

## JAGUAR

XJ6

## DESCRIPTION

Brake system is 4-wheel disc brakes with tandem master cylinder and power brake unit. Front calipers are 4 piston type and rear calipers are 2 piston type. A combination valve is used to indicate a pressure difference between brake circuits (front and rear). Parking brake is cable actuated on rear calipers, consisting of independent, disc mounted pads that act on rotor.

## ADJUSTMENT

## PARKING BRAKE

**Parking Brake Caliper** — Caliper is self-adjusting to compensate for pad wear, therefore, no adjustment is required.

**Parking Brake Cable** — Fully release parking brake lever. Loosen lock nut on front yoke and disconnect yoke from bell crank lever at clevis pin. Rotate yoke on adjusting rod so that when yoke is reconnected, there is a slight amount of slack in cable. Reconnect yoke and tighten lock nut.

## BRAKE WARNING LIGHT

A dual warning light is mounted on instrument panel. Parking brake light should glow when parking brake lever is pulled one notch (ignition on) and go off when lever is fully released. To check circuit warning sensor, fully release parking brake and ensure light is off (ignition on). Open any bleed screw and light should glow. Close bleed screw, then release and reapply brake pedal; warning light should go out.

## REMOVAL &amp; INSTALLATION

## DISC PADS (SERVICE BRAKES)

**Removal** — Raise vehicle and remove wheels. Remove pin clips, pad retaining pins, anti-chatter springs (if equipped) and lining pads.

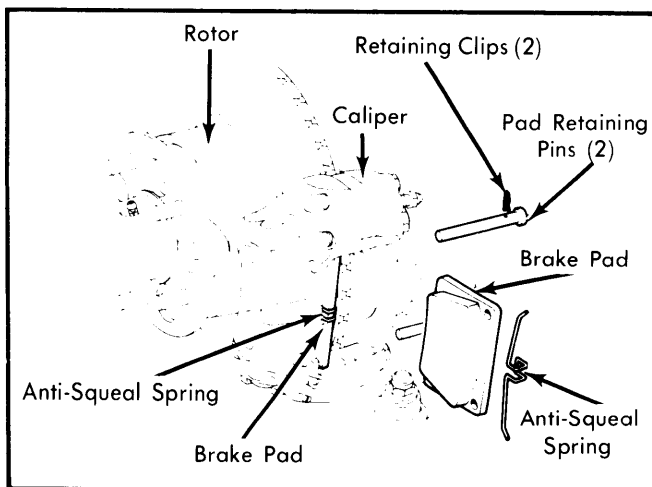


Fig. 1 Removing Front Disc Brake Pads

**Installation** — Draw out about half the brake fluid from reservoir(s). This will enable caliper pistons to be pushed back into cylinders without overflowing fluid. Lever pistons back, insert new pads, springs and replace retaining pins and clips. Check pads for freedom of movement within caliper. Check reservoirs for correct fluid level.

## DISC PADS (PARKING BRAKE)

**Removal & Installation** — Parking brake calipers must be removed to replace disc pads. See *Parking Brake Caliper Removal & Installation*.

## PARKING BRAKE CALIPER

**Removal** — 1) Raise and support vehicle. Remove nuts and bolts attaching rear suspension mounting plate to rear suspension unit and remove plate from vehicle. Disconnect parking brake cable and return spring from caliper.

2) Remove caliper mounting bolts and release lever, then slide caliper around rotor and remove through hole left by suspension plate. To remove disc pads, remove nut and spring washer securing pads to pad carriers.

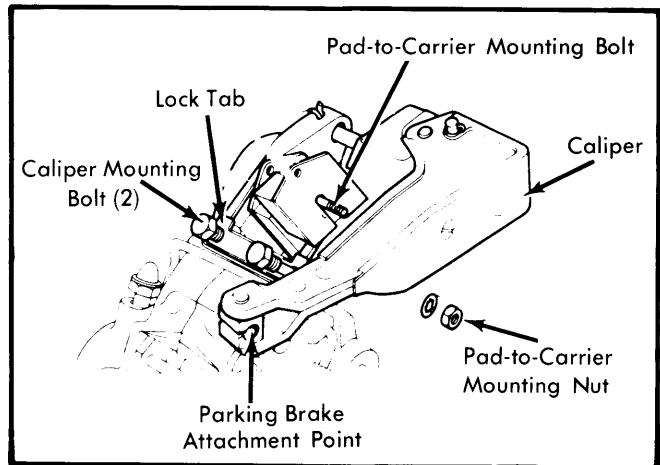


Fig. 2 Detail of Parking Brake Caliper

**Installation** — To install, reverse removal procedure and note the following: Adjust caliper if new pads have been installed or if caliper has been overhauled. Adjust by holding one pad carrier stationary and turning remaining carrier until there is a clearance of .75" (19 mm) between disc pad surfaces. Operate caliper actuating lever until adjuster ratchet stops clicking. Install remaining components and check operation of brakes.

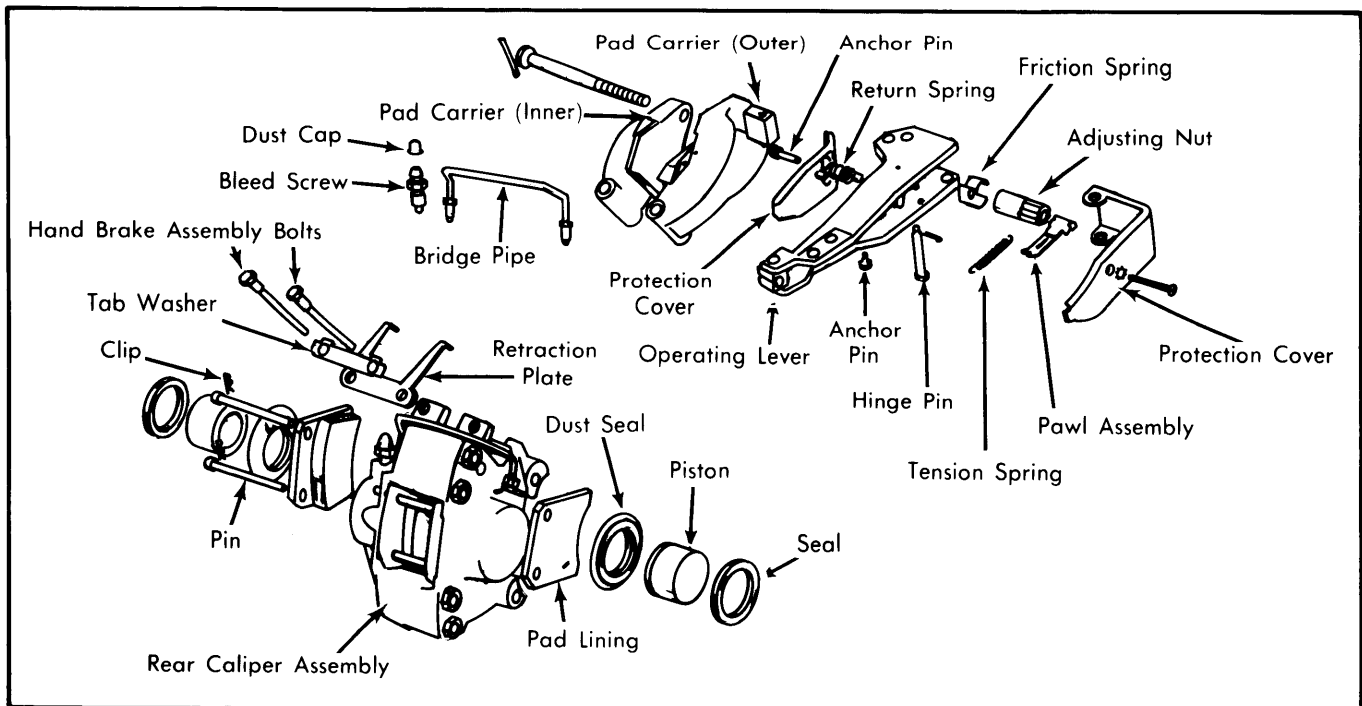
## SERVICE BRAKE CALIPER

**NOTE** — Do not separate caliper halves for repair. If a leak exists between halves, replace caliper

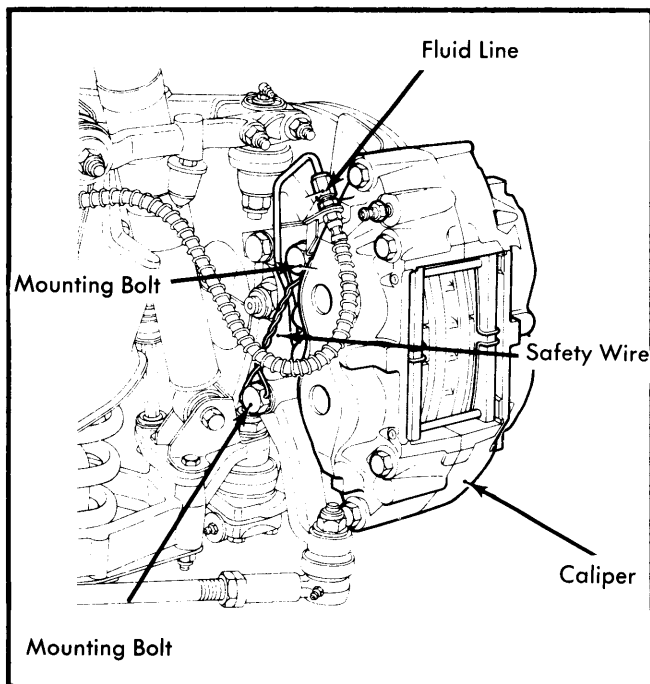
**Removal (Front)** — Raise vehicle and remove wheels. Disconnect caliper fluid line and plug. Discard locking wire from mounting bolts. Remove caliper.

**NOTE** — Check position and number of shims between steering arm and caliper; replace shims in order.

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**Fig. 3 Exploded View of Rear Brake Caliper with Detail of Parking Brake Assembly**



**Fig. 4 Components to Remove to Allow Removal of Front Disc Brake Caliper**

**Installation** — 1) Place caliper in position. If original caliper is being reinstalled, refit shims. Install mounting bolts and safety wire. Bleed brakes.

2) If new caliper is being used, check gap between caliper abutment and rotor face. Gap should be no more than .010" (.25 mm). Gap on upper and lower abutment on SAME SIDE must be equal. If rotor is not centered, remove one caliper

mounting bolt and add or subtract shims as necessary. Repeat procedure on other bolt.

**Removal (Rear)** — Remove parking brake caliper as previously outlined. Disconnect and plug hydraulic line from caliper mounting bolts and lock wire. Slide caliper around brake rotor and out hole left by suspension plate.

**Installation** — Place caliper in position, install shims (if equipped) and secure bolts. Check rotor for centering between caliper. If necessary, adjust shims between drive flange and rotor. If shim adjustment is performed, rear wheel camber must be checked. See *Jaguar Rear Wheel Camber Adjustment in WHEEL ALIGNMENT Section*. Complete installation by reversing removal procedure.

### BRAKE ROTOR

**Removal (Front)** — 1) Remove brake caliper as previously outlined. Remove hub-to-rotor attaching bolts and washers. Remove hub dust cap, then remove cotter pin, axle nut and washer from axle stub and remove hub.

2) Insert a punch through access hole in splash shield and lightly tap on it to free water deflector. Remove rotor assembly by sliding it from caliper jaws and over axle stub.

**Installation** — To install, reverse removal procedure. Pack hub and wheel bearings with grease and adjust wheel bearings. See *Wheel Bearing Adjustment in SUSPENSION Section*.

**Removal (Rear)** — Remove brake caliper as previously outlined. Disconnect shock absorber from lower mount and remove radius arm locking bolt and lower control arm outer

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grease fitting. Place stands under hub assembly and slide radius arm from anchor point. Loosen clamp and slide boot away from inner universal joint, then remove universal joint-to-rotor attaching bolts and separate universal joint from rotor.

**NOTE** — DO NOT move shims mounted between drive axle flange and brake rotor.

**Installation** — To install, reverse removal procedure and note the following: Ensure caliper is centered on rotor; adjust by adding or removing shims between rotor and drive axle flange. Caliper is centered when gap is not more than .010" (.25 mm). Check rear wheel camber and adjust if necessary. See *Camber Adjustment* in WHEEL ALIGNMENT Section.

## MASTER CYLINDER

**Removal & Installation** — Disconnect electrical wires from master cylinder reservoir. Remove filter. Disconnect clips mounted to cylinder. Separate all hydraulic lines and plug openings. Remove nuts mounting cylinder to power unit studs. To install, reverse removal procedure.

## POWER BRAKE UNIT

**Removal** — 1) Disconnect battery. Disconnect and plug master cylinder lines. Pry vacuum hose from power unit. Remove fluid reservoir.

2) Remove bolt securing upper pedal box. Remove reservoir mounting bracket and stop light switch. Remove 6 bolts attaching pedal box. Remove brake pedal pad. Withdraw pedal box, master cylinder and power brake unit as an assembly, then separate.

**Installation** — To install, reverse removal procedure and bleed hydraulic system.

## OVERHAUL

## BRAKE CALIPER

**NOTE** — DO NOT separate caliper halves for service; pistons and seals may be changed without splitting caliper. If a leak is detected between caliper halves, replace caliper as a unit.

**Disassembly** — With disc pads removed, install a suitable piston clamp to retain outboard piston(s), then apply compressed air to fluid inlet port and remove inboard piston(s). Pull dust seal from piston(s) and caliper grooves. Carefully remove piston seal from cylinder.

**NOTE** — Inboard piston(s) must be installed before outboard piston(s) can be removed.

**Cleaning & Inspection** — Clean all parts in alcohol and inspect for wear or damage. Check cylinder bore and pistons for scratches, rust or corrosion; replace all damaged parts.

**Reassembly** — Coat cylinder, piston and seal with brake fluid before installing. Place piston seal in bore. Install dust seal over cylinder groove and carefully insert piston through dust

seal. Pull dust seal into groove in piston. Use piston clamp to press piston completely into cylinder. Repeat procedure for outer piston seal replacement. Install caliper as previously outlined.

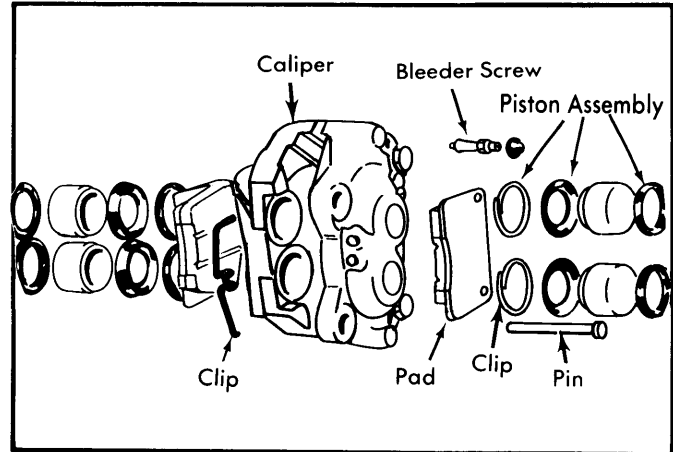


Fig. 5 Exploded View of 4 Piston Front Disc Brake Caliper Assembly

## MASTER CYLINDER

**Disassembly** — With master cylinder removed from vehicle, carefully pry hose adapters from sealing grommets and grommets from master cylinder. Push in on primary piston and remove secondary piston stop pin from forward grommet housing. Remove spring lock, then tap flange end of cylinder to remove primary and secondary piston assemblies. Disassemble springs, spring seats, seals and washers from piston assemblies.

**Cleaning & Inspection** — Clean all parts in alcohol and dry with a lint-free cloth. Inspect pistons and bore for wear, scores, or corrosion; replace damaged parts as necessary.

**Reassembly** — To reassemble, reverse disassembly procedure and note the following: Lubricate all parts with clean brake fluid. Install secondary piston inner seal with lip facing away

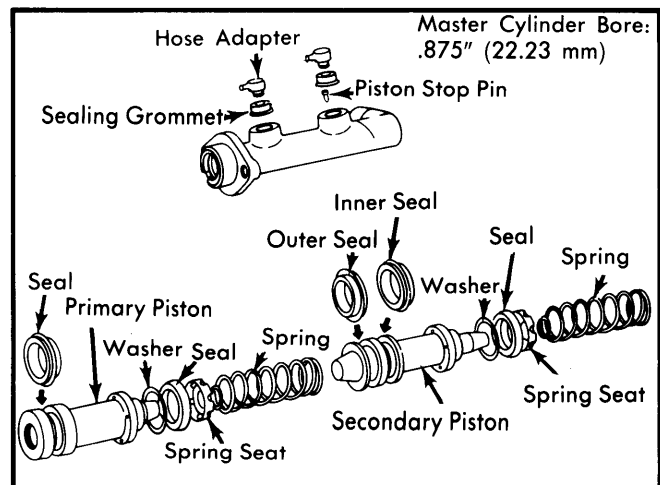


Fig. 6 Exploded View of Master Cylinder Assembly

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from primary piston and install outer seal with lip facing primary piston. Install primary piston seal with lip facing away from spring lock. Install master cylinder and bleed brake system.

### POWER BRAKE UNIT

**NOTE** — Power brake unit CANNOT be overhauled; if determined defective, replace entire unit.

TIGHTENING SPECIFICATIONS	
Application	Ft. Lbs. (N·m)
Caliper Mounting Bolts	
Front .....	50-60 (68-82)
Rear .....	49-55 (67-75)

DISC BRAKE SPECIFICATIONS						
Application	Caliper Bore Diameter In. (mm)	Lateral Runout In. (mm)	Parallelism In. (mm)	Original Thickness In. (mm)	Minimum Refinish Thickness In. (mm)	Discard Thickness In. (mm)
XJ6						
Front	.....	.004 (.1)	.....	.950 (24.1)	.....	.....
Rear	.....	.004 (.1)	.....	.500 (12.7)	.....	.....