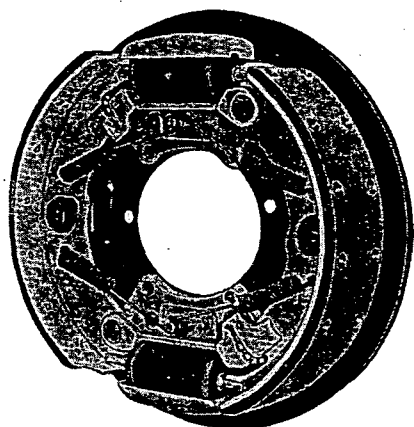


WAGNER SELF-CENTERING BRAKES



FR2

the fulcrum around which the shoes pivot. Both shoes are Primary shoes (forward acting) in either direction of drum rotation. The adjusting screw is housed within the toe end of the shoe and has a worm wheel with a $\frac{3}{8}$ " allen head which is accessible through slots in the backing plate.

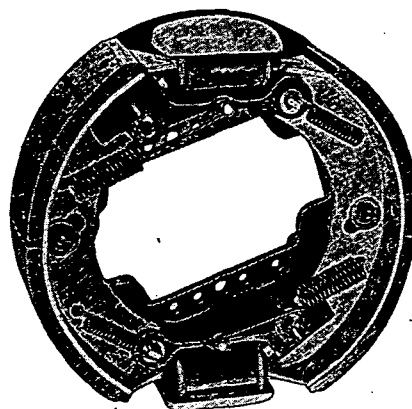
Due to the construction of this type of brake, it is capable of producing the maximum torque output in either the forward stop or reverse stop, and is always automatically self-centering.

ADJUSTMENT OF "FR" TYPE BRAKE

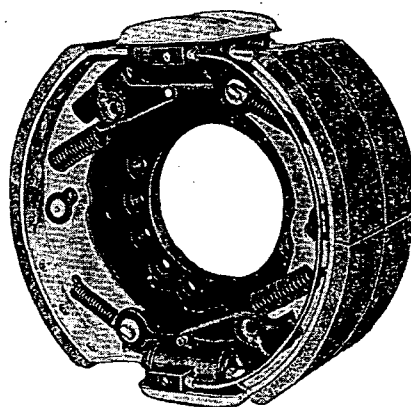
With the drums cool and wheel bearings correctly adjusted—remove slot adjustment covers and insert $\frac{3}{8}$ " allen. Rotate in the direction of *FORWARD* wheel rotation until brakes drag. Rotate wrench in opposite direction until drag is relieved. The clearance should be sufficient to avoid "brake drag" and yet close enough to afford a good "pedal reserve."

To bleed brake, follow instructions as outlined in FR-2 type brake.

DO NOT LUBRICATE SHOE ADJUSTMENT MECHANISM OR OTHER PARTS OF THE BRAKE.



FR2S



FR2SD

Lubrication will cause dust and dirt to collect and solidify in the adjustment mechanism.

All three types—FR2, FR2S, and FR2SD, by virtue of the wrapping action caused by drag of the rotating drum on the lined shoes, makes each shoe individually self-energized regardless of the direction of drum rotation. This action, it is claimed, provides greater stopping power for a given brake size with more even heat distribution dur-

ing braking to reduce high localized pressures on portions of the lining, which otherwise may lead to heat checking and scoring of drums, out-of-roundness of drums, and charring of the brake lining. Minimization of these ill effects lead to longer lining and drum life, it is said.

DESCRIPTION AND APPLICATIONS OF "FR2" BRAKES

The plain FR2, without following letter, is generally applied to medium weight trucks, while the FR2S and the FR2SD are used in the heavy-duty truck field; the "2S" being primarily used for the front axle, with the "2SD" in the rear.

The basic appearance of all FR2's is similar. The FR2 and the FR2S each have two identical shoes and two identical wheel cylinders. The main difference between these two types is that the plain "2" uses a backing plate, while the "2S" is mounted on a spider. The "2SD" is a dual-type brake with four shoes. The latter, in appearance, is comparable to two "2S's" placed back to back. It employs two Siamese-twin-type wheel cylinders to actuate the dual shoes.

The shoes on all the "2" brakes are arranged with their toes opposite each other on the brake diameter, and the double-end wheel cylinders are placed between the toe of one shoe and the heel of the other. An equal amount of hydraulic pressure is thus applied at each end of each shoe. All shoes are forward-acting, independently actuated in the direction of rotation of the wheel. All shoes anchor at either the toe or heel, depending upon the direction of rotation of the wheel and its drum. Each anchor and adjusting support carries a removable anchor pin at the heel end of the shoe; there is a star wheel and adjusting screw at the toe end of the shoe.

The shoes on all "2" brakes are the floating type. Each shoe is held in position by a shoe guide pin, washer, shoe guide spring "C" clip, and two shoe retracting springs. In regard to differences in shoe retracting springs, the plain "2" springs are all the same; however, on the "2S" and the "2SD," the heel-end spring is short, and the toe-end spring, long.

ADJUSTMENT OF "FR2" TYPE BRAKE

To adjust the plain FR2 type brake, remove adjustment slot covers and insert wrench or screw driver into slot to contact star wheel. Rotate star wheel toward axle, using outer edge of slot as fulcrum for the tool. Decrease clearance between shoe and drum in this manner until shoe drags. Then, turn star wheel "three clicks" in the reverse direction to provide correct clearance. This procedure is repeated, of course, on each of the shoes. Replace adjustment slot covers.

ADJUSTMENT OF "FR2S" AND "FR2SD" TYPE BRAKES

Adjustment of these types is similar to the FR2 except that there is an adjusting worm instead of a star wheel. Insert $\frac{3}{8}$ in. hex-head wrench through adjusting hole in dust shield enclosure to fit firmly in adjusting worm. Rotate wrench in forward direction of wheel rotation to decrease clearance, until wheel drags. Then, reverse direction of turning wrench until drag is relieved. Now, rotate wrench one additional turn to provide correct working clearance.

On the 2SD, the dual shoes may be adjusted individually or simultaneously.

MISCELLANEOUS ADJUSTMENT TIPS

Make all adjustments with the brake drums at normal temperature, and see that the wheel bearings are correctly adjusted.

Manually-operated and vacuum-hydraulic-actuated brakes require adjust-