ENGINE HOOD & DOORS

ENGINE HOOD & DOORS

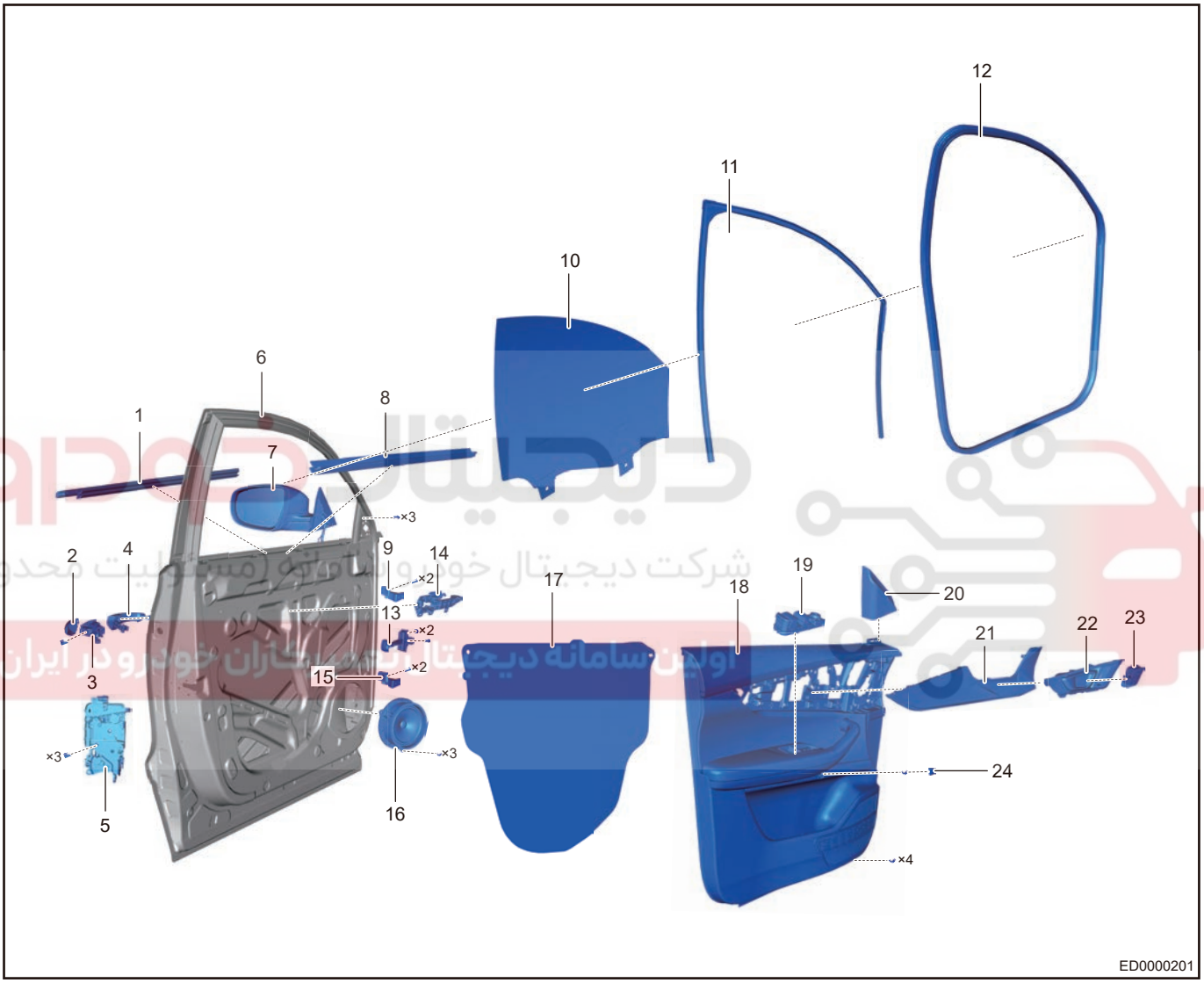
GENERAL INFORMATION

Description

Engine Hood Assembly

1	Engine Hood Assembly	5	Engine Hood Left Hinge Assembly
2	Engine Hood Front Weatherstrip	6	Engine Hood Right Air Spring Assembly
3	Engine Hood Right Hinge Assembly	7	Engine Hood Left Air Spring Assembly
4	Engine Hood Sound Insulator Pad		

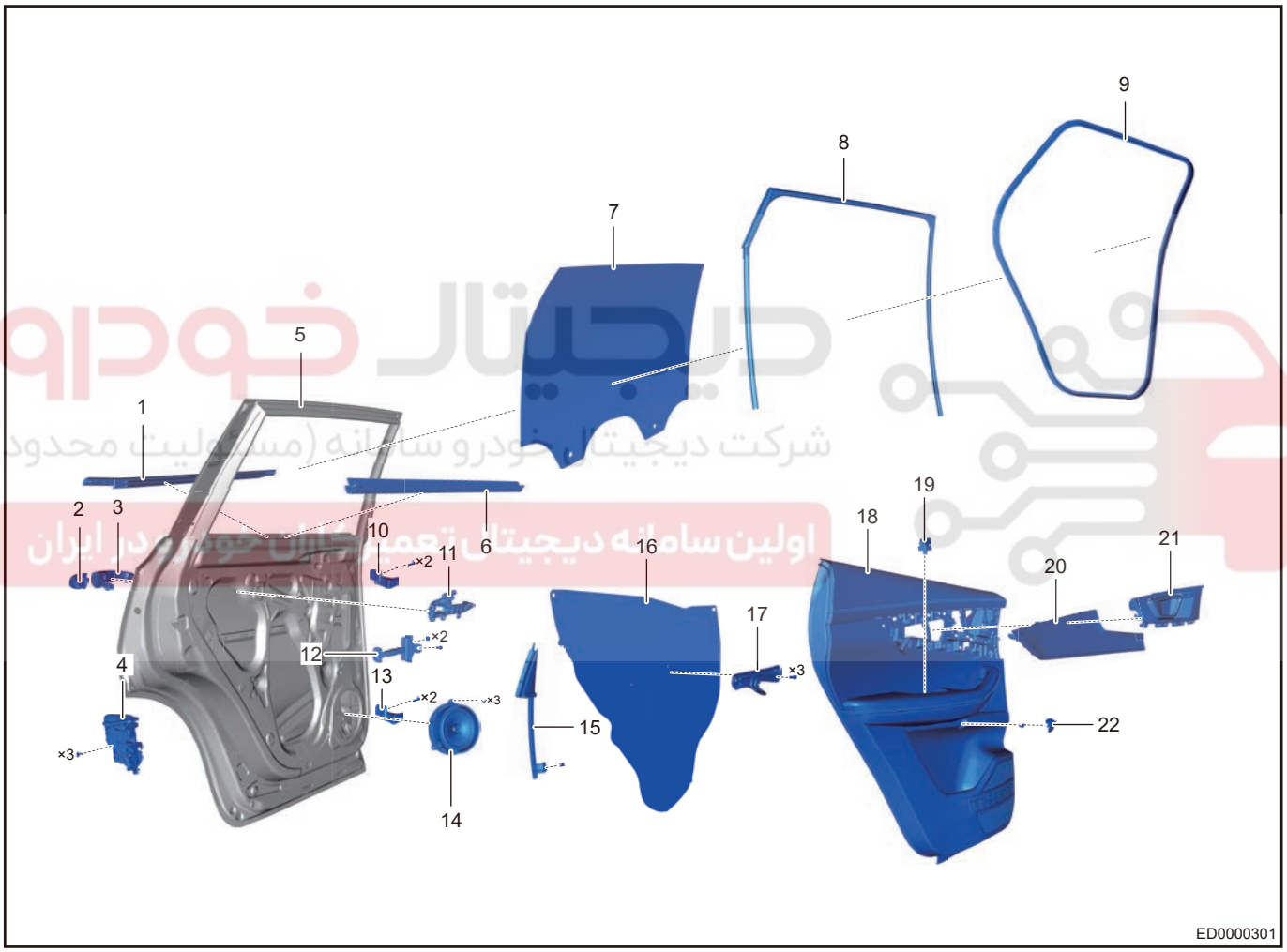
Front Door Assembly



1	Front Left Door Outer Weather Bar	13	Front Door Stopper Assembly
2	Front Left Door Lock Cylinder Protector Cover	14	Front Left Outside Handle Seat Assembly
3	Side Door Lock Cylinder	15	Left Door Hinge Assembly
4	Front Left Door Outside Handle	16	Front Door Woofer
5	Front Left Door Lock	17	Front Left Door Protective Film Assembly
6	Front Left Door Sheet Metal Assembly	18	Front Left Door Protector Body

7	Left Outside Rear View Mirror Assembly	19	Driver Glass Regulator Switch
8	Front Left Door Inner Weather Bar	20	Front Left Door Inner Triangular Block Body
9	Left Door Hinge Assembly	21	Front Left Door Inner Trim Panel Assembly
10	Front Left Side Door Glass Assembly	22	Front Left Inside Handle Assembly
11	Front Left Door Run	23	Central Control Lock
12	Front Left Door Opening Weatherstrip	24	Front Left Door Grip Block Cover

Rear Door Assembly



1	Rear Left Door Outer Weather Bar	12	Rear Door Stopper Assembly
2	Door Handle Protector Cover	13	Left Door Hinge Assembly
3	Side Rear Door Outside Handle	14	Rear Door Woofer
4	Rear Left Door Lock	15	Rear Left Door Glass Rear Lower Guide Rail Assembly
5	Rear Left Door Sheet Metal Assembly	16	Rear Left Door Protective Film Assembly

6	Rear Left Door Inner Weather Bar	17	Rear Left Door Metal Bracket
7	Rear Left Side Door Glass Assembly	18	Rear Left Door Protector Body
8	Rear Left Door Run	19	Single Glass Regulator Switch
9	Rear Left Door Opening Weatherstrip	20	Rear Left Door Trim Board Assembly
10	Left Door Hinge Assembly	21	Rear Left Inside Handle Assembly
11	Rear Left Outside Handle Seat Assembly	22	Rear Left Door Grip Block Cover

Back Door Assembly

1	Back Door Sheet Metal Assembly	14	Back Door Grip
2	Engine Hood Adjusting Block	15	Block Cover
3	Right Anti-pinch Strip Assembly	16	Back Door Emergency Exit Block Cover

4	Rear Cover Upper Right Bracket	17	Back Door Right Service Block Cover
5	Right Balance Bar Assembly	18	Back Door Left Service Block Cover
6	Rear Cover Upper Left Bracket	19	Back Door Right Protector
7	Left Electric Support Assembly	20	Back Door Upper Protector
8	Left Anti-pinch Strip Assembly	21	Back Door Left Protector
9	Back Door Hinge Assembly	22	Adjustment Switch Assembly
10	Back Door Hinge Assembly	23	Power Back Door Module
11	Rear Trunk Lid Lower Left Bracket	24	Kick Sensor Module
12	Back Door Lower Protector	25	Kick Sensor Induction Antenna
13	Back Door Closer Switch		

The vehicle is designed as a structure with four doors & two covers: Front left door, rear left door, front right door, rear right door, power back door (power back door system consists of PLG module, power support, anti-pinch strip, each functional switch, back door lock and self-engage mechanism, etc. When system receives functional switch signal, it opens or closes back door by motor drive) and engine hood.

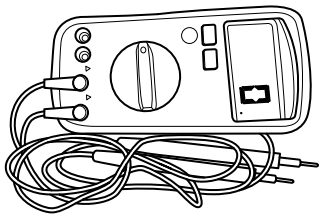
Specifications

Torque Specifications

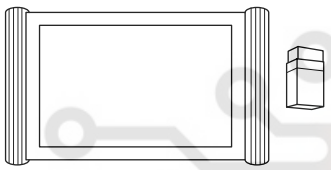
Description	Torque (N·m)
Engine Hood Hinge Assembly Fixing Nut	23 ± 2.0
Engine Hood Lock Assembly Fixing Nut	10 ± 1.5
Engine Hood Hinge Assembly Fixing Bolt	23 ± 2.0
Front Door Inside Protector Assembly Fixing Screw	1.5 ± 0.5
Front Door Inside Handle Fixing Screw	1.5 ± 0.5
Front Door Lock Striker Fixing Bolt	25 ± 3.75
Rear Door Inside Protector Assembly Fixing Screw	1.5 ± 0.5
Rear Door Inside Handle Fixing Screw	1.5 ± 0.5
Rear Door Metal Bracket Fixing Bolt	5 ± 1.0
Rear Door Lock Striker Fixing Bolt	25 ± 3.75
Back Door Lower Protector Assembly Fixing Screw	1.5 ± 0.5
Back Door Hinge Fixing Bolt	25 ± 2.0
Back Door Lock Striker Fixing Bolt	25 ± 3.75
Power Back Door Module Fixing Nut	5 ± 1.0
Kick Sensor Module Assembly Fixing Screw	1.5 ± 0.5

Tool

General Tool

Tool Name	Tool Drawing
Digital Multimeter	 RCH000206

Special Tool

Tool Name	Tool Drawing
X-431 PAD Diagnostic Tester	 RCH000106

Function Introduction

Power Back Door Function Introduction

Function			
1	Instrument Panel Switch Opening or Closing Back Door	11	On-line Refresh Function
2	Back Door Outer Opener Switch Opening Back Door	12	DVD Setting Opening Height
3	Back Door Lower Edge Switch Closing Back Door	13	DVD Voice Opening/Closing Back Door
4	Wireless Key Opening or Closing Back Door	14	T-BOX APP
5	Opening Height Setting	15	Opening Condition Sleeping
6	Soft Stop Function	16	Kicking Door Opening/Closing
7	Jam Protection Function	17	Environmental Self-adaption
8	Violently Closing Self-protection	18	Emergency Stop Function
9	Manual Operation of Back Door Function	19	Diagnosis and Recording Function
10	Mechanical Unlocking Function	20	Induction Opening

Power Back Door Opening Method

1. For your convenience, power door can be opened/closed by a variety of ways, such as manually opening/closing back door, one-button opening/closing back door, kick opening/closing back door (if equipped), voice opening/closing back door, remote control opening/closing back door (if equipped), so as to achieve the height adjustment function and make you fully feel the convenience of power back door.
   a.Power back door switch locates on left side of instrument panel. ENGINE START STOP switch is changed to OFF, ACC or ON mode and gear is switched to P position, so as to make vehicle in unfortified mode. In such condition, long press power back door switch to illuminate turn signal light and open/close power back door.
   b.ENGINE START STOP switch is changed to OFF, ACC or ON mode and gear is switched to P position: l Manually opening/closing door: with central control lock in unlocked condition, press back door switch to illuminate turn signal light and open/close power back door. l Manually opening/closing door: with central control lock in locked condition, carry smart key to approach rear of vehicle and press back door switch to illuminate turn signal light and open/close power back door.
   c.Kicking door opening/closing: with ENGINE START STOP switch in OFF mode, carry smart key and do kicking action to open/close power back door.
   d.One-button opening/closing: long press back door opener button on smart key to illuminate turn signal light and open/close power back door.
   e.Voice opening and closing: opening: with power back door in closed condition, perform “Open back door” by voice patten in audio/visual system and power back door is opened; closing: with power back door in opened condition, perform “Close back door” by voice patten in audio/visual system and power back door is closed;
   f.For details about back door remote control, refer to Remote Control System.
   g.The smart key should not be placed with computer wireless mouse, mobile phone, etc., which may cause the power back door to be unable to sense to open/close.

h.Three days after the vehicle is locked, the sensing open function of back door is turned off, the engine needs to be restarted, and the function resumes.

Power Back Door Opening Height Setting

1. Perform setting via audio and entertainment system.
   a.Touch “Vehicle Setting” on no disc DVD screen to enter vehicle setting screen.
   b.Touch “Trunk Opening State” on “Vehicle Setting” screen to adjust opening height of back door.
   c.Range of back door adjustment height: 70% - 100%.
2. Perform setting by switch under back door.
   a.After power back door opens, adjust power back door to the desired height.
   b.Long press power back door button until vehicle gives a light signal, power back door opening height set is successful.

Caution
• It is recommended that the height of back door should not be too low, otherwise the opening height of the back door cannot be set.

Power Back Door Jam Protection Function

1. Forward jam protection: During opening of power back door, if there is resistance (such as wall, obstructions, etc.), the forward jam protection of back door will prevent damage to the vehicle.
2. Reverse jam protection: During closing of power back door, if there is resistance (such as children, luggage, etc.), the reverse jam protection of back door will prevent injury to children or damage to the vehicle.

Others

1. During power back door movement, if any switch (power back door switch, power back door button, back door opener button) is activated or effective kicking action is performed, back door will stop moving.
2. After power is shut off, it is necessary to perform power back door manual learning. Learning method: Close back door to lock position, press back door switch to open back door and wait until back door opens to Max. opening position. The learning is completed successfully.
3. When power back door is opened, never pull power support rod laterally, which may cause damage to relevant parts.
4. When power back door opens to highest position, do not push or support it upward by hands, otherwise, it may cause damage to relevant parts.
5. Make sure that there is no debris, wall, etc. within back door opening range before opening power back door, so as to avoid back door scratching.
6. Before vehicle is driving, confirm that back door is closed in place, so as to prevent accidents or damage to relevant parts as power back door is not closed completely.
7. When power back door is closed manually, perform closing operation slowly by hands. Never close it forcibly, or it may cause damage to motor and module.
8. The power back door may be unable to open or close due to the change in center of gravity on uphill or downhill. This phenomenon is normal. Please manually open/close the power back door.
9. During back door closing, ensure that there is no person is caught. If the closing operation is interrupt, it is necessary to perform back door closing operation again.
10. Before vehicle is driving, confirm that back door is closed in place, so as to prevent accidents or damage to relevant parts as power back door is not closed completely.
11. Although the vehicle is equipped with anti-pin function, never make any part of body test this function, so as to avoid personal injury.

Diagnostic Tester Menu Function and Data Stream

PLGM System

1. Version Information

Version information	-	Boot software version, part number, head unit factory ECU software version number, supplier code, head unit factory ECU hardware version number, head unit factory calibrated version

2. Read DTCs

Read DTCs	Read current DTC	Read current DTC, and display the fault information if there is a DTC. No DTC shows the "No DTC"
	Read history DTC	Read history DTC, and display the fault information if there is a DTC. No DTC shows the "No DTC"

3. Clear DTCs

Clear DTCs	Clean DTC conditions: 1. Turn ignition switch ON (ON position) 2. Engine cannot start (electric vehicle is non-ready condition)	DTC clearing is completed. All history DCTs are cleared. The current DTC still exists

4. Read Data Stream
   - Back door input status

Read data stream	Back door input status	Driver side switch: Not activated, driver side switch is pressed: Activated
		Power back door inside switch: Not activated, inside switch is pressed: Activated
		Trunk opening switch: Not activated, trunk switch is pressed: Activated
		Global menu switch: Not Activated; Global menu switch is pressed： Activated
		Half-locked switch: Not Activated; Half-locked switch is pressed: Activated
		Full-locked switch: Not Activated; Full-locked switch is pressed: Activated

   - Power supply voltage status

Read data stream	Power supply voltage status	Logic power supply voltage value: Normal voltage value is displayed
		Control power supply voltage value: Normal voltage value is displayed

- Sensor input

Read data stream	Sensor input	Left rod anti-pinch strip collecting AD value: Normal AD value is displayed
		Right rod anti-pinch strip collecting AD value: Normal AD value is displayed
		Temperature value: Normal operating temperature is displayed

- Vehicle information

Read data stream	Vehicle information	Power supply status: Correct switch positions OFF/ACC/ ON/CRANK ON are displayed
		Driver door lock status: Correct locking/unlocking information is displayed
		RKE_Trunk status: Correct back door switch information is displayed
		Information source: Information source: Correct information source RKE/PKE/ Smart Information is displayed
		Demand information: Correct signal source RKE/PKE/Smart lock/unlock signal is displayed
		Trip mileage: Actual mileage is displayed
		Outside temperature: Normal outside temperature is displayed
		Outside temperature fault status: Normal/Abnormal
		Start and stop status: Correct start and stop condition is displayed
		Vehicle speed: Correct vehicle speed is displayed

		Valid vehicle speed status: Displays whether the speed is valid or not
		Gear display: Real gear signal is displayed
		Collision status: Collision signal is displayed
		Back door position set by DVD: Back door setting height percentage value is displayed
		Voice control back door demand: Voice ON/OFF input is displayed
		TBOX control back door demand: Remote ON/OFF input is displayed
		Lateral acceleration signal is effectively identified: Displays whether the lateral acceleration signal is valid
		Lateral acceleration: The specific value of the lateral acceleration is displayed
		Longitudinal acceleration effective mark: Displays whether the longitudinal acceleration signal is valid
		Longitudinal acceleration: The specific value of the longitudinal acceleration is displayed

- Left support motor data

Read data stream	Left support motor data	Left support motor speed: Correct motor speed is displayed
		Left support motor moving direction: Correct open/close direction is displayed
		Left support motor position: Actual hall position is displayed
		Left support motor current: Actual drive current of support is displayed

- Back door status

Read data stream	Back door status	Lock position status: Half latch/full latch information is displayed
		Lock engagement status: Displays the correct action information such as engaging/ engagement completion
		Lock control status: Displays correct action information such as initialization/ engagement completion/engaging
		Ratchet position: PCM actual signals are displayed
		Back door position: back door actual position (Hall position) is displayed
		Back door position area: Back door actual area is displayed
		Back door operation status: Back door action status is displayed
		Main detected status of obstacle: Blocking is detected according to current
		Obstacle secondary detection status: blocking is detected according to anti-pinch strip

- Back door learning position

Read data stream	Back door learning position	Mechanical max. opening position: mechanical max. opening learning position is displayed
		User set opening position: user set max. opening position is displayed
		Differential value between two rods: /

- PLG software configuration code

Read data stream	PLG software configuration code	PLG Software configuration code: correct configuration code C001000000000000 is displayed

- Back door switch input detection

Read data stream	Back door switch input detection	Driver side switch: Detect whether the state of driver side switch has changed
		Power back door inner switch: Detect whether the state of power back door inner switch has changed
		Trunk opening switch: Detect whether the state of power back door switch has changed
		Global switch: Detect whether the state of power back door global switch has changed

5. Active Test

- Lock status control

Active Test	Lock status control	Lock motor rotates clockwise: click “ON” Lock motor rotates clockwise: Click “OFF” Click “Back”
		Lock motor rotates counterclockwise: Click “ON” Lock motor rotates counterclockwise: Click “OFF” Click “Back”
		Unlock motor control: Click “ON” Lock motor rotates clockwise: Click “OFF” Click “Back”

- Left support motor control

Active Test	Left support motor control	Left support motor ON: The user can select three speeds to drive the support to open the back door: 50%, 75% and 100% Click “Back” to cancel the drive
		Left support motor OFF: The user can select three speeds to drive the support to close the back door: 50%, 75% and 100% Click “Back” to cancel the drive

- Left support hall power supply

Active Test	Left support Hall power supply	Click “ON”: Turn on the Hall power supply
		Click “OFF”: Turn off the Hall power supply
		Click “Back”

- LED indicator output

Active Test	LED indicator output	Click “ON”: Turn on LED background indicator
		Click “OFF”: Turn off LED background indicator
		Click “Back”

6. Special Operation
   - Software configuration information writing

Special operation	Software configuration information writing	User enters 16-bit software configuration information: Software configuration information is written successfully; Failed to write software configuration information

   - PLG self-learning

Active Test	PLG self-learning	Click the “Special operation-PLG self-learning” menu: Start self-learning
		Click the “Emergency stop” menu: You can stop self-learning as an emergency
		Click “Back”

Diagnostic Help

- Connect diagnostic tester (the latest software) to Data Link Connector (DLC), and make it communicate with vehicle electronic module through data network.
- Confirm that malfunction is current, and carry out diagnostic test and repair procedures.
- If Diagnostic Trouble Code (DTC) cannot be cleared, it indicates that there is a current malfunction.
- Only use a digital multimeter to measure voltage of electronic system.
- Refer to any Technical Bulletin that may apply to this malfunction.
- Visually check the related wire harness.
- Check and clean all BCM system grounds related to the latest DTC.
- 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 Troubleshooting

If malfunction is intermittent, perform the followings:

- Check if connector is loose.
- Check if wire harness is worn, pierced, pinched or partially broken.
- 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 wiggling test.
- Check for broken, bent, protruded or corroded terminals.
- 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:

- Remove ground bolt or nut.
- Check all contact surfaces for tarnish, dirt and rust, etc.
- Clean as necessary to ensure that contact is in good condition.
- Reinstall ground bolt or nut securely.
- Check if any additional accessories interfere with ground circuit.
- 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.

Diagnosis Procedure

Hint:
Use following procedures to troubleshoot the power back door control system.

1	**Vehicle brought to workshop**

Next

2	**Examine vehicle and check basic items**

Check system power supply voltage, and check that fuse, wire harness and connector are connected normally.

OK

Standard voltage: Not less than 12 V.

Result

NG → **Check and replace malfunctioning parts**

OK

3	**Using a diagnostic tester, read related DTC and data stream information**

Result

Result	Go to
No DTC	A
DTC occurs	B

A → **Perform troubleshooting procedure without DTCs according to malfunction symptom**

B

4	**Troubleshoot according to DTCs troubleshooting procedure**

Result

Result	Go to
Problem is not resolved	A
Problem is resolved	B

A → **Return to procedure 1 and troubleshoot the process again**

B

5	**According to window glass system malfunction repair completion inspection and delivery, confirm that malfunction is resolved**

Result

Result	Go to
Delivery inspection is failed	A
Delivery inspection is qualified	B

A → **Return to procedure 1 and troubleshoot the process again**

B

6	**Finished**

DIAGNOSIS & TEST

Diagnostic Trouble Code (DTC) Chart

DTC	DTC
U0073-88	CAN Busoff Failure
U0140-87	Lost Communication with BCM
U0214-87	Lost Communication With PEPS
U0151-87	Lost Communication with ABM
U0164-87	Lost Communication with CLM
U0155-87	Lost Communication with ICM
U0101-87	Lost Communication with TCU
U0129-87	Lost communication with BSM
U0100-87	Lost Communication with EMS
U1300-55	Software Configuration Error
U1191-87	PLG Lost Communication with KSM
B1A90-16	VBAT Power is Open Circuit
B1A91-15	LH Pinch Strip Sensor Failure
B1A92-15	RH Pinch Strip Sensor Failure
B1A93-07	Driver Switch Failure
B1A94-07	Handle Switch Failure
B1A95-07	Inner Switch Failure
B1A96-07	Global Switch Failure
B1A97-01	LH Hall Pulse is Out of Range
B1A98-13	LH Hall Sensor Failure (LH Spindle Unit Failure)
B1A99-14	LH Hall Sensor Power Supply Failure
B1A9A-1C	LH Spindle Motor Output Failure
B1A9B-1D	LH Spindle Motor Overload
B1A9C-01	RH Hall Pulse is Out of Range
B1A9D-13	RH Hall Sensor Failure (RH Spindle Unit Failure)
B1A9E-14	RH Hall Sensor Power Supply Failure
B1A9F-1C	RH Spindle Motor Output Failure
B1AA0-1D	RH Spindle Motor Overload
B1AA1-1C	Cinch Latch Motor Output Failure
B1AA2-1D	Cinch Latch Motor Overload

DTC	DTC
B1AA3-1C	Release Motor Output Failure
B1AA4-07	Half/Full Latch Abnormality
B1AA5-07	PCM Switch Failure
B1AA6-07	PLG Position is Out of Range
B1AA7-07	Dual Spindles Position Misalignment
B1AA8-07	Cinch Failure
B1AAA-04	ECU fault
B1AAB-17	Ks Over Voltage Error
B1AAC-16	Ks Under Voltage Error
B1AAD-01	Ks Electrode Error
B1AAE-45	Ks ECU ROM Error
B1AAF-87	Ks LIN Response Error

DTC Diagnosis Procedure

DTC	**U0073-88**	**CAN Busoff Failure**
DTC	**U0140-87**	**Lost Communication with BCM**
DTC	**U0214-87**	**Lost Communication With PEPS**
DTC	**U0151-87**	**Lost Communication with ABM**
DTC	**U0164-87**	**Lost Communication with CLM**
DTC	**U0155-87**	**Lost Communication with ICM**
DTC	**U0101-87**	**Lost Communication with TCU**
DTC	**U0129-87**	**Lost communication with BSM**
DTC	**U0100-87**	**Lost Communication with EMS**
DTC	**U1300-55**	**Software Configuration Error**
DTC	**U1191-87**	**PLG Lost Communication with KSM**

Description

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
U0-07-3-88	CAN Busoff Failure	/	Bus off	Bus enters busoff mode for 2s, which is stored as current fault.	A frame of message is sent successfully, current fault is cleared which is stored as history fault	Bus is short to ground, power supply, CANH and CANL has short circuit and open circuit.	All network signal uses default value; Door opening operation is stopped while closing operation still continue; New door operation is prohibited.	Bus off
U0-14-0-87	Lost Communication with BCM	/	Message missing	BCM message is not received for 4000 ms	A frame of BCM message is received, current fault is cleared which is stored as history fault	BCM node off	All BCM signal uses default value.	Message missing
U0-21-4-87	Lost Communication With PEPS	/	Message missing	PEPS message is not received for 4000 ms	A frame of PEPS message is received, current fault is cleared which is stored as history fault	PEPS node off	All PEPS signals use default values.	Message missing
U0-15-1-87	Lost Communication with ABM	/	Message missing	ABM message is not received for 4000 ms	A frame of ABM message is received, current fault is cleared which is stored as history fault.	ABM node off	All ABM signals use default values.	Message missing
U0-16-4-87	Lost Communication with CLM	/	Message missing	CLM message is not received for 4000 ms	A frame of CLM message is received, current fault is cleared which is stored as history fault.	CLM node off	All CLM signals use default values.	Message missing
U0-	Lost	/	Message	ICM message is not	A frame of ICM message is	ICM node off	All ICM signal	Message

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
15-5-87	Communication with ICM		missing	received for 4000 ms	received, current fault is cleared which is stored as history fault.		uses default value.	missing
U0-10-1-87	Lost Communication with TCU	/	Message missing	TCU message is not received for 4000 ms	A frame of TCU message is received, current fault is cleared which is stored as history fault.	TCU node off	All TCU signal uses default value.	Message missing
U0-12-9-87	Lost communication with BSM	/	Message missing	BSM message is not received for 4000 ms	A frame of BSM message is received, current fault is cleared which is stored as history fault.	BSM node off	All BSM signal uses default value.	Message missing
U0-10-0-87	Lost Communication with EMS	/	Message missing	EMS message is not received for 4000 ms	A frame of EMS message is received, current fault is cleared which is stored as history fault.	EMS node off	All EMS signals use default values.	Message missing
U1-30-0-55	Software Configuration Error	/	Not configured	Controller is not configured	Configuration is completed, clear the current fault and it is stored as history fault.	/	New operation command is prohibited	Not configured
U1-19-1-87	PLG Lost Communication with KSM	/	Message missing	KS message is not received for 4000 ms	A frame of KS message is received, current fault is cleared which is stored as history fault.	/	Kick Sensor command is prohibited	Message missing

Description
Refer to CAN communication system

DTC	B1A90-16	VBAT Power is Open Circuit

Description

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1-A9-0-16	VBAT Power is Open Circuit	/	Power supply circuit voltage below threshold	The voltage is less than 3V for 5s.	When the voltage is higher than 9V for 500 ms, clear the current fault and it is stored as history fault.	Fuse is broken	Stop the back door current operation and prohibit new operation command.	Power supply circuit voltage below 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	**Check fuse**

(a) Check if fuses SB10, EF33 are blown out.

NG → **Replace fuse**

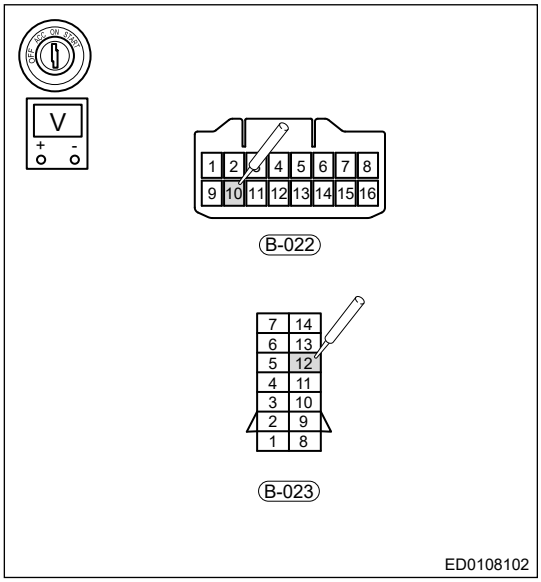
OK ↓

2	**Check engine compartment fuse and relay box output voltage**

(a) Turn ENGINE START STOP switch to ON.

(b) Check the voltage among terminal E10 of engine compartment fuse and relay box B-022, terminal G12 of B-023 and ground.

Multimeter Connection	Condition	Specified Condition
B-022(E10) - Body ground	ON	Not less than 12 V
B-023(G12) - Body ground	ON	Not less than 12 V



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NG → **Replace engine compartment fuse and relay box assembly**

OK

3	Check for open in wire harness

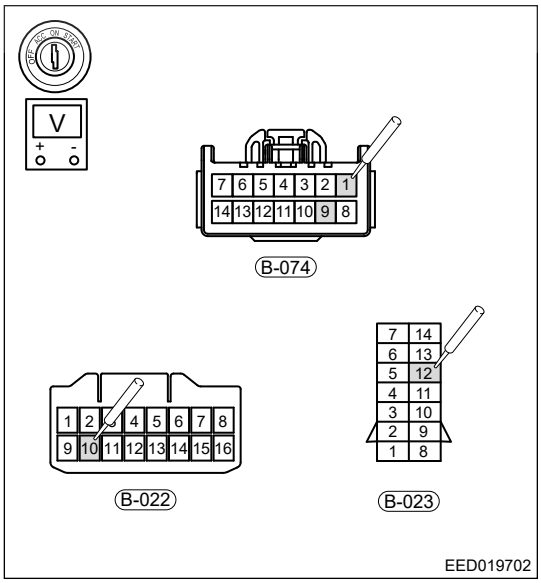
(a) Turn ENGINE START STOP switch to OFF.

(b) Disconnect the negative battery cable.

(c) Disconnect power back door module connector B-074, engine compartment fuse and relay box connectors B-022 and B-023.

(d) Using ohm band of digital multimeter, measure resistance between B-074 (1-1) and B023 (G12); and B-074 (1-9) and B022 (E10) to check wire harness for open.

Multimeter Connection	Condition	Specified Condition
B-074 (1-1) - B023 (G12)	ENGINE START STOP switch “OFF”	⩽ 1 Ω
B-074 (1-9) - B022 (E10)	ENGINE START STOP switch “OFF”	⩽ 1 Ω



OK → **Replace power back door module**

NG → **Handle and repair related wire harness**

DTC	B1A93-07	Driver Switch Failure
DTC	B1A94-07	Handle Switch Failure

Description

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1A93-07	Driver Switch Failure	/	Mechanical malfunction	The switch is valid for 30s	The switch is invalid, clear the current fault and it is stored as history fault.	The switch is stuck or short to ground	Setting switch input is invalid	Mechanical malfunction
B1A94-07	Handle Switch Failure	/	Mechanical malfunction	The switch is valid for 30s	The switch is invalid, clear the current fault and it is stored as history fault.	The switch is stuck or short to ground	Setting switch input is invalid	Mechanical malfunction

Description

Refer to PEPS system

DTC	B1A91-15	LH Pinch Strip Sensor Failure
DTC	B1A92-15	RH Pinch Strip Sensor Failure

Description

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1A91-15	LH Pinch Strip Sensor Failure	/	Circuit is short to power supply or open	The collected AD value is above threshold for 500ms	When the collected AD value is within normal range for 100ms, clear the current fault and it is stored as history fault.	Circuit is open or short to power supply	The back door current closing operation is stopped	Circuit is short to power supply or open
B1A92-15	RH Pinch Strip Sensor Failure	/	Circuit is short to power supply or open	The collected AD value is above threshold for 500ms	Clear the current fault and it is stored as history fault.	Circuit is open or short to power supply	The back door current closing operation is stopped	Circuit is short to power supply or open

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.
Take left rod anti-pinch strip as an example. For right rod anti-pinch strip, refer to LH side.

1	**Check left rod anti-pinch strip connector**

(a) Turn ENGINE START STOP switch to OFF.
(b) Disconnect the negative battery cable.
(c) Disconnect left anti-pinch strip connectors T-005 and B-063.
(d) Check wire harness, connector and terminal for deformation, bending or damage.

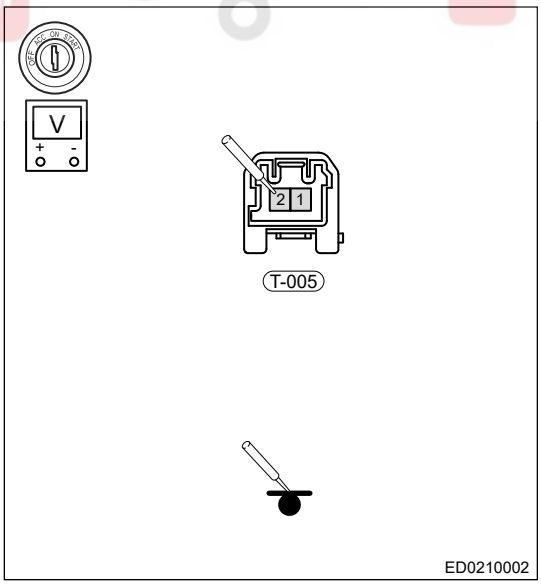
NG → **Repair or replace left anti-pinch strip wire harness**

OK

2	**Check for short in left rod anti-pinch strip wire harness**

(a) Connect the negative battery cable.
(b) Turn ENGINE START STOP switch to ON.
(c) Disconnect left anti-pinch strip connector T-005 and check if left anti-pinch strip is short to power supply.

Multimeter Connection Terminal	Condition	Specified Condition
T-005(2) - Body ground	Always	≈ 0 V
T-005(1) - Body ground	Always	5 V



NG → **Repair or replace left anti-pinch strip wire harness**

OK

3	**Test left rod anti-pinch strip**

(a) Turn ENGINE START STOP switch to OFF.

(b) Disconnect left anti-pinch strip wire harness connector and use digital multimeter to measure internal resistance of left rod anti-pinch strip.

OK → **System is normal**

NG → **Replace left rod anti-pinch strip**

DTC	**B1A95-07**	**Inner Switch Failure**
DTC	**B1A96-07**	**Global Switch Failure**

Description

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1-A9-5-07	Inner Switch Failure	/	Mechanical malfunction	The switch is valid for 30s	The switch is invalid, clear the current fault and it is stored as history fault.	The switch is stuck or short to ground	Setting switch input is invalid	Mechanical malfunction
B1-A9-6-07	Global Switch Failure	/	Mechanical malfunction	The switch is valid for 30s	The switch is invalid, clear the current fault and it is stored as history fault.	The switch is stuck or short to ground	Setting switch input is invalid	Mechanical malfunction

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	**Check vehicle malfunction condition**

(a) Press back door close switch to check if back door can close normally.

NG → **Turn off vehicle power supply (-disconnect the negative battery cable), then turn on power supply again and clear DTC.**

OK

2	Check if back door close switch power supply is normal

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

(b) Detect back door switch signal with a digital multimeter according to the table below.

Multimeter Connection Terminal	Condition	Specified Condition
T-007(1) - Body ground	Initial status	12V
	Internal switch pressed	1.5V
T-007(2) - Body ground	Internal switch pressed	12V
T-007(4) - Body ground	Initial status	12V
	Global switch pressed	1.5V
T-007(5) - Body ground	Always	0V

NG → **Check if power supply fuse is burnt**

OK ↓

3	Check wire harness and connector

(a) Disconnect the connector T-007.

(b) Check if wire harnesses are worn, pierced, pinched or partially broken.

(c) Check for broken, bent, protruded or corroded terminals.

(d) Check if terminal contact pins of related connectors are in good condition.

NG → **Repair or replace wire harness connector**

OK ↓

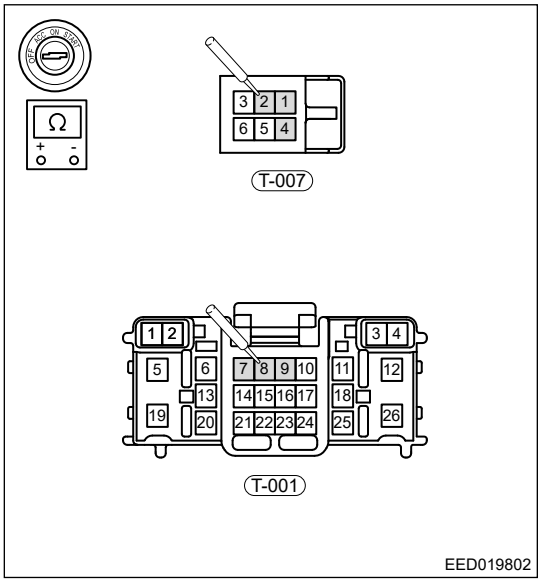
4	Check back door close switch wire harness

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

(b) Disconnect the connectors T-001 and T-007.

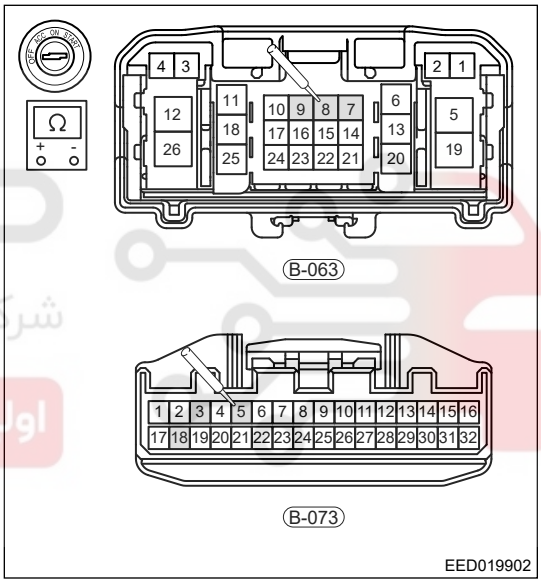
(c) Using ohm band of multimeter, measure resistance among T-007 (2) - T001 (8), T-007 (1) - T-001 (7) and T-007 (4) - T-001 (9).

Multimeter Connection Terminal	Condition	Specified Condition
T-007 (2) - T001 (8)	ENGINE START STOP switch “OFF”	⩽ 1 Ω
T-007 (1) - T-001 (7)		⩽ 1 Ω
T-007 (4) - T-001 (9)		⩽ 1 Ω



(d) Using ohm band of multimeter, measure resistance among B-063 (8) - B-073 (205), B-063 (7) - B-073 (203) and B-063 (9) - B-073 (218).

Multimeter Connection Terminal	Condition	Specified Condition
B-063 (8) - B-073 (205)	ENGINE START STOP switch “OFF”	⩽ 1 Ω
B-063 (7) - B-073 (203)		⩽ 1 Ω
B-063 (9) - B-073 (218)		⩽ 1 Ω



NG → **Replace back door closer switch**

OK

5	Reconfirm DTCs

(a) Connect all the connectors.
(b) Connect the negative battery cable.
(c) Turn ENGINE START STOP switch to “OFF”.
(d) Use diagnostic tester (the latest software) to read the DTCs stored in body control system again.

OK → **System is normal**

NG → **Replace power back door module**

DTC	**B1A97-01**	**LH Hall Pulse is Out of Range**
DTC	**B1A98-13**	**LH Hall Sensor Failure (LH Spindle Unit Failure)**
DTC	**B1A99-14**	**LH Hall Sensor Power Supply Failure**

Description

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1-A9-7-01	LH Hall Pulse is Out of Range	/	General electrical fault	Three HALL cycles which are less than 100us occur in one running	If it returns to normal, clear the current fault and it is stored as history fault.	HALL signal is interfered or HALL sensor has fault	/	General electrical fault
B1-A9-8-13	LH Hall Sensor Failure (LH Spindle Unit Failure)	/	Circuit is open	When motor is running, A/B channel has no HALL signal, meanwhile, more than 5 HALL signals are detected in B/A channel	If there is HALL signal in A/B channel, clear the current fault and it is stored as history fault.	HALL signal input is open, or short to ground, power supply, or sensor has fault	Stop the back door current operation and set the position abnormal	Circuit is open
B1-A9-9-14	LH Hall Sensor Power Supply Failure	/	Circuit is short to ground or open	Over-current is output for 500ms	The over-current fault lasts for 1 s, clear the current fault and it is stored as history fault.	The signal input is short to ground, power supply is shut off, or sensor is short to ground	Stop the back door current operation and position set the position to abnormal. If over-current fault still exits, cut off the power supply output	Circuit is short to ground

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	**Check left support wire harness connector**

(a) Turn ENGINE START STOP switch to “OFF”, disconnect the power support connector B-067.
(b) Check for broken, bent, protruded or corroded terminals.
(c) Check if wire harnesses are worn, pierced, pinched or partially broken.

NG → **Repair or replace wire harness connector.**

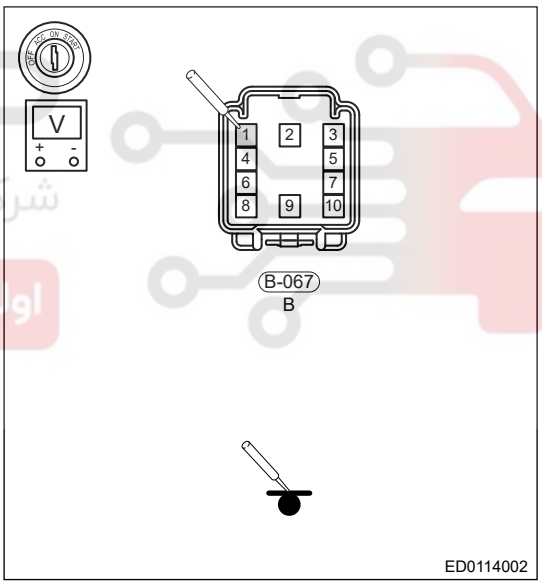
OK

2	**Check sensor power supply**

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

(b) Disconnect the connector B-067, measure voltage between terminal 1 and body ground with a multimeter, it should be not less than 12 V.

Multimeter Connection Terminal	Condition	Specified Condition
B-067 (1) - Body ground	ENGINE START STOP switch “OFF”	Not less than 12 V



NG → **Repair or replace wire harness connector**

OK

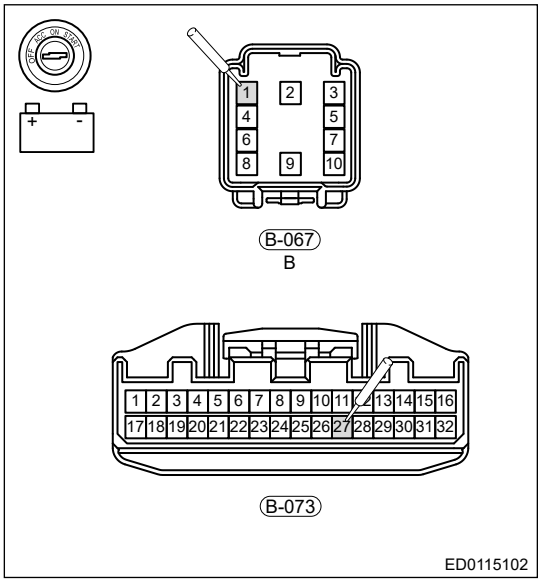
3	**Check power supply wire harness**

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

(b) Disconnect power back door module connectors B-073 and B-074.

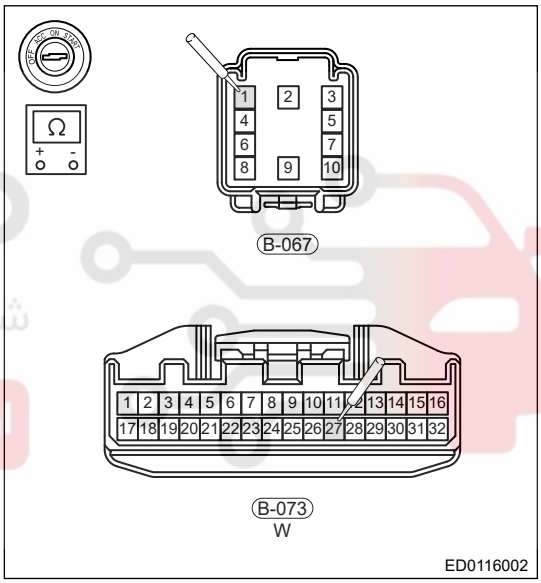
(c) Measure the continuity between B-073 (227) and B-067 (1) and check if it is short to power supply with ohm band of multimeter.

Multimeter Connection Terminal	Condition	Specified Condition
B-073 (227) - Battery (+)	ENGINE START STOP switch “OFF”	∞
B-067 (1) - Battery (+)	ENGINE START STOP switch “OFF”	∞



(d) Using ohm band of multimeter, check for continuity between B-073 (227) and B-067 (1).

Multimeter Connection Terminal	Condition	Specified Condition
B-073 (227) - B-067 (1)	ENGINE START STOP switch “OFF”	⩽ 1 Ω



NG → **Repair or replace power support**

OK →

4	Reconfirm DTCs

(a) Connect all the connectors.
(b) Connect the negative battery cable.
(c) Turn ENGINE START STOP switch to “ON”.
(d) Use diagnostic tester (the latest software) to read the DTCs stored in body control system again.

OK → **System is normal**

NG → **Replace power back door module**

DTC	B1AA6-07	PLG Position is Out of Range

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1-A-A6-07	PLG Position is Out of Range	/	Mechanical malfunction	HALL position is out of Max. value	If the HALL position returns to normal, clear the current fault and it is stored as history fault.	/	/	Mechanical malfunction

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	**Check appearance of power support**

(a) Check appearance of power support for deformation or damage.

NG → **Replace power support**

OK ↓

2	**Check power support**

(a) Install power support to a new vehicle, observe whether the same fault phenomenon occurs.

NG → **Replace power support**

OK ↓

3	**Reconfirm DTCs**

(a) Connect all the connectors.
(b) Connect the negative battery cable.
(c) Turn ENGINE START STOP switch to “ON”.
(d) Use diagnostic tester (the latest software) to read the DTCs stored in body control system again.

OK → **System is normal**

NG → **Replace power back door module**

DTC	B1A9A-1C	LH Spindle Motor Output Failure
DTC	B1A9B-1D	LH Spindle Motor Overload

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1A9A-1C	LH Spindle Motor Output Failure	/	Circuit voltage is out of range	The voltage feedback value detection fault occurs for 600ms	If voltage feedback value restores for 500 ms, clear the current fault and it is stored as history fault.	Motor output is open or short to ground or power supply	New operation command is prohibited	Circuit voltage is out of range
B1A9B-1D	LH Spindle Motor Overload	/	Circuit Current is out of range	Motor current is over 35A for 50ms	If there is new operation command, clear the current fault and it is stored as history fault.	Motor output short to ground	Stop the back door current closing operation	Circuit current is out of range

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	**Check left support motor connector**

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

(b) Disconnect the connector B-067, check if connector terminals are damaged or displaced.

NG → **Repair or replace power support**

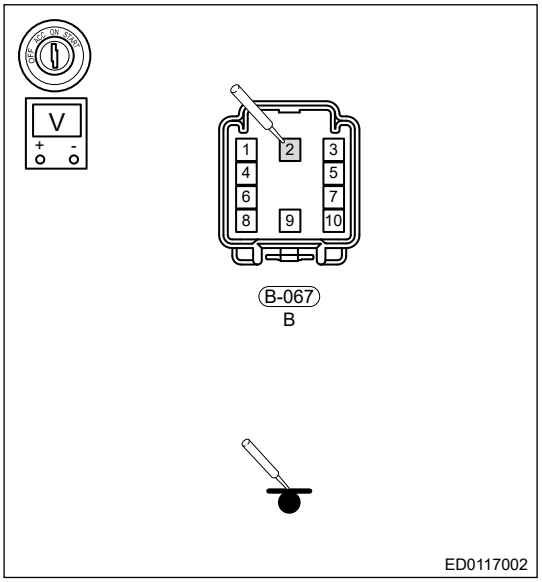
OK

2	**Check motor power supply**

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

(b) Disconnect support connector B-067, measure voltage between B-067 (2) and ground using multimeter, it should be not less than 12 V.

Multimeter Connection Terminal	Condition	Specified Condition
B-067 (2) - Body ground	ENGINE START STOP switch "ON"	Not less than 12 V



NG → **Repair or replace power supply wire harness**

OK

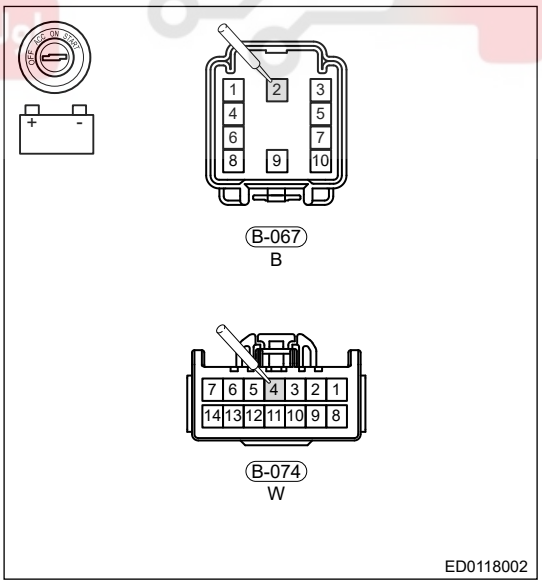
3 Check motor wire harness.

(a) Turn ENGINE START STOP switch to "OFF".

(b) Disconnect power back door module connectors B-074 and B-067.

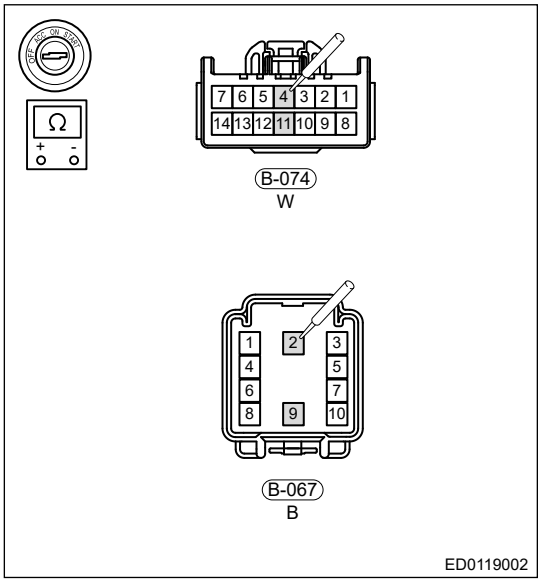
(c) Using ohm band of multimeter, check for continuity between B-074 (104), B-067 (2) and battery (+) and check if there is short to power supply.

Multimeter Connection Terminal	Condition	Specified Condition
B-074 (4) - Battery (+)	ENGINE START STOP switch "OFF"	∞
B-067 (2) - Battery (+)		∞



(d) Using ohm band of multimeter, check for continuity between B-074 (104) - B-067 (2), B-074 (11) - B-067 (9) and check if there is open.

Multimeter Connection Terminal	Condition	Specified Condition
B-074(104) - B-067(2)	ENGINE START STOP switch "OFF"	⩽ 1 Ω
B-074(111) - B-067(9)		⩽ 1 Ω



NG → **Repair or replace left support motor**

OK

4	Reconfirm DTCs

(a) Connect all the connectors.
(b) Connect the negative battery cable.
(c) Turn ENGINE START STOP switch to "ON".
(d) Use diagnostic tester (the latest software) to read the DTCs stored in body control system again.

OK → **System is normal**

NG → **Replace power back door module**

DTC	**B1AA1-1C**	**Cinch Latch Motor Output Failure**
DTC	**B1AA2-1D**	**Cinch Latch Motor Overload**

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1-A-A1-1C	Cinch Latch Motor Output Failure	/	Circuit voltage is out of range	The voltage feedback value detection fault occurs for 600ms	If voltage feedback value restores for 500 ms, clear the current fault and it is stored as history fault.	Motor output is open or short to ground or power supply	New operation command is prohibited	Circuit voltage is out of range
B1-A-A2-1D	Cinch Latch Motor Overload	/	Circuit Current is out of range	Motor current is over threshold for 100 ms	If there is new operation command and command operation is successful, clear the current fault and it is stored as history fault.	Motor output short to ground	Stop the back door current closing operation	Circuit current is out of range

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	**Check lock motor connector**

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

(b) Disconnect connectors T-001 and T-014, check terminal.

NG → **Repair or replace motor wire harness**

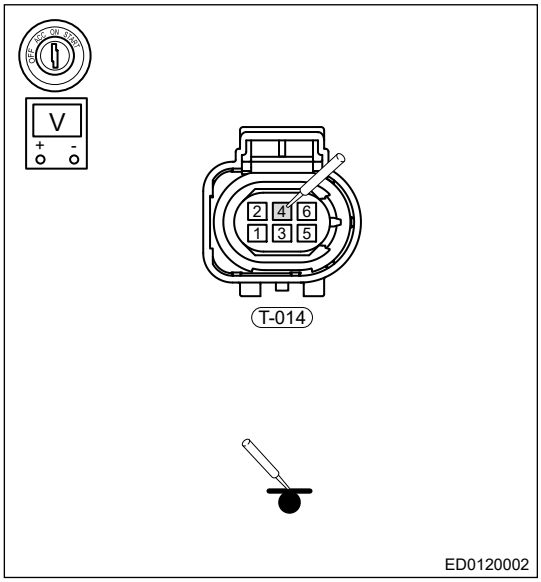
OK

2	**Check lock motor signal voltage**

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

(b) Using multimeter, measure voltage of T-014 (4), it should be not less than 12 V.

Multimeter Connection Terminal	Condition	Specified Condition
T-014 (4) - Ground	ENGINE START STOP switch “ON”	Not less than 12 V



NG → **Repair or replace motor wire harness**

OK →

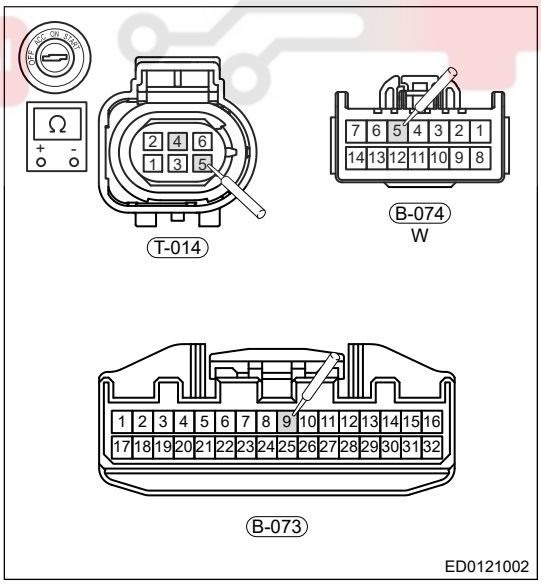
3	Check lock motor wire harness

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

(b) Disconnect the connectors T-014, B-073 and B-074.

(c) Using ohm band of multimeter, check for continuity between T-014 (5) and T-014 (4), B-074 (105) and B-073 (209).

Multimeter Connection Terminal	Condition	Specified Condition
T-014 (5) - B-073 (209)	ENGINE START STOP switch “OFF”	⩽ 1 Ω
T-014 (4) - B-074 (105)		⩽ 1 Ω



NG → **Repair or replace motor wire harness**

OK →

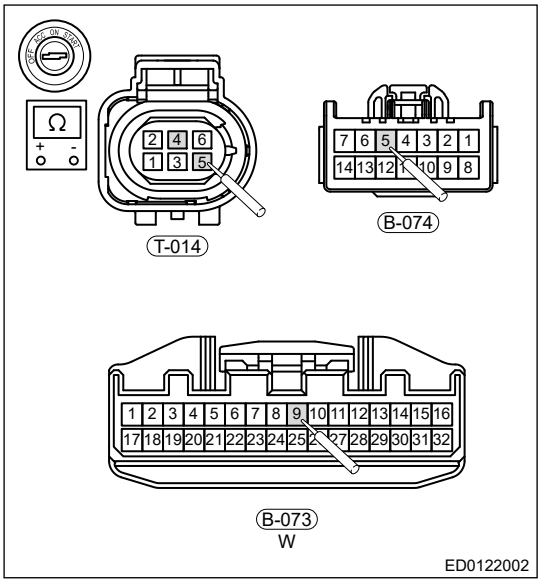
4	Check motor control circuit

(a) Turn ENGINE START STOP switch to “OFF”, disconnect the negative battery cable.

(b) Disconnect lock motor connector T-014, power back door module connectors B-073 and B-074.

(c) Using ohm band of multimeter, check for continuity between T-014(5), T-014(4) and battery (+).

Multimeter Connection Terminal	Condition	Specified Condition
T-014 (5) - B-073 (209)	ENGINE START STOP switch “OFF”	⩽ 1 Ω
T-014 (4) - B-074 (105)		⩽ 1 Ω



NG → **Repair or replace motor wire harness**

OK →

5	Reconfirm DTCs

(a) Connect all the connectors.

(b) Connect the negative battery cable.

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

(d) Use diagnostic tester (the latest software) to read the DTCs stored in body control system again.

OK → **System is normal**

NG → **Replace fastener assembly**

DTC	B1AA3-1C	Release Motor Output Failure

Description

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1AA3-1C	Release Motor Output Failure	/	Circuit voltage is out of range	The feedback status and control status is inconsistent for 200 ms	If the feedback status and control status is consistent, clear the current fault and it is stored as history fault.	Relay is short to ground or power supply	Stop the motor current operation and prohibit the new operation	Circuit voltage is out of range

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	**Check unlock motor connector**

(a) Turn ENGINE START STOP switch to “OFF”, disconnect the negative battery cable.
(b) Disconnect the back door lock connector T-015.
(c) Check if wire harnesses are worn, pierced, pinched or partially broken.
(d) Check for broken, bent, protruded or corroded terminals.

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

OK

2	**Check the unlock motor wire harness connector.**

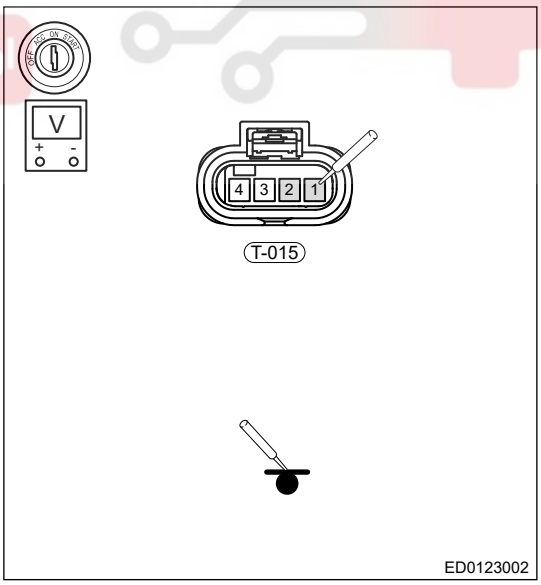
(a) Disconnect the back door lock connector T-015.
(b) Turn ENGINE START STOP switch to “ON”.
(c) Using multimeter, measure the voltage of T-015 (1), it should be not less than 12 V.

Check power supply voltage

Multimeter Connection	Condition	Specified Condition
T-015 (1) - Body ground	ENGINE START STOP switch “ON”	Not less than 12 V

Check for Open

Multimeter Connection	Condition	Specified Condition
T-015 (2) - Body ground	ENGINE START STOP switch “OFF”	⩽ 1 Ω



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

OK

3	**Check back door lock**

(a) Install back door lock of malfunctioning vehicle to new vehicle, and test if inspection is normal.

NG → **Replace back door lock**

OK

4	Reconfirm DTCs

(a) Connect all the connectors.
(b) Connect the negative battery cable.
(c) Turn ENGINE START STOP switch to “ON”.
(d) Use diagnostic tester (the latest software) to read the DTCs stored in body control system again.

OK → **System is normal**

NG → **Replace power back door module**

DTC	B1AA4-07	Half/Full Latch Abnormality
DTC	B1AA5-07	PCM Switch Failure

Description

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1AA4-07	Half/Full Latch Abnormality	/	Mechanical malfunction	Unlocking 200ms is timeout, full opening status signal is not detected	If unlocking is successful next time, clear the current fault and it is stored as history fault.	/	/	Mechanical malfunction
B1AA5-07	PCM Switch Failure	/	Mechanical malfunction	Pulling-in 2s is timeout, PCM pulling-in signal is not detected, but full locking signal can be detected Or returning 2s is timeout, PCM returning signal is not detected	If PCM timing order is correct during pulling-in and returning, clear the current fault and it is stored as history fault.	/	/	Mechanical malfunction

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	Check back door lock wire harness connector

(a) Disconnect the connector T-015.

(b) Check if wire harnesses are worn, pierced, pinched or partially broken.

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

OK

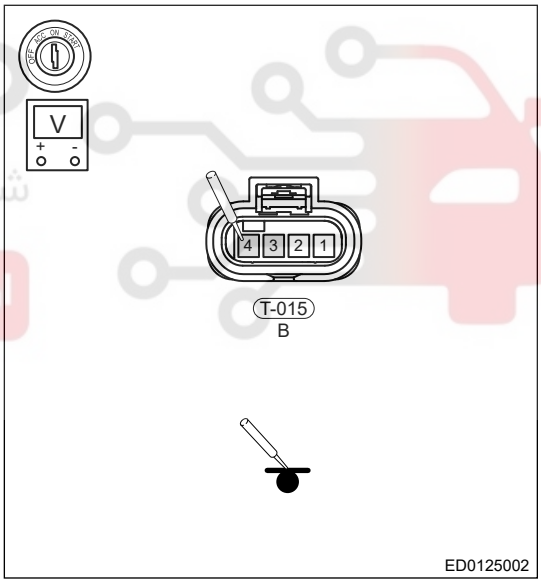
2	Check half-lock/full-lock position signals

(a) Disconnect the wire harness connector T-015.

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

(c) Using multimeter, measure the voltage of T-015(4) and T-015(3). The value should be not less than 12 V.

Multimeter Connection	Condition	Specified Condition
T-015(4) - Body ground	ENGINE START STOP switch “ON”	Not less than 12 V
T-015 (3) - Body ground		Not less than 12 V



Check for Open

Multimeter Connection	Condition	Specified Condition
T-015 (2) - Body ground	ENGINE START STOP switch “OFF”	⩽ 1 Ω

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

OK

3	Check back door lock

(a) Install back door lock of malfunctioning vehicle to new vehicle, and test if inspection is normal.

NG → **Replace back door lock**

OK

4	Reconfirm DTCs

(a) Connect all the connectors.
(b) Connect the negative battery cable.
(c) Turn ENGINE START STOP switch to “ON”.
(d) Use diagnostic tester (the latest software) to read the DTCs stored in body control system again.

OK → **System is normal**

NG → **Replace power back door module**

DTC	B1AAB-17	Ks Over Voltage Error
DTC	B1AAC-16	Ks Under Voltage Error
DTC	B1AAD-01	Ks Electrode Error
DTC	B1AAE-45	Ks ECU ROM Error
DTC	B1AAF-87	Ks LIN Response Error

Description

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1AAB00	Ks Over Voltage Error	/	Kick sensor fault	Kick Sensor send 1 over voltage detected to report this fault	Kick Sensor send 0 no over voltage detected to clear current fault and it is stored as history fault.	/	Kick Sensor command is prohibited	Kick sensor fault
B1AAC00	Ks Under Voltage Error	/	Kick sensor fault	Kick Sensor send 1 under voltage detected to report this fault	Kick Sensor send 0 no under voltage detected to clear current fault and it is stored as history fault.	/	Kick Sensor command is prohibited	Kick sensor fault
B1AAD00	Ks Electrode Error	/	Kick sensor fault	Kick Sensor send (KsElectrodeDetected=1-Error on one or twoelectrodes detected) or (KsSensorErrorDetected=1-Electrodes not connected2	Kick Sensor send 0 No errors to clear current fault and it is stored as history fault.	/	Kick Sensor command is prohibited	Kick sensor fault

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
				Electric failure in electrode4 Electric failure inelectrode) to report this fault				
B1-AA-E-00	Ks ECU ROM Error	/	Kick sensor fault	Kick Sensor send 1 ROM check error to report this fault	Kick Sensor send 0 No errors to clear current fault and it is stored as history fault.	/	Kick Sensor command is prohibited	Kick sensor fault
B1-AA-F-00	LIN Communication Error Between Ks LIN Response Error and Ks Sensor	/	Kick sensor fault	Kick Sensor send 1 Error_In_Response to report this fault	Kick Sensor send 0 Successful_Transfer to clear current fault and it is stored as history fault.	/	Kick Sensor command is prohibited	Kick sensor fault

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	**Check battery voltage**

(a) Check that battery terminals are not loose or corroded.

(b) Turn ENGINE START STOP switch, measure battery voltage with a digital multimeter. The rated voltage should be between 12 V and 13 V.

NG → **Check or replace battery**

OK

2	Check fuse RF08

(a) Check if fuse RF08 is blown or no power.

NG → **Replace fuse or check the cause for no power**

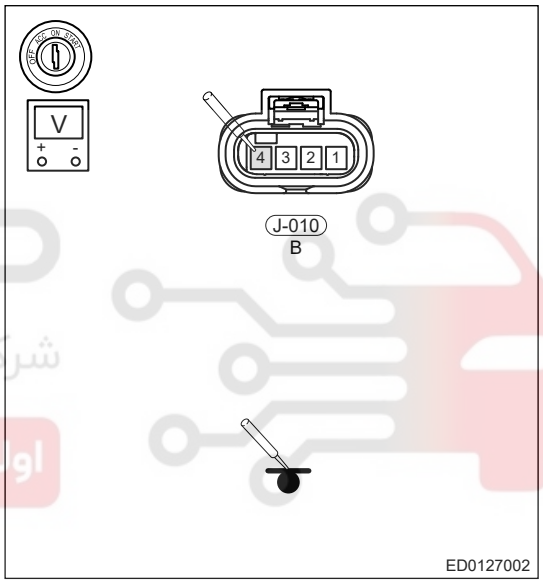
OK

3	Check power supply voltage of kick sensor

(a) Turn ENGINE START STOP switch to ON.

(b) Using multimeter, measure the voltage between J-010 (4) and body ground. The value should be not less than 12 V.

Multimeter Connection	Condition	Specified Condition
J-010 (4) - Body ground	ENGINE START STOP switch "ON"	Not less than 12 V



NG → **Repair or replace sensor wire harness**

OK

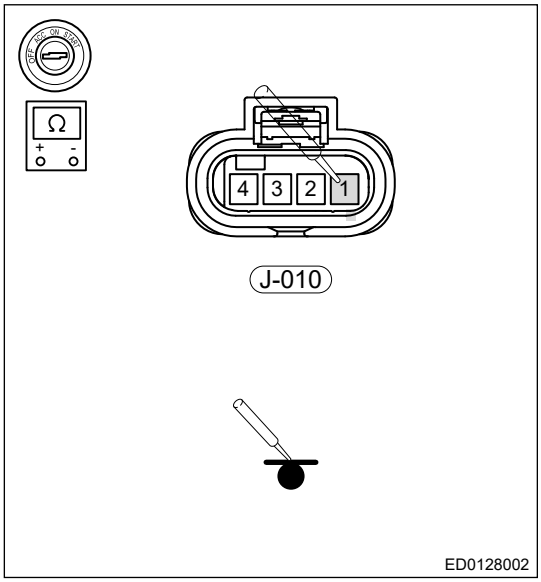
4	Check wire harness for an open circuit

(a) Turn ENGINE START STOP switch to "OFF".

(b) Check if kick sensor wire harness connector J-010 is worn, pierced, pinched or partially broken.

(c) Check for continuity between J-010 (1) and body ground with ohm band of multimeter.

Multimeter Connection	Condition	Specified Condition
J-010 (1) - Body ground	ENGINE START STOP switch “OFF”	⩽ 1 Ω



NG → **Repair or replace sensor wire harness**

OK →

5	**Check kick sensor**

(a) Install kick sensor onto failed vehicle and observe if it is normal.

NG → **Replace kick sensor**

OK →

6	**Reconfirm DTCs**

(b) Connect all the connectors.
(c) Connect the negative battery cable.
(d) Turn ENGINE START STOP switch to “ON”.
(e) Use diagnostic tester (the latest software) to read the DTCs stored in body control system again.

OK → **System is normal**

NG → **Replace PLG module assembly**

DTC	B1AAA-04	ECU fault

DTC	Description	Fault Class Definition	Fault Type	Store Current DTC	Save as History DTC	Possible Causes	Malfunction Protection Measures	Malfunction Light
B1-AA-A-04	ECU fault	/	System internal failure	MCU failure	If MCU fault disappears, clear the current fault and it is stored as history fault.	/	/	System internal failure

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	**Clear DTCs**

(a) Using diagnostic tester to enter PLG system and clear DTCs.

(b) Reconfirm DTCs after clearing DTCs.

OK	**Reconfirm power back door control function**
NG	**Replace PLG module assembly**

ON-VEHICLE SERVICE

Engine Hood Assembly

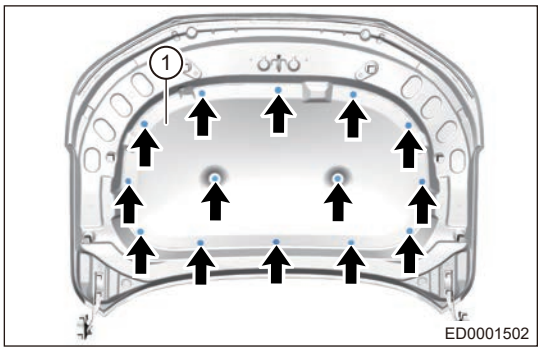
Removal

Caution
• Be sure to wear safety equipment to prevent accidents, when removing engine hood assembly. • When removing engine hood assembly, try to prevent engine hood from falling down during operation, resulting in damage to body or front windshield.

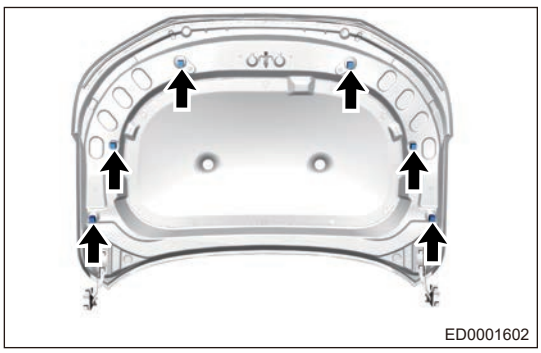
Hint:

- When removing engine hood assembly, an assistant is needed to hold engine hood. Try to prevent engine hood from falling down or closing suddenly during operation, resulting in accidents.

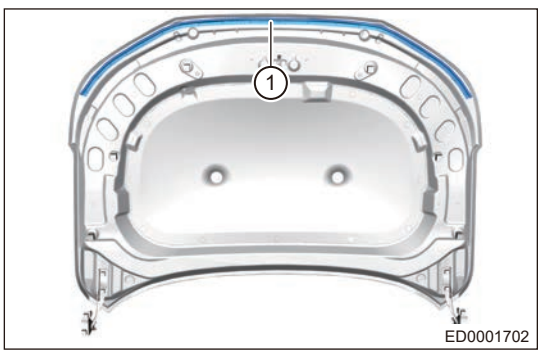
1. Remove the engine hood sound insulator.
   a. Remove clips (arrow) from engine hood sound insulator, and remove engine hood sound insulator (1).



2. Remove the engine hood adjustable buffer block.
   a. Rotate engine hood adjustable buffer block (arrow) counterclockwise and remove it.

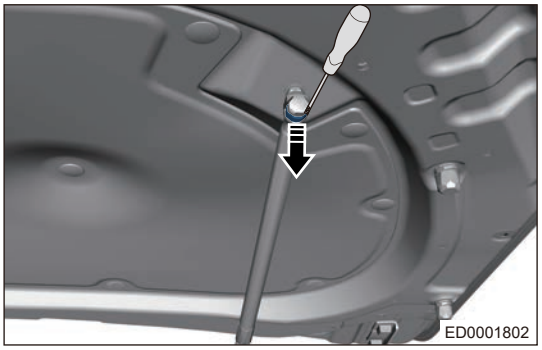


3. Remove the engine weatherstrip.
   a. Disengage clips from engine weatherstrip and remove engine weatherstrip (1).



4. Remove the left/right air spring assembly.

a. Using a screwdriver wrapped with protective tape, pry off fixing clips from upper end of engine hood left air spring assembly (Use same procedures for right side).



Caution

- Be sure to wear safety equipment to prevent accidents, when removing left/right air spring assembly.
- Try to prevent body paint surface from being scratched, when removing left/right air spring assembly.
- During removal of left/right air spring assembly, avoid engine hood falling off during operation, resulting in damage to body or front windshield.

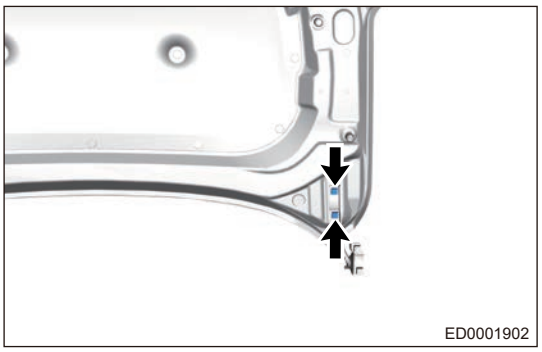
Hint:

- When removing left/right air spring assembly, an assistant is needed to hold it. Try to prevent engine hood from falling down or closing suddenly during operation, resulting in accidents.

5. Remove the engine hood assembly.

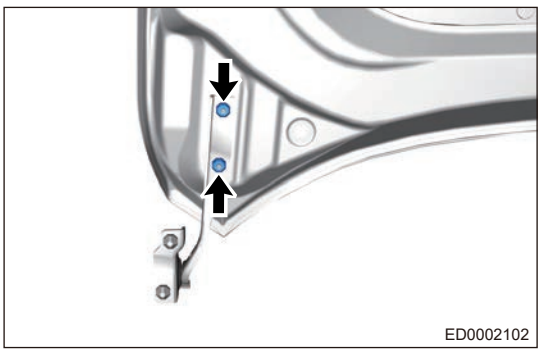
a. Remove 2 fixing nuts (arrow) between engine hood assembly and engine hood left hinge assembly.

Tightening torque: 23 ± 2.0N•m



b. Remove 2 fixing nuts (arrow) between engine hood assembly and engine hood right hinge assembly and remove engine hood assembly.

Tightening torque: 23 ± 2.0N•m



Installation

1. Installation is in the reverse order of removal.

Disassembly

1. Adjust the engine hood assembly.
   a. Loosen fixing bolts of engine hood hinge assembly.
   b. Adjust the clearance of engine hood assembly within standard range and pre-tighten fixing bolts of engine hood hinge assembly.

c. Standard ranges of clearance between installation position of engine hood assembly and each part are as in illustration.

d. After adjustment, tighten fixing bolts between engine hood hinge assembly and engine hood assembly to specified torque.

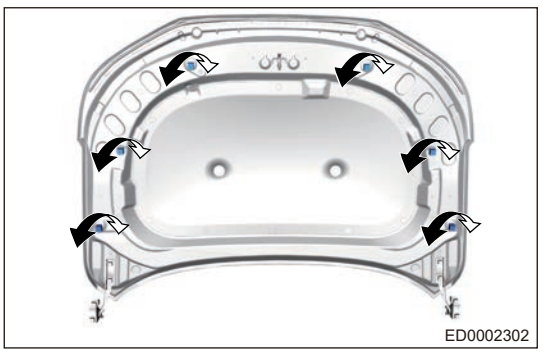
Tightening torque: 23 ± 2.0N•m

e. After adjustment, tighten fixing bolts between engine hood hinge assembly and body to specified torque.

Tightening torque: 23 ± 2.0N•m

2. Adjust the height of engine hood front end with adjustable buffer blocks.

a. Raise or lower the hood front end by rotating the adjustable buffer blocks clockwise or counterclockwise.



b. After adjustment, make sure that alignment between engine hood assembly and wing assembly is within the standard range.

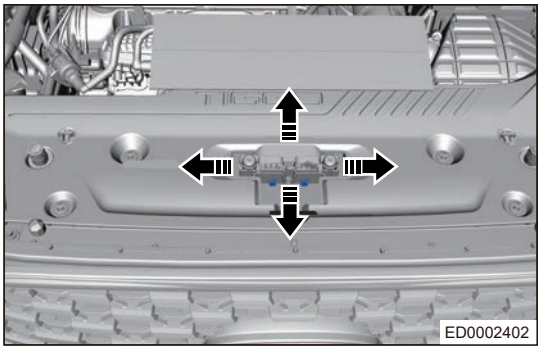
Standard alignment height: 3.8 ± 1.0//1.0

c. After adjustment, make sure that alignment between engine hood assembly and front combination light is within the standard range.

Standard alignment height: 3.8 ± 1.0//1.0

3. Adjust the engine hood lock assembly.

a. Slightly loosen the fixing nuts of engine hood lock assembly, and adjust the engine hood lock assembly in direction of arrow.



b. Tighten the engine hood lock assembly fixing nuts to specified torque after adjustment.
Tightening torque: 10 ± 1.5N•m

Inspection

1. Check hood for wear or deformation during installation, and repair as necessary.
2. Check if fixing bolts are installed in place. Tighten them to specified torque as necessary.
3. Check if clearance and alignment between engine hood assembly installation position and each part are within the specified range. Adjust as necessary.

Engine Hood Hinge Assembly

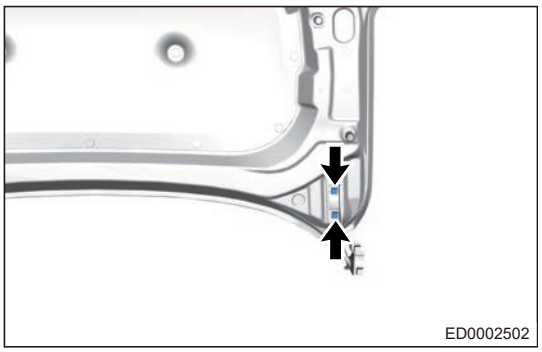
Removal

Hint:

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

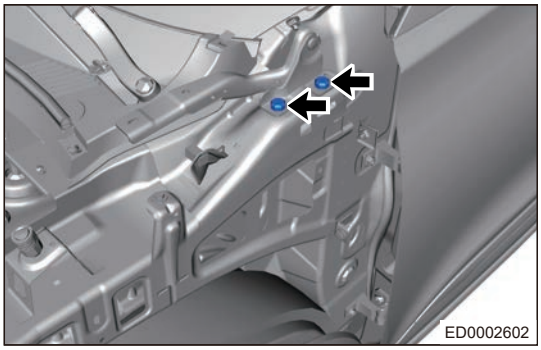
Caution
• Be sure to wear safety equipment to prevent accidents, when removing engine hood hinge assembly. • When removing engine hood hinge assembly, try to prevent engine hood from falling down during operation, resulting in damage to body or front windshield. • When removing engine hood hinge assembly, an assistant is needed to hold engine hood. Try to prevent engine hood from falling down or closing suddenly during operation, resulting in accidents.

1. Remove the engine hood left hinge assembly
   a. Remove the wing assembly.
   b. Remove 2 fixing nuts (arrow) between left hinge assembly and engine hood assembly.
   Tightening torque: 23 ± 2.0 N•m



c. Remove 2 fixing bolts (arrow) between engine hood left hinge assembly and body.

Tightening torque: 23 ± 2.0 N•m



d. Remove the engine hood left hinge assembly.

Installation

1. Installation is in the reverse order of removal.

Front Door Inside Protector Assembly

Removal

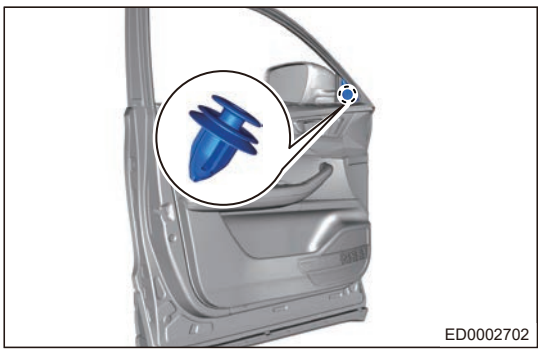
Hint:

- 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 inner protector assembly. • Try to prevent front door inside protector surface from being damaged, when removing front door inside protector assembly.

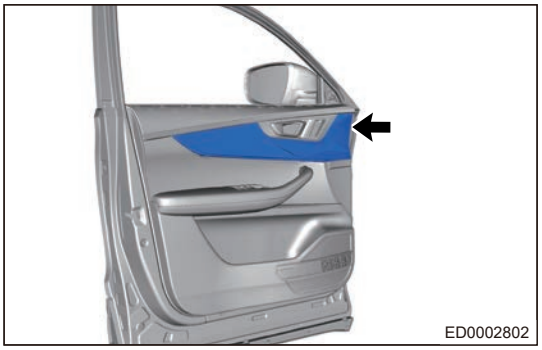
1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the left outside rear view mirror inside triangular block.

a. Using an interior crow plate, pry off clips from outside rear view mirror inner triangular block, and remove the outside rear view mirror inner triangular block.



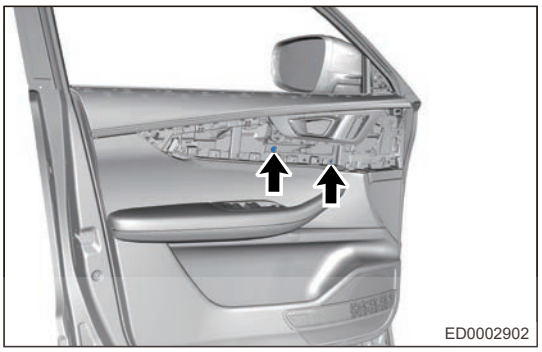
4. Remove the front left door trim panel body.

a. Using an interior crow plate, carefully pry off front left door trim panel body (arrow direction is removal port).

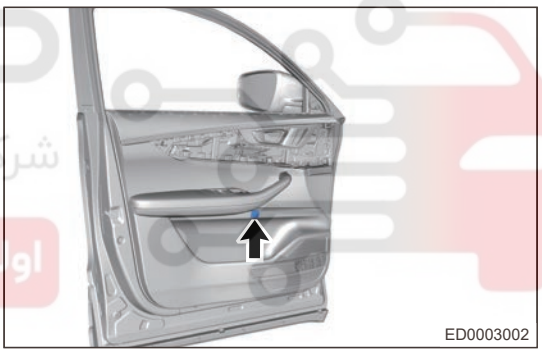


5. Remove the front left door inner protector assembly.
   a. Remove 2 fixing screws (arrow) on the rear side of front left door trim panel body.

      Tightening torque: 1.5 ± 0.5 N•m

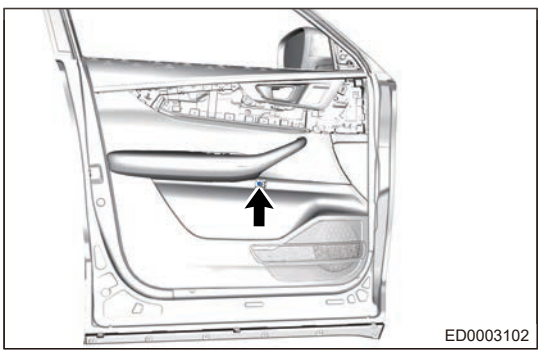


   b. Remove the front door lower grip block cover (arrow).



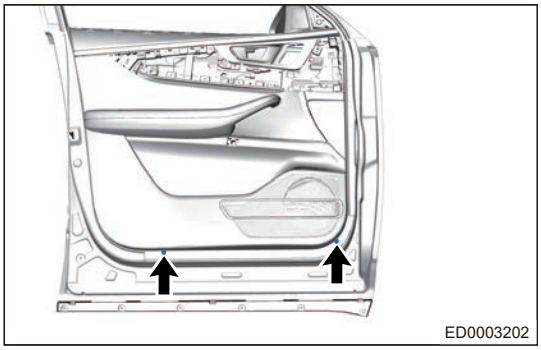
   c. Remove fixing screw (arrow) on the rear side of front door lower grip block cover.

      Tightening torque: 1.5 ± 0.5 N•m

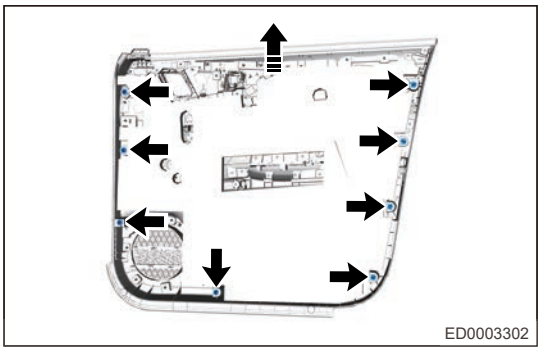


d. Remove 2 fixing screws (arrow) from bottom of door protector.

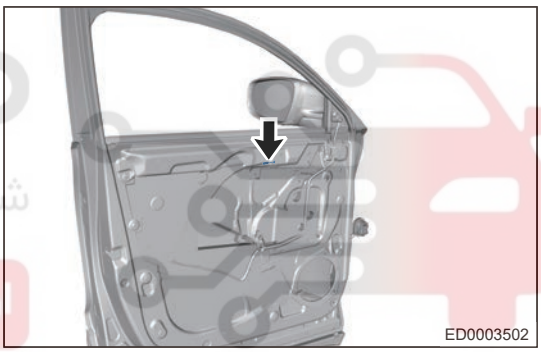
Tightening torque: 1.5 ± 0.5 N•m



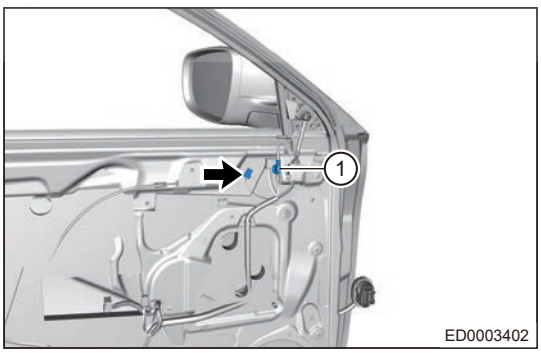
e. Using an interior crow plate, carefully pry off clips on front door inner protector assembly, and loosen front door inner protector assembly in direction of arrow as shown in illustration.



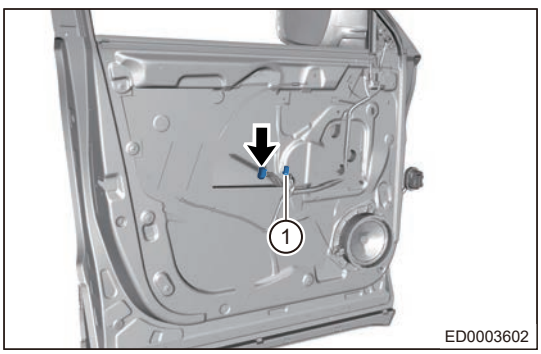
f. Disengage the front door inside handle cable (arrow) from front door inside handle.



g. Disconnect the central lock (arrow) and camera (1) wire harness connector.



h. Disconnect front door power glass regulator switch connector (arrow) and rear view mirror adjustment switch connector (1).

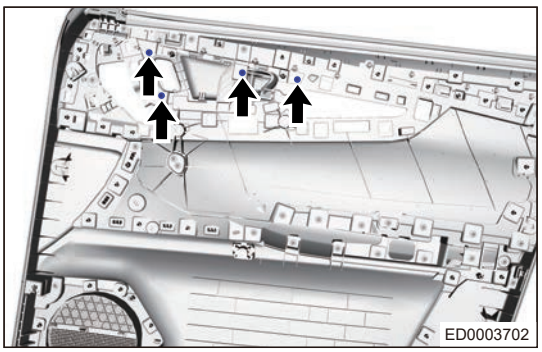


i. Remove the front left door inside protector assembly.

6. Remove the front door inside handle

a. Remove 4 fixing screws (arrow) from front door inside handle.

Tightening torque: 1.5 ± 0.5 N•m



b. Remove the front door inside handle.

Installation

1. Installation is in the reverse order of removal.

Caution
• Replace damaged clips and install front door inner protector assembly in place, when installing front door inner protector assembly. • Install connectors in place, when installing front door inner protector assembly. • Check that each function can operate properly, after installing front door inner protector assembly.

Front Door Assembly

Removal

Hint:

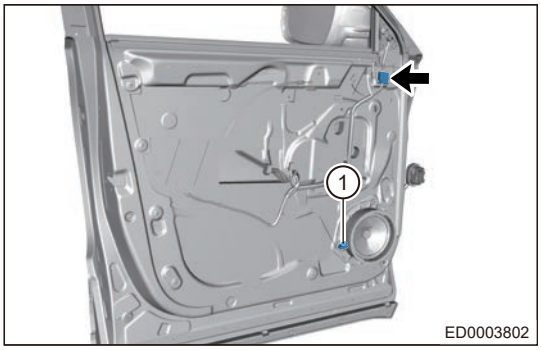
- Use same procedures for right and left sides.
- Procedures listed below are for left side.
- When removing front door assembly, an assistant is needed to hold it, to prevent front door from falling down during operation, resulting in accidents.

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

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the front left door inner protector assembly.
4. Remove the front left door protective film assembly.

a. Disconnect the left rear view mirror connector plug (arrow).

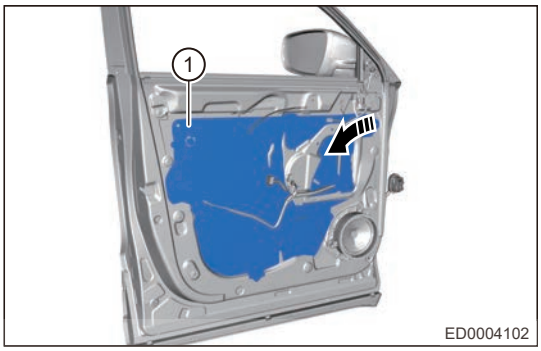
b. Disconnect the full-range speaker connector (1).



c. As shown in illustration, remove the front left door protective film assembly (1) by gently peeling it along edges from one corner.

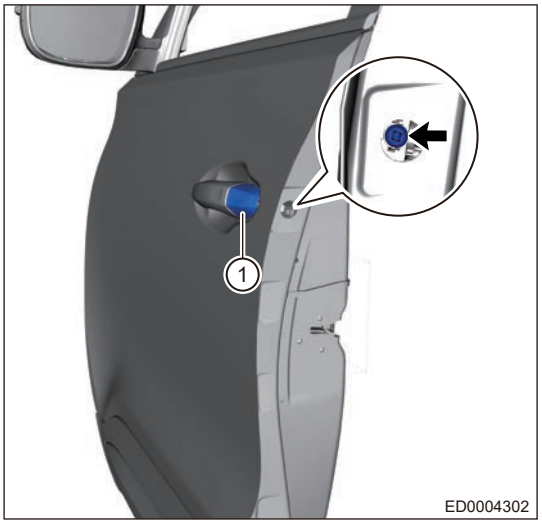
Hint:

- Try to prevent front door protective film from being damaged, when removing front door protective film assembly.
- Place front door protective film assembly properly after removal, and prevent adhesive sticker on front door protective film assembly from sticking to other components.

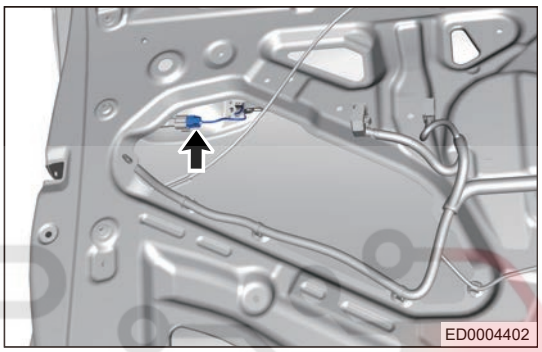


5. Remove the front left door full-range speaker assembly.
6. Remove the front left door weather bar.
7. Remove the front door glass upper run.
8. Remove the front door glass assembly.
9. Remove the front door power glass regulator.
10. Remove the front left door lock assembly.
11. Remove the front left door outside handle.
    a. Using an interior crow plate, pry off front left door lock block cover (arrow).

b. Loosen fixing screw (arrow) from front door outside handle and remove lock cylinder assembly (1).

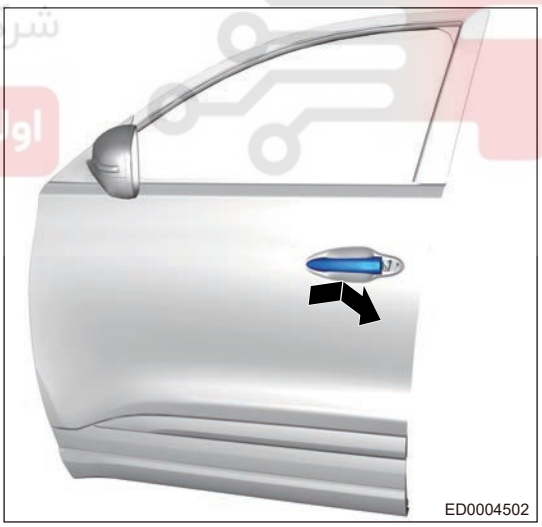


c. Disconnect the left door handle sensor connector (arrow).



d. Slide and pull front door outside handle in direction of arrow as shown in illustration, and remove it.

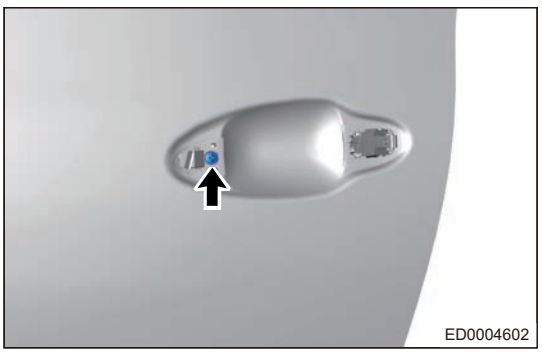
- It is not necessary to remove the fixing screw from front door outside handle cover because fixing screw is integrated with front door handle base.



12. Remove the front left door outside handle seat assembly.

a. Remove the fixing screw (arrow) from front door outside handle seat assembly.

Tightening torque: 1.5 ± 0.5 N•m

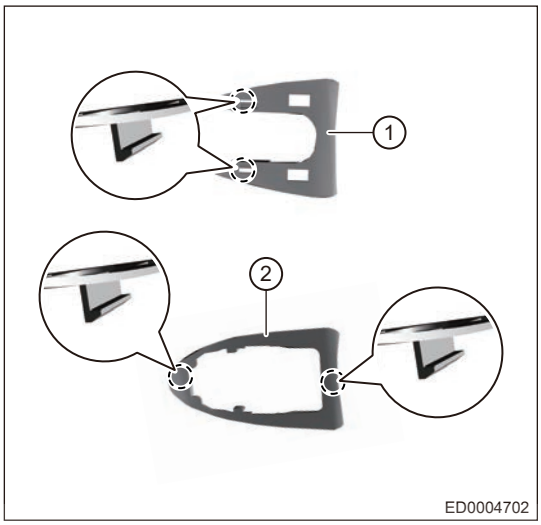


b. Disengage clips from door lock connecting rod and remove front left door outside handle seat assembly.

13. Remove the front left door outside handle gasket.

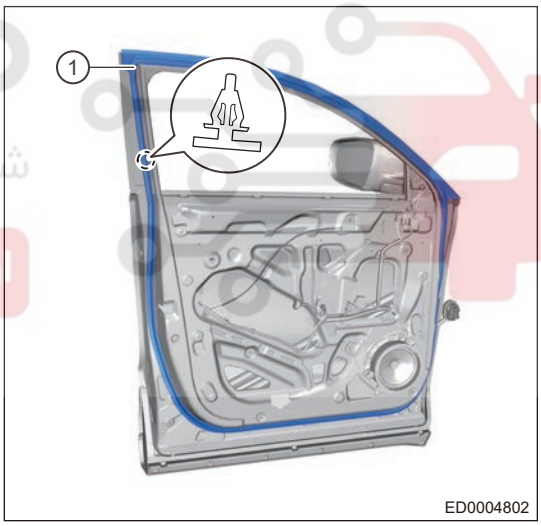
a. Disengage claws from front door outside handle front shim, and remove front left door outside handle front shim (1).

b. Disengage claws from front door outside handle rear shim, and remove front left door outside handle front shim (2).



14. Remove the front left door frame weatherstrip.

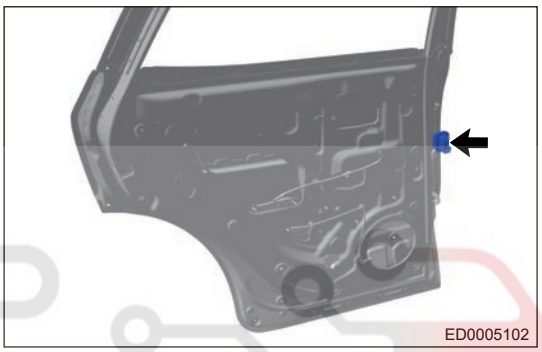
a. Disengage clips from front door frame weatherstrip, and remove front left door frame weatherstrip (1).



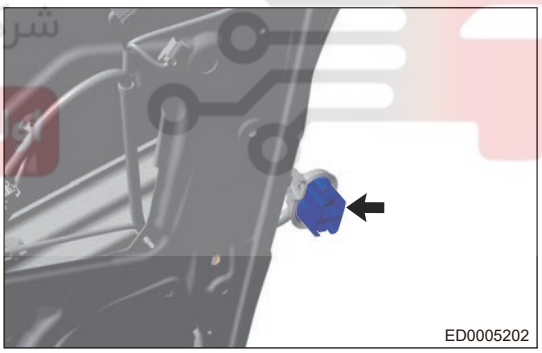
15. Disconnect the front left door wire harness connector.

a. Using a screwdriver wrapped with protective tape, pry off front door wire harness dust boot.

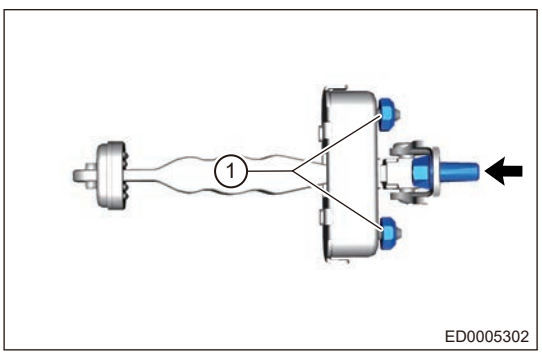
b. Using screwdriver wrapped with tape, pry off claws (-arrow) of front left door wire harness connector.



c. Disconnect the front left door wire harness connector (arrow).



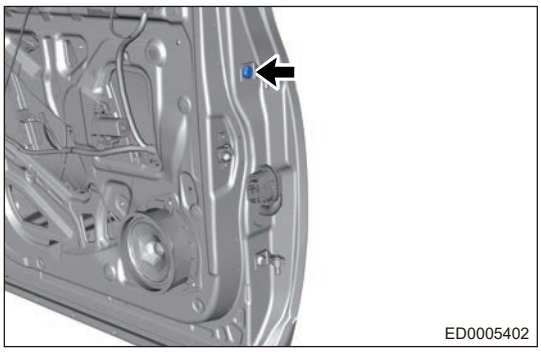
16. Remove the front left door check assembly.
    a. Remove coupling nut (1) between door check and door.
       Tightening torque: 9 ± 1.0 N•m
    b. Remove 1 coupling bolt (arrow) between door check and front left door.
       Tightening torque: 32 ± 2.5 N•m



    c. Remove the front left door check assembly.
17. Remove the front left door assembly.

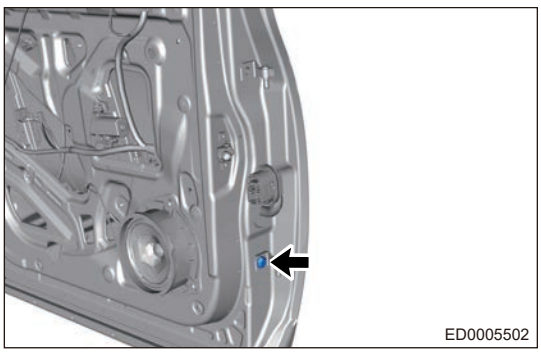
a. Disconnect the front left door wire harness connector.
b. Remove the front left door check assembly.
c. Remove 1 fixing bolt (arrow) between door and upper hinge.

   Tightening torque: 55 ± 5.0 N•m



d. Remove 1 fixing bolt (arrow) between door and lower hinge.

   Tightening torque: 55 ± 5.0 N•m

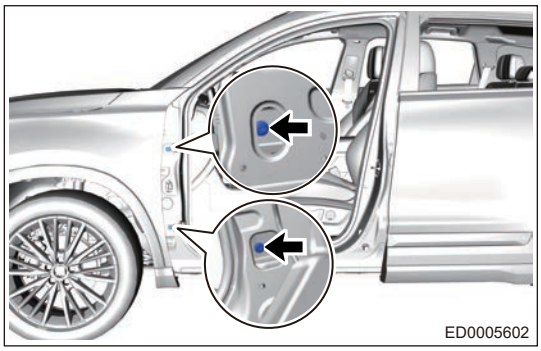


e. Remove the front left door assembly.

18. Remove the front left door hinge assembly.
    a. Remove 2 fixing bolts (arrow) between front door upper hinge assembly and quarter assembly.

       Tightening torque: 32 ± 3.0 N•m
    b. Remove 2 fixing bolts (arrow) between front door lower hinge assembly and quarter assembly.

       Tightening torque: 32 ± 3.0 N•m



Installation

1. Installation is in the reverse order of removal.

Caution
• Replace damaged clips and install front door inner protector in place, when installing front door inner protector. • Stick protective film in specified position, not in a wrong position or an asymmetric position between left and right sides or cover the mounting holes of other installation parts. • DO NOT drag protective film when sticking. It should be installed under its original condition and ensure sheet metal is clean before installation. • Finished protective film should have no defects, such as wrinkles, bubbles or turnups. • Finished protective film should have powerful adherence. Protective film sticking should be finished at one time. Avoid repeat sticking.

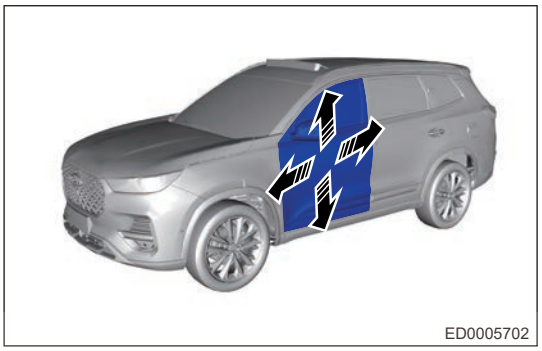
Hint:

- When installing front door assembly, an assistant is needed to hold it, to prevent front door from falling down during operation, resulting in accidents.
- Be sure to wear necessary safety equipment to prevent accidents, when installing front door assembly.

Adjustment

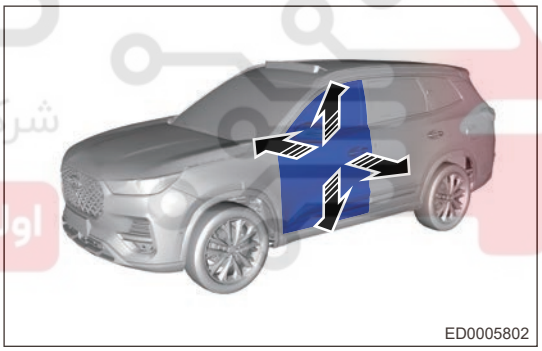
1. Adjust the front door assembly.
   a. Loosen fixing bolts between front door hinge assembly and quarter, and adjust the front door assembly position in direction of arrow as shown in illustration.
   b. After adjustment, tighten fixing bolts on front door hinge assembly to specified torque.

      Tightening torque: 32 ± 3.0 N•m


ED0005702

   c. Loosen fixing bolts between front door hinge assembly and door, and adjust the front door assembly position in direction of arrow as shown in illustration.
   d. After adjustment, tighten fixing bolts on front door hinge assembly to specified torque.

      Tightening torque: 32 ± 3.0 N•m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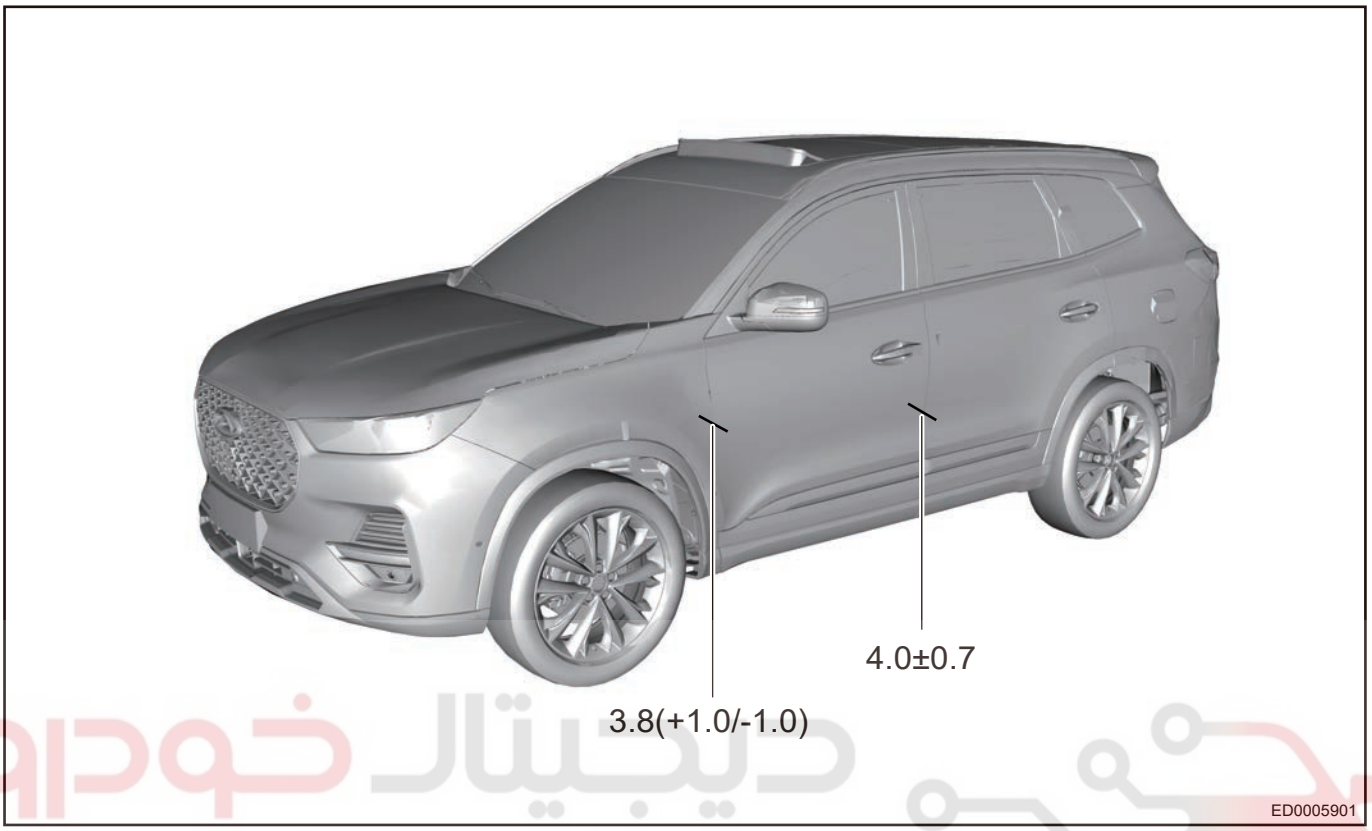
e. Standard ranges of clearance between installation positions of front door assembly and each part are as shown in illustration.



f. After adjustment, make sure that alignment between front door assembly and rear door assembly is within standard range.

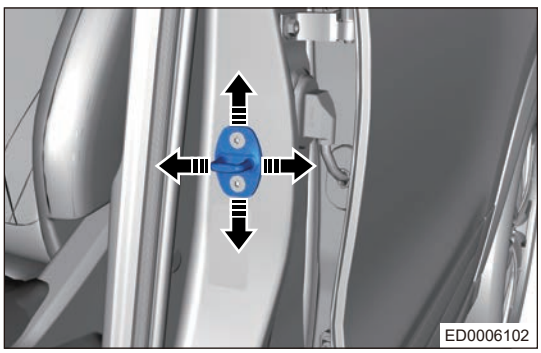
Standard alignment height: 4.0 ± 0.7 mm

g. After adjustment, make sure that alignment between front door assembly and wing assembly is within standard range.

Standard alignment height: 3.8 (+1.0/ -1.0) mm

2. Adjust the front door lock striker.

a. Slightly loosen the fixing bolts on front door lock striker and tap it with a plastic hammer in direction of arrow to adjust the lock striker position.



b. Tighten fixing bolts on front door lock striker to specified torque after adjustment.

Tightening torque: 25 ± 3.75 N•m

Adjustment

1. Check front door assembly for wear or deformation during installation, and repair as necessary.
2. Check if fixing bolts are installed in place. Tighten them to specified torque as necessary.
3. Check if clearance and alignment between installation position of front door assembly and each part are within specified range. Adjust as necessary.

Rear Door Inside Protector Assembly

Removal

Hint:

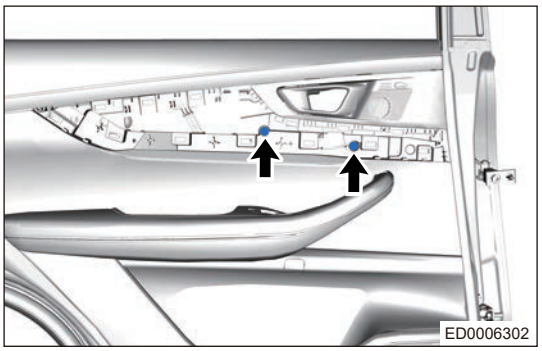
- Use same procedures for right and left sides.
- Procedures listed below are for left side.

Caution
• Be sure to wear necessary safety equipment to prevent accidents, when removing rear door inner protector assembly. • Try to prevent rear door inner protector surface from being damaged, when removing rear door inner protector assembly.

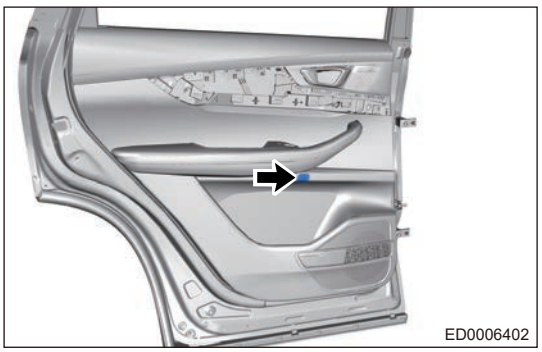
1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the rear door trim panel assembly.
   a. Using an interior crow plate, carefully pry off rear left door trim panel assembly (arrow direction is removal part).

4. Remove the rear left door inner protector assembly.
   a. Remove 2 fixing screws (arrow) on the rear side of rear left door trim panel assembly.

      Tightening torque: 1.5 ± 0.5 N•m

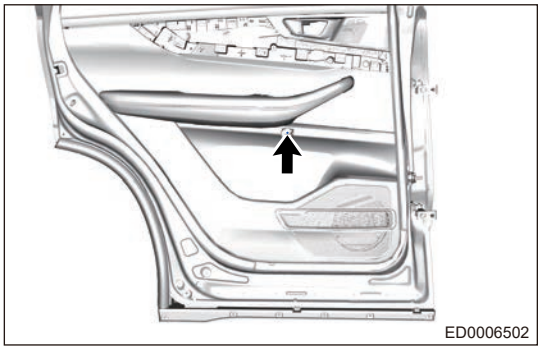


   b. Using an interior crow plate, pry off rear door grip lower block cover (arrow direction is removal port).



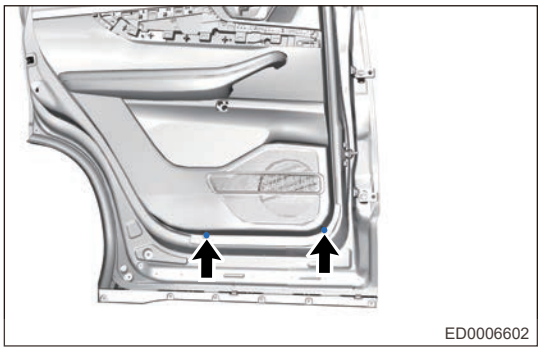
c. Remove 1 fixing screw (arrow) on the rear side of rear door grip lower block cover.

Tightening torque: 1.5 ± 0.5 N•m

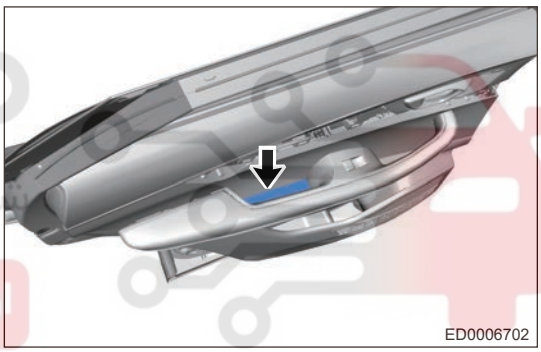


d. Remove 2 fixing screws (arrow) from lower side of rear left door inner protector assembly.

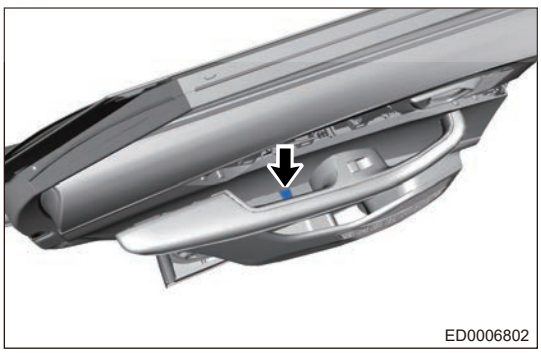
Tightening torque: 1.5 ± 0.5 N•m



e. Remove the inside handle box cover gasket (arrow).

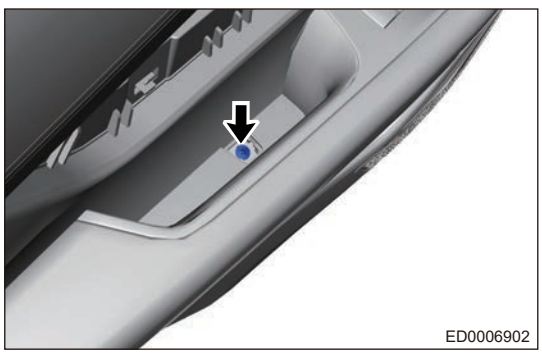


f. Remove the rear door handle box block cover (arrow).

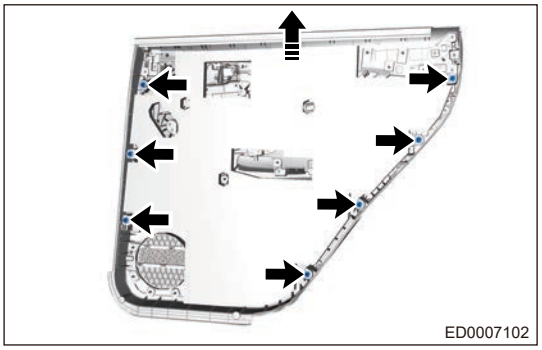


g. Remove 1 fixing screw (arrow) on the rear side of rear door handle box block cover.

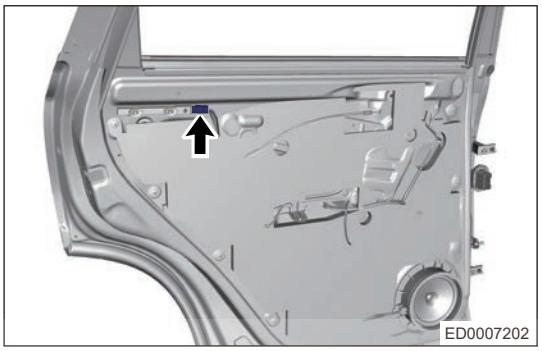
Tightening torque: 1.5 ± 0.5 N•m



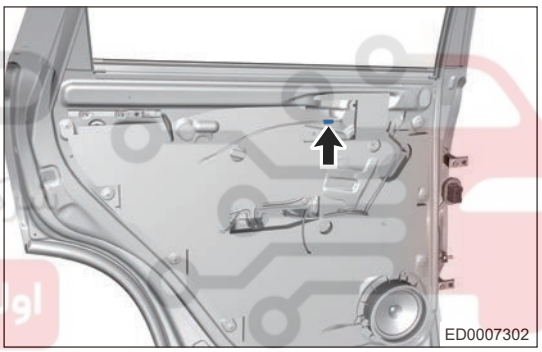
h. Using an interior crow plate, pry up clips on rear door inner protector assembly, and remove rear door inner protector assembly in direction of arrow.



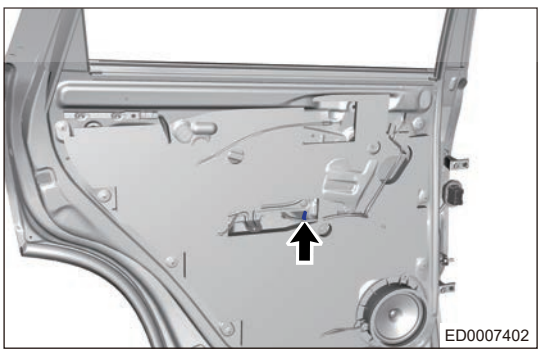
i. Disconnect the connector (arrow) from low frequency antenna.



j. Disengage handle cable (arrow) from rear door inside handle.



k. Disconnect the rear door power glass regulator switch connector plug (arrow).

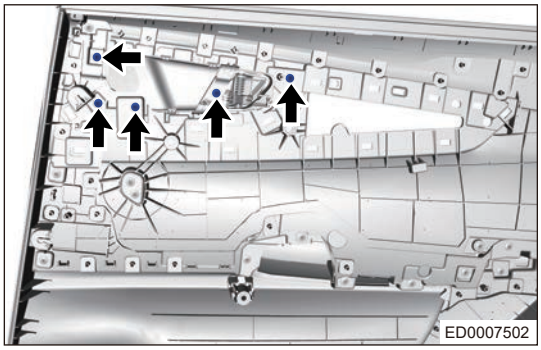


l. Remove the rear left door inner protector assembly.

5. Remove the rear door inside handle.

a. Remove 5 fixing screws (arrow) from rear door inside handle.

   Tightening torque: 1.5 ± 0.5 N•m



b. Using interior crow plate, pry off claws from rear door inside handle, and remove rear door inside handle.

Installation

1. Installation is in the reverse order of removal.

Caution
• Replace damaged clips and install rear door inner protector assembly in place, when installing rear door inner protector assembly. • Check that inside handle assembly can operate properly, after installing rear door inner protector assembly.

Rear Door Assembly

Removal

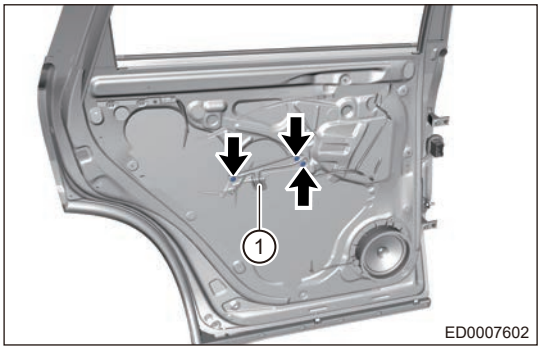
Caution
• Use same procedures for right and left sides. • Procedures listed below are for left side. • When removing rear door assembly, an assistant is needed to hold rear door, to prevent front door from dropping to cause accidents during operation.

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

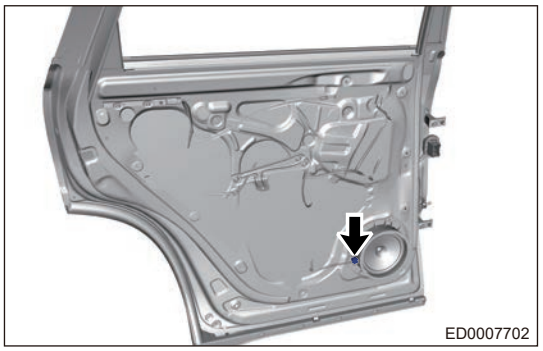
1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the rear left door inner protector assembly.
4. Remove the rear left door protective film assembly.

a. Remove 3 fixing bolts (arrow) from rear door metal bracket and remove rear left door metal bracket (1).

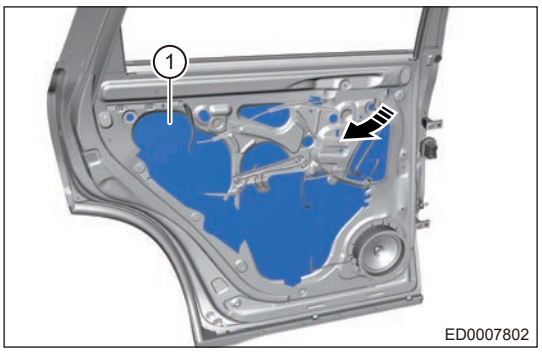
Tightening torque: 5 ± 1.0 N•m



b. Disconnect the full-range speaker connector (arrow).



c. As shown in illustration, remove the rear left door protective film assembly (1) by gently peeling it along edges from one corner.

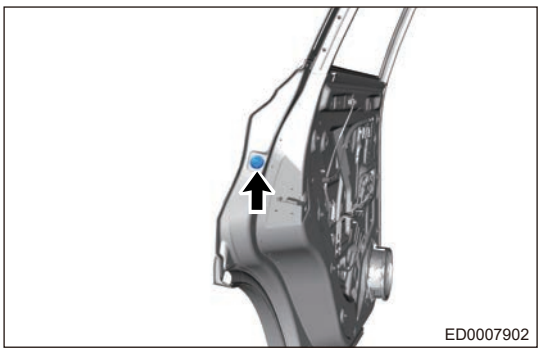


Caution

- Try to prevent rear door protective film from being damaged, when removing rear door protective film assembly.
- Place rear door protective film assembly properly after removal, and avoid adhesive sticker on rear door protective film assembly from sticking to other components.

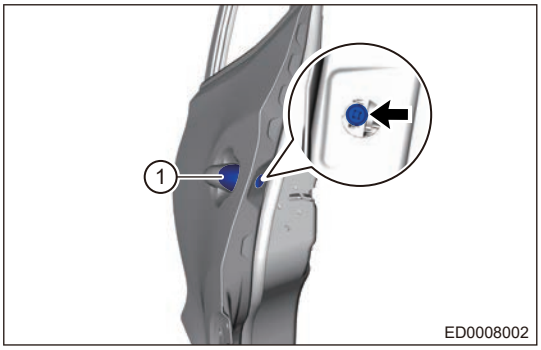
5. Remove the rear left door full-range speaker.
6. Remove the rear left door weather bar.
7. Remove the rear door glass upper run.
8. Remove the rear door glass assembly.
9. Remove the rear door glass guide rail assembly.
10. Remove the rear door power glass regulator.
11. Remove the rear left door lock assembly.
12. Remove the rear left door outside handle cover.

a. Remove the rear door outside handle block cover (arrow).

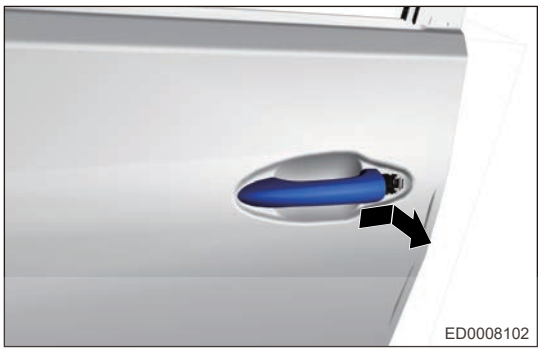


b. Loosen fixing screw (arrow) on rear door outside handle cover, and remove the rear door outside handle cover (1).

Tightening torque: 5 ± 1.0 N•m

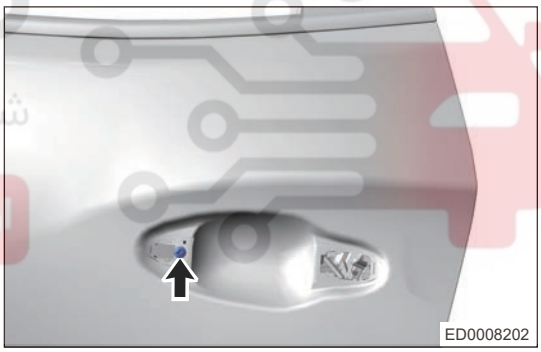


13. Remove the rear left door outside handle.
    a. As shown in illustration, slide and pull the rear door outside handle in direction of arrow, and remove it.

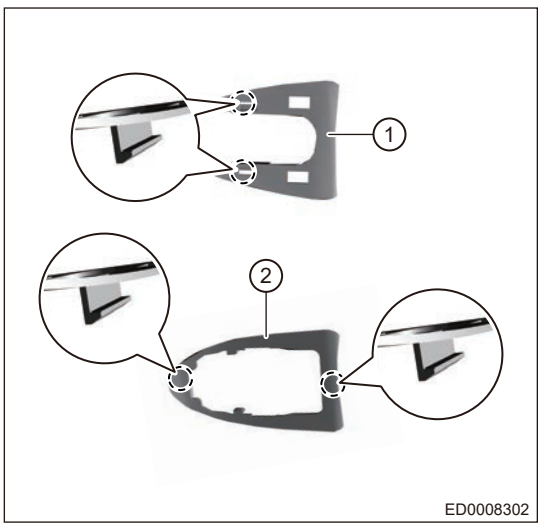


14. Remove the rear left door outside handle seat assembly.
    a. Remove fixing screw (arrow) from rear door outside handle seat assembly, and remove rear door outside handle seat assembly.

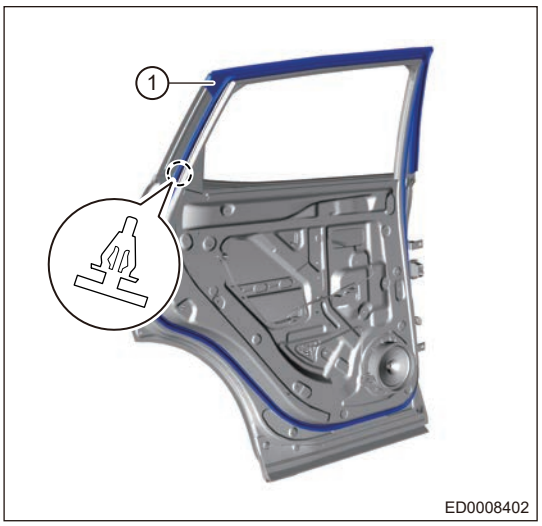
Tightening torque: 1.5 ± 0.5 N•m



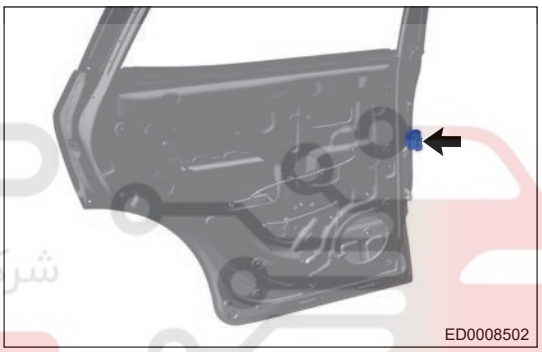
15. Remove the rear left door outside handle shim.
    a. Disengage claws from rear door outside handle front shim, and remove rear left door outside handle front shim (1).
    b. Disengage claws from rear door outside handle rear shim, and remove rear left door outside handle rear shim (2).



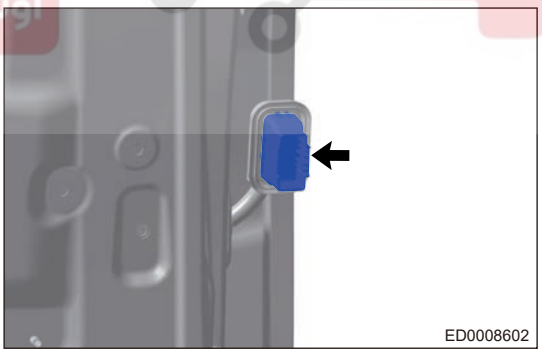
16. Remove the rear left door frame weatherstrip.
    a. Disengage clips from rear door frame weatherstrip, and remove rear left door frame weatherstrip (1).



17. Disconnect the rear left door connector.
    a. Using an interior crow plate, pry up the rear door dust boot.
    b. Using an interior crow plate, pry up the claw of connector (arrow).



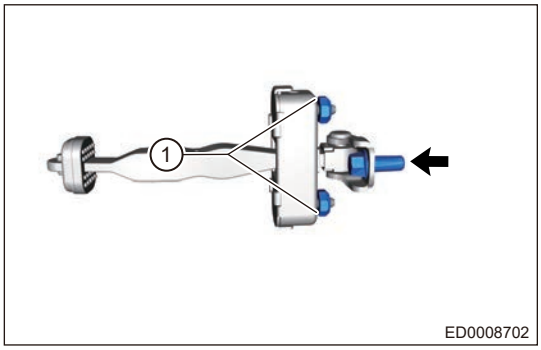
    c. Disconnect the rear left door wire harness connectors (arrow).



18. Remove the rear left door check.
    a. Remove 2 nuts (1) between door check and rear left door.
       Tightening torque: 9 ± 1.0 N•m

b. Remove coupling bolt (arrow) between door check and body.

Tightening torque: 32 ± 2.5 N•m

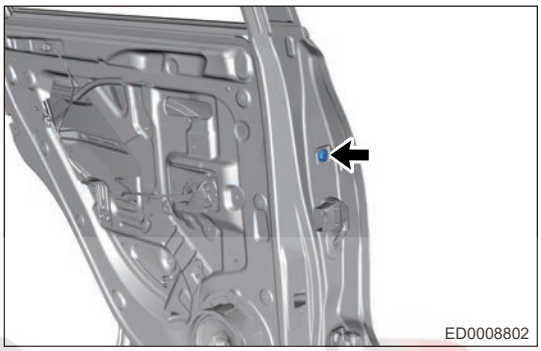


c. Remove rear left door check assembly from door assembly.

19. Remove the rear left door assembly.

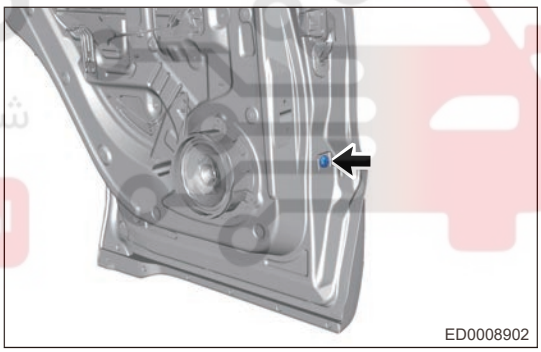
a. Remove fixing bolt (arrow) between rear door upper hinge assembly and rear door assembly.

Tightening torque: 55 ± 5.0 N•m



b. Remove fixing bolt (arrow) between rear door lower hinge assembly and rear door assembly.

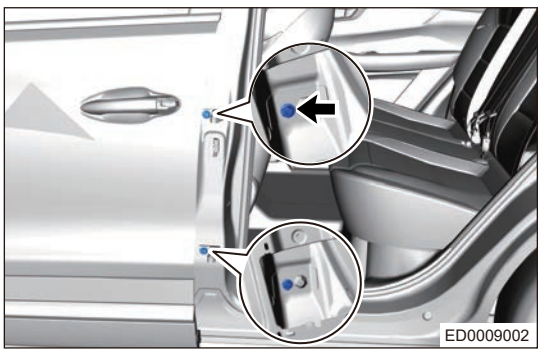
Tightening torque: 55 ± 5.0 N•m



20. Remove the rear left door hinge assembly.

a. Remove 2 fixing bolts (arrow) between front door upper hinge assembly and quarter panel.

Tightening torque: 32 ± 3.0 N•m



b. Remove 2 fixing bolts (arrow) between front door lower hinge assembly and quarter.

Tightening torque: 32 ± 3.0 N•m

c. Remove the rear left door hinge assembly.

Installation

1. Installation is in the reverse order of removal.

Caution
• Replace damaged clips and install rear door inner protector in place, when installing rear door inner protector. • Stick protective film in specified position, not in a wrong position or an asymmetric position between left and right sides or cover the mounting holes of other installation parts. • DO NOT drag protective film when sticking. It should be installed under its original condition and ensure sheet metal is clean before installation. • Finished protective film should have no defects, such as wrinkles, bubbles or turnups. • Finished protective film should have powerful adherence. Protective film sticking should be finished at one time. Avoid repeat sticking.

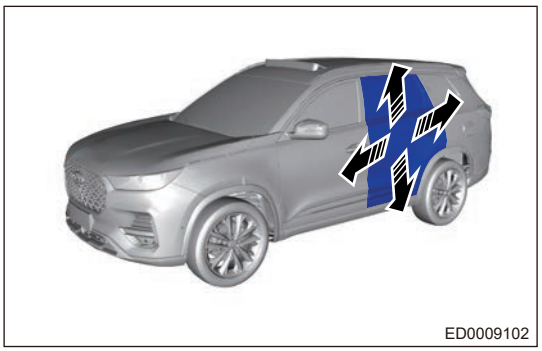
Hint:

- Be sure to wear safety equipment to prevent accidents, when installing rear door assembly.
- When installing rear door assembly, an assistant is needed to hold it, prevent rear door from falling down during operation, resulting in accidents.

Adjustment

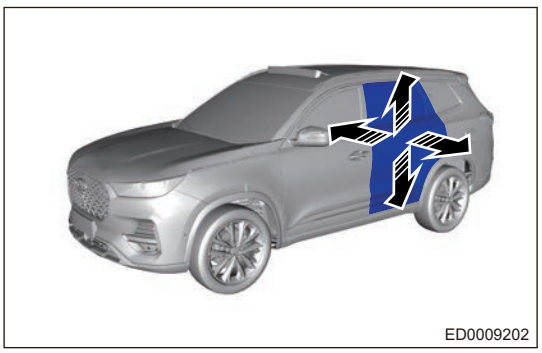
1. Adjust the rear door assembly.
   a. Loosen fixing bolts between rear door hinge assembly and door, and adjust rear door assembly position in direction of arrow as shown in illustration.
   b. After adjustment, tighten fixing bolts on rear door hinge assembly to specified torque.

      Tightening torque: 55 ± 5.0 N·m

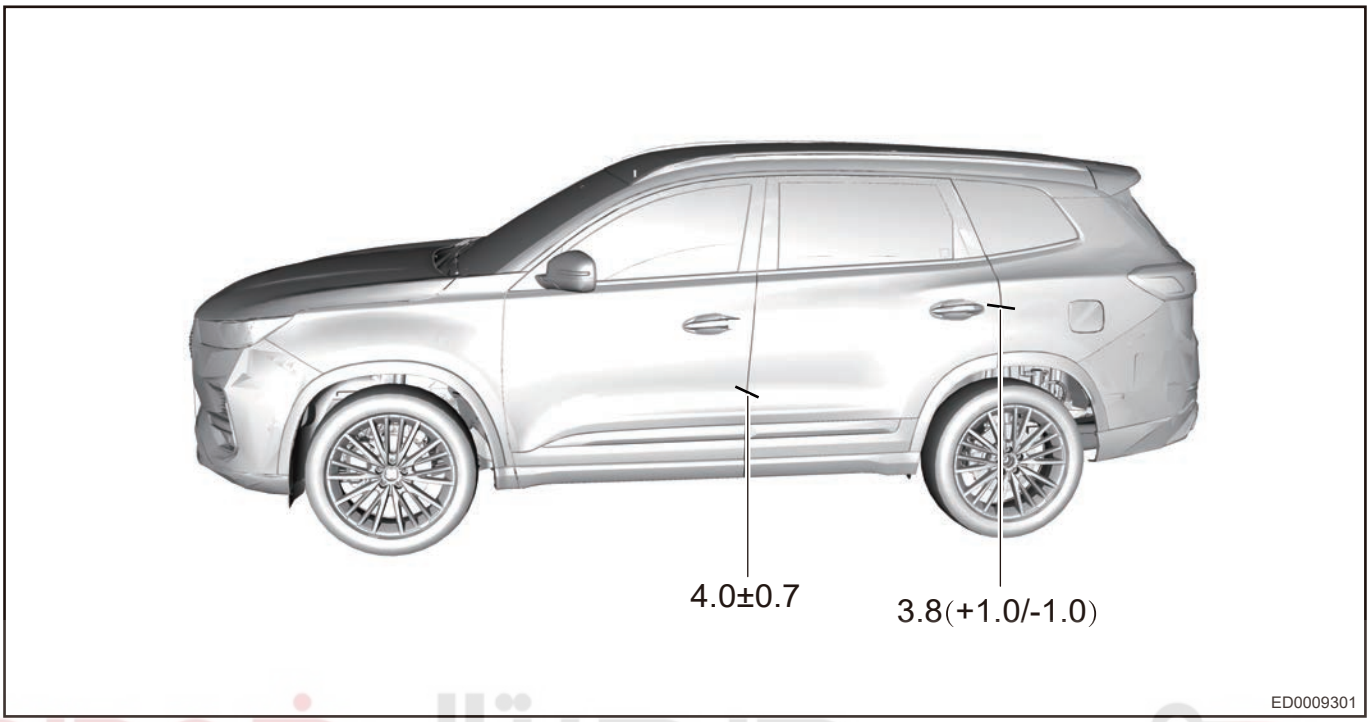

ED0009102

   c. Loosen fixing bolts between rear door hinge assembly and quarter, and adjust rear door assembly position in direction of arrow as shown in illustration.
   d. After adjustment, tighten fixing bolts on rear door hinge assembly to specified torque.

      Tightening torque: 32 ± 3.0 N·m


ED0009202

e. Standard ranges of clearance between installation position of rear door assembly and each part are as shown in illustration.



f. After adjustment, make sure that alignment between rear door assembly and front door assembly is within standard range.

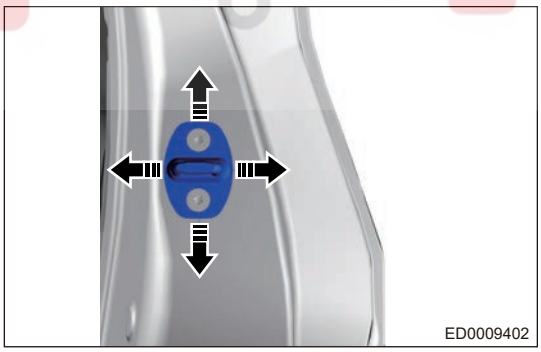
Standard alignment height: 4.0 ± 0.7 mm

g. After adjustment, make sure that alignment between rear door assembly and body outside panel is within standard range.

Standard alignment height: 3.8 (+1.0/ -1.0) mm

2. Adjust the rear left door lock striker assembly.

a. Slightly loosen fixing bolts on rear door lock striker and tap it with a plastic hammer in direction of arrow to adjust the lock striker position.



b. Tighten fixing bolt on rear door lock striker assembly to specified torque after adjustment.

Tightening torque: 25 ± 3.75 N•m

Inspection

1. Check rear door assembly for wear or deformation during installation, and repair as necessary.
2. Check if fixing bolts are installed in place. Tighten them to specified torque as necessary.
3. Check if clearance and alignment between installation position of rear door assembly and each part are within specified range. Adjust as necessary.

Back Door Protector Assembly

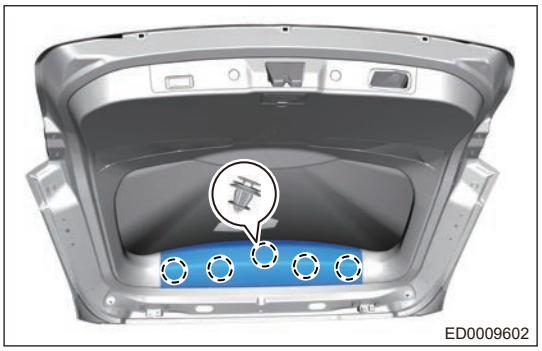
Removal

Caution
• Be sure to wear safety equipment when removing back door protector assembly. • Try to prevent body paint surface from being scratched, when removing back door protector assembly.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the trunk lid adjustable buffer block.
   a. Rotate 2 trunk lid adjustable buffer blocks (arrow) in counterclockwise and remove them.


ED0009502

4. Remove the back door upper trim board assembly.
   a. Using a screwdriver wrapped with protective tape, pry off plastic clips from back door frame upper protector assembly.
   b. Remove the back door upper trim board assembly.

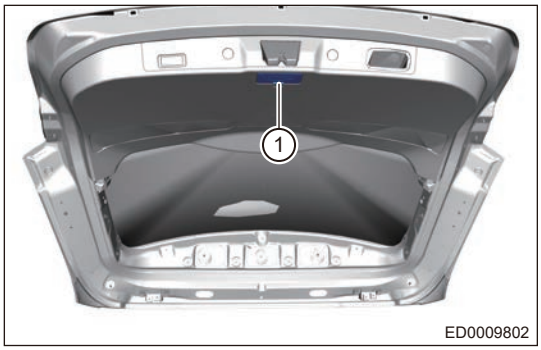

ED0009602

5. Remove the back door protector assembly.
   a. Using a screwdriver wrapped with protective tape, pry off plastic clips from back door frame protector assembly.
   b. Remove the back door trim board assembly.

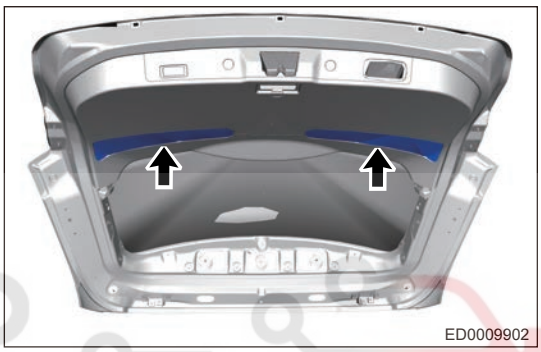

ED0009702

6. Remove the back door mechanical opener trim cover.

a. Using a screwdriver wrapped with protective tape, pry off claws from back door mechanical opener trim cover.
b. Remove the back door mechanical opener trim cover (1).

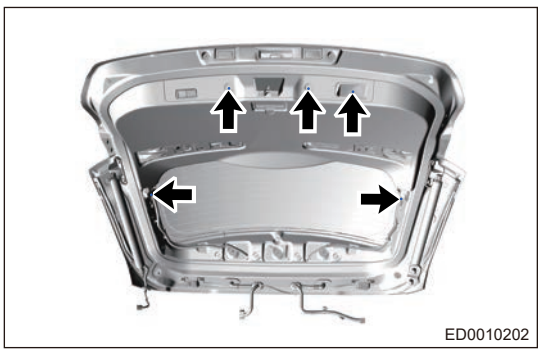


7. Remove the left/right position light service trim cover.
   a. Using a screwdriver wrapped with protective tape, pry up the claws from left/right position light.
   b. Remove the left/right position light service trim cover.

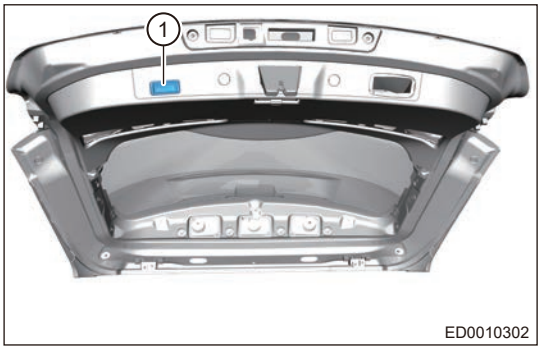


8. Remove the back door lower protector assembly.
   a. Using a screwdriver wrapped with protective tape, pry off trim cover (arrow) from back door lower protector assembly.

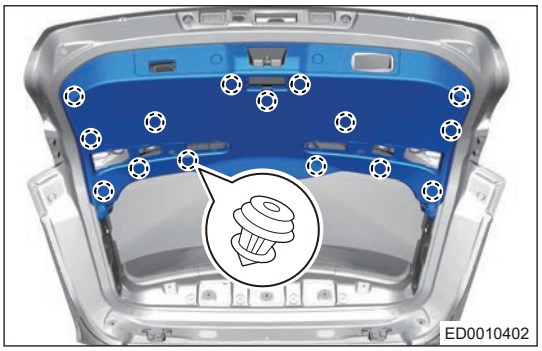
   b. Remove the fixing screws (arrow) from back door lower protector assembly.



c. Using a screwdriver wrapped with protective tape, pry off back door inside switch assembly (1) and disconnect the connector.



d. Using a screwdriver wrapped with protective tape, pry off claws from back door lower protector assembly.



e. Remove the back door lower protector assembly.

Installation

1. Installation is in the reverse order of removal.

Caution
• Be sure to wear safety equipment to prevent accidents, when installing back door protector assembly. • Try to prevent body paint surface from being scratched, when installing back door protector assembly.

Back Door Assembly

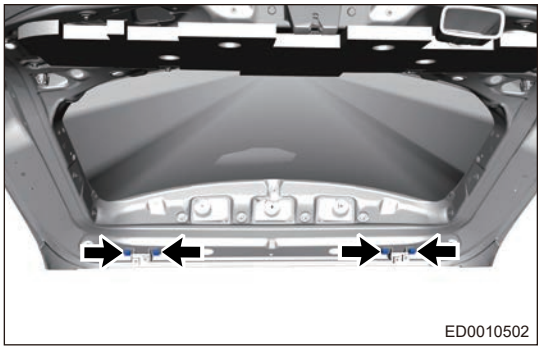
Removal

Caution
• When removing back door assembly, be sure to wear safety equipment to prevent accidents. • When removing back door assembly, try to prevent body paint surface from being scratched. • When removing back door assembly, an assistant is needed to hold the trunk lid. Try to prevent trunk lid from falling down or closing suddenly during operation, resulting in accidents.

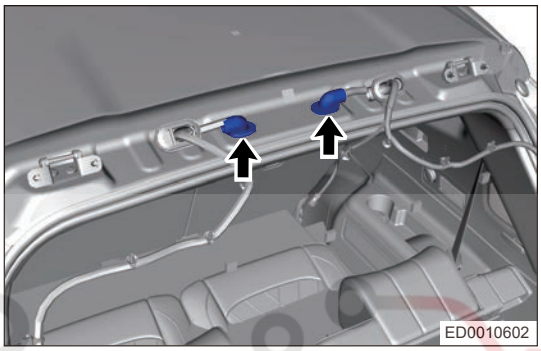
1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the back door protector assembly.
4. Remove the back door wiper arm.
5. Remove the back door wiper motor assembly.
6. Remove the back door wiper washer nozzle.
7. Remove the combination taillight.
8. Remove the back door switch assembly.

9. Remove the back door opening weatherstrip.
10. Remove the roof assembly.
11. Remove the back door assembly.
    a. Remove 4 fixing bolts (arrow) from back door left and right hinges.

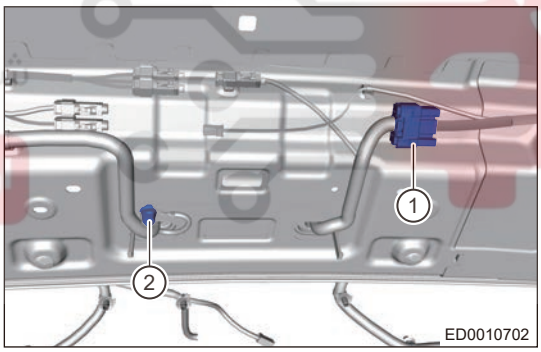
       Tightening torque: 25 ± 2.0N•m



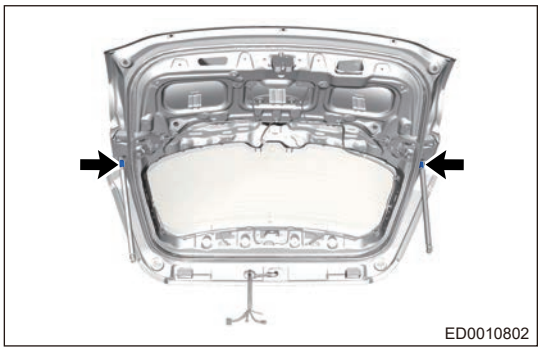
    b. Using an interior crow plate, pry up back door wire harness dust boot (arrow).



    c. Disconnect back door wire harness assembly connector plug (1), back door wire harness ground fixing nut (2) and back door wiper spraying pipe joint.



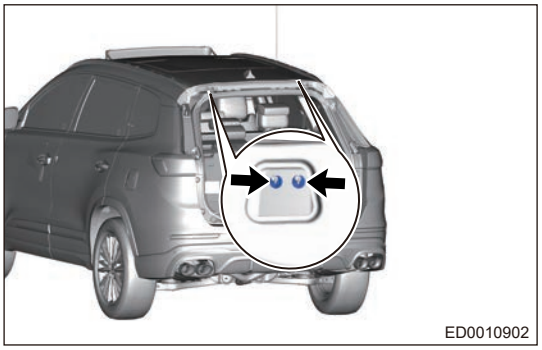
    d. Using a screwdriver wrapped with protective tape, pry off the upper fixing clips (arrow) between left power support and right air spring.



    e. Remove the back door assembly.
12. Remove the back door hinge assembly.

a. Remove 4 fixing bolts (arrow) from back door hinge.

Tightening torque: 25 ± 2.0 N•m



b. Remove the back door hinge assembly.

Installation

1. Installation is in the reverse order of removal.

Caution
• When installing back door hinge assembly, an assistant is needed to hold back door. During operation, prevent the back door from dropping, which may cause an accident. • Be sure to wear safety equipment to prevent accidents, when installing back door assembly. • Try to prevent body paint surface from being scratched, when installing back door assembly. • After installing back door assembly, it is necessary to perform panoramic image calibration.

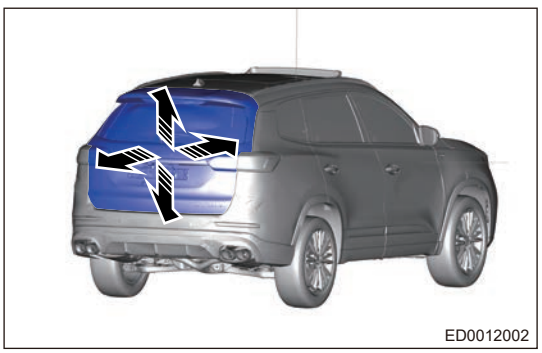
Adjustment

1. Adjust the back door assembly.
   a. Loosen the fixing bolts on back door assembly and adjust back door assembly position in direction of arrow.
   b. Tighten back door assembly fixing bolts to specified torques after adjustment.

      Tightening torque: 25 ± 2.0 N•m

   c. Loosen the fixing bolts on back door assembly and adjust back door assembly position in direction of arrow.
   d. Tighten back door assembly fixing bolts to specified torques after adjustment.

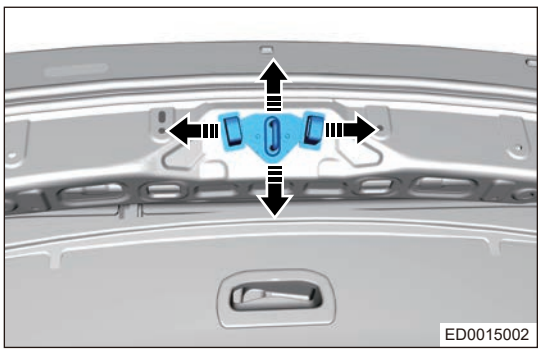
      Tightening torque: 25 ± 2.0 N•m



e. Standard ranges of clearance between installation position of back door assembly and each part are as shown in illustration.

2. Adjust the height of back door assembly with back door assembly adjustable buffer block.
   a. Lower or raise the back door by rotating the back door assembly adjustable buffer blocks clockwise or counterclockwise.

3. Adjust the back door assembly.
   a. Slightly loosen the fixing bolts on back door lock striker assembly, and tap it with a plastic hammer in direction of arrow as shown in illustration to adjust the back door assembly position.



b. Tighten the fixing bolts on back door lock striker assembly to specified torque after adjustment.
Tightening torque: 25 ± 3.75 N•m

Inspection

1. Check back door for wear or deformation during installation, and repair as necessary.
2. Check if fixing bolts, fixing screws are set in position. Tighten them to specified torque as necessary.
3. Check if clearance and alignment between back door assembly installation position and each part are within the specified range. Adjust as necessary.

Back Door Switch Assembly

Removal

Caution
• Be sure to wear safety equipment to prevent accidents, when removing back door switch assembly. • When removing back door switch assembly, try to prevent body paint surface from being scratched.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the back door switch assembly.
   a. Using an interior crow plate, pry off back door switch (-arrow) from mounting hole.

   b. Disconnect back door wire harness connector, and remove back door switch assembly.

Installation

1. Installation is in the reverse order of removal.

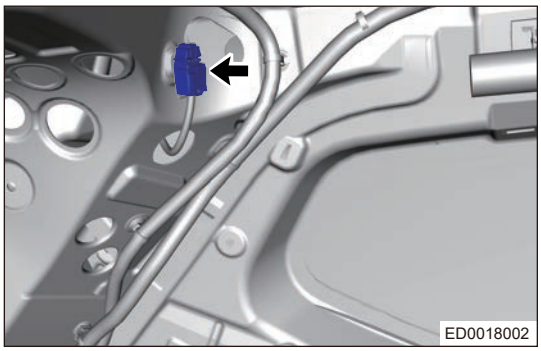
Caution
• After back door opener switch assembly is installed, install the connector into place. • After back door opener switch assembly is installed, it is necessary to confirm that the function can operate normally.

Back Door Power Support Assembly

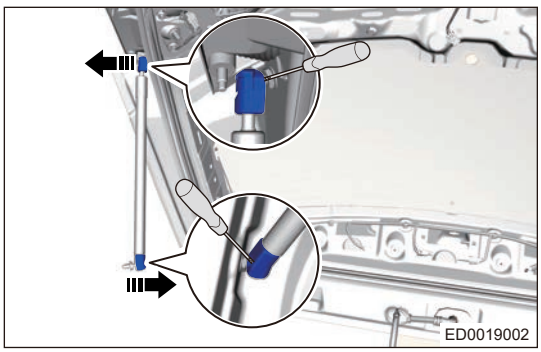
Removal

Caution
• Left side is electric support rod with wire harness and right side is balance bar without wire harness. • The following is the operation procedure of power support. • Be sure to wear necessary safety equipment to prevent accidents, when removing back door electric support rod assembly. • When removing back door power support assembly, try to prevent body paint surface from being scratched. • When removing back door power support assembly, pay attention to not separate power support by lateral force and during removal, one assistance is needed to hold back door; avoid back door falling down or closing suddenly during opening, resulting in accidents. • Handle the removed electric support rod assembly carefully and avoid it falling down. Once it falls down, internal mechanical damage may occur, which may cause it impossible to use.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the left back door power support assembly.
   a. Using a screwdriver wrapped with protective tape, pry off left C-pillar upper protector (until it is possible to disconnect power support connector).
   b. Disconnect the power support connector (arrow).



   c. Using a screwdriver wrapped with protective tape, pry off fixing clips from upper and lower parts of back door power support.



   d. Remove the power support assembly in direction of arrow.

Installation

1. Installation is in the reverse order of removal.

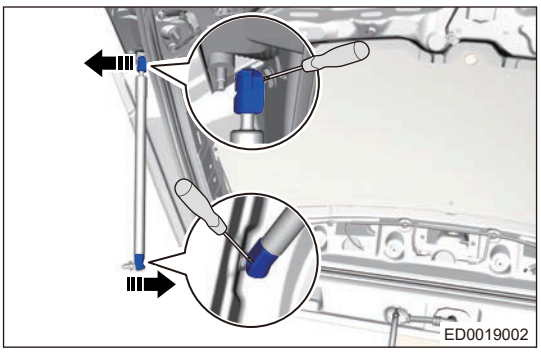
Caution
• When installing back door power support assembly, one assistance is needed to hold back door; avoid back door falling down or closing suddenly during opening, resulting in accidents. • Be sure to wear necessary safety equipment to prevent accidents, when installing back door power support assembly. • When installing back door power support assembly, it is necessary for wire harness grommet to be installed in place. If not, water leakage may occur at this area.

Back Door Air Spring Assembly

Removal

Caution
• When removing back door air spring assembly, be sure to wear necessary safety equipment to prevent accidents. • When removing back door air spring assembly, try to prevent body paint surface from being scratched. • When removing back door air spring assembly, one assistance is needed to hold back door; avoid back door falling down or closing suddenly during opening, resulting in accidents.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the right back door air spring assembly.
   a. Using a screwdriver wrapped with protective tape, pry off fixing clips (arrow) from upper part of back door air spring.
   b. Using a screwdriver wrapped with protective tape, pry off fixing clips (arrow) from lower part of back door air spring.



   c. Remove the air spring assembly in direction of arrow.

Installation

1. Installation is in the reverse order of removal.

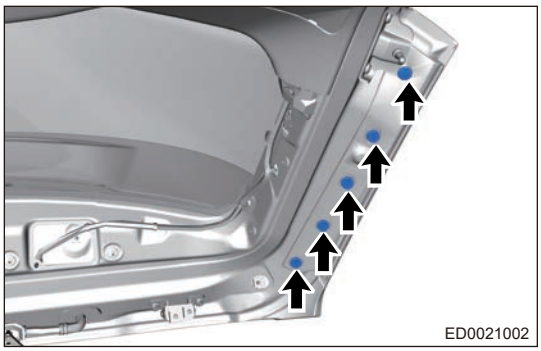
Caution
• When installing back door air spring assembly, one assistance is needed to hold back door; avoid back door falling down or closing suddenly during opening, resulting in accidents. • When installing back door air spring assembly, be sure to wear necessary safety equipment to prevent accidents.

Back Door Anti-pinch Strip Assembly

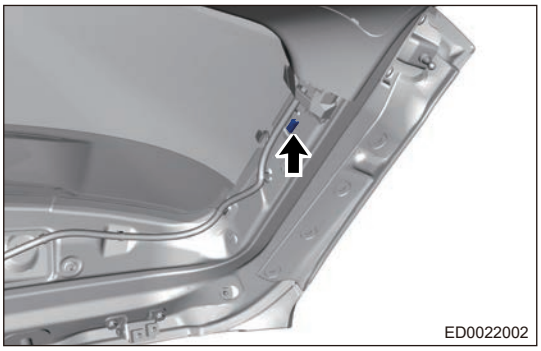
Removal

Caution
• Be sure to wear safety equipment to prevent accidents, when removing back door anti-pinch strip assembly. • When removing back door anti-pinch strip assembly, try to prevent body paint surface from being scratched. • Use the same procedures for left anti-pinch strip assembly and right anti-pinch strip assembly, procedures listed below are for left anti-pinch strip.

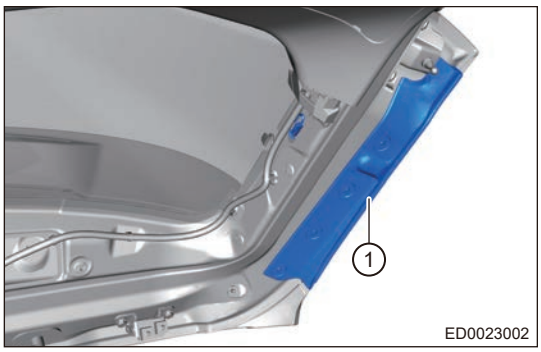
1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the left back door protector assembly.
4. Remove the back door left anti-pinch strip assembly.
   a. Using a screwdriver wrapped with protective tape, pry off fixing plastic nuts (arrow) from back door anti-pinch strip assembly.


ED0021002

   b. Disconnect the anti-pinch strip connector (arrow).


ED0022002

   c. Remove the back door anti-pinch strip assembly (1).



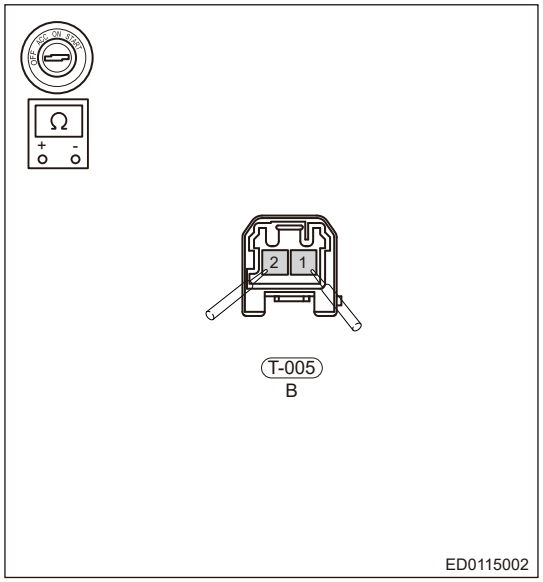
ED0023002

Inspection

1. Check the jam protection function.

d. Turn ENGINE START STOP switch to OFF position. Measure the resistance of anti-pinch strip sensor with a digital multimeter, standard resistance is shown in the table below:

Multimeter Connection	Condition	Specified Condition (at room temperature)
T-005 (1) - T-005 (2)	Jam protection ON	31 Ω
T-005 (1) - T-005 (2)	Jam protection OFF	5560 Ω



Installation

1. Installation is in the reverse order of removal.

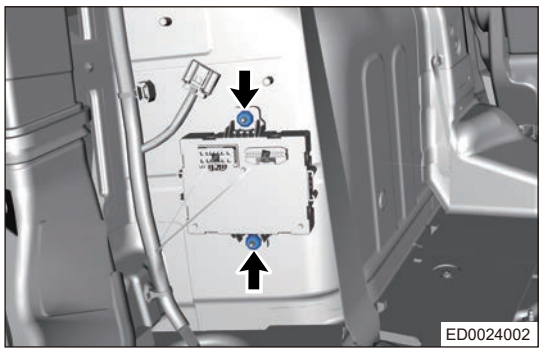
Power Back Door Module Assembly

Removal

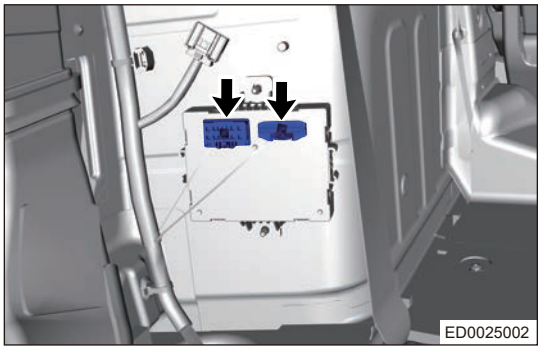
Caution
• Be sure to wear safety equipment to prevent accidents, when removing power back door module assembly. • When removing power back door module assembly, try to prevent body paint surface from being scratched.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the power back door module assembly.
   a. Remove fixing nuts (arrow) from power back door module.

      Tightening torque: 5 ± 1.0 N•m



b. Disconnect the power back door module wire harness connectors (arrow).



c. Remove the power back door module.

Installation

1. Installation is in the reverse order of removal.

Caution
• After replacing power back door module, use diagnostic tester to perform self-learning operation, perform corresponding operation on each functional switch after learning is successful, so as to check each function of power back door operates normally. • When disconnecting battery negative cable or power back door module power supply; after power is turned on again, it is necessary to perform fortifying on vehicle.

Power Back Door Instrument Cluster Switch Assembly

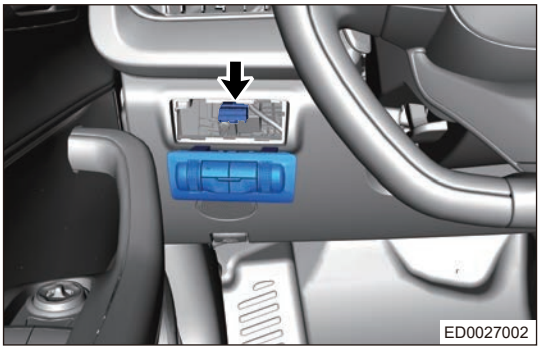
Removal

Caution
• Be sure to wear safety equipment to prevent accidents, when removing power back door instrument cluster switch assembly. • When removing power back door instrument cluster switch assembly, try to prevent body paint surface from being scratched.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the power back door instrument cluster switch assembly.

a. Using a screwdriver wrapped with protective tape, pry off power back door instrument cluster switch assembly.

b. Disconnect the power back door instrument cluster switch connector (arrow).



c. Remove the power back door instrument cluster switch assembly.

Installation

1. Installation is in the reverse order of removal.

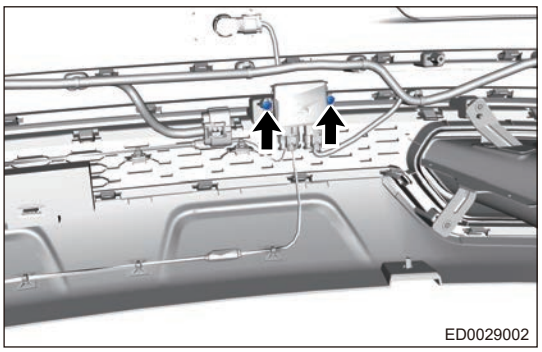
Caution
• Install the power back door instrument cluster switch assembly, and install the connector in place. • After power back door instrument cluster switch assembly is installed, it is necessary to confirm that the function can operate normally.

Kick Sensor Module Assembly

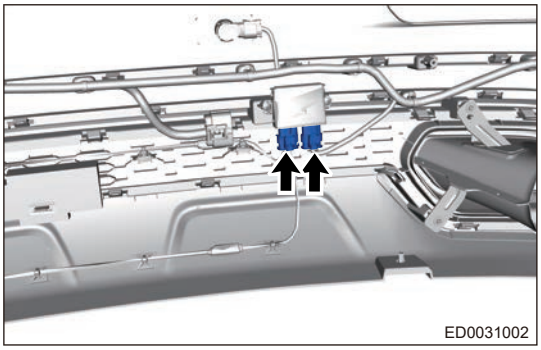
Removal

Caution
• Be sure to wear safety equipment to prevent accidents, when removing kick sensor module assembly. • When removing kick sensor module assembly, try to prevent body paint surface from being scratched.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the kick sensor module assembly.
   a. Remove 2 fixing screws (arrow) from kick sensor.
      Tightening torque: 1.5 ± 0.5 N•m



b. Disconnect the kick sensor module wire harness connector (arrow).



c. Remove the kick sensor module assembly.

Installation

1. Installation is in the reverse order of removal.

Caution
• After replacing kick sensor module, turn IGN to OFF, close the four doors, carry PEPS key to stand 30 cm away from vehicle, perform kick action vertically towards fixing license plate with the distance between foot and rear bumper bottom less than 8 cm and keep the foot at rear bumper position for 0.5 ~ 1.5 s. After action is completed, the turn signal light flashes twice and back door opens/closes automatically. If this action is perform during back door movement, the back door will stop. • If back door doesn’ t open due to many incorrect kick operation, the vehicle enters ambient protection. Wait 10 seconds before perform kick operation again. In ambient protection condition, the back door opens for a delay, which is normal.

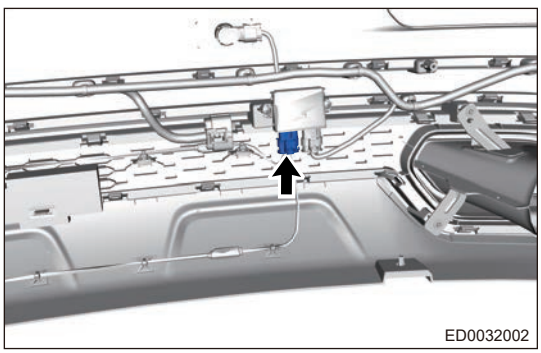
Kick Sensor Induction Antenna

Removal

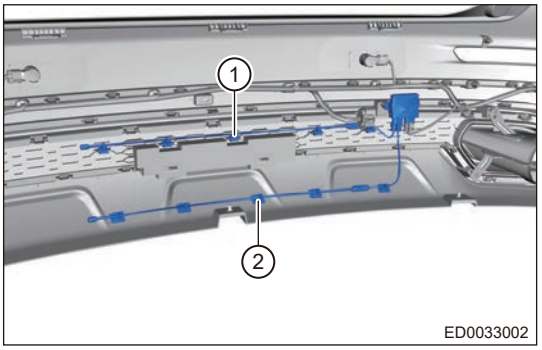
Caution
• Be sure to wear safety equipment to prevent accidents, when removing kick sensor induction antenna assembly. • When removing kick sensor induction antenna assembly, try to prevent body paint surface from being scratched.

1. Turn off all electrical equipment and the ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the kick sensor induction antenna visor assembly.

a. Disconnect the kick sensor module wire harness connector (arrow).



b. Using tools, carefully pry up upper induction antenna fixing clips (1) and remove lower induction antenna (2) to secure 3M sealant (use 3M sealant to secure lower induction antenna).



c. Remove the kick sensor induction antenna.

Installation

1. Installation is in the reverse order of removal.

Caution
• Antenna induction area antenna should be installed straight with any bending and breaking. The antenna connecting wire has no such requirement. • Before attaching induction antenna, first peel off the attaching marks on rear bumper. • If ambient temperature is lower than attaching temperature requirement (the required attaching temperature is 18℃ - 40℃), it is necessary to warm up the 3M sealant on kick sensor induction antenna, the warming up temperature is 23℃. • There is attaching mark box on rear bumper with 3M sealant applied into box. • When attaching, it is necessary to apply a certain pressure on 3M sealant. The pressure range is 10-50N/cm. • After the antenna is attached, avoid touching/pulling antenna, so as to ensure the antenna is hold firmly.