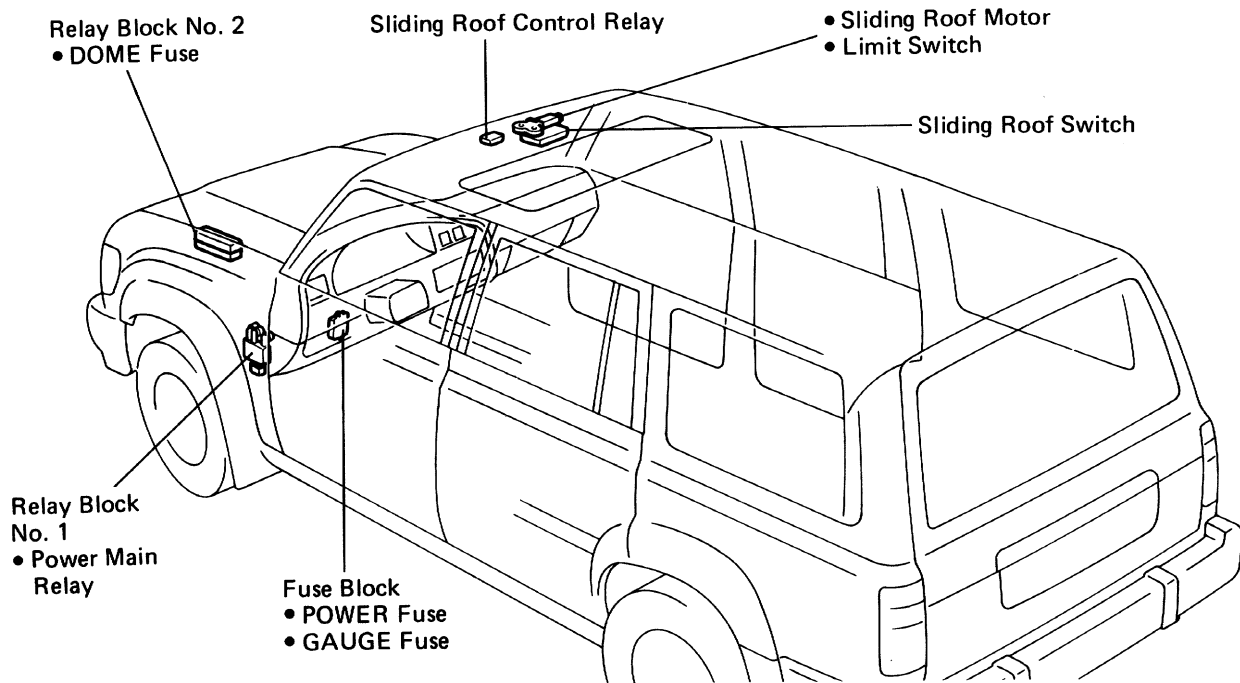


SLIDING ROOF SYSTEM PARTS LOCATION



Roof Position			Fully Opened	Momentary Stop	Fully Closed	Down	Up
Function			Sliding Period		Idling Period		Tilting Period
Limit Switch	(A)	ON					
		OFF					
	(B)	ON					
		OFF					
Sliding Roof Control Switch	OPEN		○	○	○	○	×
	CLOSE		○	○	○	×	×
	UP		×	×	×	○	○
	DOWN		×	×	×	×	○

○: Operational ×: Non-operational

SYSTEM DESCRIPTION

STANDBY OPERATION

- Current flows from the DOME fuse to terminal 12 of the Sliding Roof Relay. (hereafter called relay)
- When the ignition switch is on, the current flows from the POWER fuse to terminal 6 of the relay.

OPERATION

1. OPEN operation

When the switch on the "OPEN" side of the control switch is pushed, continuity is produced between terminal 1 of the relay and body ground. Then, the relay operates, the current flows through terminal 6 of the relay → terminal 5 → terminal 1 of the sliding roof motor → terminal 3 → terminal 4 of the relay → terminal 11 → the body ground, and the motor starts to run in order to open the sliding roof.

2. CLOSE operation

When the switch on the "CLOSE" side of the control switch is pushed, continuity is produced between terminal 2 of the relay and body ground. Then, the relay operates, the current flows through terminal 6 of the relay → terminal 4 → terminal 3 of the sliding roof motor → terminal 1 → terminal 5 of the relay → terminal 11 → the body ground, and the motor starts to run in order to close the sliding roof.

Momentary Stop

When the sliding roof reaches about 100 mm (3.94 in.) short of the fully closed position, limit switch A is turned from ON to OFF, so there is no continuity between terminal 8 of the relay and the body ground. As a result, because the relay ceases to operate, the moon roof stops at that position. Release the control switch, then press the "CLOSE" side of the control switch again.

Then the sliding will then roof move to fully closed position.

3. Tilt up operation (Fully close position)

When the switch on the "UP" side of the control switch is pushed, continuity is produced between terminal 3 of the relay and body ground. Then, the relay operates, the current flows through terminal 6 of the relay → terminal 4 → terminal 3 of the sliding roof motor → terminal 1 → terminal 5 of the relay → terminal 11 → the body ground, and the motor starts to run in order to tilt up sliding roof.

4. Tilt Down operation (Fully close position)

When the switch on the "DOWN" side of the control switch is pushed, continuity is produced between terminal 7 of the relay and body ground. Then the relay operates, the current flows through terminal 6 of the relay → terminal 5 → terminal 1 of the sliding roof motor → terminal 3 → terminal 4 of the relay → terminal 11 → the body ground, and the motor starts to run in order to tilt down the sliding roof.

5. Warning Buzzer Operation

When the ignition switch is turned to LOCK position while the sliding roof is still in "Tilt up" position, a buzzer sounds to warn the driver that the sliding roof is in "Tilt up" position.

TROUBLESHOOTING

The table below will be useful for you in troubleshooting these electrical problems. The most likely causes of the malfunction are shown in the order of their probability. Inspect each part in the order shown, and replace the part when it is found to be faulty.

Trouble	Part name	See page
Sliding roof does not operate	1. GAUGE Fuse 2. POWER Fuse 3. Power Main Relay 4. Sliding Roof Control Switch 5. Sliding Roof Limit Switch 6. Sliding Roof Motor 7. Sliding Roof Control Relay 8. Wire Harness	BE-6, BE-10 BE-6, BE-10 BE-71 BE-82 BE-82 BE-82 BE-83 —

SLIDING ROOF CONTROL SWITCH

SLIDING ROOF CONTROL SWITCH INSPECTION CONTINUITY

Terminal		1	2	3	4	6
Switch position						
SLIDE	OPEN	○				○
	OFF					
	CLOSE		○			○
TILT	DOWN			○		○
	OFF					
	UP				○	○

BE4999 S-6-2-B

If continuity is not as specified, replace the switch.

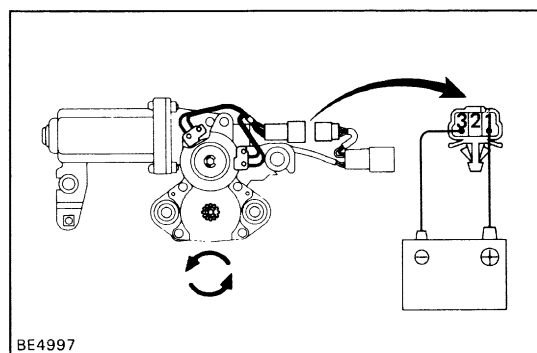
SLIDING ROOF LIMIT SWITCH

SLIDING ROOF LIMIT SWITCH INSPECTION CONTINUITY

Terminal		1	4	5
Switch position				
Limit switch No. 1	OFF (SW pin released)			
	ON (SW pin pushed in)	○		○
Limit switch No. 2	OFF (SW pin released)			
	ON (SW pin pushed in)		○	○

BE2859 S-6-2-D

If continuity is not as specified, replace the switch.



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SLIDING ROOF MOTOR

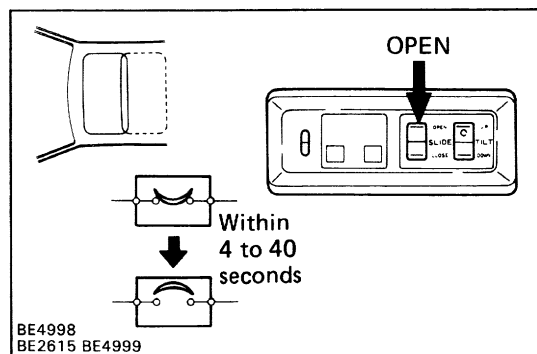
SLIDING ROOF MOTOR INSPECTION MOTOR OPERATION

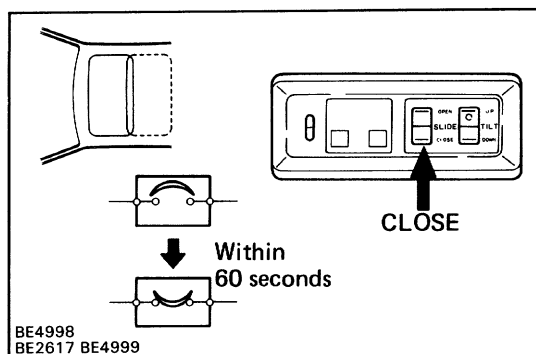
- Connect the positive (+) lead from the battery to terminal 3 and the negative (-) lead to terminal 1, check that the motor turns to clockwise.
- Reverse the polarity, check that the motor turns to clockwise.

If operation is not as specified, replace the motor.

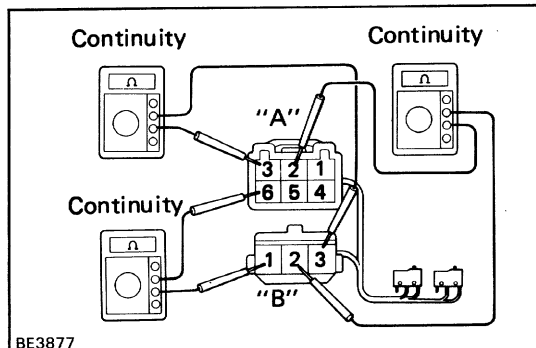
CIRCUIT BREAKER OPERATION

- With the sliding roof in the fully opened position, hold the sliding roof switch in "OPEN" position and check that there is a circuit breaker operation noise within 4 to 40 seconds.

BE4998
BE2615 BE4999



- (b) With the sliding roof in fully opened position, hold the sliding roof switch in "CLOSE" position and check that the sliding roof begins to close within 60 seconds. If operation is not as specified, replace the motor.

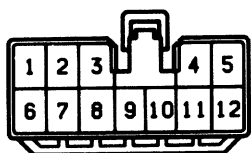


MOTOR WIRE CIRCUIT

- Check that there is continuity between terminals A2 and B2.
- Check that there is continuity between terminals A3 and B3.
- Check that there is continuity between terminals A6 and B1.

If continuity is not as specified, replace the switch.

Wire Harness Side



S-12-1

SLIDING ROOF RELAY

SLIDING ROOF RELAY INSPECTION RELAY CIRCUIT

Disconnect the connector from the relay and inspect the connector on the wire harness side as shown in the chart.

Check for	Tester connection	Condition		Specified value
Continuity	1 — Ground	Sliding roof control switch position (SLIDE)	OFF or CLOSE	No continuity
			OPEN	Continuity
	2 — Ground	Sliding roof control switch position (SLIDE)	OFF or OPEN	No continuity
			CLOSE	Continuity
	3 — Ground	Sliding roof control switch position (TILT)	OFF or DOWN	No continuity
			UP	Continuity
	4 — Ground	Constant		No continuity
	4 — 5	Constant		*Continuity
	9 — Ground	Limit switch No.2 (B) position	OFF [Roof tilt-up]	Continuity
			ON [Roof open]	No continuity
	7 — Ground	Control switch position (Tilt)	UP or OFF	No continuity
			DOWN	Continuity
	8 — Ground	Limit switch No. 1 (A) position	OFF [Roof tilt-up]	No continuity
			ON [Roof open]	Continuity
	11 — Ground	Constant		Continuity

*: There is resistance because this circuit includes motor.

Check for	Tester connection	Condition		Specified value
Voltage	12 – Ground	Constant		Battery positive voltage
	6 – Ground	Ignition switch position	LOCK or ACC	No voltage
			ON	Battery positive voltage

If circuit is as specified, replace the relay.

If circuit is not as specified, inspect the circuits connected to other parts.

POWER MAIN RELAY

POWER MAIN RELAY INSPECTION

See power main relay on page [BE-71](#).