

DESCRIPTION AND OPERATION

TRANSFER CASE

All Wheel Drive (AWD) Transfer Case

Torque from the transmission is transferred to the input shaft through the planetary gear assembly and out the rear output shaft. Torque also flows through the planetary gear assembly to the drive gear outward to the driven gear. The torque flow continues from the upper drive sprocket through the drive chain to the lower drive sprocket to the front output shaft. The open differential provides 60% of available torque to the rear and 40% to the front, between the rear output shaft drive gear and the front output shaft driven gear.

1-Speed Torque-On-Demand Transfer Case

When the electromagnetic clutch is engaged, torque from the transmission is transferred to the input shaft to the planetary gear assembly to the rear output shaft. The torque flow continues from the drive gear through the drive chain to the driven gear and to the front output shaft. The electromagnetic clutch provides the connection between the planetary assembly and the front output driven gear.

2-Speed Torque-On-Demand Transfer Case

4x4 AUTO Mode - Torque from the transmission is transferred to the input shaft which drives the rear output shaft that drives the rear axle assembly. The electromechanical clutch assembly drives the drive sprocket after the four wheel drive (4WD) control module activates the clutch coil. The drive sprocket turns the drive chain that rotates the front output shaft and the front driveshaft.

4x4 HIGH Mode - The operation is the same as in Auto MODE, except that the 4WD control module constantly activates the electromechanical clutch assembly.

4x4 LOW Mode - The HIGH-LOW shift occurs when the reduction shift fork moves the high-low collar to lock the planetary gearset to the output shaft. Then, torque transmitted through the sun gear from the input shaft turns the front planetary gearset assembly. The front planetary gearset assembly is now engaged and provides transfer case speed reduction.