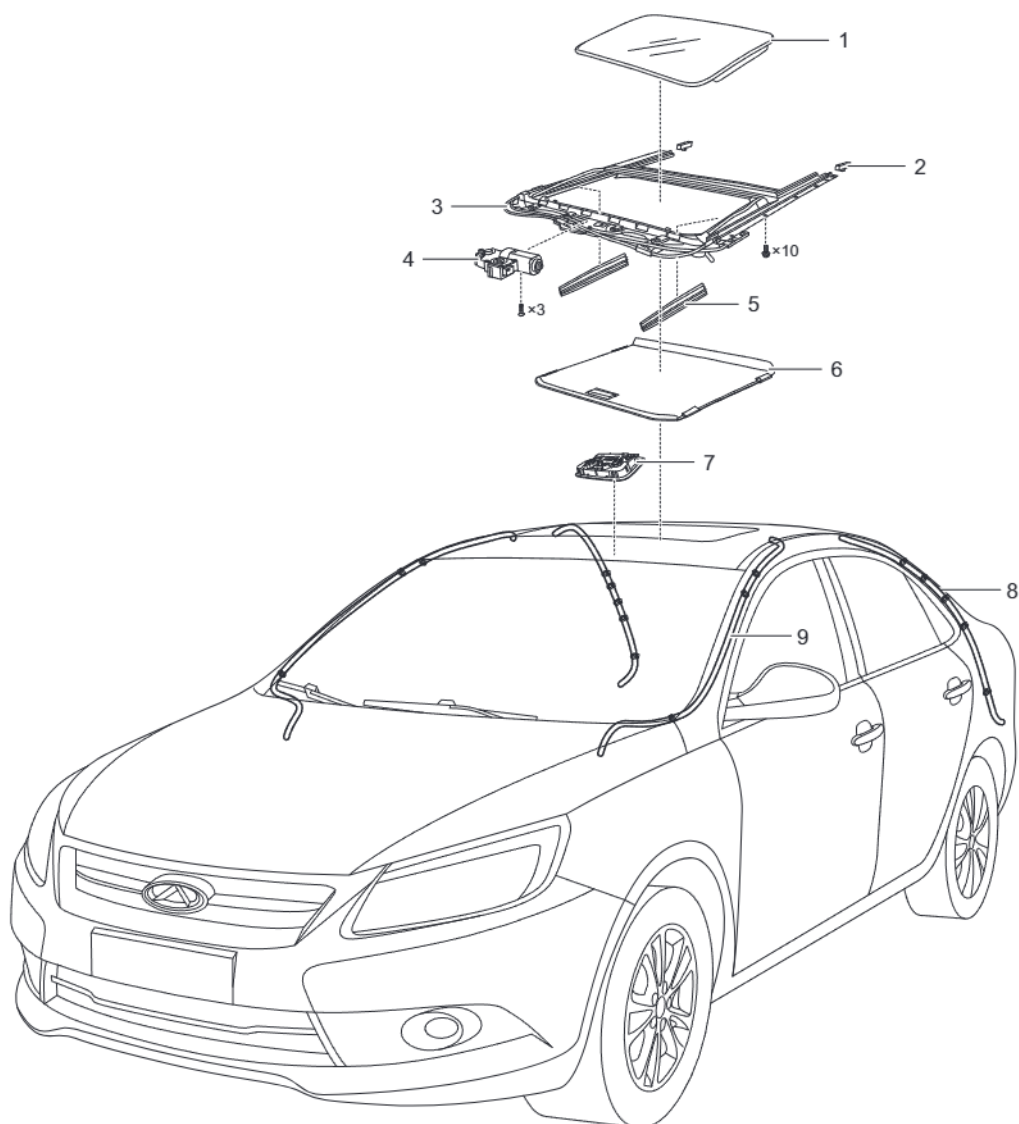

SLIDING ROOF

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GENERAL INFORMATION

Description



RM16510001

1 - Sunroof Glass	2 - Sunroof Visor Stopper
3 - Sliding Roof Bracket	4 - Sunroof Motor and Control Unit Assembly
5 - Sunroof Inner Protective Cover	6 - Sunroof Visor
7 - Sunroof Switch Assembly	8 - Sunroof Rear Drain Hose
9 - Sunroof Front Drain Hose	

51

Sunroof is an optional equipment which has the following functions: auto slide open and close, auto tilt up and down.



With engine switch ON, you can open and close, tilt up and down the sunroof by using overhead switches.

1. Press open switch to open two thirds of sunroof. Press it again to open fully. Press tilt switch to close sunroof.
2. Press tilt switch to tilt up sunroof. Press open switch to tilt it down. To stop sunroof partway, lightly press either of the sunroof switches.

Jam protection function

If an object is detected between sunroof and frame while sunroof is closing or tilting down, sunroof will return automatically. If sunroof is restrained ten times continuously, auto function and jam protection function will be inoperative. At this time, press and hold sunroof switches to open and close the sunroof. To restore auto function and jam protection function, press and hold switch to fully close sunroof.

Operation

Sunroof motor integrates with sunroof control unit, which monitors sunroof switch input. Sunroof control unit controls sunroof motor output to move sunroof glass to request position. The power sunroof can operate only with ignition switch ON.

Specifications

Torque Specifications

Description	Torque (N·m)
Sunroof Switch Assembly Fixing Screw	1.5 ± 0.5
Sunroof Glass Fixing Bolt	5 ± 1
Sliding Roof Bracket Fixing Bolt	14 ± 0.5

Sunroof



DIAGNOSIS & TESTING

Initialization

If any of the following conditions occurs, the sunroof should be initialized:

1. Sunroof power supply malfunction

- If power supply malfunction occurs during sunroof operation, the sunroof should be initialized.
- Sunroof cannot return to normal position.

2. Sunroof mechanical malfunction

If sunroof cannot be closed in place after it is used for a period of time (there is a gap between mechanical components), the sunroof should be initialized. Generally, sunroof should be initialized approximately every two years.

Sunroof initialization step

Press and hold the tilt switch for more than 15 seconds.

If ignition switch is turned off during operation, initialization will be failed.

Problem Symptoms Table

HINT:

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

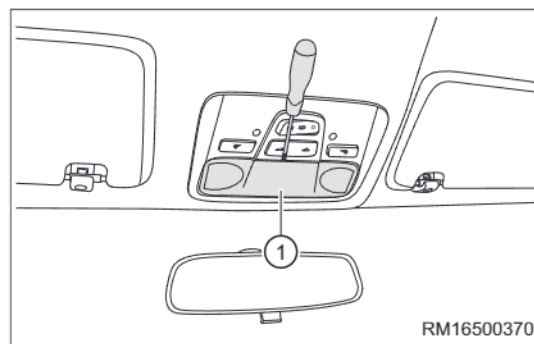
Symptom	Suspected Area	See page
Sunroof cannot be operated with sunroof switch	Fuse	53-37
	Sunroof switch	51-7
	Wire harness or connector	-
	Sunroof motor (built in sunroof control unit)	51-11

ON-VEHICLE SERVICE

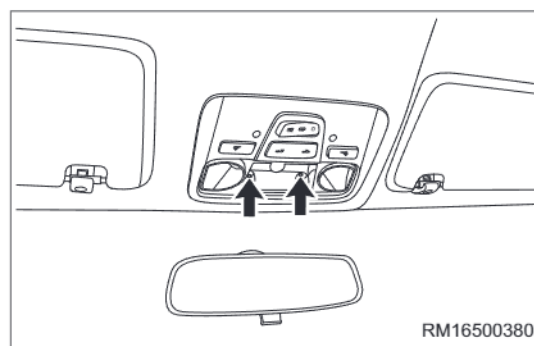
Sunroof Switch Assembly

Removal

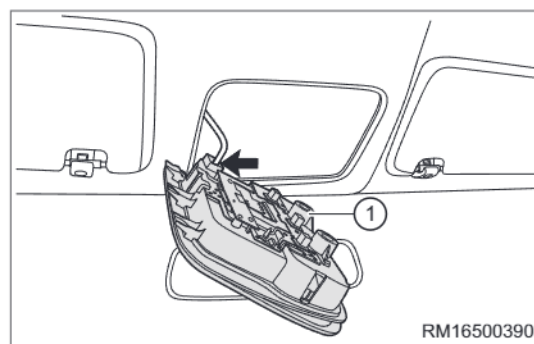
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the sunroof switch assembly.
 - a. Using a flat tip screwdriver wrapped with protective tape, remove the light cover (1) from sunroof switch assembly.



- b. Remove 2 fixing screws (arrow) from sunroof switch assembly.
(Tightening torque: $1.5 \pm 0.5 \text{ N}\cdot\text{m}$)



- c. Disconnect the sunroof switch assembly wire harness connector (arrow), and remove the sunroof switch assembly (1).



Installation

Installation is in the reverse order of removal.

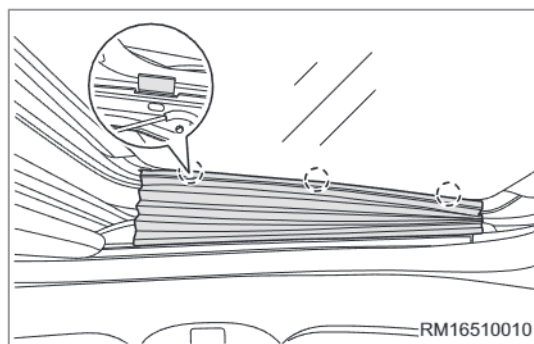
Sunroof Glass

Removal

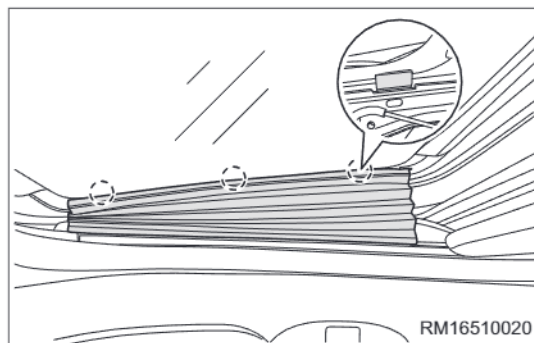
HINT:

Before removing sunroof glass, operate sunroof switch first to open the sunroof to a fully tilted position.

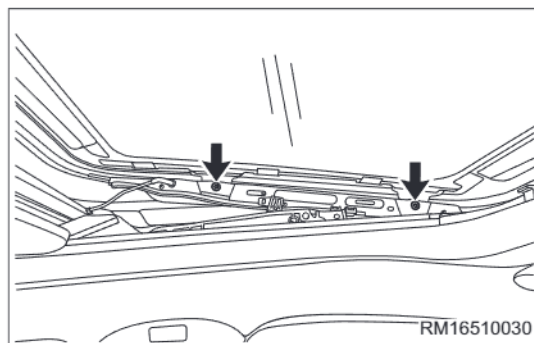
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the left inner protective cover.



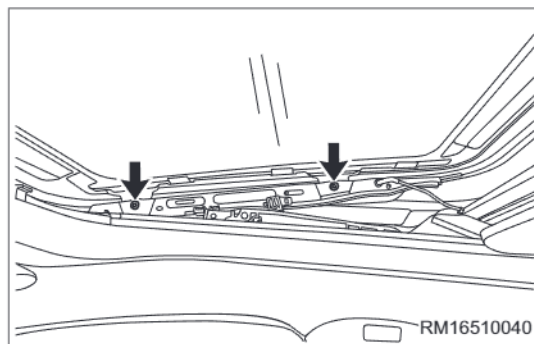
4. Remove the right inner protective cover.



5. Remove the sunroof glass.
 - a. Remove 2 fixing bolts (arrow) on left side.
(Tightening torque: 5 ± 1 N·m)



- b. Remove 2 fixing bolts (arrow) on right side.
(Tightening torque: 5 ± 1 N·m)



- c. Remove the sunroof glass.

Installation

Installation is in the reverse order of removal.

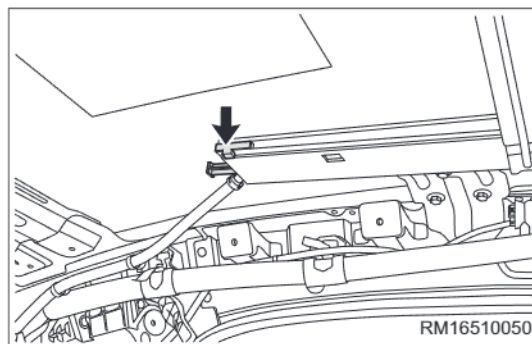
CAUTION

- Flatness tolerance between front part of sunroof glass and top roof is 1 ~ -2 mm.
- Flatness tolerance between rear part of sunroof glass and top roof is -1 ~ 2 mm.
- Flatness tolerance between side part of sunroof glass and top roof is -1.5 ~ 1.5 mm.
- Check open and close operations of sunroof after installation, to ensure that there is no abnormality.

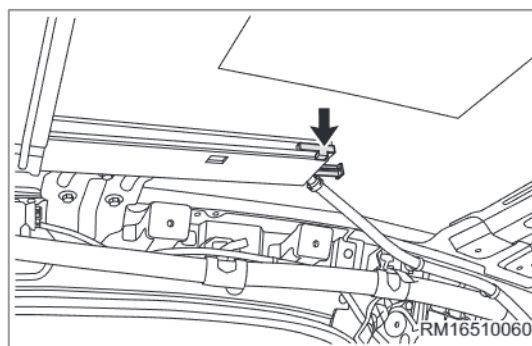
Sunroof Visor

Removal

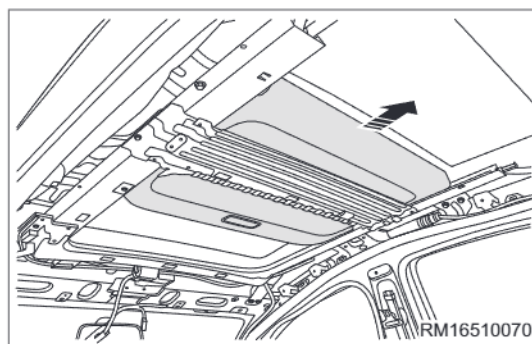
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the roof assembly (See page 50-28).
4. Remove the positioning stopper from the left side of sunroof visor.



5. Remove the sunroof visor stopper from the right side of sunroof visor.



6. Remove the sun visor.



Installation

Installation is in the reverse order of removal.

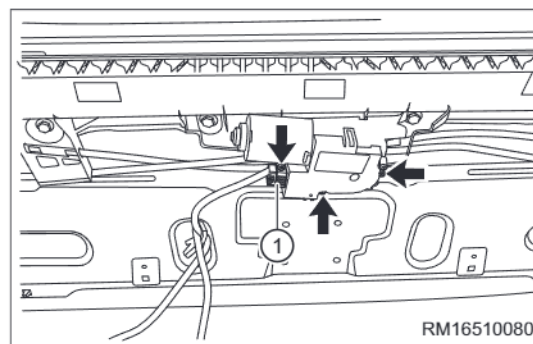
Sunroof Motor and Control Unit Assembly

Removal

HINT:

Before removal, operate the sunroof to fully closed position.

1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the roof assembly ([See page 50-28](#)).
4. Remove the sunroof motor and control unit assembly.
 - a. Disconnect the sunroof motor connector (1) and remove 3 sunroof motor fixing bolts (arrow).



- b. Remove the sunroof motor and control unit assembly.

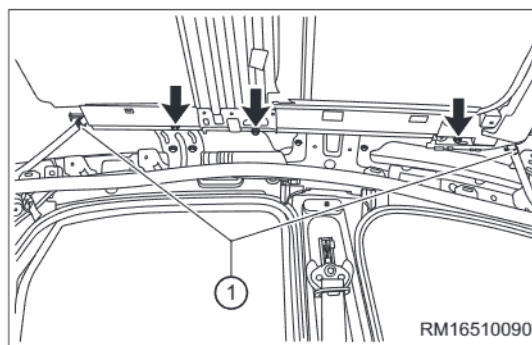
Installation

Installation is in the reverse order of removal.

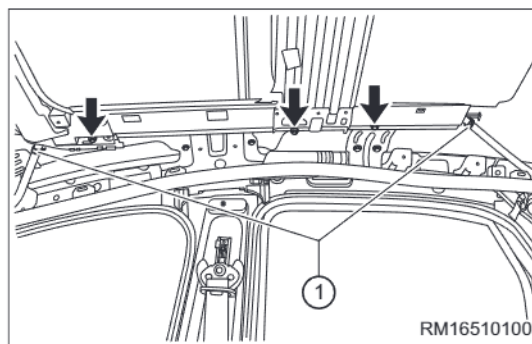
Sliding Roof Bracket

Removal

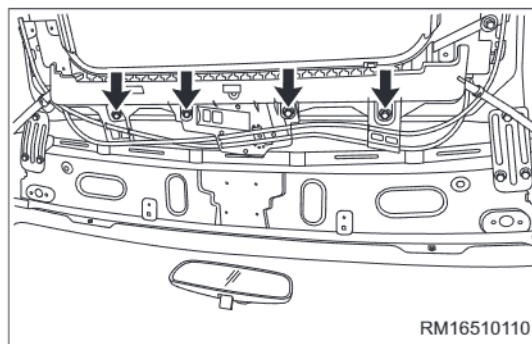
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the sunroof glass (See page 51-8).
4. Remove the roof assembly (See page 50-28).
5. Remove the sunroof motor and control unit assembly (See page 51-11).
6. Remove the sliding roof bracket.
 - a. Remove 3 fixing bolts (arrow) from the left side of sliding roof bracket, loosen 2 clamps (1) and disconnect the left drain hoses. (Tightening torque: $14 \pm 0.5 \text{ N}\cdot\text{m}$)



- b. Remove 3 fixing bolts (arrow) from the right side of sliding roof bracket, loosen 2 clamps (1) and disconnect the right drain hoses. (Tightening torque: $14 \pm 0.5 \text{ N}\cdot\text{m}$)



- c. Remove 4 fixing bolts (arrow) from the front side of sliding roof bracket. (Tightening torque: $14 \pm 0.5 \text{ N}\cdot\text{m}$)



- d. Remove the sliding roof bracket.

Installation

Installation is in the reverse order of removal.

CAUTION

- Check open and close operations of sliding roof after installation, to ensure that there is no abnormality.
- Check sliding roof for water leakage.

