MAZDA

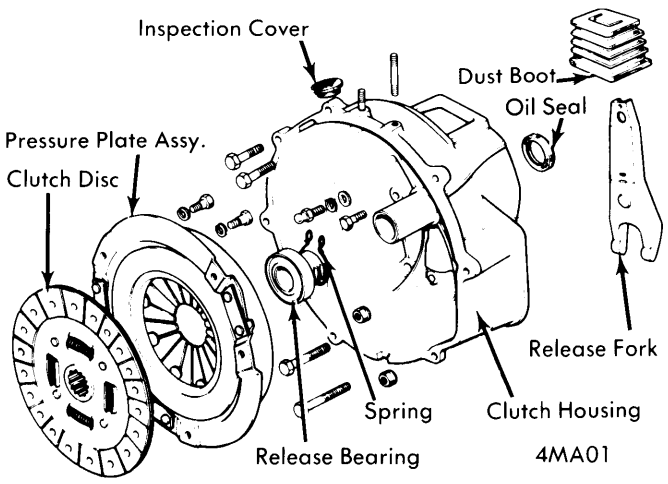
808
RX2
RX3
RX4
Rotary Pickup
B1600 Pickup

CHANGES, CAUTIONS, CORRECTIONS

► *CLUTCH CHATTER CORRECTION* – On RX2, RX3, and RX4 models there is a possibility of clutch chatter. The malfunction occurs before 6,000 miles and is caused by the clutch disc facing material. The disc was designed for longer wear, but because of construction has a slow "seat-in" period. To correct the problem, replace clutch disc with part number 1011-22-4600.

DESCRIPTION

Clutch is dry, single disc, diaphragm spring type. Clutch actuation is hydraulic, using a firewall mounted master cylinder and a transmission mounted slave cylinder. A prelubricated clutch release bearing is also used. While all clutch assemblies are similar, the Rotary models position the clutch release fork differently and sometimes utilize a nonadjustable clutch fork assembly.



CLUTCH ASSEMBLY (ROTARY MODEL SHOWN)

REMOVAL & INSTALLATION

CLUTCH ASSEMBLY

1) Disconnect battery ground cable. From inside driver's compartment, remove console (if equipped) and disassemble gearshift lever. Raise and suitably support engine and transmission.

2) Remove electrical leads from starter and transmission mounted switches. On RX4 models, disconnect power brake vacuum line clip and wiring harness bracket. Disconnect exhaust pipe from exhaust manifold and speedometer cable from extension housing.

3) Disconnect slave cylinder from transmission housing and remove starter. Disconnect propeller shaft at rear axle and slide shaft from transmission. Insert suitable plug (49 0259 440) into transmission to prevent fluid loss.

4) Support transmission with a jack, disconnect crossmember at transmission and side supports, and remove crossmember. Remove transmission attaching bolts, slide transmission rearward until input shaft clears clutch splines, and remove transmission.

5) Mark flywheel and pressure plate for reassembly reference. Install a suitable flywheel holding tool, and loosen clutch attaching bolts one turn at a time until spring pressure is released. Remove clutch assembly.

6) To install, reverse removal procedure and note the following: Lubricate clutch pilot bearing in crankshaft with grease prior to installing clutch. Use a suitable clutch aligning tool to center disc on flywheel. Bleed hydraulic system, if necessary.

CLUTCH MASTER CYLINDER

Disconnect hydraulic line from cylinder, remove attaching nuts, and pull master cylinder from firewall. To install, reverse removal procedure, adjust clutch pedal height, and bleed hydraulic system.

CLUTCH SLAVE CYLINDER

Disconnect hydraulic line from cylinder, disconnect return spring from clutch fork (if equipped) remove cylinder attaching nuts and remove slave cylinder from clutch housing. To install, reverse removal procedure, adjust clutch fork free play (if applicable) and bleed hydraulic system.

CLUTCH RELEASE BEARING & FORK

With transmission removed, disconnect return spring for release bearing and slide bearing off transmission front cover. Pull release fork outward until spring clip releases from ball pivot, and remove fork from clutch housing. To install, apply a light coat of grease to all contact surfaces and reverse removal procedure. *NOTE – Bearing is prelubricated and should not be washed in any solevent or cleaning solution.*

PILOT BEARING

Rotary Engine Models – Pilot bearing is needle bearing type and is pressed into rear end of eccentric shaft. If loose or rough, remove (with seals) using a suitable tool (49 0823 071A). To install, drive new bearing into eccentric shaft using a suitable driver (49 0823 072A), and install seals.

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

MAZDA (Cont.)

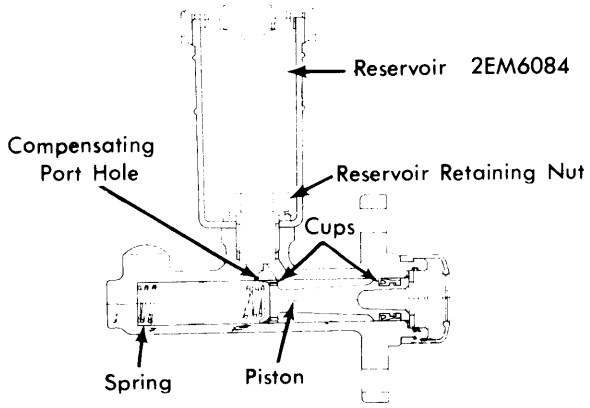
OVERHAUL

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. On B 1600 pickup, remove and disassemble one-way valve.

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.



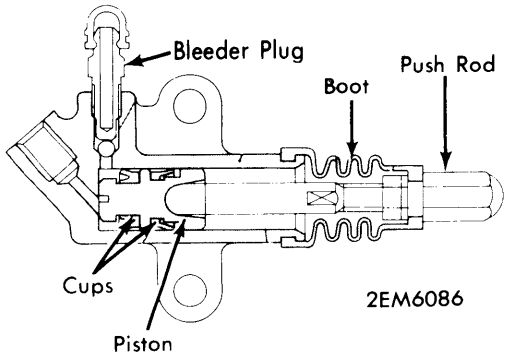
MASTER CYLINDER COMPONENTS — TYPICAL (RX4 SHOWN)

CLUTCH SLAVE CYLINDER

Adjustable Type-1) Clean outside of slave cylinder thoroughly, and remove dust boot, release rod, and spring assembly. Remove piston and cups from cylinder. *NOTE — If necessary, apply compressed air to fluid inlet passage to remove piston and cups.*

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

3) Coat all components with clean brake fluid. Fit cups to piston and install into cylinder. Install rubber dust boot and bleeder valve assembly. Install clutch release rod.

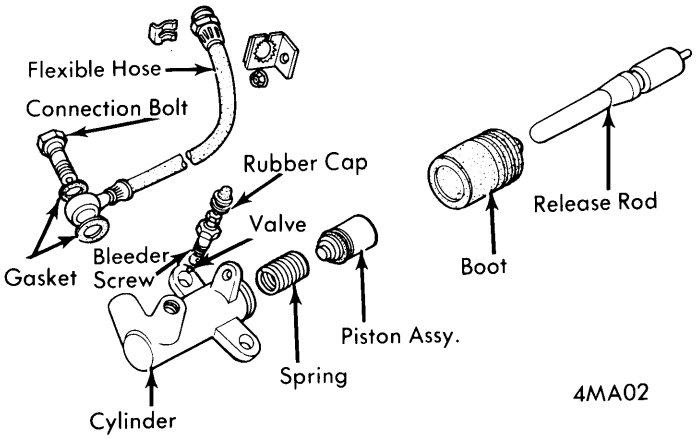


ADJUSTABLE SLAVE CYLINDER COMPONENTS

Nonadjustable Type-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", 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.



NONADJUSTABLE SLAVE CYLINDER COMPONENTS

ADJUSTMENT

CLUTCH PEDAL

Pedal Free Play — To adjust free travel, loosen lock nut on clutch master cylinder push rod and turn rod until specified free play is obtained. Tighten lock nut to secure adjustment.

Clutch Pedal Free Play

Application	Free Play
808, RX2, RX3	.9-1.1" (22-29 mm)
RX4, Rotary Pickup, B1600	.02-.12" (.5-3 mm)

MAZDA (Cont.)

Pedal Height – On 808 and RX3 models, adjust pedal height to 7.28". Loosen lock nut on pedal stop bolt, adjust bolt to obtain specified height (measured from top of pedal pad to floor mat), then tighten lock nut.

CLUTCH FORK FREE PLAY

Remove clutch fork return spring, loosen lock nut, and turn adjusting nut until specified free play is obtained. Tighten lock nut and connect clutch fork return spring.

Clutch Fork Free Play

Application	① Free Play
808, RX3	.12" (3.0 mm)
RX2	.16-.20" (4-5 mm)
RX4	.12-.16" (3-4 mm)
B1600	.14-.18" (3.5-4.5 mm)

① – Some RX4 models and all Rotary Pickup models do not use adjustable clutch fork.

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 rubber 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 ¾ 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	12-17 (1.6-2.3)
Clutch Housing-to-Transmission	23-24 (3.1-3.3)
Release Fork Pivot Pin	23-24 (3.1-3.3)