



Technical Service Bulletin

60 Water entry into cabin from the sunroof area

60 21 50 2056944/6 March 2, 2021. Supersedes Technical Service Bulletin Group 60 number 20-45 dated November 3, 2020 for reasons listed below.

Model(s)	Year	VIN Range	Vehicle-Specific Equipment
Audi e-tron Sportback	2020 - 2021	All	Not Applicable
Q3, Q8, and Audi e-tron quattro	2019 - 2021	All	Not Applicable

Condition

REVISION HISTORY		
Revision	Date	Purpose
6	-	Revised <i>Technical Background</i> (Clarified possible problem and updated drain hose check) Revised <i>Production Solution</i> (Clarification of desired action) Revised <i>Service</i> (Added Note regarding unnecessary part replacement) Revised <i>Warranty</i> (Added specific labor operations for all checks)
5	11/03/2020	Revised <i>Service</i> (Modified work procedure) Revised <i>Warranty</i> (Added Labor Operation)
4	10/07/2020	Revised header (Added Audi e-tron Sportback) Revised <i>Warranty</i> (Added Test Drive SRT allowance)



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Customer states:

- They see a water drip from the headliner area (Figure 1).



Figure 1. Water intrusion near the headliner.

Technical Background

One or a combination of the following four possible scenarios may be present. All of the following areas of the sunroof system will need to be inspected as possible root causes, and if applicable, each may need to be modified or corrected.

1. Sunroof drain hose or outlet valve:

Using the VAS6620 Sunroof Drain Snake follow the cleaning procedure for the sunroof water drain hoses as described in ElsaPro. Any possible obstruction other than debris cleared by this procedure will be apparent after this check such as a kinked or pinched drain hose (Figure 2).



Figure 2. Sunroof drain hose pinched by pillar trim.



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2. Roof opening seal:

Inspect the entire perimeter of the roof opening seal for any possible detachment or malformation (Figure 3).



Figure 3. Detached and malformed roof opening seal.



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3. Glass sunroof panels:

Check all adjustment axes of the sunroof glass panels for poor adjustment (Figure 4).

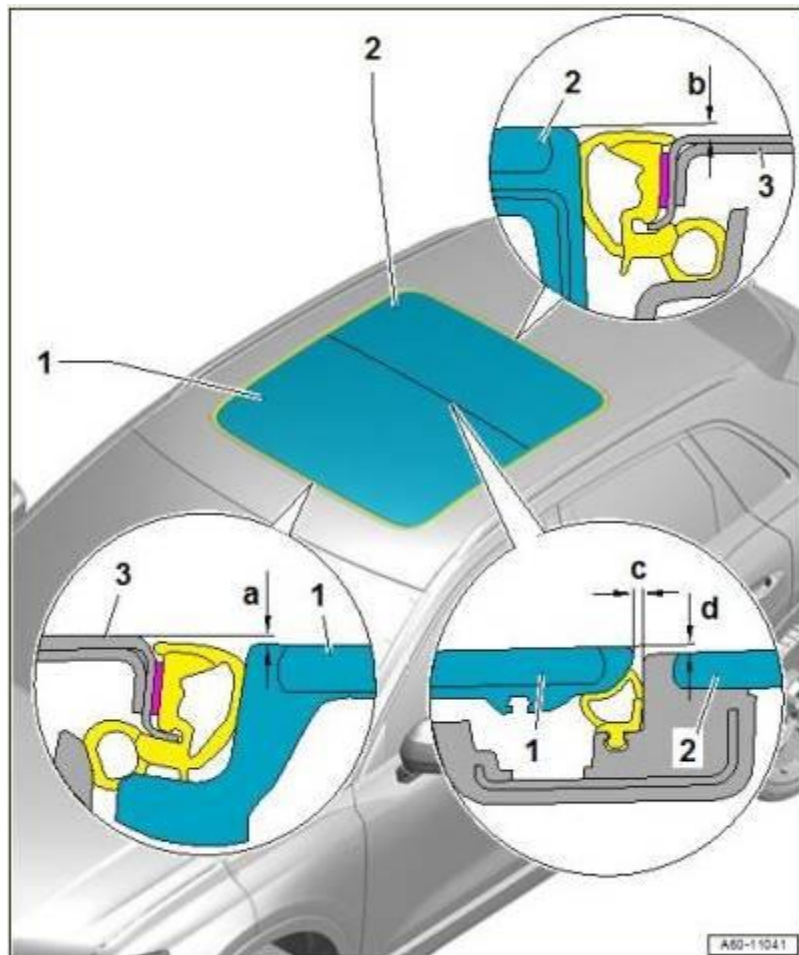


Figure 4. Front and rear glass panel adjustment.

4. Unexplained or unduplicated water entry:

When the vehicle is exposed to water (rain, car wash, or standing water on the roof panel) either with the vehicle stationary or driving it is possible for water to enter the sunroof frame, breach the normal water drainage channeling, and leak into the cabin area, particularly if the sunroof is opened or vented when the vehicle is wet.



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Any possible water drip may not appear until after a driving period when the water travels to the underside of the headliner area during the normal course of driving (Figures 5-7). This may occur due to a slow migration of water along the wind deflector hinge arms and potential water entry into the stowage area for the wind deflector. This stowage area does not provide water drainage away from the vehicle.



Figure 5. Front sunroof opening with drainage exposed.



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Figure 6. Areas of sunroof opening water elimination capabilities.



Figure 7. Sunroof water channeling diagram.



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Production Solution

Solutions have been implemented in production.

Service

The instructions that follow are service solutions that, when performed accurately and completely, are effective in stopping water intrusion and help to avoid unnecessary parts replacements and repeat repairs. All of the possible root causes described here will need to be fully addressed and any necessary repairs completed prior to releasing the vehicle.

1. Sunroof drain hose or outlet valve:

Ensure that any water in the sunroof frame drainage areas flows freely after the cleaning procedure. If any obstruction is due to a pinched or kinked drain hose the damaged drain hose(s) or valve(s) must be replaced.

2. Roof opening seal:

If after inspecting the roof opening seal any detachment, malformation or damage is discovered, replace the sunroof opening seal.

3. Glass sunroof panels:

If after all dimensional measurements are made on the sunroof glass panels an issue is found make the necessary adjustments to the sunroof glass panels.

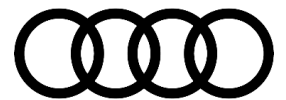
4. Water entry for what appears to be through the sunroof frame:

It is not necessary to replace the sunroof frame unless there is damage found (e.g. crack in the drainage structure, hole in the drainage structure). If damage to the sunroof frame is found, clearly mark the area of damage. Sunroof frames replaced for damage will be requested for return to AoA for analysis.



Note:

In analysis a complete leak test of the sunroof frame will be conducted. If the results of this test reveal no water leak in the sunroof frame including the area marked as damaged the sunroof frame will be returned and the claim for the frame replacement debited. If no damage to the sunroof frame structure is found, then proceed as follows.



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5. Open the front sunroof panel completely and locate the mounting points for the sunroof wind deflector (Figure 8).

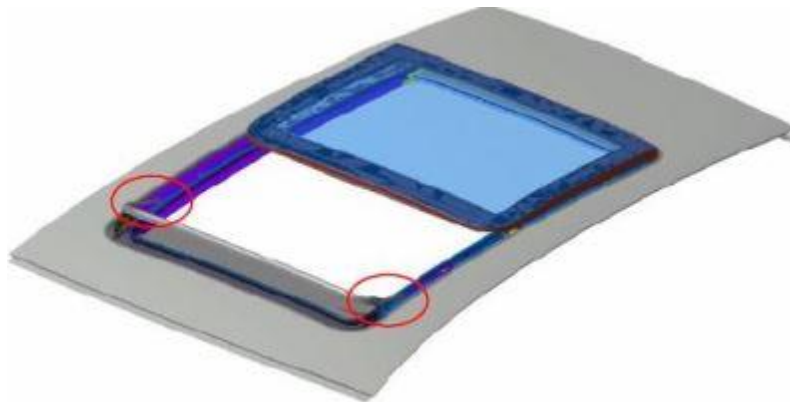


Figure 8. Locating points for the sunroof wind deflector.

6. There has been a design change to the wind deflector to enhance the water flow and drainage in the event the wind deflector gets wet. Inspect the area of the wind deflector shown (Figure 9). The redesigned wind deflector has small tabs cast into the deflector structure on both sides. If the wind deflector does not have these tabs replace the wind deflector. Make certain that the replacement wind deflector contains these tabs before installation. With the redesigned wind deflector installed, proceed as follows.



Figure 9. Tabs cast into the redesigned wind deflector.

7. Using a primer applicator D 009 500 25 (or equivalent) and D 009 401 04 all purpose cleaner (or equivalent) thoroughly clean the area shown (Figure 10). It should be free of any lubricant or contaminants and completely dry.

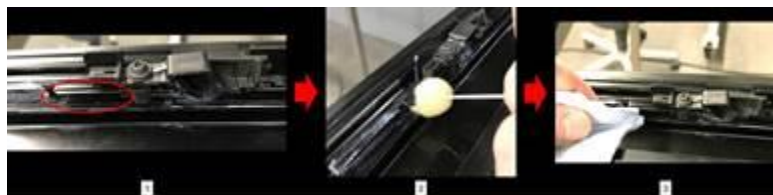


Figure 10. Area of sunroof frame to be cleaned.



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- Cut two 25mm strips of AKL 450 005 05 Butyl adhesive/sealing cord. Firmly press each strip into the groove shown (Figure 11). Both channels shown in the cut away must be completely filled with the butyl cord.



Figure 11. Preparation and application of butyl cord.

- Next, a modification will be made to the sunroof glass panel (Figure 12) by bonding two small pads to the front corners just inside the rubber 'skirt'. The purpose of this modification is to create a gap between the 'skirt' and the sunroof mechanism beside it, and as a result, prevent water from making contact with the sunroof mechanism and possibly breaching the water channels.

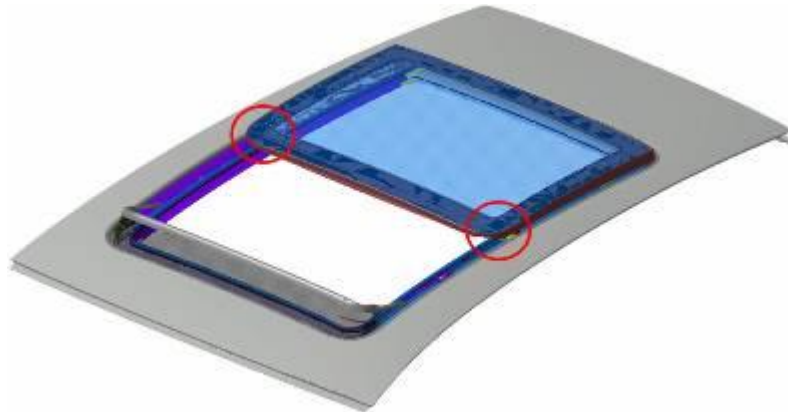


Figure 12. Area of sunroof glass panel to be modified.

- Clean the inside surface of the glass panel 'skirt' using D 009 401 04 all purpose cleaner (or equivalent) and a clean dry cloth as shown (Figure 13).



Figure 13. Area of glass panel 'skirt' to be cleaned and dried.

- Apply D 355 205 A2 Bonding Agent using a primer applicator D 009 500 25 (or equivalent). Allow bonding agent to thoroughly dry (Figure 14).



Figure 14. Area of glass panel 'skirt' where bonding agent is to be applied.



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12. Using 251 201 525 packing cut 2 x 10mm x 10mm pads (Figure 15).



Figure 15. Preparing 2 – 10mm x 10mm pads of 251 201 525 packing.

13. Bond each pad to the front areas of the sunroof glass panel 'skirt' as shown in figure 15. A cut away drawing is included to illustrate the precise positioning of each pad from the inside (Figure 16).

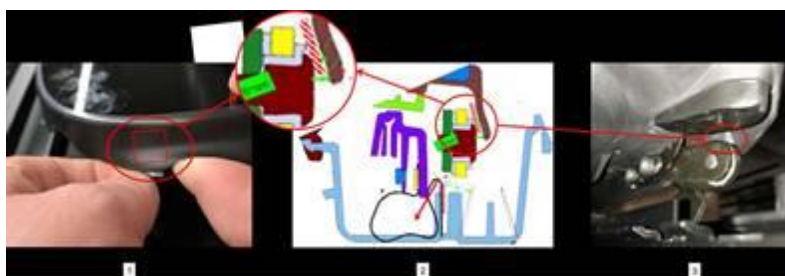


Figure 16. Positioning and application of the 10mm x 10mm pads.

14. Using a 3356 roller tool (or equivalent), apply firm pressure (~50 Nm) to the newly adhered pads to enhance the strength of adhesion (Figure 17).



Figure 17. Applying pressure to bonded area with 3356 roller (or equivalent).

Warranty

Claim Type:	<ul style="list-style-type: none">• 110 up to 48 Months/50,000 Miles.• G10 for CPO Covered Vehicles – Verify Owner.
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	<ul style="list-style-type: none"> If the vehicle is outside any warranty, this Technical Service Bulletin is informational only. 		
Service Number:	6039		
Damage Code:	0050		
Labor Operations:	Sunroof water drains:		
	Sunroof water drains check	6048 0250 (Q8, Audi e-tron quattro, and Audi e-tron Sportback)	See SRT with associated operations
	Sunroof water drains check	6048 0251 (Q3)	See SRT with associated operations
	Should sunroof drain hose replacement be necessary:		
	Headliner loosen and fasten	7084 0950 (Q3)	See SRT with associated operations
	Headliner loosen and fasten	7084 0900 (Audi e-tron quattro and Audi e-tron Sportback)	See SRT with associated operations
	Headliner loosen and fasten	7084 0900 (Q8)	See SRT with associated operations
	Sunroof drain hose(s) replacement	6048 9999 (All)	10 TU (per hose)
	Roof opening perimeter seal:		
	Sunroof opening perimeter seal inspection	6042 9999 (All)	10 TU
	Should sunroof opening perimeter seal replacement be necessary:		
	Front glass tilting roof panel remove and reinstall	6039 1900 (Q8, Audi e-tron quattro, and Audi e-tron Sportback)	See SRT with associated operations



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	Roof opening perimeter seal remove and reinstall	6042 1950 (Q8, Audi e-tron quattro, and Audi e-tron Sportback)	See SRT with associated operations
	Roof opening perimeter seal remove and reinstall	6042 1902 (Q3)	See SRT with associated operations
	Sliding roof glass panels:		
	Check sunroof panel adjustment – front and rear	6041 9999 (All)	10 TU
	If sliding roof panel adjustment is necessary:		
	Front glass tilting roof panel adjust	6039 1500 (All)	See SRT with associated operations
	Rear glass panel adjust	6041 1500 (All)	See SRT with associated operations
	Wind deflector:		
	Check sunroof wind deflector version	6033 9999 (All)	5 TU
	If sunroof wind deflector replacement is necessary:		
	Replace the sunroof wind deflector	6033 1900 (All)	See SRT with associated operations
	Sunroof frame and glass modifications:		
	Perform sunroof frame and front glass panel modifications.	6039 9999	50 TU
Diagnostic Time:	GFF	01 50 00 00	10 TU
	Road test prior to the service procedure	0121 0002	10 TU
	Road test after the service procedure	0121 0004	10 TU
Claim Comment:	As per TSB #2056944/6		



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All warranty claims submitted for payment must be in accordance with the *Audi Warranty Policies and Procedures Manual*. Claims are subject to review or audit by Audi Warranty.

Required Parts and Tools

Always check with your Parts Department and/or ETKA for the latest information and parts bulletins.		
Part Number	Part Description	Quantity
D 00940104 or equivalent surface preparation solvent (e.g. isopropyl alcohol)	 All Purpose Cleaner	0.2
D 355205A2 or equivalent adhesion promoter (e.g. 3M™ 111 Adhesion Promoter or AC77 Adhesive Primer)	 Bonding Agent	0.2




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<p>D 00950025 (or equivalent)</p>	 <p>Primer Applicator</p>	<p>02</p>
<p>AKL45000505</p>	 <p>Butyl Adhesive / Sealing Cord</p>	<p>0.1</p>
<p>251201525</p>	 <p>Packing</p>	<p>0.5</p>
<p>83A877459 -or- 83A877459A</p>	<p>Roof opening perimeter seal (Audi e-tron quattro, Audi e-tron Sportback, and Q3)</p>	<p>01</p>
<p>4M0877459C</p>	<p>Roof opening perimeter seal (Q8)</p>	<p>01</p>
<p>4KE877201 -or-</p>	<p>Front sunroof water drain hoses (Audi e-tron quattro and Audi e-tron Sportback)</p>	<p>02</p>



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4KE877201A		
4KE877203 -or- 4KE877203A	Rear sunroof water drain hoses (Audi e-tron quattro)	02
4K4877203	Rear sunroof water drain hoses (Audi e-tron Sportback)	02
4M8877201	Front sunroof water drain hoses (Q8)	02
4M8877204	Right rear sunroof water drain hoses (Q8)	01
4M8877203	Left rear sunroof water drain hoses (Q8)	01
83A877201 -or- 83A877201A	Front sunroof water drain hoses (Q3)	02
83A877204 -or- 83A877204A	Right rear sunroof water drain hoses (Q3)	01
83A877203 -or- 83A877203A	Left rear sunroof water drain hoses (Q3)	01
4M8877651	Wind Deflector	01
See ETKA	Fasteners, Bolts, Nuts, and Screws as needed per the Repair Manual	See ETKA/ELSA

Tool Number	Tool Description
VAS6620	 <p>Sunroof drain snake</p>



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3356 (or equivalent tool)



Roller Tool

Additional Information

All parts and service references provided in this TSB (2056944) are subject to change and/or removal.

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