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# 12.1 Lighting System

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Lighting System

12.1

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#### **Precautions for service**

- It is strictly forbidden to remove and refit bulbs by wet hands.
- Before servicing the electrical components, turn off the start switch, and then remove the battery negative cable.
- Before removal of control unit assembly, you must touch the ground or vehicle body to discharge static electricity from your body.
- Before removal of bulb, turn off the headlamp and wait until the bulb is cooled down prior to further operation.
- When removing or refitting the bulb, keep the bulb clean, and never touch the glass of bulb by hands directly, which can cause the bulb be contaminated by dust or moisture, affecting the lighting effects.
- Used bulbs should be recycled in accordance with the regulations.
- Do not clean headlamp surface using organic solvents, to avoid it being damaged.

#### Special tools

Tool No.	Tool Name	Tool Picture	Description
BF1102	Interior trim removal tool		For removing interior trims

### Technical parameters

Name and model of lamp		Qty	Light color	Power	Bulb model
	High beam	One on left/right side	White	55W	H7
<b>–</b> .	Low beam	One on left/right side	White	55W	H7
Front combination lamp	Turn signal lamp	One on left/right side	Amber	8W	LED
lamp	Front position lamp	One on left/right side	White	1.1W	LED
	Daytime running lamp*	One on left/right side	White	10W	LED
Front fog lamp		One on left/right side	White	35W	H8
Rear fog lamp		One for left side	Red	21W	H21W
License plate lamp		2	White	5W	W5W
	Turn signal lamp	One on left/right side	Amber	21W	P21W
Rear	Brake lamp	One on left/right side	Red	21W	P21W
lamp	Back-up light	One on left/right side	White	16W	W16W
	Rear position lamp	One on left/right side	Red	1.4W	LED
Rear high-mounted brake lamp		1	Red	1.35W	LED

## Lamp position (front)



1. Front ceiling lamp	4. Front fog lamp	7. Side turn signal lamp
2. Turn signal lamp	<ol> <li>Front position lamp/daytime running lamp*</li> </ol>	
3. High beam	6. Low beam	

## Lamp position (rear)



1. High-mounted brake lamp	4. Reversing lamp	7. Trunk lamp
2. Brake lamp	5. Rear position lamp	8. License plate lamp
3. Reflex reflector	6. Turn signal lamp	9. Rear fog lamp/reflex reflector

#### Schematic diagram of beam focusing arrangements



#### **Structure and features**

#### Headlamp components

1. Front combination lamp	4. Low beam bulb	7. Front fog lamp
2. Headlamp mounting bracket	5. High beam bulb	8. Front fog lamp bulb
3. Bolt	6. Leveling motor	

### Rear lamp components



1. Fixed side tail lamp	4. Reversing lamp bulb	7. Fixing nut
2. Movable side tail lamp	5. Brake lamp bulb	8. Ball and socket
3. Fixing screw	6. Rear turn signal lamp bulb	

### Common fault troubleshooting

Fault symptom	Possible cause	Troubleshooting methods	
	Bulb blowout	Replace the bulb.	
Inspect or replace the headlamp relay	Replace bulb	Headlamp relay fault	
	Headlamp or fuse blowout	Replace the fuse, and inspect for short circuit if it is blown again.	
	Poor wire conductivity or grounding	Repair the circuit	
	Bulb blowout	Replace the bulb.	
Front/rear fog	Fuse blowout	Replace the fuse, and inspect for short circuit if it is blown again.	
lamp fails to come on	Fog lamp switch fault	Inspect the fog lamp switch.	
	Fog lamp relay fault	Inspect the fog lamp relay.	
	Poor wire conductivity or grounding	Repair the circuit	
Replace the	Bulb blowout	Replace the bulb.	
fuse, and inspect the	Fuse blowout	Replace the fuse, and inspect for short circuit if it is blown again.	
circuit if it is	Brake lamp switch fault	Inspect the brake lamp switch	
biown again.	Poor wire conductivity or grounding	Repair the circuit	
Brake lamp stays on	Brake lamp switch fault	Inspect the brake lamp switch, o adjust or replace the brake lam switch.	
	Bulb blowout	Replace the bulb.	
Reversing lamp fails to come on.	Fuse blowout	Replace the fuse, and inspect for short circuit if it is blown again.	
	Reversing lamp switch (M/T) or transmission gear position sensor (A/T) fault	Inspect the reversing lamp switch or transmission gear position sensor.	
	Poor wire conductivity or grounding	Repair the circuit	
Reversing lamp stays on	Reversing lamp switch (M/T) or transmission gear position sensor (A/T) fault	Inspect the reversing lamp switch or transmission gear position sensor.	

12.1





#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].





#### 3 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove 3 fixing screws (1) of the steering column lower shield with a Phillips screwdriver.



Prise open along the steering column upper and lower shields with the interior trim removal tool (BF1102) [1], and remove the steering column upper shield (1).

• Disconnect the connector (1) of wiper combination switch.

No.	No.	Name	Color	Number of channels
1	DCV00	To instrument panel wire harness	White	16

Press the clip (1) as directed by the arrow, and remove the wiper combination switch (2).





#### 4- Refitting

• Insert the wiper combination switch into the groove to ensure it is installed in place.

• Insert the connector of wiper combination switch (1) to ensure it is clamped in place.

• Press the upper and lower steering column shields tightly as directed by the arrow to clamp them.



- Refit the 3 fixing screws (1) of the steering column lower shield with a Phillips screwdriver.
- After refitting, inspect, with the scan tool, if any DTCs exist, and clear them.

• The removal method of the light combination switch is basically the same as that of the wiper combination switch.







## Removal and refitting of headlamp assembly

#### **1- Protection**

Place protective pads at following positions:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

#### 

- Always wear insulated gloves and use insulated tools for all operations.
- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the service switch (1). (Refer to "Removal and Refitting of Service Switch" in "Traction Battery" section.)

#### A CAUTION

- After removing the service switch, cover the service switch mounting hole with the traction battery service switch plug (E700102) [1] to prevent metal impurities from entering the mounting hole and thus causing circuit failure.
- Remove the 2 headlamp upper fixing bolts (1) with a 10mm socket wrench.





Remove the front bumper support fixing bolt
(1) with a 10mm socket wrench, and remove the front bumper mounting base (2).

• Remove the fixing bolt (1) of headlamp bracket with a 10mm socket wrench, and then remove the bracket (2).

• Remove the headlamp side fixing bolt (1) with a 10mm socket wrench.



• Press the clip from both sides, disconnect the connector (1), press and hold the clip, and disconnect the connector (2).

#### 

• Avoid the headlamp falling off at this time; the process takes priority, as the first step.

No.	No.	Name	Color	Number of channels
1	D2615	Right headlamp	Black	10
2	D5405B	Right headlamp leveling motor	Black	3

Take the headlamp assembly (1) out.





#### 3- Refitting

- Insert the connectors (1) and (2) of wiper combination switch to ensure they are clamped in place.
- Align the mounting hole of headlamp (3) with the bolt hole on the body, to refit the headlamp.





 Refit the fender side mounting bolts (1) (M6X23) of the headlamp with a 10mm socket wrench.

- Refit the headlamp cover bracket (1).
- Align the headlamp bracket with the mounting hole, and refit the headlamp bracket fixing bolt (2) with a 10 mm socket wrench.

• Align the bumper mounting bracket (1) with the bolt hole, and refit the fixing bolt (2) (M6x23) of front bumper mounting bracket with a 10 mm socket wrench.



Tighten the 2 headlamp upper fixing bolts (1) with a 10mm socket wrench.

- Refit the front bumper. (Refer to "Removal and Refitting of Front Bumper".)
- Refit the service switch (1). (Refer to "Removal and Refitting of Service Switch".)
- Connect the battery negative cable.
- After refitting, refer to the schematic diagram of beam focusing arrangements to adjust the height of lamp.





#### Replacement of headlamp bulb

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

#### 

- Always wear insulated gloves and use insulated tools for all operations.
- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the service switch (1). (Refer to "Removal and Refitting of Service Switch" in "Traction Battery" section.)

#### A CAUTION

 After removing the service switch, cover the service switch mounting hole with the traction battery service switch plug (E700102) [1] to prevent metal impurities from entering the mounting hole and thus causing circuit failure.

#### A CAUTION

- In order to avoid burn hazards, never touch the bulb while it is hot.
- To replace the bulb, do not touch its surface.
- Make sure the bulb connector remains intact after removed.

#### 2.1- Replacement of low beam bulb

Rotate the low beam rear cover (1) counterclockwise by 30° to remove it.











- Press and hold the low beam lamp holder with hand, and remove the low beam connector (1).
- Press the end A of low beam lamp holder mounting bracket to disconnect the mounting bracket from the holder.
- Take down the low beam bulb (2).
- Replace the bulb.

#### 2.2- Replacement of high beam bulb

• Rotate the high beam rear cover (1) counterclockwise by 30° to remove it.

- After pressing and holding the bulb mounting end surface, pull out the bulb connector (1).
- Press the end A of high beam holder mounting bracket to disconnect the mounting bracket from the holder.
- Take down the high beam bulb (2).
- Replace the bulb.



#### 3- Refitting

- Refit the radiator upper protective plate (Refer to "Removal and Refitting of Radiator".)
- Refit the service switch (1). (Refer to "Removal and Refitting of Service Switch".)
- Connect the battery negative cable.

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### Removal and refitting of leveling motor

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

#### 

- Always wear insulated gloves and use insulated tools for all operations.
- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the service switch (1). (Refer to "Removal and Refitting of Service Switch" in "Traction Battery" section.)

#### A CAUTION

- After removing the service switch, cover the service switch mounting hole with the traction battery service switch plug (E700102) [1] to prevent metal impurities from entering the mounting hole and thus causing circuit failure.
- Remove the connector of the headlamp leveling motor.
- Rotate the headlamp leveling motor (1) clockwise upward to release the motor.
- Turn the position A of the headlamp leveling motor counterclockwise with an 8mm socket wrench to disconnect the end of the leveling motor from the headlamp.
- Remove the headlamp leveling motor (1).



#### 3 - Inspection

 Inspect if the retaining clip of leveling motor (1) is intact.

#### 4- Refitting

- Align the headlight leveling motor (1) with the leveling motor port for installation.
- Turn the position A of the headlamp leveling motor clockwise with an 8mm socket wrench to tighten the end of the leveling motor.
- Rotate the headlamp leveling motor (1) counterclockwise downward to install it in place.
- Refit the radiator upper protective plate (Refer to "Removal and Refitting of Radiator".)
- Refit the service switch (1). (Refer to "Removal and Refitting of Service Switch".)
- Connect the battery negative cable.



 After replacing the leveling motor, first adjust position A to parallel the left and right headlamps. (Refer to the schematic diagram of beam focusing arrangements in Technical Parameters in Service Data & Specification for details)







## Removal and refitting of movable side tail lamp assembly

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

#### 3 - Removal

- Remove the fixing clip of trunk lid inner protective plate (1) with the interior trim removal tool (BF1102).
- Remove the trunk lid inner protective plate (2).



• Press the clip, and disconnect the rear inner tail lamp connector (1) outwards.

No.	No.	Name	Color	Number of channels
1	D2670A	Left backfog light	White	2

Remove the 2 fixing nuts (1) of movable side tail lamp assembly with a 10mm socket wrench.

- Pry up the movable side tail lamp assembly (1) by using the interior trim removal tool (BF1102) [1].
- Remove the movable side tail lamp assembly (1).



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#### 4- Refitting

- Align the bolt hole and clip hole, and refit the movable side tail lamp assembly to the trunk lid.
- Align the two bolts (1) on the back door, and install the 2 fixing nuts of the movable side tail lamp.

Install the connector (1) of the movable side tail lamp.

• Install the fixing clips of the trunk lid inner protective plate (1) to secure the trunk lid inner protective plate (2).

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## Removal and refitting of fixed side tail lamp assembly

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Parking brake lever (hand-controlled);
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

- 3 Removal
- Remove the 4 fixing clips (1) of rear door sill.






- Open the trunk side protective plate (1) outwards.
- Press down the lock clip A, and disconnect the fixed side tail lamp connector (2) outwards.

No.	No.	Name	Color	Number of channels
2	D2635	Right rear combination lamp	White	6

• Pry up the 2 screw covers (1) of the fixed side tail lamp with a slotted screwdriver.

• Remove 2 fixing screws (1) of the fixed side tail lamp with a Phillips screwdriver.







• Pry up the fixed side tail lamp cover (1) with the interior trim removal tool (BF1102) [1], and disconnect the 2 dowel pins of rear tail lamp on the body.

• Remove the fixed side tail lamp cover assembly (1).

#### 4- Refitting

• Align the fixed side tail lamp cover assembly with the dowel pin hole, and refit the fixed side tail lamp cover to the body.







- Refit the 2 fixing screws (1) of fixed side tail lamp with a Phillips screwdriver.
- Install the cover (2).

- Properly insert the connector (1) as directed by the arrow.
- Cover the trunk side protective plate.

• Refit the 4 fixing clips (1) of rear door sill, and refit the front door sill (2) in place.





#### Replacement of fixed side tail lamp bulb

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Parking brake lever (hand-controlled);
- Shift lever.

•

#### 2 - Removal

- Remove the fixed side tail lamp assembly. (Refer to "Fixed Side Tail Lamp Assembly" in Section "Lighting System".)
- Rotate anticlockwise the reserving lamp holder (1) to loosen it.
- Rotate anticlockwise the brake lamp holder (2) to loosen it.
- Rotate anticlockwise the rear turn signal lamp holder (3) to loosen it.

#### 3- Refitting

- Replace the bulb that needs to be replaced.
- Refit the fixed side tail lamp assembly. (Refer to "Fixed Side Tail Lamp Assembly" in "Lighting System" section.)







#### Replacement of front fog lamp bulb

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

#### 

- Always wear insulated gloves and use insulated tools for all operations.
- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the service switch (1). (Refer to "Removal and Refitting of Service Switch" in "Traction Battery" section.)

#### A CAUTION

- After removing the service switch, cover the service switch mounting hole with the traction battery service switch plug (E700102) [1] to prevent metal impurities from entering the mounting hole and thus causing circuit failure.
- Remove the front fog lamp connector (1).





- Rotate the front fog lamp holder (1) counterclockwise to remove it.
- Remove the front fog lamp bulb (2) from the front fog lamp holder and replace it.

•

• Tighten the front fog lamp holder (1) clockwise.

Connect the front fog lamp connector (1).









- Refit the clip between front wheel mudguard and front bumper.
- Refit the front bumper lower protective plate. (Refer to "Removal and Refitting of Front Bumper".)
- Refit the service switch (1). (Refer to "Removal and Refitting of Service Switch".)
- Connect the battery negative cable.

## Removal and refitting of front fog lamp assembly

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

#### 

- Always wear insulated gloves and use insulated tools for all operations.
- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the service switch (1). (Refer to "Removal and Refitting of Service Switch" in "Traction Battery" section.)

#### 

 After removing the service switch, cover the service switch mounting hole with the traction battery service switch plug (E700102) [1] to prevent metal impurities from entering the mounting hole and thus causing circuit failure.







- Remove the front fog lamp connector, and remove 3 fixing bolts (1) of the front fog lamp by using a Philips screwdriver.
- Remove the front fog lamp assembly (2).

- Align the front fog lamp assembly (1) with the screw holes to refit it to the front bumper in place.
- Tighten the 3 fixing screws (2) of the front fog lamp with a Phillips screwdriver.
- Connect the front fog lamp connector.

- Refit the front bumper lower protective plate. (Refer to "Removal and Refitting of Front Bumper".)
- Refit the service switch (1). (Refer to "Removal and Refitting of Service Switch".)
- Connect the battery negative cable.







## Removal and refitting of rear fog lamp assembly

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Disengage the rear fog lamp connector (1).
- Remove the rear bumper (2). (Refer to "Removal and Refitting of Rear Bumper" in "Interiors and Exteriors" section.)

No.	No.	Name	Color	Number of channels
1	D2670A	Rear fog lamp	Black	2

• Use a 10mm socket wrench to remove the fixing screw (1) of the rear fog lamp to remove the rear fog lamp assembly (2).



• To refit the rear fog lamp assembly (1), use a 10mm socket wrench to refit the rear fog lamp fixing screws (2).

- Refit the rear bumper. (Refer to "Removal and Refitting of Rear Bumper" in "Interiors and Exteriors" section.)
- Refit the rear fog lamp connector (1).
- After the installation is done, connect the battery negative cable.







#### Replacement of rear fog lamp bulb

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Rotate the rear fog lamp holder (1) counterclockwise to remove it.
- Remove the rear fog lamp bulb (2) from the rear fog lamp holder.

#### 3- Refitting

- Refit the rear fog lamp bulb (1) to the rear fog lamp holder.
- Rotate clockwise and refit the rear fog lamp holder (2)
- Connect the battery negative cable.



## Removal and refitting of license plate lamp

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the trunk lid trim strip. (Refer to "Removal and Refitting of Trunk Lid Trim Strip".)
- Disconnect the 2 connectors (1) of license plate lamp.
- Press the inner buckle (1) of license plate lamp toward the connector's side to disconnect the license plate lamp.



• Remove the license plate lamp (1) from the trunk lid.

#### 3- Refitting

• Refit the license plate lamp (1) to the trunk lid.

• Press the license plate lamp to have its inner buckle (1) be clamped in place.



- Connect the 2 connectors (1) of license plate lamp.
- Refit the trunk lid trim strip. (Refer to "Removal and Refitting of Trunk Lid Trim Strip".)
- Connect the battery negative cable.







## Removal and refitting of rearview mirror turn signal lamp

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- After pulling the rearview mirror (1) upwards to a maximum angle of inclination, insert the slotted screwdriver into the pawl between the mirror and mirror seat, and then rotate the slotted screwdriver to disconnect the mirror from the mirror seat.

#### A CAUTION

- Do not apply too much force during removal to avoid damaging the mirror or injuring personnel.
- Turn over the rearview mirror (1) and remove the connector (2) from rearview mirror defroster to remove the rearview mirror (1).



• Pull the inner buckle (1) of the rearview mirror trim cover gently to disengage it forward and then remove the rearview mirror trim cover (2).

- Remove the connector (1) of the rearview mirror turn signal lamp.
- Remove the 3 fixing screws (2) from the turn signal lamp with a Phillips screwdriver.
- Remove the turn signal lamp (3) from the rearview mirror assembly.



#### 3- Refitting

- Refit the turn signal lamp holder (1) to the rearview mirror assembly.
- Tighten the 3 fixing screws (2) of the turn signal lamp with a Phillips screwdriver.
- Connect the connector (3) of the rearview mirror turn signal lamp.



• Align the inner buckle (1) of the rearview mirror trim cover to refit the rearview mirror trim cover (2).

- Connect the connector (1) of the rearview mirror defroster.
- Turn over the rearview mirror (2).

- Align the pawl between mirror and mirror seat to refit the rearview mirror (1).
- Connect the battery negative cable.

#### A CAUTION

 After aligning the pawl of rearview mirror with the mounting hole of mirror seat, press the mirror in slowly and do not apply too much force to avoid personnel injury due to broken mirror.

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## Removal and refitting of high-mounted brake lamp

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove rear partition protective plate. (Refer to "Removal and Refitting of Rear Partition Protective Plate".)
- Open the trunk lid, and disconnect the connector (1) of the high-mounted brake lamp.
- Remove the 2 fixing screws (1) of the high-mounted brake lamp assembly (2) with a Phillips screwdriver.

#### 

• The high-mounted brake lamp can only be replaced as an assembly.



• Tighten the 2 fixing screws (1) of the high-mounted brake lamp assembly with a Phillips screwdriver to refit the high-mounted brake lamp assembly (2).

- Open the trunk lid, and connect the connector (1) of the high-mounted brake lamp.
- Refit rear partition protective plate. (Refer to "Removal and Refitting of Rear Partition Protective Plate".)
- Connect the battery negative cable.







## Removal and refitting of light combination switch

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

- 3 Removal
- Turn off the start switch, and disconnect the battery negative cable.
- Remove the start switch trim cover (1) with the interior trim removal tool (BF1102).





 Tighten the 3 fixing screws (1) of the steering column lower shield with a Phillips screwdriver.

Apply force with both hands as arrowed to detach the buckles of the steering column upper and lower shields, then remove the upper shield (1), and then hold the lower shield (2) with both hands to remove it.

• Press the pawls (1) of the combination switch with both hands to remove the combination switch (2).





Press the pawls (1) of the combination switch with both hands to refit the combination switch (2).

• Apply force with both hands as arrowed to clip the upper shield (1) and the lower shield (2) of the steering column.

- Tighten 3 fixing screws (1) of the steering column lower shield with a Phillips screwdriver.



- Refit the start switch trim cover (1).
- Connect the battery negative cable.

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## Removal and refitting of hazard warning lamp switch

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

- 3 Removal
- Remove the central panel frame. (Refer to "Removal and Refitting of A/C Control Panel" in "A/C System" section.)
- Press the pawl (A) by hand to remove the hazard warning lamp switch (1).



- Align to the insertion opening, press downwards the hazard warning lamp switch (1), and insert it to the central panel frame.
- Refit the central panel frame. (Refer to "Removal and Refitting of A/C Control Panel" in "A/C System" section.)



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## 12.2 Combination Instrument System

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Instrument Cluster	
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#### Structure and features



#### DTC of instrument cluster

• Use a special scan tool to perform fault diagnosis.

DTC	Hexadecimal	Description	Possible causes	Recommended
110300	41	Incompatibility of internal	Failure to pass the internal	countermeasures
00300 41	control module software	of the instrument		
U3003	16	Power supply voltage is lower than 8V.	Power system failure	Detect the power system.
U3003	17	Power supply voltage is higher than 18V.	Power system failure	Detect the power system.
B140C	41	EEPROM error	No response to EEPROM communication	Inspect the EEPROM.
U0073	88	CAN bus off	Number of sent errors on CAN control unit is 255 or greater.	Inspect wire harness and connector, and inspect other control units
U0121	87	ABS communication loss	1) ABS communication fault 2) Instrument cluster communication fault	Inspect the ABS communication function.
U0131	87	EPS communication loss	1) EPS communication fault2)Instrumentclustercommunication fault	Inspect the EPS communication function.
U0128	87	EPB communication loss	<ol> <li>EPB communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the EPB communication function.
U0293	87	VCU communication loss	1) VCU communication fault 2) Instrument cluster communication fault	Inspect the VCU communication function.
U0140	87	BCM communication loss	1) BCM communication fault 2) Instrument cluster communication fault	Inspect the BCM communication function.
U0116	87	AC communication loss	1) AC communication fault 2) Instrument cluster communication fault	Inspect the AC communication function.
U0103	87	ESM communication loss	1) ESM communication fault 2) Instrument cluster communication fault	Inspect the ESM communication function.
U0248	87	PEPS communication loss	1) PEPS communication fault     2) Instrument cluster     communication fault	Inspect the PEPS communication function.
U0111	87	BPM communication loss	1) BPM communication fault     2) Instrument cluster     communication fault	Inspect the BPM communication function.
U0127	87	TPMS	1) TPMS communication fault 2) Instrument cluster communication fault	Inspect the TPMS communication function.
U0258	87	BCU	1) BCU communication fault 2) Instrument cluster communication fault	Inspect the BCU communication function.

#### Data flow

Name of data flow	Value	Units
Vehicle speed	0-200	Km/h
Rotation speed	None	Rpm
Fuel resistance input	None	ohm
Range	0-999	km
Average fuel consumption for calculation of range	None	L/100km
Battery voltage	0-18	V
Odometer	0-999999	km
LED temperature	None	-
Fuel residual (calculated by fuel injection)	None	-
Fuel residual (calculated by sensor resistance)	None	-





### Writing of instrument cluster configuration

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Configuration writing

#### 

- The instrument cluster is controlled by a microprocessor, and has the self-diagnosis function. If the system components are faulty, DTC will be generated and stored in the fault memory, and the corresponding indicator lamp will come on.
- If it is needed to replace the instrument cluster, use the scan tool to write the corresponding configuration information. If not, the instrument cluster display will be inaccurate.
- Connect the scan tool to diagnostic interface.
- Turn the start switch or the ENGINE START/STOP button to "ON" position;
- Enter the diagnostic function interface of the scan tool.
- Click "Yes" or "No" to select whether to write to the instrument cluster configuration.
- Click "Yes" or "No" to select whether to write to the instrument cluster configuration.
- Select "No" to give up the configuration information update.
- After the configuration is complete, read the instrument cluster DTC and clear it. After clearing, read again and confirm that the DTC is completely cleared.



# 

# 

## Removal and refitting of instrument cluster

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

•

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the instrument panel upper cover (1) with the interior trim removal tool (BF1102) [1].

Remove the fixing screws (1) of the instrument cluster trim cover with a Phillips screwdriver.







• Remove the instrument cluster trim cover (1) with the interior trim removal tool (BF1102) [1].

• Remove the fixing screws (1) of the instrument cluster with a Phillips screwdriver.

- Press the locking clip (A) of instrument cluster connector, and turn over the locking clip (B) to disconnect the connector (1).
- Remove the instrument cluster (2).







• Turn over the locking clip A to have the locking clip B clamp the locking clip A of the instrument cluster to connect the connector (1) of the instrument cluster in place.

• Tighten the fixing screws (1) of the instrument cluster with a Phillips screwdriver.

- Align the instrument cluster trim cover (1) and press it in place.
- Tighten the fixing screws (2) of the instrument cluster trim cover with a Phillips screwdriver.


- Align the clips of the instrument cluster trim cover (1) with the fixing points of the instrument cluster to press the instrument cluster trim cover in place.
- Connect the battery negative cable.
- After the replacement is completed, connect the scan tool for configuration writing. (Refer to "Writing of Instrument Cluster Configuration" in this section.)



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# **12.3** Wiper, washer and horn

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#### Precautions for wiper and washer system

- For removal and refitting after cowl top is removed, the windshield lower part needs to be covered with polyurethane or any other alternative.
- If front wiper encounters an obstacle during operation, the BCM may stop the front wiper to protect wiper motor. Turn the front wiper switch to OFF, remove the obstacle, and wait for more than 20s, then turn the front wiper switch to ON position.
- Never open the engine hood with front wiper arm standing up, to avoid scratching the engine hood.
- If wax, oil film or uneven glass coating attaches to the windshield, the wiper may not remove the dirt properly.
- Do not operate the windshield washer continuously for 1min.

## Special tools

Tool No.	Tool Name	Tool Picture	Description
BF1102	Interior trim removal tool		For removing interior trims

## Structure and features

## Front wiper mechanism



		The regist where blade
2. Wiper motor	7. Screw	12. Left wiper rubber strip
3. Wiper arm	8. Left wiper arm	13. Right wiper rubber strip
4. Wiper linkage mechanism	9. Right wiper arm	14. Nut
5. Wiper linkage	10. Left wiper blade	15. Nut cap

## Front wiper washer



1. Washer fl assembly	uid reservoir	5. Retaining clip	9. Nozzle
2. Bolt		6. Rubber hose	10. Spray pipe and nozzle
3. Filler pipe		7. Pipe clip	
4. Filler cap		8. Pipeline assembly	

## **Common fault troubleshooting**

#### Front wiper motor fails to work.

- Fault symptom:
- Wiper motor fails to run.
- Fault verification
- With start switch at ON position, if the wiper switch is set to low, high and intermittent positions, the wiper motor does not work at all.
- Fault cause
- Wiper motor power supply circuit open
- Wiper motor failure
- Wiper switch damaged
- BCM communication failure

#### Fault diagnosis and troubleshooting

- Inspect if the wiper motor power supply circuit is open, and mainly inspect if the fuse is normal.
- Inspect the motor winding for internal open circuit.
- Inspect if the wiper switch works normally.
- Inspect connection of the BCM connector, and if any connector is corroded.

#### Front wiper fails to function in high/low gear

- Fault symptom:
- Wiper fails to function in high/low gear.
- Fault verification
- The wiper fails to operate if the start switch is turned on, and the wiper switch is set to LO position.
- Fault cause
- Wiper switch damaged
- Wiper motor low/high gear circuit fault
- Blown fusible link or short circuit
- Fault diagnosis and troubleshooting
- Inspect if the wiper switch works normally.
- Inspect if the low/high gear terminal wire in wiper motor plug is alive.
- Inspect wiper circuit for short circuit.

#### Front wiper fails to function in intermittent gear

- Fault symptom:
- Wiper fails to function in intermittent gear.
- Fault verification
- The wiper fails to operate if the start switch is turned on and the wiper is set to INT position.
- Fault cause
- Wiper switch failure.
- Wiper motor failure
- Circuit failure of wiper intermittent position.
- Fault diagnosis and troubleshooting
- Inspect the wiper switch.
- Inspect the wiper motor.
- Inspect the wiper intermittent operation circuit for open circuit or poor contact.

#### Troubleshooting

#### Front wiper auto-return failure

- Fault symptom:
- Wiper auto-return failure
- Fault verification
- With the switch off or wiper operating intermittently, the wiper fails to stop at the windshield bottom.
- Fault cause
- Stop-position auto-control device damaged
- Wiper switch damaged
- Improper wiper arm adjustment
- Incorrect circuit connection
- Fault diagnosis and troubleshooting
- Inspect if the contact and slide of stop-position auto-control device are in proper contact
- Inspect if the switch circuit connection is correct.
- Inspect if the wiper arm is installed correctly.
- Inspect if the control circuit connection is correct.

### Front wiper washer fails to work.

- Fault symptom:
- Wiper washer fails to work.
- Fault verification
- If the wiper washer switch is turned on, the wiper washer fails to spray.
- Fault cause
- Control switch damaged
- Electric washer pump damaged
- Severely blocked nozzle
- Open circuit of electric washer pump
- Poor ground circuit
- Fault diagnosis and troubleshooting
- Inspect and repair the control switch.
- Inspect and repair the electric washer pump.
- Unchoke with steel wire
- Inspect and reconnect the electric washer pump circuit.







# Removal, refitting and stop-position adjustment of front wiper arm

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

Interior trim removal tool (BF1102) [1].

#### 3 - Removal

- Turn the front wiper switch to ON position to run the front wiper motor, and then turn it to OFF position (auto-stop position).
- Remove the front wiper arm protective cover using the interior trim removal tool (BF1102), remove the front wiper arm fixing nuts (1) with a 14 mm socket wrench, and then shake gently to loosen them and remove the wiper arm (2).
- Turn off the ignition switch, and disconnect battery negative cable.







Remove the left and right connecting plates
(1) of the cowl top using the interior trim removal tool (BF1102) [1].

Remove the clip (1) of the front fender sealing foam block to remove the front fender sealing foam block (2).

• Remove the retaining clip (1) at the upper part of the front wall with the interior trim removal tool (BF1102).

•







# Turn over the cowl top, disconnect the spray pipe joints (1), and remove the cowl top (2).

- Disconnect the wiper motor connector.
- Remove the fixing bolts (1) of the front wiper drive mechanism with a 10mm socket wrench.
- Shake slightly, release and remove the front wiper drive mechanism (2).

## 4- Refitting

- Clean the pivot area as shown. This will reduce the looseness probability of front wiper arm nut.
- Turn on the front wiper switch to run the front wiper motor before refitting the front wiper arm, and then turn it to OFF position (auto-stop position).







- Connect the wiper motor connector.
- Align the mounting holes and refit the front wiper drive mechanism (1).
- Tighten the fixing bolts (2) of the front wiper drive mechanism with a 10mm socket wrench to 4.5 N·m.

- Connect the spray pipe joints (1)
- Refit the cowl top (2).

• Refit the retaining clip (1) at the upper part of the front wall.







- Refit the front fender sealing foam block (1).
- Refit the clip (2) of the front fender sealing foam block.

• Refit the left and right connecting plates (1) of the cowl top.

- Align the wiper blade with the matching mark (by black marker pen) on the windshield to refit the wiper arm (1) smoothly. Tighten the fixing bolts (2) of the front wiper drive mechanism with a 14mm socket wrench to 23.5N·m. Refit the front wiper arm protective cover.
- Connect the battery negative cable and turn on the battery negative cable.
- Turn the front wiper switch to ON position to run the front wiper motor, and then turn it to OFF position (auto-stop position) to inspect the wiper blade is aligned with the matching mark on the windshield.



#### 5 - Stop-position adjustment

- Lift the wiper blade onto glass surface, and keep the blade center is within the clearances "L1" and "L2".
- Tighten the wiper arm nut to the specified torque.
- Spray the washer fluid. Turn the front wiper switch to ON position to run the front wiper motor, and then turn it to OFF position (auto-stop position).
- Ensure the blade stays within the clearances "L1" and "L2". Clearance "L1": 34.3±7.5 mm Clearance "L2": 41.0±7.5 mm
- Refit the front wiper arm cover.

## Removal and refitting of front wiper drive mechanism

### 1 - Removal



• Remove the wiper linkages (3) and (4) from the wiper motor (2) and wiper bracket (1).

• Remove fixing nut of the front wiper motor arm.

- Remove the front wiper motor arm (5).
- Remove the fixing bolts of the front wiper motor.
- Remove the wiper motor (2) from the wiper bracket (1).

## 

• Do not to bend the linkage or damage the resin on the ball joint during the removal of wiper linkages.





## 2- Refitting

- Connect the wiper motor connector. Turn the front wiper switch to ON position to run the front wiper motor, and then turn it to OFF position (auto-stop position).
- Disconnect the wiper motor connector.

## 

- Set the wiper motor to auto stop-position so that the wiper linkage (3) can match with the motor arm (2) when refitting the motor arm.
- Refit the wiper motor to the wiper bracket (1).
- Refit the wiper arm (2) to the wiper motor.
- Refit the wiper linkages to the wiper bracket (1) and the wiper motor.

## 

- Match the motor arm (1) with the wiper linkage when refitting it so that the mounting angle can fall within the range indicated by the reference line.
- Never drop the wiper motor onto the ground or interfere it with other parts.
- Inspect the grease between the motor arm and the wiper linkage joint (fixing position), and apply the grease if necessary.
- The tightening torque is 17.7 N· m for fixing nut of the front wiper motor arm.
- The tightening torque is 6.4 N· m for the fixing bolt of the front wiper motor.







# Removal and refitting of front washer nozzle

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

#### 3 - Removal

- Remove cowl top. (Refer to "Removal and Refitting of Cowl Top".)
- Remove the spray pipe joint from the washer nozzle (1), and press the nozzle clip to eject the washer nozzle.



#### 4- Refitting

- Clamp the washer nozzle into the clip.
- Connect the spray pipe joint of the washer nozzle (1).
- Refit the cowl top. (Refer to "Removal and Refitting of Cowl Top".)

## 

• It is required to refit the left and right nozzles properly; otherwise spraying points may change.







# Removal and refitting of washer fluid reservoir assembly

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

#### 3 - Removal

- Remove the radiator upper protective plate by using the interior trim removal tool (BF1102).
- Remove the upper fixing bolts (2) of the washer fluid reservoir (1) with a 10mm socket wrench.





• Remove the fixing bolts (1) of the washer fluid reservoir with a 10mm socket wrench.

- Lift the car.
- Remove the right front mudguard. (See "Removal and Refitting of Mudguard" in Interiors and Exteriors section.)
- Disconnect the washer motor harness connector (1), pull off the spraying pipe (2), and drain off the remaining fluid in washer reservoir.
- Pull out the washer pump gently to disconnect its lower part from the seal ring, and remove the washer pump (3).
- Use a 10 mm socket wrench to remove the fixing bolt (4) of washer fluid reservoir, and remove the washer fluid reservoir (5) after shaking it side to side.

No.	No.	Name	Color	Number of channels
1	D5115	Washer motor	Black	2



- Refit the washer fluid reservoir to the vehicle, and refit the fixing bolts (1) of washer fluid reservoir with a 10mm socket wrench.
- Refit the washer fluid pump (2).
- Refit the washer motor wire harness connector (3), and refit the spraying pipe (4).
- Refit the front right mudguard. (See "Removal and Refitting of Mudguard" in "Interiors and Exteriors" section.)
- Lower the vehicle.





• Tighten the fixing bolts (1) of the washer fluid reservoir with a 10mm socket wrench.

- Tighten the upper fixing bolts (2) of the washer fluid reservoir (1) with a 10mm socket wrench.
- Refit the radiator upper protective plate

## A CAUTION

- The gasket should not be twisted during the refitting of the washer motor.
- Top up the washer fluid reservoir with washer fluid to inspect for leakage after the completion of refitting.
- Tighten the fixing bolts to the specified torque when refitting them, and do not apply excessive force to damage any plastic parts.
- The tightening torque is 4.5 N·m for the fixing bolts of the washer fluid reservoir.







## Removal and refitting of power outlet

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

## 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

## 3 - Removal

- Remove the console. (Refer to "Removal and Refitting of Console".)
- Remove the fixing screws (1) from the front ashtray assembly to remove the front ashtray assembly (2), and remove the power outlet (3) from the front ashtray assembly.



#### 4- Refitting

- Refit the power outlet (1) to the front ashtray assembly (2).
- Refit the ashtray assembly (2) to the console.
- Tighten the fixing screws (3) of the ashtray assembly.
- Refit the console assembly. (Refer to "Removal and Refitting of Console".)

## 

• Be sure to align the notch of the power outlet ring with the bracket of the power outlet when refitting.

## 12.3







## Removal and refitting of horn

### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

#### 3 - Removal

- Remove the front bumper. (Refer to "Removal and Refitting of Front Bumper".)
- Disconnect the horn connector (1) by pressing front and rear ends.







Remove, with a 12mm socket wrench, the fixing bolts (1) of the horn to remove the horn (2).

## 4- Refitting

• Refit the horn (1) and tighten the fixing bolts (2) of the horn with a 12mm socket wrench.

- Connect the horn connector (1).
- Refit the front bumper. (Refer to "Removal and Refitting of Front Bumper".)



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	12. Electrical System	12.1	Lighting System
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		12.3	Wiper, Washer and Horn
		12.4	Passive Entry & Passive Start
		12.5	Body and Vehicle Control System
		12.6	A/V System
The company reserves the right to make changes to and interpret this manual.			

Dongfeng Motor Corporation Passenger Vehicle Company After-sales Service Technical Document

# **12.4** Passive Entry & Passive Start

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Removal and refitting of trunk lid request switch	
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Removal and refitting of PEPS antenna switch	

12.4

### Precautions

- Never test the continuity between any pins using the multimeter (except for terminals specially noted), to avoid pins damage.
- Before replacing with a new BCM, back up all function settings to avoid the occurrence of abnormal control.
- Do not attempt to perform an internal test by disassembling the PEPS control unit, to avoid components damage.

## PEPS system module


# PEPS DTC

Use a special scan tool to perform fault diagnosis.

DTC	Fault name	Possible causes	Recommended countermeasures
B1B20	PIN	Off-line/after-sale configuration is omitted	Off-line/after-sale configuration is performed
B1B21	ESK(Encrypt SecretKey)	Off-line/after-sale configuration is omitted	Off-line/after-sale configuration is performed
B1B22	KEY IDE	Off-line/after-sale configuration is omitted	Off-line/after-sale configuration is performed
B1B23	ESCL SK	Off-line/after-sale configuration is omitted	Off-line/after-sale configuration is performed
B1B24	EEPROM	EEPROM failure or too low power voltage	Inspect the battery voltage.
B1B30	Antenna 1 (driver's door)	Antenna circuit short to power supply or open Antenna circuit short to ground	
B1B31	Antenna 2 (front passenger's door)	Antenna circuit short to power supply or open Antenna circuit short to ground	
B1B32	Antenna 3 (instrument panel)	Antenna circuit short to power supply or open Antenna circuit short to ground	
B1B33	Antenna 4 (console)	Antenna circuit short to power supply or open Antenna circuit short to ground	Inspect the interface wire harness.
B1B34	Antenna 5 (front part of trunk)	Antenna circuit short to power supply or open Antenna circuit short to ground	
B1B35	Antenna 6 (rear bumper beam)	Antenna circuit short to power supply or open Antenna circuit short to ground	
		Coil circuit open	After clearing the DTC, confirm whether to
B1B3A	IMMO antenna	Internal coil short-circuited	reset the DTC. If any DTC still exists, replace the start switch.
B1B3B	Low frequency antenna drive circuit	High temperature or overvoltage, or communication failure of IC	After clearing the DTC, confirm whether to reset the DTC. If any DTC still exists, replace the main unit.
B1B3C	IMMO antenna drive circuit	High temperature or overvoltage, or communication failure of IC	After clearing the DTC, confirm whether to reset the DTC. If any DTC still exists, replace the start switch.
	Start switch power indicator	Start switch power indicator lamp circuit short to power supply	Inspect the interface wire harness.
B1B41	lamp	Start switch power indicator lamp circuit short to ground or open	After clearing the DTC, confirm whether to reset the DTC. If any DTC still exists, replace the start switch.
B1B42	Start switch backlight	Start switch backlight circuit short to power supply Start switch backlight circuit short to ground or	
B1B43	Electronic steering column lock	ESCL circuit short to power supply	
B1B45	Engine compartment buzzer	Engine compartment buzzer circuit short to power supply Engine compartment buzzer circuit short to	Inspect the interface wire harness.
		ground or open ACC primary relay circuit short to power supply ACC primary relay circuit short to ground or open	
B1B46	ACC relay	Internal fault of ACC relay, or fault of feedback line	After clearing the DTC, confirm whether to reset the DTC. If any DTC still exists, replace the ACC relay.
		IGN1 relay circuit short to power supply IGN1 relay circuit short to ground or open	Inspect the interface wire harness.
B1B47	IGN1 relay	Internal fault of IGN1 relay, or fault of feedback line	After clearing the DTC, confirm whether to reset the DTC. If any DTC still exists, replace the IGN1 relay.
		IGN2 relay circuit short to power supply	Inspect the interface wire harness.
B1B48	IGN2 relay	Internal fault of IGN2 relay, or fault of feedback line	After clearing the DTC, confirm whether to reset the DTC. If any DTC still exists, replace the IGN2 relay.
B1B4A	PEPS power relay drive circuit	High temperature or overvoltage, or communication failure of IC	After clearing the DTC, confirm whether to
B1B4B	BPM power relay drive circuit	High temperature or overvoltage, or communication failure of IC	reset the DTC. If any DTC still exists, replace the main unit.
B1B50	PEPS key	Communication error, SK inconsistency on both sides, or PEPS key within non-detection zone.	Move the PEPS key to the non-detection zone, or perform the off-line/after-sale configuration.
		ESCL is not learned, or RAM or ROM of ESCL fails, or ESCL responses wrongly.	Off-line/after-sale configuration is performed
B1B51	ESCL module	Internal fault of ESCL	After clearing the DTC, confirm whether to reset the DTC. If any DTC still exists, replace the ESCL.

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DTC	Fault name	Possible causes	Recommended countermeasures	
		ESCL motor circuit short to ground		
B1B52	ESCL motor	ESCL motor circuit short to power supply	Inspect the interface wire harness.	
		ESCL motor circuit open		
		PEPS LimpHome output port circuit		
B1B54	PEPS_BPM_LimpHome	short to ground or short to power supply	Inspect the interface wire harness.	
		or open, or LimpHome port interfered		
		EMS is not configured during off-line	Off-line/after-sale configuration is	
		operation or after-sale service.	performed	
		Starter is overheated, or EMS fails to	Detect the brake/clutch, P/N, and	
B1B55	EMS module	satisfy the start conditions.	inspect the EMS module.	
B1B35 EINS Module		Drive circuit fault, connecting wire harness fault, or internal fault of the ST relay	After clearing the DTC, confirm whether to reset the DTC. If any DTC still exists, replace the ST relay.	
U0155	IC node			
U0140	CM node	Circuit or node fault		
U0142	BPM node			
110001	CAN bus	The number of sent errors on counter is		
00001	CAN bus	255 or greater.		
110002		Information transmission and reception	Inspect the interface wire harness.	
00002	CAN NIM message	delayed		
U0074	LIN bus	LIN bus circuit short to ground		
		LIN bus is interfered		
U0075 ESCL LIN message		ESCL fails to response timely, or LIN		
		bus fails.		
112002	Ratton voltago	Low voltage	Inspect the battery voltage.	
03003	ballery vollage	High voltage	Inspect the battery voltage.	
U0390	Software check code wrong	Software updated	Update the software.	

# Data flow

Name of data flow	Value	Units
Number of PEPS key(s) currently stored	0, 1, 2	Piece
Authentication result of PEPS key	"\$00 = Non \$01 = LF_RF Key Authentication success \$02 = RKE Key Authentication success \$03 = No Key Serched"	Enum
Authentication result of EMS	"\$00 = non \$01 = Pass \$02 = Fail"	Enum
ESCL feedback 1	1 = Active 0 = Inactive	Enum
ESCL feedback 2	1 = Active 0 = Inactive	Enum
Authentication result of ESCL	"\$00 = non \$01 = Pass \$02 = Fail"	Enum
Power voltage of PEPS	N/10	V
Latest startup type	"\$00 = No Function code \$01 = PS PEPS key \$02 = IMMO emergency start"	Enum
Latest RKE function type	"\$00 = Non \$01 = Lock \$02 = Unlock \$03 = Panic \$04 = Trunk \$05 = Key Learning \$06 = auto window lifting \$07 = auto window lowering"	Enum

Name of data flow	Value	Units
	"\$00 = No Function code	
	\$01 = Lock	
	\$02 = Unlock	
	\$03 = Panic	
	\$04 = Trunk	
Latest received PEPS key command	\$05 = Key Learning	Enum
	\$06 = field strength calibration	
	\$07 = PE authentication	
	\$08 = PS authentication	
	\$09 = auto window lifting	
	\$0A = auto window lowering"	
Latest received PEPS key information	IDE	HEX
	"\$00 = Off	
PEPS power mode	\$01 = Acc	Enum
FEFS power mode	\$02 = ON	Endin
	\$03 = Crank"	
	"\$00 = Off	
BPM power mode	\$01 = Acc	Enum
Br in power mode	\$02 = ON	Endin
	\$03 = Crank"	
_	"\$00 = PEPS main control mode 1	
Current system power management	\$01 = PEPS main control mode 2	Enum
mode	\$02 = PEPS main control mode 3	Lindin
	\$03 = BPM main control mode"	_
PEPS key battery voltage status	0 = Normal 1 = Low	Enum
LimpHome signal output status	"\$00 = Normal	Enum
	\$01 = No Output"	
	"\$00 = Input Init	
Backup power LimpHome input	\$01 = Input Normal	Enum
status	\$02 = Input Over Range	
	\$03 = Input No Input	
	00 = Default Session	
Current diagnosis mode	$\phi_{02} = Frogramming Session$	Enum
Current diagnosis mode	$\phi_{02} = \text{Exteried Session}$	Enum
	$$00 = \text{Verticle OEW Session}^{\circ}$	
ACC relay feedback status	1 - Active 0 - Inactive	Enum
IGN1 relay feedback status	1 - Active 0 - Inactive	Enum
IGN2 relay feedback status	1 - Active 0 - Inactive	Enum
	1 - Active 0 - Inactive	Enum
IGN1 relay	1 - Active 0 - Inactive	Enum
IGN2 relay	1 - Active 0 - Inactive	Enum
PEPS start-stop button status	1 - Active 0 - Inactive	Enum
PEPS vellow lamp status	$1 - \Delta ctive 0 - Inactive$	Enum
PFPS backlight status	$1 - \Delta ctive 0 - Inactive$	Enum
Driver's door lock status	\$00 = Onlock \$01 = Lock"	Enum
Trunk lid switch 1 status	0 = Close  1 = Open	Enum
Trunk lid switch 2 status	0 = Close 1 = Open	Enum
Left front door switch status	0 = Close 1 = Open	Enum
Right front door switch status	0 = Close 1 = Open	Enum
Right rear door switch status	0 = Close 1 = Open	Enum
Left rear door switch status	0 = Close 1 = Open	Enum
Right front door request switch status	1 =Active 0 = Inactive	Enum
Left front door request switch status	1 =Active 0 = Inactive	Enum

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Name of data flow	Value	Linite
Trunk lid request switch status		Enum
Clutch pedal deeply-depressing switch 1 status	1 =Active 0 = Inactive	Enum
Clutch pedal deeply-depressing switch 2 status	1 =Active 0 = Inactive	Enum
Parking switch 1 status	1 =Active 0 = Inactive	Enum
Parking switch 2 status	1 =Active 0 = Inactive	Enum
P gear position switch status	1 =Active 0 = Inactive	Enum
Buzzer drive type in engine compartment	"\$00 = Non \$01 = PE or RKE unlocking success \$02 = PE locking failure (key in vehicle) \$03 = PE locking failure (power not off) \$04 = PE locking success (trunk lid closed) \$05 = PE locking success (trunk lid opened) \$06 = RKE locking failure (any door opened) \$07 = RKE locking success (trunk lid closed and key not in vehicle) \$08 = RKE locking success (trunk lid opened) \$09 = RKE locking success (key in vehicle) \$09 = RKE locking success (key in vehicle) \$04 = trunk lid opened \$05 = PEPS key search failure (all door closed after engine startup)"	Enum
Latest door unlock drive type	"\$00 = Non \$01 = Key Cylinder Unlock \$02 = Master Unlock \$03 = Remote Key Unlock \$04 = PE Unlock \$05 = Post Crash Unlock \$06 = Post Crash Signal Fail Unlock \$07 = Key Removal Unlock \$08 = Anti-Theft Auto Unlock"	Enum
Latest door lock drive type	"\$00 = Non \$01 = Key Cylinder Lock \$02 = Master Lock \$03 = Remote Key Lock \$04 = PE Lock \$05 = Speed Control Auto Lock \$06 = Anti-Theft Auto Lock"	Enum
Latest trunk lid unlock drive type	"\$00 = Non \$01 = RKE \$02 = PE \$03 = Master Unlock \$04 = Trunk Auto open"	Enum

# After-sales Learning of PEPS Electric 4. Steering Column & Lock (ESCL)

Key programming

#### After-sales learning of electric steering column lock (ESCL)

After-sales key learning After-sales matching of PEPS after replacement

After-sales matching of MCU after replacement

After-sales matching of both PEPS and MCU after replacement

Reset	Page up	Page down	Print	Help	Shift	Return	Exit

#### 1. Prompt

	Key program	ming		
1. Before this,	please verify th	e obtained 8-character PIN.		
2. This applies to after-sales replacing and learning of ESCL.				

Cancel

#### 2. Enter PIN.

OK

	PIN			
Please among Technic Vehicle 17-chara	enter 8-char "0-9" and "/ al Assistanc Company acter VIN of	acter PIN cor A-Z". Please the Office of I according the vehicle.	nposed of chara obtain the PIN Dongfeng Passe to the com	rcters from enger plete
123456	78			
SKD		OK	Cancel	

#### 3. Enter PIN again.

	PIN				
Please among '	enter 8-char '0-9" and "A·	acter PIN Z" again.	composed	d of chara	cters
123456	78				
SKD		OK		Cancel	

#### **Electric** 4. ESCL learning

Key programming

ESCL is learning...

Key programming

End ESCL learning

#### 5. End ESCL learning

#### Key programming

#### End ESCL learning

Switch the vehicle power to OFF position, stop the scan tool, close all doors, and shift the transmission to P position. Press remote locking button on any key to inspect if ESCL can be locked normally. Press start switch to inspect if ESCL can be unlocked normally.

#### After-sales key learning

	Key programming							
After-sa	ales lear	ning of e	electric	steering	ı columr	n Io	ock (ESCI	_)
After-sa	ales key	learning	I					
After-sa	ales mat	ching of	PEPS	after rep	blaceme	ent		
After-sa	ales mat	ching of	MCU a	fter rep	lacemer	nt		
After-sa	ales mat	ching of	both PE	EPS and	d MCU a	afte	er replace	ment
ResetPage upPage downPrintHelpShiftReturnExit								
1. Prom	1. Prompt							

Key program	ming			
1. Before this, please verify th	ne obtained 8-character PIN.			
2. This applies to after-sales matching of the key, only two keys can be matched, and all keys should be re-matched.				
OK	Cancel			

#### 2. Enter PIN.

	PIN			
Please among Technic Vehicle 17-chara	enter 8-chara "0-9" and "A- al Assistance Company acter VIN of th	cter PIN com Z". Please c Office of D according le vehicle.	posed of chara obtain the PIN ongfeng Passe to the com	icters from enger iplete
1234567	78			
SKD		OK	Cancel	

3. Enter PIN again.



Key programming

Please inspect whether to delete all keys and re-match	
OK	Cancel

5. Match the 1st key.

	Key	programming
--	-----	-------------

Enter the key learning mode, and separately learn two keys.

#### Key programming

Start to learn the first key, and press and hold the locking/unlocking button on remote control key simultaneously for more than 3s.

#### 6. 1st key matching success

Key programming

1st key learning success

#### 7. Match the second key

Key programming

Start to learn the second key, and press and hold the locking/unlocking button on remote control key simultaneously for more than 3s.

8. 2nd key matching success

Key programming

2nd key learning success.

9. 2nd key matching success

# Key programming

Key learning completed

Switch the vehicle power to OFF position, stop the scan tool, close all doors, and respectively inspect if the remote control functions of two keys are normal and if the vehicle can be started normally.

replacement	Prompt		
Key programming	Please enter 8-character PIN composed of		
After-sales learning of electric steering column lock (ESCL)	characters among "0-9" and "A-Z".		
After-sales key learning	C7305B32		
After-sales matching of PEPS after replacement			
After-sales matching of MCU after replacement	SKD OK Cancel		
After-sales matching of both PEPS and MCU after replacement			
	6. Enter the PIN.		
	Key programming		
ResetPage upPage downPrint PrintHelpShiftReturnExit	PIN is being written		
1. Prompt			
Key programming	Key programming		
This applies to after-sales replacing of PEPS, and two keys should be re-matched.	PIN writing success		
OK Cancel	7. Enter the VIN.		
2. Enter the VIN.	Key programming		
Key programming	VIN is being written		
Please enter VIN (a complete 17-character VIN) accurately.			
LGJE1FE26EM221258	Key programming		
	PIN writing success		
SKD OK Cancel			
3. Confirm VIN			
Key programming			
Please verify that the entered VIN is LGJE1FE26EM221258.			
OK Cancel			
4. Enter PIN.			
PIN			
Please enter 8-character PIN composed of characters			
among "0-9" and "A-Z". Please obtain the PIN from			
Vehicle Company according to the complete 17-character VIN of the vehicle.			
C7305B32			
SKD OK Cancel			

# After-sales matching of PEPS after 5. Enter the PIN again.

12.4

#### 8. Enter the ESK.

Key programming

ESK is being written...

Key programming

ESK writing success

9. Match the 1st key.

Key programming

Enter the key learning mode, and separately learn two keys.

Key programming Start to learn the first key, and press and hold the locking/unlocking button on remote control key simultaneously for more than 3s!

10. 1st key matching success

Key programming

1st key learning success.

11. Match the second key

Key programming

Start to learn the second key, and press and hold the locking/unlocking button on remote control key simultaneously for more than 3s!

#### 12. 2nd key matching success

Key programming

2nd key learning success.

13. Start ESCL learning

Key programming

Start ESCL learning.

Key programming

End ESCL learning.

14. End matching.

Key programming

End PEPS learning

Switch the vehicle power to OFF position, turn off the scan tool, close all doors, and respectively inspect if the remote control functions of two keys are normal, if PEPS function is normal and if the vehicle can be started normally.

replacement		Prompt		
Кеур	programming	Please enter 8-character PIN composed of		
After-sales learning of electric steerin	g column lock (ESCL)	characters among "0-9" and "A-Z". Please obtain the PIN from Technical Assistance		
After-sales key learning		Office of Dongfeng Passenger Vehicle		
After-sales matching of PEPS after re	placement	Company according to the complete 17-character VIN of the vehicle.		
After-sales matching of MCU after rep	blacement	C7305B32		
After-sales matching of both PEPS ar	d MCU after replacement			
		SKD OK Cancel		
Reset Page Page Print Help	Shift Return Exit	6. Enter the PIN again.		
1 Promot		Prompt		
Key programming		Please enter 8-character PIN composed of characters among "0-9" and "A-Z".		
This applies to after-sales replacing requires no re-learning.	of new EMS, and the key	C7305B32		
OK	Cancel	SKD OK Cancel		
2. Prompt		OK OAHOGI		
Key programming		7 Compare the entered PIN with the stored		
Set the IGN at position ON.		PIN in the control unit, if consistent, continue		
OK		to proceed, and if there is any error, promp		
3. Enter the VIN.		Factory PIN will be shown.		
Key programming		Prompt		
Please enter VIN (a com accurately	olete 17-character VIN)	The entered PIN is inconsistent with factory PIN.		
LGJE1FE26EM221258		OK		
		8. Enter the PIN.		
SKD OK	Cancel	Key programming		
		PIN is being written		
4. Confirm VIN		OK		
Key programming				
Please verify that the entered VIN is I	_GJE1FE26EM221258.	Key programming		
ОК	Cancel	PIN writing success		
		OK		

#### after 5. Enter PIN. matching of MCU After-sales anlaaamant

#### 9. Enter the ESK.

Kev	programn	nina
,	programm	

ESK is being written...

Key programming

ESK writing success

10. End matching.

	Key programming
End EMS a	nd PEPS matching

OK

# After-sales matching of both PEPS and MCU after replacement

				Key p	rogramı	mir	ng	
After-sa	After-sales learning of electric steering column lock (ESCL)							
After-sa	ales key	learning	I					
After-sa	ales mat	ching of	PEPS	after rep	blaceme	ent		
After-sa	After-sales matching of MCU after replacement							
After-sa	After-sales matching of both PEPS and MCU after replacement							
Reset	Page	Page	Print	Help	Shift		Return	Exit
	up	down						

1. Prompt

	Key programming		
End EMS and F	PEPS matching		
	ОК		

2. Enter the VIN.

OK

		Key programming					
	Please accurate	enter ely.	VIN	(a	complete	17-character	VIN)
	LGJE1F	E26EN	12212	58			
	SKD	O OK Cancel					
3. Con	firm VIN						
Key programming							
Please	e verify the	at the e	ntered	a VIN	l is LGJE1	E26EM221258	3.

Cancel

4. Enter PIN.

		Prompt	
F c t E v	Please charac he Pl Dongfe accord vehicle	e enter 8-character PIN composed sters among "0-9" and "A-Z". Please ob IN from Technical Assistance Office eng Passenger Vehicle Comp ling to the complete 17-character VIN of e.	of tain of any the
0	C7305	B32	
**	SKD	OK Cancel	

5. Enter PIN again.



6. Enter the PIN.

Key prog

PIN is being written...

	Key programming
PIN writing su	Iccess

7. Enter the VIN.

Key prog

VIN is being written...

Key prog

VIN writing success

8. Enter the ESK.

	Key programming
-character PIN composed of	ESK is being written
g "0-9" and "A-Z". Please obtain	9. Enter ESK.
ssenger Vehicle Company	Prompt
OK Cancel	Please enter the 32-character ESK, and obtain the VIN from Technical Assistance Office of Dongfeng Passenger Vehicle Company according to the complete 17-character VIN of the vehicle. Please ensure consistency between the entered information and the 32-character ESK. 1678351234567890123415D9EA2ADOC1
-character PIN composed of	SKD OK Cancel
) "0-9" and "A-Z".	10. Verify ESK.
	Prompt
OK Cancel	Please verify that the entered ESK is 1678351234567890123415D9EA2ADOC1.
	ОК
	11. ESK writing success
ramming	Prompt
	ESK writing success
	ОК
	12. Match the 1st key.
ramming	Key programming
	Enter the key learning mode, and separately learn two keys.
ramming	
	Key programming
	Start to learn the first key, and press and hold the locking/unlocking button on remote control key simultaneously for more than 3s!
ramming	

13. 1st key learning success		18. End PEPS matching			
	Key programming		Key programming		
1st key learning success		End PEPS matching			
14. Match the second key		19. EMS and PEPS matching			
Key programming           Start to learn the second key, and press and hold the locking/unlocking button on remote control key simultaneously for more than 3s!		Prompt Start EMS and PEPS matching, and set the IGN to ON position.			
					ОК
		15. 2nd key matching success		20. Write F	PIN (directly obtain from temporary
	Key programming	memory fo entering)	r matching PEPS without manual		
2nd key learning success			Key programming		
16. 2nd key matching success		PIN is being written			
	Key programming				
2nd key learning success		Key programming			
17. ESCL lea	arning	PIN writing s	PIN writing success		
	Key programming	21. Enter the ESK.			
Start ESCL learning success			Key programming		
		ESK is being written			
	Key programming		Key programming		
End ESCL learning		ESK writing success			

#### 22. End EMS and PEPS matching

Key programmir	g
----------------	---

End EMS and PEPS matching

#### 23. End matching.

Key programming

Switch the vehicle power to OFF position, stop the scan tool, close all doors, and respectively inspect if the remote control functions of two keys are normal, if PE function is normal and if the vehicle can be started normally.

OK

OK





# **Removal and Refitting of PEPS**

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Remove the instrument panel lower trim panel. (Refer to "Removal and Refitting of Body Instrument Panel").
- Remove the fixing screws (1) of the PEPS control unit by using a Phillips screwdriver.

Disconnect the control unit (1).

 $\cap$ 

Disconnect the connector (2) the PEPS control unit (1).



Disconnect the pawl from the PEPS control unit and then remove the PEPS control unit (1).

#### 3- Refitting

- Refit in the order reverse to removal.
- After the refitting, connect the scan tool and match the PEPS. (Refer to "After-sales Matching of PEPS after Replacement.)







# Removal and refitting of PEPS transceiver

# 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

## 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

## 3 - Removal

- Remove the PEPS transceiver at the console.
- Remove the console. (Refer to "Removal and Refitting of Console".)
- Remove the connectors (1) of the PEPS transceiver, remove the fixing screws (2) of the PEPS transceiver with a Phillips screwdriver, and remove the PEPS transceiver (3).







- Tilt the console.
- Remove the connectors (1) of the PEPS transceiver, remove the fixing screws (2) of the PEPS transceiver with a Phillips screwdriver, and remove the PEPS transceiver (3).
- Remove the PEPS transceiver in the front part of the trunk.
- Remove the rear seat. (Refer to "Removal and Refitting of Rear Seats" in "Body Seats" section.)
- Disconnect the connectors (1) of the PEPS transceiver, remove the clips (2) of the PEPS transceiver with the interior trim removal tool (BF1102), and remove the PEPS transceiver (3).
- Remove the PEPS transceiver at the rear bumper.
- Remove the rear bumper and only disengage the right side. (Refer to "Removal and Refitting of Rear Bumper".)
- Remove the 2 retaining clips (1) of the PEPS transceiver.





- Remove the connectors (1) of the PEPS transceiver, and remove the PEPS transceiver (2).
- Remove the PEPS transceiver on the front door outside handle.
- Remove the PEPS key antenna switch. (Refer to "Removal and Refitting of PEPS Antenna Switch".)
- Disconnect the PEPS transceiver (1) slowly along the wire harness.

#### 4- Refitting

• Refit in the order reverse to removal.



# 

# Removal and Refitting of Trunk lid request switch

### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Remove the trunk lid trim strip. (Refer to "Removal and Refitting of Trunk Lid Trim Strip" in "Interiors and Exteriors" section.).
- Open the trunk lid, and disconnect the connector (1) of the trunk lid request switch.

• Press and hold both sides of the trunk lid request switch (1) to disconnect it inward, and remove the trunk lid request switch (1), in this case, avoid breaking the wire harness of it.

#### 3- Refitting

• Refit in the order reverse to removal.







# Removal and refitting of PEPS antenna switch

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

- 3 Removal
- Remove the front door outside handle. (Refer to "Removal and Refitting of Front Door Outside Handle".)
- Disconnect the connector (1) at the front door outside handle window rail.







- Remove the front door outside handle.
- Use a Phillips screwdriver to remove the fixing screws (1) of the front door inside handle.

 Disconnect the front door outside handle trim cover (1) outward with the interior trim removal tool (BF1102).

• Disconnect the PEPS key antenna switch (1) slowly along the wire harness.

#### 4- Refitting

Refit in the order reverse to the removal, and observe the followings.

# A CAUTION

When installing the fixing screws, avoid the outside handle trim cover from holding down the PEPS key antenna switch wire harness, so as to avoid damages of functions.



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		12.3	Wiper, Washer and Horn
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# **12.5** BCM and VCU

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VCU	
Removal and refitting of VCU	
ВСМ	
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Т-ВОХ	
Removal and Refitting of T-BOX	
ESK Writing after T-BOX ECU Replacement	

# Structure and features

### Vehicle controller



# BCM



# DTC of HCU (VCU)

DTC	DTC	Possible causes	Recommended countermeasures
B1500	Ignition key position signal abnormal	Key switch sensor abnormal	Replace the key.
B1501	High accelerator pedal angle signal voltage	High accelerator pedal angle signal voltage	Replace the accelerator pedal assembly.
B1502	Low accelerator pedal angle signal voltage	Low accelerator pedal angle signal voltage	Replace the accelerator pedal assembly.
B1503	Brake pedal angle signal high voltage	Brake pedal angle signal high voltage	Replace the brake pedal assembly.
B1504	Brake pedal angle signal low	Brake pedal angle signal low voltage	Replace the brake pedal assembly.
B1507	Vehicle POST failure	Motor or battery fault	Inspect the power system.
B1508	Power performance limited alarm	Low battery or LimpHome mode due to power system failure	Inspect the power system.
B1511	Motor precharging abnormal	Service switch not turned on in or precharging circuit failure	
P2300	Motor system fault warning	Motor high level fault	Inspect the motor system.
P2301	Battery system fault warning	Battery high level fault	Inspect the battery system.
P2302	Shift lever signal invalid	Gear mechanical switch worn or shifted and failure to be effectively closed	Replace the shift lever assembly.
P2303	Atmospheric pressure sensor failure	Sensor circuit short to ground; Sensor circuit short to power supply; Sensor circuit open; Sensor signal not within the effective range	Replace the atmospheric pressure sensor.
P2304	Vacuum sensor failure	Sensor circuit short to ground; Sensor circuit short to power supply; Sensor circuit open; Sensor signal not within the effective range	Replace the vacuum sensor.
P2305	High vacuum pump end voltage	High power supply voltage	Inspect the power supply circuit of vacuum pump.
P2306	Low vacuum pump end voltage	Low power supply voltage	Inspect the power supply circuit of vacuum pump.
P2307	Vacuum pump overcurrent	Short circuit; Other faults cause high current.	Replace the vacuum pump assembly.
P2308	Vacuum pump relay sticking	Vacuum pump failure to be disconnected due to sticking	Replace the relay
P2309	Vacuum pump relay or vacuum pump circuit open	Relay circuit open; Vacuum pump circuit open.	Replace the relay and inspect the power supply circuit of vacuum pump.
P2310	Vacuum pump pressure increases abnormally or slowly leaks	Performance of the vacuum pump degrades abnormally; Air intake pipe (between the electric vacuum pump and the check valve) slowly leaks; Booster (including the check valve and its air intake pipe to the booster/vacuum reservoir end) slowly leaks	Replace the vacuum pump assembly.
P2311	Vacuum pump damaged or leaking quickly	Vacuum pump mechanical failure, such as blade breakage; Air intake pipe (between the electric vacuum pump and the check valve) falls off or ruptures; Booster (including the check valve and its air intake pipe to the booster end) quickly leaks or ruptures, check valve failure	Replace the vacuum pump assembly.
P2312	Overheated vacuum pump	Continue working	Replace the vacuum pump assembly.
P2313	Vacuum pump relay control signal failure	connector terminal short to battery positive or body circuit short to ground	Inspect the wire harness or the connector to eliminate the short circuit.
P2314	PCAN bus fault	CAN wire harness or connector terminal short to battery positive or body short to ground	Inspect the wire harness or the connector to eliminate the short circuit.
P2315	HCAN bus fault	CAN wire harness or connector terminal short to battery positive or body short to ground	Inspect the wire harness or the connector to eliminate the short circuit.
P0561	Battery voltage abnormal	Battery failure or loss of electricity	Replace the battery.
P2318	Master cylinder pressure sensor or circuit fault	Sensor or circuit failed	Replace the master cylinder pressure sensor and inspect the related wire harness.
P2319	Master cylinder pressure sensor signal abnormal	Sensor failed	Replace the master cylinder pressure sensor.
P2320	Brake lamp switch sensor or circuit failed	Sensor or circuit failed	Replace the brake lamp switch sensor and inspect the related wire harness.

P2321	ABS fault	ABS fault	Inspect the ABS.
U0294	BMS communication loss	BMS failed or wire harness fault	Inspect the wire harness and BMS.
U0292	MCU communication loss	MCU failed or wire harness fault	Inspect the wire harness and MCU.
110155	Instrument communication	Instrument failed or wire harness	Inspect the wire harness and the
00155	loss	fault	instrument.
U0116	A/C communication loss	A/C control unit failed or wire	Inspect the wire harness and A/C
		harness fault	control unit.
U0121	ABS communication loss	ABS failed or wire harness fault	Inspect the wire harness and ABS.
U0140	BCM communication loss	BCM failed or wire harness fault	Inspect the wire harness and BCM.
U0131	EPS communication loss	EPS failed or wire harness fault	Inspect the wire harness and EPS.

# Data flow of BCM

Name of data flow	Value	Units
Speed-sensitive automatic locking	"0-disable 1-enable"	—
Body anti-theft alarm function	—	—
Emergency brake double-flash		
function	—	—
Hazard warning lamp switch	_	_
Trunk status switch	"0-Not Ajar 1-Ajar"	_
Left front door status switch	"0-Not Ajar 1-Ajar"	_
Right front door status switch	"0-Not Ajar 1-Ajar"	—
Left rear door status switch	"0-Not Ajar 1-Ajar"	—
Right rear door status switch	"0-Not Ajar 1-Ajar"	—
Trunk lid unlock switch	"0-Not Ajar 1-Ajar"	—
Door lock status switch	0-Unlock, 1-Lock	—
Rear wiper stop switch input status	—	—
Front wiper stop switch input status	0-Off, 1-On	—
Ignition 2	0-Off, 1-On	—
Ignition 1	0-Off, 1-On	—
Key detection switch	0-Off, 1-On	_
ACC	0-Off, 1-On	_
Left flash lamp overload - overload	0.1000	
counter	0-1000	—
Left flash lamp overload - overload	"0 - no overload flag	
mark	1 - overload flag present"	—
Front fog lamp overload - overload	0 1000	
counter	0-1000	_
Front fog lamp overload - overload	"0 - no overload flag	_
mark	<ol> <li>overload flag present"</li> </ol>	
Position lamp overload - overload	0-1000	_
counter	0 1000	
Position lamp overload - overload	"0 - no overload flag	
mark	1 - overload flag present"	
Low beam overload - overload	0-1000	_
counter	0 1000	
Low beam overload - overload mark	"0 - no overload flag	_
	1 - overload flag present"	
High beam overload - overload	0-1000	_
counter		
High beam overload - overload mark	"0 - no overload flag	_
	1 - overload flag present"	
PVVL enable relay overload -	0-1000	_
overload counter		
PVVL enable relay overload -	"U - no overload flag	_
overioad mark	<ol> <li>overload flag present"</li> </ol>	

# DTC of T-BOX

DTC	DTC	Possible causes	Recommended countermeasures
U0073	CAN bus fault	1. Body bus fault; 2. CAN control unit fault;	Inspect the wire harness: Re-power on to inspect if any communication can be found.
U3003	T-BOX voltage is above acceptable range.	<ol> <li>Battery damaged</li> <li>Power supply short circuit</li> </ol>	Inspect the battery and wire harness.
U3003	T-BOX voltage is below acceptable range.	<ol> <li>Insufficient battery</li> <li>Poor power contact</li> </ol>	Inspect the battery and wire harness.
B1A02	T-BOX GPS fault	Serial communication abnormal	Inspect the serial cable.
B1A03	T-BOX connecting TSP fault	<ol> <li>Remote configuration: the port and address of the TSP server may be modified, resulting in failure to connect to the TSP server.</li> <li>The card is not registered, resulting in failure to connect to the TSP server.</li> </ol>	Inspect the remote configuration parameters: inspect if the user has successfully registered.
B1A04	T-BOX communication module fault	ECM port unreachable	Inspect the ECM port.
B1A0E	GNSS circuit open	Loose GNSS and T-BOX wire harness	Inspect the GNSS wire harness
B1A0E	GNSS short to B+	Wire harness short circuit	Inspect the GNSS wire harness
B1A0E	GNSS circuit short to ground	Wire harness short circuit	Inspect the GNSS wire harness
B1A10	T-BOX upgrade unsuccessful	Upgrade unsuccessful	Re-upgrade to the correct version.
B1A11	Internal fault of T-BOX	Backup image version cannot be upgraded to the latest version synchronously.	Re-upgrade
B1A06	USB communication fault	T-BOX and USB loose	Inspect the USB wiring.

12.5







### Removal and refitting of VCU

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

# 

• Always wear insulated gloves and use insulated tools for all operations.

#### 2 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the driver's seat. (Refer to "Removal and Refitting of Driver's Seat".)
- Remove the front door sill inner protective plate (1) with the interior trim removal tool (BF1102) [1].
- Remove the rear door sill inner protective plate (1) with the interior trim removal tool (BF1102) [1].







Remove the B-pillar lower protective plate (1) with the interior trim removal tool (BF1102) [1].

- Open the carpet to see the VCU (1).
- Pull out the VCU connector latch (2) to the right and disengage the VCU.

- Remove the fixing bolts (1) of VCU a 10 mm socket wrench.
- Remove the VCU (2).





### 3- Refitting

- Refit the VCU (1).
- Tighten the fixing bolts (2) (M6×30) of VCU with a 10 mm socket wrench.

- Insert the VCU connector latch (1) to the left and refit the VCU connector (2).
- Refit the front/rear door sill inner protective plates and the center pillar lower protective plate.
- Refit the driver's seat; (Refer to "Removal and Refitting of Driver's Seat".)





# Removal and refitting of BCM

#### 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

• Use a Phillips screwdriver to remove the lower fixing screws (1) of the glove box.



- Use a Phillips screwdriver to remove the upper fixing screws (1) of the glove box.
- Remove the glove box assembly (2).







• Remove the 2 fixing screws of BCM with a Phillips screwdriver to disconnect it from the frame.

Press the retaining clips of the connector and disconnect the connector (1) to remove the BCM (2).

Pry open the retaining clips (1) of the BCM support with a Phillips screwdriver to remove the BCM (2).

#### 3- Refitting

• Refit in the order reverse to removal.


## **Removal and Refitting of T-BOX**

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.



## 2 - Removal

• Use a Phillips screwdriver to remove the lower fixing screws (1) of the glove box.

- Use a Phillips screwdriver to remove the upper fixing screws (1) of the glove box.
- Remove the glove box assembly (2).







 Use a Phillips screwdriver to remove fixing screws (1) from the T-BOX fixing bracket, and disconnect the T-BOX with bracket assembly (2) from the body.

- Press the locking clip of the connector, and disconnect the T-BOX connector (1).
- Press the locking clip of the connector, and disconnect the T-BOX connector (2).

• Remove the fixing screws (1) of the T-BOX with a Phillips screwdriver, and disconnect the T-BOX (2) from the bracket.

- Refit in the order reverse to removal.
- After the refitting, connect the scan tool and write the T-BOX.



#### ESK Writing after T-BOX ECU Replacement 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- ESK writing

## 

- Before configuration writing of the T-BOX after replacement, please confirm that the PIN of the vehicle has been known. If not, please show the 17-character VIN of this vehicle to Technical Assistance Room of Dongfeng Passenger Vehicle Company to obtain the PIN of the vehicle.
- The ESK is not written to the new T-BOX device, and the remote control function of WindLink service and WindLink mobile APP will not be available. At this time, the corresponding DTC can not be read through the scan tool, and the emergency call fault warning lamp on the instrument cluster does not come on.
- Connect the scan tool to the T-BOX system. Under the "T-BOX" menu, select "After-sales matching (ESK learning)" and proceed to the next step.

C	D
C	7
M	<
۵	2
	5
C	2
<	<
C	7
C	

Click "OK" for the next step.

	147	
系统识别		系统
读故障码		7 帮助
清故障码		<b>前</b> 文件
参数测量		÷
售后信息写入		上页 <b>)</b>
执行单元测试		क्रग
售后匹配(ESK学习)		して、复位
		G
₽R ESK学习	ŵ	ð
此操作适用于售后学习	ESK码,是否 <del>继续学</del> 习?	
确认	取消	G



Enter 17-character VIN of the vehicle required to be matched.

12.5-16



Click "OK" to complete the ESK learning.



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**12.6** A/V System

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12.6

## Precautions

- Interior trim removal tool is required during the removal of interior trims.
- Any damage to original circuit or short circuit is not allowed during the removal and refitting.
- Never test with the sound unit disassembled.

## **Special tools**

Tool No.	Tool Name Tool Picture		Description
BF1102	Interior trim removal tool		For removing interior trims

## Structure and features

## A/V System Components



## DTC of A/V System

• Use a special scan tool to perform fault diagnosis. For details, see the diagnostic introductions given by the scan tool.

DTC	Hexadecimal	Description	Possible causes	Recommended countermeasures	
113003	17	High power voltage	1. Battery damaged 2. Power supply short circuit	Contact with the service provider.	
03003	16	Low power voltage	<ol> <li>Insufficient battery</li> <li>Poor power contact of MP5</li> </ol>	Contact with the service provider.	
B1862	00	MP5 system startup error	Main system is faulty.	Contact with the service provider.	
B1865	00	Radio communication error	Connection between the radio module and the mainboard faulty.		
U0073	88	CAN bus off	<ol> <li>Body CAN bus fault</li> <li>MP5 CAN control unit fault</li> </ol>		
B1871	1	TBox connection failure		Inspect the TBox USB connection.	
B1872	4	Internal fault of Wi-Fi module		Inspect the Wi-Fi module.	
B1873	4	Internal fault of BT module		Inspect the BT module.	
B1874	4	Internal fault of PS module		Inspect the GPS module.	
	11	GPS antenna circuit short to ground			
B1875	13	GPS antenna circuit open		Inspect the GPS antenna wiring.	
	12	GPS antenna short to B+			
	11				
D1076	13	Left front channel	Circuit connection fault		
D1070	12	fault			
	01				
	11				
D1077	13	Left rear channel			
D10//	12	fault			
	01			Inspect the power	
	11			amplifier wiring.	
D1070	13	Right front channel			
D1070	12	fault			
	01				
	11				
D1070	13 Right rear channel				
D10/9	12	fault			
01					

12.6

## DTC of MP5 (internet version)

• (	Jse a	special	scan	tool t	to p	perform	fault	diagnosis	
-----	-------	---------	------	--------	------	---------	-------	-----------	--

DTC	Hexadecimal	Description	Possible causes	Recommended countermeasures
B1871	9871	Internal fault of Wi-Fi module	Internal fault of Wi-Fi module	Inspect the Wi-Fi module.
B1872	9872	Internal fault of BT module	Internal fault of BT module	Inspect the BT module.
B1874	9874	Internal fault of radio module	Internal fault of radio module	Inspect the radio module.
U3003	F003	Voltage above upper limit	<ol> <li>Battery damaged</li> <li>MP5 power supply short circuit</li> </ol>	Contact with the service provider.
U3003	3 F003 Voltage below lower limit		<ol> <li>Insufficient battery</li> <li>Poor power contact of MP5</li> </ol>	Contact with the service provider.
B1862	9862	System startup error	Main system is faulty.	Contact with the service provider.
U0073	C073	CAN module communication fault	CAN_H short to CAN_L	Inspect if CAN_H short to CAN_L.



[1]

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## **Removal and Refitting of Radio 1**

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

## 2- Recommended tools

• Interior trim removal tool (BF1002) [1].

- Keep the two front wheels in straight driving position, turn the key to "OFF", and disconnect the battery negative cable.
- Remove the console. (Refer to "Removal and Refitting of Console" in this section.)
- Remove the fixing screw plugs (1) of the central panel frame with the interior trim removal tool (BF1102) [1].







Remove the fixing screws (1) of the central panel frame with a Phillips screwdriver.

Remove the central panel frame (1) by the interior trim removal tool (BF1102) [1].

- Press and hold the locking clip (A) of the central control panel connector, and disconnect the A/C control panel connector (1).
- Press and hold the locking clip B of the hazard warning lamp switch connector to disconnect the hazard warning lamp switch connector (2).
- Remove the central panel frame (3).

•

•



Use a Phillips screwdriver to remove the fixing screws (1) of the CD player.

- Disconnect the radio antenna connector (1).
- Press the locking clip A of the CD player main unit connector, and disconnect the CD player main unit connector (2).
- Remove the CD player main unit (3).

## 4- Refitting

•

Connect the radio & CD player connector (1).





- Align the radio & CD player (1) with the locating holes (A) to install it in place.
- Tighten the 4 fixing screws (2) of the radio & CD player with a Phillips screwdriver.

- Connect the A/C control panel connector (1) in place.
- Connect the hazard warning lamp switch connector (2) in place.

Align the fixing clips of the central panel frame with the fixing points on the instrument panel to install the central panel frame, and press the central panel frame (1) into place.

•





Tighten the fixing screws (1) of the central panel frame with a Phillips screwdriver.

- Press the fixing screw plugs (1) of the central panel frame into place.
- Refit the console assembly. (Refer to "Removal and Refitting of Console" in this section.)

## 

After the installation is completed, connect the battery negative cable, turn the key to "ON" position, inspect and verify if all the functions are normal, and connect the scan tool to clear the DTC. Conduct a road test to inspect and verify that there is no abnormal noise in the vehicle.

12.6







# Removal and refitting of radio & CD player main unit 2

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn the start switch to "OFF", and disconnect the battery negative cable.
- Remove the central panel frame (premium). (Refer to "Removal and Refitting of Central Panel Frame (Premium)" in "Instrument Panel" section.)
- Remove the A/V system main unit (premium). (Refer to "Removal and Refitting of A/V System Main Unit (Premium)" in "A/V System" section.)
- Press the locking clip of the radio main unit connector, and disconnect the radio main unit connector (1) outward.
- Loosen the fixing screws (2) of the radio main unit with a Phillips screwdriver and disconnect the radio main unit (3) from the instrument panel bracket.
- Disconnect the radio main unit audio cable (1).
- Insert the fixing clips and turn over the locking clip of the connector to disconnect the radio main unit connector (2).
- Press the locking clip of the connector and disconnect the radio main unit connector (3) to remove the radio main unit (4).





## 3- Refitting

- Refit the connectors (1) & (2) and confirm that they are locked reliably.
- Connect the radio main unit audio cable (3).

- Refit the radio main unit (1) to the instrument panel.
- Use a Phillips screwdriver to tighten the fixing screws (2) of the radio main unit.
- Connect the radio main unit connector (3).
- Refit the A/V system main unit (premium). (Refer to "Removal and Refitting of A/V System Main Unit (Premium)" in "A/V System" section.)
- Refit the central panel frame (premium). (Refer to "Removal and Refitting of Central Panel Frame (Premium)" in "Instrument Panel" section.)

## A CAUTION

After the installation is completed, connect the battery negative cable, turn the start switch to "ON" position, operate the MP5, inspect and verify if all the functions are normal, and connect the scan tool to clear the DTC.







# Removal and Refitting of A/V system Main Unit 1

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Parking brake lever (hand-controlled);
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

3 - Removal

•

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the console central panel frame. (Refer to "Removal and Refitting of Console -Central Panel Frame" in "Instrument Panel" section.)
- Remove the fixing screws (1) of multimedia A/V unit assembly with a Phillips screwdriver.







- Disconnect the connector (1) of the multimedia A/V unit upper assembly.
- Remove the multimedia A/V unit assembly (2).

No.	No.	Name	Color	Number of channels
1	D8486	A/V system	Black	6
2	D8486A	A/V system		4
3	D8480C	A/V system		20
4	D8480B	A/V system	White	8
5	D8480A	A/V system	Black	8
6	D85A0	A/V system		6
7	D8486B	A/V system		4

- Refit the connector (1) of the multimedia A/V unit upper assembly.
- Align the screw hole with the locating bolt (2), and place the multimedia A/V unit onto the instrument panel.

- Remove the fixing screws (1) of multimedia A/V unit assembly with a Phillips screwdriver.
- Refit the console central panel frame. (Refer to "Removal and Refitting of Console -Central Panel Frame" in "Instrument Panel" section.)
- After refitting, inspect, with the scan tool, if any DTCs exist, and clear them.







# Removal and Refitting of A/V system Main Unit 2

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn the start switch to "OFF", and disconnect the battery negative cable.
- Remove the central panel frame (premium). (Refer to "Removal and Refitting of Central Panel Frame (Premium)" in "Instrument Panel" section.)
- Loosen the fixing screws (1) of the MP5 main unit with a Phillips screwdriver and disconnect the MP5 main unit (2) from the instrument panel bracket.
- Disconnect the MP5 main unit connector (1) to remove the MP5 main unit (2).



# 

## 3- Refitting

• Connect the MP5 main unit connector (1).

- Refit the MP5 main unit (1) to the instrument panel bracket.
- Use a Phillips screwdriver to tighten the fixing screws (2) of the MP5 main unit.
- Refit the central panel frame (premium). (Refer to "Removal and Refitting of Central Panel Frame (Premium)" in "Instrument Panel" section.)

## A CAUTION

 After the installation is completed, connect the battery negative cable, turn the start switch to "ON" position, operate the MP5, inspect and verify if all the functions are normal, and connect the scan tool to clear the DTC.



# Removal and Refitting of Front Door Loudspeaker

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the front door inner protective panel. (Refer to "Removal and Refitting of Front Door Inner Trim Panel".)
- Disconnect the speaker power connector (1).
- Remove the 3 fixing screws (2) of the speaker with a Phillips screwdriver.
- Remove the speaker (3).

- Align the speaker (1) with mounting holes to refit it.
- Tighten the 3 fixing screws (2) of the speaker with a Phillips screwdriver.
- Connect the speaker power connector (3).
- Refit the front door inner protective plate. (Refer to "Removal and Refitting of Front Door Inner Trim Panel".)



# 



# Removal and Refitting of Front Door Tweeter

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

## 2- Recommended tools

• Interior trim removal tool (BF1002) [1].

## 3 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the front door inner protective panel. (Refer to "Removal and Refitting of Front Door Inner Trim Panel".)
- Remove the trim cover (1) with the interior trim removal tool (BF1002).







- Disconnect the front door tweeter connector (1).
- Remove the 2 fixing screws (2) of the tweeter by using T15 screwdriver bit to remove the tweeter (3).

- Align the tweeter (1) with mounting holes to refit it.
- Tighten the 2 fixing screws (2) of the tweeter with a T15 screwdriver bit.
- Connect the tweeter connector (3).

- Refit the trim cover (1).
- Refit the front door inner protective plate. (Refer to "Removal and Refitting of Front Door Inner Trim Panel".)







# Removal and refitting of rear door speaker

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

## 2 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove rear door inner protective panel. (Refer to "Removal and Refitting of Rear Door Interior Trim Panel".)
- Disconnect the speaker power connector (1).
- Remove the 3 fixing screws (2) of the speaker with a Phillips screwdriver.
- Remove the speaker (3).

- Align the speaker (1) with mounting holes to refit it.
- Tighten the 3 fixing screws (2) of the speaker with a Phillips screwdriver.
- Connect the speaker power connector (3).
- Refit the rear door inner protective panel. (Refer to "Removal and Refitting of Rear Door Interior Trim Panel".)







# Removal and refitting of radio antenna amplifier

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn off the ignition switch, and disconnect battery negative cable.
- Remove the rear quarter interior trim panel. (Refer to "Removal and Refitting of Rear Quarter Interior Trim Panel".)
- Disconnect the antenna amplifier connector (1).
- Remove the fixing rubber clip (2) of the antenna amplifier.
- Use a 10mm socket wrench to remove the fixing bolts (3) of the antenna amplifier.
- Remove the radio antenna amplifier (4).

- Align the radio antenna amplifier (1) with mounting holes to refit it to the body.
- Use a 10mm socket wrench to tighten the fixing bolts (2) of the antenna amplifier.
- Refit the fixing rubber clip (3) of the antenna amplifier.
- Connect the antenna amplifier connector (4).







# Removal and refitting of MP5 microphone (premium)

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2 - Removal

- Turn the start switch to "OFF", and disconnect the battery negative cable.
- Remove the central panel frame (premium). (Refer to "Removal and Refitting of Central Panel Frame (Premium)" in "Instrument Panel" section.)
- Lift, with a slotted screwdriver, the bottom of the microphone connector (1) to disconnect it from the central panel frame bracket.
- Remove the microphone (2) from the central panel frame bracket.

## 3- Refitting

- Refit the microphone (1) to the central panel frame.
- Insert the microphone connector (2) into the central panel frame bracket.
- Refit the central panel frame (premium). (Refer to "Removal and Refitting of Central Panel Frame (Premium)" in "Instrument Panel" section.)

## A CAUTION

 After the installation is completed, connect the battery negative cable, turn the start switch to "ON" position, operate the MP5, and inspect and verify if the microphone can work normally.







# Removal and Refitting of Remote Control

## 1 - Protection

Place protective pads at following locations:

- Front fender;
- Front bumper;
- Driver's seat;
- Carpet (on driver's side);
- Steering wheel;
- Shift lever.

#### 2- Recommended tools

• Interior trim removal tool (BF1102) [1].

- 3 Removal
- Remove the front passenger's seat. (Refer to "Removal and Refitting of Front Passenger's Seats" in "Seats" section.)
- Pry up the front door sill inner protective plate (1) with the interior trim removal tool (BF1102) [1].



• Remove the rear door sill inner protective plate (1) with the interior trim removal tool (BF1102) [1].

- Remove the seat belt bolt trim cover.
- Remove the fixing bolts (1) of the seat belt with a 14mm socket wrench.

• Remove the B-pillar lower protective plate (1) with the interior trim removal tool (BF1102) [1].







- Disconnect the right front door sealing rubber strip (1).
- Open the right front door carpet (2).

• Disconnect the connectors (1), (2), and (3) of the remote control.

• Remove the fixing nuts (1) of the remote control with a 13 mm socket wrench to remove the remote control (2).



2)

(1)

000

(0)

## 4 - Inspection

 Inspect the remote control (1) for damage; if so, replace the remote control assembly.

## 5- Refitting

- Align the remote control (1) to refit it in place.
- Tighten the remote control (2) with a 13mm socket wrench.

• Refit the connectors (1), (2), and (3) of the remote control until a "click" sound is heard.



6

3





- Refit the right front door carpet (1) in place to ensure that the carpet is not wrinkled.
- Refit the right front door weather strip (2) in place.

• Align the fixing clips of the B-pillar lower protective plate (1) with the body mounting holes to refit them in place.

- Tighten the lower fixing bolt (1) of the seat belt with a 14 mm socket wrench.
- Refit the seat belt fixing bolt cap in place.


Align the fixing clips of the front door sill inner protective plate (1) with the body mounting holes to press-fit the front door sill inner protective plate in place.

Align the fixing clips of the rear door sill inner protective plate (1) with the body mounting holes to press-fit the rear door sill inner protective plate in place.



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13. Troubleshooting

Troubleshooting

Dongfeng Motor Corporation Passenger Vehicle Company After-sales Service Technical Document

# **13** Troubleshooting

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## **Diagnosis procedures**



Steps	Description
Step 1:	<ul> <li>Learn thoroughly from the customer about the situations and environmental conditions when the fault occurred.</li> <li>The following key information will be helpful in making the right analysis: <ol> <li>What: vehicle model, engine, transmission/ systems (e.g. A/V system).</li> <li>When: date, time, weather conditions, frequency of occurrence.</li> <li>Where: road conditions, altitude, traffic conditions.</li> <li>How: system symptoms, operating status (impact to other components). Servicing history, any refitting of other after-market parts.</li> </ol> </li> </ul>
Step 2:	Inspect the operating system, and when necessary, carry out the road test. Verify the fault parameters and read the DTC. If it is unable to reproduce the fault, carry out the fault simulation test.
Step 3:	Carefully review diagnosis materials, including: 1. "Working Principle of System" 2. "Common fault troubleshooting 3. "DTC Table" 4. "Local Circuit Diagram" 5. "List of Fault Symptoms" 6. "Electrical Schematic Diagram" 7. "Corresponding Service Process in Service Manual" Determine where to begin the work depending upon the situation described by the customer and the knowledge you have gathered.
Step 4:	Inspect the system for any tangles of wire, loosened connector or damaged wiring according to the diagnosis steps. Determine the circuits and parts affected by the fault, and carry out diagnosis according to the electrical schematic diagram.
Step 5:	Repair or replace the faulty circuit or part.
Step 6:	Operate the system in all modes. Verify that the system can work properly under all conditions. Make sure no new fault has been caused due to carelessness during the diagnosis and repair process.



## **Connector diagram**

• The viewing angle of the connector schematic diagram in the diagnosis manual is as indicated by the arrow on the left.

• The number or letter in the left figure indicates the connector terminal number shown in the above view.



## Local circuit diagram 1 (integrated MCU E0)

#### Local circuit diagram 2 (integrated MCU E0)







#### Local circuit diagram 2 (integrated MCU E1)

DTC	Description	Possible causes	Recommended countermeasures
U0073	CAN bus	The number of sent errors on counter is 255 or greater.	-
U0074	All nodes are lost.	Poor contact of wire harness or CAN bus circuit short to power supply/ground	Measuring the circuit on and off.
U0293	VCU failed	VCU is not connected, or VCU is faulty.	Repair the VCU fault.
U0121	ABS/ESC fault	ABS/ESP is not connected or ABS/ESP is faulty.	Repair the ABS/ESP.
U0011	Sensor failed	Sensor is damaged or its circuit is short/open.	Replace the sensor or repair its circuit.
U0012	P gear button sticking	Button is stuck or damaged.	Replace the shift lever assembly.
U0013	Unlock button sticking	Button is stuck or damaged.	Replace the shift lever assembly.
U0014	Power supply voltage	Battery feed or power supply line fault	Overhaul the power supply line.
U0015	Power supply undervoltage	Battery feed or power supply line fault	Overhaul the power supply line.
U0016	Bus and hard line brake signals are inconsistent.	Signal circuit fault	Overhaul the signal circuit.

### DTC of electronic shift lever

# Diagnosis procedures for DTC (electronic shift lever (independently-developed motor)

## UOO73: CAN bus

Test method	Diagnostic steps		
Step 1: Inspect the DTC.	Step 1: Inspect the DTC.		
	A. Connect the scan tool and clear DTC.		
	C. Read the DTC again, and inspect if there is any		
	DTC.		
	Yes		
	Go to Step 2.		
	I his is an accidental fault, in this case, inspect the		
	etc.: inspect whether the terminal involves		
	bending, peeling or corrosion or other damages.		
Step 2: Inspect the circuit 9000M (blue) between shift lever	the gateway (integrated MCU) and the electronic		
	A. Turn off the start switch.		
Electronic shift lever	B. Disconnect the electronic shift lever connector		
connector D1604B	C. Disconnect the integrated MCU connector.		
7 8 9 10 11 12	D. Inspect if the resistance between the terminal		
1 2 3 4 5 6	B10 of the electronic shift lever connector and the		
	then 5.0		
	Yes		
62         59         55         51         47         43         39         35         31         27         23         19         15         11         7         3	Go to Step 3.		
61         36         54         50         46         42         38         34         30         26         22         18         14         10         6         2           60         57         52         40         45         44         32         30         32         32         14         10         6         2	No		
Integrated MCU I - MCU	The circuit is open or poorly connected, in this		
	case, repair the circuit 9000M (blue).		
Step 3: Inspect the circuit 9001M (pink) between the gateway (integrated MCU) and the electronic shift lever.			
	A. Turn off the start switch.		
Electronic shift lever	B. Disconnect the electronic shift lever connector D1604B.		
	C. Disconnect the integrated MCU connector.		
7 8 9 10 11 12	D. Inspect if the resistance between the terminal		
	B11 of the electronic shift lever connector and the terminal 5 of the integrated MCU connector is less		
	than 5 $\Omega$ .		
<b>T</b> 62 59 56 52 48 44 40 36 32 28 24 20 16 12 8 4	Yes		
61 58 55 51 47 43 39 35 31 27 23 19 15 11 7 3	Go to Step 4.		
60         57         54         50         46         42         38         34         30         26         22         18         14         10         66         2           60         57         53         49         45         41         37         33         29         25         21         17         13         9         5         1	No		
Integrated MCU I - MCU connector	The circuit is open or poorly connected, in this		
Step 6: Inspect the electronic shift lever			
	Replace with a new electronic shift lever that is		
	confirmed to be in a good condition and test it. If		
	the Symptom and DTC disappear, replace with		
	the new electronic shift lever.		

#### U0293: VCU node loss

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of VCU connector for damage, poor circuit connection, aging, prolapse, or corrosion.
Step 2: Inspect if the VCU is connected.	
	A. Turn off the start switch.
	B. Inspect if the VCU is connected.
	Yes
	Connect the VCU.
	No
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.

#### U0121: ABS/ESC node loss

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the ABS/EPS connector for damage, poor circuit connection, aging, prolapse, or corrosion.
Step 2: Inspect if the ABS/EPS is connected.	
	A. Turn off the start switch.
	B. Inspect if the ABS/ESC is connected.
	Yes
	Connect the ABS/ESC.
	No
	Replace with a new ABS/ESC that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new ABS/ESC.

#### U0011: Sensor failed

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	A. Connect the scan tool and clear DTC.	
	B. Turn off the start switch and turn it on again.	
	C. Read the DTC again, and inspect if there is any DTC	
	Yes	
	Go to Step 2.	
	No	
	This is an accidental fault, in this case, inspect the pins of gear selector sensor connector for looseness, corrosion, or poor circuit connection.	
Step 2: Inspect whether battery voltage is norma	I	
	A. Inspect whether the battery voltage is normal.	
	Is the fuse blown out?	
	Yes	
	Go to Step 3.	
	No	
	Charge or remove battery voltage fault.	
Step 3: Inspect the fuse boxes F5 (10A) and F7 (10A) in the passenger compartment.		
	A. Inspect whether the fuse boxes F5 (10A) and F7 (10A) in the passenger compartment are blown out.	
	Replace the fuse boxes F5 (10A) and F7 (10A) in the passenger compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short circuit part according to the circuit diagram. <b>No</b>	
	Go to Step 4.	
Step 4: Inspect the electronic shift lever gear sensor.		
	A. Turn off the start switch.	
	B. Disconnect the electronic shift lever connector D1604B, and replace with a new electronic shift lever that is confirmed to be in a good condition and test if the DTC disappears.	
	Yes	
	Replace with a new electronic shift lever.	
	NO Go to Step 5	

Troubleshooting



Test method	Diagnostic steps	
Step 8: Inspect the circuits 1404 (green) and 1404 (white) between the electronic shift lever sensor (D) and the integrated MCU.		
Ω       Electronic shift lever connector D1604B         7       8       9       10       11       12         1       2       3       4       5       6         4       4       4       4       36       32       28       24       20       16       12       8       4         62       59       56       52       48       44       40       36       32       28       24       20       16       12       8       4         61       58       55       51       47       43       39       35       31       27       23       19       15       11       7       3       54       50       46       42       38       43       26       22       18       14       10       6       2       5       51       17       34       9       5       1       .	A. Turn off the start switch. B. Disconnect the electronic shift lever connector D1604B. C. Disconnect the integrated MCU connector. D. Inspect if the resistance between the terminal B5 of the electronic shift lever connector and the terminal 32 of the integrated MCU connector is less than 5 $\Omega$ . Yes Go to Step 9. No The circuit is open or poorly connected, in this case, repair the circuits 1404 (green) and 1404 (white) .	
Step 9: Inspect the circuits 21B0 (orange), 21E0 (white), 21F0 (red) and 16T0 (red) between the electronic shift lever and the brake lamp switch.		
Electronic shift lever connector D1604B 7 9 10 11 12 1 2 3 4 5 6 4 3 2 1 Brake lamp switch connector D2120	A. Turn off the start switch. B. Disconnect the electronic shift lever connector D1604B. C. Disconnect the brake lamp switch connector D2120. D. Inspect if the resistance between the terminal B9 the electronic shift lever connector and the terminal 2 of the brake lamp switch connector is less than 5 $\Omega$ . Yes Go to Step 10. No The circuit is open or poorly connected, in this case, repair the circuits 21B0 (orange), 21E0 (white), 21F0 (red) and 16T0 (red).	
Step 10: Replace the integrated MCU.		
	Replace with a new integrated MCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new integrated MCU.	

#### U0012: P gear button sticking

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect if the P gear button is stuck by foreign matters.</li> </ul>	
Step 2: Replace the electronic shift lever.		
	Replace with a new electronic shift lever that is confirmed to be in a good condition to test the P gear button. If the fault and DTC disappear, replace with the new electronic shift lever.	

#### U0013: Unlock button sticking

Test method	Diagnostic steps
Step 1: Inspect the DTC.	·
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect if the unlock button is stuck by foreign matters.</li> </ul>
Sten 2: Replace the electronic shift lever	
	Replace with a new electronic shift lever that is confirmed to be in a good condition to test the unlock button. If the fault and DTC disappear, replace with the new electronic shift lever.

#### U0014: Power supply overvoltage

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul><li>A. Connect the scan tool and clear DTC.</li><li>B. Turn off the start switch and turn it on again.</li><li>C. Read the DTC again, and inspect if there is any DTC.</li><li>Yes</li></ul>	
	Go to Step 2. No	
	I his is an accidental fault, in this case, inspect the pins of electronic shift lever connector D1604B for looseness, corrosion, or poor circuit connection.	
Step 2: Inspect whether battery voltage is normal		
	<ul> <li>A. Inspect whether battery voltage is normal.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>Charge or remove battery voltage fault.</li> </ul>	
Step 3: Inspect the fuse boxes F7 (10A) and F18 (10A) in the passenger compartment.		
	A. Inspect whether the fuse boxes F7 (10A) and F18 (10A) in the passenger compartment are blown out. Is the fuse blown out? Yes	
	Replace the fuse boxes F7 (10A) and F18 (10A) in the passenger compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short circuit part according to the circuit diagram. <b>No</b>	
	Go to Step 4.	
Step 4: Inspect the power supply circuits A413D shift lever.	(blue) and B471 (black & blue) of the electronic	
	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the electronic shift lever connector D1604B.</li> <li>C. Inspect if the voltage between the terminal B12 of the electronic shift lever connector and ground is greater than 10 V.</li> <li>Yes</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits A413D (blue) and</li> </ul>	
Electronic shift lever connector D1604B	B471 (black & blue). <b>No</b> Go to Step 5.	

Test method	Diagnostic steps	
Step 5: Inspect the ignition signal circuits C451A (yellow) and C55A (gray) of the electronic shift lever.		
	A. Turn off the start switch.	
	B. Disconnect the electronic shift lever connector D1604B.	
	C. Inspect if the voltage between the terminal B1 of the electronic shift lever connector and ground is greater than 10 V.	
	Yes	
	The circuit is short to the power supply, in this case, repair the circuits C451A (yellow) and C55A (gray).	
	No	
Electronic shift lever connector D1604B	Go to Step 6.	
Step 6: Inspect the electronic shift lever.		
	Replace with a new electronic shift lever that is confirmed to be in a good condition and test it. If the Symptom and DTC disappear, replace with the new electronic shift lever.	

#### U0015: Low power supply voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> </ul>
	This is an accidental fault, in this case, inspect the pins of electronic shift lever connector D1604B for looseness, corrosion, or poor circuit connection.
Step 2: Inspect whether battery voltage is norma	I.
	A. Inspect whether battery voltage is normal. Yes Go to Step 3. No Charge or remove battery voltage fault.
Step 3: Inspect the fuse boxes F7 (10A) and F18	(10A) in the passenger compartment.
	A. Inspect whether the fuse boxes F7 (10A) and F18 (10A) in the passenger compartment are blown out. Is the fuse blown out? <b>Yes</b> Replace the fuse boxes F7 (10A) and F18 (10A) in the passenger compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short circuit part according to the circuit diagram.
	No
	Go to Step 4.
Step 4: Inspect the power supply circuits A413D shift lever.	(blue) and B471 (black & blue) of the electronic
	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the electronic shift lever connector D1604B.</li> <li>C. Inspect the continuity between the terminal B12 of the electronic shift lever connector and ground. Is it conducting?</li> <li>Yes</li> <li>If conducting, the circuit is circuit short to ground, in this case, repair the circuits A413D (blue) and</li> </ul>
Electronic shift lever connector D1604B	B471 (black & blue). <b>No</b> Go to Step 5.

Test method	Diagnostic steps	
Step 5: Inspect the ignition signal circuits C451A (yellow) and C55A (gray) of the electronic shift lever.		
Image: Ward of the second se	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the electronic shift lever connector D1604B.</li> <li>C. Inspect the continuity between the terminal B1 of the electronic shift lever connector and ground. Is it conducting?</li> <li>Yes</li> <li>The circuit is circuit short to ground, in this case, repair the circuits C451A (yellow) and C55A (gray).</li> <li>No</li> <li>Go to Step 6.</li> </ul>	
Step 6: Inspect the electronic shift lever.		
	Replace with a new electronic shift lever that is confirmed to be in a good condition and test it. If the Symptom and DTC disappear, replace with the new electronic shift lever.	

#### U0016: Bus and hard line brake signals are inconsistent.

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
Step 2: Inspect the circuit 9000M (blue) between t	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the bus and hard line brake connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
shift lever		
Ω           Electronic shift lever connector D1604B           7         8         9         10         11         12           1         2         3         4         5         6           9         56         52         48         44         40         36         32         28         24         20         16         12         8         4           62         59         56         52         48         44         40         36         32         28         24         20         16         12         8         4           61         58         54         50         46         42         38         30         26         21         11         7         3           60         57         53         49         45         13         73         29         25         11         7         3         1         10         6         2         1         14         10         6         2         1         11         7         3         29         25         11         7         3         3         29         25         11         7         3         3 <th>A. Turn off the start switch. B. Disconnect the electronic shift lever connector D1604B. C. Disconnect the integrated MCU connector. D. Inspect if the resistance between the terminal B10 of the electronic shift lever connector and the terminal 6 of the integrated MCU connector is less than 5 <math>\Omega</math>. Yes Go to Step 3. No The circuit is open or poorly connected, in this case, repair the circuit 9000M (blue). the gateway (integrated MCU) and the electronic</th>	A. Turn off the start switch. B. Disconnect the electronic shift lever connector D1604B. C. Disconnect the integrated MCU connector. D. Inspect if the resistance between the terminal B10 of the electronic shift lever connector and the terminal 6 of the integrated MCU connector is less than 5 $\Omega$ . Yes Go to Step 3. No The circuit is open or poorly connected, in this case, repair the circuit 9000M (blue). the gateway (integrated MCU) and the electronic	
Sint level.         Ω         Electronic shift lever connector         0         1         2         3         4         5	A. Turn off the start switch. B. Disconnect the electronic shift lever connector D1604B. C. Disconnect the integrated MCU connector. D. Inspect if the resistance between the terminal B11 of the electronic shift lever connector and the terminal 5 of the integrated MCU connector is less than 5 $\Omega$ . Yes Go to Step 4. No The circuit is open or poorly connected, in this case, repair the circuit 9001M (pink).	









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## Local circuit diagram 3 (schematic diagram of VCU)

3 1411A Black & red	1411A Brown	1411A Yellow	1379F Yellow 2
72 13B8Black & blue	13B8Black & blue	13B8 Yellow	1 sensor
			1380EWhite 3 (DEV13)
5 1380D White	1380DWhite	1380D White	1380A Orange
<u> </u>	•		5002Black 5
1379E Yellow	1379E Yellow	1379E Yellow	1379A Pink 5
51 1378 Red & black	1378Red & black	1378 White	O Accelerator pedal
<u>70</u>	•		1380B White 2
1377 Green	1377Green	1377 Green	
09	·		
			1413 White
1412 Blue & green	1412 Blue & green	1412 Yellow	Oil pressure sensor
67	•		<u>2</u> (D1910)
21 9000B Blue	P CAN H		
40_9001B Pink			
MC160D Black M2			1411Pink
4	7777		
	G4		
20 7010B bide & led	H_CAN_H		
39 9011B Pink & black			
	3       1411A Black & red         72       13B8Black & blue         5       1380D White         5       1380D White         5       1379E Yellow         70       1378 Red & black         69       1377 Green         67       1412 Blue & green         67       1412 Blue & green         21       9000B Blue         40       9001B Pink         40       901B Pink         40       9011B Pink & black	3       1411A Black & red       1411A Brown         72       13B8Black & blue       13B8Black & blue         5       1380D White       13B8Black & blue         5       1380D White       1380D White         5       1380D White       1379E Yellow         1377       1378 Red & black       1378 Red & black         69       1377 Green       1377 Green         67       1412 Blue & green       1412 Blue & green         67       1412 Blue & green       1412 Blue & green         67       1412 Blue & green       P_CAN_H         9001B Blue       P_CAN_L         4       MC160D Black       M26C Black         7777       G4         20       9010B Blue & red       H_CAN_H         39       9011B Pink & black       H_CAN_L	3       1411A Black & red       1411A Brown       1411A Yellow         72       1388Black & blue       1388Black & blue       1388 Yellow         5       1380D White       1380D White       1380D White         5       1380D White       1380D White       1380D White         5       1379E       Yellow       1379E Yellow         1379E       Yellow       1379E Yellow       1379E Yellow         1378 Red & black       1378 Red & black       1378 White         69       1377 Green       1377 Green       1377 Green         67       1412 Blue & green       1412 Blue & green       1412 Yellow         67       1412 Blue & green       1412 Blue & green       1412 Yellow         67       1412 Blue & green       1412 Yellow       1377 Green         67       1412 Blue & green       1412 Yellow       1377 Green         67       1412 Blue & green       1412 Pellow       1412 Yellow         67       1412 Blue & green       1412 Pellow       1412 Yellow         67       1412 Blue & green       1412 Yellow       1377 Green         67       1412 Blue & green       1412 Yellow       1412 Yellow         7777       G4       9001B Pink       P_CAN_L

## DTC of VCU (Continental AG motor)

DTC	Fault name	Possible causes	It is recommended to repair it.
B1500	Ignition key position signal abnormal	Key switch sensor abnormal	Replace the key.
B1501	High accelerator pedal angle signal voltage	High accelerator pedal angle signal voltage	Replace the accelerator pedal assembly.
B1502	Low accelerator pedal angle signal voltage	Low accelerator pedal angle signal voltage	Replace the accelerator pedal assembly.
B1503	Brake pedal angle signal high voltage	Brake pedal angle signal high voltage	Replace the brake pedal assembly.
B1504	Brake pedal angle signal low voltage	Brake pedal angle signal low voltage	Replace the brake pedal assembly.
B1507	Vehicle POST failure	Motor or battery failed	Inspect the power system.
B1508	Power performance limited alarm	Low battery or LimpHome mode due to power system failure	Inspect the power system.
B1511	Motor precharging abnormal	Service switch not turned on in or precharging circuit failure	
P2300	Motor system fault warning	Motor high level fault	Inspect the motor system.
P2301	Battery system fault warning	Battery high level fault	Inspect the battery system.
P2302	Shift lever signal invalid	Circuit components damaged; gear mechanical switch worn or shifted and failure to be effectively closed	Replace the shift lever assembly.
P2303	Atmospheric pressure sensor failure	Sensor circuit circuit short to ground; sensor circuit short to power supply; sensor circuit open; sensor signal not in the effective range	Replace the atmospheric pressure sensor.
P2304	Vacuum sensor failure	Sensor circuit short to ground; sensor circuit short to power supply; sensor circuit open; sensor signal not in the effective range	Replace the vacuum sensor.
P2305	High vacuum pump end voltage	High power supply voltage	Inspect the power supply circuit of vacuum pump.
P2306	Low vacuum pump end voltage	Low power supply voltage	Inspect the power supply circuit of vacuum pump.
P2307	Vacuum pump overcurrent	Short circuit; others faults cause high current.	Replace the vacuum pump assembly.
P2308	Vacuum pump relay sticking	Vacuum pump failure to be disconnected due to sticking	Replace the relay
P2309	Vacuum pump relay or vacuum pump circuit open	Relay circuit open; vacuum pump circuit open;	Replace the relay and inspect the power supply circuit of vacuum pump.
P2310	Vacuum pump pressure increases abnormally or slowly leaks	Performance of the vacuum pump is abnormally degraded; air intake pipe (between the electric vacuum pump and the inspect valve) slowly leaks; booster (including the inspect valve and its air intake pipe to the booster\vacuum reservoir end) slowly leaks.	Replace the vacuum pump assembly.
P2311	Vacuum pump damaged or leaking quickly	Mechanical faults of the vacuum pump, such as blade broken; air intake pipe (between the electric vacuum pump and the inspect valve) falls off or is broken; booster (including the inspect valve and its air intake pipe to the booster end) quickly leaks or ruptures, inspect valve failure	Replace the vacuum pump assembly.
P2312	Overheated vacuum pump	Continue working	Replace the vacuum pump assembly.
P2313	Vacuum pump relay control signal failure	Vacuum pump relay control signal line or connector terminal short to battery positive or body circuit short to ground	Inspect the wire harness or the connector to eliminate the short circuit.
P2314	PCAN bus fault	CAN wire harness or connector terminal short to battery positive or body circuit short to ground	Inspect the wire harness or the connector to eliminate the short circuit.
P2315	HCAN bus fault	CAN wire harness or connector terminal short to battery positive or body circuit short to ground	Inspect the wire harness or the connector to eliminate the short circuit.
P2318	Master cylinder pressure sensor or circuit fault	Sensor or circuit failed	Replace the master cylinder pressure sensor and inspect the related circuits.

DTC	Fault name	Possible causes	It is recommended to repair it.
P2319	Master cylinder pressure sensor signal abnormal	Sensor failed	Replace the master cylinder pressure sensor.
P2320	Brake lamp switch sensor or circuit failed	Sensor or circuit failed	Replace the brake lamp switch sensor and inspect the related wire harness.
P2321	ABS fault	ABS fault	Inspect the ABS.
P0561	Battery voltage abnormal	Battery failure or loss of electricity	Replace the battery.
U0294	BMS communication loss	BMS failed or wire harness fault	Inspect the wire harness and the BMS.
U0292	MCU communication loss	MCU failed or wire harness fault	Inspect the wire harness and the MCU.
U0155	Instrument communication loss	Instrument failed or wire harness fault	Inspect the wire harness and the instrument.
U0116	A/C communication loss	A/C control unit failed or wire harness fault	Inspect the wire harness and A/C control unit.
U0232	ABS communication loss	ABS failed or wire harness fault	Inspect the wire harness and the ABS.
U0140	BCM communication loss	BCM failed or wire harness fault	Inspect the wire harness and the BCM.
U0131	EPS communication loss	EPS failed or wire harness fault	Inspect the wire harness and the EPS.

## DTC diagnosis (VCU - Continental AG motor)

B1500: Ignition key position signal abnormal

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the key lock.	
	Replace with a new key lock that is confirmed to be in a good condition and test it. If the Symptom and DTC disappear, replace with the new key lock.

#### B1501: High accelerator pedal angle signal voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of accelerator pedal sensor connector for</li> </ul>
Sten 2: Inspect whether battery voltage is norma	looseness, corrosion, or poor circuit connection.
	<ul> <li>A. Inspect whether the battery voltage is normal.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>Charge or remove battery voltage fault.</li> </ul>
Step 3: Replace the accelerator pedal assembly.	
	<ul> <li>A. Replace with a new accelerator pedal assembly that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new accelerator pedal assembly.</li> <li>B. Re-diagnose, read the DTCs, and inspect if the are are properties.</li> </ul>
	Yes
	Go to Step 4
	<b>No</b> Replace with a new accelerator pedal assembly.
Step 4: Replace the VCU.	
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul><li>A. Connect the scan tool and clear DTC.</li><li>B. Turn off the start switch and turn it on again.</li><li>C. Read the DTC again, and inspect if there is any</li></ul>	
	Yes Go to Step 2. No This is an accidental fault, in this case, inspect the pins of accelerator pedal sensor connector for	
Sten 2: Inspect whether battery voltage is normal		
	<ul> <li>A. Inspect whether the battery voltage is normal.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>Charge or remove battery voltage fault.</li> </ul>	
Step 3: Replace the accelerator pedal assembly.		
	A. Replace with a new accelerator pedal assembly that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new accelerator pedal assembly.	
	<ul> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> <li>Go to Step 4</li> <li>No</li> <li>Replace with a new accelerator pedal assembly</li> </ul>	
Step 4: Replace the VCU.		
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.	

#### B1502: Low accelerator pedal angle signal voltage

#### B1503: Brake pedal angle signal high voltage

Test method	Diagnostic steps					
Step 1: Inspect the DTC.						
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the</li> </ul>					
	pins of brake pedal sensor connector for looseness, corrosion, or poor circuit connection.					
Step 2: Inspect whether battery voltage is normal.						
	<ul> <li>A. Inspect whether the battery voltage is normal.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>Charge or remove battery voltage fault.</li> </ul>					
Step 3: Replace the brake pedal assembly.						
	<ul> <li>A. Replace with a new brake pedal assembly that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new brake pedal assembly.</li> <li>B. Re-diagnose, read the DTCs, and inspect if</li> </ul>					
	there are any DTCs and symptoms? Yes Go to Step 4 No Replace with a new brake pedal assembly.					
Step 4: Replace the VCU.						
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.					
B1504:	Brake	pedal	angle	signal	low	voltage
--------	-------	-------	-------	--------	------	---------
D1304.	Dianc	pedai	angic	Signai	1011	vonage

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of brake pedal sensor connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
Step 2: Inspect whether battery voltage is normal	I.	
	<ul> <li>A. Inspect whether the battery voltage is normal.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>Charge or remove battery voltage fault.</li> </ul>	
Step 3: Replace the brake pedal assembly.		
	<ul> <li>A. Replace with a new brake pedal assembly that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new brake pedal assembly.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> <li>Go to Step 4</li> <li>No</li> <li>Replace with a new brake pedal assembly.</li> </ul>	
Step 4: Replace the VCU.		
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.	

### B1511: Motor precharging abnormal

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of VCU connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
Step 2: Inspect the service switch.		
Step 3: Inspect the precharging circuits CP03 ( and CP03C (black & orange)	A. Inspect if the service switch is turned on. Yes Go to Step 3. No Turn on the service switch. green), CP03A (green), CP03A (black & orange)	
VCU connector         6       7       8       9       10       11       12       13       14       15       16       17       18       19       20       21       22       23       24       5       4         1       25       26       27       28       29       30       31       32       33       43       5       36       37       38       39       40       41       42       43       44       45       46       47       48       49       50       51       52       53       54       55       56       57       58       59       60       61       62       2       1         OBC connector DEV08       9       10       11       12       13       14       15       16       7       8       9       10       18       19       10       1       12       13       14       15       16       17       77       78       79       80       81       2       1       1         OBC connector DEV08       9       10       11       12       3       4       5       6       7       8	A. Turn off the start switch. B. Disconnect the VCU connector. C. Disconnect the OBC connector DEV08. D. Inspect if the resistance between the terminal 2 of the VCU connector and the terminal 8 of the OBC connector is less than 5 $\Omega$ . Yes Go to Step 4. No The circuit is open or poorly connected, in this case, repair the circuits CP03 (green), CP03A (green) CP03A (black & orange) and CP03C (black & orange).	
Step 4: Replace the VCU.	1	
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.	

# P2300: Motor system fault warning

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of VCU connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
Step 2: Inspect whether battery voltage is normal	l.	
	<ul> <li>A. Inspect whether battery voltage is normal.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>Charge or remove battery voltage fault.</li> </ul>	
Step 3: Inspect the motor system for fault.		
	<ul> <li>A. Inspect if the motor system is faulty.</li> <li>Yes</li> <li>Repair the motor system according to the circuit diagram.</li> <li>No</li> <li>Go to Step 4.</li> </ul>	
Step 4: Replace the VCU.		
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.	

#### P2301: Battery system fault warning

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
Step 1. Inspect the DTC.	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the</li> </ul>	
	or poor circuit connection.	
Step 2: Inspect whether battery voltage is normal		
	A. Inspect whether battery voltage is normal. Yes	
	Go to Step 3.	
	<b>NO</b> Charge or remove battery voltage fault.	
Step 3: Inspect the battery system for fault.		
	<ul> <li>A. Inspect if the battery system is faulty.</li> <li>Yes</li> <li>Repair the battery system according to the circuit diagram.</li> </ul>	
	No	
	Go to Step 4.	
Step 4: Replace the VCU.		
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.	

# P2302: Shift lever signal invalid

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	A. Connect the scan tool and clear DTC.	
	B. Turn off the start switch and turn it on again.	
	C. Read the DTC again, and inspect if there is any DTC.	
	Yes	
	Go to Step 2.	
	No	
	This is an accidental fault, in this case, inspect the pins of shift lever connector for looseness, corrosion, or poor circuit connection.	
Step 2: Inspect the shift lever for fault.		
	A. Inspect if the gear mechanical switch of the shift lever is worn or shifted and fails to be effectively closed. Yes	
	Adjust or replace the shift lever.	
	No	
	Go to Step 3.	
Step 3: Inspect the circuit components for fault.		
	A. Inspect if the circuit components are damaged.	
	Replace the circuit components.	
	No	
	Go to Step 4.	
Step 4: Replace the shift lever assembly.		
	Replace with a new shift lever assembly that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new shift lever assembly.	

#### P2304: Vacuum sensor failure

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits 1380D (white) and 138	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of shift lever connector for looseness, corrosion, or poor circuit connection.</li> <li>BUE (white) between the vacuum sensor and the</li> </ul>
Image: Construction of the second s	A. Turn off the start switch. B. Disconnect the vacuum sensor connector DEV13. C. Disconnect the VCU connector. D. Inspect if the resistance between the terminal 3 of the vacuum sensor connector and the terminal 5 of the VCU connector is less than 5 $\Omega$ . Is the resistance less than 5 $\Omega$ ? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected, in this case, repair the circuits 1380D (white) and 1380E (white).
Step 3: Inspect the circuits 1380D (white) and 138 VCU.	80E (white) between the vacuum sensor and the
Vacuum sensor connector DEV13	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the vacuum sensor connector DEV13.</li> <li>C. Disconnect the VCU connector.</li> <li>D. Inspect the continuity between the terminal 3 of the vacuum sensor connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>If conducting, the circuit is circuit short to ground, in this case, reacing the size of 2000 (orbital) and its of a size of a s</li></ul>

Test method	Diagnostic steps	
Step 4: Inspect the circuits 1380D (white) and 1380E (white) between the vacuum sensor and the		
Vacuum sensor connector DEV13	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the vacuum sensor connector DEV13.</li> <li>C. Disconnect the VCU connector.</li> <li>D. Inspect the voltage between the terminal 3 of the vacuum sensor connector and ground.</li> <li>Is the voltage greater than 11.5V?</li> <li>Yes</li> <li>The circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 1380D (white) and 1380E (white).</li> </ul>	
	No Go to Step 5	
Stop 5, Increat the vestium concer for foult	G0 10 Step 5.	
Step 5: Inspect the vacuum sensor for fault.		
	A. Replace with a new vacuum sensor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new vacuum sensor.	
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?	
	Yes	
	Go to Step 6.	
	No	
	Replace with a new vacuum sensor.	
Step 6: Replace the VCU.		
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.	

### P2305: High vacuum pump end voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of vacuum pump connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect whether the battery voltage is not	rmal.
	<ul> <li>A. Inspect whether the battery voltage is normal.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>Charge or remove battery voltage fault</li> </ul>
Step 3: Inspect the fuse box F21 (30A) in the drive	e motor compartment.
	<ul> <li>A. Inspect whether the fuse box F21 (30A) in the drive motor compartment is blown out.</li> <li>Is the fuse blown out?</li> <li>Yes</li> <li>Replace the fuse box F21 (30A) in the drive motor compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short-circuited part according to the circuit diagram.</li> <li>No</li> <li>Go to Step 4.</li> </ul>
Step 4: Inspect the power supply circuit C339 (re	d) of the vacuum pump.
V + - + - Vacuum booster pump connector DEV03	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the vacuum booster pump connector DEV03.</li> <li>C. Turn on the start switch.</li> <li>D. Inspect if the voltage between the terminal 1 of the vacuum booster pump connector and ground is greater than 16 V.</li> <li>Yes</li> <li>The circuit is short to the power supply, in this case, repair the circuit C339 (red).</li> <li>No</li> <li>Go to Step 4.</li> </ul>
Step 4: Replace the vacuum booster pump.	
	Replace with a new vacuum booster pump that is confirmed to be in a good condition and test it. If the Symptom and DTC disappear, replace with the new vacuum booster pump.

P2306: Low vacuum pump end voltage

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness, according to prove the pins of vacuum pump connector for looseness.</li> </ul>	
Sten 2: Inspect whether the battery voltage is no	rmal	
Step 2. Inspect whether the battery voltage is no	A Inspect whether the battery voltage is normal	
	A. Inspect whether the battery voltage is normal. Yes Go to Step 3. No Charge or remove battery voltage fault.	
Step 3: Inspect the fuse box F21 (30A) in the driv	e motor compartment.	
	A. Inspect whether the fuse box F21 (30A) in the drive motor compartment is blown out. Is the fuse blown out? Yes Replace the fuse box F21 (30A) in the drive motor compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short-circuited part according to the circuit diagram. No Go to Step 4.	
Step 4: Inspect the power supply circuit C339 (re	d) of the vacuum pump.	
Ω           +         -           Vacuum booster pump connector DEV03         -           1         2         3         4         13         14         15         16         7         8           1         2         3         4         13         14         15         16         7         8         19         20           Fuse box connector EJB C in the drive motor compartment	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the vacuum booster pump connector DEV03.</li> <li>C. Disconnect the fuse box connector in the drive motor compartment.</li> <li>D. Inspect if the resistance between the terminal 1 of the vacuum pump connector and the terminal C14 of the fuse box in the drive motor compartment is less than 5 Ω.</li> <li>Is the resistance less than 5 Ω?</li> <li>Yes</li> <li>Go to Step 5.</li> <li>No</li> <li>The circuit is open or poorly connected, in this case, repair the circuit C339 (red)</li> </ul>	

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Test method	Diagnostic steps	
Step 5: Inspect the power supply circuit C339 (red) of the vacuum pump.		
Vacuum booster pump connector DEV03	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the vacuum booster pump connector DEV03.</li> <li>C. Disconnect the fuse box connector in the drive motor compartment.</li> <li>D. Inspect the continuity between the terminal 1 of the vacuum booster pump connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 6.</li> <li>No</li> <li>If conducting, the circuit is circuit short to ground, in this case, repair the circuit C339 (red).</li> </ul>	
Step 6: Replace the vacuum pump.		
	Replace with a new vacuum pump that is confirmed to be in a good condition and test it. If the Symptom and DTC disappear, replace with the new vacuum pump.	

P2307: Vacuum pump overcurrent

The former forme	Discussetia
lest method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul><li>A. Connect the scan tool and clear DTC.</li><li>B. Turn off the start switch and turn it on again.</li><li>C. Read the DTC again, and inspect if there is any DTC.</li><li>Yes</li></ul>
	Go to Step 2. <b>No</b> This is an accidental fault, in this case, inspect the pins of shift lever connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect whether the battery voltage is no	rmal.
	A. Inspect whether the battery voltage is normal. Yes Go to Step 3. No Charge or remove battery voltage fault.
Step 3: Inspect the fuse box $F21$ (30A) in the driv	/e motor compartment
	A. Inspect whether the fuse box F21 (30A) in the drive motor compartment is blown out. Is the fuse blown out? Yes Replace the fuse box F21 (30A) in the drive motor compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short-circuited part according to the circuit diagram. No Go to Step 4.
Step 4: Inspect the power supply circuit C339 (re	a) of the vacuum pump.
V + - + - V V V V V V V V V V V V V	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the vacuum booster pump connector DEV03.</li> <li>C. Turn on the start switch.</li> <li>D. Inspect if the voltage between the terminal 1 of the vacuum booster pump connector and ground is greater than 16 V.</li> <li>Yes</li> <li>The circuit is short to the power supply, in this case, repair the circuit C339 (red).</li> <li>No</li> <li>Go to Step 4.</li> </ul>
Step 5: Replace the vacuum pump.	
	Replace with a new vacuum booster pump that is confirmed to be in a good condition and test it. If the Symptom and DTC disappear, replace with the new vacuum booster pump.

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# P2308: Vacuum pump relay sticking

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault which is caused by slow flicking of vacuum pump relay switch</li> </ul>	
Step 2: Replace the vacuum pump relay R13 in the drive motor compartment.		
	Replace with a new vacuum pump relay that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new vacuum pump relay.	

Toot method	
Stop 1: Inspect the DTC	Diagnostic steps
Step 1: Inspect the DTC. Step 2: Replace the vacuum pump relay in the de	A. Connect the scan tool and clear DTC. B. Turn off the start switch and turn it on again. C. Read the DTC again, and inspect if there is any DTC. Yes Go to Step 2. No This is an accidental fault, in this case, inspect the pins of the vacuum pump relay or the vacuum pump connector for looseness, corrosion, or poor circuit connection. rive motor compartment.
	Replace with a new vacuum pump relay that is
	<ul> <li>confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new vacuum pump relay.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> </ul>
Sten 3: Inspect the vacuum nump relay circuit	Replace with a new vacuum pump relay.
Step 3: Inspect the vacuum pump relay circuit.	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the vacuum booster pump connector DEV03.</li> <li>C. Turn on the start switch.</li> <li>D. Inspect the voltage between the terminal 1 of the vacuum pump connector and ground.</li> <li>Is the voltage greater than 11.5 V?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>The circuit is open or poorly connected, in this case, repair the vacuum pump relay circuit.</li> </ul>
Step 4: Inspect the power supply circuit C339 (re	A Turn off the start switch
Ω           + -           Vacuum booster pump connector DEV0s           1         2         3         4         13         14         15         6         7         8           1         2         3         4         13         14         15         16         7         8         19         20           Fuse box connector EJB C in the drive motor compartment	B. Disconnect the vacuum booster pump connector DEV03. C. Disconnect the fuse box connector in the drive motor compartment. D. Inspect if the resistance between the terminal 1 of the vacuum pump connector and the terminal C14 of the fuse box in the drive motor compartment is less than 5 $\Omega$ . Is the resistance less than 5 $\Omega$ ? Yes Go to Step 5. No The circuit is open or poorly connected, in this
	case, repair the circuit C339 (red).

P2309: Vacuum pump relay or vacuum pump circuit open

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Test method	Diagnostic steps
Step 5: Inspect the vacuum pump grounding circuits M521 (green & yellow) and MAE01 (green & yellow).	
Ω ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	A. Turn off the start switch. B. Disconnect the vacuum booster pump connector DEV03. C. Inspect the resistance between the terminal 2 of the vacuum pump connector and ground. Is the resistance less than 5 $\Omega$ ? Yes Go to Step 6. No The circuit is open or poorly connected, in this case, repair circuits M521 (green & yellow) and MAE01 (green & yellow).
Step 6: Replace the vacuum pump.	
	Replace with a new vacuum pump that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new vacuum pump.

Test method	Diagnostic steps
Step 1: Inspect the DTC.	1
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of sensor connector for looseness, corrosion,</li> </ul>
	or poor circuit connection.
Step 2: Inspect the vacuum pump for pressure fa	lult.
	A. Inspect the air intake pipe of the vacuum pump for leakage.
	Yes
	Replace with a new air intake pipe.
	NO Go to Step 3.
Step 3: Inspect the booster for fault.	· ·
	<ul> <li>A. Inspect the booster for leakage.</li> <li>Yes</li> <li>Replace with a new booster.</li> <li>No</li> <li>Go to Step 4.</li> </ul>
Step 4: Replace the vacuum pump assembly.	
	Replace with a new vacuum pump assembly that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new vacuum pump assembly.

## P2310: Vacuum pump pressure increases abnormally or slowly leaks.

# P2311: Vacuum pump damaged or leaking quickly

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of sensor connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
Step 2: Inspect the vacuum pump for fault.		
	<ul> <li>A. Inspect the vacuum pump for damage.</li> <li>Yes</li> <li>Replace with a new vacuum pump.</li> <li>No</li> <li>Go to Step 3.</li> </ul>	
Step 3: Inspect the air intake pipe for fault.		
	<ul> <li>A. Inspect the air intake pipe for falling off or rupture.</li> <li>Yes</li> <li>Refit or replace with a new air intake pipe.</li> <li>No</li> <li>Go to Step 4.</li> </ul>	
Step 4: Inspect the booster for damage.		
	<ul> <li>A. Inspect if the booster is damaged.</li> <li>Yes</li> <li>Replace with a new booster.</li> <li>No</li> <li>Go to Step 5.</li> </ul>	
Step 5: Inspect the inspect valve for failure.		
	<ul> <li>A. Inspect if the inspect valve is damaged.</li> <li>Yes</li> <li>Replace with a new inspect valve.</li> <li>No</li> <li>Go to Step 6.</li> </ul>	
Step 6: Replace the vacuum pump assembly.		
	Replace with a new vacuum pump assembly that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new vacuum pump assembly.	

# P2312: Overheated vacuum pump

Test method	Diagnostic steps
Step 1: Inspect the DTC.	-
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault which is caused by operation of the vacuum pump for a long time.
Step 2: Inspect the vacuum pump for fault.	
	A. Inspect the vacuum pump for damage.
	Yes
	Replace with a new vacuum pump.
	No
	Go to Step 3.
Step 3: Replace the vacuum pump assembly.	
	Replace with a new vacuum pump assembly that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new vacuum pump assembly.

## P2313: Vacuum pump relay control signal failure

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul><li>A. Connect the scan tool and clear DTC.</li><li>B. Turn off the start switch and turn it on again.</li><li>C. Read the DTC again, and inspect if there is any DTC.</li></ul>
	Yes Go to Step 2. No This is an accidental fault, in this case, inspect the pins of vacuum pump relay connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the circuits 12V2 (white) and 12 drive motor compartment and the VCU.	V2 (white & green) between the fuse box in the
Fuse box connector EJB C in the drive motor compartment       Ω     1     2     3     4     13     14     15     16     7     8       Q     10     11     12     3     4     13     14     15     16     7     8       Q     10     11     12     13     14     15     16     7     8       Q     10     11     12     13     14     15     16     7     8       Q     10     11     12     13     14     15     16     7     8       Q     10     11     12     13     14     15     16     17     18     19     20       Q     10     11     12     13     14     15     16     17     18     19     20       Q     11     12     13     14     15     16     17     18     19     20       Q     11     12     13     14     15     16     17     18     19     20       2     2     2     30     31     32     33     43     36     37     38     39     40     41     42     3	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the fuse box connector in the drive motor compartment.</li> <li>C. Disconnect the VCU connector.</li> <li>D. Inspect if the resistance between the terminal 4 of the fuse box connector in the drive motor compartment and the terminal 48 of the VCU connector is less than 5 Ω.</li> <li>Is the resistance less than 5 Ω?</li> <li>Yes</li> <li>Go to Step 3.</li> </ul>
	The circuit is open or poorly connected, in this case, repair the circuits 12V2 (white) and 12V2 (white & green).
Step 3: Inspect the circuits 12V2 (white) and 12 drive motor compartment and the VCU.	V2 (white & green) between the fuse box in the
	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the fuse box connector in the drive motor compartment.</li> <li>C. Disconnect the VCU connector.</li> <li>D. Inspect the continuity between the terminal 48 of VCU connector and ground.</li> <li>Is it not conducting?</li> </ul>
6       7       8       9       11       12       13       14       15       16       17       18       19       20       21       22       23       24       5       4         25       26       27       28       29       30       31       32       33       34       35       36       37       38       39       40       41       42       43       3         44       45       46       47       48       49       50       51       52       53       54       55       56       57       58       59       60       61       62       1       3       3         63       64       65       66       67       68       69       70       71       72       73       74       75       76       77       78       79       80       81       2       1       1         VCU connector	Yes Go to Step 4. No If conducting, the circuit is circuit short to ground, in this case, repair the circuits 12V2 (white) and 12V2 (white & green).

Test method	Diagnostic steps
Step 4: Inspect the circuits 12V2 (white) and 12V2 (white & green) between the fuse box in the drive motor compartment and the VCU.	
V           +           -	A. Turn off the start switch. B. Disconnect the fuse box connector in the drive motor compartment. C. Disconnect the VCU connector. D. Inspect the voltage between the terminal 48 of VCU connector and ground. Is the voltage greater than 11.5 V? Yes Go to Step 5. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the circuits 12V2 (white) and 12V2 (white & green).
Step 5: Replace the VCU.	
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.

#### P2314: PCAN bus failed

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of VCU connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuits 9000B (blue) and 9001	IB (pink) between the VCU and the PCAN bus.
V           + - <t< th=""><th><ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the VCU connector.</li> <li>C. Inspect the voltage between the terminals 21 and 40 of VCU connector and ground.</li> <li>Is the voltage greater than 11.5 V?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>The circuit is short to the power supply, in this case, repair the circuits 9000B (blue) and 9001B (pink).</li> </ul></th></t<>	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the VCU connector.</li> <li>C. Inspect the voltage between the terminals 21 and 40 of VCU connector and ground.</li> <li>Is the voltage greater than 11.5 V?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>The circuit is short to the power supply, in this case, repair the circuits 9000B (blue) and 9001B (pink).</li> </ul>
Image: construction of the construle of the construction of the construction of the	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the VCU connector.</li> <li>C. Inspect the continuity between the terminals 21 and 40 of VCU connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>If conducting, the circuit is circuit short to ground, in this case, repair the circuits 9000B (blue) and 9001B (pink).</li> </ul>
Step 4: Replace the VCU.	1
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.

#### P2315: HCAN bus failed

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits 9010B (blue & red) an	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of VCU connector for looseness, corrosion, or poor circuit connection.</li> <li>d 9011B (pink &amp; black) between the VCU and the</li> </ul>
HCAN bus. V + - + - + - + - + - + - + - + -	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the VCU connector.</li> <li>C. Inspect the voltage between the terminals 20 and 39 of VCU connector and ground.</li> <li>Is the voltage greater than 11.5 V?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>The circuit is short to the power supply, in this case, repair the circuits 9010B (blue &amp; red) and 9011B (pink &amp; black).</li> <li>d 9011B (pink &amp; black) between the VCU and the</li> </ul>
HCAN bus. $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the VCU connector.</li> <li>C. Inspect the continuity between the terminal 20/39 of VCU connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>If conducting, the circuit is circuit short to ground, in this case, repair the circuits 9010B (blue &amp; red) and 9011B (pink &amp; black).</li> </ul>
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.

# P2318: Master cylinder pressure sensor failed or circuit fault

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of oil pressure sensor connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the oil pressure sensor.	· · · · ·
	<ul> <li>A. Replace with a new oil pressure sensor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new oil pressure sensor.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>Replace with a new oil pressure sensor.</li> </ul>
Step 3: Inspect the circuits 1380D (white) and 14	13 (white) between the VCII and the oil pressure
sensor	to (white) between the voo and the on pressure
V + - - - - - - - - - - - - - -	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the VCU connector.</li> <li>C. Disconnect the oil pressure sensor connector D1910.</li> <li>D. Inspect the voltage between the terminal 3 of the oil pressure sensor connector and ground. Is the voltage greater than 11.5 V?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>The circuit is short to the power supply, in this case, repair circuits 1380D (white) and 1413 (white) between the VCU and the oil pressure sensor.</li> </ul>
Step 4: Inspect the circuits 1380D (white) and 147 sensor.	13 (white) between the VCU and the oil pressure
Oil pressure sensor connector D1910	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the VCU connector.</li> <li>C. Disconnect the oil pressure sensor connector D1910.</li> <li>D. Inspect the continuity between the terminal 3 of the oil pressure sensor connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 5.</li> <li>No</li> <li>If conducting, the circuit is circuit short to ground, in this case, repair the circuits 1380D (white) and 1413 (white) between the VCU and the oil pressure sensor</li> </ul>



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Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of oil pressure sensor connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the oil pressure sensor.	
	A. Replace with a new oil pressure sensor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new oil pressure sensor.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Yes
	Go to Step 3.
	Νο
	Replace with a new oil pressure sensor.
Step 3: Replace the VCU.	
	Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.

# P2319: Master cylinder pressure sensor signal abnormal

## P2320: Brake lamp switch sensor failed or circuit fault

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of switch connector for looseness, corrosion,</li> </ul>
Step 2: Inspect the fuse box E20 (10A) in the driv	e motor compartment
	<ul> <li>A. Inspect whether the fuse box F20 (10A) in the drive motor compartment is blown out.</li> <li>Is the fuse blown out?</li> <li>Yes</li> <li>Replace the fuse box F20 (10A) in the drive motor compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short circuit part according to the circuit diagram.</li> <li>No</li> <li>Go to Step 3.</li> </ul>
Step 3: Inspect the circuit 2G10 (yellow) between	n the VCU and the brake lamp switch.
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the brake lamp switch connector D2012.</li> <li>C. Disconnect the VCU connector.</li> <li>D. Inspect if the resistance between the terminal 4 of the brake lamp switch connector and the terminal 74 of the VCU connector is less than 5 Ω.</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> </ul>
Brake lamp switch connector D2120	case, repair the circuit 2G10 (yellow).

Test method	Diagnostic steps
Step 4: Inspect the circuit 2G10 (yellow) between	the VCU and the brake lamp switch.
Ω + - + - + - Brake lamp switch connector D2120	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the brake lamp switch connector D2012.</li> <li>C. Disconnect the VCU connector.</li> <li>D. Inspect the continuity between the terminal 4 of brake lamp switch connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 5.</li> <li>No</li> <li>If conducting, the circuit is circuit short to ground, in this case, repair the circuit 2C10 (Yellow)</li> </ul>
Step 5: Inspect the brake lamp switch.	
	Replace with a new brake lamp switch that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new brake lamp switch.

### P2321: ABS failed

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of ABS connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the ABS.	
	Replace with a new ABS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new ABS.

# P0561: Battery voltage abnormal

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of battery connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the battery.	
	A. Inspect if the battery failed.
	Yes
	Replace the battery.
	No
	Charge the battery.

U0294: BMS communication loss

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits 9010H (blue & red), 90	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> <li>P11H (pink &amp; black), 9010B (blue &amp; red) and 9011</li> </ul>
Image: Non-State intervention         Im	A. Turn off the start switch. B. Disconnect the BMS connector. C. Disconnect the VCU connector. D. Inspect if the resistance between the terminals 17 and 18 of the BMS connector and the terminals 20 and 39 of the VCU connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminals 20 and 39 of VCU connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the circuits 9010H (blue & red), 9011H (pink & black), 9010B (blue & red) and 9011B (pink & black).
Step 4: Replace the BMS.	1
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

### U0155: Instrument communication loss

Test method	Diagnostic steps
Step 1: Inspect the DTC.	<u> </u>
Step 1: Inspect the DTC.         Step 2: Inspect the circuits 9000N (blue), 9001N the instrument cluster and the VCU.	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> <li>(pink), 9000B (blue) and 9001B (pink) between</li> <li>A. Turn off the start switch.</li> <li>B. Disconnect the instrument cluster connector</li> </ul>
25       22       27       28       29       33       32       33       34       35       36       37       38       39       44       42       43       3       3       2       1       1       44       45       46       47       48       49       50       51       52       53       54       55       65       75       85       59       60       61       62       2       1       1       1       2       1       1       1       1       1       1       2       1       1       1       1       1       1       1       1       2       1	B. Disconnect the Instrument cluster connector. C. Disconnect the VCU connector. D. Inspect if the resistance between the terminals 7 and 8 of the instrument cluster connector and the terminals 21 and 40 of the VCU connector is less than 5 Ω. E. Inspect the continuity between the terminals 21 and 40 of VCU connector and ground. Is the resistance less than 5 Ω? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 Ω, the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 9000N (blue), 9001N (pink), 9000B (blue) and 9001B (pink).
6       7       8       9       10       11       12       13       14       15       16       17       18       19       20       21       22       23       24       5       4         25       26       27       28       29       30       31       32       33       34       35       36       37       38       39       40       44       42       43         44       45       46       47       48       49       50       51       52       53       54       55       65       75       85       96       61       62       63       64       65       66       67       68       69       70       71       72       73       74       75       76       77       78       79       80       81       2       1	
Step 3: Inspect the instrument cluster.	Replace with a new instrument cluster that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new instrument cluster.

U0116: A/C communication loss

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of A/C control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the circuits 9000G (blue), 9001G the A/C control unit and the VCU.	(pink), 9000B (blue) and 9001B (pink) between
	A. Turn off the start switch.
1 2 3 4 5 6 7 8 9 1011 12 13 141516 1718 19 20 40 39 38 37 36 35 84 33 32 31 30 29 28 27 26 25 24 23 22 21	B. Disconnect the A/C control unit connector.
A/C control unit D8060	C. Disconnect the VCU connector.
	D. Inspect if the resistance between the terminals 8 and 7 of the A/C control unit connector and the terminals 21 and 40 of the VCU connector is less than 5 $\Omega$ .
VCU connector	and 40 of VCU connector and ground.
6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 5 4	Is the resistance less than 5 $\Omega$ ?
22       22       27       28       27       33       32       33       34       33       36       37       86       37       44       45       46       47       48       49       50       51       52       53       54       55       56       57       58       59       60       61       62       62       43       44       45       66       67       68       69       70       71       72       73       74       75       76       77       78       79       80       81       2       1	Is it not conducting?
	Go to Step 3.
-)))	No
	If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the circuits 9000G (blue), 9001G (pink), 9000B (blue) and 9001B (pink).
VCU connector	
6       7       8       9       10       11       12       13       14       15       16       17       18       19       20       21       22       23       24       5       4         25       26       27       28       29       30       31       32       33       34       35       36       37       38       39       40       44       42       43         44       45       46       47       48       49       50       51       52       53       54       55       55       57       58       59       60       61       62       63       64       65       66       67       68       69       70       71       72       73       74       75       76       77       78       79       80       81       2       1	
Step 3: Replace the A/C control unit.	L
	Replace with a new A/C control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new A/C control unit.

U0121: ABS communication loss

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits 9000R (yellow), 9001F the ABS control unit and the VCU.	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of ABS control unit connector for looseness, corrosion, or poor circuit connection.</li> <li>R (white), 9000B (blue) and 9001B (pink) between</li> </ul>
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	A. Turn off the start switch. B. Disconnect the ABS control unit connector. C. Disconnect the VCU connector. D. Inspect if the resistance between the terminals 26 and 14 of the ABS connector and the terminals 21 and 40 of the VCU connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminals 21 and 40 of VCU connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the circuits 9000R (yellow), 9001R (white), 9000B (blue) and 9001B (pink).
Step 3: Replace the ABS control unit.	Replace with a new ABS control unit that is confirmed to be in a good condition and test it. If
	the fault and DTC disappear, replace with the new ABS control unit.

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**U0140: BCM communication loss** 

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul><li>A. Connect the scan tool and clear DTC.</li><li>B. Turn off the start switch and turn it on again.</li><li>C. Read the DTC again, and inspect if there is any DTC.</li></ul>
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of BCM control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the circuits 9000K (blue), 9001K (pink), 9000B (blue) and 9001B (pink) between the BCM control unit and the VCU.	
	A. Turn off the start switch.
	B. Disconnect the BCM connector.
	C. Disconnect the VCU connector.
	D. Inspect if the resistance between the terminals 19 and 20 of the BCM connector and the terminals 21 and 40 of the VCU connector is less than 5 $\Omega$ .
	C. Inspect the continuity between the terminals 21 and 40 of VCU connector and ground. Is the resistance less than 5 $\Omega$ ?
	Is it not conducting?
	Yes
	Go to Step 3.
	No
	If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 9000K (blue), 9001K (pink), 9000B (blue) and 9001B (pink).
Step 3: Replace the BCM.	
	Replace with a new BCM that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BCM.

## U0131: EPS communication loss

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPS connector for looseness, corrosion, or poor circuit connection.</li> </ul>
EPS control unit and the VCU.	pink), 9000B (blue) and 9001B (pink) between the
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	A. Turn off the start switch. B. Disconnect the EPS connector. C. Disconnect the VCU connector. D. Inspect if the resistance between the terminals 2 and 3 of the EPS connector and the terminals 21 and 40 of the VCU connector is less than 5 $\Omega$ . C. Inspect the continuity between the terminals 21 and 40 of VCU connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 9000K (blue), 9001K (pink), 9000B (blue) and 9001B (pink).
Step 3: Replace the EPS.	
	Replace with a new EPS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPS.



### Local circuit diagram (BMS)
# DTC of BMS

Sequence	DTC	Description
number		
1	P1E6D	High cell voltage
2	P1E1A	High cell voltage
3	P1E6E	High cell voltage
4	P1E11	Low cell voltage
5	P1E1B	Single cell voltage overlow exception
6	P1E70	Single cell voltage overlow fault
7	P1EDB	Cell voltage ununiform
8	POAFD	High total voltage
9	P0AFC	Low total voltage
10	P1E80	Outer voltage higher than inner voltage (before high voltage)
11	P1E81	High module temperature
12	P1E82	High module temperature
13	P1E83	High module temperature
14	P1E0E	High discharging current during driving
15	P1E1E	High discharging current during driving
16	P1E1C	High discharging current during driving
17	P1E8C	High driving feed current
18	P1E8D	High driving feed current
19	P1E8E	High driving feed current
20	P0A7D	High charging current
21	P1E90	High charging current
22	P1E1D	High charging current
23	P1E54	DC insulation (contactor ON)
24	P1E55	DC insulation (contactor OFF)
25	P0A0C	High voltage interlock circuit failed
26	P1E4E	Main positive and precharging contactor sticking
27	P1E4F	Main positive contactor failed to be ON
28	P1E50	Main negative contactor sticking
29	P1E51	Precharging contactor failed to be ON
30	P1E52	Quick charger contactor sticking
31	P1E53	Quick charger contactor failed to be ON
32	P0562	Low battery voltage
33	P0563	High battery voltage
34	U0293	VCU message loss
35	U0073	Busoff (vehicle ACAN)
36	P1EB1	Precharging circuit short
37	P1EB2	Precharging overcurrent
38	P1EB3	Precharging reverse current
39	P1EB4	Precharging timeout
40	P1EB5	Precharging failure (three tries)
41	P1EB7	BMS unexpectedly power-off
42	P1EB8	OBC failed
43	P1EB9	Non-OBC failed
44	P1E84	Thermal management failure: high water outlet temperature in heating mode
45	P1E85	Thermal management failure: low water inlet temperature in heating mode

Sequence number	DTC	Description
46	P1E86	Thermal management failure: water outlet temperature sensor failed
47	P1E26	Irreversible collision signal generated (CAN signal)
48	P1E27	Irreversible collision signal generated (PWM hard line)
49	U1E01	SCAN bus failed
50	P1E18	Current sensor failed
51	P1E19	High voltage circuit open
52	P1E88	Battery aging: battery health is too low (warning level)
53	P1E89	Battery aging: battery health is too low (fault level)
54	P1E06	Battery temperature sensor abnormal
55	P1E07	Insulation measurement failure
56	P1E16	Total voltage sensor failed
57	P0A9B	Temperature sensor failed (serious)
58	P1E8A	Balance stop reason: balance circuit failed
59	P1E8B	Balance stop reason: passive balance temperature above the upper limit
60	P1E8C	SOC unreasonable
61	U0290	S_CAN current message loss
62	P1EBA	Charging failure
63	P1E8D	CSU sampling abnormal
64	P1EBB	VCU requests to stop charging
65	P1EBC	VCU level 6 fault response timeout
66	P1E87	Thermal management failure: water outlet temperature sensor failed

# Diagnosis procedures for DTC (battery pack - BMS)

P1E6D: High cell voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the high voltage battery.	
	It is recommended to return to factory for repair.

# P1E6D: High cell voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the high voltage battery.	
	It is recommended to return to factory for repair.

# P1E6E: High cell voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corresion or poor circuit connection</li> </ul>
Step 2: Replace the high voltage battery.	
	It is recommended to return to factory for repair.

# P1E11: Low cell voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the high voltage battery.	
	It is recommended to return to factory for repair.

#### P1E1B: Low cell voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness,</li> </ul>
	corrosion, or poor circuit connection.
Step 2: Replace the high voltage battery.	
	It is recommended to return to factory for repair.

#### P1E70: Low cell voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the high voltage battery.	
	It is recommended to return to factory for repair.

# P1EDB: Cell voltage ununiform Test method Diagnostic steps Replace the high voltage battery. It is recommended to return to factory for repair.

### P0AFD: High total voltage

Test method	Diagnostic steps
Replace the high voltage battery.	
	It is recommended to return to factory for repair.

# P1EDB: Cell voltage ununiform Test method Diagnostic steps Replace the high voltage battery. It is recommended to return to factory for repair.

### PAFD: High total voltage

5	
Test method	Diagnostic steps
Replace the high voltage battery.	
	It is recommended to return to factory for repair.

#### P0AFC: Low total voltage

-	
Test method	Diagnostic steps
Replace the high voltage battery.	
	It is recommended to return to factory for repair.

#### BMS

# P1E80: Outer voltage higher than inner voltage (before high voltage)

Test method	Diagnostic steps
Replace the high voltage battery.	
	It is recommended to return to factory for repair.

# P1E81: High module temperature

Test method	Diagnostic steps
Replace the high voltage battery.	
	It is recommended to return to factory for repair.

# P1E82: High module temperature

Diagnostic steps
It is recommended to return to factory for repair.

# P1E83: High module temperature

Test method	Diagnostic steps
Replace the high voltage battery.	
	It is recommended to return to factory for repair.

0 00 0 0	
Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2-1: Inspect the circuits CP03B (black & g	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the connector pins of BMS control unit for looseness, corrosion, or poor circuit connection.</li> <li>reen) and CP03C (black &amp; green) between the</li> </ul>
BMS and the integrated MCU (independently-dev	veloped motor).
V + - Battery pack control unit connector 3 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green) and CP03C (black &amp; green).</li> </ul>
Step 2-2: Inspect the circuits CP03B (black & gre green) between the BMS and the VCU (Continent	een), CP03A (black & green) and CP03C (black & al AG motor).
V       +       Battery pack control unit connector       8     1       32     25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green), CP03A (black &amp; green) and CP03C (black &amp; green).</li> </ul>

# P1E0E: High discharging current during driving

Test method	Diagnostic steps
Step 3: Replace the motor.	
	A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Yes
	Go to Step 4.
	No
	Replace with a new motor.
Step 4: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

P1E1E: High	discharging	current	during drivi	ng

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
Step 2-1: Inspect the circuits CP03B (black & g BMS and the integrated MCU (independently-dev	reen) and CP03C (black & green) between the reloped motor).	
V + - Battery pack control unit connector 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green) and CP03C (black &amp; green).</li> </ul>	
Step 2-2: Inspect the circuits CP03B (black & gre green) between the BMS and the VCU (Continent	en), CP03A (black & green) and CP03C (black & al AG motor).	
V + - Battery pack control unit connector 8 1 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green), CP03A (black &amp; green) and CP03C (black &amp; green).</li> </ul>	

Test method	Diagnostic steps
Step 3: Replace the motor.	
	A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Yes
	Go to Step 4.
	No
	Replace with a new motor.
Step 4: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

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Test method Diagnostic steps		
Step 1: Inspect the DTC.		
	A. Connect the scan tool and clear DTC.	
	B. Turn off the start switch and turn it on again.	
	C. Read the DTC again, and inspect if there is	
	any DTC.	
	Yes	
	Go to Step 2.	
	This is an accidental fault, in this case, inspect	
	looseness corrosion or poor circuit connection	
Stop 2.1. Increat the aircuite CD02P (black & gr	and CR02C (block & groon) between the	
BMS and the integrated MCU (independently-deve	en) and CP05C (black & green) between the sloped motor).	
	A. Turn off the start switch.	
	B. Disconnect the BMS connector DEV15.	
	C. Inspect if the voltage between the terminal 7	
$( \Rightarrow \bigcirc )$	of the DEV15 connector and ground is greater	
	than 10 v.	
	res	
	No	
	If conducting the circuit is short to newer supply	
	in this case, repair the circuits CP03B (black &	
	green) and CP03C (black & green).	
Step 2-2: Inspect the circuits CP03B (black & gree	en), CP03A (black & green) and CP03C (black &	
green) between the BMS and the VCU (Continenta	Il ÁG motor).	
	A. Turn off the start switch.	
ν	B. Disconnect the BMS connector DEV15.	
	C. Inspect if the voltage between the terminal 7	
$[] \bigcirc \bigcirc$	of the DEV15 connector and ground is greater	
	la it not conducting?	
Battery pack control unit connector	Go to Step 3	
	No	
	If conducting the circuit is short to power supply	
	in this case, repair the circuits CP03B (black &	
	green), CP03A (black & green) and CP03C	
	(black & green).	

Test method	Diagnostic steps
Step 3: Replace the motor.	
	A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Yes
	Go to Step 4.
	No
	Replace with a new motor.
Step 4: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

#### P1E8C: High driving feed current

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
Step 2-1: Inspect the circuits CP03B (black & gre	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.</li> <li>en) and CP03C (black &amp; green) between the BMS</li> </ul>	
and the integrated MCU (independently-developed	ed motor).	
V + - Battery pack control unit connector 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green) and CP03C (black &amp; green).</li> </ul>	
Step 2-2: Inspect the circuits CP03B (black & green) between the BMS and the VCU (Continent	een), CP03A (black & green) and CP03C (black & tal AG motor).	
V + - Battery pack control unit connector 3 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green), CP03A (black &amp; green) and CP03C (black &amp; green)</li> </ul>	

Test method	Diagnostic steps
Step 3: Replace the motor.	
	<ul> <li>A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> <li>Go to Step 4.</li> </ul>
	No
	Replace with a new motor.
Step 4-1: Replace the integrated MCU (independe	ntly-developed motor).
	A. Replace with a new integrated MCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new integrated MCU.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Go to Step 5.
	No
	Replace with a new integrated MCU.
Step 4-2: Replace the VCU (Continental AG motor).	
	A. Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Yes
	Go to Step 5.
	No
	Replace with a new VCU.
Step 5: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

P1E8D: High driving feed current

Step 1: Inspect the DTC.     A. Connect the scan tool and clear DTC.       B. Turn off the start switch and turn it on again.       C. Read the DTC again, and inspect if there is any DTC		
Step 1: Inspect the DTC.         A. Connect the scan tool and clear DTC.         B. Turn off the start switch and turn it on again.         C. Read the DTC again, and inspect if there is any DTC.		Diagnostic steps
<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> </ul>	Step 1: Inspect the DTC.	
B. Turn off the start switch and turn it on again. C. Read the DTC again, and inspect if there is		A. Connect the scan tool and clear DTC.
C. Read the DTC again, and inspect if there is		B. Turn off the start switch and turn it on again.
		C. Read the DTC again, and inspect if there is
any DTC.		any DTC.
Yes		Yes
Go to Step 2.		Go to Step 2.
Νο		Νο
This is an accidental fault, in this case, inspec		This is an accidental fault, in this case, inspect
the pins of BMS control unit connector for		the pins of BMS control unit connector for
connection		connection
Sten 2-1: Inspect the circuits CP03B (black & green) and CP03C (black & green) between the	Sten 2-1: Inspect the circuits CD03B (black & a	and CP03C (black & green) between the
BMS and the integrated MCU (independently-developed motor).	BMS and the integrated MCU (independently-dev	eloped motor).
A. Turn off the start switch.		A. Turn off the start switch.
B. Disconnect the BMS connector DEV15.	V	B. Disconnect the BMS connector DEV15.
C. Inspect if the voltage between the terminal 7		C. Inspect if the voltage between the terminal 7
+ -     of the DEV15 connector and ground is greater	$( \cdot ) ( - )$	of the DEV15 connector and ground is greater
than 10 V.		than 10 V.
		Yes
Battery pack control unit Connector	Battery pack control unit	Go to Step 3.
8 1 NO	8 1	Νο
If conducting, the circuit is short to power		If conducting, the circuit is short to power
UBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB		supply, in this case, repair the circuits CP03B (block & groop) and CP03C (block & groop)
	32 25	(black & green) and CF05C (black & green).
Stop 2-2: Inspect the circuits CP03B (black & groop) CP03A (black & groop) and CP03C (black &	Stop 2-2: Inspect the circuits CB03B (black & ar	n) CP03A (black & groon) and CP03C (black &
green) between the BMS and the VCU (Continental AG motor).	green) between the BMS and the VCU (Continent	I AG motor).
A. Turn off the start switch.		A. Turn off the start switch.
B. Disconnect the BMS connector DEV15.		B. Disconnect the BMS connector DEV15.
C. Inspect if the voltage between the terminal 7		C. Inspect if the voltage between the terminal 7
(+) (-) of the DEV15 connector and ground is greate	(+)	of the DEV15 connector and ground is greater
than 10 V.		than 10 V.
L Is it not conducting?		Is it not conducting?
Battery pack control unit Yes	Battery pack control unit	Yes
Go to Step 3.		Go to Step 3.
		No
UBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBBB		If conducting, the circuit is short to power
32 25 supply, in this case, repair the circuits CP03E	32 25	supply, in this case, repair the circuits CP03B
(black & green), CP03A (black & green) and CP03C (black & green)		(black & green), CP03A (black & green) and CP03C (black & green)

Test method	Diagnostic steps
Step 3: Replace the motor.	
	<ul> <li>A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> </ul>
	Go to Step 4.
	No
	Replace with a new motor.
Step 4-1: Replace the integrated MCU (independe	ently-developed motor).
	A. Replace with a new integrated MCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new integrated MCU.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Tes
	No
	Replace with a new integrated MCU.
Step 4-2: Replace the VCU (Continental AG moto	r).
	A. Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Yes
	Go to Step 5.
	Replace with a new VCU.
Step 5: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

#### P1E8E: High driving feed current

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2-1: Inspect the circuits CP03B (black & g BMS and the integrated MCU (independently-dev	reen) and CP03C (black & green) between the reloped motor).
V + Battery pack control unit connector 8 1 1 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green) and CP03C (black &amp; green).</li> </ul>
Step 2-2: Inspect the circuits CP03B (black & gre green) between the BMS and the VCU (Continent	een), CP03A (black & green) and CP03C (black & al AG motor).
v $+ -$ Battery pack control unit connector $1$ $3$ $32$ $25$	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green), CP03A (black &amp; green) and CP03C (black &amp; green).</li> </ul>

Test method	Diagnostic steps
Step 3: Replace the motor.	
	<ul> <li>A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> </ul>
	Go to Step 4.
	Νο
	Replace with a new motor.
Step 4-1: Replace the integrated MCU (independe	ntly-developed motor).
	A. Replace with a new integrated MCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new integrated MCU.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	tes Go to Step 5
	No
	Replace with a new integrated MCU.
Step 4-2: Replace the VCU (Continental AG moto	r).
	A. Replace with a new VCU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new VCU.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Yes
	Go to Step 5.
	No
	Replace with a new VCO.
Step 5: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

## P0A7D: High charging current

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuits CP03B (black & great and the OBC.	een) and CP03 (black & green) between the BMS
V + - Battery pack control unit connector 8 1 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green) and CP03C (black &amp; green).</li> </ul>
Step 3: Replace the motor.	
	<ul> <li>A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>Replace with a new motor.</li> </ul>
Step 4: Replace the BMS.	· · ·
-	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

# P1E90: High charging current

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits CP03B (black & greer	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.</li> <li>and CP03 (black &amp; green) between the BMS</li> </ul>
and the OBC.	
V + - Battery pack control unit connector 8 1 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green) and CP03C (black &amp; green).</li> </ul>
Step 3: Replace the motor.	
	<ul> <li>A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>Replace with a new motor.</li> </ul>
Step 4: Replace the BMS.	1
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

#### P1E1D: High charging current

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits CP03B (black & green	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.</li> <li>) and CP03 (black &amp; green) between the BMS</li> </ul>
and the OBC.	
V + - Battery pack control unit connector 8 1 1 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green) and CP03C (black &amp; green).</li> </ul>
Step 3: Replace the motor.	
	<ul> <li>A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>Replace with a new motor.</li> </ul>
Step 4: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

# P0A0C: High voltage interlock circuit failed

Test method	Diagnostic steps
Step 1: Inspect the DTC.	1
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of high voltage interlock connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect circuits 1517 (yellow) and 1518 (black) between the BMS and the high voltage power distribution box.	
	A. Turn off the start switch. B. Disconnect the BMS connector DEV15. C. Disconnect the high voltage power distribution box connector IC32. D. Inspect if the resistance between the terminals 14 and 15 of the BMS connector and the terminals C and D of the high voltage power distribution box connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminals C and D of high voltage power distribution box connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the circuits 1517 (yellow) and 1518 (black).
Step 3: Replace the high voltage power distributi	on box. Replace with a new high voltage power distribution box that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new high voltage power distribution box.

#### P0562: Low battery voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of battery connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the battery.	
	A. Inspect if the battery failed.
	Yes
	Replace the battery.
	No
	Charge the battery.

## P0563: High battery voltage

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any
	DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of battery connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the battery.	
	Replace with a new battery.



Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuits CP03B (black & gree green) between the BMS and the VCU.	en), CP03A (black & green) and CP03C (black &
$\begin{array}{  c c c c c c c c c c c c c c c c c c $	A. Turn off the start switch. B. Disconnect the BMS connector DEV15. C. Disconnect the VCU connector. D. Inspect if the resistance between the terminal 7 of the BMS connector and the terminal 2 of the VCU connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of BMS connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits CP03B (black & green), CP03A (black & green) and CP03C (black & green).
Step 3: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.
### U0073: busoff (vehicle ACAN)

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of BMS connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the CAN line.	
	A. Inspect if the CAN line is faulty.
	Yes
	Repair the line according to the circuit diagram.
	No
	Replace with a new CAN that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new CAN.

#### P1EB8: OBC failed

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of OBC connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuits CP03B (black & green and the OBC.	n) and CP03 (black & green) between the BMS
Image: Control unit connector         Image: Control unit connector </th <th>A. Turn off the start switch. B. Disconnect the BMS connector. C. Disconnect the OBC connector. D. Inspect if the resistance between the terminal 7 of the BMS connector and the terminal 1 of the OBC connector is less than 5 <math>\Omega</math>. E. Inspect the continuity between the terminal 7 of BMS connector and ground. Is it less than 5 <math>\Omega</math>? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 <math>\Omega</math>, the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits CP03B (black &amp; green) and CP03 (black &amp; green).</th>	A. Turn off the start switch. B. Disconnect the BMS connector. C. Disconnect the OBC connector. D. Inspect if the resistance between the terminal 7 of the BMS connector and the terminal 1 of the OBC connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of BMS connector and ground. Is it less than 5 $\Omega$ ? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits CP03B (black & green) and CP03 (black & green).
Step 3: Replace the OBC.	
	Replace with a new OBC that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new OBC.

### P1EB9: non-OBC failed

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Stop 2: Increase the circuite CR02R (black % gros	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of OBC connector for looseness, corrosion, or poor circuit connection.</li> </ul>
and the OBC.	in) and CP03 (black & green) between the BMS
Image: Control unit connector       Image: Connector	A. Turn off the start switch. B. Disconnect the BMS connector. C. Disconnect the OBC connector. D. Inspect if the resistance between the terminal 7 of the BMS connector and the terminal 1 of the OBC connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of BMS connector and ground. Is it less than 5 $\Omega$ ? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits CP03B (black & green) and CP03 (black & green).
Step 3: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

Troubleshooting

### U1E01: SCAN bus failed

Test method	Diagnostic steps
Step 1: Inspect the DTC.	·
Step 2: Inspect the circuits 9020 (blue), 9020A (blu	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the connector pins of SCAN bus connector for looseness, corrosion, or poor circuit connection.</li> <li>e) and 9020C (blue) between the BMS and the</li> </ul>
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector.</li> <li>C. Disconnect the DLC connector C001.</li> <li>D. Inspect if the resistance between the terminal 19 of the BMS connector and the terminal 1 of the DLC connector is less than 5 Ω.</li> <li>E. Inspect the continuity between the terminal 19 of BMS connector and ground.</li> <li>Is it less than 5 Ω?</li> <li>Is it not conducting?</li> <li>Yes</li> </ul>
Battery pack control unit connector 32 25	Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 9020 (blue), 9020A (blue) and 9020C (blue).



# U1E88: Battery aging: battery health is too low (fault level)

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of battery connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the battery.	
	Replace with a new battery.

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul><li>A. Connect the scan tool and clear DTC.</li><li>B. Turn off the start switch and turn it on again.</li><li>C. Read the DTC again, and inspect if there is any DTC.</li></ul>
	Yes Go to Step 2. No
	This is an accidental fault, in this case, inspect the pins of battery connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the battery.	
	Replace with a new battery.

## U1E89: Battery aging: battery health is too low (fault level)

### P1E07: Insulation measurement failure

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the connector pins of isolated resistor connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the isolated resistor.	
	Replace with a new isolated resistor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new isolated resistor.

## P1E8A: Balance stop reason: balance circuit failed

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Test method	Diagnostic steps	
Step 1: Replace the high voltage battery.		
	It is recommended to return to factory for repair.	
P1E8B: Balance stop reason: passive balance temperature above the upper limit		
Test method	Diagnostic steps	
Step 1: Replace the high voltage battery.		
	It is recommended to return to factory for repair.	

### P1E8C: SOC unreasonable

Test method	Diagnostic steps
Step 1: Replace the SOC.	
	Replace with a new SOC that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new SOC.

### U0290: S\_CAN current message loss

 Test method	Diagnostic steps
Sten 1: Inspect the DTC	
	A Connect the open tool and clear DTC
	A. Connect the scan tool and clear DTC.
	B. Turn on the start switch and turn it on again.
	any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the connector pins of SCAN bus connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the circuits 9020 (blue), 9020A (blue)	ue) and 9020C (blue) between the BMS and the
	A. Turn off the start switch.
	B. Disconnect the BMS connector.
	C. Disconnect the DLC connector C001.
	D. Inspect if the resistance between the
Scan tool (C001)	terminal 19 of the BMS connector and the
Ω	
Battery pack control	E Inspect the continuity between the terminal
	19 of BMS connector and ground.
│║┇┇┇┇┇ <mark>╔╗╒╢</mark> ╶╧┙┽╸│	Is it less than 5 $\Omega$ ?
	Is it not conducting?
	Yes
	Go to Step 3.
-3))	Νο
	If the resistance is not less than 5 $\Omega$ , the circuit
	is open or poorly connected; if the circuit is
	in this case, repair the circuit short to ground,
Battery pack control	9020A (blue) and 9020C (blue).
32 25	



### P1EBA: Charging fault

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits CP03B (black & gro	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>
and the OBC.	
V + - Battery pack control unit connector 3 1 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green) and CP03C (black &amp; green).</li> </ul>
Step 3: Replace the motor.	
	<ul> <li>A. Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.</li> <li>B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>Replace with a new motor.</li> </ul>
Step 4: Replace the BMS.	
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.

Troubleshooting

## P1E8D: CSU sampling abnormal

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Test method	Diagnostic steps
Step 1: Replace the CSU.	
	Replace with a new CSU that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new CSU.

## P1EBC: VCU level 6 fault response timeout

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of BMS control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
Step 2: Inspect the circuits CP03B (black & green), CP03A (black & green) and CP03C (black & green) between the BMS and the VCU (Continental AG motor).		
V + - Battery pack control unit connector 8 1 32 25	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BMS connector DEV15.</li> <li>C. Inspect if the voltage between the terminal 7 of the DEV15 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits CP03B (black &amp; green), CP03A (black &amp; green) and CP03C (black &amp; green).</li> </ul>	
Step 3: Replace the BMS.		
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.	



DTC	Fault name	Possible causes	It is recommended to repair it.
U0073	CAN Busoff	The number of sent errors on counter is 255 or greater.	Inspect the wire harness and connector and other control units.
C1130	Switch power line - circuit short to ground or open	Switch solder joints, circuits, switch wire harnesses, switch connectors, EPB, EPB connectors	Inspect the 6-wire switch wire harness.
C1133	Inspect the pulled-up switch – circuit short to power supply	Switch solder joints, circuits, switch wire harnesses, switch connectors, EPB wire harnesses, EPB connectors	Inspect the 6-wire switch wire harness.
C1133	Inspect the pulled-up switch - no signal	Switch solder joints, circuits, switch wire harnesses, switch connectors, EPB, EPB connectors	Inspect the 6-wire switch wire harness.
C1133	Inspect the pulled-up switch - circuit short to ground or open	Switch solder joints, circuits, switch wire harnesses, switch connectors, EPB wire harnesses, EPB connectors	Inspect the 6-wire switch wire harness.
C1134	Inspect the released switch – circuit short to power supply	Switch solder joints, circuits, switch wire harnesses, switch connectors, EPB wire harnesses, EPB connectors	Inspect the 6-wire switch wire harness.
C1134	Inspect the released switch - no signal	Switch solder joints, circuits, switch wire harnesses, switch connectors, EPB, EPB connectors	Inspect the 6-wire switch wire harness.
C1134	Inspect the released switch - circuit short to ground or open	Switch solder joints, circuits, switch wire harnesses, switch connectors, EPB wire harnesses, EPB connectors	Inspect the 6-wire switch wire harness.
C1135	Switch is seized during pulling up - pulled-up switch is seized	Switch solder joints, circuits, switch wire harnesses, switch connectors, EPB, EPB connectors	Inspect the 6-wire switch wire harness.
C1136	Switch is seized during pulling up - released switch is seized	Switch solder joints, circuits, switch wire harnesses, switch connectors, EPB wire harnesses, EPB connectors	Inspect the 6-wire switch wire harness.
C1100	High voltage - overvoltage of ECU	Wire harnesses and connectors of vehicle power system	<ol> <li>Measure the power voltage.</li> <li>If abnormal, replace the engine system.</li> </ol>
C1100	Re-power on	Wire harnesses and connectors of vehicle power system	1. Re-power on and perform manual operation to see if the power system is normal. 2. If there is still a fault, inspect the wiring resistance of the power system.
C1101	IGN line disconnected	Wire harness and connector	1. In the ignition state, measure the start switch voltage of the EPB wire harness interface; 2. If low level, inspect the start switch circuit.
U0293	Loss communication with VCU	Wire harness and connector	Inspect the EMS control system.
U0121	Loss communication with ABS/ESP	Control unit, wire harness and connector of ESP	Inspect the ESP control system.
U0140	Loss communication with BCM	Wire harness and connector	Inspect the BCM control system.
U0116	Loss communication with AC	Wire harness and connector	Inspect the MG control system.
U0401	Receiving invalid data from VCU	EMS control unit	Inspect the EMS control system.

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DTC	Fault name	Possible causes	It is recommended to repair it.
U0403	Receiving invalid data from ABS/ESP	ESP control unit	Inspect the ESP control system.
C1160	ECU hardware	EPB module welding, elements	Replace with a new ECU of EPB.
C0574	PCB temperature sensor fault	Ambient temperature for element power consumption	If the ambient temperature is normal and the fault cannot disappear, replace the ECU of EPB.
C11B0	Left motor circuit open or failed	Wire harness, connector, motor winding	Inspect the motor and motor wiring.
C11B1	Right motor circuit open or failed	Wire harness, connector, motor winding	Inspect the motor and motor wiring.
C11B2	Left motor-driven relay failure	EPB module welding, elements	Replace with a new ECU of EPB.
C11B3	Right motor-driven relay failure	EPB module welding, elements	Replace with a new ECU of EPB.
C11B4	Left motor overcurrent	Motor abnormal, connector short, wire harness short, mechanism seized	Inspect the calipers, motor and motor wiring.
C11B5	Right motor overcurrent	Motor abnormal, connector short, wire harness short, mechanism seized	Inspect the calipers, motor and motor wiring.
C11B6	Left motor works for a long time	Transmission failure, mechanism damaged	Inspect the calipers, motor and motor wiring.
C11B7	Right motor works for a long time	Transmission failure, mechanism damaged	Inspect the calipers, motor and motor wiring.
C11B8	Left current detection circuit open	EPB module welding, elements	Replace with a new ECU of EPB.
C11B9	Right current detection circuit open	EPB module welding, elements	Replace with a new ECU of EPB.
C11BA	Left current detection circuit signal abnormal	EPB module welding, elements	Replace with a new ECU of EPB.
C11BB	Right current detection circuit signal abnormal	EPB module welding, elements	Replace with a new ECU of EPB.
C11BC	Left EPB uninitialized or failed to initialize	Offline operation is not completed.	<ol> <li>Ensure that the calipers, motor, and signals are normally initialized.</li> <li>Engage it during service.</li> </ol>
C11BD	Right EPB uninitialized or failed to initialize	Offline operation is not completed.	<ol> <li>Ensure that the calipers, motor, and signals are normally initialized.</li> <li>Engage it during service.</li> </ol>
C11BF	EPB slope sensor is abnormal.	EPB module welding, elements	Replace the ECCU of EPB.
C11C0	EPB slope sensor is not calibrated.	Offline operation is not completed.	Calibrate the slope on a flat road after the vehicle is stabilized.

# Diagnosis procedures for DTC (electronic parking brake - EPB) U0073: CAN Bus off

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	A. Connect the scan tool and clear DTC.	
	B. Turn off the start switch and turn it on again.	
	C. Read the DTC again, and inspect if there is any DTC.	
	Yes	
	Go to Step 2.	
	No	
	This is an accidental fault, in this case, inspect the pins of BMS connector for looseness, corrosion, or poor circuit connection.	
Step 2: Inspect the CAN line.		
	A. Inspect if the CAN line is faulty.	
	Yes	
	Repair the line according to the circuit diagram.	
	No	
	Replace with a new CAN that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new CAN.	

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> </ul>	
	This is an accidental fault, in this case, inspect the pins of EPB switch connector for looseness, corrosion, or poor circuit connection	
Step 2: Inspect the fuse box F7 (10A) in the passe	enger compartment.	
	<ul> <li>A. Inspect whether the fuse box F7 (10A) in the passenger compartment is blown out.</li> <li>Is the fuse blown out?</li> <li>Yes</li> <li>Replace the fuse box F7 (10A) in the engine compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short circuit part according to the circuit diagram.</li> <li>No</li> </ul>	
	Go to Step 3.	
Step 3: Inspect the circuits B471 (black & blue) a passenger compartment and the EPB switch.	and 5016 (orange) between the fuse box in the	
$F = \frac{1}{2}$	A. Turn off the start switch. B. Disconnect the connector of the fuse box in the passenger compartment. C. Disconnect the EPB switch connector D615. D. Inspect if the resistance between the terminal 10 the fuse box in the passenger compartment and the terminal 8 of the EPB switch connector is less than 5 $\Omega$ . Is it less than 5 $\Omega$ ? <b>Yes</b> Go to Step 4. <b>No</b> The circuit is open or poorly connected, in this case, repair the circuits B471 (black & blue) and 5620 (orange).	
Step 4: Replace the EPB switch.		
	Replace with a new EPB switch that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB switch.	

# C1130: Switch power line - circuit short to ground or open

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
Step 2: Inspect the circuit 8903 (brown) between the transformation of the transformati	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB switch connector for looseness, corrosion, or poor circuit connection.</li> <li>the EPB control unit and the EPB switch.</li> <li>A. Turn off the start switch.</li> <li>B. Disconnect the EPB switch connector D615.</li> <li>C. Inspect if the voltage between the terminal 28 of the EPB switch connector and ground is greater than 10 V.</li> <li>Yes</li> <li>The circuit is short to the power supply, in this case, repair the circuit 8903 (brown).</li> <li>No</li> <li>Go to Step 3.</li> </ul>	
Step 3: Replace the EPB control unit.		
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.	

# C1133: Inspect the pulled-up switch – circuit short to power supply

or 134. Inspect the released switch – circuit short to power suppry		
Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB switch connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
V + - - - - - - - - - - - - - -	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the EPB switch connector D615.</li> <li>C. Inspect if the voltage between the terminal 23 of the EPB switch connector and ground is greater than 10 V.</li> <li>Yes</li> <li>The circuit is short to the power supply, in this case, repair the circuit 8906 (purple).</li> <li>No</li> <li>Go to Step 3.</li> </ul>	
EPB (D8201) Step 3: Replace the EPB control unit.	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.	

## C1134: Inspect the released switch – circuit short to power supply

# C1135: Switch is seized during pulling up - pulled-up switch is seized

Test method	Diagnostic steps
Step 1: Replace the EPB switch.	
	A. Replace with a new EPB switch that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB switch.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Yes
	Go to Step 2.
	No
	Replace with a new EPB switch.
Step 2: Replace the EPB control unit.	
	Replace with a new EPB control unit switch that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB switch.

## C1136: Switch is seized during releasing - pulled-up switch is seized

Test method	Diagnostic steps
Step 1: Replace the EPB switch.	
	A. Replace with a new EPB switch that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB switch.
	B. Re-diagnose, read the DTCs, and inspect if there are any DTCs and symptoms?
	Yes
	Go to Step 2.
	No
	Replace with a new EPB switch.
Step 2: Replace the EPB control unit.	
	Replace with a new EPB control unit switch that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB switch.

C1100: High voltage - overvoltage of ECU

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the</li> </ul>
	pins of EPB control unit connector for looseness,
Stop 2: Inspect the fuse box $SP4 (40A)$ in the dri	Conosion, or poor circuit connection.
Step 2. Inspect the fuse box SB4 (40A) in the dri	A. Inspect whether the fuse box SB4 (40A) in the drive motor compartment is blown out. Is the fuse blown out? Yes Replace the fuse box SB4 (40A) in the drive motor compartment and inspect whether the system operates properly. If the fuse is blown out again
	overhaul short circuit part according to the circuit diagram. No Go to Step 3.
Step 3: Inspect the circuits B102 (white), B102A (white),	B102 (white) and B102A (white) between the fuse box in
the drive motor compartment and the EPB control unit.	A Turn off the start switch
v	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the EPB control unit connector D8201.</li> <li>C. Inspect if the voltage between the terminal 1 of the EPB D8201 connector and ground is greater than 10 V.</li> <li>Yes</li> </ul>
1     2     3     4     5       6     7     8     9     10	case, repair the circuits B102 (white), B102A (white), B102 (white) and B102A (white). No Go to Step 3.
Step 4: Inspect the circuits B102 (white), B102A (white), the drive motor compartment and the EPB control unit.	B102 (white) and B102B (white) between the fuse box in
$ \begin{array}{c}     \hline                                $	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the EPB control unit connector D8201.</li> <li>C. Inspect if the voltage between the terminal 5 of the EPB D8201 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>The circuit is short to the power supply, in this case, repair the circuits B102 (white), B102A (white), B102 (white) and B102B (white).</li> <li>No</li> <li>Go to Step 5.</li> </ul>

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Test method	Diagnostic steps
Step 5: Replace the EPB control unit.	
	Replace with a new EPB control unit switch that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit switch.

C1100: High voltage - overvoltage of ECU

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion or poor circuit connection</li> </ul>
Step 2: Inspect the fuse box F18 (10A) in the pas	senger compartment.
	A. Inspect whether the fuse box F18 (10A) in the passenger compartment is blown out. Is the fuse blown out? Yes Replace the fuse box F18 (10A) in the passenger compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short circuit part according to the circuit diagram. No
Step 3: Inspect the circuits C55A (grav), C55E (c	ray) and 1392C (green) between the fuse box in
the passenger compartment and the EPB contro	l unit.
$\begin{array}{c c c c c c c c c c c c c c c c c c c $	A. Turn off the start switch. B. Disconnect the connector of the fuse box in the passenger compartment. C. Disconnect the EPB control unit connector D8201. D. Inspect if the resistance between the terminal 13 the fuse box connector in the passenger compartment and the terminal 21 of the EPB Control unit connector is less than 5 $\Omega$ . Is it less than 5 $\Omega$ ? Yes Go to Step 4. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected, in this case, repair the circuits C55A (gray), C55E (gray) and 1392C (green).
Step 4: Replace the EPB control unit.	Doploop with a new CDD assisted with that it
	confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.

Troubleshooting

## C1100: Re-power on

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the power supply resistor.	
	Replace with a new resistor of the same size that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new resistor.

C1101: IGN line disconnected

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the fuse box F18 (10A) in the pase	senger compartment.
Step 3: Inspect the circuits C55A (gray), C55E (g the passenger compartment and the EPB control $\boxed{\begin{array}{c} \hline \hline$	A. Inspect whether the fuse box F18 (10A) in the passenger compartment is blown out. Is the fuse blown out? Yes Replace the fuse box F18 (10A) in the passenger compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short circuit part according to the circuit diagram. No Go to Step 3. ray) and 1392C (green) between the fuse box in unit. A. Turn off the start switch. B. Disconnect the connector of the fuse box in the passenger compartment. C. Disconnect the EPB control unit connector D8201. D. Inspect if the resistance between the terminal 13 the fuse box connector in the passenger compartment and the terminal 21 of the EPB Control unit connector is less than 5 $\Omega$ . Yes Go to Step 4. No If the resistance is not less than 5 $\Omega$ , the circuit is paper or property connector is the accurate is the accurate in the part of the circuit is
	conducting, the circuit is short to the ground, in this case repair the circuits C554 (gray) C555
	(gray) and 1392C (green).
Step 4: Replace the EPB control unit.	
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.

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### U0293: Loss communication with VCU

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits 9000J (blue) and 900	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.</li> <li>00B (blue) between the EPB control unit and the</li> </ul>
VCU.	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	A. Turn off the start switch. B. Disconnect the EPB control unit connector D8201. C. Disconnect the VCU connector. D. Inspect if the resistance between the terminal 32 of the EPB control unit connector and the terminal 21 of the VCU connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 32 of EPB control unit connector and ground. Is it less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 9000J (blue) and 9000B (blue).
EPB (D8201)	



# U0140: Loss communication with BCM

EPB(D8201)

00140. LOSS COMMUNICATION WITH DOW	
Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuits 9000J (blue) and 9000K (blue) between the EPB control unit and the BCM.	
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	A. Turn off the start switch. B. Disconnect the EPB control unit connector D8201. C. Disconnect the BCM connector. D. Inspect if the resistance between the terminal 32 of the EPB control unit connector and the terminal 19 of the BCM connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 32 of EPB control unit connector and ground. Is it less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b>
•>>         •>>         •	Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 9000J (blue) and 9000K (blue).



U0401: Receiving invalid data from VCU

00401: Receiving Invalid data from VCU	
Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuits 9000J (blue) and 9000 VCU.	0B (blue) between the EPB control unit and the
$ \begin{array}{c c} \hline & & & & \\ & & & \\ \hline 1 & 2 & 3 & 4 & 5 \\ \hline & 1 & 2 & 3 & 4 & 5 \\ \hline & & & \\ \hline \\ \hline$	A. Turn off the start switch. B. Disconnect the EPB control unit connector D8201. C. Inspect the continuity between the terminal 32 of EPB control unit connector and ground. Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 9000J (blue) and 9000B (blue). <b>1B</b> (pink) between the EPB control unit and the
VCU.	
$ \begin{array}{c c} \hline & & & & \\ \hline 1 & 2 & 3 & 4 & 5 & 6 & 78 & 9 & 10 \\ \hline & & & & \\ \hline & & & & \\ \hline & & & & \\ \hline & & & &$	A. Turn off the start switch. B. Disconnect the EPB control unit connector D8201. C. Inspect the continuity between the terminal 27 of EPB control unit connector and ground. Is it not conducting? Yes Go to Step 4. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the circuits 9001J (pink) and 9001B (pink).
Step 4: Replace the EMS control Unit.	Poploop with a new FMC perturb with that is
	confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EMS control unit.

### C1160: ECU hardware

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the EPB control unit.	
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.

# C0574: PCB temperature sensor

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the EPB control unit.	
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.

## C11B0: Left motor circuit open or failed

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the circuit 7040 (white) between t	he EPB control unit and the left motor.
	A. Turn off the start switch.
<i>(</i> )	B. Disconnect the EPB control unit connector D8201.
$(\div, \bigcirc)$	C. Disconnect the left motor connector D8210.
	D. Inspect the continuity between the terminal 17 of EPB control unit connector and ground.
=	Is it not conducting?
	Yes
	Go to Step 3.
EPB (D8201)	No
	If conducting, The circuit is circuit short to ground, in this case, repair the circuit 7040 (white).
Step 3: Inspect the circuit 7041 (black) between the	he EPB control unit and the left motor.
	A. Turn off the start switch.
-**)	B. Disconnect the EPB control unit connector D8201.
$( \cdot ) \bigcirc$	C. Disconnect the left motor connector D8210.
	D. Inspect the continuity between the terminal 16 of EPB control unit connector and ground.
	Is it not conducting?
1112 1314 1514 17 1910002122 2929203132	Yes
1 2 3 4 5 6 7 8 9 10 2324252627	Go to Step 4.
EPB (D8201)	NO
	in this case, repair the circuit 7041 (black).
Step 4: Replace the EPB control unit.	
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.
C11B1: Right motor circuit open or failed

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect the circuit 7050 (white) between t	he EPB control unit and the right motor.
	A. Turn off the start switch.
•))	B. Disconnect the EPB control unit connector D8201.
$( \mathbf{r} \mathbf{r} \mathbf{r} \mathbf{r} \mathbf{r} \mathbf{r} \mathbf{r} \mathbf{r}$	C. Disconnect the right motor connector D8210.
	D. Inspect the continuity between the terminal 15
	of EPB control unit connector and ground.
	Is it not conducting?
11 12 13 14 15 16 17 18 19 20 21 22 28 29 30 31 32	Tes
1         2         3         4         5         6         7         8         9         10         23242526         23           EPB (D8201)	
	If conducting. The circuit is circuit short to around
	in this case, repair the circuit 7050 (white).
Step 3: Inspect the circuit 7051 (black) between t	he EPB control unit and the left motor.
	A. Turn off the start switch.
•))	B. Disconnect the EPB control unit connector D8201.
$( \rightarrow \bigcirc )$	C. Disconnect the left motor connector D8210.
	D. Inspect the continuity between the terminal 3 of EPB control unit connector and ground.
	Is it not conducting?
	Yes
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Go to Step 4.
	NO
	in this case, repair the circuit 7051 (black).
Step 4: Replace the EPB control unit.	
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.

## C11B2: Left motor-driven relay failure

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	A. Connect the scan tool and clear DTC.	
	B. Turn off the start switch and turn it on again.	
	C. Read the DTC again, and inspect if there is any DTC.	
	Yes	
	Go to Step 2.	
	No	
	This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.	
Step 2: Replace the EPB control unit.		
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.	

# C11B3: Right motor-driven relay failure

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the EPB control unit.	
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.

## C11B4: Left motor overcurrent

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection</li> </ul>
Step 2: Inspect the circuit 7040 (white) between the second s	he EPB control unit and the left motor.
Image: wide wide wide wide wide wide wide wide	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the left motor connector D8210.</li> <li>C. Inspect the continuity between the terminal 17 of EPB control unit connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, The circuit is circuit short to ground, in this case, repair the circuit 7040 (white).</li> </ul>
Step 3: Replace the motor.	
	Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.

#### C11B5: Right motor overcurrent

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness,</li> </ul>
	corrosion, or poor circuit connection.
Step 2: Inspect the circuit 7050 (white) between the	he EPB control unit and the right motor.
•     •       • <th><ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the right motor connector D8210.</li> <li>C. Inspect the continuity between the terminal 15 of EPB control unit connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, The circuit is circuit short to ground, in this case, repair the circuit 7050 (white).</li> </ul></th>	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the right motor connector D8210.</li> <li>C. Inspect the continuity between the terminal 15 of EPB control unit connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, The circuit is circuit short to ground, in this case, repair the circuit 7050 (white).</li> </ul>
Step 3: Replace the motor.	
	Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.

## C11B6: Left motor works for a long time

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Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the motor.	
	Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.

## C11B7: Right motor works for a long time

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the motor.	
	Replace with a new motor that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new motor.

C11B8: Left	current	detection	circuit open	ì
				-

orrbo: Lent current detection circuit open	
Test method Diagnostic steps	
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuit 7040 (white) between the	he EPB control unit and the left motor.
V + - - - - - - - - - - - - - -	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the EPB control unit connector D8201.</li> <li>C. Inspect if the voltage between the terminal 17 of the EPB D8201 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuit 7040 (white).</li> <li>No</li> <li>Go to Step 3.</li> </ul>
Step 3: Inspect the circuit 7040 (white) between the second secon	he EPB control unit and the left motor.
Ω     Image: Constraint of the second	A. Turn off the start switch. B. Disconnect the EPB control unit connector D8201. C. Disconnect the left motor connector D8210. D. Inspect if the resistance between the terminal 17 of the EPB control unit connector and the terminal 1 of the left motor connector is less than $5 \Omega$ . Is it less than $5 \Omega$ ? Yes Go to Step 4. No
	The circuit is open or poorly connected, in this case, repair the circuit 7040 (White).

Test method	Diagnostic steps	
Step 4: Inspect the circuit 7041 (black) between the EPB control unit and the left motor.		
V + - - 1112 1314 15 6 17 1819202122 1 2 3 4 5 6 7 8 9 10 2324252627 EPB (D8201)	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the EPB control unit connector D8201.</li> <li>C. Inspect if the voltage between the terminal 16 of the EPB D8201 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuit 7041 (black).</li> <li>No</li> <li>Go to Step 5.</li> </ul>	
Step 5: Inspect the circuit 7041 (black) between	the EPB control unit and the left motor.	
Ω       1       2         I       1       2         I       1       2         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       2       3         I       2       3         I       2       3         I       2       3         I       2       3         I       2       3         I       2       3         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1         I       1       1	A. Turn off the start switch. B. Disconnect the EPB control unit connector D8201. C. Disconnect the left motor connector D8210. D. Inspect if the resistance between the terminal 16 of the EPB control unit connector and the terminal 2 of the left motor connector is less than $5 \Omega$ . Is it less than $5 \Omega$ ? Yes Go to Step 6. No The circuit is open or poorly connected, in this case, repair the circuit 7041 (black).	
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.	

C11B9:	Right	current	detection	circuit op	en
0.1.00.		ounone	4010011011	on our op	

Test method Diagnostic steps	
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of EPB control unit connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuit 7050 (white) between t	he EPB control unit and the right motor.
V + - - - - - - - - - - - - - -	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the EPB control unit connector D8201.</li> <li>C. Inspect if the voltage between the terminal 15 of the EPB D8201 connector and ground is greater than 10 V.</li> <li>Yes</li> <li>The circuit is short to the power supply, in this case, repair the control circuit (7050 white).</li> <li>No</li> <li>Go to Step 3.</li> </ul>
Step 3: Inspect the circuit 7050 (white) between t	he EPB control unit and the right motor.
Ω     Image: 1       Image: 1     Image:	A. Turn off the start switch. B. Disconnect the EPB control unit connector D8201. C. Disconnect the right motor connector D8210. D. Inspect if the resistance between the terminal 15 of the EPB control unit connector and the terminal 1 of the right motor connector is less than $5 \Omega$ . Is it less than $5 \Omega$ ? Yes Go to Step 4. No
	The circuit is open or poorly connected, in this case, repair the circuit 7050 (White).

Test method	Diagnostic steps
Step 4: Inspect the circuit 7051 (black) between t	he EPB control unit and the right motor.
V + - - 1112 1314 51617 1819202122 1 2 3 4 5 6 7 8 9 10 2324252627 EPB (D8201)	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the EPB control unit connector D8201.</li> <li>C. Inspect if the voltage between the terminal 3 of the EPB control unit connector and ground is greater than 10 V.</li> <li>Yes</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuit 7051 (black).</li> <li>No</li> <li>Go to Step 5.</li> </ul>
Step 5: Inspect the circuit 7051 (black) between t	he EPB control unit and the right motor.
$\begin{array}{ c c c c c c c c c c c c c c c c c c c$	A. Turn off the start switch. B. Disconnect the EPB control unit connector D8201. C. Disconnect the left motor connector D8210. D. Inspect if the resistance between the terminal 3 of the EPB control unit connector and the terminal 2 of the left motor connector is less than 5 $\Omega$ . Is it less than 5 $\Omega$ ? Yes Go to Step 6. No The circuit is open or poorly connected, in this case, repair the circuit 7051 (black).
Step 6: Replace the EPB control unit.	
	Replace with a new EPB control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EPB control unit.



## Local circuit diagram (instrument cluster)

# Local circuit diagram (instrument cluster (E1))



IC

# DTC of instrument cluster

DTC	Fault name	Possible causes	It is recommended to repair it.
U0300	Incompatibility of internal control module software	Failure to pass the internal EEPROM verification mechanism of the instrument	Inspect the EEPROM.
U3003	Power supply voltage is lower than 8V.		
U3003	Power supply voltage is higher than 18V.		
B140C	EEPROM error	No response to EEPROM communication	Inspect the EEPROM.
U0073	CAN bus off	Number of sent errors on CAN control unit is 255 or greater.	Inspect wire harness and connector, and inspect other control units
U0121	ABS communication loss	<ol> <li>ABS communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the ABS communication function.
U0131	EPS communication loss	<ol> <li>EPS communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the EPS communication function.
U0128	EPB communication loss	<ol> <li>EPB communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the EPB communication fault.
U0293	VCU communication loss	<ol> <li>VCU communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the VCU communication function.
U0140	BCM communication loss	<ol> <li>BCM communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the BCM communication function.
U0116	AC communication loss	<ol> <li>AC communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the AC communication function.
U0103	ESM communication loss	<ol> <li>ESM communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the BCM communication function.
U0248	PEPS communication loss	<ol> <li>PEPS communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the PEPS communication function.
U0111	BPM communication loss	<ol> <li>BPM communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the BPM communication function.
U0127	TPMS	<ol> <li>TPMS communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the TPMS communication function.
U0258	BCU	<ol> <li>BCU communication fault</li> <li>Instrument cluster communication fault</li> </ol>	Inspect the BCU communication function.

# Diagnosis procedures for DTC (instrument cluster - IC)

U0300: Incompatibility of internal control module software

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	A. Connect the scan tool and clear DTC.	
	B. Turn off the start switch and turn it on again.	
	C. Read the DTC again, and inspect if there is any DTC.	
	Yes	
	Go to Step 2.	
	No	
	This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.	
Step 2: Inspect the instrument cluster.		
	Replace with a new instrument cluster that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new instrument cluster.	

# U3003: Power voltage below 8V

Diagnostic steps		
Step 1: Inspect the DTC.		
<ul><li>A. Connect the scan tool and clear DTC.</li><li>B. Turn off the start switch and turn it on again.</li></ul>		
C. Read the DTC again, and inspect if there is any DTC.		
Yes		
Go to Step 2.		
No		
This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.		
Step 2: Inspect whether battery voltage is normal.		
A. Inspect whether battery voltage is normal.		
Yes		
Go to Step 3.		
No		
Charge or remove battery voltage fault.		
enger compartment.		
A. Inspect whether the battery fuse box F7 (10A) is blown out.		
Is the fuse blown out?		
Yes		
Replace the fuse box F7 (10A) in the passenger compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short-circuited part according to the circuit diagram.		
Go to Step 4.		



# U3003: Power voltage above 18V

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul><li>A. Connect the scan tool and clear DTC.</li><li>B. Turn off the start switch and turn it on again.</li><li>C. Read the DTC again, and inspect if there is any DTC.</li><li>Yes</li></ul>
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect whether battery voltage is norma	l.
	A. Inspect whether battery voltage is normal. <b>Yes</b>
	Go to Step 3.
	No
	Charge or remove battery voltage fault.
Step 3: Inspect the fuse box F7 (10A) in the pass	enger compartment.
	A. Inspect whether the battery fuse box F7 (10A) is blown out.
	Is the fuse blown out?
	Yes
	Replace the fuse box F7 (10A) in the passenger compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short-circuited part according to the circuit diagram.
	Go to Step 4.

	1	
Test method	Diagnostic steps	
Step 4: Inspect the circuits B471 (black & blue) and B47M (black & blue) between the fuse box in the passenger compartment and the instrument cluster.		
	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the connector of the fuse box in the passenger compartment.</li> <li>C. Inspect if the voltage between the terminal 10 of fuse box connector in the passenger compartment and ground is greater than 10 V.</li> <li>Yes</li> <li>If conducting, the circuit is short to power supply, in this case, repair the circuits B471 (black &amp; blue) and B47M (black &amp; blue).</li> <li>No</li> <li>Go to Step 5.</li> </ul>	
Step 5: Inspect the instrument cluster.		
	Replace with a new instrument cluster that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new instrument cluster.	

IC

## B140C: EEPROM

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for</li> </ul>	
Step 2: Replace the EEPROM.		
	Replace with a new EEPROM that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new EEPROM.	

U0073: CAN bus off

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits 9000N (blue) and 9000	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> <li>K (blue) between the instrument cluster and the</li> </ul>
BCM.	
20       19       18       17       16       15       14       13       12       11       10       9       8       7       6       5       4       3       2       1         40       9       38       37       36       35       34       33       32       31       30       29       28       27       26       25       24       23       22       21         BOM         Ω       +       -	A. Turn off the start switch. B. Disconnect the BCM connector. C. Disconnect the instrument cluster connector D0004. D. Inspect if the resistance between the terminal 19 of the BCM connector and the terminal 7 of the instrument cluster connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of instrument cluster connector and ground. Is the resistance less than 5 $\Omega$ ? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected, in this case, repair the pirguite 000N (blue) and 0000K (blue)
Step 3: Inspect the circuits 9001N (pink) and 9001	K (pink) between the instrument cluster and the
2019       1918       1716       15       14       13       12       11       10       9       8       7       6       5       4       3       2       1         1039       38       37       36       35       34       33       32       31       30       29       28       27       26       25       24       23       22       21         039       38       37       36       35       34       33       32       31       30       29       28       27       26       25       24       23       22       21         04       17       18       19       20       21       22       23       24       25       26       27       28       29       30       31       32         1       2       3       4       5       6       7       8       9       10       11       12       3       14       15       16         Instrument Cluster       Instrument Cluster	A. Turn off the start switch. B. Disconnect the BCM connector. C. Disconnect the instrument cluster connector D0004. D. Inspect if the resistance between the terminal 20 of the BCM connector and the terminal 8 of the instrument cluster connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 8 of instrument cluster connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? Yes Go to Step 4. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is
	conducting, the circuit is short to the ground, in this case, repair the circuits 9001N (pink) and 9001K (pink).

Test method	Diagnostic steps
Step 4: Inspect the instrument cluster.	
	Replace with a new instrument cluster that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new instrument cluster.

### U0121: ABS communication loss

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuits 9000N (blue) and 900 the ABS control unit.	0R (yellow) between the instrument cluster and
13       1211109       87       65       43       2       1         13       242322       120191817161514       1	A. Turn off the start switch. B. Disconnect the ABS control unit connector D7025. C. Disconnect the instrument cluster connector D0004. D. Inspect if the resistance between the terminal 26 of the ABS control unit connector and the terminal 7 of the instrument cluster connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of instrument cluster connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the control circuits 9000N (blue) and 9000R (yellow).



Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits 9000N (blue) and 9000	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> </ul>
EPS control unit.	
$  1 2 3 4 1 \\ 5 6 7 8 \\ 1 2 3 4 5 6 7 8 \\ 1 2 3 4 5 6 7 8 2 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 3 3 3 3$	A. Furn off the start switch. B. Disconnect the EPS control unit connector D7800A. C. Disconnect the instrument cluster connector D0004. D. Inspect if the resistance between the terminal 2 of EPS control unit connector and the terminal 7 of the instrument cluster connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of instrument cluster connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is conducting, the circuit is short to the ground, in this case, repair the control circuits 9000N (blue) and 9000S (blue).



Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> </ul>
Step 2: Inspect the circuits 9000N (blue) and 9000 EPB control unit.	)J (blue) between the instrument cluster and the
I       I	A. Turn off the start switch. B. Disconnect the EPB control unit connector D8201. C. Disconnect the instrument cluster connector D0004. D. Inspect if the resistance between the terminal 32 of EPB control unit connector and the terminal 7 of the instrument cluster connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of instrument cluster connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 9000N (blue) and 9000J (blue).



U0293: VCU communication loss

Step 1: Inspect the DTC.		
Step 1: Inspect the DTC. Step 2-1: Inspect the circuits 9000N (blue) and 90 the VCU control unit (Continental AG motor).	A. Connect the scan tool and clear DTC. B. Turn off the start switch and turn it on again. C. Read the DTC again, and inspect if there is any DTC. Yes Go to Step 2. No This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection. DOOB (blue) between the instrument cluster and A. Turn off the start switch. B. Disconnect the VCU control unit connector D8201. C. Disconnect the instrument cluster connector D0004. D. Inspect if the resistance between the terminal 21 of VCU control unit connector and the terminal 21 of VCU control unit connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of instrument cluster connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuit short to ground, in the terminal the	







Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
Step 2: Inspect the circuits 9000N (blue) and 9000 BCM.	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> <li>DK (blue) between the instrument cluster and the</li> </ul>	
20       19       18       17       16       15       14       13       12       11       10       9       8       7       6       5       4       3       2       1         40       9       38       37       36       35       34       33       32       31       30       29       28       27       26       25       24       23       22       21         0       9       38       37       36       35       34       33       32       31       30       29       28       27       26       25       24       23       22       21         0   <	A. Turn off the start switch. B. Disconnect the BCM connector. C. Disconnect the instrument cluster connector D0004. D. Inspect if the resistance between the terminal 19 of the BCM connector and the terminal 7 of the instrument cluster connector is less than 5 $\Omega$ . Is the resistance less than 5 $\Omega$ ? Yes Go to Step 3. No The circuit is open or poorly connected, in this case, repair the circuits 9000N (blue) and 9000K (blue).	

Test method	Diagnostic steps	
Step 3: Inspect the circuits 9001N (pink) and 9001K (pink) between the instrument cluster and the BCM.		
2019181716151413121110987654321 0393837635343323130292827262524232221	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the BCM connector.</li> <li>C. Disconnect the instrument cluster connector D0004.</li> <li>D. Inspect if the resistance between the terminal 20 of the BCM connector and the terminal 8 of the instrument cluster connector is less than 5 Ω.</li> <li>Is the resistance less than 5 Ω?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>The circuit is open or poorly connected, in this case, repair the circuits 9001N (pink) and 9001K (pink).</li> </ul>	
Step 4: Inspect the instrument cluster.		
	Replace with a new instrument cluster that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new instrument cluster.	

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
Step 1: Inspect the DTC.         Step 2: Inspect the circuits 9000N (blue) and 9000 AC.         1       2       3       4       5       6       7       6       9       10111121314115161711819120         401393837366135134       8332213130129128127126125124123122121       AVC control unit D8086       AVC control unit D8086	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> <li>OG (blue) between the instrument cluster and the</li> <li>A. Turn off the start switch.</li> <li>B. Disconnect the AC connector D8060.</li> <li>C. Disconnect the instrument cluster connector D0004.</li> <li>D. Inspect if the resistance between the terminal 8</li> </ul>	
17       18       19       20       21       22       23       24       25       26       27       28       29       30       31       32         1       2       3       4       5       6       7       8       9       10       11       12       13       14       15       16         Instrument Cluster	of the AC connector and the terminal 7 of the instrument cluster connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of instrument cluster connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? Yes	
•>>         •>>         •>         •	Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the control circuits 9000N (blue) and 9000G (blue).	


Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Stop 2: Inspect the sizewite 0000N (blue) and 0000	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> </ul>
PEPS.	JV (blue) between the instrument cluster and the
$   \begin{array}{c}     \hline      \hline     \hline     \hline     \hline     \hline     \hline     \hline     \hline       \hline      \hline           $	A. Turn off the start switch. B. Disconnect the PEPS connector D7900. C. Disconnect the instrument cluster connector D0004. D. Inspect if the resistance between the terminal B2 of the PEPS connector and the terminal 7 of the instrument cluster connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 7 of instrument cluster connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? Yes Go to Step 3. No If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuits 9000N (blue) and 9000V (blue).



#### P1C00: hardware failed

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	A. Connect the scan tool and clear DTC.	
	B. Turn off the start switch and turn it on again.	
	C. Read the DTC again, and inspect if there is any	
	DTC.	
	Yes	
	Go to Step 2.	
	No	
	This is an accidental fault, in this case, inspect the pins of MCU connector for looseness, corrosion, or poor circuit connection.	
Step 2: Replace the charger.		
	Replace with a new charger that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new charger.	

# Local circuit diagram (OBC)



# DTC of OBC

DTC	Fault name	Possible causes	It is recommended to repair it.
P1C00	Hardware malfunction	MCU hardware damaged	Replace the charger.
P1C01	Charger reduction in rated parameters	<ol> <li>Charger failed</li> <li>Water-cooled circulation system failed</li> <li>Poor ventilation</li> </ol>	1.Replace the charger.2.Inspect the water-cooled circulation system.3.Move it to a place with good ventilation.
U0111	Communication fault	1. CAN module failed 2. No BMS message or VCU message received	<ol> <li>Replace the charger.</li> <li>Inspect the CAN bus message.</li> </ol>
P1C04	Input undervoltage	<ol> <li>Mains supply abnormal</li> <li>Detection circuit abnormal</li> </ol>	<ol> <li>Inspect the mains supply voltage.</li> <li>Replace the charger.</li> </ol>
P1C05	Input overvoltage	<ol> <li>Mains supply abnormal</li> <li>Detection circuit abnormal</li> </ol>	<ol> <li>Inspect the mains supply voltage.</li> <li>Replace the charger.</li> </ol>
P1C06	PFC overvoltage	PFC circuit abnormal	Inspect the PFC circuit.
P1C07	PFC undervoltage	PFC circuit abnormal	Inspect the PFC circuit.
P1C08	Output overcurrent	<ol> <li>External circuit short</li> <li>Battery relay instant ON/OFF</li> </ol>	1.Inspecttheoutput circuit.2.Inspectthetractionbatteryrelay.
P1C09	Output undervoltage	<ol> <li>Traction battery abnormal</li> <li>High voltage circuit failed</li> <li>Detection circuit abnormal</li> </ol>	1.Inspectthetraction battery.2.Inspectthechargeroutputoutputcircuit.3.Replacethecharger.outputoutputthe
P1C0C	Output overvoltage	<ol> <li>Traction battery abnormal</li> <li>High voltage circuit abnormal</li> <li>Detection circuit abnormal</li> </ol>	<ol> <li>Inspect the traction battery.</li> <li>Inspect the charger output circuit.</li> <li>Replace the charger.</li> </ol>
P1C0D	Output circuit short during charging	<ol> <li>Charger output DC high voltage circuit short</li> <li>Battery relay instant ON/OFF</li> </ol>	1.Inspectthechargeroutputcircuit.2.Inspecttheexternalrelaystatus.
P1C0E	Charger overtemperature	<ol> <li>Charger failed</li> <li>Water-cooled circulation system failed</li> <li>Poor ventilation</li> </ol>	1.Replace the charger.2.Inspect the water-cooled circulation system.3.Move it to a place with good ventilation.
PEC0F	Temperature sensor fault	L/N temperature sensor not installed, damaged, short	Inspect the temperature sensor.
P1COF	High voltage interlock circuit failed	1. High voltage connector disconnected 2. High voltage connector not connected in place	Inspection of connection of condition of connector
P1C10	Electronic lock failed	<ol> <li>The electronic lock related wire harnesses of the vehicle outlet are incorrectly connected.</li> <li>The electronic lock of vehicle outlet does not match with the vehicle outlet, or is not installed in place, and the electronic lock body is faulty.</li> </ol>	1.Inspecttheelectroniclockwireharness.2.Inspecttheelectroniclocklockbody.locklock

DTC	Fault name	Possible causes	It is recommended to repair it.
P1C11	CP failed	<ol> <li>Charging spot output control guide CP signal failure</li> <li>Charging cable or charging gun head hardware failed</li> </ol>	1. Inspect the waveform of the charging spot output control guide CP signal 2. Inspect the charging cable or the charging gun plug.
P1C12	CC failed	Charging gun head hardware failed	Inspect the charging gun plug.
P1C12	Input AC HVAC timeout	<ol> <li>Manual operation timeout for 3 min</li> <li>Charging spot failed</li> </ol>	<ol> <li>Re-charge</li> <li>Inspect the charging spot.</li> </ol>
U1355	BMS charging command timeout	<ol> <li>BMS charging command timeout for 15 s</li> <li>CAN receiving module failed</li> </ol>	<ol> <li>Inspect the BMS.</li> <li>Replace the charger.</li> </ol>
P1C13	Internal communication fault	Internal communication hardware of the charger is faulty, and the communication chip and signal path are invalid.	Replace the charger.

# Diagnosis procedures for DTC (OBC)

P1C01: Charger reduction in rated parameters

Test method	Diagnostic steps	
Step 1: Inspect the water cooling system for any fault.		
	A. Is the water cooling system damaged?	
	Yes	
	Repair the water cooling system.	
	No	
	Go to Step 2.	
Step 2: Replace the charger.		
	Replace with a new charger that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new charger.	

#### U0111: Communication fault

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuits 9010F (blue & red) an	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of instrument cluster connector for looseness, corrosion, or poor circuit connection.</li> <li>d 9010E (blue &amp; red) between the OBC and the</li> </ul>
integrated MCU.	
9       10       11       12       13       14       15       16         1       2       3       4       5       6       7       8       9       9       10       11       12       13       14       15       16       9       9       10	A. Turn off the start switch. B. Disconnect the OBC connector DEV08. C. Disconnect the integrated MCU connector. D. Inspect if the resistance between the terminal 3 the OBC connector and the terminal 7 of the integrated MCU connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 3 of OBC connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the circuits 9010F (blue & red) and 9010E (blue & red).



#### P1C0E: Charger overtemperature

Test method	Diagnostic steps	
Step 1: Inspect the water cooling system for any fault.		
	A. Is the water cooling system damaged?	
	Yes	
	Repair the water cooling system.	
	No	
	Go to Step 2.	
Step 2: Replace the charger.		
	Replace with a new charger that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new charger.	

#### P1C10: Electronic lock failed

Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of slow charging outlet connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
Step 2: Inspect the circuit L151 (white) between the	ne electronic lock and the OBC.	
$\left  \begin{array}{c} \Omega \\ \hline 0 \\ \hline 0 \\ \hline 0 \\ \hline 0 \\ \hline 1 \\ \hline 2 \\ \hline 1 \\ \hline 1 \\ \hline 2 \\ \hline 1 \\ \hline 1 \\ \hline 2 \\ \hline 1 \\ \hline 1 \\ \hline 2 \\ \hline 1 \\ \hline 1 \\ \hline 2 \\ \hline 1 $	A. Turn on the start switch. B. Disconnect the OBC connector DEV08. C. Disconnect the slow charging outlet connector. D. Inspect if the resistance between the terminal 9 of the slow charging outlet connector and the positive terminal of the slow charging outlet connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 9 of OBC connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is short to the ground, in this case, repair the control circuit L151 (white).	



Test method	Diagnostic steps	
Step 4: Inspect the circuit L153 (green) between the electronic lock and the OBC.		
Image: Connector DEV08         Image: Connector DEV08	A. Turn off the start switch. B. Disconnect the OBC connector DEV08. C. Disconnect the slow charging outlet connector. D. Inspect if the resistance between the terminal 11 the OBC connector and the information line terminal of the slow charging outlet connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 11 of OBC connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 5. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuit L153 (green).	
Step 5: Replace the electronic lock.		
	Replace with a new electronic lock that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new electronic lock.	

# P1C11: CP fault

Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
Stop 2: Increase the circuit 1952 (red & groop) bet	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of slow charging outlet connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
Step 2: Inspect the circuit 1852 (red & green) bet	A T with the start of the back	
Image: Control of Contro of Contro of Contro of Control of Control of Control of Control o	A. Turn off the start switch. B. Disconnect the OBC connector DEV08. C. Disconnect the slow charging outlet connector. D. Inspect if the resistance between the terminal 6 the OBC connector and the terminal CP of the slow charging outlet connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 6 of OBC connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuit 1852 (red & green).	
Step 3: Replace the charging port.		
	Replace with a new charging port that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new charging port.	

P1C12: CC fault

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuit 1851 (yellow & blue) be	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of slow charging outlet connector for looseness, corrosion, or poor circuit connection.</li> </ul>
9       10       11       12       13       14       15       16         1       2       3       4       5       6       7       8       0         OBC connector DEV08       Slow charging outlet connector	A. Turn off the start switch. B. Disconnect the OBC connector DEV08. C. Disconnect the slow charging outlet connector. D. Inspect if the resistance between the terminal 5 the OBC connector and the terminal CC of the slow charging outlet connector is less than 5 $\Omega$ . E. Inspect the continuity between the terminal 5 of OBC connector and ground. Is the resistance less than 5 $\Omega$ ? Is it not conducting? <b>Yes</b> Go to Step 3. <b>No</b> If the resistance is not less than 5 $\Omega$ , the circuit is
• • • •         • • •	open or poorly connected; if the circuit is conducting, the circuit is circuit short to ground, in this case, repair the circuit 1851 (yellow & blue).
	Replace with a new charging port that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new charging port.

Troubleshooting

#### P1355: BMS charging command timeout

<u> </u>		
Test method	Diagnostic steps	
Step 1: Inspect the DTC.		
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of OBC connector for looseness, corrosion, or poor circuit connection.</li> </ul>	
and the OBC.	) and CP03B (black & green) between the BMS	
9 10 11 12 13 14 15 16 9 10 11 12 13 14 15 16 1 2 3 4 5 6 7 8 OBC connector DEV08	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the OBC connector DEV08.</li> <li>C. Inspect the continuity between the terminal 8 of OBC connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is circuit short to ground, in this case, repair the circuits CP03 (black &amp; green) and CP03B (black &amp; green).</li> </ul>	
Step 3: Replace the OBC.		
	Replace with a new OBC that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new OBC.	
Step 4: Replace the BMS.		
	Replace with a new BMS that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new BMS.	

#### P1C13: Internal communication fault

Test method	Diagnostic steps
Step 1: Replace the OBC.	
	Replace with a new OBC that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new OBC.

#### Local circuit diagram 1 (MP3)



Troubleshooting

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## Local circuit diagram 2 (MP3)



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## Local circuit diagram 1 (MP5)



# Local circuit diagram 2 (MP5)



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MP5

#### MP5

### DTC of MP5

DTC	Fault name	Possible causes	It is recommended to repair it.
U3003	Power voltage	<ol> <li>Battery damaged</li> <li>Power supply short circuit</li> </ol>	Contact with the service provider.
U3003	Power voltage	<ol> <li>Insufficient battery</li> <li>Power supply short circuit</li> </ol>	Contact with the service provider.
B1862	MP5 system	Main system is faulty.	Contact with the service provider.
B1865	Radio module	Connection between the radio module and the mainboard faulty.	Contact with the service provider.
U0073	CAN bus	<ol> <li>Body CAN bus circuit fault</li> <li>MP5 CAN control unit fault</li> </ol>	Contact with the service provider.

# Diagnosis procedures for DTC (MP5)

U3003: Power supply voltage (E1)

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul><li>A. Connect the scan tool and clear DTC.</li><li>B. Turn off the start switch and turn it on again.</li><li>C. Read the DTC again, and inspect if there is any DTC.</li></ul>
	Yes Go to Step 2. No This is an accidental fault, in this case, inspect the pins of A/V control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect whether battery voltage is norma	l
	<ul> <li>A. Inspect whether the battery voltage is normal.</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>Charge or remove battery voltage fault.</li> </ul>
Step 3: Inspect the fuse box F5 (20A) in the drive	e motor compartment.
	<ul> <li>A. Inspect whether the fuse box F5 (20A) in the drive motor compartment is blown out.</li> <li>Is the fuse blown out?</li> <li>Yes</li> <li>Replace the fuse box F16 (15A) in the drive motor compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short circuit part according to the circuit diagram.</li> <li>No</li> <li>Go to Step 4.</li> </ul>
Step 4: Inspect the circuits B131 (orange) and I	B131 (brown) between the fuse box in the drive
AV control unit connector A V $+$ $-14$ 10 $6$ 2 15 11 7 3 16 12 8 4 16 12 8 4	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the A/V control unit connector D840.</li> <li>C. Inspect whether the voltage between the terminal A12 of A/V control unit connector and ground is greater than 10 V.</li> <li>Yes</li> <li>If the circuit is conducting, the circuit is short to the power supply, in this case, repair the circuits B131 (orange) and B131 (brown).</li> <li>No</li> <li>Go to Step 5.</li> </ul>

Test method	Diagnostic steps
Step 5: Replace the A/V control unit.	
	Replace with a new A/V control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new A/V control unit.

U3003: Power supply voltage (E1)

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> </ul>
	Go to Step 2.
	This is an accidental fault, in this case, inspect the pins of A/V control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Inspect whether battery voltage is norma	l.
	A. Inspect whether the battery voltage is normal. <b>Yes</b>
	Go to Step 3.
	No
	Charge or remove battery voltage fault.
Step 3: Inspect the fuse box F5 (20A) in the drive	motor compartment.
	A. Inspect whether the fuse box F5 (20A) in the drive motor compartment is blown out. Is the fuse blown out?
	Replace the fuse box F16 (15A) in the drive motor compartment and inspect whether the system operates properly. If the fuse is blown out again, overhaul short circuit part according to the circuit diagram. <b>No</b> Go to Step 4.



#### B1862: MP5 system

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
	A. Connect the scan tool and clear DTC.
	B. Turn off the start switch and turn it on again.
	C. Read the DTC again, and inspect if there is any DTC.
	Yes
	Go to Step 2.
	No
	This is an accidental fault, in this case, inspect the pins of A/V control unit connector for looseness, corrosion, or poor circuit connection.
Step 2: Replace the A/V control unit.	
	Replace with a new A/V control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new A/V control unit.

#### U0073: CAN bus

Test method	Diagnostic steps
Step 1: Inspect the DTC.	
Step 2: Inspect the circuit 9000W (pink) between	<ul> <li>A. Connect the scan tool and clear DTC.</li> <li>B. Turn off the start switch and turn it on again.</li> <li>C. Read the DTC again, and inspect if there is any DTC.</li> <li>Yes</li> <li>Go to Step 2.</li> <li>No</li> <li>This is an accidental fault, in this case, inspect the pins of A/V control unit connector for looseness, corrosion, or poor circuit connection.</li> <li>the CAN and the A/V system.</li> </ul>
AV control unit connector A	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the A/V control unit connector D840.</li> <li>D. Inspect the continuity between the terminal A14 of A/V control unit connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 3.</li> <li>No</li> <li>If conducting, the circuit is circuit short to ground, in this case, repair the circuit 9000W (pink).</li> </ul>
Step 3: Inspect the circuit 9001W (blue) between	the CAN and the A/V system.
AV control unit connector A         Image: AV control unit connector A         Image: AV control unit connector C	<ul> <li>A. Turn off the start switch.</li> <li>B. Disconnect the A/V control unit connector D840.</li> <li>D. Inspect the continuity between the terminal A11 of A/V control unit connector and ground.</li> <li>Is it not conducting?</li> <li>Yes</li> <li>Go to Step 4.</li> <li>No</li> <li>If conducting, the circuit is circuit short to ground, in this case, repair the circuit 9001W (blue).</li> </ul>

Test method	Diagnostic steps
Step 4: Replace the A/V control unit.	
	Replace with a new A/V control unit that is confirmed to be in a good condition and test it. If the fault and DTC disappear, replace with the new A/V control unit.





#### Local circuit diagram (drive motor control (Continental AG motor))





# Troubleshooting



# Local circuit diagram (P gear control unit)



Local circuit diagram 1 (powertrain compartment distribution with PEPS)

Troubleshooting



# Local circuit diagram 2 (powertrain compartment distribution with PEPS)






#### Local circuit diagram 4 (powertrain compartment distribution with PEPS)



#### Local circuit diagram 1 (powertrain compartment distribution)



# Local circuit diagram 2 (powertrain compartment distribution)



Troubleshooting



# Local circuit diagram 4 (powertrain compartment distribution)

M1506 Green & yellow	Battery and (10)
M1501 Green & yellow	Battery pack (10)
M1502 Green & yellow	Battery pack (3)
1506A Green & yellow	Dattery pack (4)
	Quick charging port (A-)
MC16AGreen & yellow M70A Green & yellow	Brake fluid level switch (D4410_2)
MC160F Green & yellow	Gear selector sensor (D1602B) 6
MC16A Green & yellow	Gear selector sensor (D1602B) 4
	Continental AG motor
M142Green & yellow M142 Black & pink	Quick charger diagnostic interface 5
M3426 Green & yellow	
	<b>C</b>
M801E Green & yellow	P gear control unit relay
Z93A Green & yellow	P gear control unit
/ Z93B Green & yellow	P gear control unit
MC160D Green & yellow	Integrated MCU
MAE10Green & yellow	Motor connector shield GND
M152 Green & yellow	Motor EWP
	t
MBS I Z Green & yellow	Engine compartment fuse box (EJB_C6)
M701 Green & vellow	
	ABS control unit (pump)(D7025_13)
M/UZ Green & yellow	ABS control unit (valve)(D7025_38)
7777	
G2 M290 Green & yellow	License plate lamp (D26A0_1)
M2/11 Green & yellow	Left low beam (D2610_3)
M202 Green & yellow	Front left fog lamp (D2670_2)
M206 Green & yellow	Position lamp, turn signal lamp
MAE01Green & yellow M66A Green & yellow	Left headlamp leveling motor (D5405A_1)
M25B Green & yellow	Tweeter (D2520C_1)
M283 Green & yellow	Left high beam (D2610 7)
M807 Green & yellow	PTC water heater (DEV02)
M808 Green & vellow	
M802A Green & yellow	EWP (DEV09)
M521 Green & vellow	Electric compressor (Aotecar)
	Vacuum booster pump

#### Local circuit diagram (powertrain compartment grounding)





#### Local circuit diagram 1 (passenger compartment grounding)



#### Local circuit diagram 2 (passenger compartment grounding)



#### Local circuit diagram 1 (passenger compartment distribution with PEPS)





#### Local circuit diagram 1 (passenger compartment power distribution)







# Local circuit diagram (instrument cluster)







# Local circuit diagram (turn signal lamp)



#### Local circuit diagram (low beam)



# Local circuit diagram (high beam)



7777 G3

7777 G1



# Local circuit diagram (front fog lamp)





#### Local circuit diagram (position lamp/daytime running lamp)

# Local circuit diagram (brake lamp)





# Local circuit diagram (wiper and washer pump (NEW BCM))



Troubleshooting



# Local circuit diagram (steering and hazard warning lamp (NEW BCM))

#### Local circuit diagram (steering and hazard warning lamp)



# Local circuit diagram (horn)





# Local circuit diagram (electric rearview mirror (NEW BCM))

Troubleshooting





# Local circuit diagram (defogger (NEW BCM))

# Local circuit diagram (defogger)





# Local circuit diagram (electric door lock (NEW BCM))



#### Local circuit diagram (electric door lock)

#### Local circuit diagram (electric door window (NEW BCM))

Engine compartment fuse box



#### Local circuit diagram (electric door window)





# Local circuit diagram (trunk lid unlock (NEW BCM))






# Local circuit diagram (interior lighting (NEW BCM))

Local circuit diagram (interior lighting)





# Local circuit diagram (cigar lighter)



# Local circuit diagram (ABS)





# Local circuit diagram (diagnosis) Cabin fuse box



# Local circuit diagram (electric window)







# Local circuit diagram (park assist)





# Local circuit diagram (high voltage power distribution)



# Local circuit diagram (BCM)



# Local circuit diagram (NEW BCM)





# Troubleshooting

Local circuit diagram (remote monitor)



# Local circuit diagram (PEPS)





# Local circuit diagram (CAN - Continental AG motor)



Local circuit diagram (CAN - independently-developed motor)