

## MAZDA COSMO, RX4 &amp; B1800 PICKUP (Cont.)

Cosmo  
RX4  
B1800 Pickup

## DESCRIPTION

Clutch is a dry, single disc, diaphragm spring type. Clutch system is hydraulic using a firewall mounted master cylinder and a slave cylinder attached to clutch housing. Release bearing is pre-lubricated and sealed.

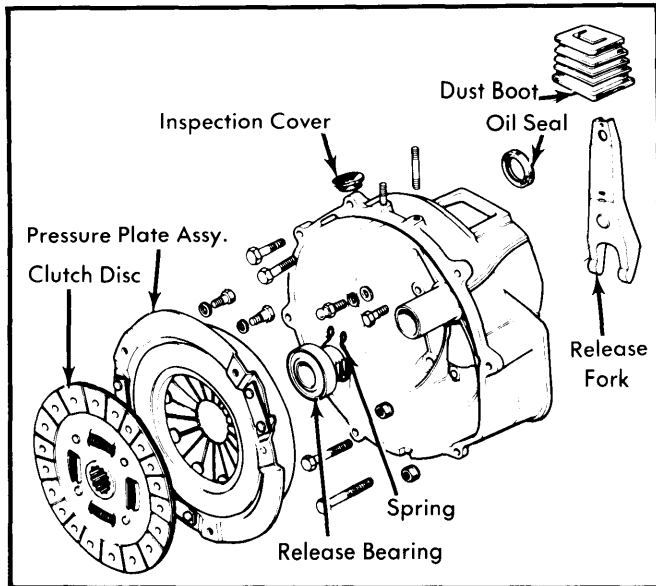


Fig. 1 Exploded View of Mazda Clutch Assembly  
(Cosmo and RX4 Shown)

## REMOVAL &amp; INSTALLATION

## CLUTCH ASSEMBLY

**Removal (Cosmo & RX4 5-Speed)** – 1) Disconnect ground at battery. Remove gear shift knob. Remove console. Put shift lever in neutral. Remove boot. Remove shift retainer cover. Lift up on shifter and remove shifter, wave washer, shim and bushing from retainer.

2) Remove slave cylinder. Disconnect back-up lights. Remove upper starter mounting bolt and 3 upper bolts mounting transmission to engine. Raise vehicle and support with stands.

3) Drain transmission. Disconnect or remove any exhaust components that might interfere with removal of transmission. Disconnect and remove propeller shaft. Disconnect speedometer cable. Remove starter-to-clutch housing lower bolt and remove starter.

4) Place a jack under front side of transmission. Remove bolt mounting transmission support-to-body. Remove lower transmission-to-engine bolts and slide out transmission.

5) Fit flywheel holding tool. Loosen pressure plate mounting bolts evenly until entire assembly can be removed. Note location of "O" index marks.

**Installation** – To install clutch and transmission, reverse removal procedure and note: Lightly coat input shaft splines with grease. Use clutch alignment tool to center clutch assembly. Make sure gear shift lever has adequate tension by inserting adjusting shim between wave washer and bushing. Shims are available in .004" (.1 mm) and .012" (.3 mm).

**Removal (B1800 Pickup 4 and 5-Speed)** – 1) Disconnect ground cable at battery. Put shift lever in neutral. Remove lever boot, retainer cover and gasket from gear shift retainer. Pull following from gear shift retainer: lever, wave washer, shim, and bushing.

2) Raise and support vehicle. Drain transmission. Disconnect and remove propeller shaft. Disconnect exhaust pipe hanger from clutch housing. Remove release cylinder leaving fluid line connected.

3) Disconnect back-up lights, speedometer cable and starter wiring. Remove starter. Place jack (with wood block) under rear portion of oil pan. Remove bolts mounting transmission-to-engine.

4) Place appropriate jack under transmission. Remove crossmember. Slide transmission back until input shaft is cleared and remove from vehicle.

5) Fit flywheel holding tool. Loosen pressure plate mounting bolts evenly until assembly can be removed. Note location of "O" index marks.

**Installation** – To install clutch and transmission, reverse removal procedure and note: Lightly coat input shaft splines with grease. Use clutch alignment tool to center clutch assembly. Make sure gear shift lever has adequate tension by inserting adjusting shim between wave washer and bushing. Shims are available in .004" (.1 mm) and .012" (.3 mm).

## CLUTCH MASTER CYLINDER

**Removal & Installation** – Disconnect hydraulic line from master cylinder. Remove nuts mounting cylinder to firewall. Unhook clutch pedal from cylinder push rod. Remove cylinder. To install, reverse removal procedure and bleed hydraulic system.

## CLUTCH SLAVE CYLINDER

**Removal & Installation** – Raise vehicle and support. Disconnect fluid hose. Remove nuts mounting slave cylinder to clutch housing and slide off cylinder. To install, reverse removal procedure and bleed clutch.

## PILOT BEARING

**Rotary Engine Models** – Remove nut mounting flywheel to eccentric shaft. Free flywheel from shaft. It may be necessary to use puller to remove flywheel. Use a slide hammer (49 1285 071) to remove bearing and seals. Use installer tool 49 0823 72A (or equivalent) to seat new bearing into place. Install seal.

**Piston Engine Models** – Pilot bearing is pressed into flywheel. If replacement is required, remove using a suitable puller. To install lubricate bearing with grease and install into flywheel using a driver.

## MAZDA COSMO, RX4 & B1800 PICKUP (Cont.)

### OVERHAUL

#### CLUTCH MASTER CYLINDER

1) Clean outside of master cylinder thoroughly and drain brake fluid. Remove dust boot, retaining clip, and retaining washer. Remove piston assembly, primary cup and return spring from cylinder. Remove reservoir from cylinder.

2) Wash all parts in clean alcohol or brake fluid. **CAUTION** — Do not use gasoline or kerosene. Check all parts for wear or damage, replace as necessary. Check clearance between piston and cylinder bore. If clearance exceeds .006", replace piston or cylinder as necessary. Ensure that compensating port on cylinder is open.

3) To assemble, reverse disassembly procedure and note the following: Before assembly, dip piston and cups in clean brake fluid. Install primary cup so that flat side of cup is against piston. When assembled, fill reservoir with brake fluid and operate piston with a screwdriver until fluid is ejected at outlet port.

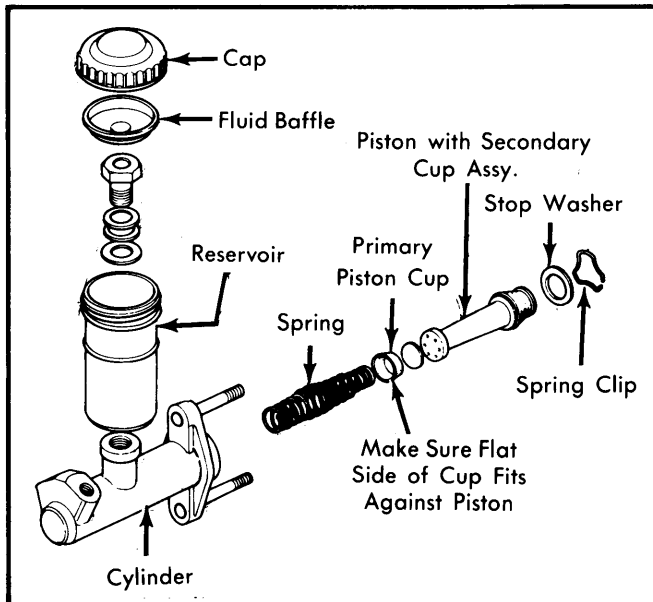


Fig. 2 Exploded View of Clutch Master Cylinder

#### CLUTCH SLAVE CYLINDER

1) Clean outside of slave cylinder. Remove dust boot and release rod. Remove piston and cup assembly with compressed air, if necessary. Remove spring and bleeder screw/valve assembly.

2) Inspect all parts for damage or wear. Wash all components in clean alcohol or brake fluid. **CAUTION** — Do not use gasoline or kerosene. Check clearance between piston and cylinder bore. If clearance exceeds .006" (.15 mm), replace cylinder or piston as necessary.

3) Install spring into cylinder. Fit piston cup to piston and slip them into cylinder. Install release rod into cylinder and fit dust boot. Install valve and bleeder screw.

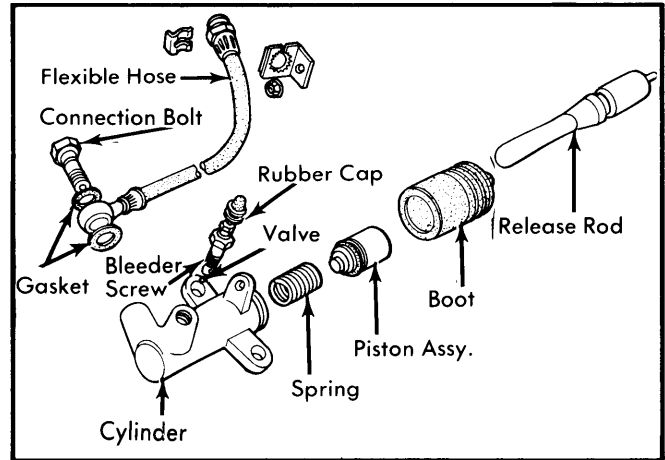


Fig. 3 Exploded View of Slave Cylinder

### ADJUSTMENT

#### CLUTCH PEDAL FREE PLAY

- 1) Loosen lock nut.
- 2) Turn push rod.

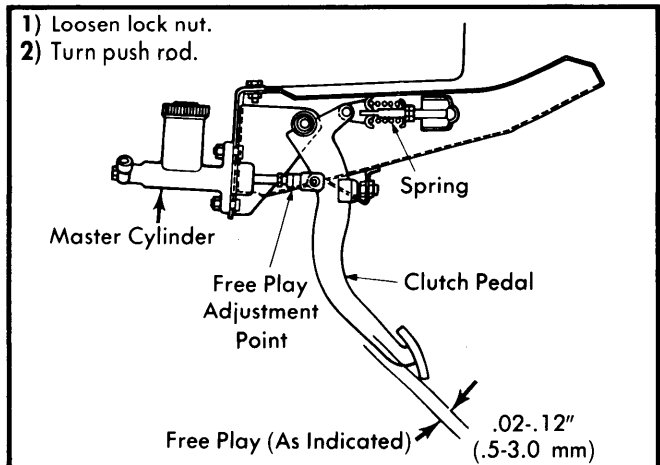


Fig. 4 Clutch Pedal Free Play Adjustment Location

#### HYDRAULIC SYSTEM BLEEDING

1) Clutch hydraulic system must be bled whenever a fluid line has been disconnected or air has entered system. To bleed system, remove rubber cap on slave cylinder bleeder screw and attach a hose.

2) Place opposite end of hose into a jar partially filled with brake fluid. Open bleeder screw, depress clutch pedal, and allow pedal to return slowly. Continue operation until air bubbles cease to appear in discharged fluid, then close bleeder screw. **NOTE** — During bleeding operation, master cylinder reservoir must be kept at least 3/4 full of brake fluid.

#### TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Flywheel-to-Crankshaft (Piston Engines).....	112-118 (15.5-16.3)
Flywheel-to-Eccentric Shaft (Rotary Engines).....	289-362 (40-50)
Clutch-to-Flywheel.....	13-20 (1.8-2.7)