

# Moon Roof Assembly Structure Noise

**Service Category** Vehicle Exterior

**Section** Exterior Panels/Trim

**Market** USA

Toyota Supports  
 ASE Certification 

## Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2007 – 2011	Camry, Camry HV	WMI(s): 4T1, 4T4

### **SUPERSESSION NOTICE**

The information contained in this bulletin supersedes SB No. T-SB-0089-08.

- Applicability has been updated to include 2010 – 2011 model year vehicles.
- Repair Procedure has been updated.

Service Bulletin No. T-SB-0089-08 is Obsolete and any printed versions should be discarded. Be sure to review the entire content of this service bulletin before proceeding.

## Introduction

Some 2007 – 2011 North American produced (NAP) Camry and Camry HV vehicles may exhibit a knocking, popping, ticking, or snapping noise from the moon roof area while driving. The repair procedures below have been developed to address this condition.

### **NOTE**

- Repair Procedure 2 should not be completed unless Repair Procedure 1 does not correct the condition.
- Repair Procedure 2 requires felt to be placed between the sheet-metal panels in the roof, NOT between the moon roof assembly and the roof.
- In order to properly perform this bulletin, the moon roof assembly MUST be COMPLETELY REMOVED from the roof.
- Do NOT place the felt on any part of the moon roof assembly.

- Repair Procedure 1: page 2
- Repair Procedure 2: page 8

## Moon Roof Assembly Structure Noise

### Parts Information

PREVIOUS PART NUMBER	CURRENT PART NUMBER	PART NAME	QTY
08231-00801	Same	Interior Noise Kit	1

### Warranty Information

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
NV1201	Headliner Removal & Moon Roof Assembly Adjustment: Repair Procedure 1	1.6	63203-06030	91	57
NV1202	Remove Moon Roof Assembly & Insulate Roof Structure: Repair Procedure 2	1.3	63142-06040		

#### APPLICABLE WARRANTY

- This repair is covered under the Toyota Comprehensive Warranty. This warranty is in effect for 36 months or 36,000 miles, whichever occurs first, from the vehicle's in-service date.
- Warranty application is limited to occurrence of the specified condition described in this bulletin.

### Repair Procedure 1

1. Confirm that the noise is coming from the moon roof area.
2. Record the radio station presets.
3. Remove the headliner assembly. Refer to the Technical Information System (TIS), applicable model and model year Repair Manual:
  - [2007](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) Camry:  
*Vehicle Interior – Interior Panels/Trim – “Interior: Roof Headlining: Removal”*
  - [2007 \(to 10/2006\)](#) / [2007 \(from 10/2006\)](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) Camry HV:  
*Vehicle Interior – Interior Panels/Trim – “Interior: Roof Headlining: Removal”*

## Moon Roof Assembly Structure Noise

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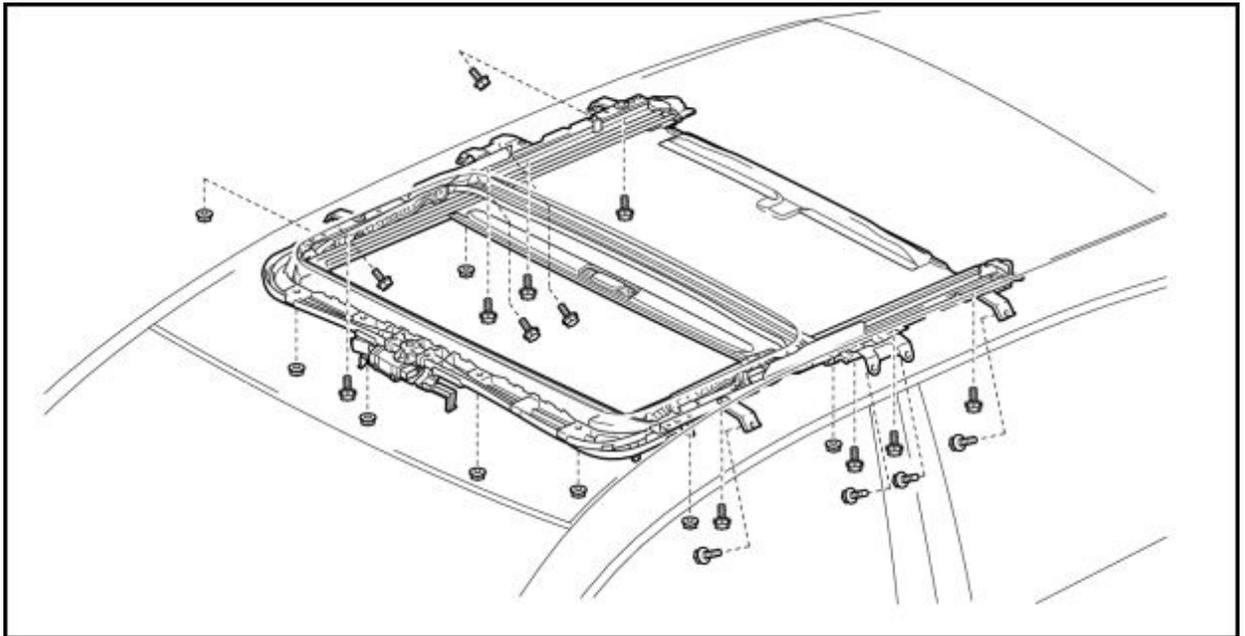
### Repair Procedure 1 (Continued)

4. Loosen the 8 nuts and 16 bolts retaining the moon roof housing sub-assembly.

**NOTE**

Do NOT remove the 8 nuts and 16 bolts.

Figure 1. Fastener Locations



## Moon Roof Assembly Structure Noise

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### Repair Procedure 1 (Continued)

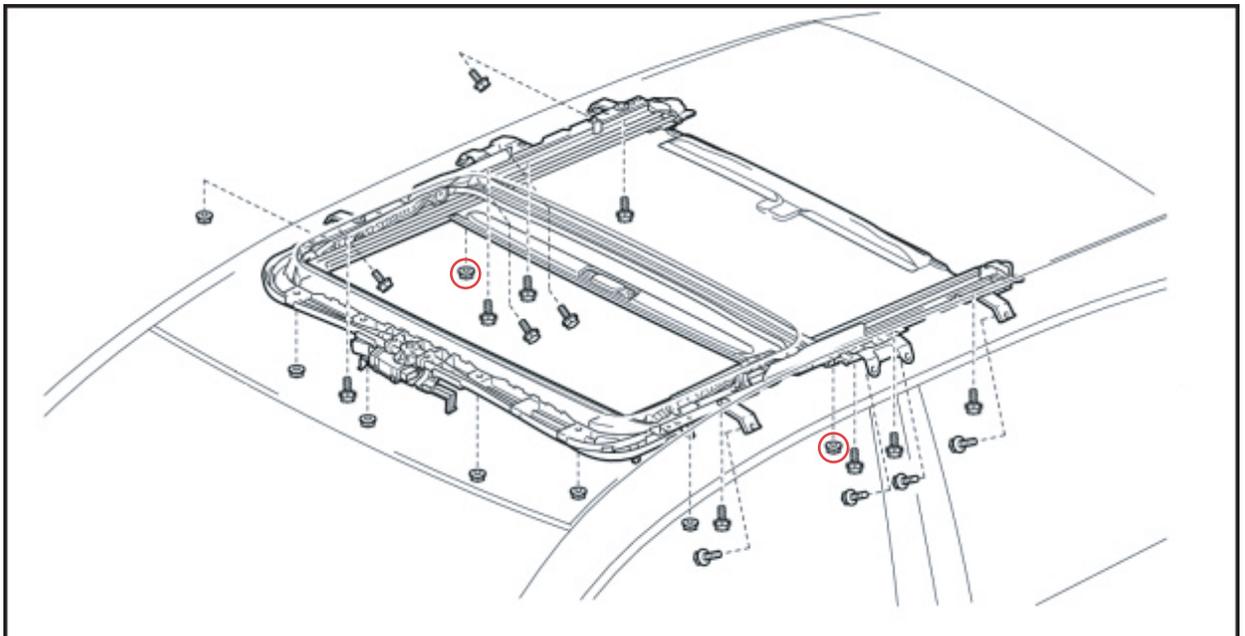
5. Tighten the rear most LH and RH nuts (as indicated in Figure 2).

**Torque: 5.5 N\*m (56 kgf\*cm, 49 in\*lbf)**

**NOTE**

**LH & RH rear nuts must be tightened before any other moon roof assembly fasteners are tightened.**

**Figure 2.**



## Moon Roof Assembly Structure Noise

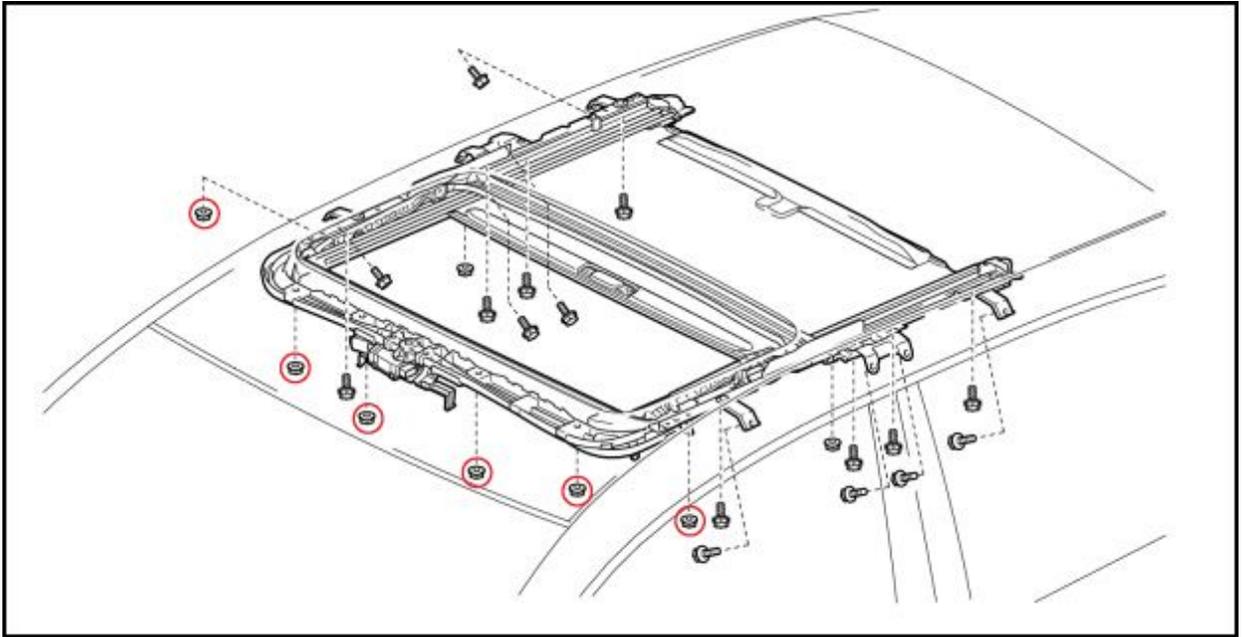
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### Repair Procedure 1 (Continued)

6. Tighten remaining 6 nuts (as indicated in Figure 3).

**Torque: 5.5 N\*m (56 kgf\*cm, 49 in\*lbf)**

**Figure 3.**



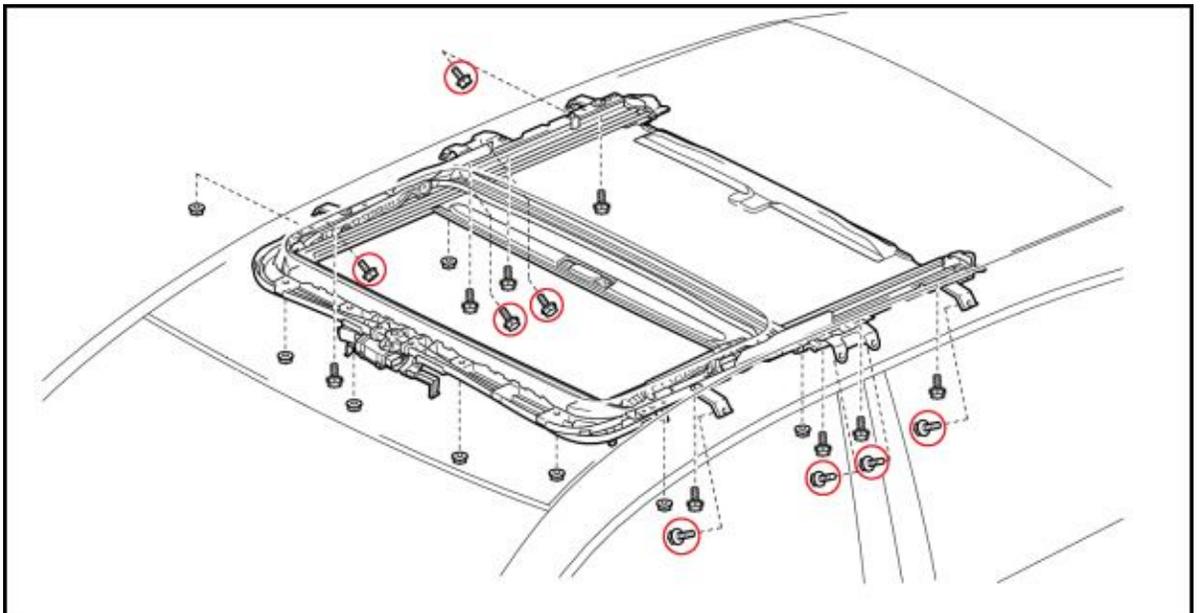
## Moon Roof Assembly Structure Noise

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### Repair Procedure 1 (Continued)

7. Tighten the 8 moon roof reinforcement to body structure bolts (as indicated in Figure 4).
  - A. Position each reinforcement bracket to sit squarely against both the body structure surface and the moon roof housing surface.
  - B. Tighten each bolt.  
**Torque: 5.5 N\*m (56 kgf\*cm, 49 in\*lbf)**

Figure 4.



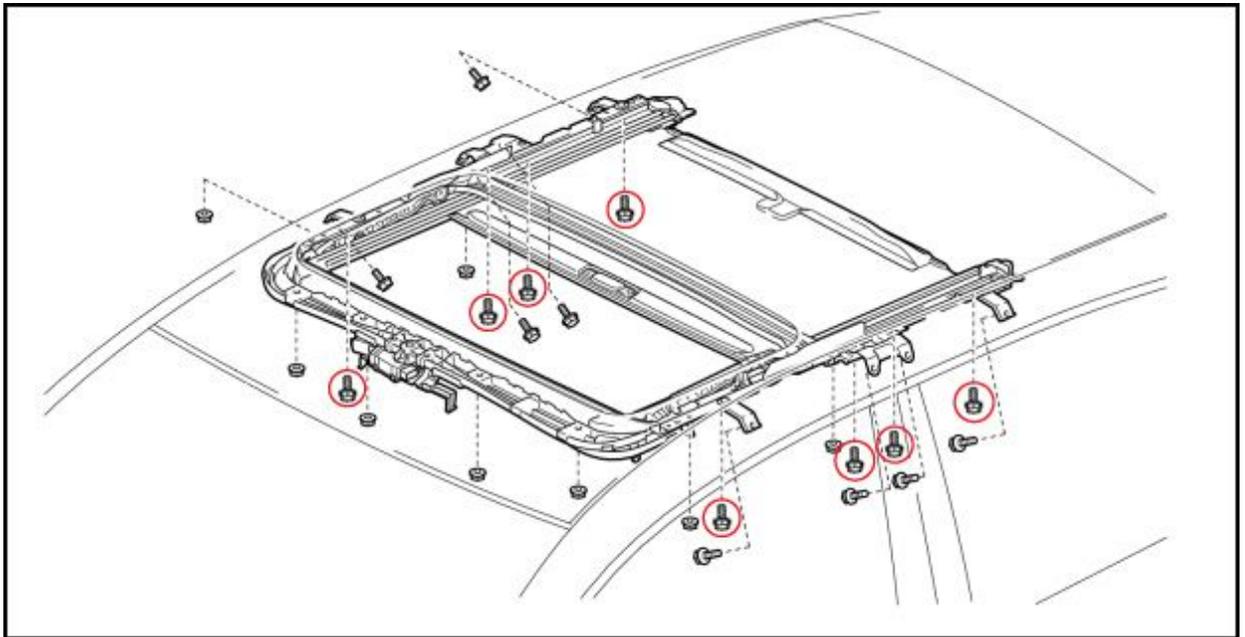
## Moon Roof Assembly Structure Noise

### Repair Procedure 1 (Continued)

8. Tighten the 8 moon roof reinforcement to moon roof housing bolts (Figure 5).

**Torque: 5.5 N\*m (56 kgf\*cm, 49 in\*lbf)**

**Figure 5.**



9. Secure any loose components and test drive vehicle to verify repair.
  - A. If noise is corrected, proceed to step 10 for reassembly of vehicle. Do NOT proceed to Repair Procedure 2.
  - B. If noise is not corrected, skip steps 10 and 11, proceed directly to Repair Procedure 2
10. Reinstall the headliner assembly. Refer to TIS, applicable model and model year Repair Manual:
  - [2007](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) Camry:  
*Vehicle Interior – Interior Panels/Trim – “Interior: Roof Headlining: Installation”*
  - [2007 \(to 10/2006\)](#) / [2007 \(from 10/2006\)](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) Camry HV:  
*Vehicle Interior – Interior Panels/Trim – “Interior: Roof Headlining: Installation”*
11. Reset the radio presets and clock.

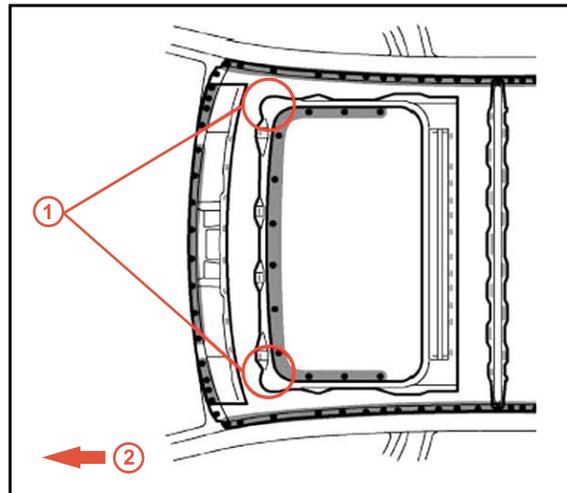
## Moon Roof Assembly Structure Noise

### Repair Procedure 2

**NOTE**

- Repair Procedure 2 should NOT be completed unless Repair Procedure 1 does not correct the condition.
- This procedure requires felt to be placed between the sheet-metal panels in the roof, NOT between the moon roof assembly and the roof.
- In order to properly perform this procedure, the moon roof assembly MUST be COMPLETELY REMOVED from the roof.
- Do NOT place felt on any part of the moon roof assembly.

Figure 6. Artwork in Progress



1	Areas to Insulate
2	Front

1. Disengage the 2 claws and remove the front side rail spacer LH.
2. Disengage the 2 claws and remove the front side rail spacer RH.
3. Remove LH & RH curtain shield airbag assembly. Refer to TIS, applicable model and model year Repair Manual:
  - [2007 / 2008 / 2009 / 2010 / 2011](#) Camry: *Vehicle Interior – Supplemental Restraint Systems – “Curtain Shield Airbag Assembly: Removal”*
  - [2007 \(to 10/2006\) / 2007 \(from 10/2006\) / 2008 / 2009 / 2010 / 2011](#) Camry HV: *Vehicle Interior – Supplemental Restraint Systems – “Curtain Shield Airbag Assembly: Removal”*
4. Disconnect the 4 moon roof drain hoses.

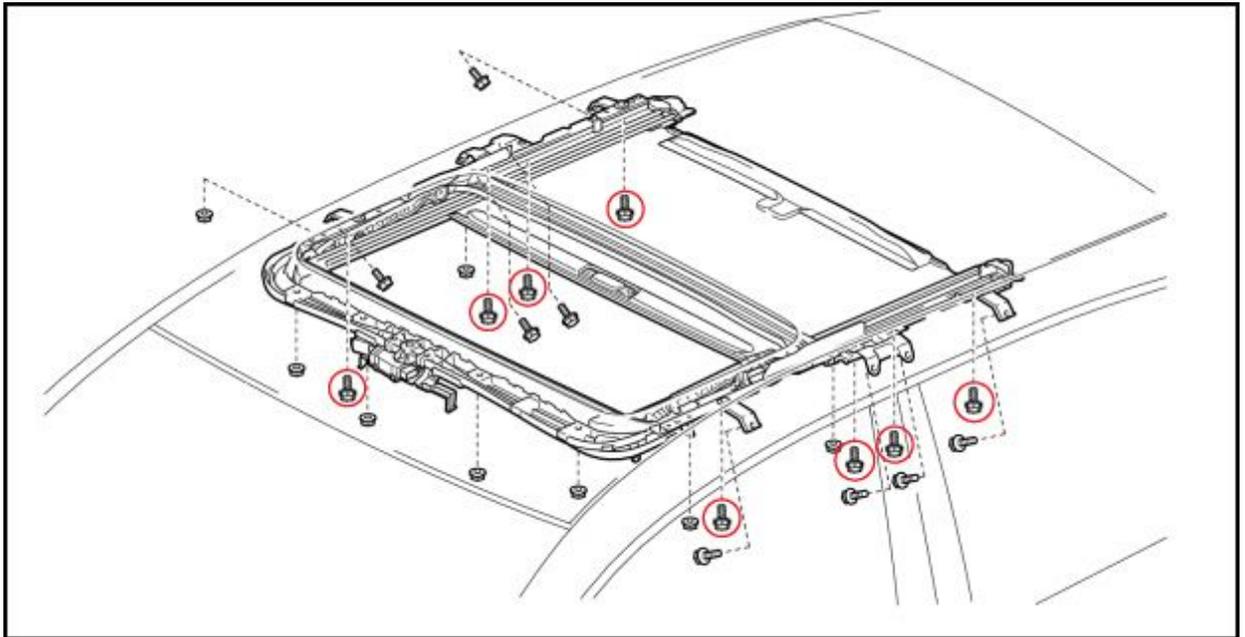
## Moon Roof Assembly Structure Noise

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### Repair Procedure 2 (Continued)

5. Loosen the 8 moon roof reinforcement to moon roof housing bolts (as indicated in Figure 7).

**Figure 7. Bracket Housing**



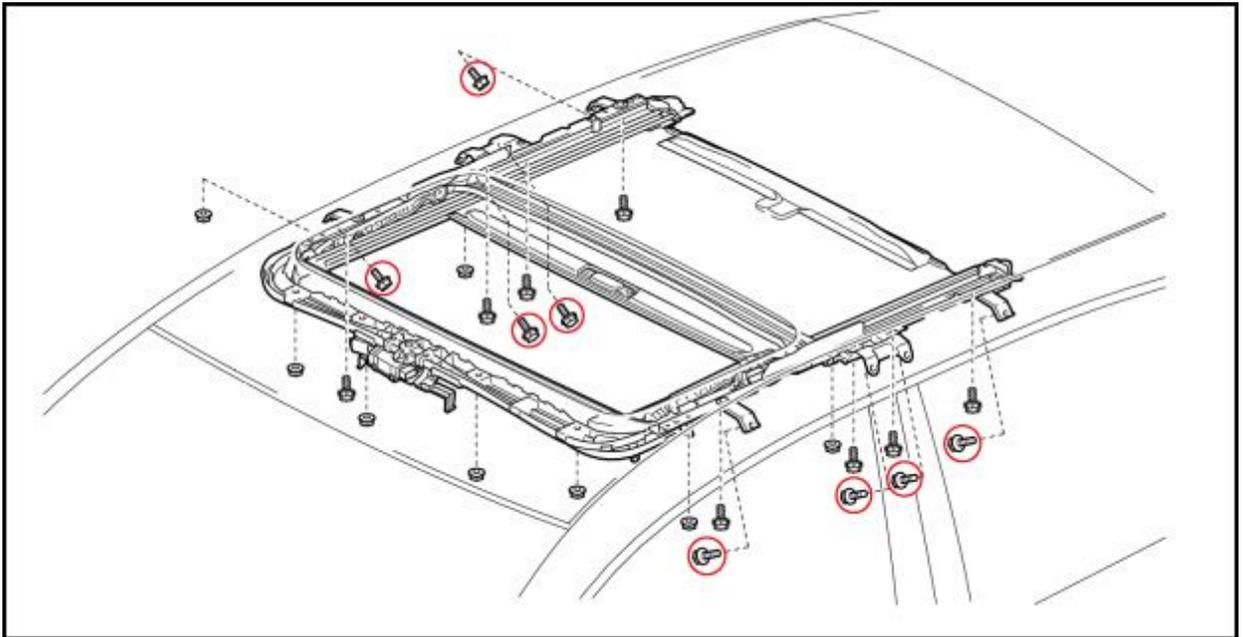
## Moon Roof Assembly Structure Noise

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### Repair Procedure 2 (Continued)

6. Remove the 8 moon roof reinforcement to body structure bolts (as indicated in Figure 8).

**Figure 8. Bracket Body**



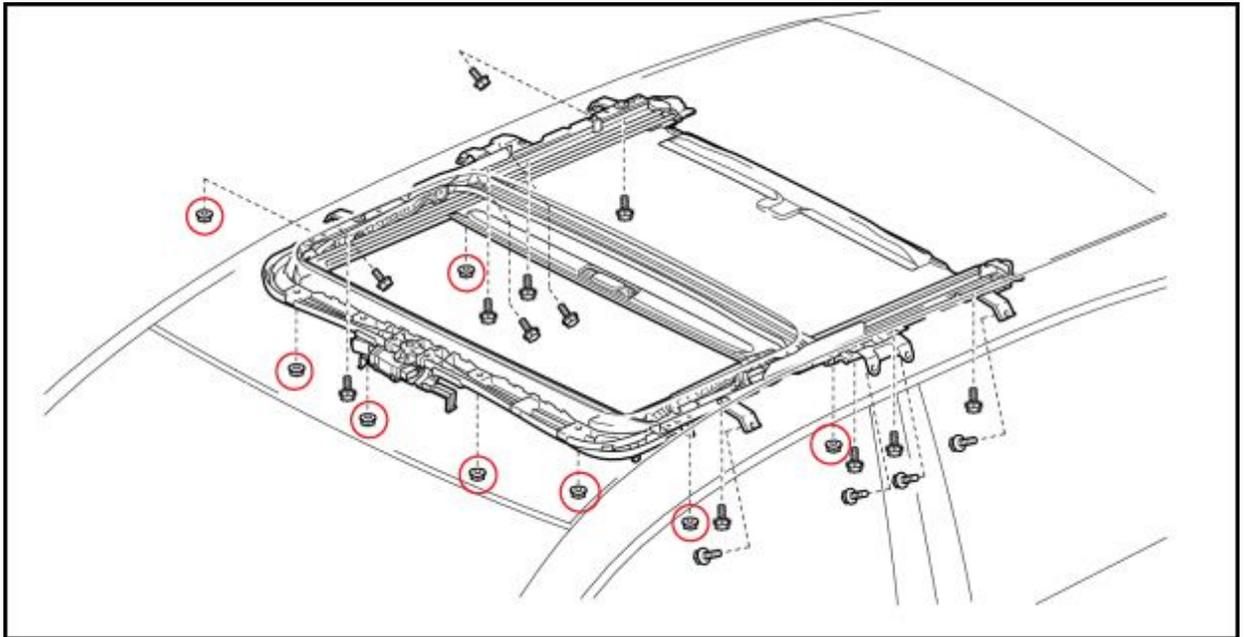
## Moon Roof Assembly Structure Noise

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### Repair Procedure 2 (Continued)

7. Remove the 8 nuts and the moon roof housing sub-assembly. (as indicated in Figure 9).

Figure 9. 8 Nuts



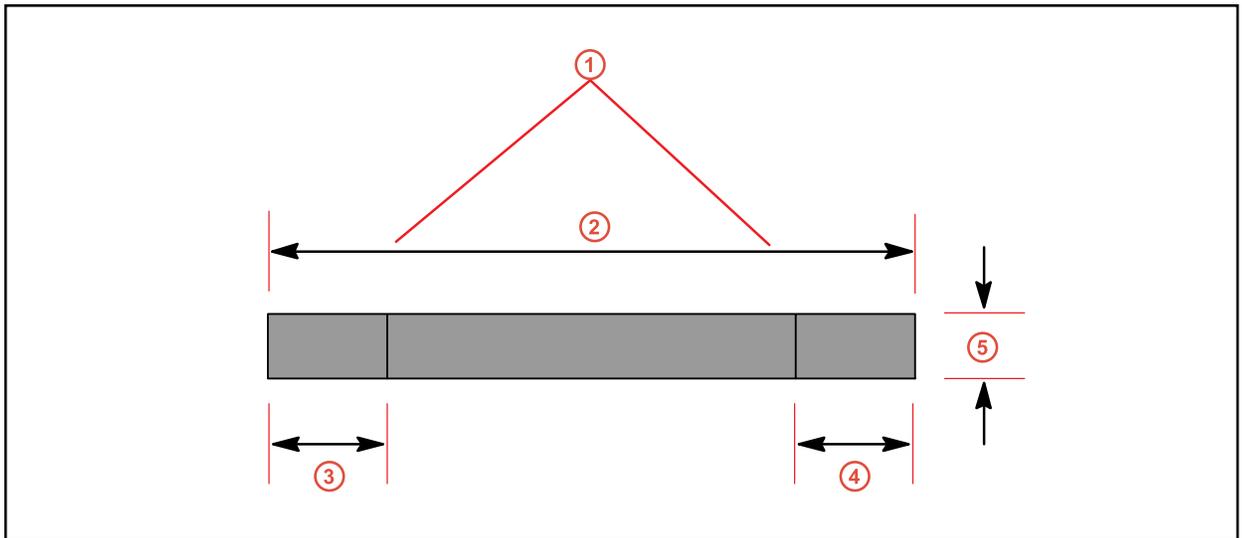
## Moon Roof Assembly Structure Noise

### Repair Procedure 2 (Continued)

- Temporarily peel back the backing paper at both ends and make a cut, in the backing paper ONLY, 2 inches (50.8 mm) away from the ends. Place the backing paper back on the felt.

**NOTE**  
Do NOT cut the felt, ONLY the backing paper.

Figure 10.



<b>1</b>	<b>Cut Backing Here Before Installing on Roof</b>
<b>2</b>	<b>12.0 in. (300 mm)</b>
<b>3</b>	<b>2.0 in. (50.8 mm)</b>

<b>4</b>	<b>2.0 in. (50.8 mm)</b>
<b>5</b>	<b>1.25 in. (32 mm)</b>

## Moon Roof Assembly Structure Noise

### Repair Procedure 2 (Continued)

9. Place the felt strips on both corners of the roof structure, between the roof panel and the moon roof mounting structure panel as shown in Figure 11 (Figure shows the roof structure looking up over the driver's head).

**NOTE**

Pull down on the moon roof mounting structure in the area of the front mounting stud to make space for the felt to slide into place.

**HINT**

The felt strips should be placed at approximately a 30° angle from the front edge of the moon roof opening.

Once the felt is placed as close to the inner edge as possible, peel off the backing paper at the ends of the felt strip and stick the felt to the roof panel.

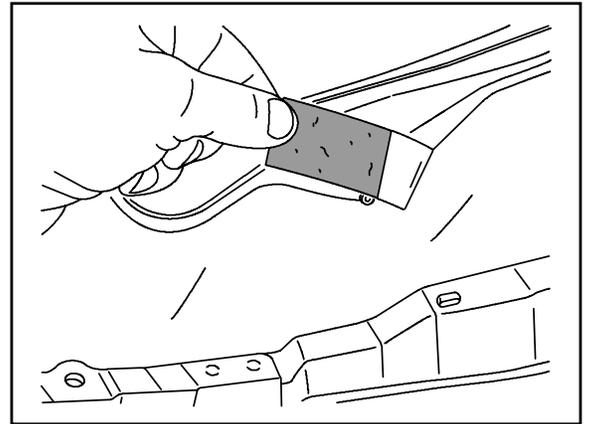
**NOTE**

The backing paper in the middle of the felt strip will NOT be removed.

Figure 11.



Figure 12.



10. Perform the felt repair on both front corners of the moon roof structure.

## Moon Roof Assembly Structure Noise

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### Repair Procedure 2 (Continued)

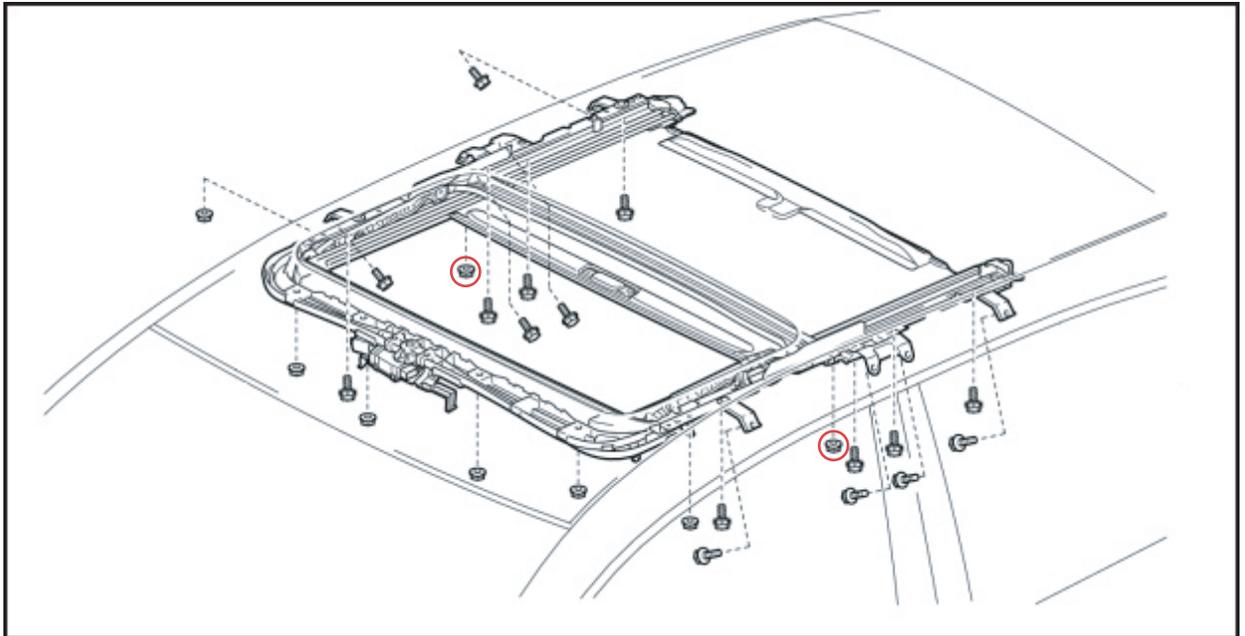
11. Reinstall moon roof assembly and tighten the rear most LH and RH nuts (as indicated in Figure 13).

**Torque: 5.5 N\*m (56 kgf\*cm, 49 in\*lbf)**

**NOTE**

LH & RH rear nuts must be tightened before any other moon roof assembly fasteners are tightened.

Figure 13.



## Moon Roof Assembly Structure Noise

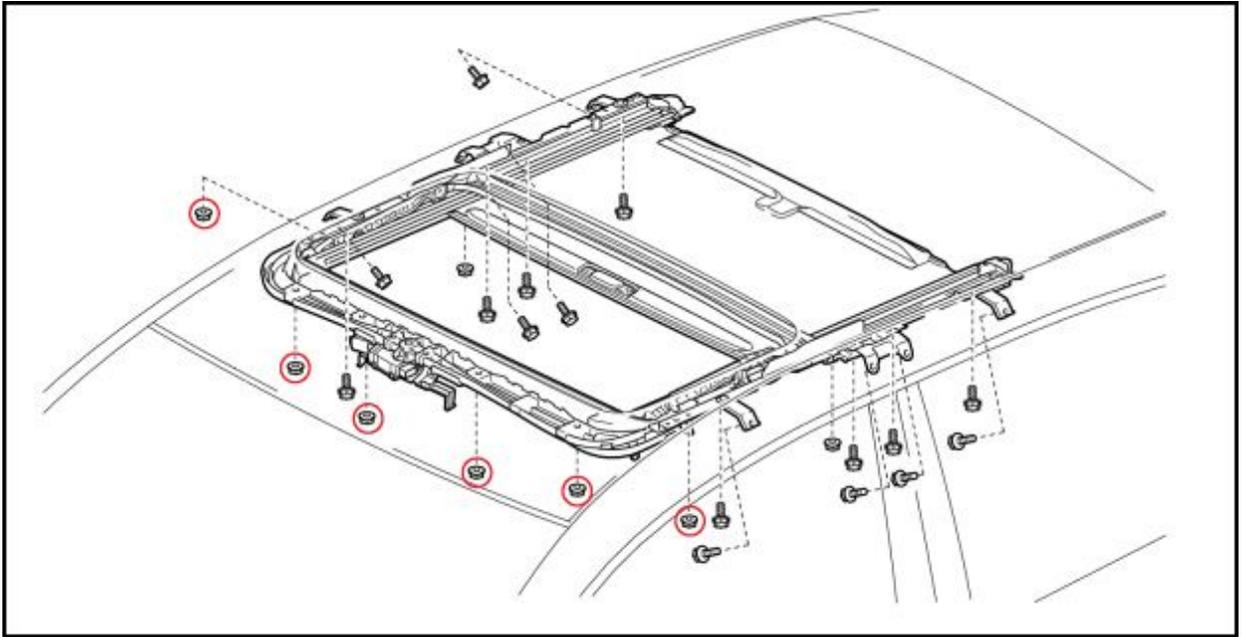
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### Repair Procedure 2 (Continued)

12. Tighten remaining 6 nuts (as indicated in Figure 14).

**Torque: 5.5 N\*m (56 kgf\*cm, 49 in\*lbf)**

**Figure 14.**



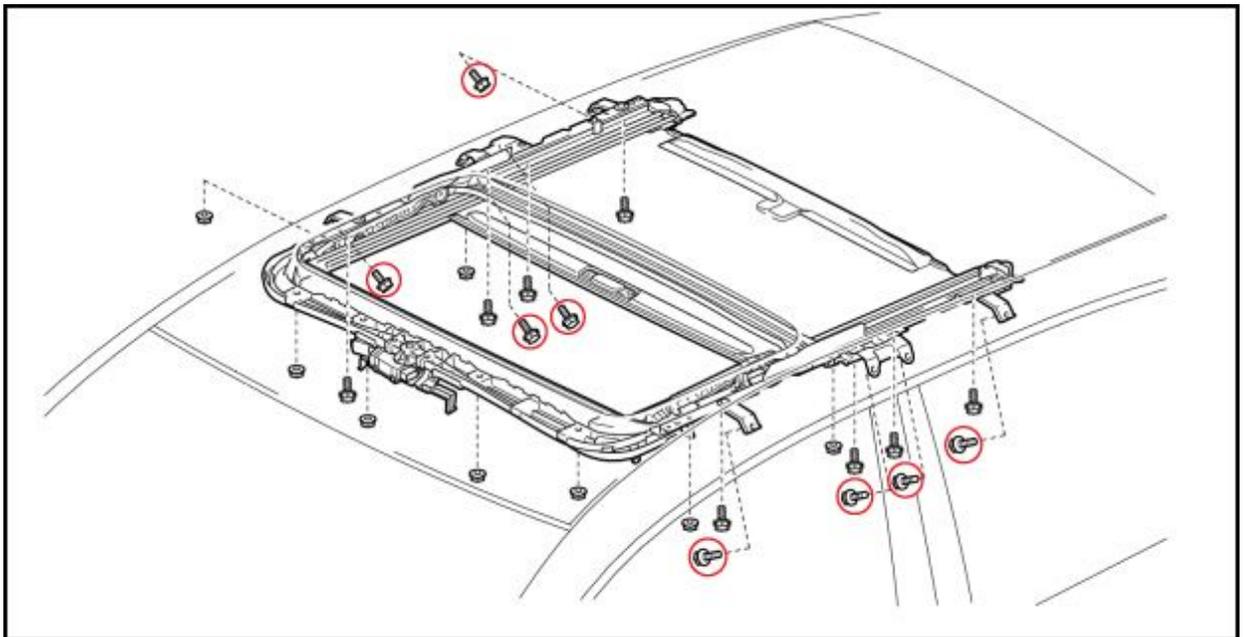
## Moon Roof Assembly Structure Noise

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### Repair Procedure 2 (Continued)

13. Tighten the 8 moon roof reinforcement to body structure bolts (as indicated in Figure 15).
  - A. Position each reinforcement bracket to sit squarely against both the body structure surface and the moon roof housing surface.
  - B. Tighten each bolt.  
**Torque: 5.5 N\*m (56 kgf\*cm, 49 in\*lbf)**

Figure 15. Bracket Body

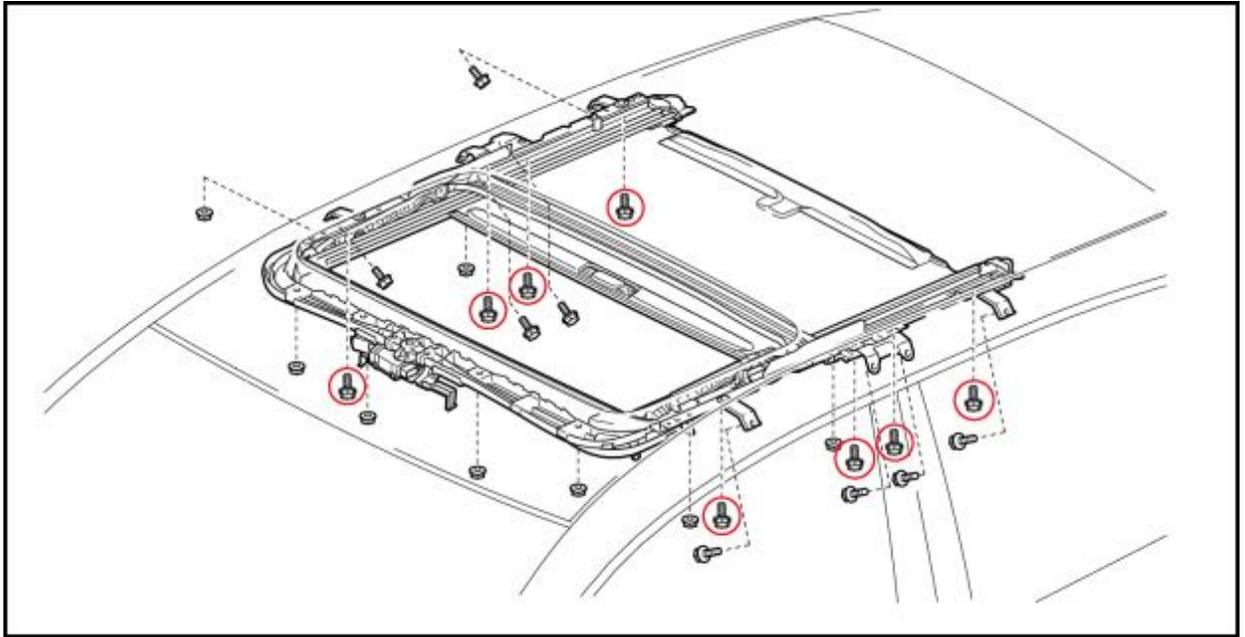


## Moon Roof Assembly Structure Noise

### Repair Procedure 2 (Continued)

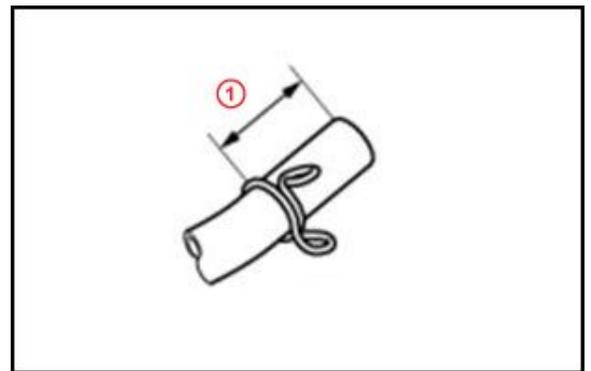
14. Tighten the 8 moon roof reinforcement to moon roof housing bolts (as indicated in Figure 16).  
**Torque: 5.5 N\*m (56 kgf\*cm, 49 in\*lbf)**

**Figure 16. Bracket Housing**



15. Install the 4 moon roof drain hoses.
  - A. Slide the clip 30 mm (1.18 in.) or more from the end of the sliding roof drain hose.

**Figure 17.**



<b>1</b>	<b>30 mm (1.18 in.) or more</b>
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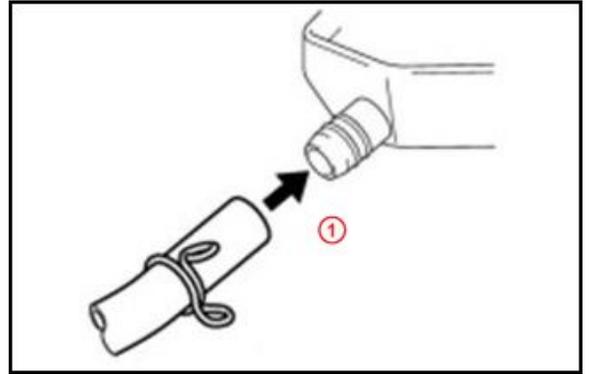
## Moon Roof Assembly Structure Noise

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### Repair Procedure 2 (Continued)

- B. Push the sliding roof drain hose all the way onto the sliding roof housing.

**Figure 18.**



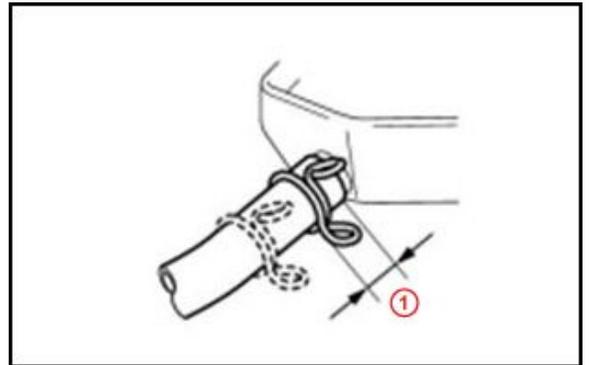
<b>1</b>	Push All the Way
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- C. Slide the clip to the position shown in the illustration.

**HINT**

Use the same procedure to install the other 3 sliding roof drain hoses.

**Figure 19.**



<b>1</b>	7.0 mm (0.28 in.)
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## Moon Roof Assembly Structure Noise

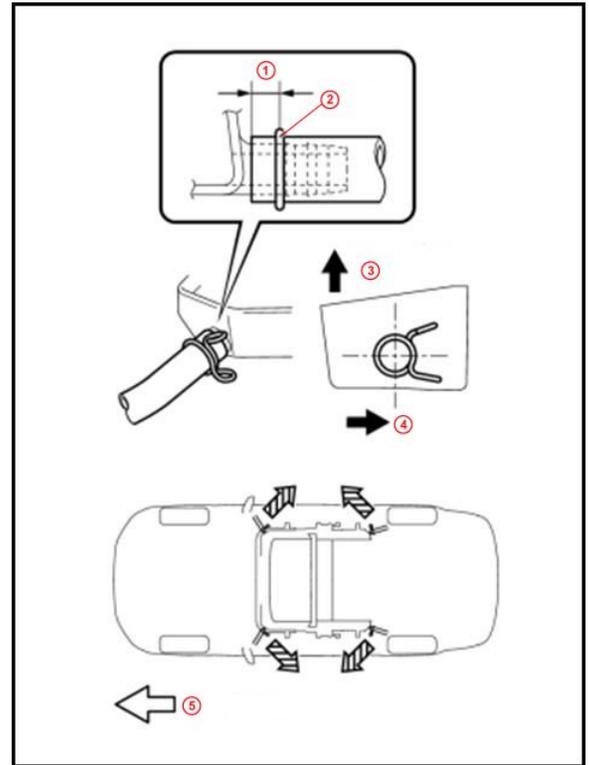
### Repair Procedure 2 (Continued)

- D. Confirm that all the 4 sliding roof drain hoses are pushed all the way onto the sliding roof housing and that the 4 clips are installed as shown in the illustration.

**NOTICE**

The clip must face toward the outside of the vehicle and also be above the lower surface of the sliding roof housing when installing the drain hoses or damage to the headliner may occur.

Figure 20.



1	7.0 mm (0.28 in.)
2	Clip
3	Upper Side
4	Outer Side
5	Front Side

16. Install roof headlining assembly. Refer to TIS, applicable model and model year Repair Manual:
  - [2007](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) Camry:  
*Vehicle Interior – Interior Panels/Trim – “Interior: Roof Headlining: Installation”*
  - [2007](#) / [2008](#) / [2009](#) / [2010](#) / [2011](#) Camry HV:  
*Vehicle Interior – Interior Panels/Trim – “Interior: Roof Headlining: Installation”*
17. Reset the radio presets and clock.
18. Test drive the vehicle to verify repair.