

SLIDING ROOF

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دیجیتال خودرو

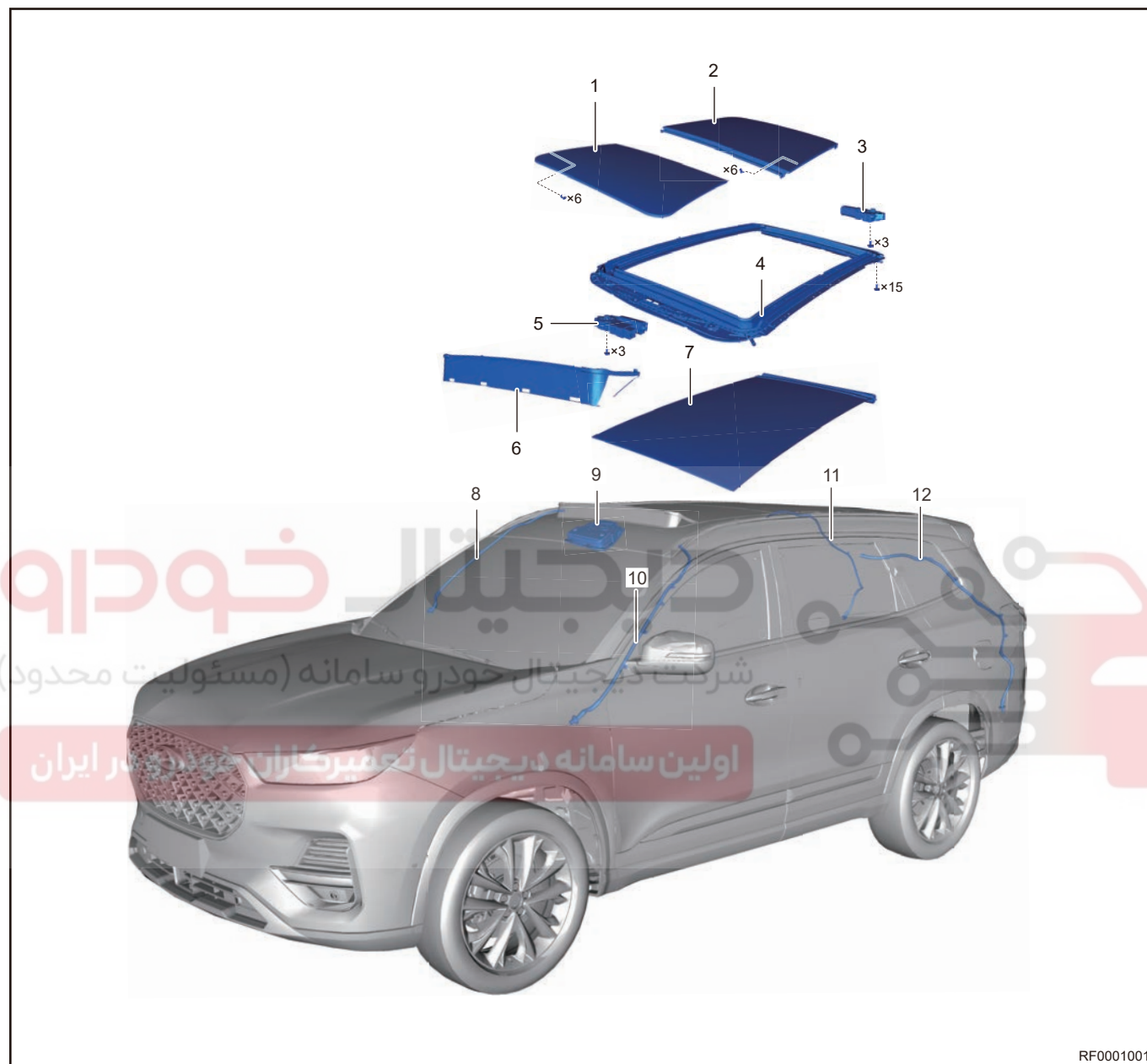
شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



General Information

Description



1	Sliding Roof Front Glass Assembly	7	Sliding Roof Sun Visor Assembly
2	Sliding Roof Rear Glass Assembly	8	Front Right Sliding Roof Drain Hose Assembly
3	Sliding Roof Glass Motor Assembly	9	Interior Front Dome Light Assembly
4	Sliding Roof Frame	10	Front Left Sliding Roof Drain Hose Assembly

5	Sliding Roof Sun Visor Motor Assembly	11	Rear Right Sliding Roof Drain Hose Assembly
6	Sliding Roof Deflector Panel	12	Rear Left Sliding Roof Drain Hose Assembly

On this model, panoramic sliding roof consists of sliding roof switch, sliding roof glass, electronic sun visor, glass motor, sun visor motor, control module, wire harness and sliding roof drain hose.

Specifications

Torque Specifications

Description	Torque (N·m)
Sliding Roof Switch Assembly Fixing Screw	2.5 ± 0.5
Sliding Roof Mounting Bracket Fixing Bolt	9.0 ± 1.5
Motor Mounting Screw	4.0 ± 0.5
Glass Assembly Bracket Fixing Screw	5.5 ± 0.5

Tools

General Tools

Tool Name	Tool Drawing
Digital Multimeter	 RCH000206

Inspection

Check the sliding roof.

Caution:
<ul style="list-style-type: none"> When performing electrical equipment diagnosis and test, always refer to circuit diagram for related circuit and component information.

- Turn ENGINE START STOP switch to OFF.
- Disconnect the sliding roof switch connector B-097.
- Using a digital multimeter, check for continuity between the terminals of connector B-097 to check if the sliding roof switch functions normally according to the table below.

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Multimeter Connection	Condition	Specified Condition
B-097 (2) - B-097 (5)	“Sliding Roof Glass Open” button pressed	$\leq 1 \Omega$
B-097 (1) - B-097 (6)	“Sliding Roof Glass Closed” button pressed	$\leq 1 \Omega$
B-097 (6) - B-097 (8)	“Sun Visor Open” button pressed	$\leq 1 \Omega$
B-097 (7) - B-097 (9)	“Sun Visor Closed” button pressed	$\leq 1 \Omega$

d. If result is not as specified, replace sliding roof switch.

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Diagnosis & Testing

Problem Symptoms Table

Hint:

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

Symptom	Suspected Area
Sliding roof water leakage	Sliding roof weatherstrip damaged
	Drain hose clogged or folded
	Distance between sliding roof glass and roof hole is extremely large or height of glass is poor
	Sliding roof drain is clogged by foreign matters
Wind noise from sliding roof	Poor fixation of sliding roof glass and roof
	Sliding roof wind screen damaged
Abnormal starting and operation	Poor connection in wire harness, fuse or ground wire
	Poor sliding roof control unit, sliding roof motor
	Sun visor control unit, sun visor fault
	Improper installation position between sun visor mounting
	Sun visor comes off from guide rail
Incorrect starting	Foreign matters in guide rail
	Sun visor switch fault
	Poor sliding roof motor
	Sun visor comes off from guide rail, guide rail is scratched with trim strip after it is damaged
	Sun visor module fault
Operating noise of sun visor	Sun visor motor fault
	Operation is resisted when sun visor comes off from guide rail or trim strip is damaged
	Lack of grease in guide rail of sun visor
	Impact between drain hose and vehicle body
	Distance between sliding roof glass and roof hole is extremely large or height of glass is poor
	Sun visor mounting bracket deformed or position incorrect

Manual Self-learning Method for Sliding Roof

In fully closed position, long press the window closing button until the reset action occurs, use the automatic function to operate glass to the half open position, and long press the closing button until it reaches the fully closed position, then the whole self-learning is finished.

دیجیتال خودرو

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On-Vehicle Service

Sliding Roof Switch Assembly

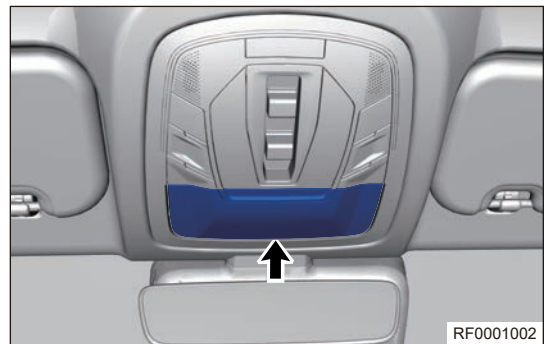
Removal

Caution

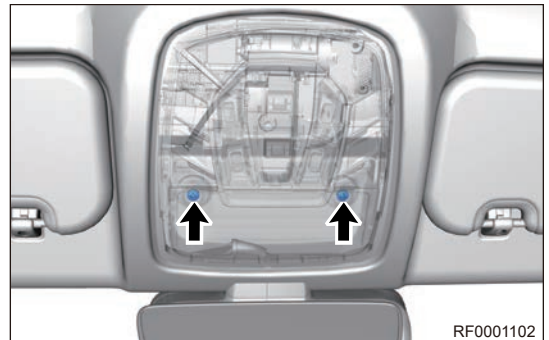
- Be sure to wear safety equipment to prevent accidents, when removing sliding roof switch assembly.
- Try to prevent interior from being scratched during operation, when removing sliding roof switch assembly.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the sliding roof switch assembly.

- a. Open the glasses box (arrow) on front dome light as shown in illustration.



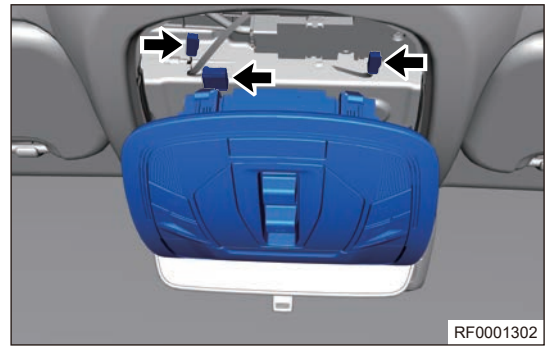
- b. Remove 2 fixing screws (arrow).
Tightening torque: $2.5 \pm 0.5 \text{ N}\cdot\text{m}$



- c. Using an interior crow plate, careful pry off spring clips from sliding roof switch assembly.



- d. Disconnect each wire harness connector (arrow), and remove sliding roof switch assembly.



Installation

1. Installation is in the reverse order of removal.

Caution

- Connect connector in place and tighten fixing nut to specified torque, when installing sliding roof switch assembly.
- Make sure that sliding roof switch functions properly, after installing sliding roof switch assembly.

Sliding Roof Glass Motor

Removal

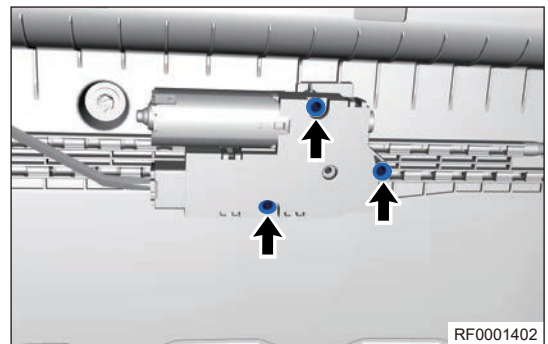
Caution

- Be sure to wear safety equipment to prevent accidents, when removing sliding roof glass motor.
- Appropriate force should be applied, when removing sliding roof glass motor. Be careful not to operate roughly.

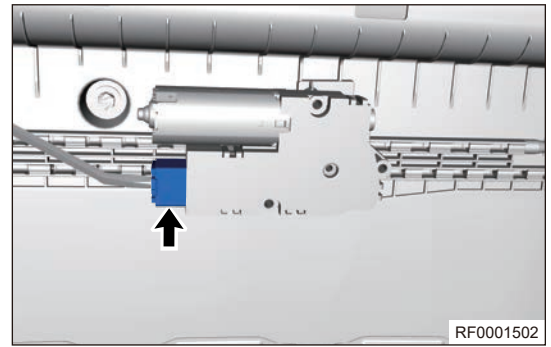
1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the roof assembly.
4. Remove the sliding roof glass motor.

- a. Remove 3 fixing screws (arrow) from sliding roof glass motor assembly.

Tightening torque: 4.0 ± 0.5



- b. Disconnect wire harness connector (arrow) from sliding roof glass motor assembly.



- c. Remove the sliding roof glass motor assembly.

Installation

1. Installation is in the reverse order of removal.

Caution

- Connect connector in place and tighten fixing screw to specified torque, when installing sliding roof glass motor assembly.
- After sliding roof glass motor is installed, there should be no abnormal noise and resistance when opening and closing the sliding roof glass.

Sun Visor Motor Assembly

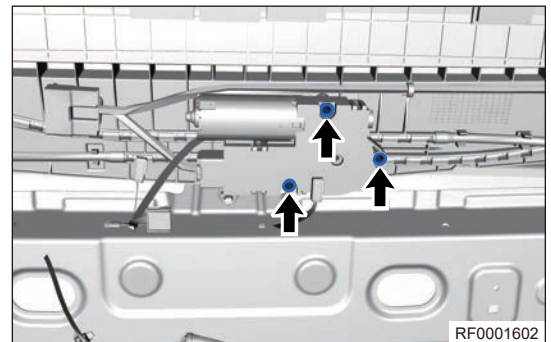
Removal

Caution

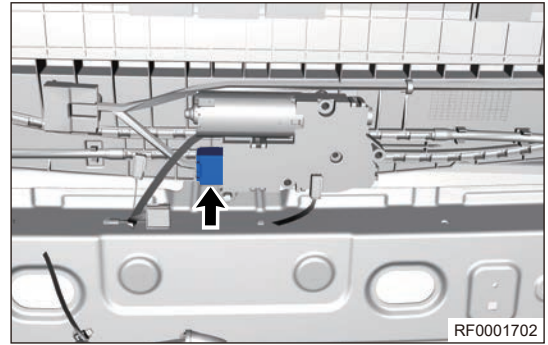
- Be sure to wear safety equipment to prevent accidents, when removing sun visor motor assembly.
- Try to prevent interior from being scratched during operation, when removing sun visor motor assembly.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the sliding roof switch assembly.
4. Remove the sun visor motor.
 - a. Remove 3 fixing screws (arrow) from sun visor motor assembly.

Tightening torque: 4.0 ± 0.5



- b. Disconnect wire harness connector (arrow) from sun visor motor assembly.



- c. Remove the sun visor motor assembly.

Installation

1. Installation is in the reverse order of removal.

Caution

- Connect connector in place and tighten fixing screw to specified torque, when installing sun visor motor assembly.
- After sun visor motor is installed, there should be no abnormal noise and resistance when opening and closing the sun visor.

Sliding Roof Front Glass

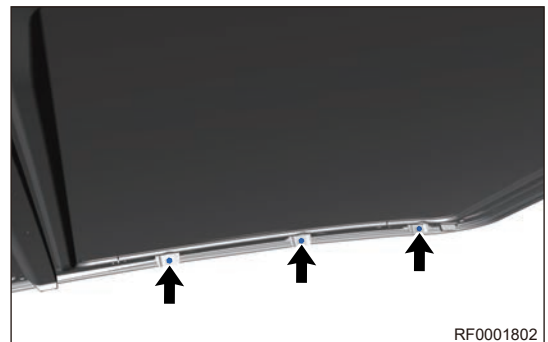
Removal

Caution

- Be sure to wear safety equipment to prevent accidents, when removing sliding roof front glass.
- Appropriate force should be applied, when removing sliding roof front glass. Be careful not to operate roughly, to avoid damage to sliding roof glass.
- Before removing the sliding roof front glass, press the sliding roof switch to open sun visor to a proper position and adjust sliding roof glass to the maximum tilt status.

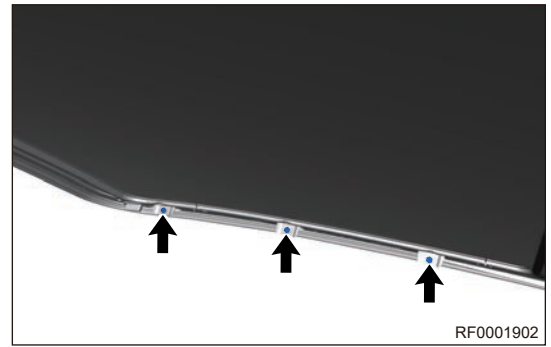
1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the sliding roof front glass.
 - a. Remove 3 fixing screws (arrow) from left side of sliding roof front glass.

Tightening torque: $4.5 \pm 0.5 \text{ N}\cdot\text{m}$



- b. Remove 3 fixing bolts (arrow) from right side of sliding roof front glass.

Tightening torque: $4.5 \pm 0.5 \text{ N}\cdot\text{m}$



- c. Jack front glass assembly to a certain height from bottom, and carefully remove sliding roof front glass assembly.

Installation

1. Installation is in the reverse order of removal.

Caution

- The matching clearance and surface difference between sliding roof glass and tonneau cover meet the DTS requirements (surface difference: front end is $-0.5 \pm 1.5 \text{ mm}$ and rear end is $0.5 \pm 1.5 \text{ mm}$). The matching clearance between sliding roof glass and tonneau cover is even, and they are flush in appearance without obvious deviation, so that sliding roof can be tilted, slided, etc. there is no abnormal sound when opening/closing sliding roof.

Sliding Roof Rear Glass

Removal

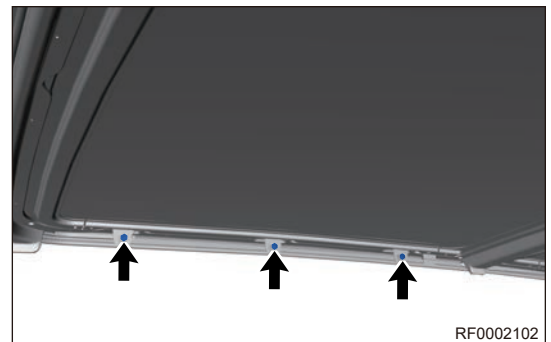
Caution

- Be sure to wear safety equipment to prevent accidents, when removing sliding roof rear glass.
- Try to prevent interior from being scratched during operation, when removing sliding roof rear glass.

- Open the sun visor.
- Turn off all electrical equipment and ENGINE START STOP switch.
- Disconnect the negative battery cable.
- Remove the roof assembly.
- Remove the sliding roof fixing bracket.
- Remove the sliding roof rear glass.

- a. Remove 3 fixing screws (arrow) from left side of sliding roof rear glass.

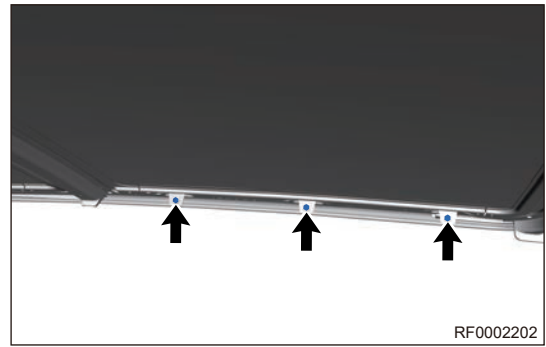
Tightening torque: $4.5 \pm 0.5 \text{ N}\cdot\text{m}$



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- b. Remove 3 fixing screws (arrow) from right side of sliding roof rear glass.

Tightening torque: $4.5 \pm 0.5 \text{ N}\cdot\text{m}$



- c. Jack rear glass assembly to a certain height from bottom, and carefully remove sliding roof rear window assembly.

Installation

1. Installation is in the reverse order of removal.

Caution

- The matching clearance and surface difference between sliding roof glass and tonneau cover meet the DTS requirements (surface difference: front end is $-0.5 \pm 1.5 \text{ mm}$ and rear end is $0.5 \pm 1.5 \text{ mm}$). The matching clearance between sliding roof glass and tonneau cover is even, and they are flush in appearance without obvious deviation, so that sliding roof can be tilted, slided, etc. there is no abnormal sound when opening/closing sliding roof.

Sliding Roof Drain Hose

Removal

Caution

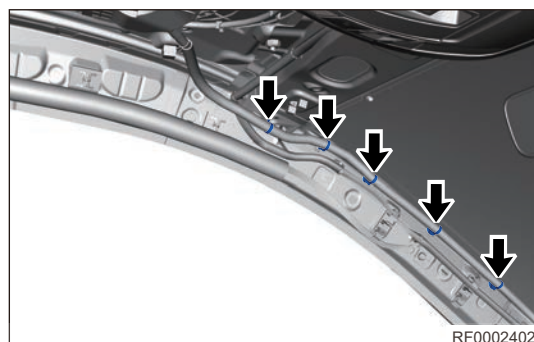
- Be sure to wear safety equipment to prevent accidents, when removing Sliding Roof drain hose.
- Try to prevent interior from being scratched during operation, when removing sliding roof drain hose.
- Use same procedures for right and left sides.
- Procedures listed below are for left side.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the front windshield lower trim board assembly.
4. Remove the left A-pillar upper protector assembly.
5. Remove the left B-pillar upper protector assembly.
6. Remove the left C-pillar upper protector assembly
7. Remove the roof assembly.
8. Remove the front left drain hose.

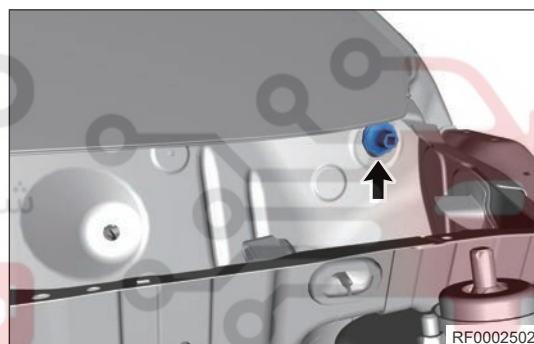
- a. Using clamp pliers, remove clamp (arrow) from front left drain hose.



- b. Using an interior pry bar, carefully pry off band (arrow) from front left drain hose.



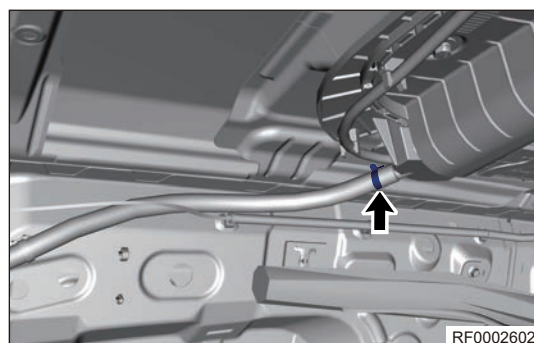
- c. Disengage lower part of sliding roof front drain hose (- arrow) from plug hole on big round hole.



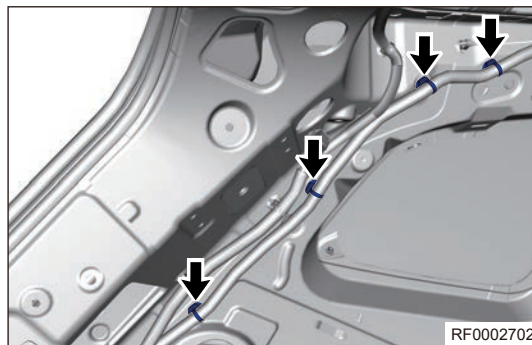
- d. Remove the sliding roof front left drain hose.

9. Remove the sliding roof rear drain hose assembly.

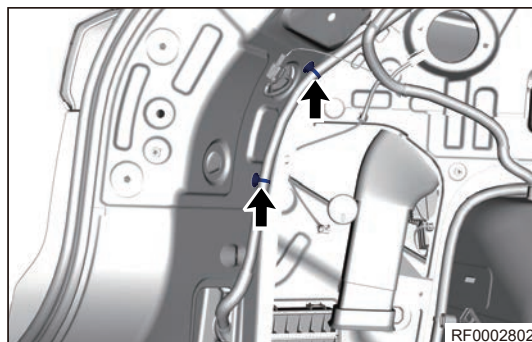
- a. Using clamp pliers, remove clamp (arrow) from rear left drain hose.



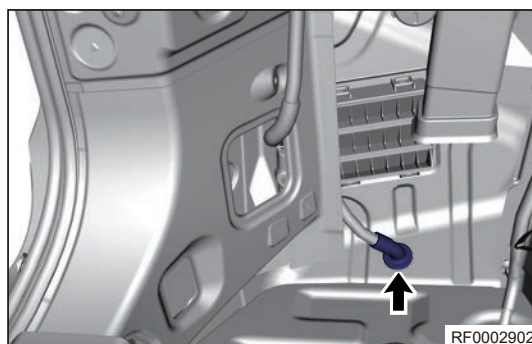
- b. Using an interior pry bar, carefully pry off band (arrow) from rear left drain hose.



- c. Using an interior pry bar, carefully pry off band (arrow) from rear left drain hose.



- d. Disengage the connection (arrow) between sliding roof rear drain hose and sliding roof drain hose, remove sliding roof rear drain hose.



Installation

1. Installation is in the reverse order of removal.

Caution

- After installation, check drain hose for distortion to avoid rough draining or blockage.
- Note that the sponges on drain hose is installed in place and make sure that drain hose should not be scratched by metal panel.
- The drain hose blocking part should be installed in place and connected with drain hose and metal panel without any looseness.

Sliding Roof Fixing Bracket

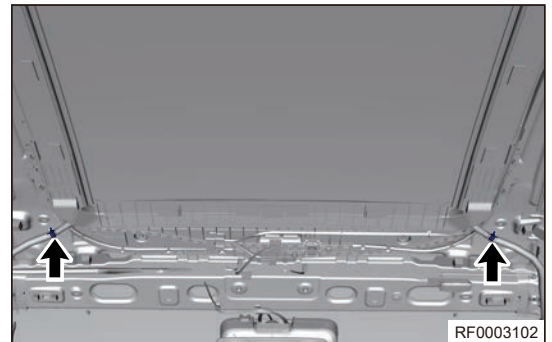
Removal

Caution

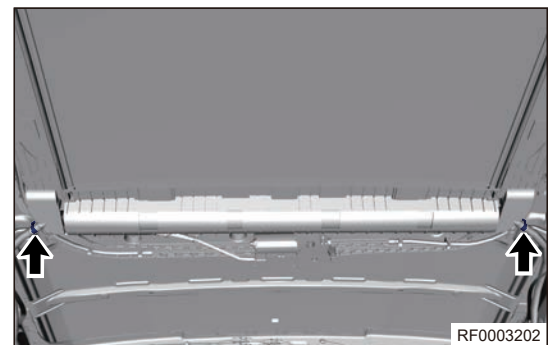
- Be sure to wear safety equipment to prevent accidents, when removing sliding roof fixing bracket.
- Try to prevent interior from being scratched during operation, when removing sliding roof fixing bracket.
- When removing sliding roof fixing bracket, an assistant is needed to hold it. During operation, prevent the sliding roof fixing bracket from dropping, which may cause an accident.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the interior dome light assembly.
4. Remove the roof assembly.
5. Remove the sliding roof fixing bracket assembly.

- a. Loosen fixing clamps (arrow) of sliding roof front drain hose.

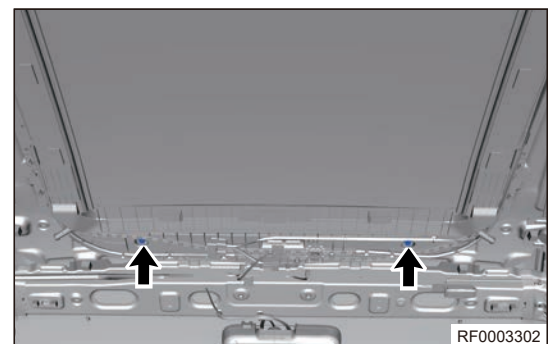


- b. Loosen fixing clamps (arrow) of sliding roof rear drain hose.



- c. Remove 2 fixing bolts (arrow) between front end of sliding roof fixing bracket and roof, and disconnect sliding roof module wire harness connector.

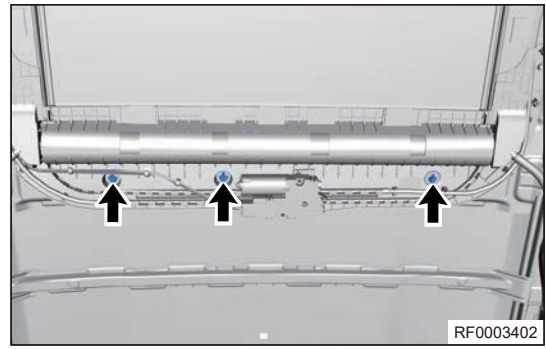
Tightening torque: $9.0 \pm 1.5 \text{ N}\cdot\text{m}$



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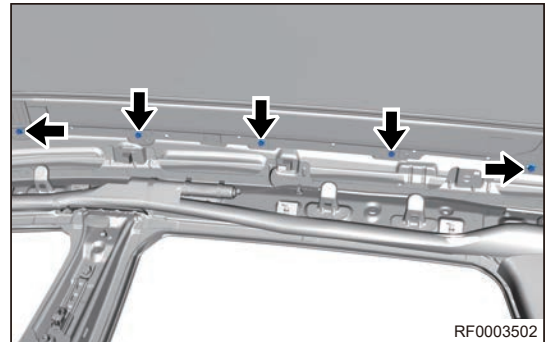
- d. Remove 3 fixing bolts (arrow) between rear end of sliding roof fixing bracket and roof.

Tightening torque: $9.0 \pm 1.5 \text{ N}\cdot\text{m}$



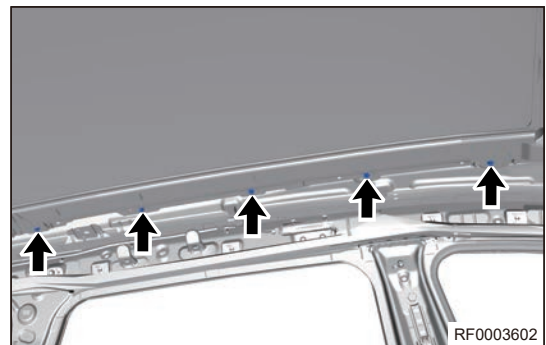
- e. Remove 5 fixing bolts (arrow) between left side of sliding roof fixing bracket and roof.

Tightening torque: $9.0 \pm 1.5 \text{ N}\cdot\text{m}$



- f. Remove 5 fixing bolts (arrow) between right side of sliding roof fixing bracket and roof.

Tightening torque: $9.0 \pm 1.5 \text{ N}\cdot\text{m}$



- g. Remove the sliding roof fixing bracket assembly.

Installation

1. Installation is in the reverse order of removal.

Sun Visor

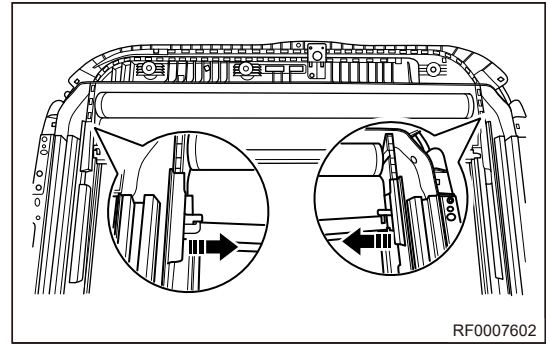
Removal

Caution

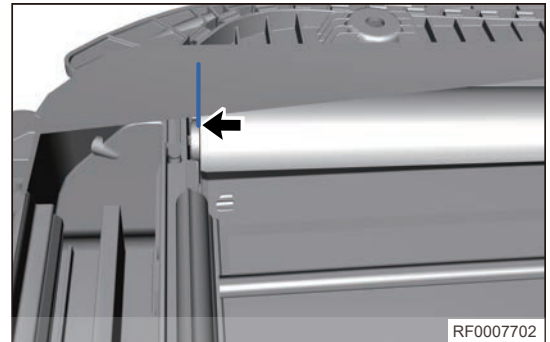
- Be sure to wear safety equipment to prevent accidents, when removing sun visor.
- Try to prevent interior from being scratched during operation, when removing sun visor.

1. Turn off all electrical equipment and ENGINE START STOP switch.
2. Disconnect the negative battery cable.
3. Remove the sliding roof mounting bracket assembly.
4. Remove the sliding roof front/rear glass.
5. Remove the sun visor assembly.

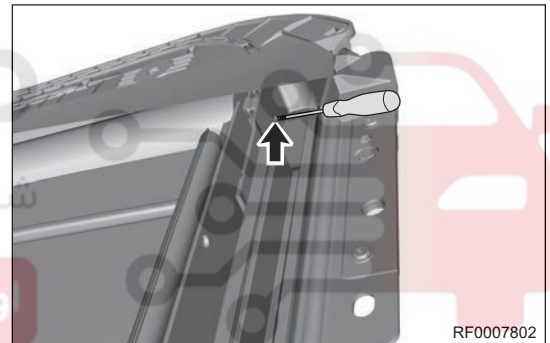
- a. Using a screwdriver wrapped with protective tape, pry off fixing clip (arrow) from sun visor guide rail.



- b. Insert a pin into right hole (arrow) on sun visor (to prevent spring releasing force).



- c. Using a screwdriver wrapped with protective tape, hold against the position (arrow) shown in illustration.



- d. Remove the sun visor assembly.

Installation

1. Installation is in the reverse order of removal.