

Moonroof Assembly Structure Noise

Service Category Vehicle Exterior

Section Exterior Panels/Trim

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2013 - 2018	Avalon, Avalon HV	WMI(s): 4T1
2012 - 2017	Camry, Camry HV	WMI(s): 4T1, 4T4

SUPERSESION NOTICE

The information contained in this bulletin supersedes Service Bulletin No. T-SB-0151-13.

- Applicability has been updated to include 2016 – 2018 model year Avalon and Avalon HV and 2017 model year Camry and Camry HV vehicles.

Service Bulletin No. T-SB-0151-13 is obsolete and any printed versions should be discarded.

Be sure to review the entire content of this bulletin before proceeding.

Introduction

Some 2012 – 2017 model year Camry, Camry HV, and 2013 – 2018 Avalon and Avalon HV vehicles produced in North American may exhibit a knocking, popping, ticking, or snapping noise from the moonroof area while driving. Follow the Repair Procedure in this bulletin to address this condition.

Moonroof Assembly Structure Noise

Warranty Information

OP CODE	DESCRIPTION	MODEL	TIME	OFF	T1	T2
BD1517	Remove Sliding Roof Housing Sub-assembly, Install Shims and Reinstall Housing	Camry	4.5	63111-06540	91	57
		Camry HV				
BD1518		Avalon	5.1	63111-07050		
BD1519		Avalon HV	5.2			

APPLICABLE WARRANTY

- This repair is covered under the Toyota Basic 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.

Parts Information

PART NUMBER	PART NAME	QTY
08231-00801	Interior Noise Kit	1
63021-06030	Silencer Sub-assy, Slide Roof (Shim Kit)	1

Repair Procedure

1. Confirm the condition exists.

Is a knocking, popping, ticking, or snapping noise from the moonroof area present while driving?

- **YES** — Continue to step 2.
- **NO** — This bulletin does NOT apply. Continue diagnosis using the applicable Repair Manual.

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Repair Procedure (continued)

2. Remove the sliding roof housing.

Refer to TIS, applicable model and model year Repair Manual:

- [2012](#) / [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) Camry:
Vehicle Exterior – Sliding Roof/Convertible – “Sliding Roof/Convertible: Sliding Roof Housing: Removal”
- [2012](#) / [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) Camry HV:
Vehicle Exterior – Sliding Roof/Convertible – “Sliding Roof/Convertible: Sliding Roof Housing: Removal”
- [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Avalon:
Vehicle Exterior – Sliding Roof/Convertible – “Sliding Roof/Convertible: Sliding Roof Housing: Removal”
- [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Avalon HV:
Vehicle Exterior – Sliding Roof/Convertible – “Sliding Roof/Convertible: Sliding Roof Housing: Removal”

3. Flex and manipulate the roof structure to separate the coating between the roof reinforcements.
Continue manipulating the roof structure until the crackling noise goes away.

Refer to the video link below for a demonstration of this procedure.

[Flexing Roof Structure Demonstration](#)

4. Clean out ANY remaining debris from the roof reinforcements with an air hose blow nozzle.

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Repair Procedure (continued)

5. Install the shims.

A. At positions 1 – 7, insert the seven shims between the spot welds.

Shims 1 – 7: Smaller Rectangle, 12.7 mm x 43.2 mm (0.5 in. x 1.7 in.)

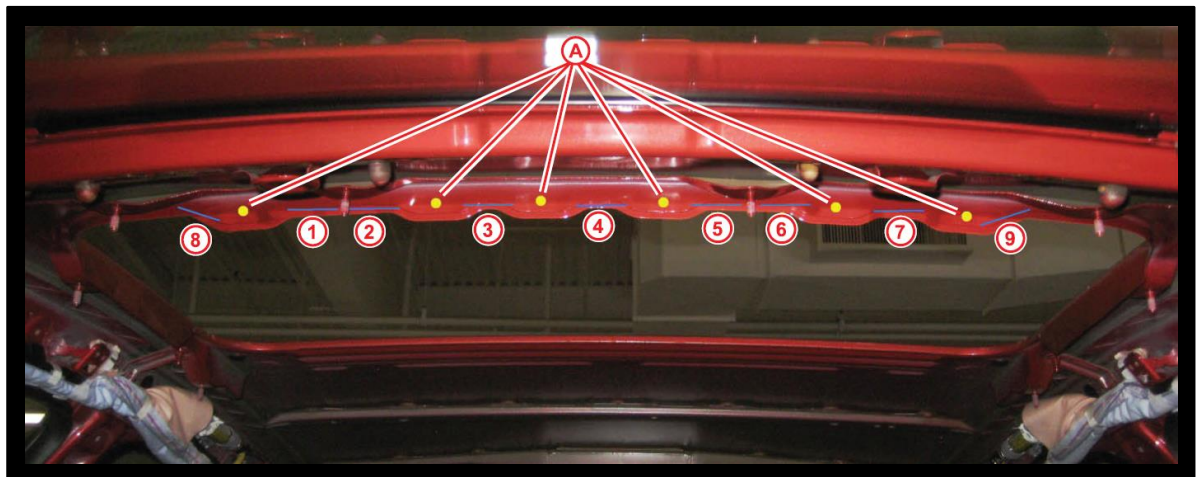
NOTE

At positions 1 – 2 and 5 – 6, two shims are positioned side by side WITHOUT a spot weld between them.

B. At positions 8 and 9, insert the two triangular shims to the outboard sides of the spot welds.

Shims 8 and 9: Triangle

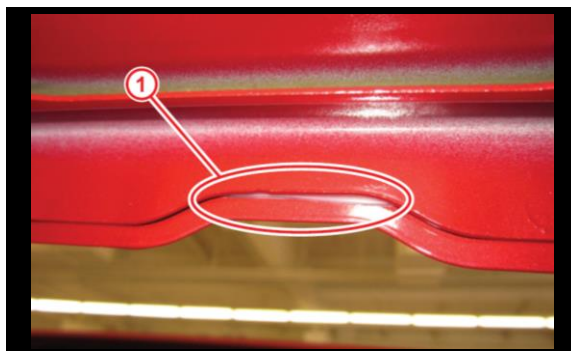
Figure 1.



1 – 9	Shim Installation Location
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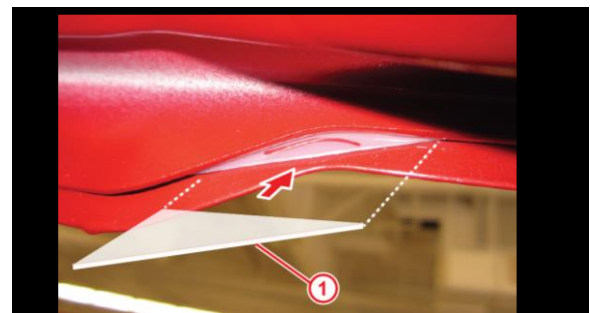
A	Spot Welds
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Figure 2.



1	Example of Installed Shim
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Figure 3.



1	Triangular Shim
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Moonroof Assembly Structure Noise

Repair Procedure (continued)

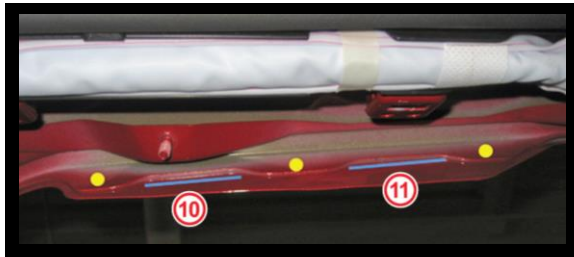
- C. At positions 10 and 11, on both the RH and LH sides of the moonroof reinforcement structure, insert the four shims between the spot welds as indicated.

Shims 10 and 11: Larger Rectangle, 25.4 x 63.5 mm (1.0 x 2.5 in.)

NOTE

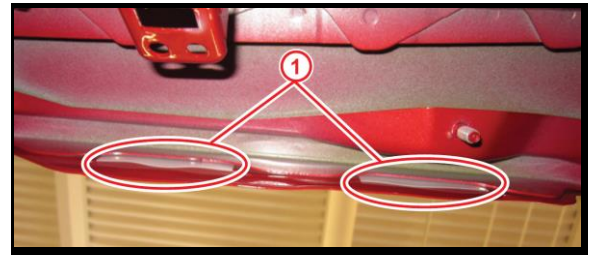
LH side is shown.

Figure 4.



10 - 11	Shim Installation Location
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Figure 5.



1	Example of Installed Shim
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- 6. Use two felt strips from the interior noise kit with the following dimensions:

Length: 300 mm (12.00 in.)

Width: 32 mm (1.25 in.)

Thickness: 0.5 mm (0.02 in. thinnest felt sheet material in the kit)

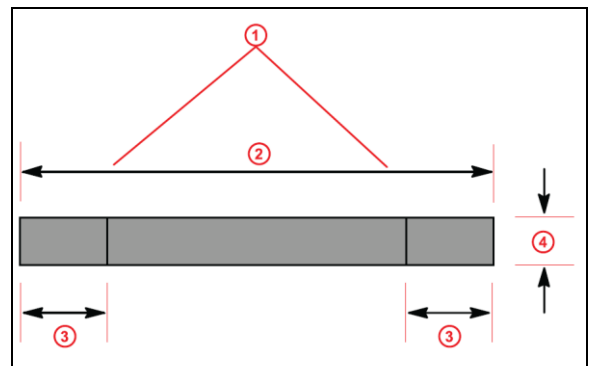
- A. Temporarily peel back the backing paper at both ends and make a cut in the backing paper ONLY, 2 in. (50.8 mm) away from the ends.

NOTE

Do NOT cut the felt. ONLY cut the backing paper.

- B. Place the backing paper back on the felt.

Figure 6.



1	Cut Backing Here Before Installing on Roof
2	12.0 in. (300 mm)
3	2.0 in. (50.8 mm)
4	1.25 in. (32 mm)

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Repair Procedure (continued)

- Place the felt strips on both corners of the roof structure, between the roof panel and the moonroof mounting structure panel.

NOTICE

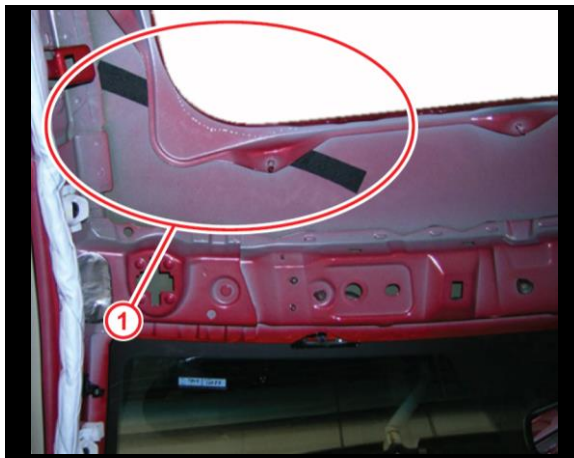
Use caution when pulling down on the moonroof mounting structure in the front mounting stud area (to make space for the felt to slide into place) to prevent damage to the roof outer sheet metal.

AFTER 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 attach the felt to the roof panel.

NOTE

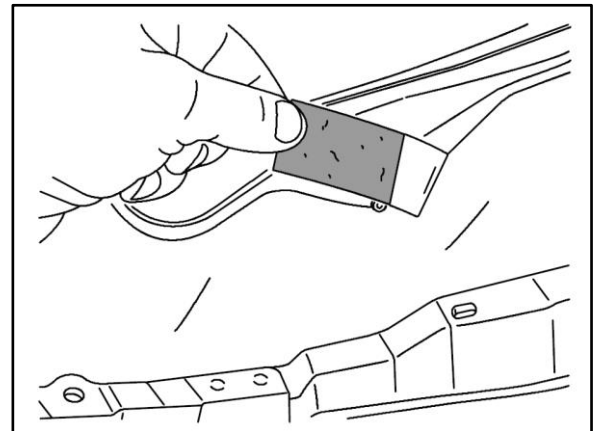
Do NOT remove the backing paper in the middle of the felt strip.

Figure 7.



1	Felt Strip
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Figure 8.



- Perform the felt repair on both front corners of the moonroof structure.

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Repair Procedure (continued)

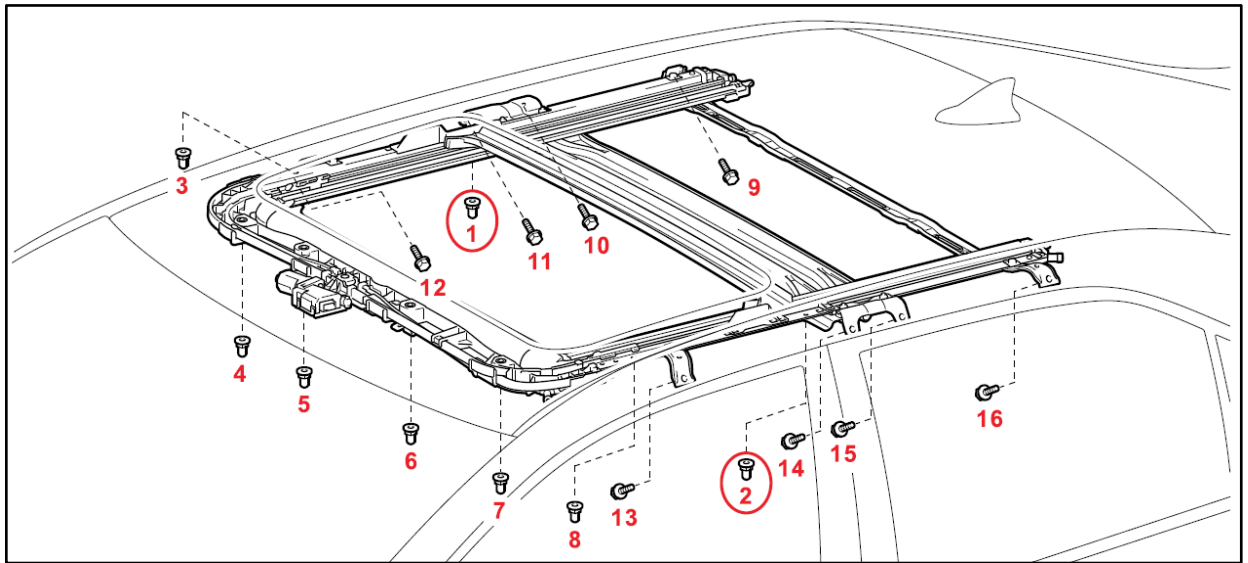
- Temporarily install the sliding roof housing sub-assembly with the eight nuts and eight bolts. Tighten the RH nut first, then the LH nut (circled below).

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

NOTE

Make sure to tighten the RH and LH rear nuts BEFORE tightening ANY other moonroof assembly fasteners.

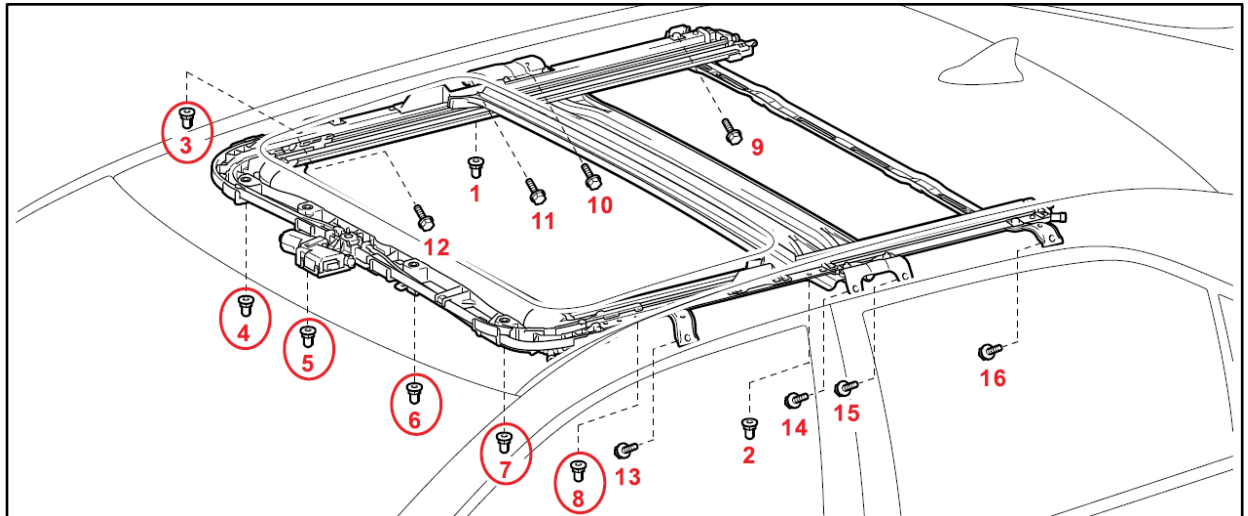
Figure 9.



- Tighten the six remaining nuts (circled below).

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

Figure 10.

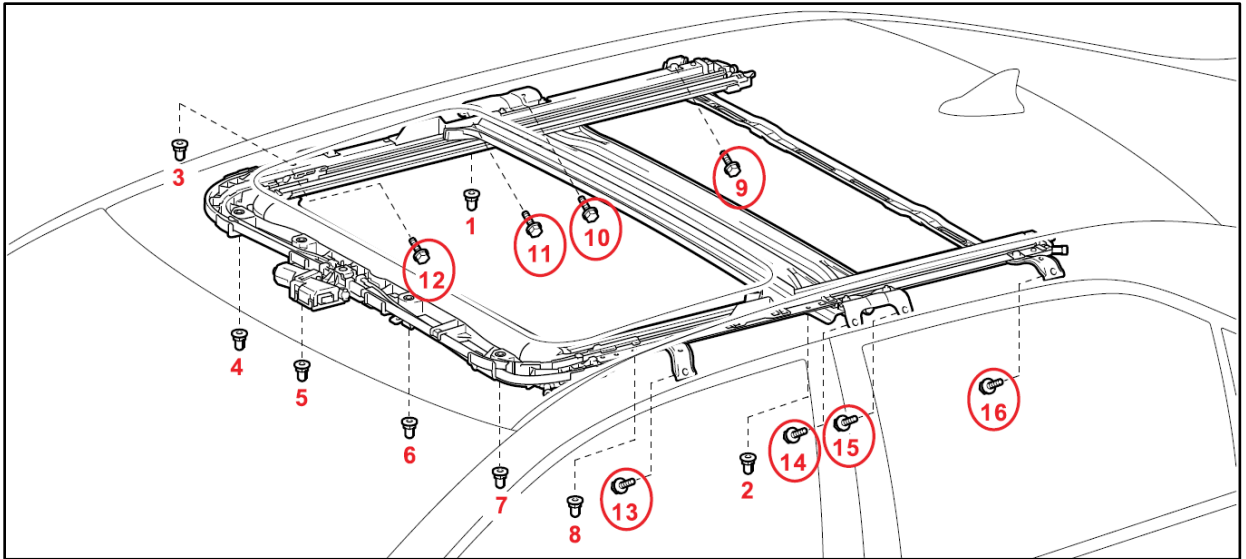


Moonroof Assembly Structure Noise

Repair Procedure (continued)

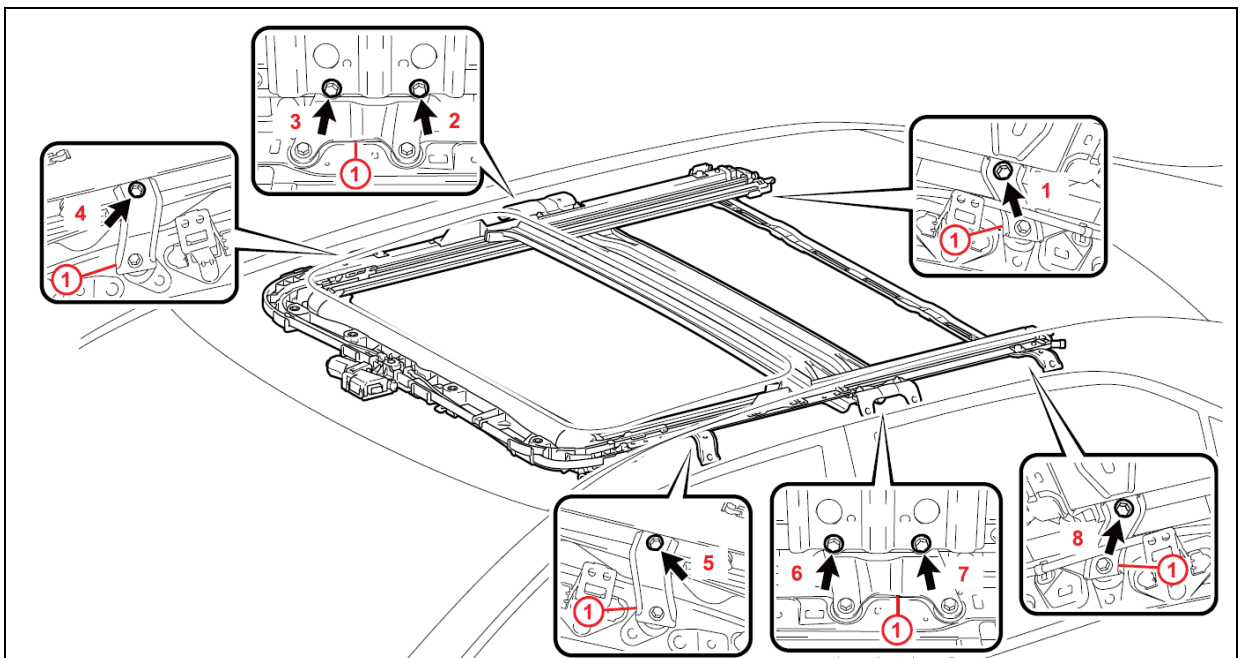
11. Tighten the eight bolts in the order circled below.
Torque: 8.0 N*m (82 kgf*cm, 71 in*lb)

Figure 11.



12. Tighten the eight bolts of the brackets in the order circled below.

Figure 12.



1	Bracket
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Moonroof Assembly Structure Noise

Repair Procedure (continued)

13. Install the remainder of the sliding roof components.

Refer to TIS, applicable model and model year Repair Manual:

- [2012](#) / [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) Camry:
Vehicle Exterior – Sliding Roof/Convertible – “Sliding Roof/Convertible: Sliding Roof Housing: *Installation*”
- [2012](#) / [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) Camry HV:
Vehicle Exterior – Sliding Roof/Convertible – “Sliding Roof/Convertible: Sliding Roof Housing: *Installation*”
- [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Avalon:
Vehicle Exterior – Sliding Roof/Convertible – “Sliding Roof/Convertible: Sliding Roof Housing: *Installation*”
- [2013](#) / [2014](#) / [2015](#) / [2016](#) / [2017](#) / [2018](#) Avalon HV:
Vehicle Exterior – Sliding Roof/Convertible – “Sliding Roof/Convertible: Sliding Roof Housing: *Installation*”

14. Test drive the vehicle to verify the repair.