



STAR ONLINE PUBLICATION



Case Number: S2203000005

Release Date: December 2022

Symptom/Vehicle Issue: Service Four Wheel Drive (4wd) Message Illuminated. Diagnostic Trouble Code (DTC) C1403-29 – Transfer Case Range Position Sensor Signal Invalid, Set.

Customer Complaint: Some customers may experience a Service 4wd message displayed. Additionally, the customer may state they are unable to shift the vehicle into 4wd Low range. Upon further investigation the technician may find DTC C1403-29 set in the Drivetrain Control Module (DTCM) memory.

The root cause of this DTC may be due to a software issue in the DTCM. If the technician receives a vehicle with the above condition, perform the following repair procedure.

Repair Procedure:

1. Using wiTECH, navigate to the DTCM “Data Tab” and record the Transfer Case Actuator External Position Sensor value.
2. Inspect the DTCM and Transfer Case Range Position Sensor (RPS) connections for the following conditions:
 - a. Water intrusion and/or corrosion.
 - b. Bent or pushed out terminals.
 - c. Spread terminals causing poor connection.

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, eCONTACT or Service Library entry if no solution is found.



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3. Test all circuits between the DTCM and RPS and verify there are no opens, shorts to power or ground, or high resistance issues in the harness. Repair as necessary.
4. Perform the following verification routine and verify system operation.

Verification Routine:

1. Turn off the ignition, disconnect wiTECH, remove the keys from the vehicle, and allow the vehicle to completely power down. The vehicle will be completely powered down when the PRNDL display turns off in the Instrument Panel Cluster (IPC).
2. Turn the ignition on, engine off.
3. Using wiTECH navigate to the DTCM "Misc Functions" and perform the Range Position Sensor Reset routine. Follow all onscreen prompts.
4. Using wiTECH, navigate to the DTCM "Misc Functions" and perform the DTCM Power Down Calibration routine. Follow all onscreen prompts.
5. Turn off the ignition, disconnect wiTECH, remove the keys from the vehicle, and allow the vehicle to completely power down. (PRNDL display shut down).
6. Turn the ignition on and clear all DTCs.
7. Shift the transfer case system into 4-Low and verify the condition no longer exists.

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