GENERAL MOTORS

Buick
Cadillac
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; Cavalier, Cimarron, Firenza, J2000 and Skyhawk will be referred to as "J" body.*

CLUTCH

Removal (Exc. "J" & "X" Body) – 1) Raise vehicle. Disconnect propeller shaft and remove transmission. Remove pedal return spring from clutch release fork. Disconnect rod assembly from clutch fork. On Chevette and T1000, disconnect clutch cable from clutch release fork.

2) Remove flywheel housing, then remove clutch release bearing from clutch release fork. Disconnect clutch fork from ball stud by moving it toward center of flywheel housing.

3) Mark clutch cover and flywheel for reassembly reference. Remove clutch cover by unscrewing bolts evenly, 1 turn at a time. Remove clutch disc.

Installation (Exc. "J" & "X" Body) – 1) Install clutch disc and cover assembly, aligning marks made during disassembly. Install attaching bolts finger tight. Install clutch aligning tool or old drive gear to align clutch disc.

2) Tighten bolts evenly and alternately so clutch cover is drawn in place square with flywheel. Each bolt must be drawn in one turn at a time to avoid bending clutch cover flange.

3) Lubricate ball stud and clutch fork with grease and install clutch fork. Insure that fork retaining spring is tight on ball stud. Lubricate recess on inside of release bearing collar. Install release bearing assembly. To complete installation, reverse removal procedure.

Removal ("J" & "X" Body) – 1) Disconnect clutch cable on "X" body. Remove transaxle assembly. Mark pressure plate and flywheel assembly 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 ("J" & "X" Body) – 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 & Installation (Chevette & T1000) – 1) Disconnect return spring and cable at clutch fork. Disconnect cable from upper 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. Readjust ball stud and clutch pedal as outlined in adjustment section.

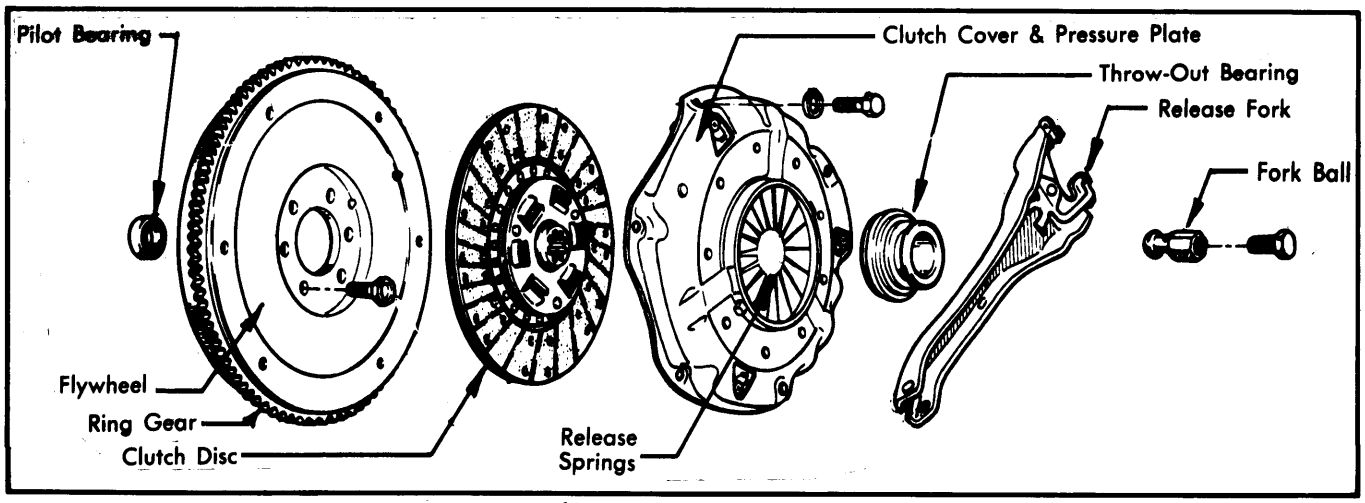

Fig. 1 Exploded View of Diaphragm Spring Clutch Assembly

GENERAL MOTORS (Cont.)

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 ("X" Body) – 1) Install new gasket on cable retainer studs. Position new cable with retaining flange against bracket. Attach end of cable to 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.*

Removal ("J" Body) – 1) Support clutch pedal upward against bumper stop to release pawl from detent. Disconnect cable from release lever at transaxle. Prevent cable from snapping rearward. Remove hush panel from inside vehicle.

2) Disconnect cable from detent end tangs. Lift locking pawl away from detent, then slide cable forward between detent and pawl. Remove windshield washer bottle.

3) From engine compartment, pull clutch cable out, disengagng it from mounting bracket. Disconnect cable from transaxle mounting bracket and remove cable.

Installation ("J" Body) – 1) Install cable into insulators, damper and washers. From inside vehicle, attach cable end to detent, making sure to route cable under pawl and into detent groove.

2) Install hush panel. Support clutch pedal upward against bumper stop to release detent. Install other end of cable to release lever and transaxle mounting bracket.

3) Install windshield washer bottle. Check clutch operation and adjustment by lifting pedal upward to allow automatic adjuster to adjust cable length. Depress pedal slowly several times to set pawl into mesh with detent teeth.

ADJUSTMENT

BALL STUD ADJUSTMENT

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

Chevette & T1000 – With release bearing, clutch fork and ball stud installed, place gauge (J-28449) 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 release bearing makes contact with clutch spring and the fork is snug on gauge. Install lock nut and tighten, being careful not to change ball stud adjustment. Remove gauge by pulling outward at housing end.

PEDAL ADJUSTMENT

NOTE – *"J" and "X" body vehicles have a self-adjusting clutch mechanism.*

Cable Operated Clutches (Chevette & T1000) – 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 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 (Camaro & Firebird) – 1) Rotate clutch lever and shaft assembly until clutch pedal is firmly against rubber bumper. Push outer end of clutch fork rearward until release bearing lightly contacts pressure plate fingers. Install lower push rod in fork and swivel in gauge hole. Rotate fork rod clockwise as seen from front of vehicle to finger tight condition to remove all lash from system.

2) Remove swivel from gauge hole and install in hole furthest from lever and shaft assembly. Install washers and retainer. Tighten lock nut against swivel being careful not to change rod length. Install clutch retainer spring.

Clutch Pedal Free Play Adjustment

Application	Free Play In. (mm)
Camaro & Firebird	.57-1.17 (14-30)
Chevette & T1000	.58-1.08 (14-27)

TIGHTENING SPECFICATIONS

Application	Ft. Lbs (N·m)
Clutch Fork Ball Stud Lock Nut	
Chevette & T1000	24 (32)
Pressure Plate-to-Flywheel	
Camaro & Firebird	30-35 (40-47)
Chevette & T1000	18 (24)
"J" & "X" Body	15 (20)