

SUN ROOF - POWER

Article Text

1993 Mazda 929

For Techdoc Ltd.

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Thursday, March 25, 1999 12:12AM

ARTICLE BEGINNING

1993 ACCESSORIES/SAFETY EQUIPMENT

Mazda Power Sun Roof

929

DESCRIPTION & OPERATION

System Components

System components include sun roof motor, sun roof relay(s), limit switch(es) and sun roof switch(es). Sun roof motor is located forward of sun roof opening. Sun roof relay(s) are located near sun roof motor. Limit switch(es), which sense position of sun roof panel, are an integral part of sun roof motor.

Tilt Function

To tilt sun roof upward:

- * Press TILT UP switch.

Manually Opening & Closing Sun Roof

If sun roof is inoperative, it can be opened and closed manually. To manually open and close sun roof, use emergency screwdriver. See Fig. 1. For access, remove roof console.



93A84053

Fig. 1: Manually Opening & Closing Sun Roof Panel
Courtesy of Mazda Motors Corp.

SYSTEM TESTING

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SYMPTOM DIRECTORY TABLE

AA

Symptom

Symptom No.

Sun Roof Does Not Move 1

Sun Roof Tilts But Does Not Slide,

Or Slides But Does Not Tilt 2

AA

SYMPTOM NO. 1

1) Turn ignition on. Check 15-amp sun roof fuse in fuse block, near left kick panel. If fuse is okay, go to next step. If fuse is blown, replace fuse (repair wiring if necessary).

2) Check voltage at Pink/Black wire terminal of sun roof switch 3-pin connector. If battery voltage is present, go to next step. If battery voltage is not present, repair Pink/Black wire between fuse and sun roof switch.

3) Disconnect sun roof switch connector. Check continuity between ground and Black/Yellow wire terminal of sun roof switch connector. If there is continuity, reconnect sun roof switch connector and go to next step. If there is no continuity, repair Black/Yellow wire.

4) Check voltage at Green/Orange wire terminal of each sun roof relay connector (relays No. 1 and 2). If battery voltage is present at both terminals, go to next step. If battery voltage is not present at both terminals, repair wiring between sun roof switch and appropriate sun roof relay.

5) Disconnect electrical connector from both sun roof relays. Check continuity between ground and Black wire terminal of each sun roof relay connector. If there is continuity, reconnect sun roof relay connector and go to next step. If there is no continuity, repair Black wire.

6) Check voltage at Yellow/Red wire terminal of sun roof relay No. 1 connector and Yellow/Green wire terminal of sun roof relay No. 2 connector. If battery voltage is present at each terminal, go to next step. If battery voltage is not present at each terminal, replace suspect relay.

7) At sun roof relay No. 1 connector, ground Yellow/Red wire terminal and check voltage at Red wire terminal. If battery voltage is not present, replace sun roof relay No. 1. If battery voltage is present, ground Yellow/Green wire terminal of sun roof relay No. 2 connector and check voltage at Green wire terminal. If battery voltage is not present, replace sun roof relay No. 2. If battery voltage is present, go to next step.

8) Check voltage at Yellow/Red and Yellow/Green wire terminals of sun roof motor connector. If battery voltage is present at both terminals, go to next step. If battery voltage is not present at both terminals, repair appropriate wire between sun roof relay and sun roof motor.

9) At sun roof motor connector, ground Yellow/Red wire terminal and check voltage at Red wire terminal. If battery voltage is

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not present, repair Red wire between sun roof relay No. 1 and sun roof motor. If battery voltage is present, ground Yellow/Green wire terminal of sun roof motor connector and check voltage at Green wire terminal. If battery voltage is not present, repair Green wire between sun roof relay No. 2 and sun roof motor. If battery voltage is present, go to next step.

10) Manually move sun roof panel. See DESCRIPTION & OPERATION at beginning of article. With sun roof panel in the following positions, check voltage at appropriate wire terminal of sun roof motor connector. If battery voltage is present at all terminals, go to next step. If battery voltage is not present at all terminals, replace sun roof motor.

- ```
* Tilted Down (Blue/Yellow wire)
* Tilted Up (Blue/Green wire)
* Closed (Blue wire)
* Open (Blue/White wire).
```

11) Manually move sun roof panel to positions specified in previous step and check voltage at appropriate wire terminal of sun roof switch connector. If battery voltage is present at all terminals, replace sun roof switch. If battery voltage is not present at all terminals, repair appropriate wire between sun roof motor and sun roof switch.

## SYMPTOM NO. 2

Replace sun roof switch.

## COMPONENT TESTING

## LIMIT SWITCH TEST

Manually move sun roof panel. See DESCRIPTION & OPERATION at beginning of article. With sun roof panel in specified position, check continuity between specified terminals of sun roof motor connector. See LIMIT SWITCH CONTINUITY TEST table. See Fig. 2. Replace sun roof motor if continuity is not as specified.

## LIMIT SWITCH CONTINUITY TEST TABLE

[illegible]

## Application & Sun Roof

Position (Wire Terminals)

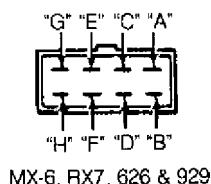
## Continuity

Opened (C, D & F) ..... Yes

Closed (B & E; C & F) ..... Yes

Tilted Up (A, B & E) ..... Yes

[illegible]



### 93D84056

Fig. 2: Sun Roof Motor Connector Terminal ID  
Courtesy of Mazda Motors Corp

## SUN ROOF MOTOR TEST

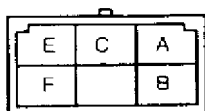
Disconnect sun roof motor connector. Apply battery voltage across specified wire terminals of sun roof motor connector (reverse polarity to move motor in opposite direction). See SUN ROOF MOTOR TEST table. Replace sun roof motor if it does not operate.

### SUN ROOF MOTOR TEST TABLE

| Application |  | Wire Colors |
|-------------|--|-------------|
| 929         |  | Green & Red |

## SUN ROOF RELAY TEST

Disconnect sun roof relay connector. Check continuity between terminals "A" and "B", and "C" and "F". See Fig. 3. If there is no continuity, replace relay. If there is continuity, apply battery voltage across terminals "A" and "B". Check continuity between terminals "C" and "E". If there is continuity, relay is okay. If there is no continuity, replace relay.



### 93G84059

Fig. 3: Sun Roof Relay Connector Terminal ID  
Courtesy of Mazda Motors Corp.

## SUN ROOF SWITCH TEST

Disconnect sun roof switch connector. Check continuity between specified terminals of sun roof switch connector. See SUN ROOF SWITCH CONTINUITY TEST table. See Fig. 4. Replace sun roof switch if continuity is not as specified.

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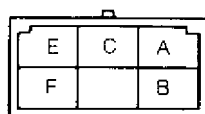
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#### SUN ROOF SWITCH CONTINUITY TEST TABLE

|                 |       |           |
|-----------------|-------|-----------|
| Switch Position |       | Terminals |
| OPEN            | ..... | B & D     |
| CLOSE           | ..... | B & C     |
| Tilt Up         | ..... | B & F     |
| Tilt Down       | ..... | A & B     |



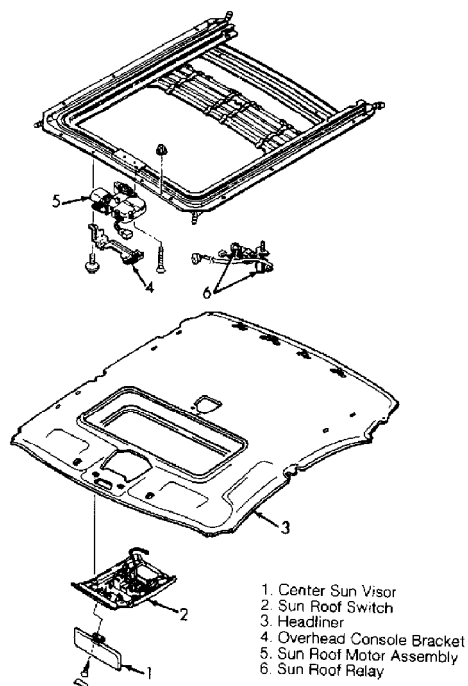
626 & 929

#### 93C84063

Fig. 4: Sun Roof Switch Connector Terminal ID  
Courtesy of Mazda Motors Corp.

#### REMOVAL & INSTALLATION

NOTE: For removal and installation, refer to Fig. 5.



#### 93B84070

Fig. 5: Exploded View Of Sun Roof Assembly  
Courtesy of Mazda Motors Corp.

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## **WIRING DIAGRAMS**

Proceed to chassis WIRING DIAGRAMS article in WIRING DIAGRAMS section.

**END OF ARTICLE**