

# FRONT AXLE

The front axle is mounted to the tractor by means of a trunnion pin at the front cross member and a pin at the radius rod and engine sump brackets (see Fig. 205).

Extension beams are provided to permit adjustment of the front track width in 4 in. steps, without interfering with the axle beam mountings.

When fitted with standard pneumatics the front track adjustment is from 50.50 ins. to 74.50 ins. (128.3 cm. to 189.2 cm.) by extending the axle and track rod.

The rear track adjustment is from 52 ins. to 72 ins. (1,321 mm. to 1,829 mm.) and is carried out by altering the relation of the dished wheel centres to the offset lugs on the wheel rims. (See Fig. 166, page 137.)

The radius rod is unaffected by any alteration to track adjustment since the yokes are shaped to permit each extending axle beam to slide through.

## WHEEL BEARINGS

### To Adjust

*Note* — The following applies to both right- and left-hand wheels

- 1 Jack up the front of the tractor, grasp the wheel and test for excessive play in the bearings. (Do not mistake worn steering spindle pins or bushes for end play in the bearings.)
- 2 Remove the hub cap, extract the split pin from the bearing adjusting nut, remove the clamp bolt to ensure that the nut is free to turn.
- 3 Rotate the wheel whilst tightening up the bearing nut until a heavy drag can just be felt, then turn back the nut, one castellation at a time, so that the wheel will rotate freely but with no end-play. Fit a new split pin and refit the clamp bolt and nut. Reassemble the hub cap, filled with clean grease, and remove the jack.

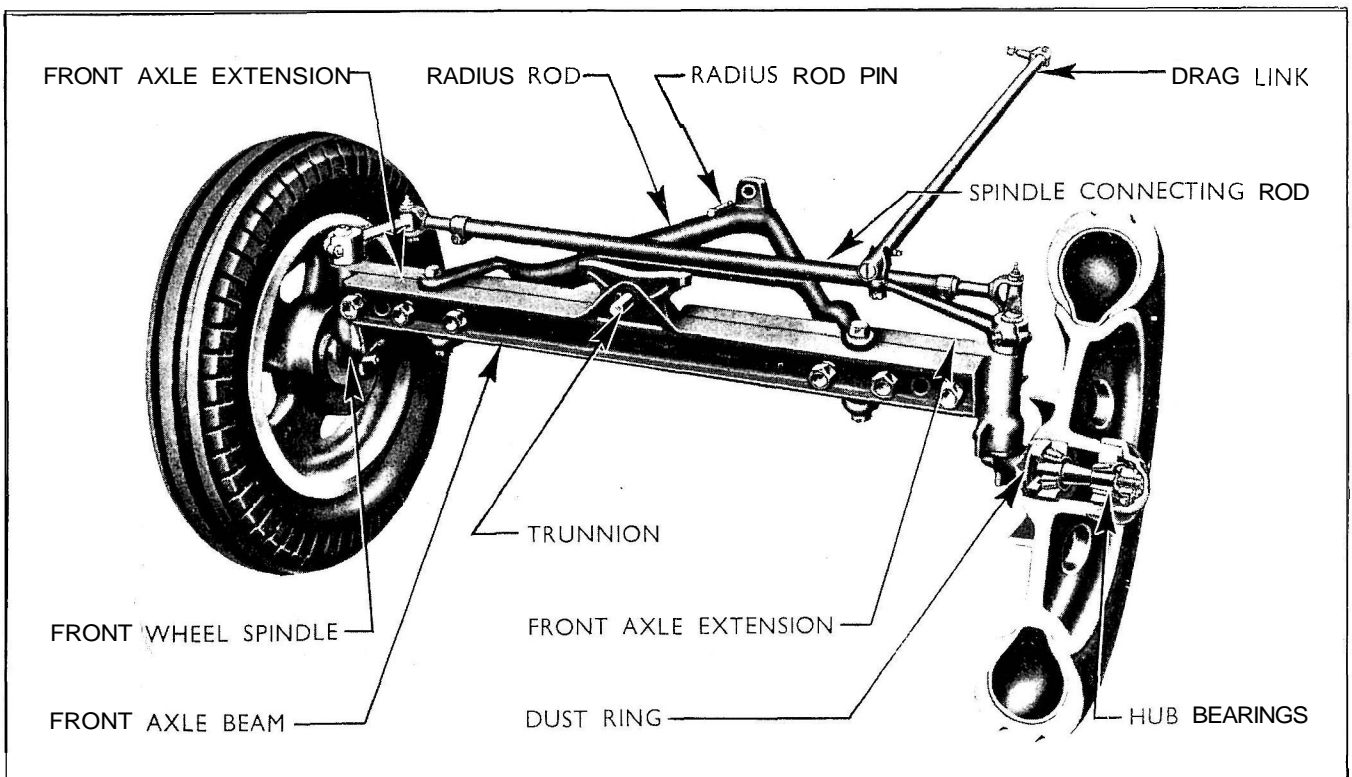


Fig. 205  
Cut-away View of Front Axle

To Remove

- 1 Remove the hub cap and jack up the front of the tractor so that the wheel is clear of the ground.
- 2 Extract the split pin from the bearing adjusting nut, remove the clamp bolt and unscrew the nut.
- 3 Pull the wheel outwards so that the outer bearing can be detached, lift the wheel off the spindle when the inner bearing and felt oil seal may be removed.
- 4 Drive out the inner and outer bearing cups.

To Replace

- 1 Press in the new inner and outer bearing cups.
- 2 Fit the inner bearing and felt seal in the hub, lift the assembly on to the spindle and locate the outer bearing followed by the adjusting nut.
- 3 Adjust the bearings as described on page 167, fit a new split pin, refit the clamp bolt and nut. Reassemble the hub cap, filled with clean grease, and remove the jack.

DRAG LINK

To Adjust

- 1 Remove the split pin at each end of the drag link, screw in each ball plug tightly and then unscrew from a half to a full turn so that a new split pin can be fitted to lock the plug in position. (Do not unscrew more than one complete turn.)

To Remove

- 1 Remove the split pin at each end of the drag link, unscrew the ball plug so that the drag link is free of the drop arm ball at the rear end and the spindle arm ball at the front.
- 2 Extract the ball seats and spring.
- 3 If a new felt grease retainer and cap is required at either end of the drag link, unscrew the ball stud nut, remove the ball when the retainer and cap may be easily lifted away.

Note — The left-hand spindle arm includes an arm to accommodate the drag link ball stud which fits in a tapered hole.

To Replace

- 1 Check that the spindle arm and drop arm ball studs are securely tightened with the grease retainer and cap in position.
- 2 Locate the ball seat in the inner end of the drag link (drop arm end) and push the link over the ball. Place the outer seat and spring in the end of the link and screw in the ball plug.
- 3 Adjust the ball end as described previously.
- 4 Locate the spring and ball seat in the inner end of the link (spindle arm end) and push the link over the ball. Screw in the plug tightly and adjust as described previously.

Note — The position of the seat and spring always faces to the rear of the tractor and in the case of the spindle arm end the plug acts also as a ball seat.

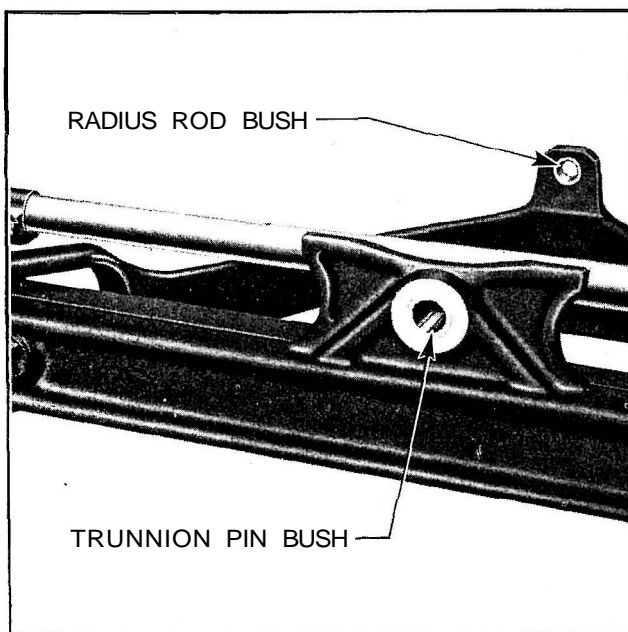


Fig. 206

Radius Rod and Trunnion Pin Bushes

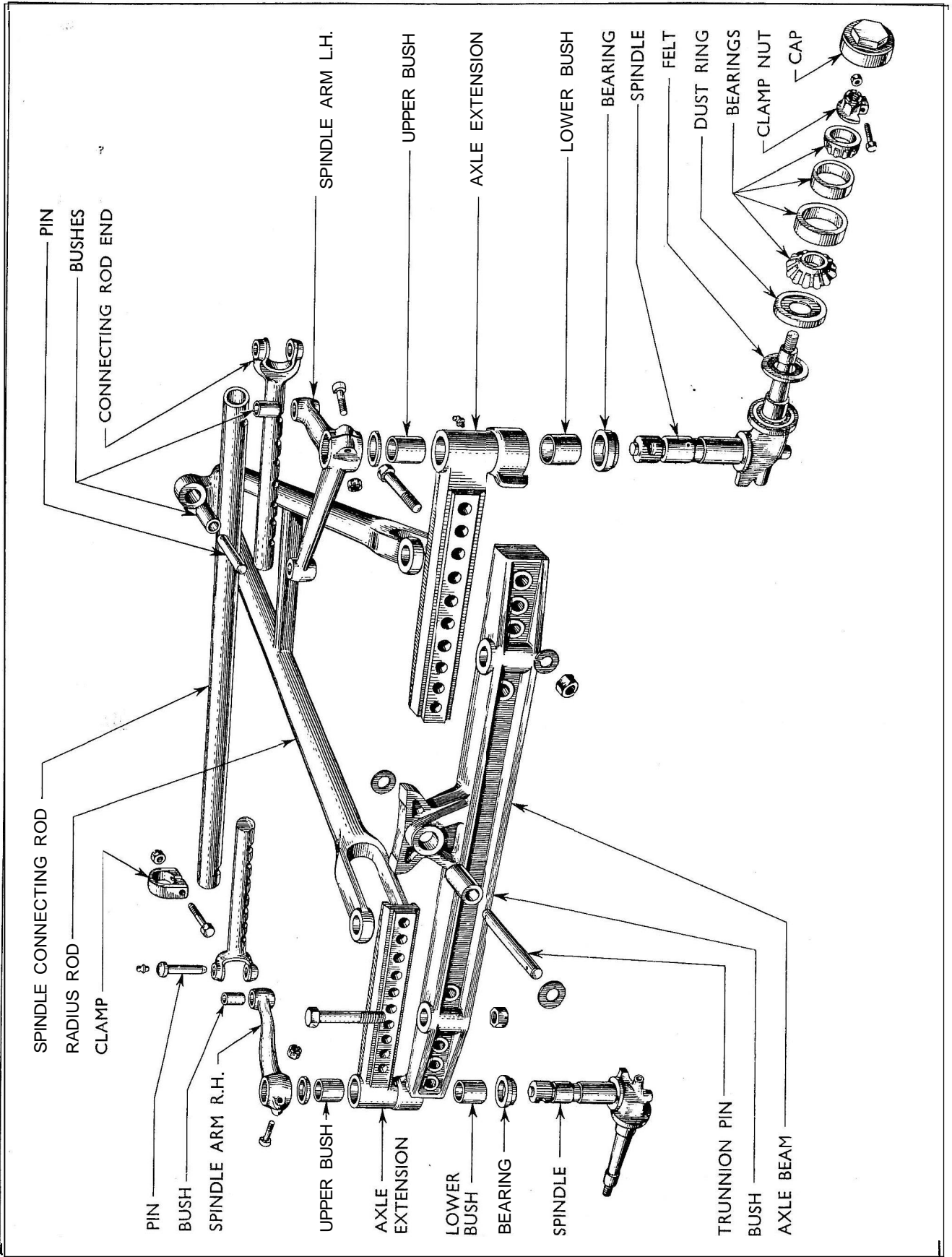
TRUNNION PIN BUSH

To Remove

- 1 Jack up the tractor and ensure that it is adequately supported.
- 2 Withdraw the split pin from the front of the trunnion pin and drive out the pin, using the tool Tr/NMD 3006.
- 3 Drive out the bush, using the tool No. Tr/NMD 3005-AB (see Fig. 206).

To Replace

- 1 Fit a new bush (tool No. Tr/NMD 3005-AB) and check the fit of the trunnion pin in the bush.
- 2 Align the axle beam in the front cross member, using the tool Tr/NMD 3006, and fit the pin, locating a large flat washer between each split pin and the cross member mounting flanges.
- 3 Remove the jack.



Exploded View of Front Axle

Fig. 207

**RADIUS ROD BUSH**

**To Remove**

- 1 Jack up the tractor and ensure that it is adequately supported.
- 2 Withdraw the split pin from the radius rod pin and drive out the pin.
- 3 Drive out the bush using the tool Tr/NMD 3407-AB.

**To Replace**

- 1 Fit a new bush (tool No. Tr/NMD 3407-AB) and check the fit of the radius rod pin in the bush.
- 2 Align the radius rod pin mounting in the sump bracket and fit the pin. Lock in position by means of a split pin in the holes provided.

**SPINDLE ARM BUSHES**

**To Remove**

- 1 Disconnect the drag link at the left-hand spindle arm only.
- 2 Remove the split pin and extract the spindle connecting rod bolt and detach the spindle connecting rod.
- 3 Unscrew the clamp bolt nut, remove the bolt and the spindle arm on each side.
- 4 Drive out the bush using a suitable driver.

**To Replace**

- 1 Fit a new bush in the spindle arm.
- Note — The left-hand spindle arm includes an arm to accommodate the drag link ball stud which fits in a tapered hole.
- 2 Check that the dust seal is in good condition and fitted over the spindle, and mount the spindle arm. On the left-hand side the drag link arm is parallel with the axle beam. Secure by means of the clamp bolt and nut which must be in line with the slot in the spindle, fully tightened and locked with a split pin.
  - 3 Install the connecting rod and drag link, checking that the track width and drag link are adjusted correctly.

**AXLE BEAM**

**Track Width Adjustment**

- 1 Loosen the axle beam to the axle extension bolts and remove the spindle connecting rod clamp bolts at each side.
- 2 Jack up one side of the tractor so that the wheel is clear of the ground, remove the three axle beam to extension bolts and extend to the desired track width. Relocate the bolts (head to the rear) in the holes both sides of the radius rod yoke and the remaining bolt in the hole nearest the spindle (see Fig. 208).

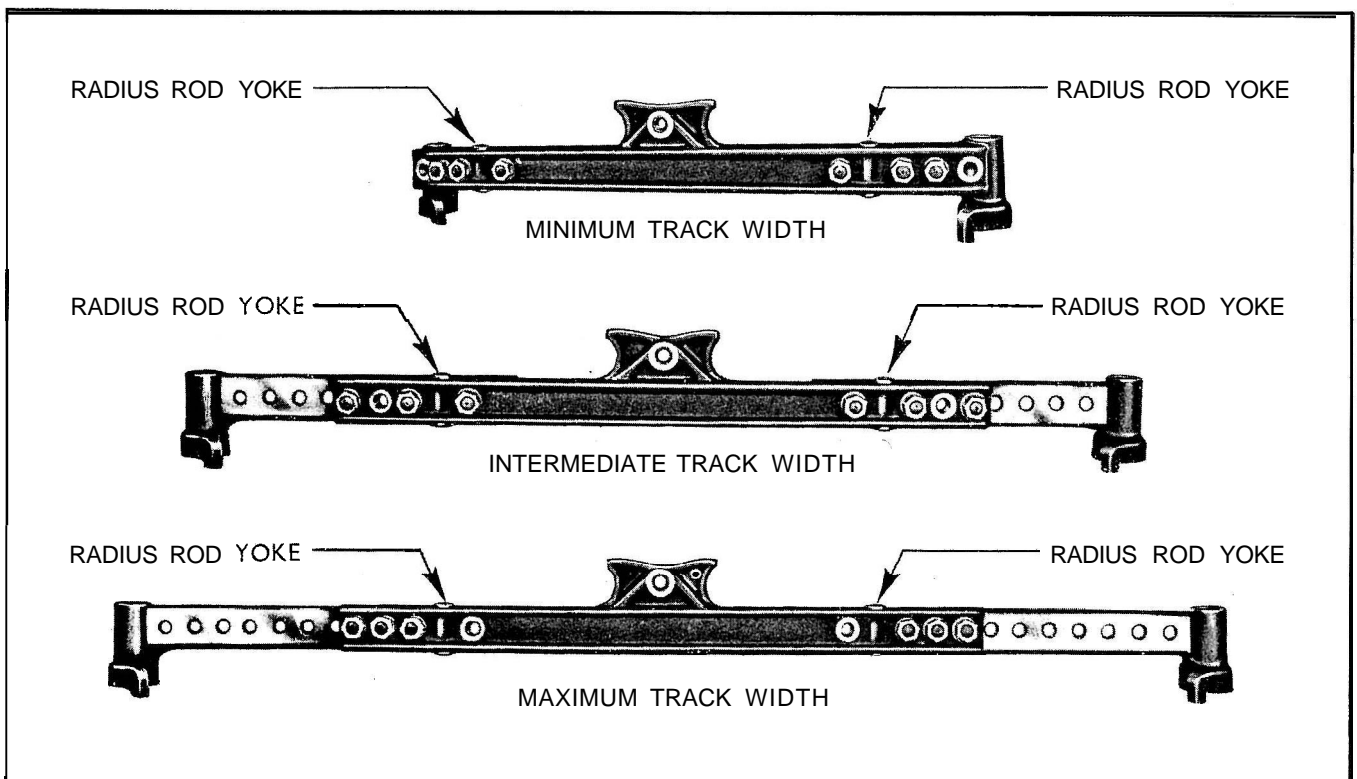
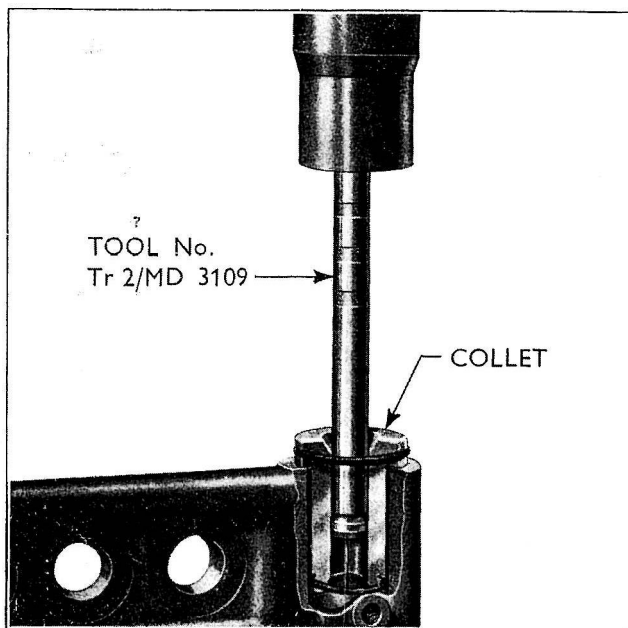


Fig. 208  
Front Axle Track Adjustments



**Fig. 209**  
**Expanding the Bushes**

- 3 Carry out this operation on the other side and adjust the spindle connecting rod to suit.

*Note* — The number of slots visible must be equal at each end.

- 4 Refit the clamp bolts and nuts which must be tightened securely and locked in position by split pins. Remove the jack.

### SPINDLE BUSHES

#### To Dismantle

To remove and dismantle the axle extensions, see "Front Axle."

#### To Remove and Refit the Spindle Bushes

*Note* — The tool No. Tr2/MD 3109 includes the driver, expander, reamer and stock.

- 1 Remove the lubrication nipple and drive out the existing bushes (tool No. Tr2/MD 3109). The upper and lower bushes differ in that the oil groove for the upper bush is blind at the top end and runs out at each end in the case of the lower bush.
- 2 Using the tool Tr2/MD 3109, fit the upper bush (blind end of oil groove to top and open end downward) in line with the lubricator hole, then fit the lower bush, oil groove in line with lubricator hole.
- 3 Locate the expander (Tr2/MD 3109) collet and retaining ring in the bush and expand the bushes by pressing the ball-nosed tool through the bush as shown in Fig. 209. Remove the tool, reverse the beam and repeat the process.

- 4 Check that the pilot end of the reamer (Tr2/MD 3109) is free to enter both upper and lower bushes. If it will not it indicates the bushes are insufficiently expanded.
- 5 Ream out the bushes, maintaining a good supply of lubricant through the oil passage during the operation. (See Fig. 210.)
- 6 Check the fit of the spindle in the bush and refit the lubricator nipple.

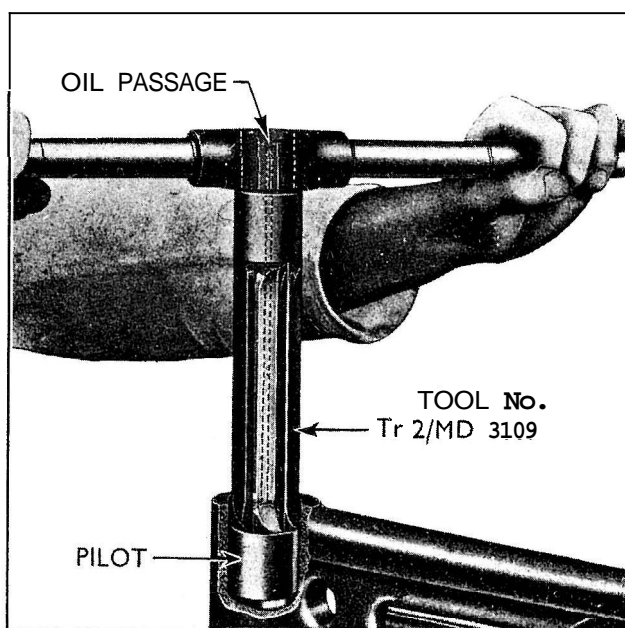
### FRONT AXLE

#### To Remove

- 1 Support the front of the tractor suitably and fit the wedge tool (Tr/NMD 3004) over the connecting rod and radius rod so that the axle is held steady when withdrawn.
- 2 Remove the wheel as described on page 168, and disconnect the drag link at the spindle arm end.
- 3 Remove the radius rod pin, then drive out the trunnion pin using the tool (Tr/NMD 3006) when the axle assembly may be lifted clear of the tractor.

#### To Dismantle

- 1 Remove the split pin from both of the radius rod retaining bolt nuts, unscrew the nuts, withdraw the bolts and detach the radius rod.
- 2 Withdraw the split pins from the spindle connecting rod yoke pins and pull out the pins. Unscrew the yoke end clamp nut, remove the bolt and withdraw both yoke ends.



**Fig. 210**  
**Reaming the Bushes**

FRONT AXLE

- 3 Remove the split pin from each spindle arm clamp bolt, unscrew the nuts and remove the bolts. Lift off the spindle arms and dust seals, remove each spindle.
- 4 Slide the thrust bearing off the lower end of each spindle.
- 5 Remove the three bolts and nuts retaining each axle extension to the axle beam and separate these parts.

To Reassemble

- 1 Re-bush the axle extensions, if necessary, as described on page 170.
- 2 Select the desired track width and locate the axle extensions to the rear of the front axle beam. Fit the three securing bolts, nuts and lockwashers each side, bolt heads to the rear and located in the holes both sides of the radius rod yoke, with the remaining bolts in the holes nearest the spindle.
- 3 Install a thrust bearing on each spindle body and position the assemblies in the housing at each end of the axle extension, taking care that the spindle steering lock stop is to the rear of the axle housing stop.
- 4 Position each spindle arm dust seal over the top of the spindles, then install the spindle arms (arm to the rear) bolt hole in line with slot in the spindle, firmly tighten each clamp bolt and split pin the nuts.

Note — On the left-hand side the spindle arm includes an

arm to accommodate the drag link. When fitted, this arm is parallel with the axle beam.

- 5 Adjust the spindle connecting rod to the correct track width. (The number of slots visible in the yoke ends must be equal at each end.) Tighten the nuts and lock each clamp bolt with a split pin.
- 6 Mount the connecting rod to both spindle arms, insert the yoke pins (lubricator upwards) and secure with split pins.
- 7 Install the radius rod, rear pin mounting uppermost and secure to the axle beam by means of the two retaining bolts, nuts and split pins.

To Replace

- 1 Place the front axle assembly in position in front of the tractor and secure at the rear by means of the radius rod pin, using the tool Tr2/NMD 3006.
- 2 Align the front mounting and fit the trunion pin. A large plain flat washer is fitted each end of the pin between the split pins and the crossmember mounting flanges.
- 3 Check that the drop arm ball stud nut is fully tightened and locked with a split pin and that the dust cap and felt are in position. Locate the spindle arms and drop arm in the straight-ahead position. (see "Steering" section.)
- 4 Refit the drag link.
- 5 Refit the front wheels and adjust the bearings as described on page 167. Remove the tractor supports.

---



---

## SPECIFICATION AND REPAIR DATA

FRONT AXLE (All Models)

Track (pneumatic tyres)	From 50.50"–74.50" in 4" steps (1282.7–1892.3 mm.) in (101.6 mm.)
Turning circle, without brakes	.. 26' (7.9 metres)
Turning circle, using brakes	.. 21' (6.4 metres)
Castor	.. .. 2"
Camber	.. .. 2" 30'
Spindle pin inclination	.. .. Nil
Spindle pin inclination plus camber	.. Max. 2" 30'
	.. Min. 2° 0'
Toe-in	.. .. Nil

Spindle pin diameter	.. mfg.	1.498"–1.499" (38.048–38.073 mm.)
	Wear limit	1.493" (37.921 mm.)
Clearance between spindle pin and bushes	.. .. mfg.	0.001"–0.003" (.025–.0762 mm.)
	Wear limit	0.013" (.33 mm.)
Spindle pin bushes internal dia.	.. mfg.	1.500"–1.501" (38.098–38.123 mm.)
(upper and lower)	Wear limit	1.506" (38.240 mm.)

# THE STEERING GEAR

The steering gear is of the recirculatory ball type. Ball bearings to take the thrust are positioned at the upper and lower ends of the worm and adjustment for these bearings is provided by means of shims fitted between the steering column flange and the steering box as shown in Fig. 211.

Fourteen recirculatory ball bearings are located in the main nut assembly which consists of the main nut and transfer tube, clamped together by the transfer tube retainer. The helical grooves in the main nut and worm correspond to form a guide for the ball bearings.

The ends of the groove in the main nut are connected by the transfer tube to provide a continuous passage in which the balls are circulated. As the shaft is turned, the ball bearings are directed by the motion of the worm around this passage and only the balls in the main nut groove are in contact with the worm.

The forked end of the rocker shaft accommodates the conical shoulder of the main nut and the end of the shoulder, projecting through the forked end, carries the roller which

moves in the longitudinal slot machined in the cover plate. Shims are fitted between the cover plate and the box to provide rocker shaft end-float adjustment, see Fig. 211.

The function of the roller is to ensure that the nut reciprocates in a straight line, parallel to the axis of the shaft, and has the effect of increasing the steering ratio as the nut moves away from the straight-ahead position.

## Lubrication

An oil filler and level plug is located on the left-hand side of the steering gear. Oil should be maintained at the level of the plug with the steering box placed in the normal position as when assembled to the tractor.

An additional plug is provided, accessible only when the fuel tank is removed, to facilitate filling the steering box.

A grease nipple to lubricate the steering shaft bush is provided at the top of the column.

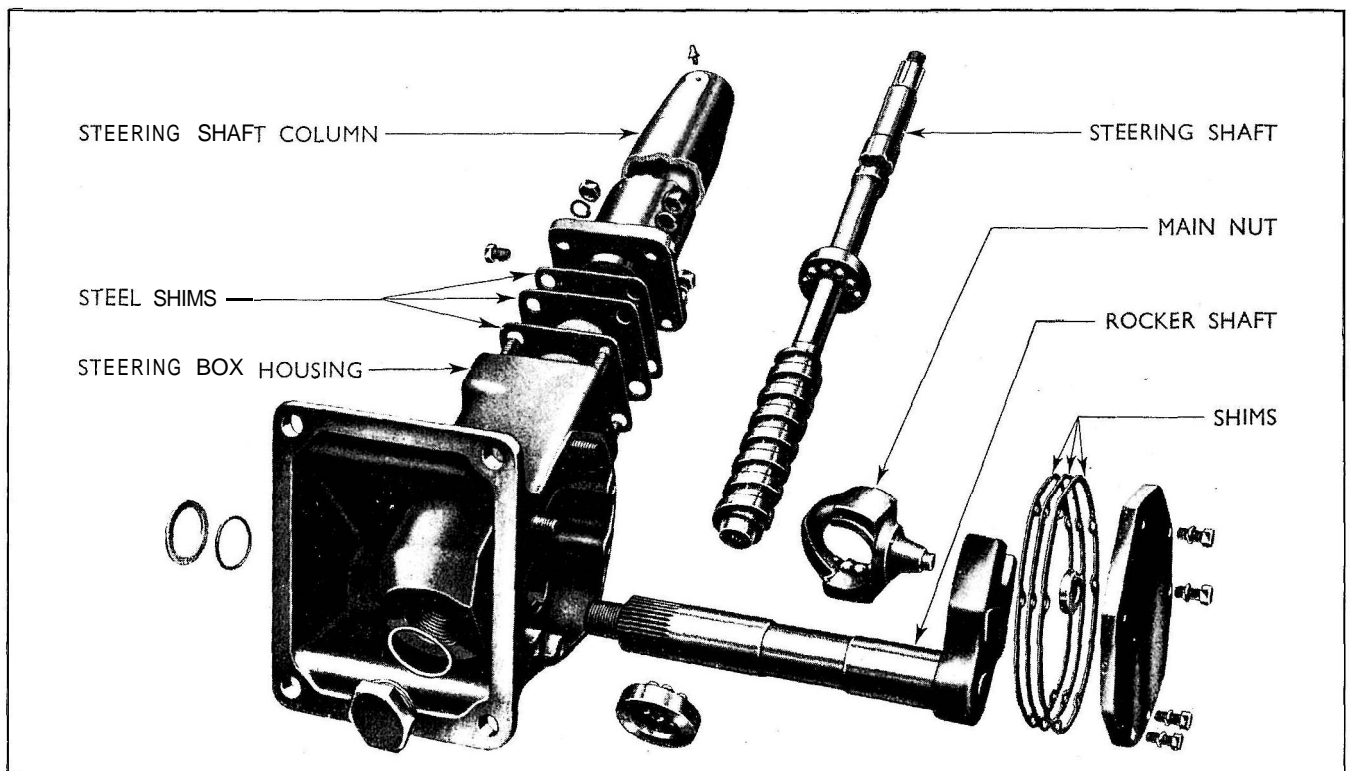


Fig. 211  
Exploded View of Steering Gear

**Steering Adjustment**

There are no external adjustments provided on the steering gear, as these are taken care of by interposing shims between the corer plate and the box, and the steering column and the box, during assembly

**ROCKER SHAFT**

**To check end-float**

Grasp the drop arm firmly and check for end-float of the rocker shaft, by moving the shaft towards and away from the box. In the straight-ahead position, there should be no perceptible movement of the shaft.

**To adjust end-float**

- 1 Remove the fuel tank from its mounting on top of the gearbox after draining the fuel from the tank, if necessary, and disconnect the pipes.
- 2 Position the steering on full right-hand lock, to permit location of the drop arm remover, tool No. Tr D 3590-A (see Fig. 212). Position the special nut, provided with the tool, to protect the shaft thread and tighten the centre screw.
- 3 Unscrew the two nuts and four bolts (lockwashers are also fitted) securing the cover plate to the box. If the end-float is excessive, remove the shims; alternatively, if there is no end-float, add shims as required. (See Fig. 213.)



Fig. 212  
**Removing the Drop Arm**

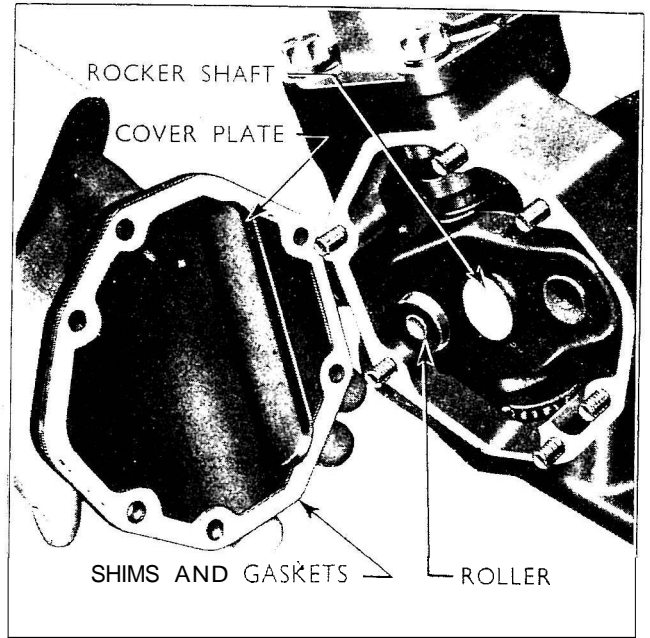


Fig. 213  
**Removing the Cover Plate**

- 4 Reassemble the cover plate, taking care that the roller is located in the slot, gradually tightening the nuts diagonally across the cover plate, checking the rocker shaft for end-float at the same time. When all two nuts and four bolts (with lockwashers) are fully tightened, there should be no perceptible end-float in the straight-ahead position.
  - 5 Reconnect the drag link.
  - 6 Refill the box with oil.
  - 7 Refit the fuel tank.
- Do not forget the large flat washers used at the front mounting bracket bolts.
- 8 Refill with fuel, having first reconnected the fuel pipes.

**STEERING SHAFT BEARINGS**

**To check steering shaft end-float**

Grasp the steering wheel and if the shaft can be moved up and down, it indicates excessive end-float. With the four nuts and washers securing the steering column to the box fully tightened, the shaft must turn without stiffness or any appreciable vertical movement in the column.

There should be no pre-load and no end-float.

**To adjust the bearings**

- 1 Remove the fuel tank as described in the appropriate section.



**STEERING GEAR**

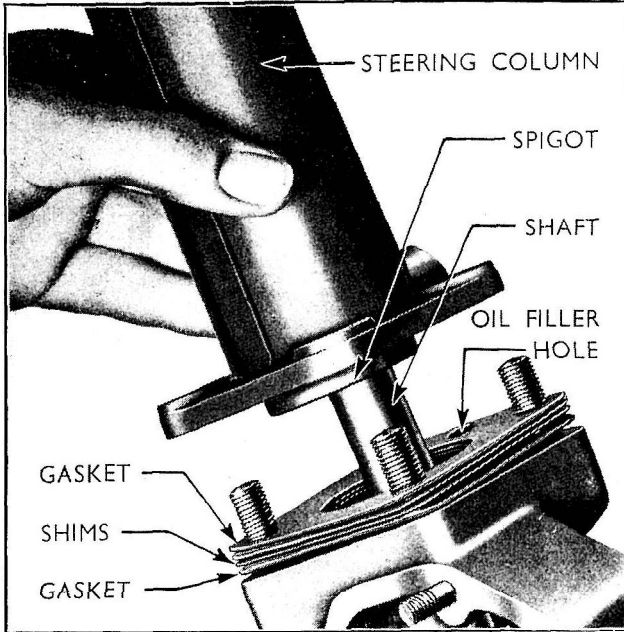


Fig. 214  
**Removing the Steering Column**

- 2 Disconnect the drag link at the drop arm end.
- 3 Unscrew the four nuts and lockwashers securing the column to the box (the column is spigotted into the neck of the housing).
- 4 Carefully lift the column, taking care not to move the shaft, since this would displace the upper and lower bearings. See Fig. 214.
- 5 If there is excessive vertical movement of the shaft, it will be necessary to remove one or more shims. In the event of the steering being stiff to turn, without vertical movement, shims must be added. Always fit a gasket above and below the shims, ensuring that the oil filler hole is in line with the hole in the housing.
- 6 With the four nuts fully tightened, the shaft must turn without stiffness and any appreciable vertical movement in the column.
- 7 Reconnect the drag link.
- 8 Refit the fuel tank (see appropriate section).

**STEERING COLUMN BUSH**

If the steering column bush requires renewing, it is necessary to remove the column as described above. Extract the bush, using a suitable remover and then a new bush must be fitted. Adjust the bearings as described above.

**To Remove**

- 1 Unscrew the steering wheel retaining nut and withdraw the steering wheel from the splined shaft.
- 2 Remove the fuel tank.
- 3 Remove the drop arm. (See Fig. 212.)
- 4 Unscrew the five steering gear to gearbox housing retaining bolts (and flat washers) and lift the steering assembly from the tractor.

**To Dismantle**

- 1 Unscrew the side cover plate retaining nuts, bolts and washers, and detach the cover. Do not lose the shims (and gaskets as these determine the rocker shaft end-float). Lift off the roller from the main nut (see Fig. 213).
- 2 Ease the rocker shaft out of the steering box housing.
- 3 Unscrew the four steering column to box retaining nuts (and lockwashers) and lift the column, taking care that you do not displace the shaft, since this will disturb the upper and lower ball bearings. Remove the gasket and shims.
- 4 Removal of the shaft and bearings must be carried out carefully to avoid losing the ball bearings. First, raise the shaft and main nut assembly sufficient to permit the upper race and the ten ball bearings to be removed. Withdraw the shaft and nut through the side cover aperture of the box.

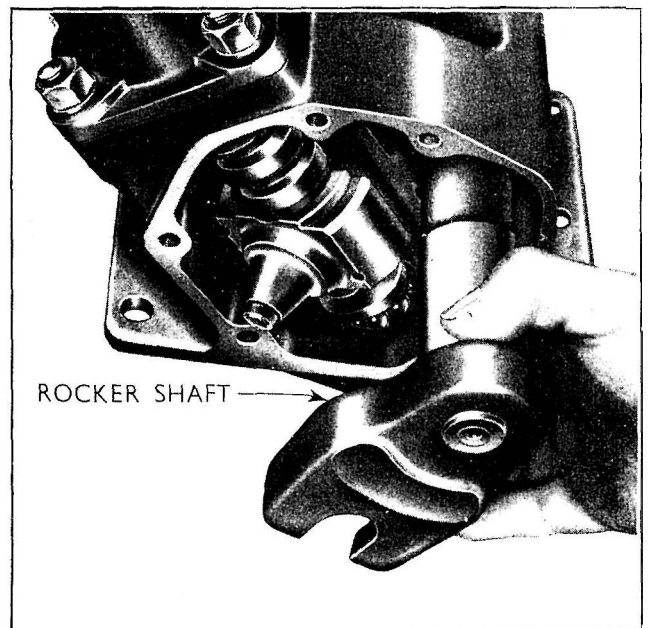


Fig. 215  
**Removing the Rocker Shaft**

- 5 Unscrew and remove the end plug and sealing washer from the base of the box and extract the ten lower ball bearings and the race from inside the box.
- 6 Remove the main nut from the shaft by unscrewing the main nut fully when the fourteen ball bearings may be extracted from the groove and the transfer tube. The main nut may be further dismantled after the two transfer tube retaining screws have been removed (see Fig. 216).
- 7 Lift the rocker shaft oil seal out of the groove at the outer end of the housing.
- 8 To remove the rocker shaft bushes, first carefully clean away the staking securing the oil seal retainer and lift out the retainer. Extract the bushes, using tool No. Tr/D 3576-4B.

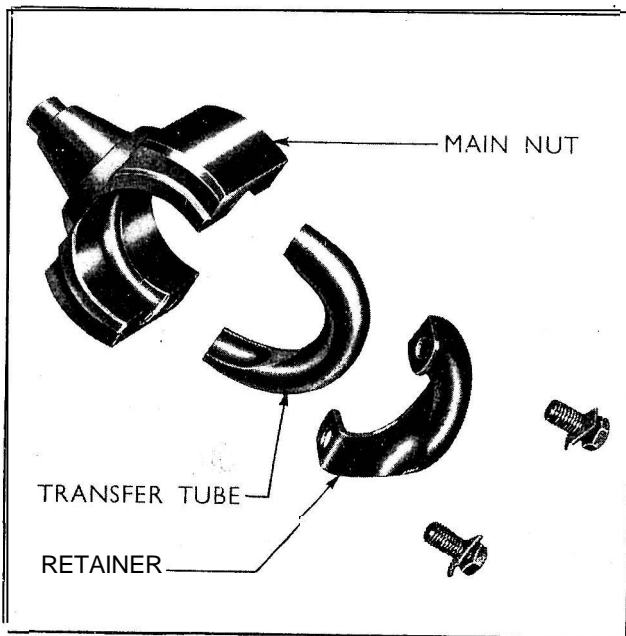


Fig. 216

Main Nut and Transfer Tube Dismantled

**To Reassemble**

- 1 Fit new rocker shaft bushes (if removed), using the tool No. Tr/D 3576-AB. Ensure that the open end of the oil groove in the outer bush is towards the inside of the box. Then refit the oil seal retainer at the outer end of the bore, making certain that it is firmly staked in position.
- 2 Fit a new steering column upper bush (if removed) using a suitable replacer, and ensure that the oil hole is drilled in line with the lubricator location.
- 3 Using clean grease in the main nut groove to retain the balls in position, feed the fourteen ball bearings into the tube (see Fig. 217) and assemble the nut to the steering shaft worm (see Fig. 218).

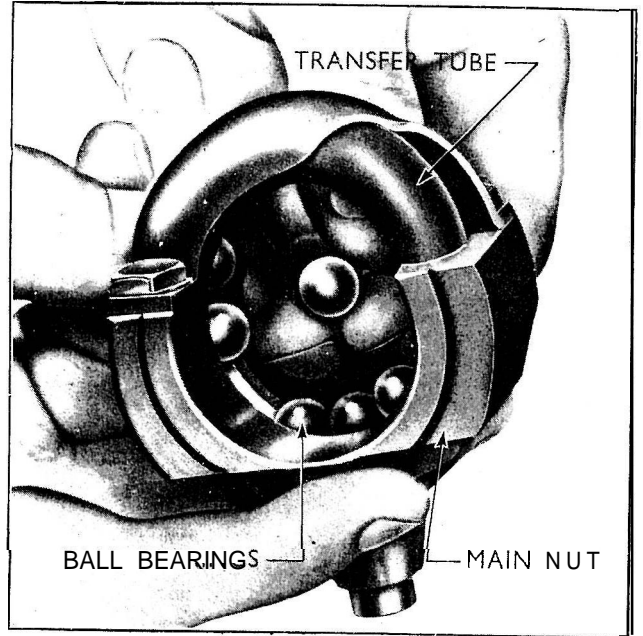


Fig. 217

Locating Bearings in Transfer Tube

Note — It is immaterial which end of the main nut is first entered on the worm.

- 4 Insert the lower ball race into the seating inside the box and screw in the plug and sealing washer. Locate the ten ball bearings, using clean grease to retain them in position.

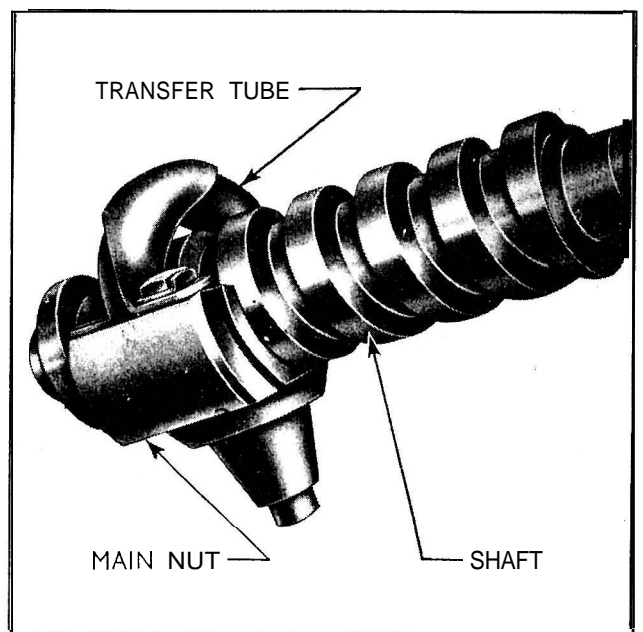


Fig. 218

Main Nut, Transfer Tube and Shaft

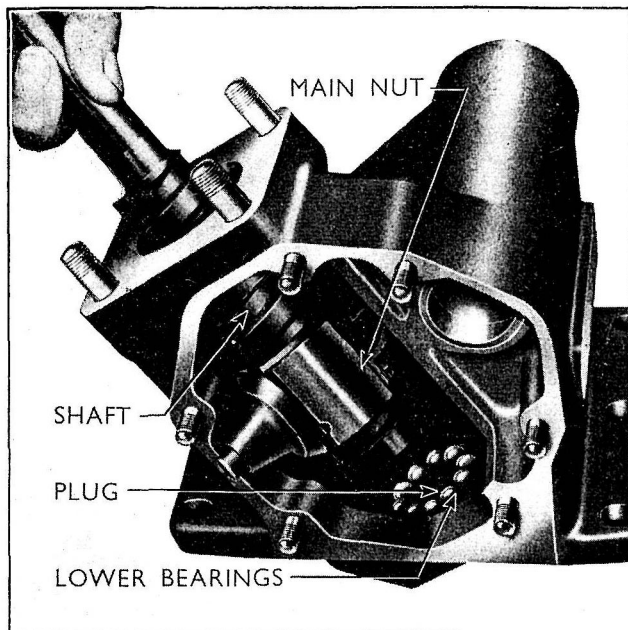


Fig. 219

**Positioning the Shaft on the Lower Bearings**

- 5 Enter the shaft through the side cover aperture and position it so that the end of the worm is seated in the lower ball bearings (see Fig. 219).
- 6 Invert the assembly, taking care not to displace the balls in the lower bearing. Locate the upper ball race over the shaft and lower the race until it is close to the steering box throat. Apply grease around

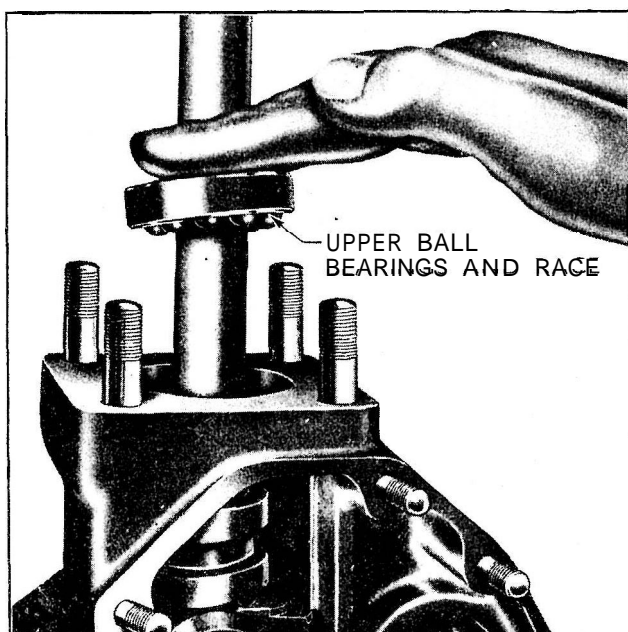


Fig. 220

**Locating Upper Bearings and Ball Race**

the race to retain the ten upper ball bearings which may now be positioned, then fit the race and bearings in the seating in the throat of the box (see Fig. 220).

- 7 Refit the steering column and check the bearing adjustment, as described on page 174.
- 8 Locate the rocker shaft oil seal in the groove at the outer end of the housing (see Fig. 216) and install the rocker shaft, so that the jaw engages the conical shoulder of the main nut. Fit the main nut collar on the shoulder, which protrudes through the rocker shaft jaw.
- 9 Assemble the shims, gasket and side cover plate, taking care that the roller is located in the slot, and check the rocker shaft end-float as described on page 174.
- 10 Refill the steering box with correct grade oil.

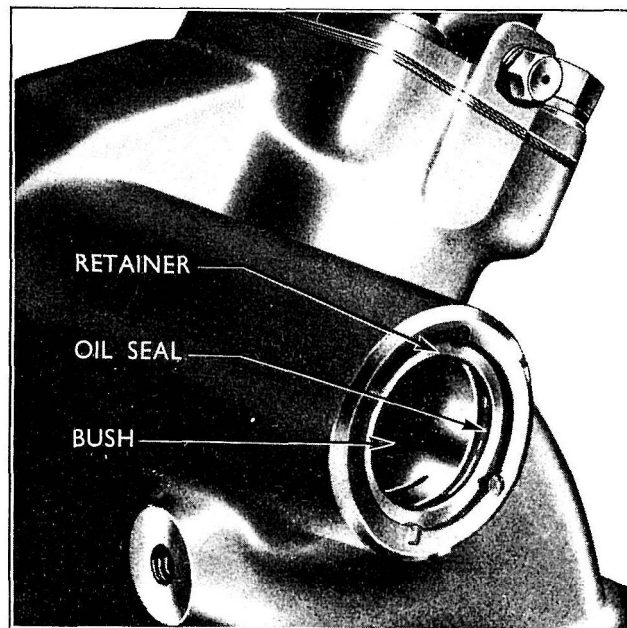


Fig. 221

**Rocker Shaft Oil Seal and Retainer****To Replace**

- 1 Install the steering gear in position on the tractor and secure by means of the five flat washers, lockwashers and bolts which must be securely tightened.
- 2 Replace the fuel tank and fuel pipes as described in the appropriate section.
- 3 Mount the steering wheel on the splined shaft and fit the retaining nut.
- 4 Position the steering in the straight-ahead position and locate the drop arm to the splined rocker shaft. Fit the lockwasher and retaining nut.

## SPECIFICATION AND REPAIR DATA

**STEERING GEAR** (All Models)

Type .. .. Recirculatory ball  
 Gear ratio .. .. 24 to 1  
 Steering wheel diameter.. .. 18 ins.  
 Steering shaft end-play adjustment: Shims between  
 column and steering box housing

Rocker shaft end-float adjustment: Shims between cover  
 plate and steering box

No. of ball bearings (upper and lower) 10 in each  
 Main nut assembly .. .. 14

**Lubrication**

Oil capacity .. .. 0.136 imp. gall  
 For correct grade of oil see Operators Instruction Book.



# BRAKING SYSTEM

The foot brakes fitted to the bull pinion shafts are of the internal expanding type with self-energising shoes connected to the foot brake pedals by cables. These can be used independently for field work or locked together for road work. For parking purposes they can be held firmly applied by a spring-loaded "Tee" hand-grip type handle.

## BRAKE SHOE ADJUSTMENT FOR NORMAL LINING WEAR

Note — The following operations will be carried out on one wheel only and should be repeated on the other wheel. Under average conditions, after approximately eight normal adjustments, re-centralising the brake shoes on the back plate will most likely be necessary.

- 1 Remove the expander cover from the rear of the back plate by inserting a screwdriver between the back plate and the cover plate.
- 2 Rotate the expander in a forward direction by inserting a screwdriver between the slot and the expander until the shoes touch the drum.
- 3 Slacken off the expander until the shoes are just free, refit the cover plate and test the brakes.

## Centralising the Brake Shoes

- 1 Jack up the tractor at the rear end.
- 2 Unscrew the six wheel retaining nuts, washers and remove the rear wheel.
- 3 Remove the brake drum cover plate by unscrewing the three screws on the periphery of the back plate.
- 4 Loosen the anchor pin nut at the bottom rear of the back plate.
- 5 Remove the expander cover and expand the brakes fully on to the drum. Tap the anchor pin nut to ensure that the shoes take up their correct positions in the drum. (It may be necessary to expand the shoes again after tapping this nut.)

Firmly tighten the anchor pin nut.

- 6 Slacken the expander and check the brake drum clearance by inserting a 0.008 in. feeler gauge through the slot in the brake drum. (This clearance must exist around the complete surface of the shoes.) See Fig. 222.
- 7 Install the expander cover plate and refit the brake drum cover with the three screws provided.
- 8 Replace the wheel and tighten up the wheel nuts.

## To Adjust Foot Brake Pedal Linkage

- 1 Ensure the brake shoe adjustment is correct
- 2 Slacken off the clevis locking nut, extract the split pin and remove the clevis pin connecting the brake pedal to the brake cable.
- 3 Hold the brake pedal in the "off" position and apply a tension gauge to the cable with the brakes locked. (25 lbs. pull.) Adjust the clevis until the clevis pin can just be inserted. Next refit the clevis pin, split pin and tighten up the locking nut.

## BRAKE BACK PLATE

### To Dismantle the Brake Back Plate

Note — The following operations should be carried out on each brake back plate.

- 1 Jack up the tractor, remove the wheel and brake drum cover plate. (See "Centralising the Brake Shoes.")
- 2 Unscrew the brake drum retaining bolt, remove the washer and the brake drum from the bull pinion shaft (see "Rear Transmission" section).
- 3 Remove the split pin and the cotter from the brake pedal.

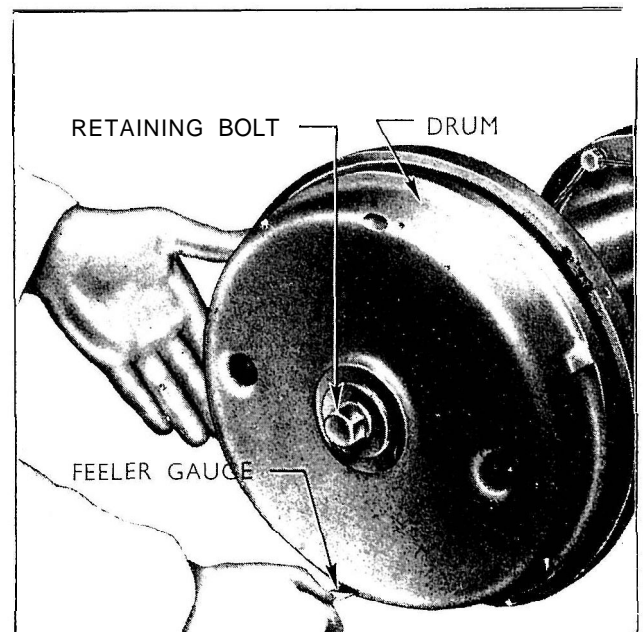


Fig. 222  
Checking Brake Drum Clearance

- 4 Remove the locking bolt retaining the cable to the bracket and extract the cable from the bracket.
- 5 Detach the two hold down springs and anchor cups from the brake shoes and remove the secondary and primary shoe springs.

*Note* — The red spring is for the secondary shoe. The black spring is for the primary shoe.

- 6 Spring the two shoes away from the anchor pin and lift, complete with the retraction spring and the expander, from the back plate. (See Fig. 223.)
- 7 Lift the cam lever and the cam operating lever from the anchor pin. Unscrew the anchor pin locking nut and withdraw the pin.

*Note* — The anchor pin hole is elongated to permit centralising of the shoes. The reinforcing plate is rivetted to the back plate and must not be removed.

- 8 Unscrew the locknut at the back of the plate, and remove the steady post.
- 9 Remove the locking wire, unscrew the four retaining bolts (and washers) and lift off the back plate.

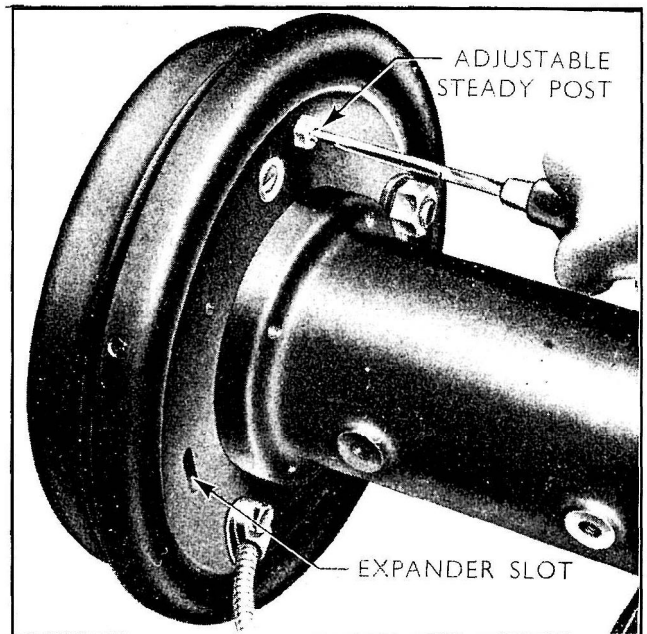


Fig. 224  
Steady Post Adjustment

### To Replace the Back Plate

*Note* — Ensure that grease or oil is kept off the brake linings. If grease or oil has reached the linings, it is suggested that they be replaced rather than attempt to restore braking efficiency by cleaning the shoes only. If oil or grease leakage is occurring, new grease retainers should be fitted to the brake extension housings (see “Rear Transmission” section).

If the linings become unduly worn, new linings or shoe assemblies should be fitted.

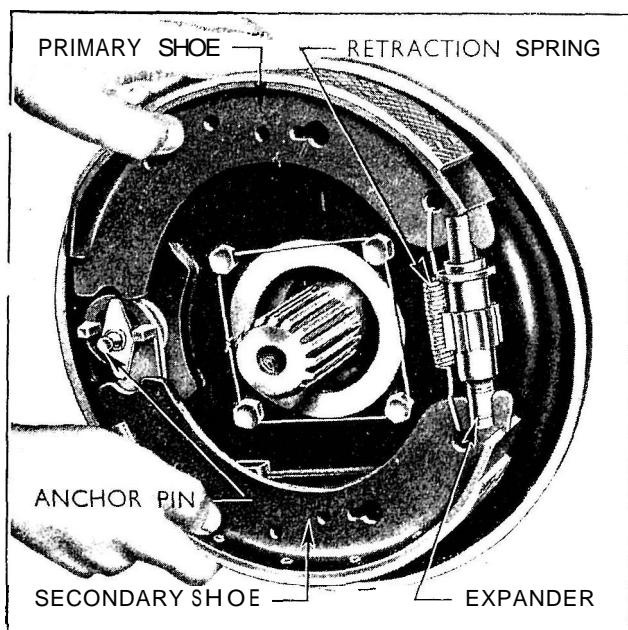


Fig. 223  
Fitting Brake Shoes

Both shoes are interchangeable. When assembling to the back plate, the upper shoe is the primary and the lower shoe is the secondary.

- 1 Replace the back plates, securely tighten the retaining bolts (and washers) and lock them by means of a wire through the bolt heads (see Fig. 225).
- 2 Enter the adjustable steady post in position, but do not tighten the locknut at this stage. Ensure that the circular felts are fitted and smear them with a high melting point grease.
- 3 Locate the brake cable in the support bracket, refit the retaining bolt, refit the anchor pin, and smear the shank with high melting point grease.
- 4 Replace the cam operating lever and the cam lever so that the lug on the cam lever butts up against the side of the operating lever. Enter the hooked end of the operating lever in the brake cable end.
- 5 Slightly grease each end of the shoes where they come into contact with the anchor pin and locate the square end in the expander and fit the retraction spring.

Expand the anchor pin ends of the shoes by hand (as when removing, see Fig. 223) and locate in position with the semi-circular ends on the shank of the pin (see Fig. 225). Fit the hold down springs and anchor cups (larger end of the spring in the two holes in the brake shoe).

- 6 Replace the secondary shoe spring (painted red) with the longer end over the anchor pin and the shorter end in the second hole in the lower shoe.

- 7 Replace the primary shoe spring (painted black) with the shorter end in the first hole in the upper shoe and the long end over the anchor pin.
  - 8 Refit the brake drum and tighten up the bolt (and washer) securely. Then carry out the brake shoe adjustment as itemised on page 179.
  - 9 Connect up the brake cable and apply a tension gauge to the cable ends (25 lbs. pull) with the brakes locked, then adjust the clevis so that the hole in the clevis is in line with the hole in the pedal.
  - 10 Install the rear wheels and test the brakes.
- 3 Turn the post in an anti-clockwise direction and count the number of turns required until the drum is again felt to be dragging.
  - 4 The steady post should then be screwed in half this number of turns, and the locknut tightened, and then check that the shoes are centralised correctly. (See page 179.)
  - 5 Replace the expander cover plate.

### BRAKE CABLES

#### To Remove the Brake Cables

- 1 Remove the rear wheel, brake drum cover and drum. Dismantle the brake shoes (as described on page 179).
- 2 Unscrew the cable clamp retaining bolt (this bolt is locked by means of the secondary shoe fixed steady post). (See Fig. 225.)
- 3 Unhook the cable from the operating lever and lift away the complete cable.
- 4 Lift the cam lever and cam operating lever from the anchor pin.

#### To Reassemble

- 1 Ensure that the adjustable steady post, felts are in position, and smeared with a high melting point grease.

#### To Adjust the Steady Post

Note — When carrying out an overhaul to the rear transmission, the operations of centralising and steady post adjustment may be carried out when the brake and extension housings are removed from the tractor.

- 1 Remove the expander cover plate. Rotate the expander until the shoes are just on the point of rubbing the drum.
- 2 Loosen the steady post locknut (see Fig. 224) and turn the post in a clockwise direction by means of a screwdriver, at the same time rotate the drum backwards and forwards through a small arc, until a definite drag on the drum is felt.

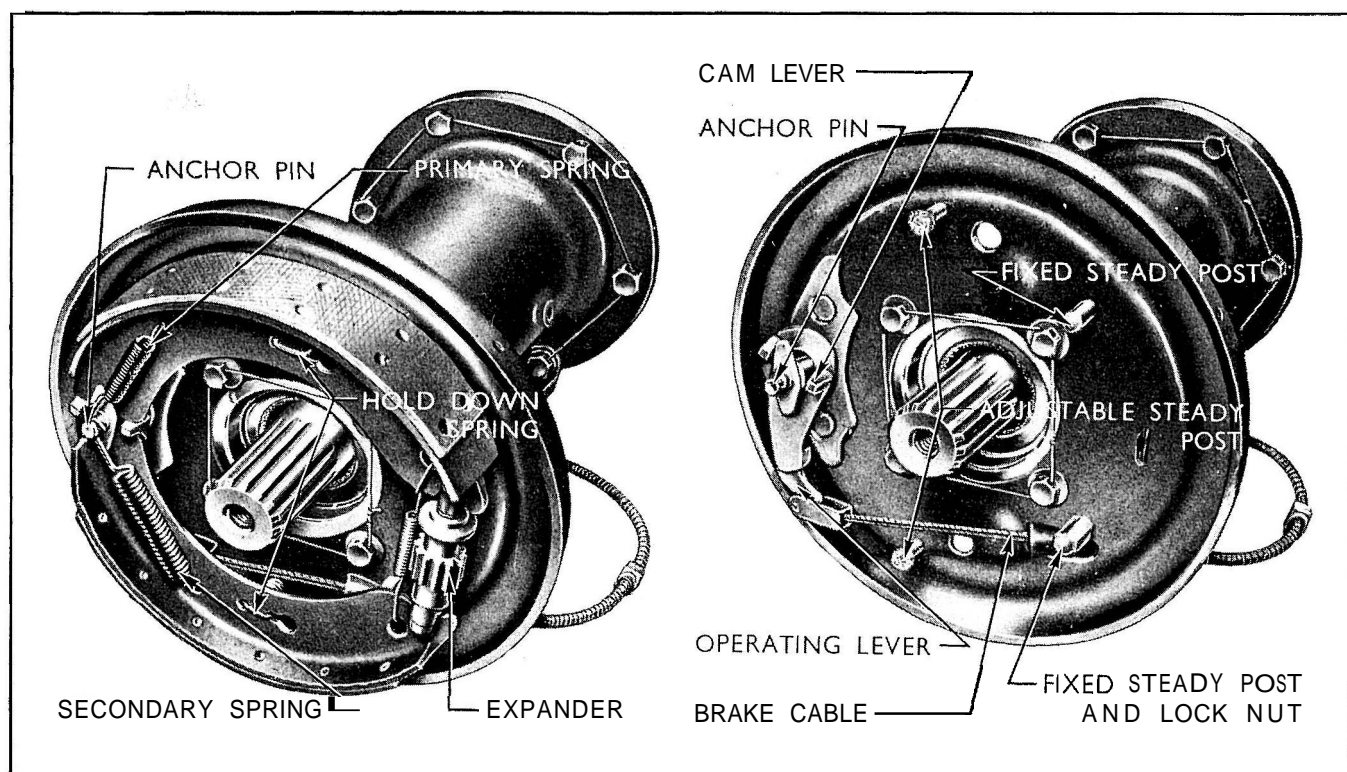


Fig. 225  
Back Plate and Brake Shoes

## BRAKES

- 2 Locate the brake cable in the support bracket and refit the retaining bolt. Secure to the back plate and lock by means of the secondary shoe fixed steady post.
- 3 Smear the shank of the anchor pin with high melting point grease. Replace the cam operating-lever and cam lever so that the lug on the cam lever butts against the side of the operating lever. Enter the hooked end of the operating lever in the brake cable end.
- 4 Reassemble the brake shoes and drum and carry out adjustments as described on page 179.

### To Remove and Dismantle the Brake Pedal Cross Shaft

- 1 Disconnect the brake cables and pedal return springs.
- 2 Remove the foot brake retaining collar from the cross-shaft and pull off the outer brake pedal. Loosen the clamp bolt and remove the inner brake pedal. Extract the woodruff key from the shaft and slide off the thrust washer.
- 3 Remove the split pin, clevis pin and disconnect the automatic clutch release rod (if fitted).

- 4 Remove the split pin, clevis pin and disconnect the linkage to the clutch balance lever. Unhook the clutch pedal return spring.
- 5 Remove the split pin, clevis pin and disconnect the brake cable.
- 6 Unscrew two nuts, bolts and remove the clutch pedal stirrup bracket from the platform.
- 7 Remove the nearside brake balance lever retaining circlip. Loosen the clamp bolt and nut, pull off the lever and extract the woodruff key. Slide the clutch pedal off the cross-shaft and remove the thrust washer.
- 8 Remove the cross-shaft from the front transmission housing.
- 9 Remove the cross shaft oil seals (if worn) and fit new parts, using the tool No. Tr/MD 2867-B.

### To Reassemble

- 1 Replace the cross shaft.
- 2 Replace the cross shaft washer, the woodruff key and clutch pedal.

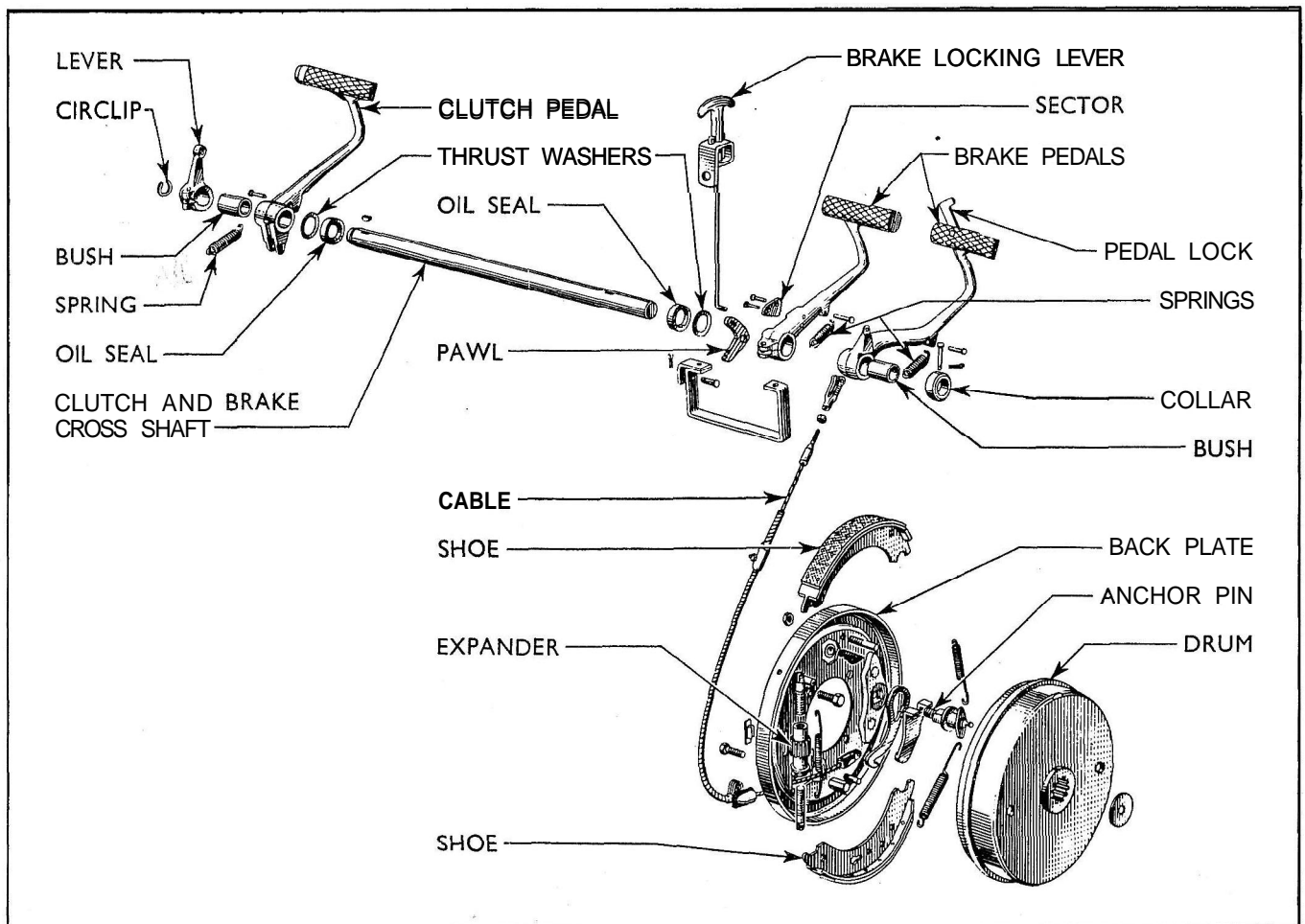


Fig. 226  
Exploded View of Braking System (Foot Brakes)



- 3 Reconnect the return spring and reconnect with the clevis pin and split pin the brake cable, attach the linkage to the clutch balance lever and the automatic clutch release rod (if fitted).
- 4 Replace the clutch pedal stirrup bracket and secure to the platform with two nuts, bolts and spring washers.
- 5 Refit the brake pedals and linkage.

### PARKING BRAKE

#### To Remove the Foot Brake Locking Lever

- 1 Remove the brake pedal return springs.
- 2 Remove the split pin and disconnect the brake locking lever rod from the brake pedal pawl (see Fig. 226).
- 3 Dismantle the brake pedals, cable and pawl (as described on page 179).
- 4 The brake locking lever and rod itself can be removed by unscrewing the nut and bolt at the gearbox to rear transmission housing flange.

#### To Replace

- 1 Replace the brake locking lever and rod to the rear axle housing, securing with a nut, bolt and spring washer.
- 2 Fit a new sector to inner pedal (if worn) and secure by means of new rivets, peen over the ends to retain rigidly.
- 3 Install the inner brake pedal and tighten up clamping bolt, then locate the outer brake pedal.
- 4 Fit the collar, cotter and split pin to brake cross shaft.
- 5 Fit the clevis pin and attach the brake cable to the outer pedal. Replace the brake pedal stop bracket and secure to the platform.
- 6 Replace the brake pedal pawl and secure to the bracket with a clevis pin, washer and split pin.
- 7 Connect the brake locking lever rod to brake pedal pawl with a new split pin. Reconnect the brake pedal return springs.

### TRANSMISSION HAND BRAKE

The transmission hand brake is fitted to all Commercial Tractors and is optional on all other models. The hand control lever, located on the right-hand side of the gearbox, operates a multi-plate disc on the reverse idler and is submerged in the gearbox lubricant (see "Front Transmission" section).

#### Adjustment

The hand brake is intended for use when the tractor is stationary and adjustment for wear should normally only be required at overhaul periods.

Should it become necessary to adjust the brake in service remove the split pin from the adjusting nut and adjust the nut to give 0.004 in. (.102 mm.) between the head of the nut and the cam with the hand brake in the fully "OFF" position. If the split pin cannot then be inserted turn the **nut** towards the **cam** to the first pin hole.

#### To Remove the Hand Brake

- 1 Remove the rivet retaining the lever to the operating cam and withdraw the lever.
- 2 Should it be necessary to remove the multi-plate disc, operating cam, oil seal and bushes, the front transmission must be separated from the engine and then dismantled as outlined in the "Front Transmission—Gearbox" section.
- 3 To remove the hand brake lever sector, unscrew the two bolts (and washers) to release the sector (This can also be carried out with the level *in situ*.)

#### To Dismantle the Hand Brake Lever

- 1 Unhook the return spring from the hand brake pawl.
- 2 Remove the split pin retaining the pawl on the lever control rod and withdraw the pawl.

#### To Reassemble

- 1 Fit a new pawl to the lever control rod and secure by means of a split pin.
- 2 Install the return spring to the anchor hook and the control rod.

#### To Reassemble the Hand Brake

- 1 To install the multi-plate disc, operating cam, oil seal and bushes, refer to the "Front Transmission—Gearbox" section. The correct adjustment for the brake nut can be made before the primary gearbox

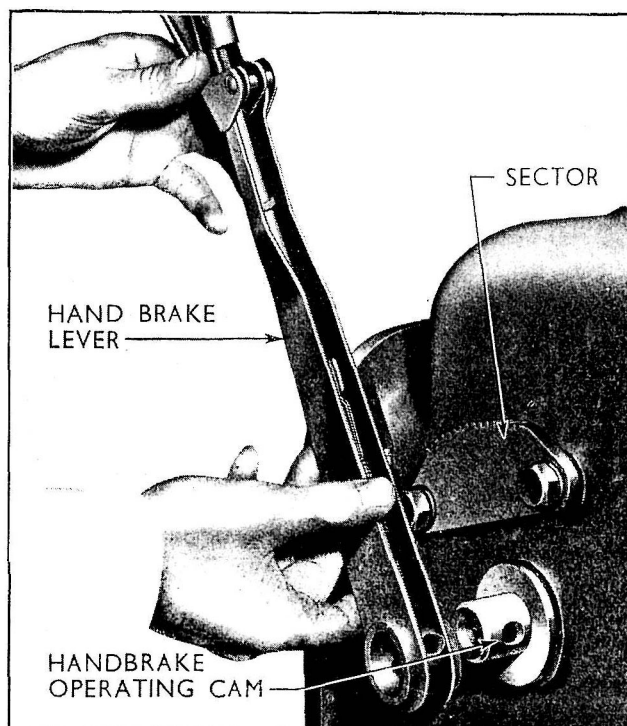


Fig. 227  
Hand Brake Lever

assembly is refitted in the housing. The measurement from the head of the nut to the inner face of the gearbox flange must be between 13.870 ins. and 13.895 ins.

- 2 Refit the sector to the housing using the two bolts (and washers) provided.
- 3 Install the lever on the cam with the flat washer between the lever and housing. Fit a new rivet, peening the head over to secure in position.

### INDUSTRIAL TRACTOR FOOT BRAKES

The brakes fitted to the rear transmission housing of the Industrial tractor are of the internal expanding type, operated from a single foot brake pedal located at the right-hand side of the tractor.

#### Brake Shoe Adjustment for Normal Lining Wear

To compensate for wear of the brake shoe linings, there is a simple external adjustment which permits the shoes to be expanded within each brake drum.

- 1 Turn the adjusting wedge on the rear of one back plate in a clockwise direction, at the same time tapping the drum with a small spanner. As the shoes are expanded and touch the drum it will no longer emit a clear ringing sound.
- 2 Back off the adjuster carefully (see Fig. 228) until the shoes are just clear of the drum and which, when tapped, gives a clear ringing tone.

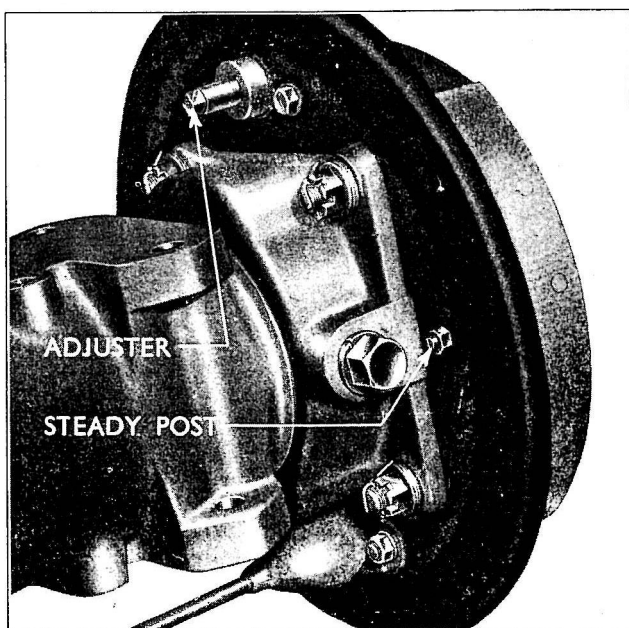


Fig. 228  
Rear of Back Plate

- 3 Check that the pedal free travel is between 1½ ins. and 2 ins.
- 4 Set the shoes in the other brake drum as above, testing the pedal to ensure that the free movement is not excessive. The foot brake pedal linkage should be periodically checked for easy action and oil lightly applied to the moving parts.

#### To Adjust the Foot Brake Pedal Linkage

- 1 Fully expand the shoes in the drum by means of the adjusting wedge and leave each adjusting wedge on the "high spot," i.e., between the positions where the wedge is felt to enter one of a series of notches.
- 2 With the footbrake pedal in the fully released position, and with the bell crank lever to footbrake rod disconnected, check the alignment of the holes in the clevis with the hole in the bell crank lever, applying sufficient tension to the brake operating rod to take up lost motion. If they are not in line, adjust the clevis until it lines up correctly and the pin can be inserted.
- 3 Fit a new split pin and tighten up the locknut.
- 4 Release the brake adjusting wedge as described in "Adjustment for Normal Lining Wear."

#### To Remove the Brake Drum

- 1 Place the jack in position beneath the rear axle shaft housing and loosen the six wheel nuts. Next raise the rear wheel sufficiently, by means of the jack, to permit removal of the wheel nuts, tapered washers and wheel, taking care not to damage the threads of the studs when lifting off the wheel.
- 2 Unscrew the six nuts securing the drum to the axle shaft adaptor and withdraw the drum.

#### To Replace the Brake Drum

- 1 Position the drum on the six studs and securely tighten the nuts.
- 2 Ensure that the flange of the axle shaft is clean, then place the wheel in position taking care not to damage the stud threads, install the washers on the studs (with the taper to the wheel) and tighten up the nuts a little at a time, diagonally across the circle. When thoroughly tightened remove the jack. (Recheck the wheel nuts after the tractor has been in use for a little time.)

#### To Remove the Brake Shoes

- 1 Remove the wheel and brake drum as described above.
- 2 Spring the two shoes away from the adjuster housing and lift off with both retraction springs attached.

Note — Keep the adjuster tappets to their correct sides as they are not interchangeable. Ensure that the linings are kept perfectly clean and free from oil or grease.

### To Replace the Shoes

- 1 Locate the retraction springs in their respective holes in the shoes, ensure that the tappets are free to move in their housings, apply a little zinc oxide grease to each end of the shoes where they come into contact with the adjuster and the expander, then mount the shoes with the cut-away portion of the shoe to the adjuster tappet (see Fig. 229).
- 2 Refit the brake drum and wheel as described above.

### To Centralise the Brake Shoes

- 1 Loosen the two bolts securing each brake adjuster housing, ensure that the expander housing is free to slide in the slotted mounting holes and tighten up the adjusting wedge fully.
- 2 Tighten up securely the two adjuster housing bolts then unscrew the adjusting wedge two clicks, giving the correct shoe clearance for normal operation.

### To Remove the Brake Back Plate

- 1 Remove the wheel and brake drum as described above. Disconnect the brake linkage.
- 2 Spring the two shoes away from the adjuster housings and lift off as described above. Ensure that the linings are protected against dirt, grease and oil.
- 3 Disconnect the pipe from the lubricator to the rear transmission housing outer bearing by loosening the locknut and unscrewing the adaptor.
- 4 Remove the split pins from the four castellated nuts retaining the back plate to the axle shaft housing adaptor, unscrew the four nuts to release the back plate.

### To Dismantle the Back Plate

- 1 Unscrew the two bolts of the brake adjuster housing and remove it together with its tappets. Keep the tappets to their correct sides as they are not interchangeable. To withdraw the adjuster cone, unscrew it out of the housing.
- 2 Unscrew the two nuts securing the expander housing to the back plate, drawing the rubber dust cover off the brake rod and removing the expander housing.

If necessary to dismantle the expander, remove each cotter pin at the outer end of the housing and remove the tappets, taking care not to lose the two rollers which may come away when the tappets are withdrawn.

Next pull the expander cone out of the housing through the slotted end. Free the cone from the brake rod, if necessary, by pushing out the retaining pin.

- 3 Remove the steady posts by loosening the locknut and unscrewing the steady post.

### To Reassemble the Back Plate

- 1 Fit the steady posts and secure by means of the locknuts.
- 2 Fit the brake adjuster housing, enter the two bolts and tighten them securely. Locate each tappet so that when it is pressed fully inwards against the conical head of the adjuster, the slot for the brake shoe is parallel with the brake plate. Pack the housing with zinc oxide grease.
- 3 If the expander housing has been dismantled, first press in the pin securing the brake rod to the expander cone (the ends of the pin must protrude an equal amount each side). Insert the cone in the housing and ensure that the ends of the pin act as a guide to prevent rotation yet allow the cone to slide freely. Apply a film of zinc oxide grease to the working surfaces in the housing.
- 4 Apply sufficient zinc oxide to the inner end of each tappet to hold the roller so that its circumference is in contact with the tappet. Fit the tappets so that the machined flat on the shank of each is towards the cotter pin location in the housing. Push both into place and operate the cone to make sure the rollers have not been dislodged. (Light finger pressure on each tappet should retract the cone if in its innermost position.) Insert each cotter pin, opening out the ends to retain them securely in position.
- 5 Install the expander housing so that the tappets will abut the shoes when assembled. Install the rubber dust cover, fit the coil washers and tighten the nuts sufficiently to allow the expander to slide in the elongated holes in the back plate.
- 6 Reassemble the shoes and brake drum as described previously.

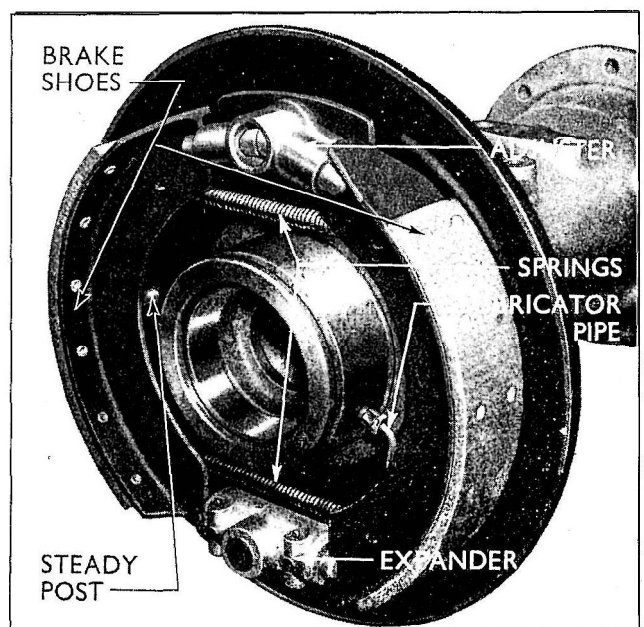


Fig. 229

Back Plate and Brake Shoes

**SPECIFICATION AND REPAIR DATA**

**BRAKES (Standard Tractor)**

Brake actuation	.. ..	.. Cable
Drums	2 . . . .	Splined to bull pinion shafts
Diameter of drum	.. ..	10" (254 mm.)
LININGS—Material	.. ..	Woven or moulded
Length per shoe	.. ..	9.62" (244.31 mm.)
Width	.. ..	1.75" (44.47 mm.)
Thickness	.. ..	0.188"–0.203" (4.775–5.81 mm.)
Total area	.. ..	67.3 sq. ins. (428 sq. cm.)

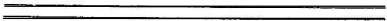
**(Industrial Tractor)**

Brake actuation	.. ..	.. Cable and rod
Drums	.. ..	Secured to rear wheels
Diameter of drum	.. ..	14 (356 mm.)
LININGS—Material	.. ..	Woven or moulded
Length per shoe	.. ..	12.2" (310 mm.)
Width	.. ..	2.5" (63.5 mm.)
Thickness	.. ..	0.38" (4.66 mm.)
Total area	.. ..	122.2 sq. ins. (788 sq. cm.)

**Transmission Hand Brake**

(Industrial Tractors, and optional on Standard Tractors)

Brake actuation Operates a multi-plate disc on the reverse idler gear. Submerged in the front transmission lubricant.  
 5 revolving plates  
 7 stationary plates



# WHEELS AND TYRES

When operating under certain conditions, it may be desirable to provide additional weight to the rear end of the Tractor, to give the required adhesion. This can, where necessary, be carried out by means of cast-iron wheel weights, dual rear wheels, or liquid ballast.

## Wheel Weights

Wheel weights are available in sets comprising weights, bolts, nuts, etc., which should be equally distributed on each wheel, in a varying range of total weights suitable for all general operating conditions.

Three installation sets are available, giving 200 lbs, 400 lbs, and 600 lbs. additional total weight, which is distributed over both wheels equally, and it will be found that a maximum additional weight of 300 lbs. per wheel will meet most conditions.

## Fitting Wheel Weight

- 1 Assemble the five reinforcement discs to the bolts, and insert the bolts from the inside of the wheel. If the wheel weight only is to be used, secure it to the wheel disc by the bolts, nuts and lockwashers (see Figs. 230 and 231).

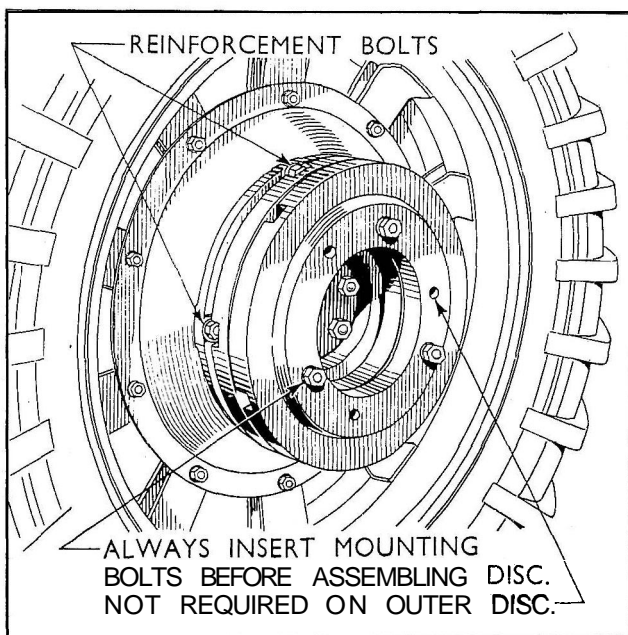


Fig. 230  
Front View of Wheel Weights

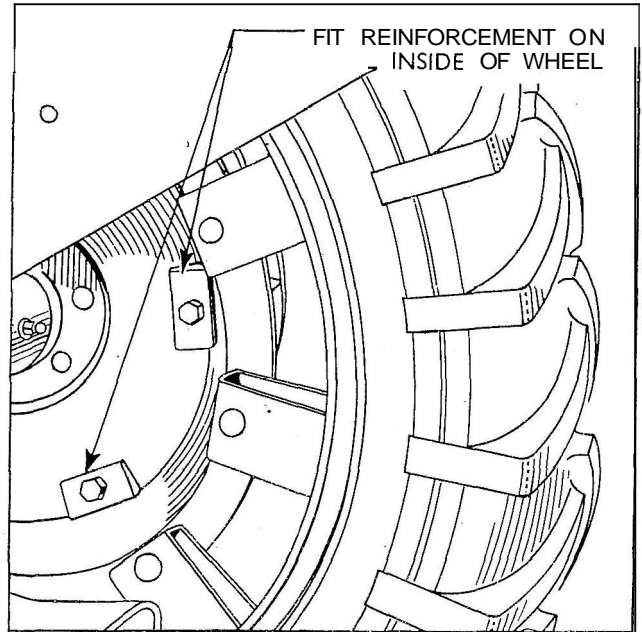


Fig. 231  
Wheel Weight Bolt Reinforcement

If auxiliary weights are required, it will be necessary to fit the three mounting bolts with the head in the recessed hole provided, before securing the weight to the rear wheel disc.

- 2 Assemble the auxiliary weight to these three bolts, using nuts and washers provided. If additional weight is required, adopt the same procedure, making certain that the three bolts are assembled to the preceding weight, before securing it to the wheel disc or auxiliary weight.

## Liquid Ballast

By using the special adaptor, available in service, a solution may be put into the tyre, either by gravitational methods with a tank 6-8 feet above the tyre, or by means of an ordinary stirrup pump.

It is important to give protection against frost, and an anti-freeze for tyres, which will not affect the valve core, inner tube or outer casing, is calcium chloride ( $\text{CaCl}_2$ ) solution. 2 lbs. of commercial calcium chloride should be dissolved in each gallon of water, which will give adequate protection to approximately 12°F.

If very low degrees of frost are experienced, this quantity can be increased proportionately. Radiator anti-freeze solution must not be used in tyres, or calcium chloride used in the radiator.

**Adding Liquid Ballast**

Note — When mixing the solution (approximately 25 gallons per tyre), preferably in a wooden barrel or container, never pour water over calcium chloride, or it may spurt into your face. Always add calcium chloride slowly to the water, and permit the solution to cool before pumping it into the tyres.

- 1 Jack up the rear of the tractor and rotate one wheel, so that the valve is at the top, locking it in this position to prevent it turning during the filling operation and to avoid unnecessary wastage when removing the solution adaptor.
- 2 Deflate the tyre and remove the valve core. It may be desirable to fasten a piece of wire round the outside of the valve, to prevent any possibility of the valve slipping inside the rim.

- 3 Connect the adaptor bushing to the valve with the knurled end towards the rim, screw on the rest of the adaptor and connect up the solution line from the pump or any other container used.
- 4 Pump in the solution, periodically releasing any trapped air in the tube by stopping the flow and pressing the deflator button located on the adaptor.

The tube is filled to the correct level when the deflator button is pressed and the solution issues from it in a stream. It will be appreciated that as the adaptor has to be removed and the valve core fitted, a small amount of solution may be lost.

- 5 Remove the adaptor and replace the valve core, inflate the tube to about 30 lbs. per square inch, to ensure that the cover beading is seating correctly.

To allow for the added weight, reduce the pressure to 2 lbs. per square inch above the normal working pressure indicated in the specification.

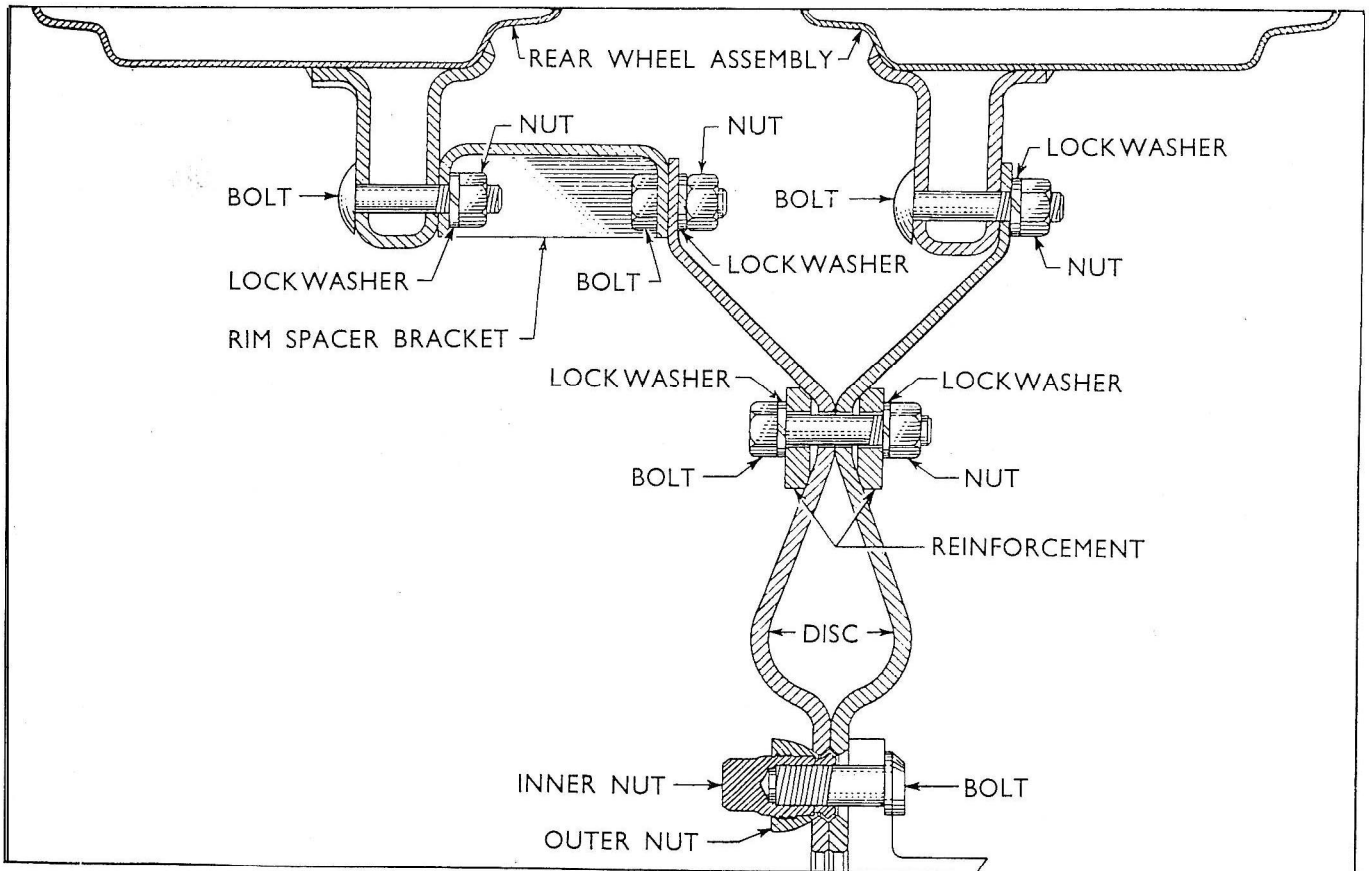


Fig. 232  
Sectioned View of Dual Rear Wheels

- 6 Wipe off any solution from the metal part of the wheel, and repeat the process on the other rear wheel. After the tyre has been in use for an hour, the pressure should be checked and adjusted if necessary.

### Dual Rear Wheels

Dual Rear Wheel Conversion Sets are available, and when fitting dual rear wheels the tyre tread should point in the forward direction, as indicated by the arrow markings on the tyre, or as recommended by the tyre manufacturers.

As shown in Fig. 232, the inside disc is installed with the "dish" facing towards the transmission housing, and the outside disc has the "dish" facing outwards, giving a track width of 52 ins. between inner wheel tyre centres.

All the necessary fixing bolts and nuts etc. are supplied in the Installation Set, which includes the spacer brackets to accommodate the outer wheel (see Fig. 233).

### Fitting Dual Wheels

- 1 Install the dual wheel discs to the hub, ensuring that the inner nuts are tightened thoroughly before assembling the outer nuts. Do not omit the reinforcement pieces each side of the discs with the lockwasher under each nut.
- 2 Install the wheels, and make a thorough check to ensure that all nuts are securely tightened. Re-check the wheel nuts after the tractor has been operated for a short period.

## TYRES

### To Remove

- 1 If there is still air in the tube, remove the tyre valve.
- 2 With the tyre completely deflated, press the tyre bead away from the rim all round the wheel. At a point directly opposite the tyre valve, press the bead down into the well.
- 3 Insert a suitable tyre lever adjacent to the valve, and lever the bead over the lip of the ring. By careful use of further tyre levers, the remainder of the tyre can then be drawn over the rim, out of the well.
- 4 Press the valve into the wheel rim.
- 5 Remove the inner tube complete, work the other bead of the tyre over the rim, and when free lift the tyre off the wheel.

### To Replace

- 1 First examine the wheel, to ensure that there are no signs of rust or any other condition which could cause deterioration of the tyre or tube. Check the inside of the tyre canvas to make certain that it is in good condition.
- 2 Lightly dust the inside of the tyre with powdered chalk, and apply soap solution to the tyre bead.
- 3 Refit one tyre bead over the rim and into the well of the wheel. Dust the inner tube with chalk before inserting it in the tyre.
- 4 Refit the inner tube with the tyre valve adjacent to the hole in the side of the well, until it is fully enclosed in the tyre. Pass the tyre valve through the hole in the well, replace the valve assembly, and inflate the tyre slightly.
- 5 Starting at a point adjacent to the tyre valve, carefully work the bead over the edges of the rim. After fitting the tyre, inflate it slowly, checking that the tyre is concentric with the rim.

Note — For details of tyre pressures for various operating conditions, see "Specification and Repair Data" overleaf.

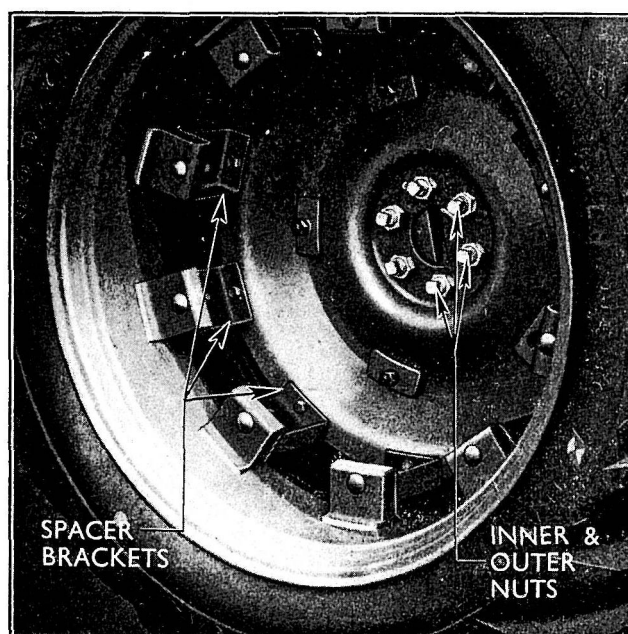


Fig. 233  
Dual Rear Wheel

## SPECIFICATION AND REPAIR DATA

### TYRES

*Standard and Industrial*

Front tyre size .. .. . 6.00"–19"

Front tyre pressure :

Road .. .. . 25 lbs. (1.758 Kgs. sq. cm.)  
 Land .. .. . 25 lbs. (1.758 Kgs. sq. cm.)

Rear tyre size :

Standard .. .. . 11.00–36  
 Standard .. .. . 14.00–36  
 Industrial .. .. . 9.00–36

Rear tyre pressure :

14–30 Land and road .. .. . 8 lbs. to 12 lbs.  
 (0.560 to 0.840 Kgs. sq. cm.)  
 .. .. . 12 lbs. (0.840 Kgs. sq. cm.)  
 1 – 3 .. .. . 14 lbs. (0.984 Kgs. sq. cm.)  
 9.00–36 Land and road .. .. . 15 lbs. (1.05 Kgs. sq. cm.)

Rear type pressure with water ballast (Standard Tractor) :

75" .. .. . 14 lbs. (0.984 Kgs. sq. cm.)  
 100" .. .. . No pressure

Steel wheel width (Standard Tractor) .. 44" and 9"  
 (114.3 and 228.6 mm.)

Wheel weights—rear :

200, 400 and 600 lbs. approx. (sets)  
 (300 lbs. max. per wheel)  
 907, 1814 and 2721 Kgs. approx. (sets)  
 (1360 Kgs. max. per wheel)

Approximate rolling radius in inches on rear wheels. (Standard Tractor) .. .. . 26.8"\*

Approximate rolling radius in inches on rear wheels. (Industrial Tractor) .. .. . 26.3"\*

Revs. per mile (approximate) (Industrial Tractor) 384\*

\* For correct speedometer reading.

