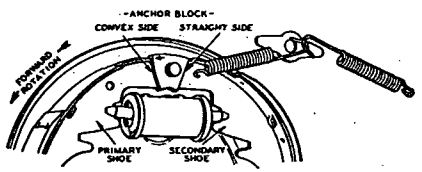
anchor. Depending upon the direction of drum rotation, either the primary or secondary shoe is free to move away from the anchor when the brake is applied. The anchor is a self-centering type, permitting inward or outward shoe movement to center the shoes in accordance with drum surface pressures exerted on the lining. Opposite the anchor, brake shoes are linked by means of a floating star wheel adjuster and a single retracting spring hooked between the shoe webs so that it engages and locks the adjuster star wheel. The star wheel adjuster link is used to expand the shoes into the drum, thus adjusting the lining clearance. It also transmits the actuating force from one shoe to the other. This servo action causes the shoes to function as a single unit in which the total braking force developed on one shoe is compounded in the action of the second shoe. Series CF brakes are provided with a **single-end wheel cylinder** and self-energization and servo action occurs only during forward movement of the vehicle. This brake has reduced effectiveness when the vehicle is backing, consequently **is used only on the front axle.** Series CFR and CFRE brakes are equipped with standard double-end straight-bore wheel cylinder.

Series CFRE brakes, used on rear axles, incorporate a cable-operated parking brake working independently of the hydraulic service brake, but utilizing the same brake shoes. Shoes are expanded by a toggle lever, pinned to the rear (secondary) shoe, and a link, suspended between this lever and the opposite shoe. The cable, operated through an equalizer, passes through the backing plate and is connected to the free end of the lever. **On CFRE brake, parking brake lever** is installed between the backing plate and shoe web, on 10″ or larger drum diameters.

ASSEMBLY

Shoe pads on backing plate must be clean, smooth and free from rust. Dress rough spots and burrs with a file, otherwise shoes may tend to "hang" and unbalance the braking effort. Paint pads with a thin coat of Lubriplate or equivalent before installing shoes. CAUTION: ARROW STAMPED ON THE ANCHOR BLOCK (indicating the convex anchor surface) INDICATES PROPER DIRECTION OF ASSEMBLY. ARROW MUST FACE IN FORWARD DIRECTION OF DRUM ROTATION (usually toward front of vehicle) SO THAT CONVEX ANCHOR SURFACE OF BLOCK FACES THE PRIMARY SHOE TOE AND FLAT ANCHOR SURFACE FACES THE SECONDARY SHOE TOE.



ADJUSTMENT

1. Set parking brake pedal or lever in first notch.

2. Tighten star wheel adjuster until adjustment feels solid with linings tight against drum.

3. Back off star wheel by rotating star wheel at least eight notches in the opposite direction. With new lining installed, back off at least ten notches.

4. Adjust parking brake, with lever or pedal in first notch, adjust cable length to remove slack. Apply parking brake to check travel and then release brake to make sure that sufficient slack remains in cable so that brakes will not drag. Lubricate cable and pivot pins.

WAGNER HI-TORK BRAKES

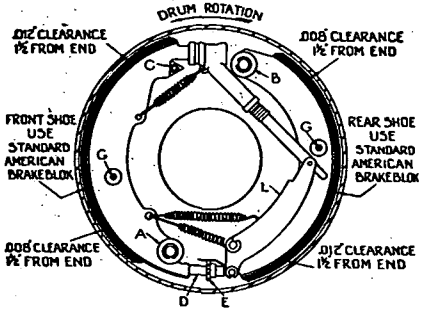


Figure 38
Wagner Hi-Tork Brake

The Wagner Hi-Tork brake is used at the present time on the rear wheels of certain models of trucks, in conjunction with standard Wagner Lockheed hydraulic brakes on the front wheels. The bleeding of the hydraulic system is done in the same manner as with the standard Lockheed system described in the early part of this booklet.

In the Wagner Hi-Tork brake (Figure 38), both shoes operate as Forward Acting Shoes when a stop is made with the vehicle going in the forward direction. During such a stop the front shoe anchors against the anchor pin (A) and the rear shoe is anchored by the anchor pin (B). When a stop is made in reverse, the front shoe operates as a Forward Acting Shoe and anchors up against the reverse anchor pin (C). During a reverse stop, the rear shoe operates as a Reverse Acting Shoe and is anchored in the conventional manner by the anchor pin (B). This action can be better understood by referring to the cutaway diagram (Figure 39)

It will be noted that the wheel cylinder used in the Wagner Hi-Tork brake is different than the conventional stepped-bore cylinder in that the cylinders are at an angle. It will also be noted that the small wheel cylinder piston does not operate directly against the rear shoe but instead transmits its force to the rear shoe through a system of levers consisting of the lever (L) and the star wheel connector shaft (D). This action can also be more clearly understood by referring to Figure 39.

On a forward stop the force from the small piston operating through (L) and

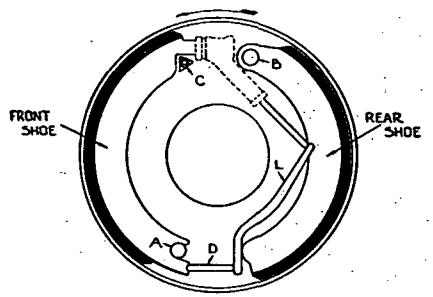


Figure 39
Diagram Showing Action of the Wagner Hi-Tork Brake on a Forward Stop

(D) will cause the rear shoe to move into contact with the drum, but it will not cause the front shoe to leave the anchor pin (A) because the large piston has forced the toe of the front shoe into the drum and the front shoe is held tightly against the anchor (A) by the energizing force of the rotating drum. However, when a stop is made in reverse, there is no energization of the front shoe and the small piston is able to force the heel of the front shoe into the drum and the front shoe anchors up