

Figure 2
Wheel Cylinder

portant to make sure that wheel cylinders are put back in place properly in cases where they have been removed.

The fluid is non-compressible assuring equal pressure at each brake. The return spring A (Fig. 1), should have equal tension in each brake to insure proper balance of the braking system. Although there is some variation in design of Lockheed Brakes, in general the adjustments are made as follows:

MINOR ADJUSTMENT

1. Cam adjustments are provided on each brake shoe to compensate for lining wear. Jack up car and turn cam B (Fig. 1), 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 $\frac{1}{2}$ " of the top.

MAJOR ADJUSTMENT

1. The eccentric mounting of the two anchor pins C (Fig. 1), 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. 4).

2. Place ring gauge in position and insert a .005-inch feeler between ring gauge and lining about 1 inch from the lower

end of the shoe. Leave feeler gauge in place and turn eccentric anchor C (Fig. 1), 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. 1), 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 ring 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. 1) and cams B (Fig. 1) 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.

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.

4. Then back off cam B and anchor C just slightly until wheel turns freely.

5. Repeat at other wheels. This method produces clearances very close to the recommended values of .005 and .010 inch.

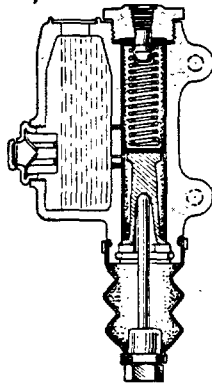


Figure 3
Integral Tank Type Master Cylinder

CLEARANCE CHECKED BETWEEN LINING AND RING GAUGE

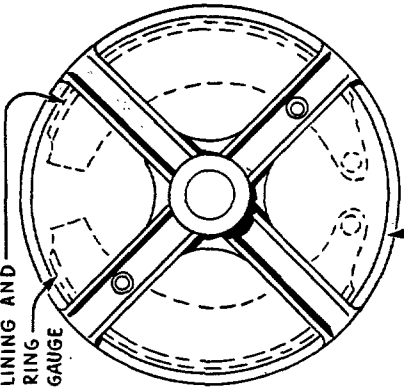


Figure 4
Ring Gauge in Place

6. Check fluid level in master cylinder and add fluid if necessary.

BLEEDING

Air can be removed from the brake lines by bleeding. This is necessary after lines have been disconnected or if the fluid in the master cylinder has been allowed to run too low.

Bleeding can be done through a rubber tube, the end immersed in a clean (1-pint glass bottle) container partially filled with brake fluid.

When bleeding, the bleeder valve A (Fig. 5) in the wheel cylinder should be

opened one-half to three-quarter turn, but not completely removed.

Bleeding is done by pressing the brake pedal slowly to half the limit of its travel after making sure that master cylinder reservoir (Fig. 3) is full of fluid. If reservoir filler opening plug is left out during the bleeding the fluid can be watched to see that it does not get below the half way point. An automatic refiller for master cylinders (Fig. 6) prevents the master cylinder from running dry during the bleeding operation.

With master cylinder reservoir full the brake pedal can be given 6 or 10 half strokes before it is necessary to refill the reservoir.

This pumping action forces the liquid and air through the system and out of the bleeder hose. The process is continued until the fluid runs clear without air bubbles.

It is best to bleed one wheel cylinder at a time to make sure all air is expelled.

Bleeding tanks are available which permit the bleeding to be done under air pressure in a much shorter time than by pumping with the brake pedal.

SERVICE HELPS

If, after bleeding, the pedal still feels spongy, the condition may sometimes be

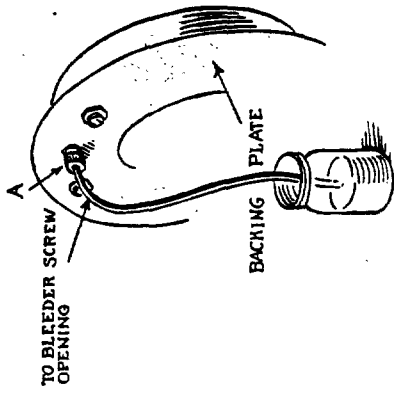


Figure 5
Method of Bleeding Hydraulic Brakes