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Case Number: S2408000008

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Symptom/Vehicle Issue: Rain Sensing Auto Wipers Or Auto Headlamps Inoperative, DTC B221D-00, B23AA-00

Discussion: The customer may state the Rain Sensing Wipers or Auto Headlamps are inoperative or operate intermittently. When scanning for DTC's you may find DTC B221D-00 (RSM) Rain Sensor Module Internal and/or B23AA-00 Implausible Data Received From Rain Sensor in the BCM.

Repair: 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 if available. 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.

1. Visually inspect the sensor at the glass, looking for air bubbles at the area where the sensor is installed or any visible damage to the Gel Pad of the sensor. Also check that the Gel Pad is properly wetted to the glass surface. If the Gel Pad is damaged, please follow the service procedure to replace the Gel Pad with a new one, **it is not necessary to replace the whole sensor.**

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.

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2. Functionally check the rain sensing by splashing some water near the area where the sensor is facing, to test if the wipers activate. If there is auto headlamps option available, block the light going into the sensor from exterior glass using an opaque object, make sure the headlamp switch is in auto mode and check headlamp operation.
3. Record DTCs and environmental data checking the voltage recorded when the DTC is set, if the fault set for low voltage test the voltage at the sensor for proper battery voltage.
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 secure, disconnect the connector and check for bent or pushed-out terminals and repair if needed. 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. Also make sure the harness are secure before further testing.
5. Erase the DTCs and perform a key cycle, the key cycle should be key off for 1 minute with the wiTECH disconnected. Removing power from the light rain sensor is required for proper sensor calibration. Perform a battery disconnect of the light rain sensor by disconnecting the fuse (fuse number/location dependent upon vehicle) to allow recalibration of the sensor. Make sure all doors/hood and gates are closed, then turn the ignition back on and test the operation following step 2 checking for proper operation. If no DTCs return release the vehicle. If DTCs return, perform a battery disconnect and at least 3 key cycles to make the sensor relearns the calibration. If no DTCs return active release the vehicle. If DTCs return, follow Service Library DTC diagnostics as needed.

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