

94 Exterior lights have moisture accumulation

94 24 73 2012749/17 March 9, 2024. Supersedes Technical Service Bulletin Group 94 number 23-64 dated May 9, 2023 for reasons listed below.

Model(s)	Model(s) Year VIN Range		Vehicle-Specific Equipment
All Audi Vehicles	2016 - 2025	All	Not Applicable

Condition

REVISION HISTORY						
Revision	Date	Purpose				
17	-	Revised header (Added MY25) Revised attachment (Added checklist and flow chart) Revised <i>Service</i> (updated verbiage and steps)				
16	5/9/2023	Revised header (Added MY23,24) Revised <i>Technical Background</i> (Updated information)				
15	02/17/2021	Revised header (Added MY22, models, and attachment) Revised <i>Service</i> (Added reference to TSB 2061922)				

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Customer states:

 Condensation is visible on the inside of the headlight, taillight, fog light, side marker light, front turn signal, daytime running lights, and/or third brake light lens.

Workshop findings:

Workshop is able to confirm the customer concern. *Figure 1* provides examples of **NORMAL** amounts of moisture that may be visible. The level of moisture buildup may vary car-to-car or even between lamps on the same vehicle.



Figure 1. Normal condensation/moisture on the inside of the lights.

Process of physical condensation on headlights and taillights:

In winter and/or in wet weather, the complaint "condensation on the lens, moisture in the lamp" can occur on the headlights and other exterior lights as there is more humidity in the surrounding air.

Headlights and taillights are normally open systems meaning air from the outside circulates through the component. This type of design is necessary to ensure pressure equalization.

When the vehicle is parked after use, the back of the headlight is heated up by residual heat from the engine, for example, while at the same time, the lens is cooled down by the cold outside air. This creates a temperature difference which causes the humidity in the air to condense on the inside of the lens.

Driving through a car wash or using a steam cleaner on the engine compartment amplifies this phenomenon by increasing the humidity in the component.

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LED headlights and taillights:

The lens does not warm up even when the lights are switched on because none of the light emitted is in the infrared spectrum. In this case, only the pressure difference at the vents occurring while driving provides the needed airflow to clear up the condensation. The vents are arranged and designed in such a way that the lens will be cleared after driving with sufficient ventilation.

The normal presence of moisture/condensation:

- Does not affect the performance of the headlight or taillight.
- Does not cause corrosion inside the component.
- Can occur on any lamp.
- May vary depending on environmental conditions and driving habits.
- Is NOT a condition covered under warranty.

Technical Background

Not applicable.

Production Solution

Not applicable.

Service

- 1. Always check for TSBs that are specific to your vehicle configuration and specific customer concern. This TSB provides a general overview when performing the diagnosis of moisture concerns that are internal to an exterior lighting assembly.
- 2. Document this repair following the instructions in TSB 2061922: *94 How to properly document optical concerns for headlights and tail lights.*
- 3. Use the "*Checklist*" and the "*Flowchart*" see Figures 2 and 3 below to locate the attachments in the bulletin.

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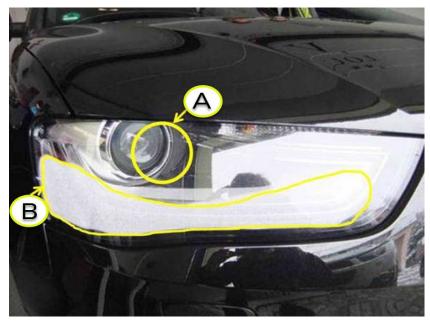
Figure 2. In ElsaPro, attachments can be found Figure 3. In Elsa2Go, attachments can be found by clicking on the box in the upper right of the ribbon.

[**i**]

Take a photo before and after step one for visual comparison. Please retain the photos for at least one month after claim submission.

The light emission surface (Figure 4A) of the main beam should be clear after driving for approximately 10 minutes with the main beam on.

- Driving speeds must be consistently over 45mph for the ventilation system to properly function.
- Residual condensation (Figure 2B) may be present depending on



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ambient conditions, thisFigure 4. A: Main beam light emission surface. B: Condensation of theis normal.headlamp.

- The amount of time required for the condensation to clear will depend on the outside temperature, relative humidity, and the vehicle speed (higher speeds provide better ventilation).
- Leaving a vehicle stationary with lamps on is **NOT** sufficient for clearing moisture

If water drops or condensation are present on the light emission surface (Figure 2A) after performing the steps in the "*flowchart*", inspect the headlamp assembly for the root cause:

- Missing cover.
- Damaged seal.
- Clogged drain.
- Outside influence.
- Vent tube disconnected from the headlamp.

Normal amounts of moisture:

If the amount of moisture/condensation is deemed normal, please explain this to the customer. Parts replacement **will not** correct the concern and the customer will likely still experience the same issue.

Abnormal amounts of moisture:

Abnormal amounts of moisture can be seen in figures 5 and 6 below. These are examples of excessive moisture still present **AFTER a thorough test drive** with lamps on.

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When submitting a claim under warranty, please upload the photos to **DOC-IT** for review. Claims submitted without photos may be charged back.

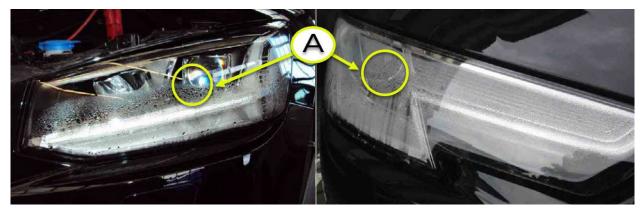


Figure 5. A: *Example of a compromised headlamp. Moisture is still present in the light emission surface after a test drive.*



Figure 6: Example of compromised tail lamps after a sufficient test drive.

Warranty

This TSB is informational only and not applicable to any Audi Warranty.

Additional Information

The following Technical Service Bulletin(s) will be necessary to complete this procedure:

• TSB 2061922, *94 How to properly document optical concerns for headlights and taillights.*

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All part and service references provided in this TSB (**2012749**) are subject to change and/or removal. Always check with your Parts Department and/or ETKA for the latest information and parts bulletins. Please check the Repair Manual for fasteners, bolts, nuts, and screws that require replacement during the repair.

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