DOOR LOCK SYSTEM

GENERAL INFORMATION

System Overview

Description

1	Engine Hood Lock Assembly	2	Front Right Door Lock Assembly
3	Rear Right Door Lock Assembly	4	Back Door Lock Assembly
5	Rear Left Door Lock Assembly	6	Front Left Door Lock Assembly

Door lock system is a device mounted on the door and its pillar, which can reliably lock the door and realize the opening and locking functions through its internal mechanism. It is a very important accessory of body. It has safety protection function, which must guarantee reliable locking of door in the normal use, preventing the door accident/unintentional recognition to open. It also guarantee that door needs to open smoothly, to ensure that door can open in normal or when an emergency occurs, so as not to cause casualties and property losses which belongs to safety regulations.

Safe Mode

Central lock and unlock operations

1. Locking and unlocking using wireless key
   - Turn ENGINE START STOP switch to OFF;
   - Close all four doors;
   - Lock command is received from wireless key;

2. Vehicle performs central lock operation, turn signal lights flash once and anti-theft indicator blinks at certain frequency and anti-theft high / low pitched horn sounds.
   - Any of doors is not closed properly;
   - ENGINE START STOP switch is in a position other than ACC or ON;
   - Lock command is received from wireless key.
3. Vehicle performs a central lock operation, and then performs a central unlock operation, and turn signal lights flash twice.
   - All four doors are closed;
   - Engine hood or back door is not closed;
   - ENGINE START STOP switch is in a position other than ACC or ON;
   - Lock command is received from wireless key.
4. Vehicle performs central lock operation, and turn signal lights flash twice; If engine hood and luggage compartment door are closed at this time, vehicle will not enter fortifying mode. As long as unlock command is received from wireless key, vehicle performs central unlock operation once and left and right turn signal lights flash twice. Under unfortified vehicle: Lock and unlock operation are controlled by central lock
   - Press central lock switch with all 4 doors closed to perform lock command;
   - Press central unlock switch to perform unlock command;
   - Press central lock switch with any of the 4 doors not closed, it performs lock command firstly and then perform unlock command;
5. Auto unlock
   - Turn ENGINE START STOP switch to OFF with vehicle locked and vehicle speed 0 to perform auto unlock operation.

Wireless key operation

1. Lock button on wireless key
   - ENGINE START STOP switch is in OFF;
   - Four doors & two covers are closed;
   - Lock command is received from wireless key;
2. Perform central lock operation, turn signal lights flash once, horn briefly sounds once and vehicle enters fortifying mode successfully.
   - Turn ENGINE START STOP switch to OFF;
   - One or more of the 4 doors are not closed;
   - Lock command is received from wireless key.
3. Unlock button on wireless key
   - Press unlock button on wireless key to perform central unlock operation, and turn signal lights flash twice.
4. Back door release button on wireless key
   - Long press luggage compartment door release button to release luggage compartment door for 30 s with ENGINE START STOP switch OFF and all doors, engine hood, luggage compartment door closed.

Anti-theft Management

1. Fortifying mode
   - ENGINE START STOP switch is in IGN ON/ACC;
   - Four doors & two covers are closed;
   - Lock command is received from wireless key.

Doors unlock once after locking, turn signal lights blink twice, horn does not sound, and vehicle does not enter fortifying mode successfully.

Press lock button on wireless key with ENGINE START STOP switch in OFF and engine hood/luggage compartment door not closed, vehicle performs central lock operation, and turn signal lights flash twice, horn does not sound, and vehicle does not enter fortifying mode successfully.

Fortifying deactivation mode

When unlock command is received from wireless key, vehicle exits fortifying mode, and turn signal lights come on twice at the same time.With vehicle in fortifying mode, turn ENGINE START STOP switch to ON and start engine. It will exit the fortifying mode after engine is started.

Luggage compartment door opening mode

In fortifying mode, long press luggage compartment door release button on wireless key to release luggage compartment door, and open the luggage compartment door using luggage compartment door opener switch. At this time, turn signal lights come on twice and anti-theft horn does not sound.

Alarm mode

1. In fortifying mode, if any of the following conditions occur:
   - Engine hood is opened in a invalid manner (this function is not equipped on China model);
   - Luggage compartment door is opened in a invalid manner;
   - Any of the 4 doors is opened in a invalid manner;

Vehicle enters alarm mode, anti-theft horn sounds and turn signal lights come on; alarm will continue for 1 cycle and one trigger source may cause alarm to be triggered for up to 3 cycles. If opened door/engine hood/luggage compartment door is closed when alarm sounds, alarm will stop after this cycle is ended.

Alarm deactivation mode

If unlock command is received from wireless key when vehicle is in alarm mode, alarm deactivates and sound and light alarms stop.

Re-fortifying mode

When unlock button on wireless key is pressed with key removed, all 4 doors, engine hood and back door closed and vehicle in fortifying mode, all doors will be locked and vehicle will enter fortifying mode again after 30 seconds if no further operations (open door, engine hood and back door) are performed, central lock operation is performed again.

1. Unlocking luggage compartment door
   - In central lock status, long press luggage compartment door release button on wireless key to unlock door, then you can open the door using its opener switch.
   - In central unlock status, luggage compartment door can be opened using its opener switch.
   - In fortifying mode, luggage compartment door opener switch cannot work.
2. Door, Hood and Luggage Compartment Door Status
   - When any of doors, engine hood or luggage compartment door is opened, corresponding display will be shown on instrument cluster display.
3. Collision unlock: collision unlock function is activated when following conditions are met:
   - ENGINE START STOP switch is in “ON”;
   - BCM receives a collision signal sent from analog ABM;

   After collision unlock function is activated, BCM performs unlock operation once and then performs once again after 1 second, while dome lights (with dome lights at DOOR position) and hazard warning lights turn on and then go off 30 minutes later.

   Dome lights and hazard warning lights can be turned off immediately by performing following operations within 30 minutes after collision occurs: Turn ENGINE START STOP switch to OFF from ON, and then back to ON again.

Central lock function is disabled after collision occurs, but central unlock function can be performed. Central lock function can be recovered by performing following operations: Turn ENGINE START STOP switch to “OFF” from “ON”.

Wireless key

1. Wireless key controls the locking/unlocking of door.
   - Wireless key lock: With all doors fully closed, press lock button on wireless key, all doors will be locked and turn signal lights flash once. Security indicator will also blink normally to indicate that system is in armed state, and body anti-theft system is started. With any door open or not fully closed, press lock button on wireless key, all doors are locked immediately and then unlocked, turn signal lights flash twice to remind driver that vehicle is not fortified.
   - Wireless key unlock: Press unlock button on wireless key, all doors will unlock and turn signal lights flash twice, body anti-theft system is deactivated and security indicator turns off. After unlocking doors with wireless key, open any door within 30 seconds. If no door is opened within 30 seconds, doors will be locked again automatically.

Vehicle security system has 7 modes:

1. Fortifying mode
   a. It will enter fortifying mode when following conditions are met:
      - Close all doors and luggage compartment door.
      - All doors are locked with lock button on wireless key.
   b. When vehicle is in fortifying mode, following conditions will occur:
      - Turn signal lights flash once to indicate that vehicle is in fortifying mode.
      - In fortifying mode, if any door does not open within 30 seconds after unlocking the door by wireless key, the doors will lock again automatically.
2. Fortifying failure mode
   a. System will enter fortifying failure mode under following conditions:
      - If any door or luggage compartment door is not fully closed.
   b. When vehicle is in fortifying failure mode, following conditions will occur:
      - Turn signal lights flash twice. If all 4 doors are not closed, central door lock performs “doors lock and then unlock” regardless of luggage compartment door conditions.
      - If all 4 doors are closed while luggage compartment door is not closed, all the 4 doors will be locked.
3. Fortifying deactivation mode
   a. In intrusion model, fortifying will be deactivated if either of following conditions occur:
      - Press unlock button on wireless key.
      - Open doors with the key.
   b. Features of fortifying deactivation mode (unlock doors using wireless key):
      - All 4 doors are unlocked.
      - Turn signal lights flash twice slowly, and anti-theft indicator stops blinking.
4. Refortifying mode
   a. It will enter refortifying mode when following conditions are met:
      - Fortifying will be deactivated by using wireless key button after entering fortifying mode.
      - All doors and luggage compartment door status does not change
   b. Features of refortifying mode:
      - All doors are locked, turn signal lights do not blink, which indicate that system enters refortifying mode.
5. Alarm mode

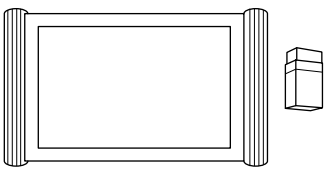
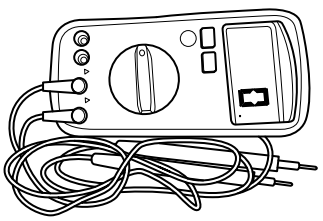
a. When vehicle is in fortifying mode, the alarm will be triggered if any of the following condition occurs:
   - Manually open any door, engine hood and luggage compartment door.

b. When vehicle is in alarm mode, the following condition occurs:
   - After alarm is triggered, turn signal lights will flash for 30 seconds. Blinking and sounding will occur again for 30 seconds at an interval of 5 seconds. This process will repeat for 3 times. If all doors/engine hood are fully closed or ENGINE START STOP switch is turned to OFF in this process, all doors will be locked again automatically after completing current blinking for turn signal lights and 5 seconds have elapsed. At this time, body anti-theft system will be restarted.

6. Alarm deactivation mode
   a. The following operations will deactivate the alarm:
      - Press unlock button on wireless key.
      - Open doors with the key.
7. Luggage compartment door open mode
   a. In fortifying mode, if luggage compartment door release button on wireless key is pressed for 1.5 seconds, luggage compartment door is unlocked and turn signal lights flashes twice at an interval of 1 second. Enter luggage compartment door open mode.
      - Opening luggage compartment door will not trigger alarm mode.
      - After luggage compartment door is closed, system enters fortifying mode again without any sound or light feedback.
      - If lock button on wireless key is pressed with luggage compartment door open, system enters fortifying failure mode. If unlock button on wireless key is pressed, system enters fortifying deactivation mode.
      - If any of the 4 all doors or engine hood is opened, system will enter alarm mode, regardless of whether luggage compartment door is closed or not.

Specifications

Tools

Tool Name	Tool Drawing
X-431 PAD Diagnostic Tester	 RCH0001006
Digital Multimeter	 RCH0002006

Torque Specifications

Description	Torque (N•m)
Engine Hood Lock Assembly Fixing Nut	9 ± 1
Front Door Lock Assembly Fixing Screw	9 ± 1
Front Door Key Cylinder Assembly Fixing Screw	5 ± 1
Front Door Lock Striker Assembly Fixing Screw	23 ± 2
Rear Door Lock Assembly Fixing Screw	9 ± 1
Rear Door Lock Striker Assembly Fixing Screw	23 ± 2
Back Door Lock Assembly Fixing Screw	10 ± 1
Back Door Lock Striker Assembly Fixing Screw	23 ± 2
Front Door Outside Handle Fixing Screw	5 ± 1
Front Door Glass Rear Lower Guide Rail Fixing Bolt	7 ± 1
Rear Door Glass Rear Lower Guide Rail Fixing Bolt	7 ± 1
Rear Foot Transition Duct Fixing Screw	1.5 ± 0.5
Gear Shift Control Mechanism Fixing Bolt	20 ± 3

DIAGNOSIS & TESTING

Problem Symptoms Table

Power Door Lock Control System

Hint:
Use symptoms table below to help determine cause of problem. Check each suspected area in sequence. Repair, replace or adjust faulty components as necessary.

Symptom	Suspected Area
All door lock/unlock functions do not operate	Body Control Module (BCM), fuse
	Power door unlock/lock switch button
	Front left door lock assembly
	Other door lock assemblies
	Wire harness or connector
	Body Control Module (BCM)
Only Driver Side Door Lock/Unlock Function does not Operate	Power door unlock/lock switch button
	Front left door lock assembly
	Wire harness or connector
	Body Control Module (BCM)
Only passenger side door lock/unlock function does not operate	Front right door lock assembly
	Wire harness or connector
	Body Control Module (BCM)
Only Rear Left Door Lock/Unlock Function does not Operate	Rear left door lock assembly
	Wire harness or connector
	Body Control Module (BCM)
Only rear right door lock/unlock function does not operate	Rear right door lock assembly
	Wire harness or connector
	Body Control Module (BCM)
Only trunk lid open/close function does not operate	Back door lock assembly
	Wire harness or connector
	Body Control Module (BCM)

Wireless Door Lock Control System:

Symptom	Suspected Area
Only wireless control function does not operate	Wireless key battery
	Anti-theft matching

Symptom	Suspected Area
	Wire harness or connector
	Body Control Module (BCM)
Only no answer-back	Turn signal light
	Body Control Module (BCM)

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 CD 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.

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 wiggling 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.

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.

Trouble Diagnosis

DTC	/	All door lock/unlock functions do not operate

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

1	Using diagnostic tester to perform active test

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

(a) Use the diagnostic tester to perform active test (door lock).

NG → **Go to step 3**

OK ↓

2	Check driver side door lock/unlock operation

(a) Using central control lock switch cannot immediately lock/unlock all doors.

NG → **Replace central control lock switch**

OK ↓

3	Check fuse

(a) Turn ENGINE START STOP switch to ON.

(b) Check if the power supply fuses in instrument panel fuse box are fused respectively.

(c) Check if the power supply fuses of BCM in the engine compartment fuse and relay box are fused respectively.

NG → **Replace fuse**

OK ↓

4	Check central control lock switch

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect central control switch connector, and replace central control switch assembly with a new one.

(c) Press central control switch manually, check if door lock operates.

NG → **Replace central control switch assembly.**

OK

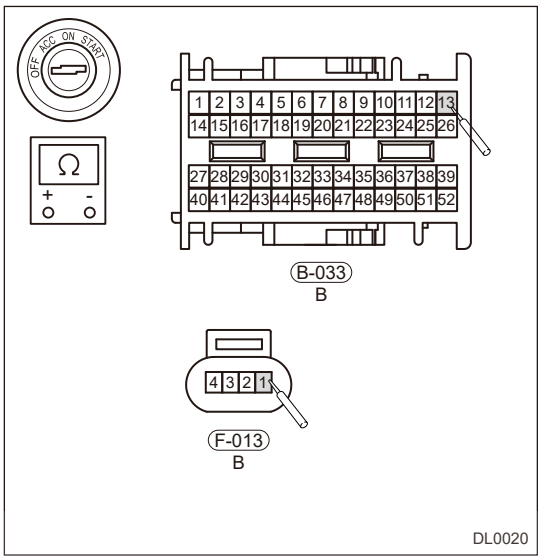
5	Check central control switch circuit

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect BCM connector B-033 and central control lock switch F-013.

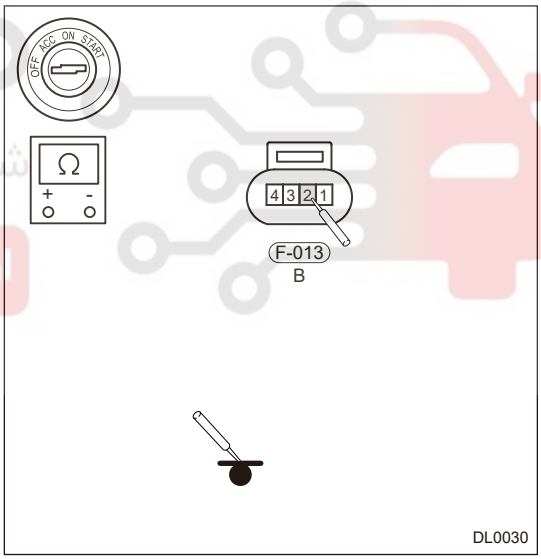
(c) Using ohm band of multimeter, check for continuity between B-033(1-13) - F-013(1) respectively.

Multimeter Connection	Condition	Specified Condition
B-033 (1-13) - F-013 (1)	Always	< 1 Ω



(d) Using ohm band of multimeter, check for continuity between central control lock switch F-013 (2) - ground point GB-605.

Multimeter Connection	Condition	Specified Condition
F-013 (2) - GB-605	Always	< 1 Ω



NG → **Repair or replace central control switch related wire harness**

OK

6	Check BCM lock/unlock terminals voltage

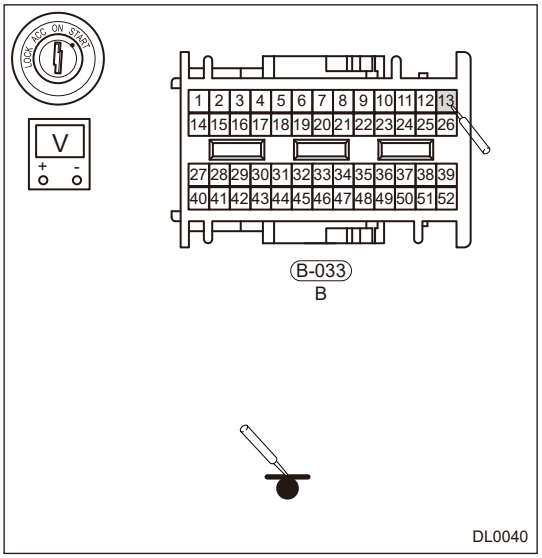
(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the BCM connector B-033.

(c) Then turn ENGINE START STOP switch to ON.

(d) Press central control lock switch, check voltage between BCM B-033 (1-13) terminal and body ground with voltage band of multimeter.

Multimeter Connection	Condition	Specified Condition
B-033 (1-13) - Body ground	ENGINE START STOP switch “ON”	Not less than 12 V



NG → **Replace BCM controller assembly**

OK → **End**

DTC	/	Only Driver Side Door Lock/Unlock Function does not Operate

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

1	Check front left door lock motor

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

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the fastener motor connector.

(c) Apply a voltage of not less than 12V to fastener motor, and check if fastener operates.

NG → **Replace front left door lock assembly**

OK

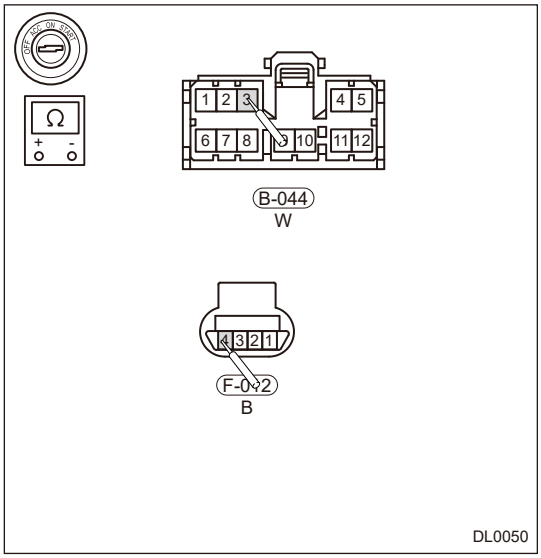
2	Check front left door lock motor wire harness and connector

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the negative battery cable.

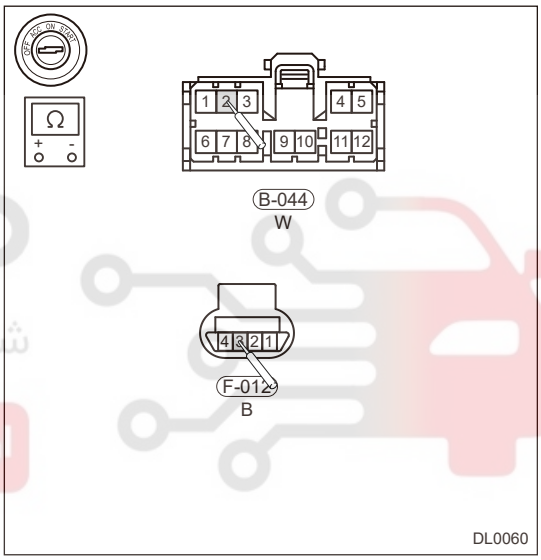
(c) Using ohm band of multimeter, check for continuity between BCM lock output B-044 (4-3) terminal and front left door lock motor connector F-012 (4).

Multimeter Connection	Condition	Specified Condition
B-044 (4-3) - F-012(4)	Always	⩽ 1 Ω



(d) Using ohm band of multimeter, check for continuity between BCM unlock output B-044(4-2) terminal - F-012 (3).

Multimeter Connection	Condition	Specified Condition
B-044 (4-2) - F-012 (3)	Always	⩽ 1 Ω



NG → **Repair or replace front left door lock related wire harness**

OK

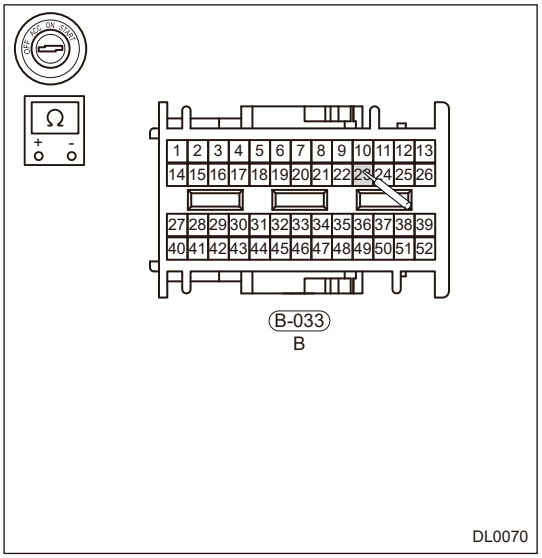
3	**Check front left door lock contact switch signal circuit**

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the BCM connector B-033.

(c) Using ohm band of multimeter, check for continuity between B-033 (1-23) terminal and front left door contact switch ground point GB-605.

Multimeter Connection	Condition	Specified Condition
B-033(1-23) - GB-605	Always	⩽ 1 Ω



NG → **Repair or replace front left door lock contact switch ground wire harness**

OK → **End**

DTC	/	Only Front Right Door Lock/Unlock Function does not Operate

Hint:

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

1	Check front left door lock motor

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

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the fastener motor connector.

(c) Apply a voltage of not less than 12V to fastener motor, and check if fastener operates.

NG → **Replace front right door lock assembly**

OK

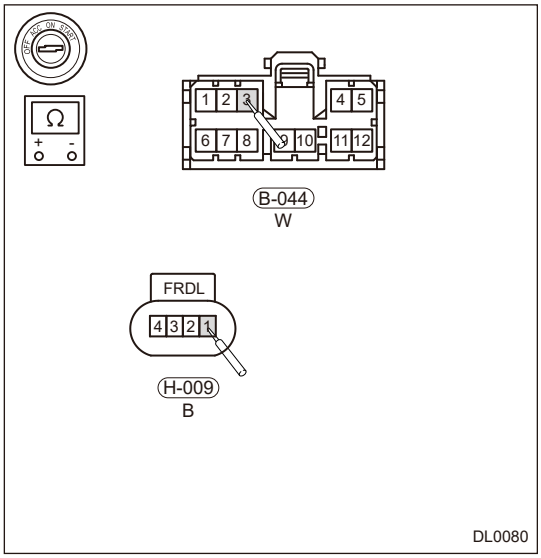
2	Check front right door lock motor wire harness and connector

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the negative battery cable.

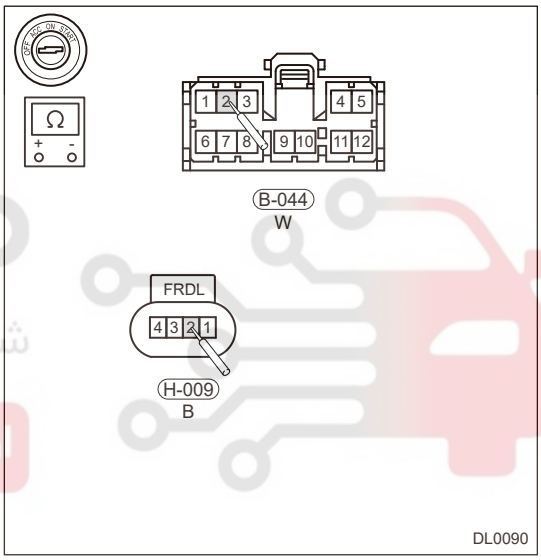
(c) Using ohm band of multimeter, check for continuity between BCM lock output B-044(4-03) terminal and front right door lock motor connector H-009(1).

Multimeter Connection	Condition	Specified Condition
B-044 (4-03) - H-009 (1)	Always	⩽ 1 Ω



(d) Using ohm band of multimeter, check for continuity between BCM unlock output B-044(4-02) terminal - H-009 (2).

Multimeter Connection	Condition	Specified Condition
B-044 (4-02) - H-009 (2)	Always	⩽ 1 Ω



NG → **Repair or replace front right door lock related wire harness**

OK

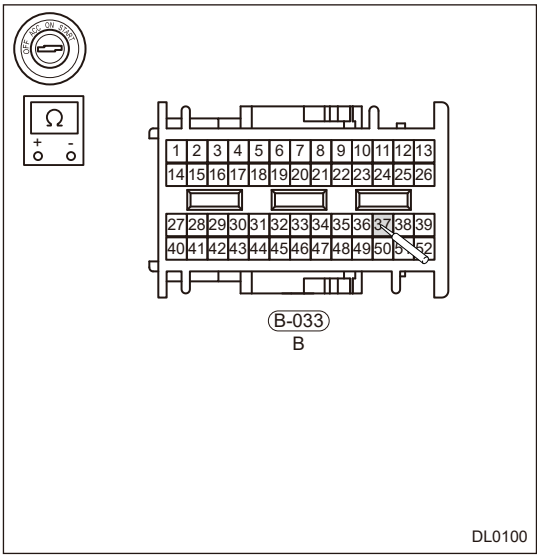
3	**Check front right door lock contact switch signal circuit**

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the BCM connector B-033.

(c) Using ohm band of multimeter, check for continuity between B-033 (1-37) terminal and front right door contact switch ground point GB-610.

Multimeter Connection	Condition	Specified Condition
B-033 (1-37) - GB-610	Always	⩽ 1 Ω



NG → **Repair or replace front right door lock contact switch ground wire harness**

OK → **End**

DTC	/	Only Rear Left Door Lock/Unlock Function does not Operate

Hint:

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

1	Check rear left door lock motor

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

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the fastener motor connector.

(c) Apply a voltage of not less than 12V to fastener motor, and check if fastener operates.

NG → **Replace rear left door lock assembly**

OK

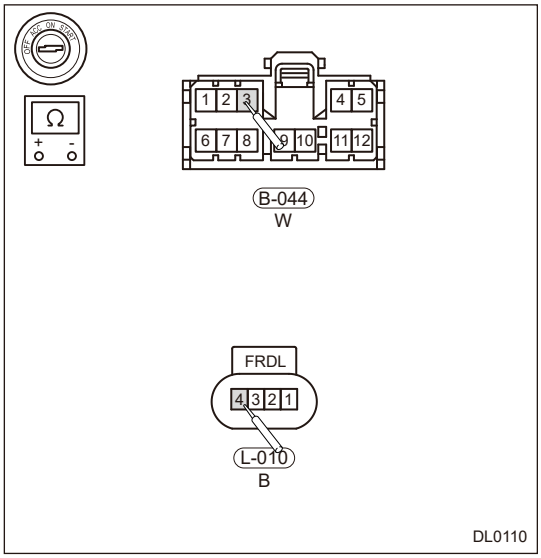
2	Check front left door lock motor wire harness and connector

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the negative battery cable.

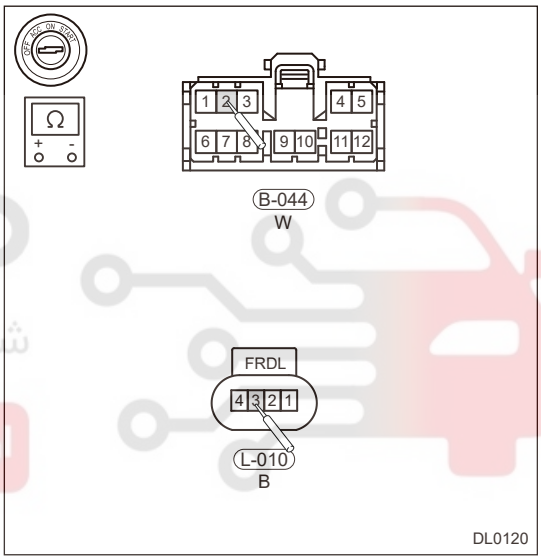
(c) Using ohm band of multimeter, check for continuity between BCM lock output B-044 (4-03) terminal and rear left door lock motor connector L-010 (4).

Multimeter Connection	Condition	Specified Condition
B-044 (4-03) - L-010 (4)	Always	⩽ 1 Ω



(d) Using ohm band of multimeter, check for continuity between BCM unlock output B-044 (4-02) terminal - L-010 (3).

Multimeter Connection	Condition	Specified Condition
B-044 (4-02) - L-010 (3)	Always	⩽ 1 Ω



NG → **Repair or replace rear left door lock related wire harness**

OK ↓

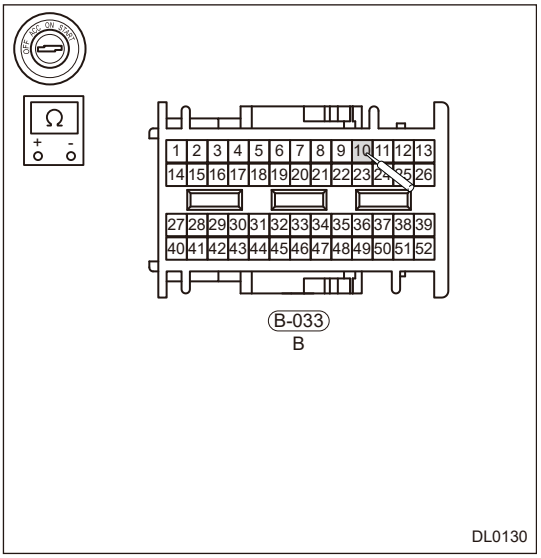
3	**Check rear left door lock contact switch signal circuit**

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the BCM connector B-033.

(c) Using ohm band of multimeter, check for continuity between B-033(1-10) terminal - rear left door contact switch ground point GB-607.

Multimeter Connection	Condition	Specified Condition
B-033(1-10) - GB-607	Always	⩽ 1 Ω



NG → **Repair or replace rear left door lock contact switch ground wire harness**

OK → **End**

DTC	/	Rear Right Door Lock/Unlock Function does not Operate

Hint:

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

1	Check rear right door lock motor

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

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the fastener motor connector.

(c) Apply a voltage of not less than 12V to fastener motor, and check if fastener operates.

NG → **Replace rear right door lock assembly**

OK

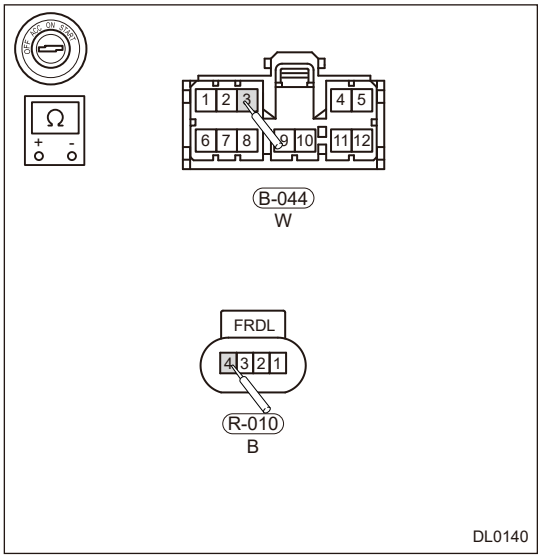
2	Check rear left door lock motor wire harness and connector

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the negative battery cable.

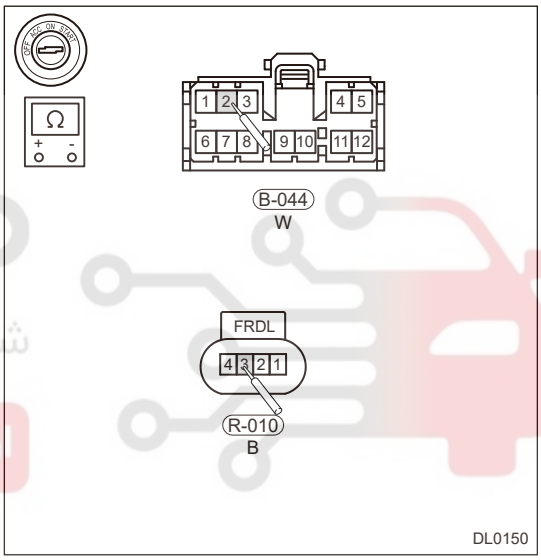
(c) Using ohm band of multimeter, check for continuity between BCM lock output B-044 (4-03) terminal and rear right door lock motor connector R-010 (4).

Multimeter Connection	Condition	Specified Condition
B-044 (4-03) - R-010 (4)	Always	⩽ 1 Ω



(d) Using ohm band of multimeter, check for continuity between BCM unlock output B-044 (4-02) terminal - R-010 (3).

Multimeter Connection	Condition	Specified Condition
B-044 (4-02) - R-010 (3)	Always	⩽ 1 Ω



NG → **Repair or replace rear right door lock related wire harness**

OK ↓

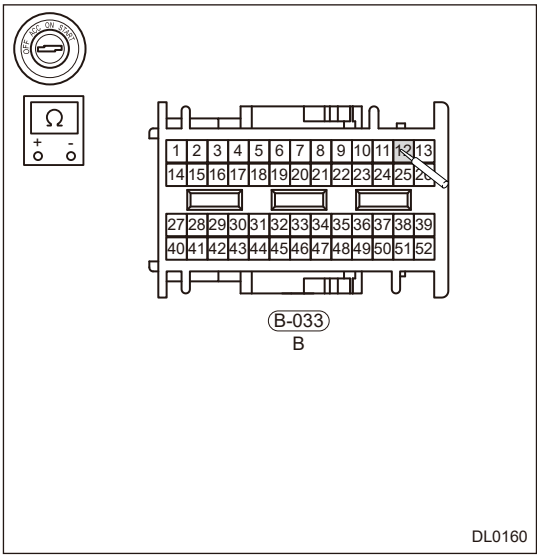
3	**Check rear left door lock contact switch signal circuit**

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the BCM connector B-033.

(c) Using ohm band of multimeter, check for continuity between B-033(1-12) terminal - rear right door contact switch ground point GB-610.

Multimeter Connection	Condition	Specified Condition
B-033 (1-12) - GB-610	Always	⩽ 1 Ω



NG → **Repair or replace rear right door lock contact switch ground wire harness**

OK → **End**

DTC	/	Only Back Door Lock/Unlock Function does not Operate

Hint:

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

1	Check back door lock motor

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

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect the fastener motor connector.

(c) Apply a voltage of not less than 12V to fastener motor, and check if fastener operates.

NG → **Replace back door lock motor**

OK

2	Check BCM unlock output voltage

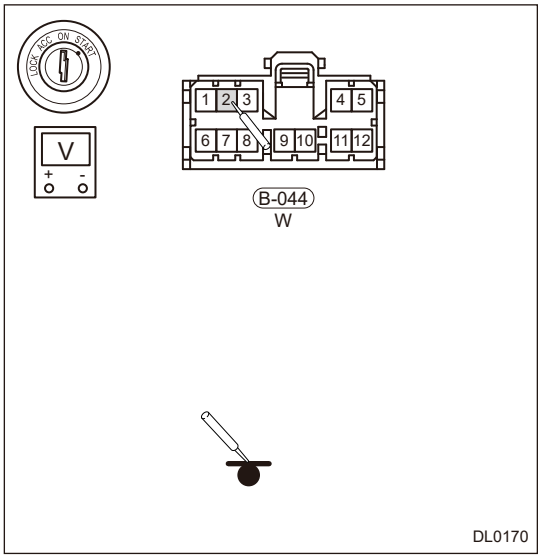
(a) Turn ENGINE START STOP switch to “ON”.

(b) Ensure the BCM power supply fuse and power supply circuit are normal.

(c) Disconnect the BCM connector B-044.

(d) Press back door unlock switch, check voltage between BCM B-044 (4-04) and body ground with voltage band of multimeter.

Multimeter Connection	Condition	Specified Condition
B-044 (4-04) - Body ground	Switch “ON”	Not less than 12 V



NG → **Replace BCM control module assembly**

OK

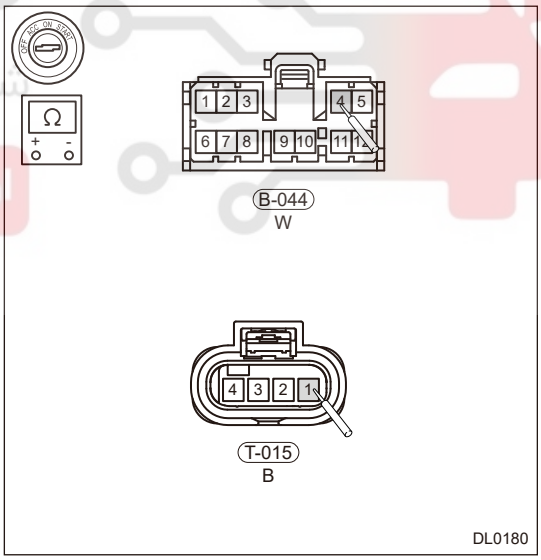
3	Check back door lock motor unlock power supply wire harness

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect BCM connector B-044 and back door lock connector T-015.

(c) Using ohm band of multimeter, check for continuity between B-044(4-04) terminal and T-015 (1) terminal.

Multimeter Connection	Condition	Specified Condition
B-044 (4-04) - T-015(1)	Always	⩽ 1 Ω



NG → **Repair or replace back door lock wire harness**

OK

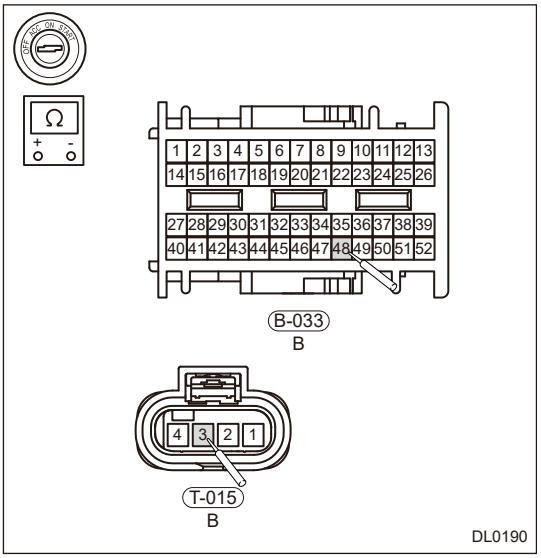
4	Check door open signal and door lock motor ground circuit

(a) Turn ENGINE START STOP switch to “OFF”.

(b) Disconnect BCM connector B-033 and back door lock connector T-015.

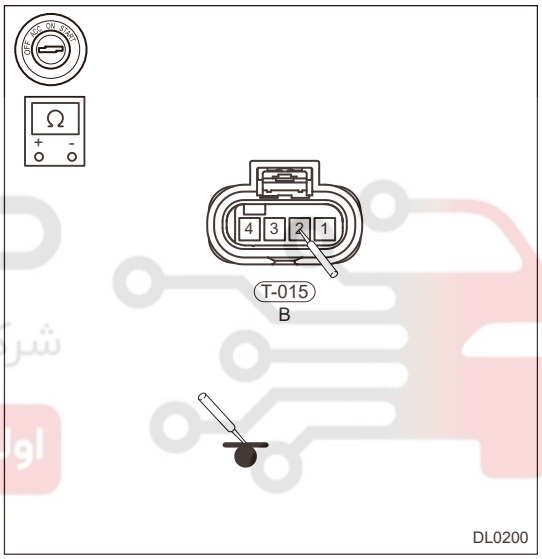
(c) Using ohm band of multimeter, check for continuity between B-033(1-48) terminal and back door lock T-015 (3) terminal.

Multimeter Connection	Condition	Specified Condition
B-033(1-48)-T-015 (3)	Always	⩽ 1 Ω



(d) Using ohm band of multimeter, check for continuity between T-015 (2) terminal and ground point GB-608.

Multimeter Connection	Condition	Specified Condition
T-015(2)-GB-608		⩽ 1 Ω



NG → **Replace back door lock ground wire harness**

OK → **Replace back door lock motor assembly**

ON-VEHICLE SERVICE

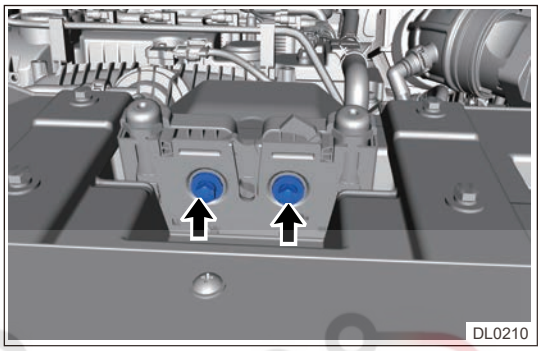
Engine Hood Lock Assembly

Removal

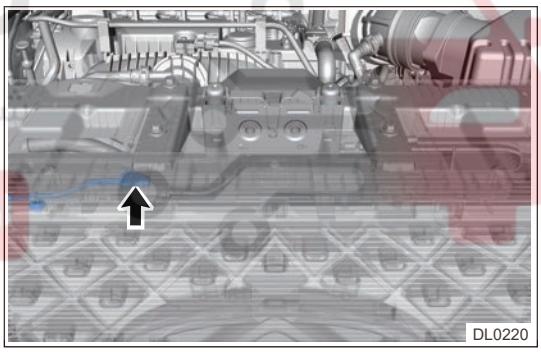
WARNING
• Be sure to wear necessary safety equipment to prevent accidents, when removing engine hood lock assembly. • Try to prevent body paint surface from being scratched when removing engine hood lock assembly.

1. Remove the engine hood lock assembly.
   a. Remove 2 fixing nuts (arrow) from engine hood lock assembly.

Tightening Torque
9 ± 1 N•m



   b. Disconnect connector, remove engine hood lock assembly.



Installation

CAUTION
Check if engine hood operates properly, after installing engine hood lock assembly.

1. Installation is in the reverse order of removal.

Front Door Lock Assembly

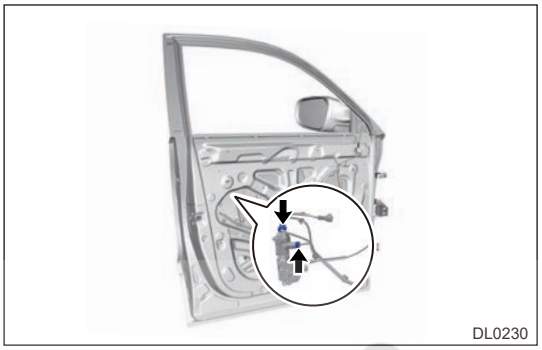
Removal

WARNING
• Be sure to wear necessary safety equipment to prevent accidents, when removing front door lock assembly. • Try to prevent interior and body paint surface from being scratched, when removing front door lock assembly.

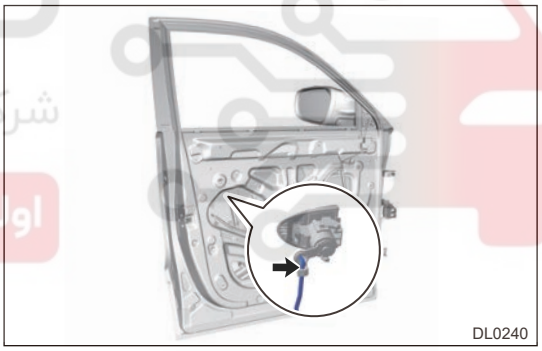
Hint:

- Use same procedures for right and left sides.
- Procedures listed below are for left side.

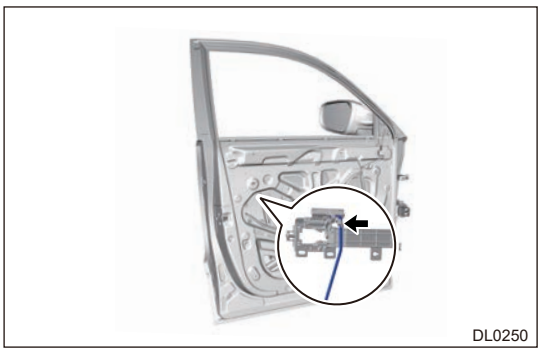
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner protector assembly.
4. Remove the front left door metal bracket.
5. Remove the front left door protective film assembly.
6. Remove the front left door glass rear guide rail assembly.
7. Remove the front left door lock assembly.
   a. Disconnect the connector (arrow) from front left door lock assembly.


DL0230

   b. Disengage clip (arrow) between front left door lock assembly and front door key cylinder lever.


DL0240

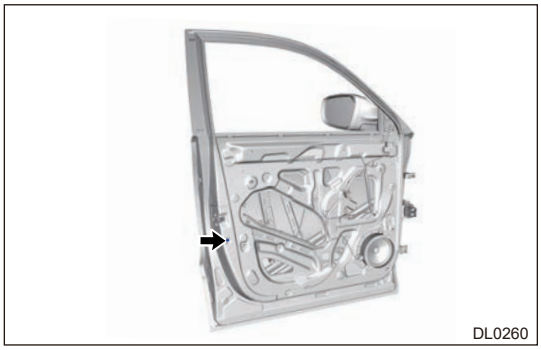
   c. Disengage the front door outside handle cable (arrow) from the slot of front door handle base.


DL0250

   d. Disengage the clip from front door inside handle cable.

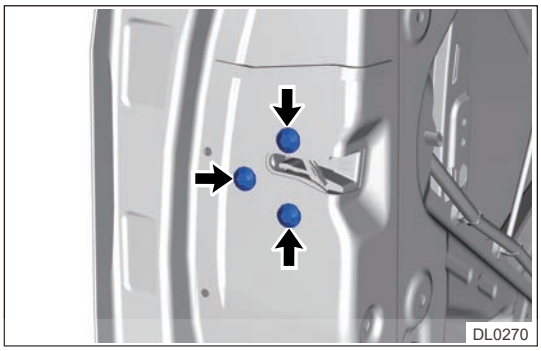
e. Remove fixing bolt (arrow) from front door glass rear lower guide rail.

Tightening Torque
7 ± 1 N m



f. Remove 3 fixing screws (arrow) from front door lock assembly, and remove the front door lock assembly.

Tightening Torque
9 ± 1 N m



8. Remove the front left door lock assembly.

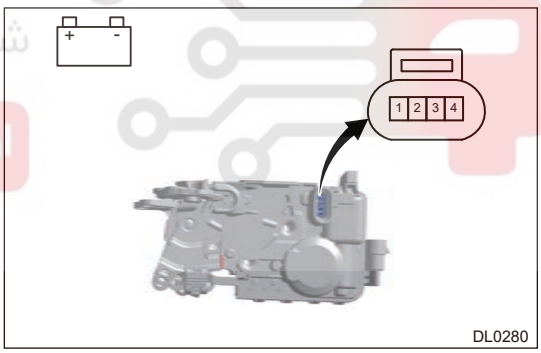
Inspection

Check front door lock assembly (fastener assembly)

1. Apply battery voltage to the terminals of front door lock assembly (fastener assembly) connector and check if front door lock assembly operates normally according to the table below.

Measurement Condition	Specified Condition
Battery positive (+) - Terminal 1 Battery negative (-) - Terminal 2	Lock
Battery positive (+) - Terminal 2 Battery negative (-) - Terminal 1	Unlock

If result is not as specified, replace front door lock assembly.



Installation

CAUTION

- Check if connector is installed correctly, when installing front door lock assembly.
- Install the clips and cables in place, when installing front door lock assembly.
- Check if front door lock operates properly, after installing front door lock assembly.

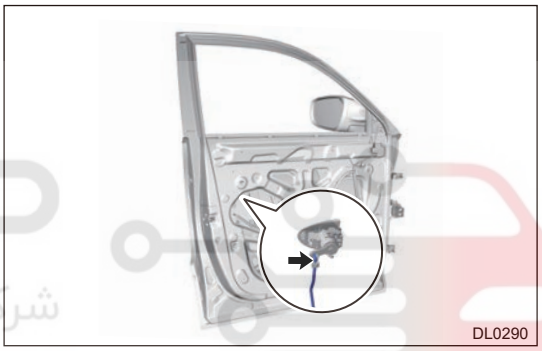
1. Installation is in the reverse order of removal.

Front Door Key Cylinder Assembly

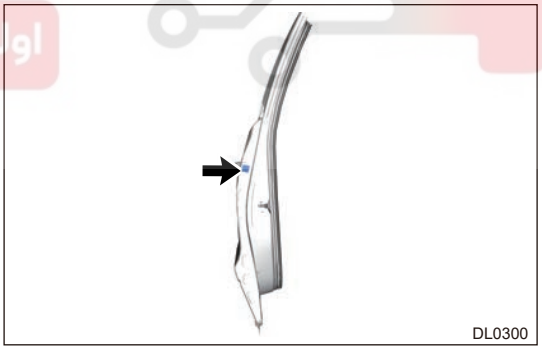
Removal

CAUTION
• Be sure to wear necessary safety equipment to prevent accidents, when removing front door key cylinder assembly. • Try to prevent body paint surface from being scratched, when removing front door key cylinder assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner protector assembly.
4. Remove the front left door metal bracket.
5. Remove the front left door protective film assembly.
6. Remove the front left door key cylinder assembly.
   a. Disengage the clip (arrow) between front door lock assembly and front door key cylinder lever.


DL0290

   b. Remove the front door outside handle protective cover block cover (arrow).


DL0300

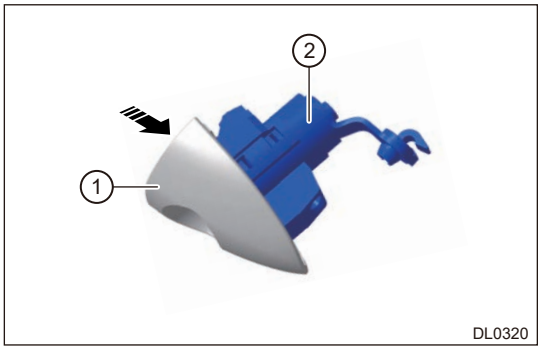
   c. Loosen 1 fixing screw (arrow) from front door key cylinder assembly, and remove the front door key cylinder assembly and front door handle protective cover (1).

DL0310

Tightening Torque
5 ± 1 N m

Hint:
It is unnecessary to remove fixing screw from front door key cylinder assembly, because fixing screw is integrated with front door handle base.

d. Insert the key into the hole on lock cylinder protective cover and carefully pry the lock cylinder cover or using a screwdriver wrapped with protective tape, disengage the claws (arrow) and separate the front door handle protective cover (1) from front door key cylinder assembly (2).



Installation

CAUTION

- Install clip on lever in place when installing front door key cylinder assembly.
- Check if front door key cylinder operates properly, after installing front door key cylinder assembly.

1. Installation is in the reverse order of removal.

Front Door Lock Striker Assembly

Removal

Hint:
Use same procedures for right and left sides, procedures listed below are for left side.

CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing front door lock striker assembly.
- Try to prevent body paint surface from being scratched, when removing front door lock striker assembly.

1. Remove 2 fixing screws from front left door lock striker assembly, and remove front left door lock striker assembly.

   Tightening Torque
   23 ± 2 N·m

Installation

CAUTION

Before installation, lock striker position should be adjusted to ensure that lock cylinder of lock striker is engaged with lock body in the center line of lock mouth, ensure that the door is normally opened and closed.

1. Installation is in the reverse order of removal.

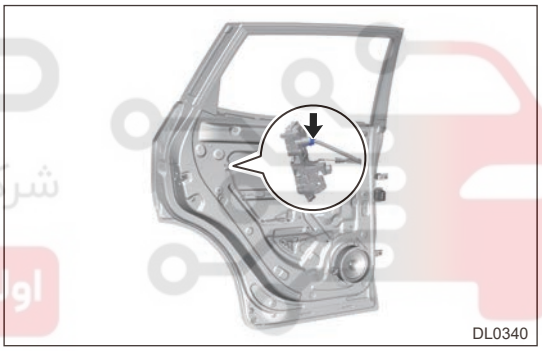
Rear Door Lock Assembly

Removal

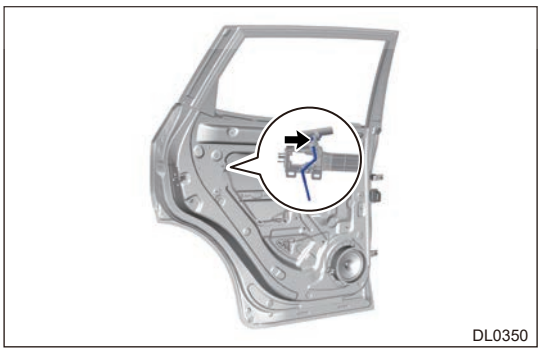
Hint:
Use same procedures for right and left sides, procedures listed below are for left side.

CAUTION
• Be sure to wear necessary safety equipment to prevent accidents, when removing rear door lock assembly. • Try to prevent interior and body paint surface from being scratched, when removing rear door lock assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the rear left door inner protector assembly.
4. Remove the rear left door metal bracket.
5. Remove the rear left door protective film assembly.
6. Remove the rear left door glass rear guide rail assembly.
7. Remove the rear left door lock assembly.
   a. Disconnect the connector (arrow) from rear door lock assembly.

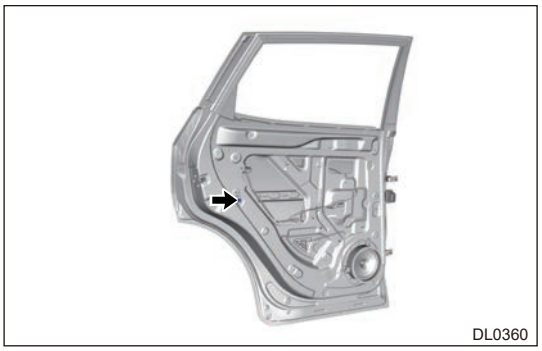


   b. Disengage the rear door outside handle cable (arrow) from the slot of rear door handle base.



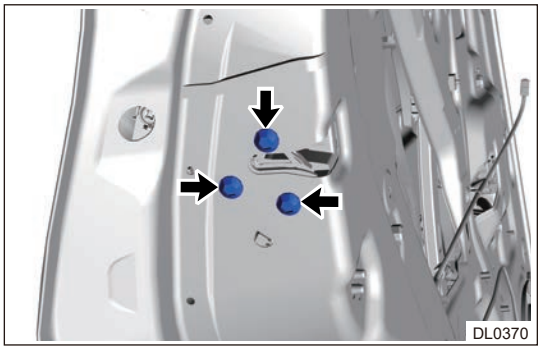
   c. Remove fixing bolt (arrow) from rear door glass rear lower guide rail.

      Tightening Torque
      7 ± 1 N m



d. Remove 3 fixing screws (arrow) from rear door lock assembly, and remove the rear door lock assembly.

Tightening Torque
9 ± 1 N m

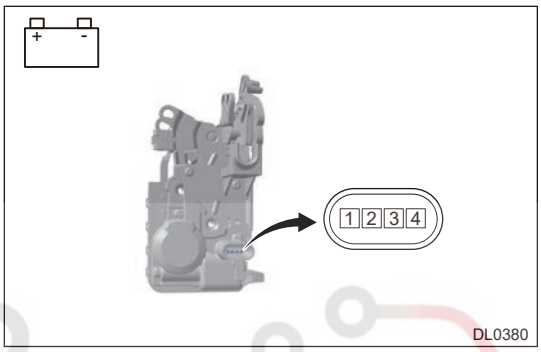


Inspection

Check the rear door lock assembly (fastener assembly)

1. Apply battery voltage to the terminals of rear door lock assembly (fastener assembly) connector and check the operation of rear door lock assembly according to the table below.

Measurement Condition	Specified Condition
Battery positive (+) - Terminal 1 Battery negative (-) - Terminal 2	Lock
Battery positive (+) - Terminal 2 Battery negative (-) - Terminal 1	Unlock



Installation

CAUTION

- Check if connector is installed correctly, when installing rear door lock assembly.
- Install the cable in place, when installing rear door lock assembly.
- Check if rear door lock operates properly, after installing rear door lock assembly.

1. Installation is in the reverse order of removal.

Rear Door Lock Striker Assembly

Removal

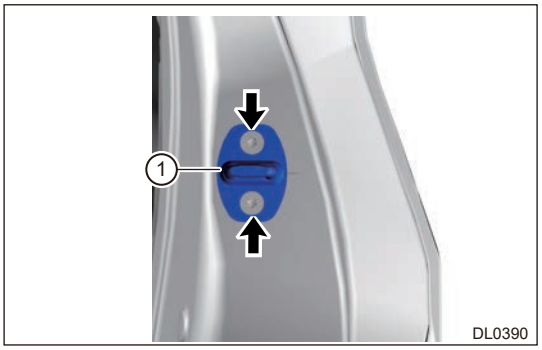
Hint:
Use same procedures for right and left sides, procedures listed below are for left side.

CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing back door lock striker assembly.
- Try to prevent body paint surface from being scratched, when removing back door lock striker assembly.

1. Remove 2 fixing screws (arrow) from rear left door lock striker, and remove the rear left door lock striker assembly.

   Tightening Torque
   23 ± 2 N·m



Installation

1. Installation is in the reverse order of removal.

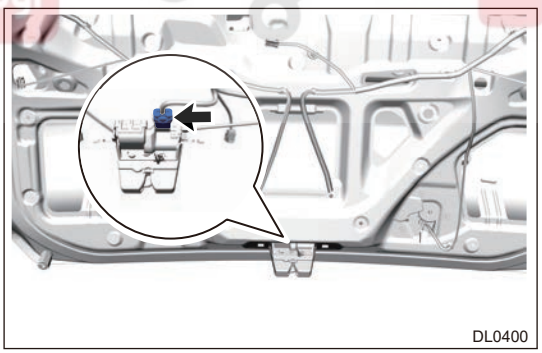
Luggage Compartment Lock Assembly

Removal

CAUTION

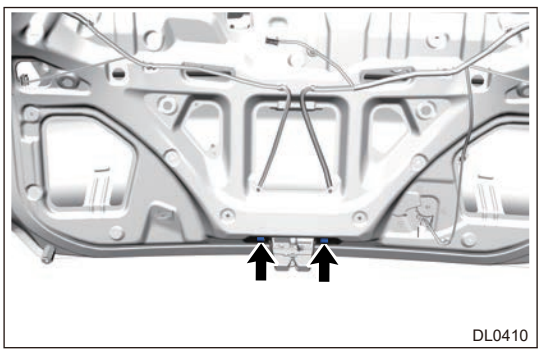
- Be sure to wear necessary safety equipment to prevent accidents, when removing back door lock assembly.
- Try to prevent interior and body paint from being scratched, when removing back door lock assembly.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the luggage compartment door trim board assembly.
4. Remove the back door lock assembly.
   a. Disconnect the connector (arrow) from luggage compartment lock assembly.



   b. Remove 2 fixing bolts (arrow) from luggage compartment lock assembly, and remove the luggage compartment lock assembly.

      Tightening Torque
      10 ± 1 N•m



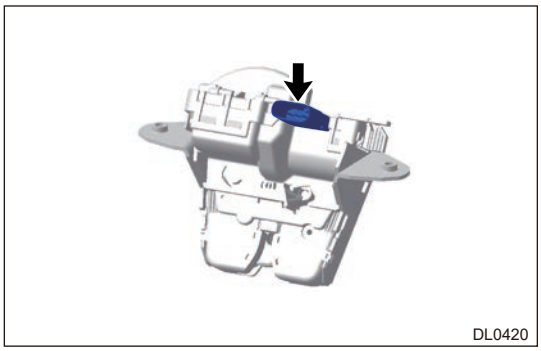
Inspection

Check luggage compartment lock assembly

1. Using a digital multimeter, check for continuity between terminals of luggage compartment lock assembly according to the table below.

Measurement Condition	Status
Terminal 1 - Terminal 2	Lock
Terminal 1 - Terminal 3	Unlock

If result is not as specified, replace the luggage compartment lock assembly.


DL0420

Installation

CAUTION

- Check if connector is installed correctly, when installing luggage compartment lock assembly.
- Check if luggage compartment lock operates properly, after installing luggage compartment lock assembly.

1. Installation is in the reverse order of removal.

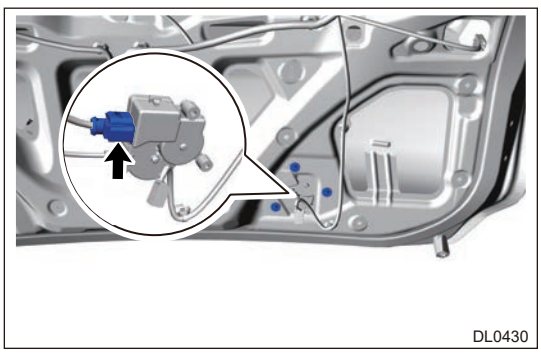
Back Door Lock Self-engage Mechanism Assembly (High Configuration)

Removal

CAUTION

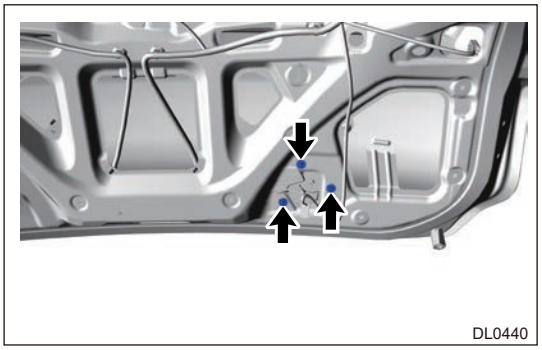
- Be sure to wear necessary safety equipment to prevent accidents, when removing back door lock striker assembly.
- Try to prevent body paint surface from being scratched, when removing back door lock striker assembly.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the back door trim board assembly.
4. Remove the back door lock assembly.
5. Remove the back door lock self-engage mechanism assembly.
   a. Disconnect connector (arrow) from back door lock self-engage mechanism assembly.

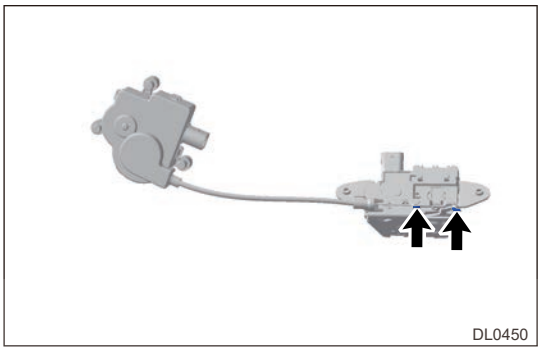

DL0430

b. Remove 3 fixing bolts (arrow) from back door lock self-engage mechanism assembly, and move back door lock self-engage mechanism assembly and back door lock assembly.

Tightening Torque
1.5 ± 0.5


DL0440

6. Separate back door lock self-engage mechanism assembly and back door lock assembly.
   a. Separate cable joint mounted on lock and Z-end, then remove dust boot clip.


DL0450

Installation
1. Installation is in the reverse order of removal.

Back Door Lock Striker Assembly

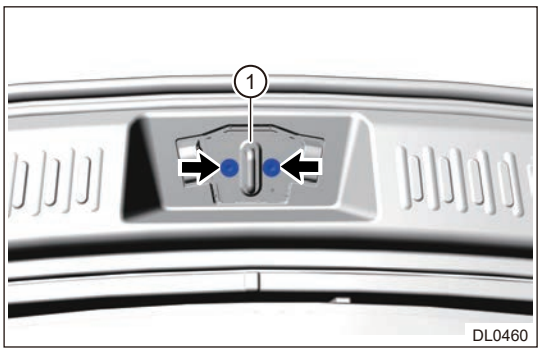
Removal

CAUTION

- Be sure to wear necessary safety equipment to prevent accidents, when removing back door lock striker assembly.
- Try to prevent body paint surface from being scratched, when removing back door lock striker assembly.

1. Remove the back door doorsill pressure plate assembly.
2. Remove 2 fixing screws from back door lock striker assembly, and remove back door lock striker assembly.

Tightening Torque
23 ± 2N·m



DL0460

Installation
1. Installation is in the reverse order of removal.