

SLIDING ROOF

GENERAL INFORMATION	51-3	Installation	51-8
Description	51-3	Roof Glass	51-9
Operation	51-4	Removal	51-9
Specifications	51-4	Installation	51-10
Tool	51-4	Sliding Roof Visor	51-11
Circuit Diagram	51-5	Removal	51-11
		Installation	51-11
DIAGNOSIS & TESTING	51-6	Sliding Roof Motor and Control Unit Assembly	51-12
Sliding Roof Learning	51-6	Removal	51-12
Problem Symptom	51-7	Installation	51-12
Solution Method	51-7	Sliding Roof Bracket	51-13
ON-VEHICLE SERVICE	51-8	Removal	51-13
Sliding Roof Switch Assembly	51-8	Installation	51-14
Removal	51-8		

دیجیتال خودرو

شرکت دیجیتال خودرو سامانه (مسئولیت محدود)

اولین سامانه دیجیتال تعمیرکاران خودرو در ایران



دیجیتال خودرو

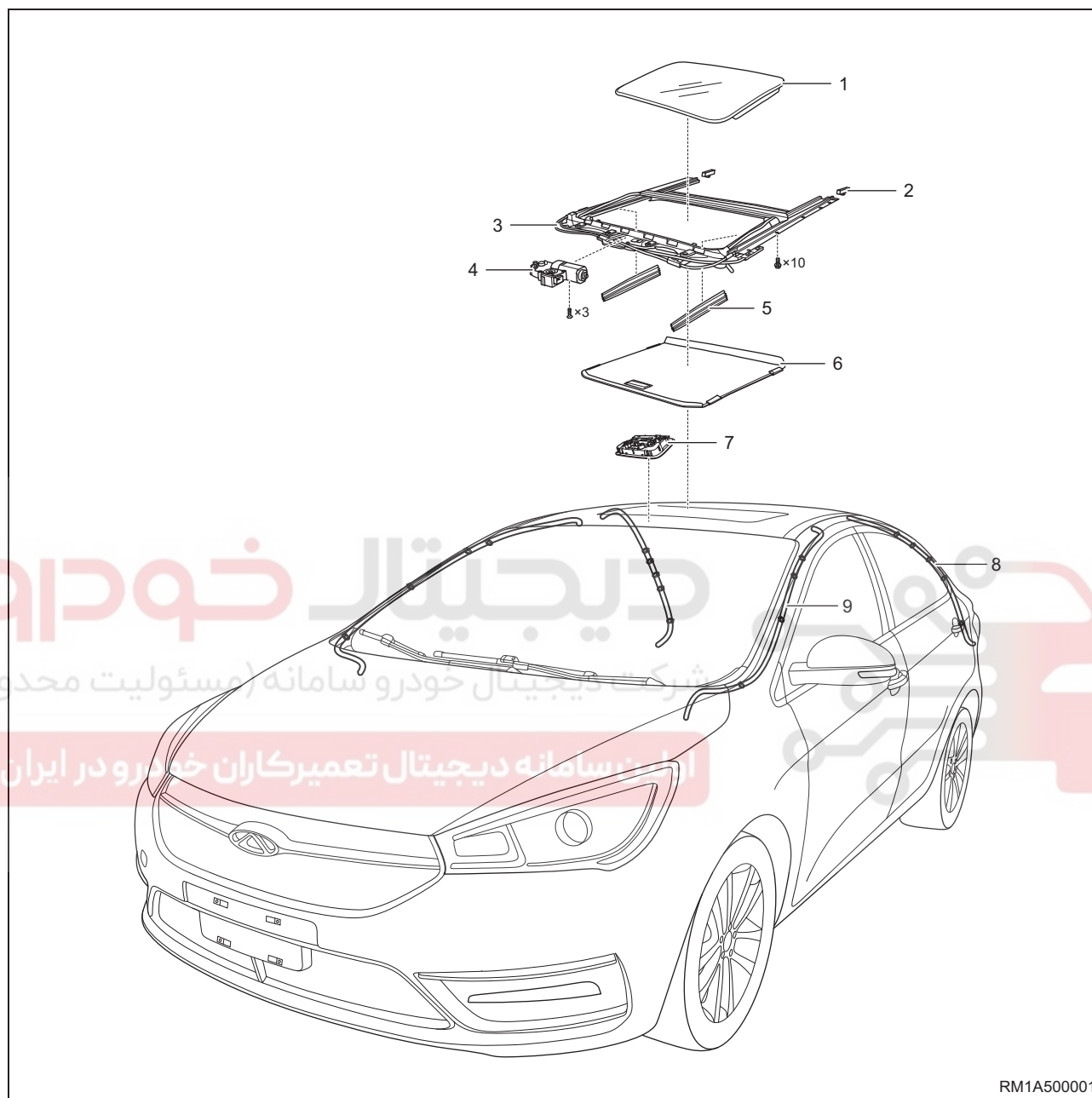
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GENERAL INFORMATION

Description



RM1A500001

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

Operation

By using principle of hydromechanics, sliding roof unit draws out turbid gas from vehicle to make air exchange fully. In hydromechanics research filed, experiments showed that pressure acting on tube wall from fluid is low at high flow velocity, and pressure is high at low flow velocity. During high speed driving, roof cover has a certain radian, so speed of outside airflow is high when it passes through roof cover. Pressure from outside airflow to roof cover is lower than pressure from inside airflow to roof cover. Inside air flows out to outside of vehicle, pressure becomes lower, then outside fresh air supplements into vehicle. Thus, inside air is circulated and fresh air is kept inside the vehicle.

Function

It has functions of increasing aesthetic, broadening horizon, increasing lighting, economy and practicability, beautifying car image, active window.

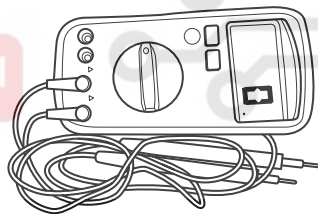
Specifications

Torque Specifications

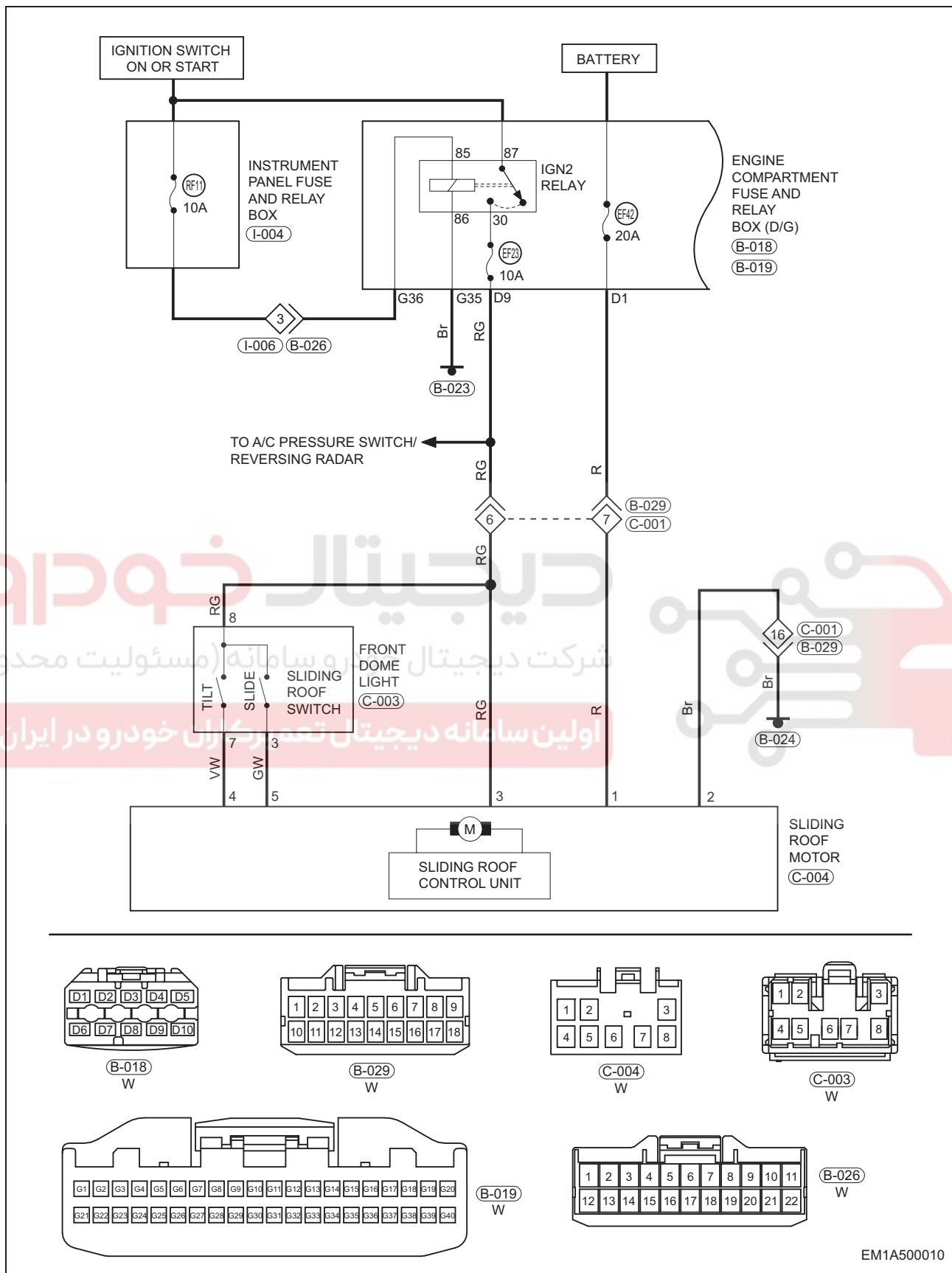
Description	Torque (N·m)
Sliding Roof Switch Assembly Fixing Screw	1.5 ± 0.5
Sliding Roof Glass Fixing Bolt	5 ± 1
Sliding Roof Bracket Fixing Bolt	14 ± 0.5

Tool

General Tool

Digital Multimeter	 RCH0000002
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Circuit Diagram



DIAGNOSIS & TESTING

Problem	Cause	Repair Operation Method
Water leakage	Drain hose is clogged or folded	Check condition of drain hose
	Distance between sliding roof glass and roof hole is extremely large or height of glass is poor	Adjust relative position for glass
Wind noise	Distance between sliding roof glass and roof hole is extremely large, height of glass is poor or spoiler is disable	Adjust relative position for glass
Abnormal starting and operation	Poor wire harness, fuse or ground wire	Check wire harness, fuse and ground wire
	Poor sliding roof control unit, sliding roof motor	Check or replace sliding roof control unit and sliding roof motor
	Sun visor comes off from guide rail, garnish is damaged	Readjust condition of sun visor, install or replace garnish
	Foreign matter exists in guide rail	Check and remove foreign matter
Incorrect starting	Sun visor comes off from guide rail, guide rail is scratched with garnish after it is damaged	Readjust and install sun visor and reinstall garnish (replace damaged parts at the same time)
	(A.T.S) jam protection function cannot be operated properly	Check if impact occurs between vehicle body and spoiler, loosen tight spring, check and remove foreign matter exists in guide rail
Noise occurs when starting	Poor sliding roof motor	Replace motor
	Operation is resisted when sun visor comes off from guide rail or garnish is damaged	Readjust and install sun visor and reinstall garnish (replace damaged parts at the same time)
	Impact between drain hose and vehicle body	Place buffer sponge around drain hose
	Impact between roof cover and sliding roof frame	Apply glass cement or plastic cement between roof cover and sliding roof bracket
	Distance between sliding roof glass and roof hole is extremely large or height of glass is poor	Readjust height and relative position of glass

Sliding Roof Learning

Sliding roof loses initial position

51

Definition: sliding roof cannot be opened, closed normally or closed to a normal position, and initial movement for sliding roof cannot be performed. When there is such problem in sliding roof, movement process for sliding roof will be disordered.

Problem Symptom

1. Sliding roof cannot be closed and opened completely or tilted. Shuddering may occur during the process from tilt to close.
2. When opening, tilting or closing sliding roof, it cannot be reached to initial set position.
3. A function that short pressing the button to open and close sliding roof cannot be performed.
4. Sliding roof operation cannot be controlled by sliding roof module.

Solution Method

Perform repair according to following procedures, and make sure that power supply shall not be shut off during operation. Make sure that there is no hard matter (all obstacles) which blocks operation of sliding mechanism before repairing. Make sure that problem symptom occurred in sliding roof is in third point listed above.

1. Module initial memory position recovering method (pay attention that pressing way and pressed button)
1st step: Press and hold open/tilt button (be sure button is correct) for 15 seconds or more. (If sliding roof can reach to initial full-tilted position, problem may be solved.)
2nd step: Adjust sliding roof, and continue to perform following operation if problem still cannot be solved.
3rd step: Press and hold open/tilt button to final position then release, and then remove interior front dome light control box, pull out wire harness (connector is installed on module) between module and motor.
4th step: Short press open (or slide open) button several times after wire harness between module and motor is pulled out. Then, connect wire harness between module and motor.
5th step: Press and hold open/tilt button (be sure button is correct) for 15 seconds or more. (At this time, sliding roof must be operated to full-tilted condition.)
6th step: Adjust sliding roof after completing above procedures, please replace module or motor if symptom still cannot be solved.

Module replacement method: (pay attention that rotation sensor in module is clamped to cable)

- 1st step: Perform following operations after sliding roof is operated to full-closed condition.
- 2nd step: Remove dome light and control unit/roof interior/front sun visor according to the method required by Chery, until sliding roof assembly is exposed and the whole module can be seen.
- 3rd step: Use a cross screwdriver to loosen screw on module. Pull module to the left side while loosening gently to remove it.
- 4th step: Clamp slot of new module to sliding roof according to corresponding direction, and clamp cable to groove in the center of module and install to sliding roof directly, then secure screw with cross screwdriver.
- 5th step: Adjust the sliding roof.

Note: Due to initial memory for each new module is preset, if replace a new module with sliding roof not closed completely, please perform initial memory position recovering operation in the first step.

ON-VEHICLE SERVICE

Sliding Roof Switch Assembly

Removal

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

Installation

Installation is in the reverse order of removal.



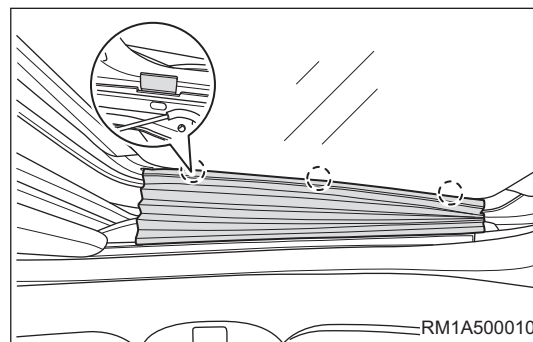
Roof Glass

Removal

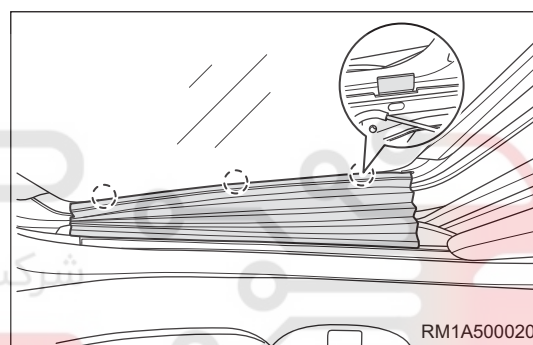
HINT:

Before removing roof glass, operate roof switch first to open the roof to a full-tilted position.

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

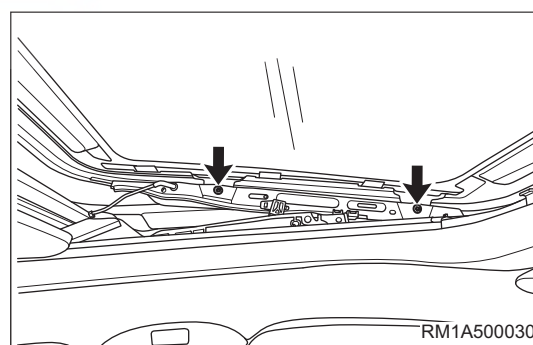


4. Remove the right side inner cover.

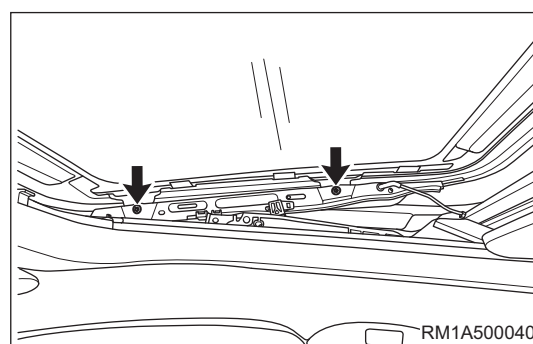


5. Remove the roof glass.

- 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)



51 - SLIDING ROOF

- c. Remove the roof glass.

Installation

Installation is in the reverse order of removal.

CAUTION

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

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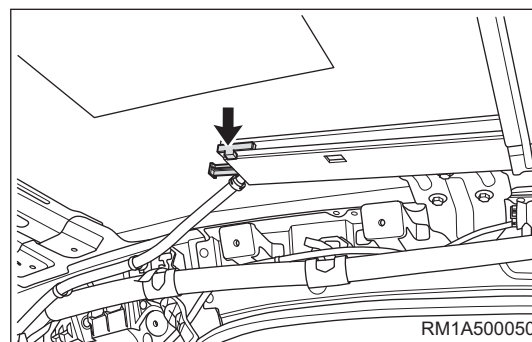
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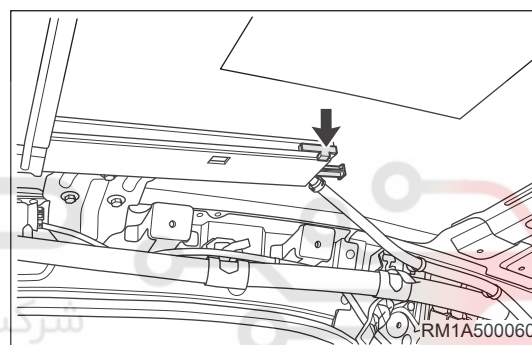
Sliding Roof Visor

Removal

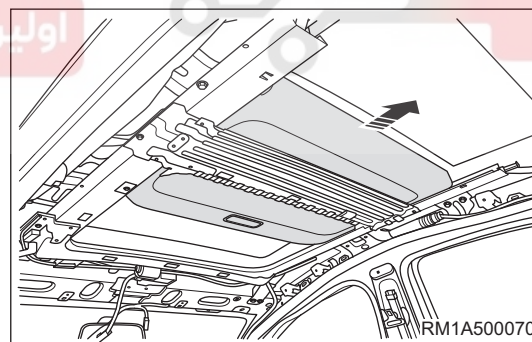
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the roof assembly (See page 50-27).
4. Remove positioning stopper (arrow) from left side of sliding roof visor.



5. Remove positioning stopper (arrow) from right side of sliding roof visor.



6. Remove the sliding roof visor.



Installation

Installation is in the reverse order of removal.

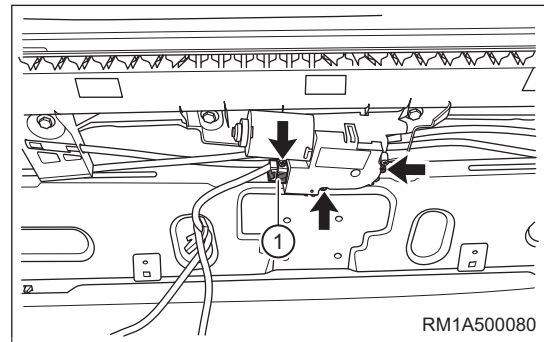
Sliding Roof Motor and Control Unit Assembly

Removal

HINT:

Before removal, operate the roof to full-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 50-27).
4. Remove the sliding roof motor and control unit assembly.
 - a. Disconnect roof motor connector (1) and remove 3 roof motor fixing bolts (arrow).



- b. Remove sliding roof motor and control unit assembly.

Installation

Installation is in the reverse order of removal.



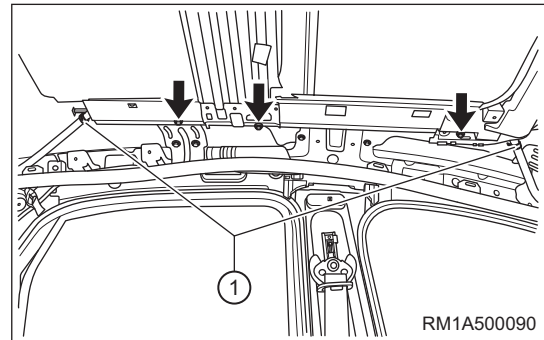
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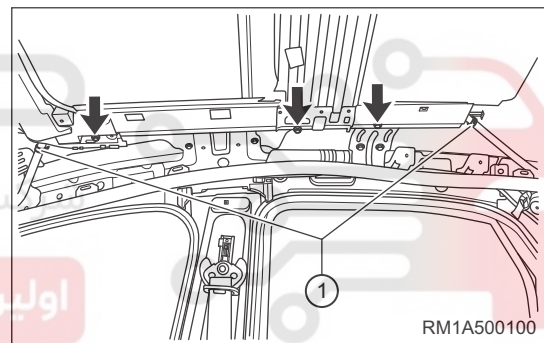
Sliding Roof Bracket

Removal

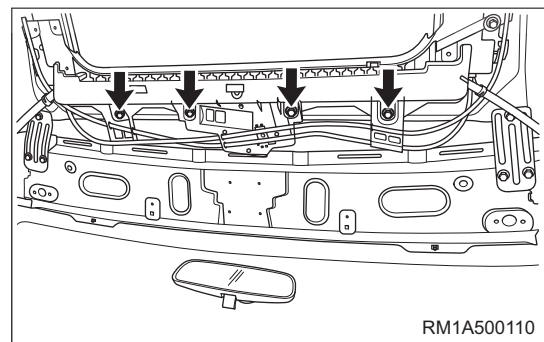
1. Turn off all electrical equipment and the ignition switch.
2. Disconnect the negative battery cable.
3. Remove the roof glass (See page 51-9).
4. Remove the roof assembly (See page 50-27).
5. Remove sliding roof motor and control unit assembly (See page 51-12).
6. Remove the sliding roof bracket.
 - a. Remove 3 fixing bolts (arrow) from left side of sliding roof bracket, loosen 2 clamps (1) and disconnect left side drain hose.
(Tightening torque: $14 \pm 0.5 \text{ N}\cdot\text{m}$)



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



- c. Remove 4 fixing bolts (arrow) from 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 the open and close operations of roof after installation to ensure that there is no abnormality.
- Check sliding roof for water leakage.

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