
BODY ELECTRICAL

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42.1 Backup Power Supply and Wireless Charging System

1 Warnings and Precautions

1.1 Precautions

Be sure to observe following instructions before servicing any parts in this section to avoid possible asset loss, personal injury or even death.

- (1) When performing circuit diagnosis and test, always refer to the circuit diagram for specific circuit and component information.
- (2) Be sure to wear safety equipment to prevent accidents, when removing auxiliary fascia console assembly.

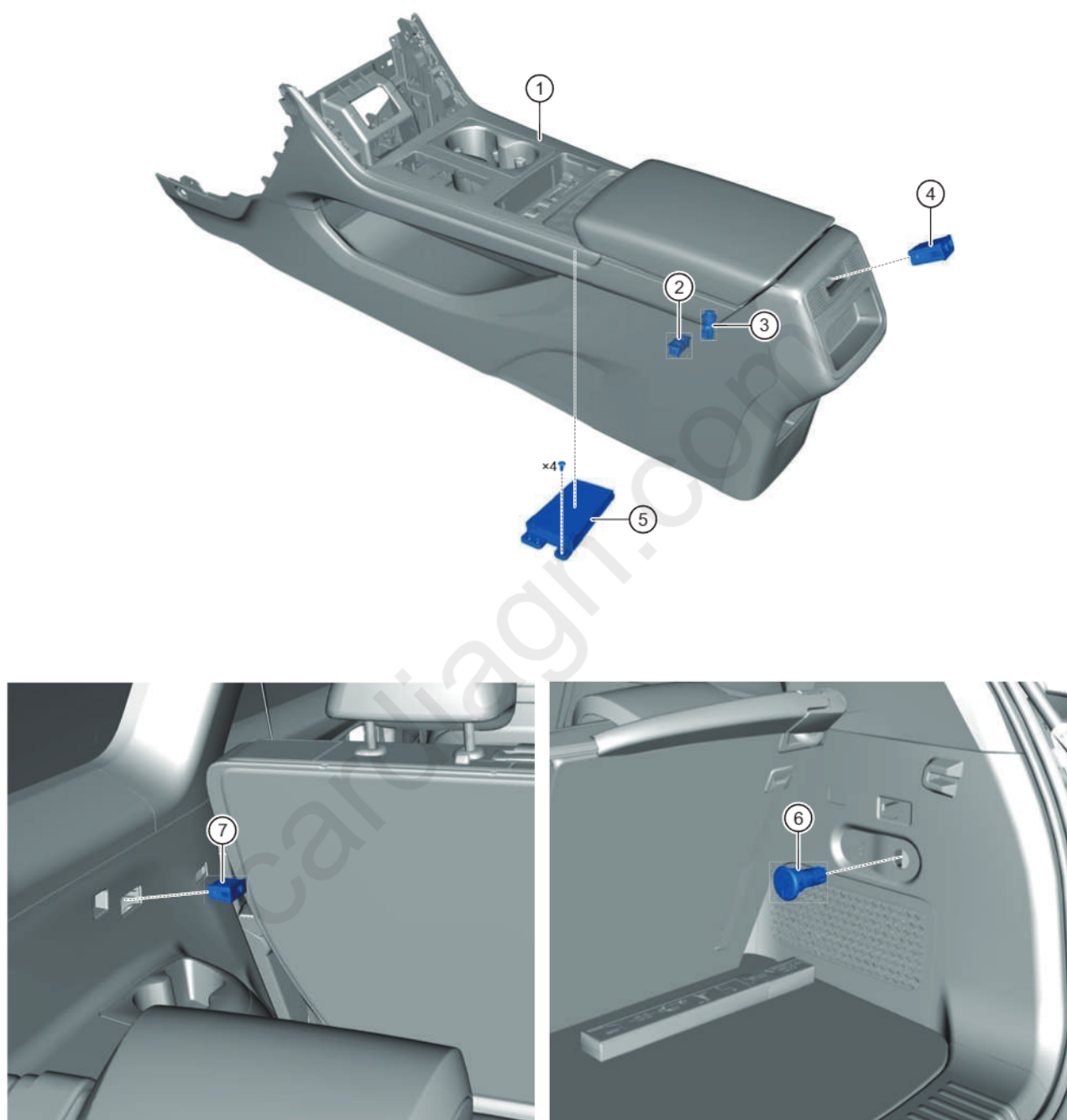
1.2 Precautions

In order to avoid dangerous operation and damage to the vehicle before repair in this section, the following instructions must be observed.

- (1) When removing auxiliary fascia console assembly, operate carefully to avoid damaging it .
- (2) Be sure to wear safety equipment to prevent accidents, when removing auxiliary fascia console assembly.

2 System Overview

2.1 System Components Diagram



W20010

1	Auxiliary Fascia Console Assembly	2	Multi-function Interface
3	Cigarette Lighter Assembly	4	USB Charging Module

5	Mobile Wireless Charging Module	6	Rear Cigarette Lighter Assembly
7	Rear USB Charging Module		

This vehicle is equipped with two 12 V backup power sources, which is located in armrest box and on luggage compartment left protector assembly. Wireless charging adopts an electromagnetic induction technology with convenience, versatility, novelty and safety, so that you can have a better experience while driving.

2.2 Wireless Charging Usage Description

- (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 work properly in the following conditions:
 - 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.
 - Wireless charging operation frequency is close to keyless entry working frequency, which is easy to interfere with each other; When door is open/closed, the vehicle will recognize whether the key is left in vehicle, the keyless entry starts to work. At this time, it's necessary to shield charging function; Wait for several seconds, the wireless charging function resumes

Caution

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) For Wireless Charging System (CWC) function settings and status display item suggestions and signals, refer to signal list:

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
		OFF	

Level 1 Menu	Level 2 Menu	Selection Item	Note
			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.
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 20s or if mobile phone is removed within 20s, then head unit stops alarming.
		Stopping alarm signal	

3 DIAGNOSIS & TESTING

3.1 Diagnostic Help

- (1) Connect diagnostic tester X-431 3G (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- (2) Confirm that malfunction is current, and carry out diagnostic test and repair procedures.
- (3) If Diagnostic Trouble Code (DTC) cannot be cleared, it indicates that there is a current malfunction.
- (4) Only use a digital multimeter to measure voltage of electronic system.
- (5) Refer to any Technical Bulletin that may apply to this malfunction.
- (6) Visually check related wire harness and connector.
- (7) Check and clean all system grounds related to the latest DTCs.
- (8) If numerous trouble codes are set, refer to circuit diagram and look for any common ground circuit or power supply circuit applied to DTC.

3.2 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 diagnostic tester (the latest software) data that is related to this circuit.
- Wiggle related wire harnesses and connectors and observe if signal is interrupt in related circuit.
- If possible, try to duplicate the conditions under which DTC was set.
- Look for data that has changed or DTC to reset during wiggle test.
- Look for broken, bent, protruded or corroded terminals.
- Inspect airbag components and mounting areas for damage, foreign matter, etc. that will cause incorrect signals.
- Check and clean all wire harness connectors and ground parts related to DTC.

- If multiple trouble codes were set, refer to circuit diagrams to look for any common ground circuit or power supply circuit applied to DTC.
- Refer to any Technical Bulletin that may apply to this malfunction.

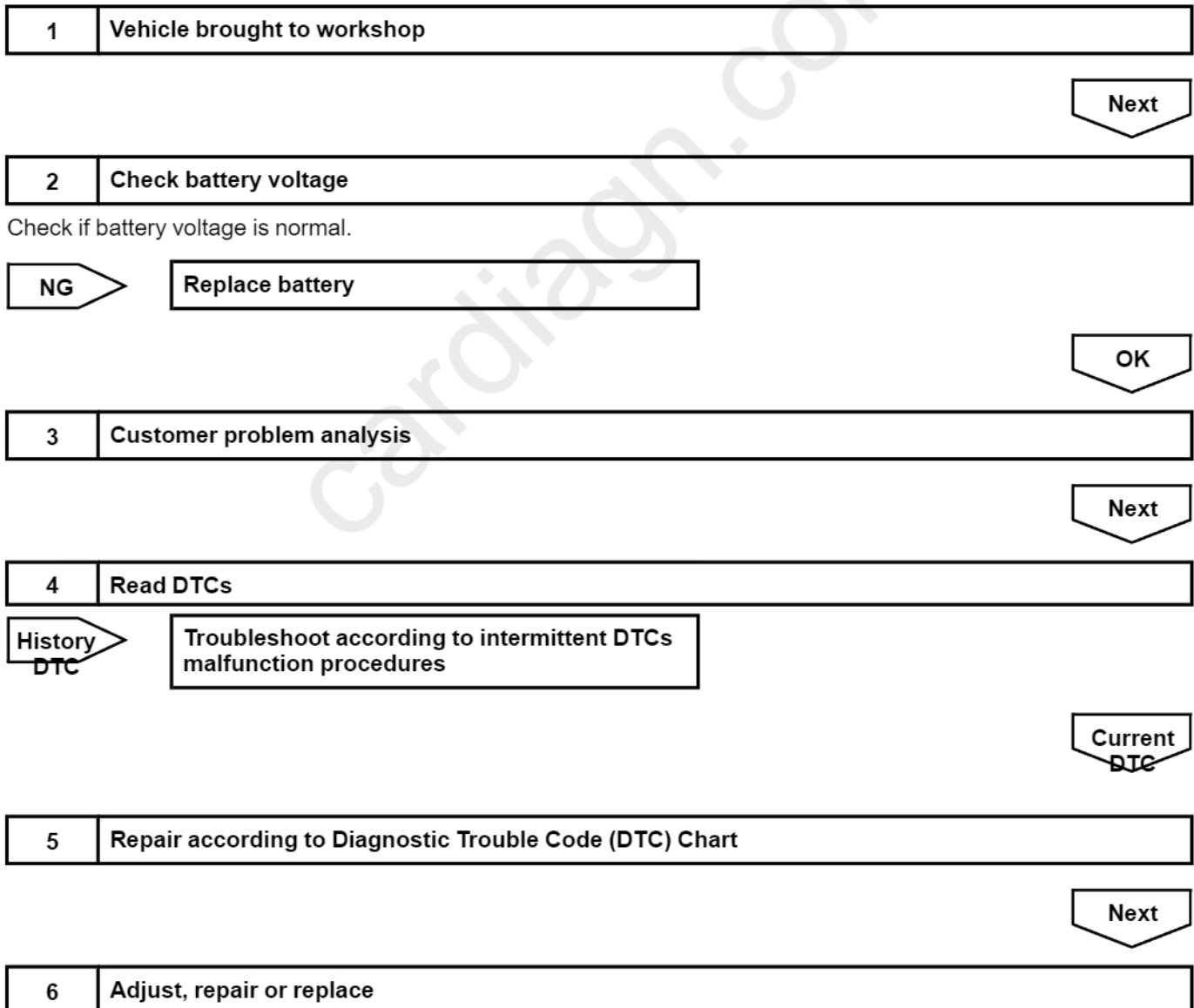
3.3 Ground Inspection

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 operates. Circuits are very sensitive to proper grounding. A loose or corroded ground can seriously 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 any additional accessories interfere with ground circuit.
- (6) If several wire harnesses are crimped into one ground terminal, check for proper crimp condition. Make sure that all wire harnesses are clean and securely fastened while providing a proper ground path.

3.4 Diagnosis Procedure

Use following procedures to troubleshoot the system.



Next

7

Conduct test and confirm malfunction has been repaired

Next

End

3.5 Diagnostic Trouble Code (DTC) Chart

DTC	DTC Definition
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	Temperature Too High - Component or System Temperature Too High
U2501-88	CAN Bus Off
U0140-87	Lost Communication with BCM
U0248-87	Lost Communication with PEPS
U1300-55	Software Configuration Error

3.6 DTC Diagnosis Procedure

DTC	B1B32-16	Power Supply Circuit Voltage Below Threshold
DTC	B1B33-17	Power Supply Circuit Voltage Above Threshold

DTC	DTC Definition	Possible Cause
B1B32-16	Power Supply Circuit Voltage Below Threshold	- 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	

■ DTC Confirmation Procedure

Confirm that battery voltage is not less than 12 V before performing the following procedures.

- Turn ENGINE START STOP switch to OFF.
- Connect the diagnostic tester (the latest software).
- Start engine and warm it up, and then read DTC again. If DTC is detected, malfunction is current.
- If DTC is not detected, malfunction is intermittent.

Hint:

When performing circuit diagnosis and test, always refer to the circuit diagram for specific circuit and component information.

1

Confirm DTCs

Use circuit diagram as a guide to perform the following inspection procedures:

- (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.

NG

Repair or replace wire harness and connector.

OK

2

Check instrument panel power supply voltage

Use circuit diagram as a guide to perform the following inspection procedures:

- (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 the 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.

Multimeter Connection	Condition	Specified Condition
I-044 (1) (2) to ground	ENGINE START STOP switch "ON"	Not less than 12 V

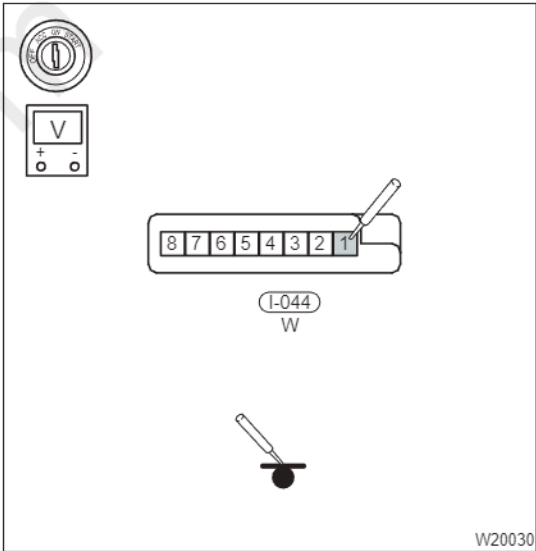
NG

Check if instrument panel fuse is burnt.

OK

3

Using a 21 W test lamp, test power supply voltage



Use circuit diagram as a guide to perform the following inspection procedures:

- Turn ENGINE START STOP switch to OFF, disconnect the negative battery cable.
- Disconnect the instrument panel wire harness connector I-044.
- Connect the negative battery cable, and turn ENGINE START STOP switch to ON.
- Using a 21 W test lamp, check 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.

Multimeter Connection	Condition	Specified Condition
I-044 (1) (2) - Body ground	ENGINE START STOP switch "ON"	Test light comes on normally

NG

Check or replace instrument panel wire harness or connector

OK

4

Inspect ground

Use circuit diagram as a guide to perform the following inspection procedures:

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

Multimeter Connection	Condition	Specified Condition
I-044 (4) - Body ground	ENGINE START STOP switch "ON"	$\leq 1 \Omega$

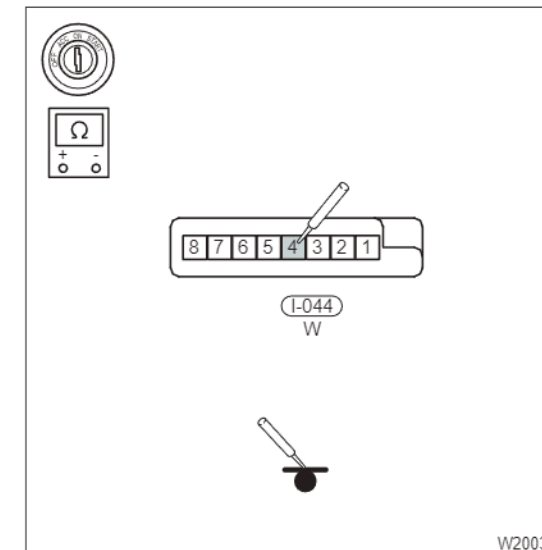
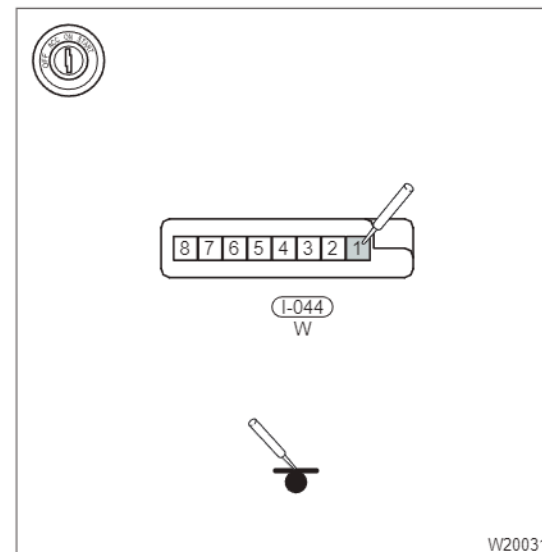
NG

Check and repair instrument panel ground wire harness and ground point.

OK

5

Reconfirm DTCs



Use circuit diagram as a guide to perform the following inspection procedures:

- (a) Connect the negative battery cable.
- (b) Use diagnostic tester to clear DTCs.
- (c) Start the engine.
- (d) Check if the same DTCs are still output.

NG

Replace wireless charging module.

OK

System is normal

DTC	B1B30 - 92	Foreign Matters Exist - Performance or Incorrect Operation
DTC	B1B31 - 98	Component or System Temperature Too High

DTC	DTC Definition	Possible Cause
B1B30 - 92	Foreign Matters Exist - Performance or Incorrect Operation	- Foreign matters exist between mobile phone and wireless charger. - Excessive charging time. - Wireless charging pasteur damaged. - Charging operation out of standard.
B1B31 - 98	Component or System Temperature Too High	

■ DTC Confirmation Procedure

Confirm that battery voltage is not less than 12 V before performing the following procedures.

- Turn ENGINE START STOP switch to OFF.
- Connect the diagnostic tester (the latest software).
- Start engine and warm it up, and then read DTC again. If DTC is detected, malfunction is current.
- If DTC is not detected, malfunction is intermittent.

Hint:

When performing circuit diagnosis and test, always refer to the circuit diagram for specific circuit and component information.

1	Confirm DTCs
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Use circuit diagram as a guide to perform the following inspection procedures:

- (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.

NG

Repair or replace wire harness and connector.

OK

2	Check for foreign matters
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Use circuit diagram as a guide to perform the following inspection procedures:

- (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.

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Remove foreign matters

OK

3

Reconfirm DTCs

Use circuit diagram as a guide to perform the following inspection procedures:

- (a) Connect the negative battery cable.
- (b) Use diagnostic tester to clear DTCs.
- (c) Start the engine.
- (d) Check if the same DTCs are still output.

NG

Replace wireless charging module.

OK

System is normal

DTC	U2501-88	CAN Bus Off
DTC	U0140-87	Lost Communication with BCM
DTC	U0248-87	Lost Communication with PEPS
DTC	U1300-55	Software Configuration Error

■ DTC Confirmation Procedure

Confirm that battery voltage is not less than 12 V before performing the following procedures.

- Turn ENGINE START STOP switch to OFF.
- Connect the diagnostic tester (the latest software).
- Start engine and warm it up, and then read DTC again. If DTC is detected, malfunction is current.
- If DTC is not detected, malfunction is intermittent.

Hint:

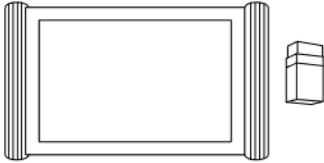
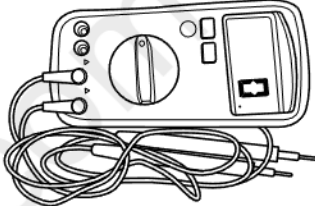
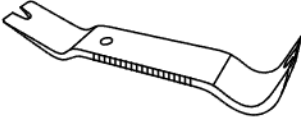
When performing circuit diagnosis and test, always refer to the circuit diagram for specific circuit and component information.

1

Refer to CAN communication system for the above communication faults.

4 ON-VEHICLE SERVICE

4.1 Tools

Tool Name	Tool Drawing
Diagnostic Tester	 S00001
Digital Multimeter	 S00002
Interior Crow Plate	 S00020

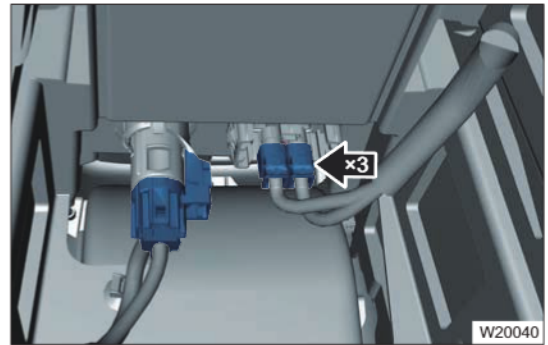
4.2 Replacement of Front Backup Power Supply and Multi-function Interface

■ Removal

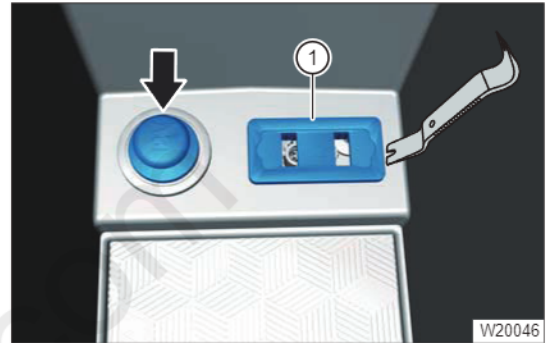
Warning
• Be sure to wear safety equipment to prevent accidents, when removing front backup power supply. • Appropriate force should be applied, when removing front backup power supply. Be careful not to operate roughly.

- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Disconnect the negative battery cable.
- (3) Remove the auxiliary fascia console assembly.

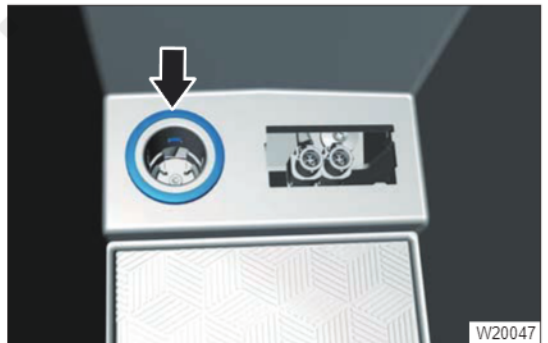
- (4) Disconnect USB connector, backup power supply connector.



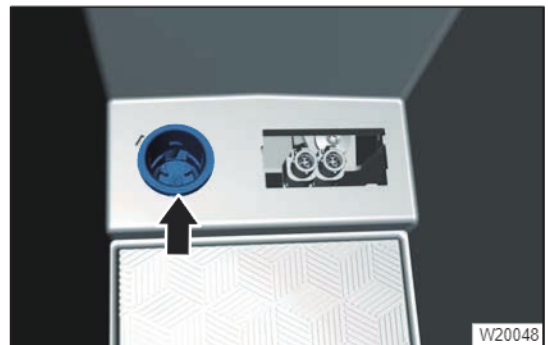
- (5) Remove cigarette lighter block cover, and use interior crow plate to pry off multi-function interface (1).



- (6) Remove the backup power supply mounting ring.



- (7) Remove the cigarette lighter socket.



■ Installation

- (1) Install the cigarette lighter socket.
- (2) Install the backup power supply mounting ring.
- (3) Install backup power supply block cover and multi-function interface.
- (4) Connect USB connector, backup power supply connector.
- (5) Install the auxiliary fascia console body assembly.

- (6) Connect the negative battery cable.
- (7) Press ENGINE START STOP switch and perform running test.

4.3 Replacement of USB Charging Module

■ Removal

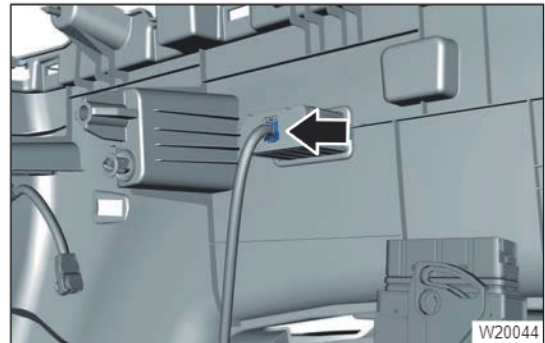
Warning

- **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) Using an interior crow plate, pry off auxiliary fascia console rear cover assembly.



- (4) Disconnect the USB charging module connector.



- (5) Remove the USB charging module with interior crow plate.



■ Installation

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.

- (1) Install the USB charging module.
- (2) Connect the USB charging module connector.
- (3) Install the auxiliary fascia console rear cover assembly.
- (4) Connect the negative battery cable.
- (5) Turn the ENGINE START STOP switch to ON and perform running test.

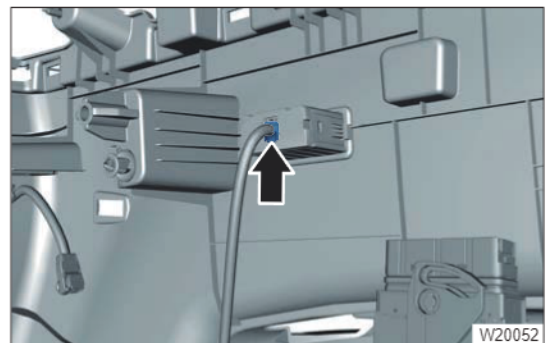
4.4 Replacement of Rear USB Charging Module

■ Removal

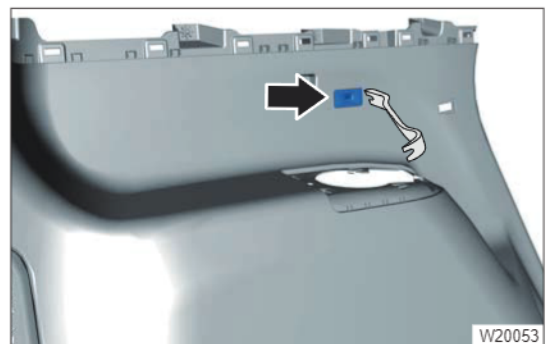
Warning

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

- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Disconnect the negative battery cable.
- (3) Remove the left luggage compartment protector assembly.
- (4) Disconnect the rear USB charging module connector.



- (5) Remove the rear USB charging module with interior crow plate.



■ Installation

Caution

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

- (1) Install the rear USB charging module.
- (2) Connect the rear USB charging module connector.
- (3) Install the left luggage compartment protector assembly.
- (4) Connect the negative battery cable.

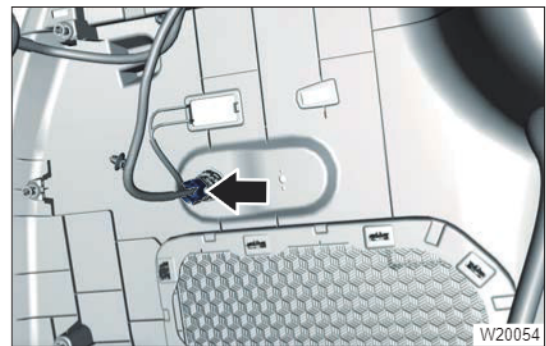
4.5 Replacement of Rear Backup Power Supply

■ Removal

Warning

- Be sure to wear safety equipment to prevent accidents, when removing rear backup power supply.
- Appropriate force should be applied, when removing rear backup power supply. Be careful not to operate roughly.

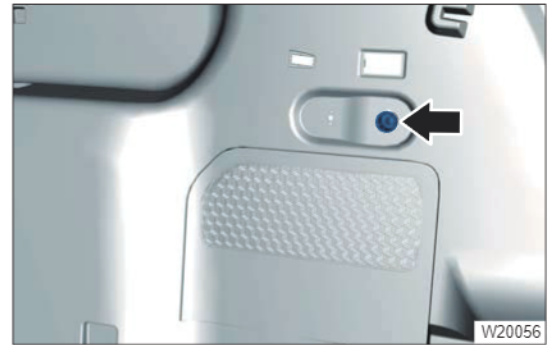
- (1) Turn off all electrical equipment and ENGINE START STOP switch.
- (2) Disconnect the negative battery cable.
- (3) Remove the right luggage compartment protector assembly.
- (4) Disconnect the rear backup power connector.



- (5) Remove the luggage compartment right power supply block cover.



- (6) Remove the rear backup power supply rear base assembly.



■ Installation

- (1) Install the rear backup power supply rear base assembly to right luggage compartment protector assembly.
- (2) Install the rear backup power supply block cover.
- (3) Connect the rear backup power supply connector.
- (4) Install the right luggage compartment protector assembly.
- (5) Connect the negative battery cable.
- (6) Press ENGINE START STOP switch and perform running test.

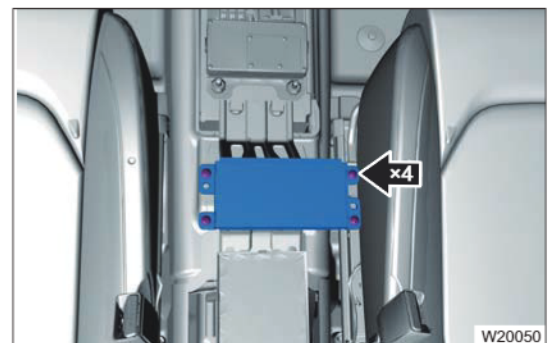
4.6 Replacement of Wireless Charging Module

■ Removal

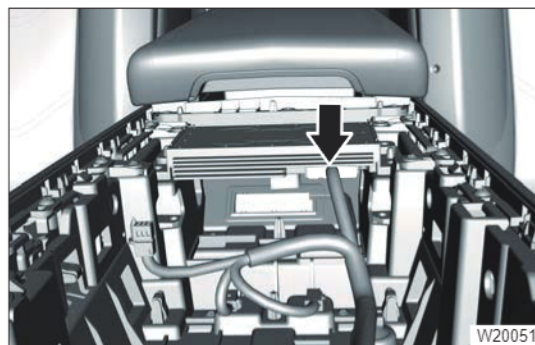
Warning

- **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 auxiliary fascia console trim panel assembly.
- (4) Using a cross screwdriver, remove 4 fixing screws from wireless charging module.



- (5) Disconnect the wireless charging module connector and remove wireless charging module assembly.



■ Installation

- (1) Install wireless charging module assembly and connect wireless charging module connector.
- (2) Tighten 4 bolts of wireless charging module.

Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$

- (3) Tighten the wireless charging module connector.
- (4) Install the auxiliary fascia console trim panel assembly.
- (5) Connect the negative battery cable.
- (6) Connect diagnostic tester to read and clear DTCs.