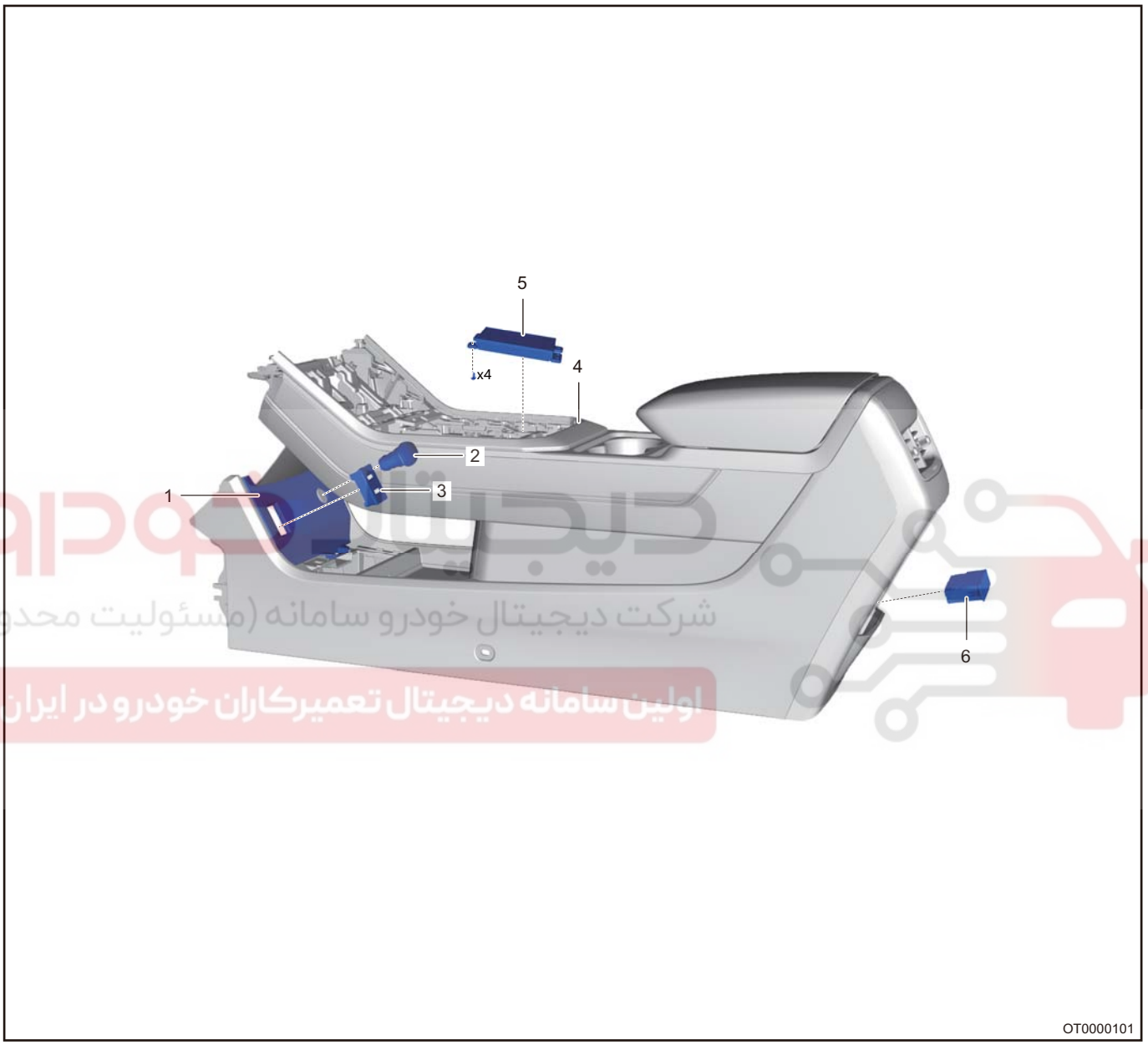
OTHER SYSTEM

55

GENERAL INFORMATION

Overview

Description



1 - USB Panel Assembly	2 - Front Backup Power Supply
3 - Multi-function Interface	4 - Auxiliary Fascia Console Assembly
5 - Wireless Charging Module	6 - USB Charging Module

This vehicle is equipped with a 12 V backup power supply, which is located on the USB panel assembly for easy charging at any time.
Wireless charging adopts an electromagnetic induction technology with convenience, versatility, novelty and safety, so that you can have a better experience while driving.

Wireless Charging Operation

1. Turn ENGINE START STOP switch to ON mode and place mobile phone in the wireless charging sensing area, then the wireless charging starts to operate, and the audio head unit displays a normal charging symbol; After charging is completed, audio head unit will display a charging completed symbol.
2. Wireless charging may not operate properly under the following conditions
   - Vehicle is exposed into sunlight and room temperature is excessively high and reaches 65°C or higher, the wireless charging module triggers the self-protection and mobile phone is unable to be charged.
   - The back of mobile phone is more than 8 mm away from wireless charging sensing area, and mobile phone cannot be charged.
   - There is thick metal on back of mobile phone (such as 1 yuan coin, metal housing of mobile phone), mobile phone cannot be charged, and audio head unit displays a mark with exclamation mark.

   Hint:
   - Wireless charging function only supports the mobile phone with wireless charging function.
   - Please put mobile phone at the center position of phone slot. If sudden acceleration, deceleration or shape turning occur during driving, the mobile phone will shake, which may affect the charging efficiency and stability.
   - The wireless charging function needs to be set in the audio system.

   Caution:
   - During normal use of vehicle, to ensure the identification of vehicle to smart key, there will be a transient charging shield.
   - If your mobile phone does not support the wireless charging function, it is recommended that you do not use the wireless charging paster. The quality of wireless charging paster in the market is uneven and easy to be damaged if used frequently (function failure, poor interface contact, identification failure in metal foreign objects, etc.).
3. Phone forgetting reminder function

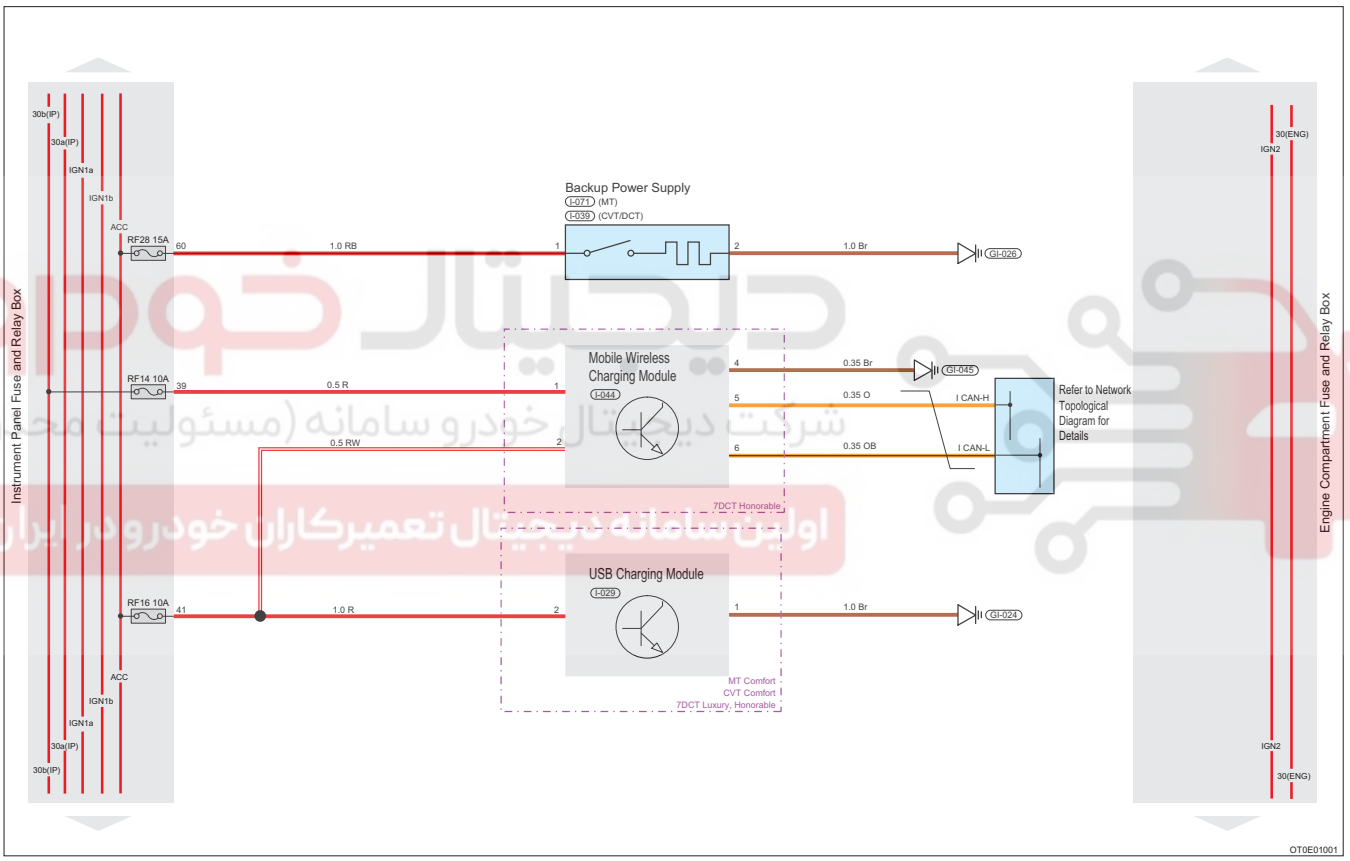
   When ENGINE START STOP switch is switched to OFF mode and driver side door is opened, if mobile phone is placed in the wireless charging sensing area, the system will sound an alarm for 20 seconds and alarm stops if the phone is removed within 20 seconds.

   Hint:
   - Phone forgetting reminder function only supports the mobile phone with wireless charging function.
   - Phone forgetting reminder function needs to be set in the audio system.
4. Suggestions for CWC function setting and status display item, refer to signal list on signal aspect

Level 1 Menu	Level 2 Menu	Selection Item	Note
Vehicle settings	Mobile phone wireless charging function	ON	IHU is set to ON by default, CWC will keep the wireless charging function ON until "OFF" signal is sent from IHU. With wireless charging function ON, CWC starts the wireless charging operation after mobile phone is detected in charging position and ACC signal is received.
		OFF	
	Phone forgetting reminder function	ON	Phone forgetting reminder function will keep ON until "OFF" signal is sent from IHU. With forgetting reminder function ON, an alarm signal will be sent to DVD when forgetting reminder condition is detected, and no alarm is sent when forgetting reminder is off.
		OFF	

Level 1 Menu	Level 2 Menu	Selection Item	Note
Display status		In charging	Three display statuses (no icon will be displayed on head unit when vehicle is not charged)
		Charging completed	
		Charging fault	
Forgetting reminder		Sending alarm signal	With mobile phone on CWC, CWC starts to count the time and sends alarm signal to IHU after ACC off signal and driver side door open signal are received by CWC, then head unit alarms. CWC stops sending alarm signal after 20 seconds or within 20s if mobile phone is removed, then head unit stops alarming.
		Stopping alarm signal	

Circuit Diagram



DIAGNOSIS & TESTING

Diagnostic Content

Diagnostic Procedure

Hint

Use following procedures to troubleshoot the other system.

1	Vehicle brought to workshop

Result

Proceed to
NEXT

NEXT

2	Check battery voltage

Check if battery voltage is normal.

OK

Standard voltage: Not less than 12 V

Result

Proceed to
OK
NG

NG → Check and repair battery

OK

3	Customer problem analysis

Result

Proceed to
NEXT

NEXT

4	Check and clear DTCs

Result

Proceed to
NEXT

NEXT

5	Confirm and duplicate problem

Result

Result	Proceed to
No DTC	A
Current DTC	B
History DTC	C

History DTC

6	Problem repair (No DTC)

Result

Proceed to
NEXT

NEXT → Go to step

7	Troubleshoot according to Diagnostic Trouble Code (DTC) Chart

Result

Proceed to
NEXT

NEXT → Go to step

8	Troubleshoot according to Problem Symptoms Table

Result

Proceed to
NEXT

NEXT

9	Conduct test and confirm malfunction has been repaired

Result

Proceed to
NEXT

NEXT → End

DTC Confirmation Procedure

1. Diagnostic tester can be connected to diagnostic interface and communicate with the vehicle via vehicle data link.

2. Confirm the current malfunction, and carry out diagnostic test and repair procedures.
3. If DTC cannot be deleted, malfunction indicated by DTC is current.
4. Measure electrical system voltage with a digital multimeter.
5. Visually check the related electrical wire harness.
6. Check and clear all DTCs related to BCM ground.
7. If lots of DTCs are set, use circuit diagram to check any common ground circuit or power supply circuit and find the cause of DTCs.

Intermittent DTC Troubleshooting

If malfunction is intermittent, perform the followings:

- Check if connector is loose.
- Check if wire harness is worn, pierced, pinched or partially broken.
- Monitor the diagnostic tester data related to this circuit.
- Wiggle related wire harness and connector and observe if signal in related circuit is interrupted.
- If possible, try to duplicate conditions under which DTC was set.
- Look for data that has changed or DTC to reset during wiggle test.
- Check for broken, bent, protruded or corroded terminals.
- Inspect sensors and mounting areas for damage, foreign matter, etc. that will cause incorrect signals.
- Use data recorder or oscilloscope to help diagnose intermittent malfunctions.

Ground Inspection

Ground points are very important to the proper operation of circuits. Ground points are often exposed to moisture, dirt and other corrosive environments. Corrosion (rust) may increase load resistance. This situation may change the way in which a circuit works. Circuits are very sensitive to proper grounding. A loose or corroded ground can affect the control circuit. Check the ground points as follows:

1. Remove ground bolt or nut.
2. Check all contact surfaces for tarnish, dirt and rust, etc.
3. Clean as necessary to ensure that contact is in good condition.
4. Reinstall ground bolt or nut securely.
5. Check if add-on accessories interfere with ground circuit.
6. If several wire harnesses are crimped into one ground terminal, check for proper crimps. Make sure that all wire harnesses are clean and securely fastened while providing a good ground path.

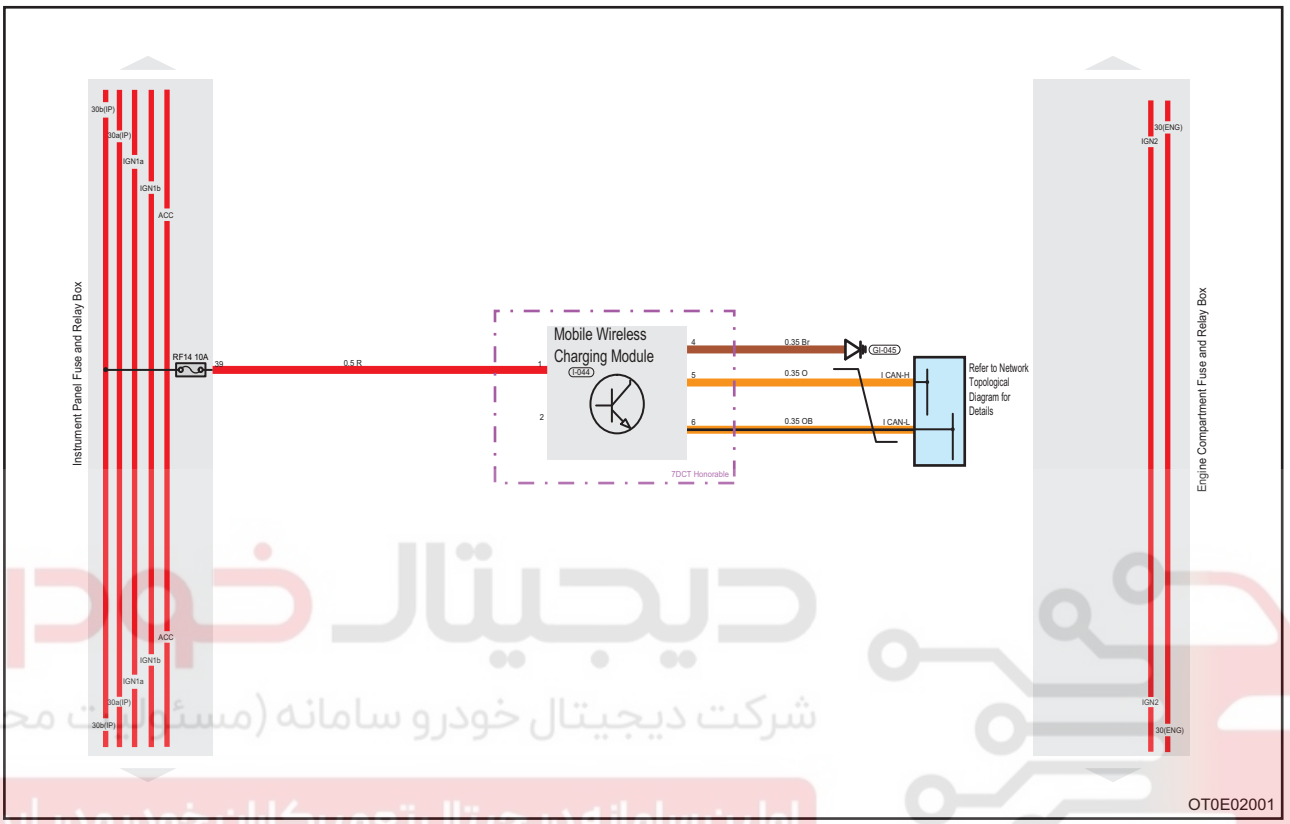
Diagnostic Trouble Code (DTC) Chart

DTC	Description
B1B32-16	Power Supply Circuit Voltage Below Threshold
B1B33-17	Power Supply Circuit Voltage Above Threshold
B1B30-92	Foreign Matters Exist - Performance or Incorrect Operation
B1B31-98	Component or System Temperature Too High
U0073-88	CAN Bus Off Failure
U0140-87	Lost Communication with BCM
U0214-87	Lost communicate with PEPS
U1300-55	Software Configuration Error

DTC	B1B32-16	Power Supply Circuit Voltage Below Threshold

DTC	B1B33-17	Power Supply Circuit Voltage Above Threshold

Circuit Diagram



DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1B32-16	Power Supply Circuit Voltage Below Threshold	This malfunction occurs when any of following conditions is met: • IGN = ON, battery (KL30) voltage circuit is open for 500 ms • IGN = ON (other than 1s after starting) 6 V, ⩽ battery (KL30 PIN) voltage ⩽ 8 V for 1000 ms • IGN = ON, battery (KL30 PIN) voltage ＞ 17 V for 1000 ms	• Disconnection or poor connection between battery and instrument panel after engine starting • Power supply is not stable, and some loads may decrease suddenly • Power supply is not stable, and load fails suddenly • Instrument panel wire harness and connector fault
B1B33-17	Power Supply Circuit Voltage Above Threshold		

Caution:
When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

Procedure

1	Confirm DTCs

(a) Turn ENGINE START STOP switch to OFF.

(b) Disconnect the instrument panel wire harness connector I-044.
(c) Check if wire harnesses are worn, pierced, pinched or partially broken.
(d) Check for broken, bent, protruded or corroded terminals.
(e) Check if related connector pins are in good condition.

Result

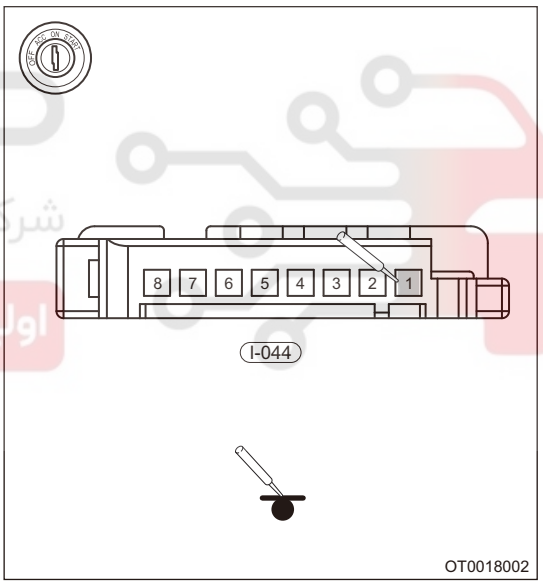
Proceed to
Yes
No

No → **Repair or replace wire harness and connector**

Yes

2 Check instrument panel power supply voltage

(a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable.
(b) Disconnect the instrument panel wire harness connector I-044.
(c) Connect negative battery cable, and turn ENGINE START STOP switch to ON.
(d) Using a digital multimeter, check for voltage between the terminals of connector I-044 to check if there is an open in instrument panel power supply circuit according to the table below.



OK

Multimeter Connection	Specified Voltage
I-044 (1) - Ground	Not less than 12 V

Result

Proceed to
OK
NG

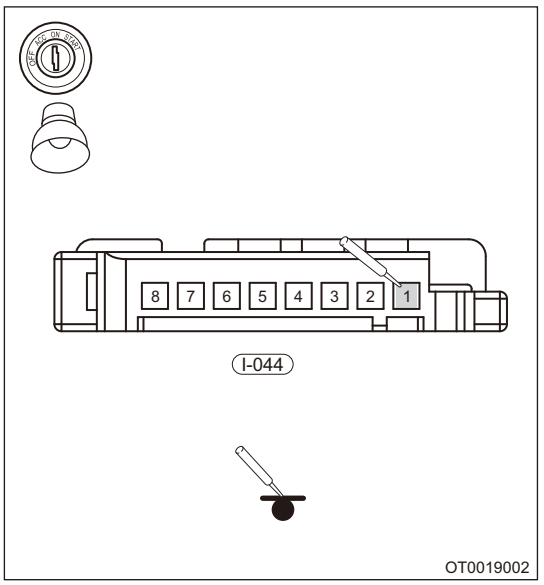
NG → **Check if instrument panel fuse RF14 10 A is blown**

OK

3 Using a 21 W test lamp, test power supply voltage

(a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable.
(b) Disconnect the instrument panel wire harness connector I-044.
(c) Connect negative battery cable, and turn ENGINE START STOP switch to ON.

(d) Using a 21 W test lamp, check for voltage between the terminals of connector I-044 to check if power supplying of instrument panel power supply voltage is normal according to the table below.



Result

Multimeter Connection	Specified Condition
I-044 (1) - Ground	Test light comes on normally

Result

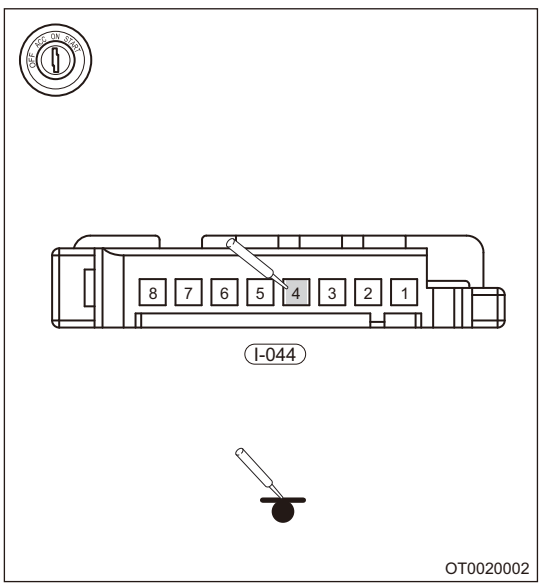
Proceed to
OK
NG

NG → **Check or replace instrument panel wire harness or connector**

OK

4	Inspect ground

(a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable.
(b) Disconnect the instrument panel wire harness connector I-044.
(c) Measure resistance between terminal 4 of connector I-044 and ground and check if it is open.



Standard Condition

Multimeter Connection	Condition	Specified Condition
I-044 (4) - Body ground	Always	⩽ 1 Ω

Result

Proceed to
OK
NG

NG → **Check and repair instrument panel ground wire harness and ground point GI-045.**

OK

5	Reconfirm DTCs

(a) Use diagnostic tester to clear DTCs.
(b) Start the engine.
(c) Check if the same DTCs are still output.

Result

Proceed to
OK
NG

OK → **System operates normally**

NG → **Replace wireless charging module**

DTC	B1B30-92	Foreign Matters Exist - Performance or Incorrect Operation

DTC	B1B31-98	Component or System Temperature Too High

DTC	DTC Definition	DTC Detection Condition	Possible Cause
B1B30-92	Foreign Matters Exist - Performance or Incorrect Operation	ENGINE START STOP switch ON	• Foreign matters exist between mobile phone and wireless charging • Excessive charing time • Wireless charging paster damaged • Charging operation out of standard
B1B31-98	Component or System Temperature Too High		

Procedure

1	Confirm DTCs

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the instrument panel wire harness connector I-044.
(c) Check if wire harnesses are worn, pierced, pinched or partially broken.
(d) Check for broken, bent, protruded or corroded terminals.
(e) Check if related connector pins are in good condition.

Result

Proceed to
Yes
No

No → **Repair or replace wire harness and connector**

Yes

2	Check for foreign matters

(a) Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable.
(b) Disconnect the instrument panel wire harness connector I-044.
(c) Check for foreign matters between wireless charging module and mobile phone.

Result

Proceed to
OK
NG

NG → **Remove foreign matters**

OK

3	Reconfirm DTCs

(a) Use diagnostic tester to clear DTCs.
(b) Start the engine.
(c) Check if the same DTCs are still output.

Result

Proceed to
OK
NG

OK	System operates normally
NG	Replace wireless charging module

DTC	U0073-88	CAN Bus Off Failure
DTC	U0140-87	Lost Communication with BCM
DTC	U0214-87	Lost communicate with PEPS
DTC	U1300-55	Software Configuration Error

Procedure

1	Refer to CAN Communication System

ON-VEHICLE SERVICE

Front Backup Power Supply

Removal

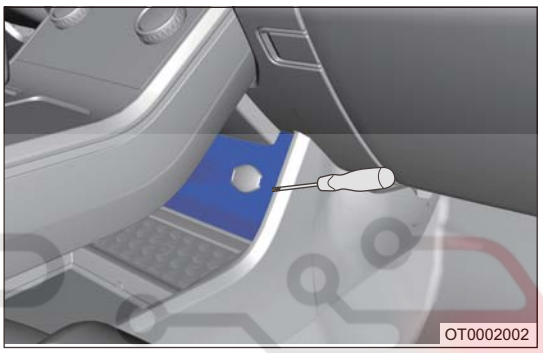
Warning/Caution/Hint

Caution:

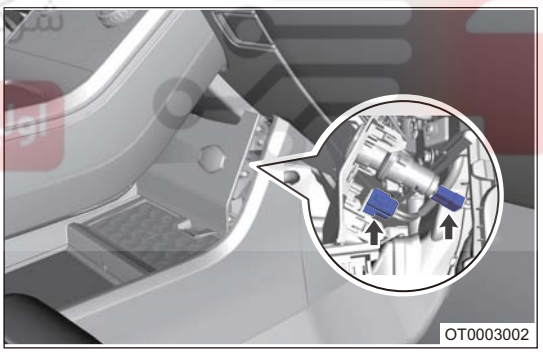
- Be sure to wear safety equipment to prevent accidents, when removing front backup power supply.
- Appropriate force should be applied, when removing front backup power supply. Be careful not to operate roughly.
- Try to prevent USB panel assembly from being scratched, when removing front backup power supply.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the front backup power supply.

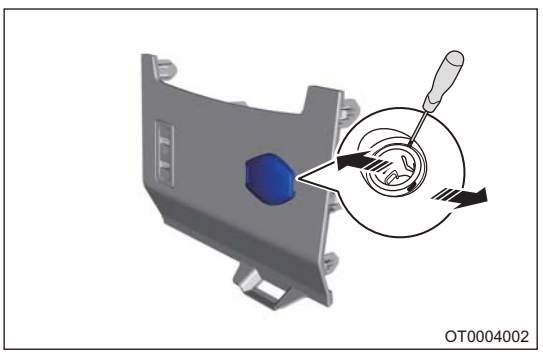
(a) Using a screwdriver wrapped with protective tape, pry up clips from USB panel assembly and release the panel.



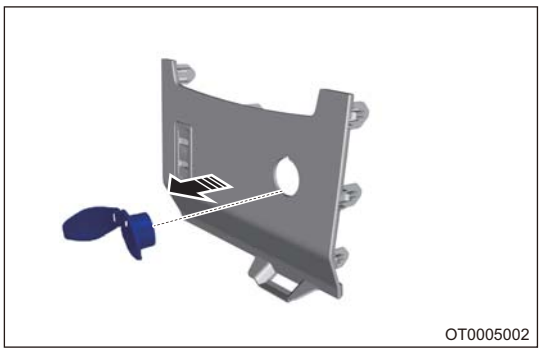
(b) Disconnect front backup power supply connector and multi-function interface connector (arrow).



(c) Press the clips on backup power supply housing in the direction of arrow and loosen the backup power supply fixing bush by using a screwdriver wrapped with protective tape simultaneously as shown in the illustration.



(d) Remove the backup power supply housing.

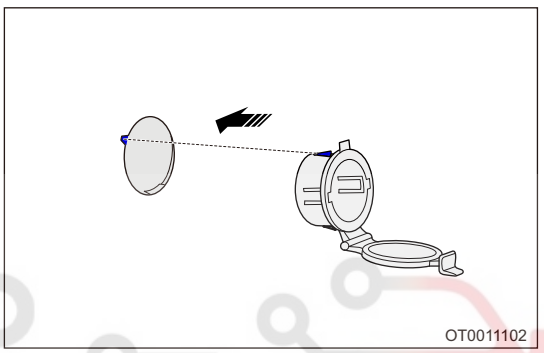


Installation

1. Installation is in the reverse order of removal.

Hint:

- When installing backup power supply, align the protrusion of backup power supply housing end with the slot in the left luggage compartment protector as shown in the illustration, and install the backup power supply securely.



Caution:

- Check backup power supply for proper operation after installing backup power supply assembly.

Multi-function Interface

Removal

Warning/Caution/Hint

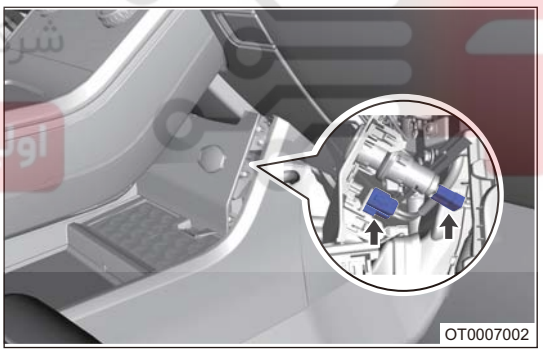
Caution:

- Be sure to wear safety equipment to prevent accidents, when removing multi-function interface assembly.
- Appropriate force should be applied when removing multi-function interface assembly. Be careful not to operate roughly.
- Try to prevent USB panel assembly from being scratched, when removing multi-function interface assembly.

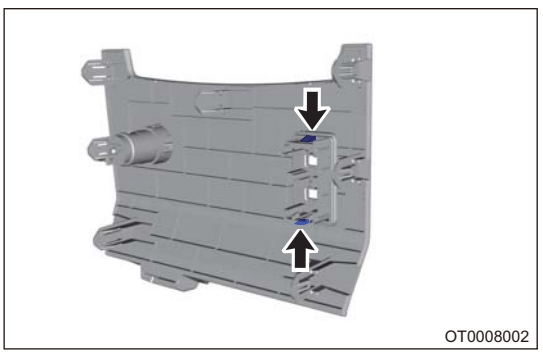
1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the multi-function interface assembly.

(a) Using a screwdriver wrapped with protective tape, pry up clips from USB panel assembly and release the panel.

(b) Disconnect front backup power supply connector and multi-function interface connector (arrow).



(c) Press 2 clips (arrow) with hands as shown in illustration and remove multi-function interfaces.



Installation

1. Installation is in the reverse order of removal.

Caution:

- Check multi-function interface for proper operation after installing the multi-function interface assembly.

USB Charging Module

Removal

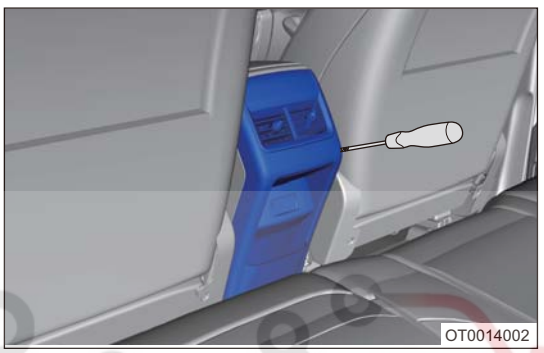
Warning/Caution/Hint

Caution:

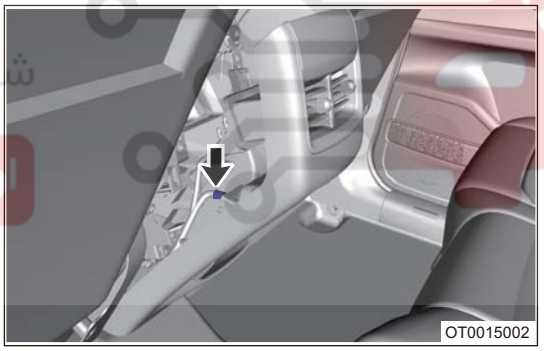
- Be sure to wear safety equipment to prevent accidents, when removing USB charging module.
- Appropriate force should be applied, when removing USB charging module assembly. Be careful not to operate roughly.
- Try to prevent auxiliary fascia console rear cover assembly from being scratched, when removing USB charging module assembly.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the USB charging module.

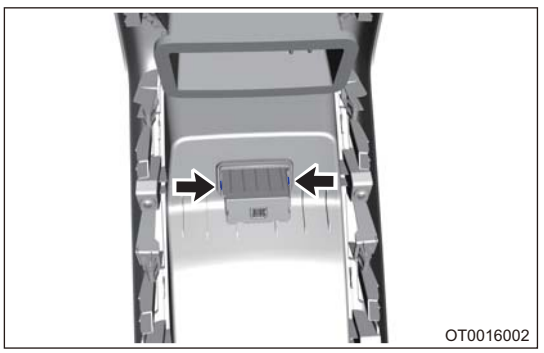
(a) Using a screwdriver wrapped with protective tape, remove the auxiliary fascia console rear cover assembly.



(b) Disconnect the USB charging module connector (arrow).



(c) Press 2 clips (arrow) with hands as shown in illustration and remove USB charging module.



Installation

1. Installation is in the reverse order of removal.

Caution:

- Check USB charging module for proper operation after installing USB charging module assembly.
- When installing USB charging module, assemble it with USB charging module handle facing down and charging symptom at the lower side.

Wireless Charging Module

Removal

Warning/Caution/Hint

Caution:

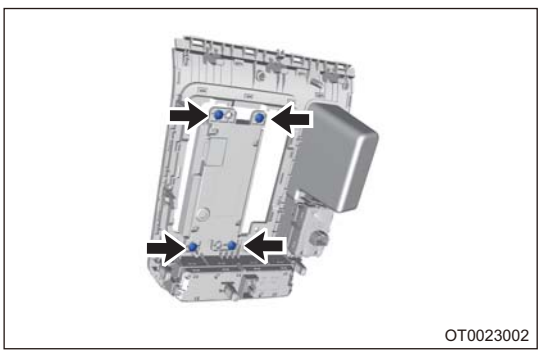
- Be sure to wear safety equipment to prevent accidents, when removing wireless charging module assembly.
- Appropriate force should be applied, when removing wireless charging module assembly. Be careful not to operate roughly.
- Try to prevent auxiliary fascia console assembly from being scratched, when removing wireless charging module assembly.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the wireless charging module.

(a) Using an interior crow plate, pry off auxiliary fascia console switch and cover plate assembly.

(b) Disconnect electronic parking switch, auxiliary fascia console switch and wireless charging module connectors (arrow).

(c) Remove 4 fixing screws (arrow) from wireless charging module.



(d) Remove the wireless charging module.

Installation

1. Installation is in the reverse order of removal.

Caution:

- Check wireless charging module for proper operation after installing wireless charging module assembly.