

Headliner Sagging/Loose Behind Moon Roof Opening

Service Category Vehicle Interior

Section Interior Panels/Trim

Market USA

Toyota Supports
 ASE Certification 

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2013 – 2014	Avalon, Avalon HV	

Introduction

Some 2013 – 2014 model year Avalon and Avalon HV vehicles may exhibit a condition where the headliner is sagging or loose along the rear edge of the moon roof opening and there is a noticeable gap between the headliner and sun shade. This is due to the force of the headliner being greater than the strength of the Dual Lock™ fasteners/adhesive which causes them to separate, allowing the headliner to sag in this area. Use the following Repair Procedure to address this condition.

Production Change Information

This bulletin applies to:

- ALL 2013 model year TMMK built Avalon and Avalon HV vehicles.
- 2014 model year TMMK built Avalon and Avalon HV vehicles produced **BEFORE** the Production Change Effective VINs shown below.

MODEL	ENGINE	PRODUCTION CHANGE EFFECTIVE VIN
Avalon	2GR-FE	4T1BK1EB#EU127600
Avalon HV	2AR-FXE	4T1BD1EB#EU033768

Warranty Information

OP CODE	DESCRIPTION	TIME	OFP	T1	T2
BD1422	Add Magnet to Headliner and Repair Dual Lock™ Fasteners	0.5	63310-07232	62	57

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.

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Parts Information

PART NUMBER	PART NAME	QTY
84442-07010	Magnet	1

Required Tools & Equipment

REQUIRED TOOLS & MATERIAL	PART NUMBER	QUANTITY
3M™ Adhesive Kit	000-88-2010*	1
Metric Ruler	–	1
Rasp, File, or Other Abrasive Tool	–	1

Contact 3M directly to order this part (P/N: 000-88-2010):

- Phone Number: 310-323-1104 **OR**
- Email: generalmailbox@cpdoesadhesivesandtapes.com

* 3M™ ADHESIVE KIT CONTENTS (P/N 000-88-2010)	QUANTITY
3M™ Scotch-Weld™ Low Odor Acrylic Adhesive, Green (3M™ P/N DP8805NS)	1 tube
3M™ Scotch-Weld™ EPX™ Plus II Applicator (3M™ P/N 9930)	1
3M™ Scotch-Weld™ EPX™ Plus II 10:1 Plunger (3M™ P/N 9910-45)	1
3M™ Scotch-Weld™ EPX™ Plus II 10:1 Nozzles (3M™ P/N 9136)	5
3M™ 94 Primer (3M™ P/N 94)	5 tubes
3M™ Dual Lock™ Self-Adhering Fastener (3M™ P/N SJ3751)	5 pieces (3/4" x 6" each)
Material Safety Data Sheet (MSDS)	1 each

NOTE

One Adhesive Kit (P/N 000-88-2010) can repair approximately 5 vehicles if used within 18 months (tube must have been fully capped and stored below 80°F [27°C]).

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Repair Procedure

1. Inspect the Dual Lock™ fasteners (4 total).

If any of the upper Dual Lock™ fasteners have separated from the roof reinforcement and are attached to the lower fasteners on the headliner, remove them. This includes partial separation as shown in Figure 2.

Figure 1. Dual Lock™ Fastener Locations

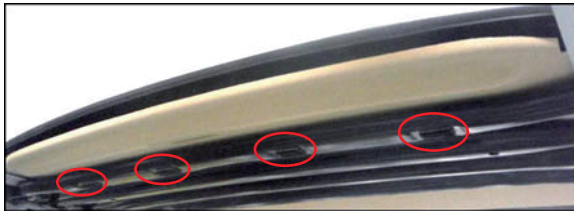


Figure 2. Partial Separation

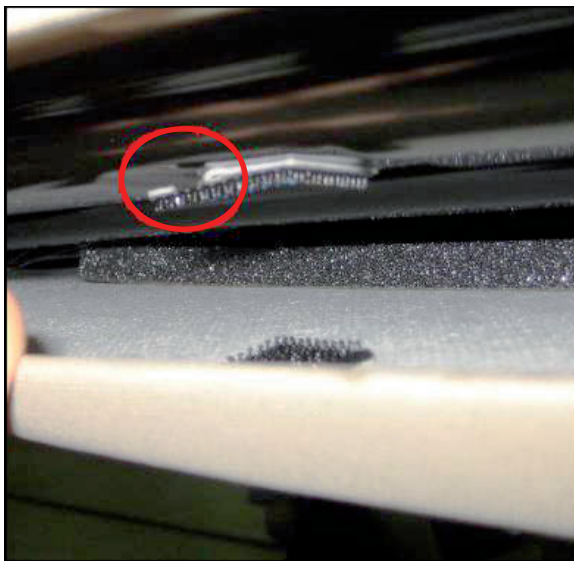
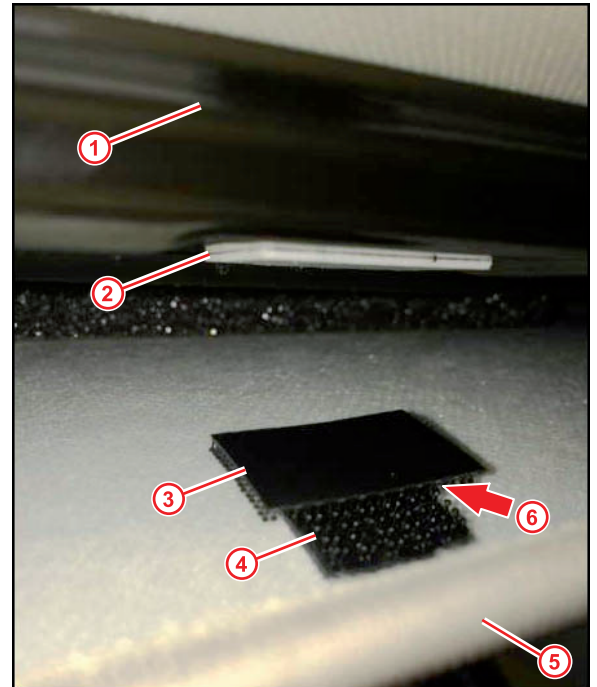


Figure 3. Full Separation



1	Roof Reinforcement
2	Adhesive
3	Upper Dual Lock™
4	Lower Dual Lock™
5	Headliner
6	Separate Dual Lock™ Fasteners, Discard Piece from Moon Roof Housing

NOTICE

Be careful NOT to crease the headliner or damage it in any way.

Headliner Sagging/Loose Behind Moon Roof Opening

Repair Procedure (Continued)

2. Fully open the moon roof assembly.
3. Do the Dual Lock™ fasteners on the moon roof housing require replacement?
 - **YES** — Continue to step 4.
 - **NO** — Go to step 8.
4. Remove all Dual Lock™ fasteners and remaining adhesives from the surface of the moon roof housing.

NOTE

Make sure the surface of the housing (at the embosses) is clean and free of adhesive.

5. Cut 4 pieces of Dual Lock™ Self-Adhering Fastener, from the 3M™ Adhesive Kit (P/N 000-88-2010), to 30 mm lengths.

Quantity: 4

Length: 30 mm

6. Follow the directions on the 3M™ 94 Primer tube (from the kit) to prime each Dual Lock™ fastener location (each embossed location on the moon roof reinforcement panel as shown in Figure 5)

Figure 4.

**NOTE**

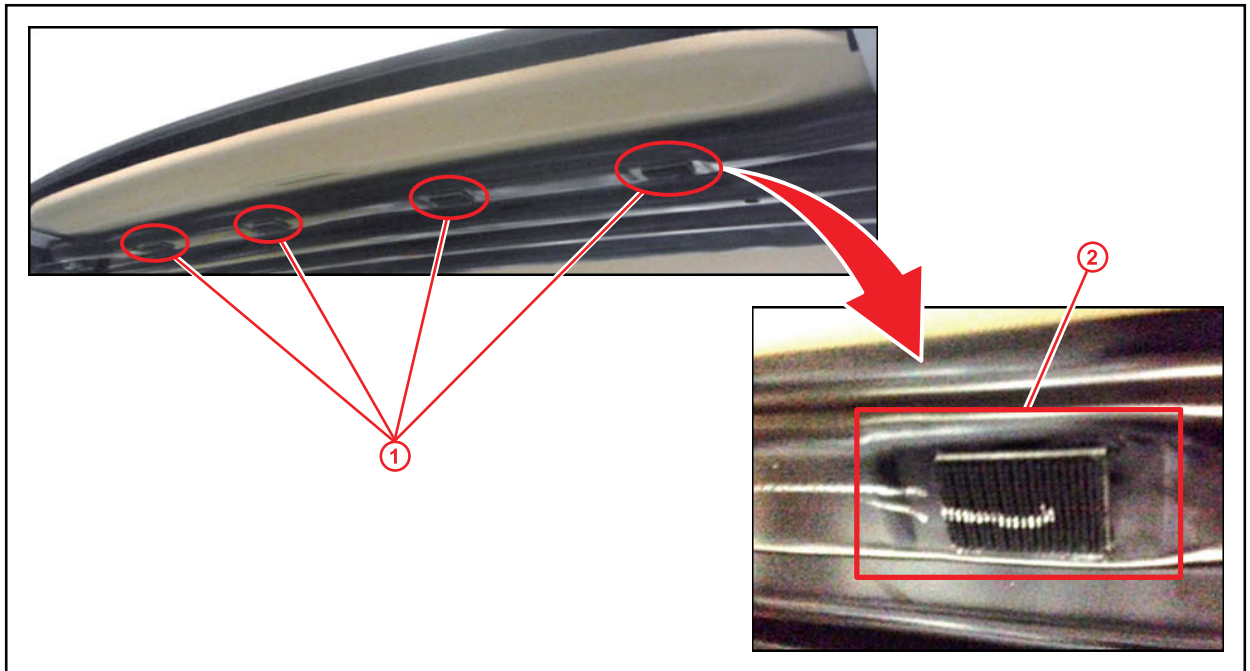
Primer can be difficult to observe on the surface on the housing. Test on a spare piece of cardboard to ensure the primer is flowing from the tip of the tube.

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Repair Procedure (Continued)

7. Install the 4 pieces of Dual Lock™ fastener to the moon roof housing at the embossed locations.

Figure 5.



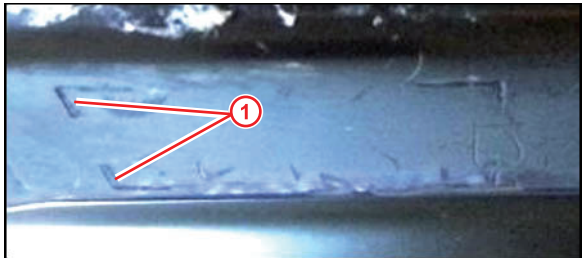
1 Dual Lock™ Fastener Locations

2 Embossed Area

NOTE

- There are locator marks on the embosses to guide the placement of the Dual Lock™ pieces.
- Allow a minimum of 15 minutes for the adhesive of the Dual Lock™ to bond to the Primer.

Figure 6.



1 Locator Marks

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Repair Procedure (Continued)

8. Assemble adhesive tooling.

A. Push up on silver release lever.

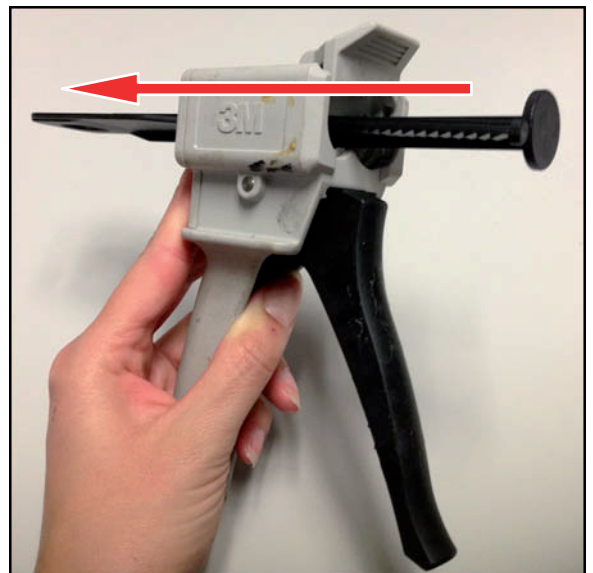
Figure 7.



1	Silver Release Lever
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B. Insert plunger from the left portion of the adhesive gun (opposite side from lever), flat end first, stepped portion down.

Figure 8.

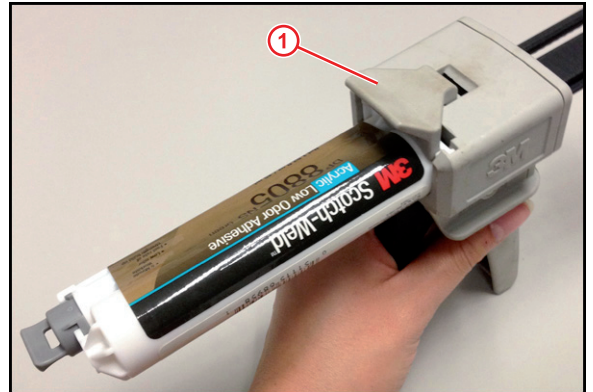


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Repair Procedure (Continued)

- C. Raise clamp and insert adhesive (name label side up). Lower clamp to lock in place.

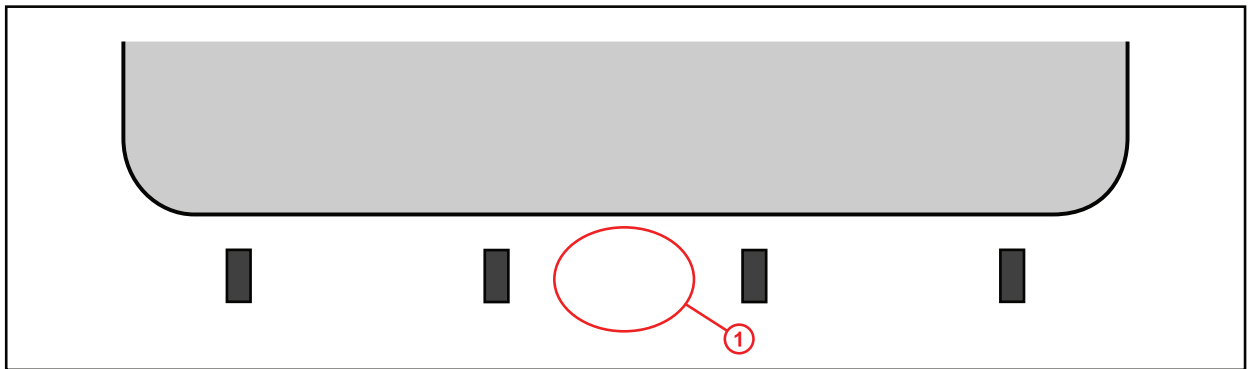
Figure 9.



1	Clamp
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- 9. Open adhesive and attach nozzle. Turn grey portion of nozzle to fully attach to adhesive opening.
- 10. Using a rasp, file, or other abrasive tool scuff a 60 mm x 60 mm area on the non-visible side of the headliner. The scuffed area should be between the 2 center Dual Lock™ fasteners on the headliner. This is to provide a rough surface to which the adhesive will adhere.

Figure 10.



1	Scuff This Area (60 mm x 60 mm)
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Headliner Sagging/Loose Behind Moon Roof Opening

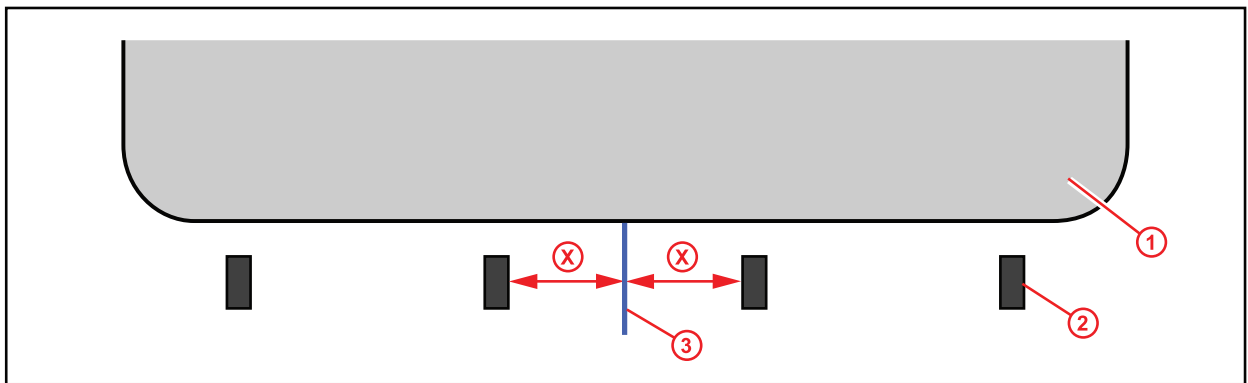
Repair Procedure (Continued)

11. Measure the distance between the inner edge of the 2 center Dual Lock™ fasteners on the headliner side. Divide measurement value in half to determine the center point between the Dual Lock™ fasteners. Use a pen to mark this position with a front to rear line running between the 2 inboard Dual Lock™ fasteners on the headliner.

NOTE

- The location of the Magnet **MUST** be in the center of these 2 fasteners.
- Visually confirm the measured location is in the center of the moon roof opening.

Figure 11.

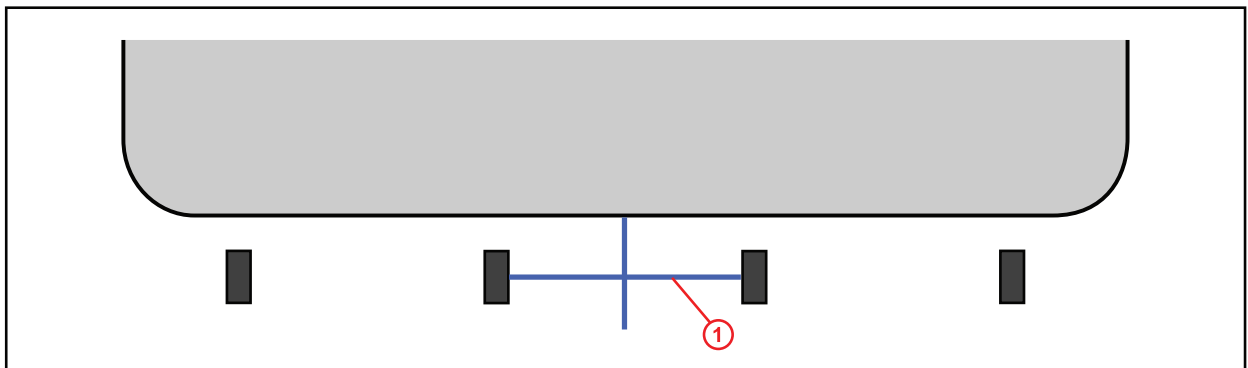


1	Moon Roof Opening
2	Dual Lock™ Fastener

3	Draw Center Line Between Inner Dual Lock™ Fasteners
X	Equal Space Between Each Inner Edge of Dual Lock™ Fastener and Magnet

12. Use a pen to draw a horizontal line between the midpoints of the inboard Dual Lock™ fasteners.

Figure 12.



1	Draw Horizontal Line
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Repair Procedure (Continued)

- Place a dollop of adhesive at least 30 mm in diameter at the center of the crosshairs created in steps 11 and 12.

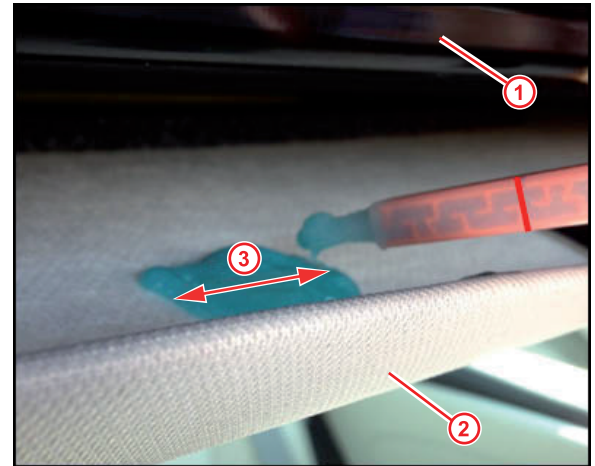
NOTE

- Diameter of adhesive must be at least 50% bigger than the diameter of the Magnet.
- Thickness of adhesive must be less than the thickness of the Magnet (less than 5 mm).

HINT

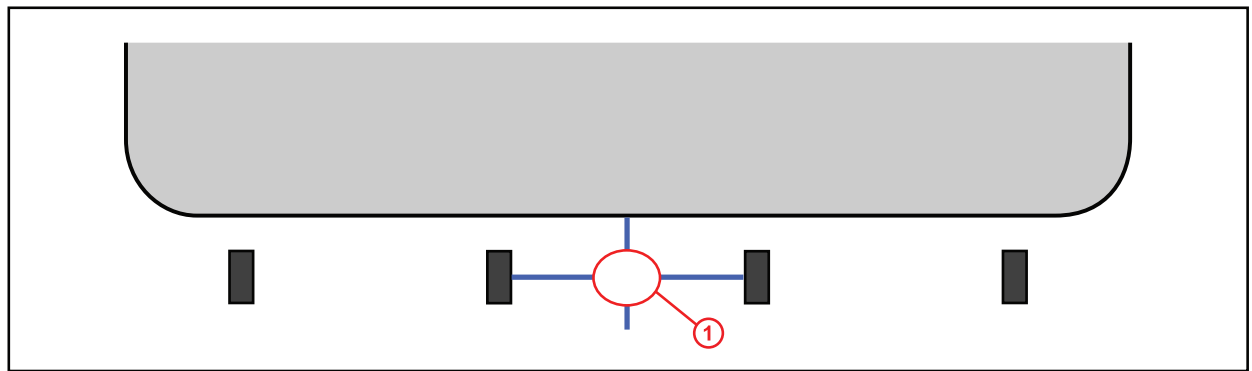
Adhesive should be a minimum of 30 mm in diameter. For reference, a U.S. quarter is about 25 mm in diameter.

Figure 13.



1	Roof Reinforcement Panel
2	Headliner
3	30 mm Diameter (at least)

Figure 14.



1	Adhesive/Magnet Placement at Center of Crosshairs
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- Use a business card or similar object to smooth and thin surface of adhesive dollop.

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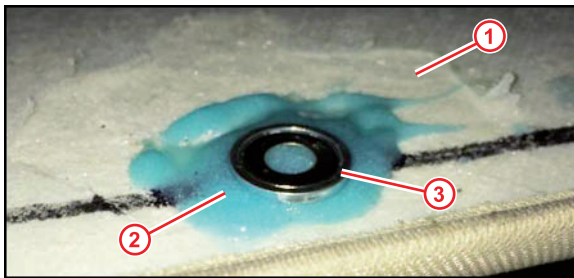
Repair Procedure (Continued)

- Place the Magnet in the center of the dollop. See Figure 15 for an example of a correctly installed Magnet.

NOTE

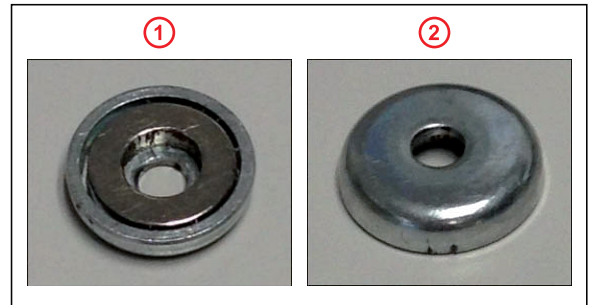
Ensure the Magnet is facing up.

Figure 15. Correctly Installed Magnet



1	Scuffed Area
2	Correct Adhesive Thickness
3	Magnet Fully Seated

Figure 16.



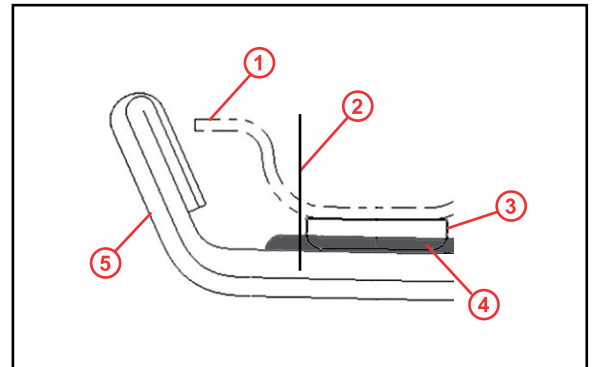
1	This Side Facing Roof Panel
2	This Side Facing Headliner

- Ensure that the Magnet is pressed through the adhesive and is seated directly against the surface of the headliner.

NOTE

The front edge of the Magnet must NOT extend past the radius of the moon roof housing so that the Magnet lies completely flat on the housing surface.

Figure 17.



1	Moon Roof Housing
2	Maximum Forward Position of Magnet
3	Magnet
4	Adhesive
5	Headliner

Headliner Sagging/Loose Behind Moon Roof Opening

Repair Procedure (Continued)

17. Wait at least 2 hours for adhesive to cure, preferably 24 hours for best results.

NOTE

- Do NOT attach the Magnet to the roof panel until adhesive is cured.
- Ideal cure time is 24 hours. If unable to wait 24 hours, please allow as much time as possible for adhesive to cure.

18. Raise the headliner into position and attach the Magnet to the moon roof housing.
19. Apply pressure to the face of the headliner at the 4 points of the Dual Lock™ fasteners to ensure full installation.

NOTE

The Magnet should be used in addition to the Dual Lock™ fasteners and is not intended to be the only fastener in the affected area.

20. Visually inspect the repair area to ensure proper fitting condition.
21. Close the moon roof assembly.