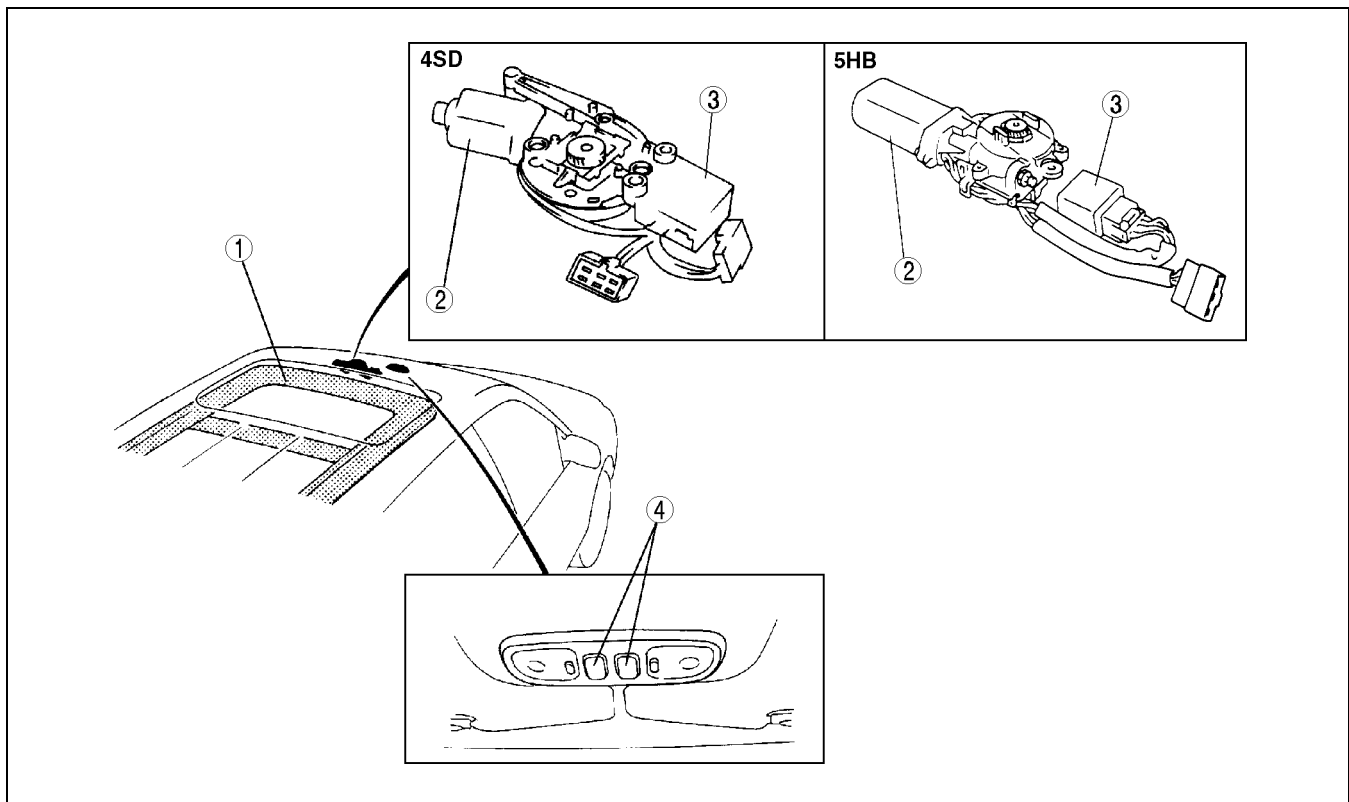


09-15 SUNROOF

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LOCATION INDEX

A3U091501049W01



A3U0915W024

1	Sunroof unit (See 09-15-5 SUNROOF UNIT REMOVAL/INSTALLATION) (See 09-15-8 SUNROOF UNIT ASSEMBLY) (See 09-15-5 SUNROOF UNIT DISASSEMBLY)
2	Sunroof motor (See 09-15-5 SUNROOF UNIT REMOVAL/INSTALLATION)

3	Sunroof relay (See 09-15-14 SUNROOF RELAY REMOVAL/INSTALLATION) (See 09-15-16 SUNROOF RELAY INSPECTION)
4	Sunroof switch (See 09-15-18 SUNROOF SWITCH INSPECTION) (See 09-15-18 SUNROOF SWITCH REMOVAL/INSTALLATION)

SUNROOF

A3U091569880W01

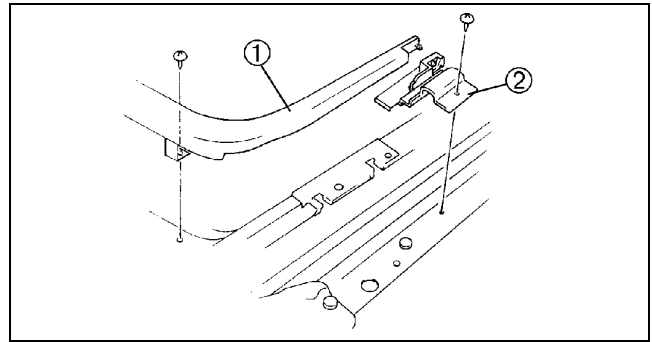
DEFLECTOR REMOVAL/INSTALLATION

4SD

1. Fully open the glass panel.
2. To remove the stopper, remove the sunroof unit. (See 09-15-5 SUNROOF UNIT REMOVAL/INSTALLATION.)
3. Remove in the order indicated in the table.

1	Deflector (See 09-15-2 Deflector Removal Note)
2	Stopper

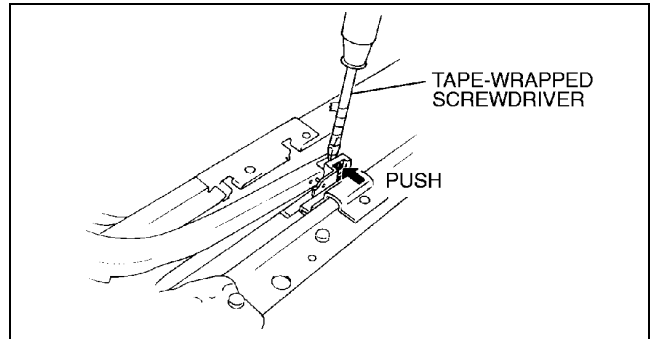
4. Install in the reverse order of removal.



X3U915WA2

Deflector Removal Note

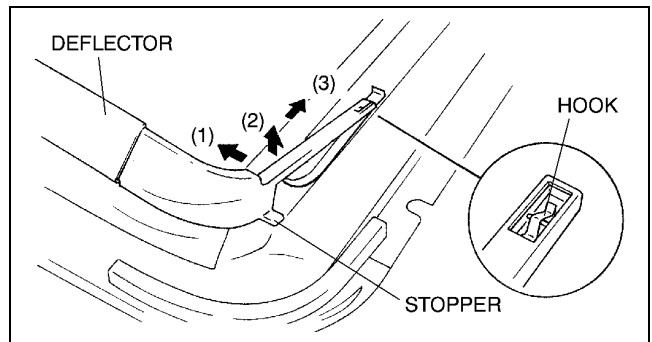
1. Remove the deflector using a tape-wrapped screwdriver.



X3U915WA3

5HB

1. Fully open the glass panel.
2. Push the deflector inside (1) and pull it up (2) to release the stopper.
3. Slide the deflector to disengage from the hook. (3)
4. Remove the deflector.
5. Install in the reverse order of removal.



A3U0915W001

GLASS PANEL ADJUSTMENT

A3U091569810W01

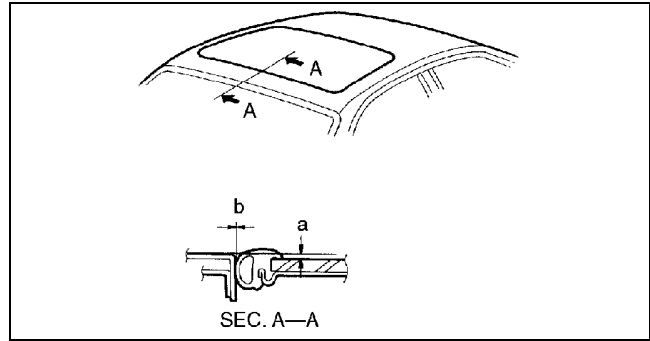
1. Fully close the glass panel.
2. Measure the gap and height between the glass panel and body.
 - If not as specified, loosen the glass panel installation screws and reposition the glass panel.

Clearance

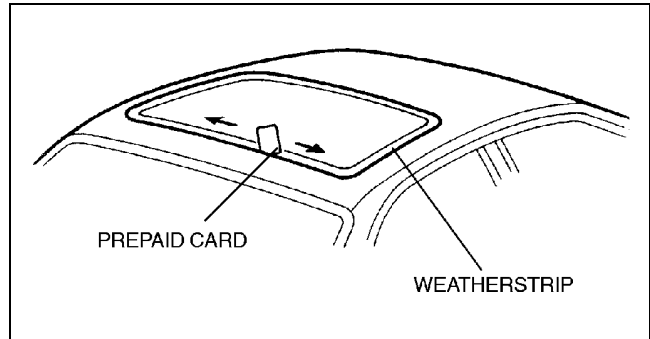
- a: 0.2—2.2 mm {0.008—0.086 in}
- b: 0 mm {0 in}

3. Tighten the installation screws.

4. Insert a prepaid card between the weatherstrip and the body of the vehicle. Verify that the sunroof is shut tightly (there is resistance when the prepaid card is moved).
 - If the sunroof is not shut tightly, readjust by performing Steps 3 and 4.



X3U915WA6

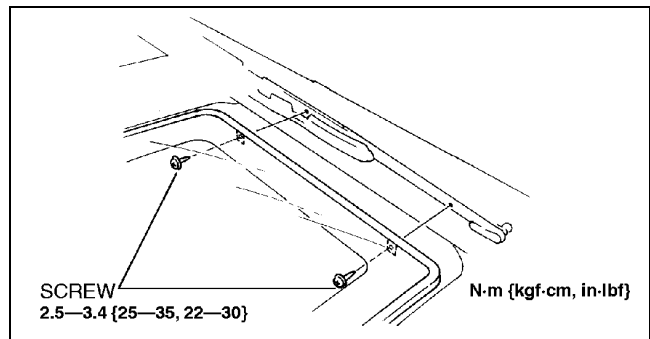


X3U915WA7

GLASS PANEL REMOVAL/INSTALLATION

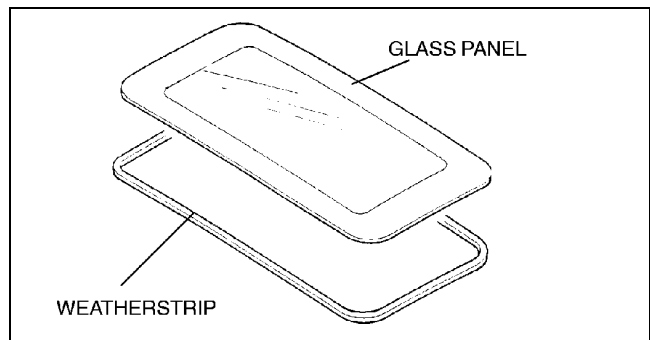
A3U091569810W02

1. Fully close the glass panel.
2. Fully open the sunshade.
3. Remove the screws, and then remove the glass panel.



X3U915WA4

4. Peel the weatherstrip off the glass panel.
5. Install in the reverse order of removal.
6. Adjust the glass panel. (See 09-15-3 GLASS PANEL ADJUSTMENT.)



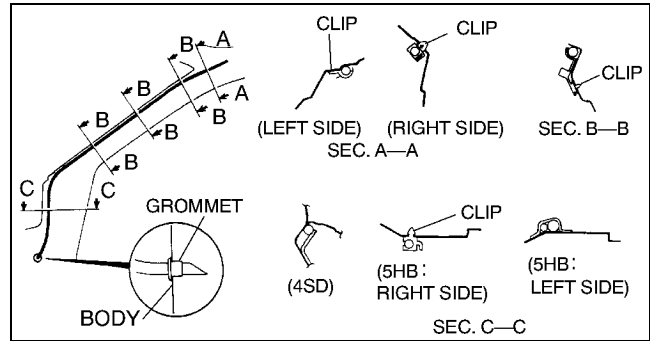
X3U915WA5

SUNROOF

FRONT DRAIN HOSE REMOVAL

A3U091569920W01

1. Remove the headliner. (See 09–17–16 HEADLINER REMOVAL/INSTALLATION.)
2. Disconnect the front drain hose from the sunroof frame.
3. Remove the front drain hose from the clips.
4. Pull the front drain hose into the room side.
5. Remove the front drain hose.



A3U0915W022

FRONT DRAIN HOSE INSTALLATION

A3U091569920W02

Caution

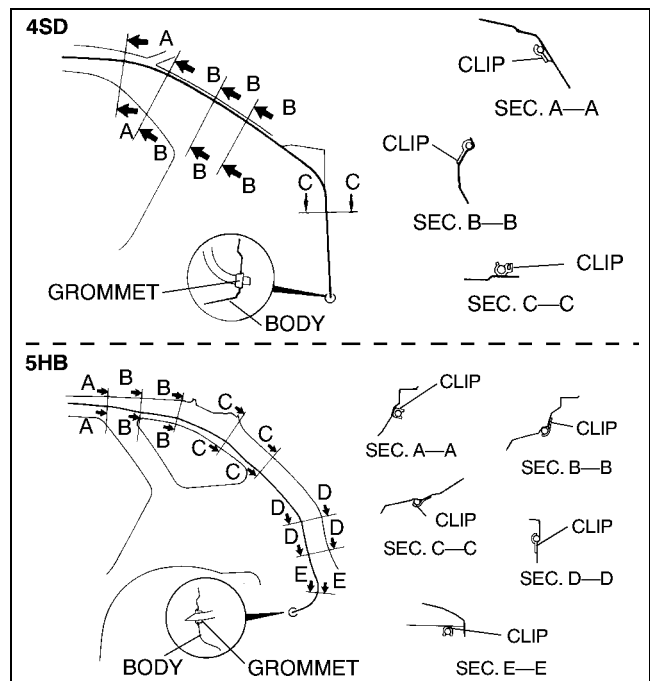
- If the front drain hose is pinched or bent anywhere, the water in the hose may not discharge and enter the inside of the vehicle. During and after installation of the trims and the headliner, always make sure there is no interference with the front drain hose. Fix any problem if found.

1. Apply soapy water to the front drain hose inserting area.
2. Insert one end of the front drain hose into the sunroof frame.
3. Install the front drain hose to the clips parallel to the pillar and free of slack.
4. Insert the front drain hose joint into the hinge pillar inner hole.
5. Install the headliner. (See 09–17–16 HEADLINER REMOVAL/INSTALLATION.)

REAR DRAIN HOSE REMOVAL

A3U091569922W01

1. Remove the headliner. (See 09–17–16 HEADLINER REMOVAL/INSTALLATION.)
2. For 4SD, remove the trunk side trim.
3. Disconnect the rear drain hose from the sunroof frame.
4. Remove the rear drain hose from the clips.
5. Pull the rear drain hose into the room side.
6. Remove the rear drain hose.



A3U0915W002

SUNROOF

REAR DRAIN HOSE INSTALLATION

A3U091569922W02

Caution

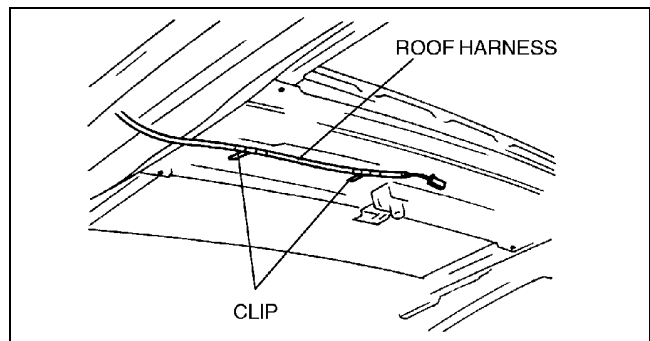
- If the rear drain hose is pinched or bent anywhere, the water in the hose may not discharge and enter the inside of the vehicle. During and after installation of the trims and the headliner, always make sure there is no interference with the rear drain hose. Fix any problem if found.

1. Apply soapy water to the rear drain hose inserting area.
2. Insert one end of the rear drain hose into the sunroof frame.
3. Install the rear drain hose to the clips parallel to the pillar and free of slack.
4. Insert the rear drain hose joint into the rear pillar inner hole.
5. Install the trunk side trim. (See 09-17-15 TRUNK SIDE TRIM REMOVAL/INSTALLATION.)
6. Install the headliner. (See 09-17-16 HEADLINER REMOVAL/INSTALLATION.)

SUNROOF UNIT REMOVAL/INSTALLATION

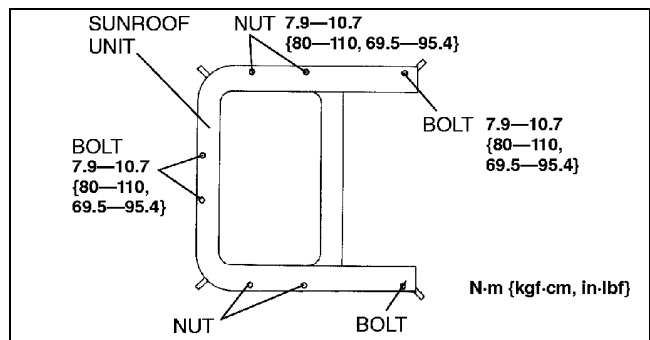
A3U091569850W01

1. Disconnect the negative battery cable.
2. Remove the headliner. (See 09-17-16 HEADLINER REMOVAL/INSTALLATION.)
3. Remove the glass panel.
4. Disconnect the front and rear drain hoses from the sunroof frame.
5. Remove the roof harness from the sunroof frame.



X3U915WAA

6. Remove the bolts and nuts, and then remove the sunroof unit.
7. Install in the reverse order of removal.
8. Adjust the glass panel. (See 09-15-3 GLASS PANEL ADJUSTMENT.)



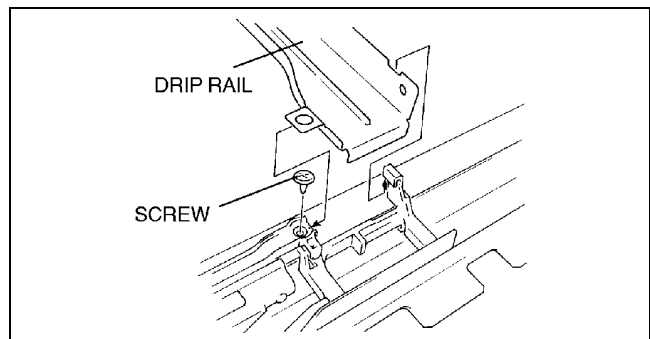
X3U915WAB

SUNROOF UNIT DISASSEMBLY

4SD

A3U091569850W02

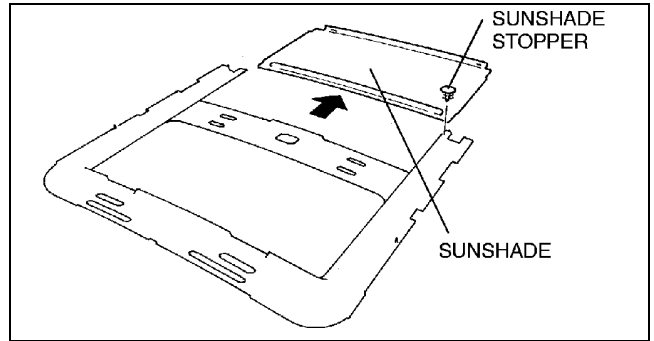
1. Remove the screws, and then remove the drip rail.



X3U915WAC

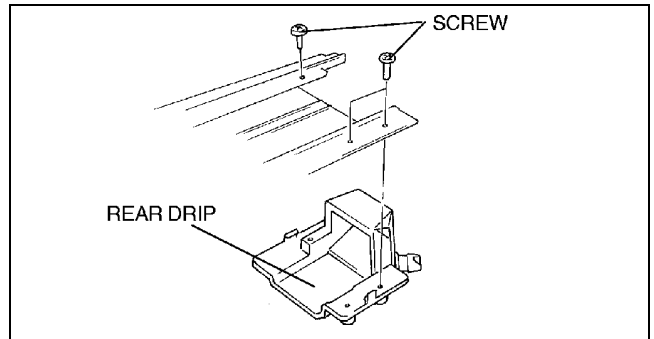
SUNROOF

2. Remove the sunshade stopper.
3. Slide the sunshade backward, and remove it from the sunroof frame.



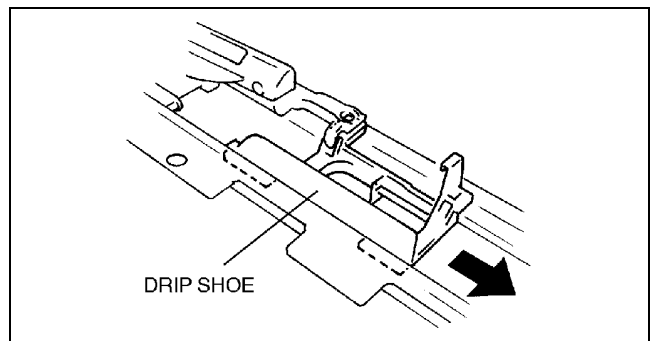
X3U915WAD

4. Remove the screws, and then remove the rear drip.



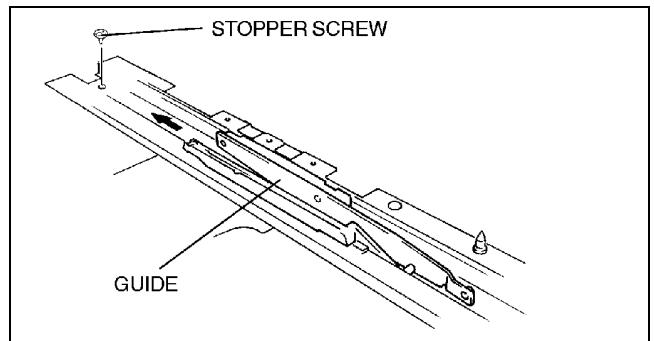
X3U915WAE

5. Slide the drip shoe backward, and remove it from the sunroof frame.
6. Remove the sunroof motor.



X3U915WAF

7. Remove the stopper screw.
8. Slide the guide backward, and remove it from the sunroof frame.
9. Remove the deflector.

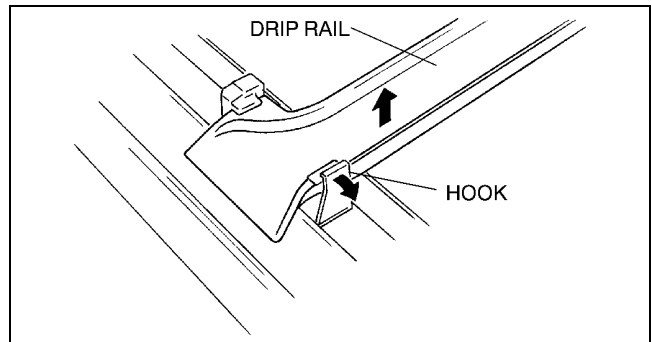


X3U915WAG

SUNROOF

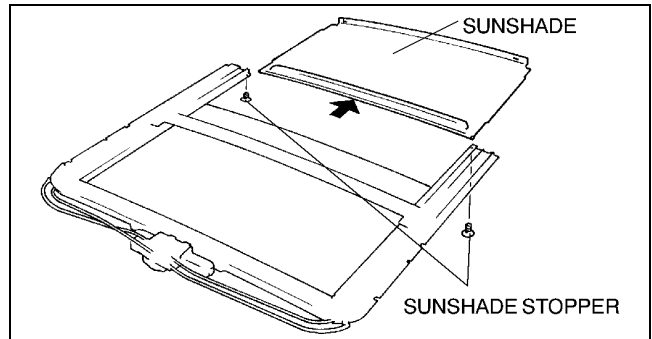
5HB

1. Bend the hook of the decoration link backward to remove the drip rail.



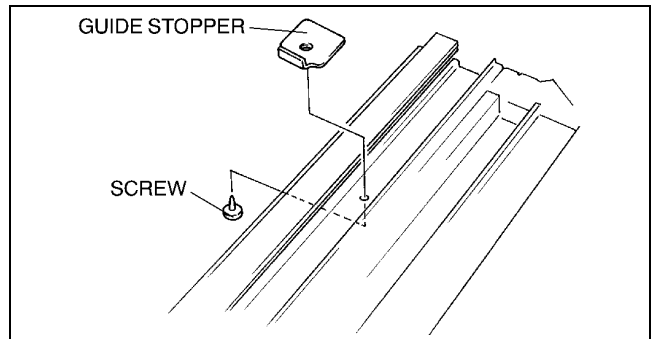
A3U0915W003

2. Remove the sunshade stopper.
3. Slide the sunshade backward, and remove it from the sunroof frame.



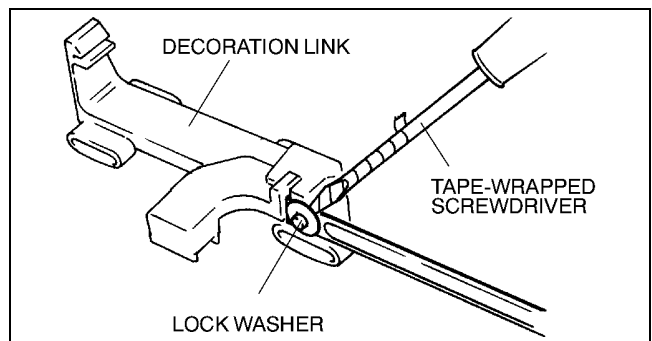
A3U0915W004

4. Remove the screw, and then remove the guide stopper.



A3U0915W005

5. Remove the lock washer using a tape-wrapped screwdriver.
6. Slide the decoration link backward, and remove it from the sunroof frame.
7. Remove the sunroof motor.

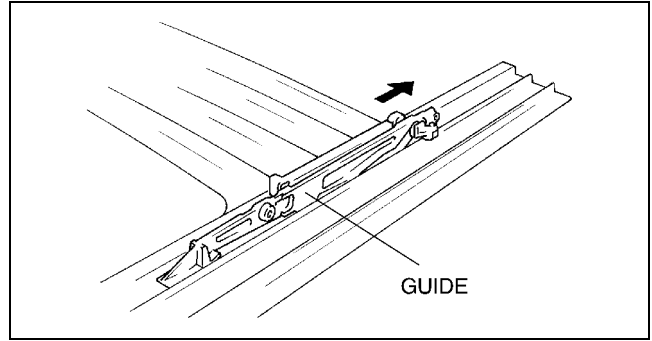


A3U0915W006

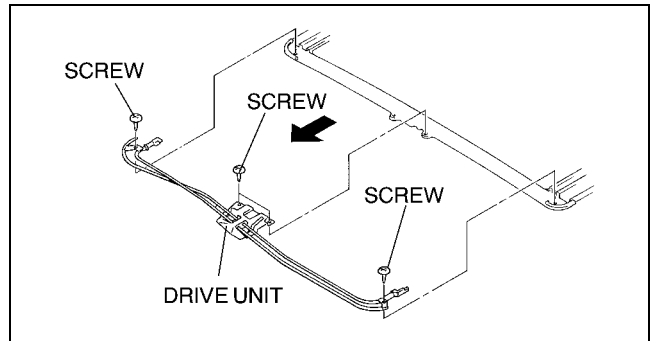
09-15

SUNROOF

- Slide the guide backward, and remove it from the sunroof frame.



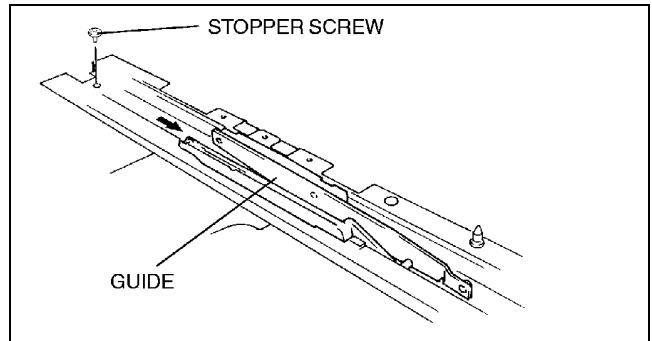
- Remove the screws.
- Slide the drive unit forward, and remove it from the sunroof frame.
- Remove the deflector.
- Remove the sunroof relay.



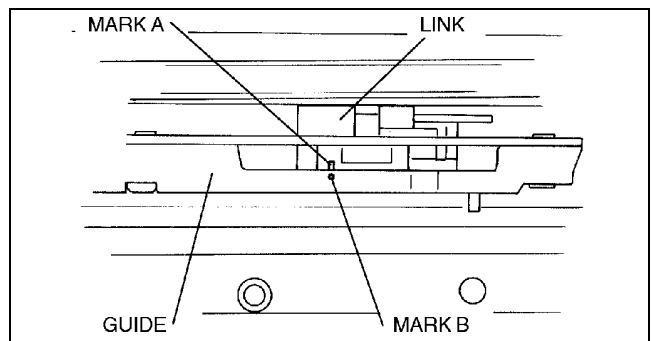
SUNROOF UNIT ASSEMBLY

4SD

- Install the deflector.
- Slide the guide forward, and install it to the sunroof frame.
- Install the stopper screw.
- Move the guide by hand until it is tilted up position.

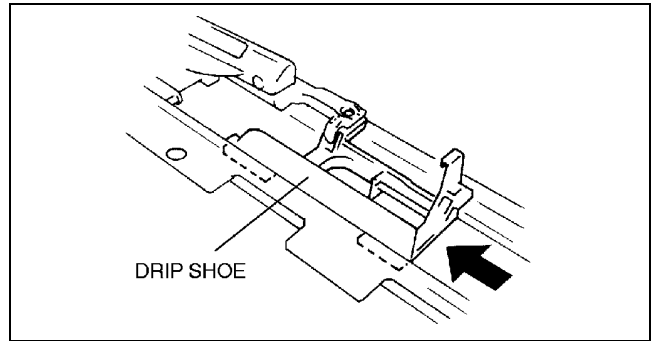


- Move the link built into the guide by hand until it is aligned with mark A and mark B.
- Install the sunroof motor.



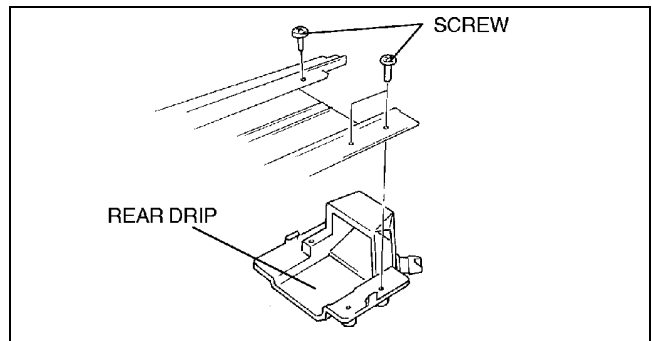
SUNROOF

- Slide the drip shoe forward, and install it to the sunroof frame.
- Use IPA (Isopropyl alcohol) to remove any excess repair sealant.



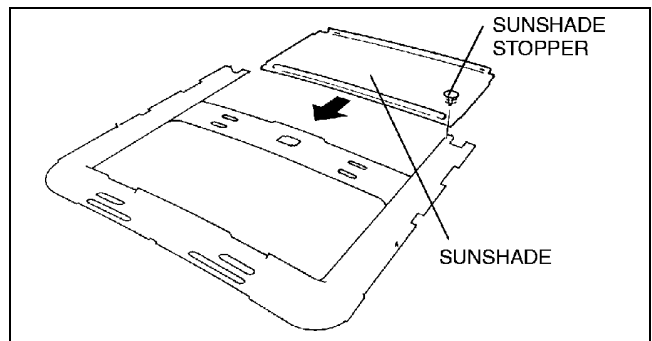
X3U915WAK

- Install the screws, and then install the rear drip.



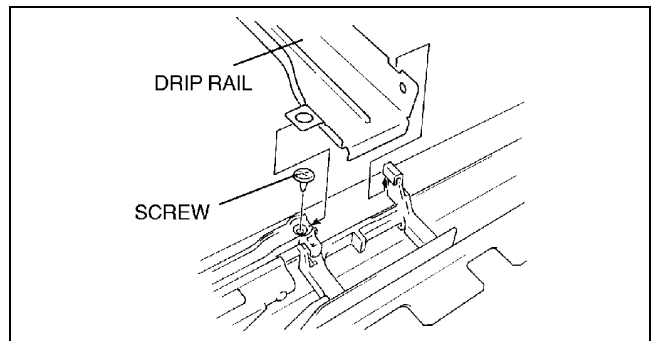
X3U915WAL

- Slide the sunshade forward, and install it to the sunroof frame.
- Install the sunshade stopper.



X3U915WAM

- Install the screws, and then install the drip rail.



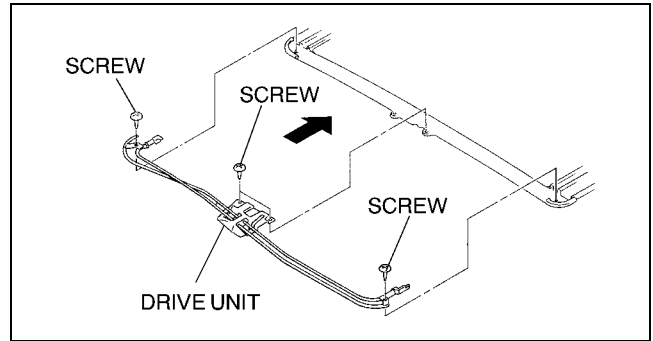
X3U915WAN

5HB

- Install the sunroof relay.
- Install the deflector.
- Slide the drive unit backward, and install it to the sunroof frame.

SUNROOF

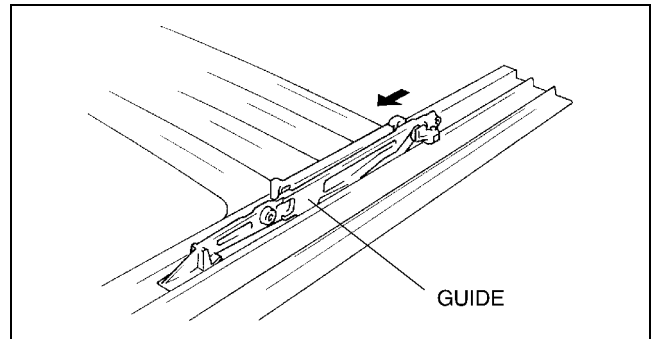
4. Install the screws.



A3U0915W009

5. Slide the guide forward, and install it to the sunroof frame.

6. Move the guide by hand until it is in the tilted up position.

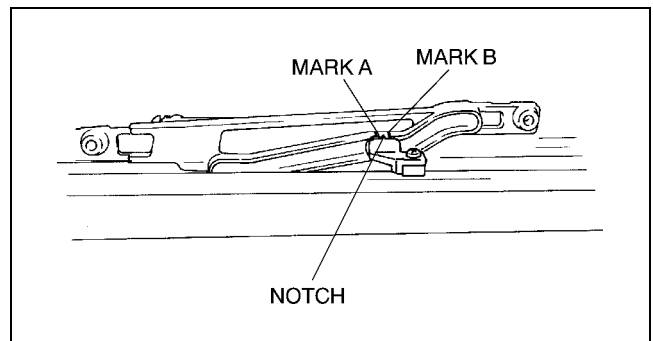


A3U0915W010

7. Move the guide by hand until notch comes between mark A and mark B.

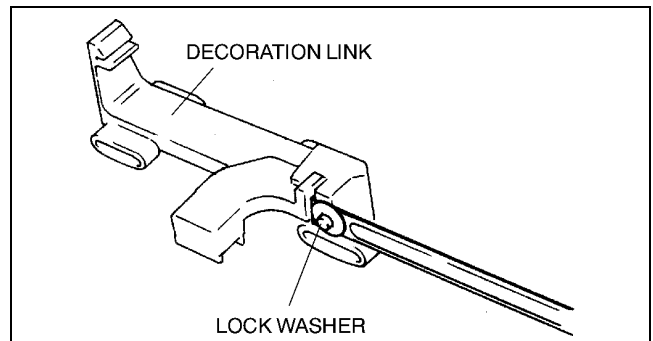
8. Install the sunroof motor.

9. Slide the decoration link forward, and install it to the sunroof frame.



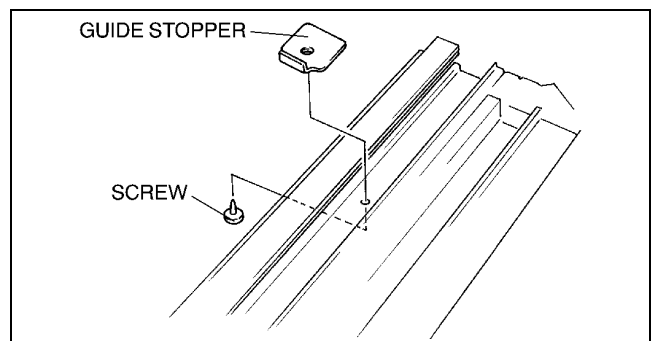
A3U0915W011

10. Install the lock washer.



A3U0915W012

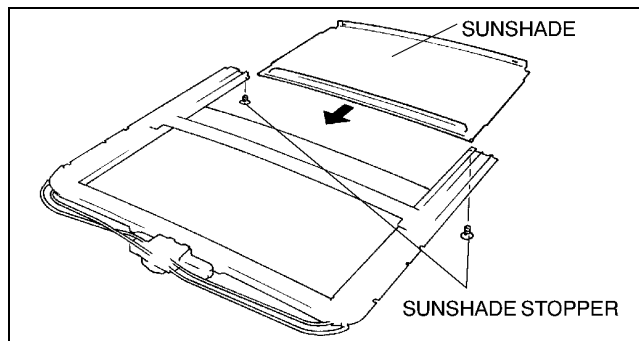
11. Install the screw, and then install the guide stopper.



A3U0915W005

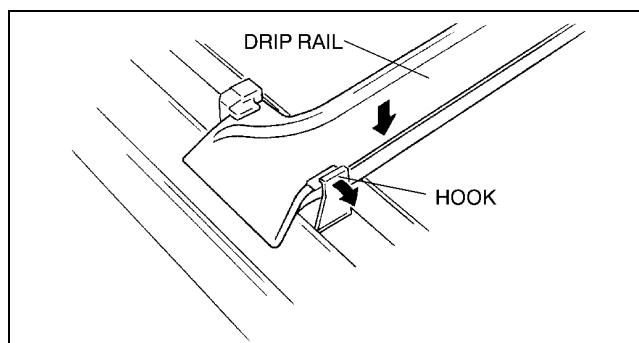
SUNROOF

- Slide the sunshade forward, and install it to the sunroof frame.
- Install the sunshade stopper.



A3U0915W013

- Bend the hook of the decoration link backward to install the drip rail.



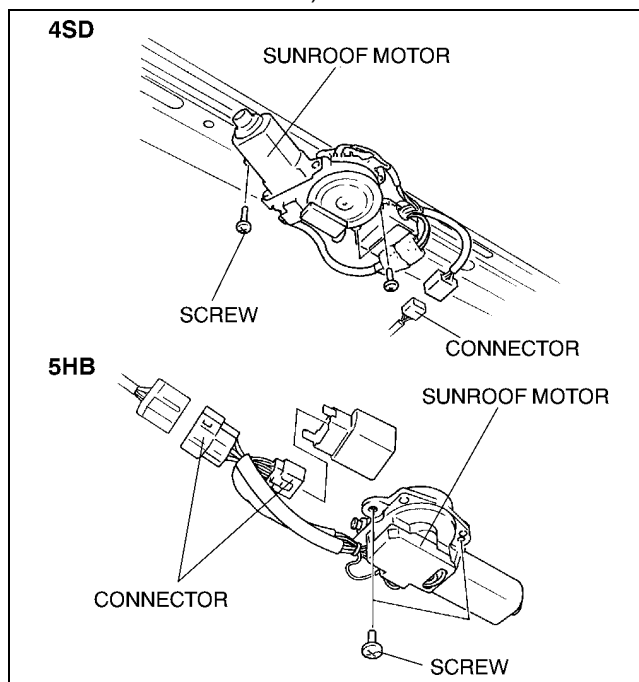
A3U0915W014

SUNROOF MOTOR REMOVAL

- Disconnect the negative battery cable.
- Remove the headliner. (See 09-17-16 HEADLINER REMOVAL/INSTALLATION.)
- Disconnect the connector.
- Remove the screws, and then remove the sunroof motor.

A3U091569870W01

09-15



A3U0915W015

SUNROOF MOTOR INSTALLATION

- Connect the sunroof motor connector.
- Connect the sunroof switch connector.
- Connect the negative battery cable.
- Turn the ignition switch to ON position.
- Press the CLOSE side of the slide switch until the sunroof motor stops.
- Disconnect the sunroof switch connector.
- Install the screws, and then install the sunroof motor.
- Install the headliner. (See 09-17-16 HEADLINER REMOVAL/INSTALLATION.)

A3U091569870W02

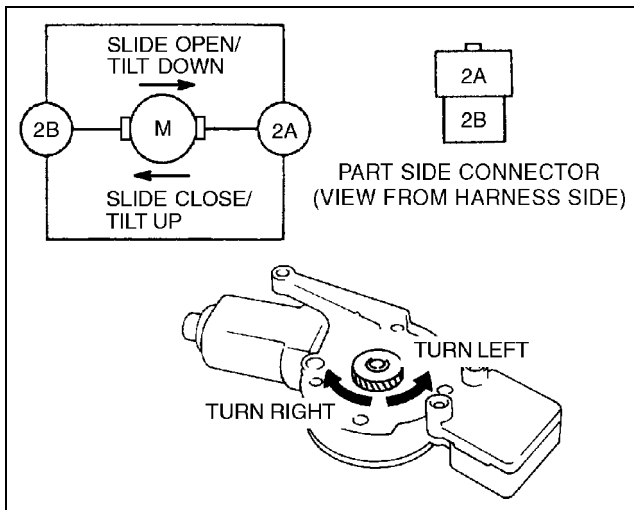
SUNROOF MOTOR INSPECTION

4SD

Motor

1. Remove the sunroof motor.
2. Apply battery positive voltage to the sunroof motor terminals and inspect the operation of the sunroof motor.
 - If not as specified, replace the sunroof motor.

Connection		Motor operation
2A	2B	
B+	GND	Turn left (Slide close/Tilt up)
GND	B+	Turn right (Slide open/Tilt down)



A3U0915W025

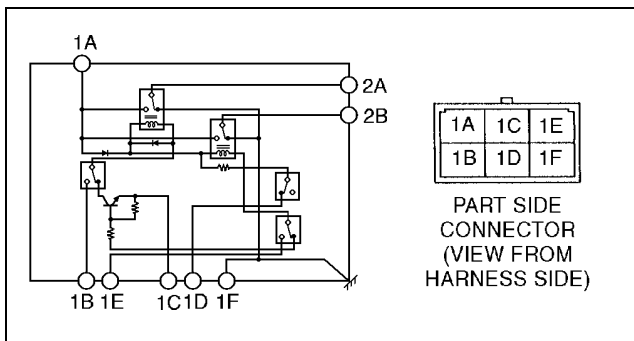
Limit Switch

1. Remove the headliner. (See 09-17-16 HEADLINER REMOVAL/INSTALLATION.)
2. Verify the glass panel position.
3. Disconnect the connector.
4. Inspect for continuity between the sunroof motor terminals using an ohmmeter.
 - If not as specified, replace the sunroof motor.

○—○ : Continuity

Glass panel position	Terminal						
	1A	1B	1C	1D	1E	1F	GND
Fully open	○	—	○				○—○
Fully closed	○—○			○			○—○
Fully tilt up	○			○			○—○
	○				○		

X3U915WAR



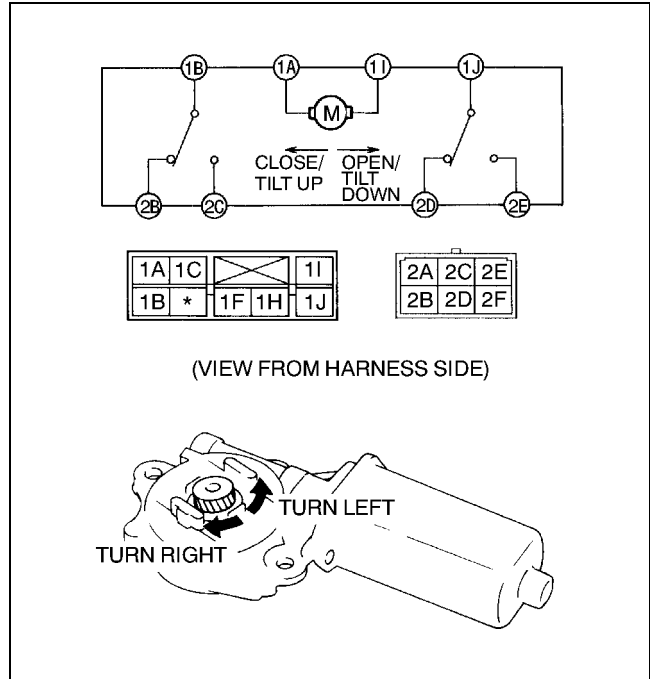
Y3U915WA1

5HB

Motor

1. Remove the sunroof motor.
2. Apply battery positive voltage to the sunroof motor terminals and inspect the operation of the sunroof motor.
 - If not as specified, replace the sunroof motor.

Connection		Motor operation
1A	1I	
B+	GND	Turn right (Slide open/Tilt down)
GND	B+	Turn left (Slide close/Tilt up)



A3U0915W017

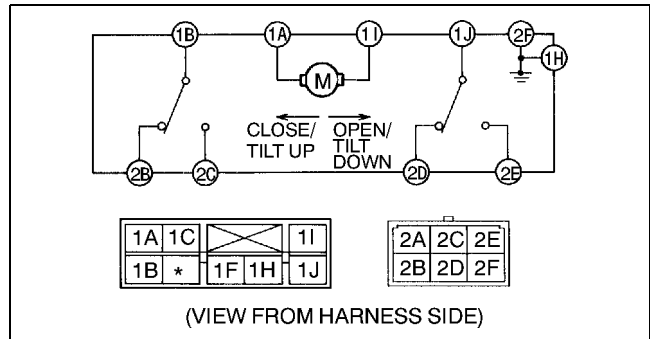
Limit Switch

1. Remove the headliner. (See 09-17-16 HEADLINER REMOVAL/INSTALLATION.)
2. Verify the glass panel position.
3. Disconnect the connector.
4. Inspect for continuity between the sunroof motor terminals using an ohmmeter.
 - If not as specified, replace the sunroof motor.

○—○ : Continuity

Glass panel position	Terminal								
	2B	2C	2D	2E	1B	1J	2F	1H	Body GND
Fully open		○	○	○	○	○	○	○	○
Fully closed	○		○	○	○	○	○	○	○
Fully tilted up	○			○	○	○	○	○	○

A3U0915W018



A3U0915W019

SUNROOF

SUNROOF RELAY REMOVAL/INSTALLATION

A3U091569873W01

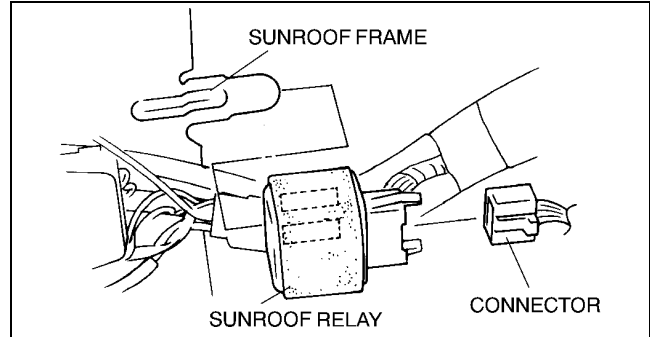
4SD

Note

- Sunroof relay is built in the sunroof motor.

5HB

1. Disconnect the negative battery cable.
2. Remove the headliner. (See 09-17-16 HEADLINER REMOVAL/INSTALLATION.)
3. Pull the sunroof relay from the sunroof frame.
4. Disconnect the connector, and remove the sunroof relay.
5. Install in the reverse order of removal.

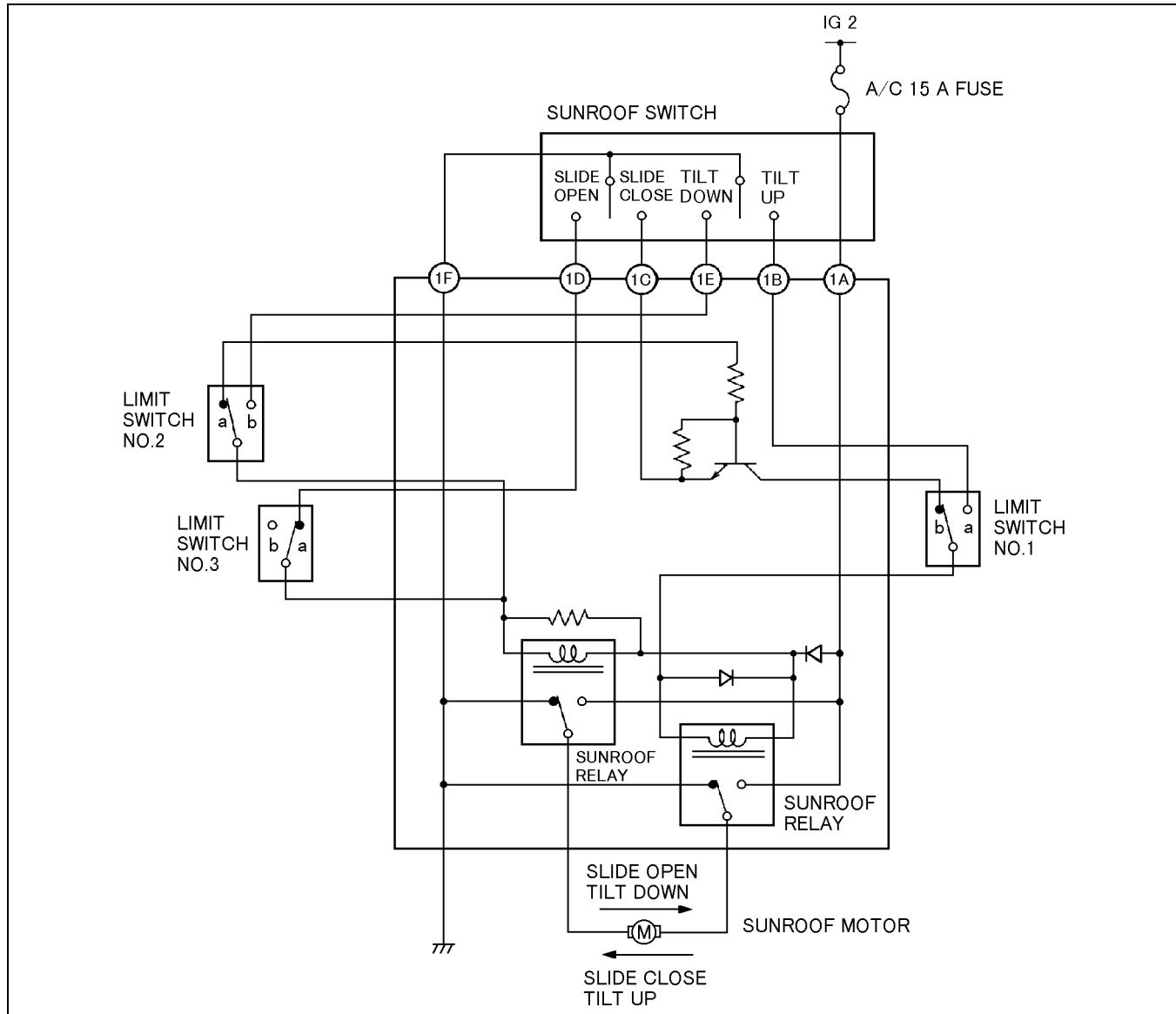


A3U0915W020

SLIDING SUNROOF SYSTEM WIRING DIAGRAM

A3U091501049W02

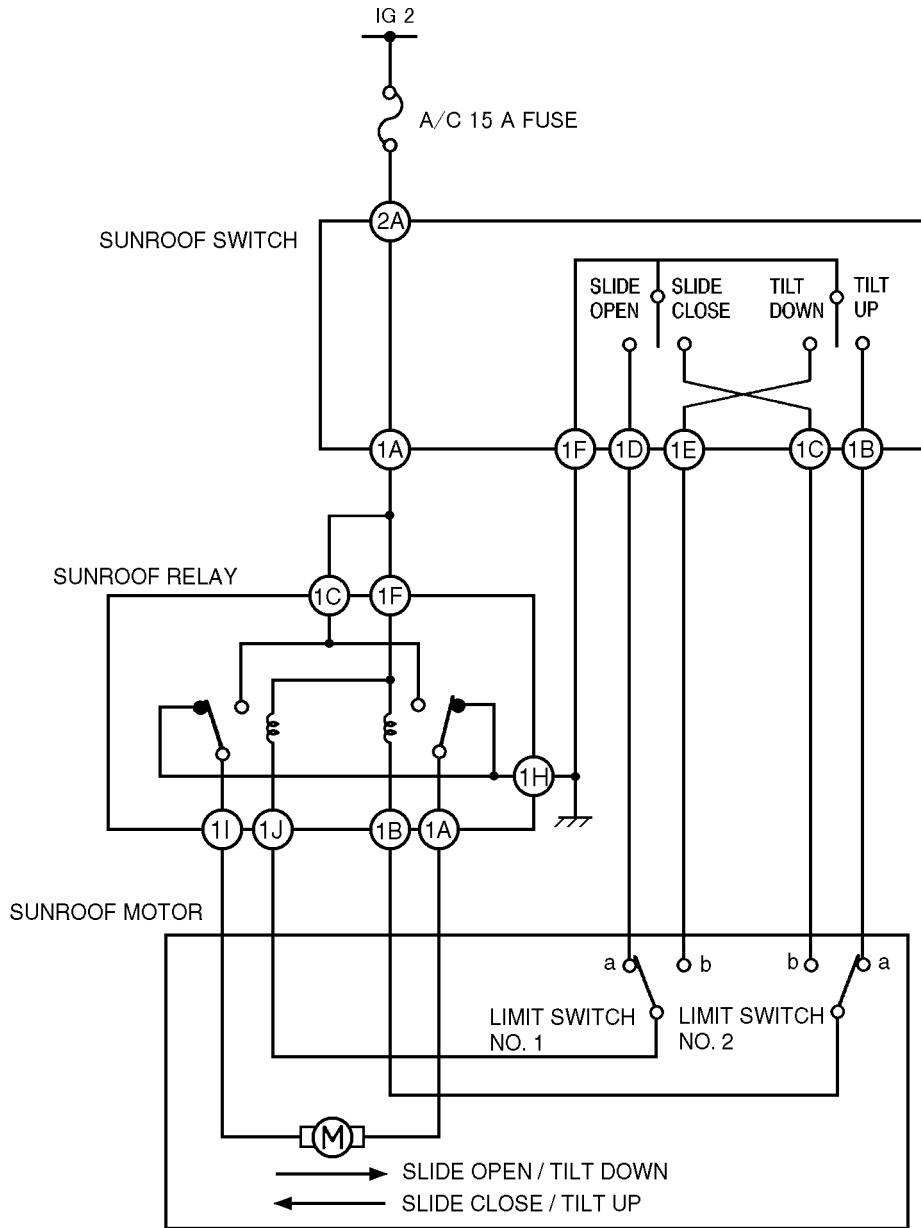
4SD



A3U0915W027

SUNROOF

5HB



09-15

A3U0915W026

SUNROOF

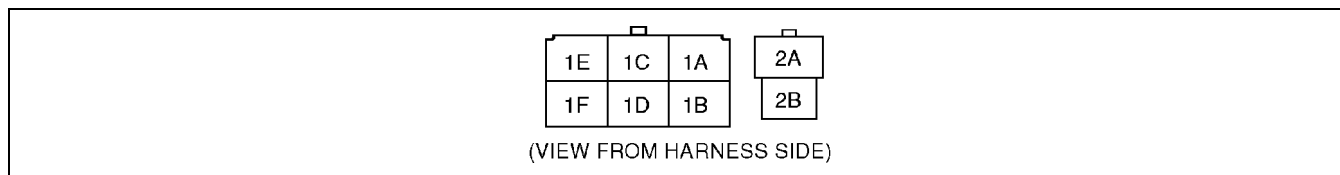
SUNROOF RELAY INSPECTION

A3U091569873W02

4SD

1. Remove the headliner. (See 09–17–16 HEADLINER REMOVAL/INSTALLATION.)
2. Connect the sunroof switch connector.
3. Connect the negative battery cable.
4. Measure the voltage at the sunroof relay terminals as indicated below.
5. Disconnect the sunroof relay connector before inspecting for continuity at terminal 1F.
 - If not as specified, inspect the parts listed under “Action” and the related wiring harnesses.
 - If the parts and wiring harnesses are okay but the system still does not work properly, replace the sunroof relay.

Terminal voltage list (Reference)



A3U0915W023

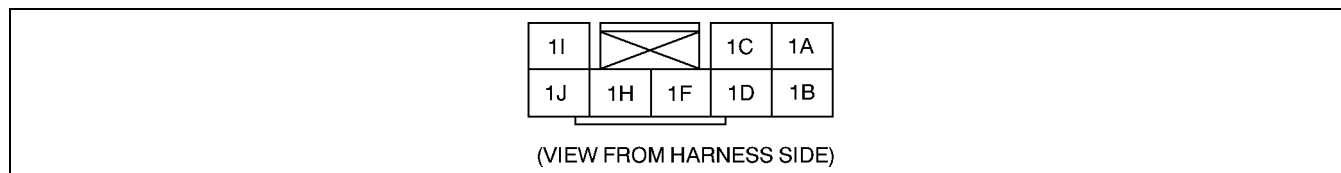
Terminal	Signal	Connected to	Test condition	Voltage (V)/ Continuity	Action
1A	IG2	Sunroof motor	IG SW is at ON position.	B+	<ul style="list-style-type: none"> • Inspect A/C 15 A fuse • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect related harness
			Other	0	
1B	Tilt up	Sunroof switch	Sunroof is tilting up. (Including position when fully closed)	B+	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect related harness
			Other	0	
1C	Slide close	Sunroof switch	Sunroof is closing. (Including position when fully closed and open)	B+	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect related harness
			Other	0	
1D	Slide open	Sunroof switch	Sunroof is fully opening.	0	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect related harness
			Other	B+	
1E	Tilt down	Sunroof switch	Sunroof is tilting down. (Not including position when fully closed)	B+	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect related harness
			Other	0	
1F	Sunroof relay ground	GND	Under any condition: inspect for continuity to ground.	Yes	<ul style="list-style-type: none"> • Inspect related harness
2A	Slide close/ tilt up	Sunroof motor	Sunroof is opening/tilting down.	0	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect sunroof motor (See 09–15–12 SUNROOF MOTOR INSPECTION) • Inspect related harness
			Sunroof is closing/tilting up.	B+	
			Other	0	
2B	Slide open/ tilt down	Sunroof motor	Sunroof is opening/tilting down.	B+	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect sunroof motor (See 09–15–12 SUNROOF MOTOR INSPECTION) • Inspect related harness
			Sunroof is closing/tilting up.	0	
			Other	0	

SUNROOF

5HB

1. Remove the headliner. (See 09–17–16 HEADLINER REMOVAL/INSTALLATION.)
2. Connect the sunroof switch connector.
3. Connect the negative battery cable.
4. Measure the voltage at the sunroof relay terminals as indicated below.
5. Disconnect the sunroof relay connector before inspecting for continuity at terminal H.
 - If not as specified, inspect the parts listed under “Action” and the related wiring harnesses.
 - If the parts and wiring harnesses are okay but the system still does not work properly, replace the sunroof relay.

Terminal voltage list (Reference)



A3U0915W021

Terminal	Signal	Connected to	Test condition	Voltage (V)/Continuity	Action
1A	Slide close/ tilt up	Sunroof motor	Sunroof is opening/tilting down.	0	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect sunroof motor (See 09–15–12 SUNROOF MOTOR INSPECTION) • Inspect related harness
			Sunroof is closing/tilting up.	B+	
			Other	0	
1B	Slide close/ tilt up	Sunroof motor (Limit switch)	Sunroof is closing/tilting up.	0	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect sunroof motor (Limit switch) (See 09–15–12 SUNROOF MOTOR INSPECTION) • Inspect related harness
			Other	B+	
1C	IG2	Sunroof switch	IG SW is at ON position.	B+	<ul style="list-style-type: none"> • Inspect A/C 15 A fuse • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect related harness
			Other	0	
1D	-	Not used	-	-	-
1F	IG2	Sunroof switch	IG SW is at ON position.	B+	<ul style="list-style-type: none"> • Inspect A/C 15 A fuse • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect related harness
			Other	0	
1H	Sunroof relay ground	GND	Under any condition: inspect for continuity to ground.	Yes	<ul style="list-style-type: none"> • Inspect related harness
1I	Slide open/ tilt down	Sunroof motor	Sunroof is opening/tilting down.	B+	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect sunroof motor (See 09–15–12 SUNROOF MOTOR INSPECTION) • Inspect related harness
			Sunroof is closing/tilting up.	0	
			Other	0	
1J	Slide open/ tilt down	Sunroof motor (Limit switch)	Sunroof is opening/tilting down.	0	<ul style="list-style-type: none"> • Inspect sunroof switch (See 09–15–18 SUNROOF SWITCH INSPECTION) • Inspect sunroof motor (Limit switch) (See 09–15–12 SUNROOF MOTOR INSPECTION) • Inspect related harness
			Other	B+	

SUNROOF

SUNROOF SWITCH REMOVAL/INSTALLATION

A3U091566560W01

Note

- The sunroof switch is together with the spot light.

- Disconnect the negative battery cable.
- Remove the spot light from the headliner. (See 09-18-21 MAP LIGHT REMOVAL/INSTALLATION.)
- Install in the reverse order of removal.

SUNROOF SWITCH INSPECTION

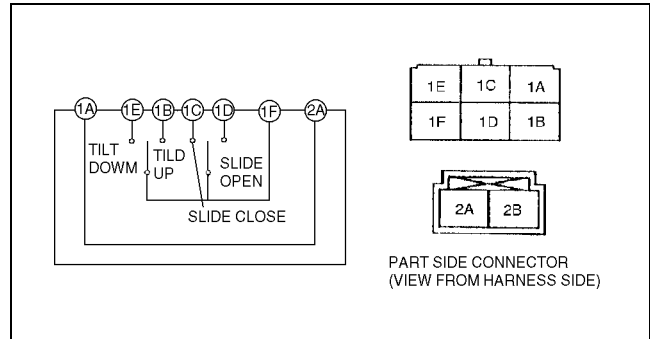
A3U091566560W02

- Remove the sunroof switch. (See 09-18-21 MAP LIGHT REMOVAL/INSTALLATION.)
- Inspect for continuity between the sunroof switch terminals using an ohmmeter.
 - If not as specified, replace the sunroof switch.

○—○ : Continuity

Switch position	Terminal						
	1B	1C	1D	1E	1F	1A	2A
Slide open			○	○	○	○	○
Slide close		○			○	○	○
Tilt up	○				○	○	○
Tilt down				○	○	○	○
Off						○	○

X3U915WAU



Z3U0915W001