

Description

Clutches

The four speed automatic transmission uses hydraulically-actuated clutches to engage or disengage the transmission gears. When hydraulic pressure is introduced into the clutch drum, the clutch piston moves. This presses the friction discs and steel plates together, locking them so they don't slip. Power is then transmitted through the engaged clutch pack to its hub-mounted gear.

Likewise, when hydraulic pressure is bled from the clutch pack, the piston releases the friction discs and steel plates, and they are free to slide past each other. This allows the gear to spin independently of its shaft, transmitting no power.

1st Clutch

The 1st clutch engages/disengages 1st gear, and is located at the end of the mainshaft, just behind the right side cover. The 1st clutch is supplied hydraulic pressure by its oil feed pipe within the mainshaft.

1st-hold Clutch

The 1st-hold clutch engages/disengages 1st-hold or **1** position, and is located at the center of the sub-shaft. The 1st-hold clutch is supplied hydraulic pressure by its oil feed pipe within the sub-shaft.

2nd Clutch

The 2nd clutch engages/disengages 2nd gear, and is located at the center of the mainshaft. The 2nd clutch is joined back-to-back to the 4th clutch. The 2nd clutch is supplied hydraulic pressure through the mainshaft by a circuit connected to the regulator valve body.

3rd Clutch

The 3rd clutch engages/disengages 3rd gear, and is located at the end of the countershaft, opposite the right side cover. The 3rd clutch is supplied hydraulic pressure by its oil feed pipe within the countershaft.

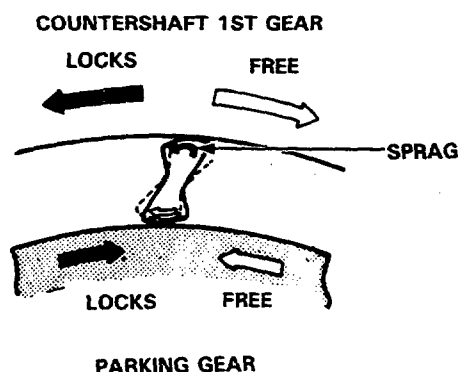
4th Clutch

The 4th clutch engages/disengages 4th gear, as well as reverse gear, and is located at the center of the mainshaft. The 4th clutch is joined back-to-back to the 2nd clutch. The 4th clutch is supplied hydraulic pressure by its oil feed pipe within the mainshaft.

One-way Clutch

The one-way clutch is positioned between the parking gear and 1st gear, with the parking gear splined to the countershaft. The 1st gear provides the outer race surface, and the parking gear provides the inner race surface. The one-way clutch locks up when power is transmitted from the mainshaft 1st gear to the countershaft 1st gear.

The 1st clutch and gears remain engaged in the 1st, 2nd, 3rd, and 4th gear ranges in the **D₄**, **D₃** or **2** position. However, the one-way clutch disengages when the 2nd, 3rd, or 4th clutches/gears are applied in the **D₄**, **D₃** or **2** position. This is because the increased rotational speed of the gears on the countershaft over-ride the locking "speed range" of the one-way clutch. Thereafter, the one-way clutch free-wheels with the 1st clutch still engaged.



NOTE: View from right side cover side.

