1971-73 MAZDA

1800 (1971-72)
R-100 & 1200 (1971-72)
RX-2 (1971-73)
RX-3 (1971-73)
808 (1971-73)
B-1600 Pickup (1972-73)

DESCRIPTION

Brake system is hydraulically actuated, using a tandem master cylinder on all models, and a power brake unit on all models except B-1600 pickup. All models except B-1600 pickup use single piston disc brakes on front wheels and leading-trailing shoe/drum brakes on rear wheels. B-1600 pickup models use twin leading shoe drum brakes on front wheels, and leading-trailing shoe/drum brakes on rear wheels. All models use a lever and cable operated parking brake, actuating shoes of rear brake assemblies.

ADJUSTMENT

BRAKE PEDAL FREE PLAY

Free play of .2-.6" (5-15 mm) is required to insure compensating port (of master cylinder) is not covered by neutral position of cylinder piston. Measure pedal free play at brake pedal. If necessary to adjust, loosen lock nut on push rod and adjust length of push rod to obtain correct pedal free play. Tighten lock nut.

FRONT DISC BRAKE PADS

Front disc brakes are self-adjusting, therefore, no adjustment in service is required.

FRONT DRUM BRAKES (B-1600)

Raise and support front of vehicle and remove adjusting hole covers from backing plate. Using a suitable brake adjusting tool, rotate star wheel of adjuster toward center of brake drum until a drag is felt when wheel is rotated. Back off star wheel five notches.

REAR DRUM BRAKES (ALL EXCEPT R-100 & 1200)

Raise and support rear of vehicle and insure parking brake is released. Remove adjusting hole plugs in backing plate. Using a suitable brake adjusting tool, expand one brake shoe at a time by rotating star wheel in direction of arrow marked on backing plate until wheel locks. Pump brake pedal several times. If wheel turns after pressure is released from pedal, further adjust star wheel until wheel locks firmly. Back off adjuster five notches or until wheel rotates freely without drag. Repeat procedure at three remaining adjusters of rear brake assemblies.

REAR DRUM BRAKES ON R-100 & 1200

Loosen lock nut and turn front adjuster pin counterclockwise until drum locks. Back off adjuster until wheel is free to turn. Turn rear adjuster pin clockwise until wheel locks then back off adjuster until wheel is free to turn.

PARKING BRAKE

RX-3 & 808 – With rear brakes properly adjusted, raise parking brake lever boot inside vehicle and turn lever adjusting screw so parking brake begins to apply when pulling lever three to seven notches.

All Others Models – With rear brakes properly adjusted, adjust length of front cable (with adjusting nut) so rear wheels are locked when parking brake lever is pulled through two or three notches (except on B-1600). On B-1600, adjust so rear wheels lock when lever is pulled up five to ten notches. On all models, apply parking brake several times and check that rear wheels are free to rotate when parking brake lever is released.

HYDRAULIC SYSTEM BLEEDING

Bleed hydraulic system in sequence starting with line furthest from master cylinder, and ending with line closest to master cylinder. Attach a bleed tube to wheel cylinder or caliper bleeder screw, and immerse opposite end of tube in a container partially filled with brake fluid. Pump brake pedal several times, and with pedal depressed, open bleeder screw ¾ turn allowing air to escape, tighten bleeder screw, and release brake pedal. Continue operation until air bubbles are no longer seen in discharged fluid. Repeat procedure at remaining brake lines until all air is bled from system.

REMOVAL & INSTALLATION

FRONT DISC BRAKE PADS

RX-2 Removal & Installation – Caliper must be removed to replace disc pads. *See Front Disc Brake Caliper Removal & Installation.*

All Others Models – Raise and support front of vehicle and remove front wheels. Remove pad retainers and pull out locating pins. Remove shoe return springs and remove disc pads.

Installation (All Models) – Attach bleed tube to caliper bleeder screw, open bleeder screw, press caliper piston to bottom of bore and tighten bleeder screw. Install new disc pads, shims and install shoe return springs. Install locating pins and retainers. *NOTE – When servicing there are two colors of disc pads, do not mix them together.*

FRONT DISC BRAKE CALIPER

RX-2 Removal – Raise and support vehicle and remove front wheels. Disconnect brake hose from caliper and plug openings to prevent entry of dirt and loss of fluid. Remove fastening clips and stopper plates, then remove caliper and anti-rattle spring. Remove disc pads.

Installation – Attach a bleed tube to caliper bleeder screw, open bleeder screw, press caliper piston to bottom of bore, and tighten bleeder screw. Install disc pads and replace anti-rattle spring, caliper, stopper plates, and fastening clips. Install hydraulic line and bleed hydraulic system.

All Other Models – With disc pads removed, disconnect hydraulic lines from caliper and plug openings to prevent loss of fluid or entry of dirt. Remove bolts attaching caliper to front suspension and remove caliper.

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Installation – Reverse removal procedure, tighten caliper mounting bolts evenly, and bleed hydraulic system.

FRONT DISC BRAKE ROTOR

Removal – With caliper assembly removed, remove wheel hub grease cap, cotter pin, nut lock, and bearing adjusting nut. Remove thrust washer and outer bearing from hub, then slide hub and rotor assembly from spindle. Remove bolts attaching rotor to hub, and separate.

Installation – Reverse removal procedure, tighten rotor-to-hub bolts evenly, and adjust wheel bearings. *See Wheel Bearing Adjustment in WHEEL ALIGNMENT Section.*

BRAKE DRUM

Removal – Raise and support vehicle and remove wheels to be serviced. Remove set screws securing drum to wheel hub or axle flange, fit screws into tapped holes in drum, and tighten evenly to force drum from hub or flange.

Installation – Mount brake drum to hub or axle flange, install and tighten set screws, and adjust brake shoes.

BRAKE SHOES

Removal – With brake drum removed, remove brake shoe return springs. Remove brake shoe retaining springs and guide pins by compressing retaining spring and turning guide pin 90°. Remove brake shoes. On rear brake assemblies, remove parking brake strut and disengage parking brake cable from operating lever of secondary shoe.

Installation - Lubricate adjusting screw threads and contact surfaces of shoes and backing plate with brake grease. On rear brake assemblies, install parking brake operating lever to secondary shoe and secure with clip, engage lever in parking brake cable, position operating strut between slots of shoes, mount assembly to backing plate so slots in shoes are toward adjusting screws, and install return springs and retainer springs. On B-1600 front brake, mount shoes to backing plate so slots in shoes are toward adjusting screws, and install return springs and retainer springs.

WHEEL CYLINDERS

Removal – With brake drum and shoes removed, remove hydraulic lines from cylinders at rear of backing plate and cover openings to prevent entry of dirt and loss of fluid. Remove nuts and/or bolts securing wheel cylinder to backing plate, and remove cylinders.

Installation – Reverse removal procedure. With brake shoes and drum installed, bleed hydraulic system.

MASTER CYLINDER

Removal – Disconnect hydraulic lines at master cylinder and plug openings to prevent entry of dirt and loss of fluid. Remove nuts attaching cylinder to firewall or power brake unit and remove master cylinder from vehicle.

Installation – Reverse removal procedure and bleed hydraulic system.

POWER BRAKE UNIT

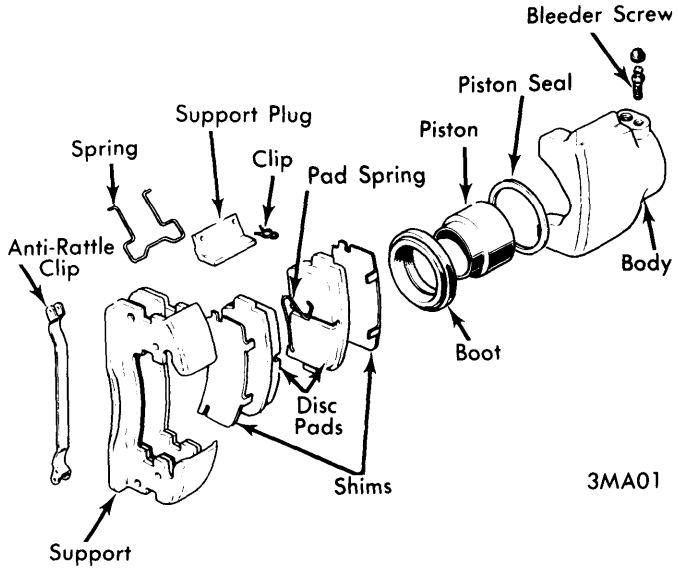
Removal - Disconnect hydraulic lines at master cylinder, and vacuum line at power brake unit. From inside vehicle, remove cotter pin and clevis pin retaining push rod to brake pedal, and separate. Remove nuts retaining power unit to firewall, and remove power brake unit and master cylinder as an assembly from engine compartment.

Installation – Reverse removal procedure and bleed hydraulic system.

OVERHAUL

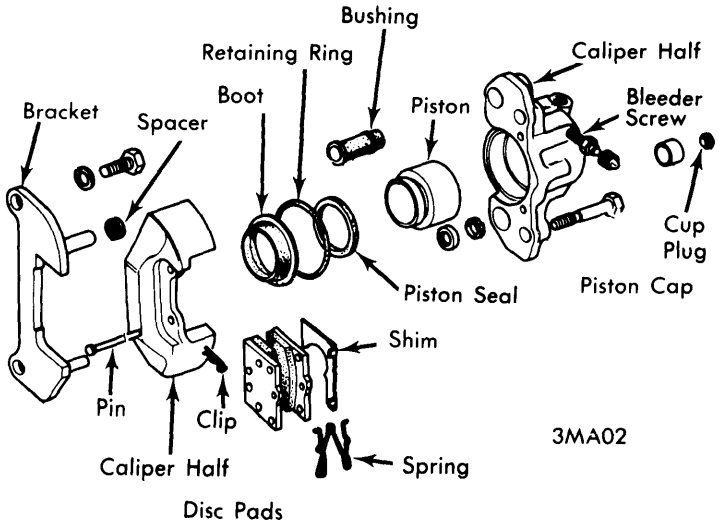
FRONT DISC BRAKE CALIPER

Disassembly – Thoroughly clean exterior of caliper, and remove retainer and dust boot. On 808 and RX-3 models, remove bolts which attach caliper bracket to caliper. On all models, place a piece of wood in front of piston, apply compressed air to fluid inlet, and remove piston. Remove piston seal from caliper bore, and bleeder screw if necessary.



FRONT DISC BRAKE ASSEMBLY (RX-2)

Cleaning & Inspection – Wash all parts in clean alcohol or brake fluid and air dry. Inspect cylinder bore and piston for scoring, scratches or rust; replace piston or caliper as necessary. Minor damage may be removed using crocus cloth. *NOTE – Manufacturer recommends replacing piston seal and dust boot whenever caliper has been disassembled.*



FRONT DISC BRAKE ASSEMBLY (RX-3 & 808)

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Reassembly – Apply clean brake fluid to cylinder bore, piston and piston seal. Install piston seal squarely into caliper bore. On RX-2 models, install piston carefully into cylinder bore and install boot to caliper. On all other models, spread dust boot over piston and seat in piston groove. Insert piston and boot into cylinder bore. Position dust boot by setting flange squarely in outer groove of caliper bore and installing retaining ring. Install bracket to caliper and tighten attaching bolts.

WHEEL CYLINDERS

Disassembly – Remove rubber dust boots and withdraw pistons and/or piston and adjuster assemblies. On dual piston wheel cylinders, press in on piston cup and remove piston cups, filling blocks and return spring. On single piston cylinders, apply compressed air to bleeder screw hole and withdraw piston cup, filling block, and return spring.

Cleaning & Inspection – Clean all parts in alcohol or brake fluid. *CAUTION – DO NOT use gasoline or kerosene.* Check cylinder bore, pistons and/or adjusters for scores, roughness, or wear. Check clearance between cylinder bore and pistons; replace if clearance exceeds .006". Check cups for softening, swelling, wear, or other damage; replace as necessary.

Reassembly – Reverse disassembly procedure and note the following: Coat all parts with clean brake fluid before reassembly. When installing cylinder cups, make sure flat side of cup faces outward. On models so equipped, coat threads of adjuster with brake grease and install into piston.

MASTER CYLINDER

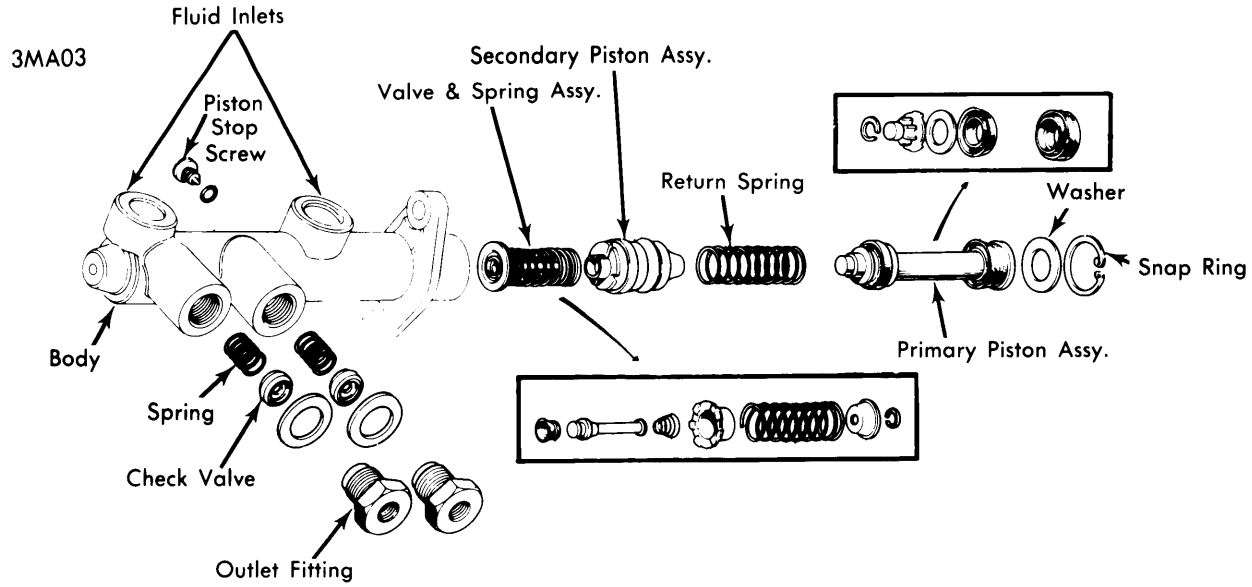
Disassembly – Thoroughly clean exterior of cylinder and pour out any remaining brake fluid. If equipped, remove reservoir and dust boot. Depress primary piston assembly, remove retaining ring from rear of cylinder bore, and remove washer, primary piston assembly, and return spring. Depress secondary piston, remove secondary piston stop bolt, and withdraw secondary piston assembly and return spring. Remove joint bolts from outlets, and withdraw check valves and return springs.

Cleaning & Inspection – Clean all parts in alcohol or brake fluid. *CAUTION – DO NOT use gasoline or kerosene.* Check all parts for scoring, roughness or wear. Check clearance between cylinder bore and piston; if clearance exceeds .006", replace parts as required. Check all recesses, openings and internal passages for foreign matter; remove with compressed air. Check cylinder cups for softening, swelling, or wear; replace as necessary.

Reassembly – Reverse disassembly procedure and note the following: Coat all parts with clean brake fluid before reassembly. Use new gaskets at all hydraulic unions. When assembled, make sure piston cups do not cover compensating ports.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs. (mkg)
Wheel Nuts (All Models)	65 (9.0)
Rotor-to-Hub	36 (4.9)



MASTER CYLINDER ASSEMBLY (TYPICAL)

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BRAKE SYSTEM SPECIFICATIONS

Application	Drum Diam. In. (mm)	Wheel Cylinder Diameter		Master Cylinder
		Front In. (mm)	Rear In. (mm)	Diameter In. (mm)
1200	7.87 (200.0)	1.89 (48.1)	.625 (15.9)	.687 (17.5)
1800	10.00 (254.0)	.....	.750 (19.0)	.875 (22.2)
R-100	7.87 (200.0)	.....	.625 (15.9)	.687 (17.5)
RX-2	7.87 (200.0)	2.12 (53.9)	.687 (17.5)	.875 (22.2)
RX-3 & 808	7.87 (200.0)	.....	.687 (17.5)	.750 (19.0)
B-1600	10.24 (260.0)	1.0 (25.4)	.813 (20.1)	.750 (19.0)

① — Rear only except on B-1600.

DISC BRAKE ROTOR SPECIFICATIONS

Application	Disc Diameter In. (mm)	Lateral Runout In. (mm)	Parallelism In. (mm)	Original Thickness In. (mm)	Minimum Refinish Thickness In. (mm)	Discard Thickness In. (mm)
1200 & R-100	9.61 (244.0)	②	....	.394 (10.0)	.35 (9.0)	① .....
1800	10.08 (256.0)	.002 (.05)	....	.472 (12.0)	.35 (9.0)	① .....
RX-2	9.06 (230.0)	.003 (.08)	....	.472 (12.0)	.433 (11.0)	① .....
RX-3 & 808	9.06 (230.0)	.003 (.08)	....	.433 (11.0)	.394 (10.0)	① .....

① — More than minimum refinish thickness.
② — On model 1200 runout is .0012" (.03 mm) and on R-100 runout is .006" (.15 mm).

BRAKE DRUM SPECIFICATIONS

Application	Drum Diameter In. (mm)	Original Diameter In. (mm)	Maximum Refinish Diameter In. (mm)	Discard Diameter In. (mm)
1800	10.00 (254.0)	10.00 (254.0)	10.04 (255.0)	②
B-1600	10.24 (260.0)	10.24 (260.0)	10.30 (261.5)	②
All Other Models	7.87 (200.0)	7.87 (200.0)	7.91 (201.0)	②

① — Rear only except on B-1600.
② — More than maximum refinish thickness.