STAR ONLINE PUBLICATION

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Symptom/Vehicle Issue: Rain Sensing Auto Wipers and Auto on Head Lamps Inoperative. Rain Sensor Internal Failure.

Models Affected:
2023-2026 Ram 1500 (DT), 2500 (DJ), 3500 (D2 and DD), 4500/5500 (DP)
2024-2026 Jeep Wagoneer S (KM)
2024-2026 Dodge Charger (LB)
2023-2026 Jeep Compass (MP)
2023-2026 Dodge Durango (WD)
2023-2026 Jeep Grand Cherokee (WL)
2023-2026 Jeep Wagoneer (WS)
2023-2026 Ram Promaster (VF)

Owner Complaint/Technician Observation: The owner complains that the rain-sensitive wipers and/or the automatic headlamps are not functioning. The technician observed one or more of the following Diagnostic Trouble Codes (DTCs) have set dependent on the vehicle.

B221D-00 - Rain Sensor Module (RSM) Internal
B221D-49 - Rain Sensor Module (RSM) Internal Electronic Failure
B23AA-00 - Implausible Data Received from Rain Sensor - General Electrical Failure
B225F-49 - Light sensor Internal
B11FA-49 - Humidity Sensor Internal
B2131-09 - Humidity Light Rain Light Sensor Component Failures

This document does not authorize warranty repairs. This communication documents a record of past experiences. STAR Online does not provide any conclusions about what is wrong with the vehicle. Rather, it captures all previous cases known that appear to be similar or related to the vehicle symptom / condition. You are the expert, and you are responsible for deciding on the appropriate course of action.

Contact STAR Center, or your Technical Assistance Center Via TechCONNECT or eCONTACT ticket if no solution is found

Repair Procedure: Verify that the auto-on wiper selection within the radio settings is set to on and verify the customer-selected headlamp switch position is positioned for AUTO-ON headlamps. Inspect the windshield area where the light rain sensor is located, make sure nothing is blocking the sensor like windshield tint or any other aftermarket equipment, make sure there are no cracks in the windshield and if a replacement glass, inspect the area of the sensor mounting location.

CAUTION: During installation or removal process of the sensor, the SILGel membrane and Humidity Flex PCB must not be handled/touched, as this may cause sensor malfunctions see steps 1-5.



<<<NOTE>>> Before performing any removal or troubleshooting activity, visually inspect the rain sensor installation from both outside and inside the vehicle.

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From the outside, take clear photos showing the overall appearance of the sensor, ensuring there are no visible air bubbles or detachment between the SilGel membrane and the windshield.

From the inside, take photos verifying that the sensor is properly seated and fully secured to the windshield bracket.

Attach all photos to the submitted documentation/claim before proceeding with any further steps

1. Visually inspect the sensor at the glass, looking for air bubbles from a sensor area that is properly wetted to the glass surface. If there are air bubbles or any other damage to the SILGel membrane check if the windshield was replaced recently or the sensor was removed and re-installed recently. This issue might have been caused by not being careful enough when removing and re-installing the sensor.

2. Functionally check the rain sensing wipers by splashing some water near the area where the sensor is located. Ensure the vehicle is in “Park” ´position and the ignition is on to test wipers activation. Confirm that the rain-sensitive wipers feature is activated on the cluster screen or radio (if applicable). Note: The wipers will not operate in the high-speed mode if the vehicle is in “Park” or travelling below 4 MPH (7 km/h). A car wash is not a reliable test method due to the limitations mentioned above. For the auto headlamps functional check, block the light going into the sensor from exterior glass using an opaque object. Ensure the headlamp switch is in auto mode and verify proper operation.

3. Record DTCs and environmental data by checking the battery voltage recorded when the DTC is set. If the DTC is triggered due to low battery voltage, do not remove the sensor. Instead, erase the DTC and repeat the process.

4. Remove the rear-view mirror cover (inside) and make sure the connector to the sensor is secure. Use the push-pull-push method to secure a loose connection. If the connector and harness appear undamaged, disconnect the

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rain sensor, wait for 5 to 10 seconds, and reconnect it to verify proper electrical contact. Then verify that the sensor is fully retained by the bracket, ensuring the two steel retaining clips on the sensor are fully secured to the housing bracket.

5. Erase the DTCs and perform a key cycle, the key cycle should be key off for 1 minute with wiTECH disconnected. Removing power from the light rain sensor by disconnecting the vehicle battery is required for proper sensor calibration. After performing the battery disconnect, close all doors and hood, turn the ignition back on, and retest operation following step 2. If no DTCs return, release the vehicle. If DTCs reappear, perform at least three key cycles to allow the sensor to relearn its calibration. If issues persist, follow the Service Library DTC diagnostics as needed.

<<<NOTE>>> Removed parts must be protected using the plastic cover from the new part, and tape should be applied to prevent the removed part from being further damaged during shipping. This ensures that root cause analysis can be performed by Engineering and the supplier.

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