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Symptom/Vehicle Issue: Unresponsive 4WD Shifter, Service 4WD Light Illuminated. ABS And/Or Traction Control Lights May Also Be On

Discussion: The customer may bring their vehicle in because the 4 Wheel Drive shifter is inoperative. The Service 4WD, ABS and/or Traction Control warning lamps may be illuminated. The vehicle might have one or more of the following Diagnostics Trouble Codes (DTCs) stored:

- C1480 Transfer case range digital position sensor performance (DTCM code)
- C140E Transfer case motor blocked (DTCM code)
- C140A T-case motor performance (DTCM code)
- C1403-92 Transfer case range position sensor performance or incorrect operation (DTCM code)
- U0403 Implausible data received from T-case. (PCM code)
- C1404 Transfer case range position sensor circuit low (DTCM code)
- C2112 Sensor supply 1 voltage circuit high (DTCM code)

Diagnosis: Diagnosis of all wiring and electrical connections must be conducted before proceeding with the replacement of the Transfer Case shift motor. Proper conductivity between mating connectors (Chassis and Transfer case side) must be confirmed as well as proper voltage feeds and grounds. Wire terminal pins on the transfer case motor wire harness connector must be fully seated within the connector and the sealing grommet must be secured by the plastic locking tab.

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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Begin by trouble shooting the presence of any DTCM codes (i.e. C-Codes) Follow the directions below to help identify the source of the electrical condition:

IMPORTANT: Poor wire harness terminal connections are a big contributor to intermittent electrical connections.

Using the wiring diagrams as a guide, visually inspect the related wiring harness and check for the following:

- Proper wiring harness routing.
- Chafed, pierced, pinched or open wiring harness insulation.
- Partially broken wires.
- Wiring or wiring strands broken inside of the insulation.

If multiple DTCs are set, use the wiring diagrams and inspect the following for poor connections or corrosion:

- Transfer case shift motor / DTCM power and ground circuits.
- Transfer case shift motor range position sensor reference and return circuits.
- Chassis grounds.
- Any common circuits.

Disconnect the transfer case shift motor, DTCM and any in-line wiring harness connectors and perform the following steps:

- Visually inspect the connector casings, locks, and weather-proof seals for any damage or water intrusion.
- Visually inspect for broken, bent, pushed out, or corroded terminals.
- Visually inspect the connectors and terminals for overheating due to a poor connection (terminals may be discolored due to excessive current draw).
- Verify the terminals in the connectors are fully seated into the connector/component and properly locked into position.
- Inspect the male and female connector terminals for proper terminal tension (drag test).
- Connect the transfer case shift motor and DTCM as well as any in-line wiring harness connectors back and verify they are fully seated.

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Repair Procedure: Conduct any repairs if needed and proceed to erase all DTCs from vehicle. If PCM codes (i.e. U-Codes) are present, follow the directions below:

1. If DTC code U0403 is present, check the Front Axle Disconnect (FAD), transfer case, and DTCM wire harnesses and connectors for damage or connection issues. If any wiring damage or connection issues are identified, document with pictures. Repair/Replace any bad electrical connection per normal service procedures in the Service Library. Cycle the key from Ignition On to Ignition Off and back to Ignition On.

Check the status of the U0403 DTC. If the DTC is Stored, clear the DTC and verify that the Traction Control light is off. Cycle key between Ignition Off and Ignition On 10-15 times (do not start), and check whether the DTC returns as Active. If U0403 is Active, follow the next step. If the DTC does not return as Active, repair is complete.

2. Electrically disconnect the DTCM and battery. Wait for 5 minutes, reconnect the DTCM, and then the battery. Start the vehicle and cycle through transfer case modes (4WD-HI, 4WD-Low, and 2WD) and check the DTC status. If the DTC is Stored, clear the DTC and verify that the Traction Control light is off. Cycle key between Ignition Off and Ignition On 10-15 times (do not start), and check whether the DTC returns as Active. If U0403 is Active, contact FCA Star agents for further assistance. If the DTC does not return as Active, repair is complete.

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