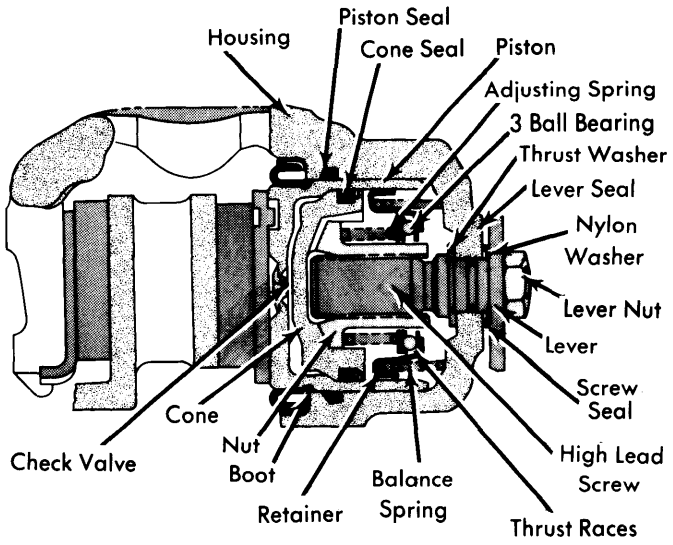
DELCO-MORAINE SINGLE PISTON DISC (REAR)

Cadillac Eldorado

DESCRIPTION

Caliper is a single piston sliding caliper type. It has an integral parking brake with automatic adjusting provisions. Brake rotor is free floating and is held in place by wheel lug nuts. Rotor is made of cast iron with two machined braking surfaces (one on each side) separated by ventilation fins. A groove is machined in the center of brake surfaces to aid in reduction of brake noise.

When hydraulic pressure is applied to caliper, piston and cone move out of the caliper bore and apply clamping action to brake rotor. The adjusting nut remains stationary on the high lead screw and a gap develops between cone and nut. Assuming some lining wear, cone and piston do not return to their starting position (leaves a small gap equal to lining wear between cone and nut). A 50 pound adjusting spring causes nut to rotate on high lead screw to close gap and automatically adjust caliper. When parking brake lever (Which is attached to high lead screw) is rotated, high lead screw turns and causes nut to move down screw. Nut then contacts cone and pressure is applied to cone and piston through cone/clutch interface of piston, resulting in a clamp load on linings. Caliper adjusts only when there is no pressure over cone, thereby, allowing it to rotate on clutch interface. It will not automatically adjust when hydraulic pressure is applied. Clutch interface prevents cone from turning when parking brake is applied.



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CALIPER ASSEMBLY

ADJUSTMENT

Shoe wear is automatically compensated for by internal caliper design, therefore, no brake adjustment service is required.

SERVICING

BLEEDING

See Hydraulic Brake Bleeding in this section.

SHOE & LINING INSPECTION

Inspect linings every 6000 miles or any time wheels are removed. Check both ends of inboard and outboard linings for wear. Replace all linings if any one wears to the approximate thickness of the shoe.

SHOE & LINING REPLACEMENT

NOTE — Relining should be done in complete set only.

CAUTION — Front brake shoes must not be used on rear calipers.

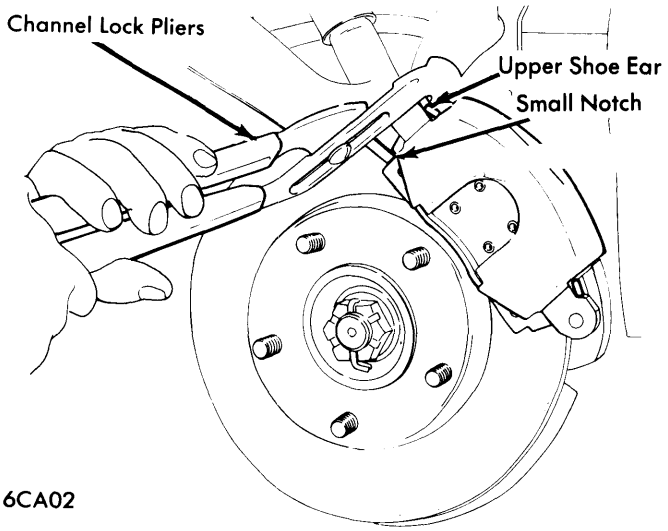
Removal — 1) Remove and discard two thirds of brake fluid in master cylinder front reservoir. *CAUTION — Do not remove brake line or completely empty master cylinder or it will be necessary to bleed system.* Raise vehicle on a hoist. Remove wheel and tire and replace one lug nut (flat side toward rotor) to prevent rotor from falling off when caliper is removed.

2) Loosen tension on parking brake cable at equalizer and disconnect brake cable from parking brake lever. Remove return spring, lock nut, lever, lever seal and anti-friction washer. *NOTE — Lever must be held in place while removing nut.*

3) Clean any dirt from caliper in area of lever seal. Using a large "C" clamp, place solid end on lever stop and screw end on back of inboard lining assembly. Turn clamp until piston bottoms in caliper. Before removing "C" clamp, lubricate caliper housing surface (under lever seal) with silicone.

4) Install new anti-friction washer, new lever seal and lever. *NOTE — Install lever on hex with arm pointing downward.* Rotate lever toward front of vehicle, while holding this position, install and torque nut to 25 ft. lbs. Then rotate lever back to stop. Install lever return spring (red-right hand & black-left hand) and remove "C" clamp.

5) Remove brake line from caliper and plug opening to retain fluid and prevent entrance of dirt. Remove caliper mounting bolts. Remove caliper with brake shoes. Inspect caliper assembly for damage, cuts, cracks or excessive leakage. Replace or repair as necessary. Remove and discard two caliper mounting sleeves and four bushings. Remove and discard piston check valve.



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CLINCHING OUTBOARD SHOE

DELCO-MORAINE SINGLE PISTON DISC (REAR) (Cont.)

Installation – 1) Install new piston check valve. Using silicone grease, install new bushings and sleeves. Place new inboard shoe on piston with "D" shaped tab fitting into indentation in piston. *NOTE – If piston requires rotation, use tool (J-7642) to turn it.* Install outboard shoe.

2) Slide caliper over rotor and install mounting bolts. *NOTE – Mounting bolt goes under inboard shoe ears.* Install brake line and pump brake pedal to seat lining against rotor. Using channel lock pliers, clinch upper ears of outboard shoe against caliper, making sure all ears are flat against caliper with no clearance. Connect and adjust parking brake cables. After bleeding brake system, apply brake several times to adjust brakes. Remove one lug nut used to retain rotor and install wheel and lug nuts.

ROTOR SERVICING

Lateral Runout – Mount a dial indicator so that foot will contact face of rotor approximately one inch from rotor edge. Set gauge to zero, then turn rotor through one complete revolution noting gauge. See *Rotor Specifications for maximum allowable runout.*

Parallelism – Check thickness of rotor at four or more points around circumference of rotor. Make all measurements at same distance from edge of rotor. If thickness varies more than specified, refinish or replace as necessary. See *Rotor Specifications for maximum rotor thickness and parallelism.*

OVERHAUL

BRAKE CALIPER

Disassembly – 1) With caliper held in a vise, remove two mounting sleeves and four bushings from caliper and discard. Remove brake shoes and lever return spring. Using a shop towel to catch piston and brake fluid, rotate lever back and forth to move piston out of caliper housing.

NOTE – If piston will not move out of housing by rotating lever. Remove lock nut, lever, lever seal and anti-friction washer. Using a wrench turn screw hex clockwise on right hand caliper and counterclockwise on left hand caliper until piston pops out of housing.

2) Remove piston assembly and balance spring. Remove lock nut, lever, lever seal and anti-friction washer. Push screw out of housing and remove piston seal and boot. Clean and inspect all parts with denatured alcohol. Blow out all passage ways with compressed air. *CAUTION – Use only denatured alcohol for cleaning as mineral spirits will damage seals.*

Reassembly – 1) Install new piston seal. Place a new boot onto piston with lip of boot in groove in piston. Install a new thrust washer and seal on screw. Assemble screw to piston assembly. Coat piston seal with a thin coat of brake fluid. Fit balance spring into piston assembly spring retainer and start assembly into caliper housing. *NOTE – Caliper housing and lever screws are marked either "L" or "R". Make sure when installing screw that "L" is to "L" and "R" is to "R" or parking brake will not work.*

2) Using suitable tool (J-23072), push piston all the way back in housing. Use care that piston is straight or lever screw will damage seal as it passes through hole in rear of piston bore. Before removing tool (J-23072), install lubricated anti-friction washer, new lever seal, lever and lock nut. *NOTE – Install lever away from stop. Rotate lever forward and hold in position while tightening nut.*

3) Remove tool (J-23072), rotate lever back to stop and install return spring (red-right hand & black-left hand). Using suitable tool (J-26269), drive boot in until seal bottoms in housing. Install linings and caliper, See *Shoe and Lining Replacement.*

ADJUSTMENT

PARKING BRAKE ADJUSTMENT

With parking brake pedal fully released and wheels off the floor, hold brake cable stud from turning and tighten equalizer nut until cable slack is removed. Make sure caliper levers are against stops on caliper housings. If levers are off stops, loosen cable until levers return to stops. After cable adjustment, pedal should travel four to five inches with approximately 125 lbs. of force.

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Backing Plate-to-Axle Housing	40
Caliper Bolts	30
Brake Lever-to-Caliper Screw	25
Brake Line-to-Brake Hose	20
Housing-to-Rear Cover	20
Wheel Mountings Nuts	130

DISC BRAKE ROTOR SPECIFICATIONS

Application	Disc Diameter	Lateral Runout	Parallelism	Original Thickness	Minimum Refinish Thickness	Discard Thickness
Eldorado	11.00"	.008"	.0005"	1.205"	1.190"	