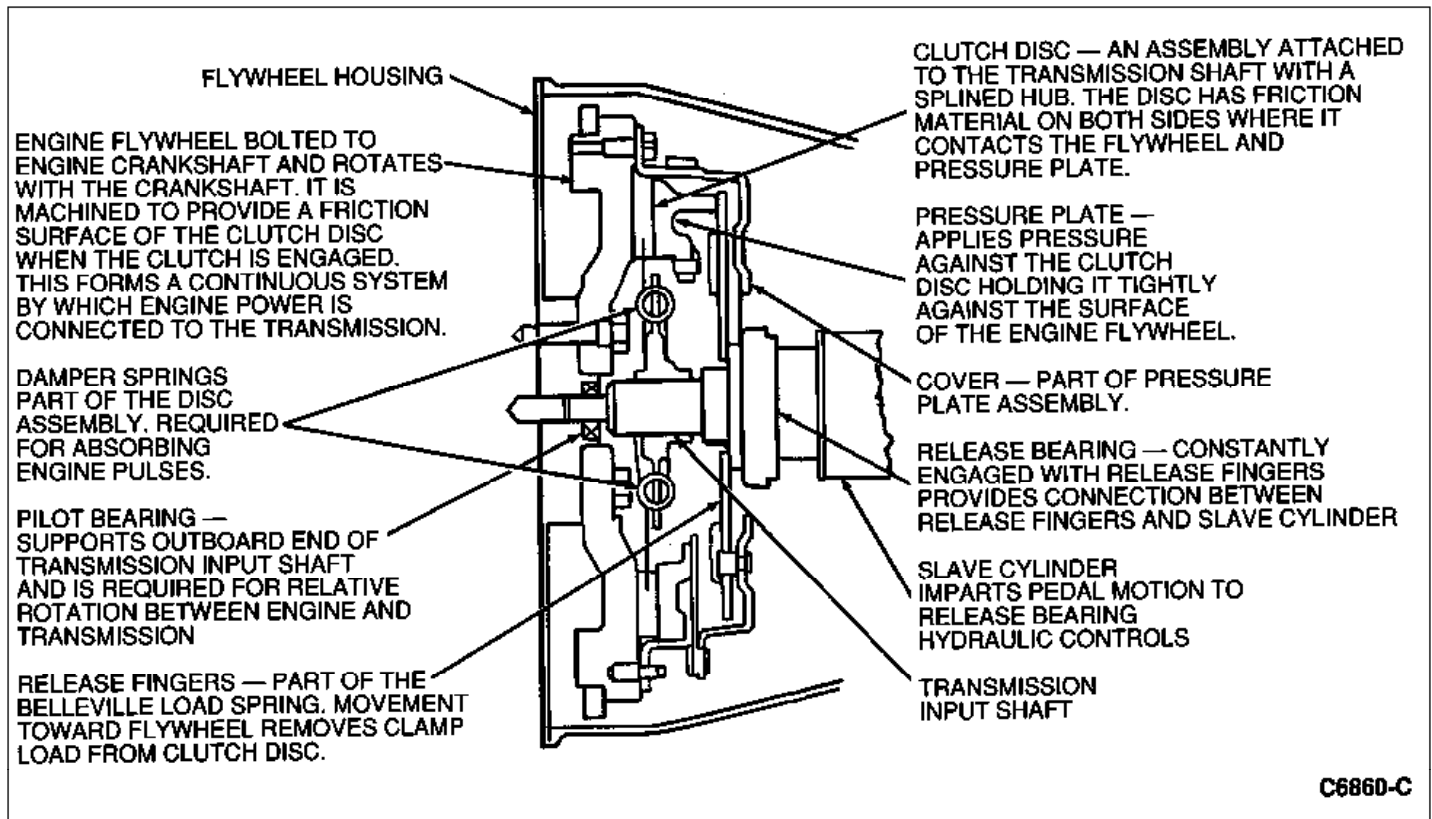




DESCRIPTION AND OPERATION

The primary function of the clutch system is to couple and uncouple engine power to the transmission upon driver command.

The cutaway illustration shows the clutch system in the engaged (pedal released) position. Engine output is coupled to the transmission input shaft by virtue of the friction existing between the clutch disc facings and the flywheel/pressure plate assembly. The extent of this friction is directly related to the composition of the facing material and the magnitude of the clamping forces exerted by the pressure plate and the flywheel on the facings. These are the factors that limit the amount of torque that can be transmitted without slippage. The clamping force is obtained from a Belleville spring contained within the pressure plate assembly.



This force is developed during the attachment of the pressure plate assembly to the flywheel, the Belleville spring being flattened between the pressure plate and the cover.

Disengagement of the clutch (pedal depressed) is accomplished when the release fingers are fully displaced toward the flywheel. This displacement removes the Belleville spring load from the pressure plate and thus eliminates the coupling friction between the engine and the transmission. The release fingers are moved by the release bearing, which receives its motion through a control system from the clutch pedal. It should be noted that partial finger displacement does not release the clutch but results in lower coupling friction which can cause slippage under load.

The secondary function of the pressure plate and disc assemblies is to aid in isolating engine power pulses from the rest of the powertrain. The weight of the plate assembly adds to that of the flywheel and thus

improves its function as a vibration damper. Contained within the disc assembly are several coil springs. These springs along with a controlled amount of friction between the hub and the drive plates, also absorb engine pulsations. The spring and friction characteristics are tailored to each engine/powertrain/vehicle application. Therefore, only specified discs should be used for replacement.

All vehicles use a self-adjusting clutch system operated by hydraulic controls. The clutch release fingers are actuated by a constant running, self-centering clutch release bearing.
