LOCKHEED Hydraulic Brakes

SINGLE CYLINDER

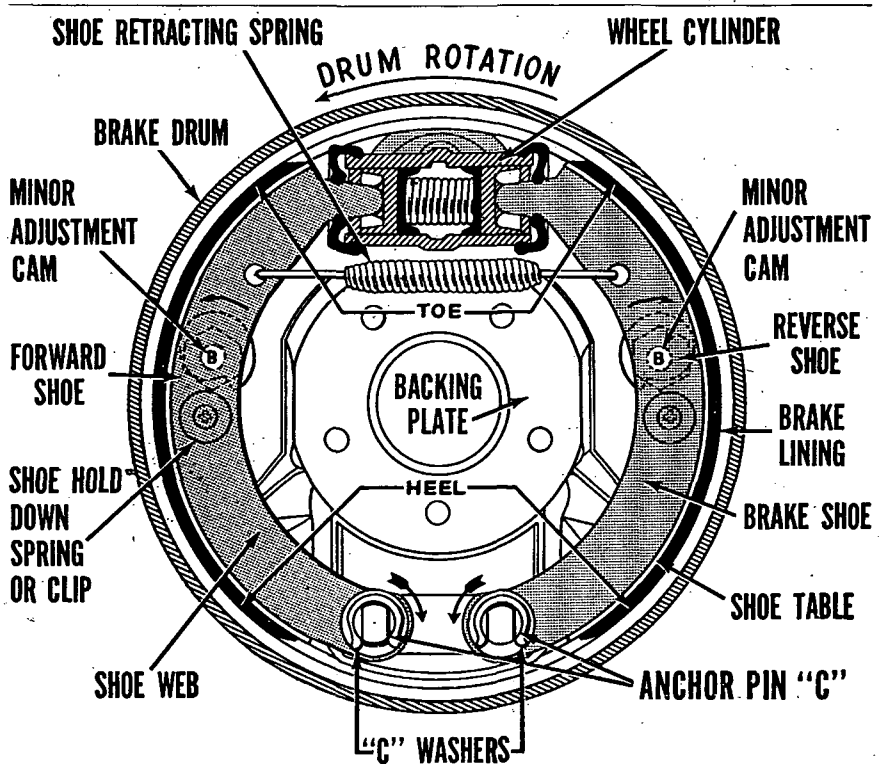

Figure 20
Lockheed Hydraulic Brake

The Lockheed hydraulic brake consists of two shoes, each separately pivoted on a rigidly held, adjustable anchor pin. These anchor pins can be turned to control the drum-to-lining clearance at the heel of the shoe. The clearance at the toe of the shoe is controlled by an eccentric cam near the actuating cylinder and can be adjusted from the reverse side of backing plate. The shoes are held against the adjusting cams by the tension of the retracting spring.

The activating power unit in this brake is the hydraulic cylinder which expands both shoes against the drum with equal force, except where step-bore cylinders are used.

Since 1935 many cars have been equipped with step-bore wheel cylinders. In one case the large cylinder end is used on reverse shoe to equalize lining wear. In another case the large cylinder end is used on the forward shoe to reduce pedal effort.

MINOR ADJUSTMENT

1. Cam adjustments are provided on each brake shoe to compensate for lining wear. Jack up car and turn cam B (Fig. 20), outward at the top, away from the center of the axle, until the lining contacts the drum sufficiently to stop the wheel from spinning. Back off on cam until lining clears drum and wheel just turns freely. The adjusting cams are held in position by friction springs on some cars and locking is not required. A lock nut is used on other models.

2. Check master cylinder for correct fluid level. The fluid supply tank should be filled to within ½" of the top.

MAJOR ADJUSTMENT

1. The eccentric mounting of the two anchor pins C (Fig. 20), allows recentering of the brake shoes. If there are no inspection holes in the brake drums they should be removed and a ring gauge used (Fig. 21), or a brake gauge.

2. Place gauge in position and insert a .005-inch feeler between gauge and lining about 1 inch from the lower end of the shoe. Leave feeler gauge in place and turn eccentric anchor C (Fig. 20), until gauge is gripped.

3. At a point 1 inch from upper end of lining insert a .010-inch feeler gauge. If this cannot be done turn cam B (Fig. 20), a little and try again. Correct adjustment is obtained when the .010-inch gauge just enters at the toe or upper end of lining and the .005-inch at the lower end. Both shoes of each wheel are adjusted in this manner.

4. Replace brake drums and proceed as outlined above for "MINOR ADJUSTMENT."

If a gauge is not available a major adjustment can be made by turning the eccentric anchor from outside the backing plate. On some cars it is not possible to turn the eccentric anchors from the outside without removing the anchor pins and slotting them for a screw driver. In order to do this it is necessary to grind off the case-hardened surface and slot the end by using two hacksaw blades placed side by side in the same handle. The anchor pins are then replaced and the adjustment made as follows:

1. Turn anchor pins C (Fig. 20), and cams B (Fig. 20), until shoes are as far as possible away from drums.

2. Adjusting one shoe at a time, turn cam B until a slight drag is obtained. Then turn eccentric anchor C until this drag has been relieved. Thus it is seen that the movement of eccentric anchor C not only affects the position of the heel of the shoe, but also the toe of the shoe near cam B.

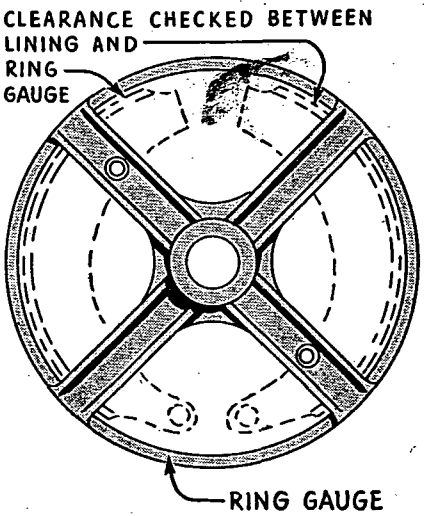

Figure 21
Ring Gauge in Place

3. Repeat these operations of obtaining a drag by turning cam B and relieving the drag by turning anchor C, until further turning of anchor C will not relieve the drag.