



SERVICE BULLETIN

1-1-28

Essex Super-Six Adjustment Instructions

Jack up all four wheels before making these adjustments.

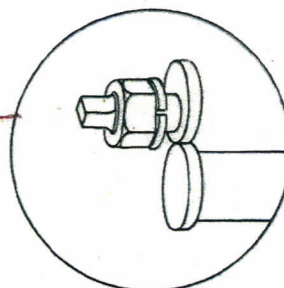
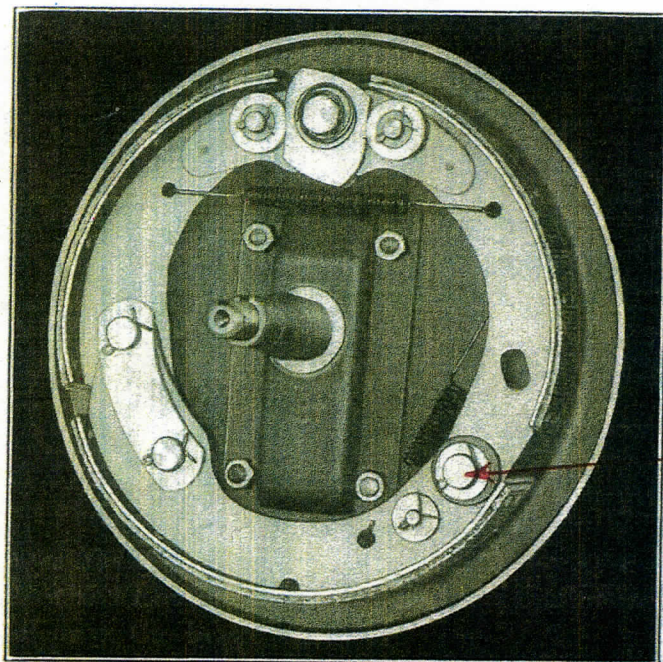
ADJUSTMENT FOR WEAR:

Front wheels: (a) Turn square ball nut (2) until contact point of ball on crank with cam lever is $1/16$ in. behind center of steering King-pin with brakes released.

(b) Loosen locknut in cam lever adjustment (1) and adjust the screw away from the ball until the brake shoes are free.

(c) Loosen eccentric locknut (3) and turn eccentric in same direction wheel revolves when car moves forward till brake is tight against drum. Back off gradually till wheel is just free. Hold eccentric and tighten locknut.

(d) Tighten lever adjusting screw (1) against ball till brake binds, then back off till wheel is just free. Tighten locknut.



Eccentric



Instructions For Lubricating Brake Parts and Hook-up

The lubrication of the brake system pivotal points and operating parts is an operation which, without due care, can be overdone, and should not be attempted without first removing the shoes from the axle. After removing the shoes from the axle, the articulating pin (which is the hinge pin) connecting the primary and secondary shoes can be taken out of its bearing in the two shoes.

NOTE—We recommend the removal and reassembly of one set of shoes onto the axle before another brake is worked on in order to insure the same shoes going back into the same assembly. While Bendix parts are interchangeable, lining and drum wear takes place and in order not to disturb the adjustments already made, the above procedure is advisable to follow.

Some shoes have rollers at the brake operating cam and are provided with roller pins that are removable (cotter-pinned type). The roller assembly should be taken apart, cleaned and greased as per instructions which follow.

All wearing parts should be hand brushed, using a stiff brush and then wiped clean with a cloth. Apply a thin, even coat of grease to all wearing parts, such as anchor and articulating pins, roller pins (removable type), etc. Shoes having plates which contact with the brake operating cam should have the cam plates cleaned and lubricated with a thin, even coat of grease.

Shoes having rollers mounted on roller pins with rivetted ends can be lubricated with a drop or two of heavy oil on each side of the rollers at the roller pin. All excess oil should be wiped off.

CAUTION—A thin coating of grease means grease that can not be wiped off with the fingers. Excess grease or oil will work into the brake linings when used in quantities greater than recommended and will cause, in most cases, a rapid breakdown of the lining breaking efficiency. Grease on linings in small quantities causes brake to grab, and grease in large quantities causes brakes to have little or no braking effect.

The hook-up (which includes the brake actuating means from the pedal and hand levers to the brake operating levers) require lubrication at least once a month. This lubrication is not so exacting, but is of even greater importance as the parts are usually unprotected and are accordingly subject to "sticking" unless regularly lubricated as follows:

Lubricate with "600-W" oil or its equivalent all cross shafts, pedal and hand brake lever bearings. Oil every clevis pin and rod end connection. Pivotal points of pendulum levers and operating levers on crank and lever systems should be oiled regularly as well as the frame ball ends used with Bendix-Perrot controls.

Two or three times a year slip back the cover on the universal joint of the Bendix-Perrot control, which is located over the king pin and put in a grease which does not channel, preferably a grease similar to Spicer Universal Joint Grease. Do not try to pack too full as by overloading you may force the grease into the brake.

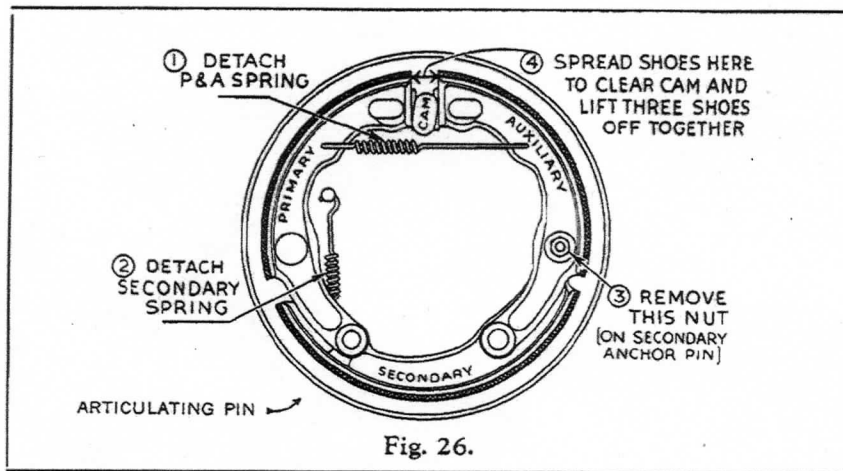
It is very important that no grease or oil reach the brake linings; therefore do not fill differential in rear axle above drain provided as this will cause excess grease to work by grease retainer into brakes. Also do not lubricate front wheel bearings by packing hub cap full. A small amount of grease in the hub cap will lubricate the bearings sufficiently. Also do not use high pressure grease gun on wheel or axle bearings.

Remember that it is impossible to remove grease or oil from lining after it has once become saturated.

Removing the Shoes to Lubricate Brakes

To remove Bendix Brake shoes, detach the return springs, indicated in Fig 26. Remove the nut or cotter pin from the secondary shoe anchor pin. Spread the primary and auxiliary shoe to clear the cam, drop shoes sufficiently to allow disengagement of articulating pin and eccentric and slip all three shoes off together.

In some designs it is also necessary to remove the shoe steady rest washer retaining means and where the unflanged type cam is provided, it is necessary to remove the cam retaining strap.

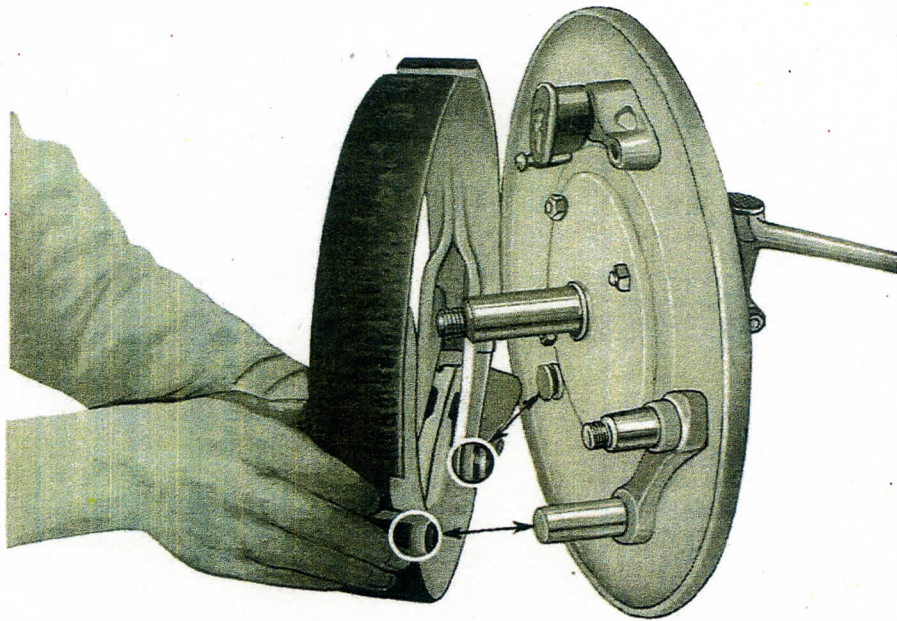


It will be noted that the auxiliary shoe anchor pin has no nut and is the same diameter as the hole in the shoe. This enables the shoe to be slipped off the end of the pin.

In removing the shoe for lubrication, the anchor pin assembly should not be detached or loosened from the backing plate.

Replacing The Shoes After Lubrication

After cleaning the shoes, and cleaning and greasing the articulating pin and inserting it back into the shoes, slip the shoe assembly complete back onto the anchor pins, after having greased anchor pins and other necessary parts.

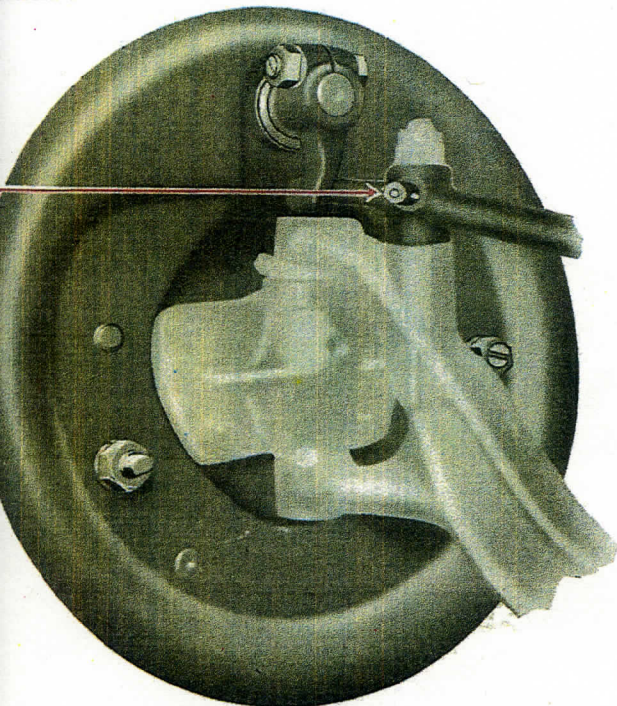


In replacing the shoes, check the return springs.

These springs should be of sufficient strength to pull the shoes back and revolve the cam and lever, back to the normal position in which they rest when the brakes are "off".

If return springs are not in good condition, they should be replaced with new springs.

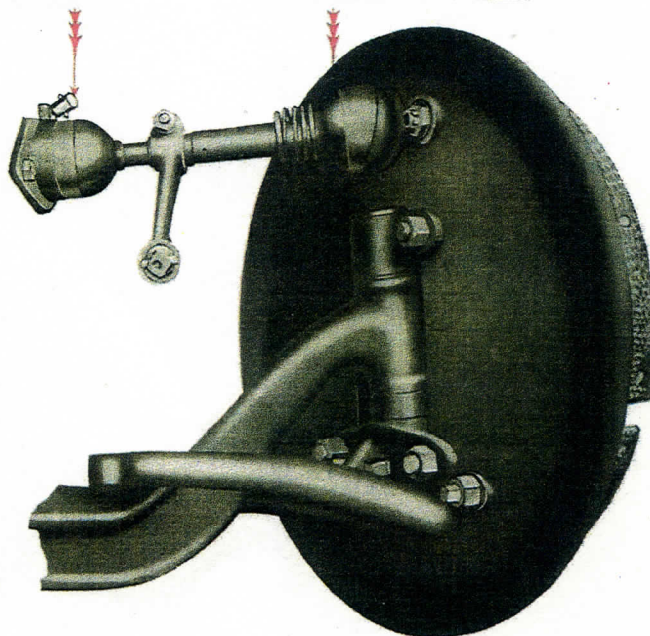
LUBRICATE HERE



Crank and Lever Control

FILL JOINT WITH GREASE GUN

SLIP BACK COVERS AND FILL BALL WITH GREASE WITH FINGERS



Bendix-Perrot Control



SERVICE BULLETIN

No. 4

Subject: To Remove and Replace Brakes with Automatic Take-up

1. Disconnect brake rods at control levers.
2. Remove and clean drums thoroughly. Make sure that grease slinger drains are open and that grease slinger cap screws are tight. If grease has been leaking past slinger, it must be removed and fitted with new gasket.
3. Remove release springs.
4. Loosen castellated nut on outside of backing plate which holds automatic secondary shoe adjustment keeper in place.
5. Remove cotters off set screws which hold anchor pins in place and remove anchor pins.
6. Remove shoes.

To Re-assemble Brakes

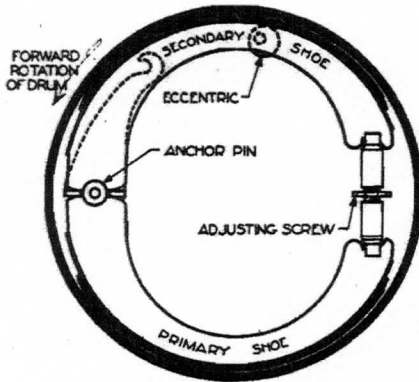
1. Grease anchor and articulating pins slightly.
2. Assemble shoes on floor and then place into position on axle. Push anchor pins into place. Care should be taken to see that automatic secondary shoe keeper engages with groove in articulating pin.
3. Replace release springs.
4. Replace drums. Because of the tension exerted by the secondary release spring it may be necessary to pry against primary shoe so that it will fit into drum.
5. Tighten and cotter castellated nut of the automatic secondary shoe adjustment keeper.
6. Apply brake hard by use of a monkey wrench on control lever, or Stillson wrench on shaft. This approximately sets automatic secondary shoe adjustment. This adjustment however will not be correctly set until vehicle has actually been stopped on the road.



INSTRUCTION SHEET

For Installing Genuine Bendix Replacement Shoes

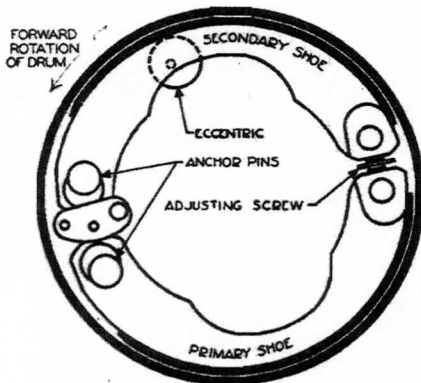
Single Anchor Type Duo Servo



To remove the old shoes disconnect springs, located near the center of the shoes, which hold shoes to backing plate. Then disconnect other springs, and the shoes are free. To reinstall: First examine the new shoes and lining. If a different type of lining is used on each shoe of the same wheel, look for the one stamped "PRIMARY" and install it in the position shown in the illustration at the left. The adjusting screw assembly should be installed between the shoes so that the pivot nut which is marked with a groove is to the mechanic's left.

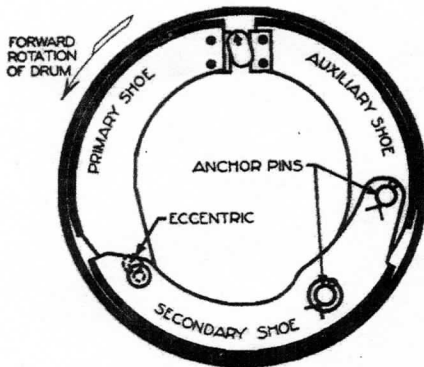
When installing the return springs be sure that the stronger (painted red) is hooked from the anchor pin to the upper shoe on all four wheels.

Double Anchor Type Duo Servo



To remove the old shoes: Remove the cotter pins from the steady rest pins of each shoe. Remove the cotter pin from the flat spring over the adjusting screw. Remove the spring connecting the primary and secondary shoes. They can now be spread with the hands and lifted from the backing plate. To reinstall: First examine the new shoes and lining. If a different type of lining is used on each shoe of the same wheel, look for the one stamped "PRIMARY" and install it in the position shown in the illustration at the right. The adjusting screw assembly should be installed between the shoes so that the pivot nut with the cotter pin hole is to the mechanic's left.

Three Shoe Type



To remove the old shoes: Remove the cotter pins or nuts from the steady rest pins. Remove the return springs. Take hold of the secondary and auxiliary shoes near the anchor pins and work them outwardly until they are free. Never use a bar to pry them off, this will bend the shoe webs, making them unfit for further use. After they have been removed from the backing plate remove the articulating pin which holds the primary shoe to the secondary. To install the new shoes: First assemble them in a ring position and insert the articulating pin. Then assemble to the backing plate by slipping the anchor pins in their respective holes. Connect return springs, replace cotter pins in steady rest pins.

When the old shoes have been removed place them in the cartons in which the new ones came and return them to:—



SERVICE BULLETIN

No. A-6B

This Bulletin supersedes old Bulletin No. A-6A Trouble Finder

Trouble Finder

Never reline BENDIX BRAKES. Replace shoes by new factory-lined ones

SYMPTOM	CAUSE	REMEDY
Brakes Squeak.	Dust accumulation between lining and drum. Exposed rivets touching drum. Dirty or glazed lining. Loose wheel bearings or drums. Rusty or dry moving parts of brake. Drum out of round. Loose rivets. Unequal brakes. Loose anchor pins.	Remove Rerivet. If lining badly worn, replace with new lined shoes. Remove surface with wire brush or gasoline. Tighten or renew. Lubricate with grease. Lathe turn or grind concentric to within 10 thousandths with drum mounted on hub or replace. Rerivet or replace with lined shoes. Make complete readjustment. Tighten or replace.
Brakes Chatter.	Loose wheel bearing. Loose car spring U-bolts. Drum out of round. Grease on linings. Lining loose on rivets. Unequal brakes.	Tighten or renew. Tighten. Lathe turn or grind concentric to within 10 thousandths or replace. Clean with gasoline, wire brush, or renew shoes. (See note below.) Rerivet or replace with lined shoes. Make complete readjustment.
Brakes Grab.	Loose wheel bearings. Sticky linings. Loose spring clips. Lining coated with grease. Drums eccentric. Grease leaking from axle on drums or shoes. Loose linings. Scored Drums. Equalizer rusted or off center. Loose brake cam shaft brackets.	Tighten or renew. Clean with gasoline, wire brush, blow torch, or renew shoes. Tighten nuts. Clean with gasoline, wire brush, or renew shoes. (See note below.) Lathe turn or grind concentric to within 10 thousandths with drum mounted on hub or replace. Take out grease to proper level in axle. See that air hole and overflow holes in axle casings are clean. Rerivet or replace with lined shoes. Lathe turn or grind concentric to within 10 thousandths or replace. Free and lubricate, equalize brakes. Tighten tension bolts.

NOTE: There is No Sure Permanent Cure for Greasy Linings Except Replacement. Brake Solutions should never be used.



SERVICE BULLETIN

No. A-6B

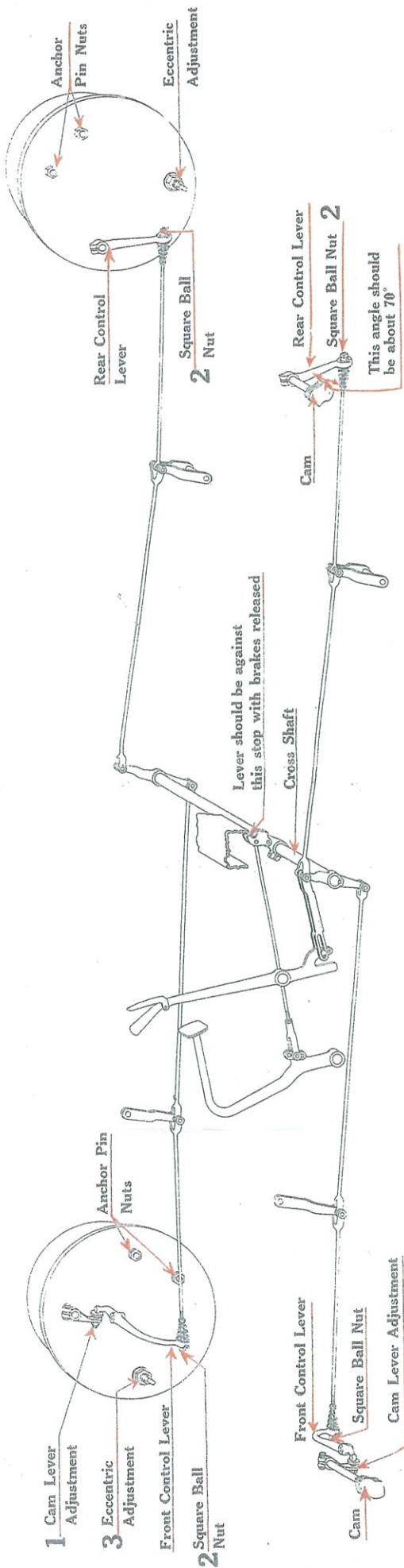
This Bulletin supersedes old Bulletin No. A-6A Trouble Finder

Trouble Finder

Never reline BENDIX BRAKES. Replace shoes by new factory-lined ones

SYMPTOM	CAUSE	REMEDY
Brakes Drag.	Broken or weak return springs. Rusty or Dry brake and control parts. Pedal or rod movement restricted by body or chassis. Release springs detached or moved. Improper adjustment, particularly at eccentric.	Renew springs. Lubricate Remove cause of obstruction. Relocate. Adjust shoes.
One brake does not hold.	Grease on lining. Bent brake parts interfere with operation. Rods, and levers not moving freely.	Clean with gasoline, wire brush, or renew shoes. Stop source of grease leakage. (See note below). Straighten. Clean and lubricate.
Brakes not holding.	Anchor pins shifted. Grease on lining. Lining worn. Drum rust on linings. Grit or metal dust on linings. Too much adjustment on rod. Drums scored. Rivets touching drum. Glazed lining. Lever position incorrect.	Make complete readjustment. Clean with gasoline, wire brush, blow torch. Renew shoes. (See note below.) Replace with new shoes, lined at factory. Remove with wire brush. Remove with wire brush. Slacken rods and adjust at drums. Lathe turn or grind concentric to within 10 thousandths or replace. Re-rivet if lining not much worn, or renew shoes. See "Linings Glazed". Release rods and adjust.
Linings wear rapidly.	Drums scored. Brakes dragging.	Lathe turn or grind to within 10 thousandths or replace. See "Brakes Drag".
Linings glazed.	Dirt on lining, etc.	Clean with wire brush and gasoline, or replace shoes.

NOTE: There is No Sure Permanent Cure for Greasy Linings Except Replacement.
Brake Solutions should never be used.



Rear Wheels: (e) Perform operation "C".

(f) Angle of center lines with brake rod should be about 70 degrees, with brakes released, otherwise reset as follows: Loosen clamp bolt and slide lever off serrations. Slack off square ball nut (2) to end of thread on rod. Apply brake with Stillson wrench on cam shaft and slip control lever on serrations. If brake is too tight, move lever back one serration. Tighten clamp bolt. Control lever should form approximately the same angle with the rod on both brakes.

(g) Take up square ball nut (2) till wheel just drags. Back off until wheel is just free.

Equalizing:

(h) Equalize as follows: Push pedal down with block or jack until the tightest wheel can just be turned by hand. Slack off tight wheels a half turn at a time till all four are the same.

(i) Remove block from pedal and try all four wheels for drag. There should be no drag if previous operations were done properly.

MAJOR ADJUSTMENT

Anchor pins should be adjusted only,

- (a) When fitting newly lined shoes.
- (b) When anchor pin nuts are found loose.
- (c) When other adjustments fail to give satisfactory results.

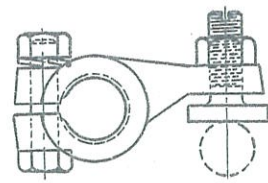
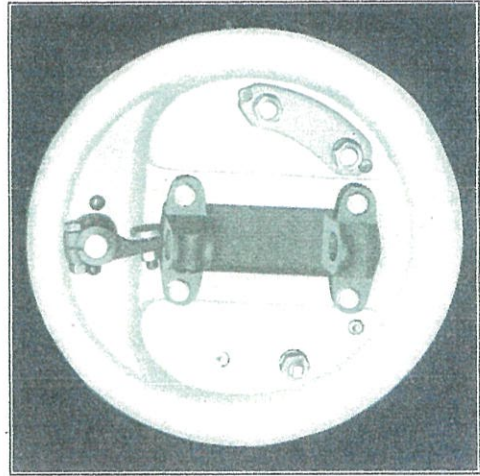
Jack up all four wheels.

To adjust anchors: Turn eccentric adjustment (3) away from articulating pin and leave loose. Slacken tight anchor pin nuts free of lock washers. Tap both anchors out

against drum. Hold brake on tight by equivalent of a 100 pound load on the end of an 8-in. Stillson wrench on control shaft, or same length monkey wrench on control lever. Tap anchor pins on end and try to turn wheel forward with brake applied. Still holding brake on, tighten both nuts as tight as possible with a 16-in. wrench. Release brake; then adjust eccentric and make other adjustments as in "Adjustment For Wear".

Where the brake drums are slotted so that feeler gauges may be inserted between the shoe linings and the brake drums the adjustments may be checked as follows:

Remove covers on slots. Check toe and heel of auxiliary shoe and toe and heel of secondary shoe with feelers. Both ends of the shoe should be alike within 0.002-in. If not to these limits repeat anchor adjustment or loosen improperly set anchor one turn and tap until correct clearance is obtained. Then tighten firmly. Replace covers on slots.



Cam
Lever
Adjustment
Detail