

## JEEP FLOATING CALIPER DISCS

Cherokee  
"J" Models  
Wagoneer

### DESCRIPTION

Floating caliper disc brake assembly uses a single piston caliper which "floats" on two pins. As brake pedal is depressed, hydraulic pressure is passed through a proportioning valve to brake caliper piston. This force is transmitted to inboard brake pad and against braking surface of rotor or disc. Pressure then moves outer caliper housing and pad inward on caliper mounting pins, thus forcing outer pad against outer braking surface of rotor. When brake is released, pressure is removed from cylinders and inherent rotor runout moves pistons back into cylinders to maintain sufficient rotor-to-pad clearance.

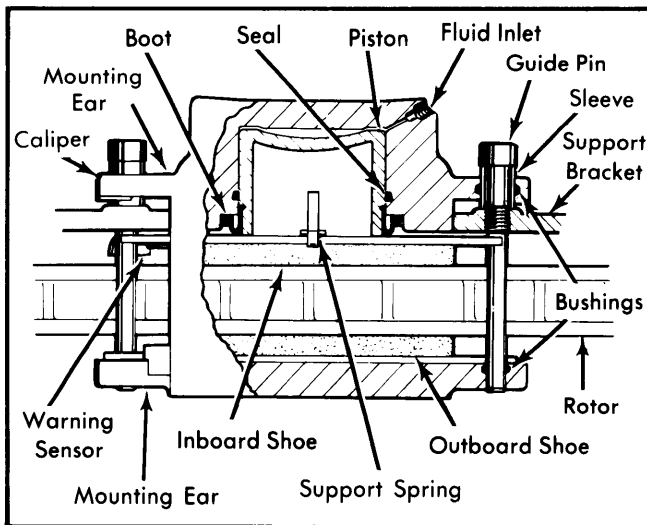


Fig. 1 Cutaway View of Jeep Floating Caliper

### ADJUSTMENT & SERVICING

#### DISC PAD ADJUSTMENT

Automatic adjustment is provided by outward relocation of piston as lining wears.

#### BLEEDING SYSTEM

See *Hydraulic Brake Bleeding in this Section*.

### REMOVAL & INSTALLATION

#### BRAKE PADS

**Removal** — 1) Drain 2/3 of brake fluid from front reservoir using bleeder screw at front outlet port. Raise and support vehicle and remove front wheels. Place "C" clamp on caliper. Solid end of clamp should contact back of caliper, and screw end should contact metal part of outboard shoes. Tighten clamp until caliper moves far enough to force piston to bottom of bore. This will back shoes off rotor surface, easing lining removal and installation.

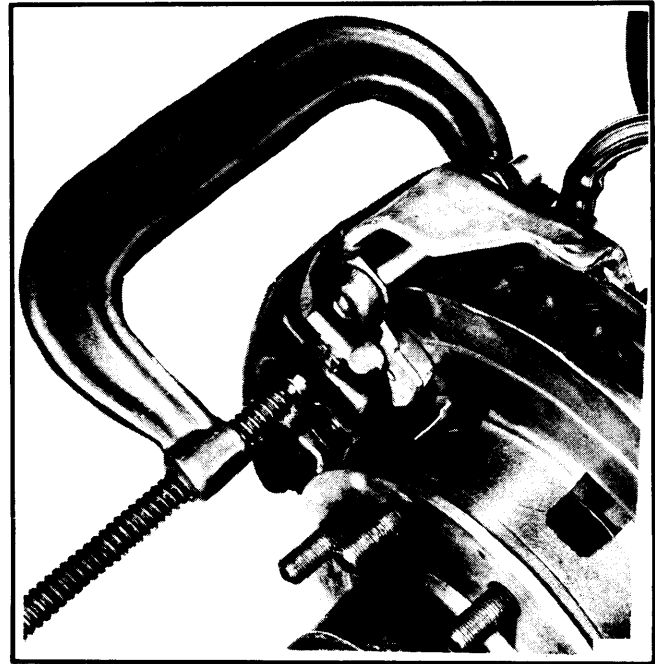


Fig. 2 Using a "C" Clamp to Bottom Caliper Piston

2) Remove both Allen head mounting bolts and lift caliper off rotor. Rest caliper on front spring or other suitable support. Do not allow brake hose to support weight of caliper. Remove both shoe and lining assemblies (pads). Remove support spring from inboard shoe and note spring position for correct installation later. Remove sleeves from inboard ears of caliper. Remove rubber bushings from all holes in caliper ears.

**Installation** — To install, reverse removal procedures noting the following: Lubricate new bushings, sleeves, bushing grooves and small ends of mounting bolts with a silicone lubricant. Install rubber bushings in all caliper mounting ears. Shoe ears should rest on upper surface of caliper mounting ears and lower shoe tabs should fit into cutout in caliper.

#### BRAKE CALIPER

See *preceding Brake Pad procedure*. To remove caliper completely from vehicle, disconnect brake line at caliper and tape hole to prevent contamination.

#### DISC ROTOR

**Removal** — Raise vehicle and support with safety stands. Remove wheel and caliper. On models without front hubs, remove rotor hub cap, drive gear snap ring, drive gear, pressure spring and spring cup. On models with front hubs, remove screws attaching hub body to hub clutch and remove body from clutch. Remove large and small retaining rings. Remove hub clutch from axle shaft. On all models, straighten lip of outer locknut retaining washer. Remove wheel bearing locknuts and washers. Remove rotor and wheel bearings.

**Installation** — 1) Lubricate bearings with EP-type water proof wheel bearing lubricant. Install bearing and new seal in rotor hub. Install rotor and inner lock nut and retaining washer.

**NOTE** — Bearing adjuster inner lock nut has locating peg on one side. When installed, peg must face away from bearing.

## JEEP FLOATING CALIPER DISCS (Cont.)

2) Install wheel but do not tighten nuts. While rotating wheel, tighten inner locknut to 50 ft. lbs., and then back off  $\frac{1}{6}$  turn. Install outer locknut and retaining washer. Tighten outer locknut to 50 ft. lbs.

**NOTE** — Be sure locating peg is engaged in one of the retaining washer holes before installing outer lock nut.

3) On models without front hubs, install pressure spring cup, pressure spring, drive gear and snap ring. Coat rim of chrome hub cap with Permatex No. 3 (or equivalent) and install cap in rotor hub.

**CAUTION** — Spring cup must be installed so recessed side of cup faces outboard bearing and flat side of cup faces pressure spring.

4) On models with front hubs, install hub clutch on axle. Install large and small hub retaining rings. Install hub body on clutch and tighten to 30 INCH Lbs.

5) On all models, remove drive wheel and install caliper. Reinstall wheel and wheel cover if equipped.

## OVERHAUL

**Disassembly** — 1) Remove caliper from vehicle and remove pads. If pads are to be reused, mark location in caliper. Clean caliper exterior with clean brake fluid. Drain residual fluid from caliper and place it on a clean working surface. Remove piston from caliper by applying compressed air to fluid port.

**CAUTION** — Use just enough pressure to ease piston out of bore. Protect piston from damage with folded cloths, do not try to catch piston with fingers, serious injury could result.

2) Pry dust boot out of bore with screwdriver. Do not scratch bore. Using a small plastic or wooden stick, pry piston seal from bore. Remove bleeder screw, sleeves and rubber bushings. Clean all parts in clean brake fluid. Blow parts dry with dry, filtered compressed air.

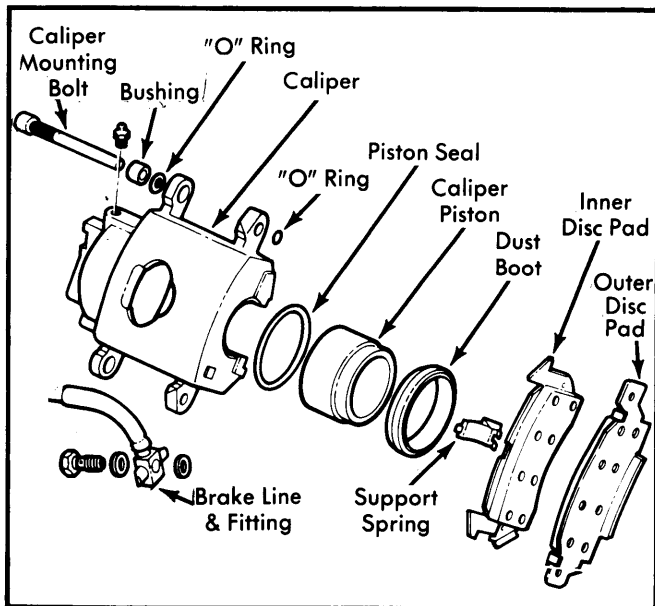


Fig. 3 Exploded View of Floating Disc Brake Caliper Assembly

**NOTE** — Do not clean bolts with abrasives, as protective plating may be removed.

3) Examine parts for rust, corrosion, pitting, scratches, or cracks. Do not attempt to refinish piston in any way. Removal of nickel-chrome plating will lead to pitting, rusting, and eventual cocking in bore. Minor stains on piston bore can be polished with crocus cloth only. Do not use emery cloth or any other abrasive. Wash bore thoroughly with brake fluid after using crocus cloth.

**Reassembly** — 1) Lubricate bore and new seal with brake fluid and install seal in groove using fingers. Lubricate piston with brake fluid and install new dust boot on piston. Slide metal retainer portion of dust boot over open end of piston and push retainer towards end of piston until lip on fold seats in piston groove.

2) Push retainer portion of boot forward until boot is flush with rim at open end of piston and snaps into place. Insert piston in bore being careful not to unseat piston seal. Push piston to bottom of bore using hammer handle (approximately 50 lbs. of force are necessary). Position dust boot retainer in counterbore at top of piston.

3) Seat dust boot retainer with suitable tool (J-22904). Metal retainer portion of boot must be evenly seated in counterbore and fit below face of caliper. Install bleeder screw. Connect brake line to caliper using new copper gaskets. Install pads as outlined in *Pad Removal and Installation in this story*. Install caliper over rotor, bleed brakes and install wheel. Test system before moving vehicle.

## ROTOR

**Runout** — Measure rotor lateral runout by mounting a dial indicator on support stand or steering spindle. Position indicator stylus so it contacts center of rotor lining. Zero indicator and turn rotor 360°. Note indicator reading. Runout must not exceed specifications. Refinish if necessary.

**Parallelism** — Measure rotor parallelism with a micrometer. Measure thickness at 4 or more equally spaced points around rotor circumference and 1" inward from outside edge of rotor. Variation must not exceed specification. Refinish if necessary.

**NOTE** — Replace rotor if machining will cause it to fall below minimum thickness specification.

## BRAKE SPECIFICATIONS

Application	Dimension
Rotor Diameter	
J20 .....	12.5"
All Others .....	12.0"
Rotor Thickness (Minimum) .....	1.215"
Parallelism .....	.001"
Rotor Lateral Runout .....	.005"

## TIGHTENING SPECIFICATIONS

Application	Torque
Bleeder Screw .....	40-140 INCH Lbs.
Brake Line-to-Caliper .....	160 INCH Lbs.
Caliper Mounting Bolts .....	30-40 ft.lbs.