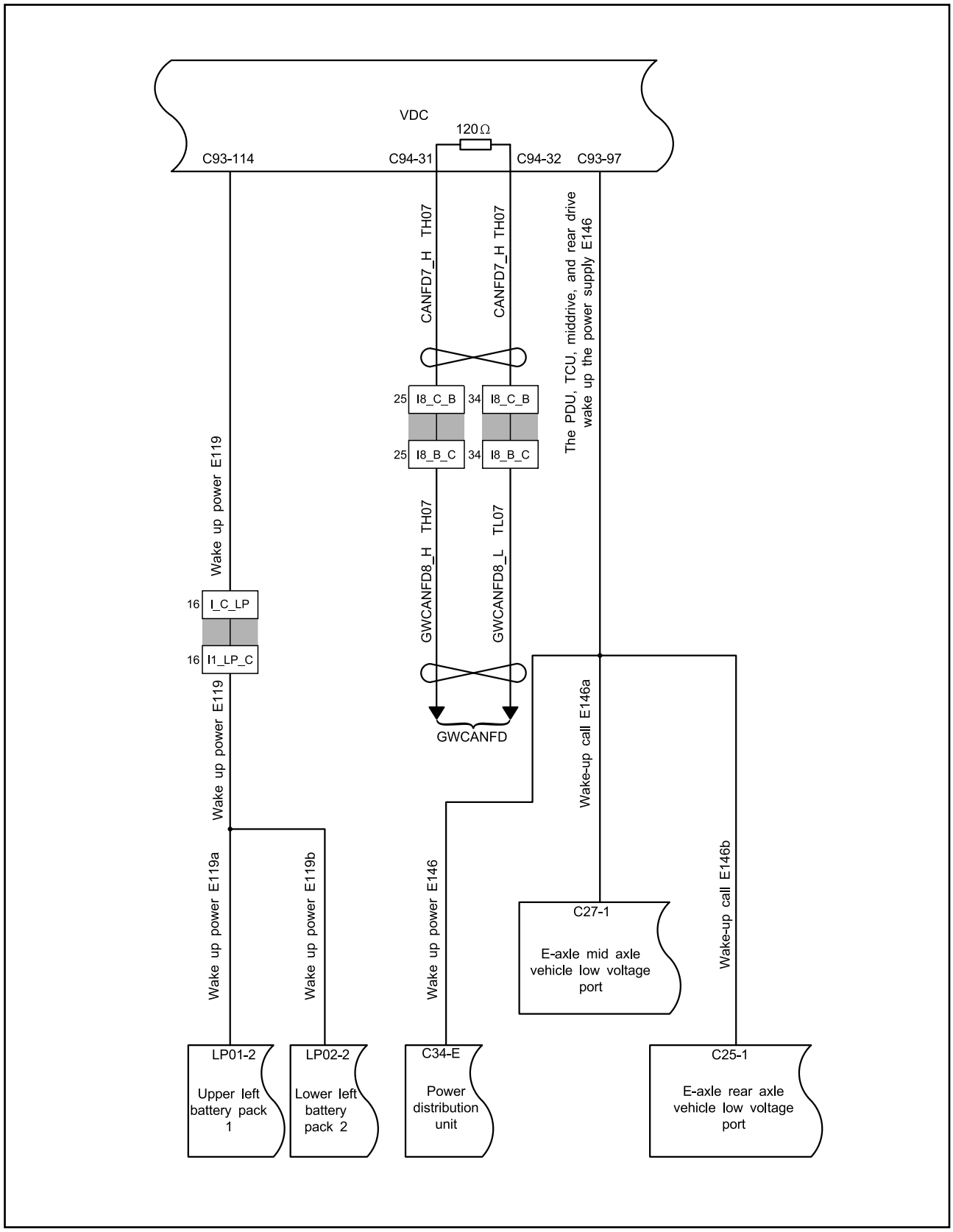
9.1.10.6 VDC Continued 4



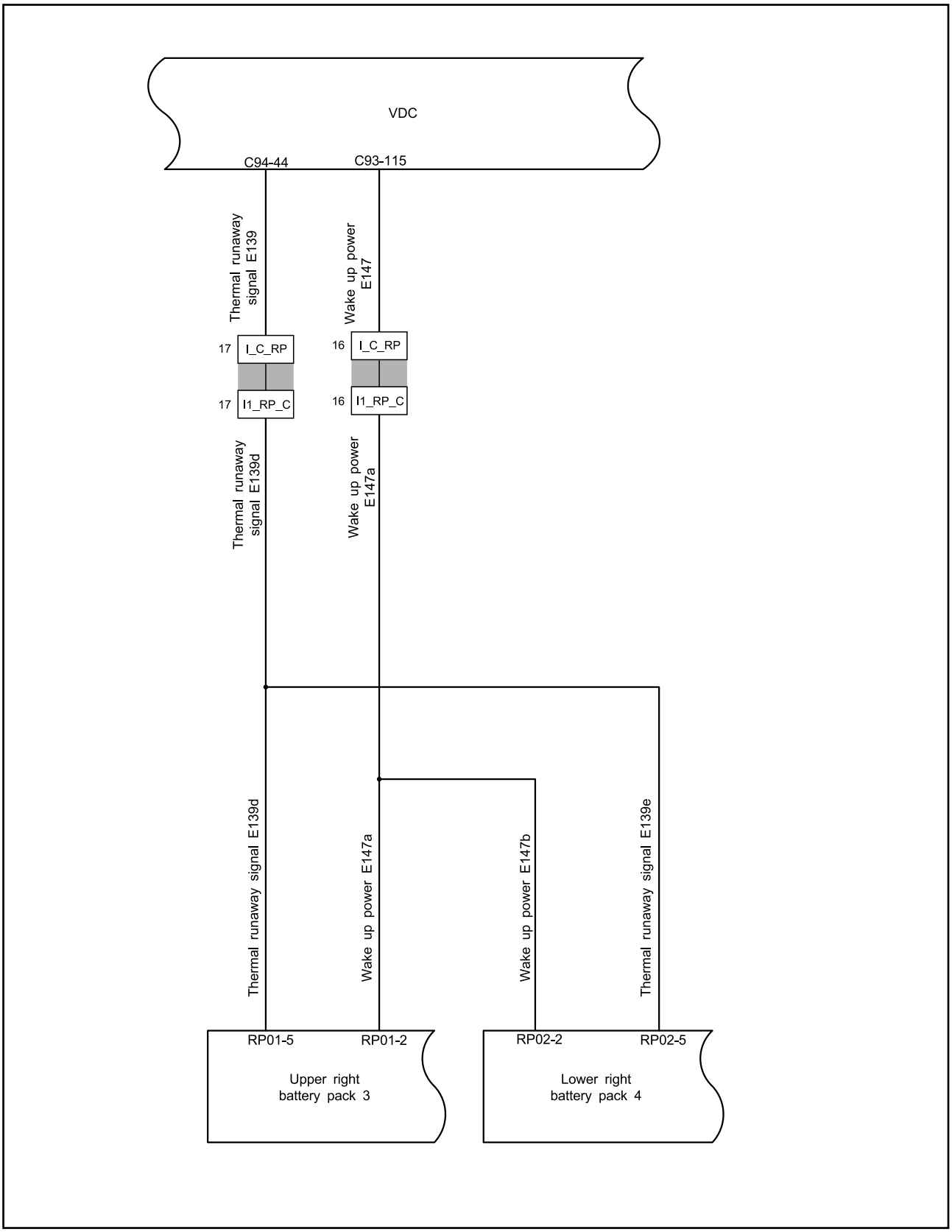
9.1.10.7 VDC Continued 5



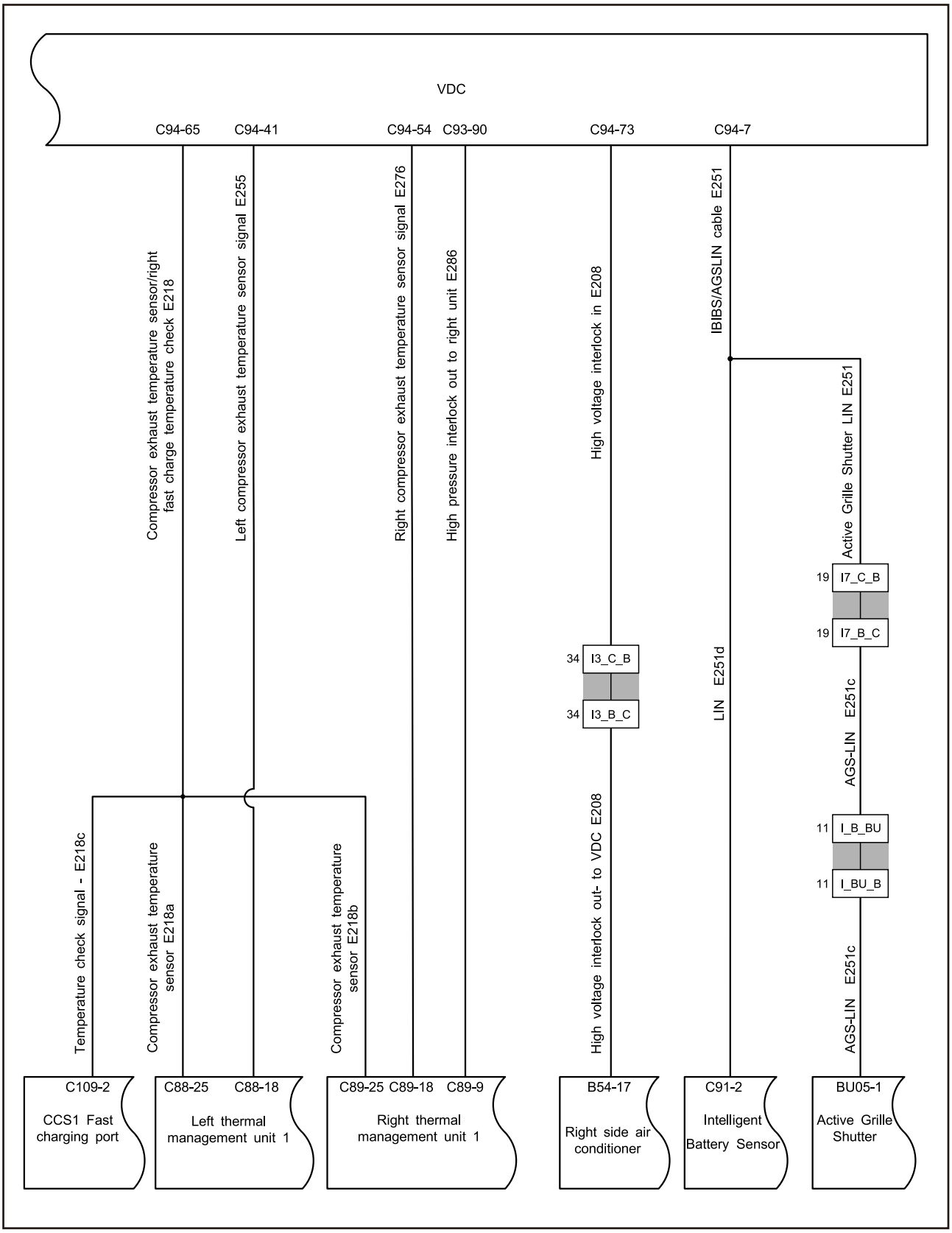
9.1.10.8 VDC Continued 6



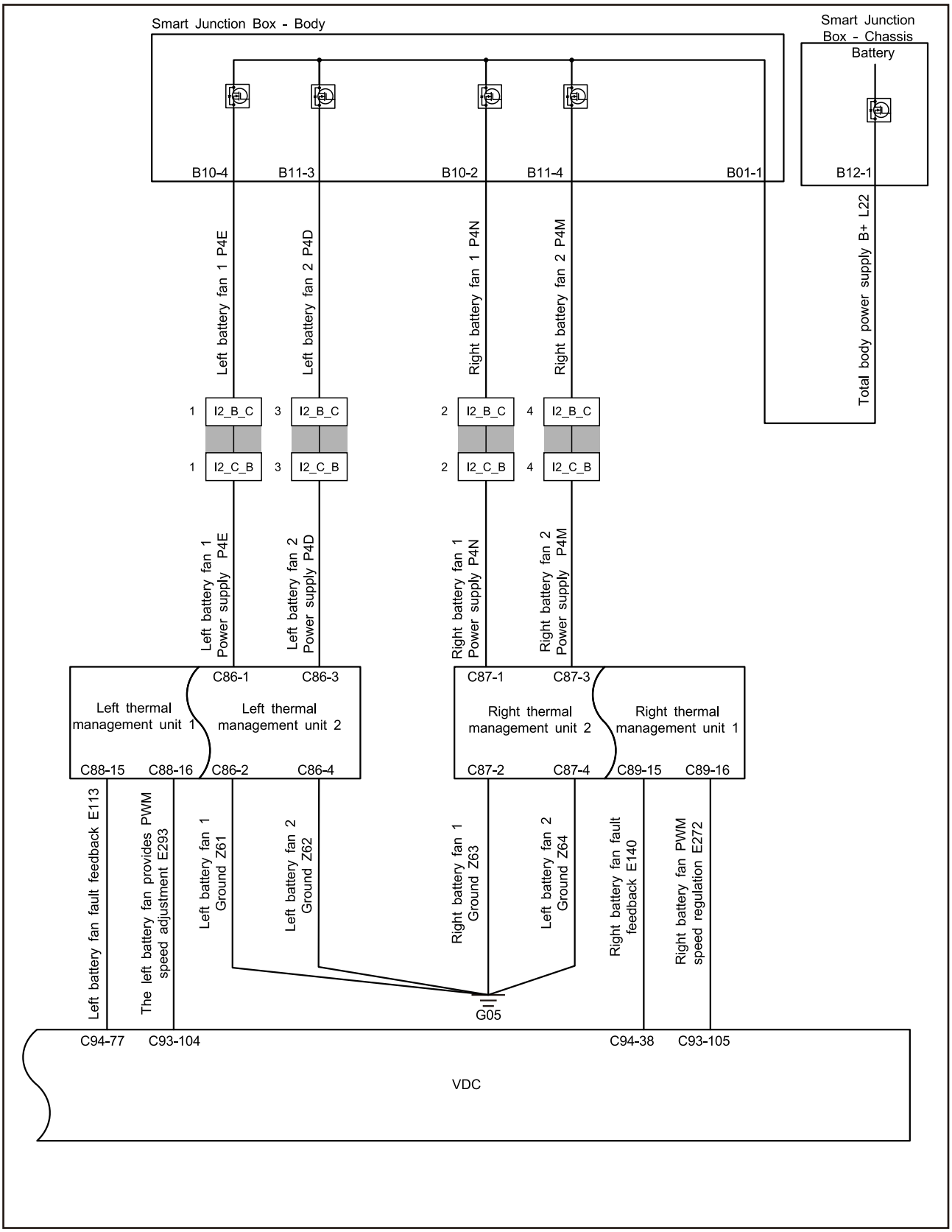
9.1.10.9 VDC Continued 7



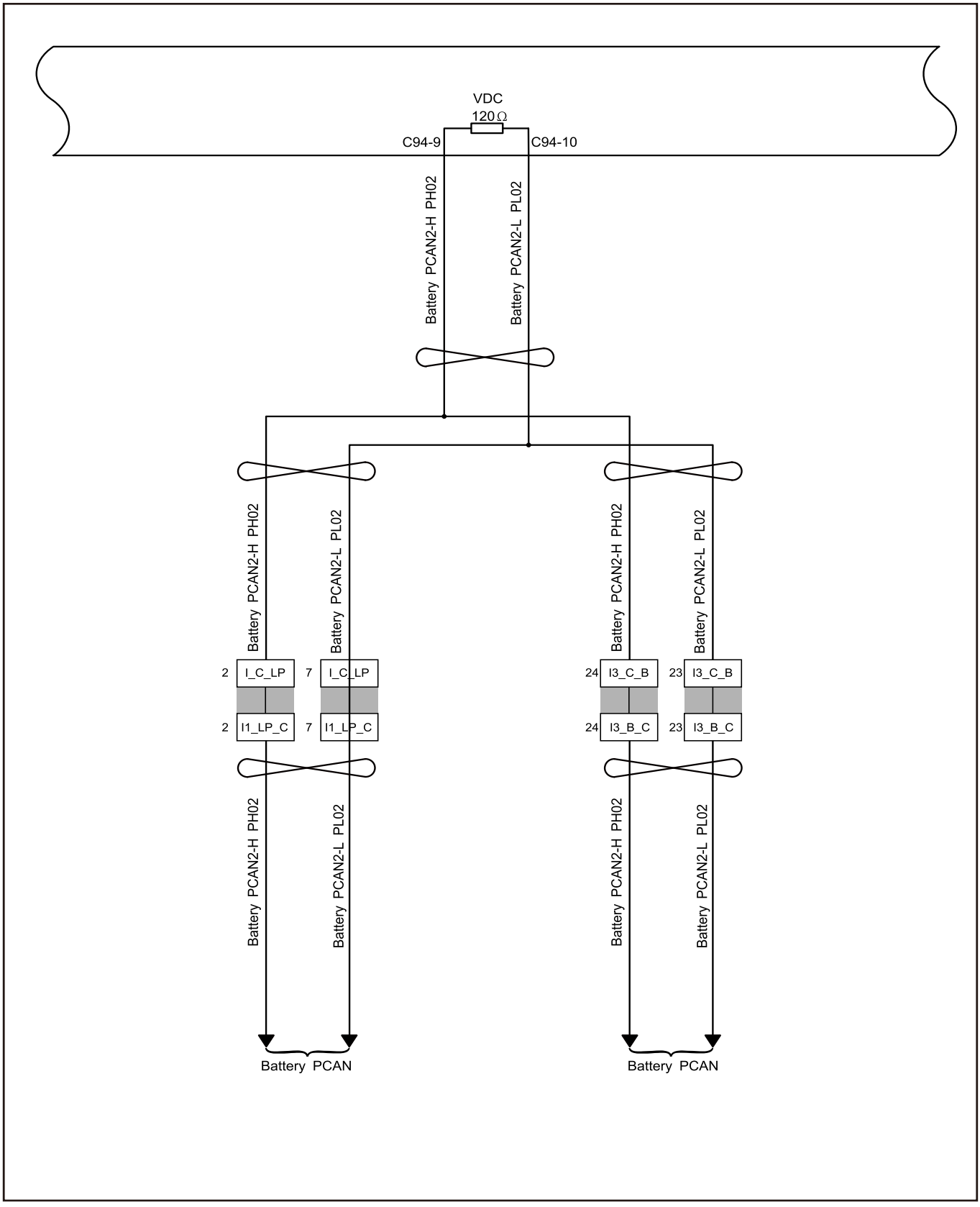
9.1.10.10 VDC Continued 8



9.1.10.11 VDC Continued 9

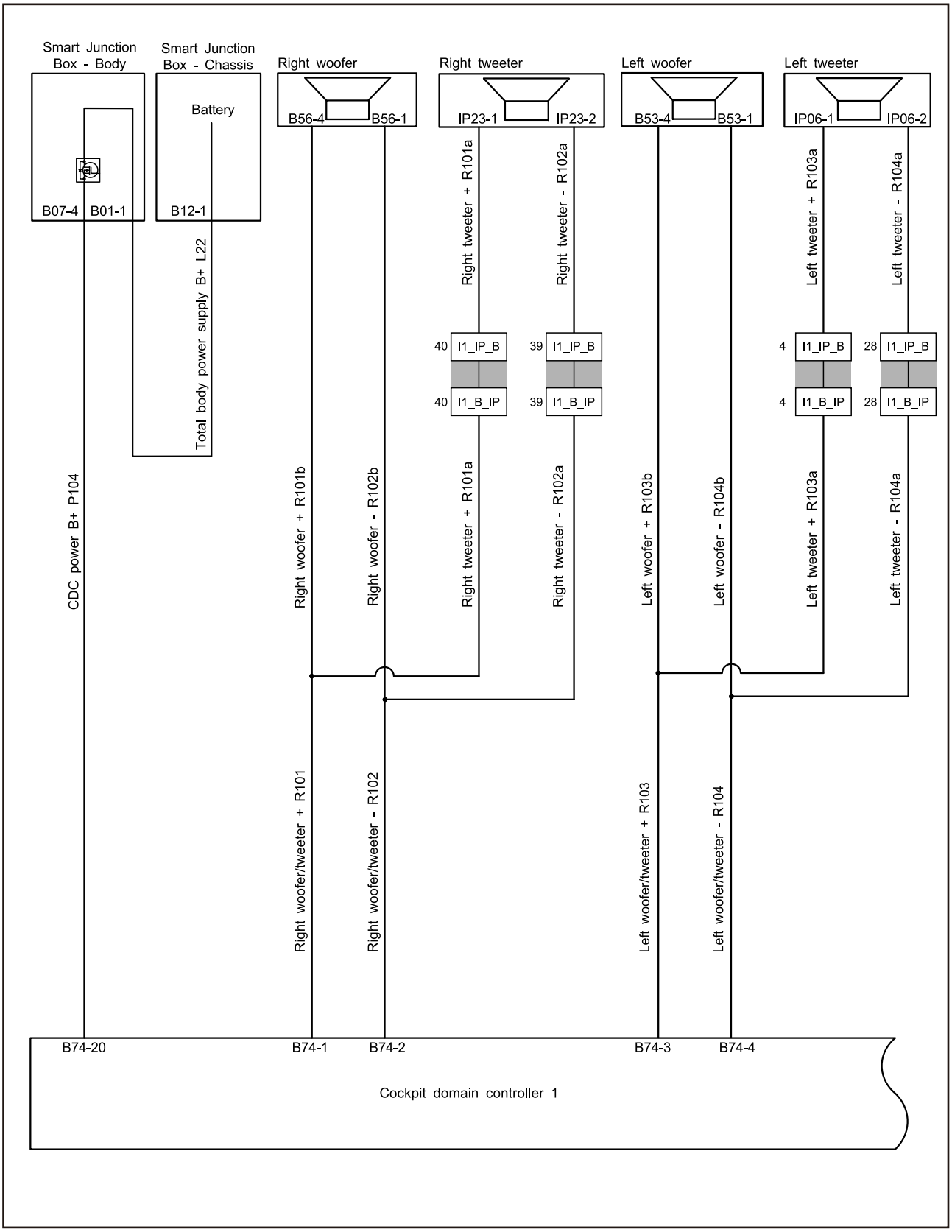


9.1.10.12 VDC Continued 10

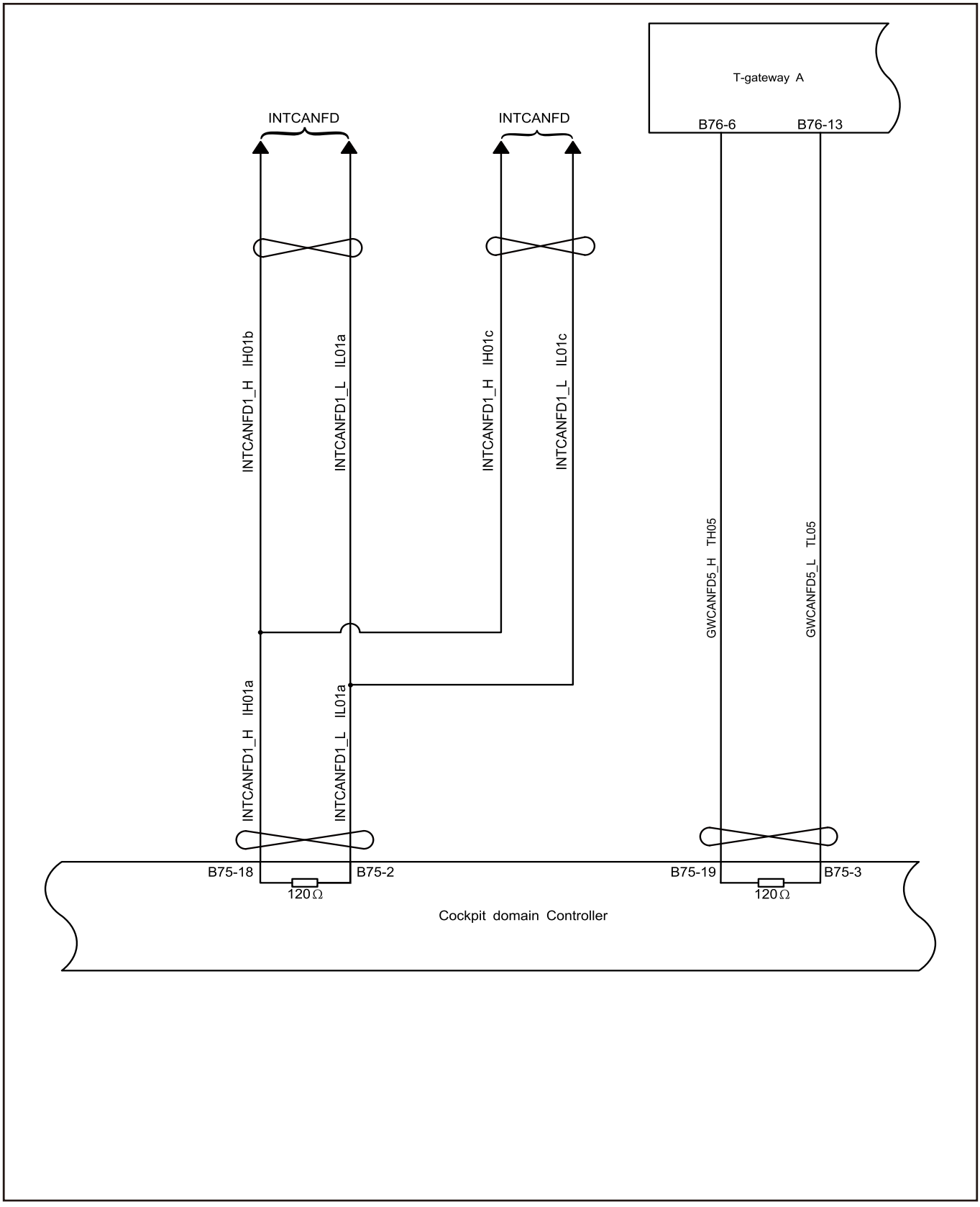


9.1.11 CDCU

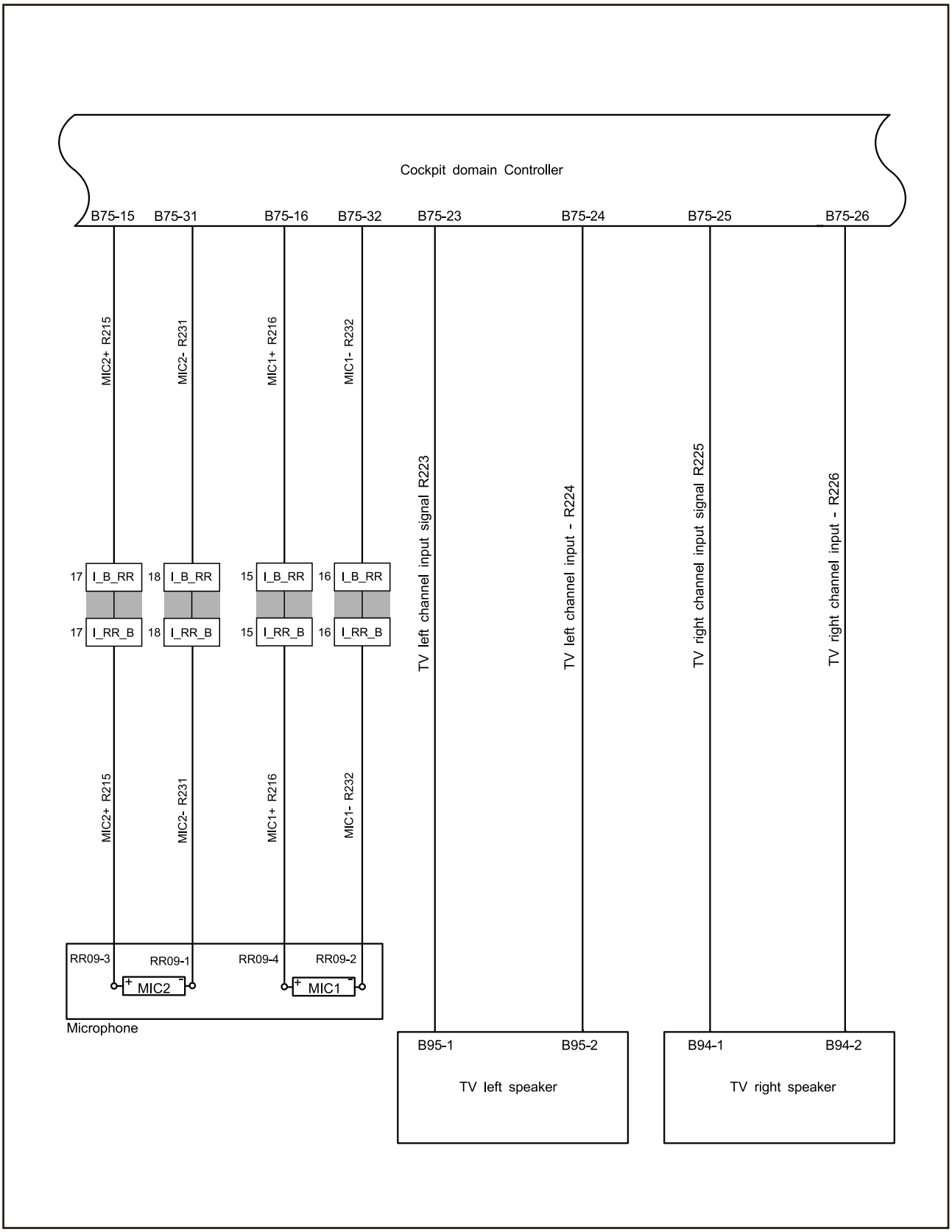
9.1.11.1 CDCU



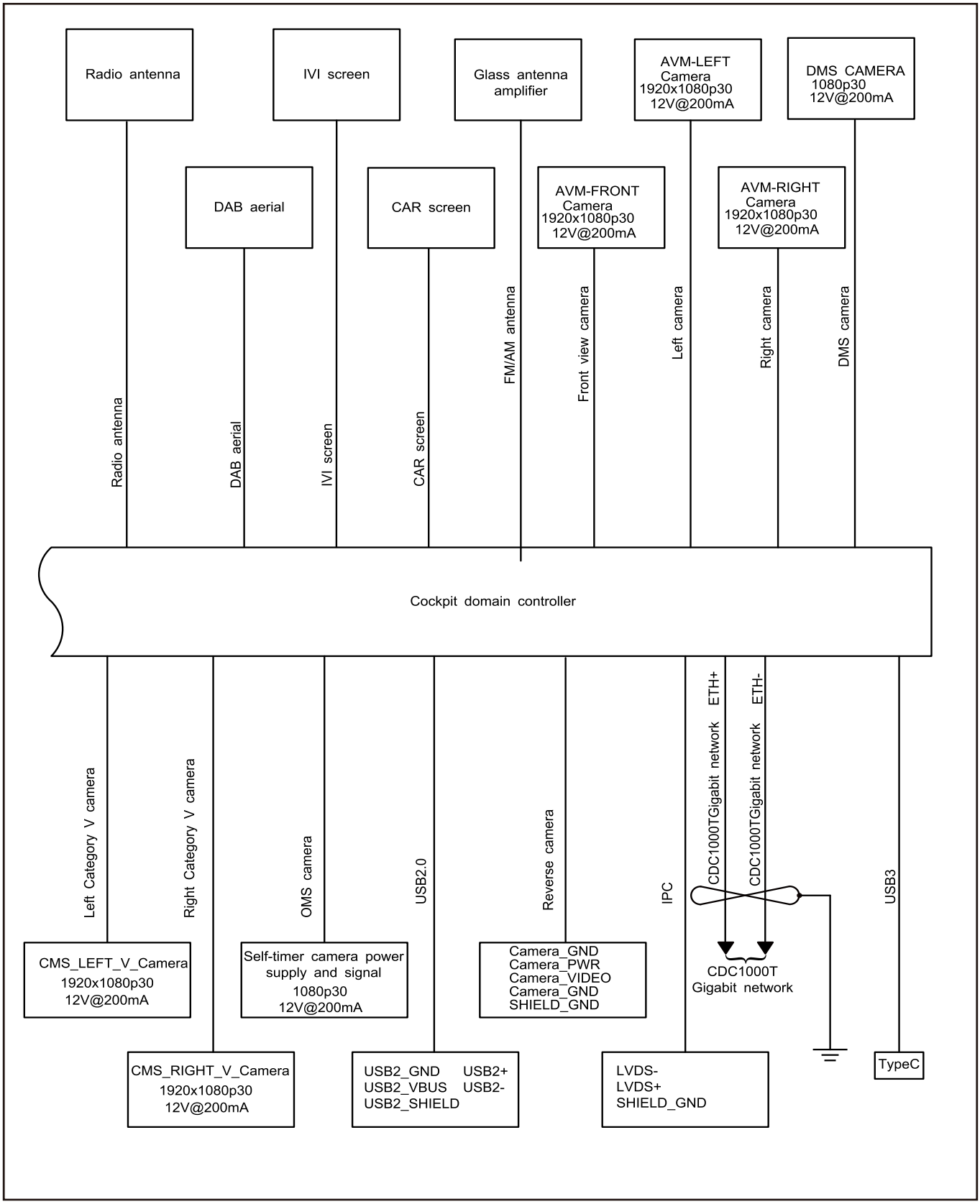
9.1.11.2 CDCU Continued



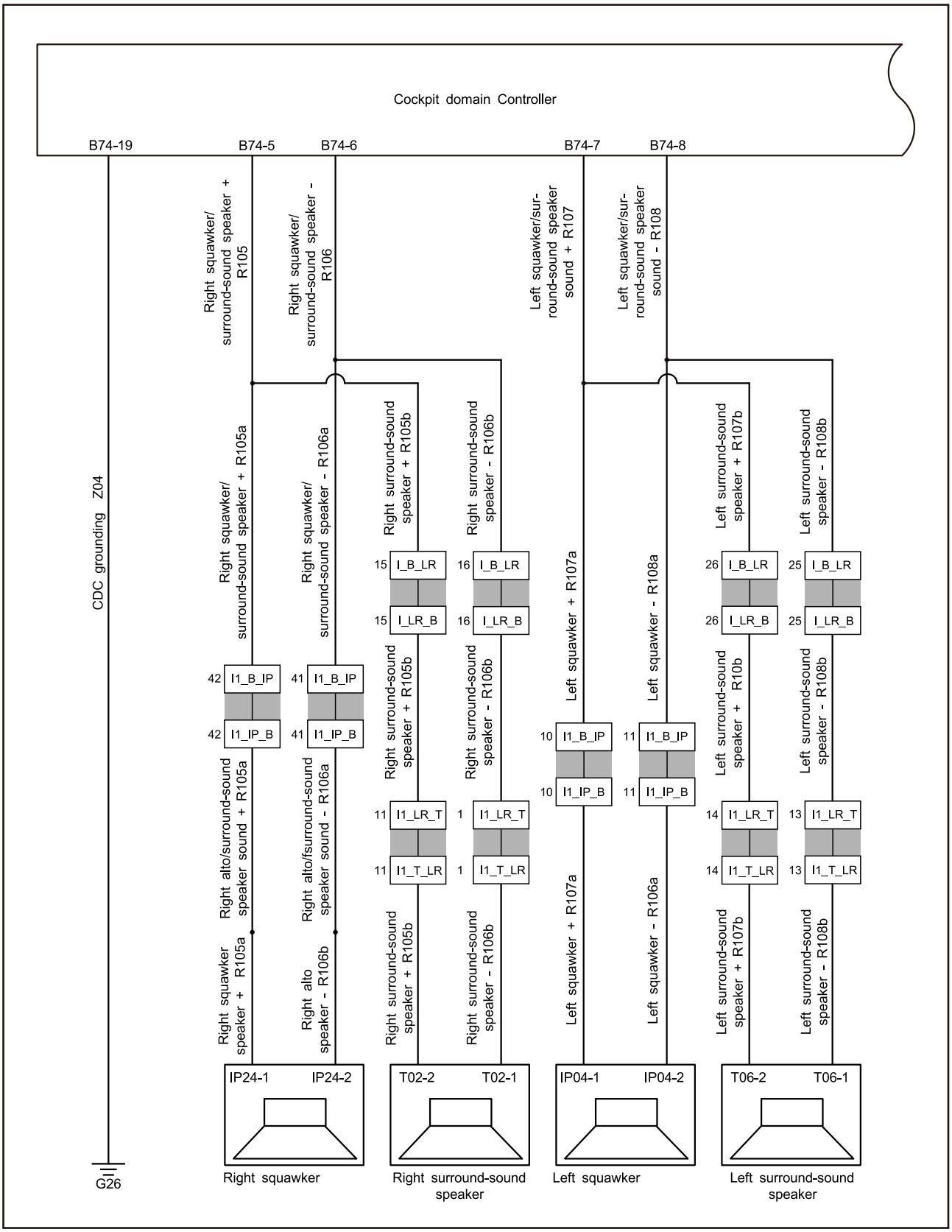
9.1.11.3 CDCU Continued 1



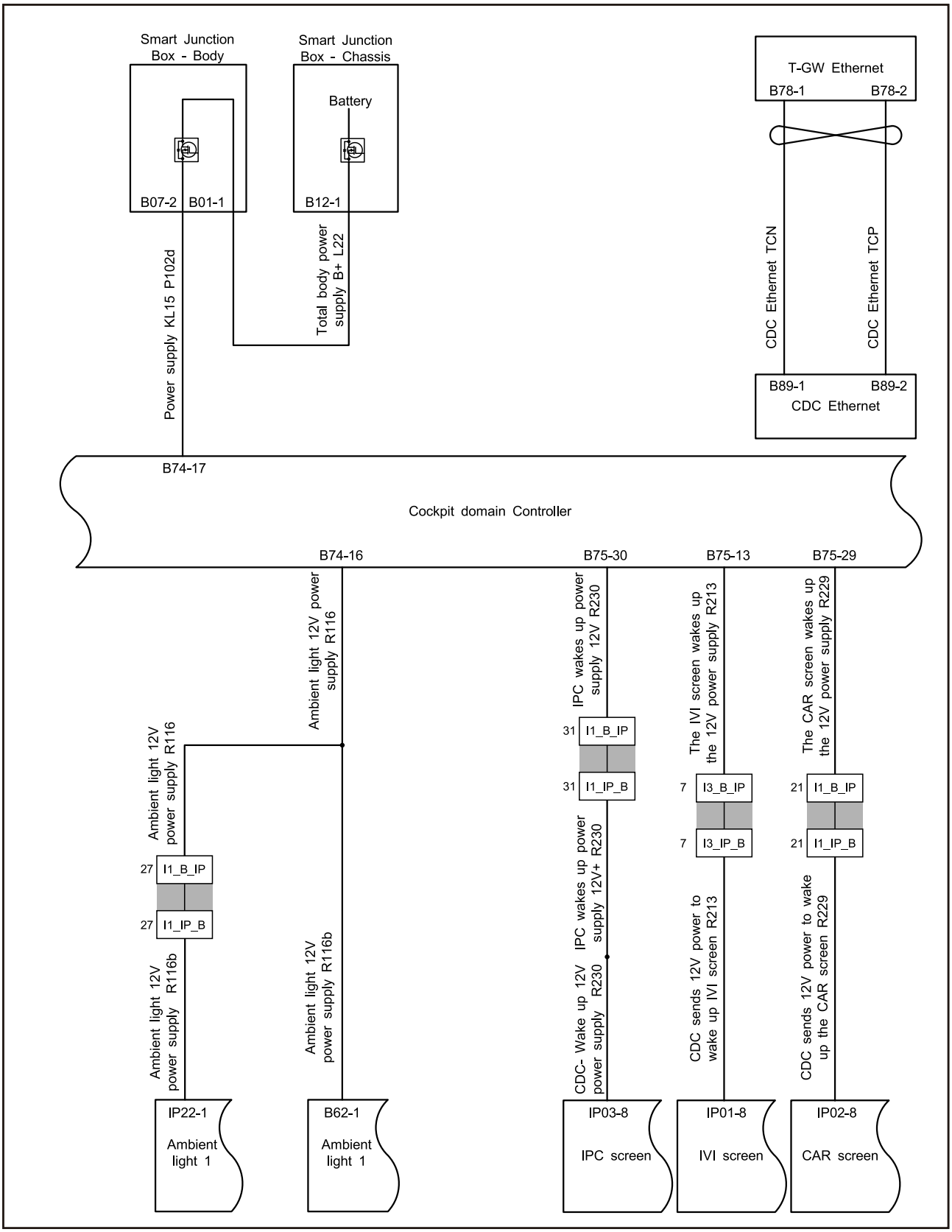
9.1.11.4 CDCU Continued 2



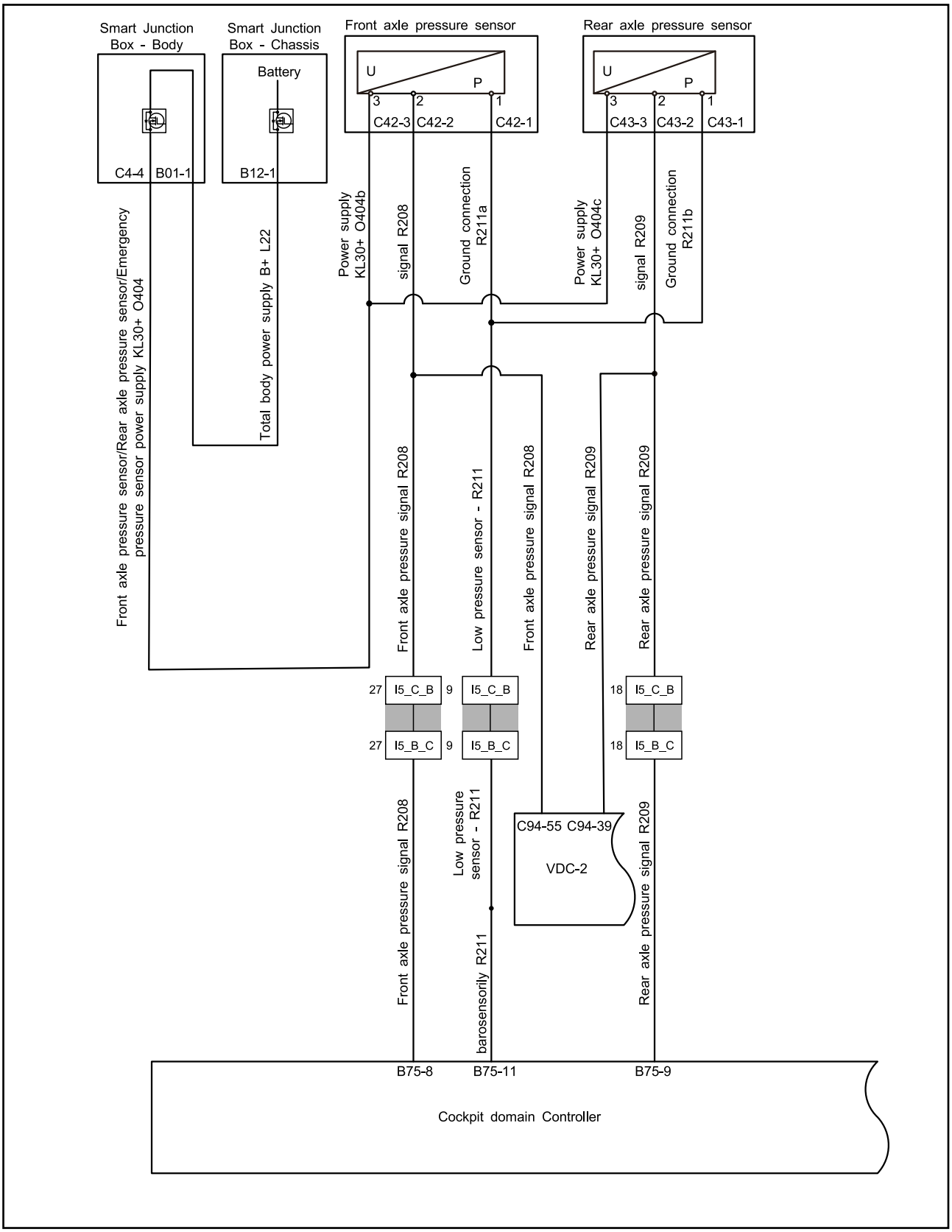
9.1.11.5 CDCU Continued 3



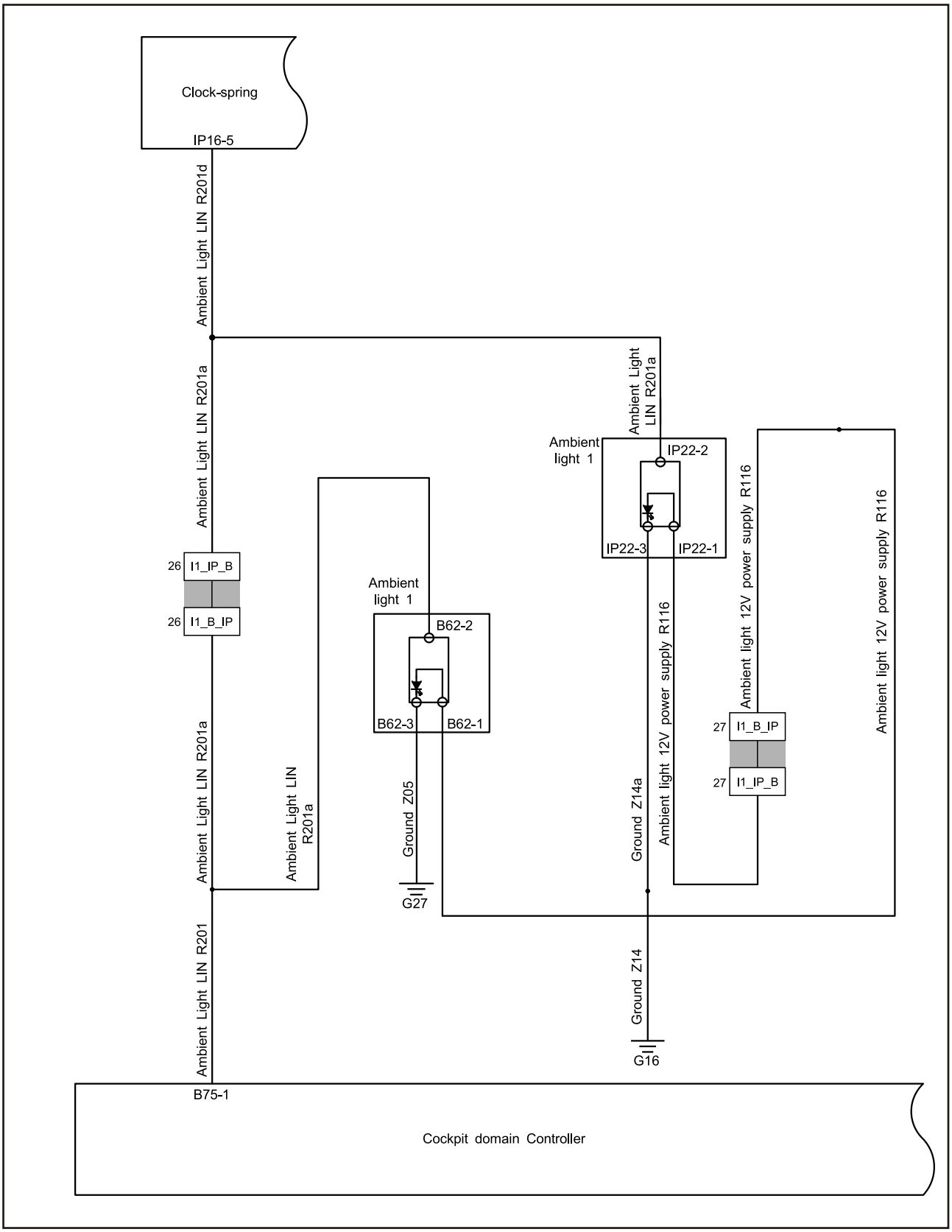
9.1.11.6 CDCU Continued 4



9.1.11.7 CDCU Continued 5

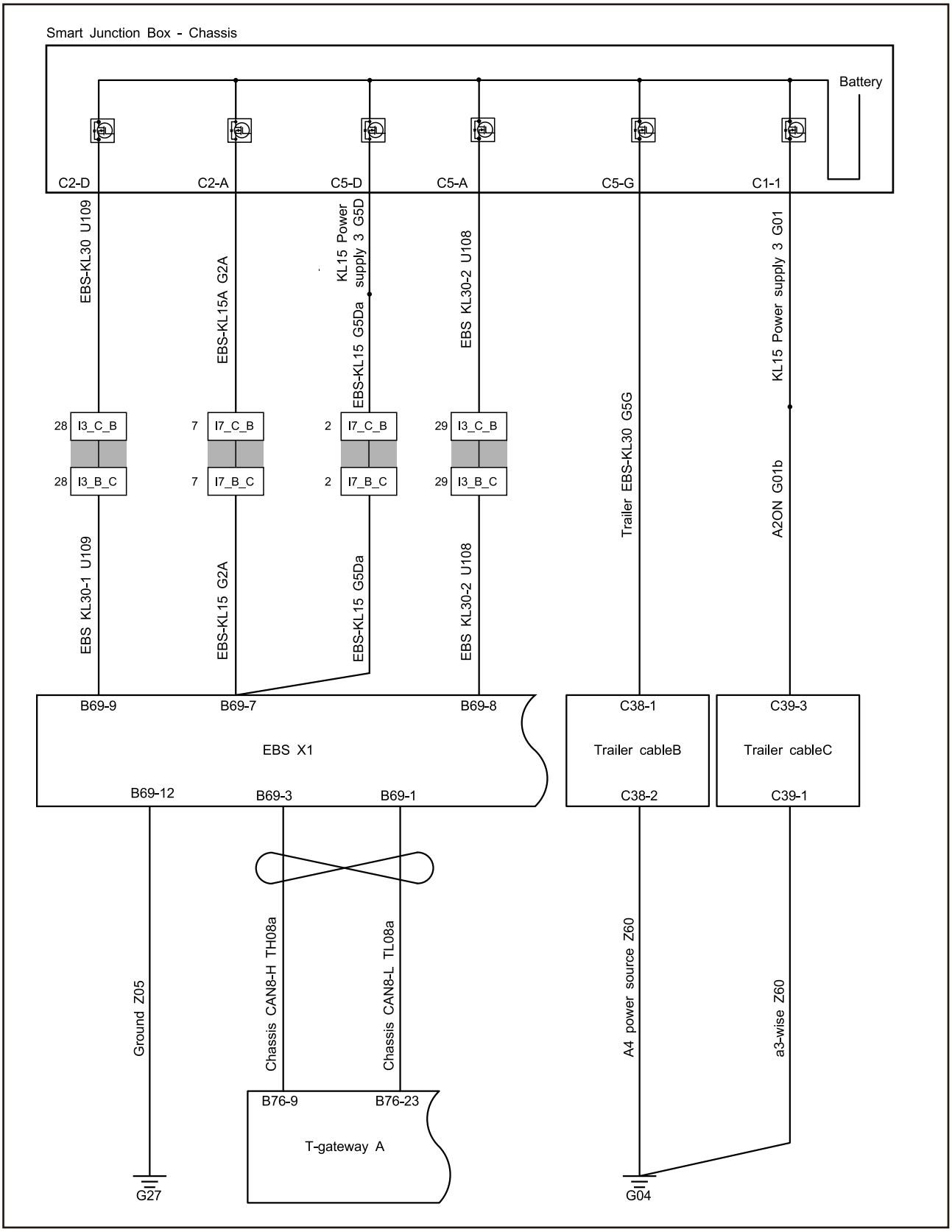


9.1.11.8 CDCU Continued 6

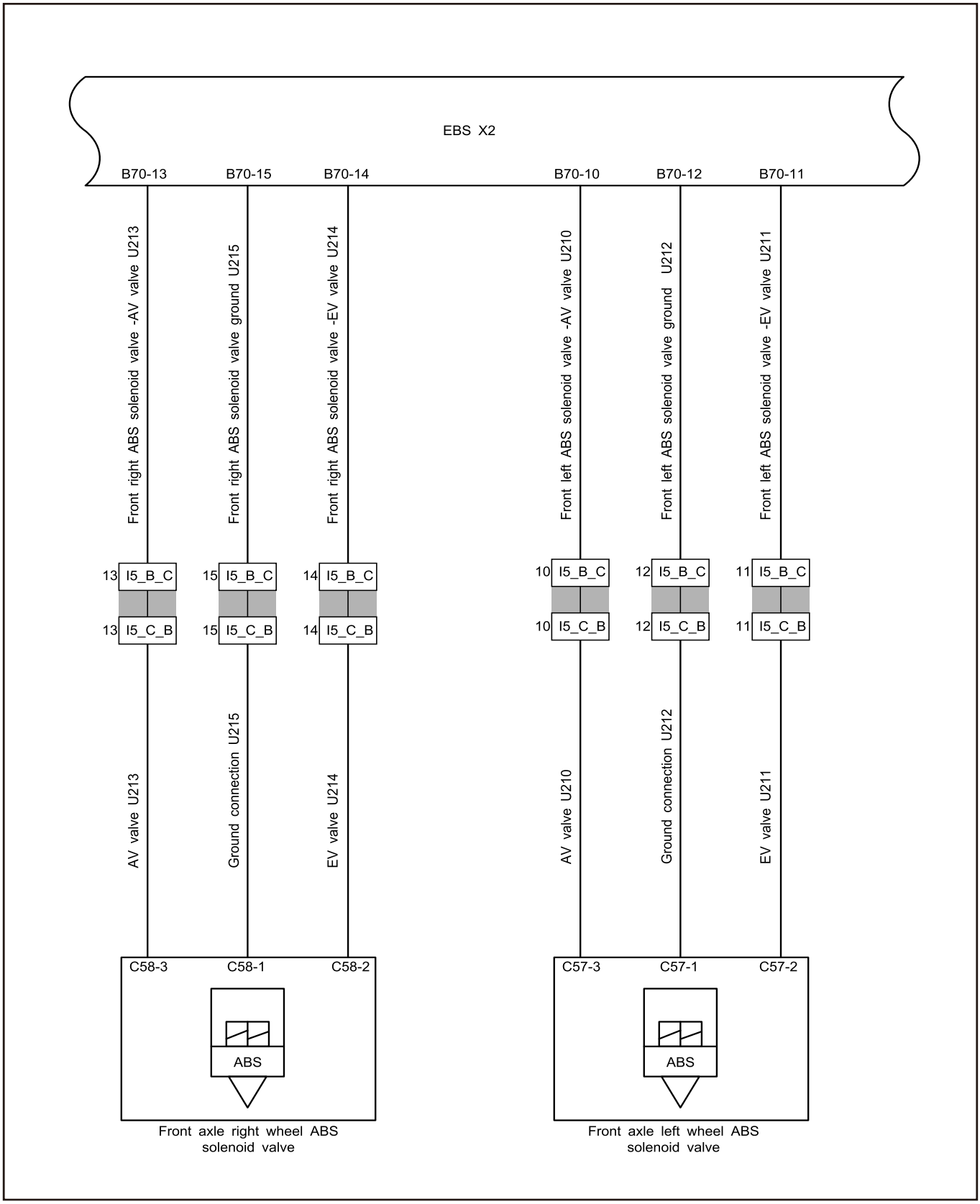


9.1.12 EBS

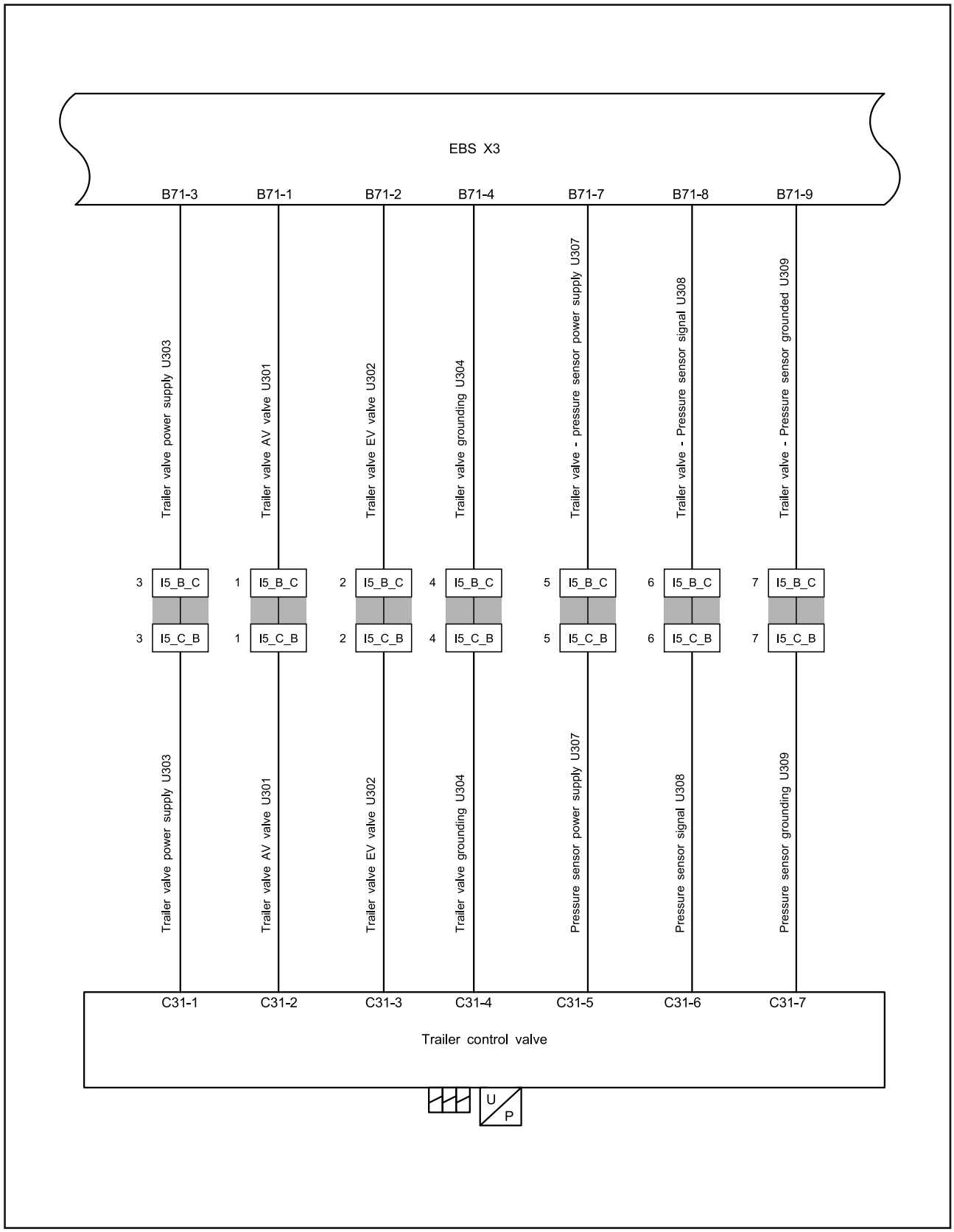
9.1.12.1 EBS



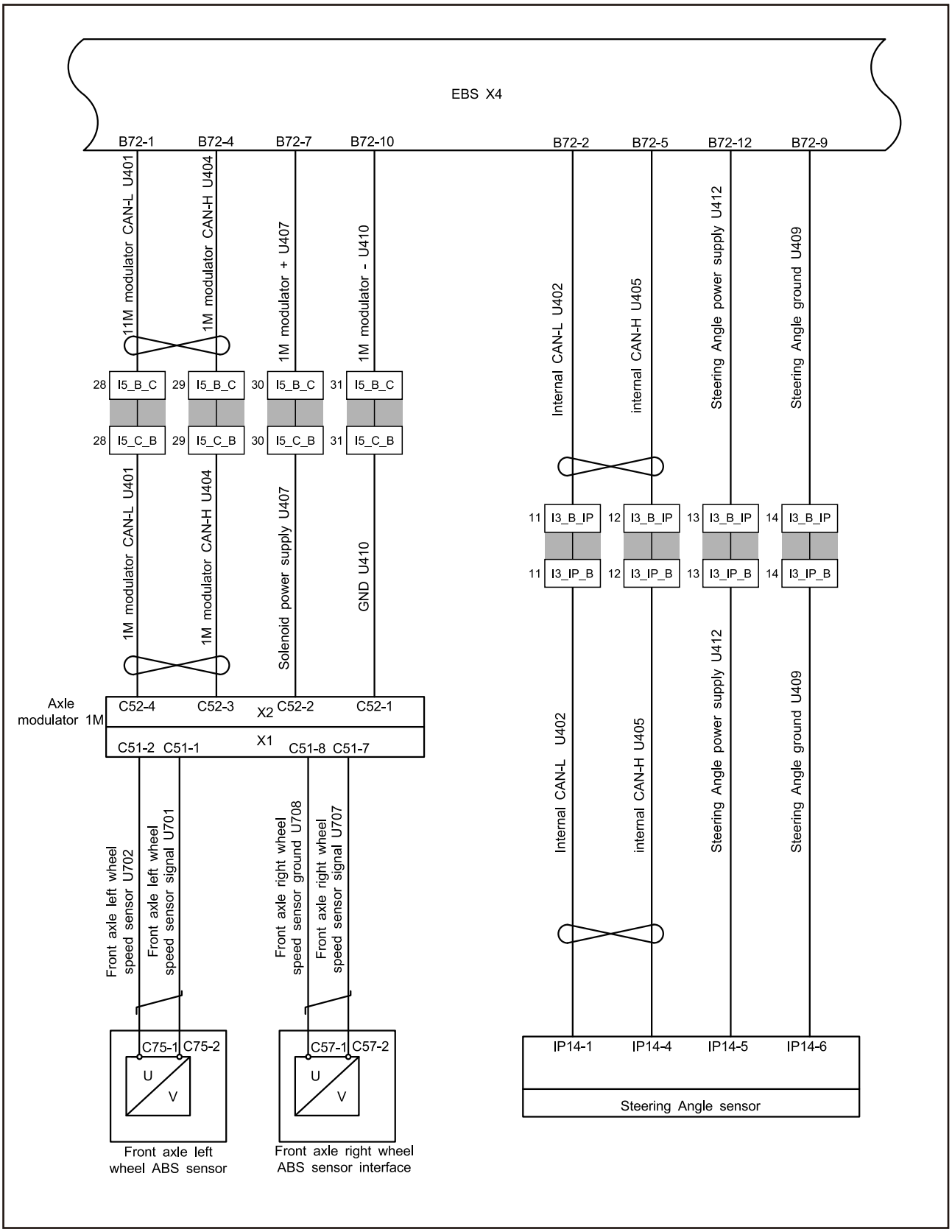
9.1.12.2 EBS Continued



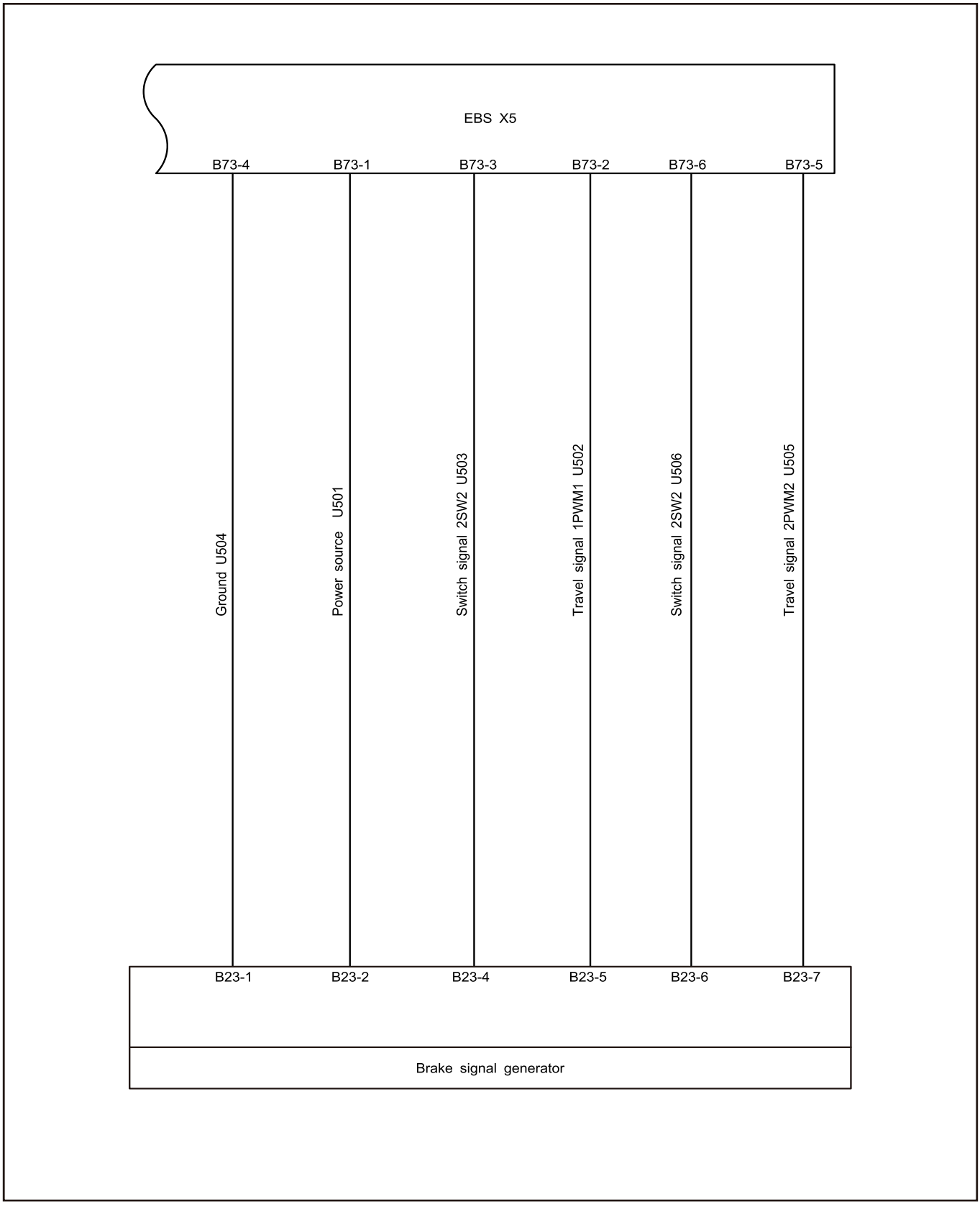
9.1.12.3 EBS Continued 1



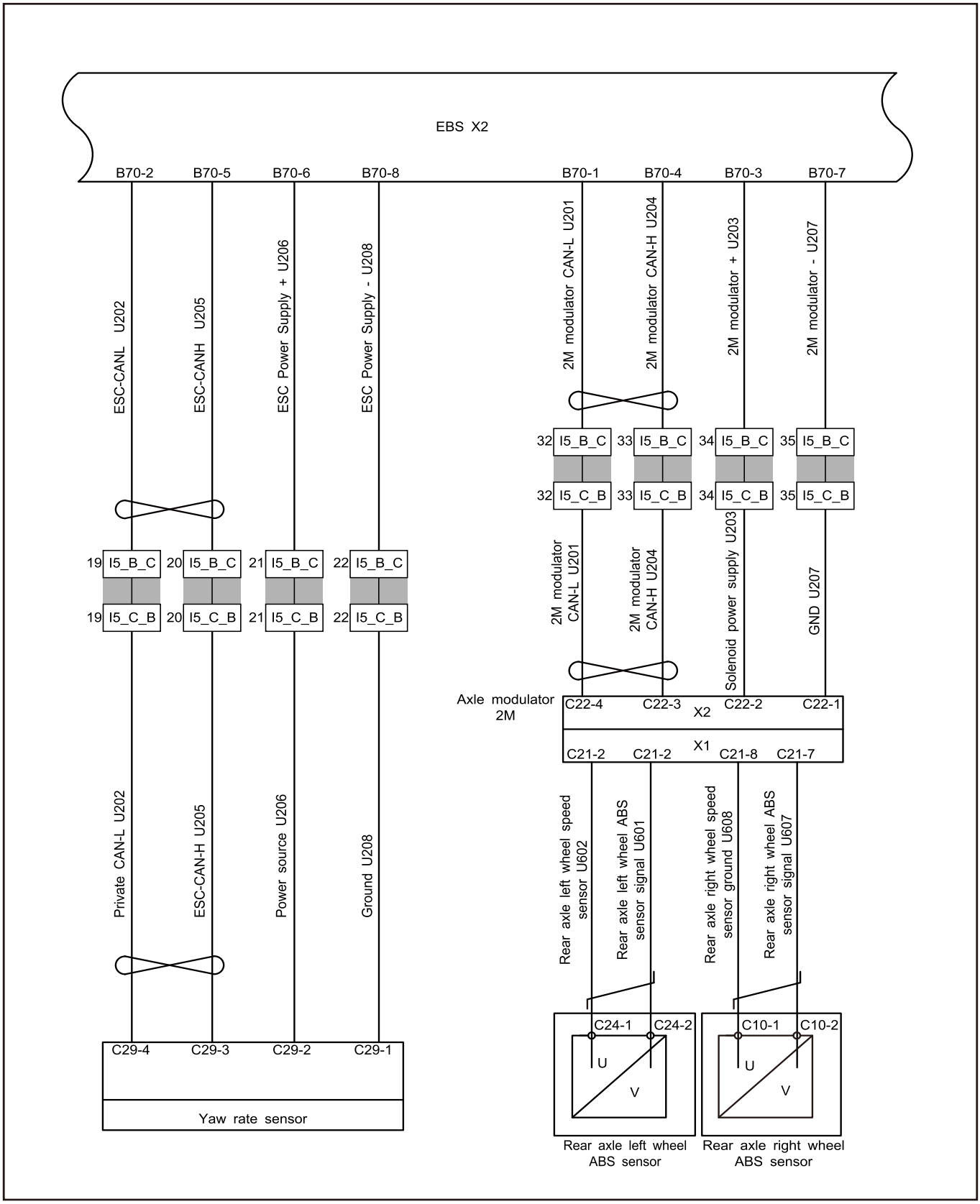
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9.1.12.5 EBS Continued 3

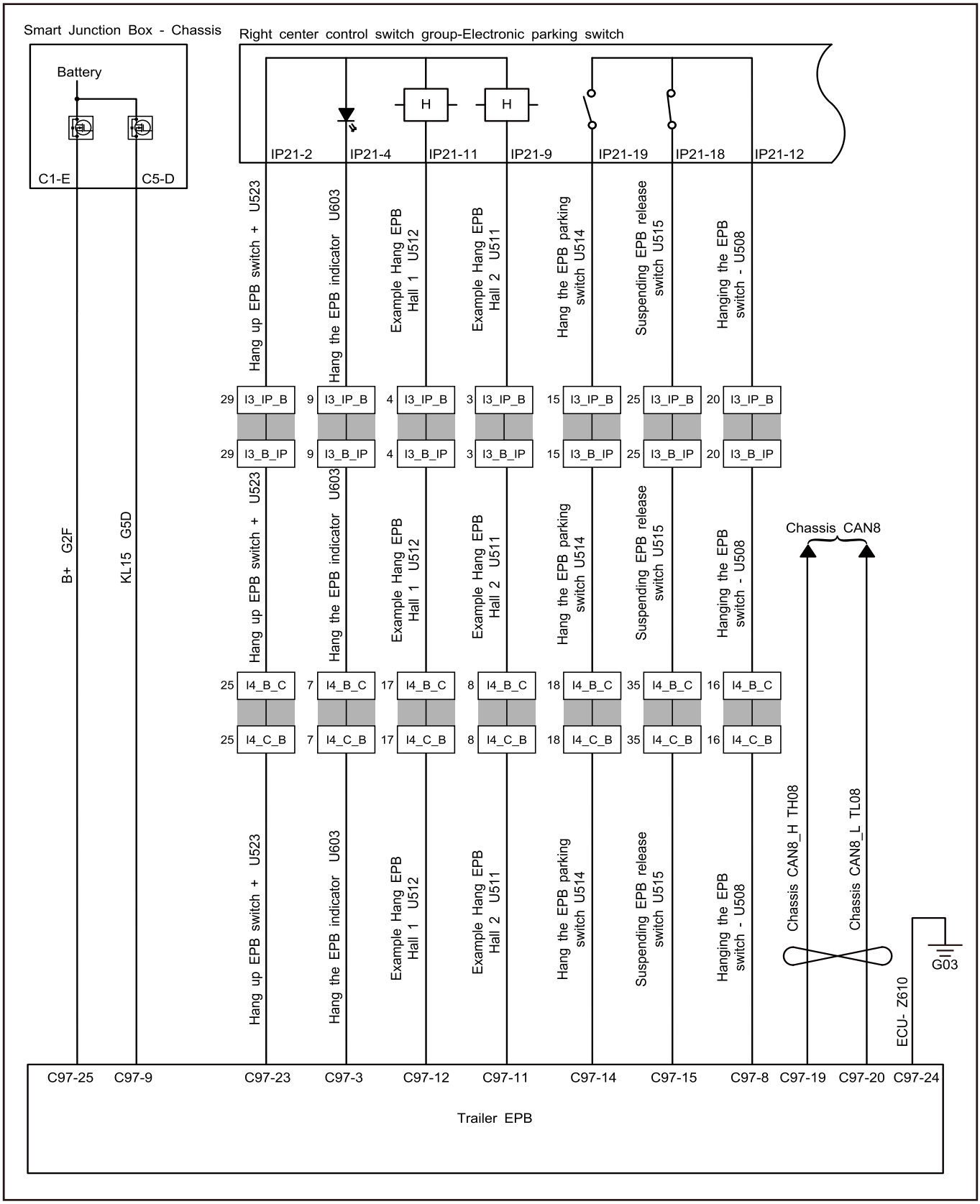


9.1.12.6 EBS Continued 4

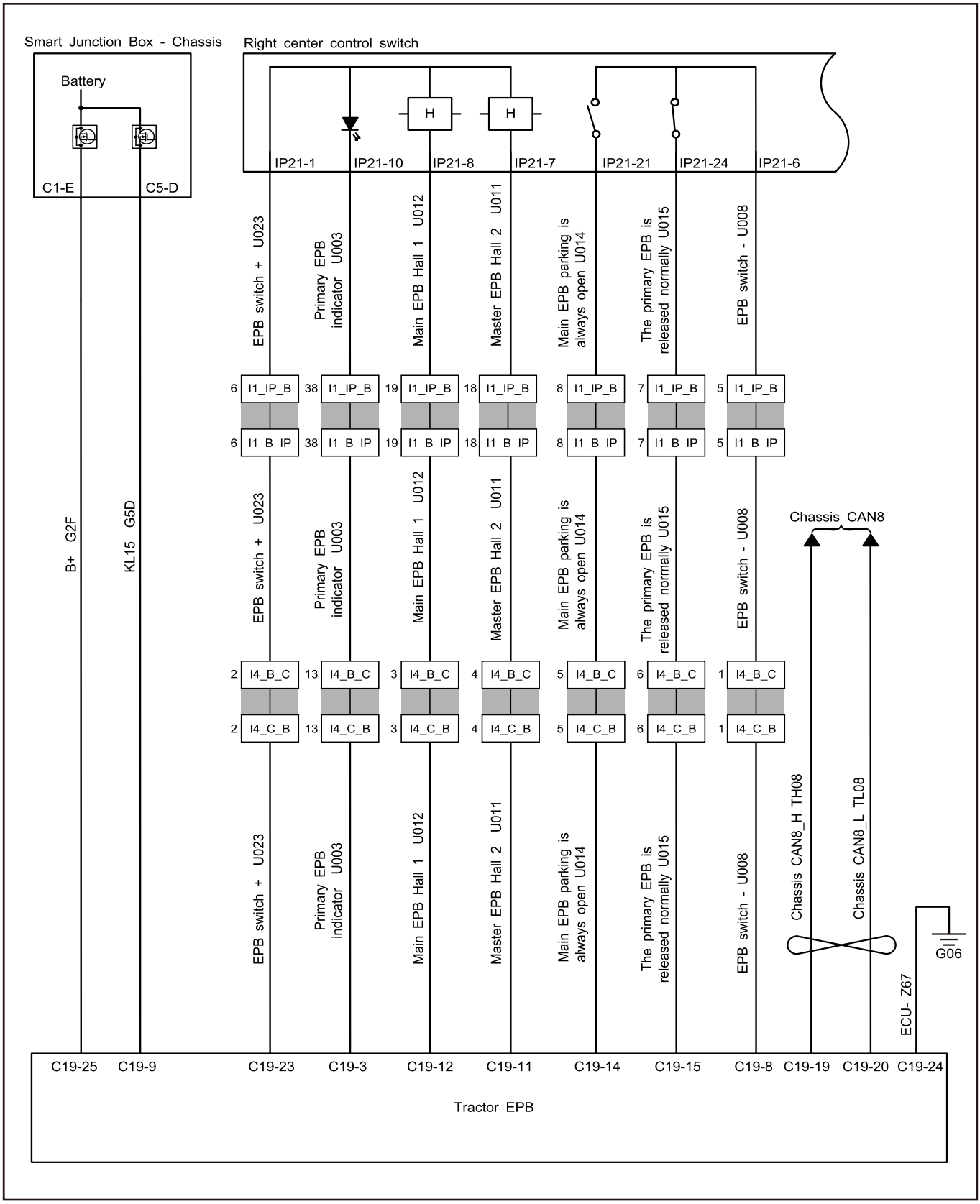


9.1.13 EPB

9.1.13.1 EPB

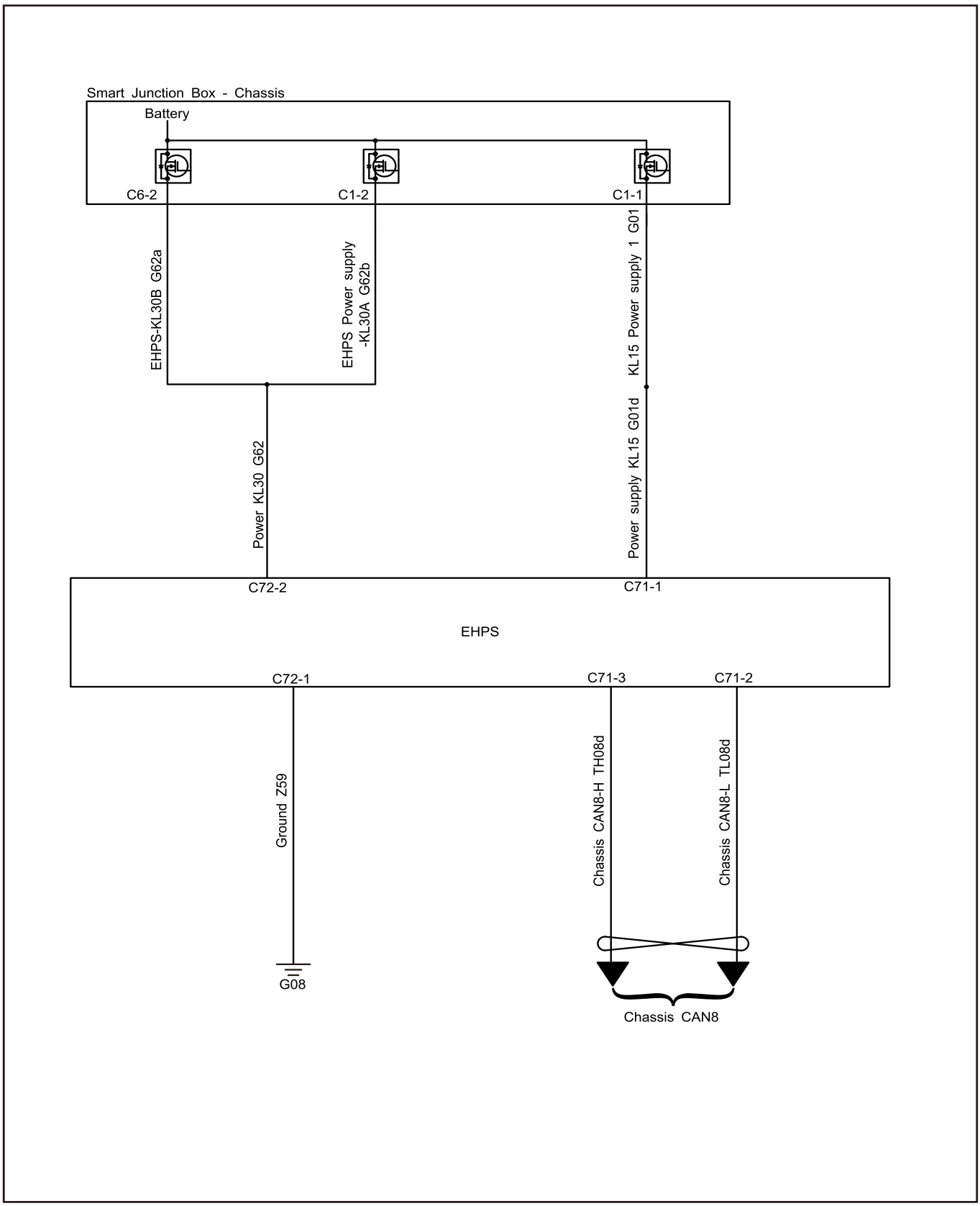


9.1.13.2 EPB Continued



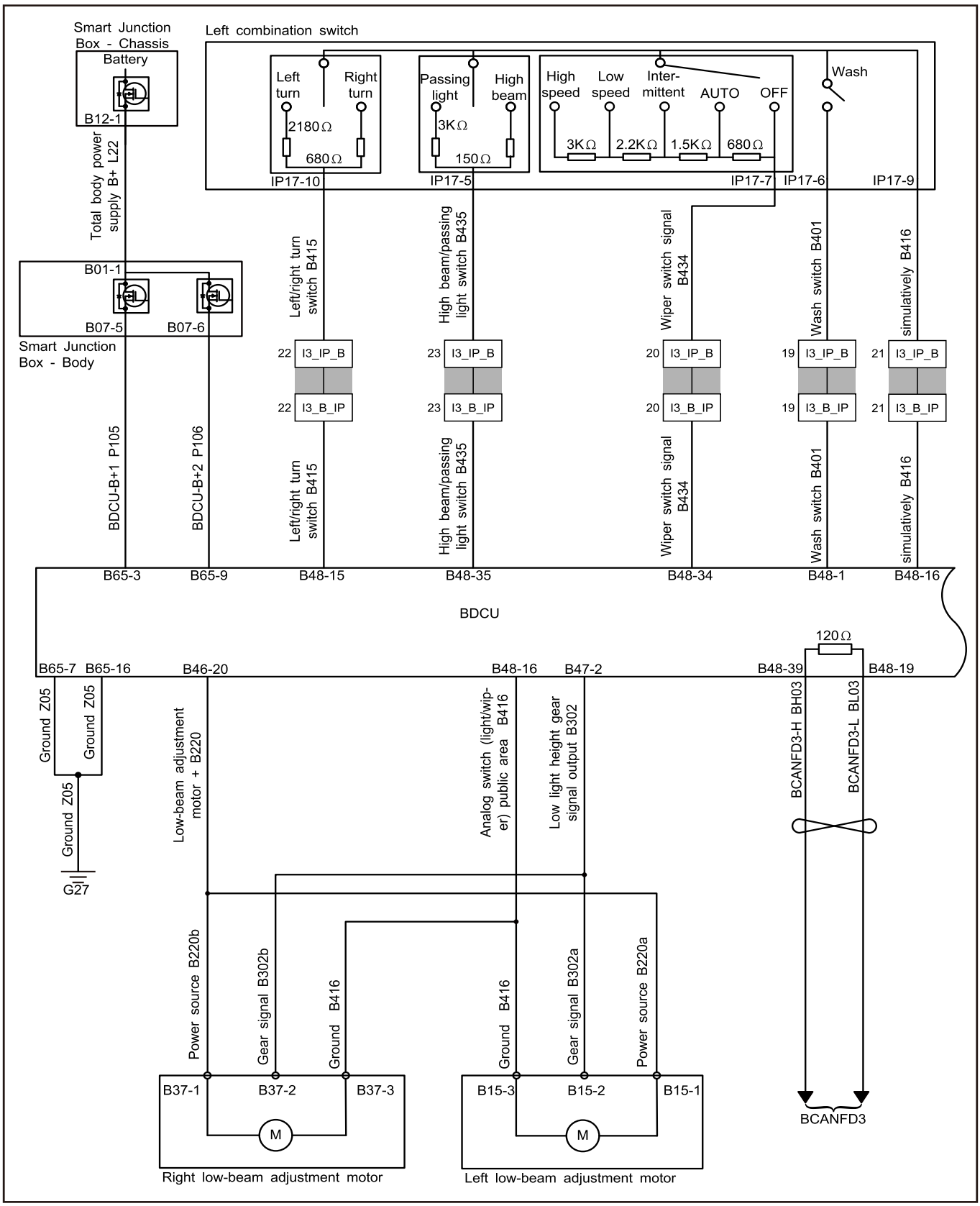
9.1.14 EHPS

9.1.14.1 EHPS

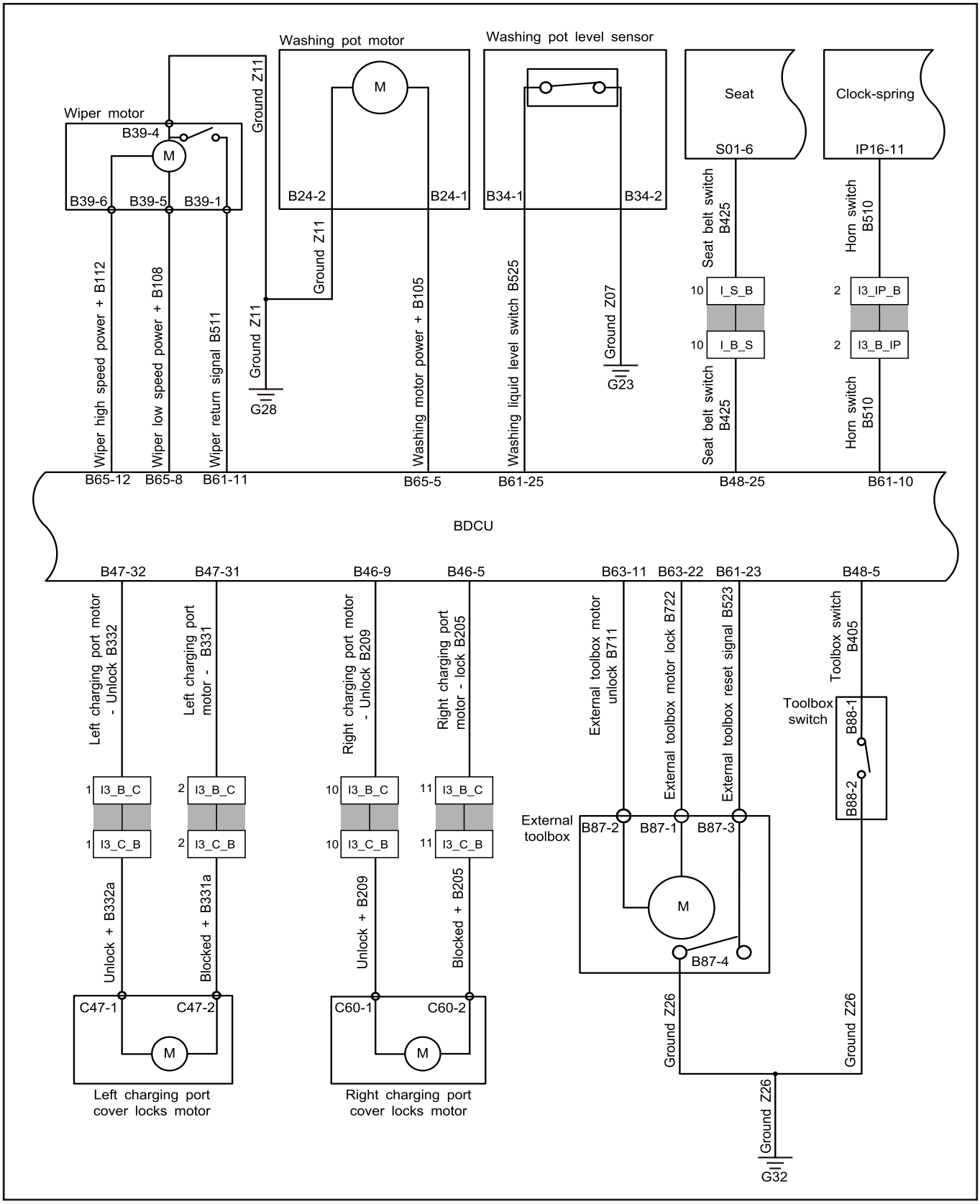


9.1.15 BDCU

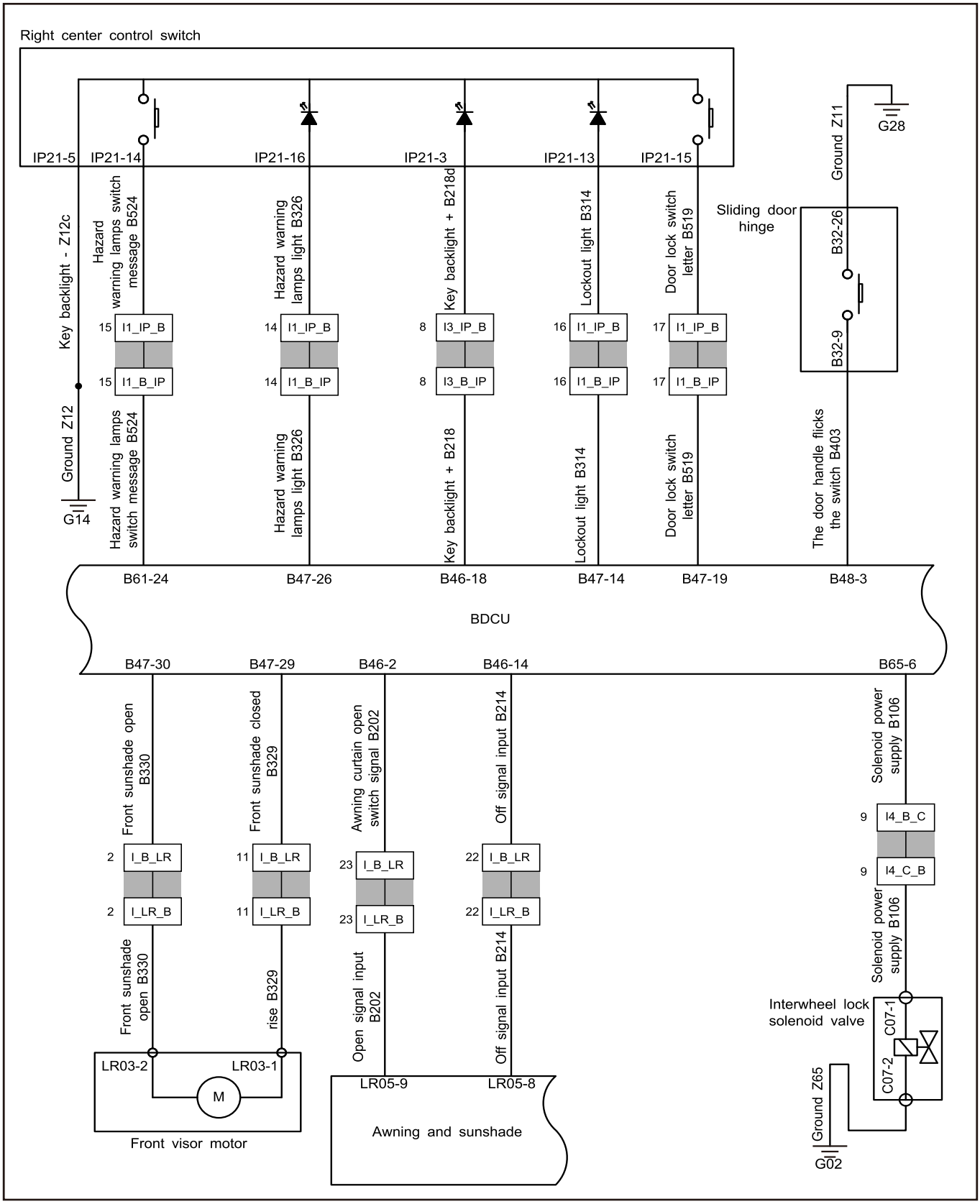
9.1.15.1 BDCU



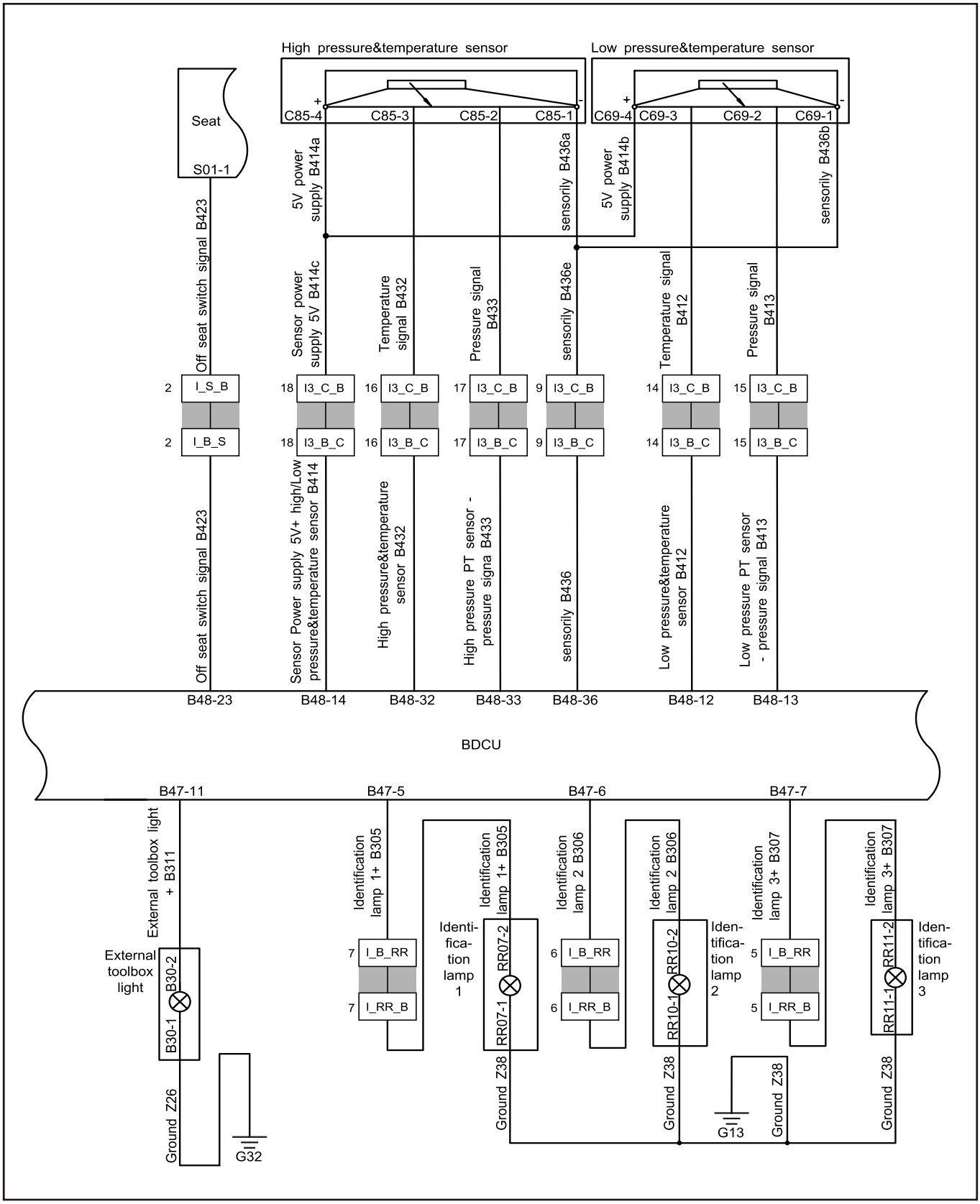
9.1.15.2 BDCU Continued



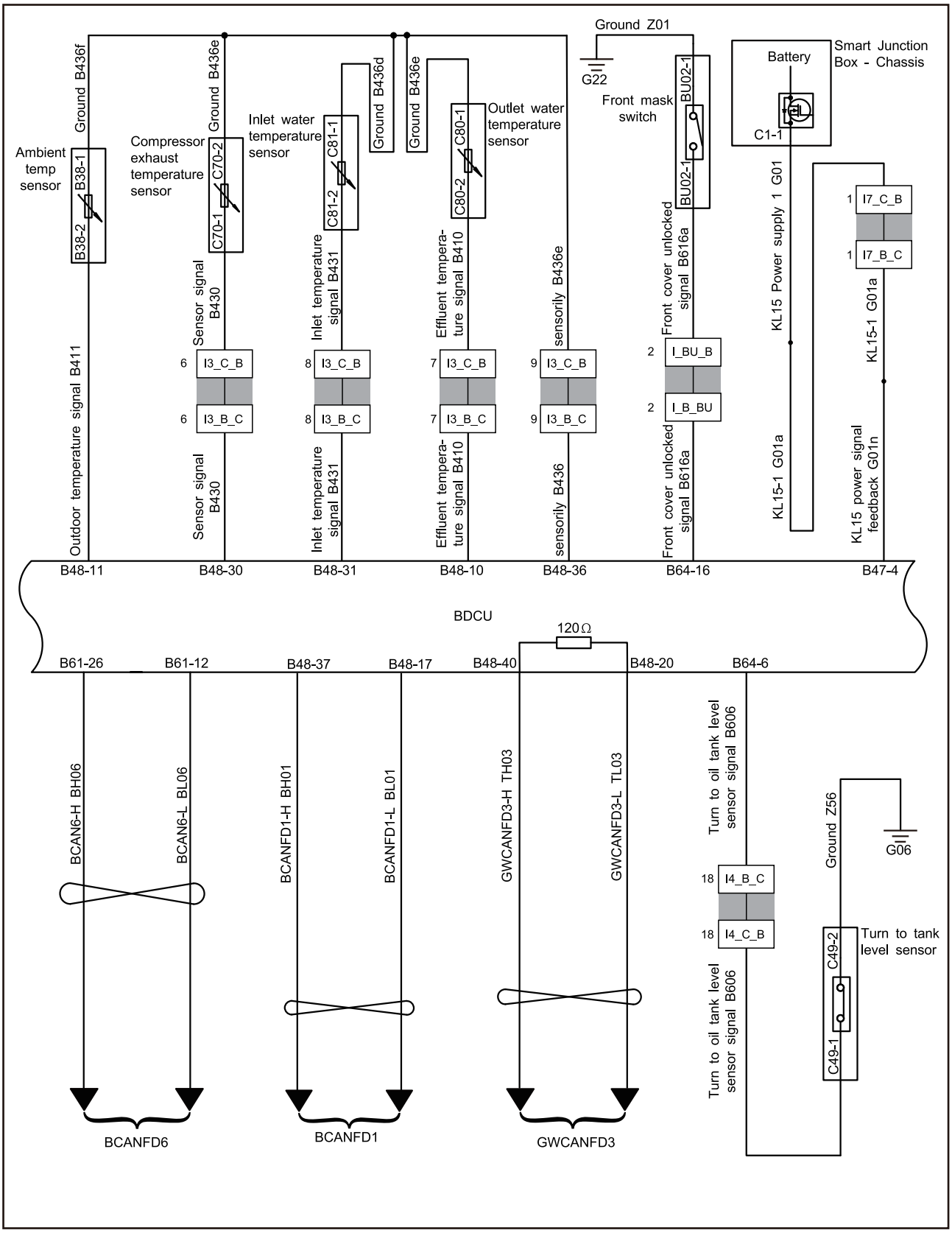
9.1.15.3 BDCU Continued 1



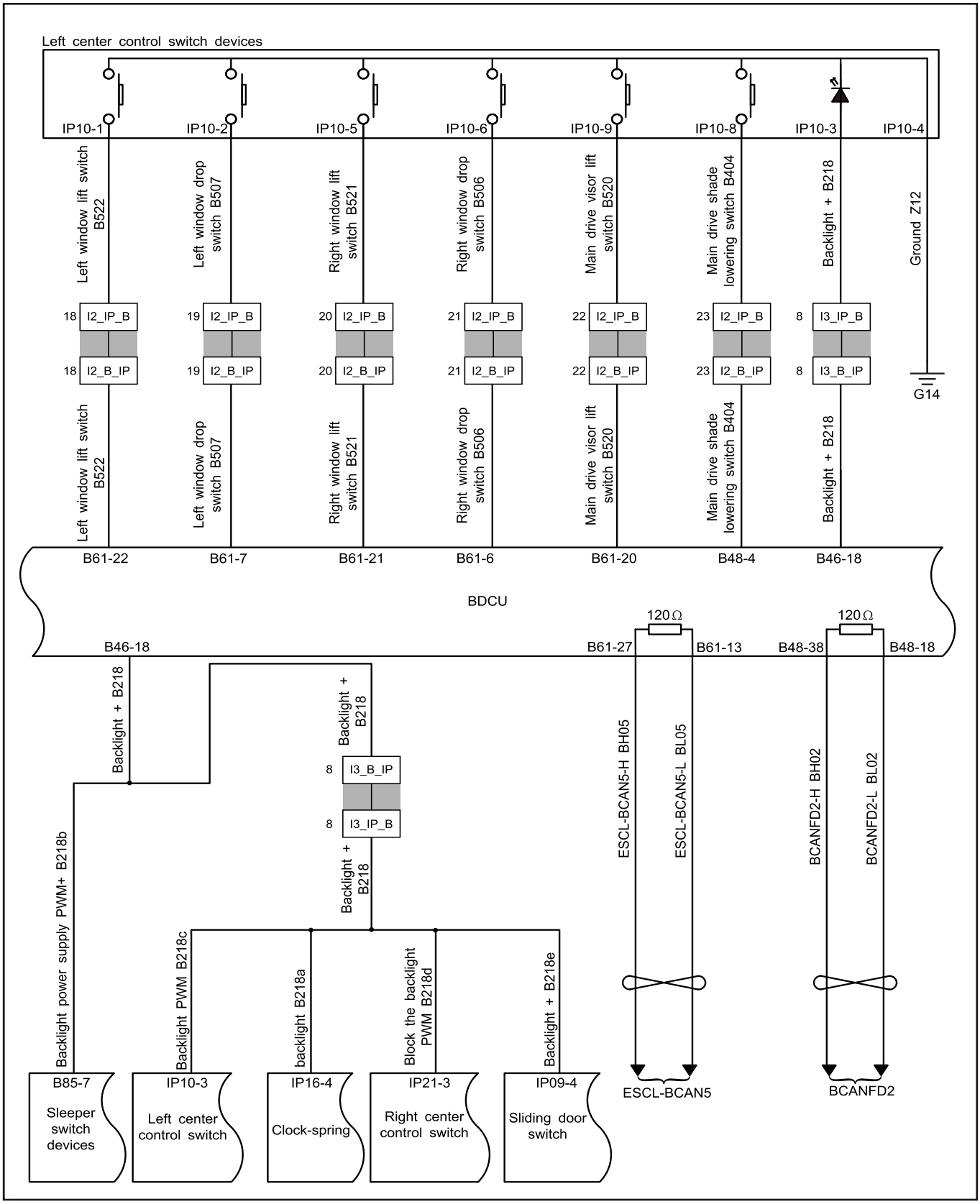
9.1.15.4 BDCU Continued 2



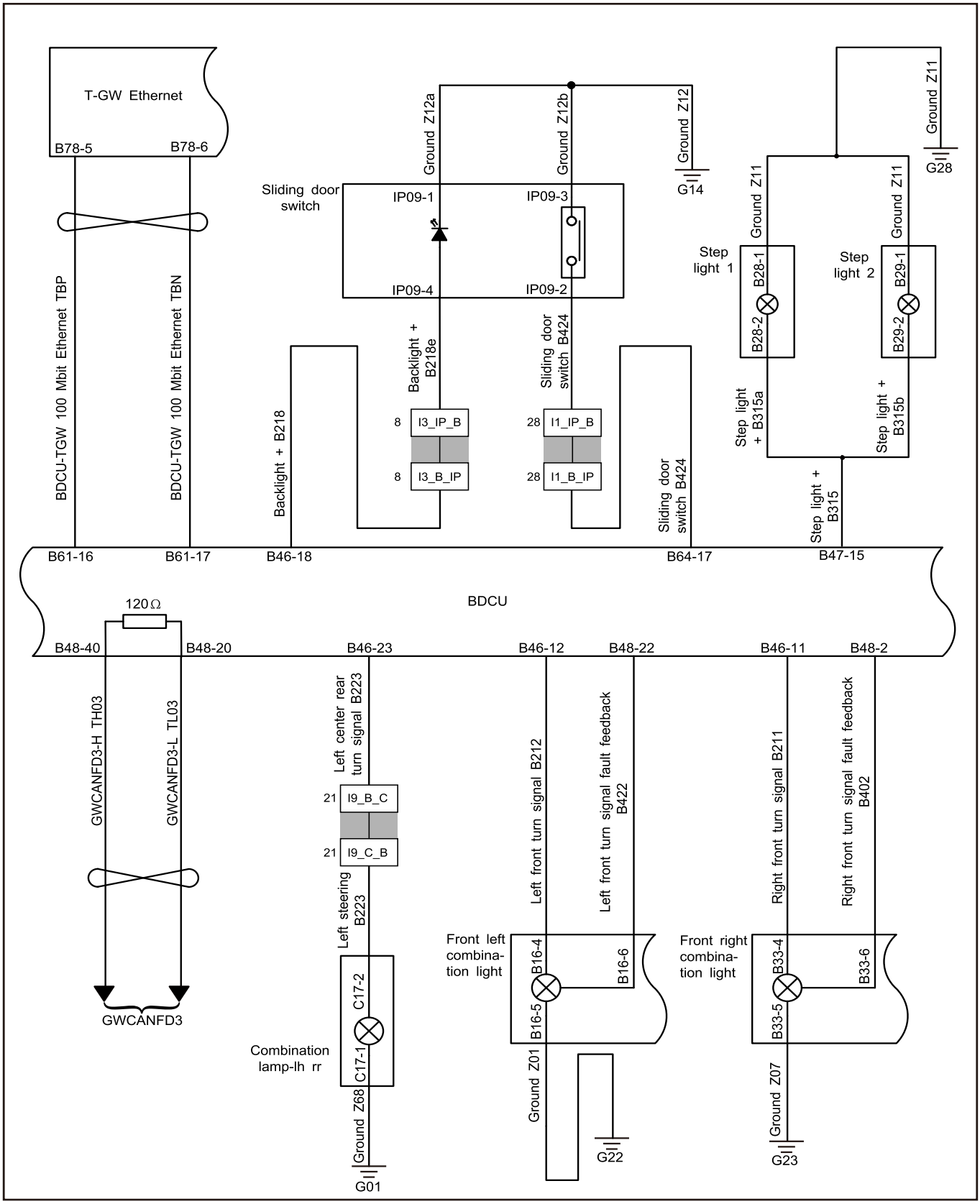
9.1.15.5 BDCU Continued 3



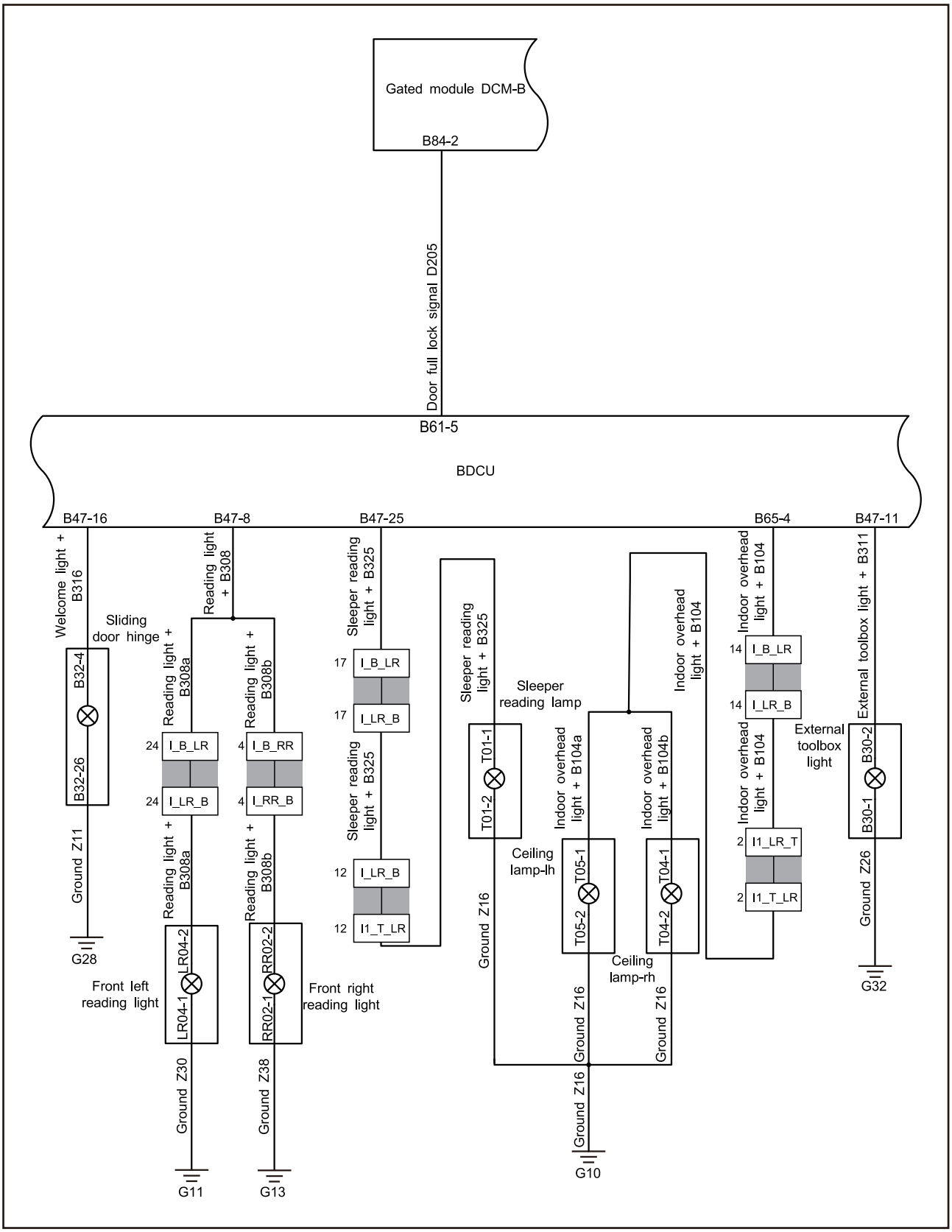
9.1.15.6 BDCU Continued 4



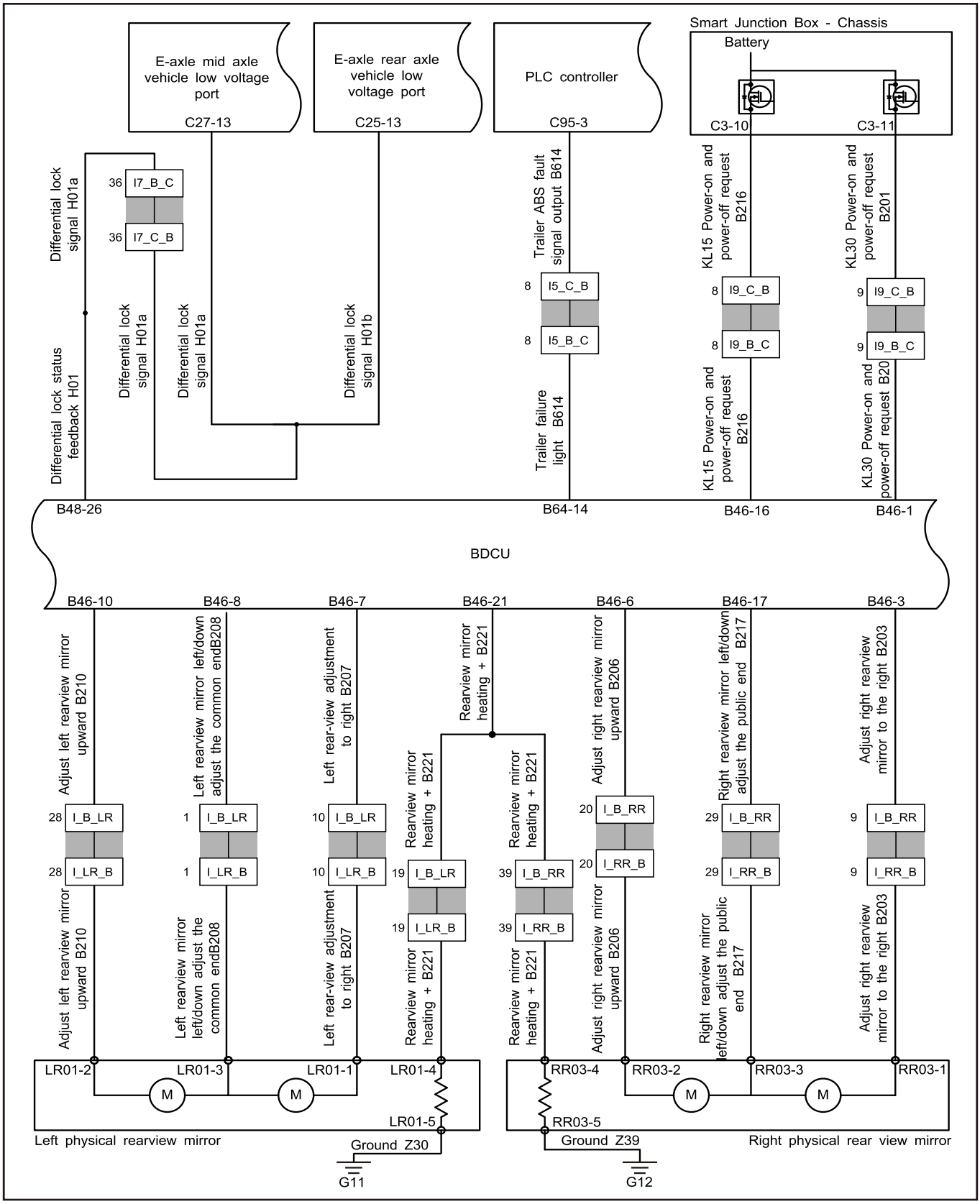
9.1.15.7 BDCU Continued 5



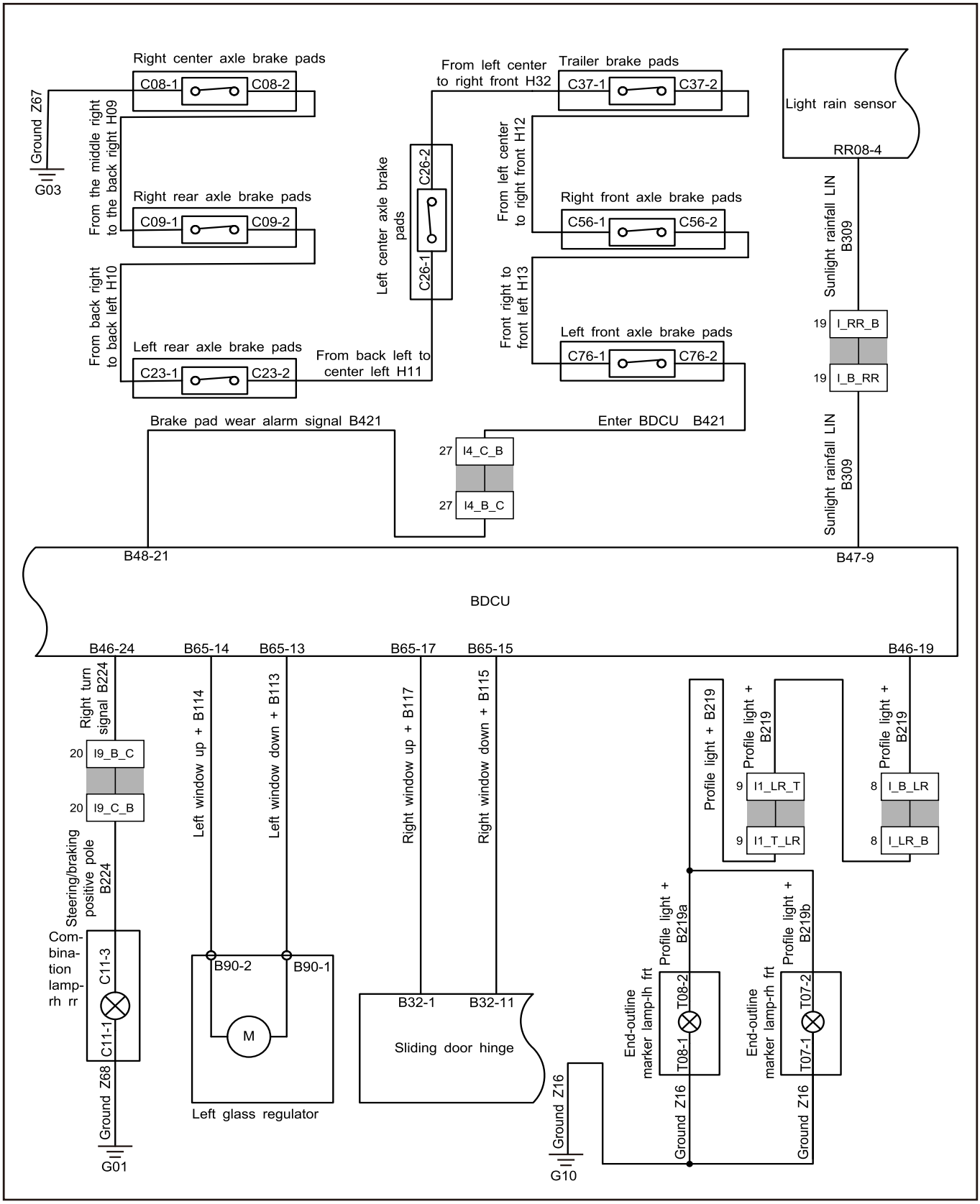
9.1.15.8 BDCU Continued 6



9.1.15.9 BDCU Continued 7

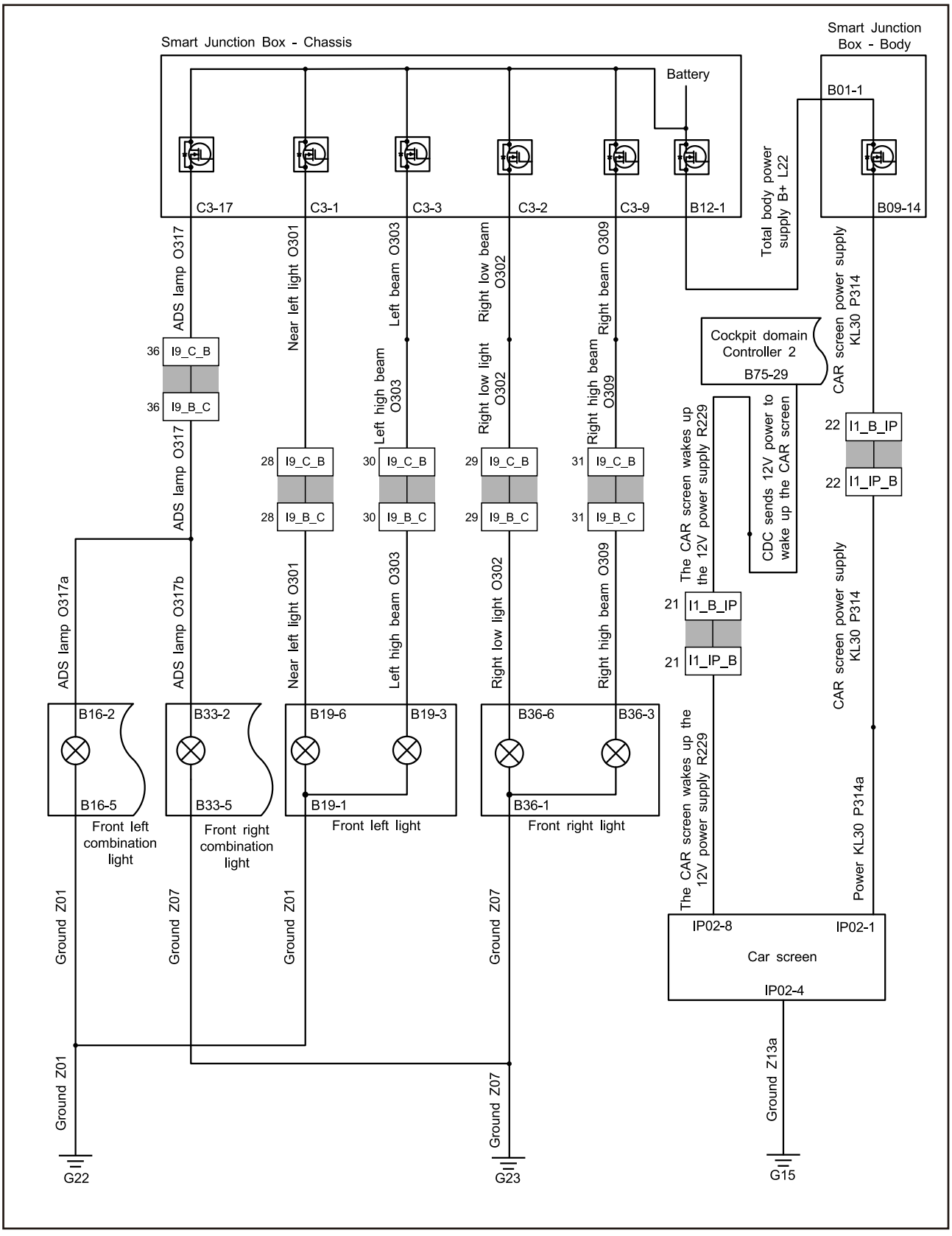


9.1.15.10 BDCU Continued 8

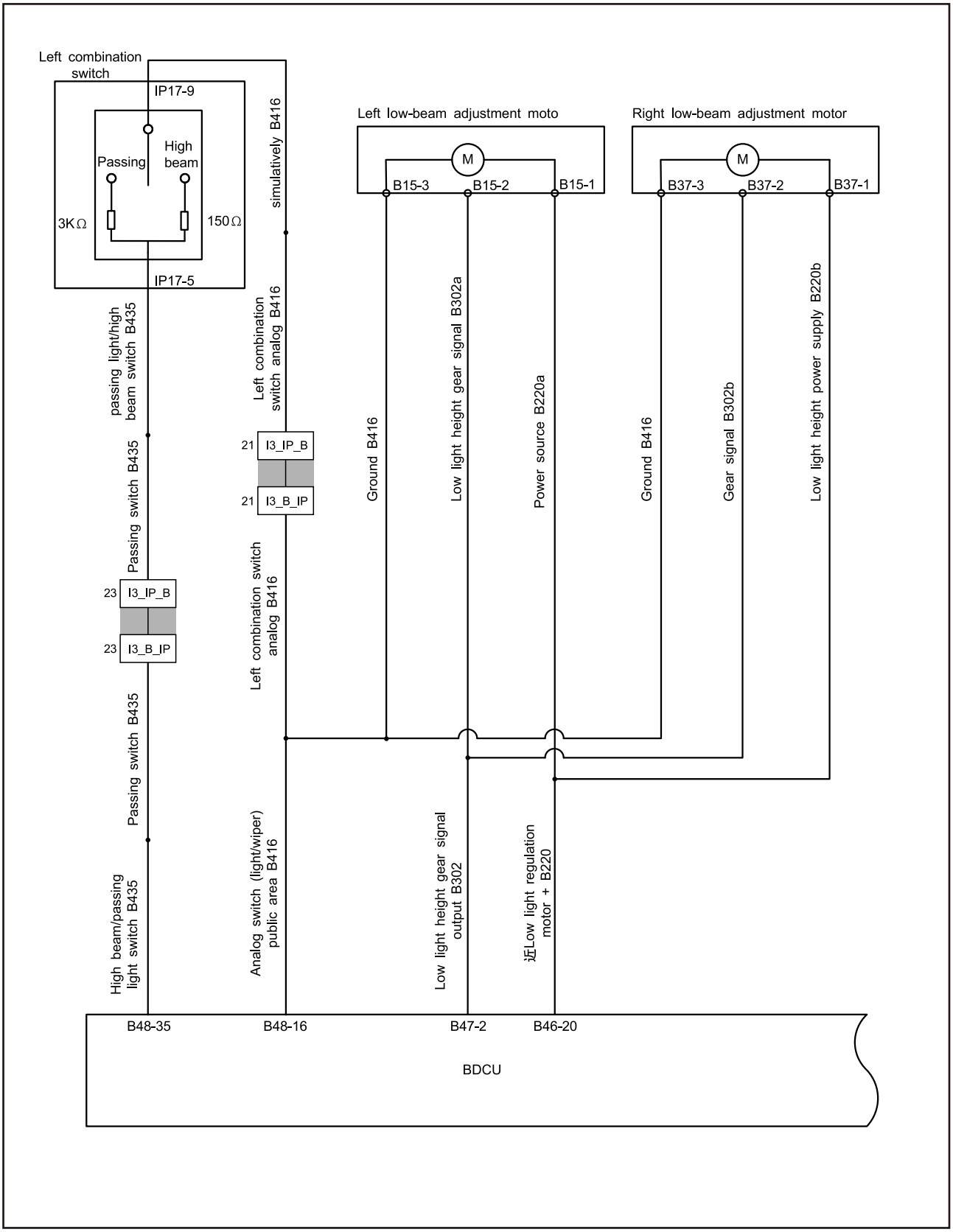


9.1.16 Headlamp

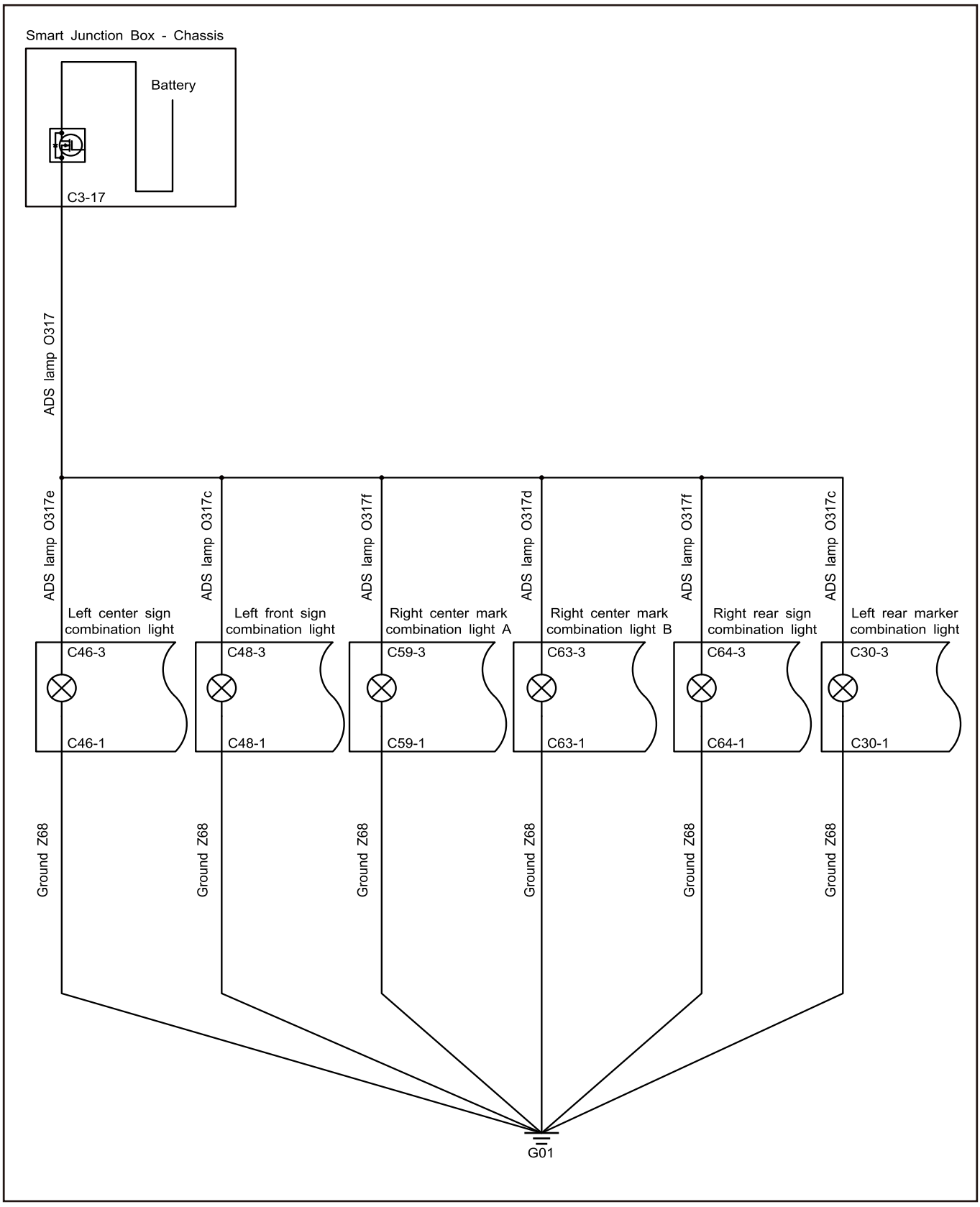
9.1.16.1 Headlamp



9.1.16.2 Headlamp Continued

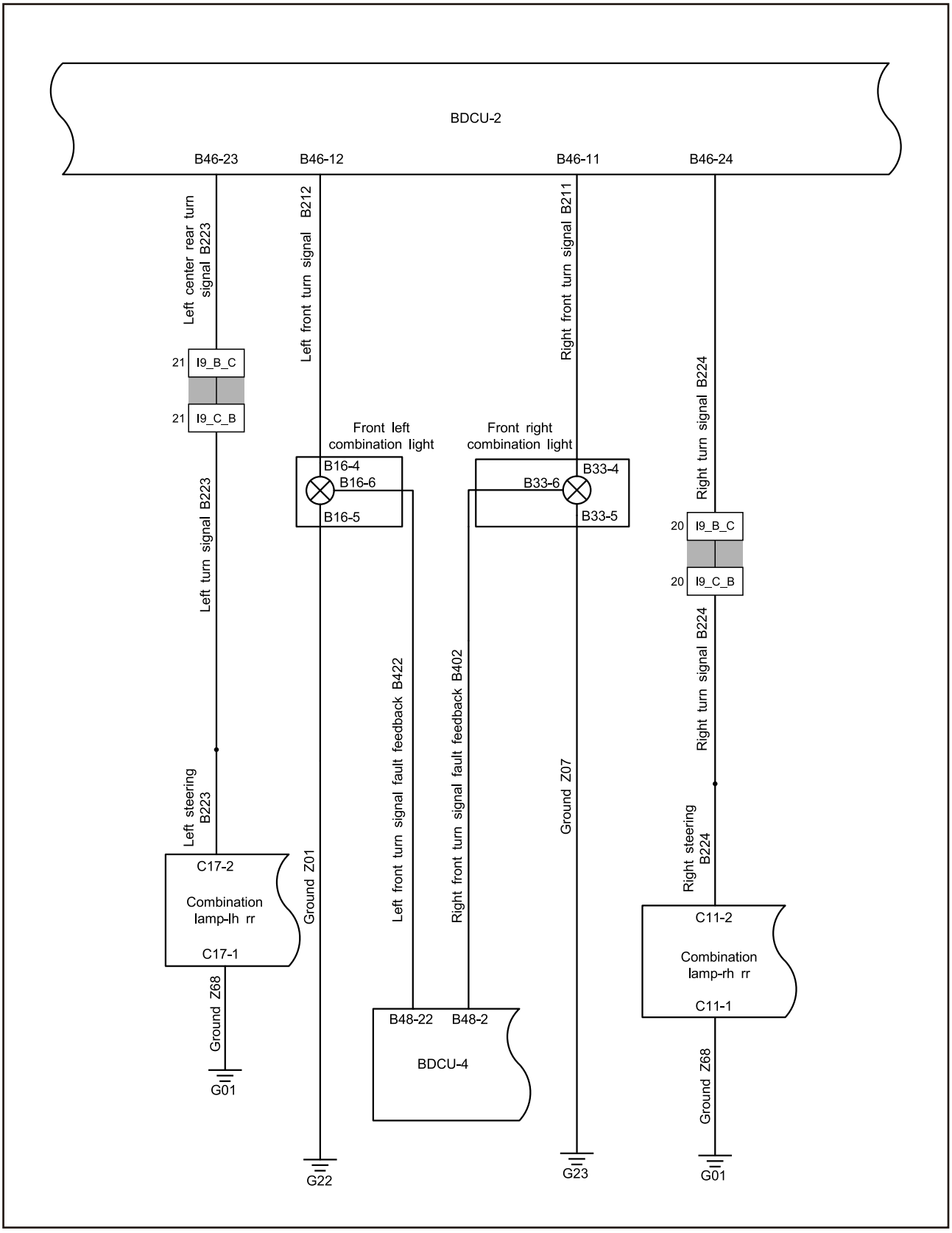


9.1.16.3 Headlamp Continued 1

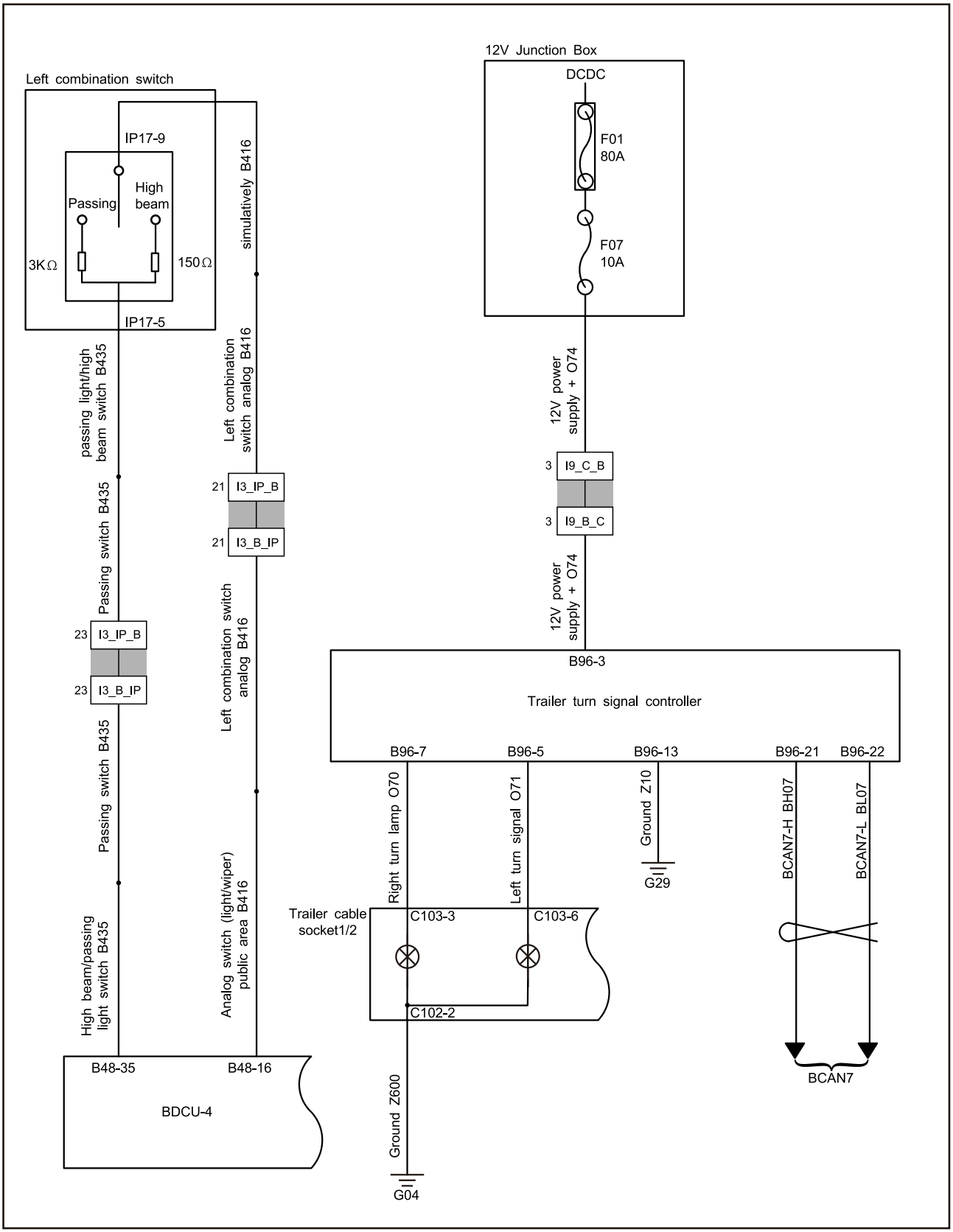


9.1.17 Turn Signal Lamp

9.1.17.1 Turn Signal Lamp

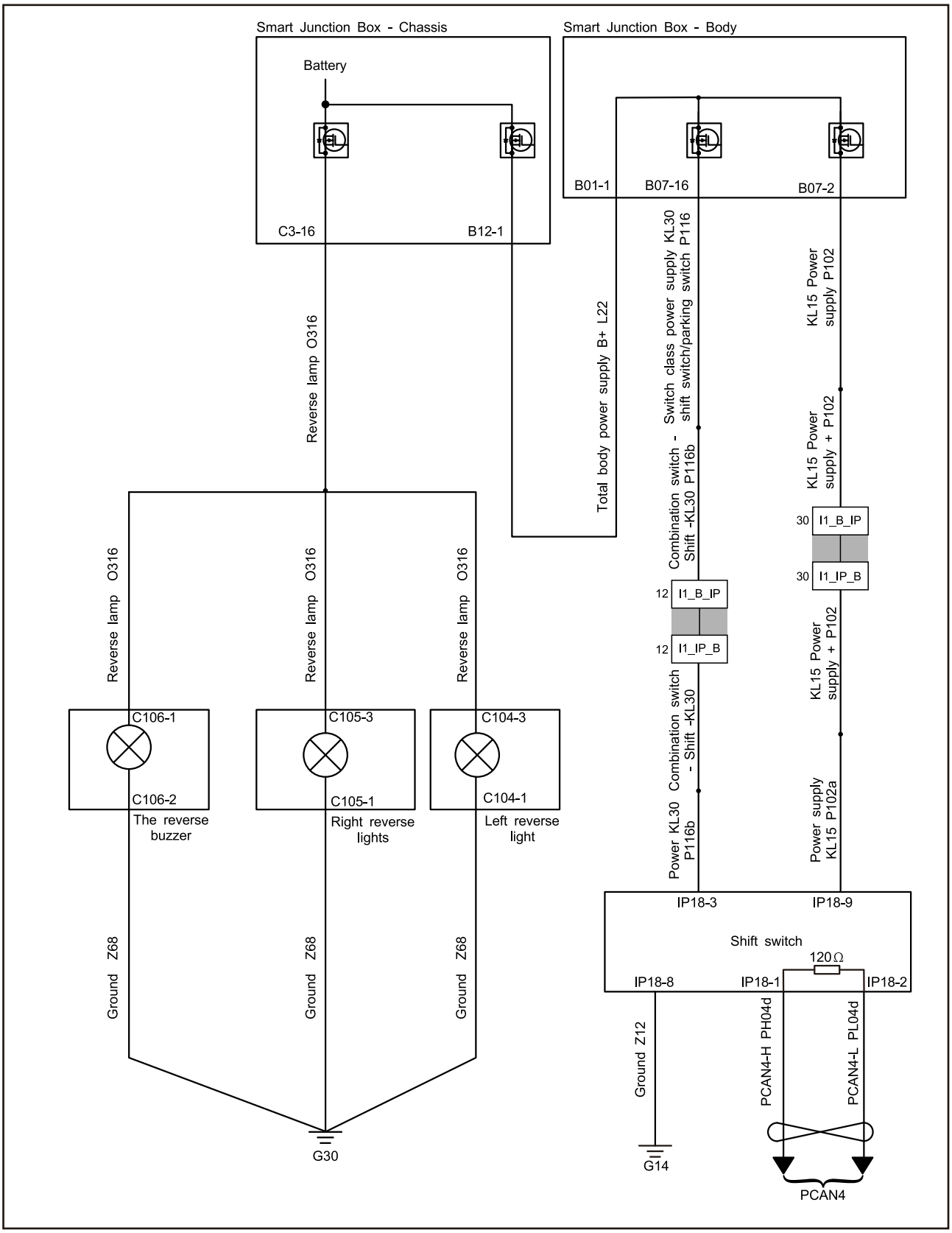


9.1.17.2 Turn Signal Lamp Continued



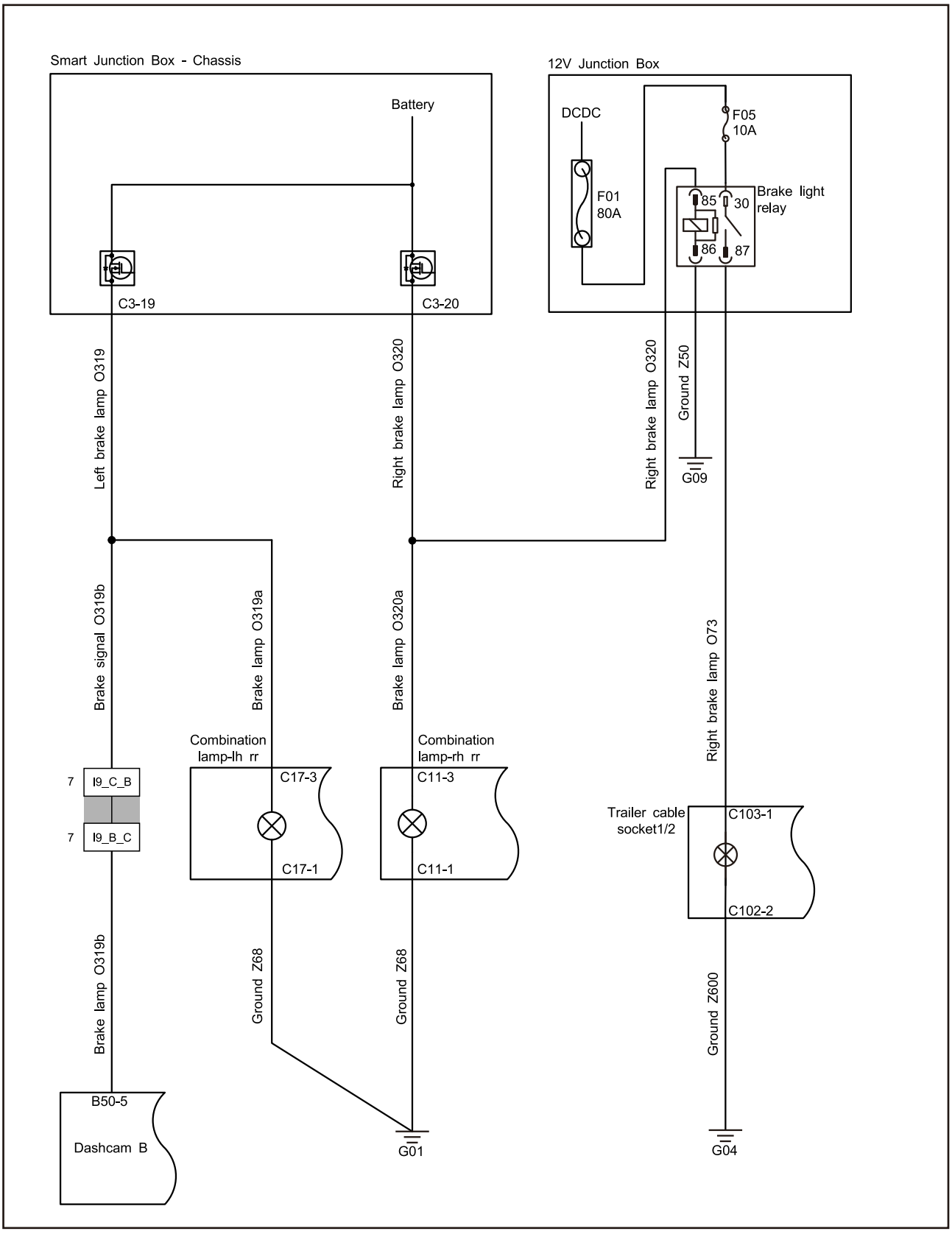
9.1.18 Reverse lamp

9.1.18.1 Reverse lamp

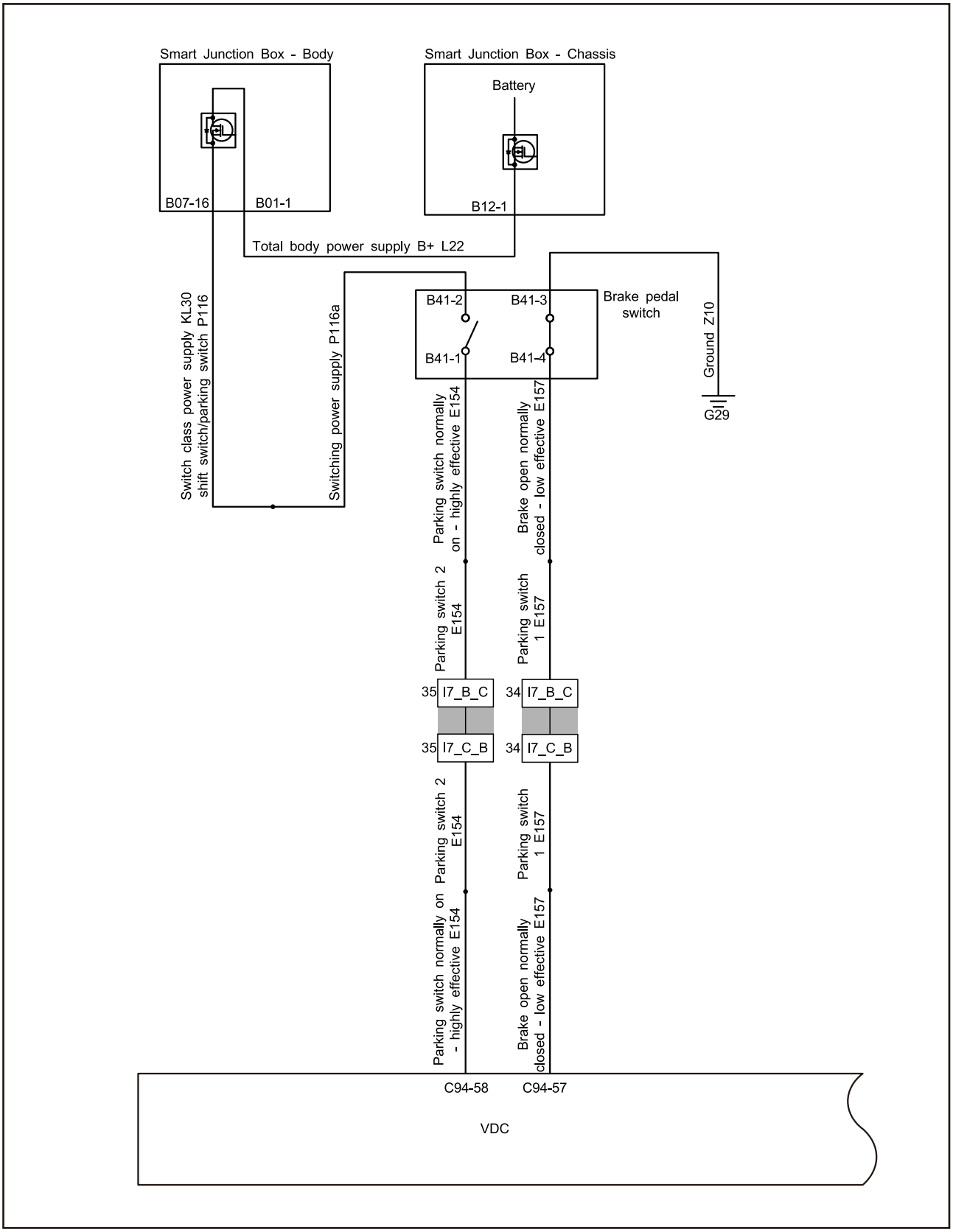


9.1.19 Brake lamp

9.1.19.1 Brake lamp

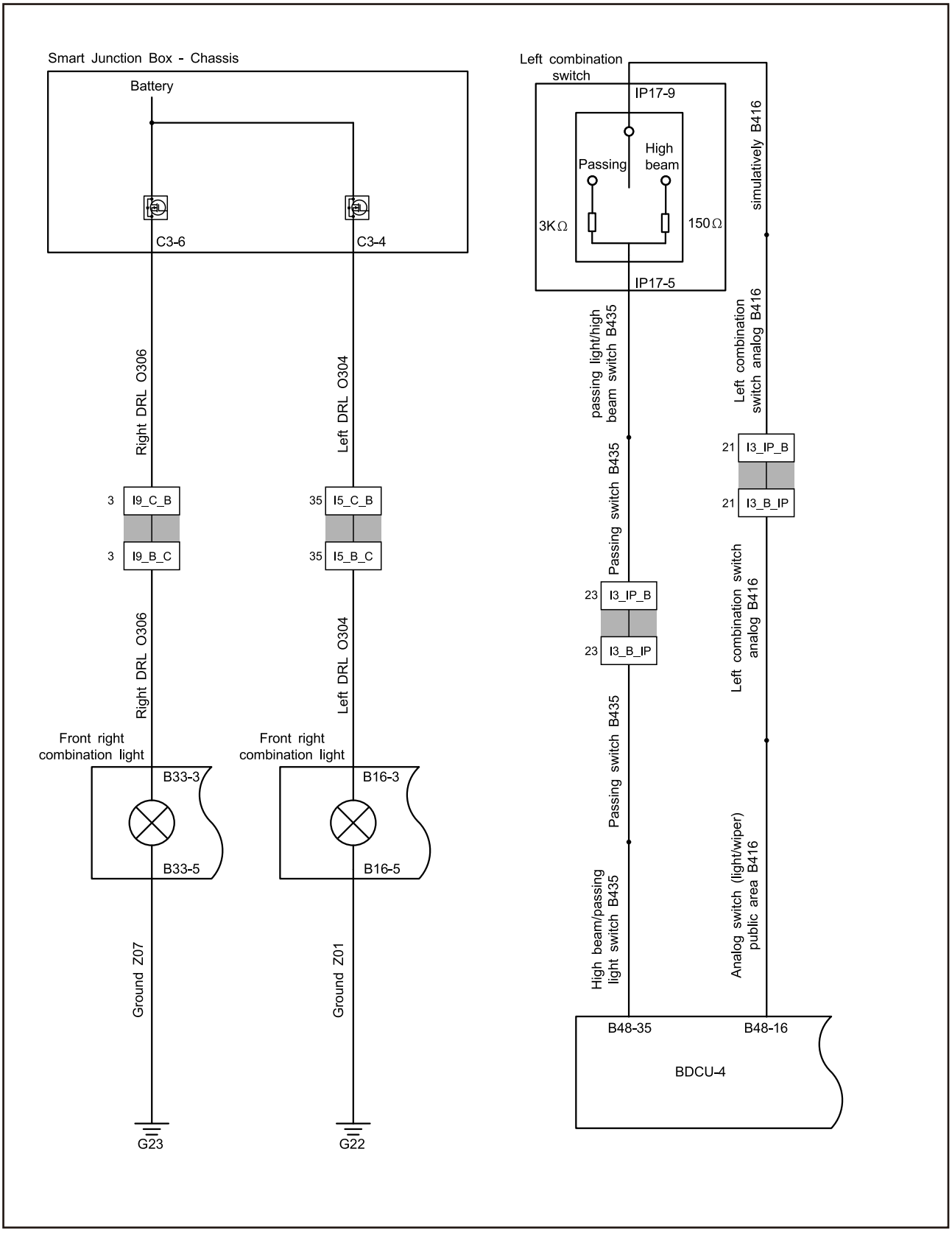


9.1.19.2 Brake lamp Continued



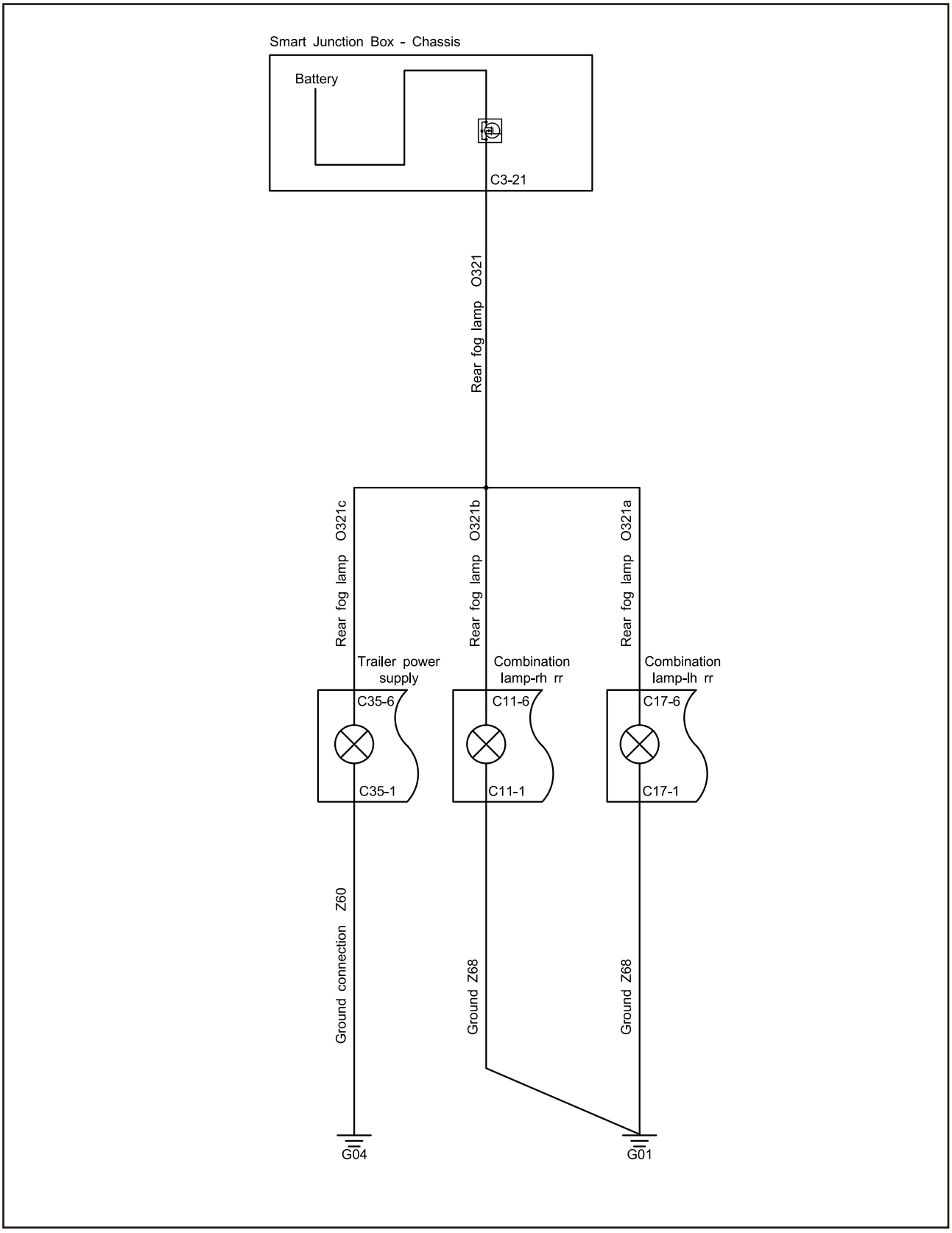
9.1.20 Daytime Running Light

9.1.20.1 Daytime Running Light

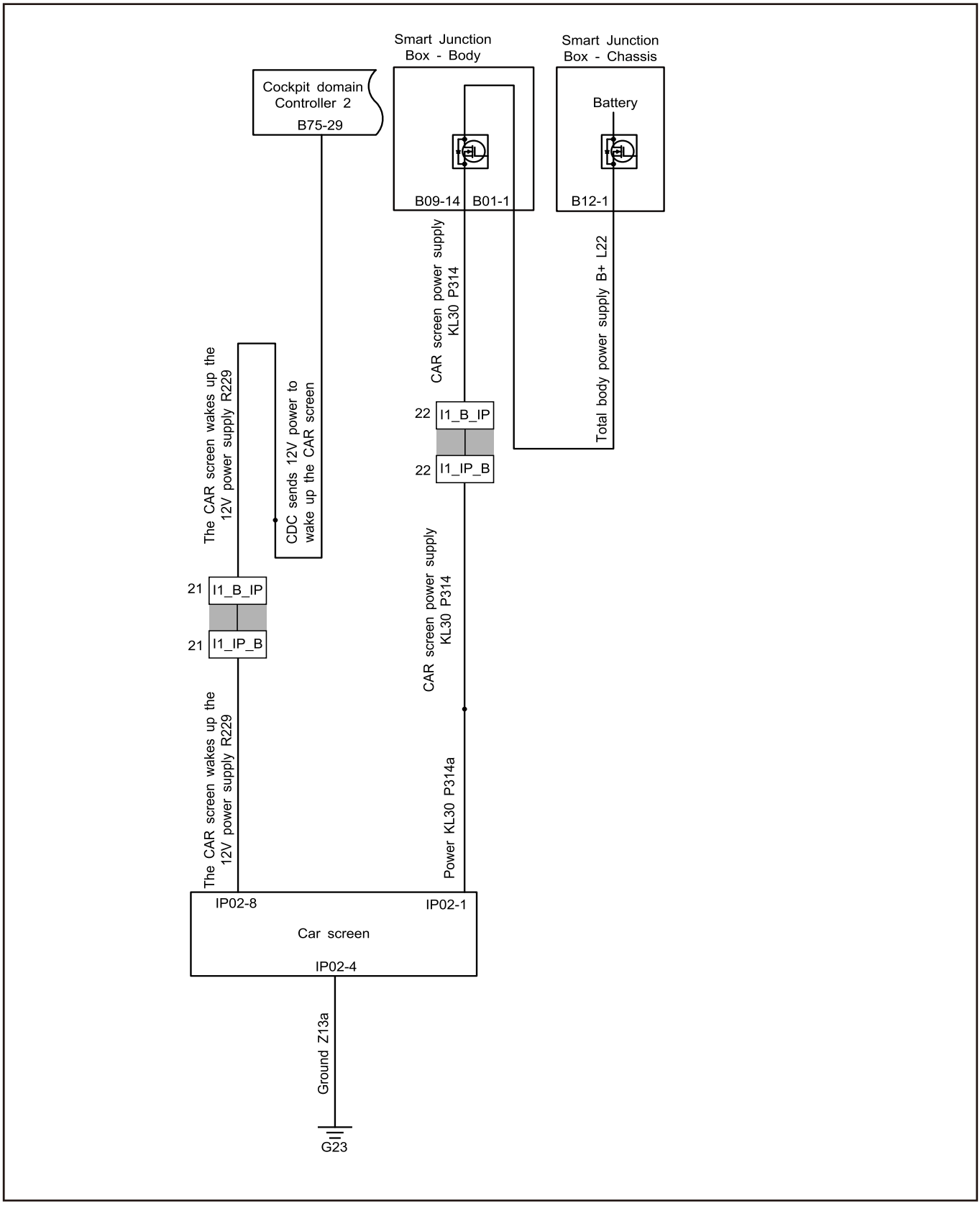


9.1.21 Fog Lamp

9.1.21.1 Fog Lamp

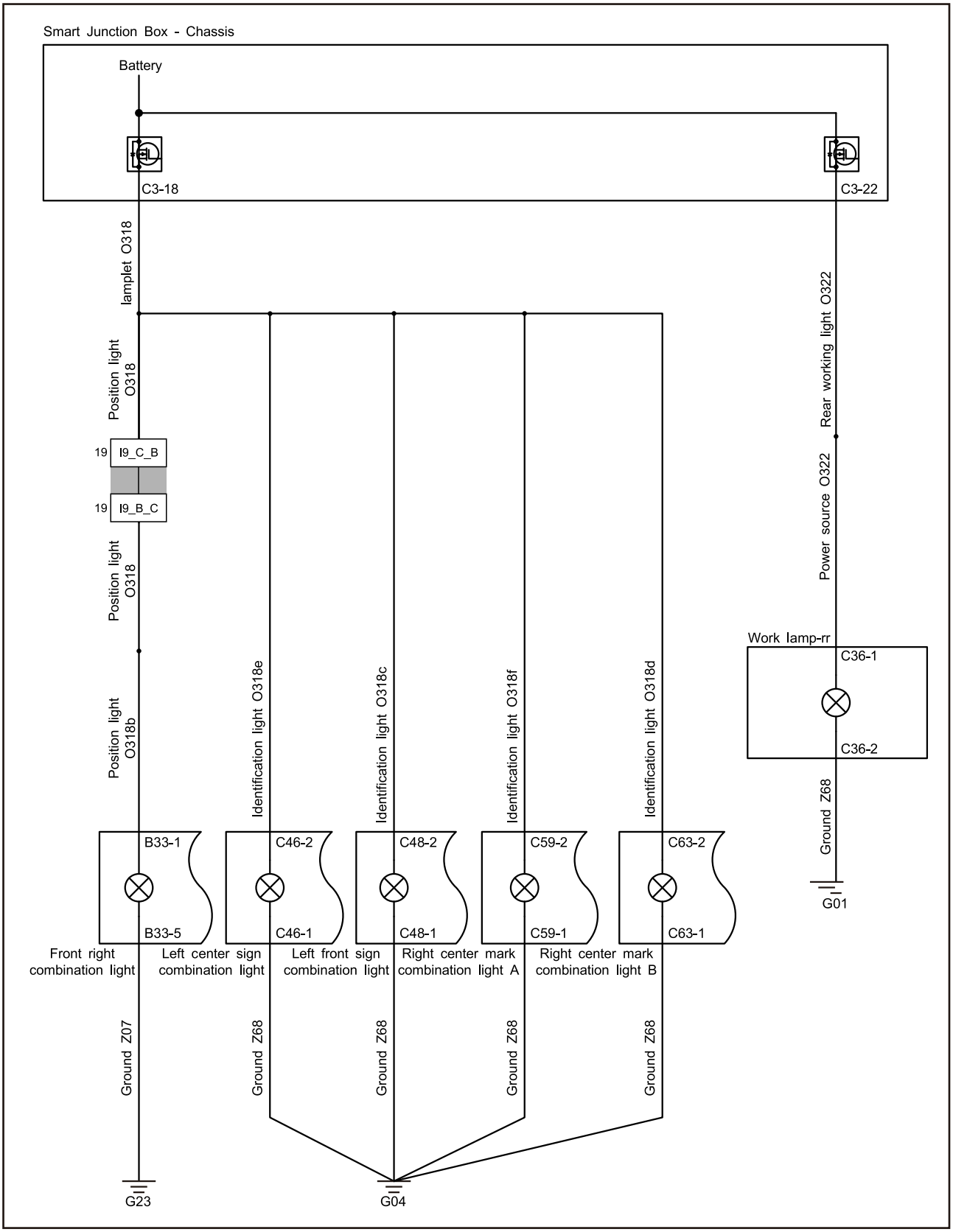


9.1.21.2 Fog Lamp Continued

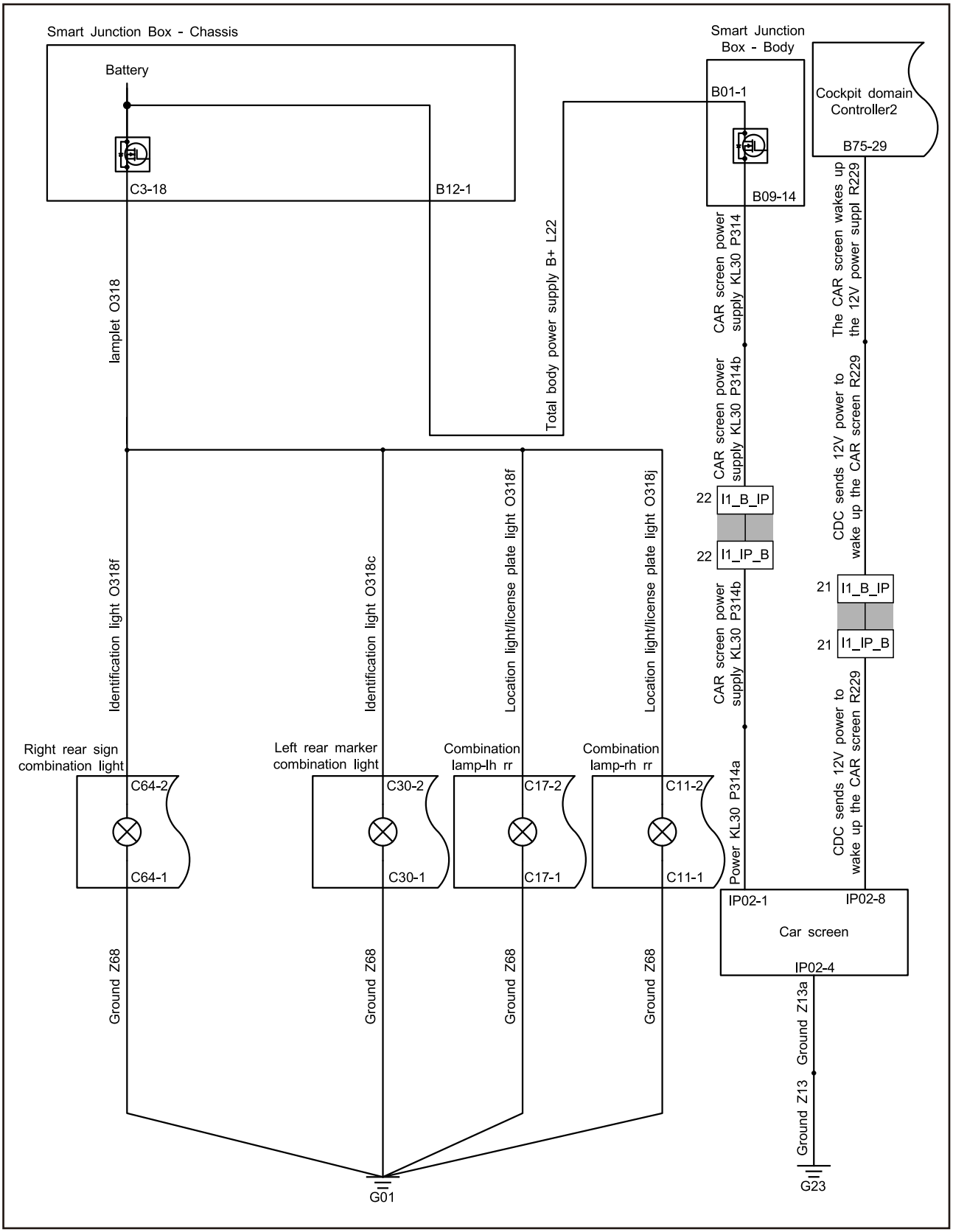


9.1.22 Position Light

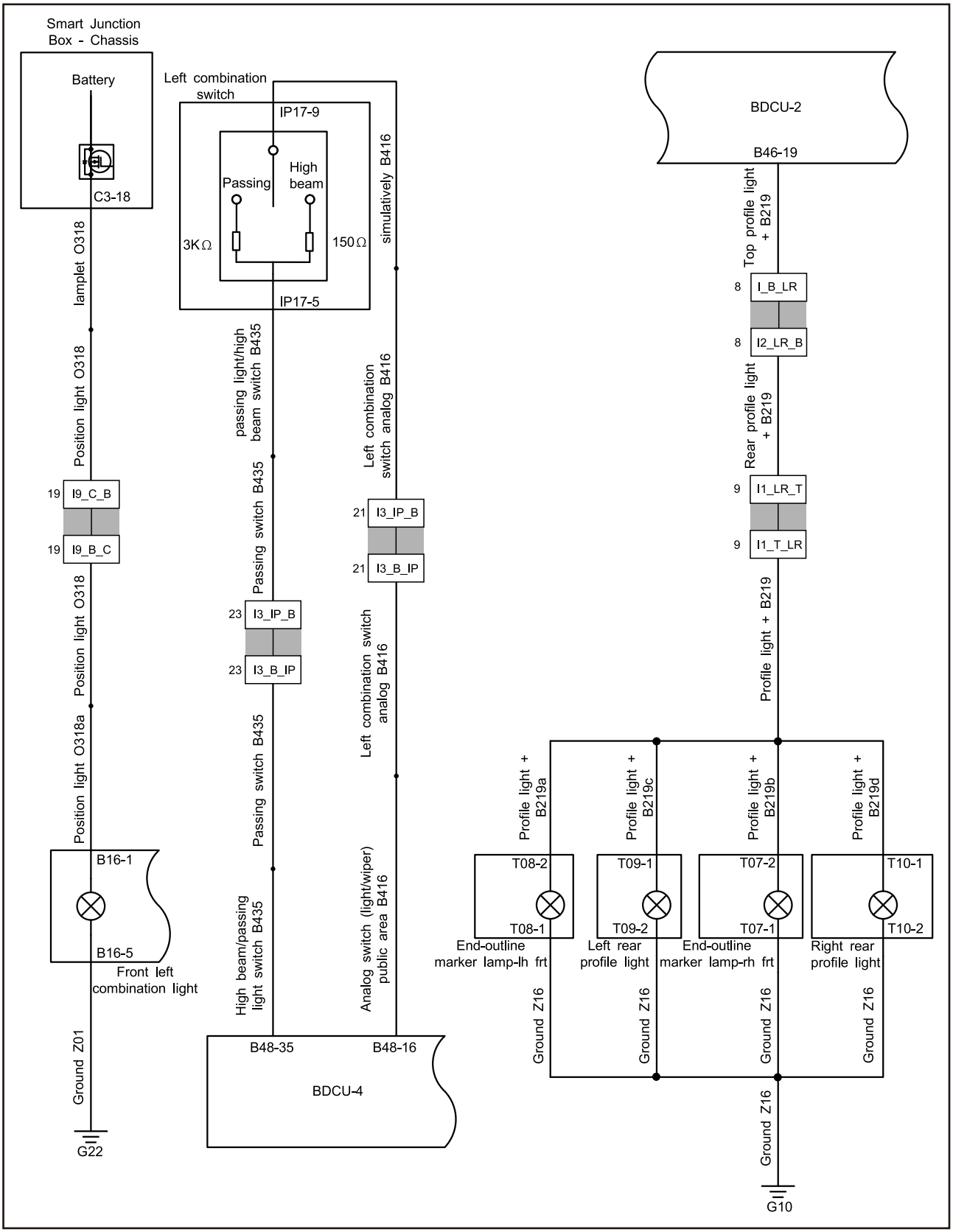
9.1.22.1 Position Light



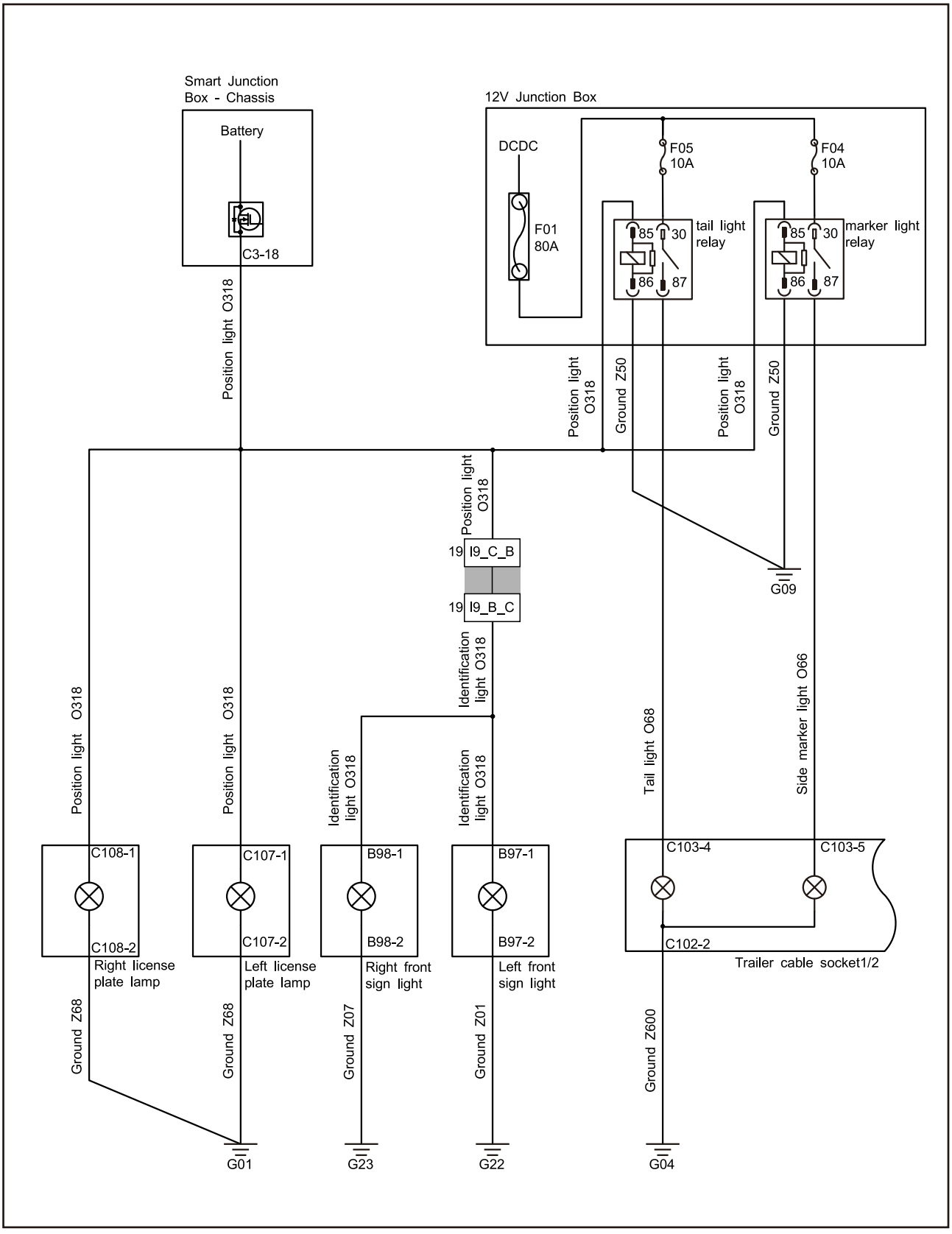
9.1.22.2 Position Light Continued



9.1.22.3 Position Light Continued 1

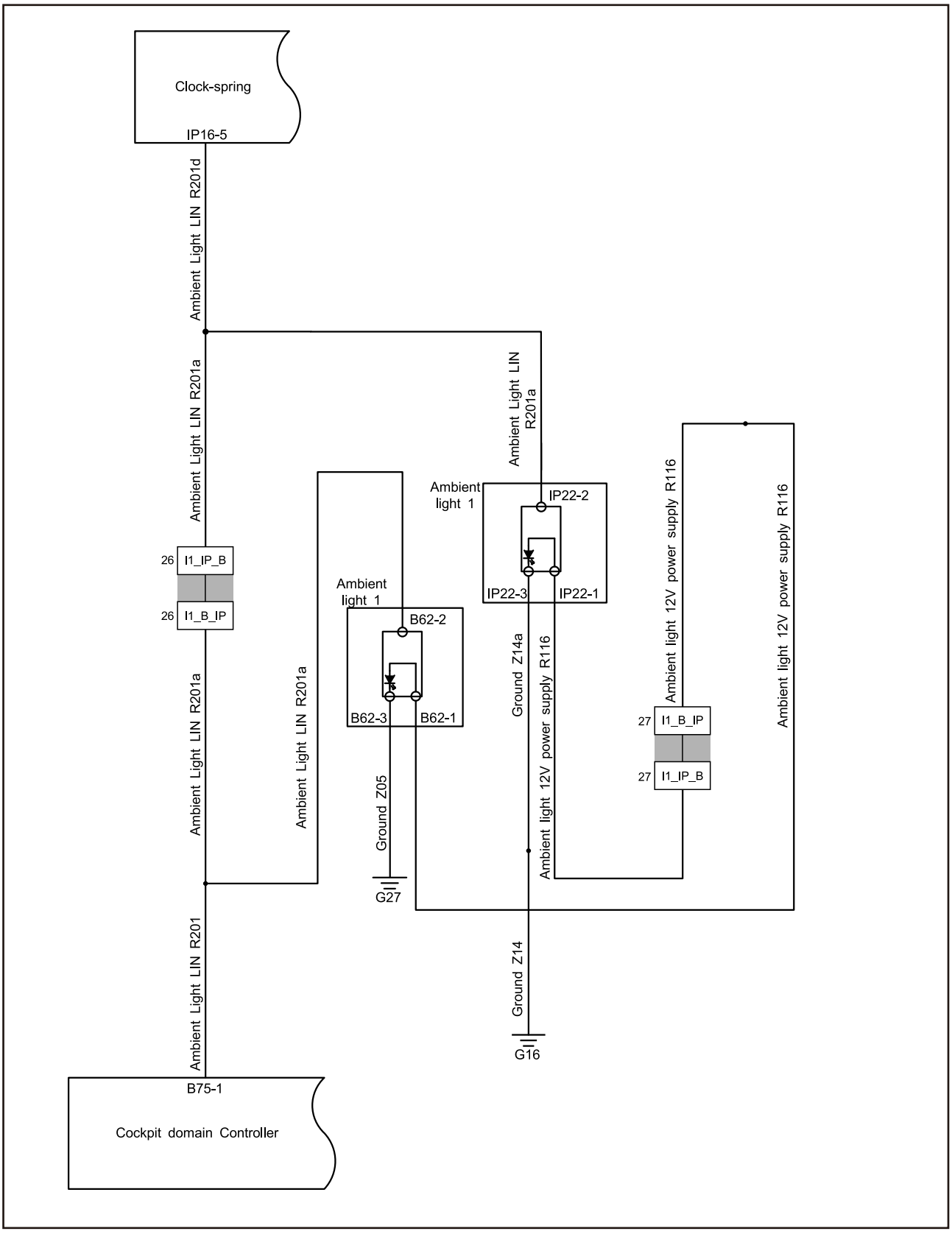


9.1.22.4 Position Light Continued 2

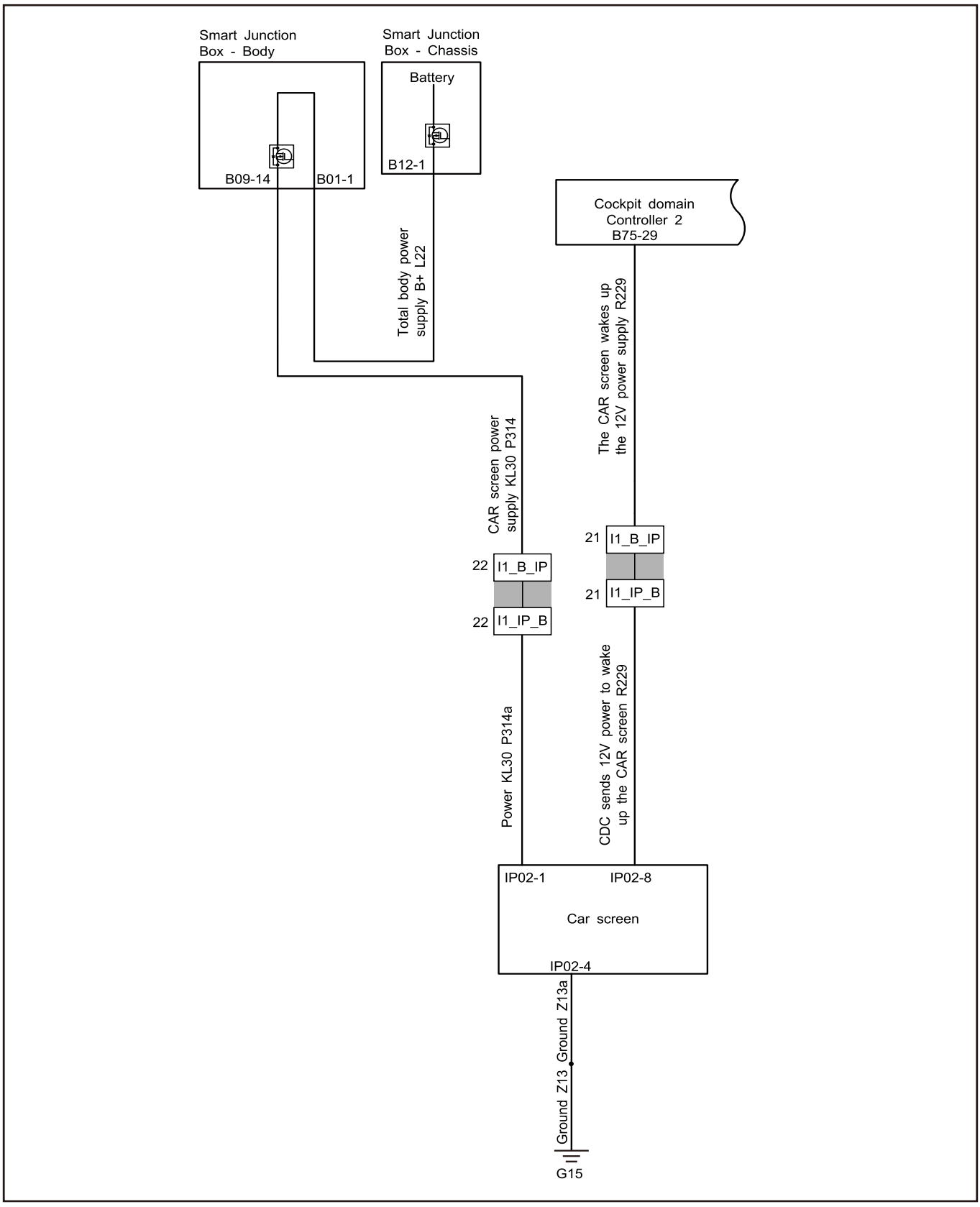


9.1.23 Atmosphere lamp

9.1.23.1 Atmosphere lamp

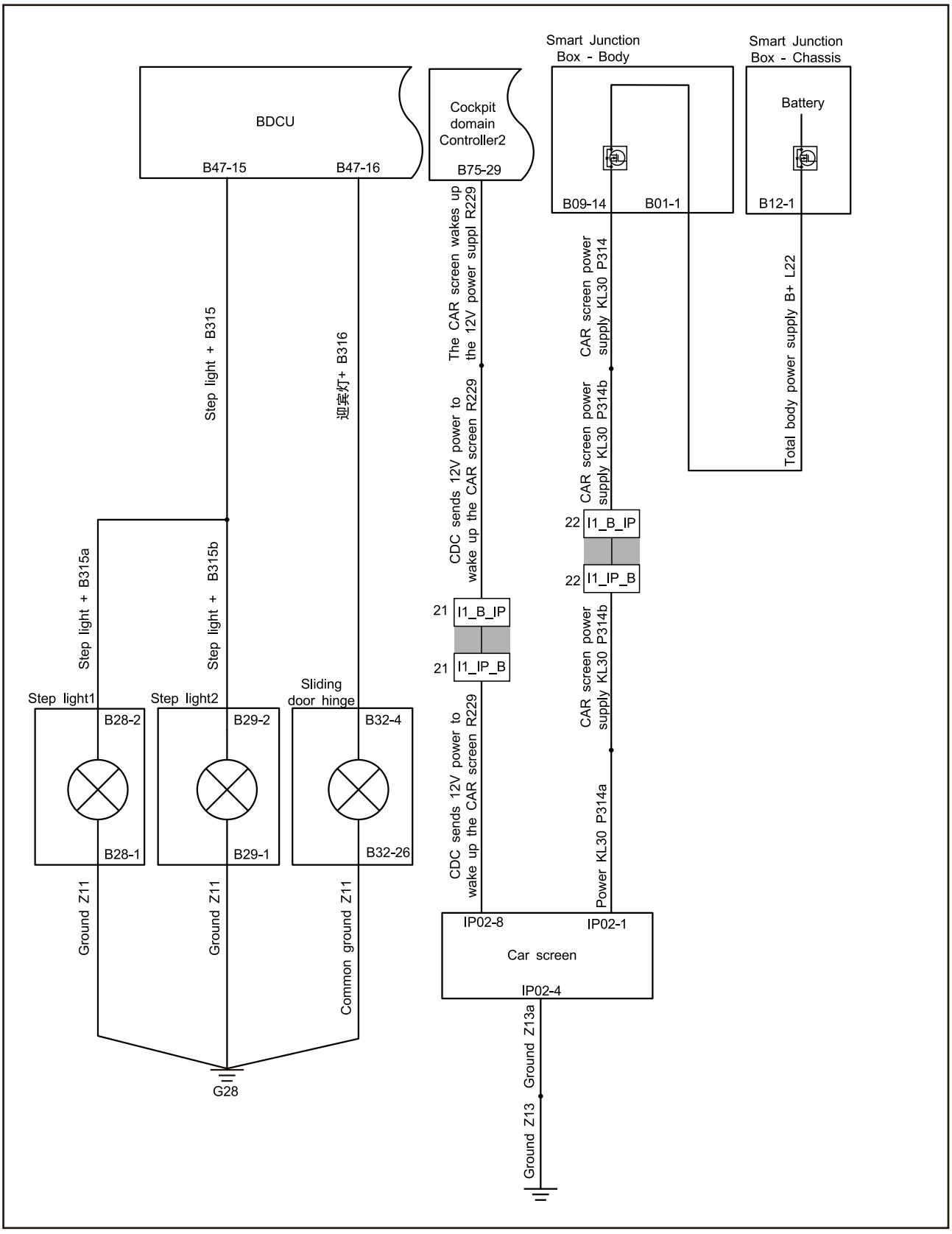


9.1.23.2 Atmosphere lamp Continued



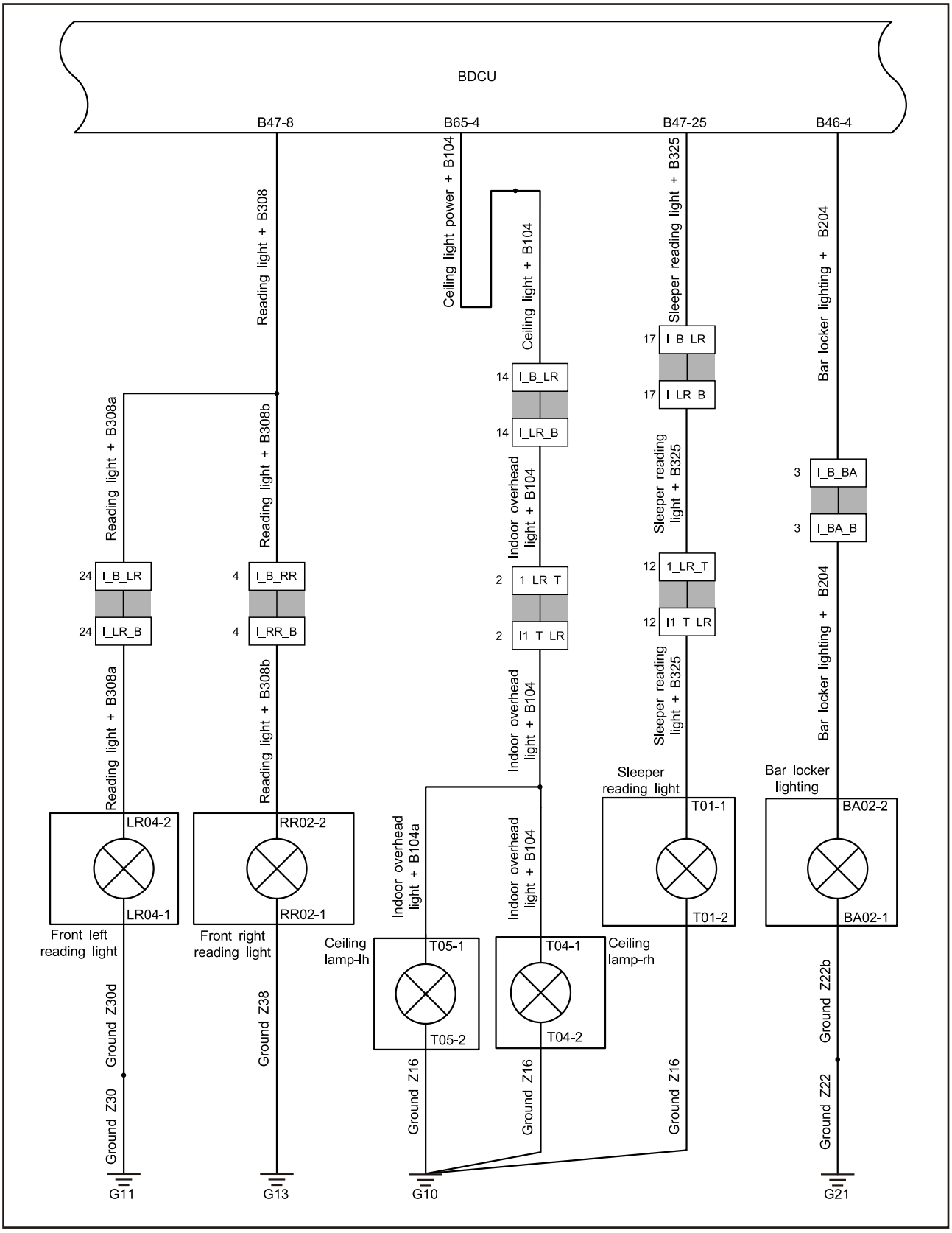
9.1.24 Welcome Lamp

9.1.24.1 Welcome Lamp

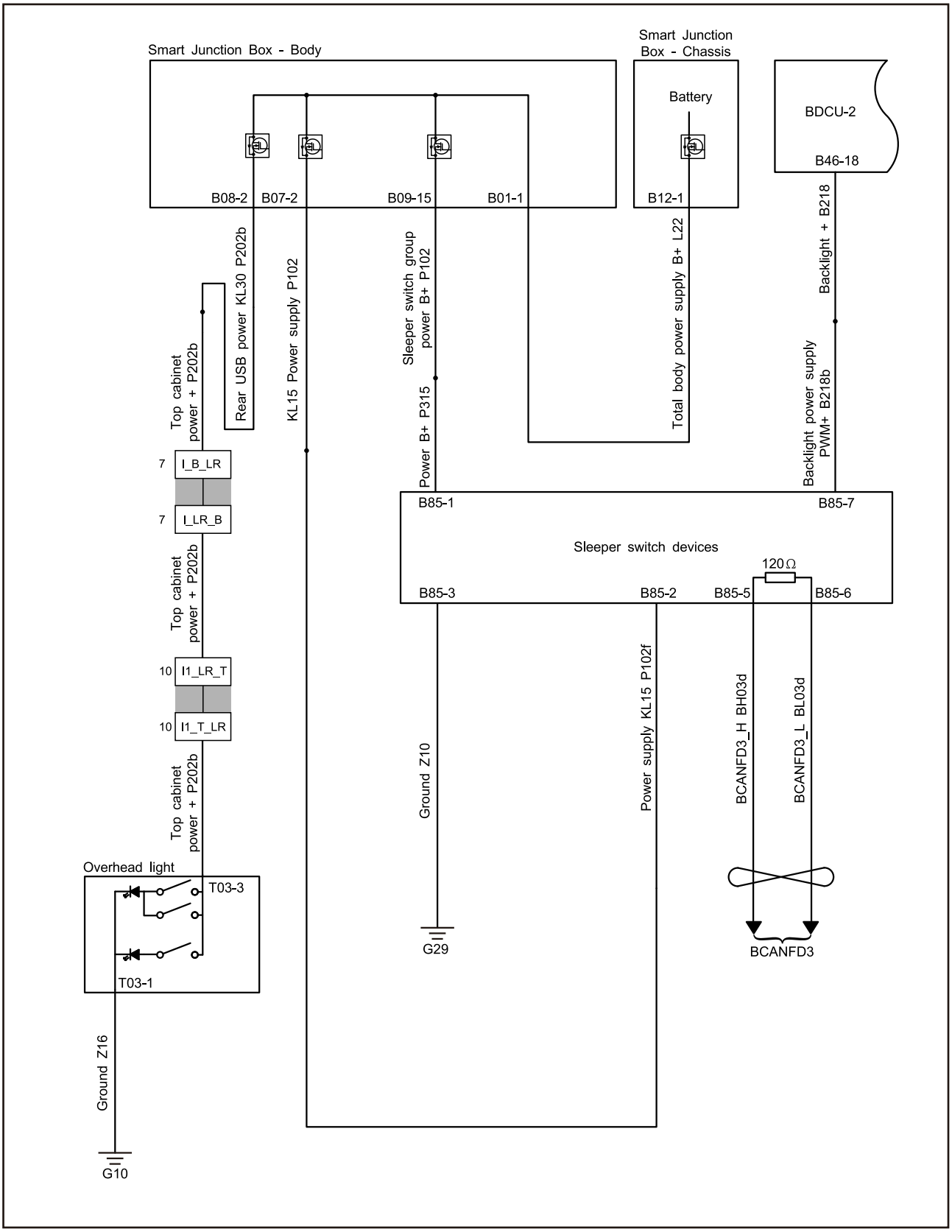


9.1.25 Indoor Lighting

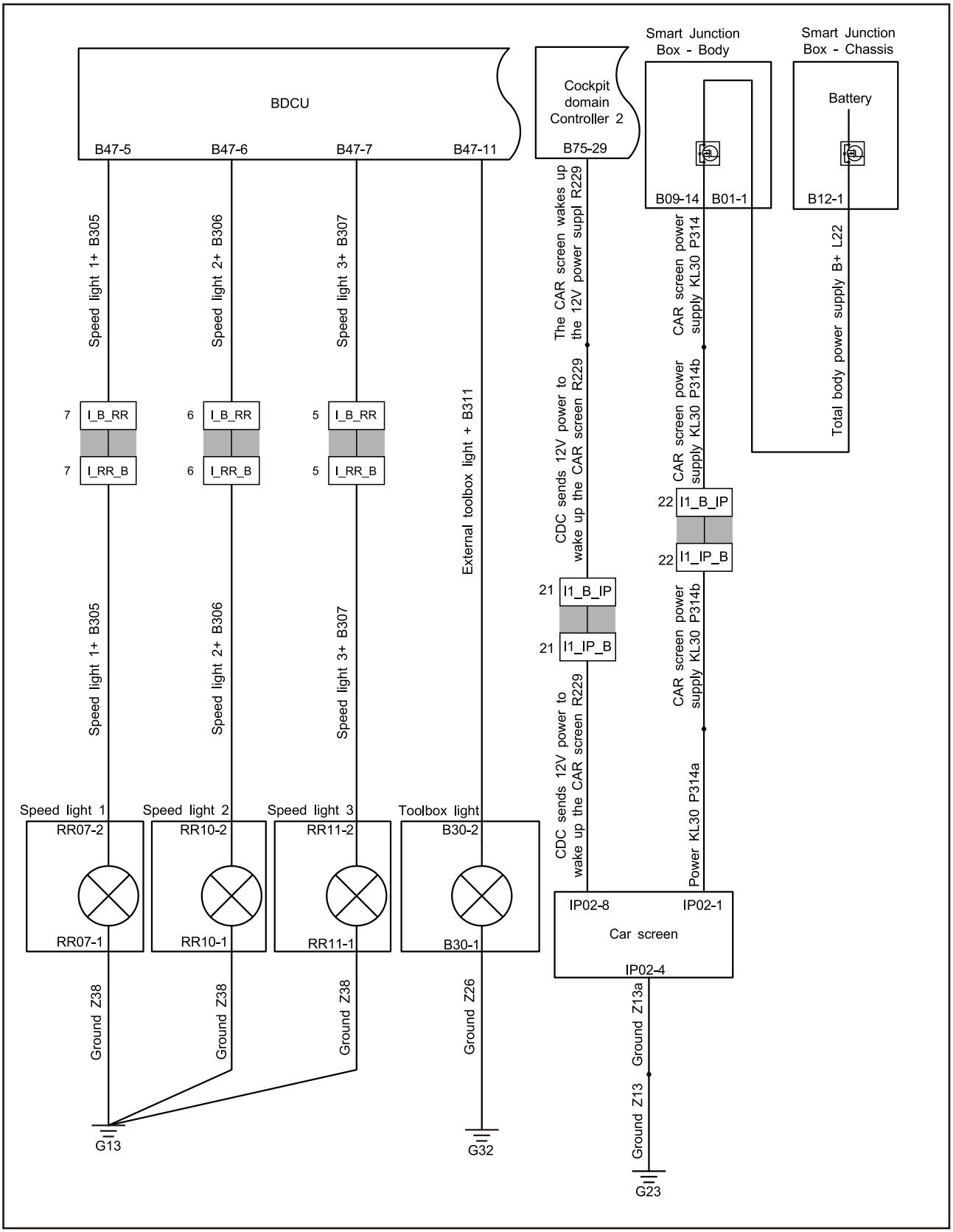
9.1.25.1 Indoor Lighting



9.1.25.2 Indoor Lighting Continued

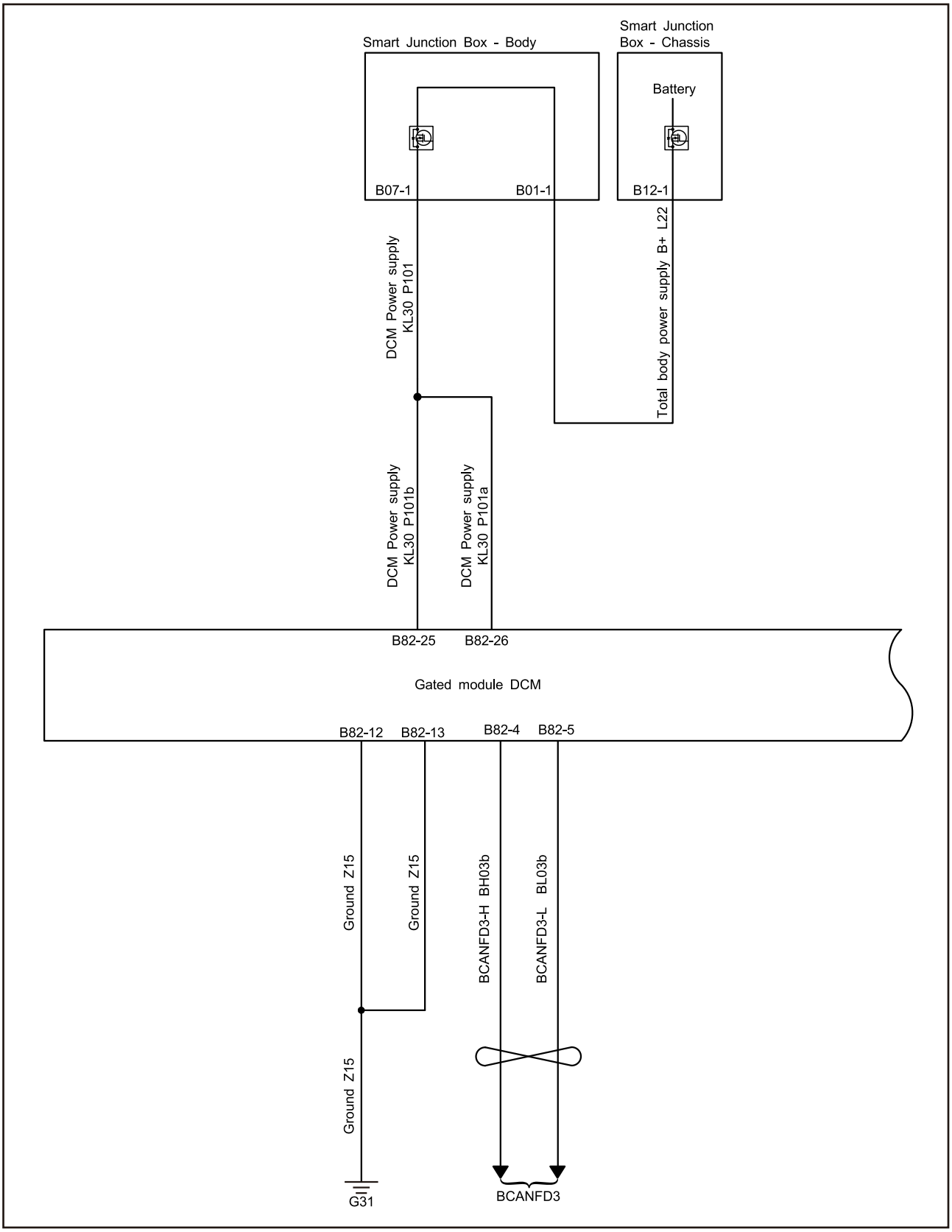


9.1.25.3 Indoor Lighting Continued 1

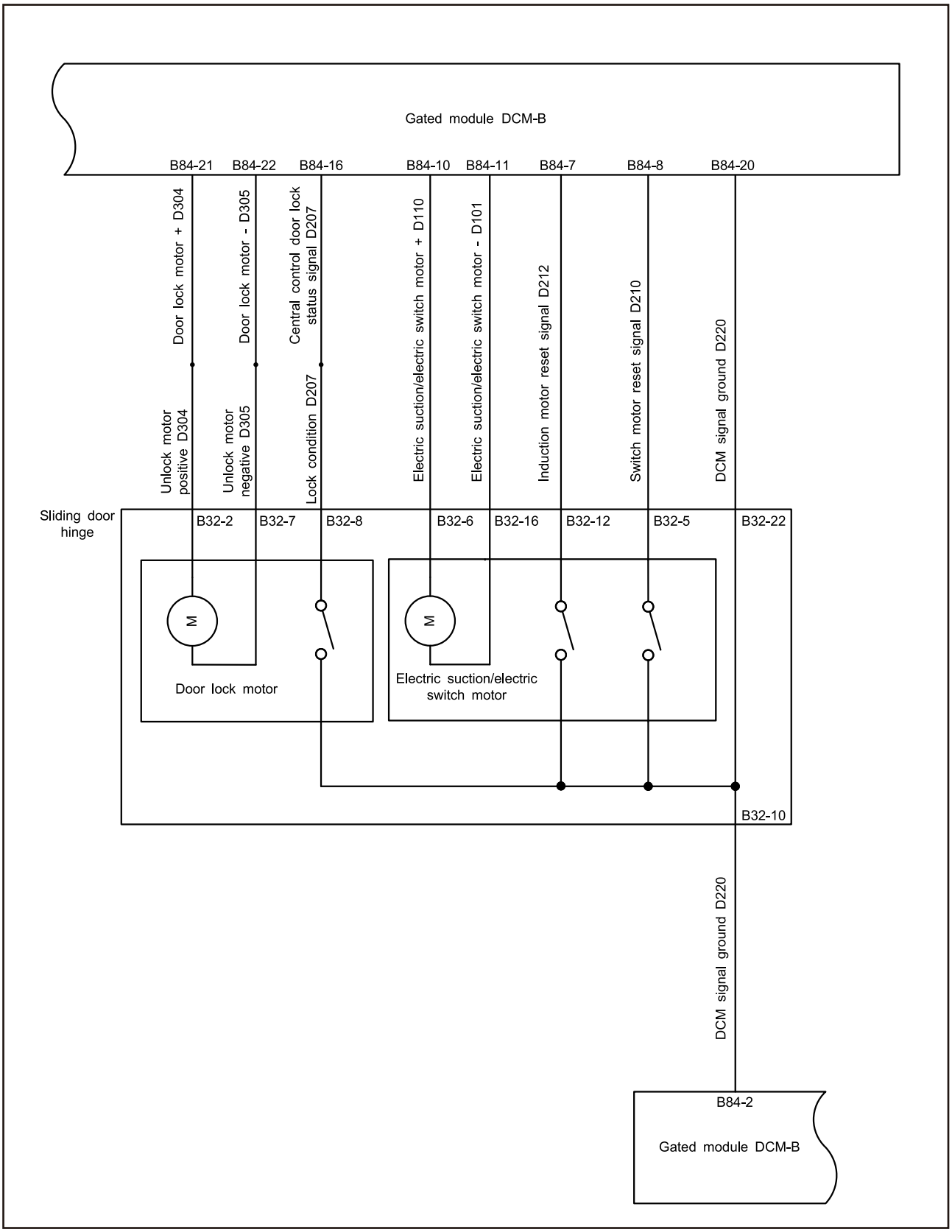


9.1.26 Central Lock

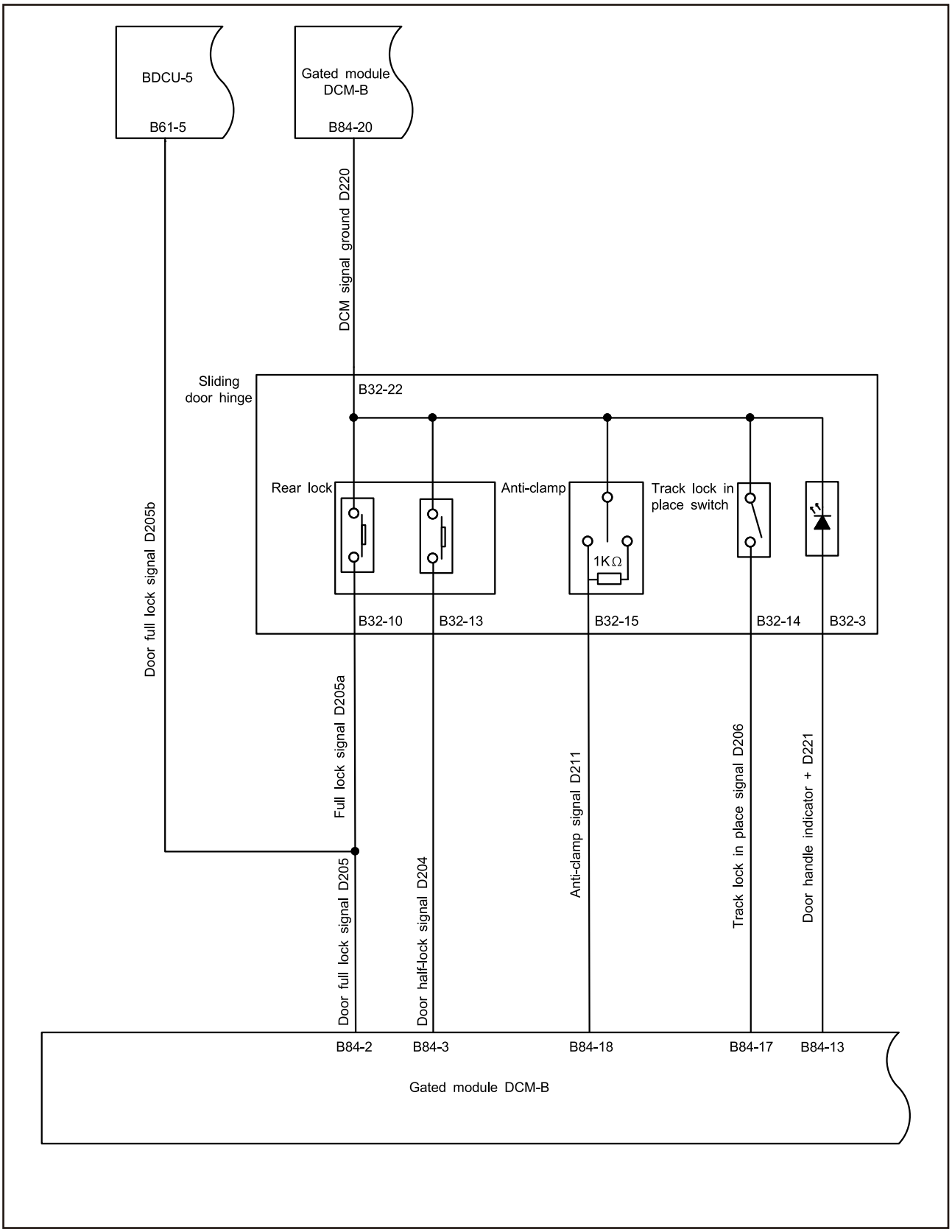
9.1.26.1 Central Lock



9.1.26.2 Central Lock Continued

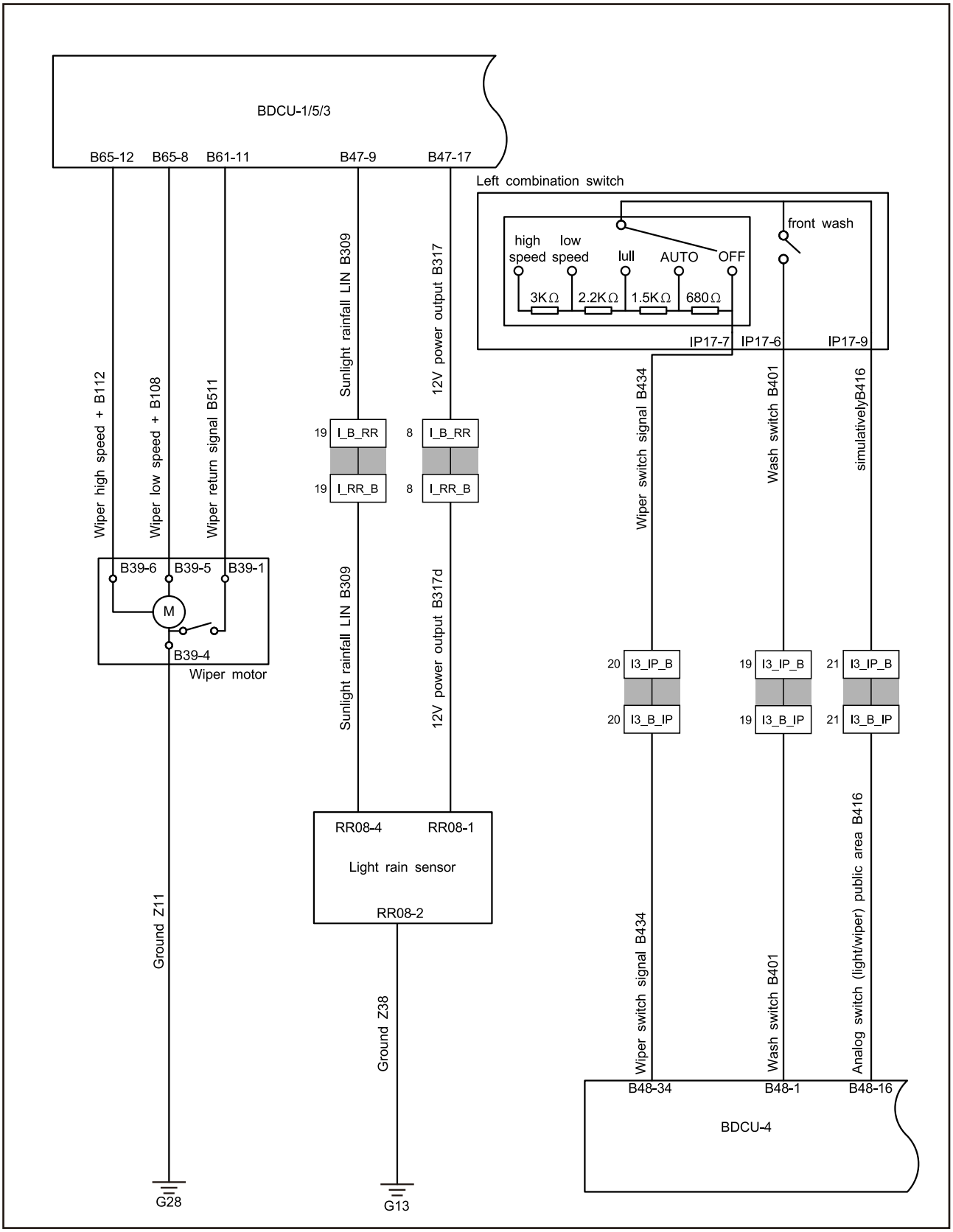


9.1.26.3 Central Lock Continued 1



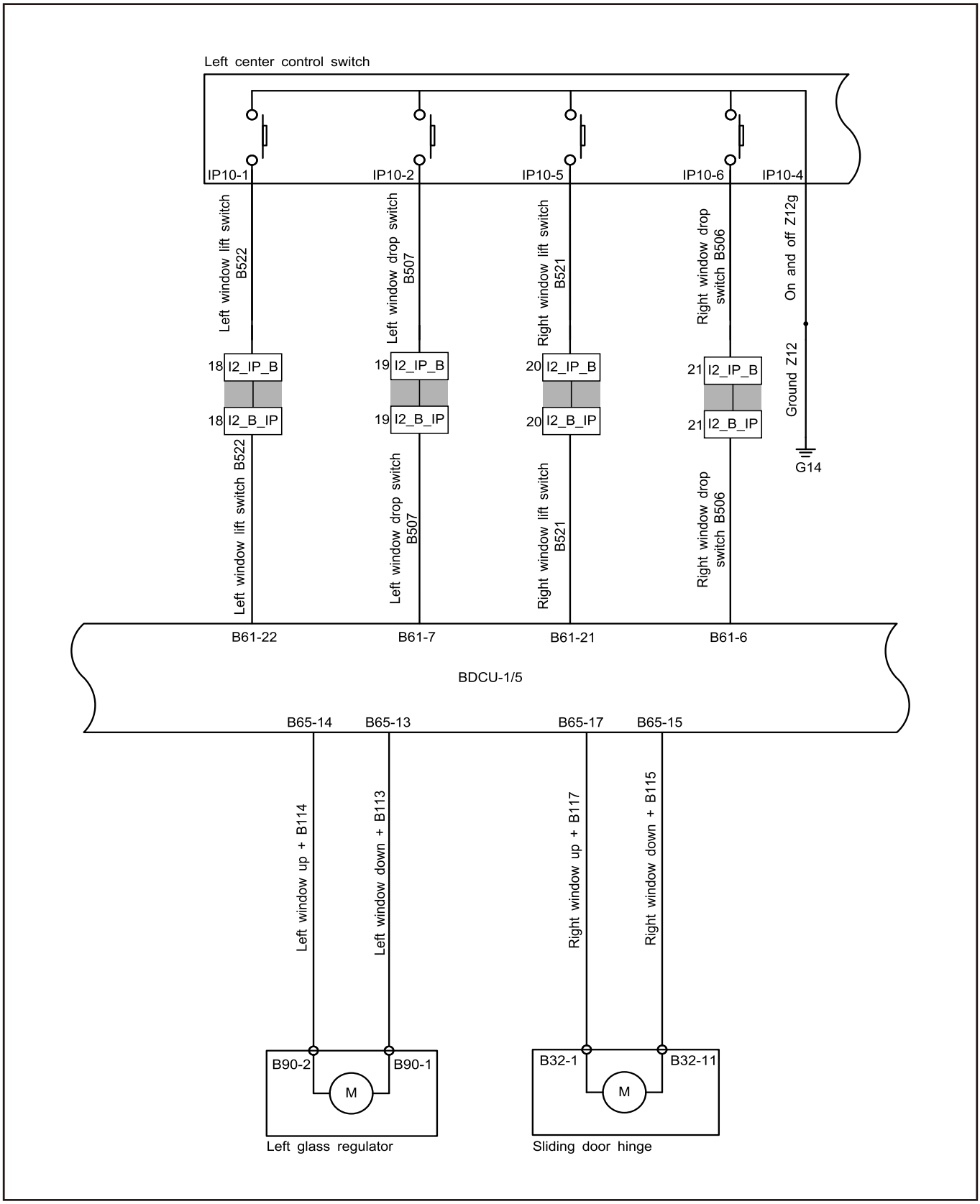
9.1.27 Wiper Cleaning

9.1.27.1 Wiper Cleaning



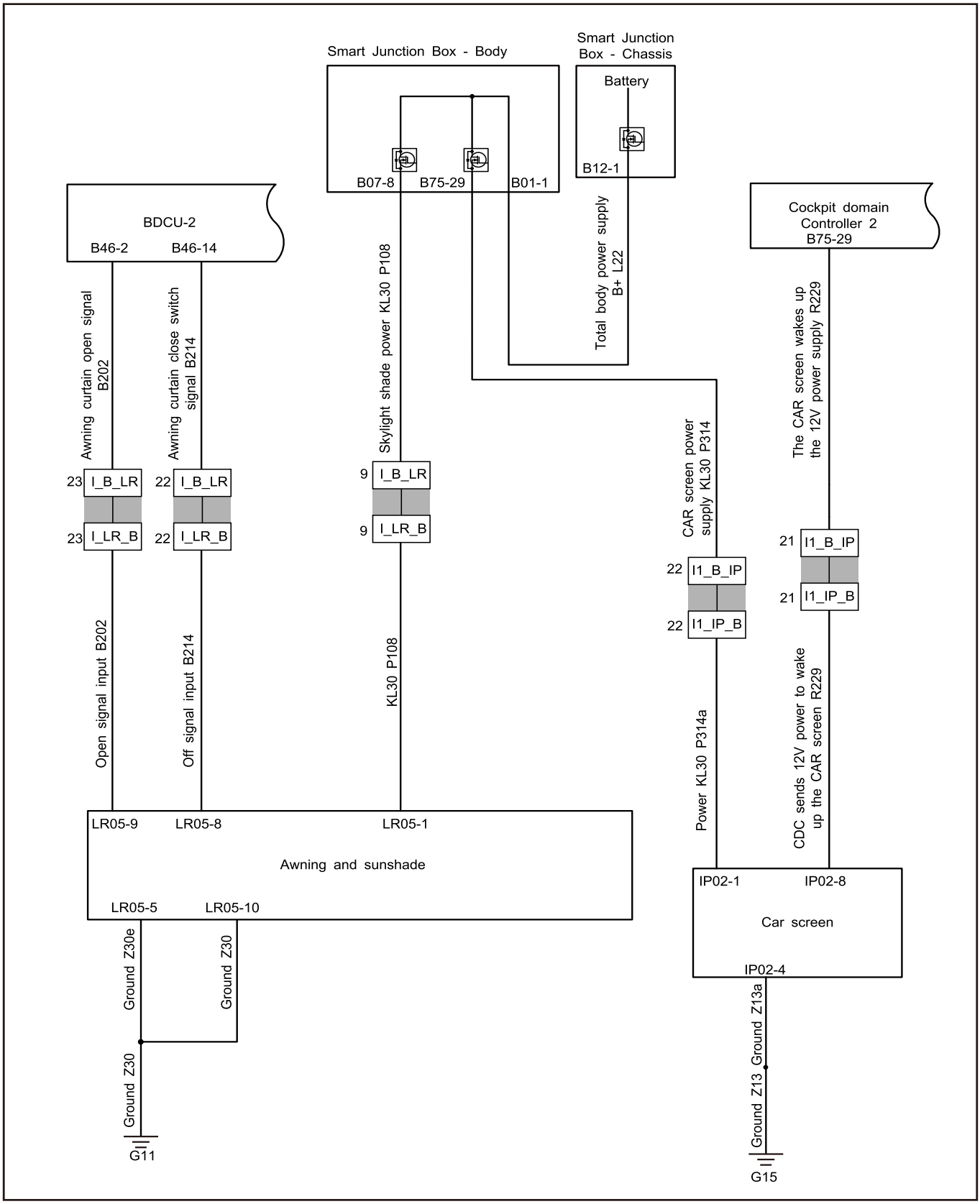
9.1.28 Power Window

9.1.28.1 Power Window



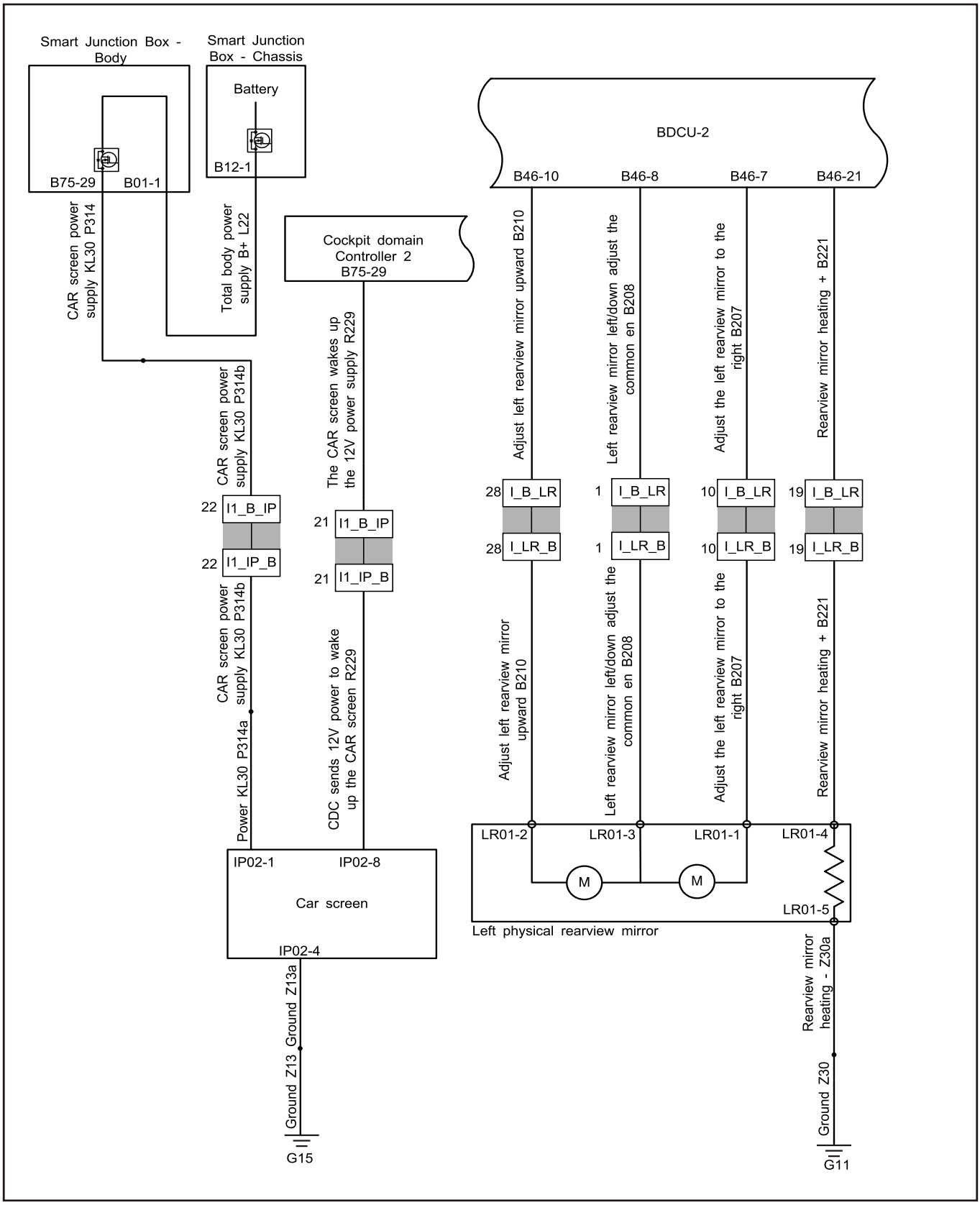
9.1.29 Sunroof Sunshade

9.1.29.1 Sunroof Sunshade

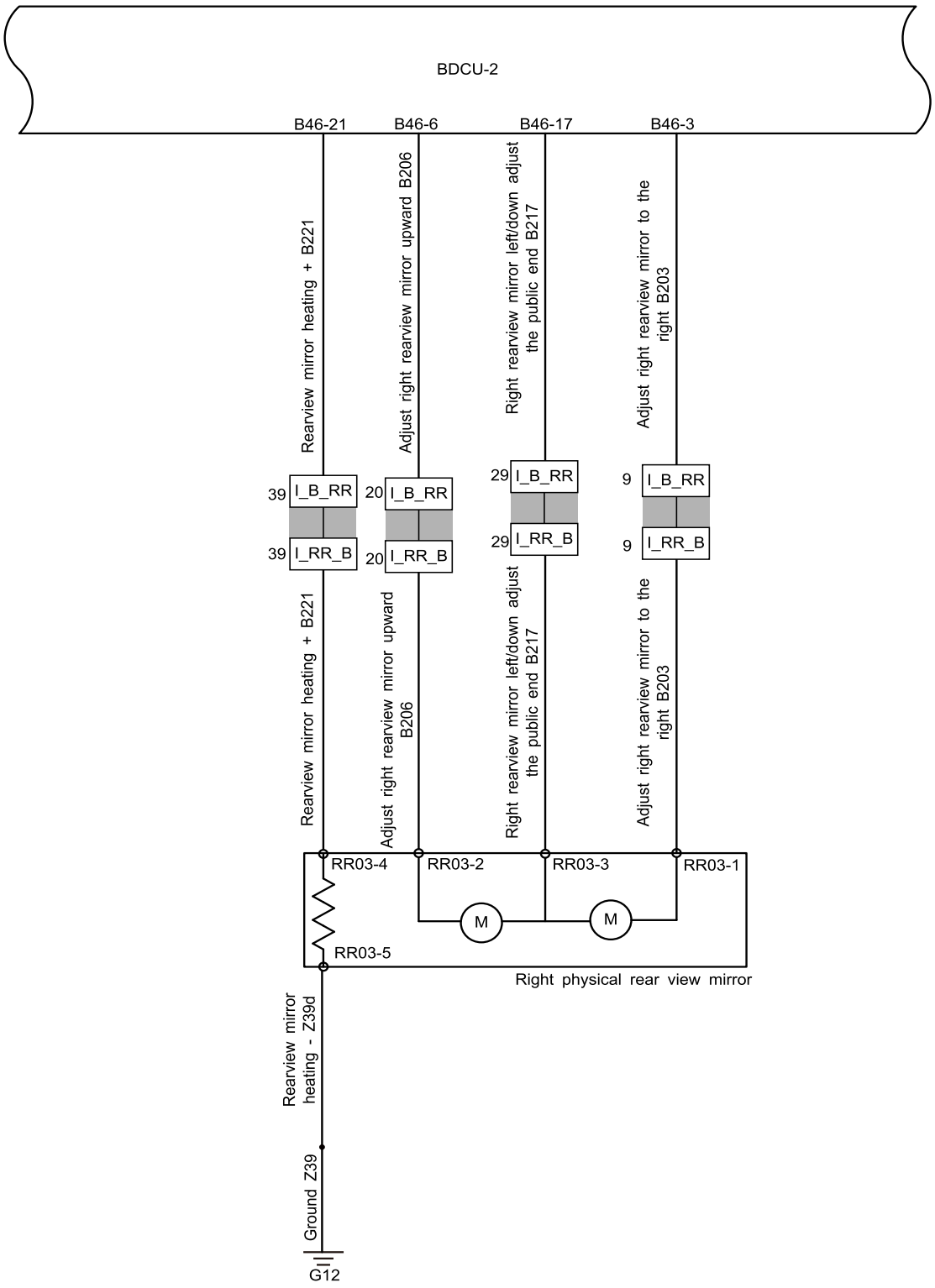


9.1.30 Physical Rearview Mirror

9.1.30.1 Physical Rearview Mirror

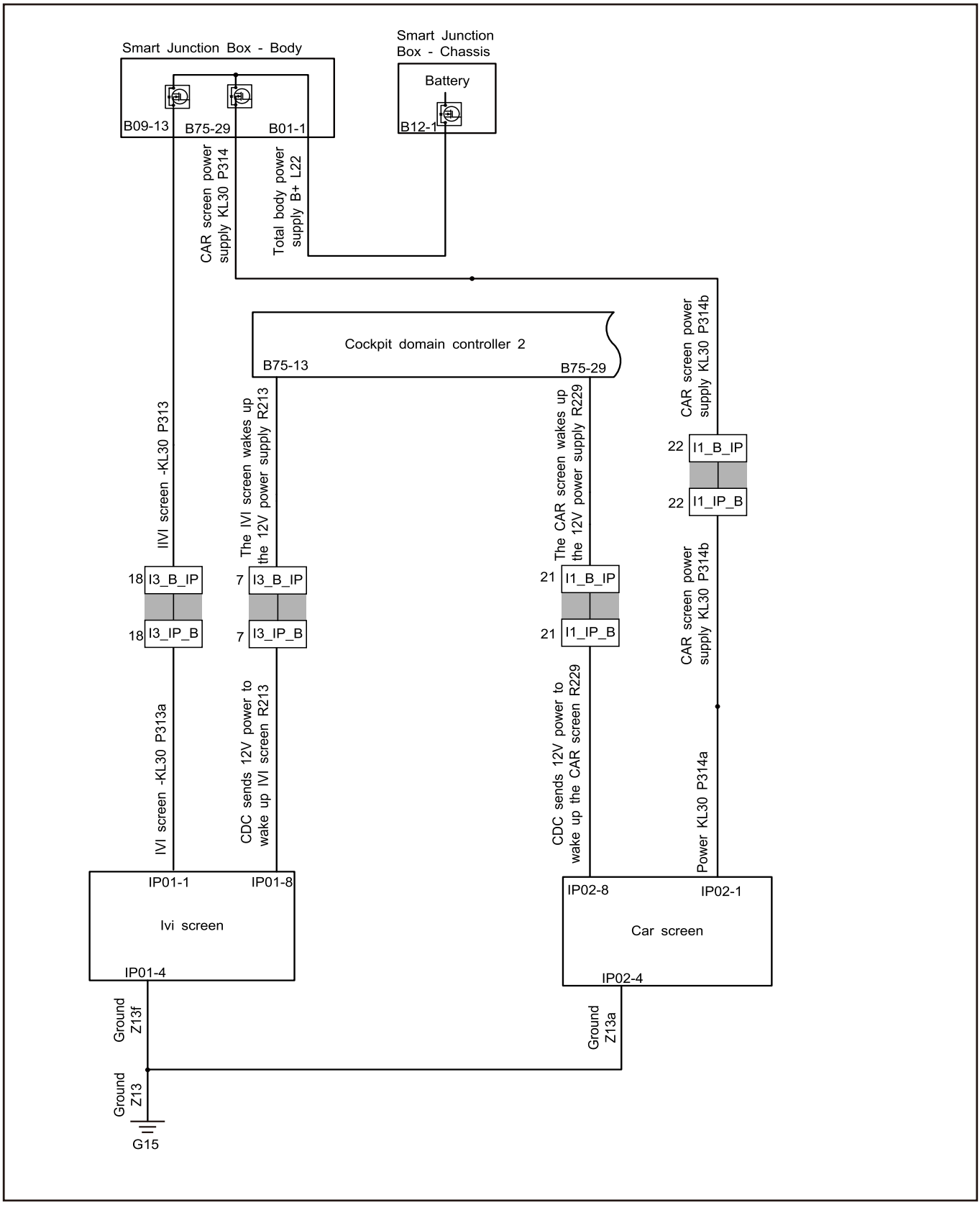


9.1.30.2 Physical Rearview Mirror Continued

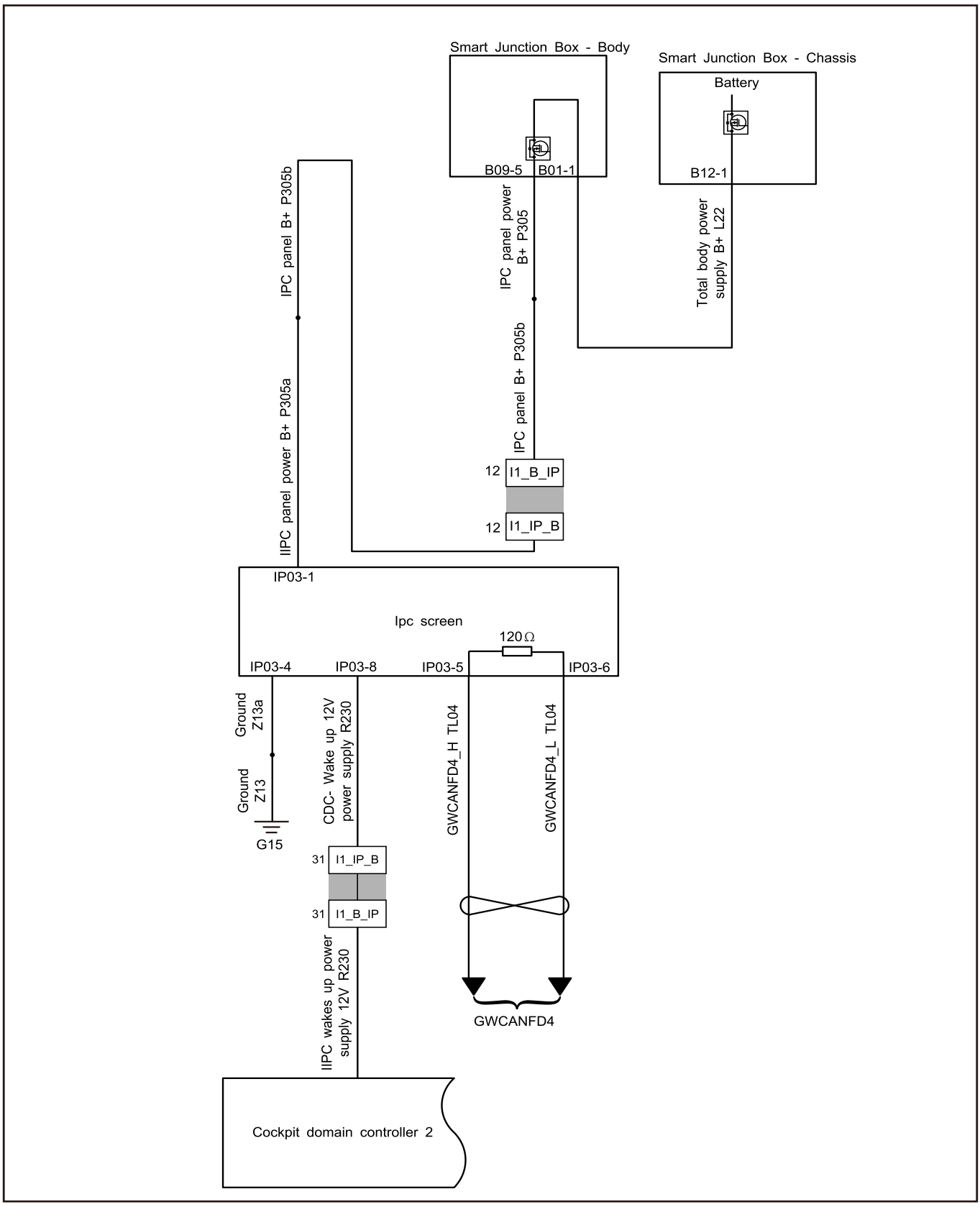


9.1.31 Multimedia Entertainment System

9.1.31.1 Multimedia Entertainment System

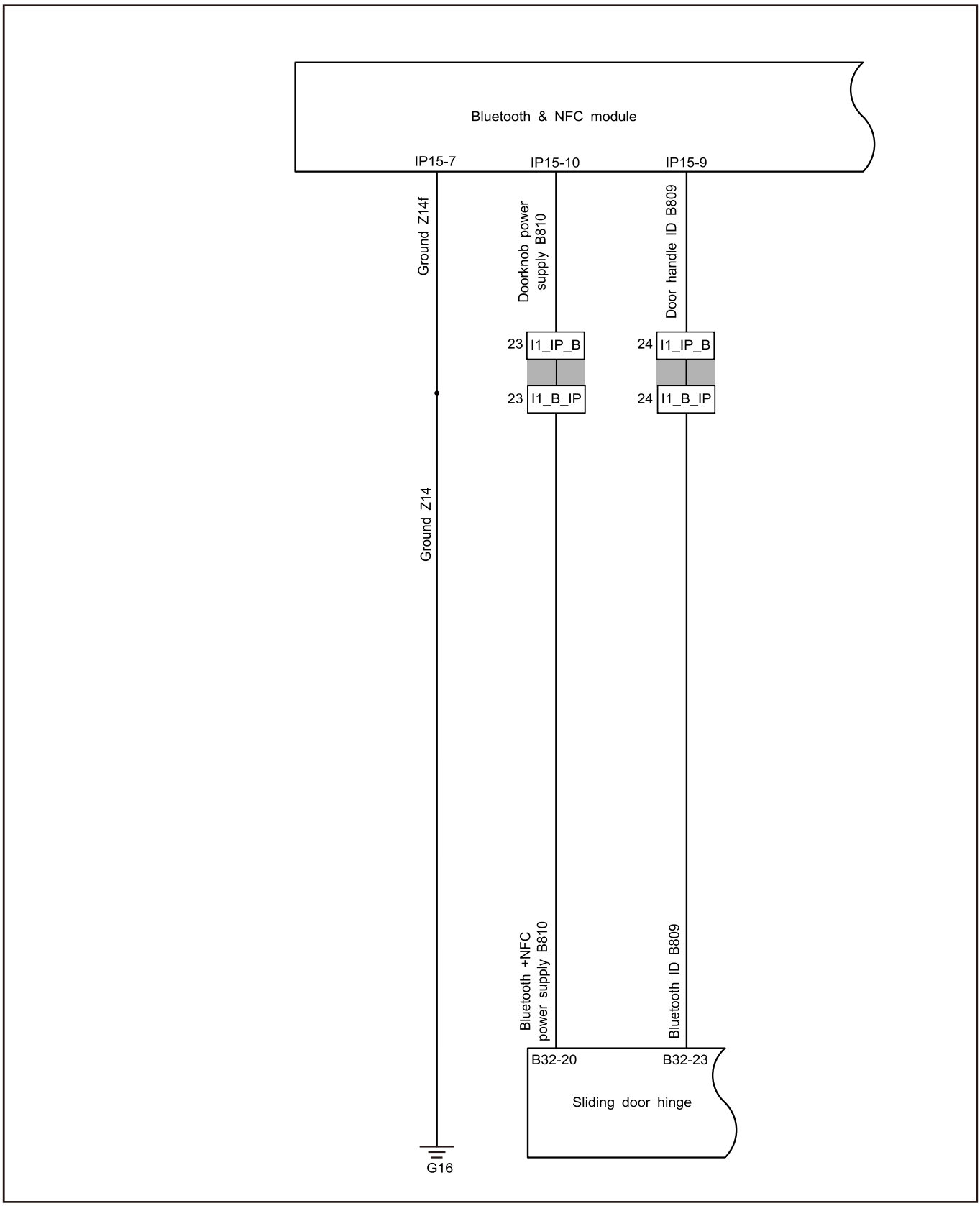


9.1.31.2 Multimedia Entertainment System Continued

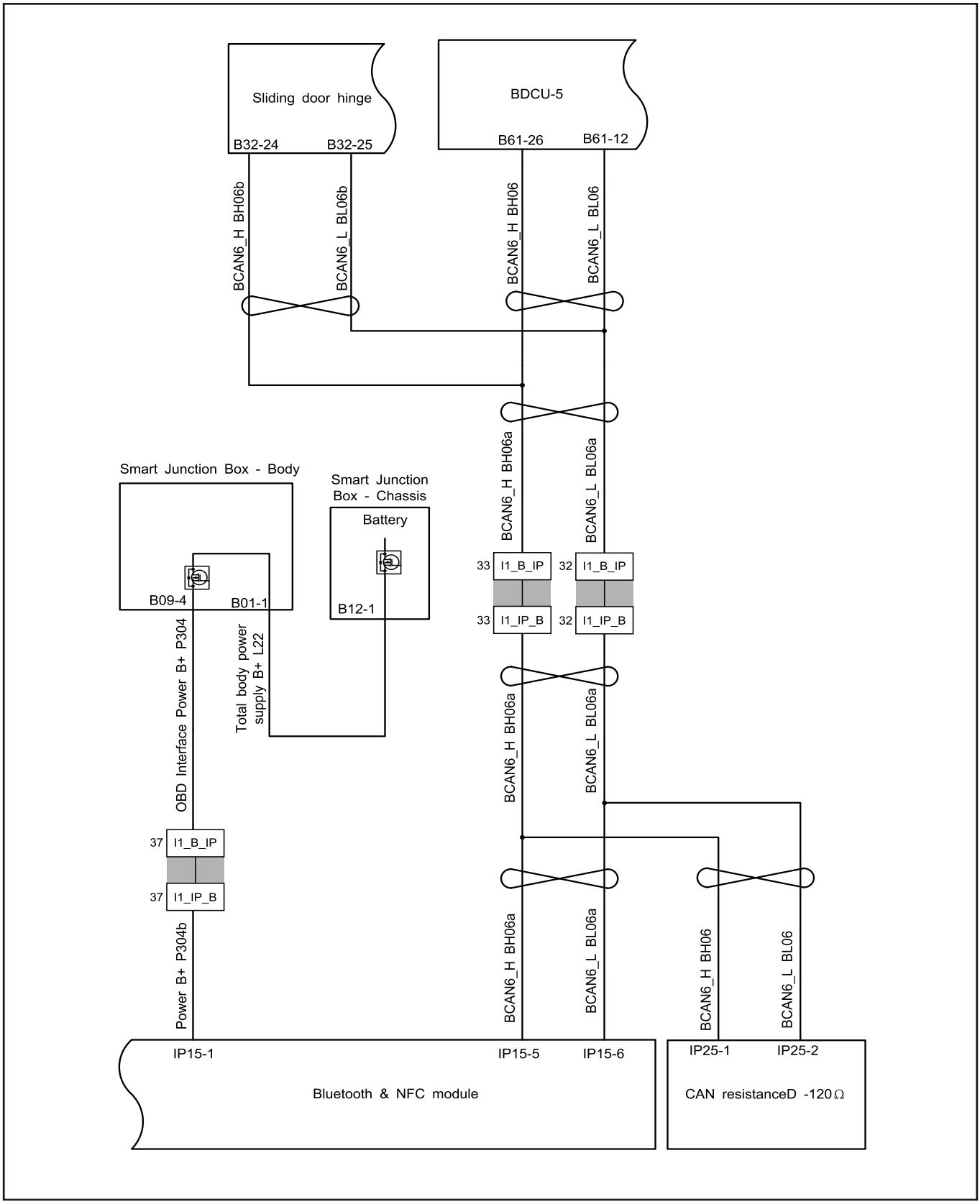


9.1.32 Bluetooth & NFC

9.1.32.1 Bluetooth & NFC

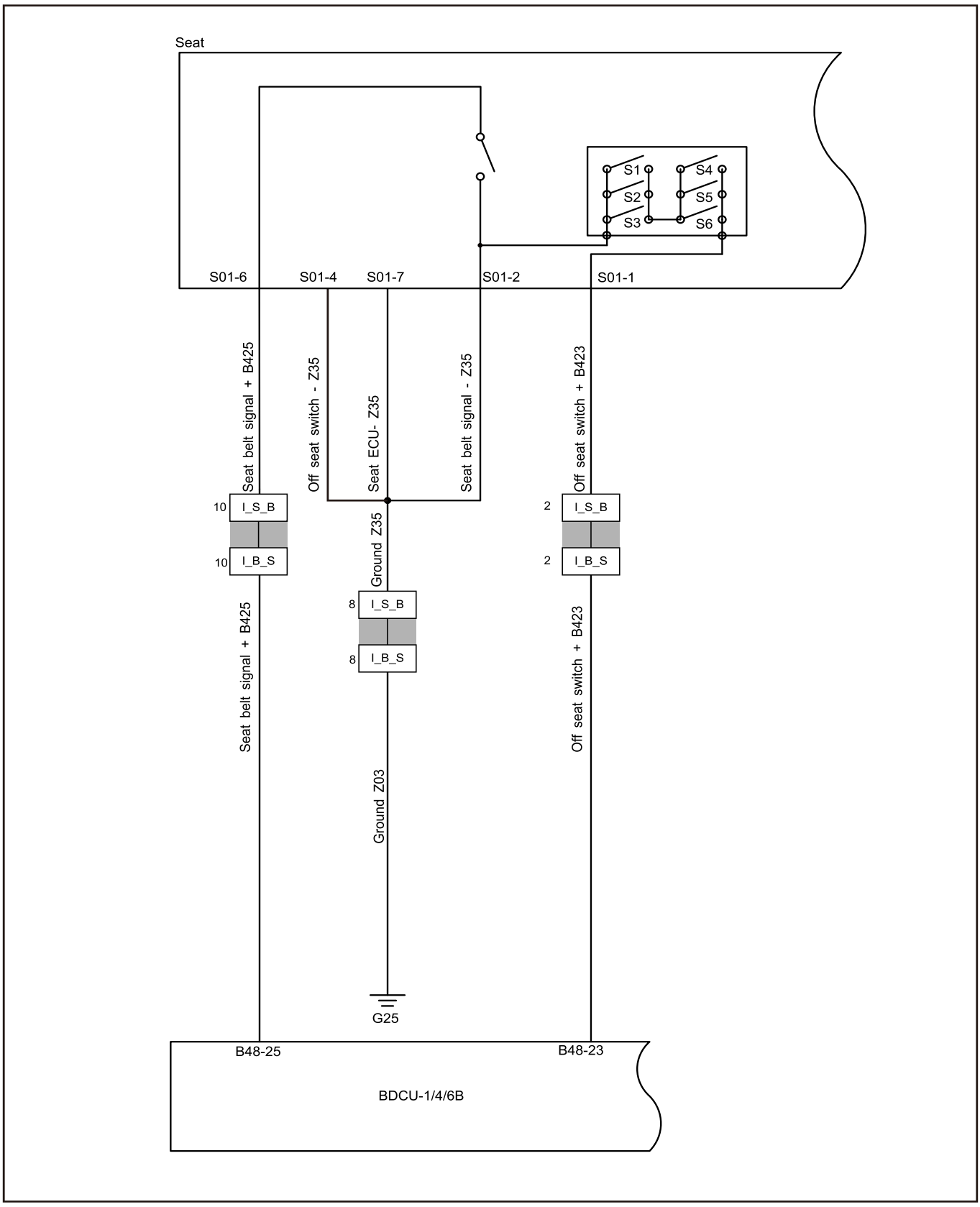


9.1.32.2 Bluetooth & NFC Continued

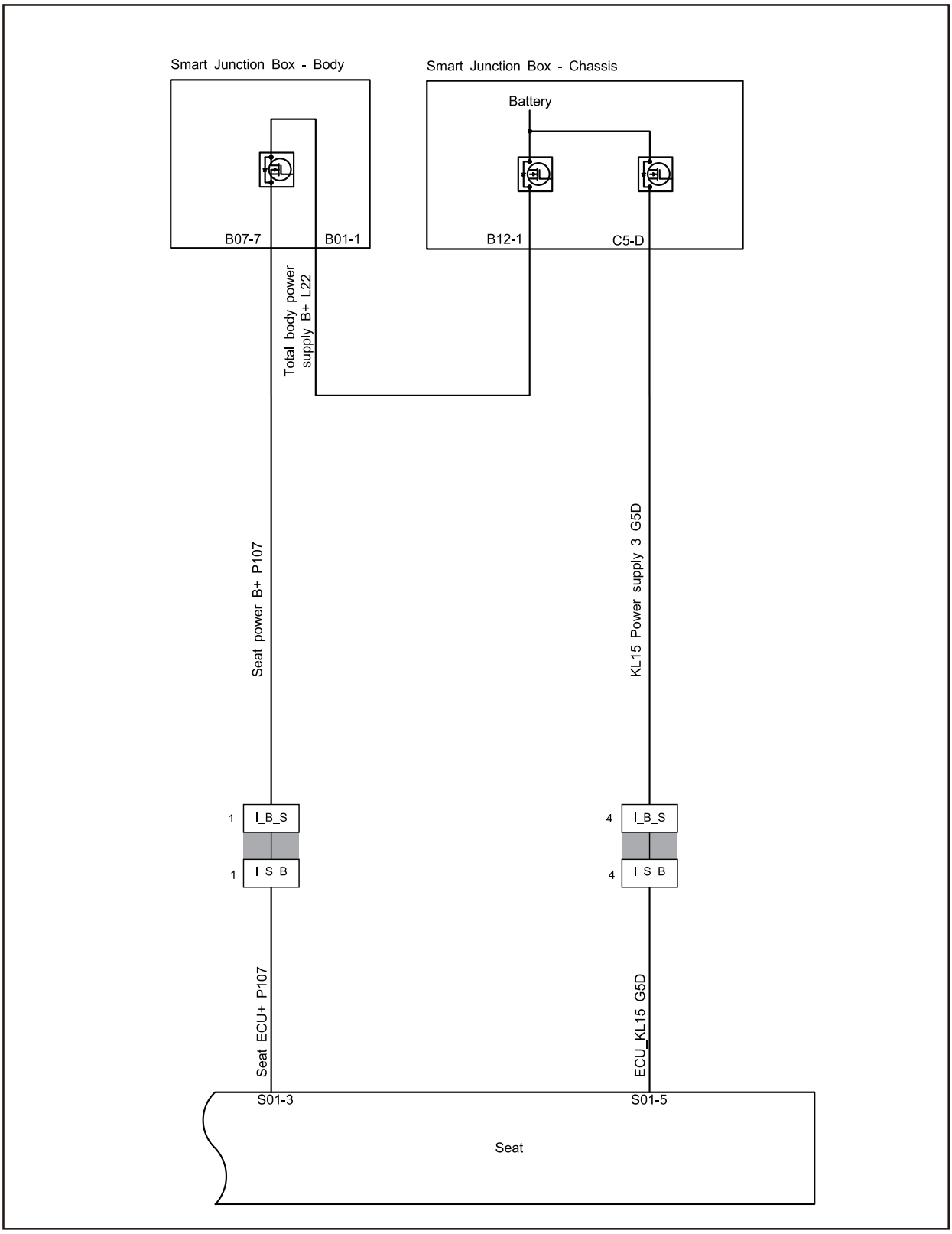


9.1.33 Power Seat

9.1.33.1 Power Seat

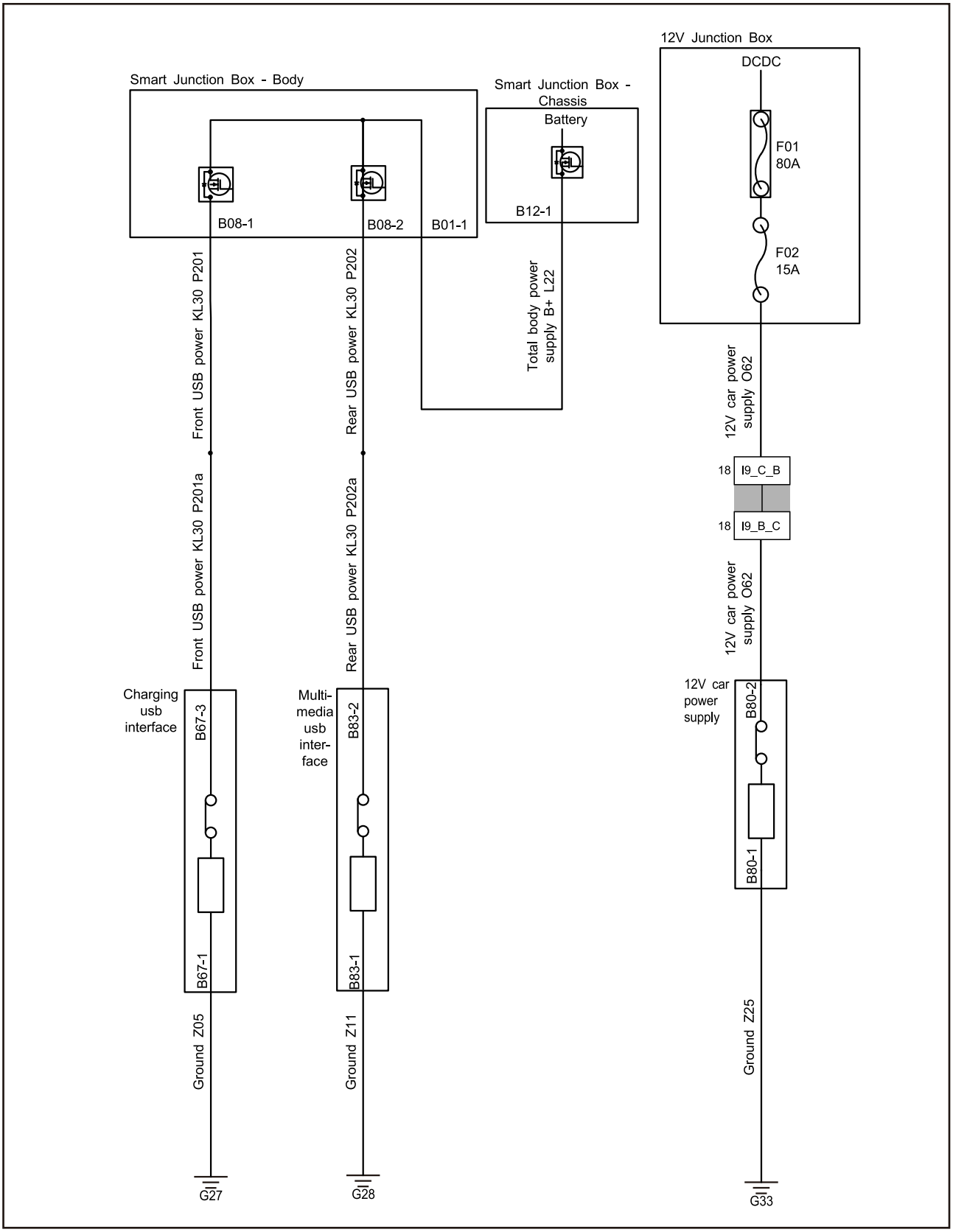


9.1.33.2 Power Seat Continued

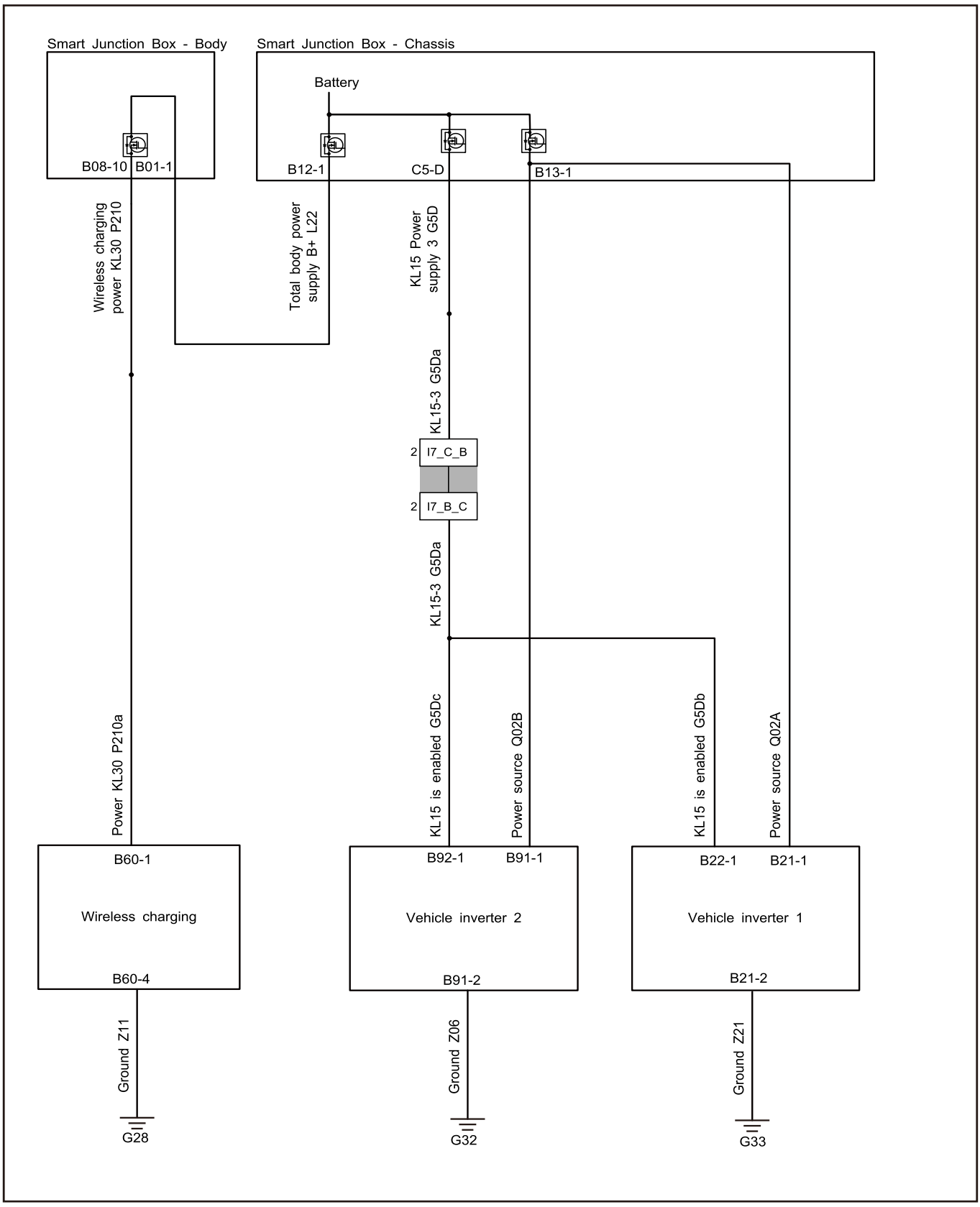


9.1.34 Vehicle Power Supply

9.1.34.1 Vehicle Power Supply

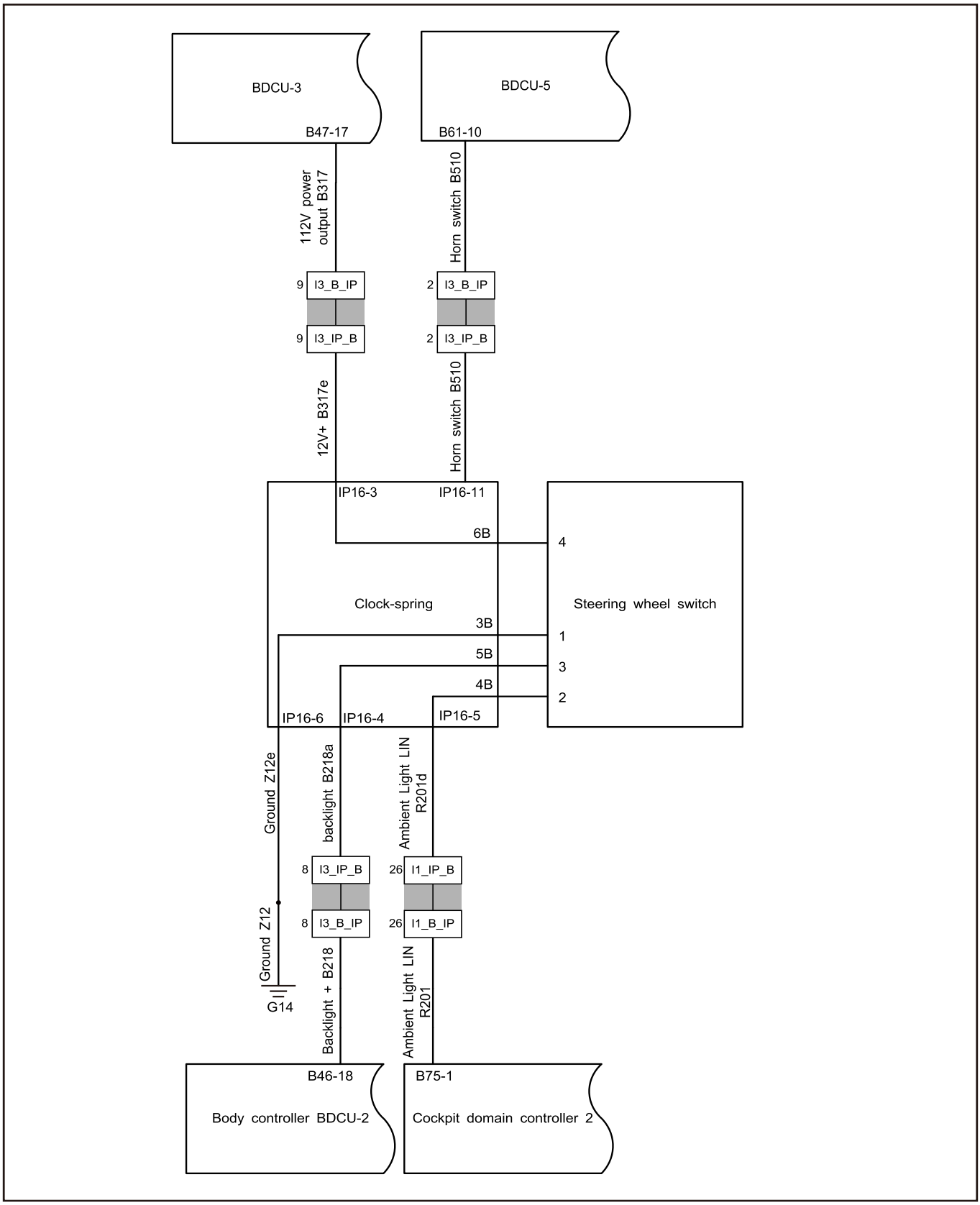


9.1.34.2 Vehicle Power Supply Continued



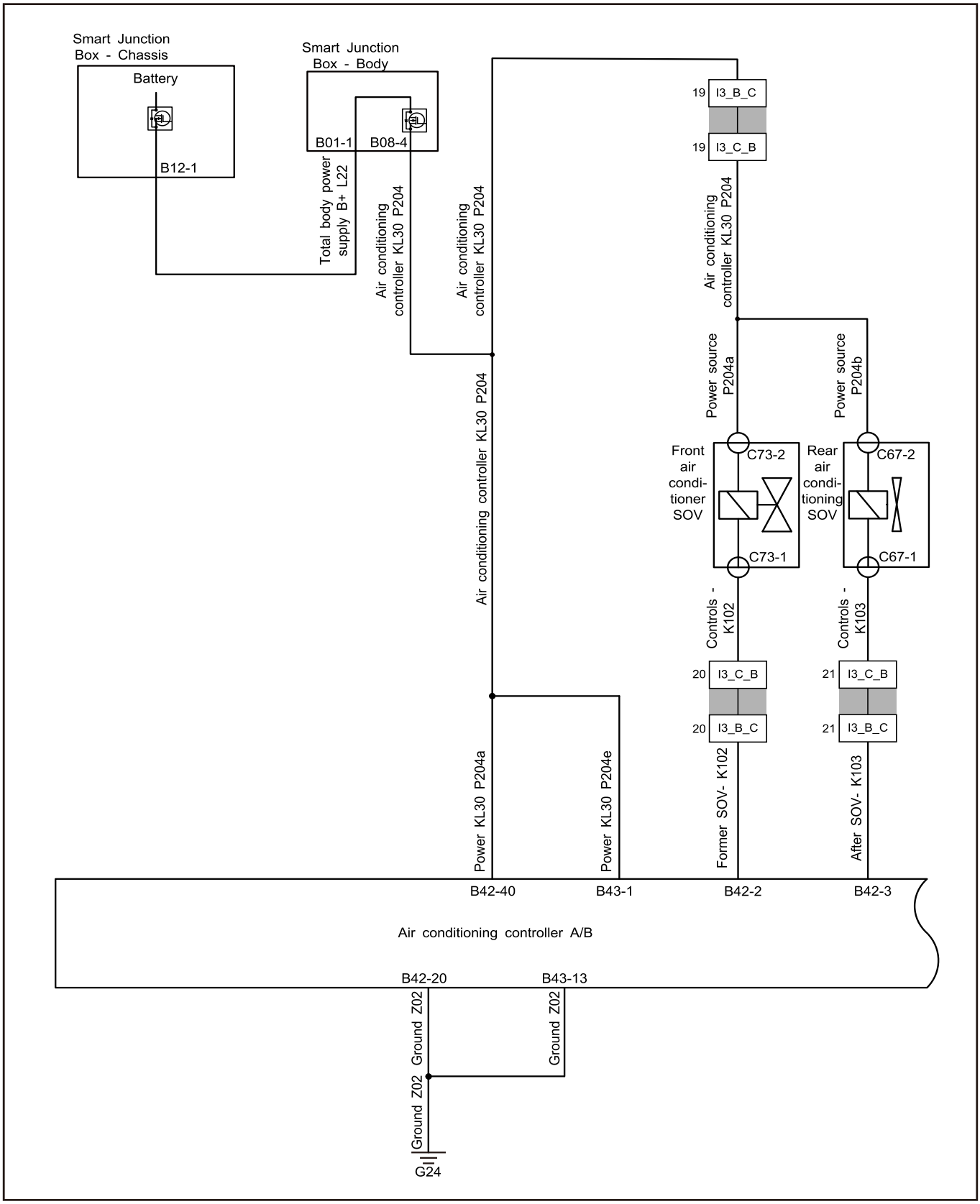
9.1.35 Steering Wheel Switch

9.1.35.1 Steering Wheel Switch

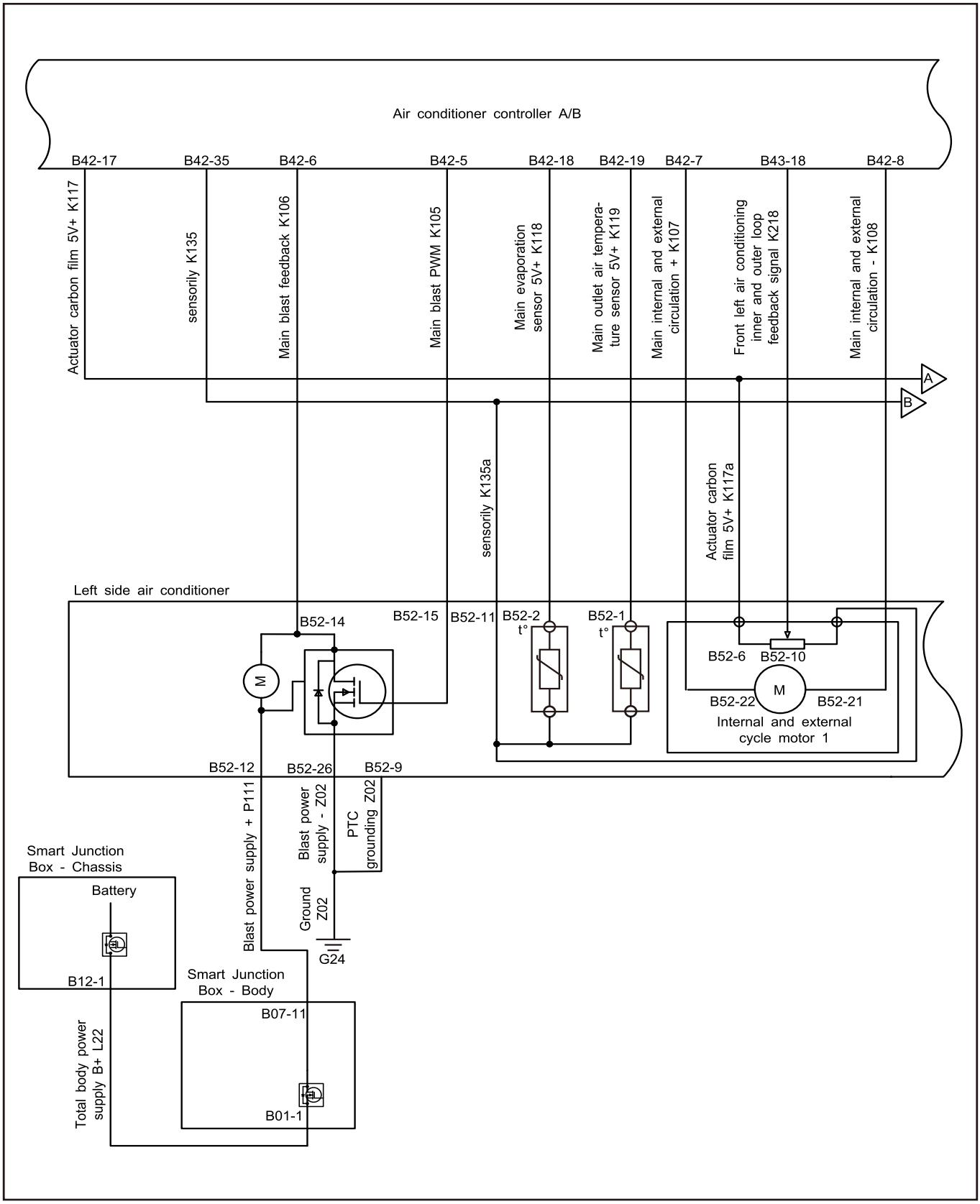


9.1.36 Air Conditioner

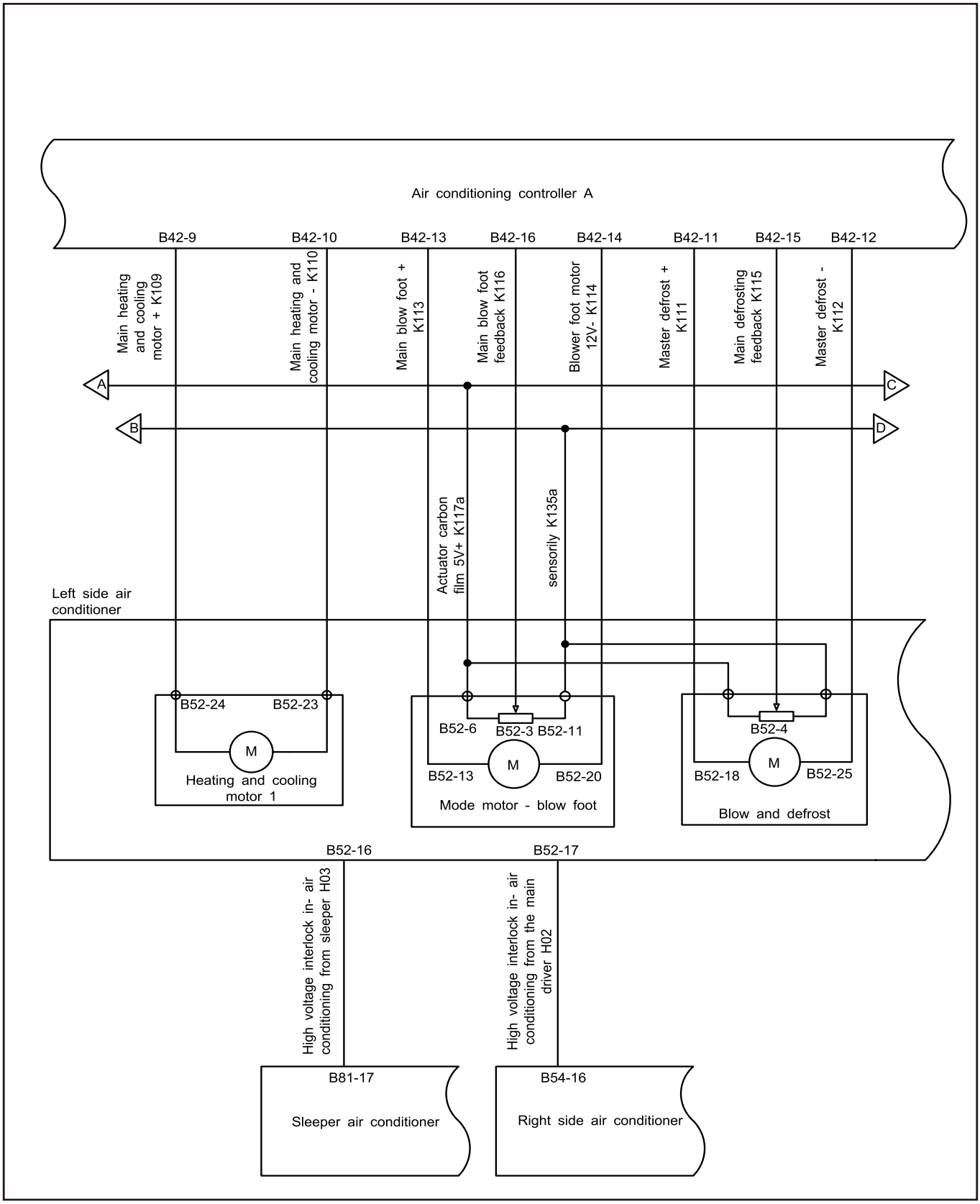
9.1.36.1 Air Conditioner



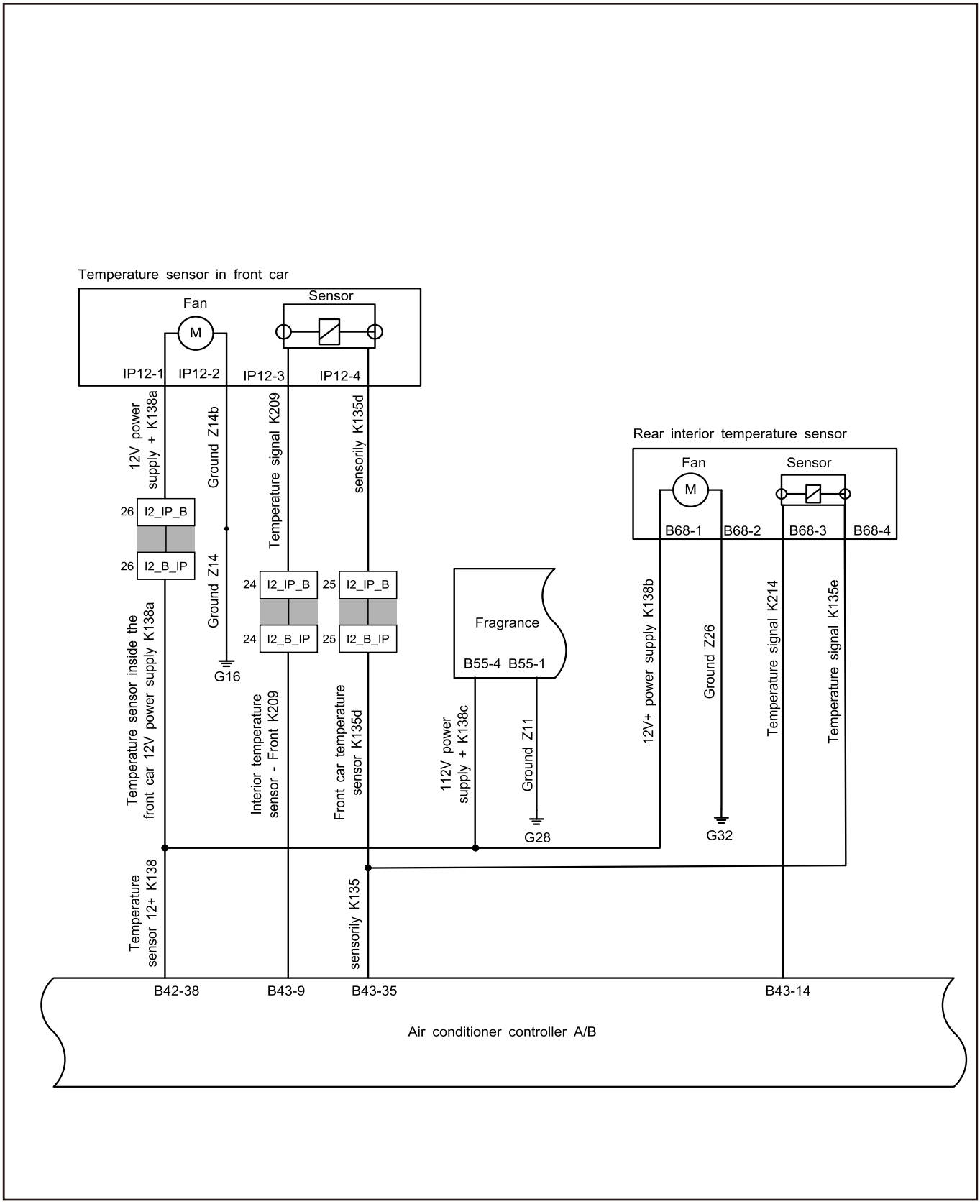
9.1.36.2 Air Conditioner Continued



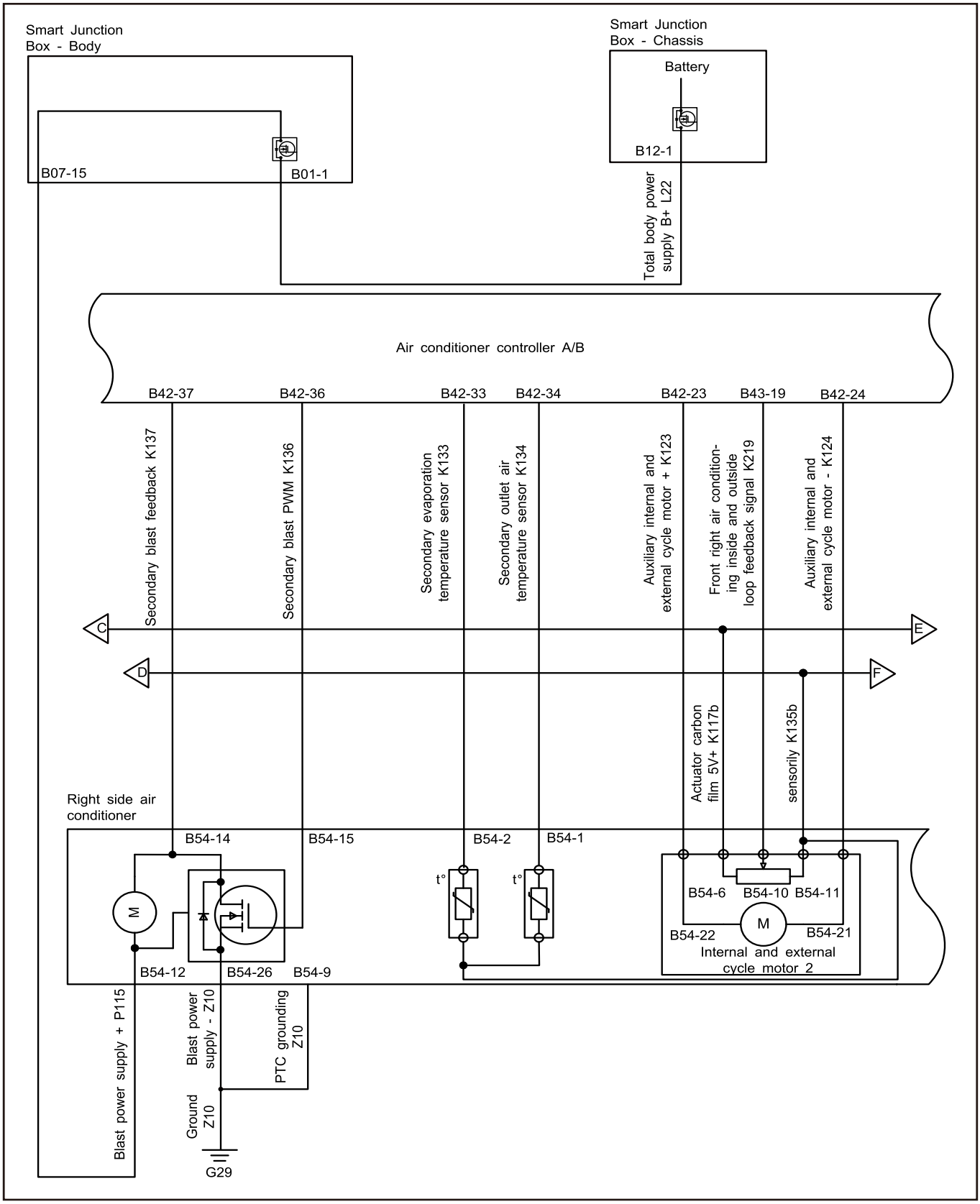
9.1.36.3 Air Conditioner Continued 1



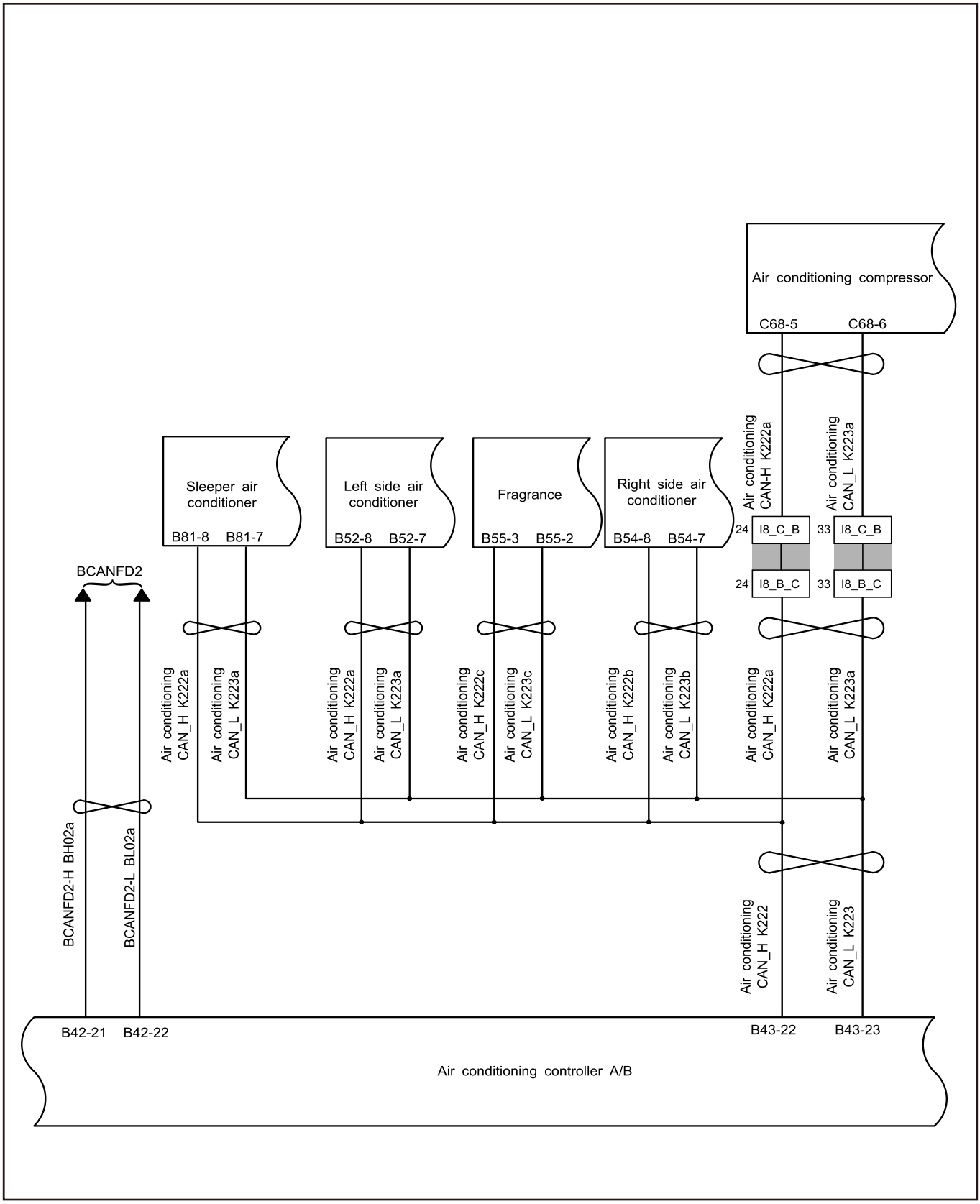
9.1.36.4 Air Conditioner Continued 2



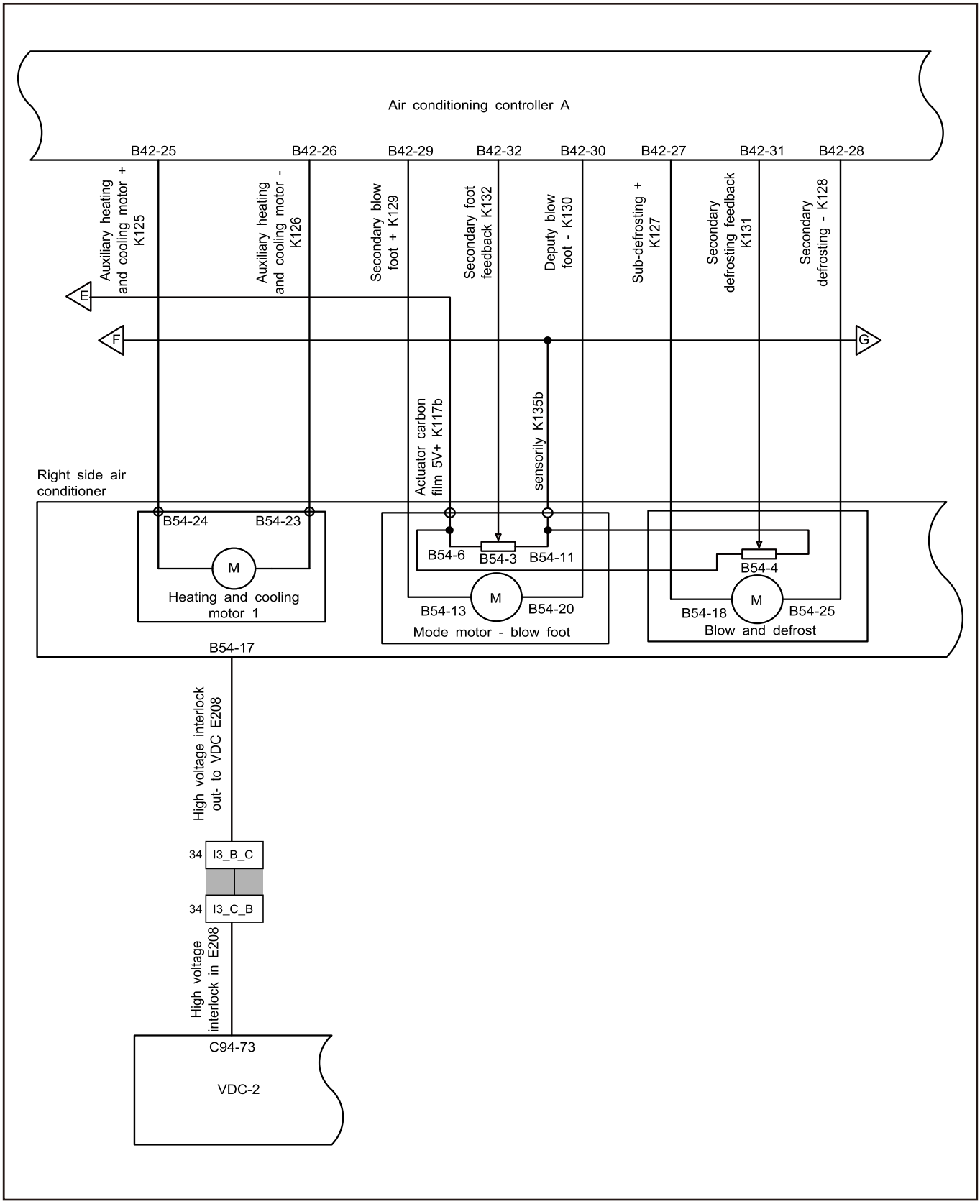
9.1.36.5 Air Conditioner Continued 3



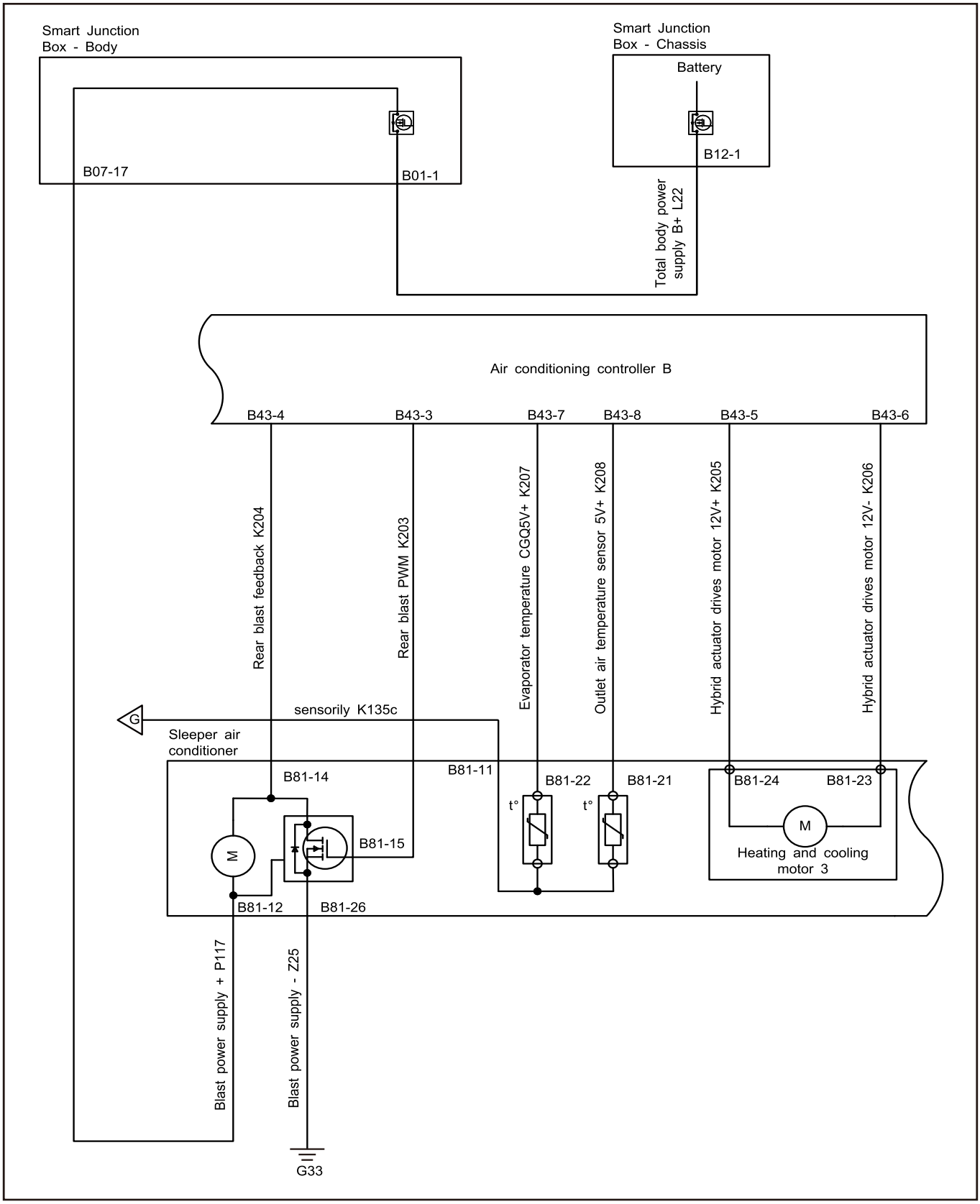
9.1.36.6 Air Conditioner Continued 4



9.1.36.7 Air Conditioner Continued 5

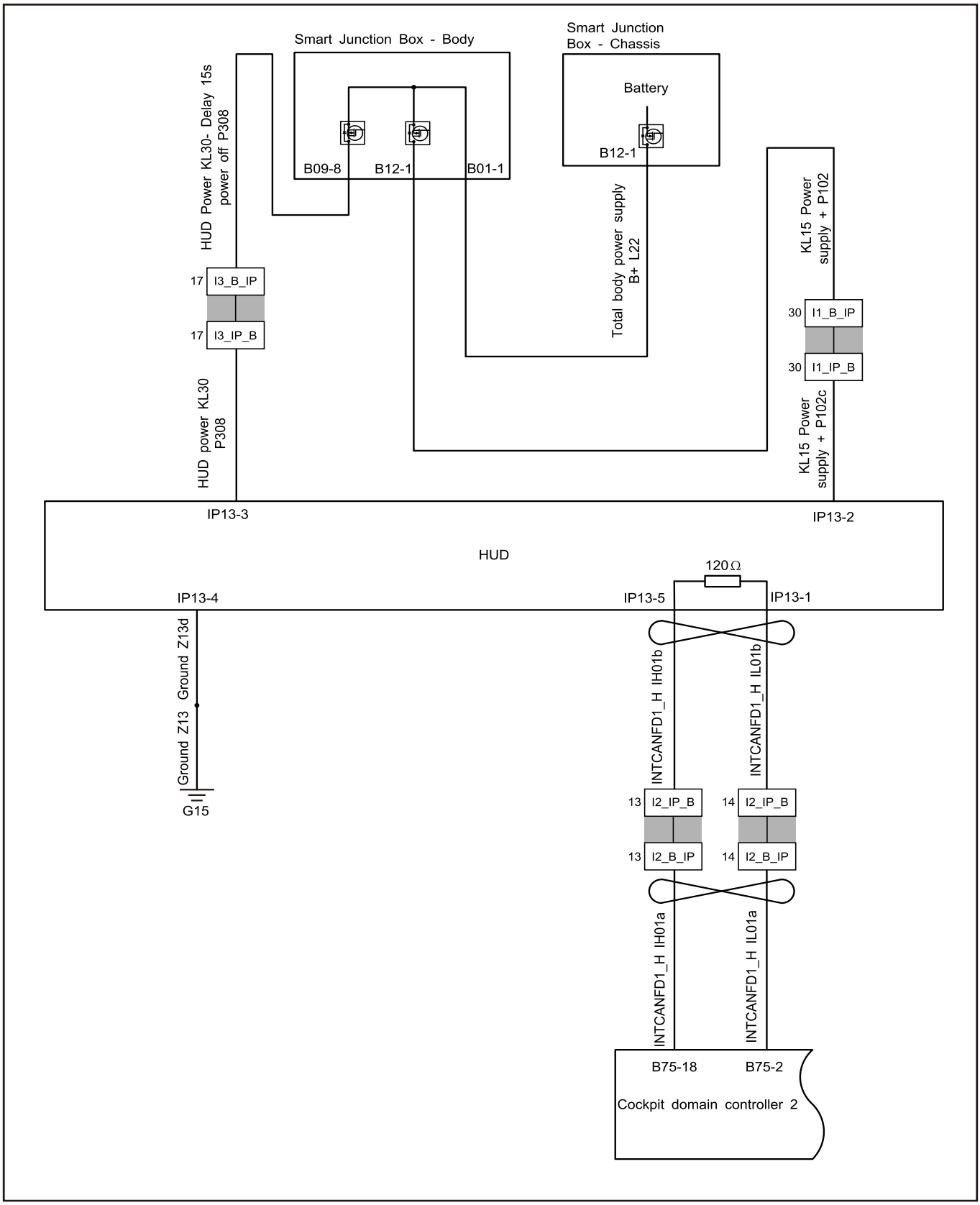


9.1.36.8 Air Conditioner Continued 6



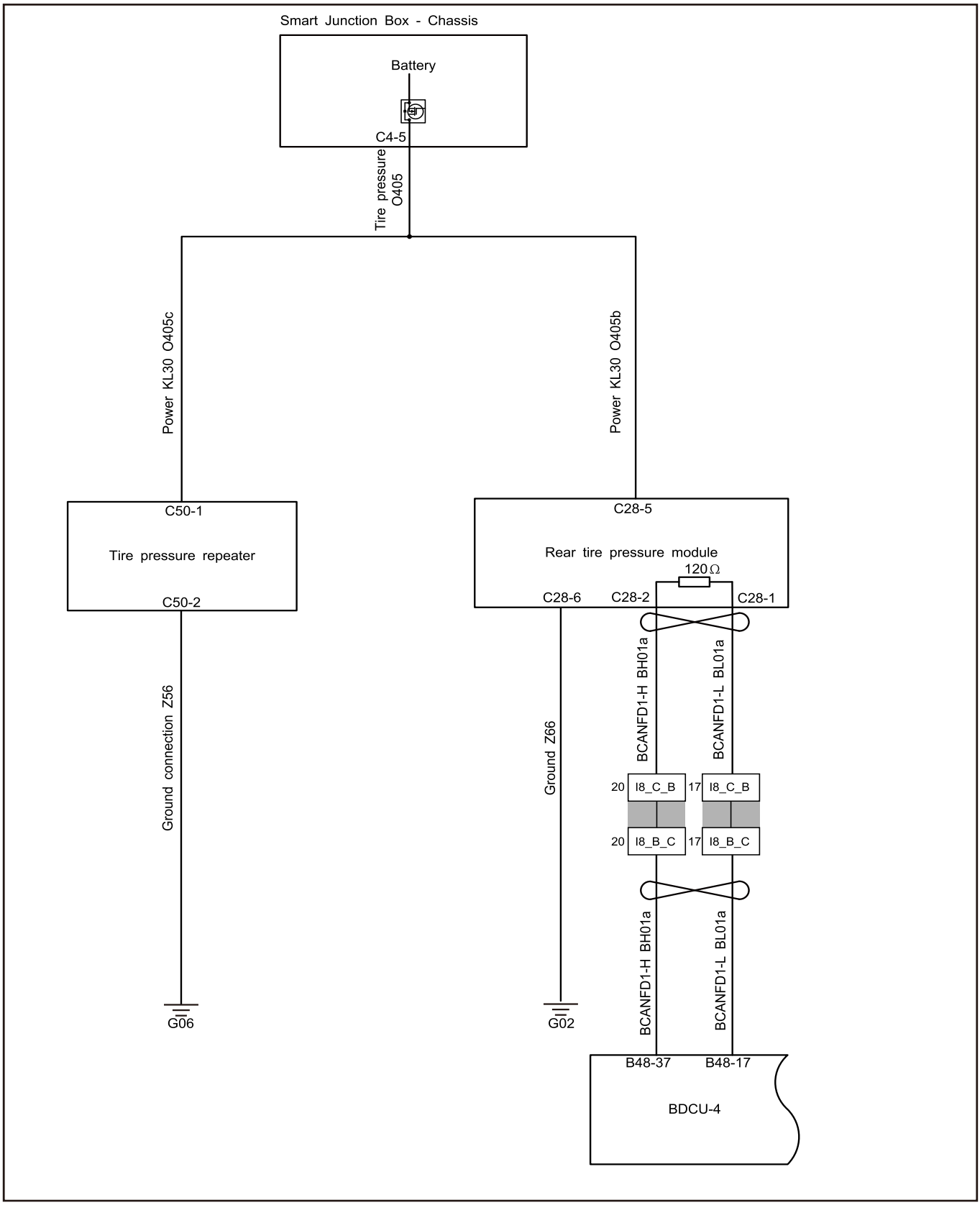
9.1.37 Augmented Reality Heads-Up Display

9.1.37.1 Augmented Reality Heads-Up Display



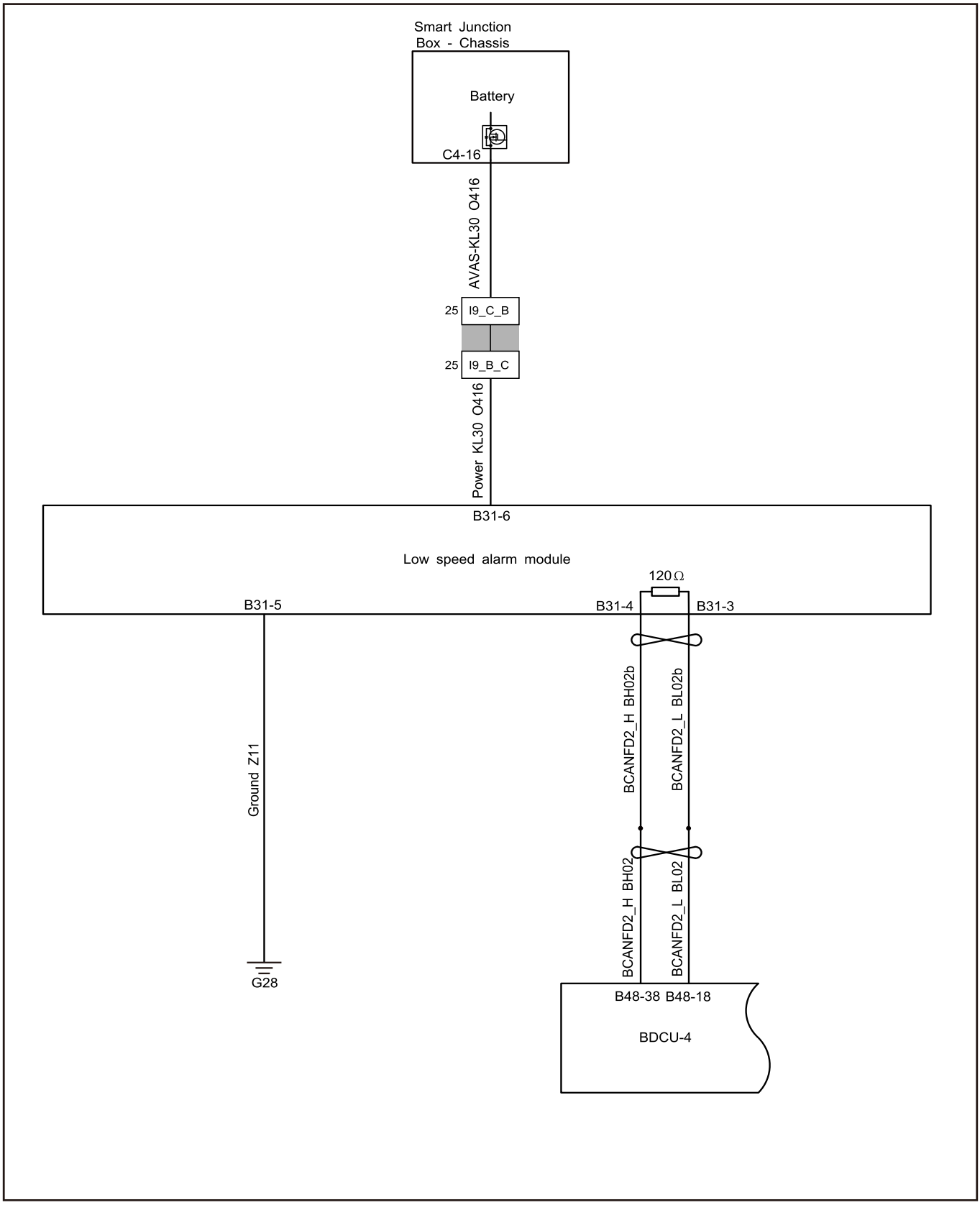
9.1.38 Tire Pressure Monitoring

9.1.38.1 Tire Pressure Monitoring



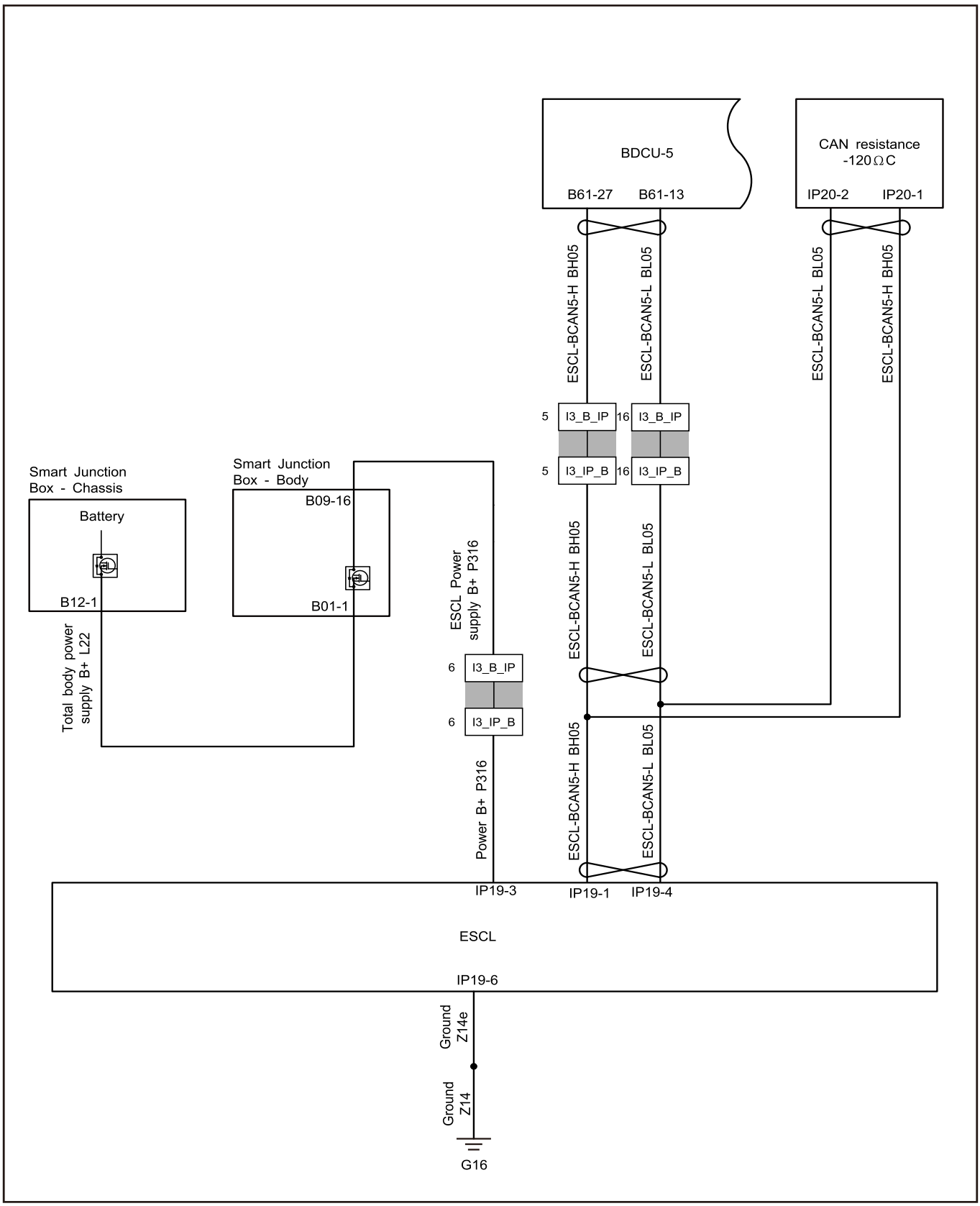
9.1.39 Low Speed Alarm

9.1.39.1 Low Speed Alarm



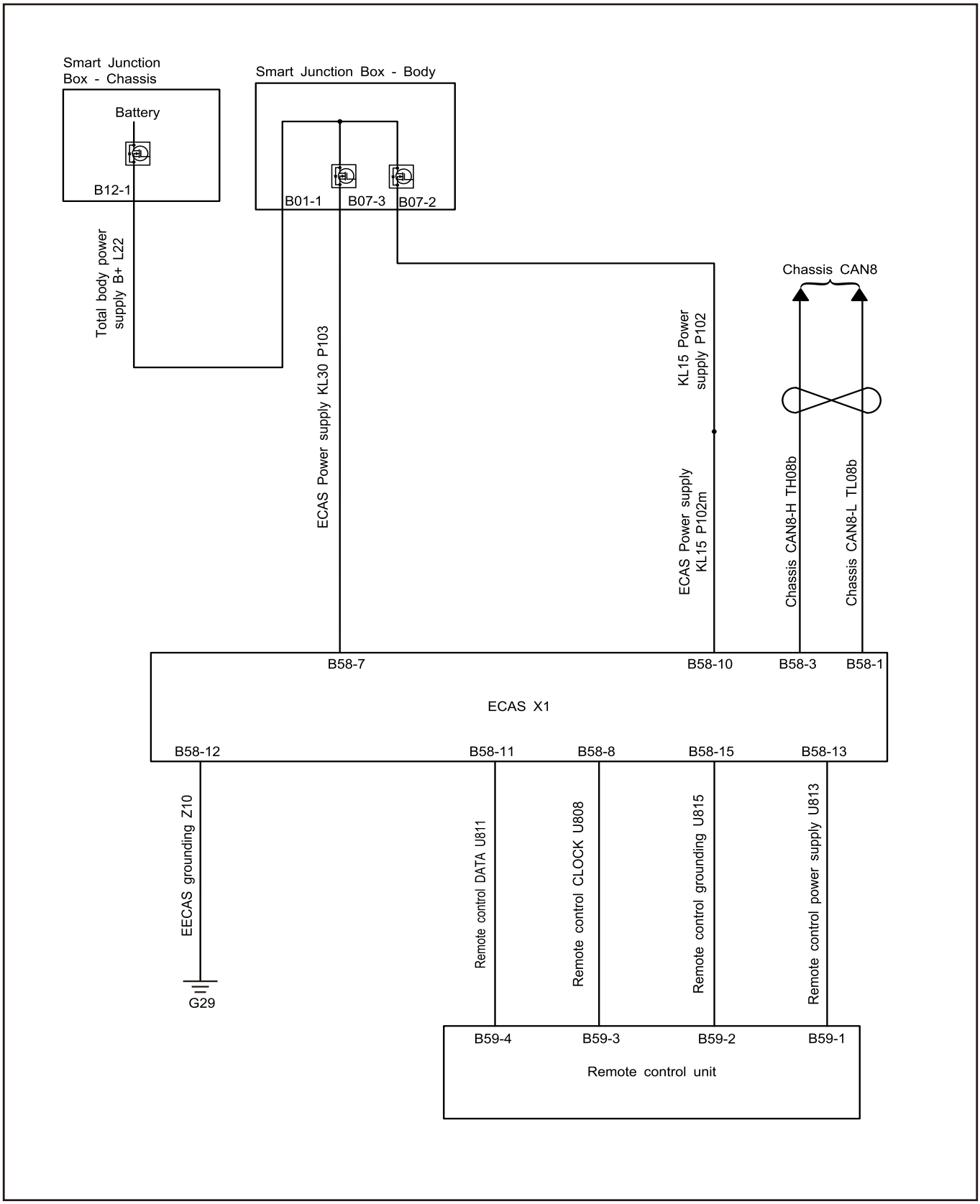
9.1.40 Electronic Post Lock

9.1.40.1 Electronic Post Lock

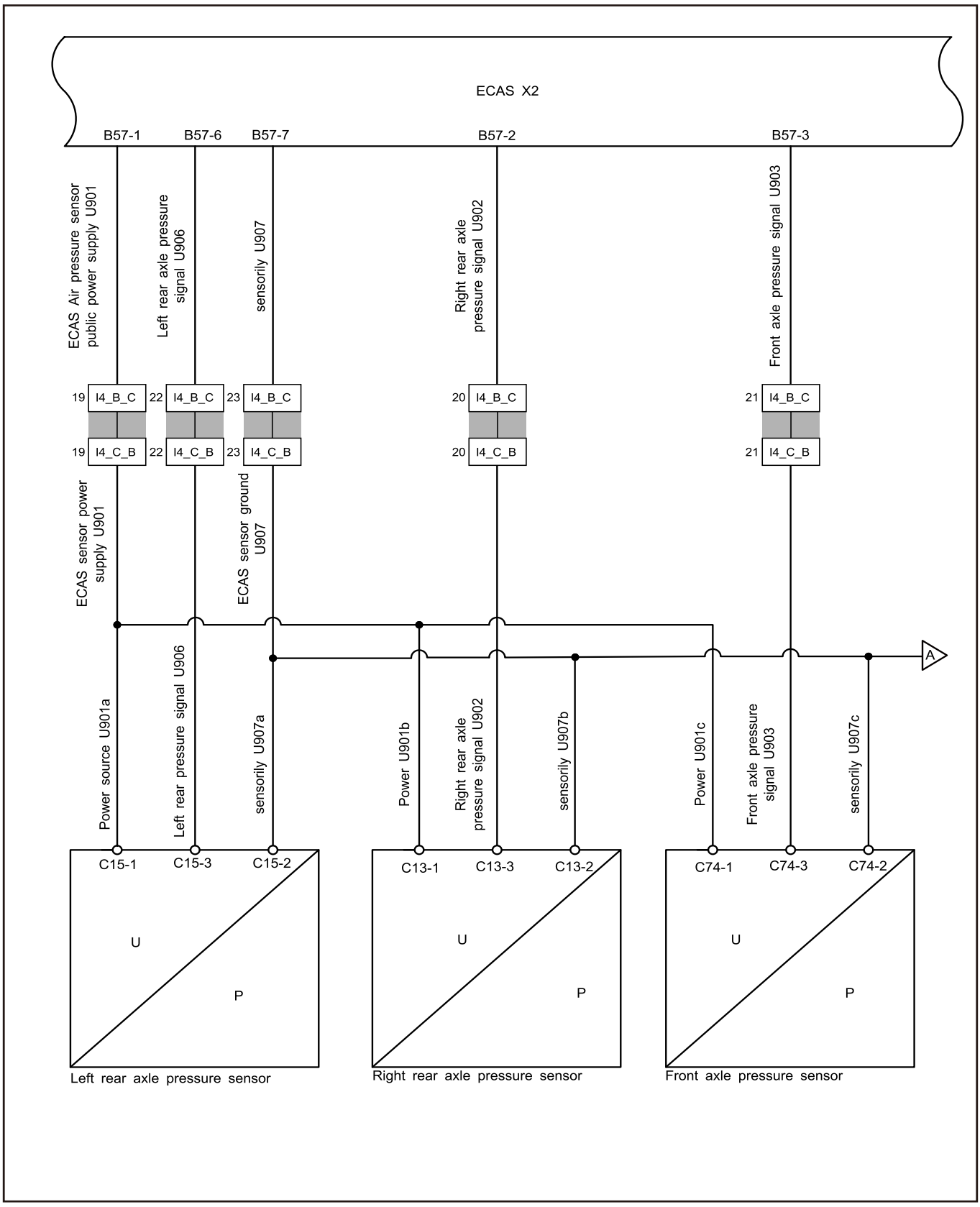


9.1.41 Electronically Controlled Air Suspension

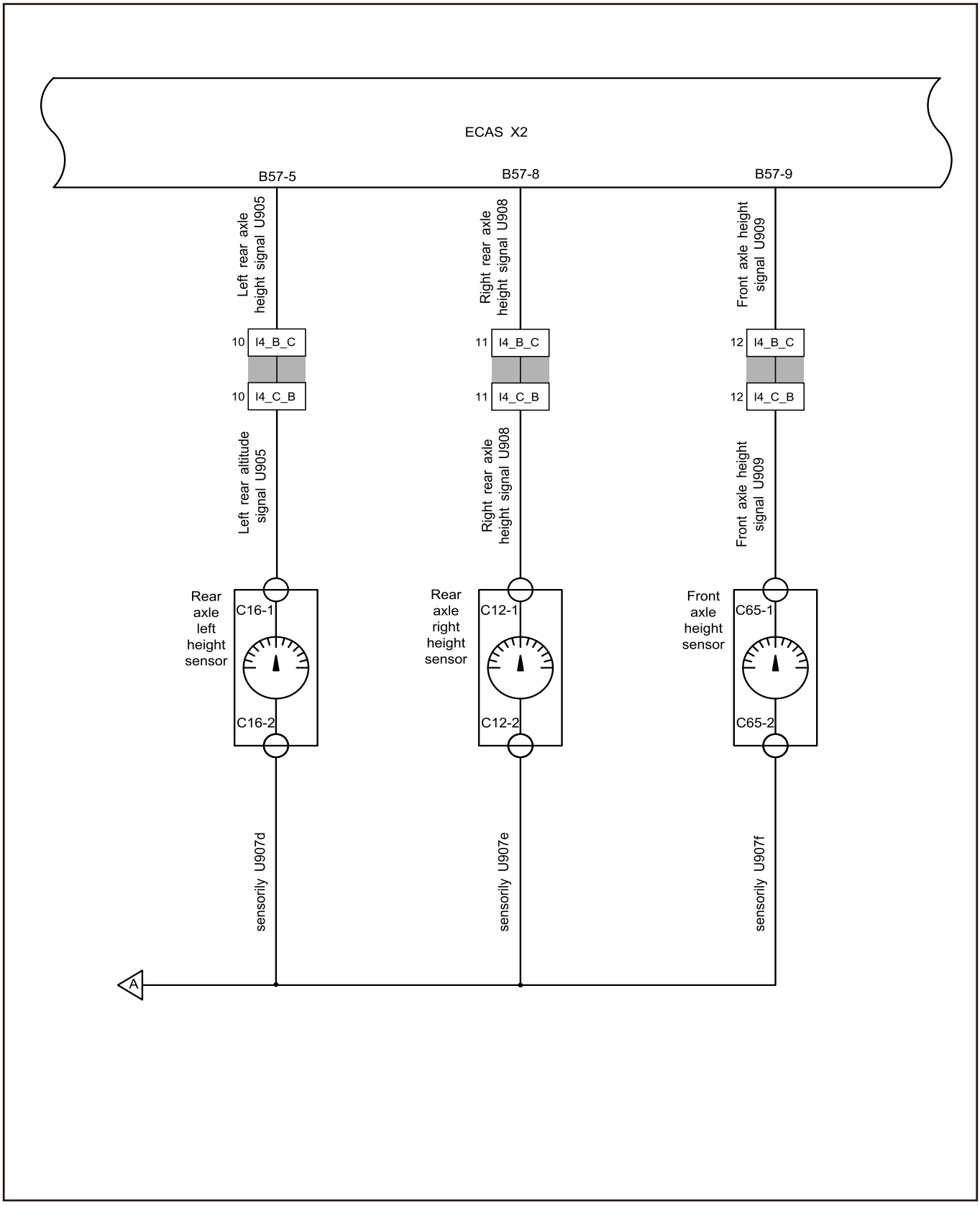
9.1.41.1 Electronically Controlled Air Suspension



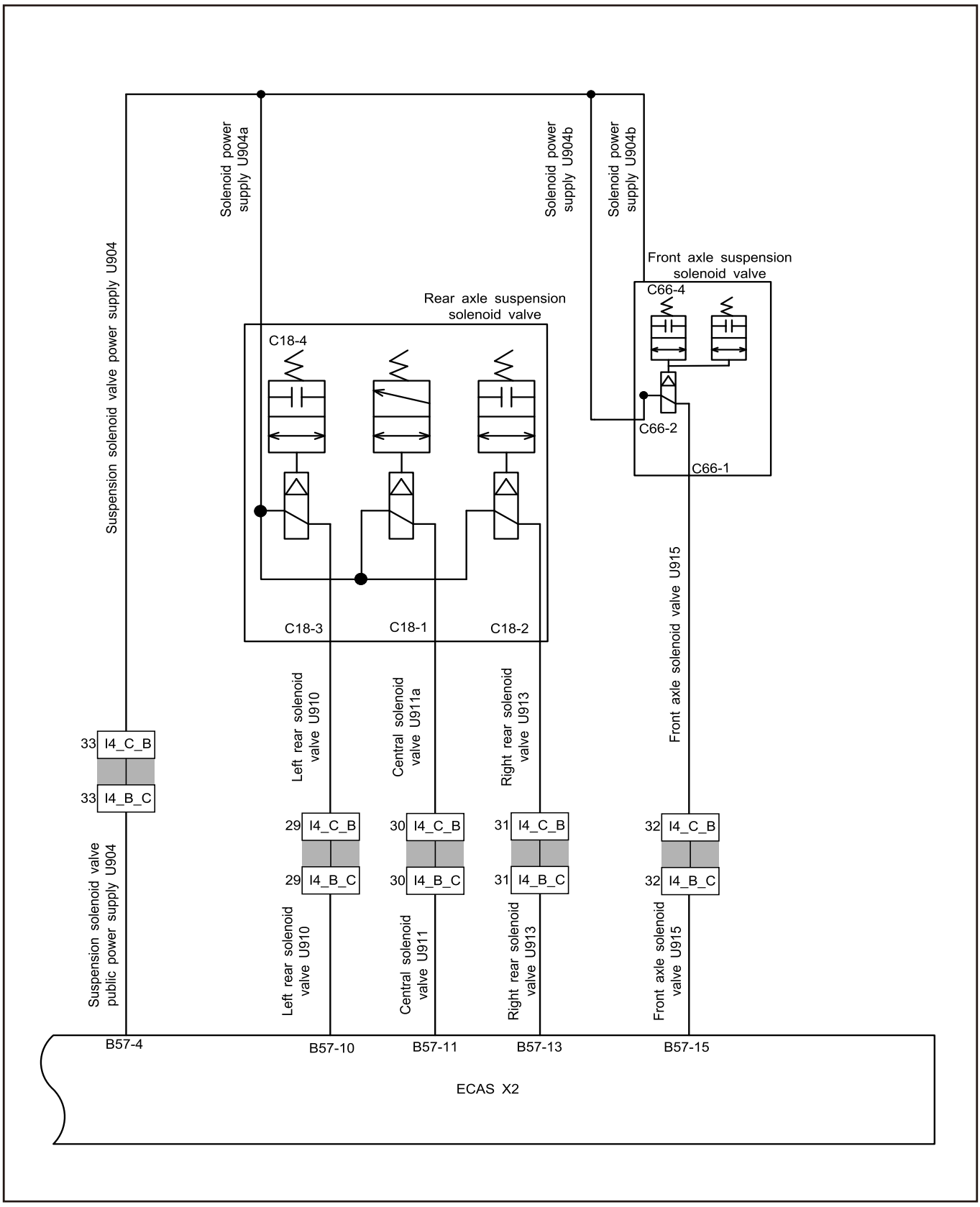
9.1.41.2 Electronically Controlled Air Suspension Continued



9.1.41.3 Electronically Controlled Air Suspension Continued 1

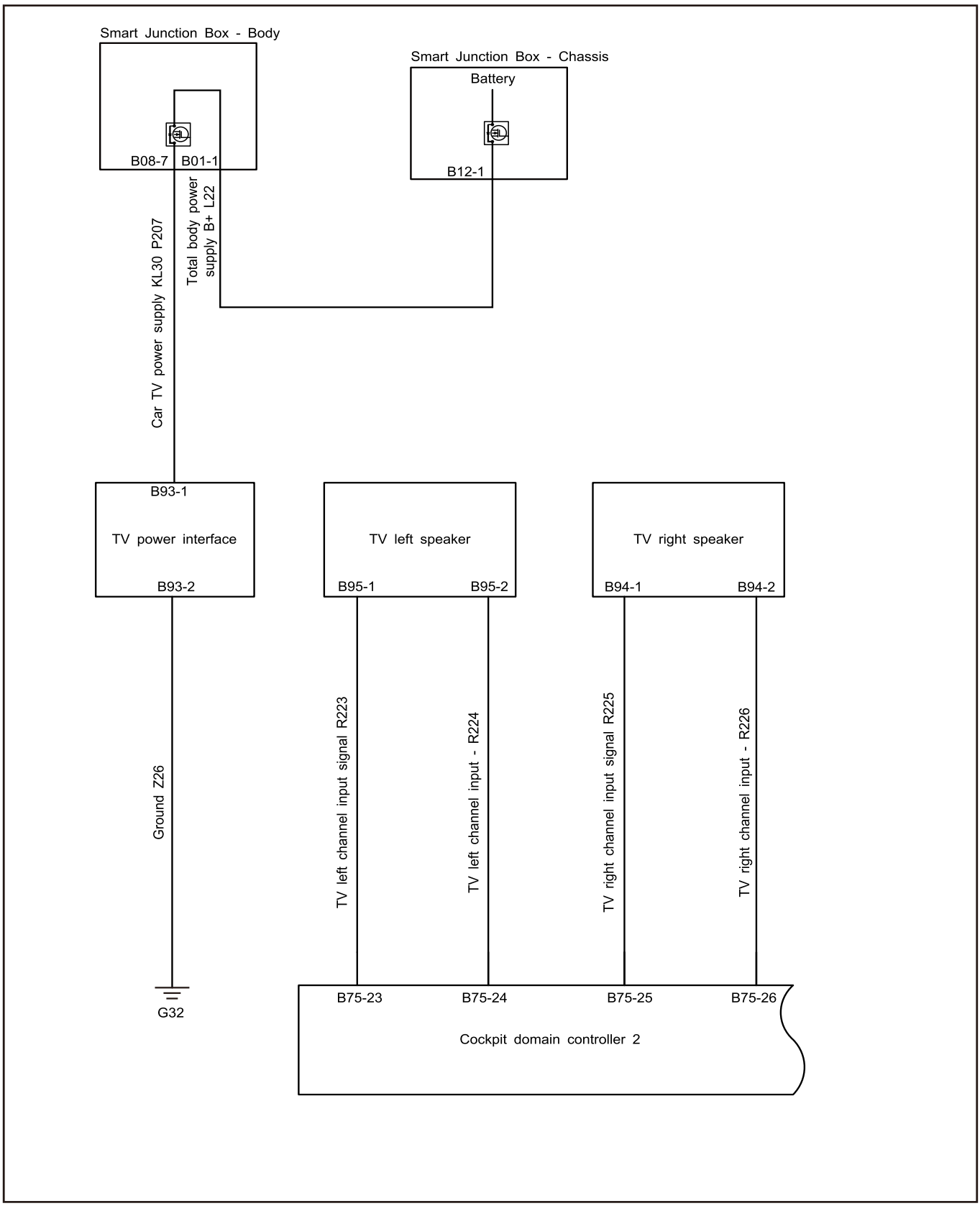


9.1.41.4 Electronically Controlled Air Suspension Continued 2



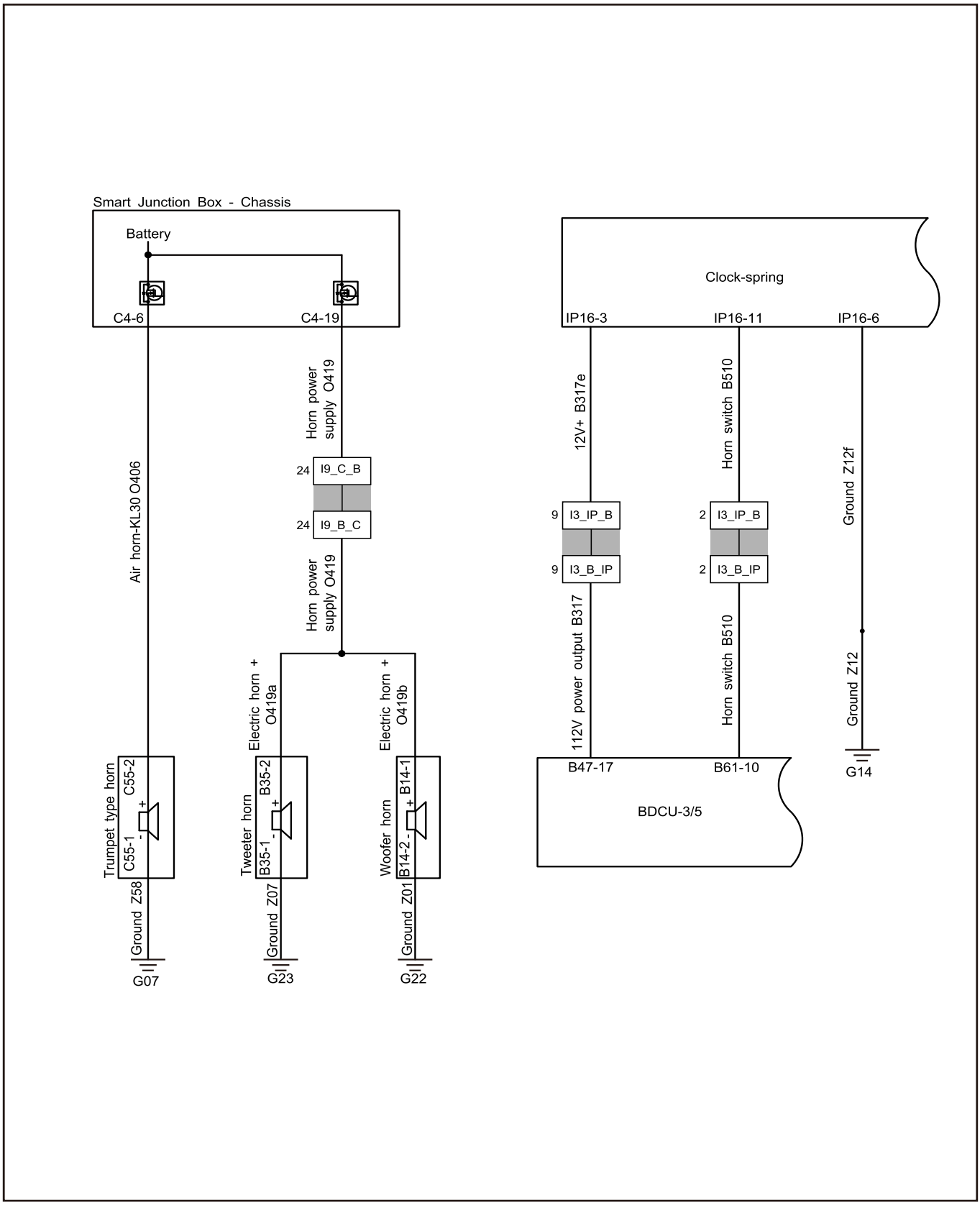
9.1.42 Car TV

9.1.42.1 Car TV



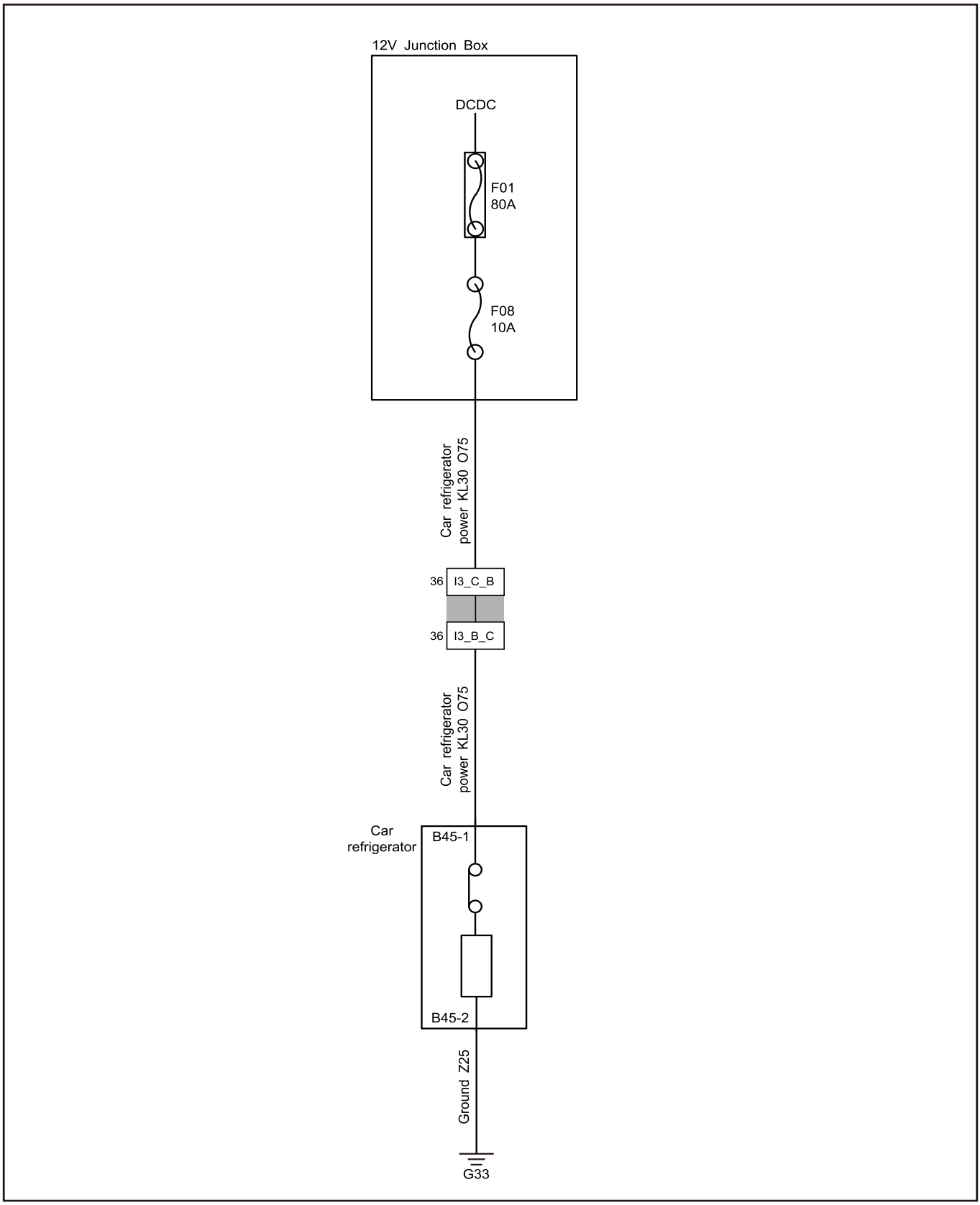
9.1.43 Megaphone

9.1.43.1 Megaphone



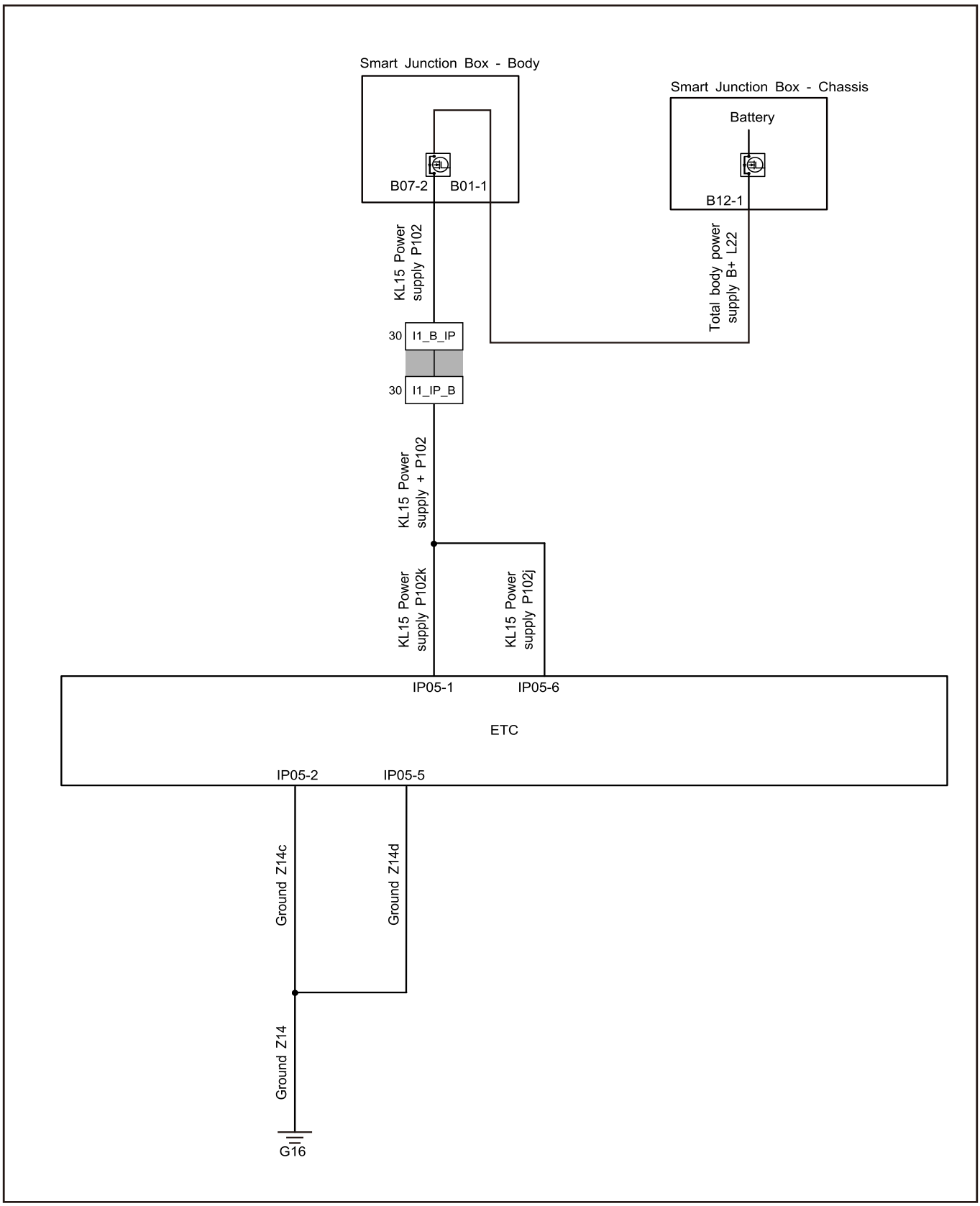
9.1.44 Car Refrigerator

9.1.44.1 Car Refrigerator



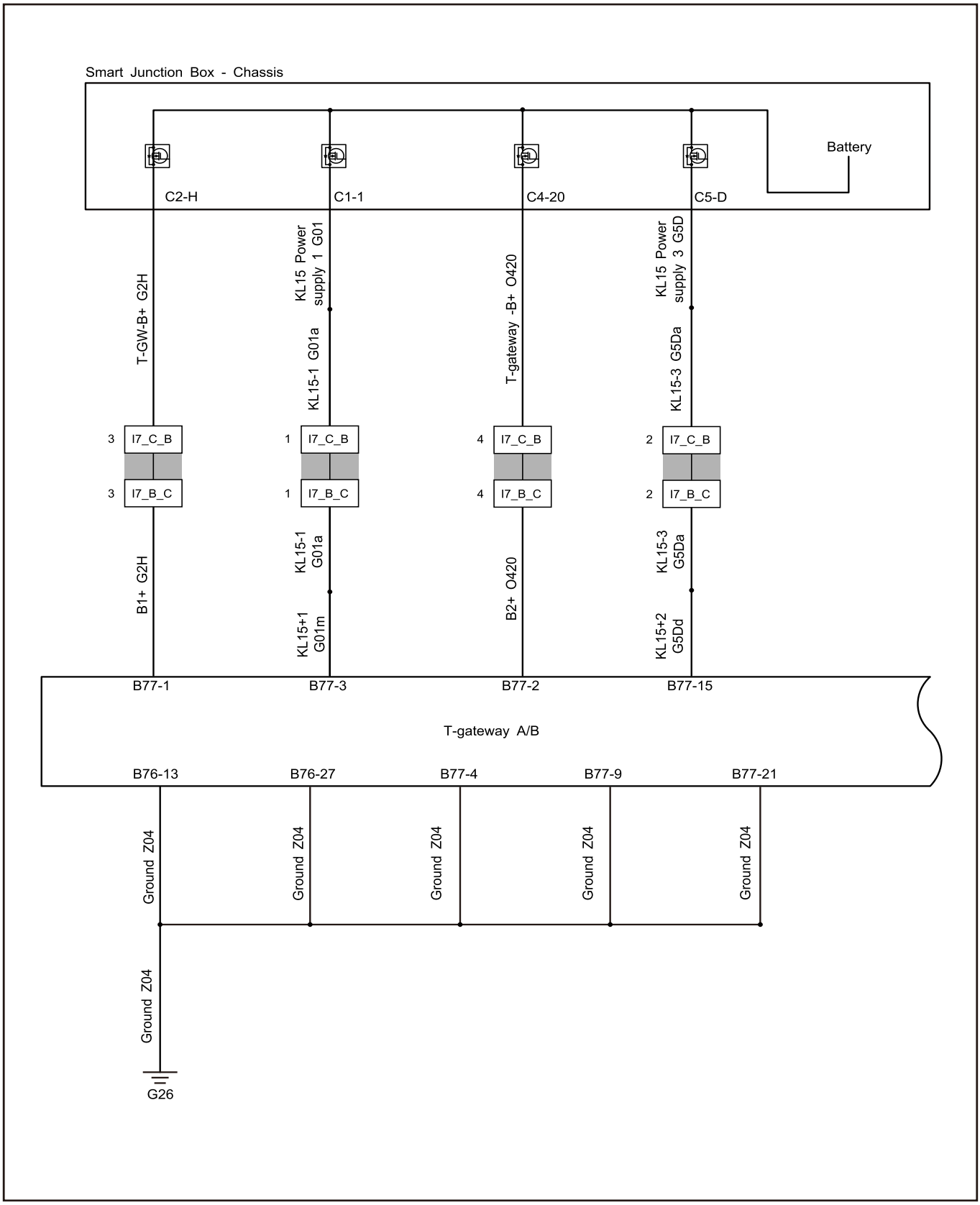
9.1.45 ETC

9.1.45.1 ETC

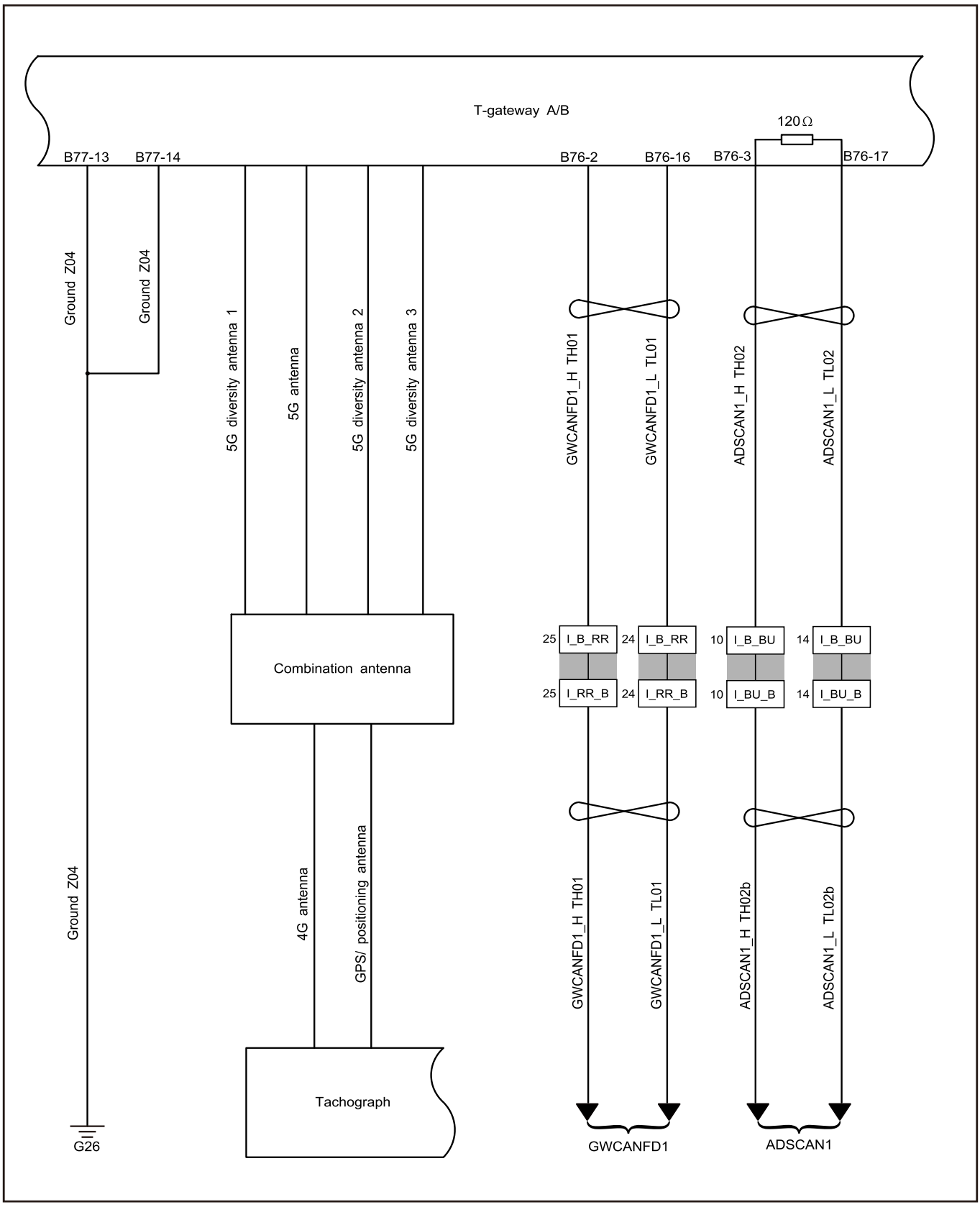


9.1.46 Gateway

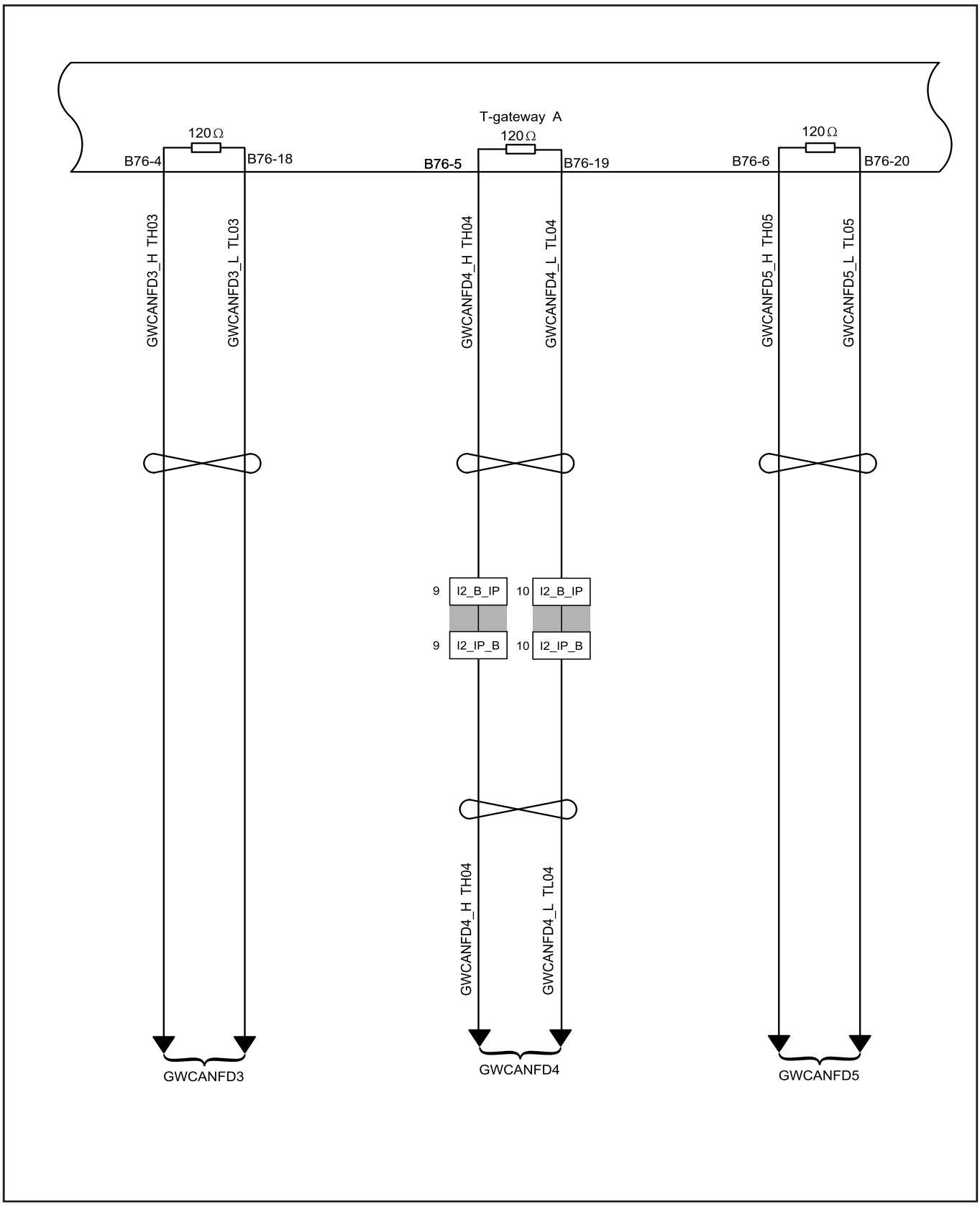
9.1.46.1 Gateway



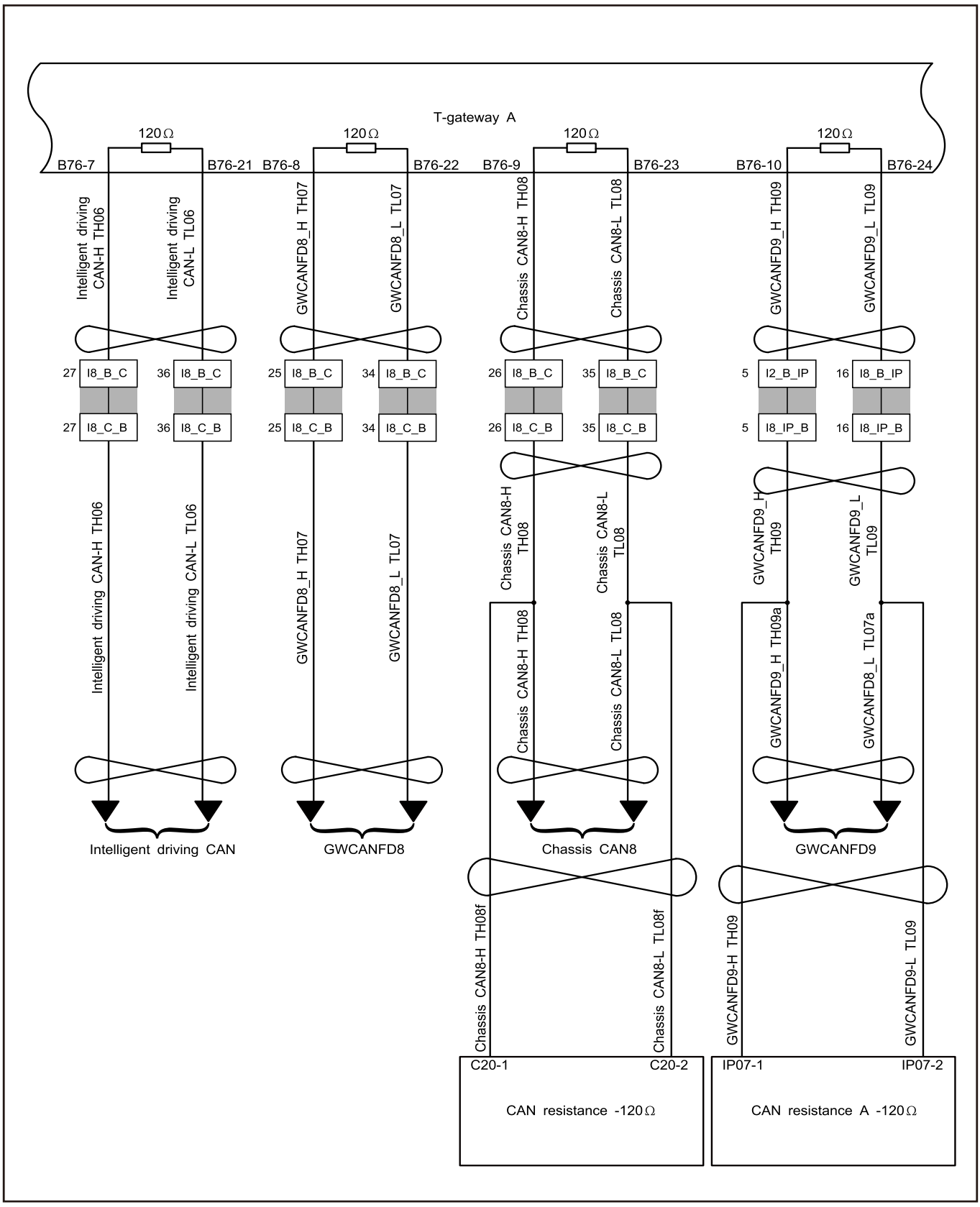
9.1.46.2 Gateway Continued



9.1.46.3 Gateway Continued 1

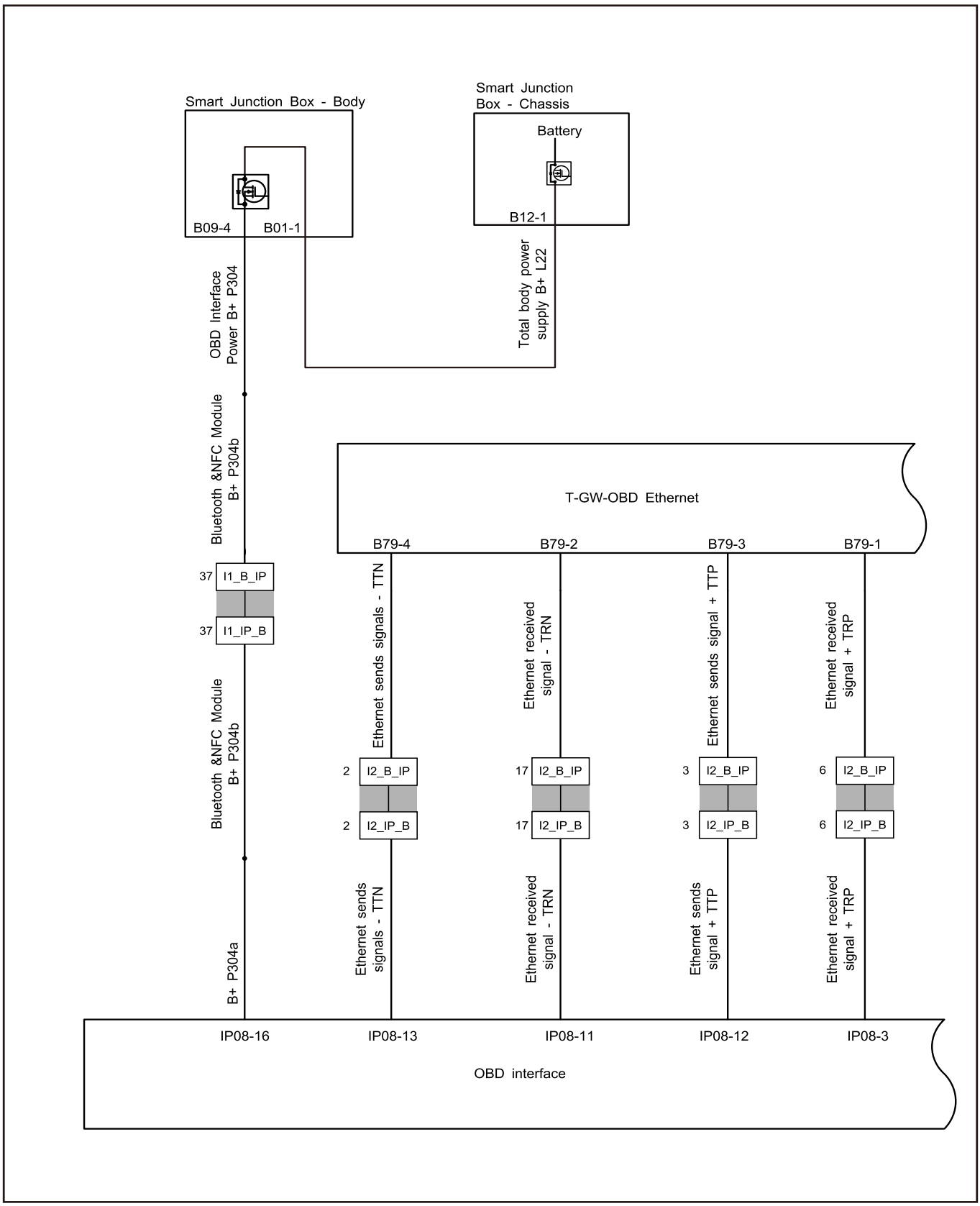


9.1.46.4 Gateway Continued 2

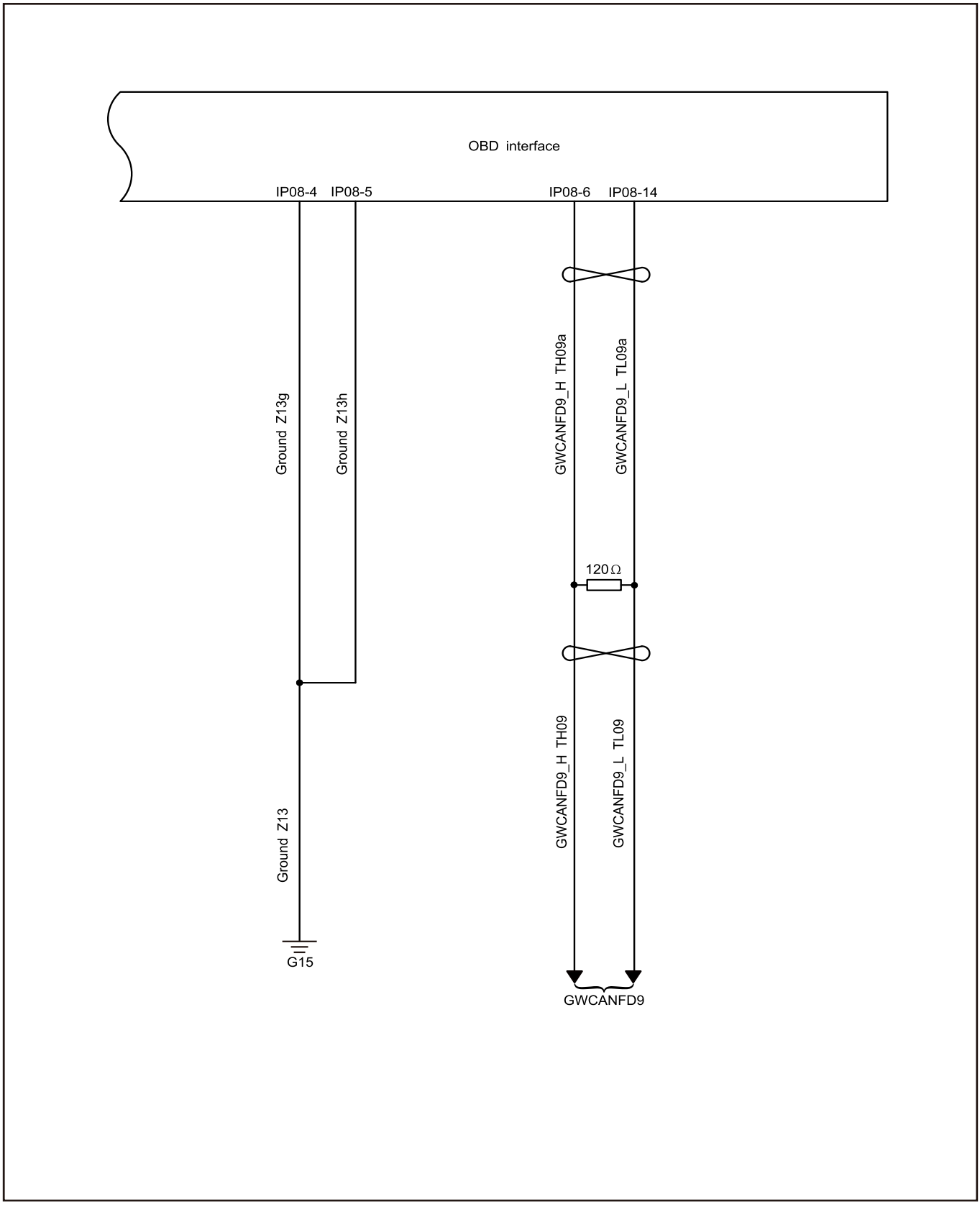


9.1.47 OBD

9.1.47.1 OBD



9.1.47.2 OBD Continued



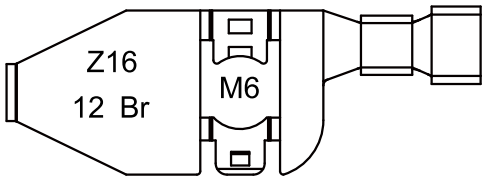
9.2 Information about Cable Harness Connectors

9.2.1 Top Cover Wiring Harness

9.2.1.1 Cable Harness Terminal Diagram For the Top Cover

G10 Take the iron point 16

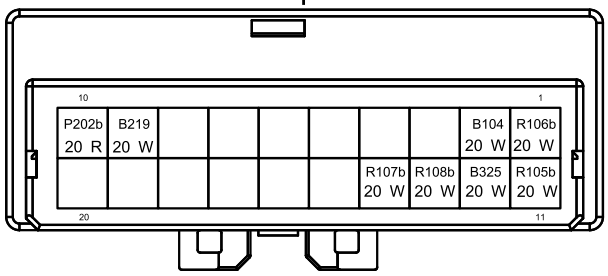
ST431TF-6-6
Take the iron point 16



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z16	Br	-	Ground

I1_T_LR Connect the top harness to the left top harness 1

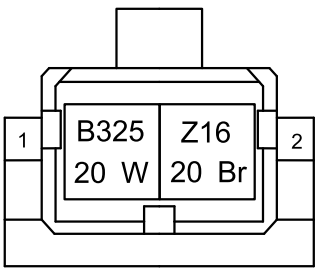
936131-1-TE
Connect the top harness
to the left top harness 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R106b	W	-	Right surround-sound speaker -
2	B104	W	-	Indoor overhead light +
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	B219	W	-	Profile light +
10	P202b	R	-	Top cabinet power +
11	R105b	W	-	Right surround-sound speaker +
12	B325	W	-	Sleeper reading light +
13	R108b	W	-	Left surround-sound speaker-
14	R107b	W	-	Left surround-sound speaker+
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-

T01 Sleeper reading lamp

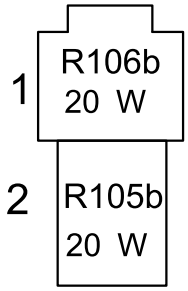
PP0452601-THB
Sleeper reading lamp



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B325	W	-	Sleeper reading light +
2	Z16	Br	-	Ground

T02 Right surround-sound speaker

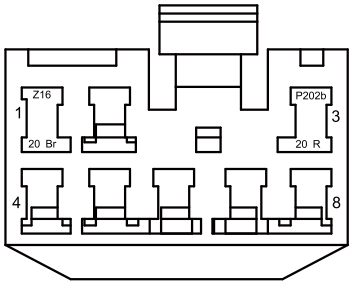
DJ7021-6.3-11
Right surround-sound speaker



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R106b	W	-	Right surround-sound speaker -
2	R105b	W	-	Right surround-sound speaker +

T03 Overhead light

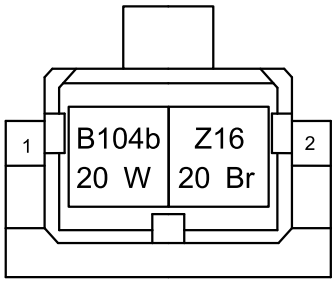
DJ7082Y-2.2-21
Overhead light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z16	Br	-	Ground
2	-	-	-	-
3	P202b	R	-	Top cabinet power +
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-

T04 Ceiling lamp-rh

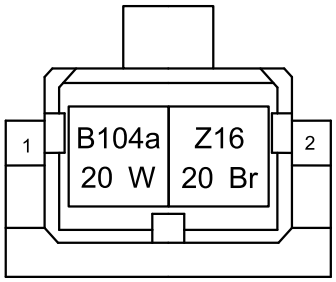
PP0452601-THB
Ceiling lamp-rh



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B104b	W	-	Indoor overhead light +
2	Z16	Br	-	Ground

T05 Ceiling lamp-lh

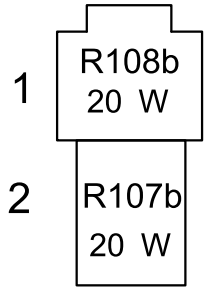
PP0452601-THB
Ceiling lamp-lh



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B104a	W	-	Indoor overhead light +
2	Z16	Br	-	Ground

T06 Left surround-sound speaker

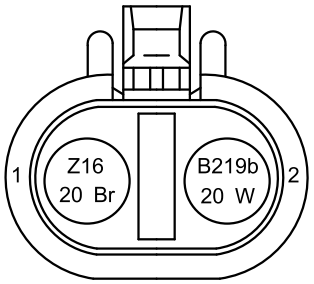
DJ7021-6.3-11
Left surround-sound speaker



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R108b	W	-	Left surround-sound speaker -
2	R107b	W	-	Left surround-sound speaker+

T07 End-outline marker lamp-rh frt

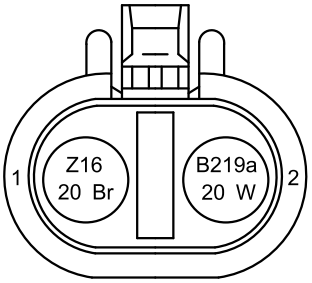
PP0413902-THB
End-outline marker lamp-rh frt



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z16	Br	-	Ground
2	B219b	W	-	Profile light +

T08 End-outline marker lamp-lh frt

PP0413902-THB
End-outline marker lamp-lh frt



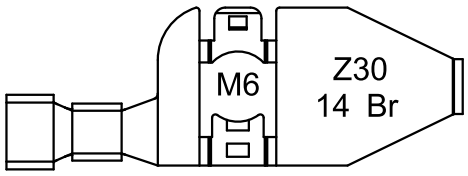
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z16	Br	-	Ground
2	B219a	W	-	Profile light +

9.2.2 Left Ceiling Harness

9.2.2.1 Cable Harness Terminal Diagram of the Left Ceiling

G11 Take the iron point 6

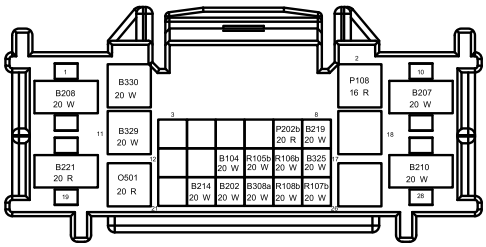
ST431TF-6-2.5
Take the iron point 6



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z30	Br	-	Ground

I_LR_B The left ceiling wiring harness connects to the floor wiring harness

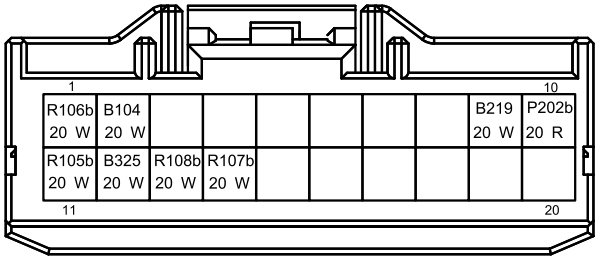
2385446-1-TE
The left ceiling wiring harness connects to the floor wiring harness



Stitch	Wire number	Line color	Voltage	Stitch definition
1	B208	W	-	Left rearview mirror left/down adjust the common end
2	B330	W	-	Front sunshade open
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	P202b	R	-	Top cabinet power +
8	B219	W	-	Profile light +
9	P108	R	-	Awning curtain KL30
10	B207	W	-	Adjust the left rearview mirror to the right
11	B329	W	-	Front visor raised
12	-	-	-	-
13	-	-	-	-
14	B104	W	-	Indoor overhead light +
15	R105b	W	-	Right surround-sound speaker +
16	R106b	W	-	Right surround-sound speaker -
17	B325	W	-	Sleeper reading light +
18	-	-	-	-
19	B221	R	-	Rearview mirror heating +
20	-	-	-	-
21	-	-	-	-
22	B214	W	-	Awning curtain closing signal
23	B202	W	-	Awning curtain open signal
24	B308a	W	-	Reading light +
25	R108b	W	-	Left surround-sound speaker -
26	R107b	W	-	Left surround-sound speaker +
27	-	-	-	-
28	B210	W	-	Adjust left rearview mirror upward

I1_LR_T Connect the left ceiling harness to the top cover harness 1

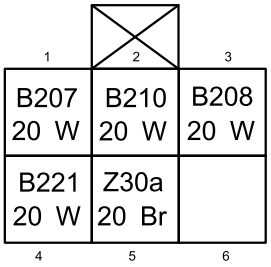
936095-1-TE
Connect the left ceiling harness to the top cover harness 1



Stitch	Wire number	Line color	Voltage	Stitch definition
1	R106b	W	-	Right surround-sound speaker -
2	B104	W	-	Indoor overhead light +
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	B219	W	-	Profile light +
10	P202b	R	-	Top cabinet power +
11	R105b	W	-	Right surround-sound speaker +
12	B325	W	-	Sleeper reading light +
13	R108b	W	-	Left surround-sound speaker -
14	R107b	W	-	Left surround-sound speaker +
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-

LR01 Left physical rearview mirror

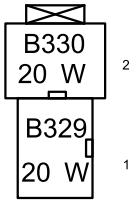
DJ7069Y-2.2-21/20-CZT
Left physical rearview mirror



Stitch	Wire number	Line color	Voltage	Stitch definition
1	B207	W	-	Adjust the left rearview mirror to the right
2	B210	W	-	Adjust left rearview mirror upward
3	B208	W	-	Left rearview mirror left/down adjust the common end
4	B221	W	-	Rearview mirror heating +
5	Z30a	Br	-	Rearview mirror heating -
6	-	-	-	-

LR03 Front visor motor

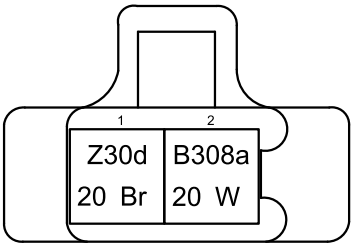
DJ7021-6.3-21
Front visor motor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	B329	W	-	rise
2	B330	W	-	Front sunshade open

LR04 Front left reading light

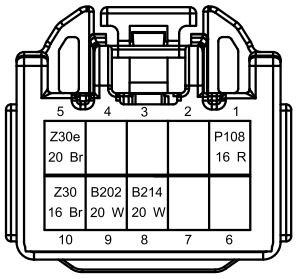
PP0401601-THB
Front left reading light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z30d	Br	-	Ground
2	B308a	W	-	Reading light +

LR05 Awning and sunshade

3CD10FGY
Awning and sunshade



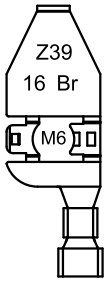
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P108	R	-	KL30
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	Z30e	Br	-	Ground
6	-	-	-	-
7	-	-	-	-
8	B214	W	-	Off signal input
9	B202	W	-	Open signal input
10	Z30	Br	-	Ground

9.2.3 Right Ceiling Harness

9.2.3.1 Right Ceiling Wiring Harness Terminal Diagram

G12 Take the iron point 20

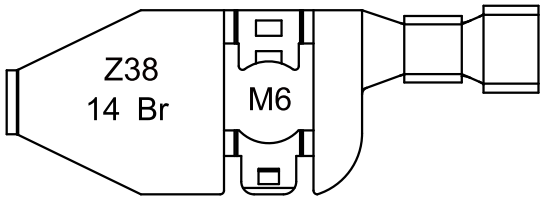
ST431TF-6-0.8
Take the iron point 20



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z39	Br	-	Ground

G13 Take the iron point 18

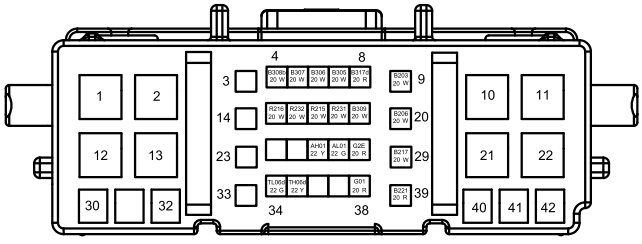
ST431TF-6-2.5
Take the iron point 18



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z38	Br	-	Ground

I_RR_B The right ceiling harness is connected to the floor harness

1577501-THB
The right ceiling harness is connected to the floor harness

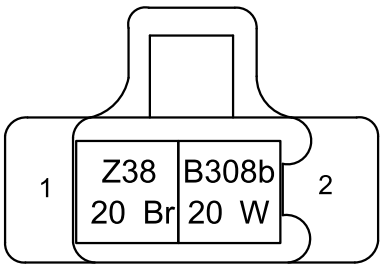


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	B308b	W	-	Reading light +
5	B307	W	-	Identification lamp 3+
6	B306	W	-	Identification lamp 2+
7	B305	W	-	Identification lamp 1+
8	B317d	R	12V	12V power output
9	B203	W	-	Adjust right rearview mirror to the right
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	R216	W	-	MIC1+
16	R232	W	-	MIC1-
17	R215	W	-	MIC2+
18	R231	W	-	MIC2-
19	B309	W	-	Sunlight rainfall LIN
20	B206	W	-	Adjust right rearview mirror upward
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	AH01	Y	-	HMI Private CAN-H
27	AL01	G	-	HMI private CAN-L
28	G2E	R	-	Fusioncube B+

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
29	B217	W	-	Right rearview mirror left/down adjust the public end
30	-	-	-	-
31	-	-	-	-
32	-	-	-	-
33	-	-	-	-
34	TL06d	G	-	Intelligent driving CAN-L
35	TH06d	Y	-	Intelligent driving CAN-H
36	-	-	-	-
37	-	-	-	-
38	G01	R	-	Front camera KL15
39	B221	R	-	Rearview mirror heating +
40	-	-	-	-
41	-	-	-	-
42	-	-	-	-

RR02 Front right reading light

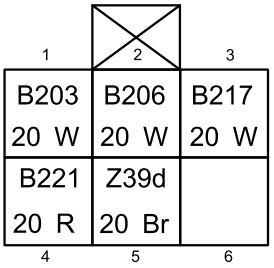
PP0401601-THB
Front right reading light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z38	Br	-	Ground
2	B308b	W	-	Reading light +

RR03 Right physical rear view mirror

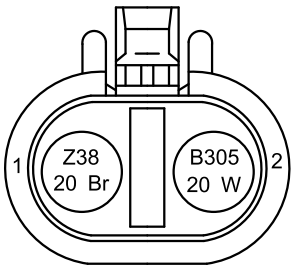
DJ7069Y-2.2-21/20-CZT
Right physical rear view mirror



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B203	W	-	Adjust right rearview mirror to the right
2	B206	W	-	Adjust right rearview mirror upward
3	B217	W	-	Right rearview mirror left/down adjust the public end
4	B221	R	-	Rearview mirror heating +
5	Z39d	Br	-	Rearview mirror heating -
6	-	-	-	-

RR07 Identification lamp 1

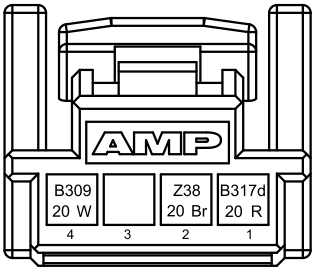
PP0413902-THB
Identification lamp 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z38	Br	-	Ground
2	B305	W	-	Identification lamp 1+

RR08 Light rain sensor

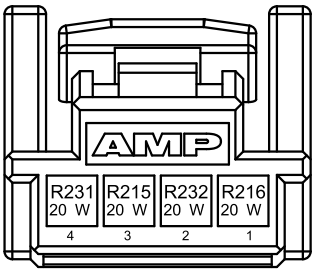
1473672-1-TE
Light rain sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B317d	R	12V	12V power output
2	Z38	Br	-	Ground
3	-	-	-	-
4	B309	W	-	Sunlight rainfall LIN

RR09 Microphone

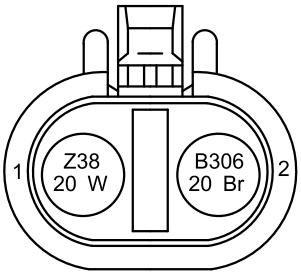
1473672-1-AMP
Microphone



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R216	W	-	MIC1+
2	R232	W	-	MIC1-
3	R215	W	-	MIC2+
4	R231	W	-	MIC2-

RR10 Identification lamp 2

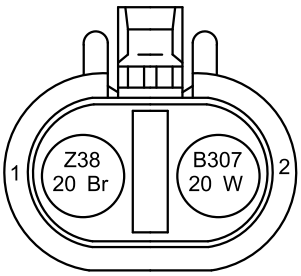
PP0413902-THB
Identification lamp 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z38	Br	-	Ground
2	B306	W	-	Identification lamp 2+

RR11 Identification lamp 3

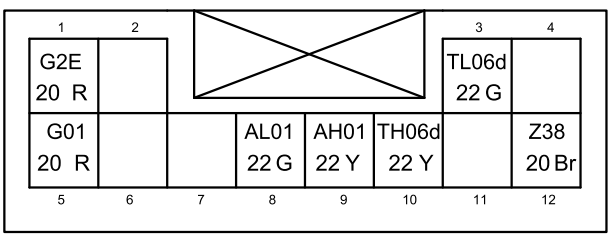
PP0413902-THB
Identification lamp 3



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z38	Br	-	Ground
2	B307	W	-	Identification lamp 3+

RR12 Front View Intelligent Camera

ZE05-12DS-HUR-HIROSE
Front View Intelligent Camera



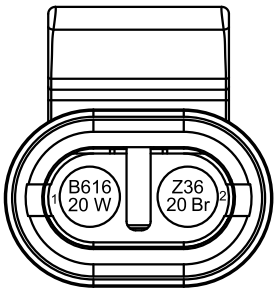
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	G2E	R	-	B+
2	-	-	-	-
3	TL06d	G	-	Intelligent driving CAN-L
4	-	-	-	-
5	G01	R	-	KL15+
6	-	-	-	-
7	-	-	-	-
8	AL01	G	-	HMI private CAN-L
9	AH01	Y	-	HMI Private CAN-H
10	TH06d	Y	-	Intelligent driving CAN-H
11	-	-	-	-
12	Z38	Br	-	Ground

9.2.4 Bumper Harness

9.2.4.1 Bumper Harness Terminal Diagram

BU02 Front mask switch

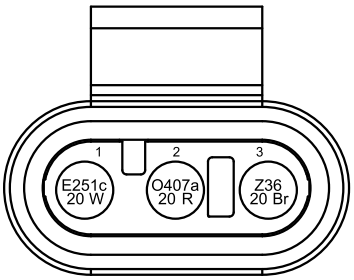
PP0450305-THB
Front mask switch



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B616	W	-	Front mask switch signal
2	Z36	Br	-	Ground

BU05 Active Grille Shutter

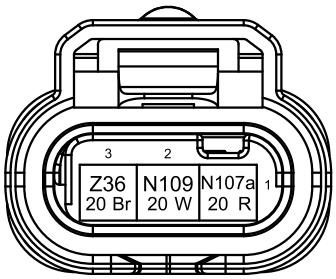
282087-1-TE
Active Grille Shutter



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	E251c	W	-	AGS-LIN
2	O407a	R	-	AGS-KL30
3	Z36	Br	-	Ground

BU06 Left Sub Uss

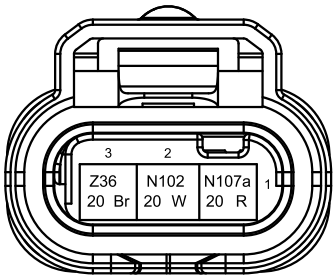
1488991-1-TE
Left Sub Uss



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	N107a	R	-	Power +
2	N109	W	-	signal
3	Z36	Br	-	Ground

BU07 Left Side Sub Uss

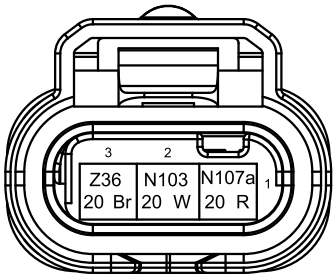
1488991-1-TE
Left Side Sub Uss



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	N107a	R	-	Power +
2	N102	W	-	signal
3	Z36	Br	-	Ground

BU08 Left Middle Sub Uss

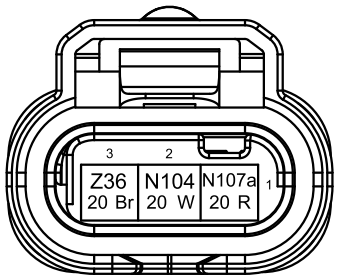
1488991-1-TE
Left Middle Sub Uss



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	N107a	R	-	Power +
2	N103	W	-	signal
3	Z36	Br	-	Ground

BU09 Right Middle Sub Uss

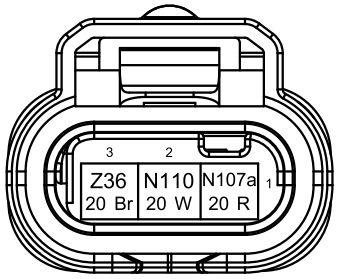
1488991-1-TE
Right Middle Sub Uss



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	N107a	R	-	Power +
2	N104	W	-	signal
3	Z36	Br	-	Ground

BU10 Right Sub Uss

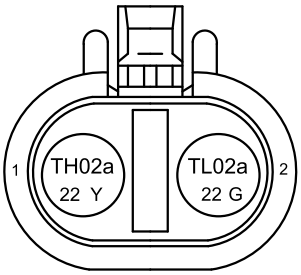
1488991-1-TE
Right Sub Uss



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	N107a	R	-	Power +
2	N110	W	-	signal
3	Z36	Br	-	Ground

BU11 CAN resistance -120Ω

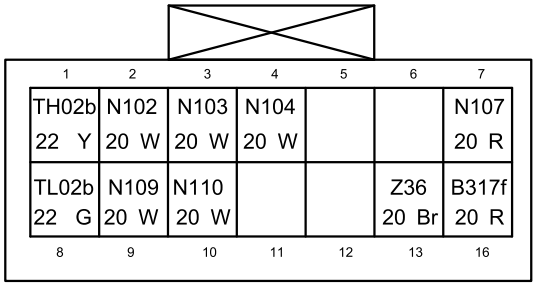
TM0844802
CAN resistance -120Ω



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	TH02a	Y	-	ADSCAN1-H
2	TL02a	G	-	ADSCAN1-L

BU12 Main Uss

MG645724-5-KET
Main Uss

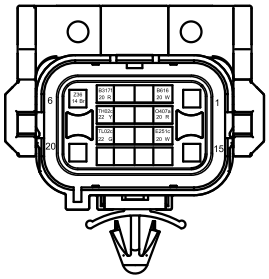


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	TH02b	Y	-	ADSCAN1-H
2	N102	W	-	Left radar signal
3	N103	W	-	Left center radar signal
4	N104	W	-	Right center radar signal
5	-	-	-	-
6	-	-	-	-
7	N107	R	-	Probe power supply
8	TL02b	G	-	ADSCAN1-L
9	N109	W	-	Left radar signal
10	N110	W	-	Right radar signal
11	-	-	-	-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
12	-	-	-	-
13	Z36	Br	-	Ground
14	B317f	R	12V	Power supply 12V+

I_BU_B The bumper harness connects to the floor harness

936777-2-TE
The bumper harness connects to the floor harness



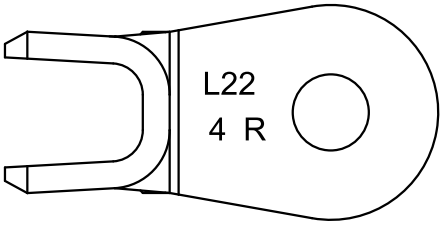
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	B616	W	-	Front mask switch signal
3	-	-	-	-
4	-	-	-	-
5	B317f	R	12V	12V power supply +
6	Z36	Br	-	Ground
7	O407a	R	-	AGS-KL30
8	-	-	-	-
9	-	-	-	-
10	TH02c	Y	-	ADSCAN1-H
11	E251c	W	-	AGS-LIN
12	-	-	-	-
13	-	-	-	-
14	TL02c	G	-	ADSCAN1-L
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-

9.2.5 Floor Wiring Harness

9.2.5.1 Floor Cable Harness Terminal Diagram

B01 Body smart box T1

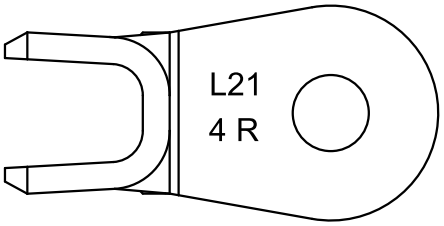
ST0417A-8-20
Body smart box T1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	L22	R	-	Total body power supply B+

B02 Body smart box T2

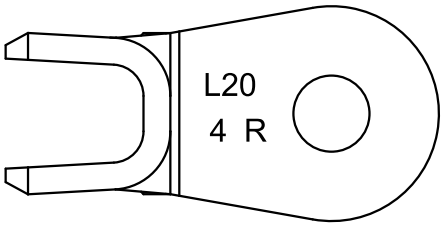
ST0417A-8-20
Body smart box T2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	L21	R	-	DC/DC2 power supply

B03 Body smart box T3

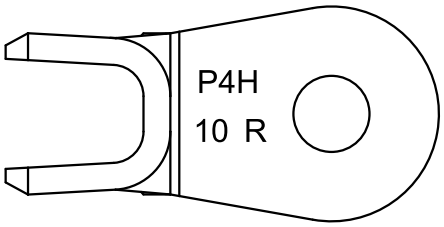
ST0417A-8-20
Body smart box T3



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	L20	R	-	DC/DC2 power supply

B04 Body smart box T4

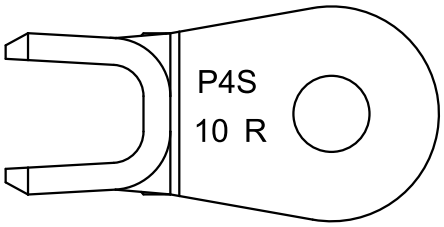
ST0440A-6-10
Body smart box T4



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4H	R	-	Motor fan 1 Power supply

B05 Body smart box T5

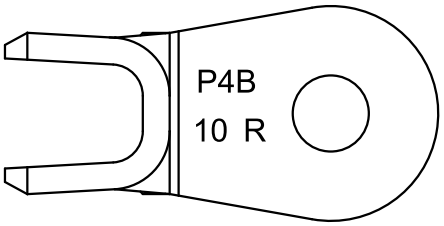
ST0440A-6-10
Body smart box T5



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4S	R	-	Motor Fan 2 Power supply

B06 Body smart box T6

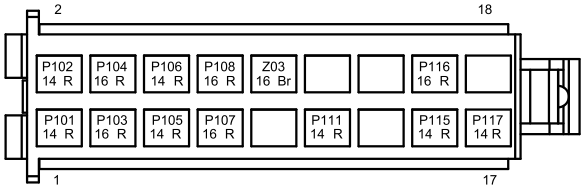
ST0440A-6-10
Body smart box T6



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4B	R	-	Motor Fan 3 Power supply

B07 Body electrical box C1

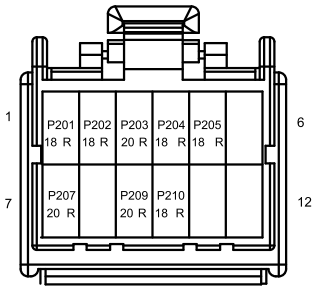
929504-6-TE(black)
Body electrical box C1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P101	R	-	DCM Power supply KL30
2	P102	R	-	KL15 Power supply
3	P103	R	-	ECAS Power supply KL30
4	P104	R	-	CDC power B+
5	P105	R	-	BDCU Power supply B+
6	P106	R	-	BDCU Power supply B+
7	P107	R	-	Seat power B+
8	P108	R	-	Skylight shade power KL30
9	-	-	-	-
10	Z03	Br	-	Ground
11	P111	R	-	Main drive blower power supply
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	P115	R	-	Copilot blower power supply
16	P116	R	-	Switch class power supply KL30 shift switch/parking switch
17	P117	R	-	Rear blower power supply
18	-	-	-	-

B08 Body electrical box C2

174045-2-TE(black)
Body electrical box C2

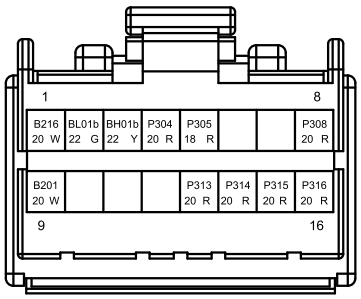


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P201	R	-	Front USB power KL30
2	P202	R	-	Rear USB power KL30

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
3	P203	R	-	PTC controller KL30
4	P204	R	-	Air conditioning controller KL30
5	P205	R	-	Compressor power supply KL30
6	-	-	-	-
7	P207	R	-	Car TV power supply KL30
8	-	-	-	-
9	P209	R	-	Bar pump power KL30
10	P210	R	-	Wireless charging power KL30
11	-	-	-	-
12	-	-	-	-

B09 Body electrical box C3

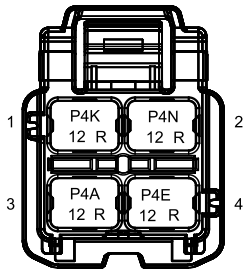
174046-2-TE
Body electrical box C3



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B216	W	-	KL15 Power-on and power-off request
2	BL01b	G	-	BCANFD1-L
3	BH01b	Y	-	BCANFD1-H
4	P304	R	-	OBD Interface Power B+
5	P305	R	-	IPC panel power B+
6	-	-	-	-
7	-	-	-	-
8	P308	R	-	HUD Power KL30-Delay 15s power off
9	B201	W	-	KL30 Power-on and power-off request
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	P313	R	-	IVI screen power supply KL30
14	P314	R	-	CAR screen power supply KL30
15	P315	R	-	Sleeper switch group power B+
16	P316	R	-	ESCL Power supply B+

B10 Body electrical box C4

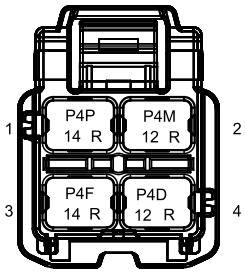
2388170-1-TE(black)
Body electrical box C4



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4K	R	-	Right battery water pump
2	P4N	R	-	Right battery fan 1
3	P4A	R	-	Left battery water pump
4	P4E	R	-	Left battery fan 1

B11 Body electrical box C5

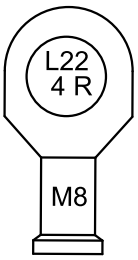
2388170-2-TE(grey)
Body electrical box C5



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4P	R	-	Motor water pump 2
2	P4M	R	-	Right battery fan 2
3	P4F	R	-	Motor water pump 1
4	P4D	R	-	Left battery fan 2

B12 Chassis smart box T4

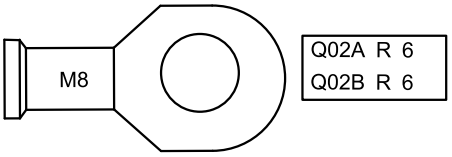
DJ431-8E
Chassis smart box T4



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	L22	R	-	Total body power supply B+

B13 Chassis smart box T5

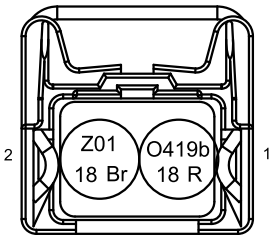
DJ431-8E
Chassis smart box T5



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Q02A	R	-	Power source
1	Q02B	R	-	Power source

B14 Woofer horn

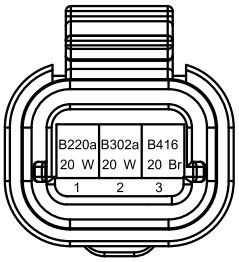
282189-1-TE
Woofer horn



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O419b	R	-	Horn power supply
2	Z01	Br	-	Ground

B15 Left-low-beam adjustment motor

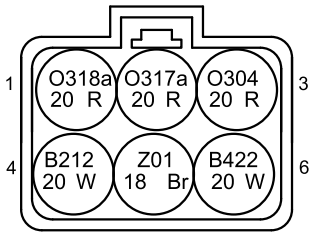
936527-2-TE
Left-low-beam adjustment motor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B220a	W	-	Power source
2	B302a	W	-	Low light height gear signal
3	B416	Br	-	Ground

B16 Front left combination light

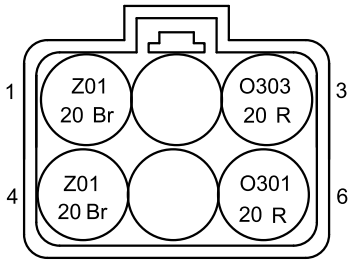
PP0444504-THB
Front left combination light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O318a	R	-	Position light
2	O317a	R	-	ADS lamp
3	O304	R	-	Left DRL
4	B212	W	-	Left front turn signal
5	Z01	Br	-	Ground
6	B422	W	-	Left front turn signal fault feedback

B19 Front left light

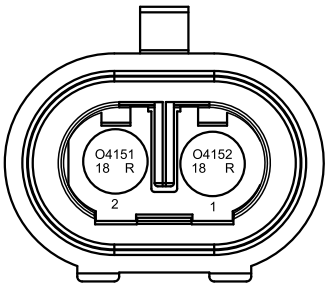
PP0444504-THB
Front left light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z01	Br	-	Ground
2	-	-	-	-
3	O303	R	-	Left high beam
4	Z01	Br	-	Ground
5	-	-	-	-
6	O301	R	-	Near left light

B20 Emergency high voltage plug-in 1

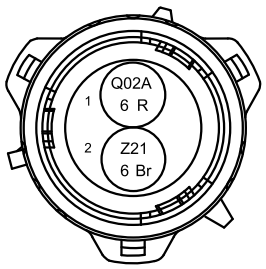
282104-1-TE
Emergency high voltage plug-in 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O4152	R	-	Battery pack -B+
2	O4151	R	-	Battery pack -B+

B21 Vehicle inverter 1-2

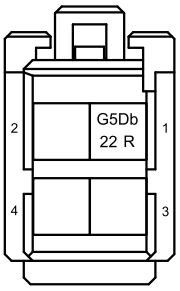
121583-0025-ITT
Vehicle inverter 1-2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Q02A	R	-	Power source
2	Z21	Br	-	Ground

B22 Vehicle inverter X1-1

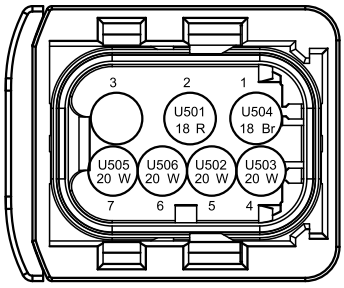
1-1827864-2-TE
Vehicle inverter X1-1



Stitch	Wire number	Line color	Voltage	Stitch definition
1	G5Db	R	-	KL15 is enabled
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-

B23 Brake signal generator

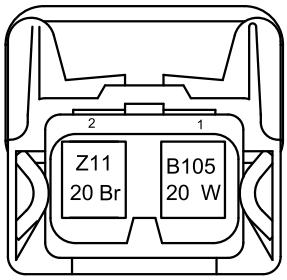
1-1418480-1-TE
Brake signal generator



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U504	Br	-	Ground
2	U501	R	-	Power source
3	-	-	-	-
4	U503	W	-	Switch signal 1SW1
5	U502	W	-	Travel signal 1PWM1
6	U506	W	-	Switch signal 1SW1
7	U505	W	-	Travel signal 2PWM2

B24 Washing pot motor

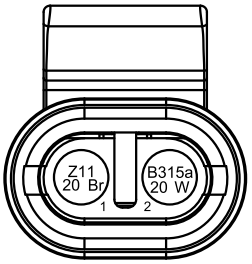
DJ7024Y-3.5-20
Washing pot motor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	B105	W	-	Power source
2	Z11	Br	-	Ground

B28 Step light 1

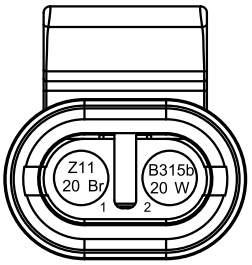
PP0450304-THB
Step light 1



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z11	Br	-	Ground
2	B315a	W	-	Step light +

B29 Step light 2

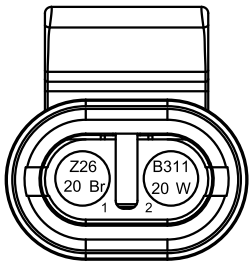
PP0450304-THB
Step light 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z11	Br	-	Ground
2	B315b	W	-	Step light +

B30 Toolbox light

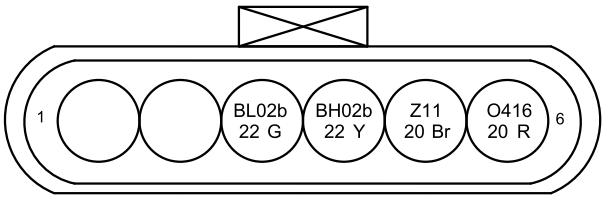
PP0450304-THB
Toolbox light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z26	Br	-	Ground
2	B311	W	-	External toolbox light +

B31 Low speed alarm module

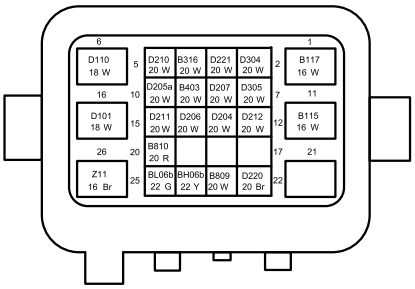
PP0451104-THB
Low speed alarm module



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	BL02b	G	-	BCANFD2-L
4	BH02b	Y	-	BCANFD2-H
5	Z11	Br	-	Ground
6	O416	R	-	Power KL30

B32 Sliding door hinge

33EMMT26FBK
Sliding door hinge

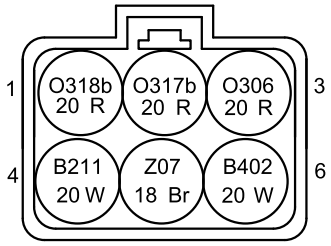


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B117	W	-	Right window up +
2	D304	W	-	Unlock motor positive
3	D221	W	-	Outer handle LED+
4	B316	W	-	Welcome light +
5	D210	W	-	Switch motor reset signal
6	D110	W	-	Electric suction/ electric switch motor +
7	D305	W	-	Unlock motor negative
8	D207	W	-	Lock condition
9	B403	W	-	External handle door switch signal
10	D205a	W	-	Full lock signal
11	B115	W	-	Right window down +
12	D212	W	-	Induction motor reset signal
13	D204	W	-	Half-lock signal
14	D206	W	-	Track lock in place signal
15	D211	W	-	Anti-clamp signal
16	D101	W	-	Electric suction/ electric switch motor -
17	-	-	-	-
18	-	-	-	-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
19	-	-	-	-
20	B810	R	-	Bluetooth +NFC power supply
21	-	-	-	-
22	D220	Br	-	DCM signal ground
23	B809	W	-	Bluetooth ID
24	BH06b	Y	-	BCAN6-H
25	BL06b	G	-	BCAN6-L
26	Z11	Br	-	Common ground

B33 Front right combination light

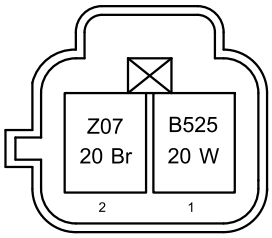
PP0444504-THB
Front right combination light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O318b	R	-	Position light
2	O317b	R	-	ADS lamp
3	O306	R	-	Right DRL
4	B211	W	-	Right front turn signal
5	Z07	Br	-	Ground
6	B402	W	-	Right front turn signal fault feedback

B34 Washing pot level sensor

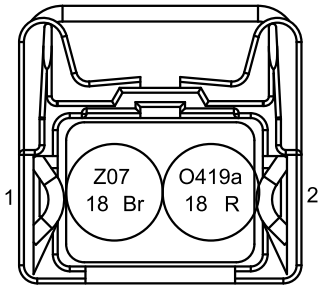
7283-5548-30-YAZAKA
Washing pot level sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B525	W	-	Washing liquid level switch
2	Z07	Br	-	Ground

B35 Tweeter horn

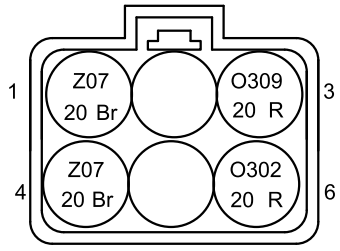
282189-1-TE
Tweeter horn



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z07	Br	-	Ground
2	O419a	R	-	Horn power supply

B36 Front right light

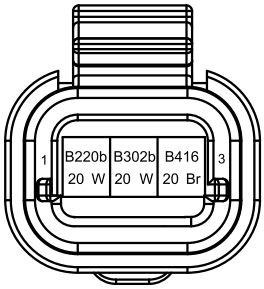
PP0444504-THB
Front right light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z07	Br	-	Ground
2	-	-	-	-
3	O309	R	-	Right high beam
4	Z07	Br	-	Ground
5	-	-	-	-
6	O302	R	-	Right low light

B37 Right low-beam adjustment motor

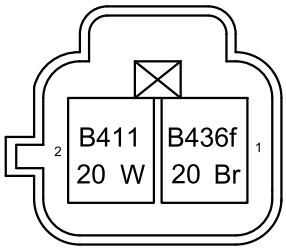
936527-2-TE
Right low-beam adjustment motor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B220b	W	-	Low light height power supply
2	B302b	W	-	Gear signal
3	B416	Br	-	Ground

B38 Ambient temp sensor

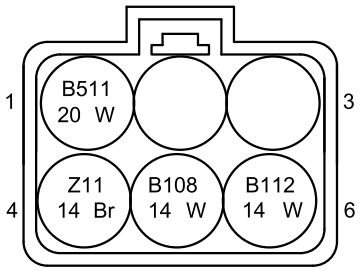
7283-7028-30(YAZAKI)
Ambient temp sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B436f	Br	-	sensorily
2	B411	W	-	Outdoor temperature signal

B39 Wiper motor

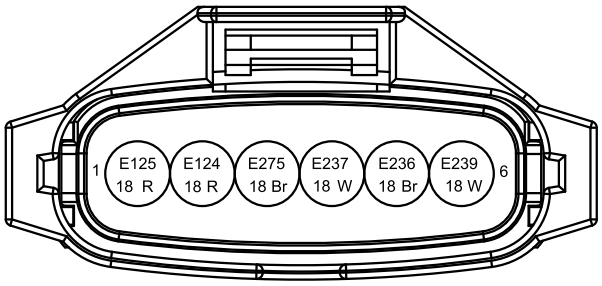
PP0444504-THB
Wiper motor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B511	W	-	Wiper return signal
2	-	-	-	-
3	-	-	-	-
4	Z11	Br	-	Ground
5	B108	W	-	Wiper low speed +
6	B112	W	-	Wiper speed +

B40 Accelerator pedal

936394-2-TE
Accelerator pedal

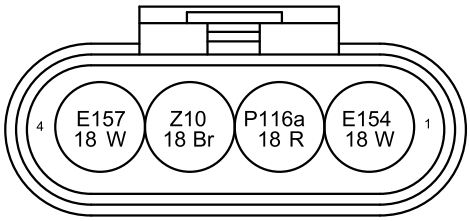


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	E125	R	-	Power Supply 2
2	E124	R	-	Power Supply 1
3	E275	Br	-	Ground 1

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
4	E237	W	-	Signal 1
5	E236	Br	-	Ground 2
6	E239	W	-	Signal 2

B41 Brake pedal switch

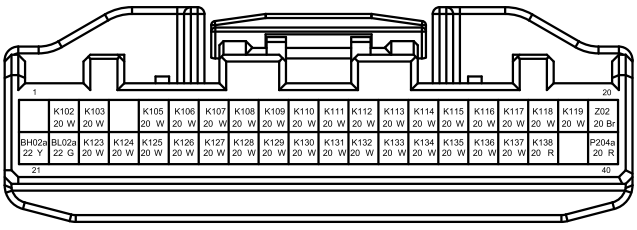
282088-1-TE
Brake pedal switch



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	E154	W	-	Parking switch normally on - highly effective
2	P116a	R	-	Switching power supply
3	Z10	Br	-	Ground
4	E157	W	-	Brake open normally closed - low effective

B42 Air conditioning controller A

1318389-1-AMP
Air conditioning controller A

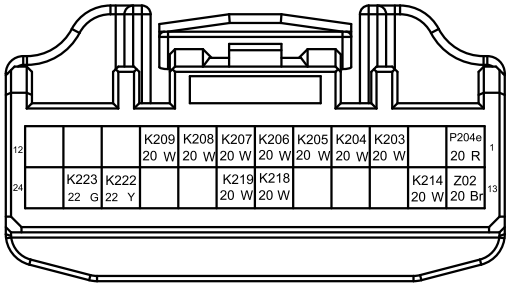


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	K102	W	-	Former SOV-
3	K103	W	-	After SOV-
4	-	-	-	-
5	K105	W	-	Main blast PWM
6	K106	W	-	Main blast feedback
7	K107	W	12V	Main internal and external circulation +
8	K108	W	-	Main internal and external circulation -
9	K109	W	12V	Main heating and cooling motor +
10	K110	W	-	Main heating and cooling motor -
11	K111	W	12V	Master defrost +
12	K112	W	-	Master defrost -
13	K113	W	12V	Main blow foot +
14	K114	W	-	Master blow foot -
15	K115	W	-	Main defrosting feedback
16	K116	W	-	Main blow foot feedback
17	K117	W	-	Actuator carbon film 5V+
18	K118	W	-	Main evaporation sensor 5V+
19	K119	W	-	Main outlet air temperature sensor 5V+
20	Z02	Br	-	Ground
21	BH02a	Y	-	BCANFD2-H
22	BL02a	G	-	BCANFD2-L
23	K123	W	12V	Auxiliary internal and external cycle motor +

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
24	K124	W	-	Auxiliary internal and external cycle motor -
25	K125	W	12V	Auxiliary heating and cooling motor +
26	K126	W	-	Auxiliary heating and cooling motor -
27	K127	W	-	Sub-defrosting +
28	K128	W	-	Secondary defrosting -
29	K129	W	12V	Secondary blow foot +
30	K130	W	-	Deputy blow foot -
31	K131	W	-	Secondary defrosting feedback
32	K132	W	-	Secondary foot feedback
33	K133	W	-	Secondary evaporation temperature sensor
34	K134	W	-	Secondary outlet air temperature sensor
35	K135	W	-	sensorily
36	K136	W	-	Secondary blast PWM
37	K137	W	-	Secondary blast feedback
38	K138	R	12V	Temperature sensor 12+
39	-	-	-	-
40	P204a	R	-	Power KL30

B43 Air conditioner Controller B

1717112-2-AMP
Air conditioner Controller B

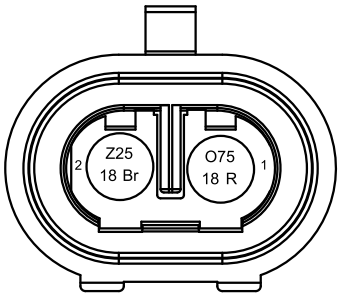


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P204e	R	-	Power KL30
2	-	-	-	-
3	K203	W	-	Rear blast PWM
4	K204	W	-	Rear blast feedback
5	K205	W	12V	After cooling motor +
6	K206	W	-	After cooling the motor -
7	K207	W	-	Post evaporation temperature sensor
8	K208	W	-	Rear outlet temperature sensor
9	K209	W	-	Interior temperature sensor - Front
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	Z02	Br	-	Ground
14	K214	W	-	Temperature sensor signal inside the car
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
18	K218	W	-	Front left air conditioning inner and outer loop feedback signal
19	K219	W	-	Front right air conditioning inside and outside loop feedback signal
20	-	-	-	-
21	-	-	-	-
22	K222	Y	-	Air conditioning CAN-H
23	K223	G	-	Air conditioning CAN-L
24	-	-	-	-

B45 Car refrigerator

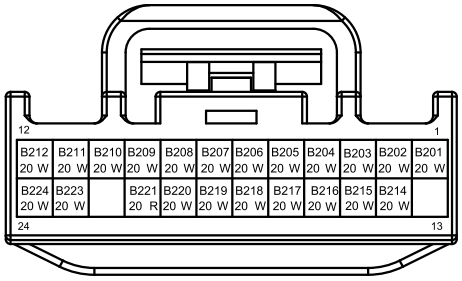
282104-1-TE
Car refrigerator



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O75	R	-	Car refrigerator power KL30
2	Z25	Br	-	Ground

B46 Body controller BDCU-2

MG655761-KET
BDCU-2

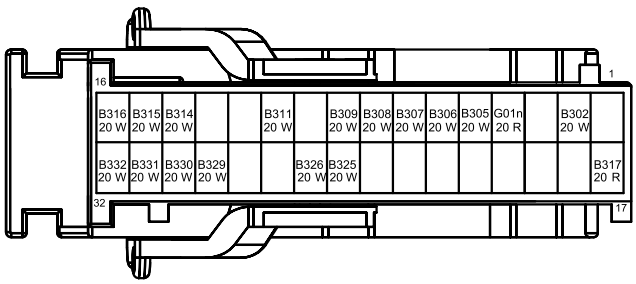


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B201	W	-	KL30 Power-on and power-off request
2	B202	W	-	Awning curtain open switch signal
3	B203	W	-	Adjust right rearview mirror to the right
4	B204	W	-	Bar locker lighting +
5	B205	W	-	Right charging port motor - lock
6	B206	W	-	Adjust right rearview mirror upward
7	B207	W	-	Adjust the left rearview mirror to the right
8	B208	W	-	Left rearview mirror left/down adjust the common end
9	B209	W	-	Right charging port motor - Unlock
10	B210	W	-	Adjust left rearview mirror upward
11	B211	W	-	Right front turn signal
12	B212	W	-	Left front turn signal

Stitch	Wire number	Line color	Voltage	Stitch definition
13	-	-	-	-
14	B214	W	-	Awning curtain close switch signal
15	B215	W	-	DCDC3 Enable +
16	B216	W	-	KL15 Power-on and power-off request
17	B217	W	-	Right rearview mirror left/down adjust the public end
18	B218	W	-	Backlight +
19	B219	W	-	Top profile light +
20	B220	W	-	low-beam adjustment motor +
21	B221	W	-	Rearview mirror heating +
22	-	-	-	-
23	B223	W	-	Left center rear turn signal
24	B224	W	-	Right center rear turn signal

B47 BDCU-3

2050723-1(AMP)
BDCU-3

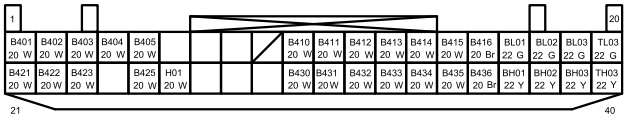


Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	B302	W	-	Low light height gear signal output
3	-	-	-	-
4	G01n	R	-	KL15 power signal feedback
5	B305	W	-	Identification lamp 1+
6	B306	W	-	Identification lamp 2+
7	B307	W	-	Identification lamp 3+
8	B308	W	-	Reading light +
9	B309	W	-	Sunlight rainfall LIN
10	-	-	-	-
11	B311	W	-	External toolbox light +
12	-	-	-	-
13	-	-	-	-
14	B314	W	-	Block key work indicator +
15	B315	W	-	Step light +
16	B316	W	-	Welcome light +
17	B317	R	12V	12V power output
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	B325	W	-	Sleeper reading light +
26	B326	W	-	Hazard warning switch indicator light
27	-	-	-	-
28	-	-	-	-
29	B329	W	-	Front sunshade closed
30	B330	W	-	Front sunshade open

Stitch	Wire number	Line color	Voltage	Stitch definition
31	B331	W	-	Left charging port motor - lock
32	B332	W	-	Left charging port motor - Unlock

B48 BDCU-4

1318389-1-TE
BDCU-4

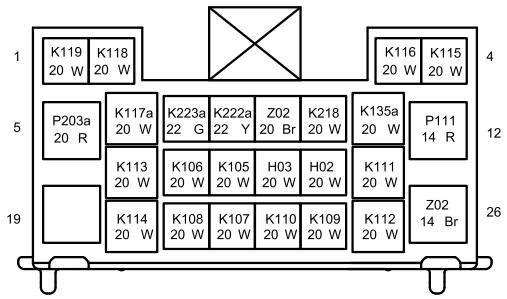


Stitch	Wire number	Line color	Voltage	Stitch definition
1	B401	W	-	Wash switch
2	B402	W	-	Right front turn signal fault feedback
3	B403	W	-	The door handle flicks the switch
4	B404	W	-	Main drive shade lowering switch
5	B405	W	-	Toolbox switch
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	B410	W	-	Effluent temperature signal
11	B411	W	-	Outdoor temperature signal
12	B412	W	-	Low pressure/ temperature sensor
13	B413	W	-	Low pressure PT sensor - pressure signal
14	B414	W	-	Sensor Power supply 5V+ high/ Low pressure/ temperature sensor
15	B415	W	-	Left/right turn signal switch
16	B416	Br	-	Analog switch (light/wiper) public area
17	BL01	G	-	BCANFD1-L
18	BL02	G	-	BCANFD2-L
19	BL03	G	-	BCANFD3-L
20	TL03	G	-	GWCANFD3-L
21	B421	W	-	Brake pad wear alarm signal
22	B422	W	-	Left front turn signal fault feedback
23	B423	W	-	Illegal off-seat switch 1
24	-	-	-	-
25	B425	W	-	Seat belt switch
26	H01	W	-	Differential lock status feedback
27	-	-	-	-
28	-	-	-	-
29	-	-	-	-
30	B430	W	-	Exhaust temperature cgq signal
31	B431	W	-	Inlet temperature signal
32	B432	W	-	High pressure/ temperature sensor

Stitch	Wire number	Line color	Voltage	Stitch definition
33	B433	W	-	High pressure PT sensor - pressure signal
34	B434	W	-	Wiper switch signal
35	B435	W	-	High beam/passing light switch
36	B436	Br	-	sensorily
37	BH01	Y	-	BCANFD1-H
38	BH02	Y	-	BCANFD2-H
39	BH03	Y	-	BCANFD3-H
40	TH03	Y	-	GWCANFD3-H

B52 Left side air conditioner

6098-7906-SWS
Left side air conditioner

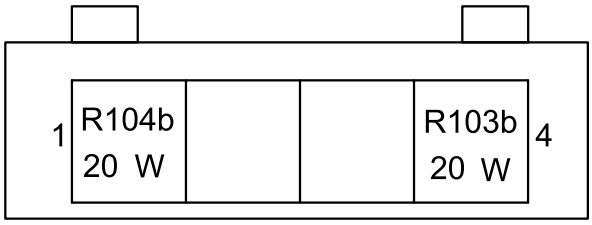


Stitch	Wire number	Line color	Voltage	Stitch definition
1	K119	W	-	Outlet air temperature sensor 5V+
2	K118	W	-	Evaporation sensor 5V+
3	K116	W	-	Blowfoot actuator feedback
4	K115	W	-	Defrosting actuator feedback
5	P203a	R	-	PTC controller KL30
6	K117a	W	-	Actuator carbon film 5V+
7	K223a	G	-	Air conditioning CAN-L
8	K222a	Y	-	Air conditioning CAN-H
9	Z02	Br	-	PTC grounding
10	K218	W	-	Air conditioning inside and outside circulation feedback signal
11	K135a	W	-	sensorily
12	P111	R	-	Blast power supply +
13	K113	W	12V	Blower motor 12V+
14	K106	W	-	Blower feedback
15	K105	W	-	Blower speed regulation PWM
16	H03	W	-	High voltage interlock in- air conditioning from sleeper
17	H02	W	-	High voltage interlock out- to passenger air conditioning
18	K111	W	12V	Defrosting motor 12V+
19	-	-	-	-
20	K114	W	-	Blower foot motor 12V-
21	K108	W	-	Internal and external cycle motor 12V-
22	K107	W	12V	Internal and external cycle motor 12V+
23	K110	W	-	Heating and cooling motor 12V-
24	K109	W	12V	Heating and cooling motor 12V+

Stitch	Wire number	Line color	Voltage	Stitch definition
25	K112	W	-	Defrosting motor 12V-
26	Z02	Br	-	Blast power supply -

B53 Left woofer

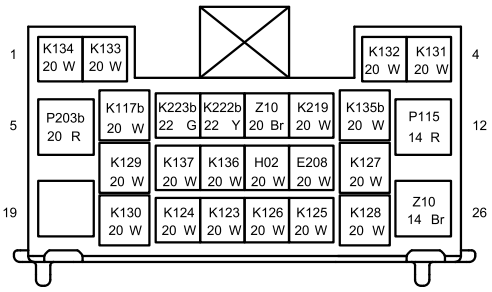
4D0972704
Left woofer



Stitch	Wire number	Line color	Voltage	Stitch definition
1	R104b	W	-	Left woofer -
2	-	-	-	-
3	-	-	-	-
4	R103b	W	-	Left woofer+

B54 Right side air conditioner

6098-7906-SWS
Right side air conditioner

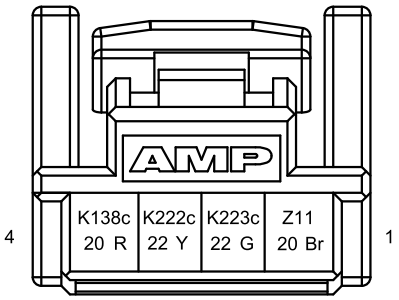


Stitch	Wire number	Line color	Voltage	Stitch definition
1	K134	W	-	Outlet air temperature sensor 5V+
2	K133	W	-	Evaporation sensor 5V+
3	K132	W	-	Blowfoot actuator feedback
4	K131	W	-	Defrosting actuator feedback
5	P203b	R	-	PTC controller KL30
6	K117b	W	-	Actuator carbon film 5V+
7	K223b	G	-	Air conditioning CAN-L
8	K222b	Y	-	Air conditioning CAN-H
9	Z10	Br	-	PTC grounding
10	K219	W	-	Air conditioning inside and outside circulation feedback signal
11	K135b	W	-	sensorily
12	P115	R	-	Blast power supply +
13	K129	W	12V	Blower motor 12V+
14	K137	W	-	Blower feedback
15	K136	W	-	Blower speed regulation PWM
16	H02	W	-	High voltage interlock in- air conditioning from the main driver
17	E208	W	-	High voltage interlock out- to VDC
18	K127	W	-	Defrosting motor 12V+
19	-	-	-	-
20	K130	W	-	Blower foot motor 12V-
21	K124	W	-	Internal and external cycle motor 12V-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
22	K123	W	12V	Internal and external cycle motor 12V+
23	K126	W	-	Heating and cooling motor 12V-
24	K125	W	12V	Heating and cooling motor 12V+
25	K128	W	-	Defrosting motor 12V-
26	Z10	Br	-	Blast power supply -

B55 Fragrance

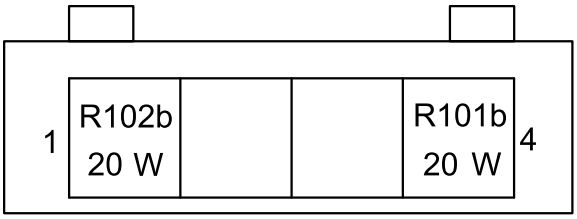
1473672-1-AMP
Fragrance



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z11	Br	-	Ground
2	K223c	G	-	Air conditioning CAN-L
3	K222c	Y	-	Air conditioning CAN-H
4	K138c	R	12V	12V power supply +

B56 Right woofer

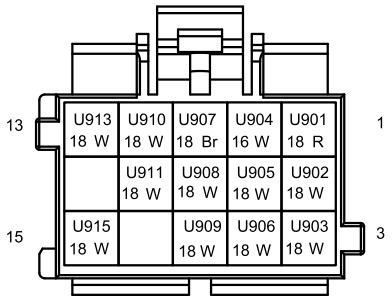
4D0972704
Right woofer



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R102b	W	-	Right woofer -
2	-	-	-	-
3	-	-	-	-
4	R101b	W	-	Right woofer +

B57 ECAS X2

1-967623-1-TE(purple)
ECAS X2

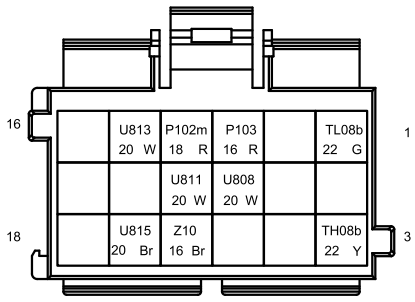


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U901	R	-	ECAS Air pressure sensor public power supply
2	U902	W	-	Right rear axle pressure signal
3	U903	W	-	Front axle pressure signal
4	U904	W	-	Suspension solenoid valve public power supply

Stitch	Wire number	Line color	Voltage	Stitch definition
5	U905	W	-	Left rear axle height signal
6	U906	W	-	Left rear axle pressure signal
7	U907	Br	-	sensorily
8	U908	W	-	Right rear axle height signal
9	U909	W	-	Front axle height signal
10	U910	W	-	Left rear solenoid valve
11	U911	W	-	Central solenoid valve
12	-	-	-	-
13	U913	W	-	Right rear solenoid valve
14	-	-	-	-
15	U915	W	-	Front axle solenoid valve

B58 ECAS X1

1-967624-1-TE(grey)
ECAS X1

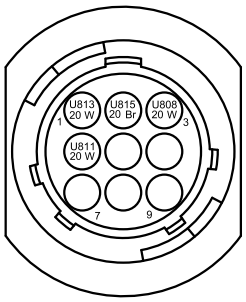


Stitch	Wire number	Line color	Voltage	Stitch definition
1	TL08b	G	-	Chassis CAN8-L
2	-	-	-	-
3	TH08b	Y	-	Chassis CAN8-H
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-

Stitch	Wire number	Line color	Voltage	Stitch definition
7	P103	R	-	ECAS Power supply KL30
8	U808	W	-	Remote control CLOCK
9	-	-	-	-
10	P102m	R	-	ECAS Power supply KL15
11	U811	W	-	Remote control DATA
12	Z10	Br	-	ECAS grounding
13	U813	W	-	Remote control power supply
14	-	-	-	-
15	U815	Br	-	Remote control grounding
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-

B59 Remote control unit

206705-4-TE
Remote control unit

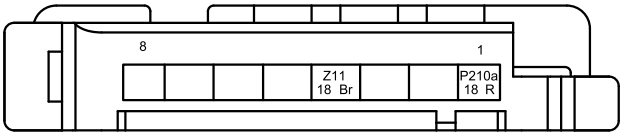


Stitch	Wire number	Line color	Voltage	Stitch definition
1	U813	W	-	Remote control power supply
2	U815	Br	-	Remote control grounding
3	U808	W	-	Remote control CLOCK
4	U811	W	-	Remote control DATA

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-

B60 Wireless charging

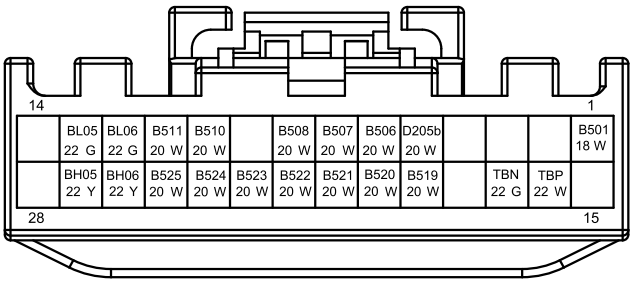
1743282-1-TE
Wireless charging



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P210a	R	-	Power KL30
2	-	-	-	-
3	-	-	-	-
4	Z11	Br	-	Ground
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-

B61 BDCU-5

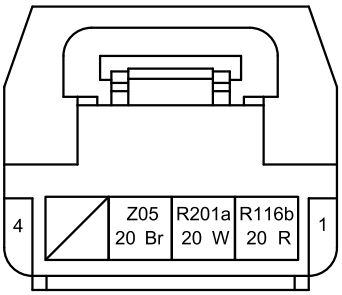
MG655762-KET
BDCU-5



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B501	W	-	DCDC3 fault alarm
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	D205b	W	-	Door full lock signal
6	B506	W	-	Right window drop switch
7	B507	W	-	Left window drop switch
8	B508	W	-	Bar locker switch
9	-	-	-	-
10	B510	W	-	Horn switch
11	B511	W	-	Wiper return switch
12	BL06	G	-	BCAN6-L
13	BL05	G	-	ESCL-BCAN5-L
14	-	-	-	-
15	-	-	-	-
16	TBP	W	-	BDCU-TGW 100 Mbit Ethernet
17	TBN	G	-	BDCU-TGW 100 Mbit Ethernet
18	-	-	-	-
19	B519	W	-	Central control lock switch
20	B520	W	-	Main drive visor lift switch
21	B521	W	-	Right window lift switch
22	B522	W	-	Left window lift switch
23	B523	W	-	Toolbox reset signal
24	B524	W	-	Hazard warning switch
25	B525	W	-	Washing liquid level switch
26	BH06	Y	-	BCAN6-H
27	BH05	Y	-	ESCL-BCAN5-H
28	-	-	-	-

B62 Ambient light 1

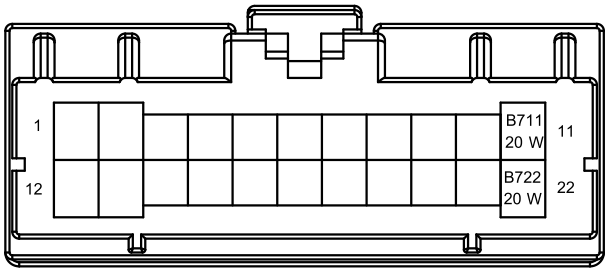
6098-5267-SWS
Ambient light 1



Stitch	Wire number	Line color	Voltage	Stitch definition
1	R116b	R	12V	Ambient light 12V power supply
2	R201a	W	-	Ambient Light LIN
3	Z05	Br	-	Ground
4	-	-	-	-

B63 BDCU-6B

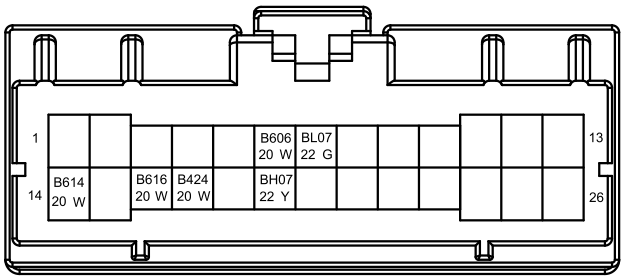
MG611334-KET
BDCU-6B



Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	B711	W	-	External toolbox motor unlock
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-
21	-	-	-	-
22	B722	W	-	External toolbox motor lock

B64 BDCU-6A

MG611336-KET
BDCU-6A

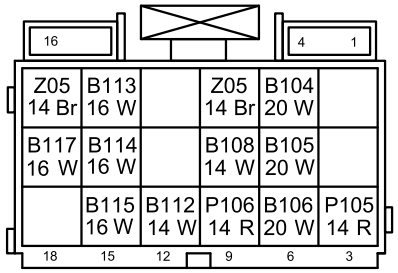


Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	B606	W	-	Turn to oil level detection switch
7	BL07	G	-	BCAN7-L
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
12	-	-	-	-
13	-	-	-	-
14	B614	W	-	Trailer ABS indicator light
15	-	-	-	-
16	B616	W	-	Front cover unlocked signal
17	B424	W	-	Sliding door switch
18	-	-	-	-
19	BH07	Y	-	BCAN7-H
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-

B65 BDCU-1

8-968974-1-TE(grey)
BDCU-1

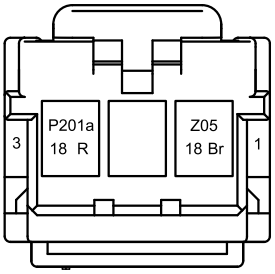


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	P105	R	-	BDCU-B+1
4	B104	W	-	Ceiling light power +
5	B105	W	-	Washing motor power +
6	B106	W	-	Interwheel lock solenoid valve +

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
7	Z05	Br	-	Ground
8	B108	W	-	Wiper low speed power +
9	P106	R	-	BDCU-B+2
10	-	-	-	-
11	-	-	-	-
12	B112	W	-	Wiper high speed power +
13	B113	W	-	Left window down +
14	B114	W	-	Left window up +
15	B115	W	-	Right window down +
16	Z05	Br	-	Ground
17	B117	W	-	Right window up +
18	-	-	-	-

B67 Charging usb interface

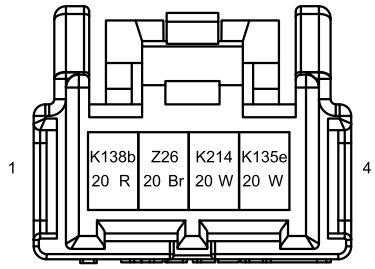
174921-1-TE
Charging usb interface



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z05	Br	-	Ground
2	-	-	-	-
3	P201a	R	-	Front USB power KL30

B68 Rear interior temperature sensor

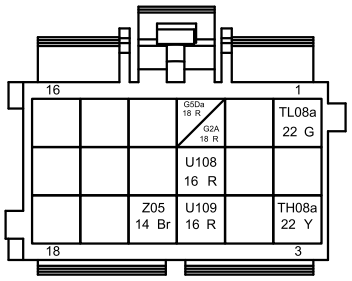
3A04FW HL
Rear interior temperature sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	K138b	R	12V	12V+ power supply
2	Z26	Br	-	Ground
3	K214	W	-	Temperature signal
4	K135e	W	-	Temperature signal

B69 EBS X1

1241581-1-TE(black)
EBS X1

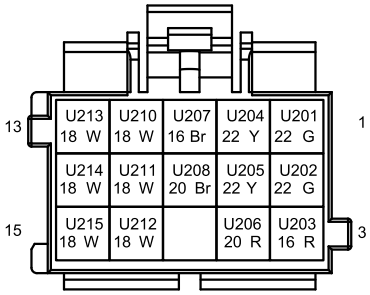


Stitch	Wire number	Line color	Voltage	Stitch definition
1	TL08a	G	-	Chassis CAN8-L
2	-	-	-	-
3	TH08a	Y	-	Chassis CAN8-H
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	G5Da	R	-	EBS-KL15
7	G2A	R	-	EBS-KL15
8	U108	R	-	EBS KL30-2
9	U109	R	-	Power supply KL30-A
10	-	-	-	-

Stitch	Wire number	Line color	Voltage	Stitch definition
11	-	-	-	-
12	Z05	Br	-	Ground
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-

B70 EBS X2

1-967623-1-TE(purple)
EBS X2

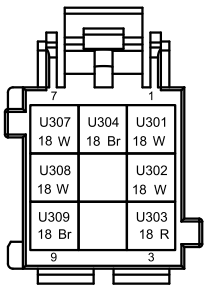


Stitch	Wire number	Line color	Voltage	Stitch definition
1	U201	G	-	2M modulator CAN-L
2	U202	G	-	ESC-CAN-L
3	U203	R	-	2M modulator +
4	U204	Y	-	2M modulator CAN-H
5	U205	Y	-	ESC-CAN-H
6	U206	R	-	ESC Power Supply +
7	U207	Br	-	2M modulator -
8	U208	Br	-	ESC Power Supply -
9	-	-	-	-
10	U210	W	-	Front left ABS solenoid valve -AV valve

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
11	U211	W	-	Front left ABS solenoid valve -EV valve
12	U212	W	-	Front left ABS solenoid valve ground
13	U213	W	-	Front right ABS solenoid valve -AV valve
14	U214	W	-	Front right ABS solenoid valve -EV valve
15	U215	W	-	Front right ABS solenoid valve ground

B71 EBS X3

1-967621-1-TE(blue)
EBS X3

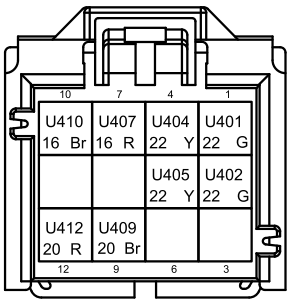


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U301	W	-	Trailer valve AV valve
2	U302	W	-	Trailer valve EV valve
3	U303	R	-	Trailer valve power supply
4	U304	Br	-	Trailer valve grounding
5	-	-	-	-
6	-	-	-	-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
7	U307	W	-	Trailer valve - pressure sensor power supply
8	U308	W	-	Trailer valve - Pressure sensor signal
9	U309	Br	-	Trailer valve - Pressure sensor grounded

B72 EBS X4

1-967622-1-TE(green)
EBS X4

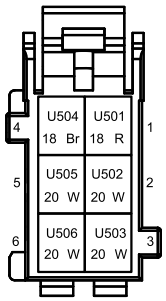


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U401	G	-	1M modulator CAN-L
2	U402	G	-	Steering Angle internal CAN-L
3	-	-	-	-
4	U404	Y	-	1M modulator CAN-H
5	U405	Y	-	Steering Angle internal CAN-H
6	-	-	-	-
7	U407	R	-	1M modulator +
8	-	-	-	-
9	U409	Br	-	Steering Angle ground
10	U410	Br	-	1M modulator -

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
11	-	-	-	-
12	U412	R	-	Steering Angle power supply

B73 EBS X5

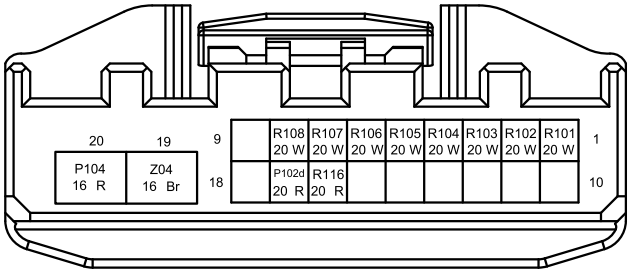
1-965640-1-TE(blue)
EBS X5



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U501	R	-	Power source
2	U502	W	-	Travel signal 1PWM1
3	U503	W	-	Switch signal 2SW2
4	U504	Br	-	Ground
5	U505	W	-	Travel signal 2PWM2
6	U506	W	-	Switch signal 2SW2

B74 Cockpit domain controller 1

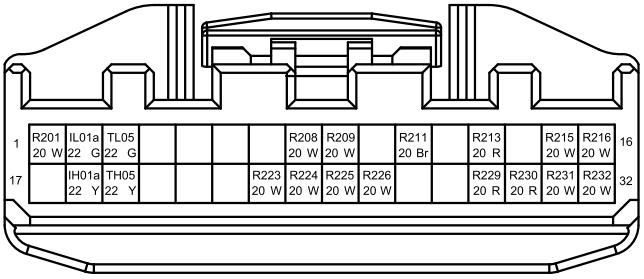
2326818-1-TE
Cockpit domain controller 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R101	W	-	Right high woofer +
2	R102	W	-	Right high woofer -
3	R103	W	-	Left high woofer +
4	R104	W	-	Left high woofer -
5	R105	W	-	Right squawker/ surround-sound speaker +
6	R106	W	-	Right squawker/ surround-sound speaker -
7	R107	W	-	Left squawker/ surround-sound speaker +
8	R108	W	-	Left squawker/ surround-sound speaker -
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	R116	R	12V	Ambient light 12V power supply
17	P102d	R	-	KL15 Power supply
18	-	-	-	-
19	Z04	Br	-	CDC grounding
20	P104	R	-	CDC power B+

B75 Cockpit domain controller 2

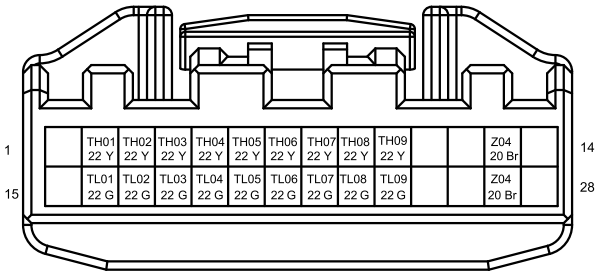
1318747-1-TE
Cockpit domain controller 2



Stitch	Wire number	Line color	Voltage	Stitch definition
1	R201	W	-	Ambient Light LIN
2	IL01a	G	-	INTCANFD1-L
3	TL05	G	-	GWCANFD5-L
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	R208	W	-	Front axle pressure signal
9	R209	W	-	Rear axle pressure signal
10	-	-	-	-
11	R211	Br	-	Barosensorily
12	-	-	-	-
13	R213	R	12V	The IVI screen wakes up the 12V power supply
14	-	-	-	-
15	R215	W	-	MIC2+
16	R216	W	-	MIC1+
17	-	-	-	-
18	IH01a	Y	-	INTCANFD1-H
19	TH05	Y	-	GWCANFD5-H
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	R223	W	-	TV left channel input signal
24	R224	W	-	TV left channel input -
25	R225	W	-	TV right channel input signal
26	R226	W	-	TV right channel input -
27	-	-	-	-
28	-	-	-	-
29	R229	R	12V	The CAR screen wakes up the 12V power supply
30	R230	R	12V	IPC wakes up power supply 12V
31	R231	W	-	MIC2-
32	R232	W	-	MIC1-

B76 T-gateway A

1565380-1-AMP
T-gateway A

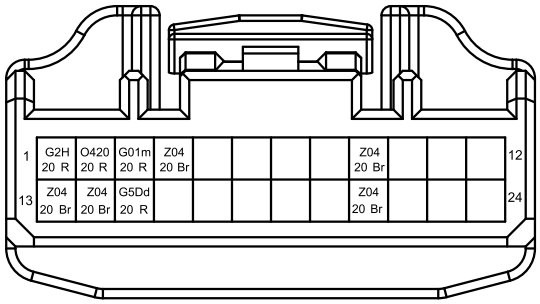


Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	TH01	Y	-	GWCANFD1-H
3	TH02	Y	-	ADSCAN1-H
4	TH03	Y	-	GWCANFD3-H
5	TH04	Y	-	GWCANFD4-H
6	TH05	Y	-	GWCANFD5-H
7	TH06	Y	-	Intelligent driving CAN-H
8	TH07	Y	-	GWCANFD7-H
9	TH08	Y	-	Chassis CAN8-H
10	TH09	Y	-	GWCANFD9-H

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
11	-	-	-	-
12	-	-	-	-
13	Z04	Br	-	Ground
14	-	-	-	-
15	-	-	-	-
16	TL01	G	-	GWCANFD1-L
17	TL02	G	-	ADSCAN1-L
18	TL03	G	-	GWCANFD3-L
19	TL04	G	-	GWCANFD4-L
20	TL05	G	-	GWCANFD5-L
21	TL06	G	-	Intelligent driving CAN-L
22	TL07	G	-	GWCANFD7-L
23	TL08	G	-	Chassis CAN8-L
24	TL09	G	-	GWCANFD9-L
25	-	-	-	-
26	-	-	-	-
27	Z04	Br	-	Ground
28	-	-	-	-

B77 T-gateway B

1318917-1-AMP
T-gateway B

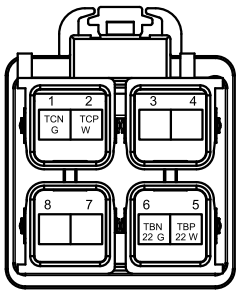


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	G2H	R	-	B1+
2	O420	R	-	B2+
3	G01m	R	-	KL15+1
4	Z04	Br	-	Ground
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
8	-	-	-	-
9	Z04	Br	-	Ground
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	Z04	Br	-	Ground
14	Z04	Br	-	Ground
15	G5Dd	R	-	KL15+2
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-
21	Z04	Br	-	Ground
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-

B78 T-GW Ethernet

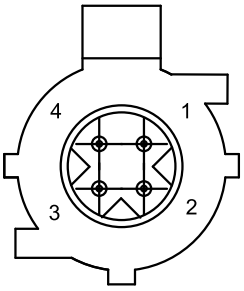
2394102-1 TE
T-GW Ethernet



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	TCN	G	-	CDC Ethernet
2	TCP	W	-	CDC Ethernet
3	-	-	-	-
4	-	-	-	-
5	TBP	W	-	BDCU Ethernet
6	TBN	G	-	BDCU Ethernet
7	-	-	-	-
8	-	-	-	-

B79 T-GW-OBD Ethernet

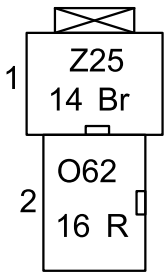
6958NTG14A051
T-GW-OBD Ethernet



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	TRP	W	-	Ethernet received signal +
2	TRN	G	-	Ethernet received signal -
3	TTP	W	-	Ethernet sends signal +
4	TTN	G	-	Ethernet sends signals -

B80 12V car power supply

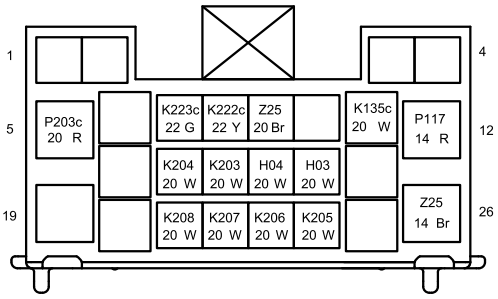
926522-1-TE
12V car power supply



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z25	Br	-	Ground
2	O62	R	-	12V car power supply

B81 Sleeper air conditioner

6098-7906-SWS
Sleeper air conditioner

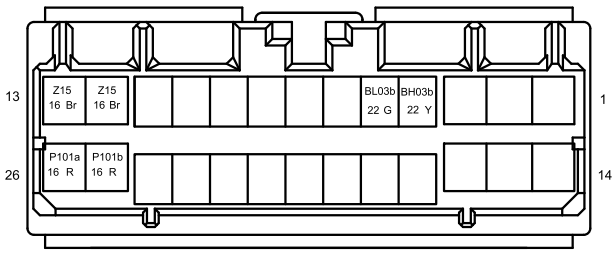


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	P203c	R	-	PTC controller KL30
6	-	-	-	-
7	K223c	G	-	Air conditioning CAN-L
8	K222c	Y	-	Air conditioning CAN-H
9	Z25	Br	-	PTC grounding
10	-	-	-	-
11	K135c	W	-	sensorily
12	P117	R	-	Blast power supply +
13	-	-	-	-
14	K204	W	-	Blower feedback
15	K203	W	-	Blower speed regulation PWM
16	H04	W	-	High voltage interlock in-compressor from chassis
17	H03	W	-	High voltage interlock out- to left air conditioning
18	-	-	-	-
19	-	-	-	-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
20	-	-	-	-
21	K208	W	-	Outlet air temperature sensor 5V+
22	K207	W	-	Evaporator temperature 5V+
23	K206	W	-	Hybrid actuator drives motor 12V-
24	K205	W	12V	Hybrid actuator drives motor 12V+
25	-	-	-	-
26	Z25	Br	-	Blast power supply -

B82 Gated module DCM-A

368136-1-TE
Gated module DCM-A

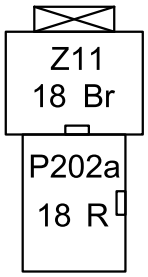


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	BH03b	Y	-	BCANFD3-H
5	BL03b	G	-	BCANFD3-L
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	Z15	Br	-	Ground
13	Z15	Br	-	Ground

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	P101b	R	-	DCM Power supply KL30
26	P101a	R	-	DCM Power supply KL30

B83 Multi-media usb interface

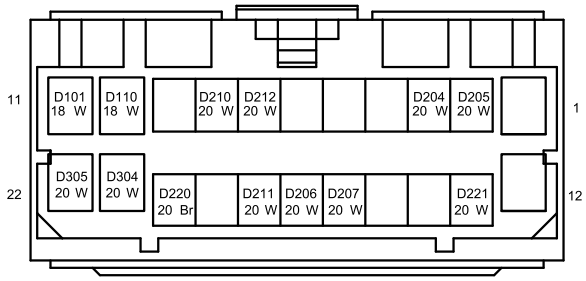
DJ7021-6.3-21
Multi-media usb interface



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z11	Br	-	Ground
2	P202a	R	-	Rear USB power KL30

B84 Gated module DCM-B

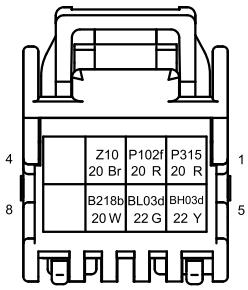
174515-1-TE
Gated module DCM-B



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	D205	W	-	Door full lock signal
3	D204	W	-	Door half-lock signal
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	D212	W	-	Induction motor reset signal
8	D210	W	-	Switch motor reset signal
9	-	-	-	-
10	D110	W	-	Electric suction/ electric switch motor +
11	D101	W	-	Electric suction/ electric switch motor -
12	-	-	-	-
13	D221	W	-	Door handle indicator +
14	-	-	-	-
15	-	-	-	-
16	D207	W	-	Central control door lock status signal
17	D206	W	-	Track lock in place signal
18	D211	W	-	Anti-clamp signal
19	-	-	-	-
20	D220	Br	-	DCM signal ground
21	D304	W	-	Door lock motor +
22	D305	W	-	Door lock motor -

B85 Sleeper switch devices

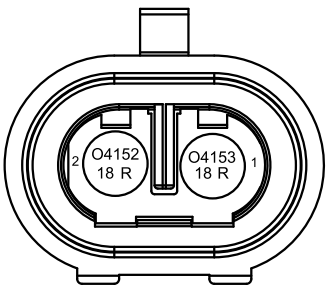
2322346-1-TE
Sleeper switch devices



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P315	R	-	Power B+
2	P102f	R	-	KL15 Power supply
3	Z10	Br	-	Ground
4	-	-	-	-
5	BH03d	Y	-	BCANFD3-H
6	BL03d	G	-	BCANFD3-L
7	B218b	W	-	Backlight power supply PWM+
8	-	-	-	-

B86 Emergency high voltage plug-in 2

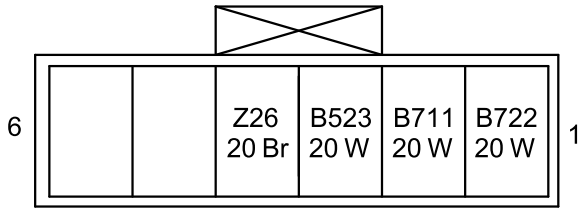
282104-1-TE
Emergency high voltage plug-in 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O4152	R	-	Battery pack -B+
2	O4153	R	-	Battery pack -B+

B87 External toolbox

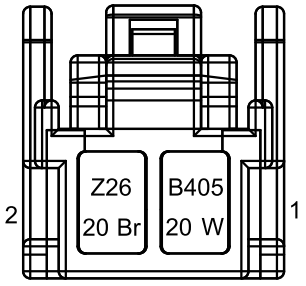
211PC062S1049(FCI)
External toolbox



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B722	W	-	External toolbox motor lock
2	B711	W	-	External toolbox motor unlock
3	B523	W	-	External toolbox reset signal
4	Z26	Br	-	Ground
5	-	-	-	-
6	-	-	-	-

B88 Toolbox switch

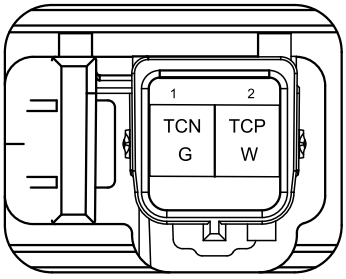
MG610392-KET
Toolbox switch



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B405	W	-	Toolbox switch
2	Z26	Br	-	Ground

B89 CDC Ethernet

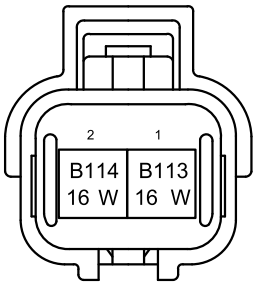
2302510-1 TE
CDC Ethernet



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	TCN	G	-	CDC Ethernet
2	TCP	W	-	CDC Ethernet

B90 Left glass regulator

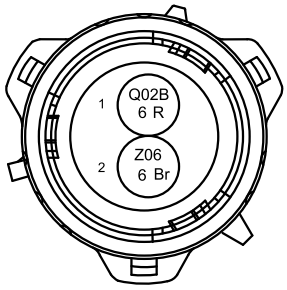
211PC022S8049-FCI
Left glass regulator



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B113	W	-	Left window down +
2	B114	W	-	Left window up +

B91 Vehicle inverter 2-2

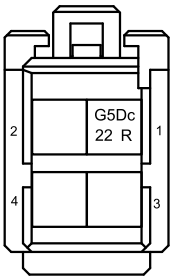
121583-0025-ITT
Vehicle inverter 2-2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Q02B	R	-	Power source
2	Z06	Br	-	Ground

B92 Vehicle inverter 2-1

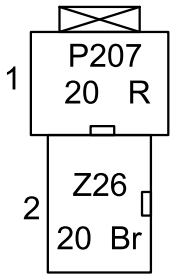
1-1827864-2-TE
Vehicle inverter 2-1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	G5Dc	R	-	KL15 is enabled
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-

B93 TV power interface

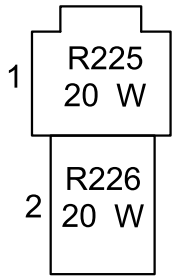
DJ7021-6.3-21
TV power interface



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P207	R	-	Car TV power supply KL30
2	Z26	Br	-	Ground

B94 TV right speaker

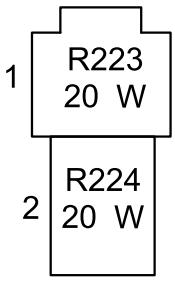
DJ7021-6.3-11
TV right speaker



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R225	W	-	TV right channel input signal
2	R226	W	-	TV right channel input -

B95 TV left speaker

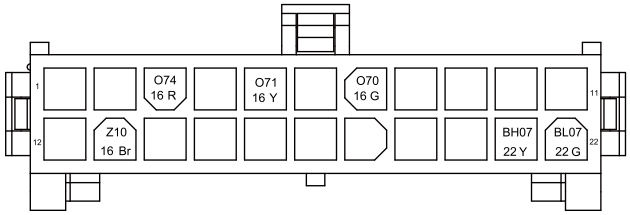
DJ7021-6.3-11
TV left speaker



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R223	W	-	TV left channel input signal
2	R224	W	-	TV left channel input -

B96 Trailer turn signal controller

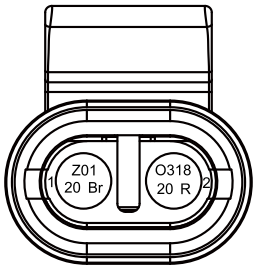
794212-1_TE
Trailer turn signal controller



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	O74	R	-	12V power supply +
4	-	-	-	-
5	O71	Y	-	Left turn signal output +
6	-	-	-	-
7	O70	G	-	Right turn signal output +
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	Z10	Br	-	Ground
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-
21	BH07	Y	-	BCAN7-H
22	BL07	G	-	BCAN7-L

B97 Left front sign light

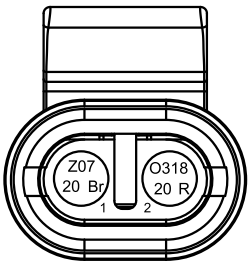
PP0450304-THB
Left front sign light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z01	Br	-	Ground
2	O318	R	-	Sign light +

B98 Right front sign light

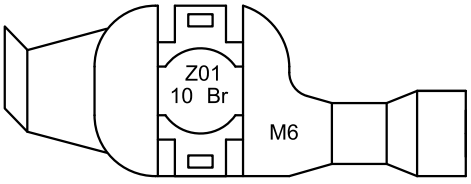
PP0450304-THB
Right front sign light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z07	Br	-	Ground
2	O318	R	-	Sign light +

G22 Take the iron point 1

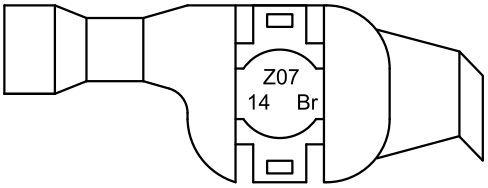
ST431TF-6-6
Take the iron point 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z01	Br	-	Ground

G23 Take the iron point 7

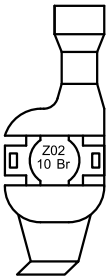
ST431TF-6-2.5
Take the iron point 7



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z07	Br	-	Ground

G24 Take the iron point 2

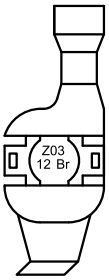
ST431TF-6-6
Take the iron point 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z02	Br	-	Ground

G25 Take the iron point 3

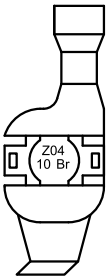
ST431TF-6-2.5
Take the iron point 3



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z03	Br	-	Ground

G26 Take the iron point 4

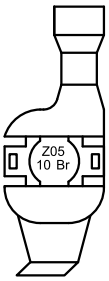
ST431TF-6-6
Take the iron point 4



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z04	Br	-	Ground

G27 Take the iron point 5

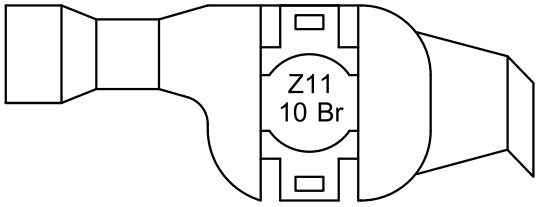
ST431TF-6-6
Take the iron point 5



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z05	Br	-	Ground

G28 Take the iron point 11

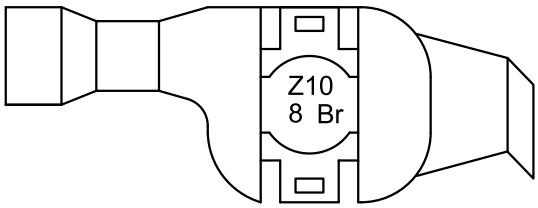
ST431TF-6-6
Take the iron point 11



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z11	Br	-	Ground

G29 Take the iron point 10

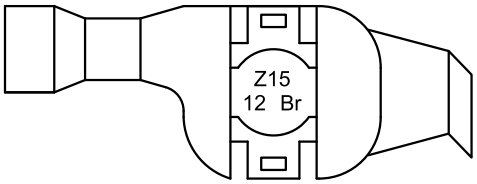
ST431TF-6-8
Take the iron point 10



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z10	Br	-	Ground

G31 Take the iron point 15

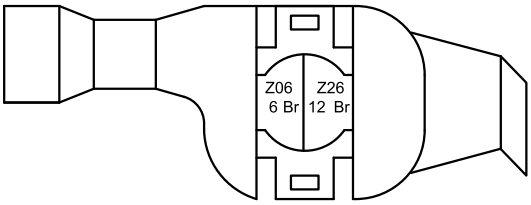
ST431TF-6-6
Take the iron point 15



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z15	Br	-	Ground

G32 Take the iron point 22

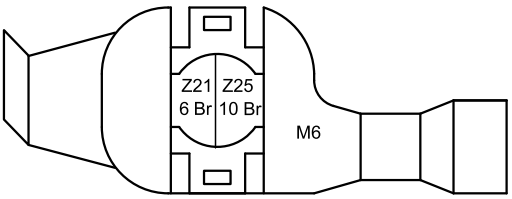
ST431RF-6-25
Take the iron point 22



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z06	Br	-	Ground
1	Z26	Br	-	Ground

G33 Take the iron. 21

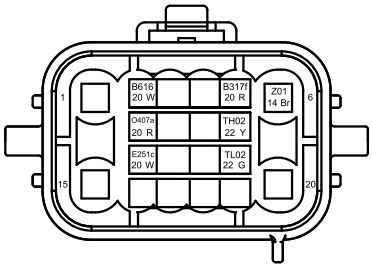
ST431RF-6-25
Take the iron. 21



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z21	Br	-	Ground
1	Z25	Br	-	Ground

I_B_BU The floor harness is connected to the front harness

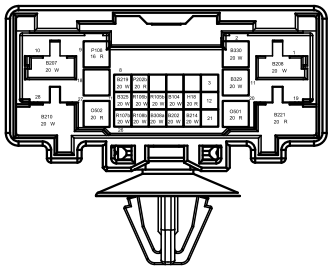
936780-2-TE
The floor harness is connected to the front harness



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	B616	W	-	Front mask switch signal
3	-	-	-	-
4	-	-	-	-
5	B317f	R	12V	12V power supply +
6	Z01	Br	-	Ground
7	O407a	R	-	AGS-KL30
8	-	-	-	-
9	-	-	-	-
10	TH02	Y	-	ADSCAN1-H
11	E251c	W	-	AGS-LIN
12	-	-	-	-
13	-	-	-	-
14	TL02	G	-	ADSCAN1-L
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-

I_B_LR Connect the floor harness to the left ceiling harness

2385449-1-TE
Connect the floor harness to the left ceiling harness

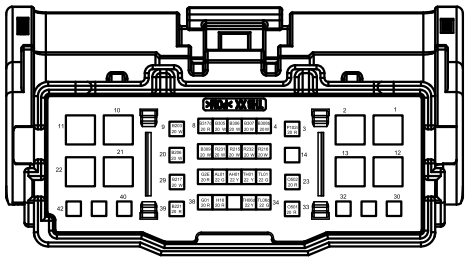


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B208	W	-	Left rearview mirror left/down adjust the common end
2	B330	W	-	Front sunshade open
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	P202b	R	-	Top cabinet power +
8	B219	W	-	Profile light +
9	P108	R	-	Awning curtain KL30+
10	B207	W	-	Left rear-view adjustment to right
11	B329	W	-	Front sunshade closed
12	-	-	-	-
13	H18	R	12V	Camera heating +
14	B104	W	-	Ceiling light +
15	R105b	W	-	Right surround-sound speaker +
16	R106b	W	-	Right surround-sound speaker -
17	B325	W	-	Sleeper reading light +
18	-	-	-	-

Stitch	Wire number	Line color	Voltage	Stitch definition
19	B221	R	-	Rearview mirror heating +
20	O501	R	12V	Left screen 12V+
21	-	-	-	-
22	B214	W	-	Awning curtain close switch
23	B202	W	-	The awning curtain opens the switch
24	B308a	W	-	Reading light +
25	R108b	W	-	Left surround-sound speaker -
26	R107b	W	-	Left surround-sound speaker +
27	O502	R	12V	Left screen 12V+
28	B210	W	-	Adjust left rearview mirror upward

I_B_RR Connect the floor harness to the right ceiling harness

1577401-THB
Connect the floor harness to the right ceiling harness



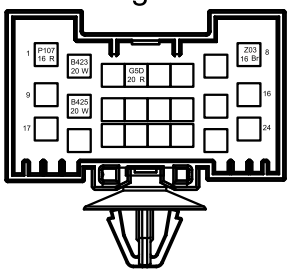
Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	P102i	R	-	Right electronic rear view mirror KL15+
4	B308b	W	-	Reading light +
5	B307	W	-	Identification lamp 3+

Stitch	Wire number	Line color	Voltage	Stitch definition
6	B306	W	-	Identification lamp 2+
7	B305	W	-	Identification lamp 1+
8	B317d	R	12V	12V power output
9	B203	W	-	Adjust right rearview mirror to the right
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	R216	W	-	MIC1+
16	R232	W	-	MIC1-
17	R215	W	-	MIC2+
18	R231	W	-	MIC2-
19	B309	W	-	Sunlight rainfall LIN
20	B206	W	-	Adjust right rearview mirror upward
21	-	-	-	-
22	-	-	-	-
23	O502	R	12V	Left screen 12V+
24	TL01	G	-	GWCANFD1-L
25	TH01	Y	-	GWCANFD1-H
26	AH01	Y	-	HMI Private CAN-H
27	AL01	G	-	HMI private CAN-L
28	G2E	R	-	Fusioncube B+
29	B217	W	-	Right rearview mirror left/down adjust the public end
30	-	-	-	-
31	-	-	-	-
32	-	-	-	-
33	O501	R	12V	Left screen 12V+

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
34	TL06d	G	-	Intelligent driving CAN-L
35	TH06d	Y	-	Intelligent driving CAN-H
36	-	-	-	-
37	H18	R	12V	Camera heating +
38	G01	R	-	Front camera KL15
39	B221	R	-	Rearview mirror heating +
40	-	-	-	-
41	-	-	-	-
42	-	-	-	-

I_B_S Floor wiring harness to seat wiring harness

2298627-1-TE
Floor wiring harness to seat wiring harness

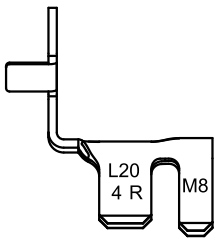


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P107	R	-	Seat power B+
2	B423	W	-	Off seat switch signal
3	-	-	-	-
4	G5D	R	-	The ECU is enabled
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	Z03	Br	-	Ground
9	-	-	-	-
10	B425	W	-	Seat belt signal
11	-	-	-	-
12	-	-	-	-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-

I1_B_BE Floor harness connected to DCDC positive harness 1

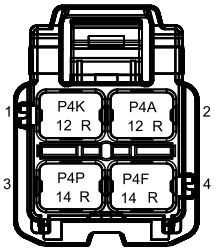
K030766D-20-6
Floor harness connected to DCDC positive harness 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	L20	R	-	DC/DC2 power supply

I1_B_C Floor wiring harness to chassis wiring harness 1

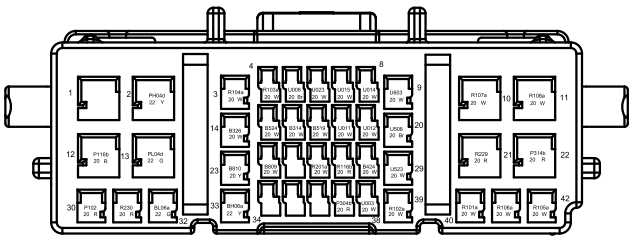
2388170-1-TE(black)
Floor wiring harness chassis wiring harness 1



Stitch	Wire number	Line color	Voltage	Stitch definition
1	P4K	R	-	Right battery pump +
2	P4A	R	-	Left battery pump +
3	P4P	R	-	Motor water pump 2
4	P4F	R	-	Motor water pump 1

I1_B_IP Floor harness to instrument harness 1

1577501-THB
Floor harness to instrument harness 1

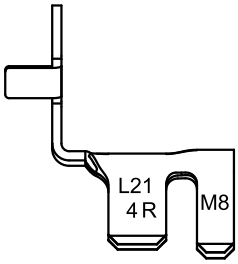


Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	PH04d	Y	-	PCAN4-H
3	R104a	W	-	Left tweeter -
4	R103a	W	-	Left tweeter +
5	U008	Br	-	EPB switch -
6	U023	W	-	EPB Switching power supply
7	U015	W	-	EPB release switch
8	U014	W	-	EPB parking switch
9	U603	W	-	Hang the EPB indicator
10	R107a	W	-	Left alto speaker +
11	R108a	W	-	Left alto speaker -
12	P116b	R	-	Combination switch - Shift -KL30
13	PL04d	G	-	PCAN4-L
14	B326	W	-	Hazard alarm switch light
15	B524	W	-	Hazard warning switch
16	B314	W	-	Block the key work indicator
17	B519	W	-	Unlock the lock switch
18	U011	G	-	EPB1 linear 2
19	U012	Y	-	EPB1 linear 1
20	U508	Br	-	Hanging the EPB switch -
21	R229	R	12V	CDC sends 12V power to wake up the CAR screen
22	P314b	R	-	CAR screen power supply KL30
23	B810	R	-	Bluetooth power for doorknob
24	B809	W	-	Doorknob Bluetooth ID
25	-	-	-	-
26	R201a	W	-	Ambient Light LIN
27	R116b	R	12V	Ambient light 12V power supply
28	B424	W	-	Sliding door switch
29	U523	W	-	Hang EPB switch+
30	P102	R	-	KL15 Power supply +
31	R230	R	12V	IPC wakes up power supply 12V+
32	BL06a	G	-	BCAN6-L
33	BH06a	Y	-	BCAN6-H
34	-	-	-	-
35	-	-	-	-
36	-	-	-	-
37	P304b	R	-	Bluetooth、NFC Module B+
38	U003	W	-	Main EPB indicator light
39	R102a	W	-	Right tweeter -

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
40	R101a	W	-	Right tweeter +
41	R106a	W	-	Right squawker/ surround-sound speaker -
42	R105a	W	-	Right squawker/ surround-sound speaker +

I2_B_BE Floor harness connected to DCDC positive harness 2

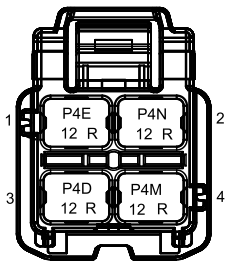
K030766D-20-6
Floor harness connected to DCDC positive harness 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	L21	R	-	DC/DC2 power supply

I2_B_C Floor harness to chassis harness 2

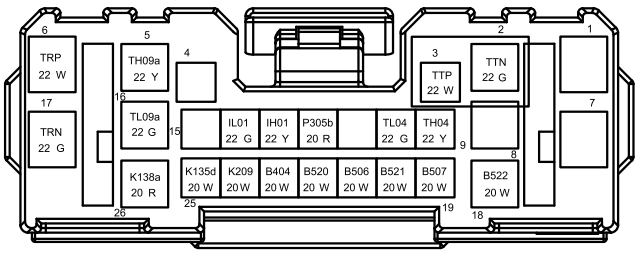
2388170-2-TE(grey)
Floor wiring harness chassis wiring harness 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4E	R	-	Left battery fan 1+
2	P4N	R	-	Right battery fan 1 +
3	P4D	R	-	Left battery fan 2+
4	P4M	R	-	Right battery fan 2 +

I2_B_IP Floor harness to instrument harness 2

1563201-THB
Floor harness to instrument harness 2

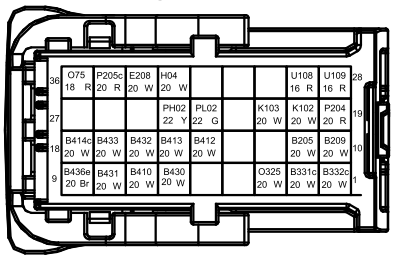


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	TTN	G	-	Ethernet sends signals -
3	TTP	W	-	Ethernet sends signal +
4	-	-	-	-
5	TH09a	Y	-	GWCANFD9-H
6	TRP	W	-	Ethernet received signal +
7	-	-	-	-
8	-	-	-	-
9	TH04	Y	-	GWCANFD4-H
10	TL04	G	-	GWCANFD4-L
11	-	-	-	-
12	P305b	R	-	IPC screen B+
13	IH01	Y	-	INTCANFD1-H
14	IL01	G	-	INTCANFD1-L
15	-	-	-	-
16	TL09a	G	-	GWCANFD9-L
17	TRN	G	-	Ethernet received signal -
18	B522	W	-	Left window lift switch

Stitch	Wire number	Line color	Voltage	Stitch definition
19	B507	W	-	Left window drop switch
20	B521	W	-	Right window lift switch
21	B506	W	-	Right window drop switch
22	B520	W	-	Main drive visor lift switch
23	B404	W	-	Main drive shade lowering switch
24	K209	W	-	Temperature sensor signal in front car
25	K135d	W	-	Front car temperature sensor
26	K138a	R	12V	Temperature sensor inside the front car 12V power supply

I3_B_C Floor wiring harness chassis wiring harness 3

2377780-1(brown)
Floor wiring harness chassis wiring harness 3

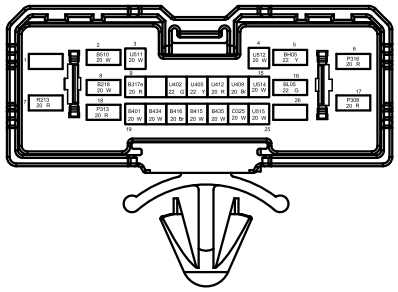


Stitch	Wire number	Line color	Voltage	Stitch definition
1	B332c	W	-	Charging port motor - Unlock
2	B331c	W	-	Charging port motor - lock
3	O325	W	-	Traction seat slip switch
4	-	-	-	-
5	-	-	-	-
6	B430	W	-	Exhaust temperature signal
7	B410	W	-	Effluent temperature signal
8	B431	W	-	Inlet temperature signal
9	B436e	Br	-	sensorily
10	B209	W	-	Right charging port motor - Unlock
11	B205	W	-	Right charging port motor - lock
12	-	-	-	-
13	-	-	-	-
14	B412	W	-	Low pressure/ temperature sensor
15	B413	W	-	Low pressure PT sensor - pressure signal
16	B432	W	-	High pressure/ temperature sensor
17	B433	W	-	High pressure PT sensor - pressure signal
18	B414c	W	-	Sensor power supply 5V
19	P204	R	-	SOV+
20	K102	W	-	Former SOV-
21	K103	W	-	After SOV-
22	-	-	-	-
23	PL02	G	-	Battery PCAN2-L
24	PH02	Y	-	Battery PCAN2-H
25	-	-	-	-
26	-	-	-	-
27	-	-	-	-
28	U109	R	-	EBS KL30-1

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
29	U108	R	-	EBS KL30-2
30	-	-	-	-
31	-	-	-	-
32	-	-	-	-
33	H04	W	-	High pressure interlock in from compressor
34	E208	W	-	High voltage interlock to VDC
35	P205c	R	-	Compressor power supply
36	O75	R	-	Car refrigerator KL30

I3_B_IP Floor harness to instrument harness 3

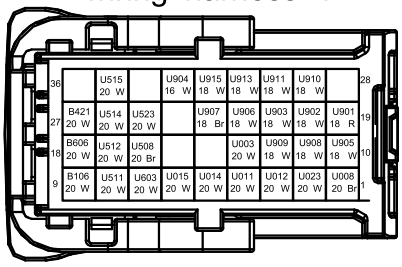
1563301-THB
Floor harness to instrument harness 3



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	B510	W	-	Clock spring - horn switch
3	U511	W	-	Example Hang EPB Hall 2
4	U512	W	-	Hang EPB hall 1
5	BH05	Y	-	ESCL-BCAN5-H
6	P316	R	-	ESCL Power supply B+
7	R213	R	12V	CDC sends 12V power to wake up IVI screen
8	B218	W	-	Backlight +
9	B317e	R	12V	Clock spring 12V power
10	-	-	-	-
11	U402	G	-	Steering Angle internal CAN-L
12	U405	Y	-	Steering Angle internal CAN-H
13	U412	R	-	Steering Angle power supply
14	U409	Br	-	Steering Angle ground
15	U514	W	-	Hang EPB parking switch
16	BL05	G	-	ESCL-BCAN5-L
17	P308	R	-	HUD-KL30+
18	P313	R	-	IVI screen -KL30
19	B401	W	-	Wash switch
20	B434	W	-	Wiper switch
21	B416	Br	-	Left combination switch analog
22	B415	W	-	Turn switch signal
23	B435	W	-	Passing switch
24	O325	W	-	Traction seat slip switch
25	U515	W	-	Hanging EPB release switch
26	-	-	-	-

I4_B_C Floor wiring harness chassis wiring harness 4

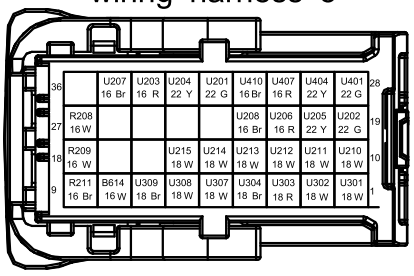
2377780-2-TE(purple)
Floor wiring harness chassis wiring harness 4



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U008	Br	-	EPB switch -
2	U023	W	-	Switch +
3	U012	W	-	EPB1 is linear 1
4	U011	W	-	EPB private CAN-L
5	U014	W	-	Parking switch
6	U015	W	-	Release switch
7	U603	W	-	Hang the EPB indicator
8	U511	W	-	Example Hang EPB Hall 2
9	B106	W	-	Interwheel lock solenoid valve electrical
10	U905	W	-	Left rear axle height signal
11	U908	W	-	Right rear axle height signal
12	U909	W	-	Front axle height signal
13	U003	W	-	Primary EPB indicator
14	-	-	-	-
15	-	-	-	-
16	U508	Br	-	Hanging the EPB switch -
17	U512	W	-	Example Hang EPB Hall 1
18	B606	W	-	Turn to oil tank level sensor signal
19	U901	R	-	ECAS sensor power supply
20	U902	W	-	Right rear axle pressure signal
21	U903	W	-	Front axle pressure signal
22	U906	W	-	Left rear axle pressure signal
23	U907	Br	-	ECAS sensor ground
24	-	-	-	-
25	U523	W	-	Hang up EPB switch +
26	U514	W	-	Hang the EPB parking switch
27	B421	W	-	Brake pad wear alarm signal
28	-	-	-	-
29	U910	W	-	Left rear solenoid valve
30	U911	W	-	Central solenoid valve
31	U913	W	-	Right rear solenoid valve
32	U915	W	-	Front axle solenoid valve
33	U904	W	-	Suspension solenoid valve power supply
34	-	-	-	-
35	U515	W	-	Suspending EPB release switch
36	-	-	-	-

I5_B_C Floor wiring harness chassis wiring harness 5

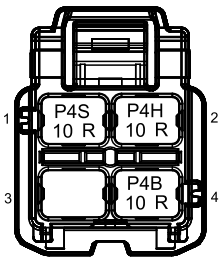
2377780-3-TE(green)
Floor wiring harness chassis wiring harness 5



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U301	W	-	Trailer valve AV valve
2	U302	W	-	Trailer valve EV valve
3	U303	R	-	Trailer valve grounding
4	U304	Br	-	Trailer valve power supply
5	U307	W	-	Trailer valve - pressure sensor power supply
6	U308	W	-	Trailer valve - Pressure sensor signal
7	U309	Br	-	Trailer valve - Pressure sensor grounded
8	B614	W	-	Trailer failure light
9	R211	Br	-	Low pressure sensor -
10	U210	W	-	Front left ABS solenoid valve -AV valve
11	U211	W	-	Front left ABS solenoid valve -EV valve
12	U212	W	-	Front left ABS solenoid valve ground
13	U213	W	-	Front right ABS solenoid valve -AV valve
14	U214	W	-	Front right ABS solenoid valve -EV valve
15	U215	W	-	Front right ABS solenoid valve ground
16	-	-	-	-
17	-	-	-	-
18	R209	W	-	Rear axle pressure signal
19	U202	G	-	ESC-CAN-L
20	U205	Y	-	ESC-CAN-H
21	U206	R	-	ESC+
22	U208	Br	-	ESC-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	R208	W	-	Front axle pressure signal
28	U401	G	-	1M modulator CAN-L
29	U404	Y	-	1M modulator CAN-H
30	U407	R	-	1M modulator +
31	U410	Br	-	1M modulator -
32	U201	G	-	2M modulator CAN-L
33	U204	Y	-	2M modulator CAN-H
34	U203	R	-	2M modulator +
35	U207	Br	-	2M modulator -
36	-	-	-	-

I6_B_C Floor wiring harness chassis wiring harness 6

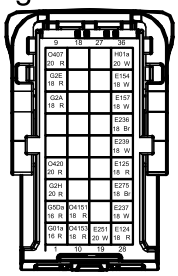
2388170-1-TE(black)
Floor wiring harness chassis wiring harness 6



Stitch	Wire number	Line color	Voltage	Stitch definition
1	P4S	R	-	Motor Fan 2 Power supply
2	P4H	R	-	Motor fan 1 Power supply
3	-	-	-	-
4	P4B	R	-	Motor Fan 3 Power supply

I7_B_C Floor wiring harness chassis wiring harness 7

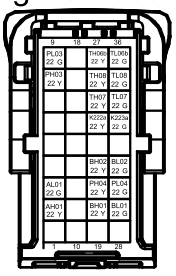
2377780-1-TE(brown)
Floor wiring harness chassis wiring harness 7



Stitch	Wire number	Line color	Voltage	Stitch definition
1	G01a	R	-	KL15-1
2	G5Da	R	-	KL15-3
3	G2H	R	-	T-GW B+1
4	O420	R	-	T-GW B+2
5	-	-	-	-
6	-	-	-	-
7	G2A	R	-	EBS-KL15A
8	G2E	R	-	Main ADCU-B+
9	O407	R	-	AGS-KL30
10	O4153	R	-	Battery pack -B+
11	O4151	R	-	Battery pack -B+
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	E251	W	-	Active Grille Shutter LIN
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	-	-	-	-
28	E124	R	-	Acceleration power 1
29	E237	W	-	Acceleration signal 1
30	E275	Br	-	acceleratedly
31	E125	R	-	Acceleration power 2
32	E239	W	-	Acceleration signal 2
33	E236	Br	-	quickly2
34	E157	W	-	Parking switch 1
35	E154	W	-	Parking switch 2
36	H01a	W	-	Differential lock signal

I8_B_C Floor wiring harness chassis wiring harness 8

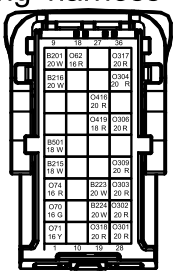
2377780-2-TE(purple)
Floor wiring harness chassis wiring harness 8



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	AH01	Y	-	HMI Private CAN-H
3	AL01	G	-	HMI private CAN-L
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	PH03	Y	-	PCAN3-H
9	PL03	G	-	PCAN3-L
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	BH01	Y	-	BCANFD1-H
21	PH04	Y	-	Electric drive CAN4-H
22	BH02	Y	-	BCANFD2-H
23	-	-	-	-
24	K222a	Y	-	Air conditioning CAN-H
25	TH07	Y	-	GWCANFD7-H
26	TH08	Y	-	Chassis CAN8-H
27	TH06b	Y	-	Intelligent driving CAN-H
28	-	-	-	-
29	BL01	G	-	BCANFD1-L
30	PL04	G	-	Electric drive CAN4-L
31	BL02	G	-	BCANFD2-L
32	-	-	-	-
33	K223a	G	-	Air conditioning CAN-L
34	TL07	G	-	GWCANFD7-L
35	TL08	G	-	Chassis CAN8-L
36	TL06b	G	-	Intelligent driving CAN-L

I9_B_C Floor harness to chassis harness 9

2377780-3-TE(green)
Floor wiring harness chassis wiring harness 9



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O71	Y	-	Trailer left turn signal
2	O70	G	-	Trailer right turn signal
3	O74	R	-	Turn signal controller power +
4	B215	W	-	DCDC3 Enable +
5	B501	W	-	DCDC3 fault alarm
6	-	-	-	-
7	-	-	-	-
8	B216	W	-	KL15 Power-on and power-off request
9	B201	W	-	KL30 Power-on and power-off request
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-

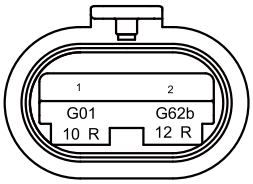
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
17	-	-	-	-
18	O62	R	-	12V car power supply
19	O318	R	-	Position light
20	B224	W	-	Right turn signal
21	B223	W	-	Left turn signal
22	-	-	-	-
23	-	-	-	-
24	O419	R	-	Horn power supply
25	O416	R	-	AVAS power supply
26	-	-	-	-
27	-	-	-	-
28	O301	R	-	Near left light
29	O302	R	-	Right low light
30	O303	R	-	Left high beam
31	O309	R	-	Right high beam
32	-	-	-	-
33	O306	R	-	Right DRL
34	-	-	-	-
35	O304	R	-	Left DRL
36	O317	R	-	ADS lamp

9.2.6 Chassis Wiring Harness

9.2.6.1 Chassis Wiring Harness Terminal Diagram

C1 Chassis electrical box C1

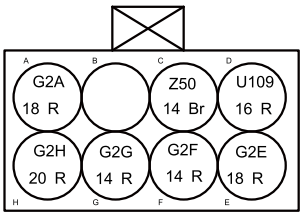
10717422-DELPHI
Chassis electrical box C1



Stitch	Wire number	Line color	Voltage	Stitch definition
1	G01	R	-	KL15 Power supply 1
2	G62b	R	-	EHPS Power supply -KL30A

C2 Chassis electrical box C2(black)

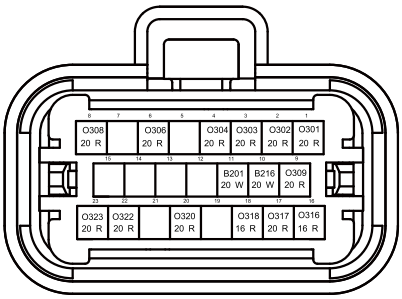
32006-A12-BUSSMANN
Chassis electrical box C2(black)



Stitch	Wire number	Line color	Voltage	Stitch definition
A	G2A	R	-	EBS-KL15A
B	-	-	-	-
C	Z50	Br	-	Ground
D	U109	R	-	EBS-KL30
E	G2E	R	-	Main ADCU-B+
F	G2F	R	-	Auxiliary ADCU-B +/EVCC/ Trailer EPB-B+
G	G2G	R	-	TCU-KL30
H	G2H	R	-	T-GW-B+

C3 Chassis electrical box C3

770680-1-AMP
Chassis electrical box C3

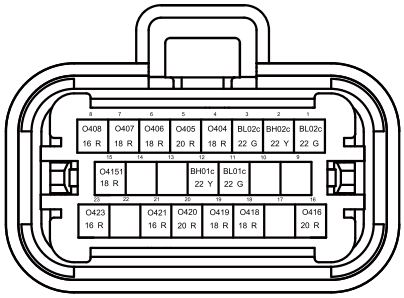


Stitch	Wire number	Line color	Voltage	Stitch definition
1	O301	R	-	Near left light
2	O302	R	-	Right low beam
3	O303	R	-	Left beam
4	O304	R	-	Left DRL
5	-	-	-	-
6	O306	R	-	Right DRL
7	-	-	-	-
8	O308	R	-	IBS-B+
9	O309	R	-	Right beam
10	B216	W	-	KL15 Power-on and power-off request
11	B201	W	-	KL30 Power-on and power-off request
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	O316	R	-	Reverse lamp
17	O317	R	-	ADS lamp
18	O318	R	-	lamplet
19	-	-	-	-

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
20	O320	R	-	Right brake lamp
21	-	-	-	-
22	O322	R	-	Rear working light
23	O323	R	-	Brake emergency solenoid valve KL30+

C4 Chassis electrical box C4

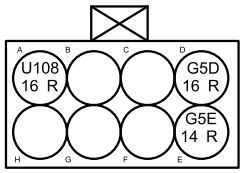
770680-2-AMP
Chassis electrical box C4



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	BL02c	G	-	BCANFD2-L
2	BH02c	Y	-	BCANFD2-H
3	BL02c	G	-	BCANFD2-L
4	O404	R	-	Front axle pressure sensor/Rear axle pressure sensor/ Emergency pressure sensor power supply KL30+
5	O405	R	-	Tire pressure
6	O406	R	-	Air horn
7	O407	R	-	Battery WPTC-KL30+AGS
8	O408	R	-	PDU-KL30
9	-	-	-	-
10	-	-	-	-
11	BL01c	G	-	BCANFD1-L
12	BH01c	Y	-	BCANFD1-H
13	-	-	-	-
14	-	-	-	-
15	O4151	R	-	Battery pack -B+
16	O416	R	-	AVAS-KL30
17	-	-	-	-
18	O418	R	-	Dryer heating -KL30
19	O419	R	-	Horn power supply
20	O420	R	-	T-gateway -B+
21	O421	R	-	Middle and rear axle MCU-KL30
22	-	-	-	-
23	O423	R	-	VDC-B+

C5 Chassis Electrical box C5(Blue)

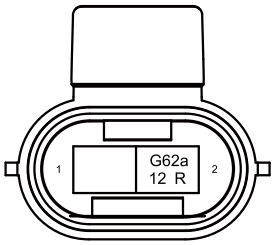
32006-D12-BUSSMANN
Chassis electrical box C5(Blue)



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
A	U108	R	-	EBS KL30-2
B	-	-	-	-
C	-	-	-	-
D	G5D	R	-	KL15 Power supply 3
E	G5E	R	-	EPB-B+
F	-	-	-	-
G	-	-	-	-
H	-	-	-	-

C6 Chassis electrical box C6

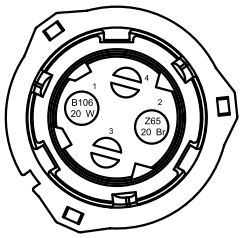
12147067-DELPHI
Chassis electrical box C6



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	G62a	R	-	EHPS-KL30B

C07 Interwheel lock solenoid valve

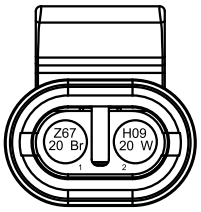
1-1813099-3-TE
Interwheel lock solenoid valve



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B106	W	-	Solenoid power supply
2	Z65	Br	-	Ground
3	-	-	-	-
4	-	-	-	-

C08 Right center axle brake pads

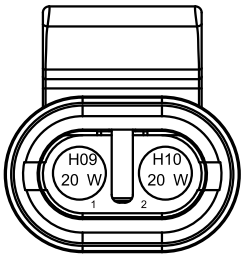
282080-1-TE
Right center axle brake pads



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z67	Br	-	Ground signal
2	H09	W	-	From the middle right to the back right

C09 Right rear axle brake pads

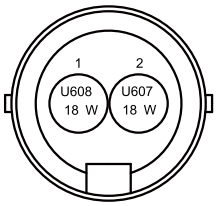
282080-1-TE
Right rear axle brake pads



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	H09	W	-	From the middle right to the back right
2	H10	W	-	From back right to back left

C10 Rear axle right wheel ABS sensor

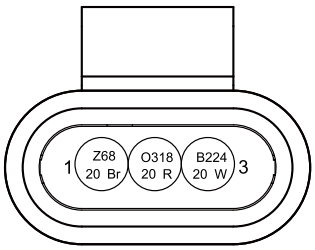
449721-HKPKC
Rear axle right wheel ABS sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U608	W	-	Rear axle right wheel speed sensor ground
2	U607	W	-	Rear axle right wheel ABS sensor signal

C11 Combination lamp-rh rr

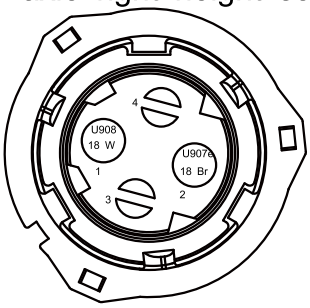
DJ7031-1.5-21
Combination lamp-rh rr



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z68	Br	-	to
2	O318	R	-	Position light positive
3	B224	W	-	Steering/braking positive

C12 Rear axle right height sensor

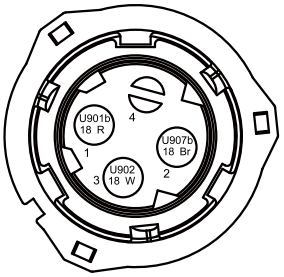
1-968968-3-TE
Rear axle right height sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U908	W	-	Right rear axle height signal
2	U907e	Br	-	sensorily
3	-	-	-	-
4	-	-	-	-

C13 Right rear axle pressure sensor

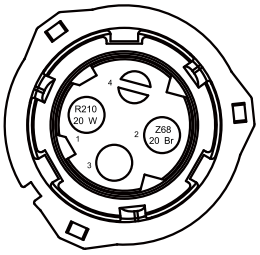
1-968968-2-TE
Right rear axle pressure sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U901b	R	-	Power source
2	U907b	Br	-	sensorily
3	U902	W	-	Right rear axle pressure signal
4	-	-	-	-

C14 Low pressure warning switch

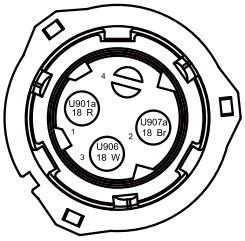
1-967325-3-TE
Low pressure warning switch



Stitch	Wire number	Line color	Voltage	Stitch definition
1	R210	W	-	Parking low voltage alarm signal
2	Z68	Br	-	Ground
3	-	-	-	-
4	-	-	-	-

C15 Left rear axle pressure sensor

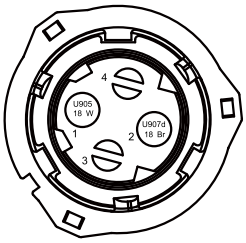
1-968968-2-TE
Left rear axle pressure sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U901a	R	-	Power source
2	U907a	Br	-	sensorily
3	U906	W	-	Left rear pressure signal
4	-	-	-	-

C16 Rear axle left height sensor

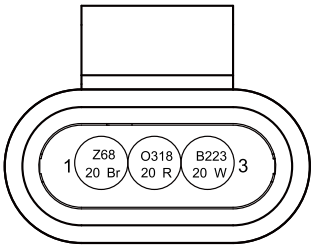
1-968968-3-TE
Rear axle left height sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U905	W	-	Left rear altitude signal
2	U907d	Br	-	sensorily
3	-	-	-	-
4	-	-	-	-

C17 Combination lamp-lh rr

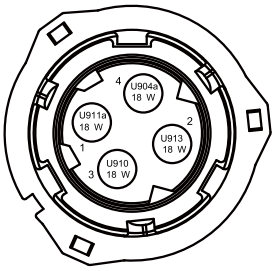
DJ7031-1.5-21
Combination lamp-lh rr



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z68	Br	-	to
2	O318	R	-	Position light positive
3	B223	W	-	Steering/braking positive

C18 Rear axle suspension solenoid valve

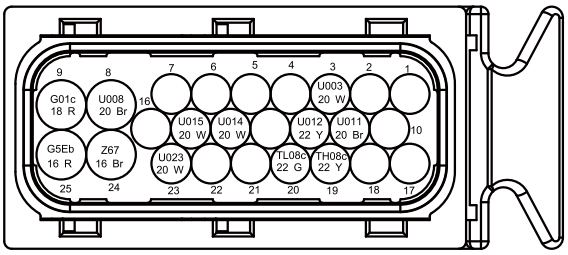
1-967325-1-TE
Rear axle suspension solenoid valve



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U911a	W	-	Central solenoid valve
2	U913	W	-	Right rear solenoid valve
3	U910	W	-	Left rear solenoid valve
4	U904a	W	-	Solenoid power supply

C19 EPB

368482-2-TE
EPB

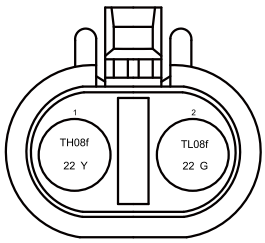


Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	U003	W	-	Primary EPB indicator
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-

Stitch	Wire number	Line color	Voltage	Stitch definition
8	U008	Br	-	EPB switch -
9	G01c	R	-	KL15
10	-	-	-	-
11	U011	Br	-	EPB switch -
12	U012	Y	-	EPB private CAN-H
13	-	-	-	-
14	U014	W	-	Parking switch
15	U015	W	-	Release switch
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	TH08c	Y	-	Chassis CAN8-H
20	TL08c	G	-	Chassis CAN8-L
21	-	-	-	-
22	-	-	-	-
23	U023	W	-	Parking switch power supply
24	Z67	Br	-	Ground
25	G5Eb	R	-	Power B+

C20 CAN resistance -120Ω

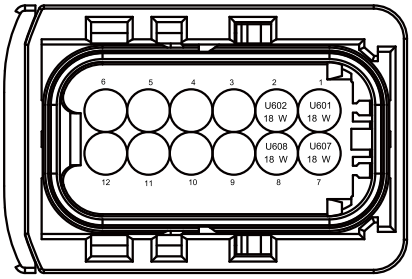
TM0844802
CAN resistance -120 Ω



Stitch	Wire number	Line color	Voltage	Stitch definition
1	TH08f	Y	-	Chassis CAN8-H
2	TL08f	G	-	Chassis CAN8-L

C21 Axle modulator 2M-X1

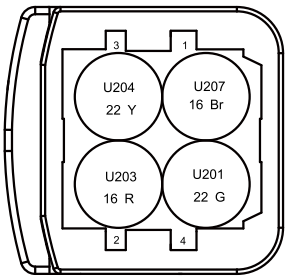
1-1703639-1-TE
Axle modulator 2M-X1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U601	W	-	Rear axle left wheel ABS sensor signal
2	U602	W	-	Rear axle left wheel speed sensor
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	U607	W	-	Rear axle right wheel ABS sensor signal
8	U608	W	-	Rear axle right wheel speed sensor ground
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-

C22 Axle modulator 2M-X2

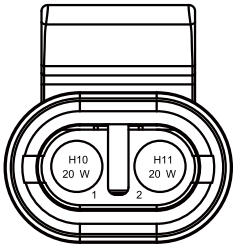
2-1418390-1-TE
Axle modulator 2M-X2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U207	Br	-	GND
2	U203	R	-	Solenoid power supply
3	U204	Y	-	2M modulator CAN-H
4	U201	G	-	2M modulator CAN-L

C23 Left rear axle brake pads

282080-1-TE
Left rear axle brake pads

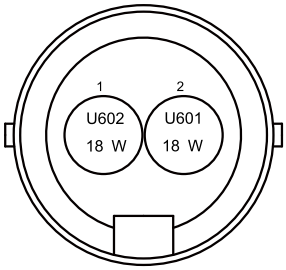


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	H10	W	-	From back right to back left
2	H11	W	-	From back left to center left

C24 Rear axle left wheel ABS sensor

449721-HKPKC

Rear axle left wheel ABS sensor

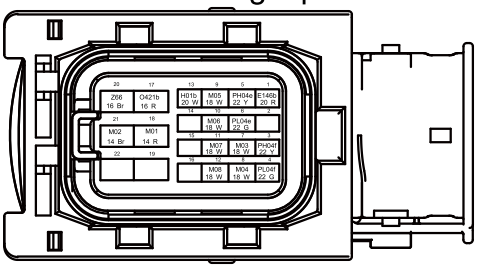


Stitch	Wire number	Line color	Voltage	Stitch definition
1	U602	W	-	Rear axle left wheel speed sensor
2	U601	W	-	Rear axle left wheel ABS sensor signal

C25 E-axle rear axle vehicle low voltage port

1-1823440-3-TE

E-axle rear axle vehicle low voltage port

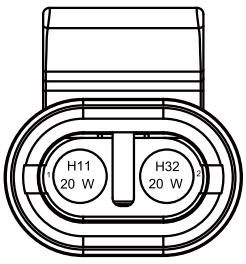


Stitch	Wire number	Line color	Voltage	Stitch definition
1	E146b	R	-	Wake-up call
2	-	-	-	-
3	PH04f	Y	-	MCU3-CAN-H
4	PL04f	G	-	MCU3-CAN-L
5	PH04e	Y	-	MCU4-CAN-H
6	PL04e	G	-	MCU4-CAN-L
7	M03	W	-	Speed input signal 2
8	M04	W	-	Speed sensor power supply
9	M05	W	-	The rear displacement signal
10	M06	W	-	Displacement sensor power supply
11	M07	W	-	sensorily
12	M08	W	-	The rear displacement signal
13	H01b	W	-	Differential lock feedback signal
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	O421b	R	-	MCU power supply KL30
18	M01	R	-	Motor drive 2+
19	-	-	-	-
20	Z66	Br	-	MCU Power Supply -
21	M02	Br	-	Motor drive 2-
22	-	-	-	-

C26 Left center axle brake pads

282080-1-TE

Left center axle brake pads

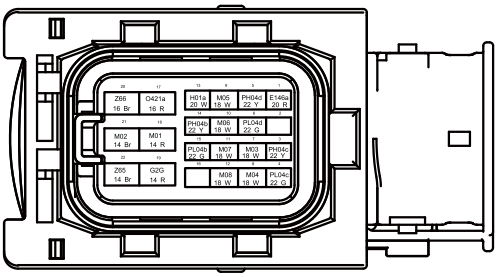


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	H11	W	-	From back left to center left
2	H32	W	-	From left center to right front

C27 E-axle mid axle vehicle low voltage port

1-1823440-3-TE

E-axle mid axle vehicle low voltage port

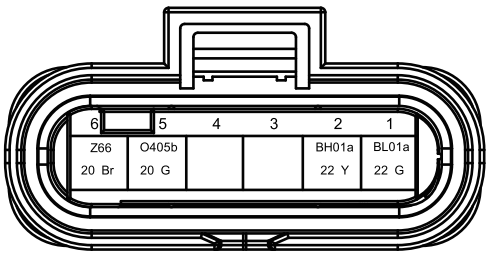


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	E146a	R	-	Wake-up call
2	-	-	-	-
3	PH04c	Y	-	MCU1-CAN-H
4	PL04c	G	-	MCU1-CAN-L
5	PH04d	Y	-	MCU2-CAN-H
6	PL04d	G	-	MCU2-CAN-L
7	M03	W	-	Speed input signal 2
8	M04	W	-	Speed sensor power supply 2
9	M05	W	-	The rear displacement signal
10	M06	W	-	Displacement sensor power supply 2
11	M07	W	-	Displacement sensor ground 2
12	M08	W	-	The rear displacement signal
13	H01a	W	-	Differential lock feedback signal
14	PH04b	Y	-	TCU-CAN-H
15	PL04b	G	-	TCU-CAN-L
16	-	-	-	-
17	O421a	R	-	MCU power supply KL30
18	M01	R	-	Motor drive 2+
19	G2G	R	-	TCU Power supply KL30
20	Z66	Br	-	MCU Power Supply -
21	M02	Br	-	Motor drive 2-
22	Z65	Br	-	TCU Power supply -

C28 Rear tire pressure module

1-1670919-1-TE

Rear tire pressure module

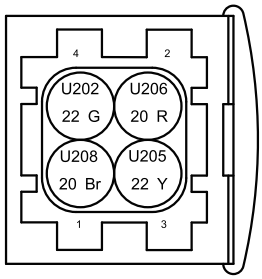


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	BL01a	G	-	BCANFD1-L
2	BH01a	Y	-	BCANFD1-H
3	-	-	-	-
4	-	-	-	-
5	O405b	G	-	Power KL30
6	Z66	Br	-	Ground

C29 Yaw rate sensor

1-1418390-1-TE

Yaw rate sensor

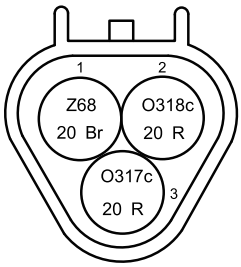


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U208	Br	-	Ground connection
2	U206	R	-	Power source
3	U205	Y	-	ESC-CAN-H
4	U202	G	-	ESC-CAN-L

C30 Left rear marker combination light

1512401-THB

Trailer control valve

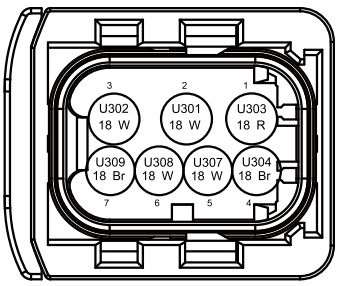


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z68	Br	-	Ground
2	O318c	R	-	Identification light
3	O317c	R	-	ADS lamp

C31 Trailer control valve

1-1418480-1-TE

Trailer control valve

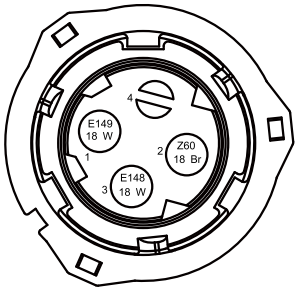


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U303	R	-	Trailer valve power supply
2	U301	W	-	Trailer AV valve
3	U302	W	-	Trailer EV valve
4	U304	Br	-	Trailer valve grounding
5	U307	W	-	Pressure sensor power supply
6	U308	W	-	Pressure sensor signal
7	U309	Br	-	Pressure sensor grounding

C32 Dryer - exhaust - regenerative valve

1-967325-2-TE

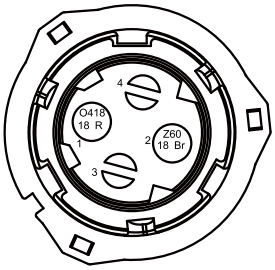
Dryer - exhaust - regenerative valve



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	E149	W	-	Exhaust valve
2	Z60	Br	-	Ground
3	E148	W	-	Regenerative valve
4	-	-	-	-

C33 Heater

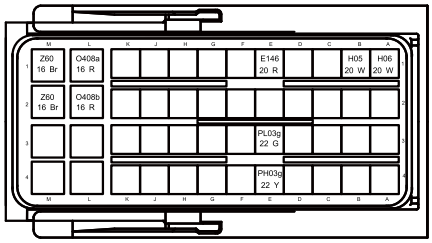
1-967325-3-TE
Heater



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O418	R	-	Power KL30
2	Z60	Br	-	Ground
3	-	-	-	-
4	-	-	-	-

C34 Power distribution unit

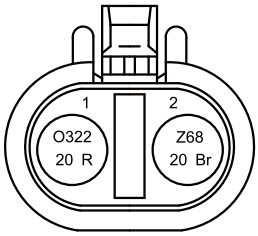
64320-3311-MOLEX
Power distribution unit



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
A1	H06	W	-	High voltage interlock in from left unit
A2	-	-	-	-
A3	-	-	-	-
A4	-	-	-	-
B1	H052	W	-	High voltage interlock output
B2	-	-	-	-
B3	-	-	-	-
B4	-	-	-	-
C1	-	-	-	-
C2	-	-	-	-
C3	-	-	-	-
C4	-	-	-	-
D1	-	-	-	-
D2	-	-	-	-
D3	-	-	-	-
D4	-	-	-	-
E1	E146	R	-	Wake up power
E2	-	-	-	-
E3	PL03g	G	-	PCAN3-L
E4	PH03g	Y	-	PCAN3-H
F1	-	-	-	-
F2	-	-	-	-
F3	-	-	-	-
F4	-	-	-	-
G1	-	-	-	-
G2	-	-	-	-
G3	-	-	-	-
G4	-	-	-	-
H1	-	-	-	-
H2	-	-	-	-
H3	-	-	-	-
H4	-	-	-	-
J1	-	-	-	-
J2	-	-	-	-
J3	-	-	-	-
J4	-	-	-	-
K1	-	-	-	-
K2	-	-	-	-
K3	-	-	-	-
K4	-	-	-	-
L1	O408a	R	-	Power KL30
L2	O408b	R	-	Power KL30
L3	-	-	-	-
L4	-	-	-	-
M1	Z60	Br	-	Ground
M2	Z60	Br	-	Ground
M3	-	-	-	-
M4	-	-	-	-

C36 Work lamp-rr

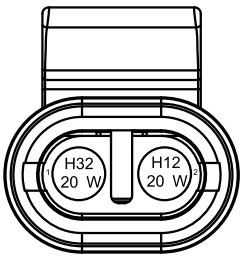
DJ7021Y-2-21/20
Work lamp-rr



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O322	R	-	Power source
2	Z68	Br	-	Ground

C37 Trailer brake pads

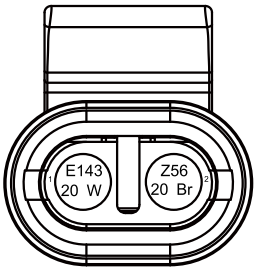
282080-1-TE
Trailer brake pads



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	H32	W	-	From left center to right front
2	H12	W	-	From left center to right front

C40 Motor cooling level sensor

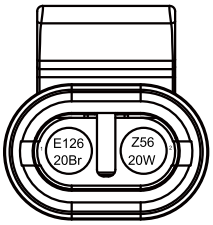
DJ7021Y-2-21/20_CZT
Coolant level sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	E143	W	-	signal
2	Z56	Br	-	Ground

C41 Battery cooled level sensor

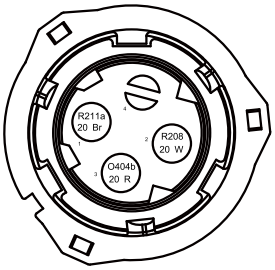
DJ7021Y-2-20_CZT
Coolant level sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	E126	W	-	signal
2	Z56	Br	-	Ground connection

C42 Front axle pressure sensor

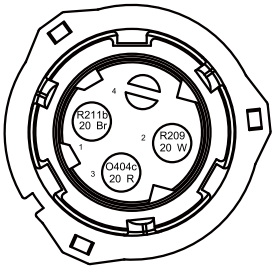
1-967325-2-TE
Front axle pressure sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	R211a	Br	-	Ground connection
2	R208	W	-	signal
3	O404b	R	-	Power supply KL30 +
4	-	-	-	-

C43 Rear axle pressure sensor

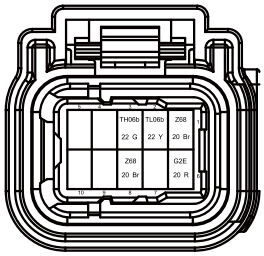
1-967325-2-TE
Rear axle pressure sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	R211b	Br	-	Ground connection
2	R209	W	-	signal
3	O404c	R	-	Power supply KL30 +
4	-	-	-	-

C45 Left millimeter wave radar

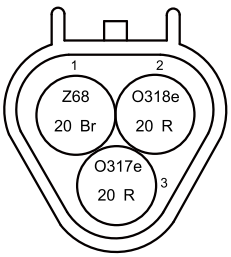
2098269-1-TE
Left millimeter wave radar



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z68	Br	-	Ground
2	TL06b	G	-	Intelligent driving CAN-L
3	TH06b	Y	-	Intelligent driving CAN-H
4	-	-	-	-
5	-	-	-	-
6	G2E	R	-	Smart Drive B+
7	-	-	-	-
8	Z68	Br	-	Ground
9	-	-	-	-
10	-	-	-	-

C46 Left center sign combination light

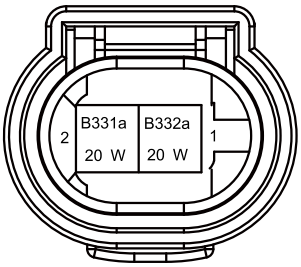
1512401-THB
Left center sign combination light



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z68	Br	-	Ground
2	O318e	R	-	Identification light
3	O317e	R	-	ADS lamp

C47 Left charging port cover locks motor

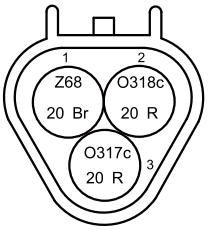
1-967644-1-AMP
Left charging port cover locks motor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B332a	W	-	Unlock +
2	B331a	W	-	Blocked +

C48 Left front sign combination light

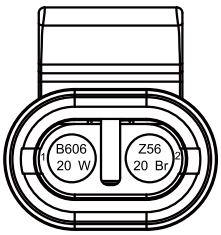
1512401-THB
Left front sign combination light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z68	Br	-	Ground
2	O318c	R	-	Identification light
3	O317c	R	-	ADS lamp

C49 Turn to tank level sensor

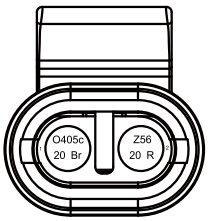
282080-1-TE
Turn to tank level sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B606	W	-	signal
2	Z56	Br	-	Ground

C50 Tire pressure repeater

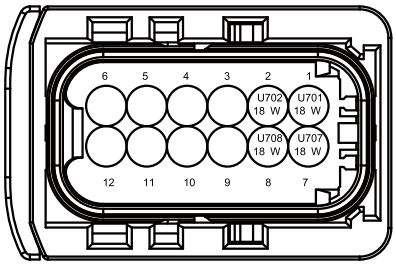
282080-1-TE
Tire pressure repeater



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O405c	R	-	Power KL30
2	Z56	Br	-	Ground connection

C51 Axle modulator 1M-X1

1-1703639-1-TE
Axle modulator 1M-X1

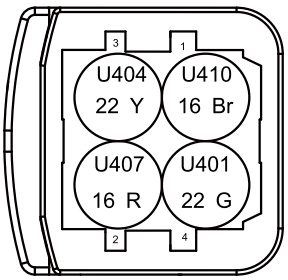


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U701	W	-	Front axle left wheel speed sensor signal
2	U702	W	-	Front axle left wheel speed sensor
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	U707	W	-	Front axle right wheel speed sensor signal

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
8	U708	W	-	Front axle right wheel speed sensor ground
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-

C52 Axle modulator 1M-X2

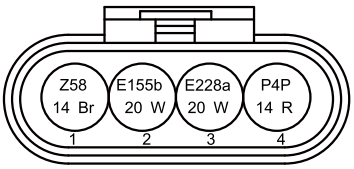
2-1418390-1-TE
Axle modulator 1M-X2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U410	Br	-	GND
2	U407	R	-	Solenoid power supply
3	U404	Y	-	1M modulator CAN-H
4	U401	G	-	1M modulator CAN-L

C53 Motor water pump 2

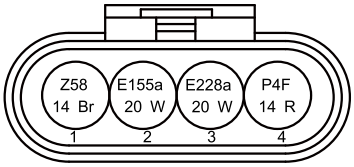
282088-1-TE
Motor water pump 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z58	Br	-	Ground
2	E155b	W	-	Fault feedback signal
3	E228a	W	-	PWM signal
4	P4P	R	-	Power supply KL15

C54 Motor water pump 1

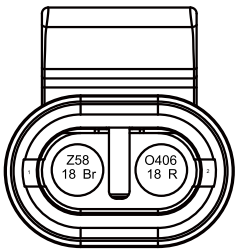
282088-1-TE
Motor water pump 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z58	Br	-	Ground
2	E155a	W	-	Fault feedback signal
3	E228a	W	-	PWM signal
4	P4F	R	-	Power supply KL15

C55 Air horn

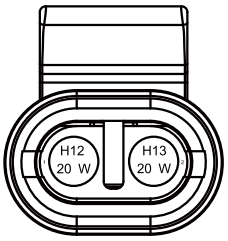
282080-1-TE
Air horn



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z58	Br	-	Ground
2	O406	R	-	Power source

C56 Right front axle brake pads

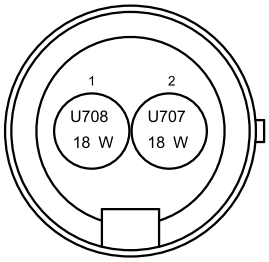
282080-1-TE
Right front axle brake pads



Stitch	Wire number	Line color	Voltage	Stitch definition
1	H12	W	-	From left center to right front
2	H13	W	-	Front right to front left

C57 Front axle right wheel ABS sensor

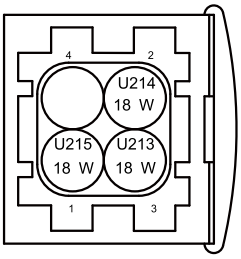
449721-HKPKC
Front axle right wheel ABS sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U708	W	-	Front axle right wheel speed sensor ground
2	U707	W	-	Front axle right wheel speed sensor signal

C58 Front axle right wheel ABS solenoid valve

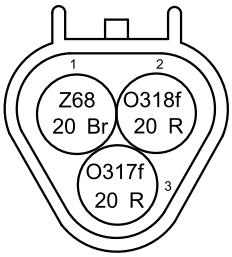
1-1418390-1-TE
Front axle right wheel ABS solenoid valve



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U215	W	-	Ground connection
2	U214	W	-	EV valve
3	U213	W	-	AV valve
4	-	-	-	-

C59 Right center mark combination light A

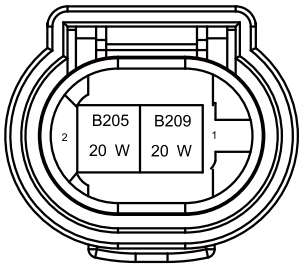
1512401-THB
Right center mark combination light A



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z68	Br	-	Ground
2	O318f	R	-	Identification light
3	O317f	R	-	ADS lamp

C60 Right charging port cover locks motor

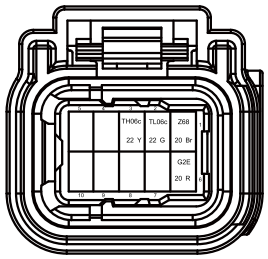
1-967644-1-AMP
Right charging port cover locks motor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	B209	W	-	Unlock +
2	B205	W	-	Blocked +

C62 Right millimeter wave radar

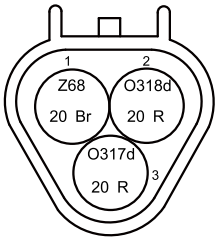
2098269-1-TE
Right millimeter wave radar



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z68	Br	-	Ground
2	TL06c	G	-	Intelligent driving CAN-L
3	TH06c	Y	-	Intelligent driving CAN-H
4	-	-	-	-
5	-	-	-	-
6	G2E	R	-	Smart Drive B+
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-

C63 Right center mark combination light B

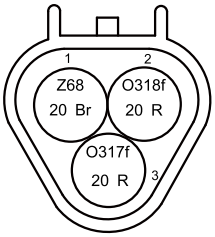
1512401-THB
Right center mark combination light B



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z68	Br	-	Ground
2	O318d	R	-	Identification light
3	O317d	R	-	ADS lamp

C64 Right rear sign combination light

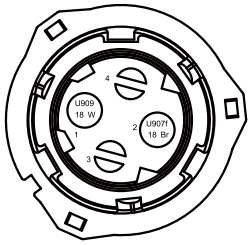
1512401-THB
Right rear sign combination light



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z68	Br	-	Ground
2	O318f	R	-	Identification light
3	O317f	R	-	ADS lamp

C65 Front axle height sensor

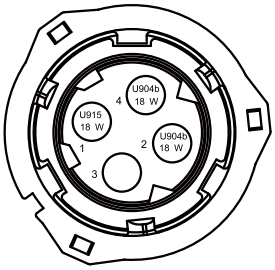
1-968968-3-TE
Front axle height sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U909	W	-	Front axle height signal
2	U907f	Br	-	sensorily
3	-	-	-	-
4	-	-	-	-

C66 Front axle suspension solenoid valve

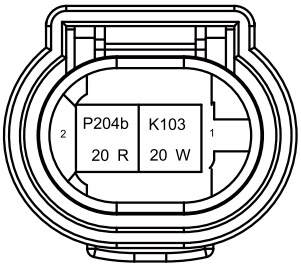
1-967325-1-TE
Front axle suspension solenoid valve



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U915	W	-	Front axle solenoid valve
2	U904b	W	-	Solenoid power supply
3	-	-	-	-
4	U904b	W	-	Solenoid power supply

C67 Rear air conditioning SOV

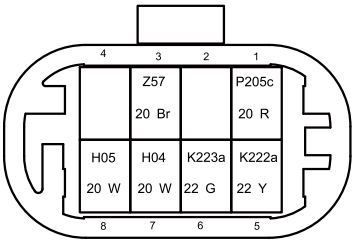
1-967644-1-AMP
Rear air conditioning SOV



Stitch	Wire number	Line color	Voltage	Stitch definition
1	K103	W	-	Controls -
2	P204b	R	-	Power source

C68 Air conditioning compressor

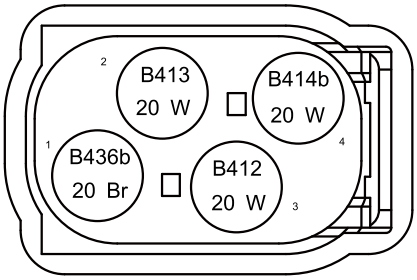
805-031-551
Air conditioning compressor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	P205c	R	-	Power KL30
2	-	-	-	-
3	Z57	Br	-	Ground
4	-	-	-	-
5	K222a	Y	-	Air conditioning CAN-H
6	K223a	G	-	Air conditioning CAN-L
7	H04	W	-	Interlock out to the body
8	H051	W	-	Interlocking in slave PDU

C69 Low pressure/temperature sensor

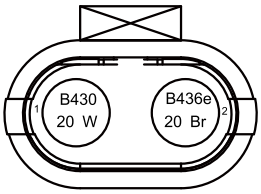
1-967640-1(AMP)
Low pressure/temperature sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B436b	Br	-	sensorily
2	B413	W	-	Pressure signal
3	B412	W	-	Temperature signal
4	B414b	W	-	5V power supply

C70 Compressor exhaust temperature sensor

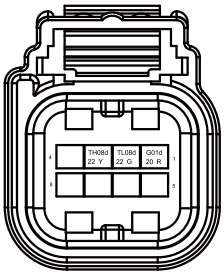
6189-0772-SWS
Compressor exhaust temperature sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B430	W	-	Sensor signal
2	B436e	Br	-	sensorily

C71 EHPS

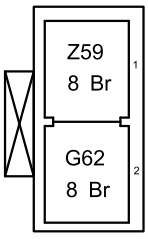
1411001-1-TE
EHPS



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	G01d	R	-	Power supply KL15
2	TL08d	G	-	Chassis CAN8-L
3	TH08d	Y	-	Chassis CAN8-H
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-

C72 EHPS

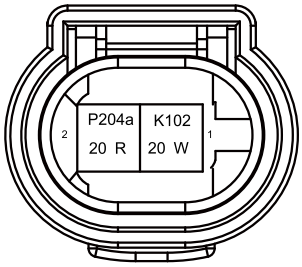
7287-1991-30-YAZAKA
EHPS



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z59	Br	-	Ground
2	G62	Br	-	Power KL30

C73 Front air conditioner SOV

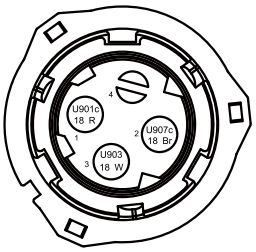
1-967644-1-AMP
Front air conditioner SOV



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	K102	W	-	Controls -
2	P204a	R	-	Power source

C74 Front axle pressure sensor

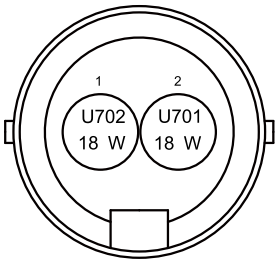
1-968968-2-TE
Front axle pressure sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U901c	R	-	Power source
2	U907c	Br	-	sensorily
3	U903	W	-	Front axle pressure signal
4	-	-	-	-

C75 Front axle left wheel ABS sensor

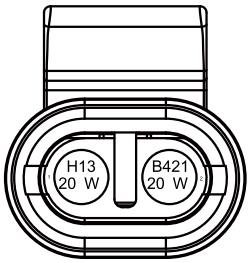
449721-HKPKC
Front axle left wheel ABS sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U702	W	-	Front axle left wheel speed sensor
2	U701	W	-	Front axle left wheel speed sensor signal

C76 Left front axle brake pads

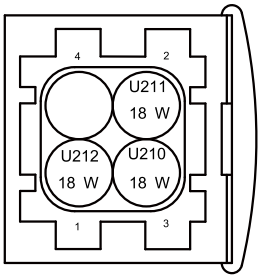
282080-1-TE
Left front axle brake pads



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	H13	W	-	Front right to front left
2	B421	W	-	Enter BDCU

C77 Front axle left wheel ABS solenoid valve

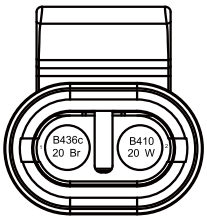
1-1418390-1-TE
Front axle left wheel ABS solenoid valve



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U212	W	-	Ground connection
2	U211	W	-	EV valve
3	U210	W	-	AV valve
4	-	-	-	-

C80 Outlet water temperature sensor

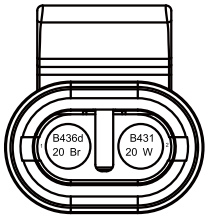
282080-1-TE
Outlet water temperature sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	B436c	Br	-	sensorily
2	B410	W	-	Effluent temperature signal

C81 Inlet water temperature sensor

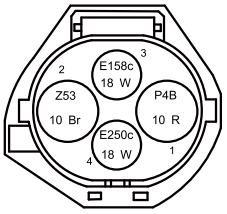
282080-1-TE
Inlet water temperature sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	B436d	Br	-	sensorily
2	B431	W	-	Inlet temperature signal

C82 Motor fan 3

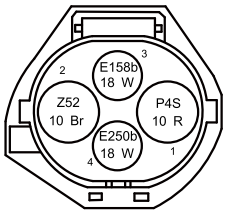
7283-8497-90-YAZAKI
Motor fan 3



Stitch	Wire number	Line color	Voltage	Stitch definition
1	P4B	R	-	Motor Fan 3 Power supply
2	Z53	Br	-	Motor grounding
3	E158c	W	-	Fault detection
4	E250c	W	-	PWM speed regulation

C83 Motor fan 2

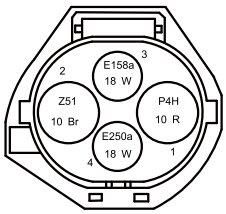
7283-8497-90-YAZAKI
Motor fan 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4S	R	-	Motor power supply KL15
2	Z52	Br	-	Motor grounding
3	E158b	W	-	Fault detection
4	E250b	W	-	PWM speed regulation

C84 Motor fan 1

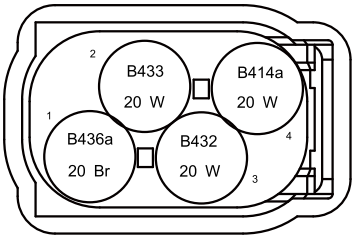
7283-8497-90-YAZAKI
Motor fan 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4H	R	-	Motor power supply KL15
2	Z51	Br	-	Motor grounding
3	E158a	W	-	Fault detection
4	E250a	W	-	PWM speed regulation

C85 High pressure/temperature sensor

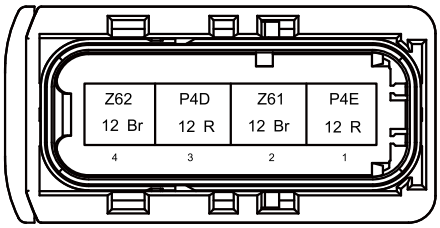
1-967640-1(AMP)
High pressure/temperature sensor



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B436a	Br	-	sensorily
2	B433	W	-	Pressure signal
3	B432	W	-	Temperature signal
4	B414a	W	-	5V power supply

C86 Left thermal management unit 2

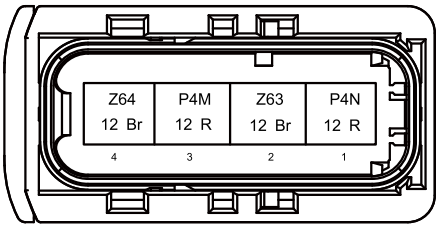
1-1564330-1 TE
Left thermal management unit 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4E	R	-	Left battery fan 1 Power supply
2	Z61	Br	-	Left battery fan 1 Ground
3	P4D	R	-	Left battery fan 2 Power supply
4	Z62	Br	-	Left battery fan 2 Ground

C87 Right thermal management unit 2

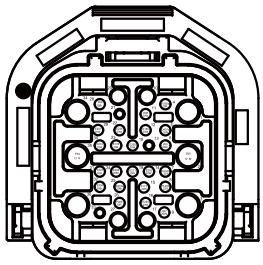
1-1564330-1 TE
Right thermal management unit 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P4N	R	-	Right battery fan 1 Power supply
2	Z63	Br	-	Right battery fan 1 Ground
3	P4M	R	-	Right battery fan 2 Power supply
4	Z64	Br	-	Left battery fan 2 Ground

C88 Left thermal management unit 1

2445859-1 TE
Left thermal management unit 1



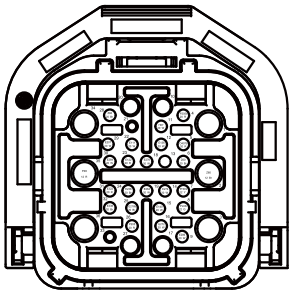
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	Z60	Br	-	Left pump ground
3	-	-	-	-
4	P205a	R	-	Compressor power supply KL30
5	O407a	R	-	WPTC Power supply KL30
6	Z60	Br	-	Compressor /WPTC controller
7	PH03h	Y	-	PCAN3-H
8	PL03h	G	-	PCAN3-L
9	H07	W	-	High pressure interlock in from right unit
10	-	-	-	-
11	H06	W	-	High voltage interlock out to the PDU
12	E150	W	-	Pump feedback signal
13	-	-	-	-
14	E252	W	-	Left pump PWM signal
15	E113	W	-	Fan feedback signal
16	E293	W	-	Fan PWM signal
17	-	-	-	-
18	E255	W	-	Compressor exhaust temperature signal
19	E211	W	-	H_P feedback
20	-	-	-	-
21	-	-	-	-
22	E235	W	-	Left low pressure PT sensor pressure signal
23	E123	R	-	High pressure/ temperature sensor 5V+
24	E258	Br	-	High pressure/ temperature sensor ground
25	E218a	Br	-	Compressor exhaust temperature sensor

Stitch	Wire number	Line color	Voltage	Stitch definition
26	P205	R	-	Three-way valve power supply KL30
27	-	-	-	-
28	Z60	Br	-	Ground
29	E207	W	-	Three-way valve PWM signal
30	E213	W	-	Left three-way valve fault feedback signal
31	E323	R	-	Low pressure/ temperature sensor 5V+
32	E358	Br	-	Low pressure/ temperature sensor ground
33	-	-	-	-
34	-	-	-	-
35	P4A	R	-	Left pump power supply
36	-	-	-	-

C89 Right thermal management unit 1

2445859-1 TE

Right thermal management unit 1

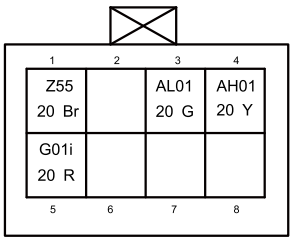


Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	Z60	Br	-	Right pump ground
3	-	-	-	-
4	P205b	R	-	Compressor power supply KL30
5	O407b	R	-	WPTC Power supply KL30
6	Z60	Br	-	Compressor /WPTC controller
7	PH03i	Y	-	PCAN3-H
8	PL03i	G	-	PCAN3-L
9	E286	W	-	High voltage interlock in from VDC
10	-	-	-	-
11	H07	W	-	High voltage interlock out to left unit
12	E136	W	-	Pump feedback signal
13	-	-	-	-
14	E274	W	-	Right pump PWM signal
15	E140	W	-	Fan feedback signal
16	E272	W	-	Fan PWM signal
17	-	-	-	-
18	E276	W	-	Compressor exhaust temperature signal
19	E264	W	-	H_P feedback
20	-	-	-	-
21	-	-	-	-
22	E111	W	-	L_P feedback
23	E122	R	-	High pressure/ temperature sensor 5V+
24	E238	Br	-	High pressure/ temperature sensor ground
25	E218b	Br	-	Compressor exhaust temperature sensor

Stitch	Wire number	Line color	Voltage	Stitch definition
26	P205	R	-	Three-way valve power supply KL30
27	-	-	-	-
28	Z60	Br	-	Ground
29	E207	W	-	Three-way valve PWM signal
30	E284	W	-	Right three-way valve fault feedback signal
31	E322	R	-	Low pressure/ temperature sensor 5V+
32	E338	Br	-	Low pressure/ temperature sensor ground
33	-	-	-	-
34	-	-	-	-
35	P4K	R	-	Right pump power supply
36	-	-	-	-

C90 Front millimeter wave radar

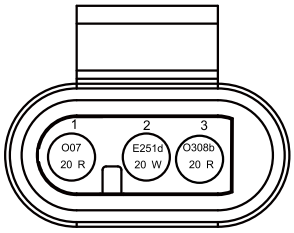
7283-8855-30-YAZAKI
Front millimeter wave radar



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z55	Br	-	Ground -
2	-	-	-	-
3	AL01	G	-	HMI private CAN-L
4	AH01	Y	-	HMI Private CAN-H
5	G01i	R	-	KL15+
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-

C91 Intelligent Battery Sensor

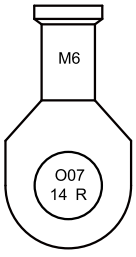
872-858-546-Hirschmann
Intelligent Battery Sensor



Stitch	Wire number	Line color	Voltage	Stitch definition
1	O07	R	12V	12V+
2	E251d	W	-	LIN
3	O308b	R	-	24V+

C92 IBS12V power supply

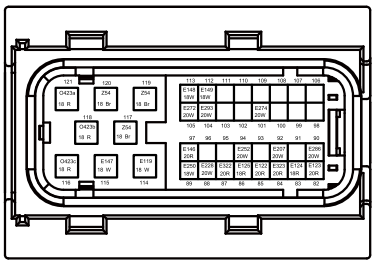
DJ431-6
IBS12V power supply



Stitch	Wire number	Line color	Voltage	Stitch definition
1	O07	R	12V	12V+

C93 VDC-1

1473252-1-TE
VDC-1

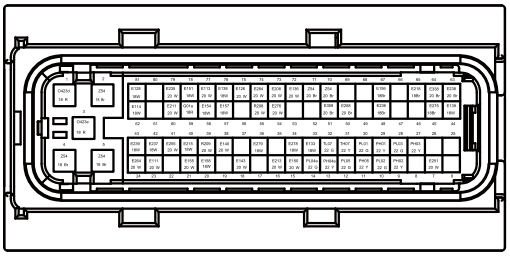


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
82	E123	R	-	High pressure/ temperature sensor 5V
83	E124	R	-	Throttle electric
84	E323	R	-	Low pressure/ temperature sensor 5V
85	E122	R	-	High pressure/ temperature sensor 5V
86	E125	R	-	Throttle 2 charge
87	E322	R	-	Low pressure/ temperature sensor 5V
88	E228	W	-	Motor pump PWM speed regulation
89	E250	W	-	Motor fan PWM speed regulation
90	E286	W	-	High pressure interlock out to right unit
91	-	-	-	-
92	E207	W	-	Thermal management unit three-way valve PWM signal
93	-	-	-	-
94	E252	W	-	Left battery pump PWM speed regulation
95	-	-	-	-
96	-	-	-	-
97	E146	R	-	The PDU, TCU, middrive, and rear drive wake up the power supply
98	-	-	-	-
99	-	-	-	-
100	-	-	-	-
101	E274	W	-	Right battery pump PWM speed regulation
102	-	-	-	-
103	-	-	-	-
104	E293	W	-	The left battery fan provides PWM speed adjustment
105	E272	W	-	Right battery fan PWM speed regulation
106	-	-	-	-
107	-	-	-	-
108	-	-	-	-
109	-	-	-	-
110	-	-	-	-
111	-	-	-	-
112	-	-	-	-
113	-	-	-	-
114	E119	W	-	Left 1/2/3CMU Wake power supply
115	E147	W	-	Right 1/2/3CMU+ Wake power supply
116	O423c	R	-	Power B+
117	Z54	Br	-	Ground

Stitch	Wire number	Line color	Voltage	Stitch definition
118	O423b	R	-	Power B+
119	Z54	Br	-	Ground
120	Z54	Br	-	Ground
121	O423a	R	-	Power B+

C94 VDC-2

1473244-1-TE
VDC-2



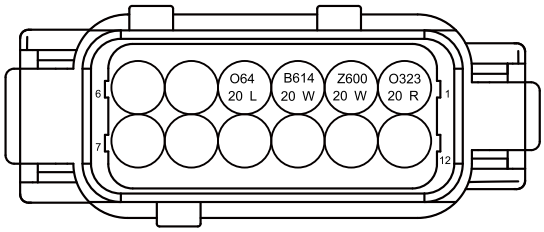
Stitch	Wire number	Line color	Voltage	Stitch definition
1	O423d	R	-	Power B+
2	Z54	Br	-	Ground
3	O423e	R	-	Power B+
4	Z54	Br	-	Ground
5	Z54	Br	-	Ground
6	-	-	-	-
7	E251	W	-	IBS/AGSLIN cable
8	-	-	-	-
9	PH02	Y	-	Battery PCAN2-H
10	PL02	G	-	Battery PCAN2-L
11	-	-	-	-
12	-	-	-	-
13	PH04a	Y	-	PCAN4-H
14	PL04a	G	-	PCAN4-L
15	E150	W	-	Left battery water pump fault feedback
16	E213	W	-	Left thermal management unit three-way valve fault feedback signal
17	-	-	-	-
18	E143	W	-	Motor liquid level alarm signal
19	-	-	-	-
20	E158	W	-	Motor fan fault detection
21	E155	W	-	Motor pump fault feedback
22	-	-	-	-
23	E111	W	-	Right low pressure PT sensor pressure signal
24	E264	W	-	Right high pressure PT sensor pressure signal
25	-	-	-	-
26	-	-	-	-
27	PH03	Y	-	PCAN3-H
28	PL03	G	-	PCAN3-L
29	PH01	Y	-	PCAN1-H
30	PL01	G	-	PCAN1-L
31	TH07	Y	-	GWCANFD7-H
32	TL07	G	-	GWCANFD7-L
33	-	-	-	-
34	E278	W	-	Right fast charging port temperature check signal 1
35	-	-	-	-
36	E279	W	-	Temperature check signal 4
37	-	-	-	-
38	E140	W	-	Right battery fan fault feedback
39	R209	W	-	Rear axle pressure signal
40	E215	W	-	Temperature detection 2+

Stitch	Wire number	Line color	Voltage	Stitch definition
41	E255	W	-	Left compressor exhaust temperature sensor signal
42	E237	W	-	Throttle 1 signal
43	E239	W	-	Throttle 2 signal
44	E139	W	-	Thermal runaway signal
45	E275	Br	-	Throttle 1-
46	-	-	-	-
47	-	-	-	-
48	E236	Br	-	Throttle 2-
49	-	-	-	-
50	E258	Br	-	High pressure/ temperature sensor
51	E358	Br	-	Low pressure/ temperature sensor
52	-	-	-	-
53	-	-	-	-
54	E276	W	-	Right compressor exhaust temperature sensor signal
55	R208	W	-	Front axle pressure signal
56	-	-	-	-
57	E157	W	-	Parking switch normally closed - low effectiveness
58	E154	W	-	Parking switch normally on - highly effective
59	G01a	R	-	The KL15+ function is enabled for the VDC
60	E211	W	-	High pressure/ temperature sensor
61	-	-	-	-
62	E114	W	-	Left fast charge temperature check 1 signal
63	E238	Br	-	High pressure/ temperature sensor ground
64	E338	Br	-	Low pressure/ temperature sensor ground
65	E218	Br	-	Compressor exhaust temperature sensor/right fast charge temperature check
66	-	-	-	-
67	E156	Br	-	Left fast charge 1/2 temperature detection ground
68	-	-	-	-
69	-	-	-	-
70	Z54	Br	-	signally
71	Z54	Br	-	signally
72	E136	W	-	Right battery water pump fault feedback
73	E208	W	-	High voltage interlock in
74	E284	W	-	Right thermal management unit three-way valve fault feedback signal
75	E126	W	-	Battery liquid level alarm signal
76	E138	W	-	A+
77	E113	W	-	Left battery fan fault feedback

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
78	E151	W	-	PP- Connection confirmation signal
79	E235	W	-	Left low pressure PT sensor pressure signal
80	-	-	-	-
81	E128	W	-	PP1

C95 PLC controller

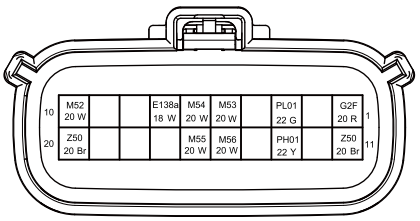
DTM06-12SA TE
PLC controller



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O323	R	-	KL30+
2	Z600	W	-	Ground
3	B614	W	-	Trailer ABS fault signal output
4	O64	L	-	12V fault signal input
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-

C96 EVCC controller

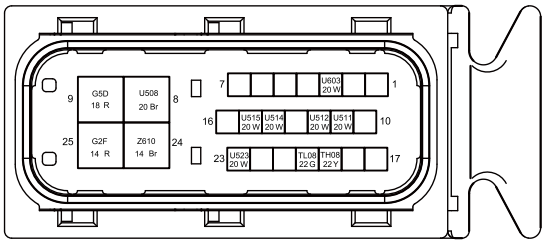
334722006-MOLEX
EVCC controller



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	G2F	R	-	B+
2	-	-	-	-
3	PL01	G	-	PCAN1-L
4	-	-	-	-
5	M53	W	-	Electronic lock +
6	M54	W	-	Electronic lock -
7	E138a	W	-	A+
8	-	-	-	-
9	-	-	-	-
10	M52	W	-	CP-PLC communication signal
11	Z50	Br	-	Ground
12	-	-	-	-
13	PH01	Y	-	PCAN1-H
14	-	-	-	-
15	M56	W	-	Electronic lock feedback OUT
16	M55	W	-	Electronic lock feedback IN
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	Z50	Br	-	Ground

C97 Trailer EPB

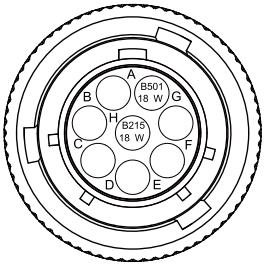
368482-2-TE
Trailer EPB



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	U603	W	-	Hang the EPB indicator
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	U508	Br	-	Hanging the EPB switch -
9	G5D	R	-	KL15
10	-	-	-	-
11	U511	W	-	Example Hang EPB Hall 2
12	U512	W	-	Example Hang EPB Hall 1
13	-	-	-	-
14	U514	W	-	Hang the EPB parking switch
15	U515	W	-	Suspending EPB release switch
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	TH08	Y	-	Chassis CAN8-H
20	TL08	G	-	Chassis CAN8-L
21	-	-	-	-
22	-	-	-	-
23	U523	W	-	Hang up EPB switch +
24	Z610	Br	-	ECU-
25	G2F	R	-	Power B+

C98 DCDC3 electrical interface

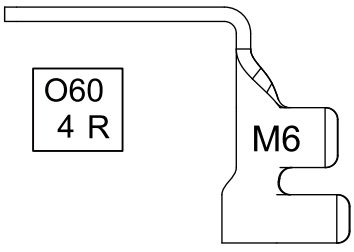
RT06128SNHEC03
DCDC3 electrical interface



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
A	B501	W	-	Clap alarm
B	-	-	-	-
C	-	-	-	-
D	-	-	-	-
E	-	-	-	-
F	-	-	-	-
G	-	-	-	-
H	B215	W	-	The KL30 is enabled

C99 Dcdc3-12 V power output

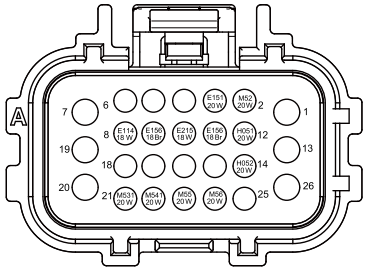
ST0332A-6-16
Dcdc3-12 V power output



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O60	R	-	12V power output

C100 MCS fast charging port

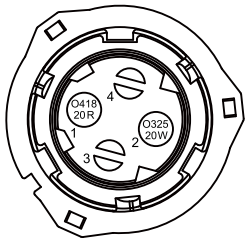
LVRCF26PCA
MCS fast charging port



Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	M52	W	-	CP-PLC communication signal
3	E151	W	-	PP- Connection confirmation signal
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	E114	W	-	Temperature detection 1+
9	E156	Br	-	Temperature detection 1-
10	E215	W	-	Temperature detection 2+
11	E156	Br	-	Temperature detection 2-
12	H051	W	-	High voltage interlock input
13	-	-	-	-
14	H052	W	-	High voltage interlock output
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-
21	M531	W	-	Electronic lock +
22	M541	W	-	Electronic lock -
23	M55	W	-	Electronic lock feedback IN
24	M56	W	-	Electronic lock feedback OUT
25	-	-	-	-
26	-	-	-	-

C101 Traction seat slip switch

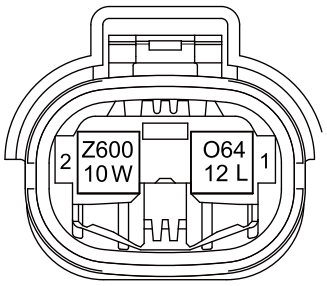
1-1813099-3-TE
Traction seat slip switch



Stitch	Wire number	Line color	Voltage	Stitch definition
1	O418	R	-	Power KL30
2	O325	W	-	Traction seat slip switch
3	-	-	-	-
4	-	-	-	-

C102 Trailer cable socket 1

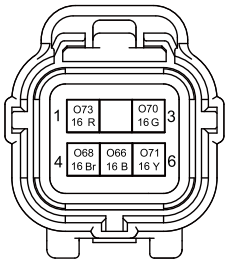
1544317-1-TE
Trailer cable socket 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O64	L	-	ABS power supply
2	Z600	W	-	Ground

C103 Trailer cable socket 2

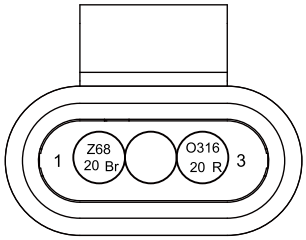
2822346-1-TE
Trailer cable socket 2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O73	R	-	Brake lamp
2	-	-	-	-
3	O70	G	-	Right turn lamp
4	O68	Br	-	Tail light
5	O66	B	-	Side marker light
6	O71	Y	-	Left turn signal

C104 Left reverse light

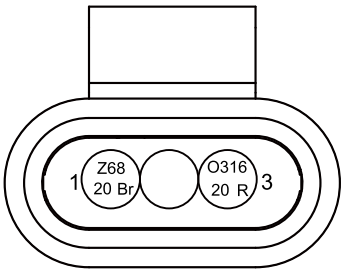
DJ7031-1.5-21
Left reverse light



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z68	Br	-	Ground
2	-	-	-	-
3	O316	R	-	Astern positive

C105 Right reverse lights

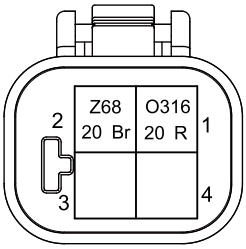
DJ7031-1.5-21
Right reverse lights



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z68	Br	-	Ground
2	-	-	-	-
3	O316	R	-	Astern positive

C106 The reverse buzzer

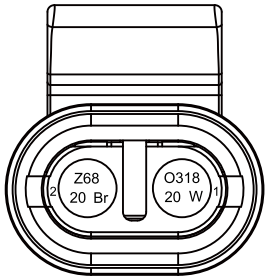
2356607-1-TE
The reverse buzzer



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O316	R	-	Astern positive
2	Z68	Br	-	Ground
3	-	-	-	-
4	-	-	-	-

C107 Left license plate lamp

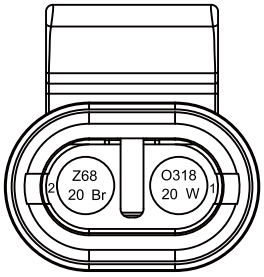
PP04503-THB
Left license plate lamp



Stitch	Wire number	Line color	Voltage	Stitch definition
1	O318	W	-	License plate light +
2	Z68	Br	-	Ground

C108 Right license plate lamp

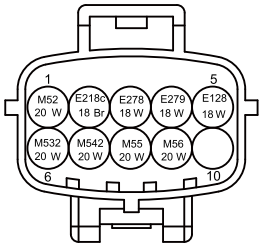
PP04503-THB
Right license plate lamp



Stitch	Wire number	Line color	Voltage	Stitch definition
1	O318	W	-	License plate light +
2	Z68	Br	-	Ground

C109 CCS1 Fast charging port

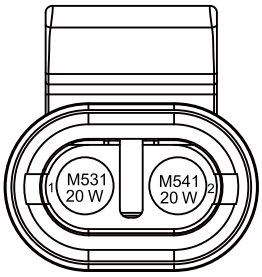
PP0486901-THB
CCS1 Fast charging port



Stitch	Wire number	Line color	Voltage	Stitch definition
1	M52	W	-	CP1
2	E218c	Br	-	T34 Temperature detection signal -
3	E278	W	-	Temperature check signal 3
4	E279	W	-	Temperature check signal 4
5	E128	W	-	PP1
6	M532	W	-	Electronic lock 1+
7	M542	W	-	Electronic lock 1-
8	M55	W	-	Electronic lock 1 feedback IN
9	M56	W	-	Electronic lock 1 feedback OUT
10	-	-	-	-

C110 MCS charging connection

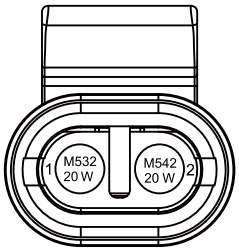
282080-1-TE
MCS charging connection



Stitch	Wire number	Line color	Voltage	Stitch definition
1	M531	W	-	Electronic lock +
2	M541	W	-	Electronic lock -

C111 CCS1 charging connection

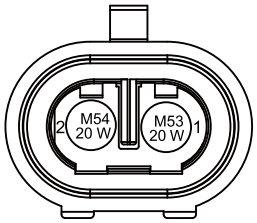
282080-1-TE
CCS1 charging connection



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	M532	W	-	Electronic lock +
2	M542	W	-	Electronic lock -

C112 Fast charge connector

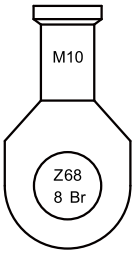
282104-1-TE
Fast charge connector



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	M53	W	-	Electronic lock +
2	M54	W	-	Electronic lock -

G01 Light and iron

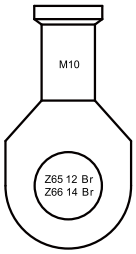
DJ431-10
Light and iron



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z68	Br	-	Light with iron/low pressure alarm sensor

G02 E-axle iron

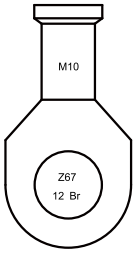
DJ431-10
E-axle iron



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z65	Br	-	TCU/ tire pressure/ Middle axle/Rear axle module
1	Z66	Br	-	TCU/ tire pressure/ Middle axle/Rear axle module

G03 EPB takes iron

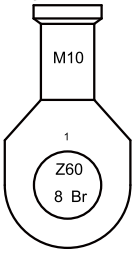
DJ431-10
EPB takes iron



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z67	Br	-	EPB/ wear alarm

G04 Thermal management - Auxiliary drive iron

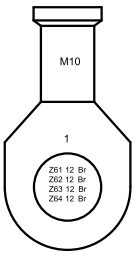
DJ431-10
Thermal management
- Auxiliary drive iron



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z60	Br	-	Dryer/dryer regeneration/ power distribution unit/thermal management unit/ trailer power supply
1	Z600	W	-	The trailer rides the iron

G05 Battery fan with iron

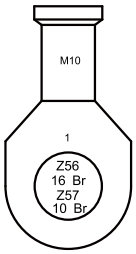
DJ431-10
Battery fan with iron



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z61	Br	-	Ground
1	Z62	Br	-	Ground
1	Z63	Br	-	Ground
1	Z64	Br	-	Ground

G06 BMS- Fast charge iron - Sensor iron

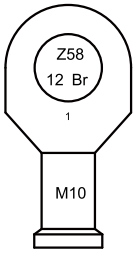
DJ431-10
BMS- Fast charge iron - Sensor iron



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z56	Br	-	Sensor bonding
1	Z57	Br	-	BMS/ Fast charge/ Air conditioning compressor ground
1	Z610	Br	-	Trailer EPB takes iron

G07 Motor water pump -EHPS iron

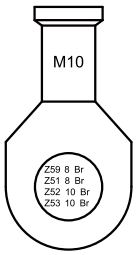
DJ431-10
Motor water pump -EHPS iron



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z58	Br	-	Pump/air horn with iron

G08 Motor fan with iron

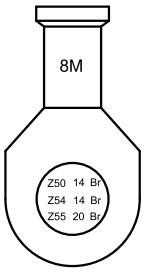
DJ431-10
Motor fan with iron



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z59	Br	-	EHPS takes iron
1	Z51	Br	-	Motor fan 1 Take iron
1	Z52	Br	-	Motor fan 2 Take iron
1	Z53	Br	-	Motor fan 3 Take iron

G09 VDC bonding

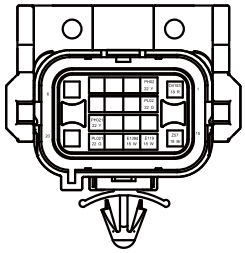
DJ431-8
VDC bonding



Stitch	Wire number	Line color	Voltage	Stitch definition
1	Z50	Br	-	Chassis electrical box with iron
2	Z54	Br	-	VDC bonding
3	Z55	Br	-	3D millimeter wave radar with iron

I_C_LP The chassis harness connects to the left battery pack harness

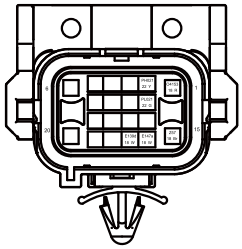
936777-2-TE
The chassis harness connects to the left battery pack harness



Stitch	Wire number	Line color	Voltage	Stitch definition
1	O4153	R	-	BMS Power Supply B+
2	PH02	Y	-	Battery PCAN2-H
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	PL02	G	-	Battery PCAN2-L
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	PH021	Y	-	Battery PCAN2-H
15	Z57	Br	-	BMS ground
16	E119	W	-	Wake up power
17	E139d	W	-	Thermal runaway signal
18	-	-	-	-
19	PL021	G	-	Battery PCAN2-L
20	-	-	-	-

I_C_RP The chassis harness connects to the right battery pack harness

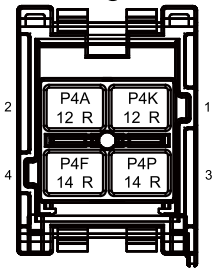
936777-2-TE
The chassis harness connects to the right battery pack harness



Stitch	Wire number	Line color	Voltage	Stitch definition
1	O4153	R	-	BMS Power Supply B+
2	PH021	Y	-	Battery PCAN2-H
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	PL021	G	-	Battery PCAN2-L
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	Z57	Br	-	BMS ground
16	E147a	W	-	Wake up power
17	E139d	W	-	Thermal runaway signal
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-

I1_C_B Chassis wiring harness connected to floor wiring harness 1

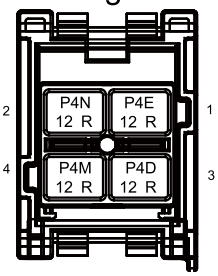
2388171-1-TE(black)
Chassis wiring harness connected to floor wiring harness 1



Stitch	Wire number	Line color	Voltage	Stitch definition
1	P4K	R	-	Right battery pump +
2	P4A	R	-	Left battery pump +
3	P4P	R	-	Motor water pump 2
4	P4F	R	-	Motor water pump 1

I2_C_B Chassis wiring harness connected to floor wiring harness 2

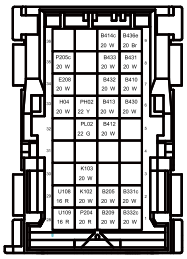
2388171-2-TE(gray)
Chassis wiring harness connected to floor wiring harness 2



Stitch	Wire number	Line color	Voltage	Stitch definition
1	P4E	R	-	Left battery fan 1+
2	P4N	R	-	Right battery fan 1 +
3	P4D	R	-	Left battery fan 2+
4	P4M	R	-	Right battery fan 2 +

I3_C_B Chassis wiring harness connected to floor wiring harness 3

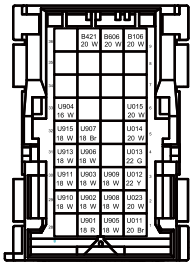
2377783-1-TE(brown)
Chassis wiring harness connected to floor wiring harness 3



Stitch	Wire number	Line color	Voltage	Stitch definition
1	B332c	W	-	Charging port motor - Unlock
2	B331c	W	-	Charging port motor - lock
3	O325	W	-	Traction seat slip switch
4	-	-	-	-
5	-	-	-	-
6	B430	W	-	Exhaust temperature signal
7	B410	W	-	Effluent temperature signal
8	B431	W	-	Inlet temperature signal
9	B436e	Br	-	sensorily
10	B209	W	-	Right charging port motor - Unlock
11	B205	W	-	Right charging port motor - lock
12	-	-	-	-
13	-	-	-	-
14	B412	W	-	Low pressure/ temperature sensor
15	B413	W	-	Low pressure PT sensor - pressure signal
16	B432	W	-	High pressure/ temperature sensor
17	B433	W	-	High pressure PT sensor - pressure signal
18	B414c	W	-	Sensor power supply 5V
19	P204	R	-	SOV+
20	K102	W	-	Former SOV-
21	K103	W	-	After SOV-
22	-	-	-	-
23	PL02	G	-	Battery PCAN2-L
24	PH02	Y	-	Battery PCAN2-H
25	-	-	-	-
26	-	-	-	-
27	-	-	-	-
28	U109	R	-	EBS KL30-1
29	U108	R	-	EBS KL30-2
30	-	-	-	-
31	-	-	-	-
32	-	-	-	-
33	H04	W	-	High pressure interlock in from compressor
34	E208	W	-	High voltage interlock to VDC
35	P205c	W	-	Compressor power supply
36	O75	R	-	Car refrigerator KL30

I4_C_B Chassis wiring harness connected to floor wiring harness 4

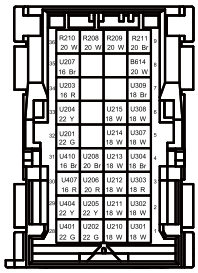
2377783-2-TE(purple)
Chassis wiring harness connected to floor wiring harness 4



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U008	Br	-	EPB switch -
2	U023	W	-	EPB switch +
3	U012	Y	-	EPB1 is linear 1
4	U011	G	-	EPB1 is linear 2
5	U014	W	-	EPB parking switch
6	U015	W	-	EPB release switch
7	U603	W	-	Hang the EPB indicator
8	U511	W	-	Example Hang EPB Hall 2
9	B106	W	-	Interwheel lock solenoid valve electrical
10	U905	W	-	Left rear axle height signal
11	U908	W	-	Right rear axle height signal
12	U909	W	-	Front axle height signal
13	U003	W	-	Primary EPB indicator
14	-	-	-	-
15	-	-	-	-
16	U508	Br	-	Hanging the EPB switch -
17	U512	W	-	Example Hang EPB Hall 1
18	B606	W	-	Turn to oil tank level sensor signal
19	U901	R	-	ECAS sensor power supply
20	U902	W	-	Right rear axle pressure signal
21	U903	W	-	Front axle pressure signal
22	U906	W	-	Left rear axle pressure signal
23	U907	Br	-	ECAS sensor ground
24	-	-	-	-
25	U523	W	-	Hang up EPB switch +
26	U514	W	-	Hang the EPB parking switch
27	B421	W	-	Brake pad wear alarm signal
28	-	-	-	-
29	U910	W	-	Left rear solenoid valve
30	U911	W	-	Central solenoid valve
31	U913	W	-	Right rear solenoid valve
32	U915	W	-	Front axle solenoid valve
33	U904	W	-	Suspension solenoid valve power supply
34	-	-	-	-
35	U515	W	-	Suspending EPB release switch
36	-	-	-	-

I5_C_B Chassis wiring harness connected to floor wiring harness 5

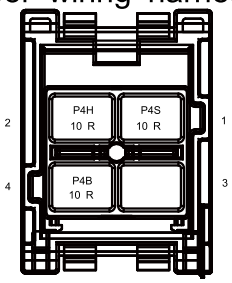
2377783-3-TE(green)
Chassis wiring harness connected to floor wiring harness 5



Stitch	Wire number	Line color	Voltage	Stitch definition
1	U301	W	-	Trailer valve AV valve
2	U302	W	-	Trailer valve EV valve
3	U303	R	-	Trailer valve grounding
4	U304	Br	-	Trailer valve power supply
5	U307	W	-	Trailer valve - pressure sensor power supply
6	U308	W	-	Trailer valve - Pressure sensor signal
7	U309	Br	-	Trailer valve - Pressure sensor grounded
8	B614	W	-	Trailer failure light
9	R211	Br	-	Low pressure sensor -
10	U210	W	-	Front left ABS solenoid valve -AV valve
11	U211	W	-	Front left ABS solenoid valve -EV valve
12	U212	W	-	Front left ABS solenoid valve ground
13	U213	W	-	Front right ABS solenoid valve -AV valve
14	U214	W	-	Front right ABS solenoid valve -EV valve
15	U215	W	-	Front right ABS solenoid valve ground
16	-	-	-	-
17	-	-	-	-
18	R209	W	-	Rear axle pressure signal
19	U202	G	-	ESC-CAN-L
20	U205	Y	-	ESC-CAN-H
21	U206	R	-	ESC+
22	U208	Br	-	ESC-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	R208	W	-	Front axle pressure signal
28	U401	G	-	1M modulator CAN-L
29	U404	Y	-	1M modulator CAN-H
30	U407	R	-	1M modulator +
31	U410	Br	-	1M modulator -
32	U201	G	-	2M modulator CAN-L
33	U204	Y	-	2M modulator CAN-H
34	U203	R	-	2M modulator +
35	U207	Br	-	2M modulator -
36	-	-	-	-

I6_C_B Chassis wiring harness connected to floor wiring harness 6

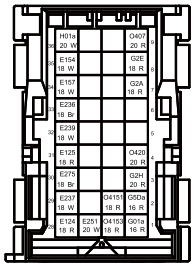
2388171-1-TE(black)
Chassis wiring harness connected to floor wiring harness 6



Stitch	Wire number	Line color	Voltage	Stitch definition
1	P4S	R	-	Motor Fan 2 Power supply
2	P4H	R	-	Motor fan 1 Power supply
3	-	-	-	-
4	P4B	R	-	Motor Fan 3 Power supply

I7_C_B Chassis wiring harness connected to floor wiring harness 7

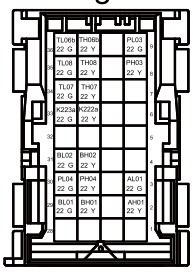
2377783-1-TE(brown)
Chassis wiring harness connected to floor wiring harness 7



Stitch	Wire number	Line color	Voltage	Stitch definition
1	G01a	R	-	KL15-1
2	G5Da	R	-	KL15-3
3	G2H	R	-	T-GW B+1
4	O420	R	-	T-GW B+2
5	-	-	-	-
6	-	-	-	-
7	G2A	R	-	EBS-KL15A
8	G2E	R	-	Main ADCU-B+
9	O407	R	-	AGS-KL30
10	O4153	R	-	Battery pack -B+
11	O4151	R	-	Battery pack -B+
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	E251	W	-	Active Grille Shutter LIN
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-
25	-	-	-	-
26	-	-	-	-
27	-	-	-	-
28	E124	R	-	Acceleration power 1
29	E237	W	-	Acceleration signal 1
30	E275	Br	-	acceleratedly
31	E125	R	-	Acceleration power 2
32	E239	W	-	Acceleration signal 2
33	E236	Br	-	quickly2
34	E157	W	-	Parking switch 1
35	E154	W	-	Parking switch 2
36	H01a	W	-	Differential lock signal

I8_C_B Chassis wiring harness connected to floor wiring harness 8

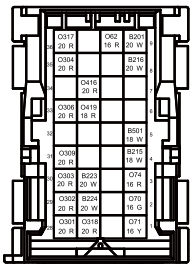
2377783-2-TE(purple)
Chassis wiring harness connected to floor wiring harness 8



Stitch	Wire number	Line color	Voltage	Stitch definition
1	-	-	-	-
2	AH01	Y	-	HMI Private CAN-H
3	AL01	G	-	HMI private CAN-L
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	PH03	Y	-	PCAN3-H
9	PL03	G	-	PCAN3-L
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	BH01	Y	-	BCANFD1-H
21	PH04	Y	-	Electric drive CAN4-H
22	BH02	Y	-	BCANFD2-H
23	-	-	-	-
24	K222a	Y	-	Air conditioning CAN-H
25	TH07	Y	-	GWCANFD7-H
26	TH08	Y	-	Chassis CAN8-H
27	TH06b	Y	-	Intelligent driving CAN-H
28	-	-	-	-
29	BL01	G	-	BCANFD1-L
30	PL04	G	-	Electric drive CAN4-L
31	BL02	G	-	BCANFD2-L
32	-	-	-	-
33	K223a	G	-	Air conditioning CAN-L
34	TL07	G	-	GWCANFD7-L
35	TL08	G	-	Chassis CAN8-L
36	TL06b	G	-	Intelligent driving CAN-L

I9_C_B Chassis wiring harness connected to floor wiring harness 9

2377783-3-TE(green)
Chassis wiring harness connected to floor wiring harness 9



Stitch	Wire number	Line color	Voltage	Stitch definition
1	O71	Y	-	Trailer left turn signal
2	O70	G	-	Trailer right turn signal
3	O74	R	-	Turn signal controller power +
4	B215	W	-	DCDC3 Enable +
5	B501	W	-	DCDC3 fault alarm
6	-	-	-	-
7	-	-	-	-

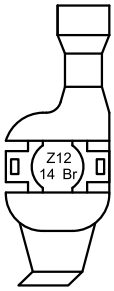
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
8	B216	W	-	KL15 Power-on and power-off request
9	B201	W	-	KL30 Power-on and power-off request
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	O62	R	-	12V car power supply
19	O318	R	-	Position light
20	B224	W	-	Right turn signal
21	B223	W	-	Left turn signal
22	-	-	-	-
23	-	-	-	-
24	O419	R	-	Horn power supply
25	O416	R	-	AVAS power supply
26	-	-	-	-
27	-	-	-	-
28	O301	R	-	Near left light
29	O302	R	-	Right low light
30	O303	R	-	Left high beam
31	O309	R	-	Right high beam
32	-	-	-	-
33	O306	R	-	Right DRL
34	-	-	-	-
35	O304	R	-	Left DRL
36	O317	R	-	ADS lamp

9.2.7 Instrument Harness

9.2.7.1 Instrument Harness Terminal Diagram

G14 Take the iron point 12

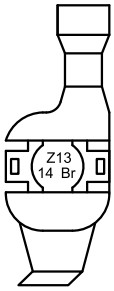
ST431TF-6-2.5
Take the iron point 12



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z12	Br	-	Ground

G15 Take the iron point 13

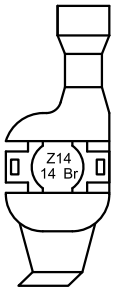
ST431TF-6-2.5
Take the iron point 13



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z13	Br	-	Ground

G16 Take the iron point 14

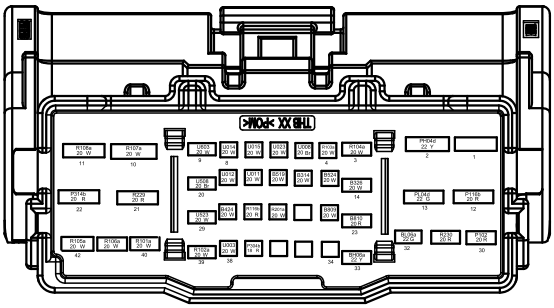
ST431TF-6-2.5
Take the iron point 14



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z14	Br	-	Ground

I1_IP_B Instrument harness to floor harness 1

1577401-THB
Instrument harness to floor harness 1

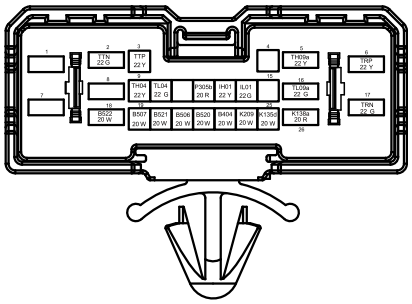


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	PH04d	Y	-	PCAN4-H
3	R104a	W	-	Left tweeter -
4	R103a	W	-	Left tweeter +
5	U008	Br	-	EPB switch -
6	U023	W	-	EPB Switching power supply
7	U015	W	-	EPB release switch
8	U014	W	-	EPB parking switch
9	U603	W	-	Hang the EPB indicator
10	R107a	W	-	Left alto speaker +
11	R108a	W	-	Left alto speaker -
12	P116b	R	-	Combination switch - Shift -KL30
13	PL04d	G	-	PCAN4-L
14	B326	W	-	Hazard alarm switch light
15	B524	W	-	Hazard warning switch
16	B314	W	-	Block the key work indicator
17	B519	W	-	Unlock the lock switch
18	U011	G	-	EPB1 is linear 2

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
19	U012	Y	-	EPB1 is linear 1
20	U508	Br	-	Hanging the EPB switch -
21	R229	R	12V	CDC sends 12V power to wake up the CAR screen
22	P314b	R	-	CAR screen power supply KL30
23	B810	R	-	Bluetooth power for doorknob
24	B809	W	-	Doorknob Bluetooth ID
25	-	-	-	-
26	R201a	W	-	Ambient Light LIN
27	R116b	R	12V	Ambient light 12V power supply
28	B424	W	-	Sliding door switch
29	U523	W	-	Hang up EPB switch +
30	P102	R	-	KL15 Power supply +
31	R230	R	12V	IPC wakes up power supply 12V+
32	BL06a	G	-	BCAN6-L
33	BH06a	Y	-	BCAN6-H
34	-	-	-	-
35	-	-	-	-
36	-	-	-	-
37	P304b	R	-	Bluetooth、NFC Module B+
38	U003	W	-	Primary EPB indicator
39	R102a	W	-	Right tweeter -
40	R101a	W	-	Right tweeter +
41	R106a	W	-	Right squawker/ surround-sound speaker -
42	R105a	W	-	Right squawker/ surround-sound speaker +

I2_IP_B Instrument harness to floor harness 2

1563301-THB
Instrument harness to floor harness 2

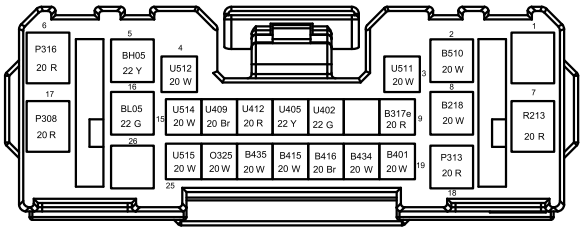


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	TTN	G	-	Ethernet sends signals -
3	TTP	Y	-	Ethernet sends signal +
4	-	-	-	-
5	TH09a	Y	-	GWCANFD9-H
6	TRP	Y	-	Ethernet received signal +
7	-	-	-	-
8	-	-	-	-
9	TH04	Y	-	GWCANFD4-H
10	TL04	G	-	GWCANFD4-L
11	-	-	-	-
12	P305b	R	-	IPC screen B+
13	IH01	Y	-	INTCANFD1-H
14	IL01	G	-	INTCANFD1-L
15	-	-	-	-
16	TL09a	G	-	GWCANFD9-L

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
17	TRN	G	-	Ethernet received signal -
18	B522	W	-	Left window lift switch
19	B507	W	-	Left window drop switch
20	B521	W	-	Right window lift switch
21	B506	W	-	Right window drop switch
22	B520	W	-	Main drive visor lift switch
23	B404	W	-	Main drive shade lowering switch
24	K209	W	-	Temperature sensor signal in front car
25	K135d	W	-	Front car temperature sensor
26	K138a	R	12V	Temperature sensor inside the front car 12V power supply

I3_IP_B Instrument harness to floor harness 3

1563201-THB
Instrument harness to floor harness 3

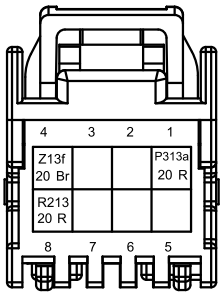


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	B510	W	-	Clock spring - horn switch
3	U511	W	-	Example Hang EPB Hall 2
4	U512	W	-	Example Hang EPB Hall 1
5	BH05	Y	-	ESCL-BCAN5-H
6	P316	R	-	ESCL Power supply B+
7	R213	R	12V	CDC sends 12V power to wake up IVI screen
8	B218	W	-	Backlight +
9	B317e	R	12V	Clock spring 12V power
10	-	-	-	-
11	U402	G	-	Steering Angle internal CAN-L
12	U405	Y	-	Steering Angle internal CAN-H
13	U412	R	-	Steering Angle power supply
14	U409	Br	-	Steering Angle ground
15	U514	W	-	Suspending EPB release switch
16	BL05	G	-	ESCL-BCAN5-L
17	P308	R	-	HUD-KL30+
18	P313	R	-	IVI screen -KL30
19	B401	W	-	Wash switch
20	B434	W	-	Wiper switch
21	B416	Br	-	Left combination switch analog
22	B415	W	-	Turn switch signal
23	B435	W	-	Passing switch
24	O325	W	-	Traction seat slip switch

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
25	U515	W	-	Hanging EPB release switch
26	-	-	-	-

IP01 IVI screen

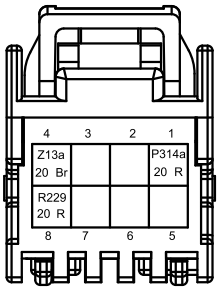
2322346-1-TE
IVI screen



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P313a	R	-	IVI screen -KL30
2	-	-	-	-
3	-	-	-	-
4	Z13f	Br	-	Ground
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	R213	R	12V	CDC sends 12V power to wake up IVI screen

IP02 CAR screen

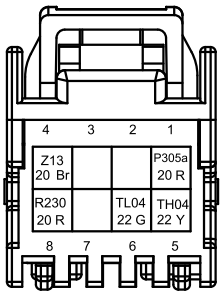
2322346-1-TE
CAR screen



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P314a	R	-	Power KL30
2	-	-	-	-
3	-	-	-	-
4	Z13a	Br	-	Ground
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	R229	R	12V	CDC sends 12V power to wake up the CAR screen

IP03 IPC screen

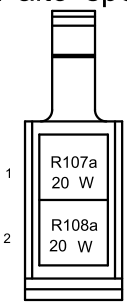
2322346-2-TE
IPC screen



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P305a	R	-	IPC panel power B+
2	-	-	-	-
3	-	-	-	-
4	Z13	Br	-	Ground
5	TH04	Y	-	GWCANFD4-H
6	TL04	G	-	GWCANFD4-L
7	-	-	-	-
8	R230	R	12V	CDC- Wake up 12V power supply

IP04 Left alto speaker

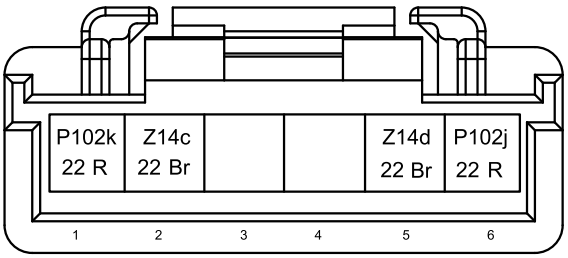
AMP 157420-1
Left alto speaker



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R107a	W	-	Left alto speaker +
2	R108a	W	-	Left alto speaker -

IP05 Etc (electronic toll collection)

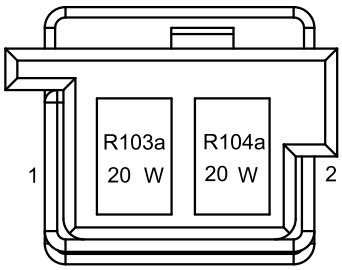
5023510600-MOLEX
ETC



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P102k	R	-	KL15 Power supply
2	Z14c	Br	-	Ground
3	-	-	-	-
4	-	-	-	-
5	Z14d	Br	-	Ground
6	P102j	R	-	KL15 Power supply

IP06 Left tweeter

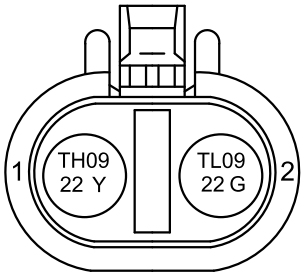
1-1718333-1-AMP
Left tweeter



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R103a	W	-	Left tweeter +
2	R104a	W	-	Left tweeter -

IP07 CAN resistance A-120Ω

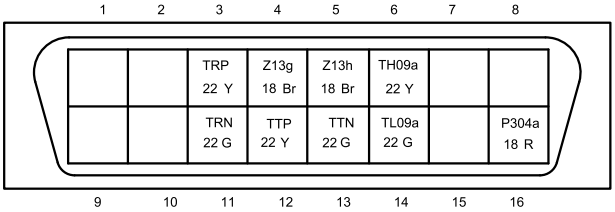
TM0844802
CAN resistance A-120Ω



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	TH09	Y	-	GWCANFD9-H
2	TL09	G	-	GWCANFD9-L

IP08 OBD interface

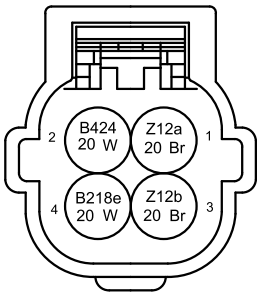
PP1506002-THB
OBD interface



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	TRP	Y	-	Ethernet received signal +
4	Z13g	Br	-	Ground
5	Z13h	Br	-	Ground
6	TH09a	Y	-	GWCANFD9-H
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	TRN	G	-	Ethernet received signal -
12	TTP	Y	-	Ethernet sends signal +
13	TTN	G	-	Ethernet sends signals -
14	TL09a	G	-	GWCANFD9-L
15	-	-	-	-
16	P304a	R	-	B+

IP09 Sliding door switch

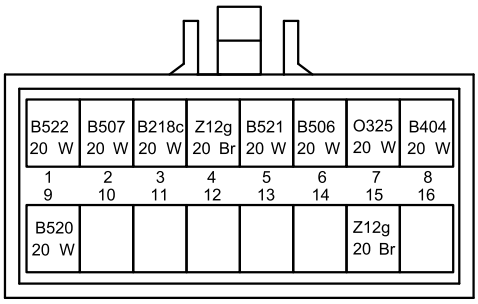
MG645854-KET
Sliding door switch



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z12a	Br	-	Ground
2	B424	W	-	Sliding door switch
3	Z12b	Br	-	Ground
4	B218e	W	-	Backlight +

IP10 Left center control switch

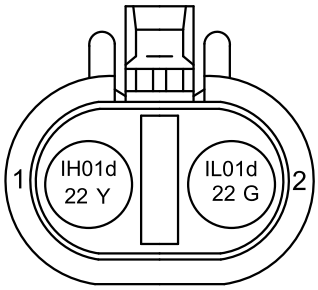
1318386-1-TE
Left center control switch



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B522	W	-	Left window lift switch
2	B507	W	-	Left window drop switch
3	B218c	W	-	Backlight PWM
4	Z12g	Br	-	Ground
5	B521	W	-	Right window lift switch
6	B506	W	-	Right window drop switch
7	O325	W	-	Traction seat slip switch
8	B404	W	-	Main drive shade lowering switch
9	B520	W	-	Main drive visor lift switch
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	Z12g	Br	-	Ground
16	-	-	-	-

IP11 CAN resistance B-120Ω

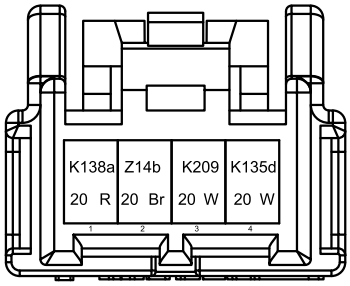
TM0844802
CAN resistance B-120Ω



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	IH01d	Y	-	INTCANFD1-H
2	IL01d	G	-	INTCANFD1-L

IP12 Temperature sensor in front car

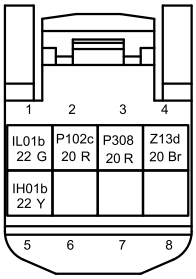
3A04FW HL
Temperature sensor in front car



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	K138a	R	12V	12V power supply +
2	Z14b	Br	-	Ground
3	K209	W	-	Temperature signal
4	K135d	W	-	sensorily

IP13 HUD

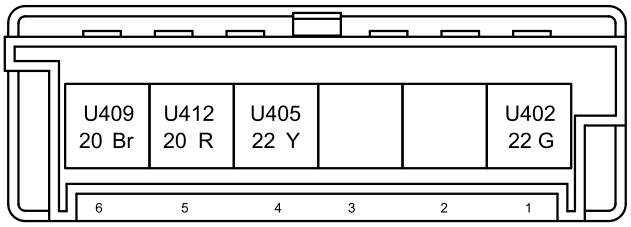
1717103-1-TE
HUD



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	IL01b	G	-	INTCANFD1-L
2	P102c	R	-	KL15 Power supply
3	P308	R	-	HUD power KL30
4	Z13d	Br	-	Ground
5	IH01b	Y	-	INTCANFD1-H
6	-	-	-	-
7	-	-	-	-
8	-	-	-	-

IP14 Steering Angle sensor

1-1241370-3-TE(black)
Steering Angle sensor

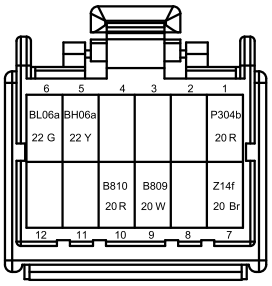


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U402	G	-	Steering Angle internal CAN-L
2	-	-	-	-
3	-	-	-	-
4	U405	Y	-	Steering Angle internal CAN-H

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
5	U412	R	-	Steering Angle power supply
6	U409	Br	-	Steering Angle ground

IP15 Bluetooth 、NFC module

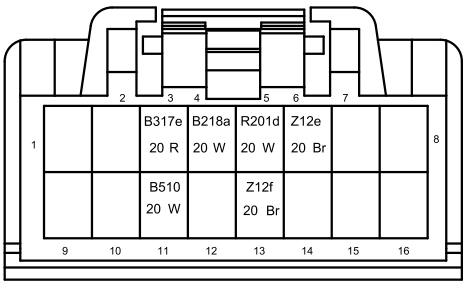
174045-2-TE(black)
Bluetooth &NFC module



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P304b	R	-	Power B+
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	BH06a	Y	-	BCAN6-H
6	BL06a	G	-	BCAN6-L
7	Z14f	Br	-	Ground
8	-	-	-	-
9	B809	W	-	Door handle ID
10	B810	R	-	Doorknob power supply
11	-	-	-	-
12	-	-	-	-

IP16 Clock-spring

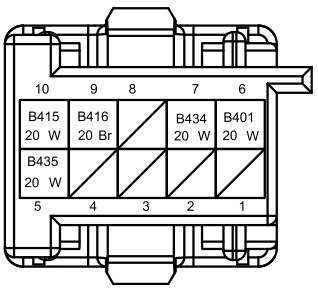
6098-4339-SWS
Clock-spring



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	B317e	R	12V	12V+
4	B218a	W	-	backlight
5	R201d	W	-	Ambient Light LIN
6	Z12e	Br	-	Ground
7	-	-	-	-
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	B510	W	-	Horn switch
12	-	-	-	-
13	Z12f	Br	-	Ground
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-

IP17 Left combination switch

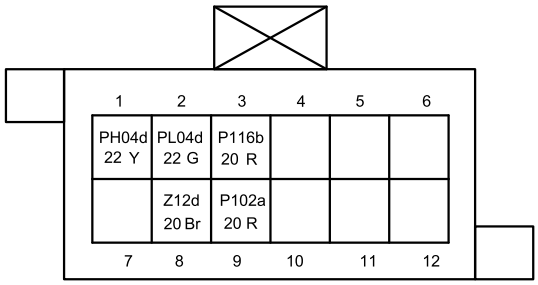
1813967-1-TE
Left combination switch



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	-	-	-	-
2	-	-	-	-
3	-	-	-	-
4	-	-	-	-
5	B435	W	-	Passing light/high beam switch
6	B401	W	-	Wash switch
7	B434	W	-	Wiper switch signal
8	-	-	-	-
9	B416	Br	-	simulatively
10	B415	W	-	Left/right turn switch

IP18 Shift switch

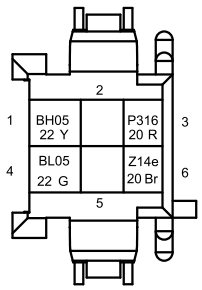
6098-6455(SWS)
Shift switch



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	PH04d	Y	-	PCAN4-H
2	PL04d	G	-	PCAN4-L
3	P116b	R	-	Power KL30
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	Z12d	Br	-	Ground
9	P102a	R	-	Power supply KL15
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-

IP19 ESCL

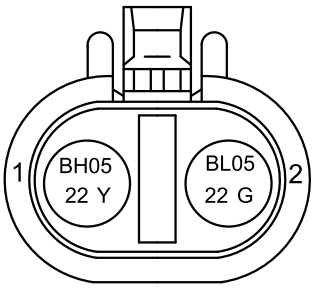
953382-1-TE
ESCL



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	BH05	Y	-	ESCL-BCAN5-H
2	-	-	-	-
3	P316	R	-	Power B+
4	BL05	G	-	ESCL-BCAN5-L
5	-	-	-	-
6	Z14e	Br	-	Ground

IP20 CAN resistance C-120Ω

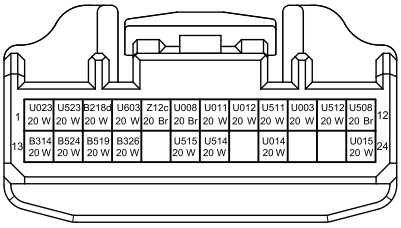
TM0844802
CAN resistance C-120Ω



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	BH05	Y	-	ESCL-BCAN5-H
2	BL05	G	-	ESCL-BCAN5-L

IP21 Right center control switch

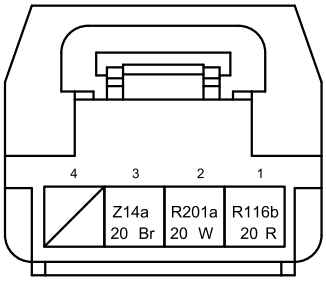
1318917-2-TE
Right center control switch



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	U023	W	-	Example Suspend the EPB switch +
2	U523	W	-	Primary EPB switch +
3	B218d	W	-	Key backlight +
4	U603	W	-	Hang the EPB indicator
5	Z12c	Br	-	Key backlight -
6	U008	Br	-	Ground
7	U011	W	-	Master EPB Hall 2
8	U012	W	-	Main EPB Hall 1
9	U511	W	-	Example Hang EPB Hall 2
10	U003	W	-	Primary EPB indicator
11	U512	W	-	Example Hang EPB Hall 1
12	U508	Br	-	Ground
13	B314	W	-	Lockout light
14	B524	W	-	Hazard warning lamps switch message
15	B519	W	-	Door lock switch letter
16	B326	W	-	Hazard warning lamps
17	-	-	-	-
18	U515	W	-	Main EPB brake is normally closed
19	U514	W	-	Main EPB parking is always open
20	-	-	-	-
21	U014	W	-	Main EPB parking is always open
22	-	-	-	-
23	-	-	-	-
24	U015	W	-	The primary EPB is released normally

IP22 Ambient light 1

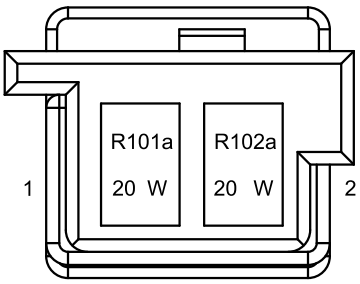
6098-5267-SWS
Ambient light 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R116b	R	12V	Ambient light 12V power supply
2	R201a	W	-	Ambient Light LIN
3	Z14a	Br	-	Ground
4	-	-	-	-

IP23 Right tweeter

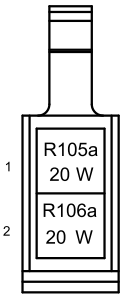
1-1718333-1-AMP
Right tweeter



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R101a	W	-	Right tweeter +
2	R102a	W	-	Right tweeter -

IP24 Right squawker

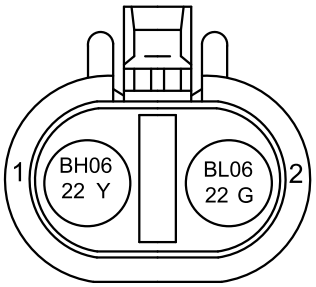
AMP 157420-1
Right squawker



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	R105a	W	-	Right squawker +
2	R106a	W	-	Right squawker -

IP25 CAN resistance D-120Ω

TM0844802
CAN resistance D-120Ω



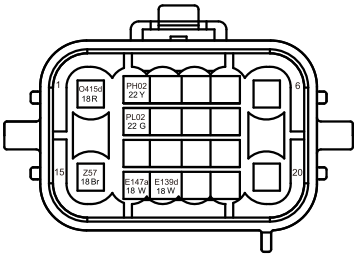
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	BH06	Y	-	BCAN6-H
2	BL06	G	-	BCAN6-L

9.2.8 Right Battery Pack Cable Harness

9.2.8.1 Cable Harness Terminal Diagram of the Right Battery Pack

I1_RP_C Right battery pack wiring harness chassis wiring harness 1

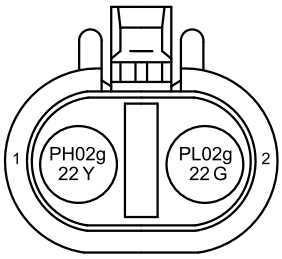
936780-2-TE
Right battery pack wiring harness chassis wiring harness 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O415d	R	-	BMS Power Supply B+
2	PH02	Y	-	Battery PCAN2-H
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	PL02	G	-	Battery PCAN2-L
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	Z57	Br	-	BMS ground
16	E147a	W	-	Wake up power
17	E139d	W	-	Thermal runaway signal
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-

RP06 CAN resistance -120Ω

TM0844802
CAN resistance -120Ω



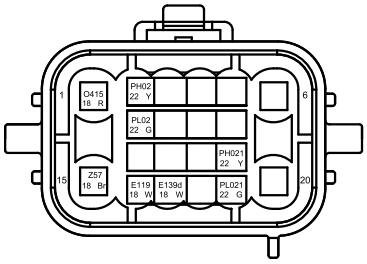
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	PH02g	Y	-	Battery PCAN2-H
2	PL02g	G	-	Battery PCAN2-L

9.2.9 Cable Harness for the Left Battery Pack

9.2.9.1 Cable Harness Terminal Diagram of the Left Battery Pack

I1_LP_C Connect the left battery pack wiring harness to chassis wiring harness 1

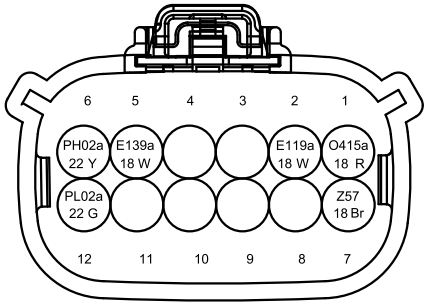
936780-2-TE
Connect the left battery pack wiring harness to chassis wiring harness 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O415	R	-	BMS Power Supply B+
2	PH02	Y	-	Battery PCAN2-H
3	-	-	-	-
4	-	-	-	-
5	-	-	-	-
6	-	-	-	-
7	PL02	G	-	Battery PCAN2-L
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	PH021	Y	-	Battery PCAN2-H
15	Z57	Br	-	BMS ground
16	E119	W	-	Wake up power
17	E139d	W	-	Thermal runaway signal
18	-	-	-	-
19	PL021	G	-	Battery PCAN2-L
20	-	-	-	-

LP01 Upper left battery pack 1

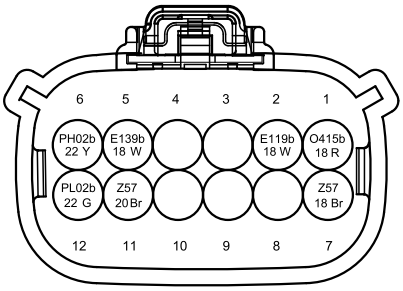
33472-1206-MOLEX
Upper left battery pack 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O415a	R	-	Power B+
2	E119a	W	-	Wake up power
3	-	-	-	-
4	-	-	-	-
5	E139a	W	-	Thermal runaway signal
6	PH02a	Y	-	Battery PCAN2-H
7	Z57	Br	-	Ground
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	-	-	-	-
12	PL02a	G	-	Battery PCAN2-L

LP02 Lower left battery pack 2

33472-1206-MOLEX
Lower left battery pack 2

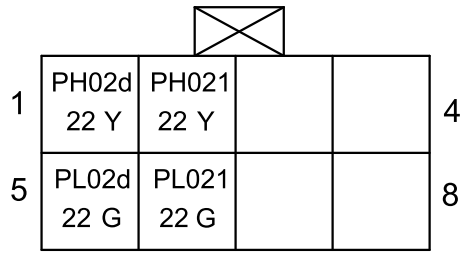


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O415b	R	-	Power B+
2	E119b	W	-	Wake up power

Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
3	-	-	-	-
4	-	-	-	-
5	E139b	W	-	Thermal runaway signal
6	PH02b	Y	-	Battery PCAN2-H
7	Z57	Br	-	Ground
8	-	-	-	-
9	-	-	-	-
10	-	-	-	-
11	Z57	Br	-	Identification ground
12	PL02b	G	-	Battery PCAN2-L

LP07 CAN short-circuiter A

DJT7081-1.8-20
CAN short-circuiter A



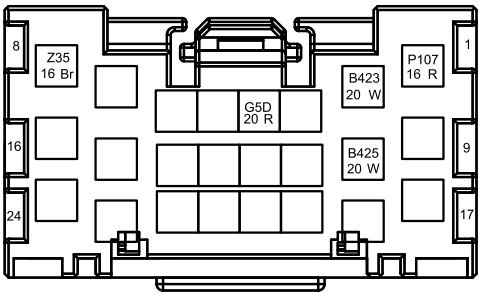
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	PH02c	Y	-	Battery PCAN2-H
2	PH021	Y	-	Battery PCAN2-H
3	-	-	-	-
4	-	-	-	-
5	PL02c	G	-	Battery PCAN2-L
6	PL021	G	-	Battery PCAN2-L
7	-	-	-	-
8	-	-	-	-

9.2.10 Seat Wiring Harness

9.2.10.1 Seat Harness Terminal Diagram

I_S_B Seat harness connects to floor harness

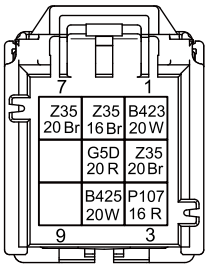
2298622-1-TE
Seat harness connects to floor harness



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	P107	R	-	Seat power B+
2	B423	W	-	Off seat switch signal
3	-	-	-	-
4	G5D	R	-	The ECU is enabled
5	-	-	-	-
6	-	-	-	-
7	-	-	-	-
8	Z35	Br	-	Ground
9	-	-	-	-
10	B425	W	-	Seat belt signal
11	-	-	-	-
12	-	-	-	-
13	-	-	-	-
14	-	-	-	-
15	-	-	-	-
16	-	-	-	-
17	-	-	-	-
18	-	-	-	-
19	-	-	-	-
20	-	-	-	-
21	-	-	-	-
22	-	-	-	-
23	-	-	-	-
24	-	-	-	-

S01 Seat

8-968971-1-TE
Seat



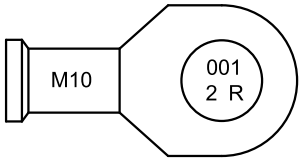
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	B423	W	-	Off seat switch +
2	Z35	Br	-	Off seat switch -
3	P107	R	-	Seat ECU+
4	Z35	Br	-	Seat ECU-
5	G5D	R	-	ECU-KL15
6	B425	W	-	Seat belt signal +
7	Z35	Br	-	Seat belt signal -
8	-	-	-	-
9	-	-	-	-

9.2.11 Left Battery Positive Cable Harness

9.2.11.1 Left Battery Positive Harness Terminal Diagram

BE01 Electrical box T1

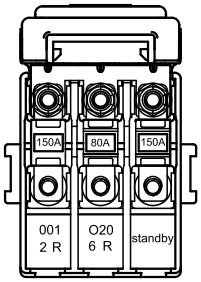
0300-10-25
Electrical box T1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	001	R	-	Power source

BE12 Battery positive electrode

BX2035-1-ZT
Battery positive electrode



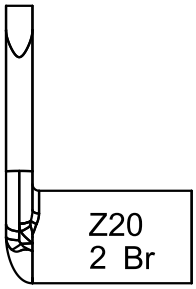
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	001	R	-	Power source

9.2.12 Cable Harness of the Left Battery Negative Terminal

9.2.12.1 Left Battery Negative Harness Terminal Diagram

BE02 Battery negative electrode

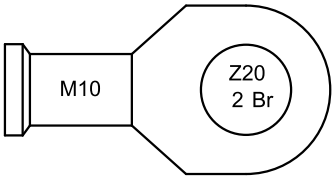
STGS0075-8-25
Battery negative electrode



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z20	Br	-	Ground

G17 Undercarriage

DJ431-10E-25
Undercarriage



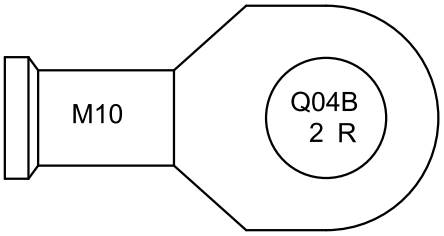
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z20	Br	-	Ground

9.2.13 Smart Electrical Box Wiring Harness

9.2.13.1 Wiring Harness Terminal Diagram of the Smart Electrical Box

BE10 Electrical Box T3

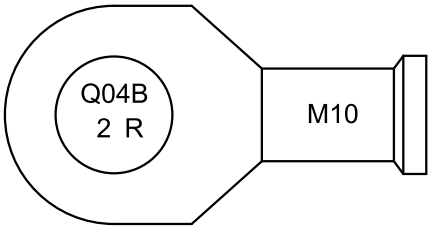
0300-10-25
Electrical Box T3



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Q04B	R	-	Power source

BE11 Electrical box T1

0300-10-25
Electrical box T1



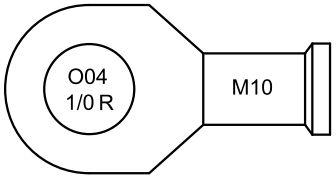
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Q04B	R	-	Power source

9.2.14 DC-DC Positive Cable Bundle 1

9.2.14.1 DC-DC Positive Harness 1 Terminal Diagram

BE07 Electrical box T2

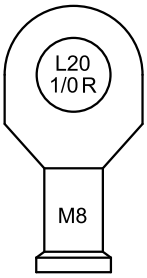
D10-50
Electrical box T2



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O04	R	-	DCDC1 power supply

BE08 DCDC2+

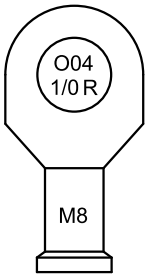
SC50-8
DCDC2+



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	L20	R	-	DC/DC2 power supply

BE09 DCDC1+

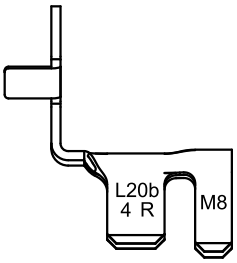
SC50-8
DCDC1+



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	O04	R	-	DCDC1 power supply

I1_BE_B DCDC positive wire harness connects to floor wire harness 1

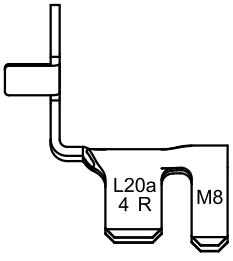
K030766D-20-6
DCDC positive wire harness connects to floor wire harness 1



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	L20b	R	-	DC/DC2 power supply

I2_BE_B DCDC positive wire harness connects to floor wire harness 2

K030766D-20-6
DCDC positive wire harness connects to floor wire harness 2



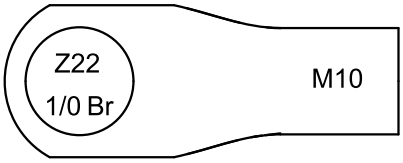
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	L20a	R	-	DC/DC2 power supply

9.2.15 DC-DC Negative Wire Harness 1

9.2.15.1 DC-DC Negative Harness 1 Terminal Diagram

BE04 DCDC1 negative electrode

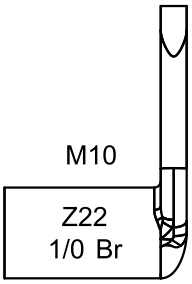
STGS0042-10-50
DCDC1 negative electrode



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z22	Br	-	Ground

G21 Undercarriage

STGS0044-10-50
Undercarriage



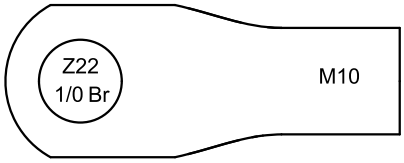
Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z22	Br	-	Ground

9.2.16 DC-DC Negative Wire Harness 2

9.2.16.1 DC-DC Negative Harness 2 Terminal Diagram

BE03 DCDC2 negative electrode

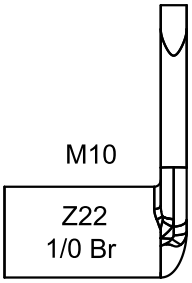
STGS0042-10-50
DCDC2 negative electrode



Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z22	Br	-	Ground

G20 Undercarriage

STGS0044-10-50
Undercarriage

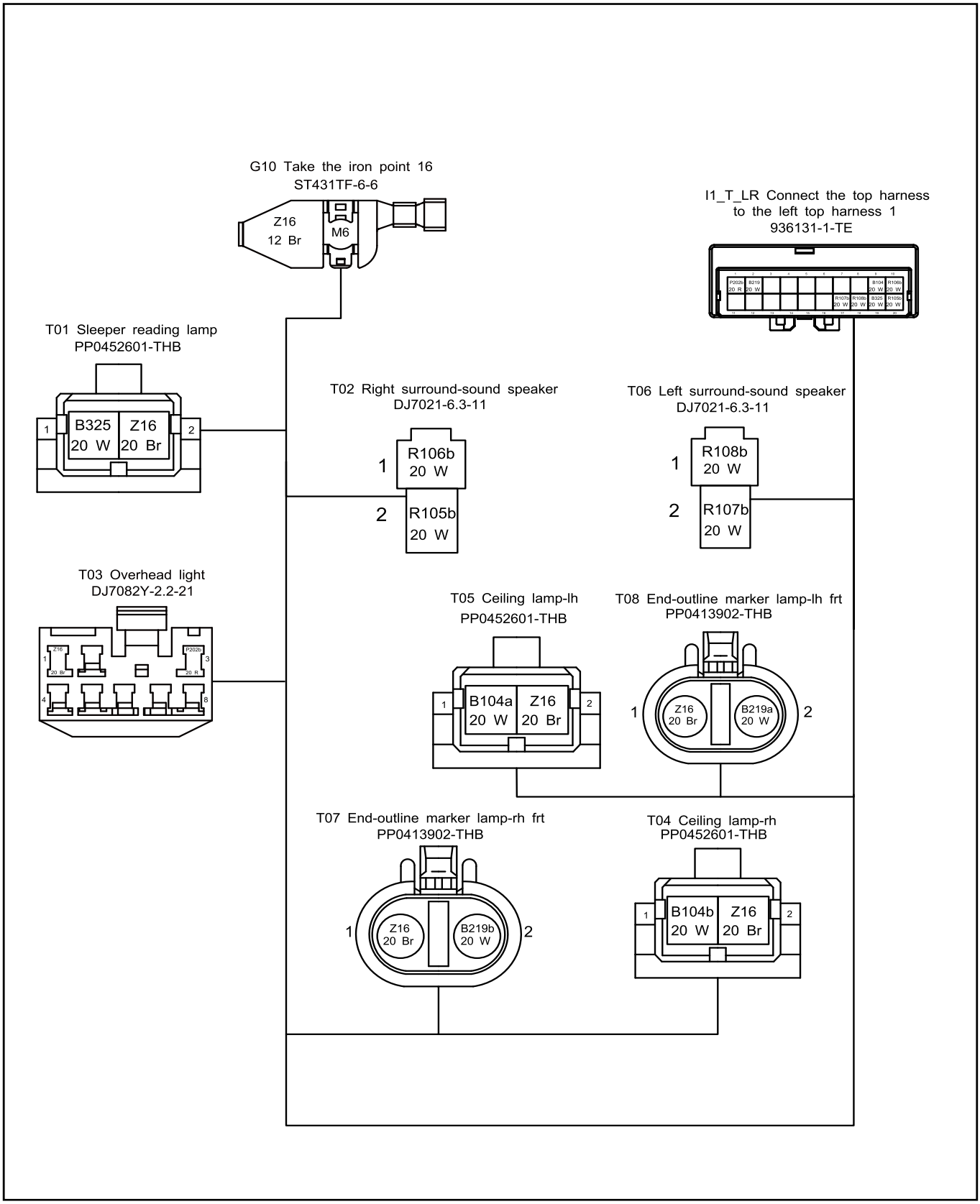


Stitch	Wire numb-er	Line color	Voltag-e	Stitch definition
1	Z22	Br	-	Ground

9.3 Position of Cable Harness and Connector

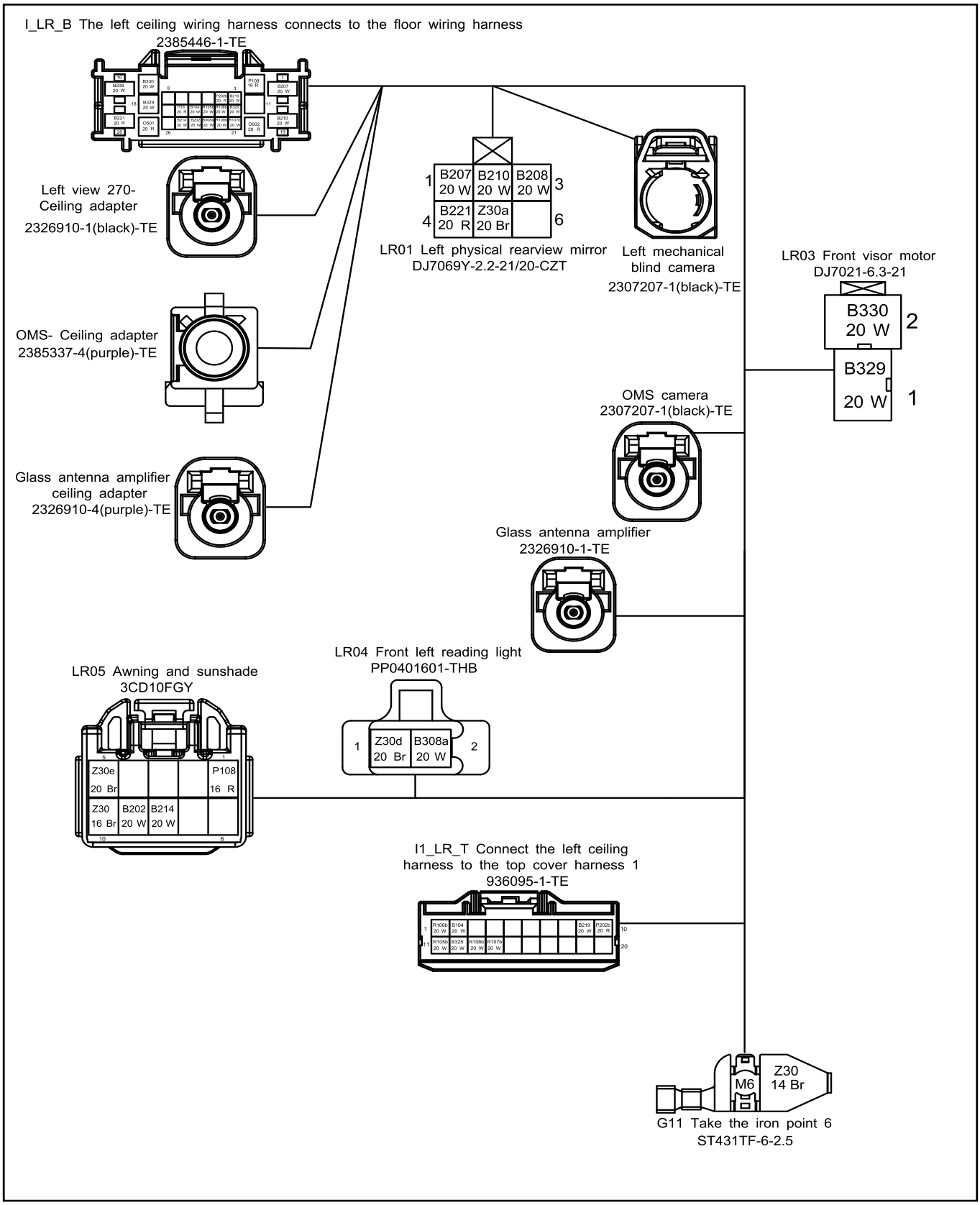
9.3.1 Top Cover Wiring Harness

9.3.1.1 Cable Harness Layout For the Top Cover



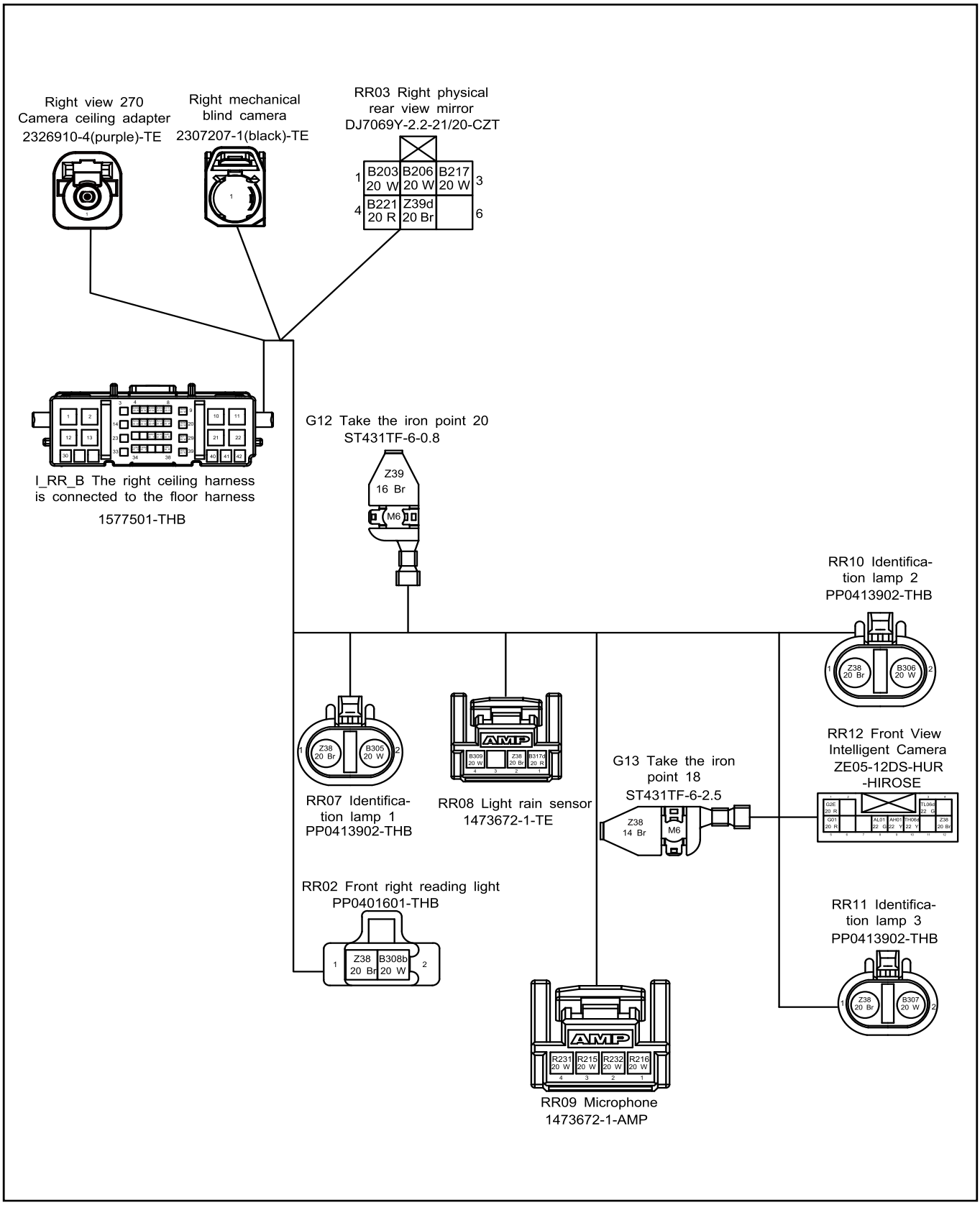
9.3.2 Left Ceiling Harness

9.3.2.1 Cable Harness Layout For the Left Ceiling



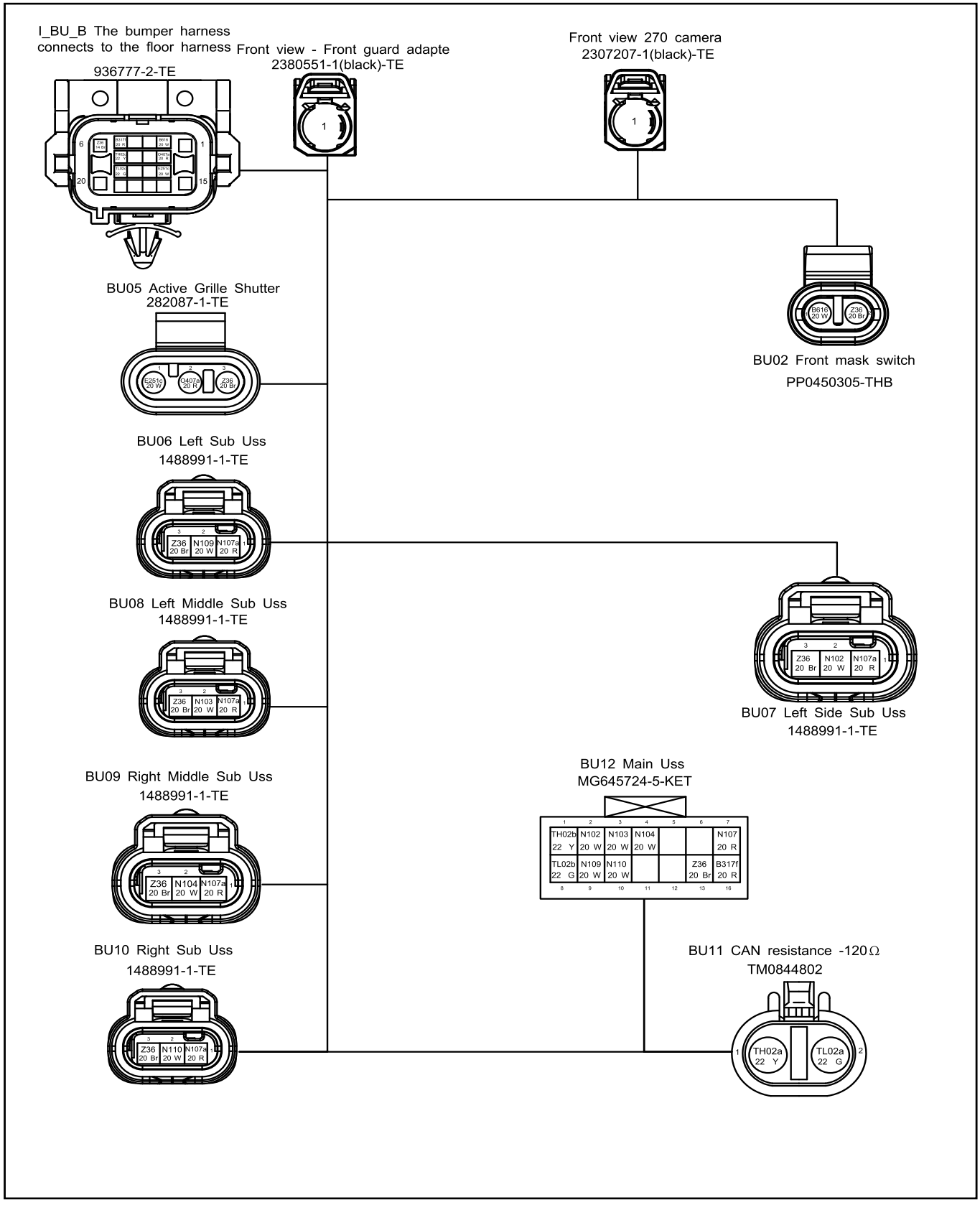
9.3.3 Right Ceiling Harness

9.3.3.1 Right Ceiling Cable Harness Layout Diagram



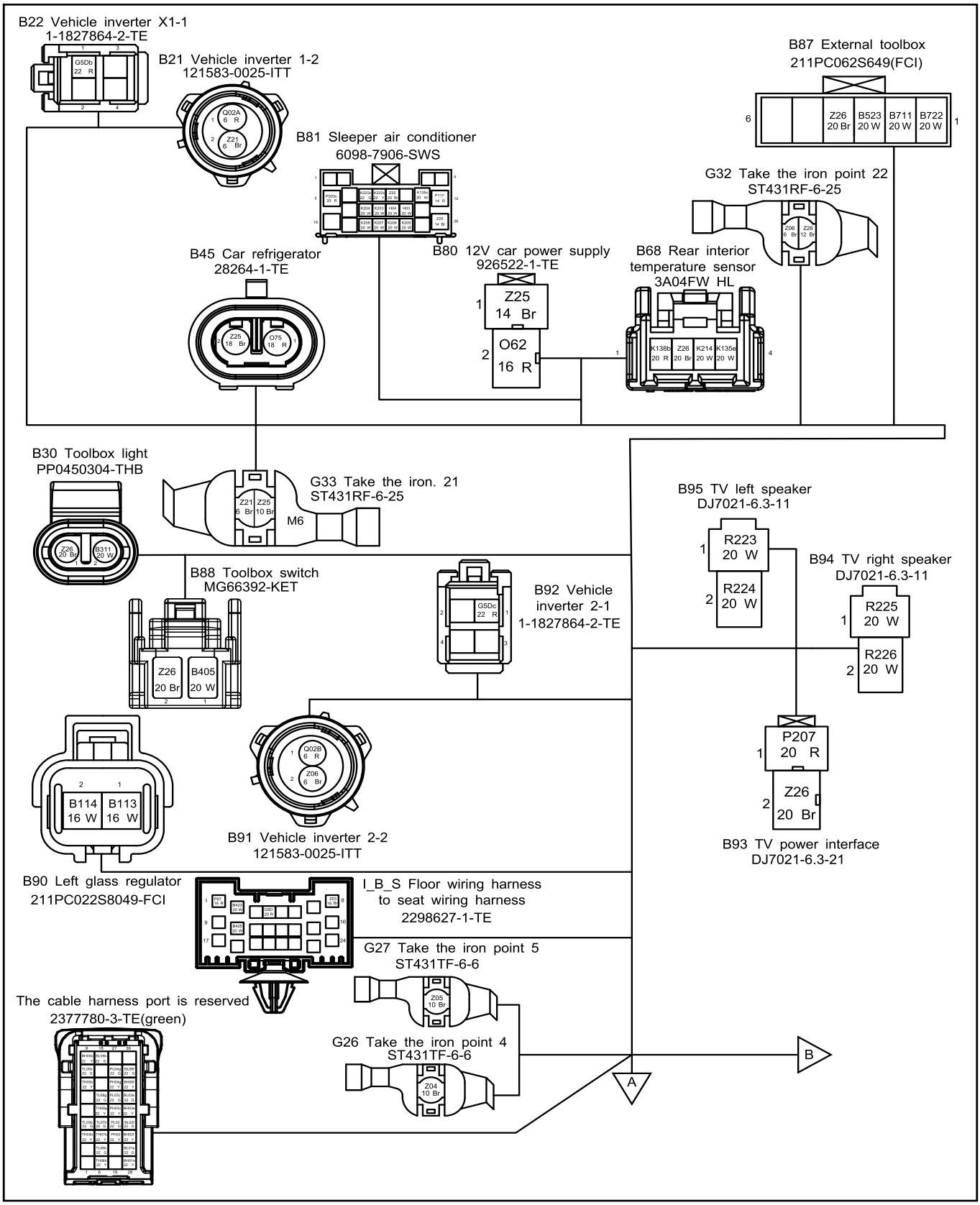
9.3.4 Bumper Harness

9.3.4.1 Bumper Harness Layout

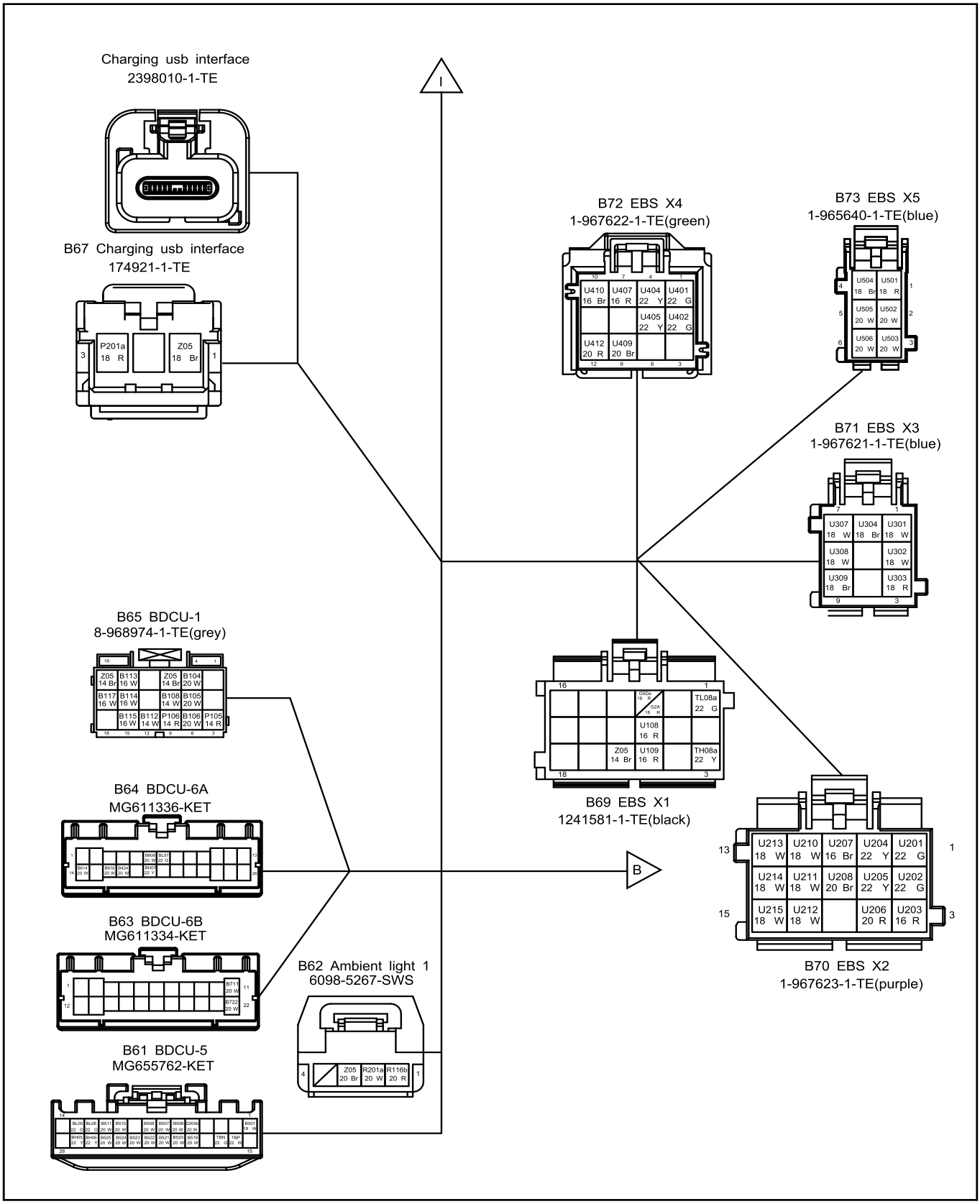


9.3.5 Floor Wiring Harness

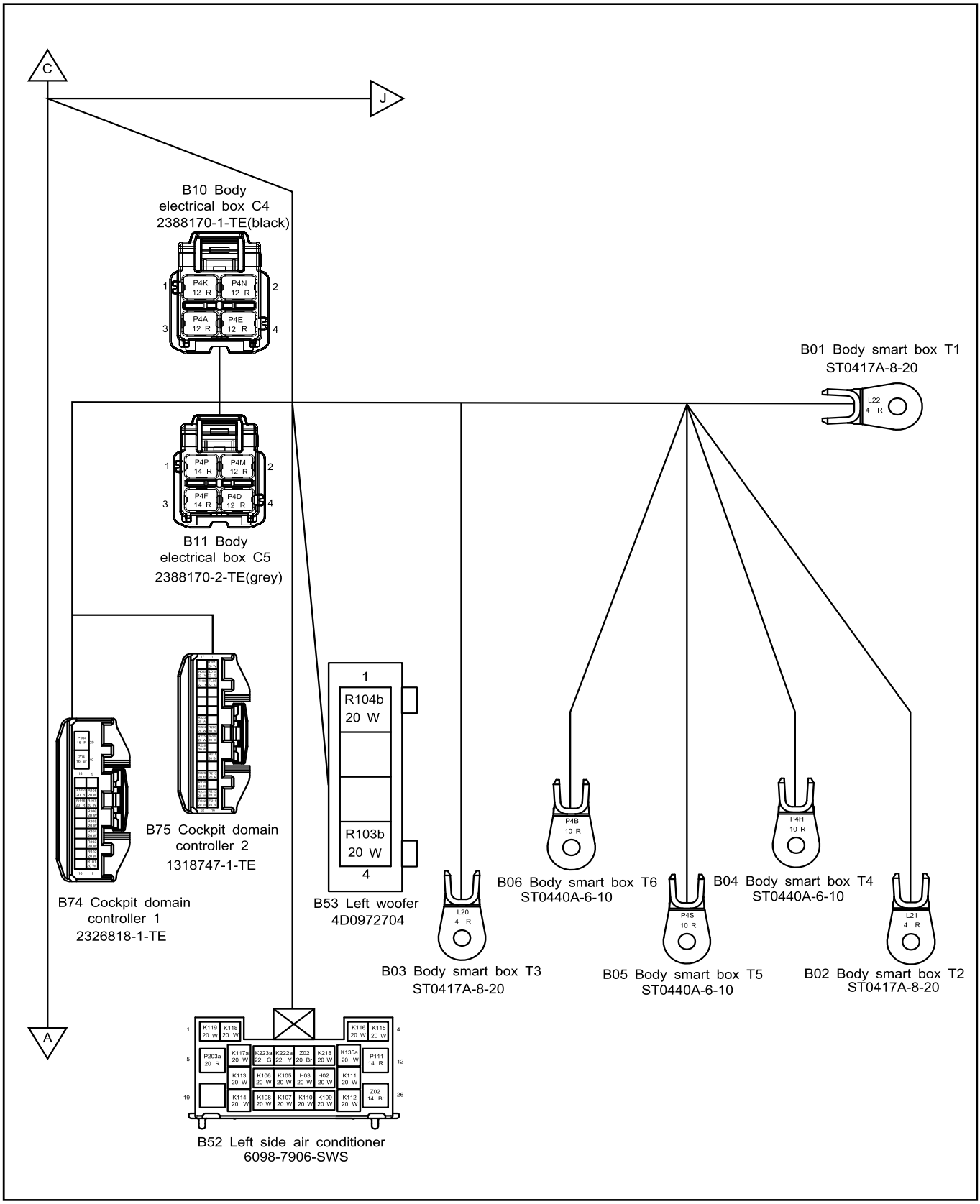
9.3.5.1 Floor Cable Harness Layout Diagram



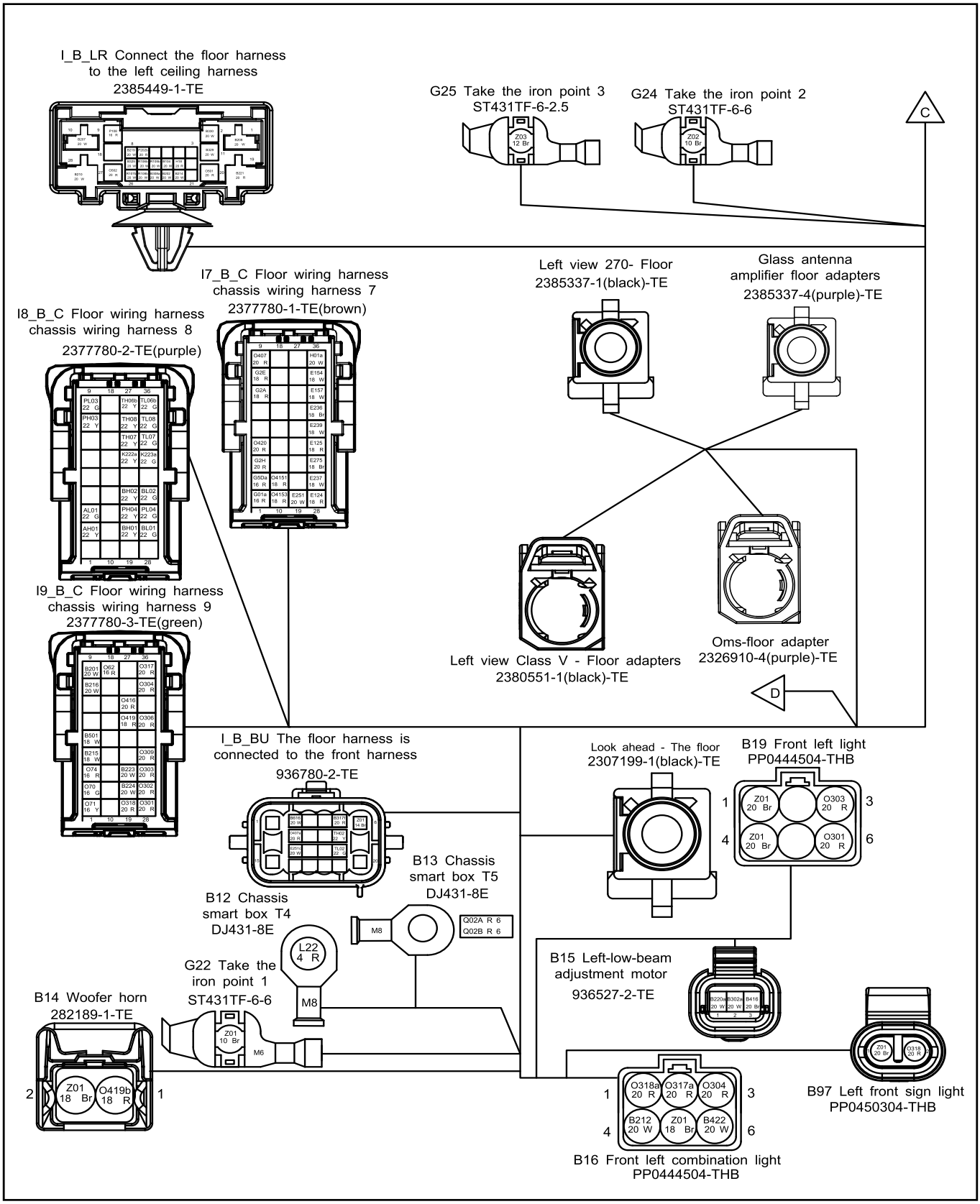
9.3.5.2 Floor Cable Harness Layout Diagram Continued



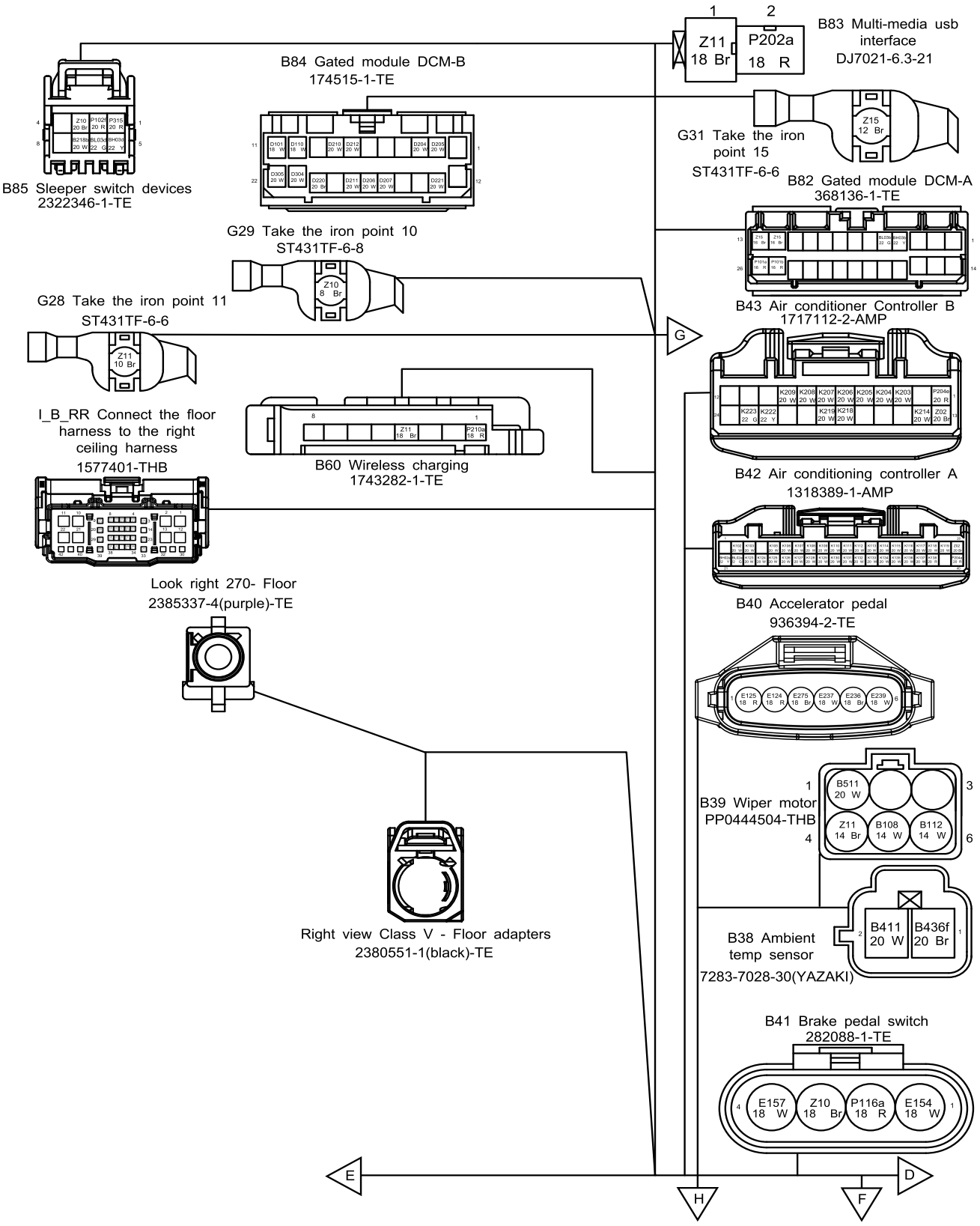
9.3.5.3 Floor Cable Harness Layout Diagram Continued 1



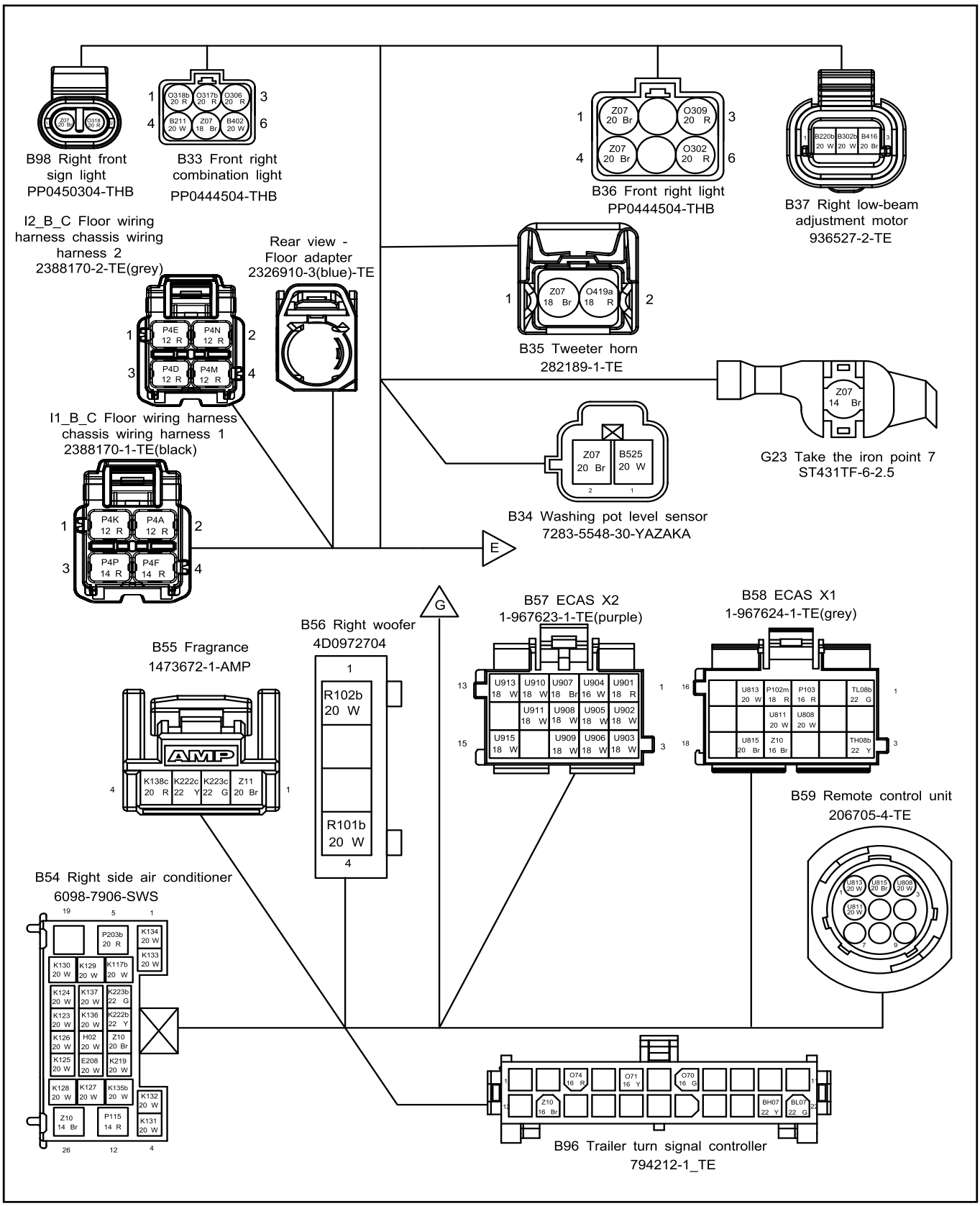
9.3.5.4 Floor Cable Harness Layout Diagram Continued 2



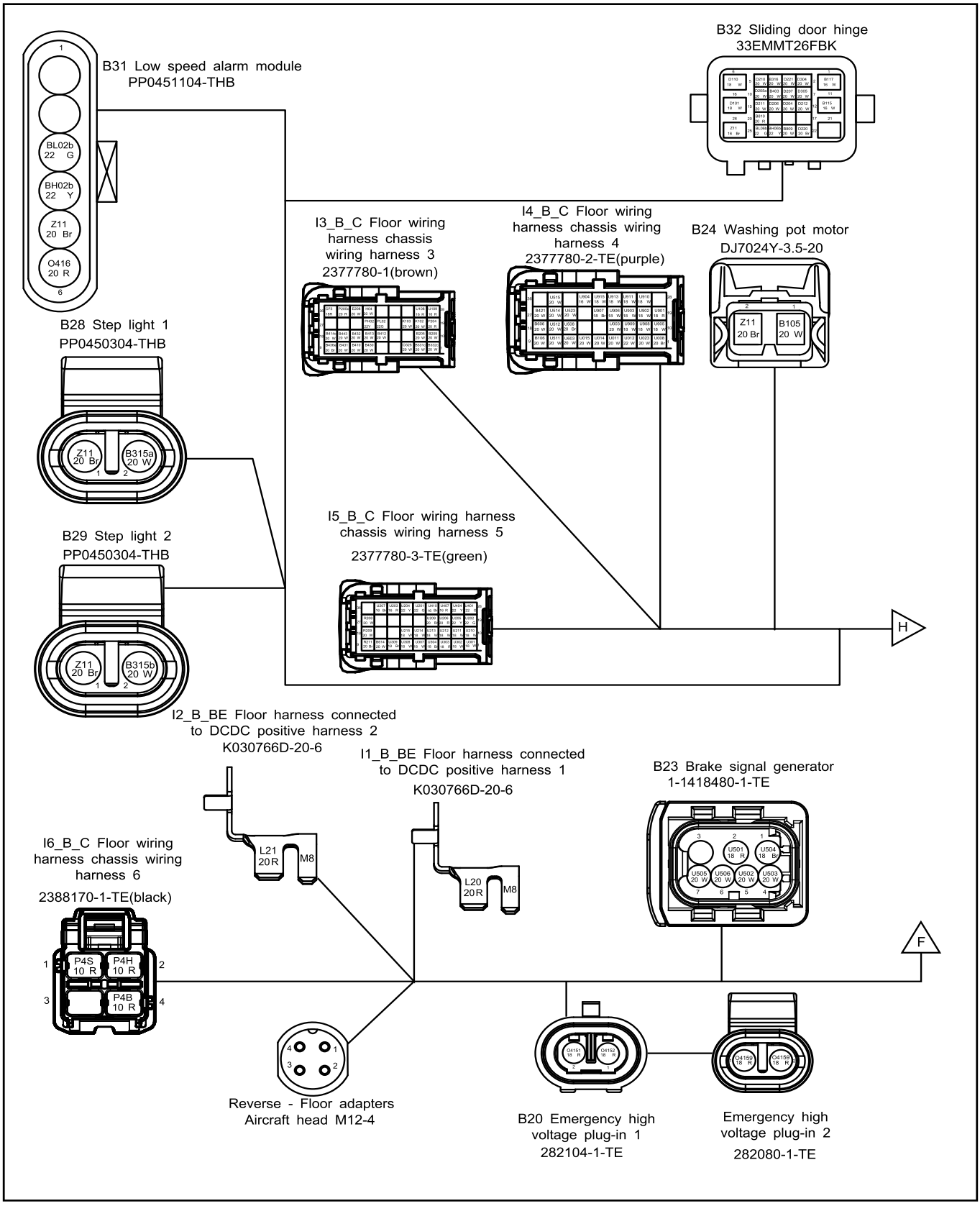
9.3.5.5 Floor Cable Harness Layout Diagram Continued 3



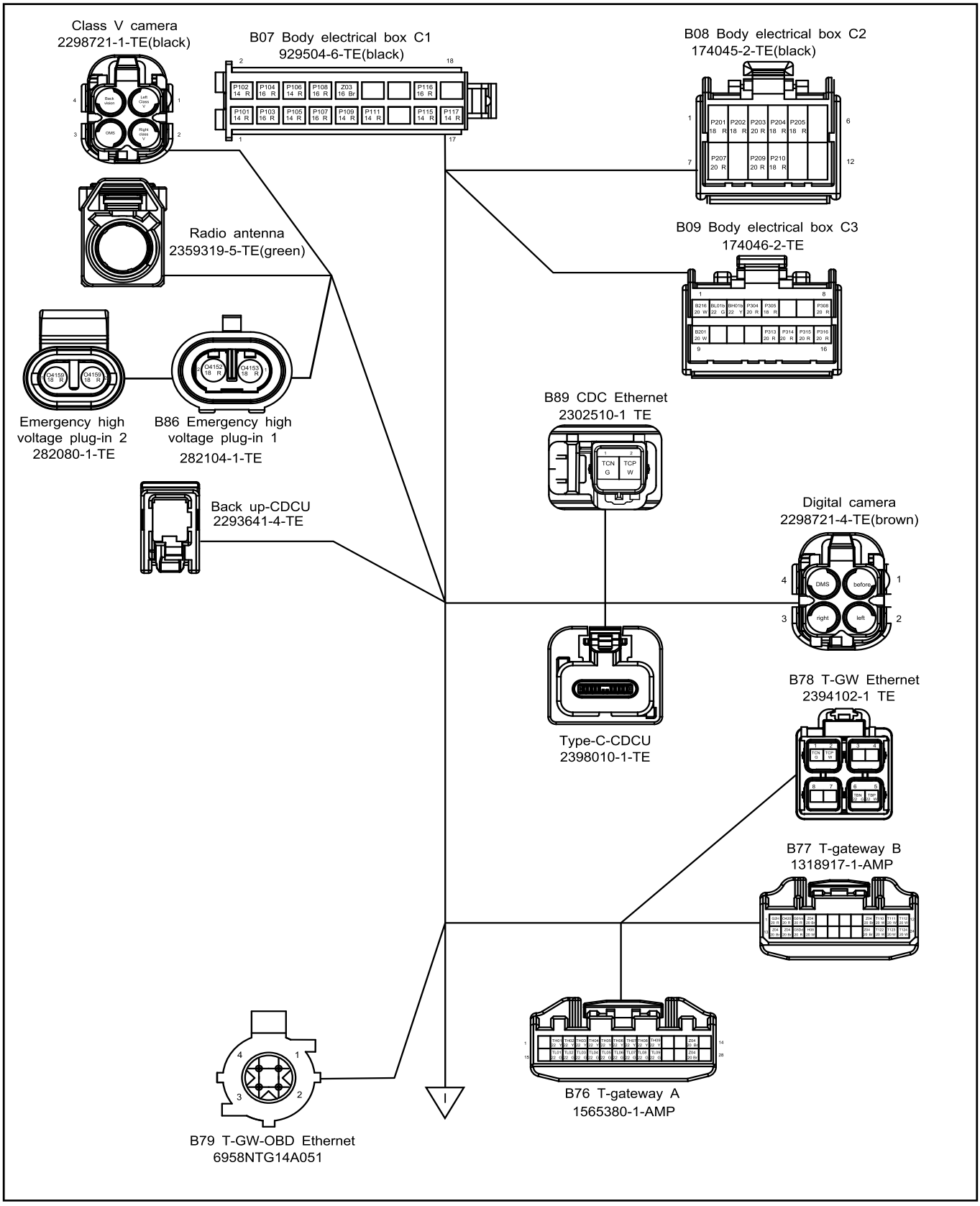
9.3.5.6 Floor Cable Harness Layout Diagram Continued 4



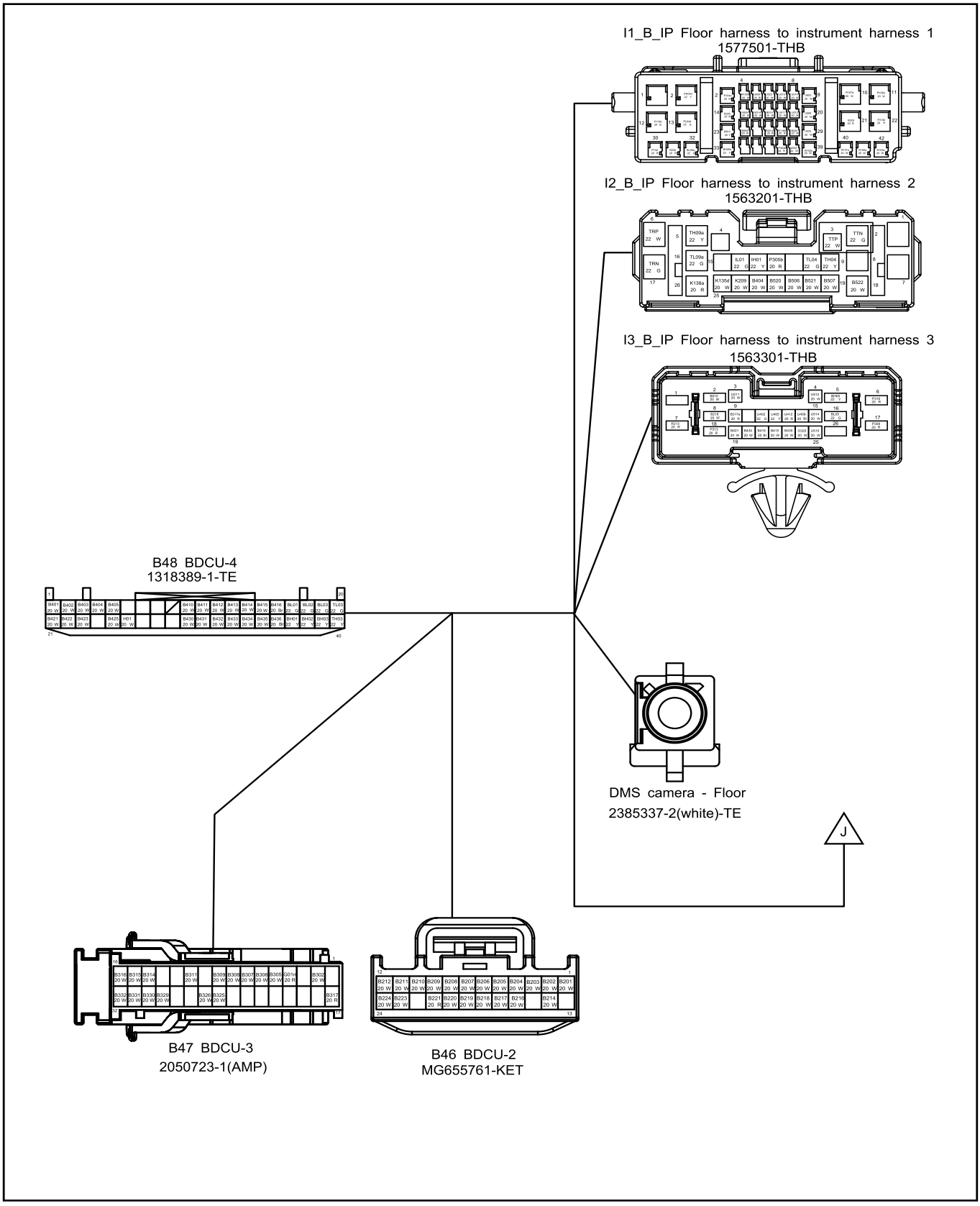
9.3.5.7 Floor Cable Harness Layout Diagram Continued 5



9.3.5.8 Floor Cable Harness Layout Diagram Continued 6

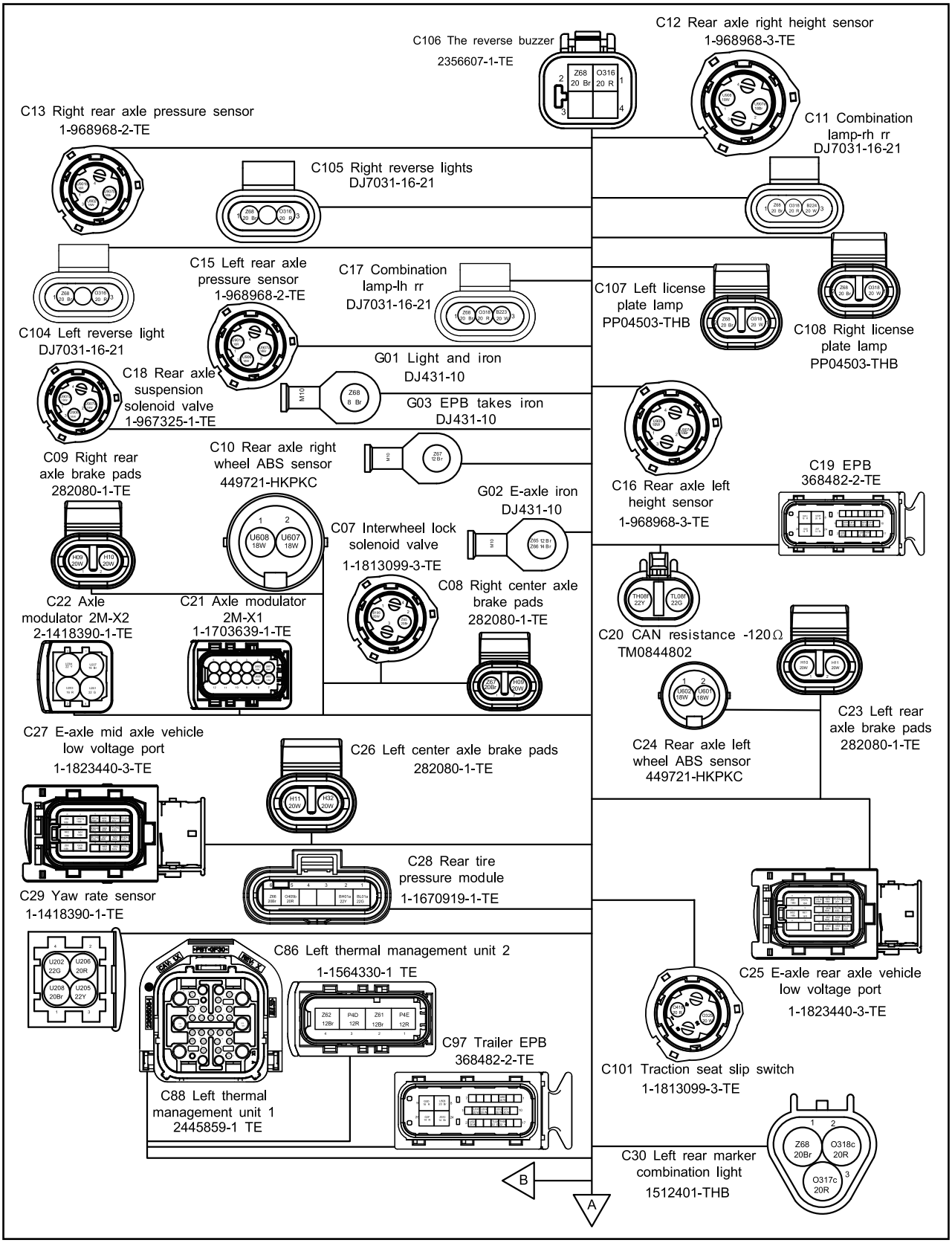


9.3.5.9 Floor Cable Harness Layout Diagram Continued 7

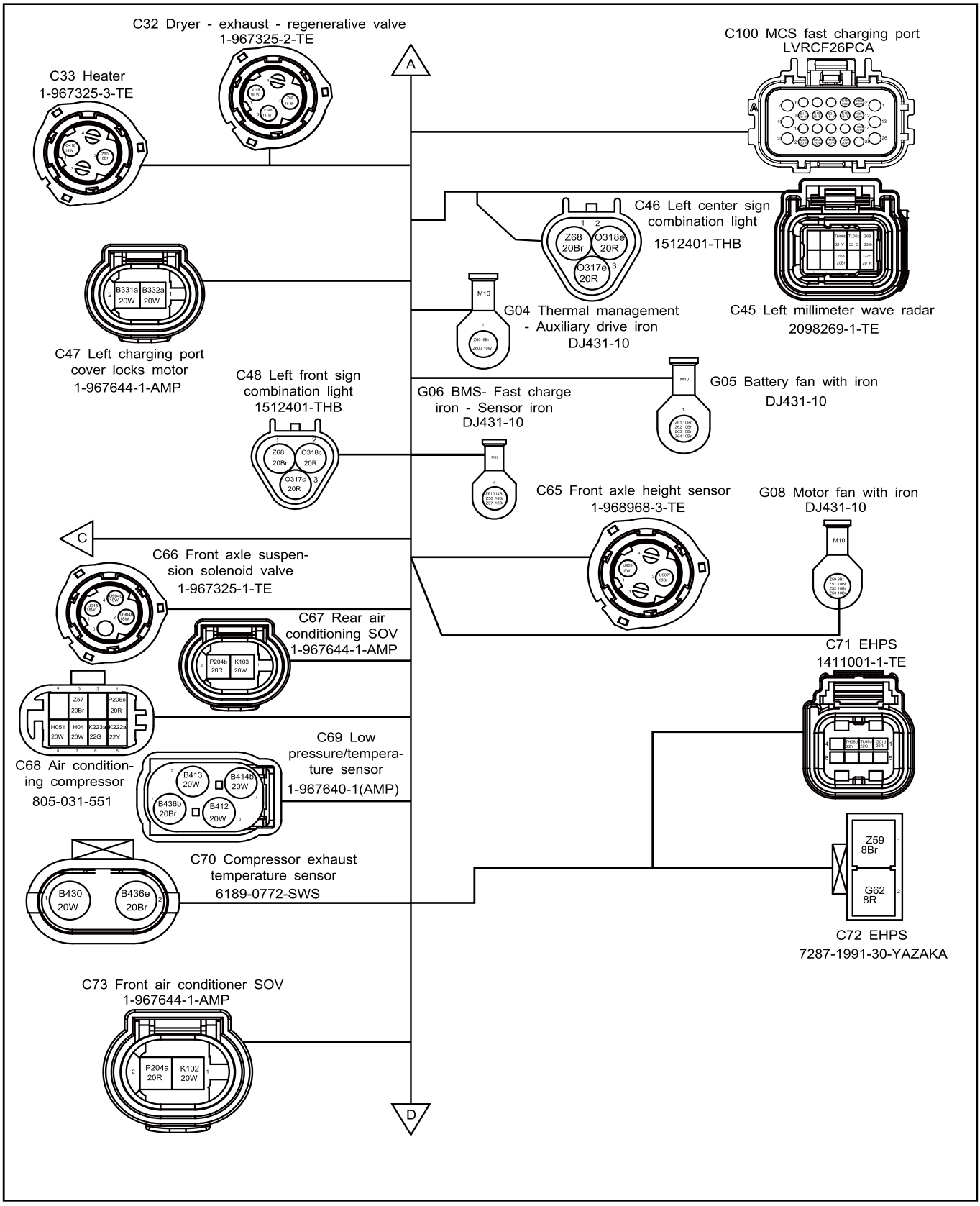


9.3.6 Chassis Wiring Harness

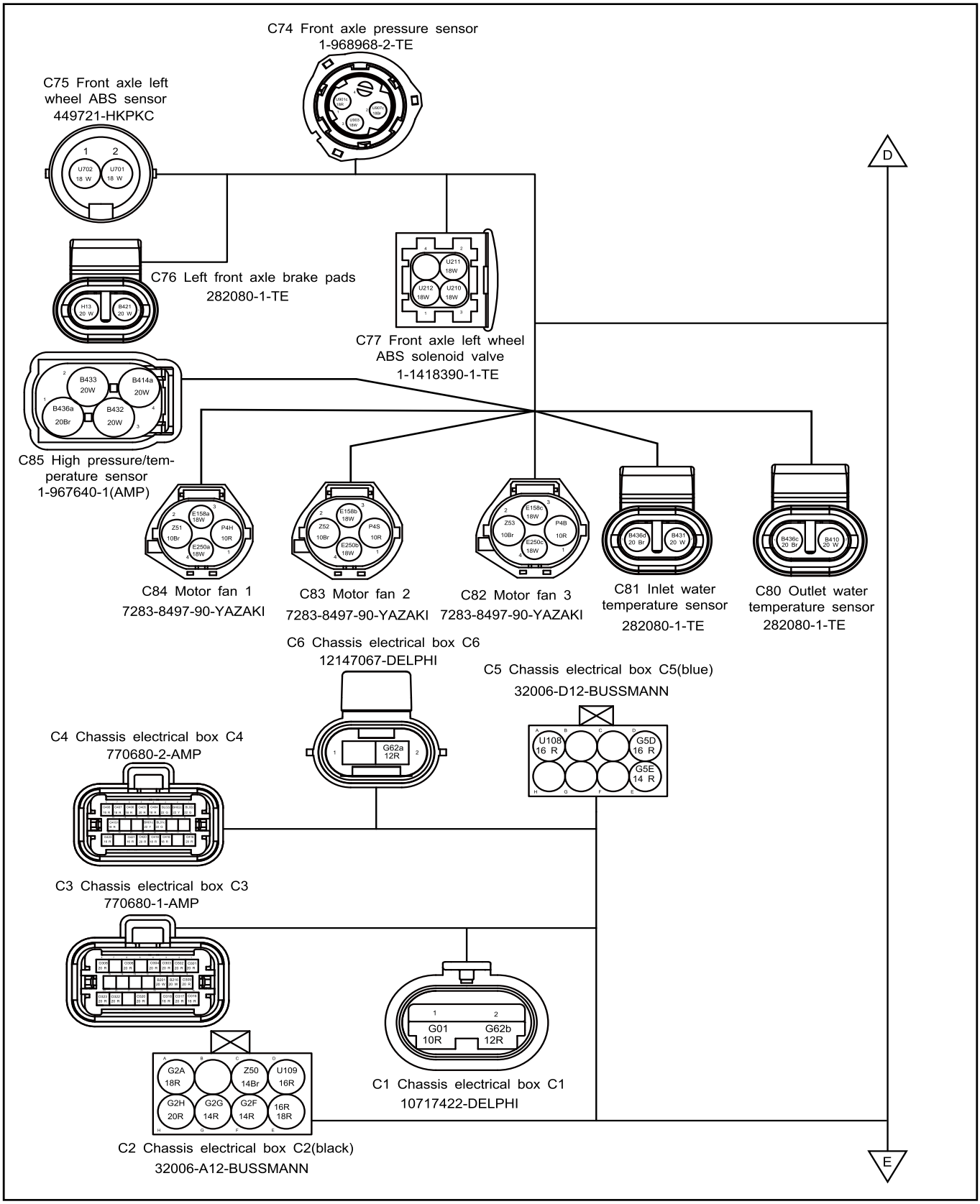
9.3.6.1 Chassis Wiring Harness Layout



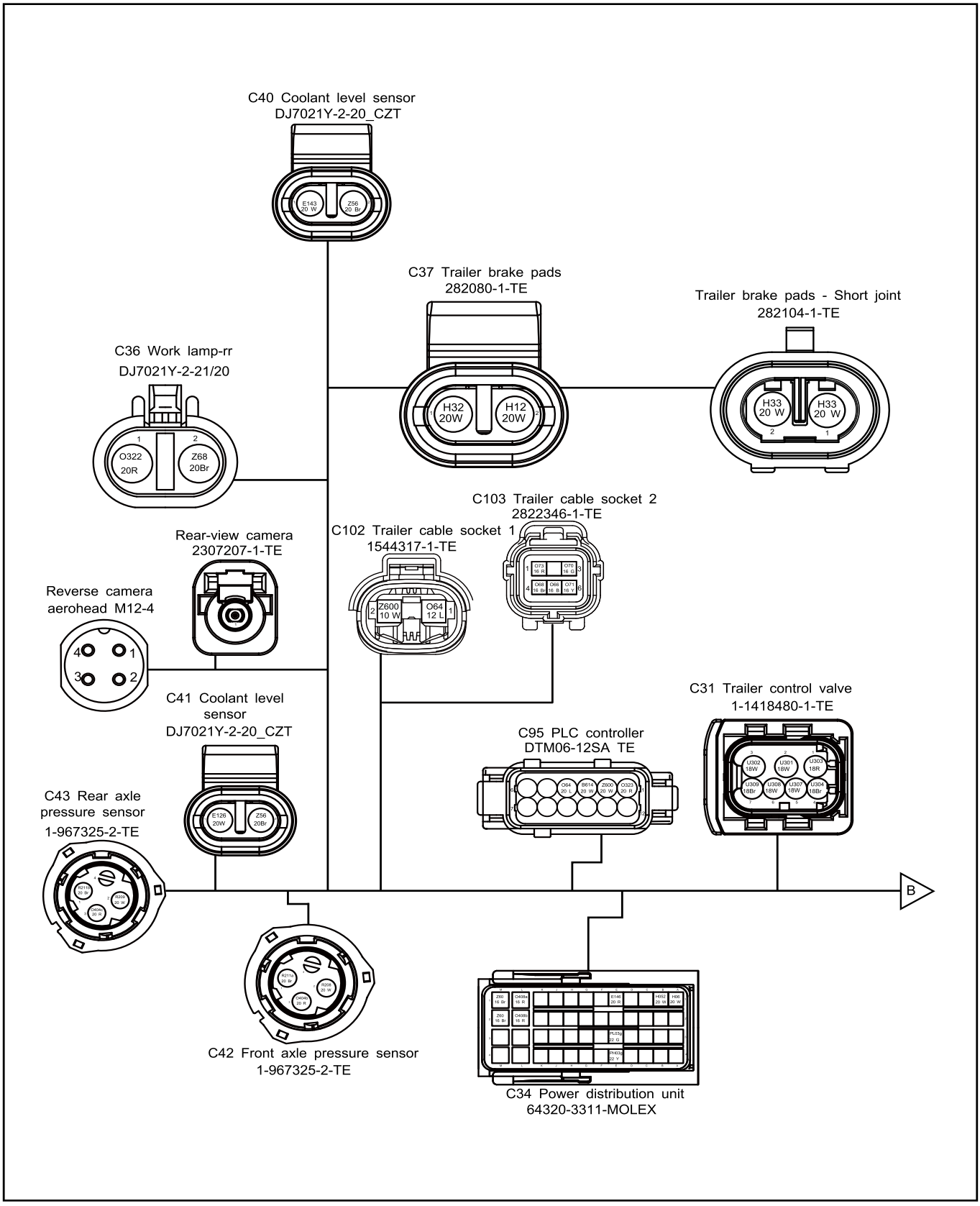
9.3.6.2 Chassis Wiring Harness Layout Continued



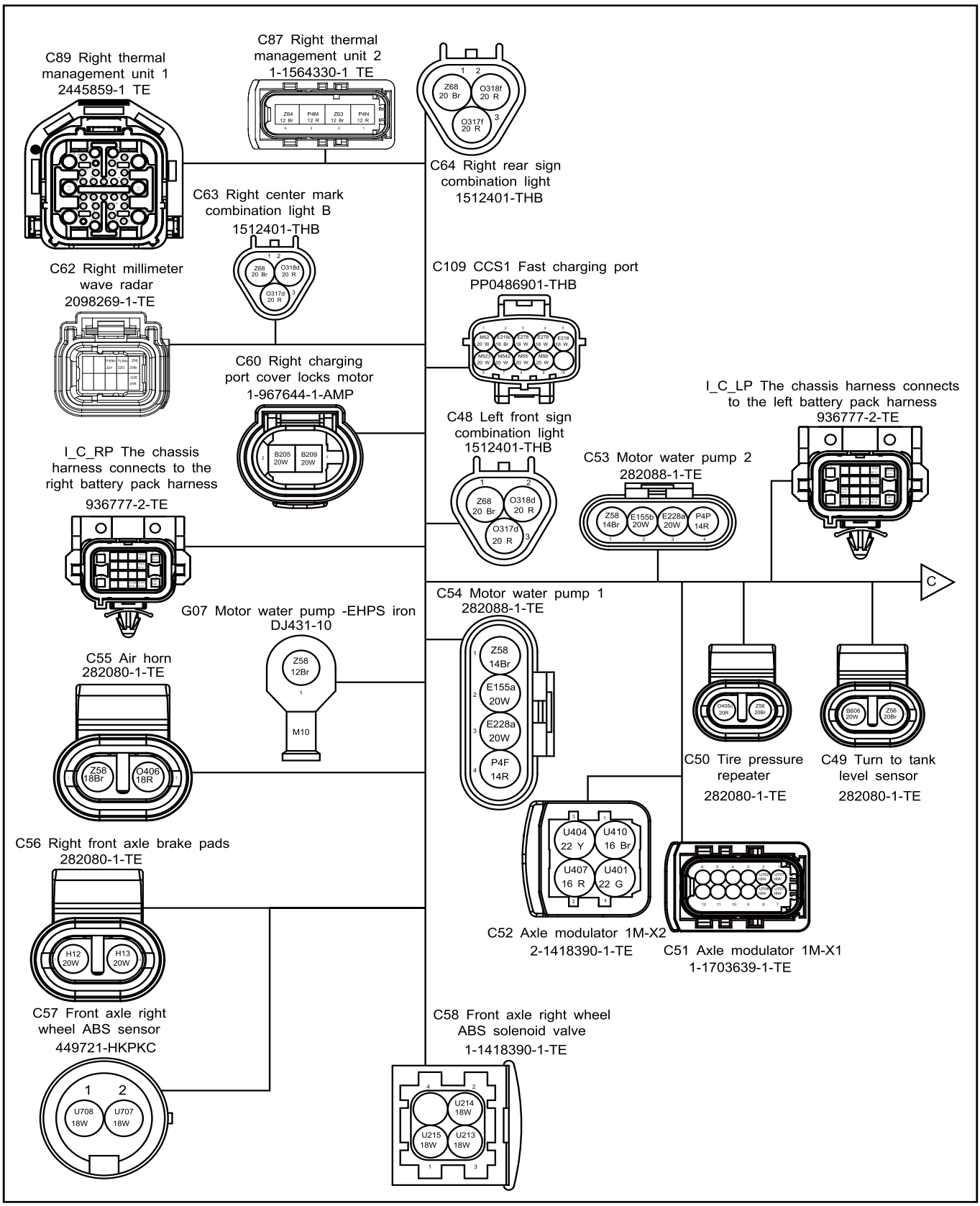
9.3.6.3 Chassis Wiring Harness Layout Continued 1



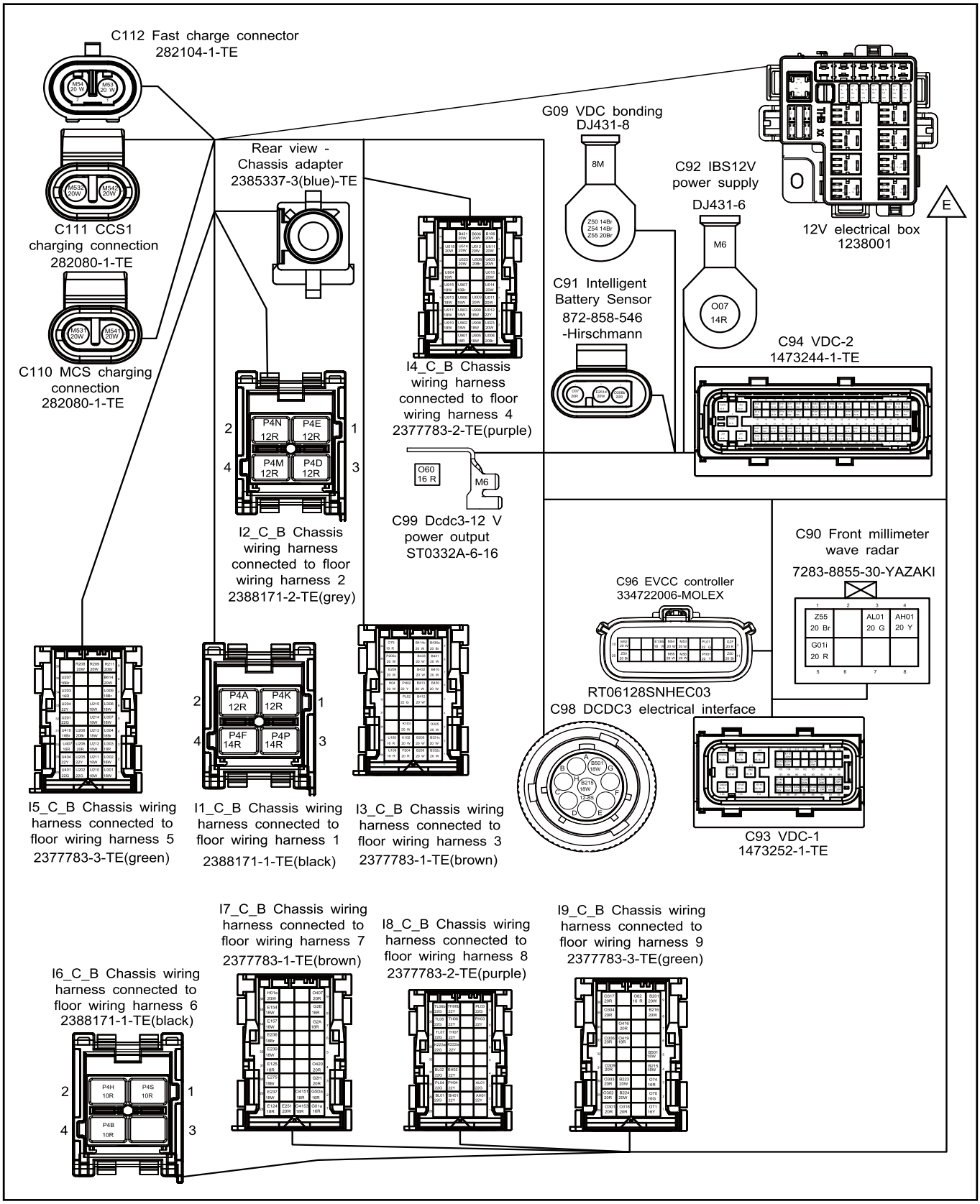
9.3.6.4 Chassis Wiring Harness Layout Continued 2



9.3.6.5 Chassis Wiring Harness Layout Continued 3

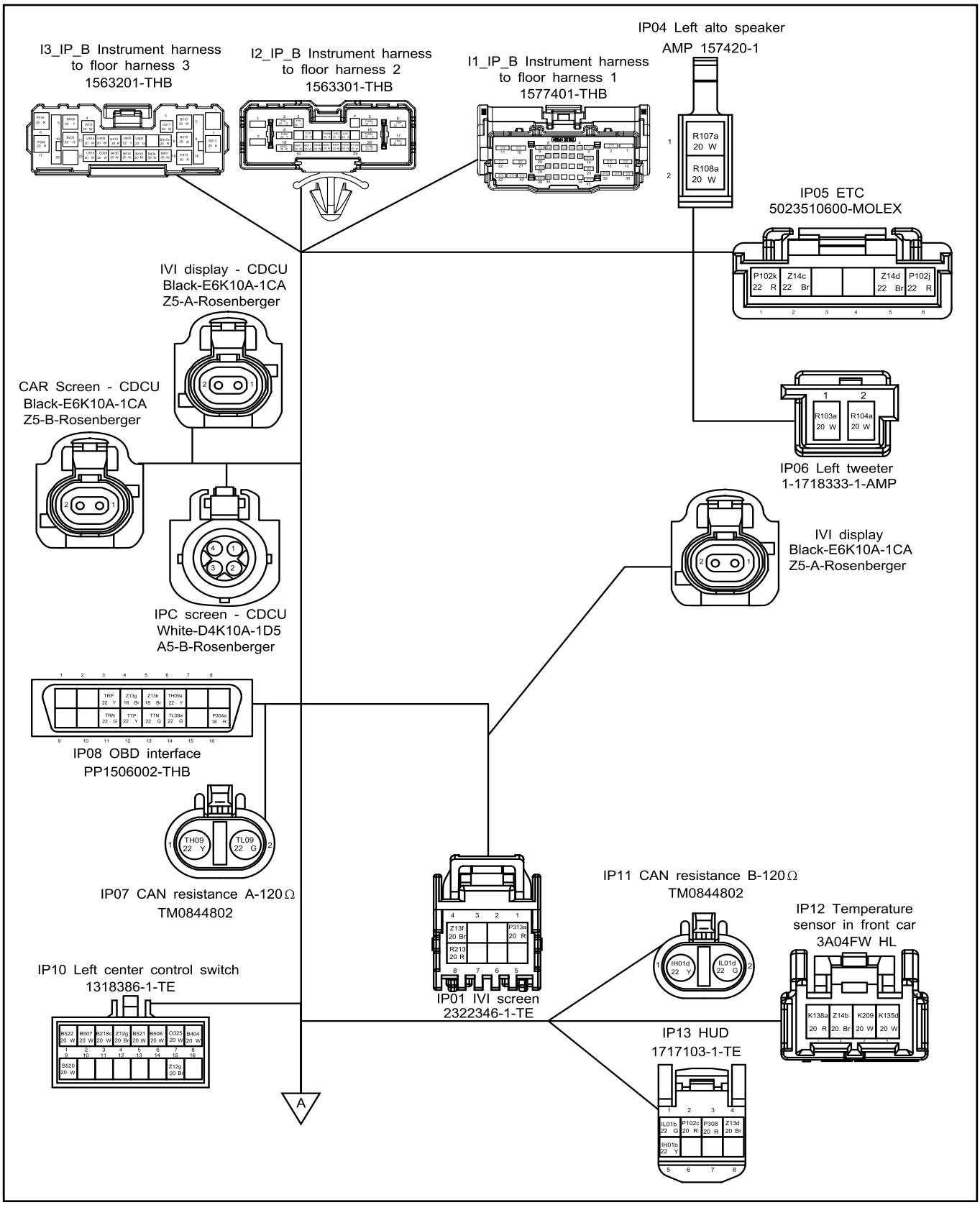


9.3.6.6 Chassis Wiring Harness Layout Continued 4

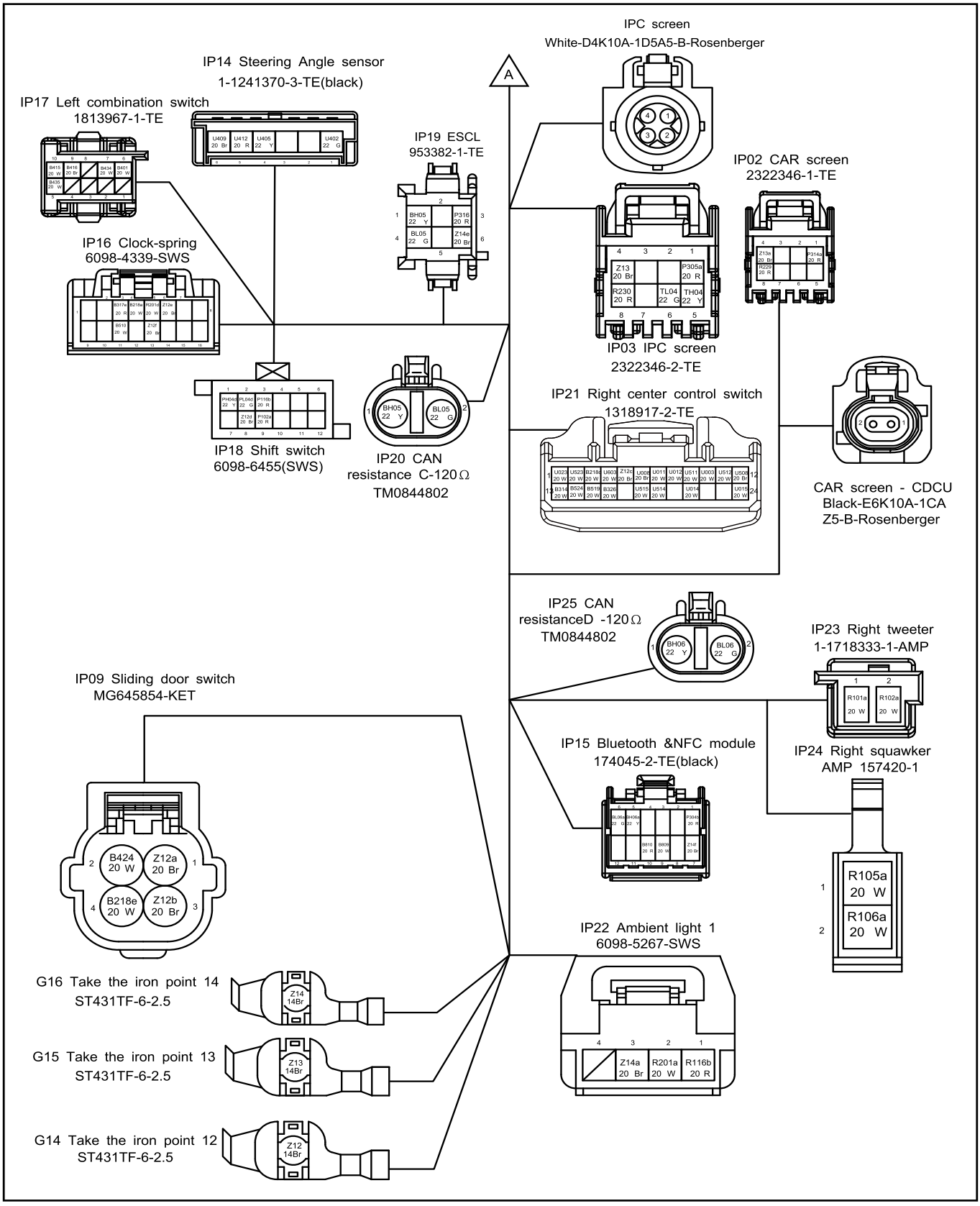


9.3.7 Instrument Harness

9.3.7.1 Instrument Wiring Harness Layout

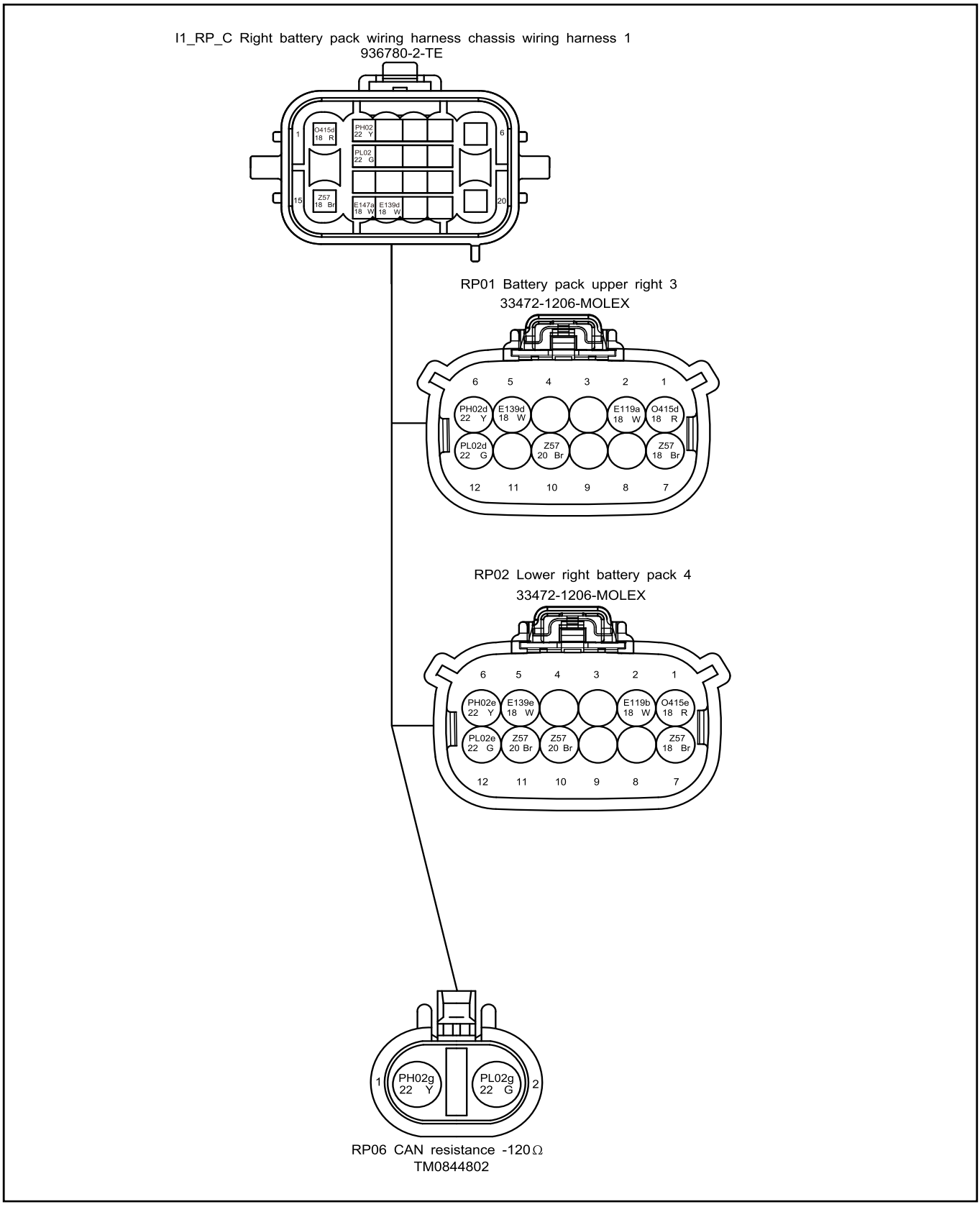


9.3.7.2 Instrument Wiring Harness Layout Continued



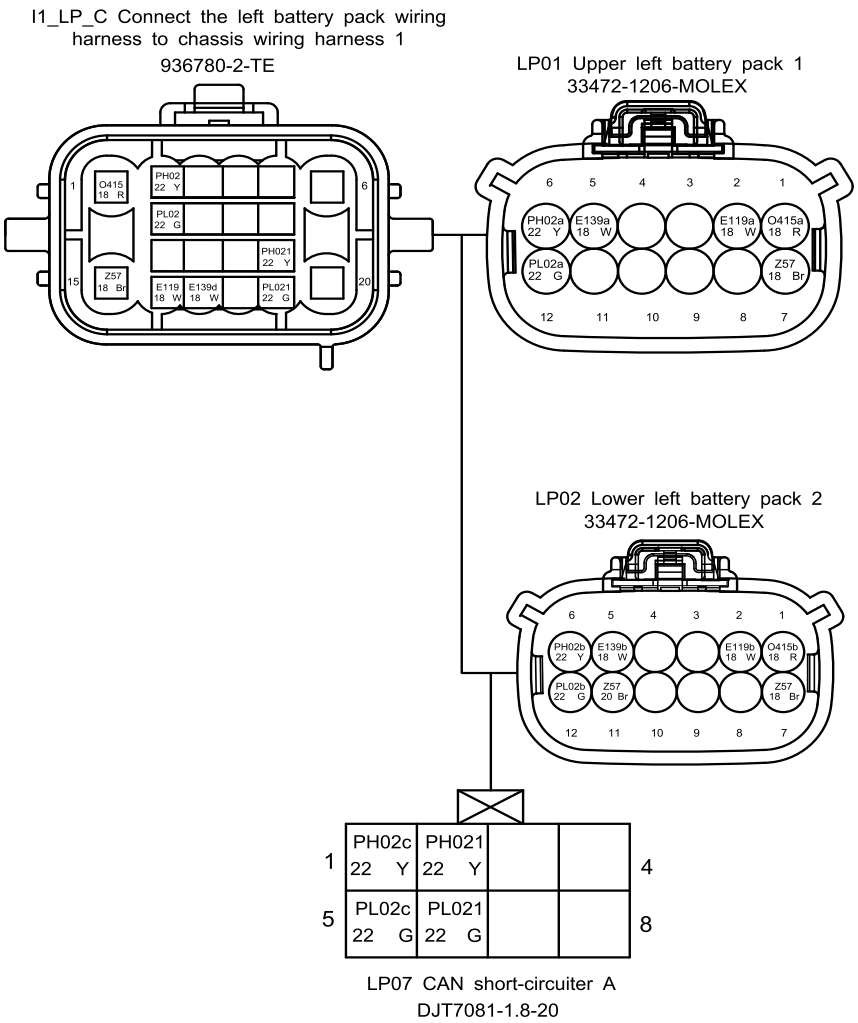
9.3.8 Right Battery Pack Cable Harness

9.3.8.1 Cable Harness Layout For the Right Battery Pack



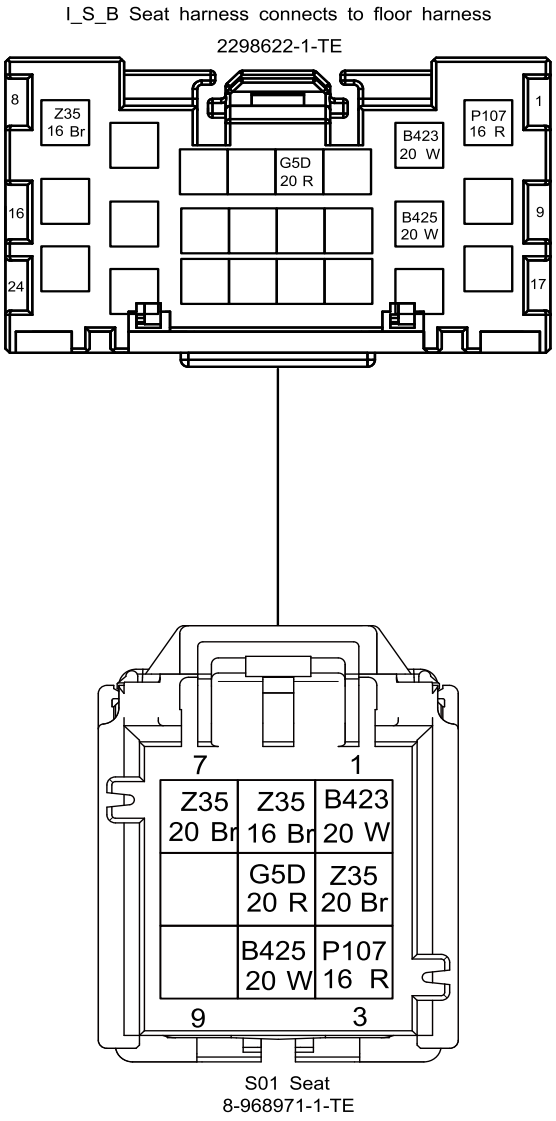
9.3.9 Cable Harness for the Left Battery Pack

9.3.9.1 Cable Harness Layout of the Left Battery Pack



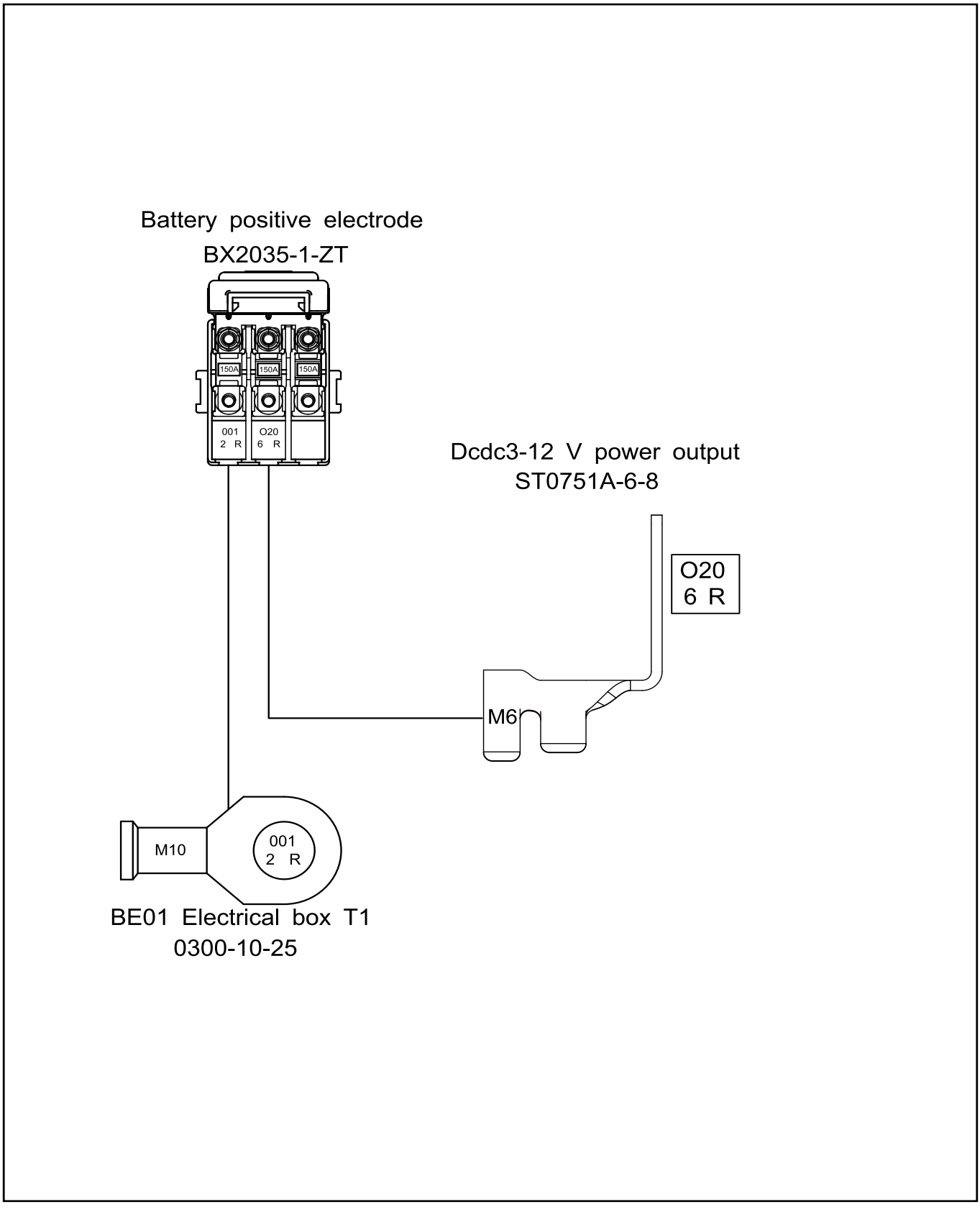
9.3.10 Seat Wiring Harness

9.3.10.1 Seat Cable Harness Layout



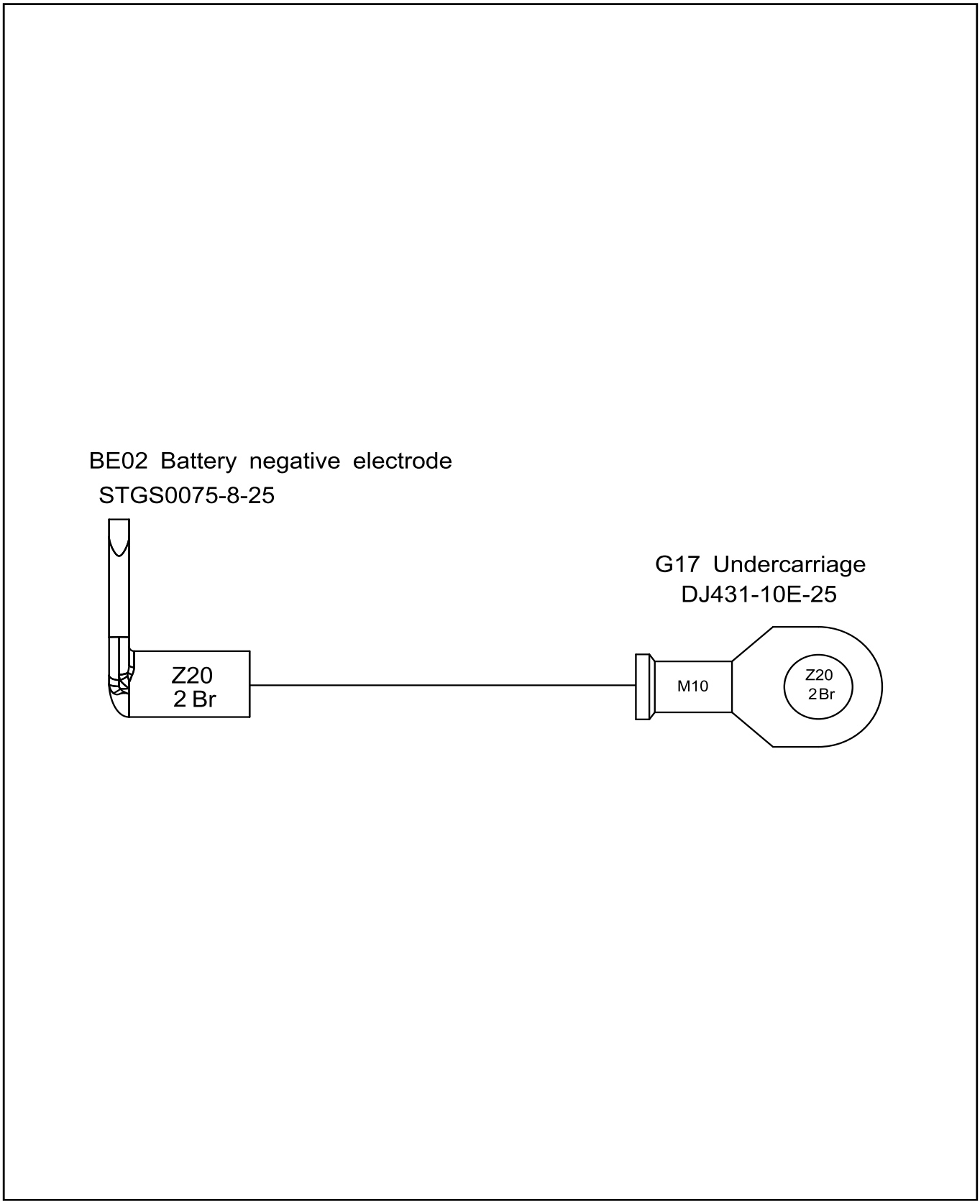
9.3.11 Left Battery Positive Cable Harness

9.3.11.1 Left Battery Positive Cable Harness Layout



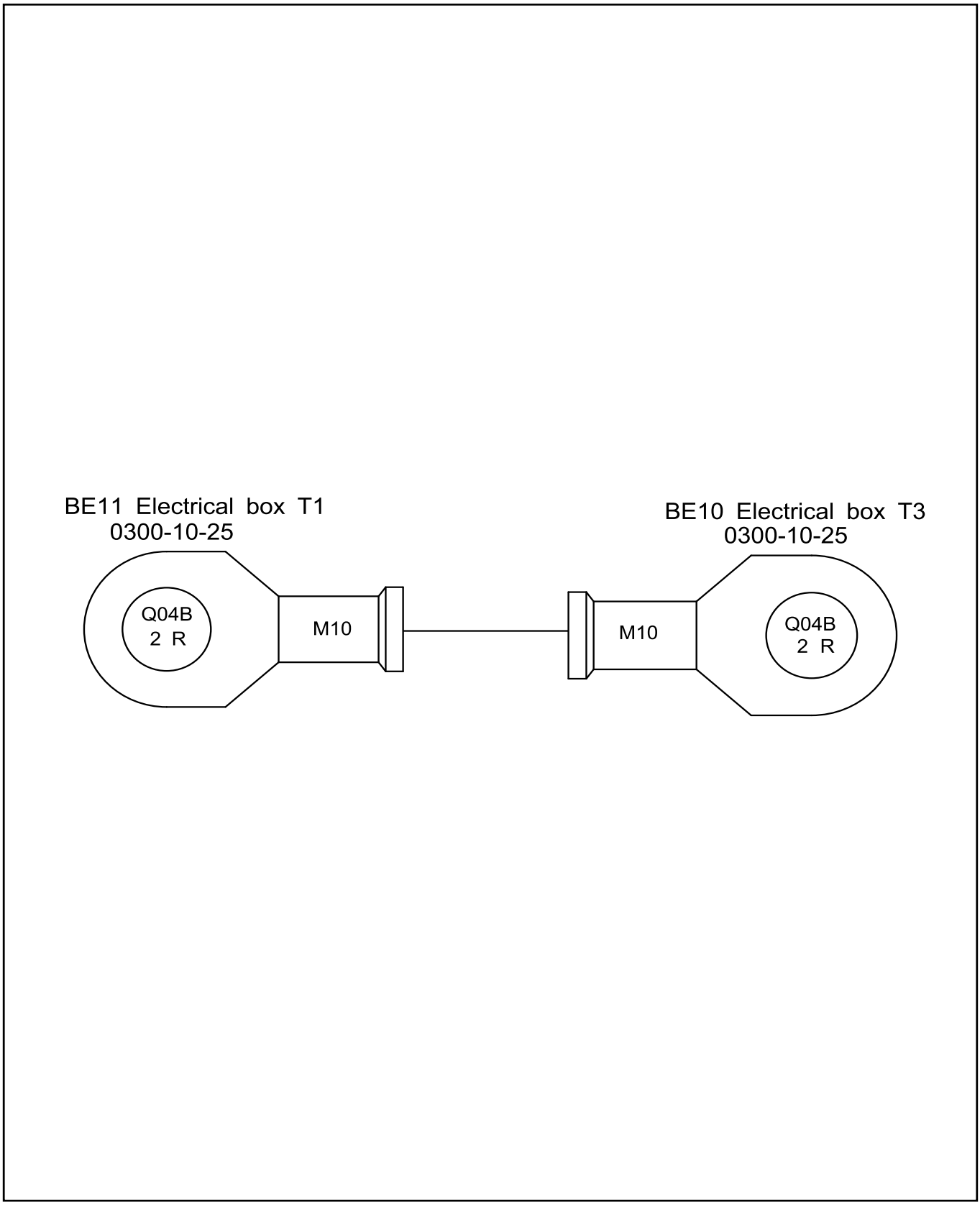
9.3.12 Cable Harness of the Left Battery Negative Terminal

9.3.12.1 Left Battery Negative Wiring Harness Layout



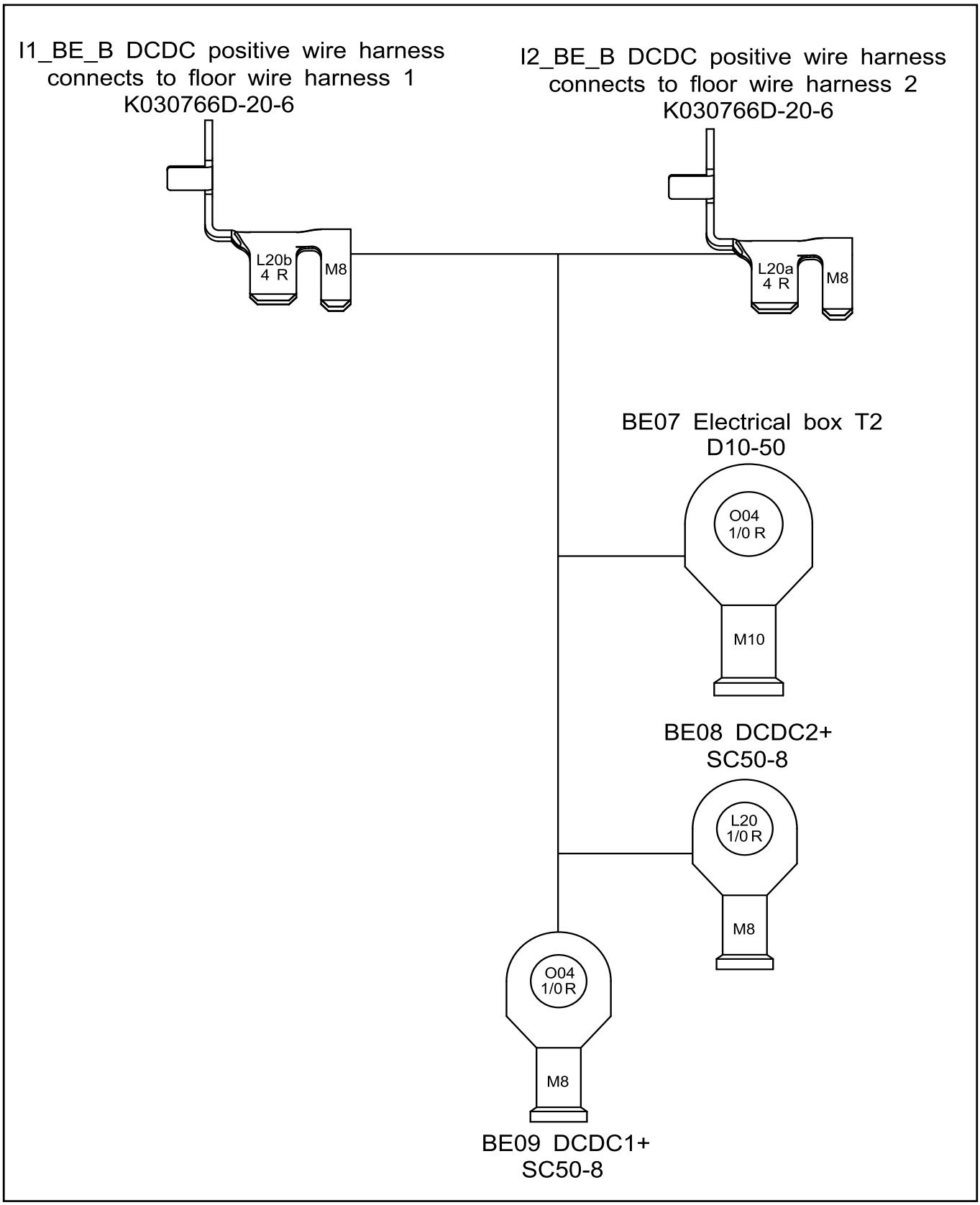
9.3.13 Smart Electrical Box Wiring Harness

9.3.13.1 Wiring Harness Layout of Smart Electrical Box



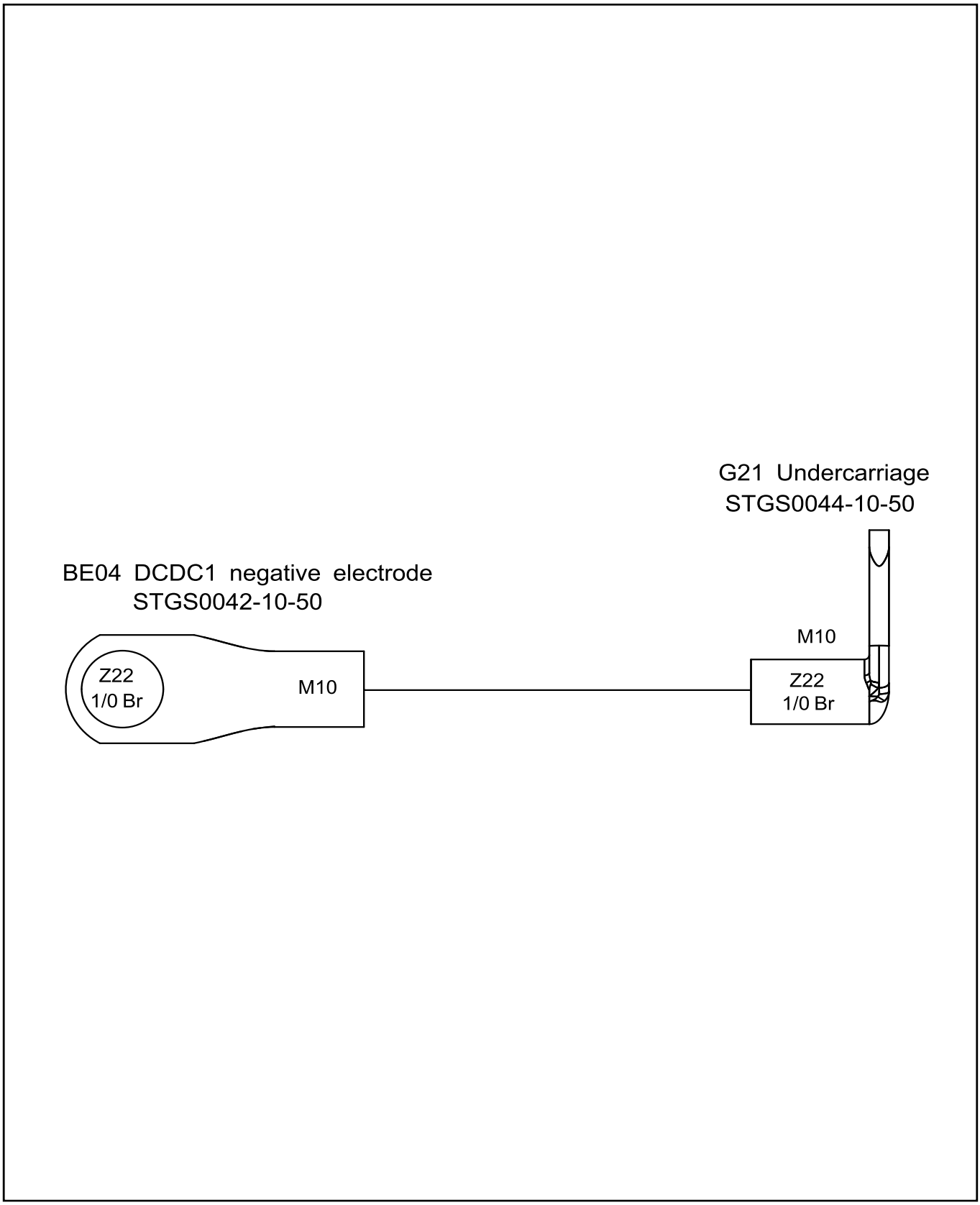
9.3.14 DC-DC Positive Cable Bundle 1

9.3.14.1 DC-DC Positive Cable Harness 1 Layout



9.3.15 DC-DC Negative Wire Harness 1

9.3.15.1 DC-DC Negative Wire Harness 1 Layout



9.3.16 DC-DC Negative Wire Harness 2

9.3.16.1 DC-DC Negative Cable Harness 2 Layout

