



Technical Bulletin

Model(s)	Year	Eng. Code	Trans. Code	VIN Range From	VIN Range To
Routan	2012	All	All	All	All

Parts Description		Part No:	Quantity per repair	Estimated vehicles	Part Ordering Note: at time of release
1.	Glass, Sunroof	7B0877071	1	586	Normal ordering process
2.	Tape, Flock/Felt	7B0867910	4	586	Normal ordering process

Condition

60 13 02 September 19, 2013 **2033728**

Sunroof Opens But Will Not Close and / or Cycles Back to Open and / or Sunroof Glass Scratched

The customer may experience the sunroof opens, but will not close, and/or, cycles back to open, and/or, the outer surface of the sunroof glass is scratched.



Note:

Please read this document in its entirety before performing repairs.



Note:

This bulletin applies to vehicles built after May 31, 2012(MDH 0531XX) and prior to November 1, 2012 (MDH 1101XX).

Technical Background

This bulletin involves inspecting sunroof glass clearance, and if necessary, modifying the sunroof reinforcement, to allow adequate clearance for sunroof glass travel.

Production Solution

Vehicles produced after November 1st 2012 will have improved sunroof opening dimensions.

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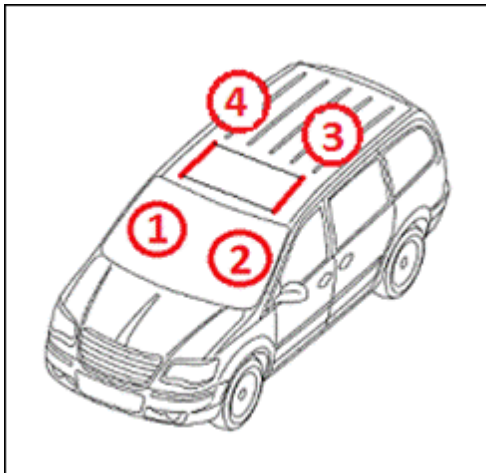
Service

Procedure:

Step 1

Adjust sunroof panel flushness along the front of the glass (1) & (2) to 2mm under flush. Adjust the rear of the sunroof glass panel (3) & (4) to zero/flush (Fig. 1).

Refer to ElsaWeb **Body > Body exterior > 60 – Sunroof > General Information > Sunroof Glass Adjustments**



Passenger Side Front Panel Flushness

(Adjust to 2mm Under flush)

Driver Side Front Panel Flushness

(Adjust to 2mm Under flush)

Driver Side Rear Panel Flushness

(Adjust to 0mm-Flush)

Passenger Side Rear Panel Flushness

(Adjust to 0mm-Flush)

Fig. 1 Sunroof overview



Note:

Once the proper glass position has been achieved, tighten the six glass panel attaching screws to 3.5 Nm (31 in. lbs.).

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Step 2

To protect the Sunroof Glass panel for scratching during the inspection apply two pieces of felt/flock tape (7B0.867.910) to each side of the sunroof glass panel. Apply the tape end to end along the side edge of the sunroof glass panel starting at the end of the rear corner radius running forward (see red marked areas in Fig.2).



Fig. 2 Applying protection Tape

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Step 3

Cycle the sunroof panel to the full open position and use a 2mm feeler gage (1) to check left and right sunroof glass (3) to inner sheet metal reinforcement (4) gap. Use a flashlight to locate the lowest point between the sheet metal reinforcement (4) and sunroof glass (3) (Fig. 3).

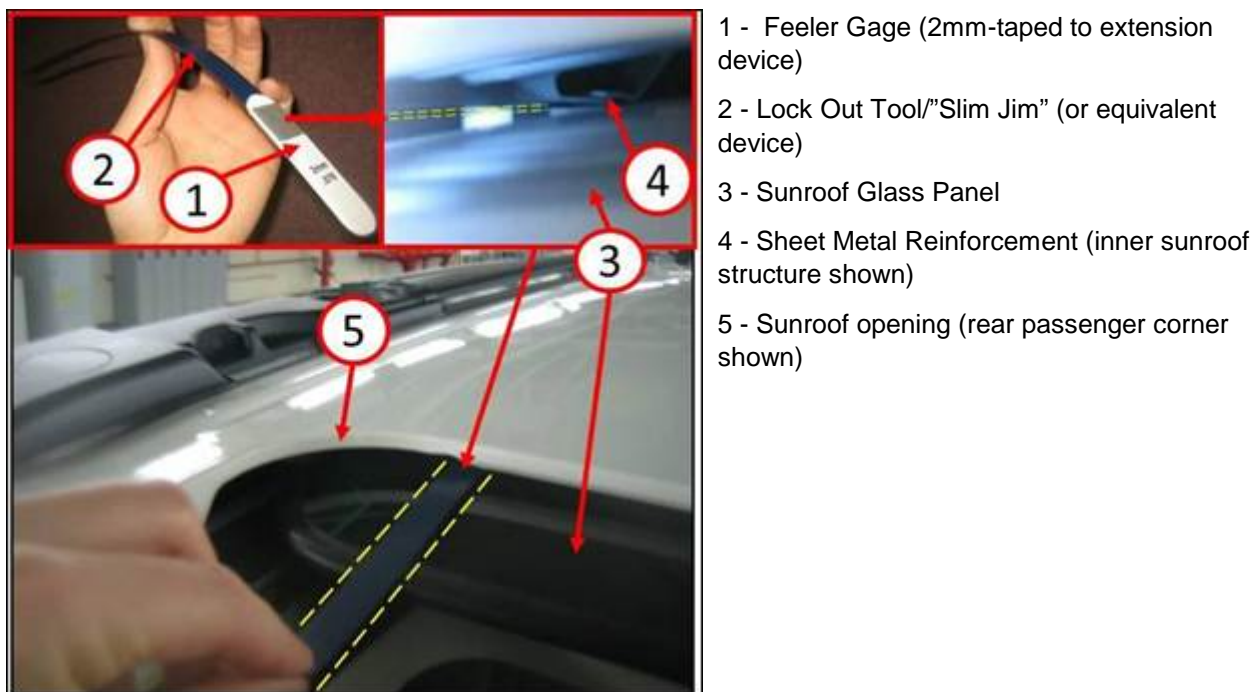


Fig. 3 Inspect gap between sunroof glass and roof reinforcement.

Is the clearance between the inner sunroof sheet metal reinforcement and sunroof glass 2mm or greater?

Yes >>> This bulletin does not apply, further diagnosis required.

No >>> Cycle the sunroof to the fully closed position and remove the felt/flock tape.

Proceed to Step 4.

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Step 4

Remove the sunroof module assembly. Refer to the detailed procedures available in ElsaWeb: **Body > Body exterior > 60 – Sunroof > Removal and installation > Sunroof**



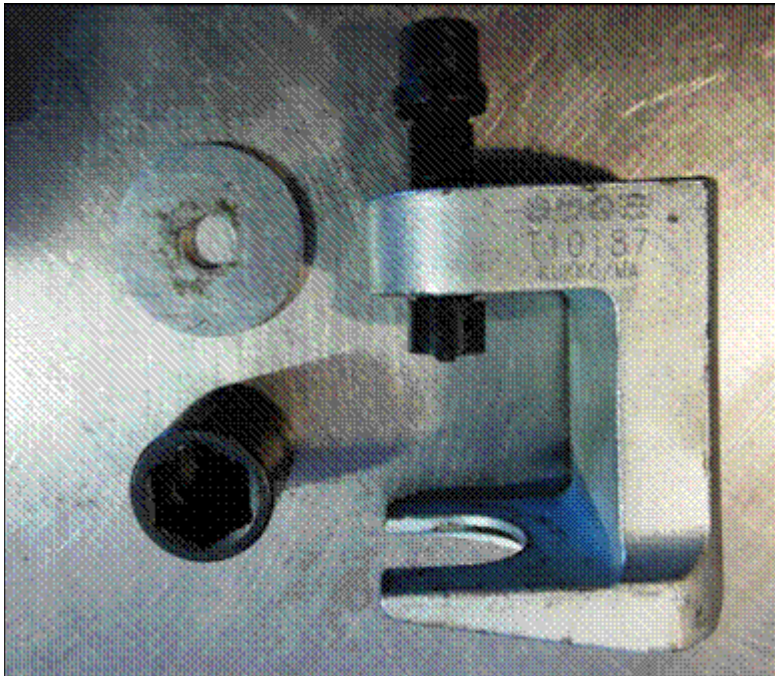
Concerned Area (driver side) is shown in Fig. 4.

Fig. 4 Concerned Area

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C-4150A mini ball joint press.



Alternative T10187

Step 5

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Using a backer plate or heavy (3/8"/10mm minimum thickness) cardboard to protect and disburse any pressure applied against the outer roof sheet metal, insert the C-4150A ball joint press/special tool (1) into the low hanging sunroof reinforcement feature (Fig. 5).



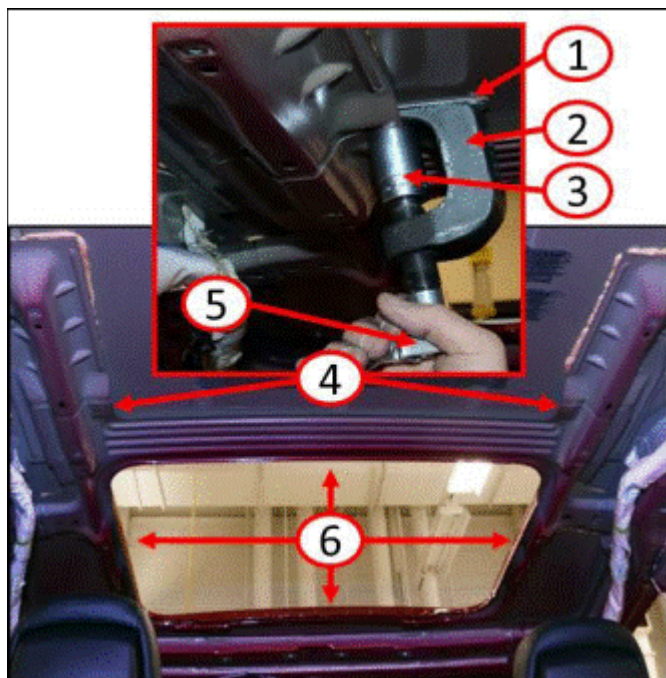
WARNING:

A backer plate must be used to protect the exterior roof sheet metal panel from deformation and evenly disburse any pressure placed on the exterior roof panel. Failure to do so will result in damage to the outer roof panel as the raised center of the reinforcement will contact the outer panel creating a dimple or dent from focused pressure at the point of contact.

Step 6

Insert a 30mm socket or equivalent (2), between the sunroof reinforcement (3) and spindle of the C-4150A ball joint press/special tool (1), to take up space between the frame and spindle of the press.

Carefully tighten the spindle of the press to compress the center of the sunroof reinforcement upward (Fig. 5/6).

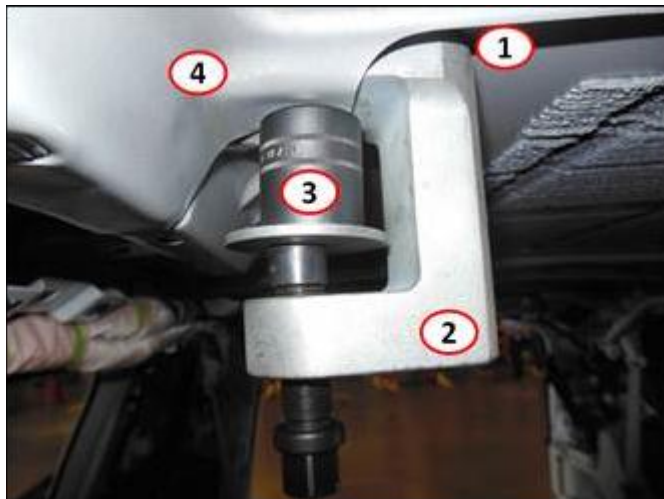


C-4150A Ball Joint Press

- 1 - Backer Plate (scrap metal shown) or 3/8 (10mm) cardboard
- 2 - C-4150A Ball Joint Press/Special Tool
- 3 - Socket (30mm shown)
- 4 - Sunroof Reinforcement (low hanging features shown)
- 5 - Ratchet
- 6 - Sunroof Opening (view from inside vehicle)

Fig. 5 Modify Using Special Tool

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Alternative T10187

- 1 - Backer Plate (scrap metal shown) or 3/8 (10mm) cardboard.
- 2 - T10187 / Special Tool
- 3 - Socket (30mm shown) or equivalent
- 4 - Roof Reinforcement

Fig. 6 Modify Using Special Tool

Step 7

Using a backer plate or heavy (3/8"/10mm minimum thickness) cardboard to protect and disburse any pressure applied against the outer roof sheet metal, carefully push the remaining left and right side of the low hanging sunroof reinforcement feature upward using a hammer handle or equivalent blunt tool to provide additional clearance. (Fig 7)



WARNING:

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- 1 – Backer Plate (scrap metal shown)
- 2 – Left and Right side (sunroof reinforcement to be modified)
- 3 – Blunt Tool (Hammer handle shown)

Fig. 7 Verify Modification

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Step 8

Using an index card or folder stock, create a verification gage (4) that will ensure the proper clearance is achieved as a result of modifying the sunroof reinforcement. The gage should measure 13.5mm down from the outer roof panel and 30mm inward from the outer edge of the sunroof reinforcement. Move the verification gage back and forth along this area to ensure proper clearance is achieved (Fig. 8).

 **Note:**

Repeat the modification procedure for the opposite side of the vehicle or on existing side until desired clearance is achieved.



4 – Verification Gage (desired clearance shown)

Fig. 8

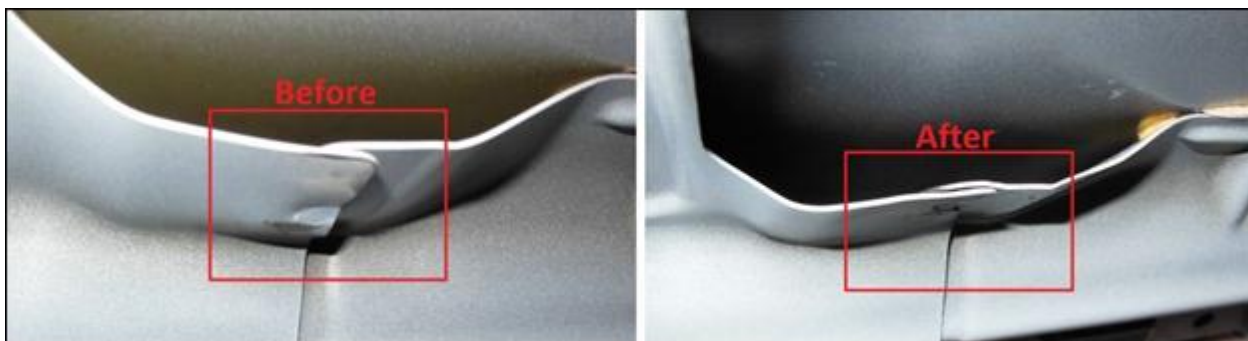


Fig. 8 Before and After

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Step 9

Reinstall the sunroof module. Refer to the detailed procedures available in ElsaWeb: **Body > Body exterior > 60 – Sunroof > Removal and installation**

Step 10

If the glass panel is scratched please replace the sunroof glass panel (7B0.877.071). Refer to the detailed procedures available in ElsaWeb: **Body > Body exterior > 60 – Sunroof > Removal and installation**



Note:

Adjust sunroof glass to fit flush with the roof line. (Refer to ElsaWeb: **Body - Body/Exterior - 60 - Sunroof – Removal and installation – Sunroof – Sunroof Glass Adjustments**).



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Warranty

All Routan pre and post road test and StarMOBILE time units are included in the labor operation. Therefore, no road test time units will appear in the designated area within the warranty table.

To determine if this procedure is covered under Warranty, always refer to the Warranty Policies and Procedures Manual ¹⁾					
Model(s)	Year(s)	Eng. Code(s)	Trans. Code(s)	VIN Range From	VIN Range To
Routan	2012	All	All	All	All
SAGA Coding					
Claim Type:	Use applicable Claim Type ¹⁾				
Service Number:	Damage Code	HST		Damage Location (Depends on Service No.)	
6040	0017	CWM2033728		Use applicable when indicated in ElsaWeb (L/R)	
Parts Manufacturer	Routan				USM
Labor Operation ³⁾ : Inspect Sunroof Glass Clearance Only	60400199 = 30 TU				
OR					
Labor Operation ³⁾ : Inspect and Repair Sunroof Support Flange	60404199 = 290 TU				
OR					
Labor Operation ³⁾ : Inspect and Repair Sunroof Support Flange and Replace Sunroof Glass	60405599 = 320 TU				
Causal Part: Select Labor	6040****				
Diagnostic Time ⁴⁾					



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GFF Time expenditure	01500000 = 00 TU max.	NO
Road Test	01210002 = 00 TU 01210004 = 00 TU	NO
Technical Diagnosis	01320000 = 00 TU max.	NO
Claim Comment: Input "As per Technical Bulletin 2033728" in comment section of Warranty Claim.		
¹⁾ Vehicle may be outside any Warranty in which case this Technical Bulletin is informational only ²⁾ Code per warranty vendor code policy. ³⁾ Labor Time Units (TUs) are subject to change with ELSA updates. ⁴⁾ Documentation required per Warranty Policy Procedures Manual.		

Required Parts and Tools

Parts Description	Part No:	Quantity per repair
Glass, Sunroof	7B0877071	1
Tape, Flock/Felt	7B0867910	4

Tool Description	Tool No:
Press, Ball Joint	C-4150A (Routan Tool Package)
Press, Ball Joint (Alternative)	T10187 Special Tool
Feeler Gage (2mm)	NN
30mm Socket or Equivalent	NN
Lock Out Tool/"Slim Jim" or equivalent	NN
Backing Plate or Equivalent (Approximate Dimension = Length-150mm x Width-50mmxDepth/Thickness-2mm)	NN



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Additional Information

All part and service references provided in this Technical Bulletin are subject to change and/or removal. Always check with your Parts Dept. and Repair Manuals for the latest information.