

SLIDING ROOF SYSTEM

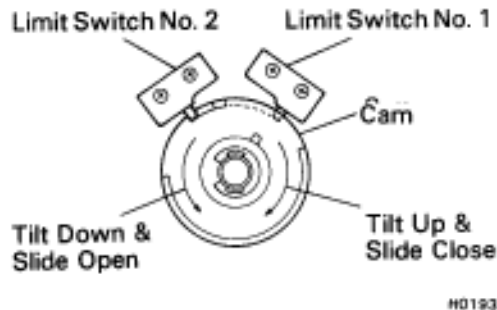
Description

Standby Operation

- Current flows from the DOME fuse to terminal A1 of the sliding roof control relay (hereafter called relay).
- When the ignition switch is ON, the current flows from the power window relay to terminal A3 of the relay.

Operation

1. Limit Switch operation



H0193

Roof Position		Fully Open	Momentary Stop	Fully Closed	Down	Up
Function		Sliding Period		Idling Period	Tilting Period	
Limit Switch No. 1	ON					
	OFF					
Limit Switch No. 2	ON					
	OFF					
Sliding Roof Control Switch	OPEN	○	○	○	○	X
	CLOSE	○	○	○	X	X
	UP	X	X	X	○	○
	DOWN	X	X	X	X	○

○: Operational X: Non-operational

2. OPEN operation

When the switch on the "OPEN" side of the control switch is pushed, continuity is produced between terminal A8 of the relay and body ground. Then the relay operates, the current flows through terminal A3 of the relay terminal B3 terminal A8 of the sliding roof motor terminal A6 terminal B1 of the relay terminal A5 the body ground, and the motor starts to run in order to open the sliding roof.

3. CLOSE operation

When the switch on the "CLOSE" side of the control switch is pushed, continuity is produced between terminal A7 of the relay and body ground. Then the relay operates, the current flows through terminal A3 of the relay terminal B1 terminal A6 of the sliding roof motor terminal A8 terminal B3 of the relay terminal A5 the body ground, and the motor starts to run in order to close the sliding roof.

Momentary Stop

When the sliding roof reaches about 200 mm (7.87 in.) short of the fully closed position, the limit switch is turned from ON to OFF, so there is not continuity between terminal B1 of the relay and body ground. As a result, the sliding roof stops at that position.

4. CLOSE operation

When the switch on the "UP" side of the control switch is pushed, continuity is produced between terminal A6 of the relay and body ground. Then the relay operates, the current flows through terminal A3 of the relay terminal B1 terminal A6 of the sliding roof motor terminal A8 terminal B3 of the relay terminal A5 the body ground, and the motor starts to run in order to tilt up the sliding roof.

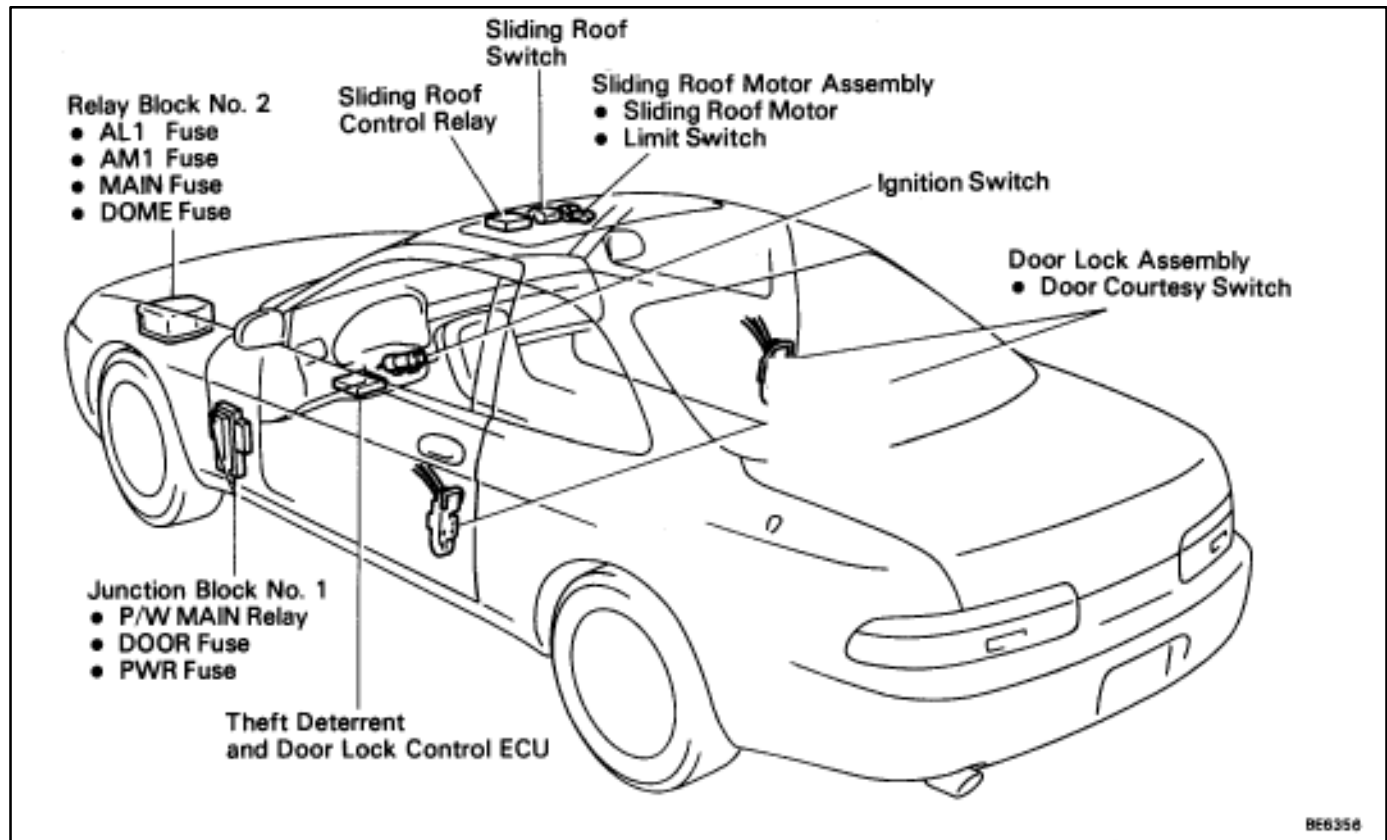
5. TILT DOWN operation

When the switch on the "DOWN" side of the control switch is pushed, continuity is produced between terminal A2 of the relay and body ground. Then the relay operates, the current flows through terminal A3 of the relay terminal B3 terminal A8 of the sliding roof motor terminal A6 terminal B1 of the relay terminal A5 the body ground, and the motor starts to run in order to tilt down the sliding roof.

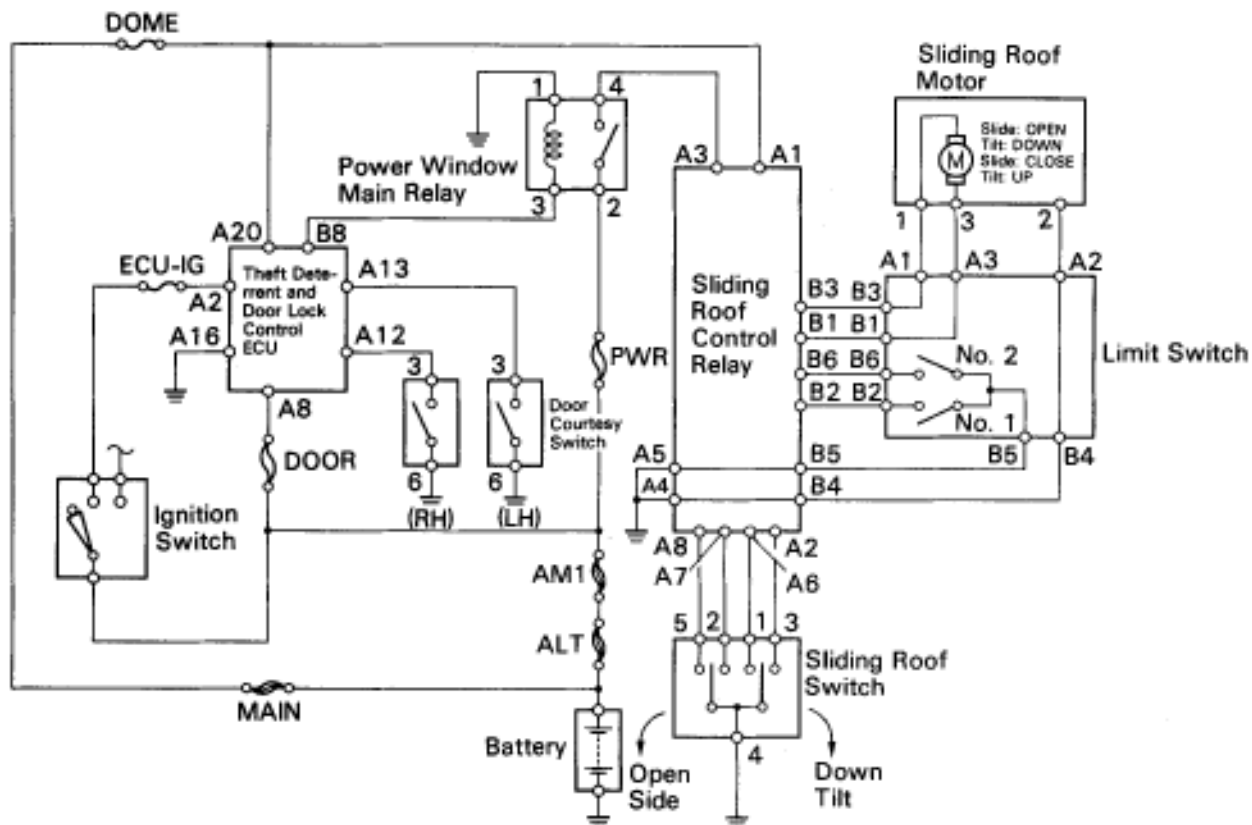
6. TILT UP REMINDER SYSTEM

If the ignition switch is turned from ON to OFF or ACC and the sliding roof remains titled up, after 60 seconds have elapsed or either the driver or passenger door is opened, a buzzer will sound for approx. 8 seconds as a reminder that the sliding roof is tilted up.

Parts Location

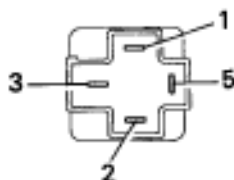


Wiring and Connector Diagrams



8E6357

Power Window
Main Relay



8E4049

Sliding Roof Switch



5-5-2-A

Ignition Switch



eg-11-2

Sliding Roof Control Relay

Connector "A" Connector "B"



e-8-2



e-6-2

Sliding Roof Motor



e-3-2

Limit Switch

Connector "A"

Connector "B"

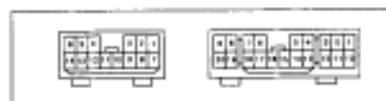


e-3-1



e-6-1

Theft Deterrent and
Door Lock Control ECU



Connector "B" Connector "A"

8E5650

Parts Inspection (Power Window Main Relay)

INSPECTION OF POWER WINDOW MAIN RELAY

(See Power Window Main Relay on page [BE-152](#))

(Sliding Roof Switch)

REMOVAL AND INSTALLATION OF SLIDING ROOF SWITCH

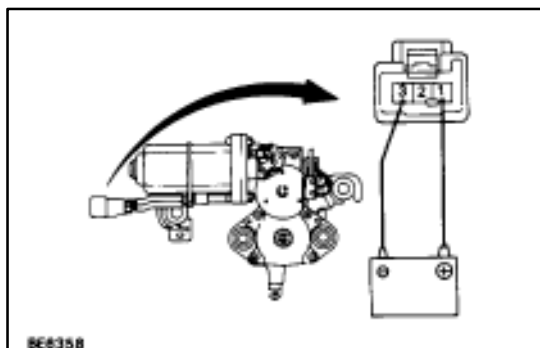
(See Sliding Roof on page [BO-85](#))

INSPECTION OF SLIDING ROOF SWITCH

INSPECT SWITCH CONTINUITY

Terminal		1	2	3	4	5
Switch position						
SLIDE	OPEN				○	○
	OFF					
	CLOSE		○		○	
TILT	DOWN			○	○	
	OFF					
	UP	○			○	

If continuity is not as specified, replace the switch.



(Sliding Roof Motor)

REMOVAL AND INSTALLATION OF MOTOR

(See Sliding Roof on page [BO-85](#))

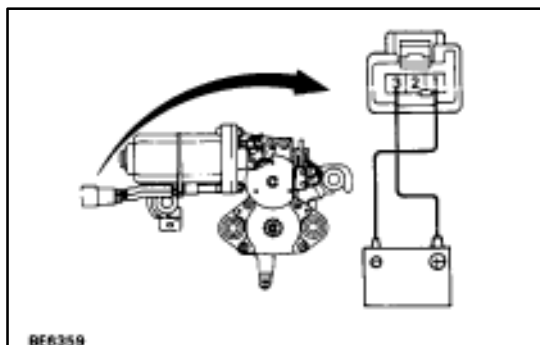
INSPECTION OF MOTOR

INSPECT MOTOR OPERATION

- Disconnect the connector which has 3 terminals and inspect on the clamped connector side.
- Connect the positive (+) lead from the battery to terminal 1 and negative (–) lead to terminal 3 and check that the motor turns clockwise.
- Connect the positive (+) lead from the battery to terminal 3 and negative (–) lead to terminal 1 and check that the motor turns counterclockwise.

If operation is not as specified, replace the motor.

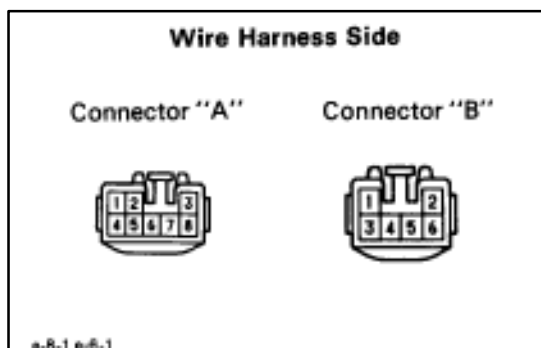
- Connect the connector.



(Sliding Roof Control Relay)

REMOVAL AND INSTALLATION OF SLIDING ROOF CONTROL RELAY

(See Sliding Roof on page [BO-85](#))



INSPECTION OF SLIDING ROOF CONTROL RELAY

INSPECT CONTROL 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	A2–Ground	Sliding roof control switch position (TILT)	OFF or UP	No continuity
			DOWN	Continuity
	A6–Ground	Sliding roof control switch position (TILT)	OFF or DOWN	No continuity
			UP	Continuity
	A7–Ground	Sliding roof control switch position (SLIDE)	OFF or OPEN	No continuity
			CLOSE	Continuity
	A8–Ground	Sliding roof control switch position (SLIDE)	OFF or CLOSE	No continuity
			OPEN	Continuity
	B1–Ground	Constant		No continuity
	B1–B3	Constant		Continuity
	B2–Ground	No. 1 limit switch position	OFF (Sliding roof tilt up or approx. 200 mm (7.87 in.) opened)	No continuity
			ON (Except for conditions mentioned above)	Continuity
	B3–Ground	Constant		No continuity
	B4–Ground	Constant		Continuity
	B5–Ground	Constant		Continuity
	B6–Ground	No. 2 limit switch position	OFF (Sliding roof closed)	No continuity
			ON (Sliding roof opened)	Continuity
Voltage	A1–Ground	Constant		Battery voltage
	A3–Ground	Ignition switch position	LOCK or ACC	No voltage
	A3–Ground	Ignition switch position	ON	Battery voltage

If circuit is as specified, replace the relay.

(Sliding Roof Limit Switch)

REMOVAL AND INSTALLATION OF LIMIT SWITCH

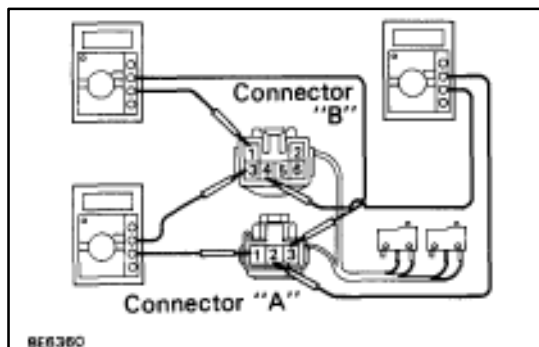
(See Sliding Roof on page [BO-85](#))

INSPECTION OF LIMIT SWITCH

1. INSPECT LIMIT SWITCH CIRCUIT

Terminal		B2	B5	B6
Switch position				
No. 1 limit switch	OFF (SW pin released)			
	ON (SW pin pushed in)	○	○	
No. 2 limit switch	OFF (SW pin released)			
	ON (SW pin pushed in)		○	○

If continuity is not as specified, replace the switch.



2. INSPECT MOTOR WIRE CIRCUIT

- Check that there is continuity between terminals A1 and B3.
- Check that there is continuity between terminals A2 and B4.
- Check that there is continuity between terminals A3 and B1.

If continuity is not as specified, replace the switch.

(Theft Deterrent and Door Lock Control ECU)

(See page [BE-155](#))

(Door Courtesy Switch)

(See page [BE-79](#))

Troubleshooting

You will find the cause of trouble more easily by properly using the table shown below. In this table, the numbers indicate the order of priority of the causes of trouble. Check each part in the order shown. If necessary, replace the part.

Trouble	Part name	See page
*1 Sliding roof system does not operate.	AM1 Fuse	BE-4, 21
*2 Sliding roof system does not operate.	DOME Fuse	BE-4, 21
Sliding roof system operates abnormally.	DOOR Fuse	BE-4, 20
Sliding roof system stops operation half way.	POWER Fuse	BE-4, 20
Buzzer does not sound.	Theft Deterrent and Door Lock Control ECU	BE-155
Buzzer sounds abnormary.	Power Window Main Relay	BE-152
"Key-off Sliding Roof" operation does not operate.	Sliding Roof Control Relay	BE-180
	Sliding Roof Switch	BE-179
	Sliding Roof Motor	BE-179
	Sliding Roof Motor (Stones to foreign material trapped in motor assembly)	-
	Limit Switch	BE-181
	Ignition Switch	BE-26
	Door Courtesy Switch	BE-79
	ECU-IG Fuse	BE-4, 20
	Wire Hartness	-

*1: Door Lock does not operate

*2: Door Lock is normal