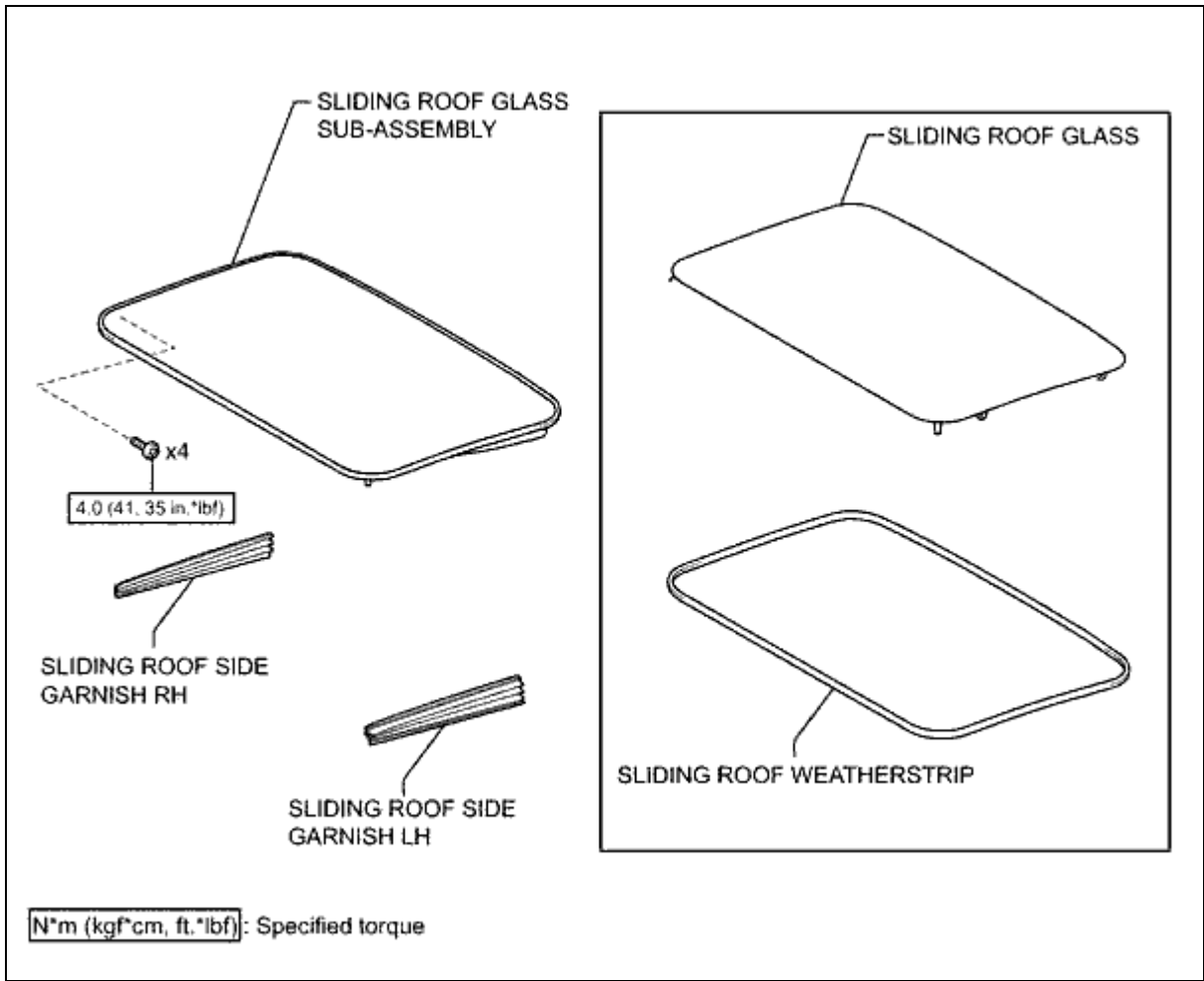


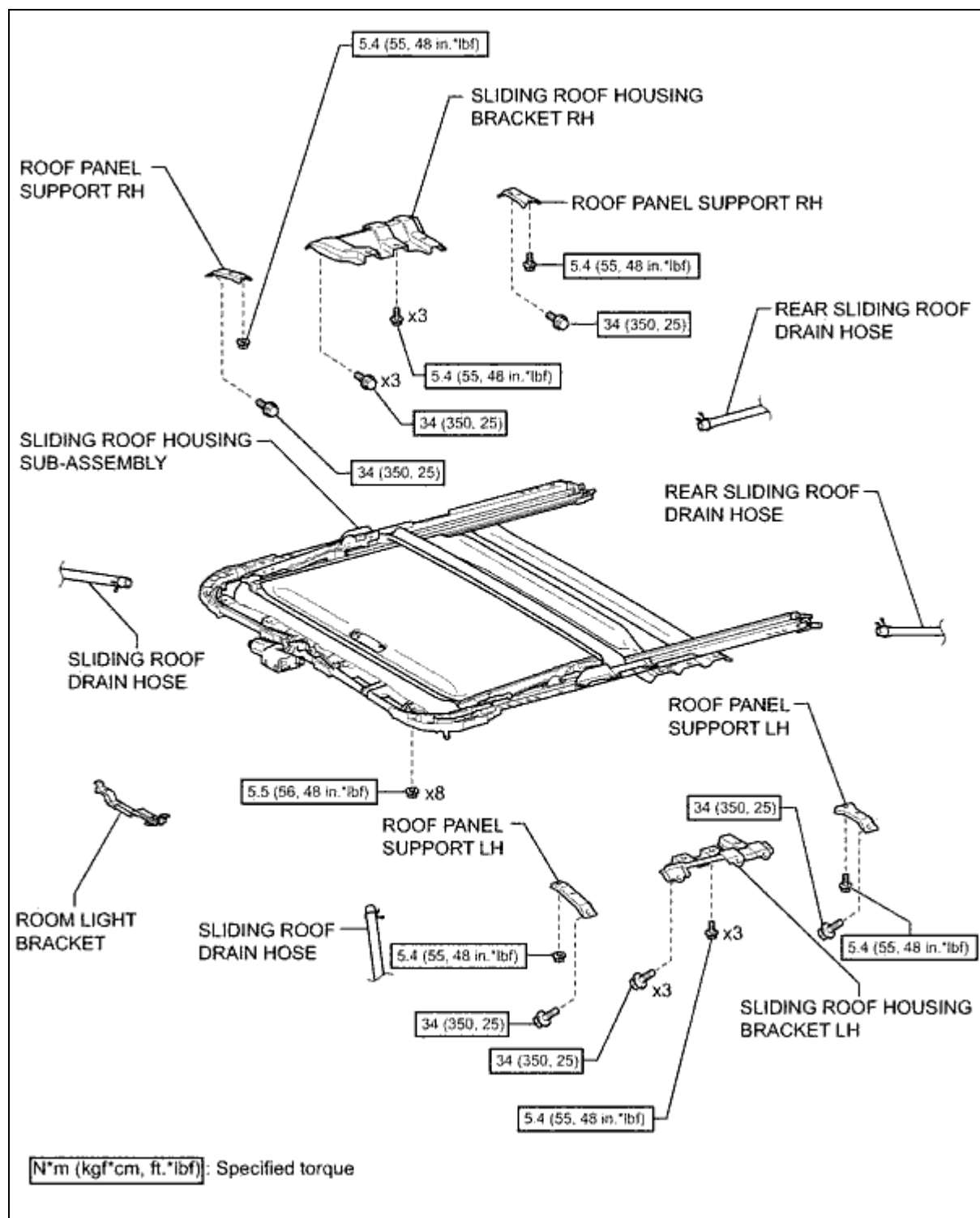
Last Modified: 11-13-2015	6.6 K	Doc ID: RM000005VIL000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF HOUSING: COMPONENTS; 2016 MY Tacoma [08/2015 -]		

COMPONENTS

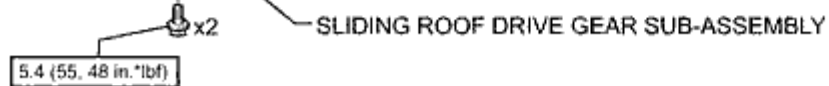
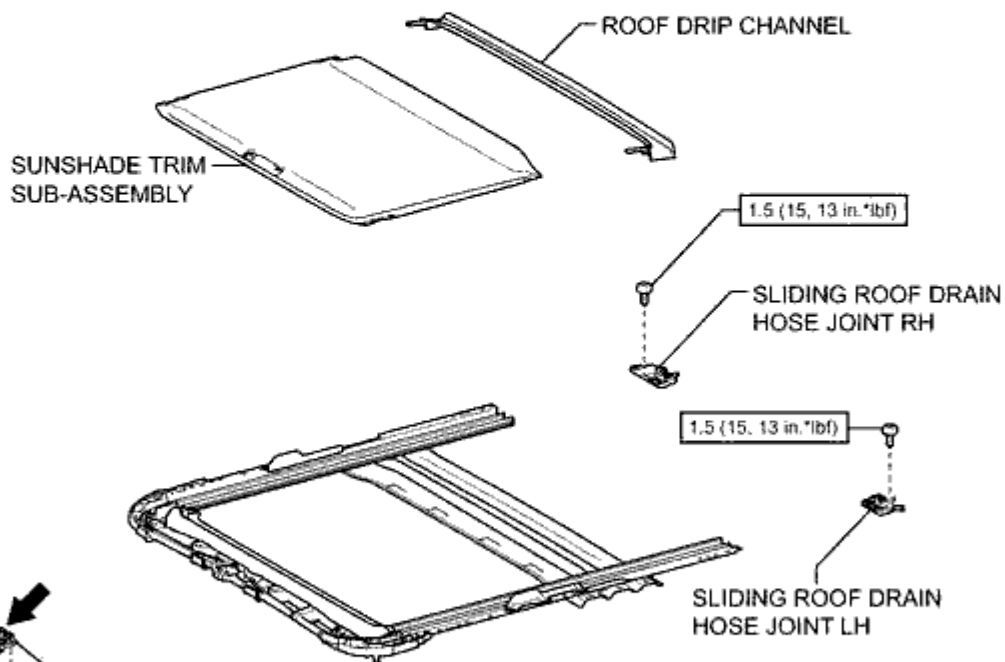
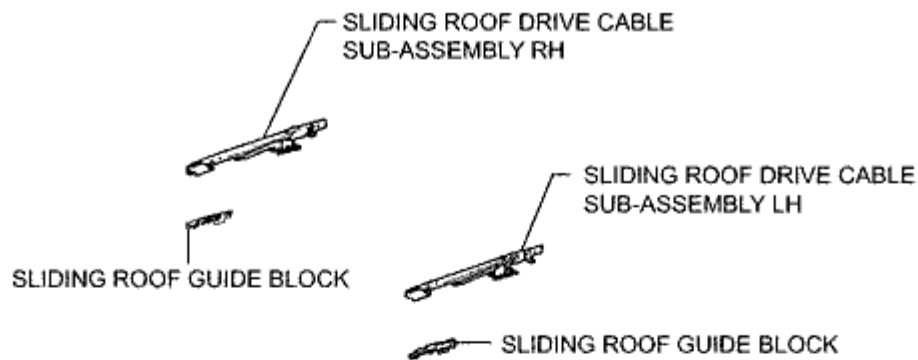
ILLUSTRATION



ILLUSTRATION



ILLUSTRATION



[N*m (kgf*cm, ft.*lbf)]: Specified torque

← MP grease

d



Last Modified: 11-13-2015	6.6 A	Doc ID: RM000005VIN000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF HOUSING: DISASSEMBLY; 2016 MY Tacoma [08/2015 -]		

DISASSEMBLY

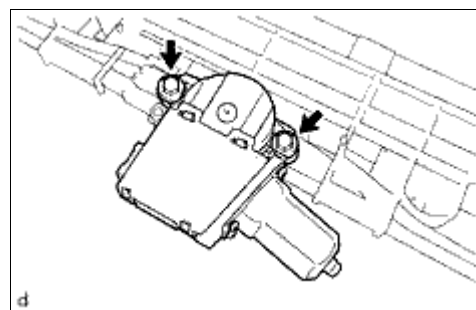
1. REMOVE ROOM LIGHT BRACKET

- (a) Disengage the guide to remove the room light bracket.



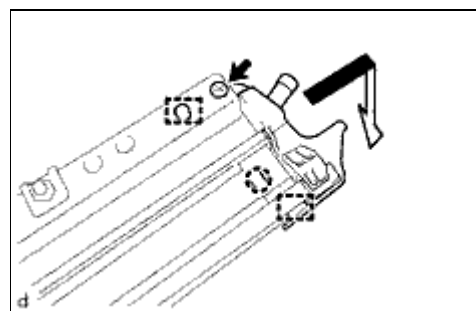
2. REMOVE SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY

- (a) Remove the 2 bolts and sliding roof drive gear sub-assembly.



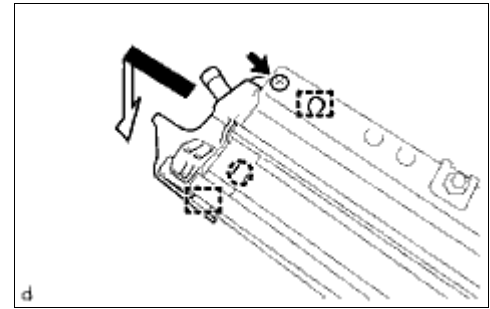
3. REMOVE SUNSHADE TRIM SUB-ASSEMBLY

- (a) Remove the screw.

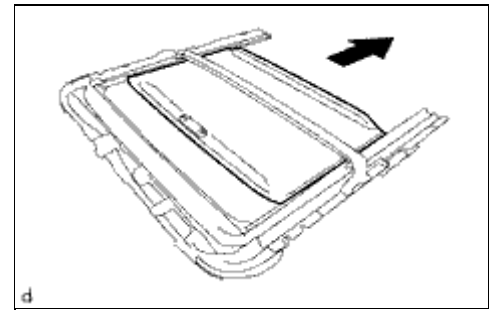


- (b) Disengage the claw and 2 guides to remove the sliding roof drain hose joint LH as shown in the illustration.

(c) Remove the screw.



(d) Disengage the claw and 2 guides to remove the sliding roof drain hose joint RH as shown in the illustration.



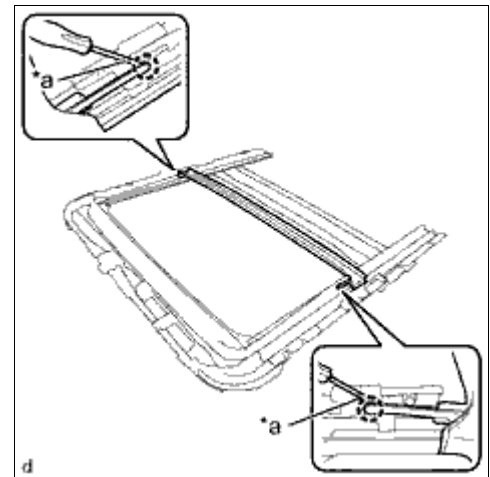
(e) Slide and remove the sunshade trim sub-assembly as shown in the illustration.

4. REMOVE ROOF DRIP CHANNEL

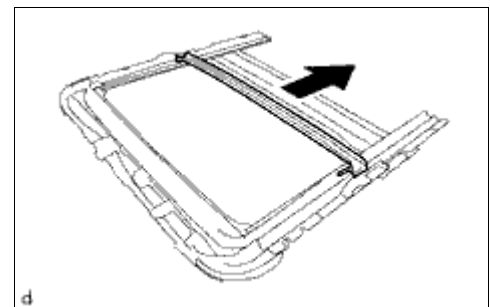
(a) Using a screwdriver with its tip wrapped in protective tape, disengage the 2 claws.

Text in Illustration

*a	Protective Tape
----	-----------------



(b) Slide and remove the roof drip channel as shown in the illustration.



5. REMOVE SLIDING ROOF DRIVE CABLE SUB-ASSEMBLY LH

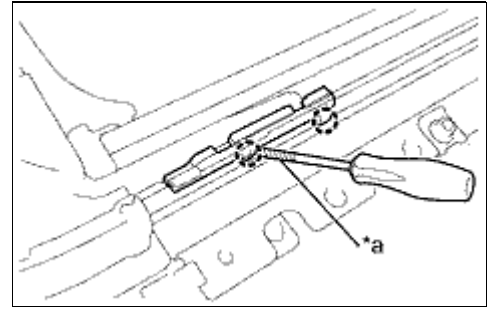
NOTICE:

Do not disassemble the sliding roof drive cable sub-assembly except when replacing it.

- (a) Using a screwdriver with its tip wrapped in protective tape, disengage the 2 claws to remove the sliding roof guide block.

Text in Illustration

*a	Protective Tape
----	-----------------



- (b) Remove the sliding roof drive cable sub-assembly LH.

6. REMOVE SLIDING ROOF DRIVE CABLE SUB-ASSEMBLY RH

HINT:

Use the same procedure as for the LH side.



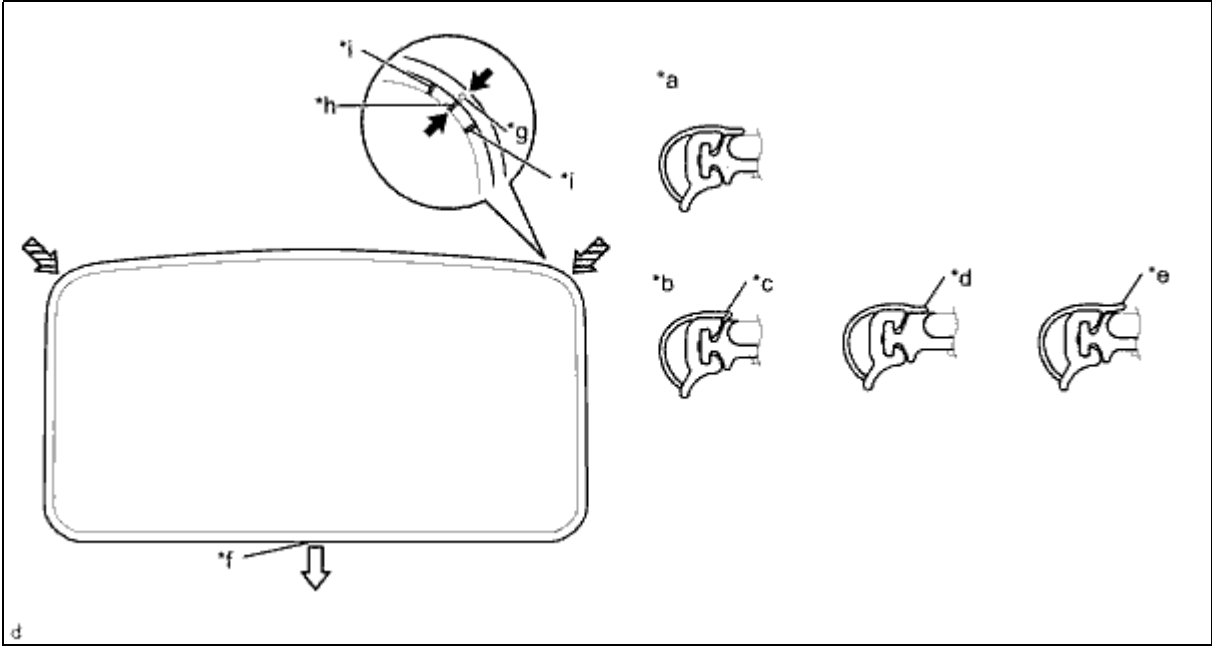
Last Modified: 11-13-2015	6.6 A	Doc ID: RM000005VIK000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF HOUSING: INSTALLATION; 2016 MY Tacoma [08/2015 -]		

INSTALLATION

1. INSTALL SLIDING ROOF WEATHERSTRIP

- (a) Install the sliding roof weatherstrip as follows:
- (1) Position the joint of the sliding roof weatherstrip at the rear center.

(2) Align the marks on the sliding roof weatherstrip with the middle marks at the corners of the slide roof panel sub-assembly and install the sliding roof weatherstrip.



Text in Illustration

*a	Correct	*b	Incorrect
*c	Pinched	*d	Exposed
*e	Gap (raised, wavy, etc.)	*f	Center of Joint
*g	Sliding Roof Weatherstrip Mark	*h	Middle Mark
*i	Side Mark	-	-
	Vehicle Rear		Alignment Mark

HINT:

Make sure that the sliding roof weatherstrip markings are aligned within the range as shown in the illustration.

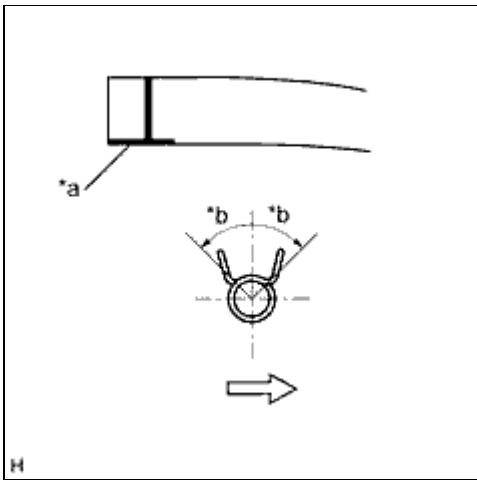
- (3) Install the lip of the sliding roof weatherstrip firmly.

2. INSTALL SLIDING ROOF HOUSING SUB-ASSEMBLY

- (a) Install the sliding roof housing sub-assembly with the 8 nuts.

Torque:
5.5 N·m {56 kgf·cm, 48in·lbf}

(b) Connect rear side of the 2 rear sliding roof drain hoses so that each mark faces downward.

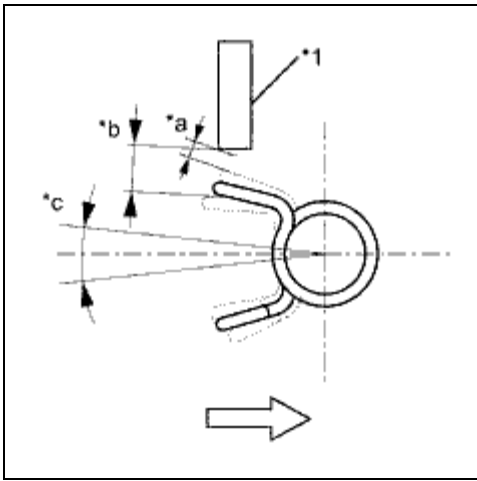


Text in Illustration

*a	Marking
*b	45°
→	Vehicle Inside

NOTICE:
Install the clip within the range shown in the illustration.

(c) Connect front side of the 2 sliding roof drain hoses.



Text in Illustration

*1	Sliding Roof Housing Sub-assembly
*a	3 mm (0.188 in.)
*b	7.3 mm (0.287 in.)
*c	12.6°



Vehicle Inside

NOTICE:

Install the clip within the range shown in the illustration.

3. INSTALL SLIDING ROOF HOUSING BRACKET LH

(a) Install the sliding roof housing bracket LH with the 6 bolts.

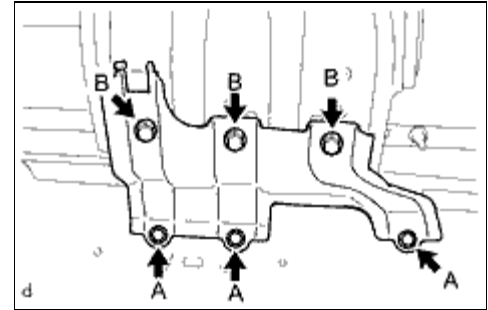
Torque:

Bolt A -

34 N·m {350 kgf·cm, 25ft·lbf}

Bolt B -

5.4 N·m {55 kgf·cm, 48in·lbf}



4. INSTALL SLIDING ROOF HOUSING BRACKET RH

HINT:

Use the same procedure as for the LH side.

5. INSTALL ROOF PANEL SUPPORT LH (for Rear Side)

(a) Install the roof panel support LH with the 2 bolts.

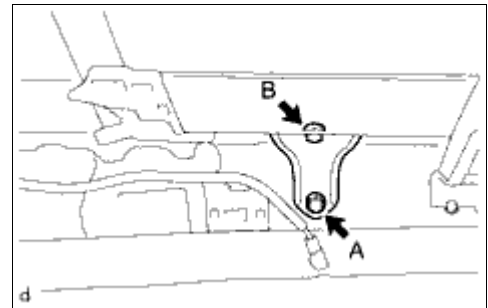
Torque:

Bolt A -

34 N·m {350 kgf·cm, 25ft·lbf}

Bolt B -

5.4 N·m {55 kgf·cm, 48in·lbf}



6. INSTALL ROOF PANEL SUPPORT RH (for Rear Side)

HINT:

Use the same procedure as for the LH side.

7. INSTALL ROOF PANEL SUPPORT LH (for Front Side)

(a) Install the roof panel support LH with the nut and bolt.

Torque:

Bolt -

34 N·m {350 kgf·cm, 25ft·lbf}

Nut -

5.4 N·m {55 kgf·cm, 48in·lbf}

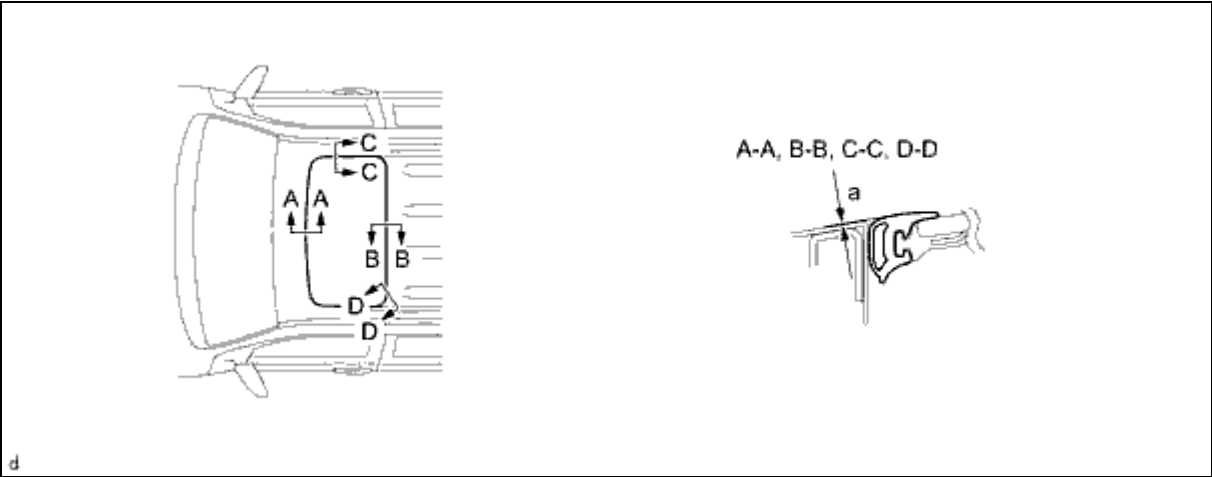
8. INSTALL ROOF PANEL SUPPORT RH (for Front Side)

HINT:

Use the same procedure as for the LH side.

9. INSTALL SLIDING ROOF GLASS SUB-ASSEMBLY

- (a) Using a T25 "TORX" socket wrench, temporarily install the sliding roof glass sub-assembly with the 4 screws.
- (b) Perform a level check.



- (1) Check the difference in level for "a" between the roof panel and upper surface of the sliding roof weatherstrip when the sliding roof glass is fully closed.

Standard:

AREA	MEASUREMENT
A - A	0 + 1.0 mm (0 + 0.0394 in.) 0 - 2.0 mm (0 - 0.0787 in.)
B - B	0 + 2.0 mm (0 + 0.0787 in.) 0 - 1.0 mm (0 - 0.0394 in.)
C - C	0 + 1.5 mm (0 + 0.0591 in.) 0 - 1.5 mm (0 - 0.0591 in.)
D - D	0 + 1.5 mm (0 + 0.0591 in.) 0 - 1.0 mm (0 - 0.0394 in.)

HINT:

"+" represents the condition that the glass is above the panel level. "-" represents the condition that the glass is below the panel level.

(c) Perform a gap check.

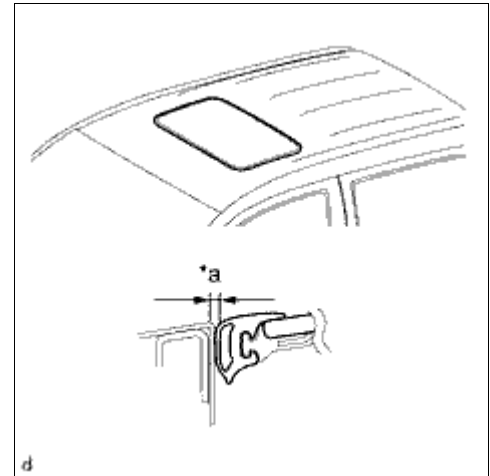
Text in Illustration

*a	Even
----	------

(1) Check the gap between the roof panel and sliding roof glass sub-assembly.

NOTICE:

The gap must be even all around.



(d) After adjusting the sliding roof glass sub-assembly, using a T25 "TORX" socket wrench, install the sliding roof glass sub-assembly with the 4 screws.

Torque:

4.0 N·m {41 kgf·cm, 35in·lbf}

10. CHECK FOR WATER LEAK

- (a) After adjusting the sliding roof glass sub-assembly, check for water leakage into the vehicle interior.
- (b) If there are any leaks, readjust the sliding roof glass sub-assembly.

11. INSTALL CURTAIN SHIELD AIRBAG ASSEMBLY LH (for Double Cab)

INFO

12. INSTALL CURTAIN SHIELD AIRBAG ASSEMBLY RH (for Double Cab)

HINT:

Use the same procedure described for the LH side.

13. INSTALL CURTAIN SHIELD AIRBAG ASSEMBLY LH (for Access Cab)

INFO

14. INSTALL CURTAIN SHIELD AIRBAG ASSEMBLY RH (for Access Cab)

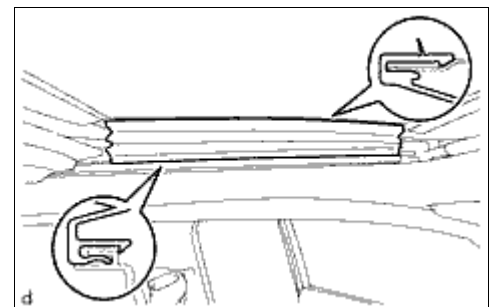
HINT:

Use the same procedure described for the LH side.

15. INSTALL SLIDING ROOF SIDE GARNISH LH

(a) Fully open the sunshade trim sub-assembly.

(b) Install the sliding roof side garnish LH as shown in the illustration.



16. INSTALL SLIDING ROOF SIDE GARNISH RH

HINT:

Use the same procedure as for the LH side.

17. RESET SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY

INFO

18. CHECK SLIDING ROOF SYSTEM

INFO



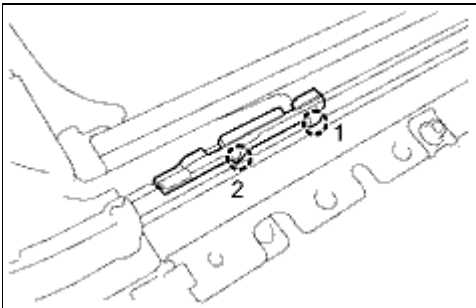
Last Modified: 11-13-2015	6.6 A	Doc ID: RM000005VIO000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF HOUSING: REASSEMBLY; 2016 MY Tacoma [08/2015 -]		

REASSEMBLY

1. INSTALL SLIDING ROOF DRIVE CABLE SUB-ASSEMBLY LH

(a) Install the sliding roof drive cable sub-assembly LH.

(b) Engage the 2 claws in the order shown in the illustration to install the sliding roof drive cable sub-assembly LH .



2. INSTALL SLIDING ROOF DRIVE CABLE SUB-ASSEMBLY RH

HINT:

Use the same procedure as for the LH side.

3. ADJUST FULLY CLOSED POSITION

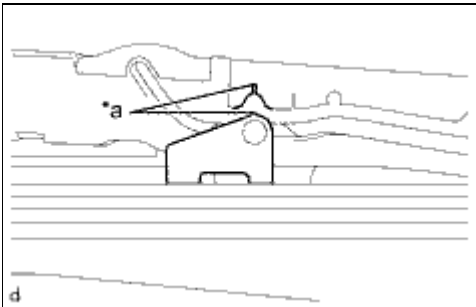
(a) Slide the sliding roof drive cable sub-assembly and align the alignment marks.

Text in Illustration

*a	Alignment Mark
----	----------------

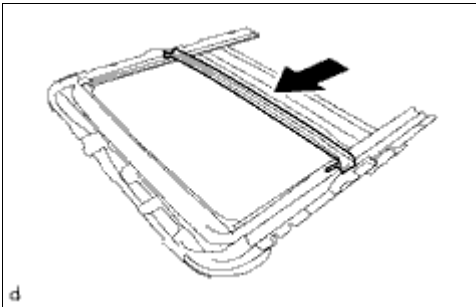
HINT:

The illustration shown is for the LH side. Use the same procedure for the RH side.

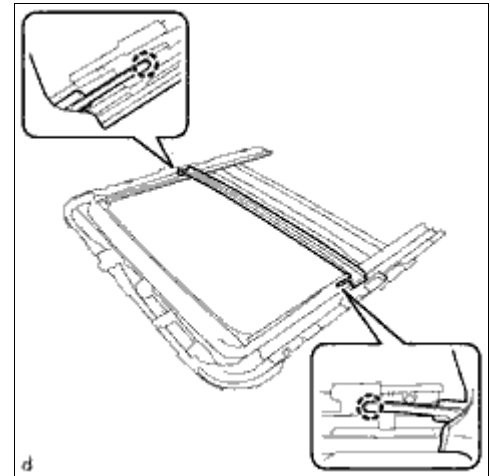


4. INSTALL ROOF DRIP CHANNEL

(a) Slide and install the roof drip channel as shown in the illustration.

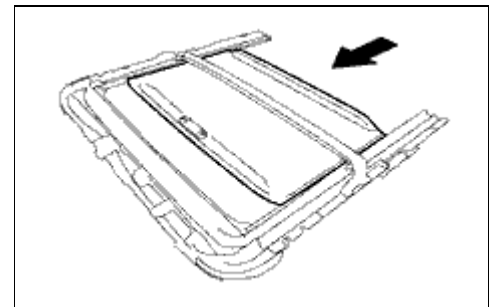


- (b) Engage the 2 claws to install the roof drip channel.

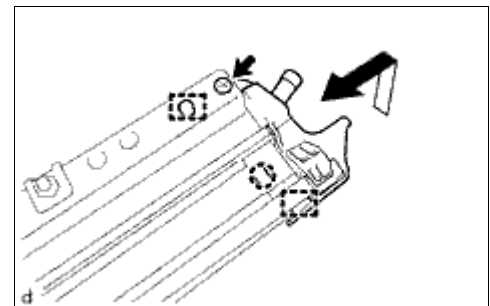


5. INSTALL SUNSHADE TRIM SUB-ASSEMBLY

- (a) Slide and install the sunshade trim sub-assembly as shown in the illustration.



- (b) Engage the 2 guides and claw to install the sliding roof drain hose joint LH.

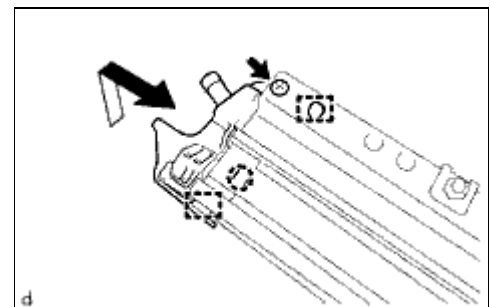


- (c) Install the screw.

Torque:

1.5 N·m {15 kgf·cm, 13in·lbf}

- (d) Engage the 2 guides and claw to install the sliding roof drain hose joint RH.



- (e) Install the screw.

Torque:

1.5 N·m {15 kgf·cm, 13in·lbf}

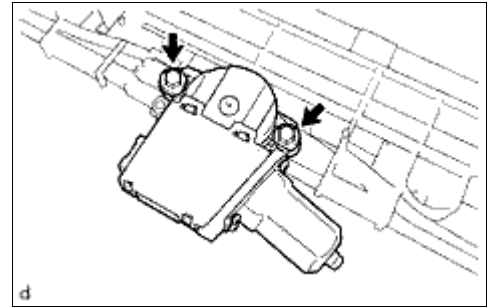
6. INSTALL SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY

(a) Apply MP grease around the gear of the sliding roof drive gear sub-assembly.

(b) Install the sliding roof drive gear sub-assembly with the 2 bolts.

Torque:

5.4 N·m {55 kgf·cm, 48in·lbf}



7. INSTALL ROOM LIGHT BRACKET

(a) Engage the guide to install the room light bracket.



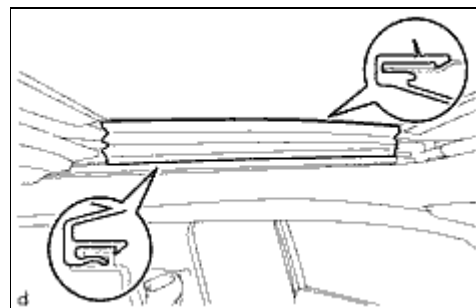
Last Modified: 11-13-2015	6.6 A	Doc ID: RM000005VIM000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF HOUSING: REMOVAL; 2016 MY Tacoma [08/2015 -]		

REMOVAL

1. REMOVE SLIDING ROOF SIDE GARNISH LH

- (a) Fully open the sunshade trim sub-assembly.

- (b) Remove the sliding roof side garnish LH.



2. REMOVE SLIDING ROOF SIDE GARNISH RH

HINT:

Use the same procedure as for the LH side.

3. REMOVE SLIDING ROOF GLASS SUB-ASSEMBLY

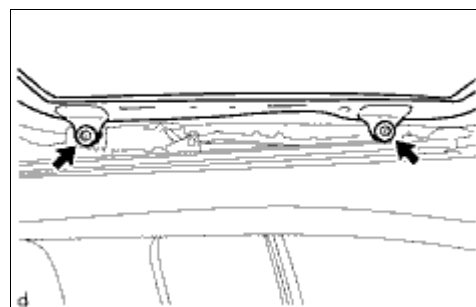
- (a) Using a T25 "TORX" socket wrench, remove the 4 screws and sliding roof glass sub-assembly.

NOTICE:

To prevent the sliding roof glass and sliding roof drive gear from being displaced, fully close the sliding roof glass (sliding roof drive cable), and then remove the sliding roof drive gear.

HINT:

The illustration shows the LH side. The vertical orientation of the RH side is opposite that of the image shown in the illustration.



4. REMOVE CURTAIN SHIELD AIRBAG ASSEMBLY LH (for Double Cab)

INFO

5. REMOVE CURTAIN SHIELD AIRBAG ASSEMBLY RH (for Double Cab)

HINT:

Use the same procedure as for the LH side.

6. REMOVE CURTAIN SHIELD AIRBAG ASSEMBLY LH (for Access Cab)

INFO

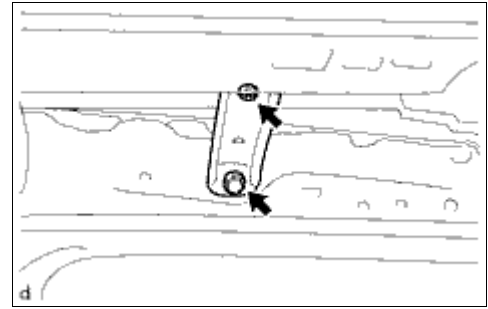
7. REMOVE CURTAIN SHIELD AIRBAG ASSEMBLY RH (for Access Cab)

HINT:

Use the same procedure as for the LH side.

8. REMOVE ROOF PANEL SUPPORT LH (for Front Side)

- (a) Remove the bolt, nut and roof panel support LH.



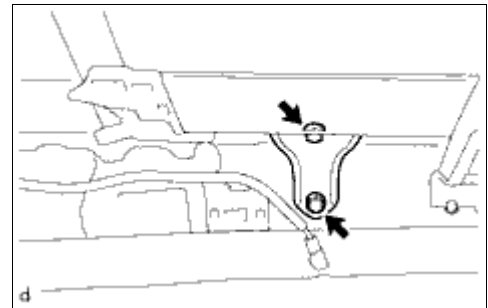
9. REMOVE ROOF PANEL SUPPORT RH (for Front Side)

HINT:

Use the same procedure as for the LH side.

10. REMOVE ROOF PANEL SUPPORT LH (for Rear Side)

- (a) Remove the 2 bolts and roof panel support LH.



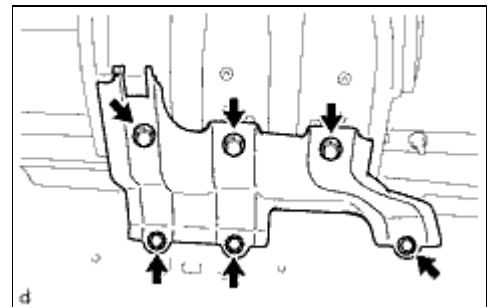
11. REMOVE ROOF PANEL SUPPORT RH (for Rear Side)

HINT:

Use the same procedure as for the LH side.

12. REMOVE SLIDING ROOF HOUSING BRACKET LH

- (a) Remove the 6 bolts and sliding roof housing bracket LH.



13. REMOVE SLIDING ROOF HOUSING BRACKET RH

HINT:

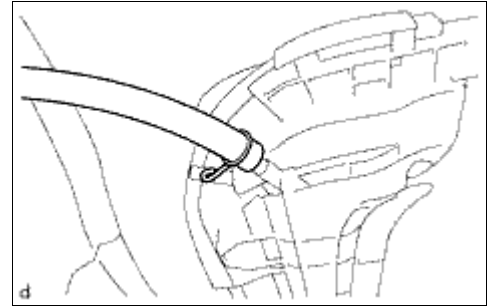
Use the same procedure as for the LH side.

14. REMOVE SLIDING ROOF HOUSING SUB-ASSEMBLY

- (a) Slide the clip and disconnect front side of the 2 sliding roof drain hoses.

HINT:

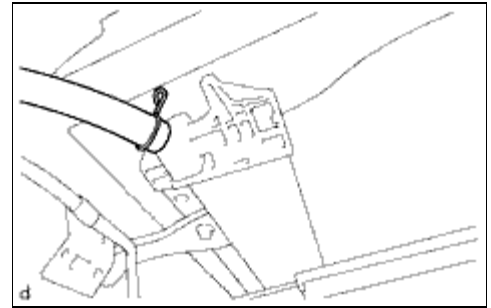
The illustration shows the LH side. The vertical orientation of the RH side is opposite that of the image shown in the illustration.



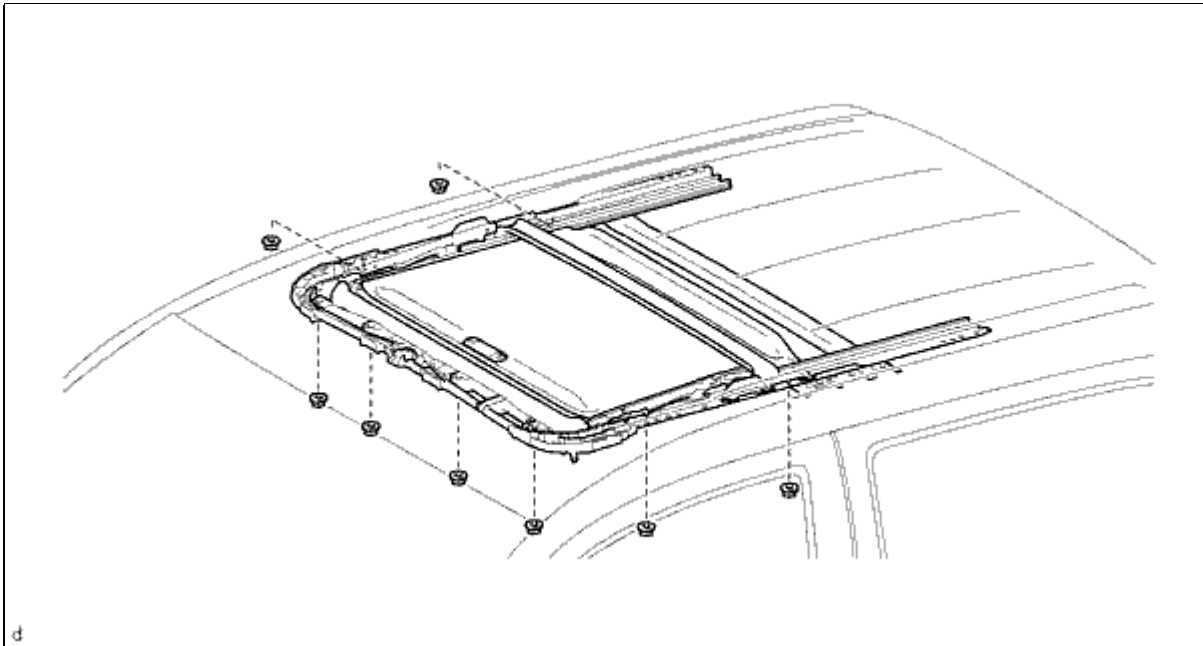
- (b) Slide the clip and disconnect rear side of the 2 rear sliding roof drain hoses.

HINT:

The illustration shows the LH side. The vertical orientation of the RH side is opposite that of the image shown in the illustration.

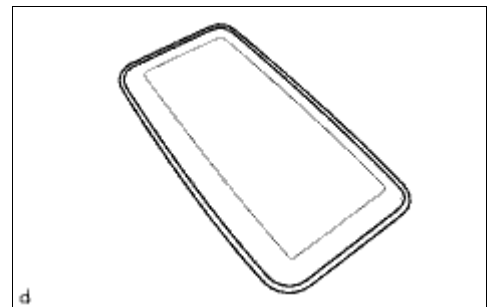


- (c) Remove the 8 nuts and sliding roof housing sub-assembly.



15. REMOVE SLIDING ROOF WEATHERSTRIP

- (a) Remove the sliding roof weatherstrip from the sliding roof glass.

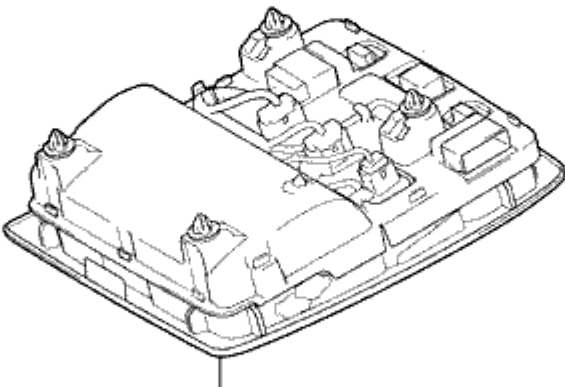




Last Modified: 11-13-2015	6.6 K	Doc ID: RM000005WA3000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SWITCH ASSEMBLY: COMPONENTS; 2016 MY Tacoma [08/2015 -]		

COMPONENTS

ILLUSTRATION



SLIDING ROOF SWITCH ASSEMBLY (ROOF CONSOLE BOX ASSEMBLY)



Last Modified: 11-13-2015	6.6 A	Doc ID: RM000005WA2000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SWITCH ASSEMBLY: INSTALLATION; 2016 MY Tacoma [08/2015 -]		

INSTALLATION

1. INSTALL SLIDING ROOF SWITCH ASSEMBLY (ROOF CONSOLE BOX ASSEMBLY)

- (a) Connect the connector.
- (b) Engage the 4 clips to install the sliding roof switch assembly (roof console box assembly).

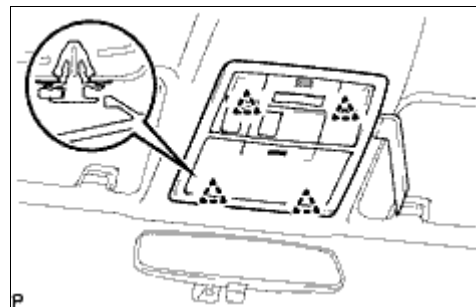


Last Modified: 11-13-2015	6.6 A	Doc ID: RM000005WA4000X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SWITCH ASSEMBLY: REMOVAL; 2016 MY Tacoma [08/2015 -]		

REMOVAL

1. REMOVE SLIDING ROOF SWITCH ASSEMBLY (ROOF CONSOLE BOX ASSEMBLY)

- (a) Using a moulding remover D, disengage the 4 clips to separate the sliding roof switch assembly (roof console box assembly).



- (b) Disconnect the connector to remove the sliding roof switch assembly (roof console box assembly).



Last Modified: 11-13-2015	6.6 C	Doc ID: RM0000029GG0BZX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: B2341,B2344; Sensor (Motor) Failure; 2016 MY Tacoma [08/2015 -]		

DTC	B2341	Sensor (Motor) Failure
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DTC	B2344	Position Failure
------------	--------------	-------------------------

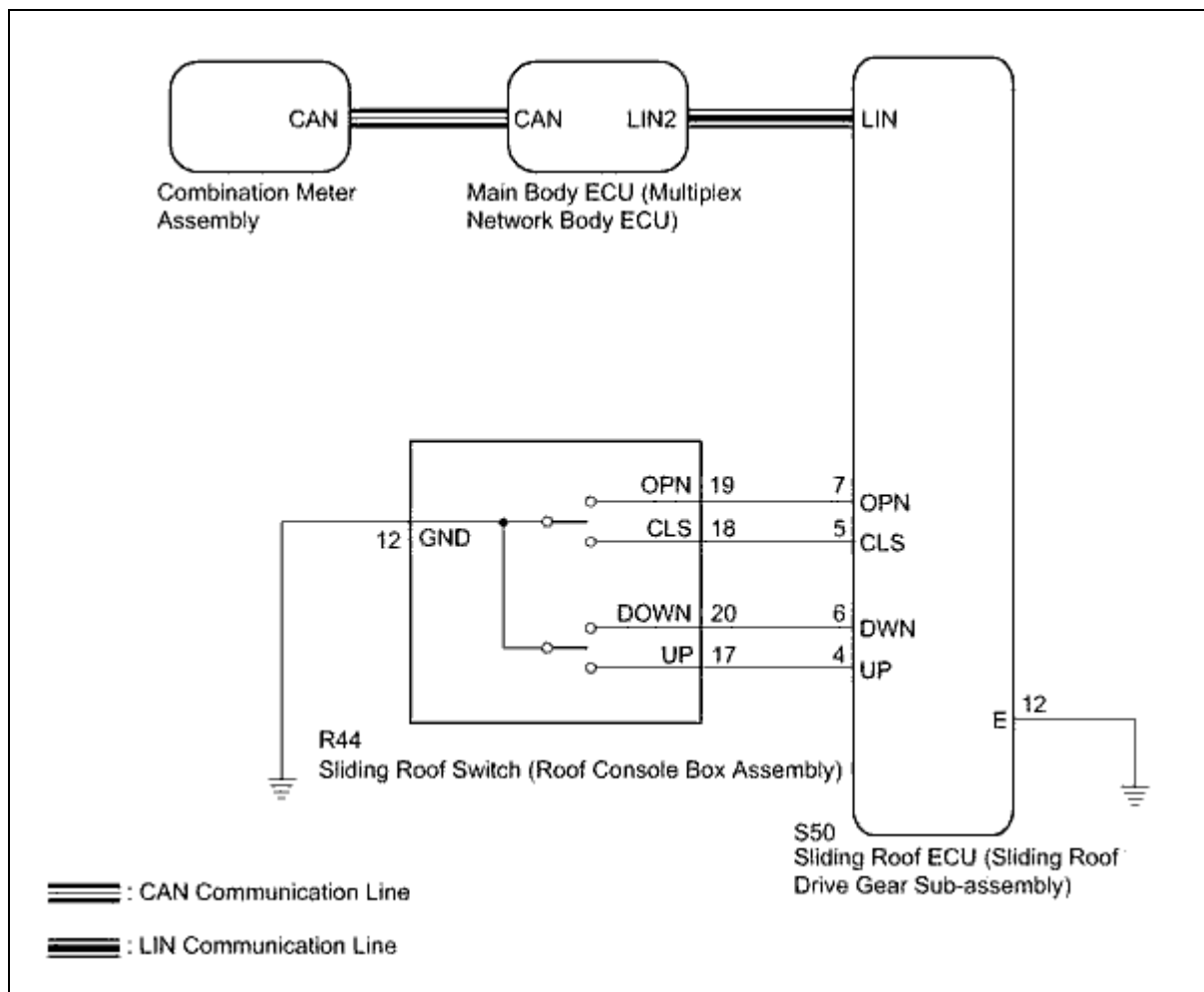
DESCRIPTION

When the sliding roof ECU (sliding roof drive gear sub-assembly) detects a motor malfunction and the sliding roof operation is stopped, DTC B2341 is stored.

When the sliding roof ECU (sliding roof drive gear sub-assembly) detects a gear position malfunction and the sliding roof operation is stopped, DTC B2344 is stored.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B2341	Sensor (motor) failure (When the sliding roof ECU enters fail-safe mode due to a problem with the motor)	• Sliding roof ECU (Sliding roof drive gear sub-assembly) • Sliding roof switch (Roof console box assembly) • Wire harness or connector
B2344	Position failure (When the sliding roof ECU enters fail-safe mode due to a problem with the gear position)	• Sliding roof ECU (Sliding roof drive gear sub-assembly) • Sliding roof switch (Roof console box assembly) • Wire harness or connector

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- When the sliding roof ECU (sliding roof drive gear sub-assembly) is removed and reinstalled or replaced, it requires initialization [INFO](#).
- The sliding roof system uses the CAN and LIN communication systems. First, confirm that there are no malfunctions in the CAN and LIN communication systems. Refer to the How to Proceed with Troubleshooting procedure [INFO](#).

PROCEDURE

1.	CHECK SLIDING ROOF OPERATION
----	-------------------------------------

(a) Check the sliding roof auto operation [INFO](#).

OK:

Auto operation operates normally.

NG [GO TO STEP 3](#)

OK



2. CHECK DTC OUTPUT

(a) Clear the DTCs  .

(b) Check for DTCs.

OK:

DTC B2341 or B2344 is not output.

NG  **REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)**

OK  **USE SIMULATION METHOD TO CHECK**

3. INITIALIZE SLIDING ROOF ECU (SLIDING ROOF HOUSING SUB-ASSEMBLY)

(a) Check that the sliding roof ECU (sliding roof drive gear sub-assembly) can be initialized  .

OK:

Sliding roof ECU (sliding roof drive gear sub-assembly) can be initialized.

NG  **GO TO STEP 5**

OK



4. CHECK DTC OUTPUT

(a) Clear the DTCs  .

(b) Check for DTCs.

OK:

DTC B2341 or B2344 is not output.

NG  **REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)**

OK  **END (PROBLEM DUE TO INITIALIZATION FAILURE)**

5. CHECK HARNESS AND CONNECTOR (SLIDING ROOF ECU - SLIDING ROOF SWITCH)

AND BODY GROUND)

- (a) Disconnect the R44 sliding roof switch (roof console box assembly) connector.
- (b) Disconnect the S50 sliding roof ECU (sliding roof drive gear sub-assembly) connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S50-5 (CLS) - R44-18 (CLS)	Always	Below 1 Ω
S50-5 (CLS) - Body ground	Always	10 k Ω or higher
S50-7 (OPN) - R44-19 (OPN)	Always	Below 1 Ω
S50-7 (OPN) - Body ground	Always	10 k Ω or higher
S50-6 (DWN) - R44-20 (DOWN)	Always	Below 1 Ω
S50-6 (DWN) - Body ground	Always	10 k Ω or higher
S50-4 (UP) - R44-17 (UP)	Always	Below 1 Ω
S50-4 (UP) - Body ground	Always	10 k Ω or higher
R44-12 (GND) - Body ground	Always	Below 1 Ω
S50-12 (E) - Body ground	Always	Below 1 Ω

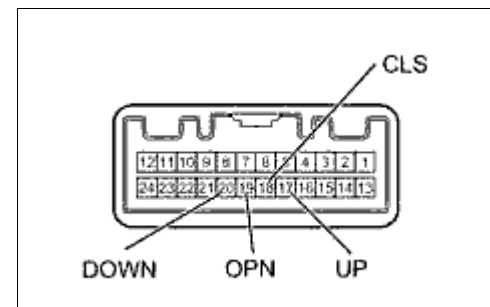
NG REPAIR OR REPLACE HARNESS OR CONNECTOR

OK

6. INSPECT SLIDING ROOF SWITCH (ROOF CONSOLE BOX ASSEMBLY)

- (a) Remove the sliding roof switch (roof console box assembly)

INFO



- (b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
-------------------	-----------	---------------------

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
17 (UP) - 12 (GND)	UP switch is pressed	Below 1 Ω
17 (UP) - 12 (GND)	UP switch is not pressed	10 k Ω or higher
20 (DOWN) - 12 (GND)	DOWN switch is pressed	Below 1 Ω
20 (DOWN) - 12 (GND)	DOWN switch is not pressed	10 k Ω or higher
19 (OPN) - 12 (GND)	OPEN switch is pressed	Below 1 Ω
19 (OPN) - 12 (GND)	OPEN switch is not pressed	10 k Ω or higher
18 (CLS) - 12 (GND)	CLOSE switch is pressed	Below 1 Ω
18 (CLS) - 12 (GND)	CLOSE switch is not pressed	10 k Ω or higher

Text in Illustration

*a	Component without harness connected (Sliding Roof Switch (Roof Console Box Assembly))
----	--

NG ► **REPLACE SLIDING ROOF SWITCH (ROOF CONSOLE BOX ASSEMBLY)**

OK ► **REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM0000029GH0BNX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: B2342; Switch Failure; 2016 MY Tacoma [08/2015 -]		

DTC	B2342	Switch Failure
------------	--------------	-----------------------

DESCRIPTION

This DTC is stored when the sliding roof ECU (sliding roof drive gear sub-assembly) detects that the sliding roof switch is stuck for 30 seconds or more.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B2342	Sliding roof ECU (sliding roof drive gear sub-assembly) detects sliding roof switch is stuck for 30 seconds or more.	• Sliding roof ECU (Sliding roof drive gear sub-assembly) • Sliding roof switch (Roof console box assembly) • Wire harness or connector

WIRING DIAGRAM

Refer to DTC B2341 [INFO](#) .

INSPECTION PROCEDURE

NOTICE:

When the sliding roof ECU (sliding roof drive gear sub-assembly) is removed and reinstalled or replaced, it requires initialization [INFO](#) .

PROCEDURE

1.	READ VALUE USING TECHSTREAM (SLIDING ROOF SWITCH)
-----------	--

- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus: Body Electrical / Sliding Roof / Data List.
- Read the Data List according to the display on the Techstream.

Sliding Roof

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Open Switch	Open switch failure signal	ON: Sliding roof open switch failure	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Failure(Past)	(Past)/ON or OFF	signal (Past) OFF: No sliding roof open switch failure signal (Past)	
Close Switch Failure(Past)	Close switch failure signal (Past)/ON or OFF	ON: Sliding roof close switch failure signal (Past) OFF: No sliding roof close switch failure signal (Past)	-
Up Switch Failure(Past)	Up switch failure signal (Past)/ON or OFF	ON: Sliding roof tilt up switch failure signal (Past) OFF: No sliding roof tilt up switch failure signal (Past)	-
Down Switch Failure(Past)	Down switch failure signal (Past)/ON or OFF	ON: Sliding roof tilt down switch failure signal (Past) OFF: No sliding roof tilt down switch failure signal (Past)	-
Open Switch Failure(Current)	Open switch failure signal (Current)/ON or OFF	ON: Sliding roof open switch failure signal (Current) OFF: No sliding roof open switch failure signal (Current)	-
Close Switch Failure(Current)	Close switch failure signal (Current)/ON or OFF	ON: Sliding roof close switch failure signal (Current) OFF: No sliding roof close switch failure signal (Current)	-
Up Switch Failure(Current)	Up switch failure signal (Current)/ON or OFF	ON: Sliding roof tilt up switch failure signal (Current) OFF: No sliding roof tilt up switch failure signal (Current)	-
Down Switch Failure(Current)	Down switch failure signal (Current)/ON or OFF	ON: Sliding roof tilt down switch failure signal (Current) OFF: No sliding roof tilt down switch failure signal (Current)	-

OK:

"OFF" appears on the Techstream screen.

NG  **GO TO STEP 2**

OK  **REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)**

2.	CHECK HARNESS AND CONNECTOR (SLIDING ROOF ECU - BODY GROUND)
-----------	---

(a) Disconnect the S50 sliding roof ECU (sliding roof drive gear sub-assembly) connector.

(b) Disconnect the R44 sliding roof switch (roof console box assembly) connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S50-7 (OPN) - Body ground	Always	10 k Ω or higher
S50-6 (DWN) - Body ground	Always	10 k Ω or higher
S50-5 (CLS) - Body ground	Always	10 k Ω or higher
S50-4 (UP) - Body ground	Always	10 k Ω or higher

NG  **REPAIR OR REPLACE HARNESS OR CONNECTOR**

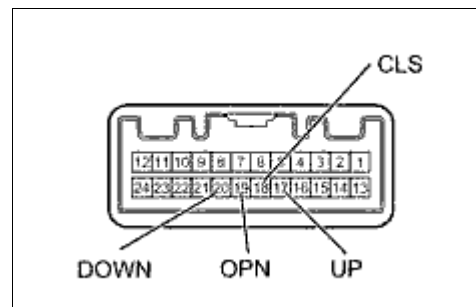
OK



3. INSPECT SLIDING ROOF SWITCH (ROOF CONSOLE BOX ASSEMBLY)

(a) Remove the sliding roof switch (roof console box assembly)

INFO .



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
17 (UP) - 12 (GND)	UP switch is pressed	Below 1 Ω
17 (UP) - 12 (GND)	UP switch is not pressed	10 k Ω or higher
20 (DOWN) - 12 (GND)	DOWN switch is pressed	Below 1 Ω
20 (DOWN) - 12 (GND)	DOWN switch is not pressed	10 k Ω or higher
19 (OPN) - 12 (GND)	OPEN switch is pressed	Below 1 Ω
19 (OPN) - 12 (GND)	OPEN switch is not pressed	10 k Ω or higher
18 (CLS) - 12 (GND)	CLOSE switch is pressed	Below 1 Ω
18 (CLS) - 12 (GND)	CLOSE switch is not pressed	10 k Ω or higher

Text in Illustration

*a	Component without harness connected (Sliding Roof Switch (Roof Console Box Assembly))
----	--

NG ► **REPLACE SLIDING ROOF SWITCH (ROOF CONSOLE BOX ASSEMBLY)**

OK ► **REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)**



Last Modified: 11-13-2015	6.6 C	Doc ID: RM0000029GI0B5X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: B2343; Position Initialization Incomplete; 2016 MY Tacoma [08/2015 -]		

DTC	B2343	Position Initialization Incomplete
------------	--------------	---

DESCRIPTION

This DTC is stored when the sliding roof ECU (sliding roof drive gear sub-assembly) has not been initialized.

DTC NO.	DTC DETECTION CONDITION	TROUBLE AREA
B2343	Sliding roof ECU (sliding roof drive gear sub-assembly) has not been initialized.	Sliding roof ECU (Sliding roof drive gear sub-assembly)

WIRING DIAGRAM

Refer to DTC B2341 [INFO](#) .

INSPECTION PROCEDURE

NOTICE:

- When DTC B2342 and B2343 are output simultaneously, perform troubleshooting for DTC B2342 first.
- When the sliding roof ECU (sliding roof drive gear sub-assembly) is removed and reinstalled or replaced, it requires initialization [INFO](#) .
- The sliding roof system uses the CAN and LIN communication systems. First, confirm that there are no malfunctions in the CAN and LIN communication systems. Refer to the How to Proceed with Troubleshooting procedure [INFO](#) .

PROCEDURE

1.	INITIALIZE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)
-----------	---

(a) Check that the sliding roof ECU (sliding roof drive gear sub-assembly) can be initialized [INFO](#) .

OK:

Sliding roof ECU (sliding roof drive gear sub-assembly) can be initialized.

NG  **REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)**

OK



2. CHECK SLIDING ROOF OPERATION

(a) Check the sliding roof auto operation  .

OK:

Auto operation operates normally.

NG  **REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)**

OK



3. CHECK DTC OUTPUT

(a) Clear the DTCs  .

(b) Check for DTCs.

OK:

DTC B2343 is not output.

NG  **REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)**

OK  **END (PROBLEM DUE TO INITIALIZATION FAILURE)**



Last Modified: 11-13-2015	6.6 A	Doc ID: RM000004N5W03ZX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: CUSTOMIZE PARAMETERS; 2016 MY Tacoma [08/2015 -]		

CUSTOMIZE PARAMETERS

1. CUSTOMIZE SLIDING ROOF SYSTEM

HINT:

The following items can be customized.

NOTICE:

- When the customer requests a change in a function, first make sure that the function(s) can be customized.
- Be sure to make notes of the current settings before customizing.
- When troubleshooting a function, first make sure that the function is set to the default setting.

(a) Customizing with the Techstream

- (1) Connect the Techstream to the DLC3.
- (2) Turn the ignition switch to ON.
- (3) Turn the Techstream on.
- (4) Enter the following menus: Customize Setting / Slide Roof.
- (5) Select the setting by referring to the table below.

DISPLAY	DEFAULT	CONTENT	SETTING	RELEVANT ECU
Door Key Related Operation	Slide	Function to select tilt up or slide open of sliding roof key-linked function.	Slide/Tilt	Sliding roof ECU (Sliding roof drive gear sub-assembly)
Wireless Key Related Operation	Slide	Function to select tilt up or slide open of sliding roof wireless transmitter-linked function.	Slide/Tilt	Sliding roof ECU (Sliding roof drive gear sub-assembly)
Front SW Auto Operation	ON	This function is used to enable or disable the auto operation.	OFF/ON	Sliding roof ECU (Sliding roof drive gear sub-assembly)

(6) Enter the following menus: Customize Setting / Security.

(7) Select the setting by referring to the table below.

DISPLAY	DEFAULT	CONTENT	SETTING	RELEVANT ECU
Slide Roof Open Warning	ON	This function is used to enable or disable the sliding roof open warning.	OFF/ON	Main body ECU (Multiplex network body ECU)



Last Modified: 11-13-2015	6.6 U	Doc ID: RM000000UZR09MX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: DATA LIST / ACTIVE TEST; 2016 MY Tacoma [08/2015 -]		

DATA LIST / ACTIVE TEST

1. DATA LIST

HINT:

Using the Techstream to read the Data List allows the values or states of switches, sensors, actuators and other items to be read without removing any parts. This non-intrusive inspection can be very useful because intermittent conditions or signals may be discovered before parts or wiring is disturbed. Reading the Data List information early in troubleshooting is one way to save diagnostic time.

NOTICE:

In the following table, the values listed under "Normal Condition" are reference values. Do not depend solely on these reference values when deciding whether a part is faulty or not.

- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus: Body Electrical / Sliding Roof or Main Body / Data List.
- Read the Data List according to the display on the Techstream.

Sliding Roof

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Open Switch	OPEN switch signal/ON or OFF	ON: OPEN switch pressed OFF: OPEN switch not pressed	-
Close Switch	CLOSE switch signal/ON or OFF	ON: CLOSE switch pressed OFF: CLOSE switch not pressed	-
Up Switch	UP switch signal/ON or OFF	ON: UP switch pressed OFF: UP switch not pressed	-
Down Switch	DOWN switch signal/ON or OFF	ON: DOWN switch pressed OFF: DOWN switch not pressed	-
Front SW Auto Operation	Sliding roof auto function/ON or OFF	Customization status displayed	-
Hall IC1 Pulse	Hall IC1 pulse output/Lo or Hi	Lo and Hi repeat during motor operation	Lo: Hall IC1 output is low Hi: Hall IC1 output is high
Hall IC1 Status	Status of Hall IC1/Normal or Error	Normal: Hall IC1 normal Error: Hall IC1 not normal	-
Hall IC2 Pulse	Hall IC2 pulse output/Lo or Hi	Lo and Hi repeat during motor operation	Lo: Hall IC2 output is low Hi: Hall IC2 output is high

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Hall IC2 Status	Status of Hall IC2/Normal or Error	Normal: Hall IC2 normal Error: Hall IC2 not normal	-
Ignition (Direct Signal)	Ignition switch signal/ON or OFF	ON: Ignition switch ON OFF: Ignition switch off	-
Ignition (MPX)	Ignition switch signal (LIN signal)/ON or OFF	ON: Ignition switch ON OFF: Ignition switch off	-
Door Courtesy	Driver door courtesy light switch signal/ON or OFF	ON: Driver door open OFF: Driver door closed	-
Door Handle Lock Button*1	Smart key lock button switch signal/ON or OFF	ON: Smart key lock button switch pressed OFF: Smart key lock button switch not pressed	-
Door Key Close Operation	Key-linked sliding roof close signal/ON or OFF	ON: Turn and hold the driver door key cylinder to lock position OFF: Driver door key cylinder not turned	-
Door Key Open Operation	Key-linked sliding roof open signal/ON or OFF	ON: Turn and hold the driver door key cylinder to unlock position OFF: Driver door key cylinder not turned	-
Wireless Close Operation	Wireless transmitter-linked sliding roof close signal/ON or OFF	ON: Press and hold the transmitter LOCK switch OFF: Transmitter LOCK switch not pressed	-
Wireless Open Operation	Wireless transmitter-linked sliding roof open signal/ON or OFF	ON: Press and hold the transmitter UNLOCK switch OFF: Transmitter UNLOCK switch not pressed	-
Key Off Permission	Key-off sliding roof operation permit signal/ON or OFF	ON: Front doors are not opened within 43 seconds after ignition switch turned off OFF: Any status except "ON" status	-
Door Key Related Operation	Key-linked sliding roof open function operating direction/Slide or Tilt	Customization status displayed	-
Wireless Key Rel Operation	Wireless transmitter-linked sliding roof open function operating direction/Slide or Tilt	Customization status displayed	-
Open Switch Failure(Past)	Open switch failure signal (Past)/ON or OFF	ON: Sliding roof open switch failure signal (Past) OFF: No sliding roof open switch failure signal (Past)	-

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Close Switch Failure(Past)	Close switch failure signal (Past)/ON or OFF	ON: Sliding roof close switch failure signal (Past) OFF: No sliding roof close switch failure signal (Past)	-
Up Switch Failure(Past)	Up switch failure signal (Past)/ON or OFF	ON: Sliding roof tilt up switch failure signal (Past) OFF: No sliding roof tilt up switch failure signal (Past)	-
Down Switch Failure(Past)	Down switch failure signal (Past)/ON or OFF	ON: Sliding roof tilt down switch failure signal (Past) OFF: No sliding roof tilt down switch failure signal (Past)	-
Open Switch Failure(Current)	Open switch failure signal (Current)/ON or OFF	ON: Sliding roof open switch failure signal (Current) OFF: No sliding roof open switch failure signal (Current)	-
Close Switch Failure(Current)	Close switch failure signal (Current)/ON or OFF	ON: Sliding roof close switch failure signal (Current) OFF: No sliding roof close switch failure signal (Current)	-
Up Switch Failure(Current)	Up switch failure signal (Current)/ON or OFF	ON: Sliding roof tilt up switch failure signal (Current) OFF: No sliding roof tilt up switch failure signal (Current)	-
Down Switch Failure(Current)	Down switch failure signal (Current)/ON or OFF	ON: Sliding roof tilt down switch failure signal (Current) OFF: No sliding roof tilt down switch failure signal (Current)	-
Number of Trouble Codes	Number of DTCs / Min.: 0, Max.: 255	Number of stored DTCs	-

Main Body

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Slide Roof Open Warning	Sliding roof open warning/ON or OFF	Customization status displayed	-

2. ACTIVE TEST

HINT:

Using the Techstream to perform Active Tests allows relays, VSVs, actuators and other items to be operated without removing any parts. This non-intrusive functional inspection can be very useful because intermittent operation may be discovered before parts or wiring is disturbed. Performing Active Tests early in troubleshooting is one way to save diagnostic time. Data List information can be displayed while performing Active Tests.

- (a) Connect the Techstream to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the Techstream on.
- (d) Enter the following menus: Body Electrical / Sliding Roof / Active Test.
- (e) Perform the Active Test according to the display on the Techstream.

Sliding Roof

TESTER DISPLAY	TEST PART	CONTROL RANGE	DIAGNOSTIC NOTE
Slide Roof	Operate sliding roof motor	OFF / Opn/Dwn / Clos/Up	-



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: DIAGNOSIS SYSTEM; 2016 MY Tacoma [08/2015 -]		

DIAGNOSIS SYSTEM

1. DESCRIPTION

- (a) Sliding roof system data and Diagnostic Trouble Codes (DTCs) can be read through the vehicle Data Link Connector 3 (DLC3). When the system seems to be malfunctioning, use the Techstream to check for malfunctions and perform repairs.

2. CHECK DLC3

- (a) Check the DLC3  .

3. INSPECT BATTERY VOLTAGE

- (a) Measure the battery voltage.

Standard voltage:

11 to 14 V

If the voltage is below 11 V, recharge or replace the battery.



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: DIAGNOSTIC TROUBLE CODE CHART; 2016 MY Tacoma [08/2015 -]		

DIAGNOSTIC TROUBLE CODE CHART

Sliding Roof (Sliding Roof ECU (Sliding Roof Drive Gear Sub-assembly))

DTC CODE	DETECTION ITEM	SEE PAGE
B2341	Sensor (Motor) Failure	INFO
B2342	Switch Failure	INFO
B2343	Position Initialization Incomplete	INFO
B2344	Position Failure	INFO



Last Modified: 11-13-2015	6.6 D	Doc ID: RM000000TNX0B2X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: DTC CHECK / CLEAR; 2016 MY Tacoma [08/2015 -]		

DTC CHECK / CLEAR

1. CHECK DTC

- (a) Connect the Techstream to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the Techstream on.
- (d) Enter the following menus: Body Electrical / Sliding Roof / Trouble Codes.
- (e) Check the details of the DTC(s)  .

2. CLEAR DTC

- (a) Connect the Techstream to the DLC3.
- (b) Turn the ignition switch to ON.
- (c) Turn the Techstream on.
- (d) Enter the following menus: Body Electrical / Sliding Roof / Trouble Codes.
- (e) Clear the DTCs.



Last Modified: 11-13-2015	6.6 D	Doc ID: RM000000UZZK075X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: HOW TO PROCEED WITH TROUBLESHOOTING; 2016 MY Tacoma [08/2015 -]		

HOW TO PROCEED WITH TROUBLESHOOTING

HINT:

- Use the following procedure to troubleshoot the sliding roof system.
- *: Use the Techstream.

1.	VEHICLE BROUGHT TO WORKSHOP
-----------	------------------------------------

NEXT



2.	CUSTOMER PROBLEM ANALYSIS
-----------	----------------------------------

HINT:

- In troubleshooting, confirm that the problem symptoms have been accurately identified. Preconceptions should be discarded in order to make an accurate judgment. To clearly understand what the problem symptoms are, it is extremely important to ask the customer about the problem and the conditions at the time the malfunction occurred.
- Gather as much information as possible for reference. Past problems that seem unrelated may also help in some cases.
- The following 5 items are important points for problem analysis:

What	Vehicle, system name
When	Date, time, occurrence frequency
Where	Road conditions
Under what conditions?	Driving conditions, weather conditions
How did it happen?	Problem symptoms

NEXT



3.	INSPECT BATTERY VOLTAGE
-----------	--------------------------------

(a) Measure the battery voltage.

Standard voltage:

11 to 14 V

If the voltage is below 11 V, recharge or replace the battery before proceeding to the next step.

NEXT



4.	INSPECT COMMUNICATION FUNCTION OF CAN COMMUNICATION SYSTEM*
-----------	--

(a) Using the Techstream, check if the CAN communication system is functioning normally  .

RESULT	PROCEED TO
DTC is not output	A
DTC is output	B

B  **GO TO CAN COMMUNICATION SYSTEM**

A



5.	INSPECT COMMUNICATION FUNCTION OF LIN COMMUNICATION SYSTEM*
-----------	--

(a) Using the Techstream, check if the LIN communication system is functioning normally  .

RESULT	PROCEED TO
DTC is not output	A
DTC is output	B

B  **GO TO LIN COMMUNICATION SYSTEM**

A



6.	CHECK FOR DTC*
-----------	-----------------------

(a) Check for DTCs and make a note of any codes that are output  .

(b) Clear the DTCs.

(c) Recheck for DTCs.

RESULT	PROCEED TO
DTCs are not output	A
DTCs are output	B

B ► **GO TO DIAGNOSTIC TROUBLE CODE CHART**

A



7.	PROBLEM SYMPTOMS TABLE
-----------	-------------------------------

(a) Refer to Problem Symptoms Table **INFO** .

RESULT	PROCEED TO
Fault is not listed in problem symptoms table	A
Fault is listed in problem symptoms table	B

B ► **Go to step 9**

A



8.	OVERALL ANALYSIS AND TROUBLESHOOTING*
-----------	--

(a) Operation Check **INFO** .

(b) Terminals of ECU **INFO** .

(c) Data List / Active Test **INFO** .

NEXT



9.	ADJUST, REPAIR OR REPLACE
-----------	----------------------------------

(a) Check if the sliding roof drive gear sub-assembly has been replaced, or the sliding roof glass

sub-assembly or sliding roof drive cable sub-assembly has been adjusted, or removed and installed.

RESULT	PROCEED TO
The sliding roof drive gear sub-assembly has been replaced, or sliding roof glass sub-assembly or sliding roof drive cable sub-assembly has been adjusted, or removed and installed.	A
The sliding roof drive gear sub-assembly has not been replaced, and sliding roof glass sub-assembly and sliding roof drive cable sub-assembly have not been adjusted, or removed and installed.	B

B ► Go to step 11

A



10.	INITIALIZE SLIDING ROOF SYSTEM
------------	---------------------------------------

(a) Initialize the sliding roof ECU (sliding roof drive gear sub-assembly)  .

HINT:

If initialization has not been performed, the auto operation, jam protection function, key-off operation, key-linked function, wireless transmitter-linked function and sliding roof open warning will not operate or will operate incorrectly.

NEXT



11.	CONFIRMATION TEST
------------	--------------------------

NEXT ► **END**



Last Modified: 11-13-2015	6.6 D	Doc ID: RM000001VJR08XX
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: INITIALIZATION; 2016 MY Tacoma [08/2015 -]		

INITIALIZATION

1. INITIALIZE SLIDING ROOF SYSTEM

NOTICE:

- Before starting this operation, make sure that the guide rails are not deformed and there is no foreign matter on the guide rails.
- When the sliding roof glass sub-assembly or sliding roof drive cable sub-assembly is adjusted or removed/installed, or the sliding roof drive gear sub-assembly is replaced, the sliding roof ECU (sliding roof drive gear sub-assembly) must be initialized (pulse sensor initial position setting). If initialization is not performed, the auto operation, jam protection function, key-off operation, key-linked function, wireless transmitter-linked function and sliding roof open warning may not operate, or the sliding roof may move in reverse or become misaligned.
- During initialization, do not apply a physical shock, such as opening/closing a door or driving the vehicle at 5 km/h (3 mph) or more, to the vehicle and do not perform any electrical operations.

HINT:

The sliding roof switch assembly is attached to the roof console box assembly.

(a) Perform initialization according to the table below.

CONDITION OF SLIDING ROOF	PROCEED TO
Auto slide open and close/tilt up and down functions do not operate.	Procedure A
Automatically moves, but the sliding roof glass does not stop at the correct position (misalignment occurs), or the sliding roof glass moves in the reverse direction during tilt down operation.	Procedure B
Automatically moves, but the sliding roof glass moves in the reverse direction during slide close operation.	Procedure C

(1) Procedure A

- Turn the ignition switch to ON.
- Fully close the sliding roof glass and release the sliding roof switch.
- Press and hold the CLOSE or UP switch.

NOTICE:

Press and hold the CLOSE or UP switch until step 5 is completed. If the switch is released before step 5 is completed, repeat the operation from step 2.

- Sliding roof glass moves in the following order: tilts up → 1 second pause → tilts down → slides open → slides closed.
- After the roof glass stops in the fully closed position, release the switch.

HINT:

The initialization process ends when this operation completes.

- Make sure that the sliding roof auto function operates normally.

(2) Procedure B

- Turn the ignition switch to ON.

2. Press the UP switch to move the sliding roof glass to the fully tilted up position and then release the UP switch.

HINT:

- If the sliding roof glass cannot be fully tilted up due to misalignment of the roof glass, press and hold the CLOSE switch until the sliding roof glass stops closing, and then press and hold the UP switch until the sliding roof glass stops tilting up.
- If the sliding roof glass moves in the reverse direction while it is being closed, repeatedly tap the CLOSE switch at short intervals to fully close the sliding roof glass. When the sliding roof glass is fully closed, press the UP switch to move the sliding roof glass into the fully tilted up position.

3. Press and hold the UP switch again until the following operations complete: pauses for approximately 10 seconds or more → tilt inching motion → 1 second pause → tilts down → slides open → slides closed.

NOTICE:

- Press and hold the UP switch until step 4 is completed.
- While performing step 3, if the UP switch is released before "pauses for approximately 10 seconds or more" completes, start this step over.
- While performing step 3, if the UP switch is released after "pauses for approximately 10 seconds or more" completes, but above movements complete, perform procedure A to initialize the position of the sliding roof glass.

4. After the roof glass stops in the fully closed position, release the switch.

HINT:

The initialization process ends when this operation completes.

5. Make sure that the sliding roof auto function operates normally.

(3) Procedure C

1. Turn the ignition switch to ON.
2. Press and hold the CLOSE switch to move the sliding roof glass in the following order: slides closed → moves in the reverse direction → pauses for approximately 10 seconds or more → slides closed → tilts up → 1 second pause → tilts down → slides open → slides closed.

NOTICE:

- Press and hold the CLOSE switch until step 3 is completed.
- While performing step 2, if the CLOSE switch is released before "pauses for approximately 10 seconds or more" completes, start this step over.
- While performing step 2, if the CLOSE switch is released after "pauses for approximately 10 seconds or more" completes, but before the above movements complete, perform procedure A to initialize the position of the sliding roof glass.

3. After the roof glass stops in the fully closed position, release the switch.

HINT:

The initialization process ends when this operation completes.

4. Make sure that the sliding roof auto function operates normally.



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: OPERATION CHECK; 2016 MY Tacoma [08/2015 -]		

OPERATION CHECK

1. CHECK AUTO OPERATION

NOTICE:

- Make sure that initialization has been completed before inspection [INFO](#) .
- The sliding roof auto operation can be customized. Make sure that the auto operation is ON [INFO](#) .

HINT:

When pressing the switch for 0.3 seconds or less, the roof glass moves but auto operation does not operate.

- Turn the ignition switch to ON.
- When the roof glass is fully closed, press the OPEN switch for 0.3 seconds or more. Check that the roof glass automatically slides until it reaches the comfort stop position.
- When the roof glass is in the comfort stop position, press the OPEN switch again for 0.3 seconds or more. Check that the roof glass automatically slides until it is fully opened.
- When the roof glass is fully open, press the CLOSE switch for 0.3 seconds or more. Check that the roof glass automatically slides until it is fully closed.
- When the roof glass is fully closed, press the UP switch for 0.3 seconds or more. Check that the roof glass automatically tilts up until it is fully tilted upward.
- When the roof glass is fully tilted up, press the DOWN switch for 0.3 seconds or more. Check that the roof glass automatically tilts down until it is fully tilted downward.
- When the auto function is operating, check that pressing any of the sliding roof switches stops the roof glass operation.

2. CHECK KEY-OFF OPERATION (SLIDING ROOF OPERATION AFTER IGNITION SWITCH IS TURNED OFF)

NOTICE:

Make sure that initialization has been completed before inspection [INFO](#) .

- Turn the ignition switch from ON to off, and check that the sliding roof can be operated. Then open the driver or front passenger door once, and check that the sliding roof cannot be operated.
- Turn the ignition switch from ON to off and wait for approximately 43 seconds. Check that the sliding roof cannot be operated.
- Operate the auto function (slide open/close or tilt up/down) with the driver or front passenger door open. While the roof glass is moving, turn the ignition switch off. Check that the roof glass stops immediately.

3. CHECK JAM PROTECTION FUNCTION

CAUTION:

- Do not use a part of your body, for example, your hand, to check the jam protection function.
- Do not allow anything to become caught in the sliding roof by accident while performing this inspection.
- Perform the inspection from the inside of the vehicle.

NOTICE:

- Do not use hard objects, such as a hammer, to avoid damaging the roof.

- Make sure that initialization has been completed before inspection **INFO** .
- The jam protection function does not operate when the roof glass is close to the fully closed position.

- When the slide close function is operating and an object is caught between the vehicle body and glass, check that the roof glass opens a distance of 218 mm (8.58 in.) from the point of contact with the object, or opens fully if an opening distance of 218 mm (8.58 in.) is not available.
- When the tilt down function is operating, and an object is caught between the vehicle body and the roof glass, check that the sliding roof tilts up fully.

4. CHECK KEY-LINKED FUNCTION (DRIVER DOOR ONLY)

CAUTION:

Make sure that there are no people near the vehicle while performing this inspection. Also be careful not to let any part of your body such as your hand get caught in the sliding roof by accident while performing this inspection.

NOTICE:

Make sure that initialization has been completed before inspection **INFO** .

HINT:

- This function is linked with the power window key-linked function.
- The sliding roof key-linked function can be customized to perform either the sliding roof sliding operation or tilting operation.
- The default setting is OFF. If necessary, the function must be set to ON through the customize function

INFO .

- Check the key-linked open function:
 - Close and lock all doors.
 - Insert the key into the driver door key cylinder and turn the key to the unlock position for approximately 2.5 seconds or more. Check that slide open/tilt up operation occurs. Then release the key and check that the sliding roof stops moving.
- Check the key-linked close function:
 - Open the sliding roof by using the sliding roof switch.
 - Close and unlock all doors.
 - Insert the key into the driver door key cylinder, and turn the key to the lock position for approximately 2.5 seconds or more. Check that the slide close/tilt down operation occurs. Then release the key and check that the sliding roof stops moving.

5. CHECK WIRELESS TRANSMITTER-LINKED FUNCTION

CAUTION:

Make sure that there are no people near the vehicle while performing this inspection. Also be careful not to let any part of your body such as your hand get caught in the sliding roof by accident while performing this inspection.

NOTICE:

Make sure that initialization has been completed before inspection **INFO** .

HINT:

- This function is linked with the power window wireless transmitter-linked function.
- The wireless transmitter-linked function can be customized to perform either the sliding roof sliding operation or tilting operation.
- The default setting is OFF. If necessary, the function must be set to ON through the customize function

INFO .

- Check the wireless transmitter-linked open function:

- (1) Close and lock all the doors.
- (2) Hold down the transmitter UNLOCK switch for approximately 4 seconds or more and check that the slide open/tilt up operation occurs. Also, when the UNLOCK switch is released, check that the roof glass stops moving.

6. CHECK SLIDING ROOF OPEN WARNING

NOTICE:

- Make sure that initialization has been completed before inspection  .
- The sliding roof open warning can be customized. Make sure that the sliding roof open warning is ON  .

- (a) Open the sliding roof by using the sliding roof switch.
- (b) When the ignition switch is turned from ON to off and the driver door is opened with the key in the vehicle, check that the warning buzzer in the combination meter assembly sounds once. Then, check that the multi-information display on the combination meter assembly displays "MOON ROOF OPEN".*

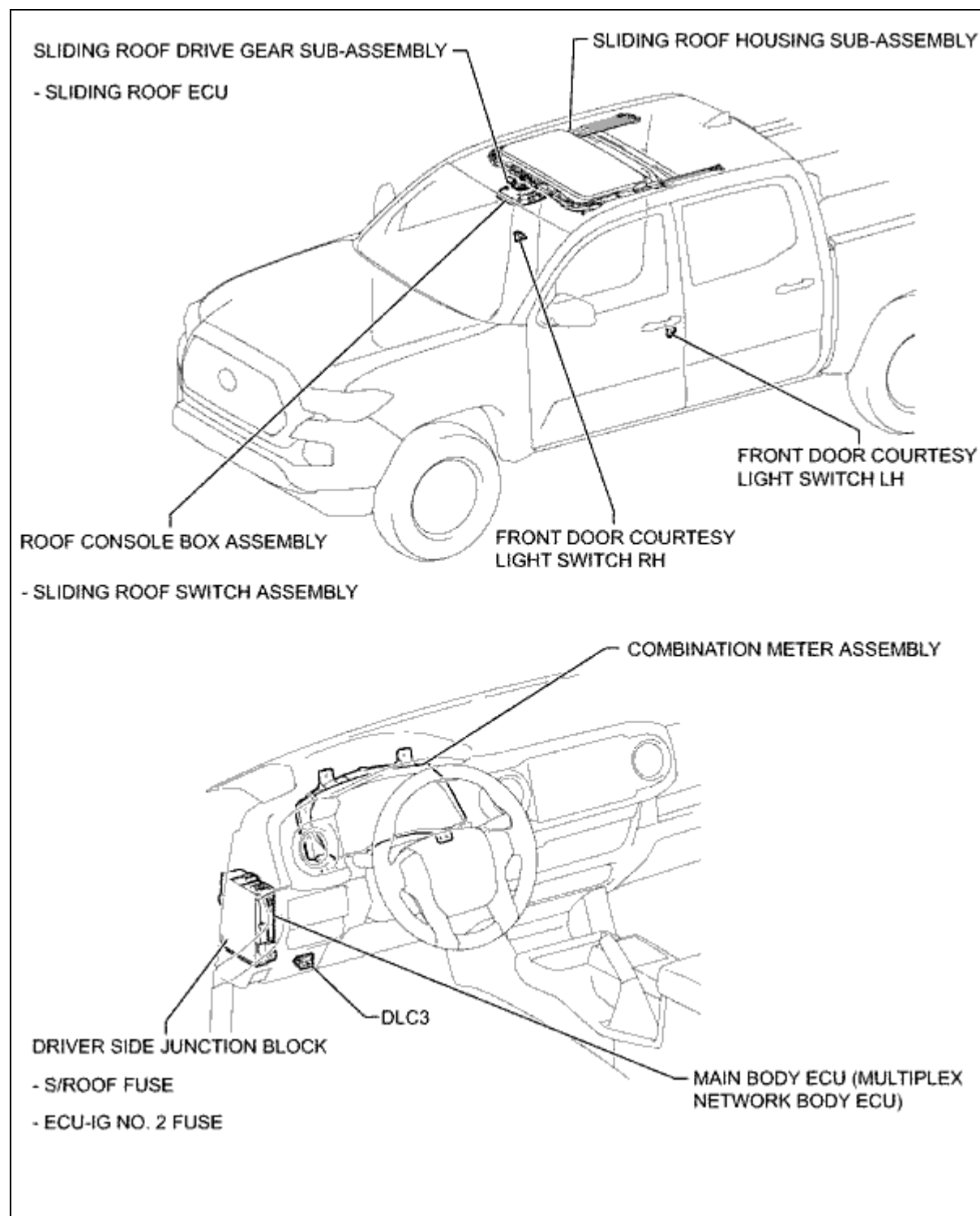
*: w/ Multi-information Display



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: PARTS LOCATION; 2016 MY Tacoma [08/2015 -]		

PARTS LOCATION

ILLUSTRATION



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: PRECAUTION; 2016 MY Tacoma [08/2015 -]		

PRECAUTION

1. IGNITION SWITCH EXPRESSIONS

(a) The type of ignition switch used on this model differs according to the specifications of the vehicle. The expressions listed in the table below are used in this section.

EXPRESSION	IGNITION SWITCH (POSITION)	ENGINE SWITCH (CONDITION)
Ignition Switch off	LOCK	Off
Ignition Switch ACC	ACC	On (ACC)
Ignition Switch ON	ON	On (IG)
Engine Start	START	Start



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Title: SLIDING ROOF: SLIDING ROOF SYSTEM: PROBLEM SYMPTOMS TABLE; 2016 MY Tacoma [08/2015 -]		

PROBLEM SYMPTOMS TABLE

HINT:

- Use the table below to help determine the cause of problem symptoms. If multiple suspected areas are listed, the potential causes of the symptoms are listed in order of probability in the "Suspected Area" column of the table. Check each symptom by checking the suspected areas in the order they are listed. Replace parts as necessary.
- Inspect the fuses and relays related to this system before inspecting the suspected areas below.

Sliding Roof System

SYMPTOM	SUSPECTED AREA	SEE PAGE
Remote Control System does not Operate	Proceed to "Remote Control System does not Operate"	INFO
Sliding Roof does not Move by Operating Sliding Roof Control Switch	Proceed to "Sliding Roof does not Move by Operating Sliding Roof Control Switch"	INFO
Slide roof warning buzzer malfunction	Meter / gauge system	INFO
	Main body ECU (multiplex network ECU)	INFO
Slide roof does not move	Sliding roof switch (Roof console box assembly)	INFO
	Wire harness or connector	-
	Sliding roof ECU (Sliding roof drive gear sub-assembly)	INFO



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: Remote Control System does not Operate; 2016 MY Tacoma [08/2015 -]		

Remote Control System does not Operate

DESCRIPTION

The main body ECU (multiplex network body ECU) receives remote control signals from the driver door key cylinder or wireless transmitter. Then, the main body ECU (multiplex network body ECU) sends the remote control signals to the sliding roof ECU (sliding roof drive gear sub-assembly) via LIN communication. The sliding roof ECU (sliding roof drive gear sub-assembly) receives those signals and activates the sliding roof motor.

INSPECTION PROCEDURE

NOTICE:

- The sliding roof key-linked function and sliding roof wireless transmitter-linked function can be customized. Make sure that both functions are ON [INFO](#) .
- When the sliding roof ECU (sliding roof drive gear sub-assembly) is removed and reinstalled or replaced, the sliding roof ECU (sliding roof drive gear sub-assembly) must be initialized [INFO](#) .
- Since the sliding roof system has functions that use LIN communication, first confirm that there is no malfunction in the LIN communication system with the How to Proceed with Troubleshooting procedure [INFO](#) .
- When sliding roof ECU (sliding roof drive gear sub-assembly) DTC is output, first perform troubleshooting for the sliding roof ECU (sliding roof drive gear sub-assembly) DTC.

PROCEDURE

1.	CHECK REMOTE CONTROL FUNCTION
-----------	--------------------------------------

(a) Check the key-linked and wireless transmitter-linked function [INFO](#) .

RESULT	PROCEED TO
The roof glass does not operate by the key-linked or wireless transmitter-linked function,	A
The roof glass operates by both the key-linked and wireless transmitter-linked function.	B

B **USE SIMULATION METHOD TO CHECK**

A

2.	CHECK SLIDING ROOF OPERATION
-----------	-------------------------------------

(a) Check the sliding roof operation  .

OK:

Sliding roof operation operates normally.

NG  **GO TO OTHER PROBLEM (Sliding Roof does not Move by Operating Sliding Roof Control)**

OK



3.	REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)
-----------	--

(a) Replace the sliding roof ECU (sliding roof drive gear sub-assembly)  .

NEXT



4.	INITIALIZE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)
-----------	---

(a) Initialize the sliding roof ECU (sliding roof drive gear sub-assembly)  .

NEXT



5.	CHECK REMOTE CONTROL FUNCTION
-----------	--------------------------------------

(a) Check the key-linked and wireless transmitter-linked function  .

OK:

The key-linked and wireless transmitter-linked function operates normally.

NG  **REPLACE MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU)**

OK  **END (SLIDING ROOF ECU WAS DEFECTIVE)**



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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: SYSTEM DESCRIPTION; 2016 MY Tacoma [08/2015 -]		

SYSTEM DESCRIPTION

1. GENERAL

This system has the following functions: manual slide open and close; auto slide open and close; manual tilt up and down; auto tilt up and down; jam protection; key off operation; key-linked open and close; wireless transmitter-linked open sliding roof open warning.

2. FUNCTION OF MAIN COMPONENTS

COMPONENT	OUTLINE
Sliding roof ECU (Sliding roof drive gear sub-assembly)	The sliding roof ECU (sliding roof drive gear sub-assembly) controls the rotational direction of the motor, which tilts or slides the sliding roof glass.
Sliding roof switch (Roof console box assembly)	The sliding roof switch (roof console box assembly) outputs operation signals to the sliding roof ECU (sliding roof drive gear sub-assembly).

3. SYSTEM OPERATION

The sliding roof has the following features.

FUNCTION	OUTLINE
Manual slide open and close	This function causes the sliding roof to open (or close) when the OPEN switch (or CLOSE switch) is pressed for a maximum of 0.3 seconds. The sliding roof stops as soon as the switch is released.
Auto slide open and close*1, *2	This function causes the sliding roof to reach the comfort stop position or fully open (or fully close) when the OPEN switch (or CLOSE switch) is pressed for a minimum of 0.3 seconds.
Manual tilt up and down	This function causes the sliding roof to tilt up (or tilt down) when the UP switch (or DOWN switch) is pressed for a maximum of 0.3 seconds. The sliding roof stops as soon as switch is released.
Auto tilt up and down*1, *2	This function causes the sliding roof to fully tilt up (or tilt down) when the UP switch (or DOWN switch) is pressed for a minimum of 0.3 seconds.
Jam protection*2	The jam protection function automatically stops the sliding roof and moves it open halfway (or fully tilt up) if a foreign object gets jammed in the sliding roof during close or tilt down operation.
Key-off operation*2	The key-off operation function makes it possible to operate the sliding roof for approximately 43 seconds after the ignition switch is turned to ACC or off, if the front doors are not opened.
Key-linked open and close*2, *3	• When the key is not in the vehicle, the driver door is unlocked, and the driver door key cylinder is turned and held in the unlock direction for 2.5 seconds or more, the sliding roof ECU (sliding roof drive gear sub-assembly) activates the sliding roof motor to open the sliding roof while the key is turned. • When the key is not in the vehicle, the driver door is locked, and the driver door

FUNCTION	OUTLINE
	key cylinder is turned and held in the lock direction for 2.5 seconds or more, the sliding roof ECU (sliding roof drive gear sub-assembly) activates the sliding roof motor to close the sliding roof while the key is turned. HINT: This function is linked with the power window key-linked function.
Wireless transmitter-linked open,*2, *3	When the main body ECU (multiplex network body ECU) receives an unlock signal from the transmitter continuously for longer than 4 seconds, the sliding roof ECU (sliding roof drive gear sub-assembly) activates the sliding roof motor to open the sliding roof while the transmitter switch pressed. HINT: This function is linked with the power window wireless transmitter-linked function.
Sliding roof open warning*1, *2	When the ignition switch is turned from ON to off and the driver door is opened with the sliding roof open, the buzzer in the combination meter assembly sounds once. Then, a warning message appears on the multi-information display.*4

*1: This function can be customized  . If the customize setting is OFF, this function does not operate.

*2: If the sliding roof ECU (sliding roof drive gear sub-assembly) has not been initialized, this function does not operate.

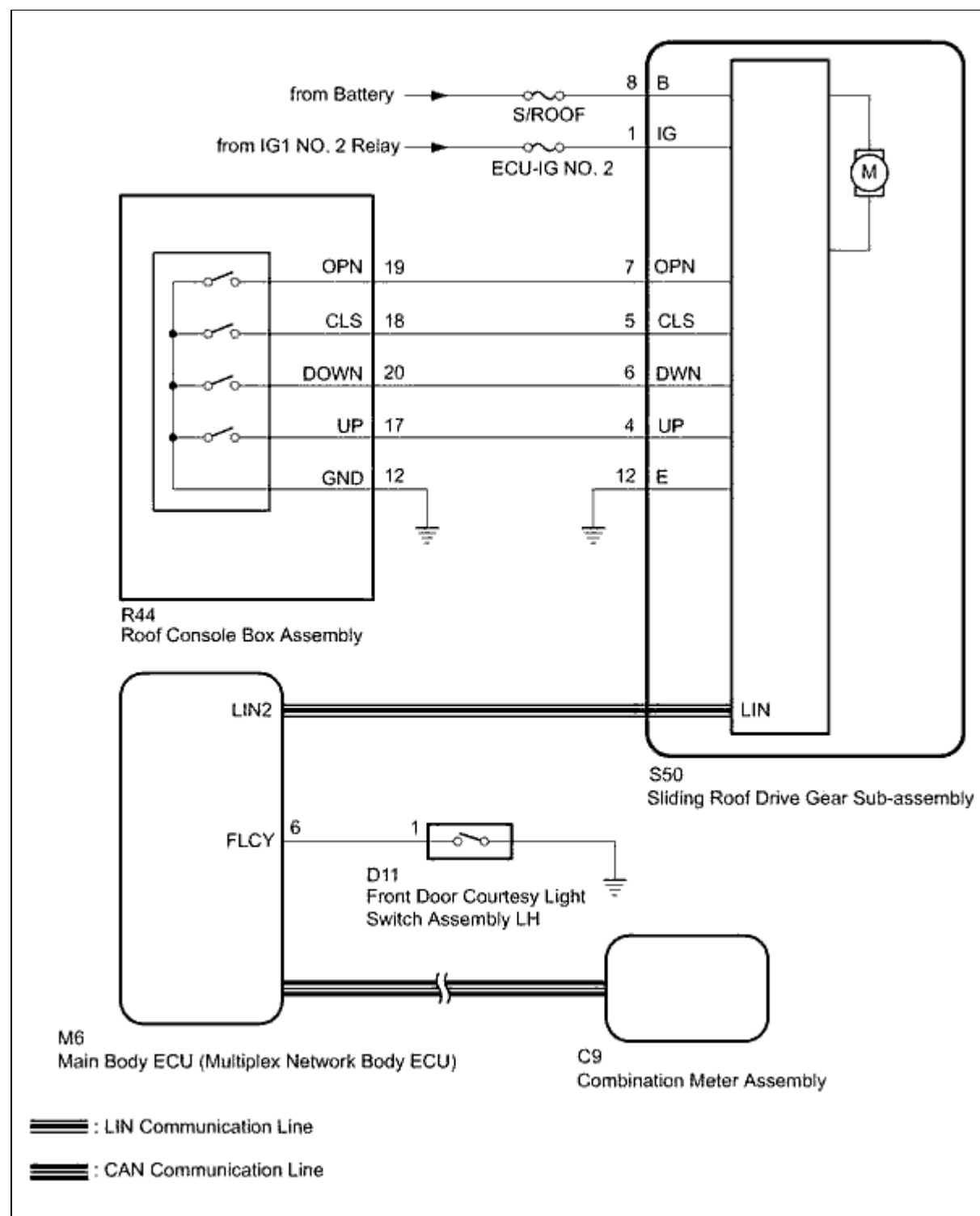
*3: This function is set through the customize function, as it is off by default.

*4: w/ Multi-information Display



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Title: SLIDING ROOF: SLIDING ROOF SYSTEM: SYSTEM DIAGRAM; 2016 MY Tacoma [08/2015 -]		

SYSTEM DIAGRAM



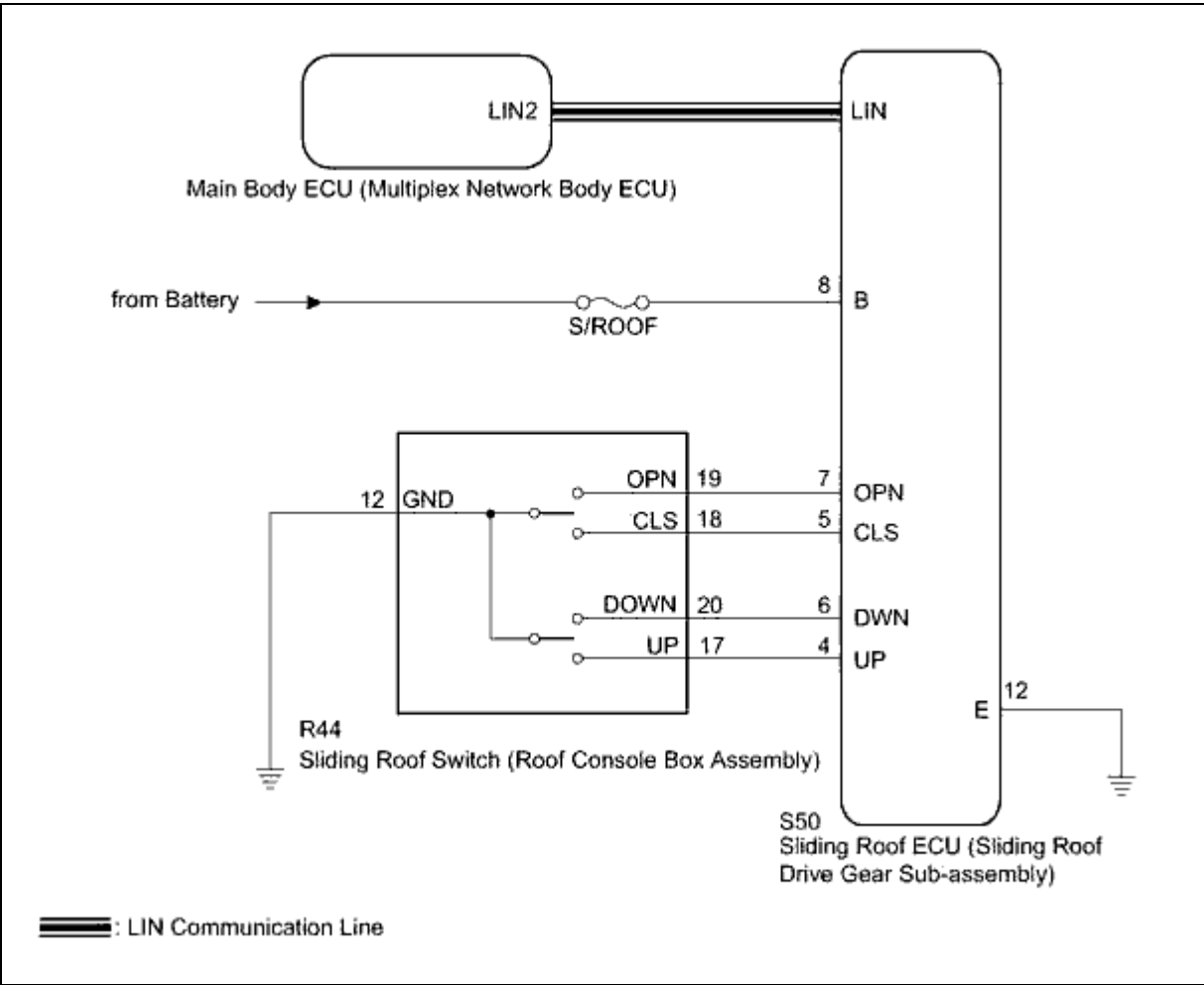
Last Modified: 11-13-2015	6.6 J	Doc ID: RM000000UZV0A7X
Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: Sliding Roof does not Move by Operating Sliding Roof Control Switch; 2016 MY Tacoma [08/2015 -]		

Sliding Roof does not Move by Operating Sliding Roof Control Switch

DESCRIPTION

The sliding roof ECU (sliding roof drive gear sub-assembly) receives slide and tilt signals when the sliding roof switch is operated and drives its built-in motor.

WIRING DIAGRAM



INSPECTION PROCEDURE

NOTICE:

- Inspect the fuses for circuits related to this system before performing the following inspection procedure.
- When the sliding roof ECU (sliding roof drive gear sub-assembly) is removed and reinstalled or replaced, the sliding roof ECU (sliding roof drive gear sub-assembly) must be initialized INFO.
- The sliding roof system uses the LIN communication system. First, confirm that there are no malfunctions

- in the LIN communication system. Refer to the How to Proceed with Troubleshooting procedure **INFO** .
- When a sliding roof ECU (sliding roof drive gear sub-assembly) DTC is output, first perform troubleshooting for the sliding roof ECU (sliding roof drive gear sub-assembly) DTC.

PROCEDURE

1. READ VALUE USING TECHSTREAM

- Connect the Techstream to the DLC3.
- Turn the ignition switch to ON.
- Turn the Techstream on.
- Enter the following menus: Body Electrical / Sliding Roof / Data List.
- Read the Data List according to the display on the Techstream.

Sliding Roof

TESTER DISPLAY	MEASUREMENT ITEM/RANGE	NORMAL CONDITION	DIAGNOSTIC NOTE
Open Switch	OPEN switch signal/ON or OFF	ON: OPEN switch pressed OFF: OPEN switch not pressed	-
Close Switch	CLOSE switch signal/ON or OFF	ON: CLOSE switch pressed OFF: CLOSE switch not pressed	-
Up Switch	UP switch signal/ON or OFF	ON: UP switch pressed OFF: UP switch not pressed	-
Down Switch	DOWN switch signal/ON or OFF	ON: DOWN switch pressed OFF: DOWN switch not pressed	-

OK:

The Techstream display changes according to switch operation as shown in the table.

NG  **GO TO STEP 3**

OK



2. CHECK HARNESS AND CONNECTOR (SLIDING ROOF ECU - BATTERY AND BODY GROUND)

- Disconnect the S50 sliding roof ECU (sliding roof drive gear sub-assembly) connector.
- Measure the voltage according to the value(s) in the table below.

Standard Voltage:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S50-8 (B) - Body ground	Always	11 to 14 V

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S50-12 (E) - Body ground	Always	Below 1 Ω

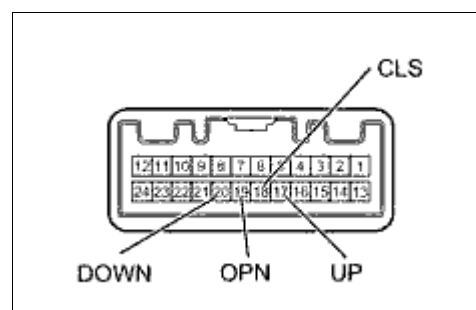
NG ► REPAIR OR REPLACE HARNESS OR CONNECTOR

OK ► REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)

3.	INSPECT SLIDING ROOF SWITCH (ROOF CONSOLE BOX ASSEMBLY)
-----------	--

(a) Remove the sliding roof switch (roof console box assembly)

INFO .



(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
17 (UP) - 12 (GND)	UP switch is pressed	Below 1 Ω
17 (UP) - 12 (GND)	UP switch is not pressed	10 k Ω or higher
20 (DOWN) - 12 (GND)	DOWN switch is pressed	Below 1 Ω
20 (DOWN) - 12 (GND)	DOWN switch is not pressed	10 k Ω or higher
19 (OPN) - 12 (GND)	OPEN switch is pressed	Below 1 Ω
19 (OPN) - 12 (GND)	OPEN switch is not pressed	10 k Ω or higher
18 (CLS) - 12 (GND)	CLOSE switch is pressed	Below 1 Ω
18 (CLS) - 12 (GND)	CLOSE switch is not pressed	10 k Ω or higher

Text in Illustration

*a	Component without harness connected (Sliding Roof Switch (Roof Console Box Assembly))
----	--

NG ► **REPLACE SLIDING ROOF SWITCH (ROOF CONSOLE BOX ASSEMBLY)**

OK
▼

4.	CHECK HARNESS AND CONNECTOR (SLIDING ROOF ECU - SLIDING ROOF SWITCH AND BODY GROUND)
-----------	---

- (a) Disconnect the R44 sliding roof switch (roof console box assembly) connector.
- (b) Disconnect the S50 sliding roof ECU (sliding roof drive gear sub-assembly) connector.
- (c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
S50-5 (CLS) - R44-18 (CLS)	Always	Below 1 Ω
S50-5 (CLS) - Body ground	Always	10 k Ω or higher
S50-7 (OPN) - R44-19 (OPN)	Always	Below 1 Ω
S50-7 (OPN) - Body ground	Always	10 k Ω or higher
S50-6 (DWN) - R44-20 (DOWN)	Always	Below 1 Ω
S50-6 (DWN) - Body ground	Always	10 k Ω or higher
S50-4 (UP) - R44-17 (UP)	Always	Below 1 Ω
S50-4 (UP) - Body ground	Always	10 k Ω or higher
R44-12 (GND) - Body ground	Always	Below 1 Ω
S50-12 (E) - Body ground	Always	Below 1 Ω

NG ► **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ► **REPLACE SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)**

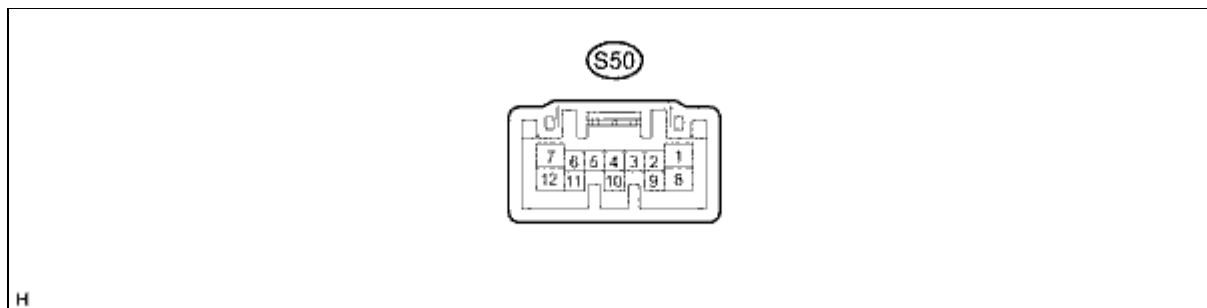


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Model Year Start: 2016	Model: Tacoma	Prod Date Range: [08/2015 -]
Title: SLIDING ROOF: SLIDING ROOF SYSTEM: TERMINALS OF ECU; 2016 MY Tacoma [08/2015 -]		

TERMINALS OF ECU

1. CHECK SLIDING ROOF ECU (SLIDING ROOF DRIVE GEAR SUB-ASSEMBLY)

(a) Disconnect the S50 sliding roof ECU (sliding roof drive gear sub-assembly) connector.



(b) Measure the resistance and voltage according to the value(s) in the table below.

HINT:

Measure the values on the wire harness side with the connector disconnected.

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
S50-8 (B) - S50-12 (E)	W - W-B	Battery power supply	Always	11 to 14 V
S50-1 (IG) - S50-12 (E)	BE - W-B	IG power supply	Ignition switch off	Below 1 V
S50-1 (IG) - S50-12 (E)	BE - W-B	IG power supply	Ignition switch ON	11 to 14 V
S50-12 (E) - Body ground	W-B - Body ground	Ground	Always	Below 1 Ω

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

(c) Reconnect the S50 sliding roof ECU (sliding roof drive gear sub-assembly) connector.

(d) Measure the voltage according to the value(s) in the table below.

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
S50-7 (OPN) - S50-12 (E)	B - W-B	Sliding roof motor open	Ignition switch ON, OPEN switch on	Below 1 V
S50-7 (OPN) - S50-12 (E)	B - W-B	Sliding roof motor open	Ignition switch ON, OPEN switch off	11 to 14 V
S50-5 (CLS) - S50-12 (E)	SB - W-B	Sliding roof motor close	Ignition switch ON, CLOSE switch on	Below 1 V
S50-5 (CLS) - S50-12 (E)	SB - W-B	Sliding roof motor close	Ignition switch ON, CLOSE switch off	11 to 14 V

TESTER CONNECTION	WIRING COLOR	TERMINAL DESCRIPTION	CONDITION	SPECIFIED CONDITION
S50-4 (UP) - S50-12 (E)	LG - W-B	Sliding roof motor up	Ignition switch ON, UP switch on	Below 1 V
S50-4 (UP) - S50-12 (E)	LG - W-B	Sliding roof motor up	Ignition switch ON, UP switch off	11 to 14 V
S50-6 (DWN) - S50-12 (E)	L - W-B	Sliding roof motor down	Ignition switch ON, DOWN switch on	Below 1 V
S50-6 (DWN) - S50-12 (E)	L - W-B	Sliding roof motor down	Ignition switch ON, DOWN switch off	11 to 14 V

If the result is not as specified, the sliding roof ECU (sliding roof drive gear sub-assembly) may be malfunctioning.

