DELCO-MORAINE SINGLE PISTON DISC – REAR

Buick
Cadillac
Oldsmobile
Pontiac

DESCRIPTION

Rear disc brakes are a single piston sliding caliper type. An integral parking brake is used, with automatic adjusting provision. Brake rotors are made of cast iron, with two machined braking surfaces separated by cooling fins. On some cars, a groove is machined in the center of the braking surface to aid in reducing braking noise.

ADJUSTMENT

SERVICE BRAKES

Caliper design automatically compensates for shoe wear; therefore, no brake adjustment service is required.

PARKING BRAKE

Cadillac & Pontiac – With parking brake pedal fully released and rear wheels raised, hold brake cable stud to prevent turning and tighten equalizer nut until cable slack is removed. Make sure levers are on stops. If not, loosen equalizer nut until levers return against stops on caliper housing. After adjustment, pedal travel (with 125 lbs. force) should be 5¼-6¾" (Eldorado & Seville 4-5½").

All Other Models – Depress pedal two ratchet clicks. Raise and support car. Tighten adjusting nut until left rear wheel can just be turned rearward, but is locked (slight drag on Toronado) when trying to turn forward. With brake pedal released, wheel should have no drag in either direction. Lower car.

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 ⅔ of brake fluid in master cylinder reservoir. Raise vehicle on hoist; remove wheel and tire. Replace one lug nut (flat side toward rotor) to prevent rotor from falling off when caliper is removed.

NOTE – *Mark relationship of wheel to axle flange before removing wheels.*

2) Loosen tension on parking brake cable at equalizer and disconnect brake cable from parking brake lever. Remove cable bracket from caliper. 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 outer lining assembly. Turn clamp until piston bottoms in caliper. Before removing "C" clamp, lubricate caliper housing surface under lever seal with silicone (except Cadillac models).

NOTE – *Do not position "C" clamp on actuator screw.*

4) All models except Cadillac, install new anti-friction washer, new lever seal and lever. 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 and remove "C" clamp.

NOTE – *Install lever on hex with arm pointing downward.*

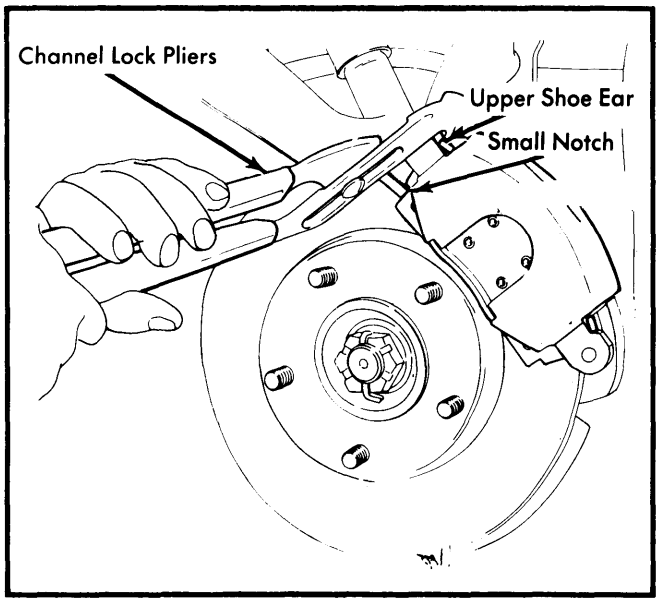

Fig. 1 Clinching Ears of Outboard Shoe

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.

Installation – 1) Install new piston check valve. Using silicone grease, install new bushings and sleeves. Place new inboard

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shoe on piston with "D" shaped tab fitting into indentation in piston. Install outboard shoe.

NOTE – *If piston requires rotation, use a spanner wrench (tool J-7624) to turn it.*

2) Slide caliper over rotor and install mounting bolts 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.

3) Connect and adjust parking brake cables. After bleeding brake system, apply brake several times to adjust. Remove one lug nut used to retain the rotor and install wheel.

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, remove lock nut, lever, seal and anti-friction washer. Use a wrench to turn activator screw until piston pops out of housing.*

2) Remove piston assembly and balance spring. Remove lock nut, lever, seal and anti-friction washer. Push screw out of housing and remove piston seal and boot. Clean all parts, using only denatured alcohol. Blow out passageways with compressed air.

Reassembly – 1) Install new piston seal. Place a new boot on new piston with lip of boot in groove of piston. Install a new thrust washer and seal on actuator screw. Assemble screw to piston assembly and coat piston seal with brake fluid. Fit balance spring into piston and start piston assembly into caliper housing.

NOTE – *Caliper housing and activator screws must be installed on the same side of the car as they were removed from. If parts are on the wrong side parking brake will not work.*

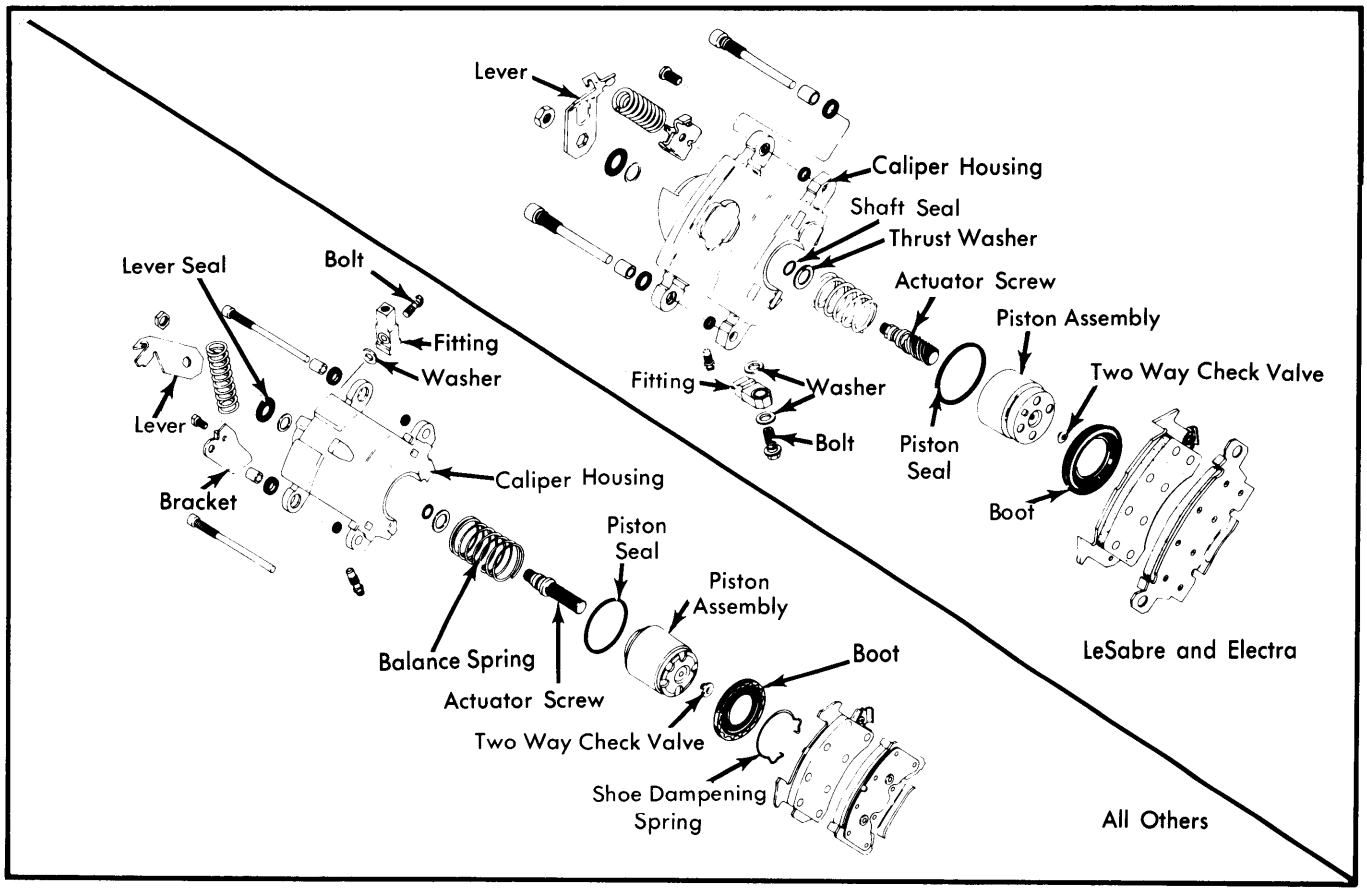

Fig. 2 Exploded View of Delco-Moraine Single Piston Rear Caliper

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2) Using suitable tool (J-23072), push piston all the way back into housing. Ensure that piston is straight or screw may damage seal as it passes through. Before removing tool, install lubricated anti-friction washer and new lever seal. Install lever away from stop, rotate forward and hold while tightening nut.

3) Remove tool (J-23072), rotate lever back to stop and install return spring (red-right side & black-left side). Using suitable boot installer tool (J-26296 on Buick & Pontiac models and J-28678 on all other models), drive boot in until seal bottoms in housing. Install lining and caliper. *See Shoe and Lining Replacement.*

TIGHTENING SPECIFICATIONS

Application	Ft. Lbs.
Backing Plate-to-Axle Housing	40
Backing Plate-to-Control Arm	35
Brake Hose-to-Caliper	30
Caliper Mounting Bolts	30
Brake Lever-to-Activator Screw	25

DISC BRAKE ROTOR SPECIFICATIONS

Application	Disc Diameter	Lateral Runout	Parallelism	Original Thickness	Minimum Refinish Thickness	Discard Thickness
Buick						
Electra & LeSabre①	11.00″	.005″	.0005″	.974″	.921″	.906″
Riviera	10.50″	.004″	.0005″	.974″	.921″	.906″
Cadillac						
Eldorado & Seville	10.50″	.005″	.0005″	.974″	.921″	.906″
Oldsmobile						
Toronado	10.50″	.005″	.0005″	1.040″	.980″	.965″
Pontiac						
Firebird	10.50″	.005″	.0005″	1.040″	1.020″	.....

① – Specifications apply to 12.00″ disc also.