GENERAL MOTORS

Buick
Chevrolet
Oldsmobile
Pontiac

DESCRIPTION

Single plate, dry friction disc with a diaphragm spring type clutch is used on all models. The assembly consists of the clutch driven plate, cover pressure plate and clutch release mechanism. The clutch driven plate has a spring dampened hub to reduce the transmitting of torsional vibrations from the engine to the transmission. Grooves on both sides of the clutch driven plate lining prevent sticking of the plate to flywheel and pressure plate due to vacuum between the members on disengaging. The clutch release mechanism consists of a ball thrust bearing, cable or linkage to manually control the action of the bearing.

REMOVAL & INSTALLATION

NOTE – *For the purpose of this article; Citation, Omega, Phoenix and Skylark will be referred to as "X" Body.*

CLUTCH

Removal & Installation (Exc. "X" Body) – 1) Disconnect propeller shaft and remove transmission. Remove pedal return spring from clutch release fork.

2) On cable operated models, remove clutch fork cover, then disconnect clutch return spring and control cable from clutch fork. On non-cable operated Pontiacs, remove starter, then remove clutch release bearing through rear opening in flywheel housing; remove front flywheel housing shield, then remove housing.

3) On all non-cable operated models except Pontiac, proceed as follows: Remove flywheel housing, then remove clutch release bearing from clutch release fork. On all models, disconnect clutch fork from ball stud by moving it toward center of flywheel housing.

4) Mark clutch cover and flywheel for reassembly reference. Remove clutch cover by unscrewing bolts evenly, one turn at a time. Remove clutch disc. To install, reverse removal procedure.

Removal ("X" Body) – 1) Remove transaxle assembly. Mark pressure plate and flywheel for reassembly reference. Loosen attaching bolts one at a time until spring pressure is relieved.

2) Support pressure plate, remove bolts and pressure plate with disc. If pressure plate is defective it must be replaced as a complete unit.

Installation – 1) Clean pressure plate and flywheel mating surfaces. Position clutch disc and pressure plate on flywheel. Use clutch disc support tool J-29074 to align disc.

NOTE – *Disc is installed with the damper springs offset toward the transaxle, stamped letters on driven disc identify "Flywheel Side".*

2) Install pressure plate-to-flywheel bolts and tighten evenly to specifications. Lubricate O.D. groove and I.D. recess of release bearing. To complete installation, reverse removal procedure.

CLUTCH CABLE

Removal (Exc. Chevette & "X" Body) – Remove clutch fork cover at side of housing. Disconnect return spring and clutch cable at clutch fork. Remove clip and pin that retains cable to pedal arm. Remove cable.

Installation – Install cable in sheath from passenger compartment. Loop cable around pulley and secure to pedal with graphite lubricated pin. Install other end of cable on clutch release fork. Push fork forward until bearing contacts clutch spring fingers and tighten screw pin on cable until it bottoms on fork. Turn pin an additional ¼ turn and drop pin into groove in fork. Attach return spring and install fork cover.

Removal & Installation (Chevette) – 1) Disconnect return spring and cable at clutch fork. Disconnect cable from upper

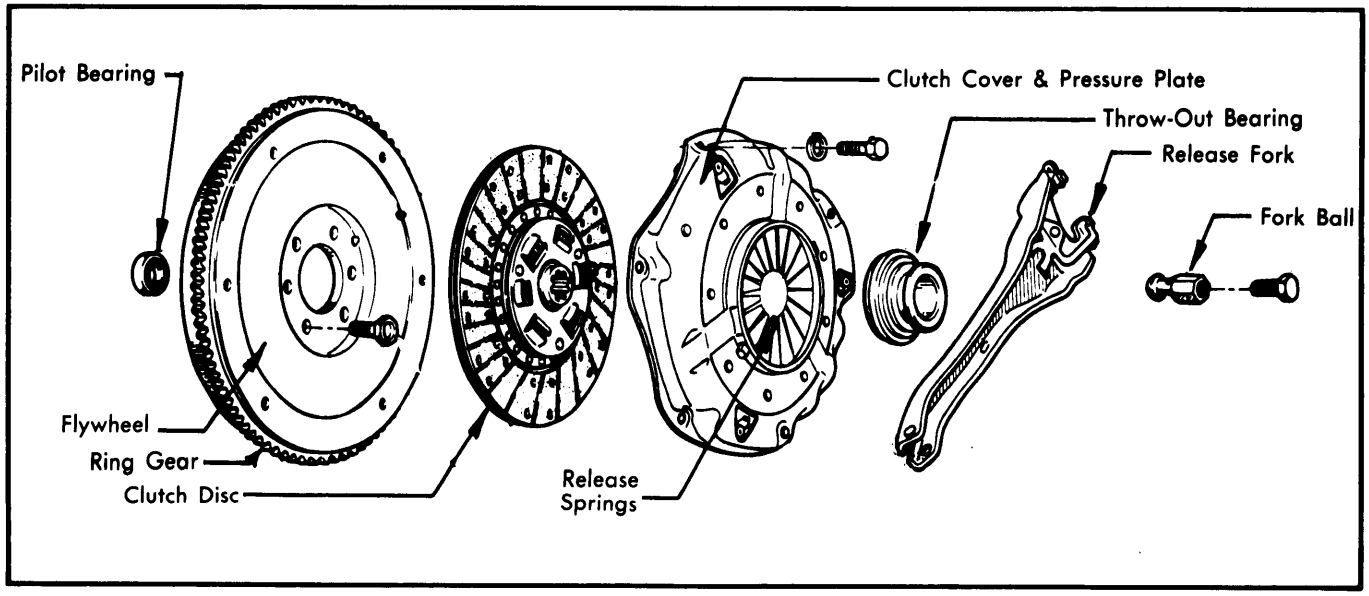

Fig. 1 Exploded View of Diaphragm Spring Clutch Assembly

GENERAL MOTORS (Cont.)

end of pedal. Pull cable assembly through body reinforcement and disconnect at fender retainer.

2) Push new cable through body reinforcement and secure cable end to pedal arm. Route cable down to fork lever and connect. Install return spring.

3) Install ring in first fully visible groove in cable from sleeve. Release cable. Depress clutch pedal four times minimum to be sure all parts of clutch control system are properly seated. Readjust pedal free play if necessary.

Removal ("X" Body) – **1)** Disconnect end of cable from clutch release lever at transaxle. Be careful not to let cable snap rapidly toward rear of vehicle. The quadrant in the self adjusting mechanism can be damaged if cable snaps back.

2) Disconnect cable from quadrant, then lift locking pawl away from quadrant and slide out to right side of quadrant. From engine side of cowl remove 2 nuts at cable retainer. Remove cable.

Installation – **1)** Install new gasket on cable retainer studs. Position new cable with retaining flange against bracket. Attach end of cable to the quadrant.

2) Attach 2 nuts to retainer and tighten. Attach cable to bracket at transaxle. Attach outer end of cable to clutch release lever.

NOTE – *Do not yank on cable, overloading cable could damage stop on quadrant.*

ADJUSTMENT

BALL STUD ADJUSTMENT

NOTE – *This procedure is for vehicles with cable operated clutch after cable or clutch has been replaced*

With release bearing, clutch fork and ball stud installed, place gauge J-23644 so flat end is against front face of clutch housing and hooked end is aligned with bottom depression in clutch fork. Turn ball stud clockwise by hand until clutch release bearing makes contact with clutch spring and fork is snug on gauge. Install lock nut and tighten to 25 ft. lbs. being careful not to change ball stud adjustment. Remove gauge by pulling outward at housing end.

NOTE – *"X" Body vehicles have a self adjusting clutch mechanism which requires no adjustment.*

PEDAL ADJUSTMENT

Cable Operated Clutches (Exc. Chevette) – **1)** With return spring removed, place cable through hole in clutch fork. Pull cable until clutch pedal is firmly against rubber bumper. Push clutch fork forward until throw-out bearing contacts clutch spring fingers.

2) Screw pin on cable until it bottoms out on fork surface. Turn one quarter additional revolution clockwise and drop pin into groove in fork. Attach return spring.

Cable Operated Clutches (Chevette) – **1)** Place cable through hole in clutch fork and seat. Install return spring. From engine compartment, pull cable away from dash until clutch pedal is firmly against pedal bumper and hold in position. Install ring in first fully visible groove in cable from sleeve. Release cable. Depress pedal to floor several times to be sure all parts of clutch control system are properly seated.

2) If there is insufficient clutch pedal lash, remove ring from cable and allow cable to move into dash by one cable notch and reinstall ring. Reverse this procedure if there is excessive pedal lash.

Mechanical Linkage Clutches (Exc. Corvette) – Disconnect return spring from clutch fork. Disconnect clutch fork push rod from countershaft lever and install in gauge (upper) hole of countershaft lever. Rotate countershaft so clutch pedal is firmly against rubber bumper on dash brace. With clutch fork held rearward until clutch release bearing lightly contacts pressure plate release levers, change length of push rod until all lash is removed from system. Reinstall push rod pin in lower countershaft lever hole. Reconnect return spring and check pedal free play.

Mechanical Linkage Clutches (Corvette) – Disconnect spring between toe pan brace and cross shaft lever. With clutch pedal against stop, loosen jam nut to allow adjusting rod to move against clutch fork until release bearing contacts pressure plate fingers lightly. Rotate upper nut against swivel, then back off exactly 4½ turns. Tighten lower nut to lock swivel against upper nut. Install return spring and check clutch pedal free play. It should be 1-1½"; adjust as required.

Clutch Pedal Free Play Adjustment

Application	Free Play
Buick	
Skyhawk	.65-1.15"
All Others	.70-1.30"
Chevrolet	
Chevette	.60-1.10"
Malibu & Monza	.65-1.15"
Corvette	1.00-1.50"
All Others	.85-1.45"
Oldsmobile	
All Models	.65-1.25"
Pontiac	
All Models	.70-1.30"