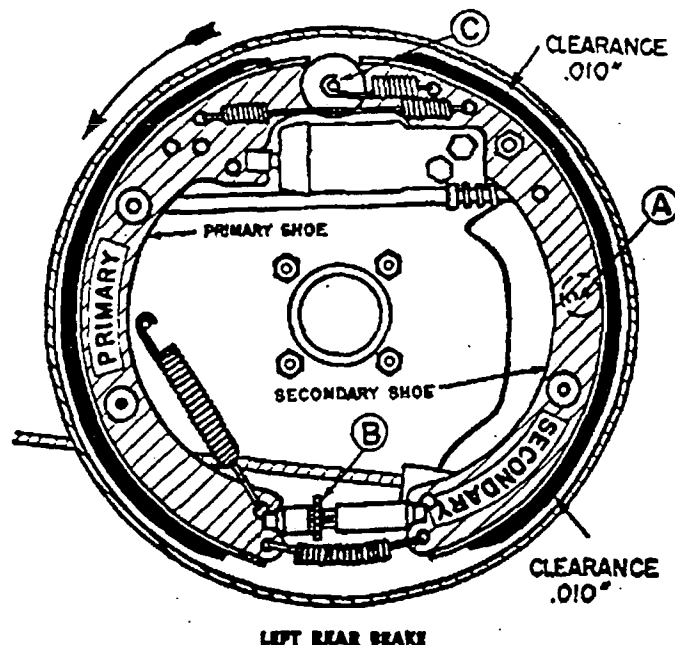


BENDIX HYDRAULIC DUO SERVO BRAKE

(Single Piston)



THIS brake is used on the 1934 models of Oldsmobile and 1934-35 La Salle. It differs from the Bendix Hydraulic Duo Servo brake double piston type in that it has but a single piston in the hydraulic wheel cylinder. The wheel cylinder floats with respect to the backing plate, yet is anchored to the secondary shoe and actuates that shoe while the piston moves the primary shoe.

The Duo Servo action is still maintained, since the primary shoe is connected to the secondary shoe by a star gear assembly. The rear service brakes act as parking brakes and when used as such are mechanically controlled by separate cable control. Details of this control are shown in the above sketch.

The clearances of the secondary shoe should be .010" at all points. A .002" variance is allowable, but if the clearances at ends of secondary shoe differ more than this the anchor should be reset to assure good brake performance. No definite clearances are recommended on the primary shoe—if the secondary shoe clearance is correct and adjustment instructions are carefully followed, the clearances between the primary shoe lining and drum will take care of themselves.

See Page 16 for definition of Primary Shoe.

Minor Adjustment

1. Remove inspection covers from brake drums.
2. Loosen eccentric lock nut and insert .010" feeler gauge between lining of secondary shoe and brake drum.
3. Turn eccentric (A) in direction of forward wheel rotation until .010" feeler gauge is snug at adjusting points of secondary shoe. Tighten eccentric lock nut.
4. Expand brake shoes by turning star gear (turning star wheel down and toward brake drum expands the shoes—see Fig. 4, Page 11) until light drag is felt on the brake drum.
5. Turn star gear in opposite direction until drum is free from drag.
6. Check emergency brake cables for any excess play and adjust if necessary. (With parking brake lever released and against stop, pull brake cable until strut rod inside rear brake cam can be felt making contact with brake shoe. Holding cable in this position, adjust clevis on cable so that clevis pin can just enter brake cross shaft lever.) If parking brake cable is too short shoes will be expanded away

from anchor. Correct adjustment is impossible, and shoe will slap against anchor going backwards or forwards, with resulting clicking sound.

Major Adjustment

1. Remove parking brake cables at cross shaft.
2. Loosen anchor pin nut by backing off half turn on anchor pin lock nut.
3. Expand shoes by turning star gear until the two shoes are expanded sufficiently to cause enough drag so that the wheels can just be turned with both hands. Using a soft hammer, strike the anchor pin on the threaded end to make sure it is free and that it moves to correct position. Make this adjustment on all four wheels.
4. Tighten anchor pin (C) using 16-inch wrench.
5. Release shoes by turning star gear until wheels are free from drag.
6. Proceed with shoe adjustment as outlined under "Minor Adjustment."
7. Replace parking brake cables using adjustment as explained in "Minor Adjustment."

Average time required for a complete four wheel reline 4½ to 5¼ hours.

Maintenance Suggestions

If pedal is close to floor board or has springy action, then look for

- (a) Normal lining wear. (Minor adjustment.)
- (b) Leak in system. (Tighten connections or replace worn parts where leak is found.)
- (c) Air in system. (Bleed lines.)
- (d) No fluid in supply tank. (Refill and bleed lines.)
- (e) If brakes drag or do not release. (Check port hole in master cylinder and adjust pedal clearance, or look for mineral oil in lines.)

Do not attempt to wash any of rubber caps or parts with anything but clean alcohol.

Super-Effective Brakes

Some 1934 and 1935 cars with hydraulic Bendix brakes dive to the left and right on brake application, due to the super-effectiveness of the brakes. Following are some suggested remedies:

1. Check clearances on all shoes to insure equal balance of front wheels.
2. Check retracting springs for stiffness. If they show signs of weakness, replace them with stiffer springs.
3. Reduce clearance between drum and lining to reduce servo action.
4. Reduce effective area of primary shoe lining on front brakes by cutting off at second rivet holes or by a long tapering chamfer, or by grooving of primary shoe linings.
5. Use lower friction lining on primary shoes.
6. Watch for bent backing plates.
7. If oversize linings are used to reduce clearances and servo action, be sure lined shoes are ground to correct diameter to avoid toe and heel contact.
8. In cases of diving to one side check shock absorbers as possible source and equalize.
9. Check wheel alignment. Too great or unequal caster may cause diving.

Do not attempt to salvage used brake fluid.

Do not attempt to use mineral oil in lines. (Use nothing but genuine Hydraulic fluid.)

(a) If mineral oil has been used in lines, replace all rubber parts and flush lines with alcohol. (Refill with Hydraulic fluid.)

Drums should not be turned any thinner than .157".

Occasionally cap screws holding wheel cylinder to secondary shoes become loosened, allowing cylinder to drop. Be sure to check for correct alignment.

Lubricate dust cover plate at place where hydraulic hose fitting passes through backing plate to allow free movement of brake shoes.