Technical Journal

TITLE:

PS Headlamp Condensation - Information/Leak test

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Rows beginning with * are modified
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DESCRIPTION:
* Service section updates.

* VST operation number corrected.

If there is condensation, moisture or mist inside the headlamp lens, follow advice under “Service”.

CSC Customer Symptom Codes

Code	Description
W4	Headlights/Moisture/mist on inside of lens

DTC Diagnostic Trouble Codes

Vehicle Type

Type	Eng	Eng Desc	Sales	Body	Gear	Steer	Model Year	Plant	Chassis range	Struc Week Range
359							2025-2099		0000001-0999999	202402-209952
534							2021-2099		0000001-0099999	202007-209952

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SERVICE:

***> General information regarding moisture in the headlamps**

Condensation in headlamps

Although the headlamps are waterproof, it is natural and inevitable that a certain amount of moisture can appear in the headlamps. The amount of moisture / condensation depends on the climate in which the car is used and on what driving behavior the customer has.

- In markets or times of the year with high relative humidity, there is greater risk of condensation accumulating in the headlamp.
- If the car is used rarely or mostly for shorter periods of time, the risk of condensation increases.
- Fast and great temperature changes also increase the risk of condensation.

To avoid or eliminate moisture in the headlamps, use the car regularly with high- or low beam engaged. The car also needs to be used for a longer driving cycle, which corresponds to more than approximately 30 minutes of driving. Having the light on, with the car standing still, for 30 minutes can cause more moisture in the lamps.

If a car has condensation in the headlamps, it usually does not help to replace them with new headlamps, as the moisture is likely to come back in the new lamps as well. Note that the headlamps are designed to withstand moisture and that the functionality of the lamp is not affected by condensation.

Why condensation occurs in headlamps

Ambient air and humidity will diffuse into the headlamp through the ventilation openings. When there is a drop in temperature, this humidity might convert from gas into liquid form and may be visible as a fine mist on the inside of the lamp lens. The higher the relative humidity of the air is, the lower the temperature drop needs to be before the humidity condense into liquid. With normal use, the moisture inside the headlamp will evaporate when the headlamp warms up and ventilates back out into the ambient air outside. If the car is only used for shorter periods of time, condensation inside the lamp will not have time to convert back to gas form. This means that more and more humid air will enter the headlamp and convert to fluid form when air inside the lamp cools down. If the car is used many times without the moisture having time to evaporate, the condensation can accumulate, and the buildup may then be visibly perceived by the customer.

After a headlamp test with approved result

Inform the customers that the headlamp with condensation is acceptable since the lamp have has passed the leakage test. Condensation should disappear when the car is used for longer intervals.

Condensation

Condensation is a natural phenomenon that sometimes occurs in the headlamps of a car. It occurs more often during certain conditions, including:

- If the car is used in markets or times of the year with high relative humidity.
- If the car is used in short intervals, driving cycle shorter than 30 minutes.
- If the car / headlamps are exposed to high and rapid temperature changes (e.g. when washing a car during the summer).

To prevent or eliminate condensation in the headlamps, the car must be used regularly and for a sufficient amount of time to allow the moisture in the lamps to dry up.

If a headlamp passes the leak test, it does not help to replace it.

> Fault tracing:

If the condensation/moisture/mist does not disappear despite fulfilling above criteria's, follow below steps:

1. Check the headlamp assembly, lens, seals and ventilation holes/membrane for cracks or damages.
2. Perform a leak test according to repair in VIDA, Information=> Repair => Cleaning, inspection and adjustment => 3 Electrical system => 35 Lighting => 352 lighting, front => Headlamp leak test

3-a. If the result is not ok (air leak), it is ok to replace the headlamp. Add leak test result in the "repair order text" field, add video/photos of the symptom and the possible leakage location in a Vehicle report.

3-b. If the test is ok (no air leak), then the headlamp shall not be replaced.

Warranty claim info:
To get a warranty claim accepted for a job described in this TJ, use the corresponding VST OP number stated in this TJ.
Please note that fault tracing is not eligible for separate reimbursement under this TJ. Any fault tracing VST operation numbers will be rejected.
Note, that the TJ number must be stated in the repair order text.

VST Operation Number

VST Operation Number	Description
98810-2	General Reimbursement acc. to TJ
98802-2	General Reimbursement acc. to TJ

LABOR TIME:
Labor time subject to change without notice.

VEHICLE REPORT:
Yes, please submit a Vehicle Report if the service solution described in this TJ has no effect. Use concern area "Vehicle Report Polestar" and sub concern area "Support Not Needed Polestar", use function group 3521.