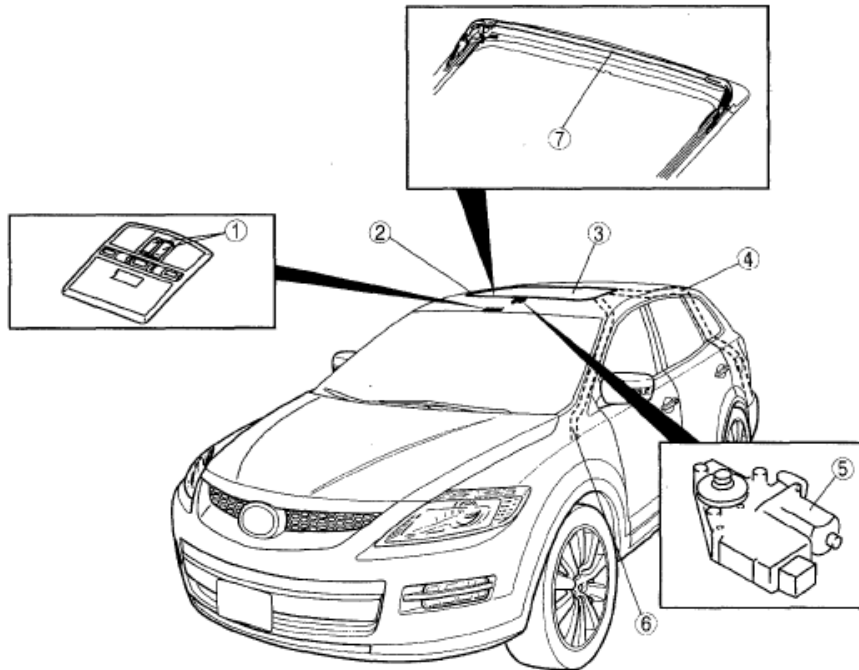


2008 BODY & ACCESSORIES

Sunroof - Mazda CX-9

SUNROOF LOCATION INDEX



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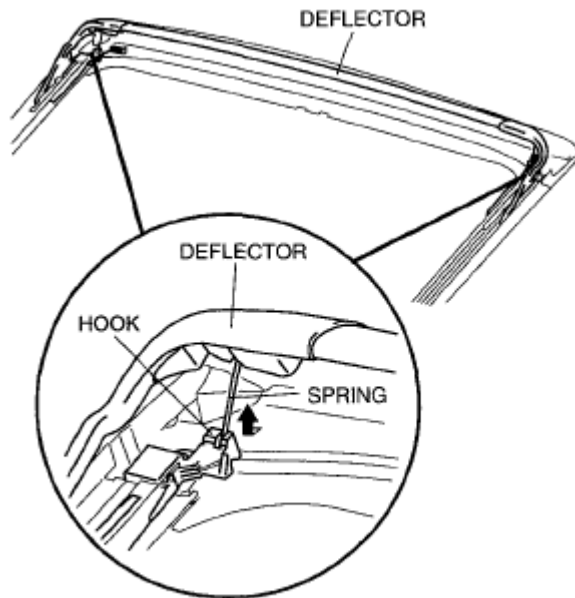
1	Sunroof switch (See 09-15-14 SUNROOF SWITCH REMOVAL/ INSTALLATION.) (See 09-15-15 SUNROOF SWITCH INSPECTION.)
2	Sunroof unit (See 09-15-5 SUNROOF UNIT REMOVAL/ INSTALLATION.) (See 09-15-6 SUNROOF UNIT DISASSEMBLY/ ASSEMBLY.)
3	Glass panel (See 09-15-3 GLASS PANEL REMOVAL/ INSTALLATION.) (See 09-15-4 GLASS PANEL ADJUSTMENT.)

4	Rear drain hose (See 09-15-11 REAR DRAIN HOSE REMOVAL.) (See 09-15-12 REAR DRAIN HOSE INSTALLATION.)
5	Sunroof motor (See 09-15-13 SUNROOF MOTOR REMOVAL/ INSTALLATION.) (See 09-15-14 SUNROOF MOTOR INSPECTION.)
6	Front drain hose (See 09-15-8 FRONT DRAIN HOSE REMOVAL.) (See 09-15-10 FRONT DRAIN HOSE INSTALLATION.)
7	Deflector (See 09-15-3 DEFLECTOR REMOVAL/ INSTALLATION.)

**Fig. 1: Identifying Sunroof Components Location**

**DEFLECTOR REMOVAL/INSTALLATION**

1. Fully open the glass panel.
2. Press the spring in the direction shown by the arrow and remove it from the hook.
3. Remove the deflector.
4. Install in the reverse order of removal.

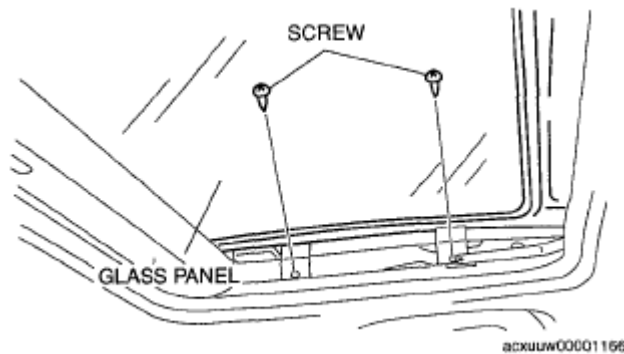


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**Fig. 2: Identifying Deflector Hook & Spring**

## **GLASS PANEL REMOVAL/INSTALLATION**

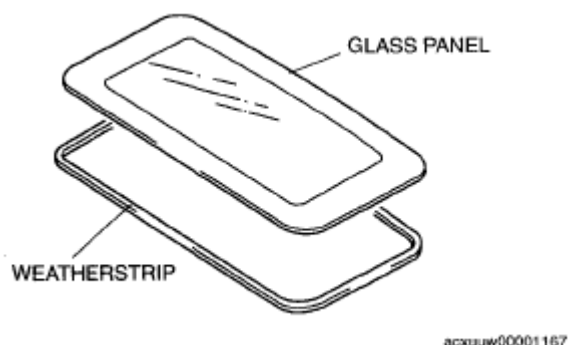
1. Fully close the glass panel.
2. Fully open the sunshade.
3. Remove the screws, and then remove the glass panel.



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**Fig. 3: Identifying Glass Panel With Screws**

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



**Fig. 4: Identifying Weatherstrip & Glass Panel**

## GLASS PANEL ADJUSTMENT

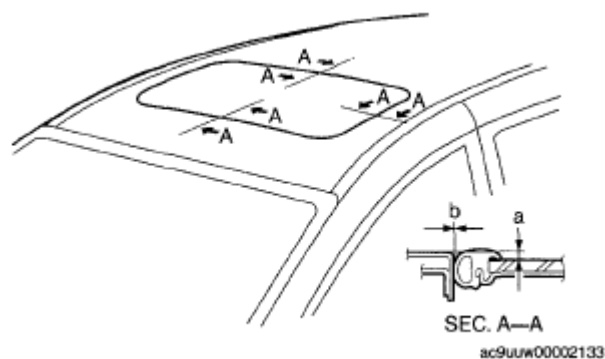
1. Fully close the glass panel.
2. Measure the gap and height between the glass panel and body.
3. If not as specified, loosen the glass panel installation screws and reposition the glass panel.

### Clearance

**a: 0-2.7 mm {0-0.106 in}**

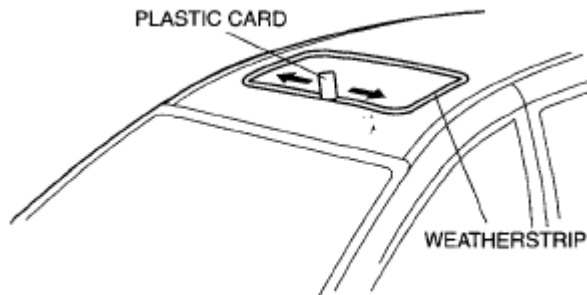
**b: 0 mm {0 in}**

4. Tighten the installation screws.



**Fig. 5: Measuring Gap And Height Between Glass Panel & Body**

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



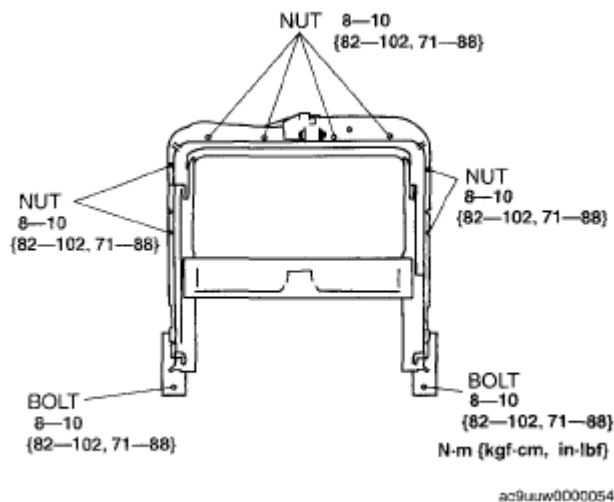
**Fig. 6: Inserting Plastic Card Between Weatherstrip & Body Of Vehicle**

## SUNROOF UNIT REMOVAL/INSTALLATION

**CAUTION:** • If the sunshade is forced close while the sunroof is open, the sunshade could be damaged.

1. Disconnect the negative battery cable.
2. Remove the following parts:
  1. A-pillar trim (See **A-PILLAR TRIM REMOVAL/INSTALLATION** .)
  2. Front scuff plate inner (See **FRONT SCUFF PLATE REMOVAL/INSTALLATION** .)
  3. Rear scuff plate inner (See **REAR SCUFF PLATE REMOVAL/INSTALLATION** .)
  4. Front seat belt lower anchor installation bolt (Driver side) (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  5. B-pillar lower trim (See **B-PILLAR LOWER TRIM REMOVAL/INSTALLATION** .)
  6. Front seat belt upper anchor installation bolt (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  7. B-pillar upper trim (See **B-PILLAR UPPER TRIM REMOVAL/INSTALLATION** .)
  8. Trunk box (See **TRUNK BOX REMOVAL/INSTALLATION** .)
  9. Seat side box (See **SEAT SIDE BOX REMOVAL/INSTALLATION** .)
  10. Trunk end trim (See **TRUNK END TRIM REMOVAL/INSTALLATION** .)
  11. Third-row seat (See **THIRD-ROW SEAT REMOVAL/INSTALLATION** .)
  12. Third-row seat belt lower anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  13. Trunk side trim (See **TRUNK SIDE TRIM REMOVAL/INSTALLATION** .)
  14. Roof side trim (See **ROOF SIDE TRIM REMOVAL/INSTALLATION** .)
  15. Second-row seat belt upper anchor installation bolt (See **SECOND-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  16. C-pillar trim (See **C-PILLAR TRIM REMOVAL/INSTALLATION** .)
  17. Third-row seat belt upper anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)

18. D-pillar trim (See **D-PILLAR TRIM REMOVAL/INSTALLATION** .)
19. Front map light (See **FRONT MAP LIGHT REMOVAL/INSTALLATION** .)
20. Sunvisor (See **SUNVISOR REMOVAL/INSTALLATION** .)
21. Assist handle (See **ASSIST HANDLE REMOVAL/INSTALLATION** .)
22. RES unit cover (Vehicles with RES) (See **RES UNIT REMOVAL/INSTALLATION** .)
3. Remove the sunroof seaming welt.
4. Remove the headliner. (See **HEADLINER REMOVAL/INSTALLATION** .)
5. Remove the glass panel (See **GLASS PANEL REMOVAL/INSTALLATION**.)
6. Disconnect the front and rear drain hose from the sunroof frame.
7. Remove the bolts.
8. Remove the nuts, and then remove the sunroof unit.
9. Install in the reverse order of removal.
10. Adjust the glass panel. (See **GLASS PANEL ADJUSTMENT**.)



**Fig. 7: Identifying Sunroof Unit Nuts, Bolts & Torque Specifications**

## SUNROOF UNIT DISASSEMBLY/ASSEMBLY

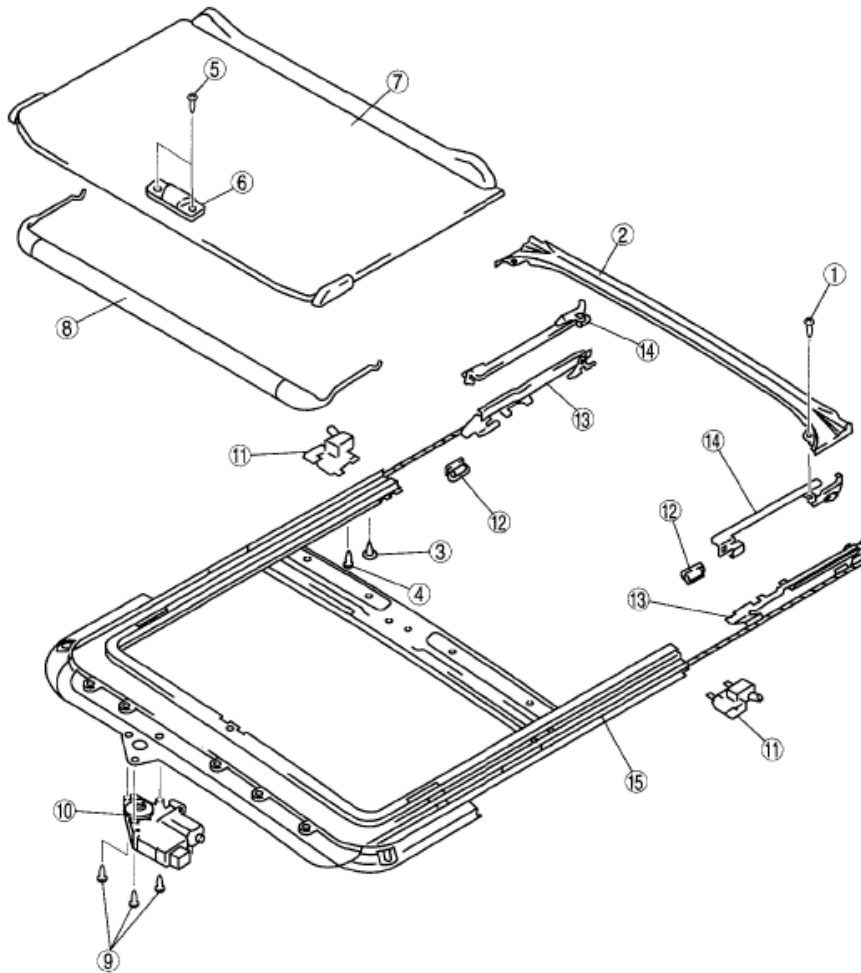
**NOTE:**

- If the guide or sunroof motor is removed, the glass panel will not be positioned properly after the re-installation. To ensure proper positioning of the glass panel, place alignment marks on the guide pin and frame before removing the guide or sunroof motor.

1. Disassemble in the order indicated in the table.
2. Assemble in the reverse order of disassembly.

## 2008 Mazda CX-9 Grand Touring

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1	Screw A
2	Drip rail
3	Sunshade stopper Drip Guide
4	Screw B
5	Screw C
6	Recess
7	Sunshade
8	Deflector
9	Screw D

10	Sunroof motor (See 09-15-7 Sunroof Motor Assembly Note.)
11	Rear drip (See 09-15-7 Rear Drip Assembly Note.)
12	Guide stopper
13	Guide (See 09-15-7 Guide Disassembly Note.) (See 09-15-8 Guide Assembly Note.)
14	Decoration link (See 09-15-8 Decoration Link Assembly Note)
15	Frame

**Fig. 8: Identifying Sunroof Unit Components**

### SUNROOF MOTOR ASSEMBLY NOTE

**NOTE:**

- If the guide or sunroof motor is removed, the sunroof motor initial position setting has to be performed. After installing the sunroof unit, perform the initial position setting using the following procedure.

1. The initialization mode starts after **approx. 13 s** from when the tilt up switch has been pressed and held.

The glass stops after it has moved **approx. 30 mm {1.2 in}** towards the closed position.

**NOTE:**

- Only the tilt up switch is available during the initialization mode.
- The initialization may finish at the first inching operation depending on the glass position when the motor is installed.
- If the glass position is between the closed and semi-tilt positions when the motor is removed, the glass moves in the tilt up direction (to the full tilt position stored in the motor). However, if the tilt up switch is pressed and held, the initialization mode starts.

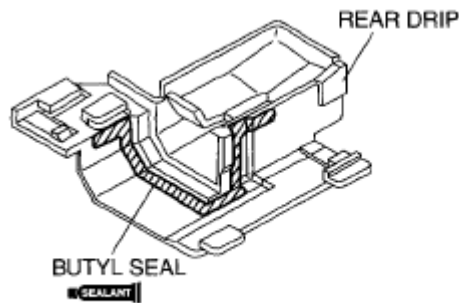
2. When the tilt up switch is pressed again, the glass continues to move **approx. 30 mm {1.2 in}** and stops.
3. Repeat this procedure several times so that the glass moves to the fully closed, full tilt (normal operation position), and full tilt (mechanical stopper position) positions.
4. After the glass is moved to the full tilt position (mechanical stopper position), it returns to the tilt down direction slightly and the initialization is completed.

**REAR DRIP ASSEMBLY NOTE**

**NOTE:**

- If the rear drip is removed, butyl seal must be applied when re-installing.

1. Apply a **6.0-8.0 mm {0.24-0.31 in}** wide line of butyl seal to the area shown in the figure.

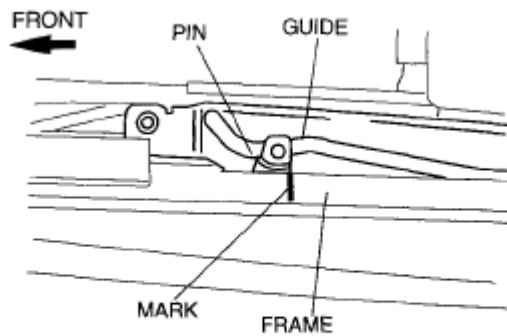


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**Fig. 9: Identifying Applying Area Of Wide Line To Butyl Seal**

**GUIDE DISASSEMBLY NOTE**

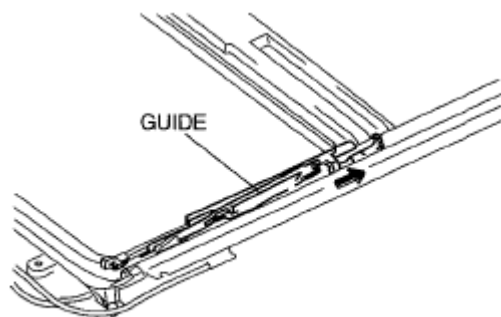
1. Place an alignment mark on the guide pin and flame.



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**Fig. 10: Identifying Alignment Mark On Guide Pin & Flame**

2. Slide the guide to the rear of the sunroof frame, and remove the guide and decoration link as a single unit.

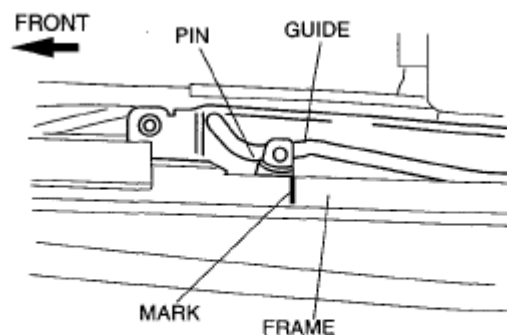


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**Fig. 11: Identifying Guide**

**GUIDE ASSEMBLY NOTE**

1. Move the pin to the position shown in the figure.

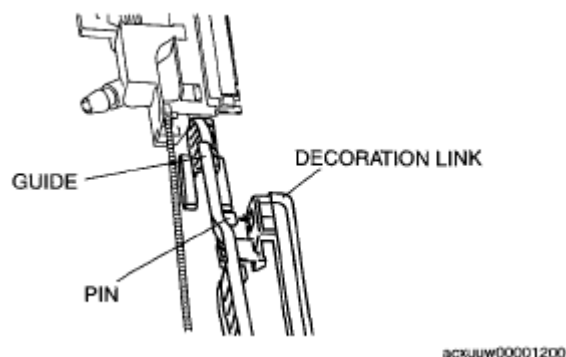


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**Fig. 12: Identifying Guide Assembly Mark****DECORATION LINK ASSEMBLY NOTE**

1. Set the guide pin to the decoration link.

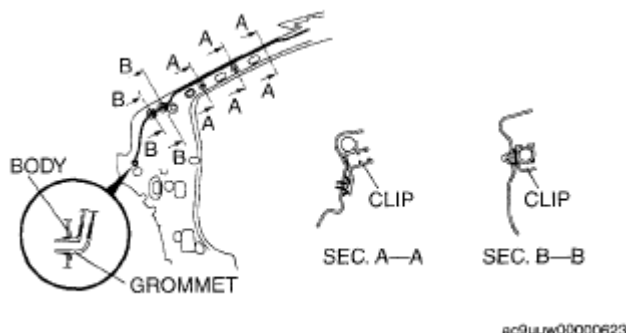
**Fig. 13: Setting Guide Pin To Decoration Link****FRONT DRAIN HOSE REMOVAL**

1. Disconnect the negative battery cable.
2. Partially peel back the seaming welt.
3. Remove the following parts:
  1. A-pillar trim (See **A-PILLAR TRIM REMOVAL/INSTALLATION** .)
  2. Front scuff plate inner (See **FRONT SCUFF PLATE REMOVAL/INSTALLATION** .)
  3. Rear scuff plate inner (See **REAR SCUFF PLATE REMOVAL/INSTALLATION** .)
  4. Front seat belt lower anchor installation bolt (Driver side) (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  5. B-pillar lower trim (See **B-PILLAR LOWER TRIM REMOVAL/INSTALLATION** .)
  6. Front seat belt upper anchor installation bolt (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  7. B-pillar upper trim (See **B-PILLAR UPPER TRIM REMOVAL/INSTALLATION** .)
  8. Trunk box (See **TRUNK BOX REMOVAL/INSTALLATION** .)
  9. Seat side box (See **SEAT SIDE BOX REMOVAL/INSTALLATION** .)
  10. Trunk end trim (See **TRUNK END TRIM REMOVAL/INSTALLATION** .)
  11. Third-row seat (See **THIRD-ROW SEAT REMOVAL/INSTALLATION** .)
  12. Third-row seat belt lower anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  13. Trunk side trim (See **TRUNK SIDE TRIM REMOVAL/INSTALLATION** .)
  14. Roof side trim (See **ROOF SIDE TRIM REMOVAL/INSTALLATION** .)
  15. Second-row seat belt upper anchor installation bolt (See **SECOND-ROW SEAT BELT**

**REMOVAL/INSTALLATION** .)

16. C-pillar trim (See **C-PILLAR TRIM REMOVAL/INSTALLATION** .)
  17. Third-row seat belt upper anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  18. D-pillar trim (See **D-PILLAR TRIM REMOVAL/INSTALLATION** .)
  19. Front map light (See **FRONT MAP LIGHT REMOVAL/INSTALLATION** .)
  20. Sunvisor (See **SUNVISOR REMOVAL/INSTALLATION** .)
  21. Assist handle (See **ASSIST HANDLE REMOVAL/INSTALLATION** .)
  22. RES unit cover (Vehicles with RES) (See **RES UNIT REMOVAL/INSTALLATION** .)
  23. Headliner (See **HEADLINER REMOVAL/INSTALLATION** .)
  24. Decoration panel (See **DECORATION PANEL REMOVAL/INSTALLATION** .)
  25. Front console box mat (See **FRONT CONSOLE BOX MAT REMOVAL/INSTALLATION** .)
  26. Indicator panel (See **INDICATOR PANEL REMOVAL/INSTALLATION** .)
  27. Front console box (See **FRONT CONSOLE BOX REMOVAL/INSTALLATION** .)
  28. Dashboard under cover (See **DASHBOARD UNDER COVER REMOVAL/INSTALLATION** .)
  29. Side wall (See **SIDE WALL REMOVAL/INSTALLATION** .)
  30. Console panel (See **CONSOLE PANEL REMOVAL/INSTALLATION** .)
  31. Console cover (See **CONSOLE COVER REMOVAL/INSTALLATION** .)
  32. Console (See **CONSOLE REMOVAL/INSTALLATION** .)
  33. Front side trim (See **FRONT SIDE TRIM REMOVAL/INSTALLATION** .)
  34. Glove compartment (See **GLOVE COMPARTMENT REMOVAL/INSTALLATION** .)
  35. Hood release lever (See **HOOD LATCH AND RELEASE LEVER REMOVAL/INSTALLATION** .)
  36. Lower panel (See **LOWER PANEL REMOVAL/INSTALLATION** .)
  37. Column cover (See **COLUMN COVER REMOVAL/INSTALLATION** .)
  38. Driver-side air bag module (See **DRIVER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION** .)
  39. Steering wheel (See **STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION** .)
  40. Combination switch (See **COMBINATION SWITCH REMOVAL/INSTALLATION** .)
  41. Center panel (See **CENTER PANEL REMOVAL/INSTALLATION** .)
  42. Meter hood (See **METER HOOD REMOVAL/INSTALLATION** .)
  43. Instrument cluster (See **INSTRUMENT CLUSTER REMOVAL/INSTALLATION** .)
  44. Audio unit (See **AUDIO UNIT REMOVAL/INSTALLATION** .)
  45. Steering shaft (See **STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION** .)
  46. Side panel (See **SIDE PANEL REMOVAL/INSTALLATION** .)
  47. Dashboard (See **DASHBOARD REMOVAL/INSTALLATION** .)
4. Disconnect the front drain hose from the sunroof frame.
  5. Remove the front drain hose from the clips.

6. Pull the front drain hose into the room side.
7. Remove the front drain hose.



**Fig. 14: Identifying Front Drain Hose Clips**

## FRONT DRAIN HOSE INSTALLATION

### 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 (the wider 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 following parts:
  1. Dashboard (See [DASHBOARD REMOVAL/INSTALLATION](#) .)
  2. Side panel (See [SIDE PANEL REMOVAL/INSTALLATION](#) .)
  3. Steering shaft (See [STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION](#) .)
  4. Audio unit (See [AUDIO UNIT REMOVAL/INSTALLATION](#) .)
  5. Instrument cluster (See [INSTRUMENT CLUSTER REMOVAL/INSTALLATION](#) .)
  6. Meter hood (See [METER HOOD REMOVAL/INSTALLATION](#) .)
  7. Center panel (See [CENTER PANEL REMOVAL/INSTALLATION](#) .)
  8. Combination switch (See [COMBINATION SWITCH REMOVAL/INSTALLATION](#) .)
  9. Steering wheel (See [STEERING WHEEL AND COLUMN REMOVAL/INSTALLATION](#) .)
  10. Driver-side air bag module (See [DRIVER-SIDE AIR BAG MODULE REMOVAL/INSTALLATION](#) .)
  11. Column cover (See [COLUMN COVER REMOVAL/INSTALLATION](#) .)
  12. Hood release lever (See [HOOD LATCH AND RELEASE LEVER](#) .)

## 2008 Mazda CX-9 Grand Touring

2008 BODY & ACCESSORIES Sunroof - Mazda CX-9

### **REMOVAL/INSTALLATION** .)

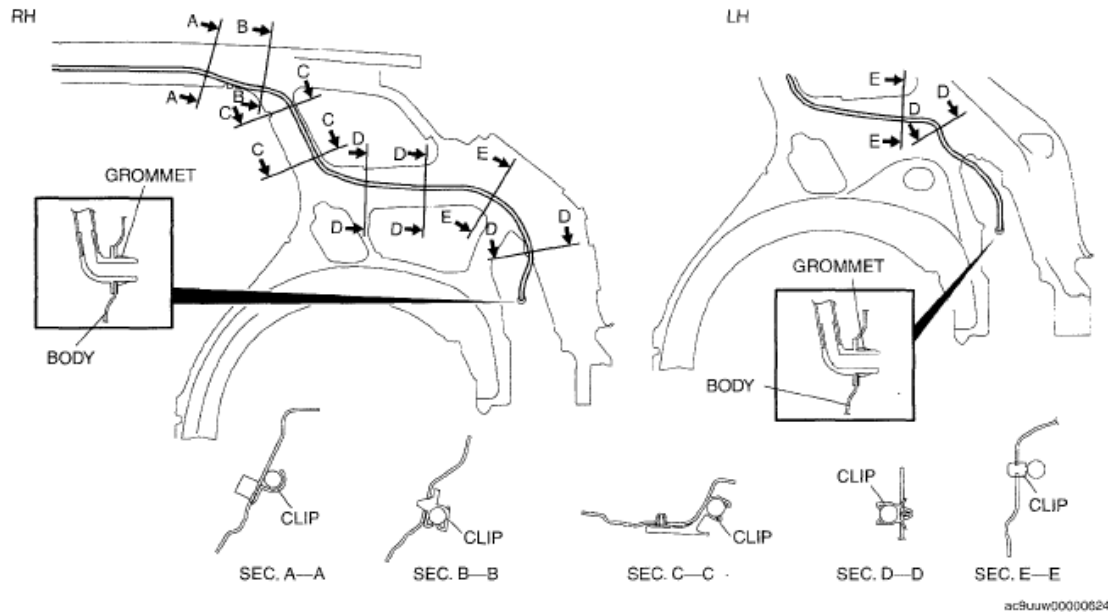
13. Lower panel (See **LOWER PANEL REMOVAL/INSTALLATION** .)
14. Glove compartment (See **GLOVE COMPARTMENT REMOVAL/INSTALLATION** .)
15. Front side trim (See **FRONT SIDE TRIM REMOVAL/INSTALLATION** .)
16. Console (See **CONSOLE REMOVAL/INSTALLATION** .)
17. Console cover (See **CONSOLE COVER REMOVAL/INSTALLATION** .)
18. Console panel (See **CONSOLE PANEL REMOVAL/INSTALLATION** .)
19. Side wall (See **SIDE WALL REMOVAL/INSTALLATION** .)
20. Dashboard under cover (See **DASHBOARD UNDER COVER REMOVAL/INSTALLATION** .)
21. Front console box (See **FRONT CONSOLE BOX REMOVAL/INSTALLATION** .)
22. Indicator panel (See **INDICATOR PANEL REMOVAL/INSTALLATION** .)
23. Front console box mat (See **FRONT CONSOLE BOX MAT REMOVAL/INSTALLATION** .)
24. Decoration panel (See **DECORATION PANEL REMOVAL/INSTALLATION** .)
25. Headliner (See **HEADLINER REMOVAL/INSTALLATION** .)
26. RES unit cover (Vehicles with RES) (See **RES UNIT REMOVAL/INSTALLATION** .)
27. Assist handle (See **ASSIST HANDLE REMOVAL/INSTALLATION** .)
28. Sunvisor (See **SUNVISOR REMOVAL/INSTALLATION** .)
29. Front map light (See **FRONT MAP LIGHT REMOVAL/INSTALLATION** .)
30. D-pillar trim (See **D-PILLAR TRIM REMOVAL/INSTALLATION** .)
31. Third-row seat belt upper anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)
32. C-pillar trim (See **C-PILLAR TRIM REMOVAL/INSTALLATION** .)
33. Second-row seat belt upper anchor installation bolt (See **SECOND-ROW SEAT BELT REMOVAL/INSTALLATION** .)
34. Roof side trim (See **ROOF SIDE TRIM REMOVAL/INSTALLATION** .)
35. Trunk side trim (See **TRUNK SIDE TRIM REMOVAL/INSTALLATION** .)
36. Third-row seat belt lower anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)
37. Third-row seat (See **THIRD-ROW SEAT REMOVAL/INSTALLATION** .)
38. Trunk end trim (See **TRUNK END TRIM REMOVAL/INSTALLATION** .)
39. Seat side box (See **SEAT SIDE BOX REMOVAL/INSTALLATION** .)
40. Trunk box (See **TRUNK BOX REMOVAL/INSTALLATION** .)
41. B-pillar upper trim (See **B-PILLAR UPPER TRIM REMOVAL/INSTALLATION** .)
42. Front seat belt upper anchor installation bolt (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
43. B-pillar lower trim (See **B-PILLAR LOWER TRIM REMOVAL/INSTALLATION** .)
44. Front seat belt lower anchor installation bolt (Driver side) (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)

45. Rear scuff plate inner (See **REAR SCUFF PLATE REMOVAL/INSTALLATION** .)
  46. Front scuff plate inner (See **FRONT SCUFF PLATE REMOVAL/INSTALLATION** .)
  47. A-pillar trim (See **A-PILLAR TRIM REMOVAL/INSTALLATION** .)
6. Install the seaming welt.

## **REAR DRAIN HOSE REMOVAL**

1. Disconnect the negative battery cable.
2. Partially peel back the seaming welt.
3. Remove the following parts:
  1. A-pillar trim (See **A-PILLAR TRIM REMOVAL/INSTALLATION** .)
  2. Front scuff plate inner (See **FRONT SCUFF PLATE REMOVAL/INSTALLATION** .)
  3. Rear scuff plate inner (See **REAR SCUFF PLATE REMOVAL/INSTALLATION** .)
  4. Front seat belt lower anchor installation bolt (Driver side) (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  5. B-pillar lower trim (See **B-PILLAR LOWER TRIM REMOVAL/INSTALLATION** .)
  6. Front seat belt upper anchor installation bolt (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  7. B-pillar upper trim (See **B-PILLAR UPPER TRIM REMOVAL/INSTALLATION** .)
  8. Trunk box (See **TRUNK BOX REMOVAL/INSTALLATION** .)
  9. Seat side box (See **SEAT SIDE BOX REMOVAL/INSTALLATION** .)
  10. Trunk end trim (See **TRUNK END TRIM REMOVAL/INSTALLATION** .)
  11. Third-row seat (See **THIRD-ROW SEAT REMOVAL/INSTALLATION** .)
  12. Third-row seat belt lower anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  13. Trunk side trim (See **TRUNK SIDE TRIM REMOVAL/INSTALLATION** .)
  14. Roof side trim (See **ROOF SIDE TRIM REMOVAL/INSTALLATION** .)
  15. Second-row seat belt upper anchor installation bolt (See **SECOND-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  16. C-pillar trim (See **C-PILLAR TRIM REMOVAL/INSTALLATION** .)
  17. Third-row seat belt upper anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  18. D-pillar trim (See **D-PILLAR TRIM REMOVAL/INSTALLATION** .)
  19. Front map light (See **FRONT MAP LIGHT REMOVAL/INSTALLATION** .)
  20. Sunvisor (See **SUNVISOR REMOVAL/INSTALLATION** .)
  21. Assist handle (See **ASSIST HANDLE REMOVAL/INSTALLATION** .)
  22. RES unit cover (Vehicles with RES) (See **RES UNIT REMOVAL/INSTALLATION** .)
  23. Headliner (See **HEADLINER REMOVAL/INSTALLATION** .)
4. Disconnect the rear drain hose from the sunroof frame.

- Remove the rear drain hose from the clips.



**Fig. 15: Identifying Rear Drain Hose Clips**

- Pull the rear drain hose into the room side.
- Remove the rear drain hose.

## REAR DRAIN HOSE INSTALLATION

### 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.

- Apply soapy water to the rear drain hose inserting area.
- Insert one end (the wider side) of the rear drain hose into the sunroof frame.
- Install the rear drain hose to the clips parallel to the pillar and free of slack.
- Insert the rear drain hose joint into the rear pillar inner hole.
- Install the following parts:
  - Headliner (See [HEADLINER REMOVAL/INSTALLATION](#) .)
  - RES unit cover (Vehicles with RES) (See [RES UNIT REMOVAL/INSTALLATION](#) .)
  - Assist handle (See [ASSIST HANDLE REMOVAL/INSTALLATION](#) .)
  - Sunvisor (See [SUNVISOR REMOVAL/INSTALLATION](#) .)
  - Front map light (See [FRONT MAP LIGHT REMOVAL/INSTALLATION](#) .)

6. D-pillar trim (See **D-PILLAR TRIM REMOVAL/INSTALLATION** .)
  7. Third-row seat belt upper anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  8. C-pillar trim (See **C-PILLAR TRIM REMOVAL/INSTALLATION** .)
  9. Second-row seat belt upper anchor installation bolt (See **SECOND-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  10. Roof side trim (See **ROOF SIDE TRIM REMOVAL/INSTALLATION** .)
  11. Trunk side trim (See **TRUNK SIDE TRIM REMOVAL/INSTALLATION** .)
  12. Third-row seat belt lower anchor installation bolt (See **THIRD-ROW SEAT BELT REMOVAL/INSTALLATION** .)
  13. Third-row seat (See **THIRD-ROW SEAT REMOVAL/INSTALLATION** .)
  14. Trunk end trim (See **TRUNK END TRIM REMOVAL/INSTALLATION** .)
  15. Seat side box (See **SEAT SIDE BOX REMOVAL/INSTALLATION** .)
  16. Trunk box (See **TRUNK BOX REMOVAL/INSTALLATION** .)
  17. B-pillar upper trim (See **B-PILLAR UPPER TRIM REMOVAL/INSTALLATION** .)
  18. Front seat belt upper anchor installation bolt (Driver side) (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  19. B-pillar lower trim (See **B-PILLAR LOWER TRIM REMOVAL/INSTALLATION** .)
  20. Front seat belt lower anchor installation bolt. (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  21. Rear scuff plate inner (See **REAR SCUFF PLATE REMOVAL/INSTALLATION** .)
  22. Front scuff plate inner (See **FRONT SCUFF PLATE REMOVAL/INSTALLATION** .)
  23. A-pillar trim (See **A-PILLAR TRIM REMOVAL/INSTALLATION** .)
6. Install the seaming welt.

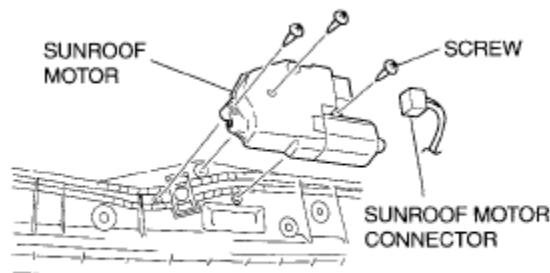
## **SUNROOF MOTOR REMOVAL/INSTALLATION**

1. Disconnect the negative battery cable.
2. Remove the following parts:
  1. A-pillar trim (See **A-PILLAR TRIM REMOVAL/INSTALLATION** .)
  2. Front scuff plate inner (See **FRONT SCUFF PLATE REMOVAL/INSTALLATION** .)
  3. Rear scuff plate inner (See **REAR SCUFF PLATE REMOVAL/INSTALLATION** .)
  4. Front seat belt lower anchor installation bolt (Driver side) (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  5. B-pillar lower trim (See **B-PILLAR LOWER TRIM REMOVAL/INSTALLATION** .)
  6. Front seat belt upper anchor installation bolt (See **FRONT SEAT BELT REMOVAL/INSTALLATION** .)
  7. B-pillar upper trim (See **B-PILLAR UPPER TRIM REMOVAL/INSTALLATION** .)
  8. Trunk box (See **TRUNK BOX REMOVAL/INSTALLATION** .)

9. Seat side box (See SEAT SIDE BOX REMOVAL/INSTALLATION .)
  10. Trunk end trim (See TRUNK END TRIM REMOVAL/INSTALLATION .)
  11. Third-row seat (See THIRD-ROW SEAT REMOVAL/INSTALLATION .)
  12. Third-row seat belt lower anchor installation bolt (See THIRD-ROW SEAT BELT REMOVAL/INSTALLATION .)
  13. Trunk side trim (See TRUNK SIDE TRIM REMOVAL/INSTALLATION .)
  14. Roof side trim (See ROOF SIDE TRIM REMOVAL/INSTALLATION .)
  15. Second-row seat belt upper anchor installation bolt (See SECOND-ROW SEAT BELT REMOVAL/INSTALLATION .)
  16. C-pillar trim (See C-PILLAR TRIM REMOVAL/INSTALLATION .)
  17. Third-row seat belt upper anchor installation bolt (See THIRD-ROW SEAT BELT REMOVAL/INSTALLATION .)
  18. D-pillar trim (See D-PILLAR TRIM REMOVAL/INSTALLATION .)
  19. Front map light (See FRONT MAP LIGHT REMOVAL/INSTALLATION .)
  20. Sunvisor (See SUNVISOR REMOVAL/INSTALLATION .)
  21. Assist handle (See ASSIST HANDLE REMOVAL/INSTALLATION .)
  22. RES unit cover (Vehicles with RES) (See RES UNIT REMOVAL/INSTALLATION .)
3. Remove the sunroof seaming welt.
  4. Remove the headliner. (See HEADLINER REMOVAL/INSTALLATION .)
  5. Disconnect the sunroof motor connector.
  6. Remove the screws, and then remove the sunroof motor.
  7. Install in the reverse order of removal.

**NOTE:**

- If the glass panel or the sunroof motor is moved with the sunroof motor removed, initial position setting of the sunroof motor will be required. Perform initial position setting referring to the SUNROOF MOTOR ASSEMBLY NOTE. (See SUNROOF UNIT DISASSEMBLY/ASSEMBLY.)



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**Fig. 16: Identifying Sunroof Motor & Connector**



## SUNROOF MOTOR INSPECTION

1. Measure the voltage at each terminal (other than terminal G).
  - If not as specified, inspect the parts listed under "Inspection item" and the related wiring harnesses.
2. Disconnect the negative battery cable.
3. If the parts and wiring harnesses are normal but the system still does not work properly, replace the sunroof motor.

### TERMINAL VOLTAGE TABLE (REFERENCE)

SUNROOF MOTOR WIRING  
HARNES-SIDE CONNECTOR



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**Fig. 17: Identifying Sunroof Motor Connector Terminals**

### CONNECTOR TERMINALS REFERENCE

Terminal	Signal	Connected to	Test condition	Voltage (V)	Inspection item
A	Slide open	Sunroof switch	Sunroof is fully opening.	B+	<ul style="list-style-type: none"> <li>• Sunroof switch</li> <li>• Related wiring harnesses</li> </ul>
			Other	1.0 or less	
B	Slide close/tilt down	Sunroof switch	Sunroof is closing/tilting down.	B+	<ul style="list-style-type: none"> <li>• Sunroof switch</li> <li>• Related wiring harnesses</li> </ul>
			Other	1.0 or less	
C	Tilt up	Sunroof switch	Sunroof is tilting up.	B+	<ul style="list-style-type: none"> <li>• Sunroof switch</li> <li>• Related wiring harnesses</li> </ul>
			Other	1.0 or less	
E	IG1	METER 10A	Turn the ignition switch to the ON position.	B+	<ul style="list-style-type: none"> <li>• METER 10A fuse</li> </ul>

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		fuse	Other	1.0 or less	<ul style="list-style-type: none"> <li>• Related wiring harnesses</li> </ul>
F	Vehicle speed	Instrument cluster	Pulse signal	-	<ul style="list-style-type: none"> <li>• Instrument cluster</li> <li>• Related wiring harnesses</li> </ul>
G	GND	GND	Under any condition	1.0 or less	Related wiring harnesses
H	Communication	BCM	Because this terminal is for communication, good/no good judgment by terminal voltage is not possible.	-	<ul style="list-style-type: none"> <li>• BCM</li> <li>• Related wiring harnesses</li> </ul>
J	Power supply	SUNROOF 15A fuse	Under any condition	B+	<ul style="list-style-type: none"> <li>• SUNROOF 15A fuse</li> <li>• Related wiring harnesses</li> </ul>

### SUNROOF SWITCH REMOVAL/INSTALLATION

**NOTE:**                   • The sunroof switch is together with the front map light.

1. Disconnect the negative battery cable.
2. Remove the map light from the headliner. (See **FRONT MAP LIGHT REMOVAL/INSTALLATION** .)
3. Install in the reverse order of removal.

### SUNROOF SWITCH INSPECTION

1. Verify that the continuity between the sunroof switch terminals is as indicated in the table.
  - If not as specified, replace the sunroof switch.

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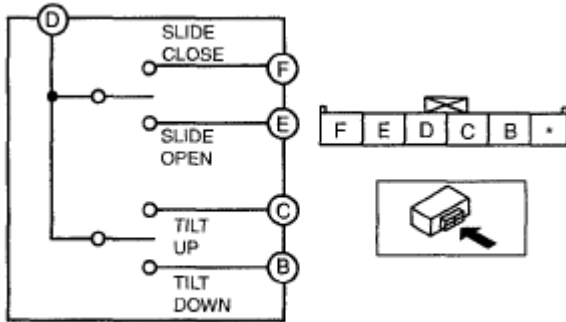
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○—○ : Continuity

Switch position	Terminal				
	B	C	E	F	D
Slide open			○—○		
Slide closed				○—○	
Tilt up		○—○			
Tilt down	○—○				
Off					

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**Fig. 18: Terminals Continuity Chart**



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**Fig. 19: Checking Continuity Between Sunroof Switch Terminals**