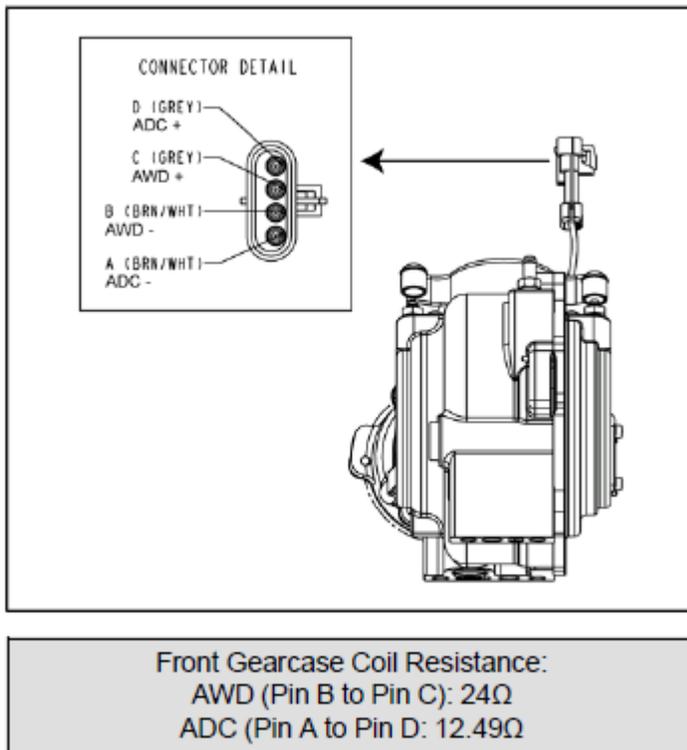


AWD DIAGNOSIS

Symptom: AWD Will Not Engage

If it does not have ADC

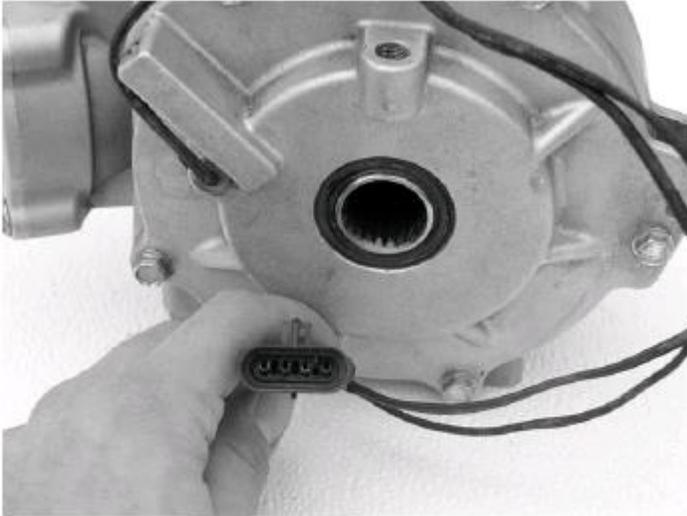
1. Check the gearcase AWD coil resistance. Measure between the Grey (C) and brown/white (B) wires. The resistance value should be within resistance.



2. Turn on the ignition switch and AWD switch and place gear selector in HIGH or LOW gear. Check for minimum battery voltage at the chassis side of the AWD/ADC connector. Measure between the Grey (C) and brown/white (C) chassis wires that power the AWD coil. A minimum of 11 Vdc should be present.
3. If electrical tests are within specifications, remove the front gearcase and inspect the internal parts.

If it has ADC

1. Check the gear case coil resistance. To test the gearcase coil resistance, use the coil harness (Grey & Brown/White).
 - **NOTE:** *To test the gearcase coil resistance, use the coil harness. The gearcase coil should measure between 22.8 ohms and 25.2 ohms.*



ADC Front Gearcase Coil Resistance
B-C (4X4): $23 \Omega \pm 4\Omega$
A-D (4X4 ADC): $12.49 \Omega \pm 4\Omega$

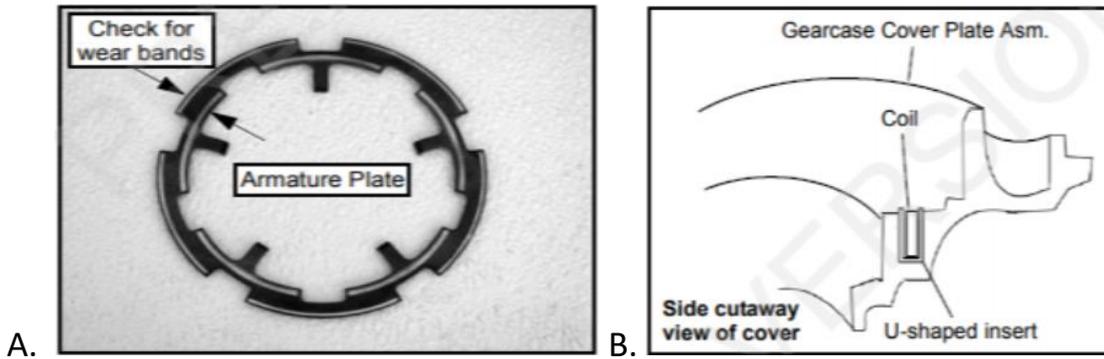
2. Check minimum battery voltage at the Grey & Brown/White wires that feed hub coil wires. There should be a minimum of 11.80 - 12.0 volts present for proper operation.

AWD Coil Applied Battery Voltage:
11.80-12.0 Vdc

If electrical tests are within specification

Remove gear case and inspect components.

- Inspect armature plate for consistent wear pattern. There should be two distinct wear bands (one band inside the other) as indicated in picture A. If only one band of wear is present (or if there is a wear between the two bands), inspect coil area as indicated in picture B. A wear band with interrupted wear mark may indicate a warped plate, which may cause intermittent operation.



- Check to make sure the coil is seated in the U-shaped insert that is pressed into the gear case cover. The top of the coil should be seated below the U-shaped insert. The U-shaped insert controls the pole gap. If the top of the coil is above the surface of the u-shaped insert it raises the armature plate, thereby increasing pole gap. If the pole gap increases the coil will not be strong enough to engage the AWD system. If this is found, replace the cover plate assembly.

- Inspect the rollers for nicks and scratches. The rollers must slide up, down, and out freely within the roll cage sliding surface and H-springs.
- Inspect the roll cage assembly for cracks or excessive wear. If damaged, replace the roll cage assembly.

- If no damage is found inside the gearcase. Clean all parts inside thoroughly and put new fluid.
 - Sometimes if the fluid is too thick, it will not give clearance to disengage.
- Load test your battery.
 - When they get weak, they do strange things. Such as the front differential not disengaging on turns.
- Sometimes you must go in reverse to unlock the rollers. If that does not work, you can have a warped armature plate that will cause unwanted engagement or a magnetized armature plate.