

CHRYSLER CORP. SINGLE PISTON DISC

Chrysler Corp. (All Models)

DESCRIPTION

The disc brake assembly consists of a caliper, disc pads, splash shield, adapter, and rotor. As the brake pedal is depressed, hydraulic pressure is applied against the piston located in the caliper assembly. This force is transmitted to the inboard disc pads and against the braking surfaces of the rotor. As the forces increase against the inboard side, the caliper moves inward, providing full clamping force on the rotor.

Calipers are mounted two ways. On all models except Omni and Horizon, a sliding caliper is mounted on two machined pads and held in position by two retaining clips and anti-rattle springs. On Omni and Horizon models, a floating caliper is mounted with two steel guide pins mounted through two rubber bushings.

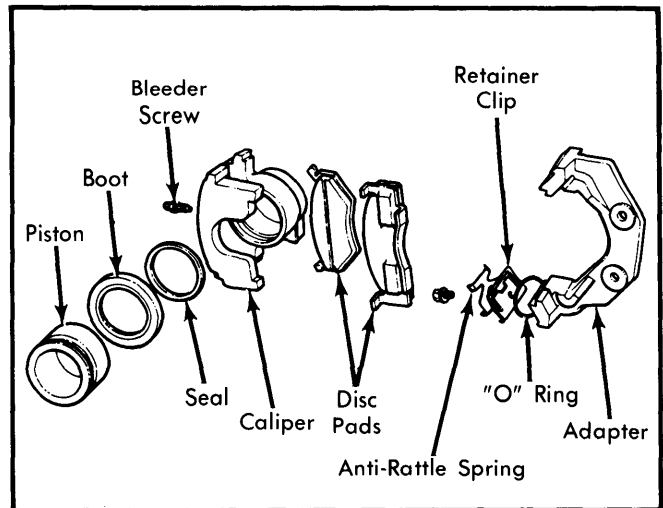


Fig. 1 Exploded View of Sliding Caliper Assembly (All Models Except Omni and Horizon)

ADJUSTMENT

SERVICE BRAKES

Disc brakes are self-adjusting. Caliper piston seals are designed to retract pistons just enough to allow brake lining to lightly brush disc without any drag.

DISC PAD INSPECTION

Inspect condition of disc pads any time wheels are removed. When a shoe and lining assembly is worn to a thickness of approximately $\frac{5}{16}$ " it should be replaced.

DISC PAD REPLACEMENT

Removal (Exc. Omni and Horizon) — Raise and support front of vehicle. Remove wheel and tire. Remove retaining clips and anti-rattle springs. Slowly slide caliper out and away from rotor. Remove outer pad by prying between pad and caliper fingers. Support caliper with wire to prevent damage to brake hose. Remove inner pad.

SERVICING

BLEEDING SYSTEM

See *Hydraulic Brake Bleeding* in this section.

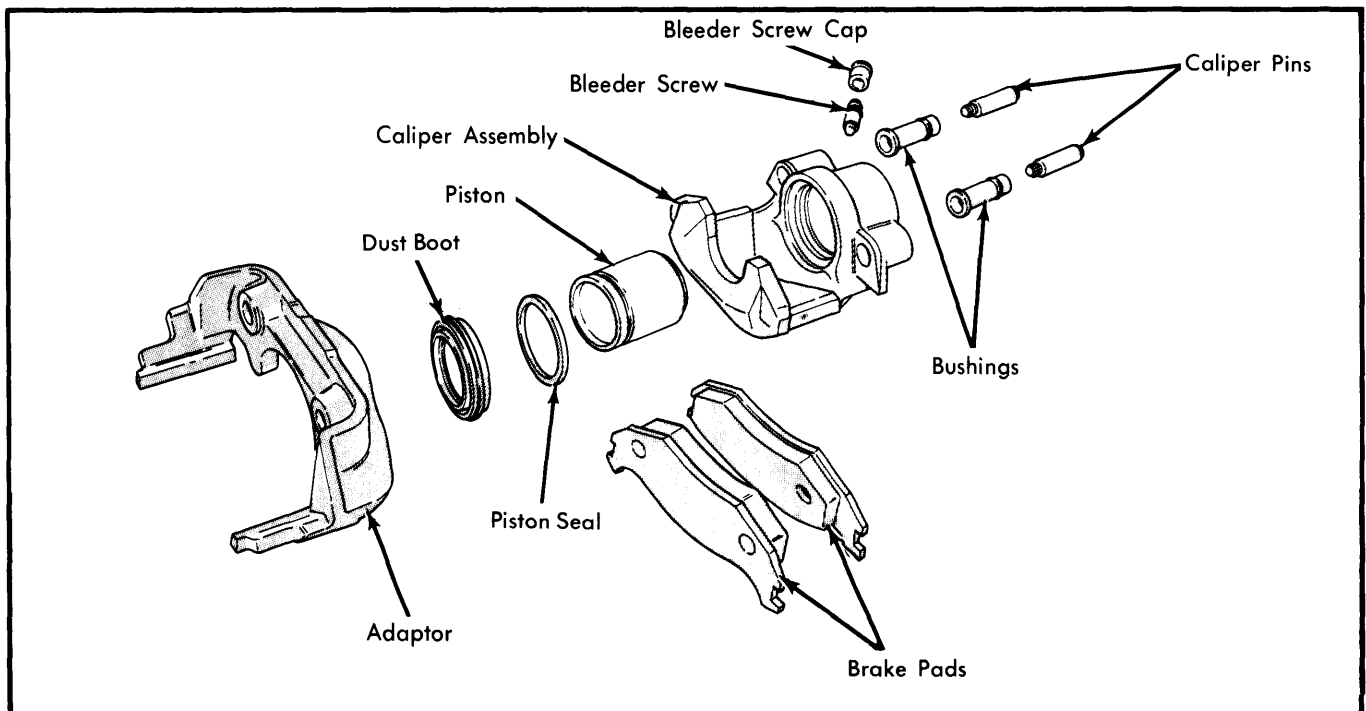


Fig. 2 Exploded View of Floating Caliper Assembly (Omni and Horizon Only)

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Installation (Exc. Omni and Horizon) – 1) Slowly and carefully push piston into bore of caliper until bottomed. Slide new outer disc pad into recess of caliper.

NOTE – No free play between pad flanges and caliper fingers should exist. If free play is evident by vertical pad movement after installation, remove pad and bend flanges to create slight interference fit to eliminate free play.

2) Position inner pad in position on adapter with pad flanges in adapter machined guides. Slowly slide caliper assembly into position in adapter and over rotor. Align caliper on machined guides of adapter.

CAUTION – Be careful not to pull dust boot from its groove as piston and boot slide over inner pad.

3) Install anti-rattle springs and retaining clips and tighten retaining screws. Make sure inner anti-rattle spring is installed on top of retaining spring plate.

4) Pump brake pedal several times until a firm brake pedal is obtained. Refill master cylinder if necessary. Bleed brake system if necessary. Install wheel and tire assembly and lower vehicle.

Removal (Omni and Horizon) – 1) Raise and support front of vehicle and remove wheel and tire. Remove caliper guide pins and anti-rattle spring. See Fig. 3.

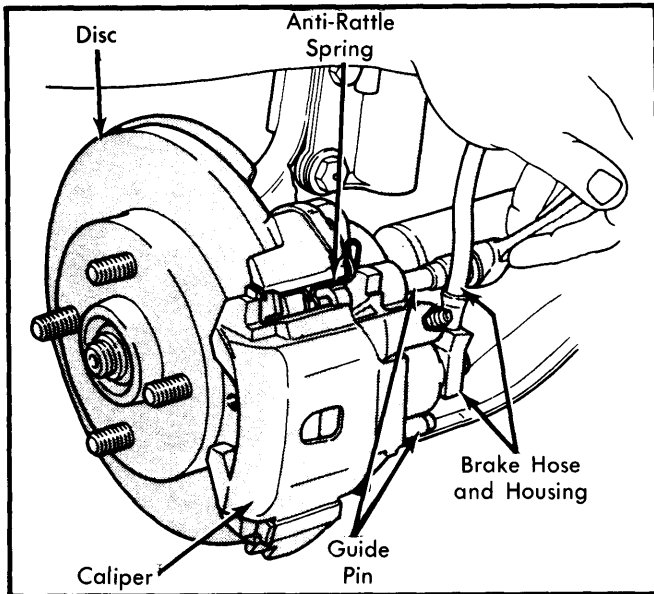


Fig. 3 Removing or Installing Caliper Guide Pins (Omni and Horizon)

2) Remove caliper by slowly sliding it out and away from rotor. Support caliper firmly to prevent damage to flexible brake hose. Slide outer disc pad from adapter.

3) Slide rotor off drive axle flange and studs. Slide inner disc pad out of adapter.

Installation (Omni and Horizon) – 1) Slowly and carefully push piston back into caliper bore until it is bottomed. Slide new inner pad into position in adapter.

2) Install rotor over studs on drive flange. Position outer pad in place in adapter. Carefully lower caliper down over rotor and adapter.

3) Install guide pins through bushings, caliper and adapter. Press IN on end of guide pins and thread pins into adapter, using care not to cross threads. Tighten guide pins to specifications.

4) Install anti-rattle spring with end loop inboard on caliper lug. Pump brake pedal several times until a firm pedal is obtained. Refill master cylinder and bleed brake system if necessary. Install wheel and tire and lower vehicle.

ROTOR SERVICING

Lateral Runout – Tighten wheel bearings until all end play is eliminated. Attach dial indicator to suspension such that dial pointer contacts rotor face approximately one inch from outer edge. Turn rotor through one complete revolution, checking indicator as rotor moves. If runout exceeds specifications, refinish or replace rotor assembly as necessary.

Parallelism – Measure thickness of rotor at 12 points around rotor. Make all measurements one inch from edge of rotor. If rotor does not meet specifications, refinish or replace rotor assembly as necessary.

REMOVAL & INSTALLATION

BRAKE CALIPER

Caliper removal and installation procedures are the same as for disc pad assembly replacement, except that it will be necessary to disconnect brake hose from caliper. See *Disc Pad Replacement*.

HUB & ROTOR

Removal (Exc. Omni and Horizon) – Raise and support front of vehicle and remove wheel and tire. Remove caliper assembly and support it out of the way to prevent damage to brake hose. Remove grease cap, cotter pin, nut lock, thrust washer and outer wheel bearing. Slide hub and rotor from wheel spindle.

Removal (Omni and Horizon) – See *Disc Pad Replacement* for rotor removal procedure.

Installation – 1) On all models except Omni and Horizon, slide rotor and hub assembly onto spindle. Install outer wheel bearing, thrust washer and nut. Tighten nut to 240-300 INCH lbs. while rotating hub. Back off nut to release all preload, then tighten nut finger tight. Position lock on nut, then install cotter pin and grease cap.

2) On Omni and Horizon, position rotor onto drive hub studs.

3) On all models, clean both sides of rotor with alcohol or suitable solvent, then install caliper assembly.

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OVERHAUL

Disassembly – 1) With caliper removed from rotor (brake hose still attached), carefully depress brake pedal to hydraulically force piston out of bore. Pedal will fall away when piston has passed bore opening. Support brake pedal to any position below first inch of travel to prevent fluid loss.

CAUTION – Chrysler Corp. recommends that compressed air not be used to remove piston from caliper.

2) Disconnect brake hose from caliper and mount caliper in a padded vise. Do not clamp unit too tightly. Remove dust boot, and using a small wooden or plastic stick, pry seal from caliper bore groove. On Omni and Horizon models, press out inner and outer bushings from bore.

NOTE – Do not use a screwdriver or other metal tool to remove seal from caliper, because of possibility of scratching piston bore or burring edges of seal groove.

Cleaning & Inspection – Clean all components, using denatured alcohol, and air dry. Blow out all passages and bores. Inspect piston and bore for scoring or pitting. Clean light scoring or corrosion with crocus cloth. Bores with deep scoring may be honed, providing diameter of bore is not increased more than .001". If specification is exceeded, replace caliper.

Reassembly – 1) Dip new piston seal in clean brake fluid and install in groove of bore, making sure seal is not twisted or rolled when installed.

2) Coat new piston boot with clean brake fluid leaving a generous amount inside boot. Install boot in caliper by working into outer groove. Using a hammer and a steel plate, drive boot into caliper until seated.

3) Plug fluid inlet port and bleeder screw hole, then coat piston with a generous amount of brake fluid. With fingers spreading boot, work piston into boot and press down on piston. The entrapped air below piston will force boot around piston and into its groove as piston is depressed.

4) Remove plugs and carefully push piston down into bore until bottomed. Force must be applied uniformly to avoid cocking piston.

5) On Omni and Horizon models, compress flanges of new inner and outer guide pin bushings in with fingers and work into position by pressing IN on bushings, using fingertips or small plastic stick until seated.

NOTE – Be sure bushing flanges extend over caliper casting evenly on both sides.

6) On all models, install brake hose to caliper using new seal washers.

DISC BRAKE ROTOR SPECIFICATIONS						
Application	Disc Diameter	Lateral Runout	Parallelism	Original Thickness	Minimum Refinish Thickness	Discard Thickness
Omni & Horizon	9.00"	.004"	.0005"	.490-.505"	.461"	.431"
All Other Models	10.98"	.004"	.0005"	1.000-1.010"	.970"	.940"
Exc. Police & Taxi	11.75"	.004"	.0005"	1.000-1.010"	.970"	.940"

TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs.
Brake Hose-to-Caliper	19-29
Adapter Mounting Bolts	
Omni & Horizon	70-100
All Others	95-125
Guide Pins	
Omni & Horizon Only	25-40
Application	INCH Lbs.
Caliper Retainer Plate Screws	
Exc. Omni & Horizon	170-260
Splash Shield Mounting Bolts	
Omni & Horizon	200-300
All Others	160 Min.
Bleeder Screw	80-170