DESCRIPTION AND OPERATION (Continued)

A lockup torque converter is coupled to the engine crankshaft and transmits engine power to the geartrain by means of a drive link assembly (chain) that connects the drive and driven sprockets. The application of the converter clutch is controlled through an electronic control integrated in the powertrain control module (PCM) 12A650. These controls, along with the hydraulic controls in the valve body, operate a piston plate clutch in the torque converter to provide improved fuel economy by eliminating converter slip when applied.

Main Components and Functions

- **Torque Converter:** Couples the engine to the turbine shaft. Also provides torque multiplication and absorbs engine shock of gear shifting.
- **Piston Plate Clutch and Damper Assembly:** Transmits engine power to the turbine from the converter cover during lockup.
- **Converter Cover:** Transmits power from the engine into the converter. Also, the oil pump driveshaft is splined to the converter cover.
- **Turbine:** Splined to the drive sprocket turbine shaft, and driven by fluid from the impeller.
- **Impeller:** Supplies torque manipulation together with the reactor. Driven by the converter cover.
- **Reactor:** (Also called the stator.) Contains a one-way clutch to hold it stationary only when reaction is required. Also causes hydraulic reaction during torque multiplication.

Geartrain

- **Forward Clutch:** Locks the driven sprocket to the low one-way clutch.
- **Low One-Way Clutch:** Transmits torque from the driven sprocket to the sun gear of the forward planetary gearset in first gear and provides engine braking in third gear in connection with the forward clutch.
- **Overdrive Band:** Holds the sun gear of the forward planetary gearset stationary in fourth gear (overdrive).
- **Direct Clutch:** Locks the sun gear of the planetary assembly of the forward planetary gearset to the direct one-way clutch in third gear.
- **Direct One-Way Clutch:** Transmits torque from the driven sprocket to the sun gear of the forward planetary gearset in third gear and provides engine braking in manual low in connection with the direct clutch.
- **Intermediate Clutch:** Locks the driven sprocket to the planetary assembly of the forward planetary gearset in second and third gears.
- **Reverse Clutch:** Holds the planetary assembly of the forward planetary gearset and the ring gear of the rear planetary gearset stationary in reverse gear.
- **Planetary Gears:** Two gearsets are used to provide the four forward speeds, plus REVERSE dependent upon clutch and / or band applications.
- **Parking Gear:** Allows the output (axle) shaft to be mechanically locked by the parking pawl anchored in the case.
- **Low-Intermediate Band:** Holds the sun gear of the rear planetary gearset stationary in manual low, first and second gears.
- **Final Drive Sun Gear:** Transfers torque from the transmission output to the final drive planetary assembly.
- **Final Drive Planet:** Drives the differential assembly.
- **Differential Assembly:** Drives the front axle shafts and provides the differential action if driving wheels are turning at different speeds.

Torque Converter to Geartrain

- **Drive Sprocket:** Transmits power from the converter to the drive link assembly (chain).
- **Drive Link Assembly (Chain):** Connects drive and driven sprockets.
- **Driven Sprocket:** Transmits converter power to the geartrain.

Hydraulic System

- **Valve Body:** (Main Control Assembly) directs fluid (oil) under pressure to the torque converter, band servos and clutches, to control transaxle operation.
- **Oil Pump:** Provides a supply of fluid (oil) under pressure to operate, lubricate, and cool the transaxle. The oil pump is a variable capacity vane and rotor pump with output flow proportional to demand. It is located within the transaxle control valve and pump assembly.
- **Overdrive Servo:** Applies overdrive band in fourth gear.
- **Low-Intermediate Servo:** Applies low-intermediate band in manual low, first and second gears.
- **Reservoirs:** Two reservoir areas are used to control oil level, dependent upon fluid temperature. Along with the lower oil pan, a fluid reservoir is located in the lower section of the valve body cover. As fluid temperature in the reservoir increases, a thermostatic element closes, retaining fluid in the upper reservoir.