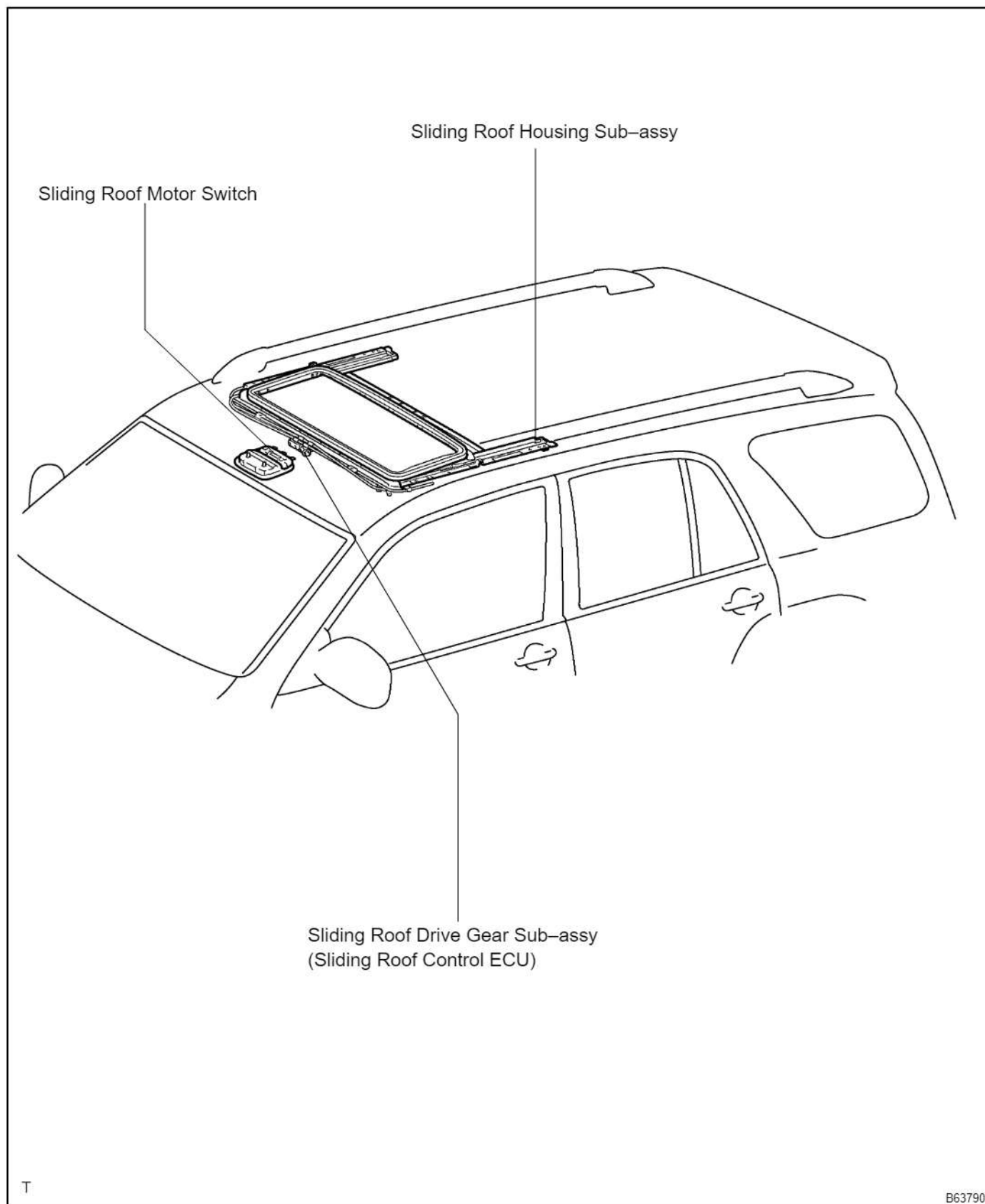


SLIDING ROOF SYSTEM LOCATION

7403Y-05



PROBLEM SYMPTOMS TABLE

Symptom	Suspected Area	See Page
AUTO function does not operate	1. Sliding roof motor assy	74-4
Sliding roof system does not operate	1. POWER fuse	—
	2. POWER relay	—
	3. Sliding roof housing assy	74-8
	4. Sliding roof motor switch assy	74-6
	5. Sliding roof motor assy	74-4
	6. Wire harness	74-6
Sliding roof system stops operation halfway	1. Sliding roof motor assy	74-4
	2. Wire harness	74-6
	3. Sliding roof housing assy	74-8

RESET

1. RESET SLIDING ROOF MOTOR

- (a) If the AUTO operation function does not operate, reset the sliding roof motor using either of the following ways.
- (1) Press the sliding roof switch on TILT UP side and hold it. When the roof glass stops at the fully tilted-up position, the reset of the motor is completed.
 - (2) Fully open the roof glass, press the sliding roof switch on SLIDE OPEN side and hold it for 10 seconds. 10 seconds later, the reset of the motor is completed.

HINT:

If the battery terminal is disconnected or after the jam protection function has operated, the ECU of the sliding roof motor may not detect the position of the roof glass. If the AUTO operation function is still disabled even if the sliding roof motor is reset, the hall IC (built in the sliding roof motor assy) for detecting the roof glass position may malfunction.

ON-VEHICLE INSPECTION

1. INSPECT WINDOW LOCK SWITCH

- (a) Check that operation of the door glasses except the driver side door glass, the back door glass and the roof glass are disabled when the window lock switch of the power window master switch is pressed.
- (b) Check that the door glasses, the back door glass and the roof glass can be operated when the window lock switch is pressed again.

2. INSPECT AUTO SLIDE-OPEN/CLOSE FUNCTION

- (a) Check that the sliding roof switch can operate the roof glass as follows while the tilt-UP/ DOWN function is not operating:

Standard:

Condition	Switch	Switch Operation	Roof Glass
• Ignition switch ON	SLIDE OPEN	Pressed for more than 0.3 sec.	Fully open
• Window lock switch OFF	TILT UP		Fully closed

HINT:

The roof glass stops partway when the sliding roof switch is pushed on either side during AUTO operation.

3. INSPECT AUTO TILT UP/DOWN FUNCTION

- (a) Check that the sliding roof switch can operate the roof glass as follows while the slide-OPEN/CLOSE function is not operating:

Standard:

Condition	Switch	Switch Operation	Roof Glass
• Ignition switch ON	TILT UP	Pressed for more than 0.3 sec.	Fully tilted up
• Window lock switch OFF	SLIDE OPEN		Fully closed

HINT:

The roof glass stops partway when the sliding roof switch is pushed on either side during AUTO operation.

4. INSPECT SLIDING ROOF OPERATION FUNCTION AFTER IGNITION OFF

- (a) Under both of the following conditions, check that the door glasses, the back door glass and the roof glass can be operated even after the ignition switch is turned OFF:
 - Within 43 seconds after the ignition switch is turned OFF
 - The driver side door is closed

5. CHECK DEFLECTOR OPERATION

- (a) Check deflector AUTO operation.
 - (1) Run the vehicle with the sliding roof fully open, and check that the deflector lowers (AUTO DOWN) as the vehicle speed increases and rises (AUTO UP) as the vehicle speed decreases.
 - (2) Check that the deflector lowers according to the vehicle speeds when the sliding roof has been fully opened while the vehicle is running.
- (b) Check that the sliding roof automatically tilts UP/DOWN depending on the vehicle speed.
 - (1) Conditions that enable the sliding roof to automatically tilt DOWN:
 - Sliding roof in fully open position
 - Sliding roof in UP position
 - Vehicle speed 80 km/h (50 mph) or less (during acceleration)
 - (2) Conditions that enable the sliding roof to automatically tilts UP:
 - Sliding roof in fully open position
 - Sliding roof in DOWN position
 - Vehicle speed 60 km/h (37 mph) or less (during deceleration)

6. INSPECT JAM PROTECTION FUNCTION

HINT:

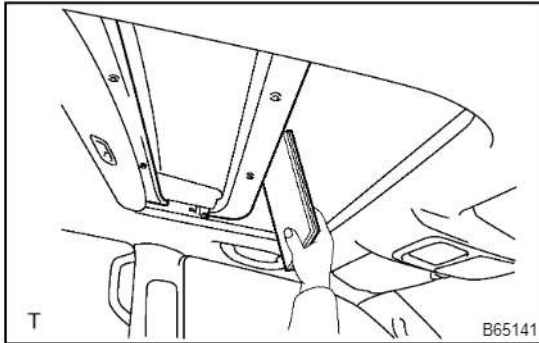
The jam protection function prevents any part of your body from getting caught by accident between the vehicle body and the roof glass during roof glass operation.

Operative condition:

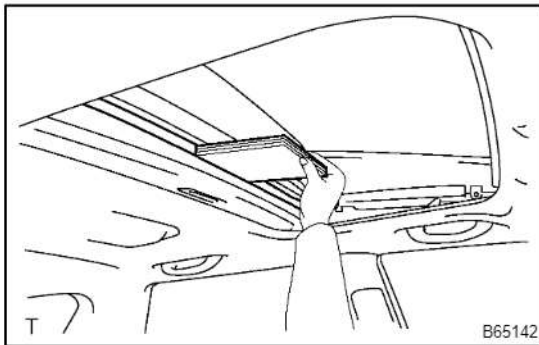
- AUTO CLOSE
- AUTO CLOSE during sliding roof operation after the ignition switch is turned OFF
- AUTO TILT-DOWN
- AUTO TILT-DOWN during sliding roof operation after the ignition switch OFF

CAUTION:

- Do not check this function using a part of your body such as a hand. Also, pay thorough attention that nothing gets caught by accident in this process.
- If checking this function with something thin (less than 5 mm [0.20 in.]) inserted between the glass and vehicle body, this function may not operate.



- (a) When the slide-OPEN/CLOSE function is operating: Check that the roof glass opens by approximately 200 mm (7.87 in.) right when something gets caught between the vehicle body and the roof glass during roof glass operation.

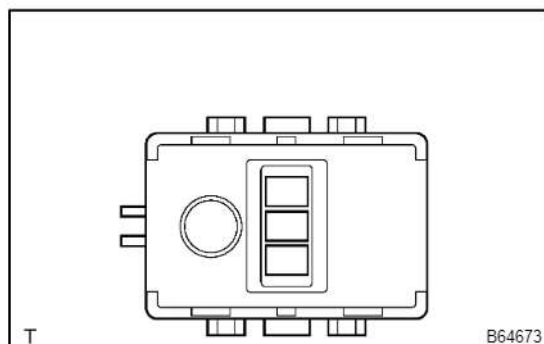


- (b) When the tilt-UP/DOWN function is operating: Check that the roof glass fully tilts up when something gets caught between the vehicle body and the roof glass during roof glass operation.

7. INSPECT FAIL-SAFE FUNCTION

- (a) If the roof glass is not closed because the jam protection function operates improperly, perform following operation. Then, you can close the roof glass using the manual operation function.
- (1) Press the sliding roof switch on TILT UP side and hold it for 10 seconds after the jam protection function operates. Then you can use the manual operation function.

INSPECTION



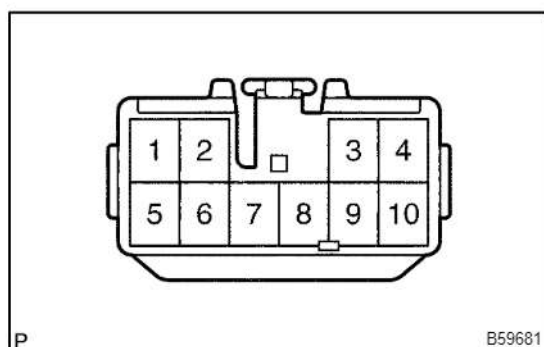
1. INSPECT SLIDING ROOF MOTOR SWITCH ASSY

- Remove the sliding roof motor switch
(See page 76-43).
- Check the continuity between the terminals when operating the switch.

Standard:

Terminals No.	Switch Operation	Specified Condition
1 ⇌ 3	TILT UP is pressed	Continuity
2 ⇌ 3	SLIDE OPEN is pressed	Continuity
1, 2 ⇌ 3	OFF	No continuity

If the result is not as specified, replace the switch.



2. INSPECT HARNESS AND CONNECTOR (FOR SLIDING ROOF MOTOR ASSY)

- Disconnect the sliding roof motor connector
(See page 76-43).
- Check the connector terminals of the wire harness side connector.

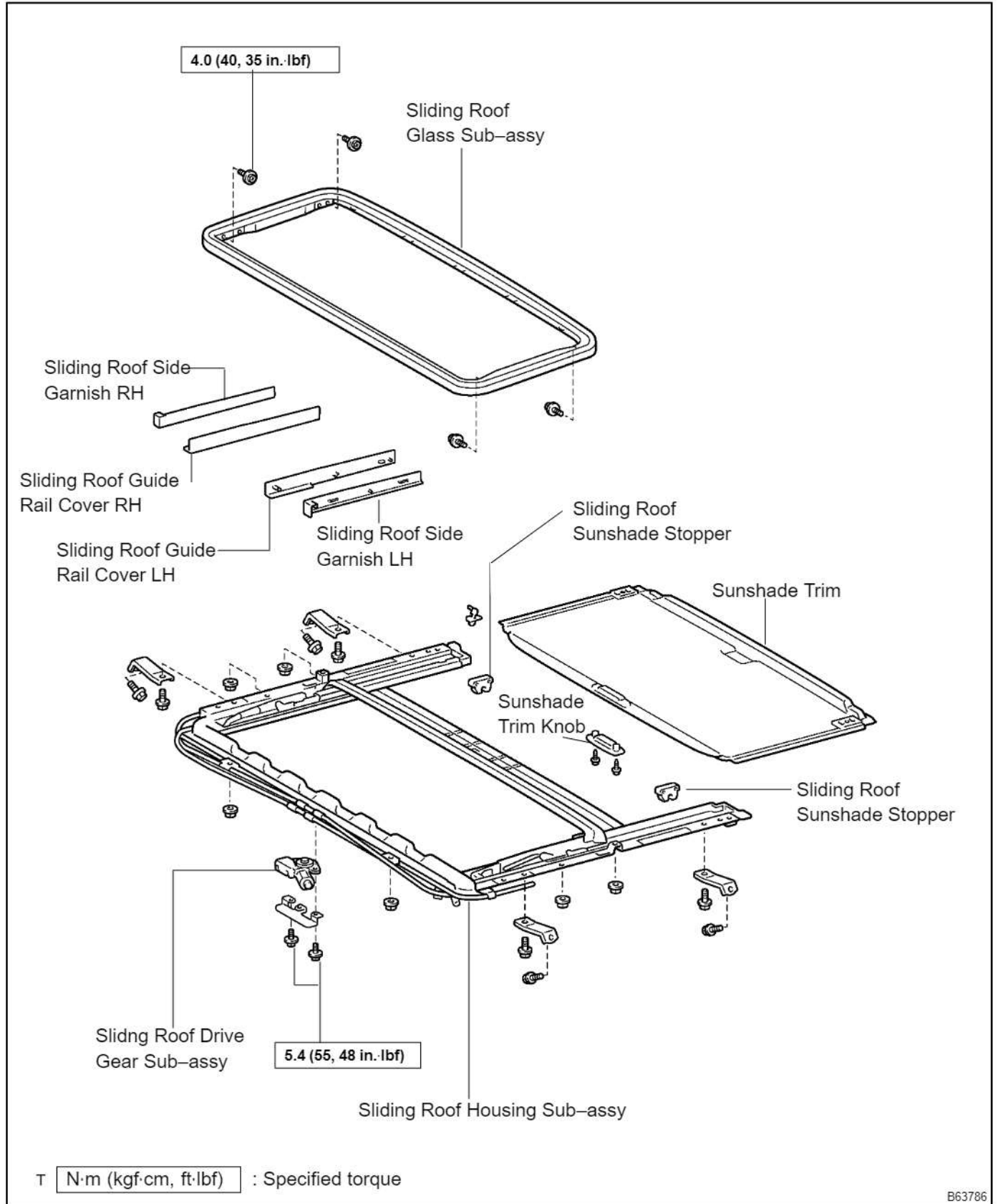
Standard:

Terminals No.	Condition	Specified Condition
8 ⇌ Body ground	Constant	Continuity
9 ⇌ 8	Ignition switch ON	10 – 14 V
10 ⇌ 8	Constant	10 – 14 V
1 ⇌ 8	Constant	Continuity
7 ⇌ 8	TILT UP is pressed	Continuity
6 ⇌ 8	SLIDE OPEN is pressed	Continuity

If the result is not as specified, there may be a malfunction on the wire harness side.

SLIDING ROOF COMPONENTS

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REPLACEMENT

HINT:

The installation is in the reverse order of the removal. However, when there is a special point concerning the installation, it is indicated.

1. REMOVE ROOF HEADLINING ASSY (See page 76-43)

2. REMOVE SLIDING ROOF GUIDE RAIL COVER LH

- (a) Using a screwdriver, pry out the rail cover.

HINT:

Tape the screwdriver tip before use.

3. REMOVE SLIDING ROOF GUIDE RAIL COVER RH

HINT:

Use the same procedures described above for the LH side.

4. REMOVE SLIDING ROOF SIDE GARNISH LH

- (a) Using screwdriver, pry out the garnish.

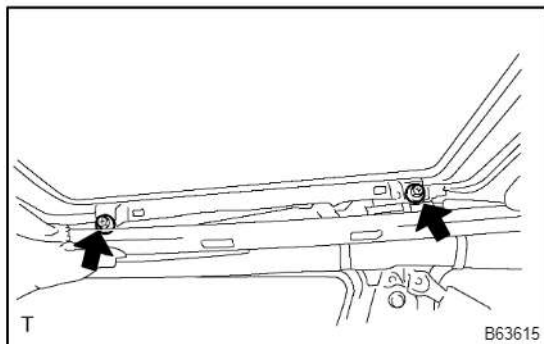
HINT:

Tape the screwdriver tip before use.

5. REMOVE SLIDING ROOF SIDE GARNISH RH

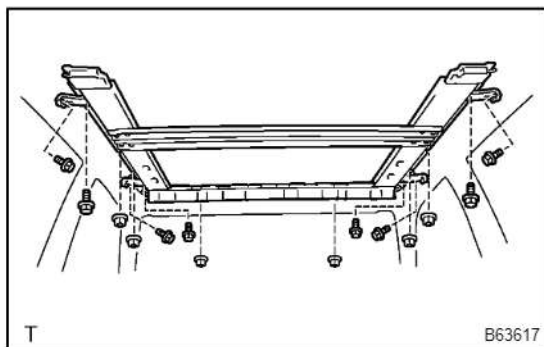
HINT:

Use the same procedures described above for the LH side.



6. REMOVE SLIDING ROOF GLASS SUB-ASSY

- (a) Using a torx wrench (T25), remove the 4 screws.
(b) Pull the glass upward to remove it.



7. REMOVE SLIDING ROOF HOUSING SUB-ASSY

- (a) Disconnect the 4 drain hoses from the housing.
(b) Remove the 8 bolts and 4 brackets.
(c) Remove the 6 nuts and housing sub-assy.

8. REMOVE SLIDING ROOF DRIVE GEAR SUB-ASSY

- (a) Disconnect the connector.
(b) Remove the 2 bolts and the drive gear sub-assy.

9. REMOVE SLIDINGROOF SUNSHADE STOPPER

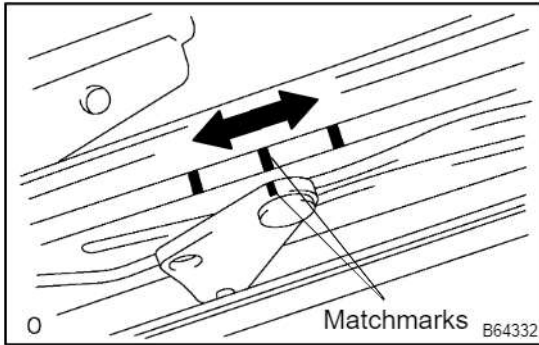
- (a) Using a screwdriver, remove the sliding roof sunshade stopper.

HINT:

Tape the screwdriver tip before use.

10. REMOVE SUNSHADE TRIM SUB-ASSY

11. REMOVE SUNSHADE TRIM KNOB



12. ADJUST FULLY CLOSED POSITION

- (a) Using a screwdriver, slide the drive cable of the sliding roof to align the matchmarks.

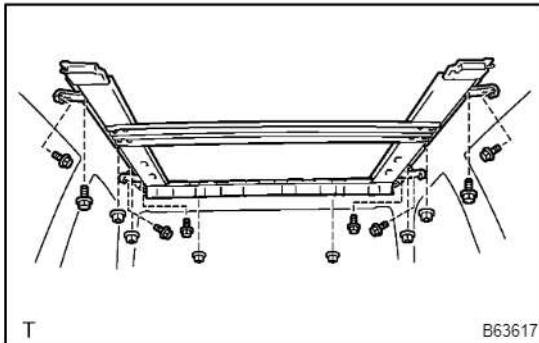
HINT:

Tape the screwdriver tip before use.

13. INSTALL SLIDING ROOF DRIVE GEAR SUB-ASSY

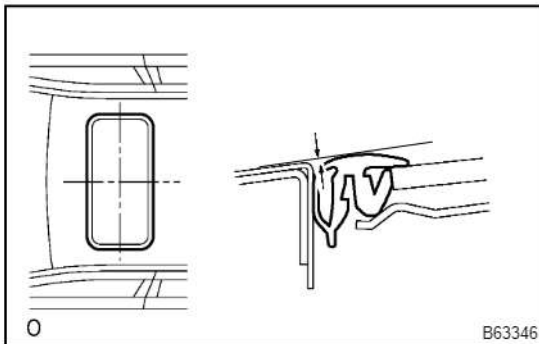
- (a) Install the drive gear and drive gear bracket with the 2 bolts.
(b) Connect the sliding roof motor switch connector.

Torque: 5.4 N·m (55 kgf·cm, 48 in.·lbf)



14. INSTALL SLIDING ROOF HOUSING SUB-ASSY

- (a) Install the housing sub-assy with the 6 nuts.
(b) Install the 4 brackets with the 8 bolts.
(c) Connect the 4 drain hoses.

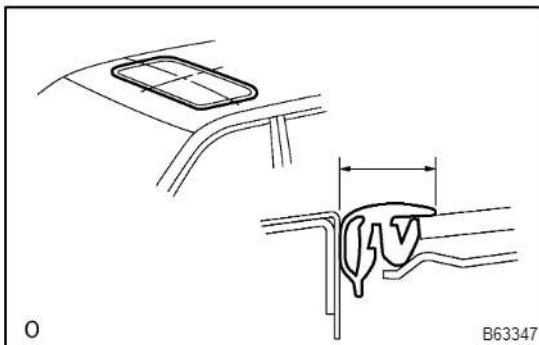


15. ADJUST SLIDING ROOF GLASS SUB-ASSY

- (a) Check the difference in level between the sliding roof (weatherstrip) and roof panel.

Dimension (Circumference):

0 ± 2.0 mm (0 ± 0.079 in.)



- (b) Check the difference in level between the sliding roof (glass) and roof panel front end and rear end.

NOTICE:

The clearance should be even all around.

16. INSTALL SLIDING ROOF GLASS SUB-ASSY

- (a) Using a torx wrench T25, loosen a screw to adjust the sliding roof panel position. When the adjustment has been done, tighten the screw there.

Torque: 4.0 N·m (40 kgf·cm, 35 in.·lbf)

- (b) Reset the sliding roof drive gear (See page 74-3)

(c) Check the sliding roof operation function (See page 74-4)

HINT:

If the jam protection function is not activated, reset the sliding roof drive gear again.

17. CHECK FOR WATER LEAKS

(a) Adjusting the sliding roof, check that there is no water leak.

If a leak is found, readjust the sliding roof.

18. INSTALL ROOF HEADLINING ASSY (See page 76-43)