

# MANUAL - NV3550

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## MANUAL - NV3550

### DESCRIPTION

The NV3550 is a medium-duty, 5-speed, constant mesh, fully synchronized manual transmission. The transmission is a four-wheel drive configurations.

The transmission gear case consists of two aluminum housings. The clutch housing is a removable component. It is not an integral part of the transmission front housing.

A combination of roller and ball bearings are used to support the transmission shafts in the two housings. The transmission gears all rotate on caged type needle bearings. A roller bearing is used between the input and output shaft.

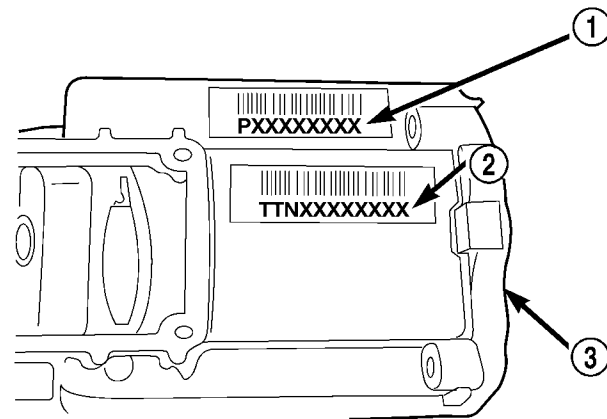
The NV3550 has a single shaft shift mechanism with three shift forks all mounted on the shaft. The shaft is supported in the front and rear housings by bushings and one linear ball bearing. Internal shift components consist of the forks, shaft, shift lever socket and detent components.

The transmission drain plug is located on the bottom and fill plug on the side.

The NV3550 identification and part number bar code tags (Fig. 1) are located on the top of the transmission, forward of the shift tower.

### OPERATION

The driver selects a particular gear by moving the shift lever to the desired gear position. This movement moves the internal transmission shift components to begin the shift sequence. As the shift lever moves the selected shift rail, the shift fork attached to that rail begins to move. The fork is positioned in a groove in the outer circumference of the synchronizer sleeve. As the shift fork moves the synchronizer sleeve, the synchronizer begins to speed-up or slow down the selected gear (depending on whether we are



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**Fig. 1 NV3550 Identification**

- 1 - PART NUMBER TAG
- 2 - IDENTIFICATION TAG
- 3 - FRONT OF REAR HOUSING

up-shifting or down-shifting). The synchronizer does this by having the synchronizer hub splined to the mainshaft and moving the blocker ring into contact with the gear's friction cone. As the blocker ring and friction cone come together, the gear speed is brought up or down to the speed of the synchronizer. As the two speeds match, the splines on the inside of the synchronizer sleeve become aligned with the teeth on the blocker ring and the friction cone and eventually will slide over the teeth, locking the gear to the mainshaft through the synchronizer.

### DIAGNOSIS AND TESTING

#### LOW LUBRICANT LEVEL

A low transmission lubricant level is generally the result of a leak, inadequate lubricant fill, or an incorrect lubricant level check.