

# THE GEARBOX

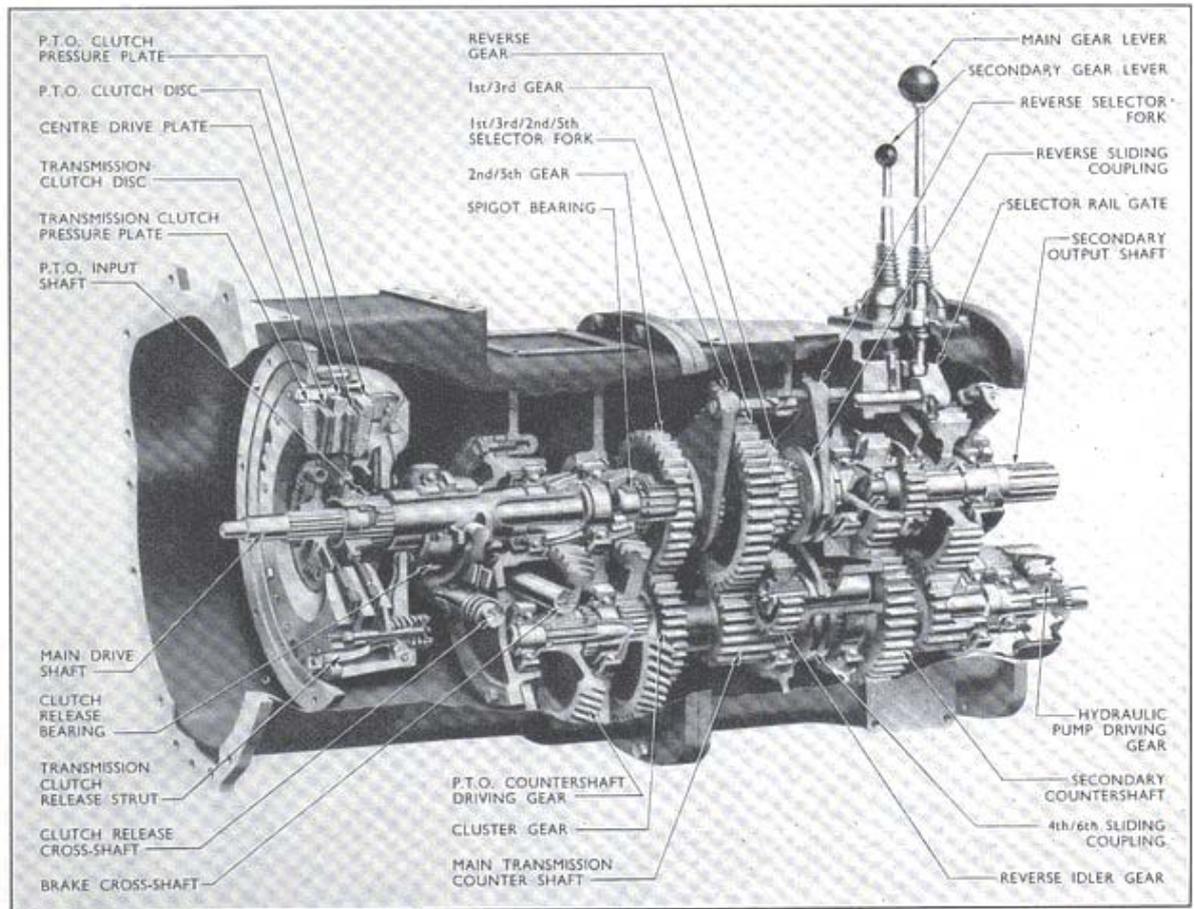


Fig. 1  
**Sectioned Gearbox** This manual is free downloaded from [www.fordson-dexta.de](http://www.fordson-dexta.de)

Providing six forward and two reverse ratios, the gearbox is virtually two units in one. The basic gears are housed in the forward portion of the gearbox casing whilst a secondary gear train is mounted in the rear compartment to divide the drive and give 'High' and 'Low' speeds.

Gear selection is made by operating two levers, the left-hand (larger) lever controlling the main gearbox and selecting three forward and one reverse ratio, whilst the right-hand (smaller) lever enables the number of reductions throughout the transmission system to be doubled. The main gear lever positions are marked on the corresponding selector lever knob whilst the 'High' and 'Low' positions for the secondary gear lever are cast in the gear change cover.

Helical gears transmit the drive to the gearbox countershaft but the remainder of the gears are

spur type which are either integral with, or revolve freely on, the shafts. Constant mesh gears are therefore used throughout the gearbox and sliding couplings connect dog teeth on the selected gears to fixed connectors on the shafts. This enables the gears to be of particularly robust construction whilst eliminating the tendency for gear 'crashing' and reducing damage and wear of the gear teeth to a minimum.

When a 'Live' power take-off is fitted, an extra pair of constant mesh helical gears transmit the drive from the P.T.O. clutch to the P.T.O. countershaft. One of these is integral with the P.T.O. input shaft, which operates on the outside of the main drive shaft, whilst the other replaces the P.T.O. countershaft driving coupling used on standard gearboxes. Fig. 2 illustrates these gears, together with the additional bearings and oil seals required to effect a conversion.

**REPAIR OPERATIONS**

The following operations apply basically to tractors fitted with a single clutch and standard transmission, but where variations exist due to the fitting of additional components to suit a double clutch and 'Live' P.T.O., the additional or alternative operations are shown in heavy type and the operation numbers given a suffix letter, i.e. **3a, 3b, 3c**, etc.

Effective with Serial No. 957E-63953 new ratio gearboxes were introduced and although the basic design remained unchanged, dimensional changes were made to shafts and gears which affected certain tools and procedures detailed in previous issues of this section.

The following repair operations are applicable to all Dexta gearboxes and specific reference has been made where differences exist which affect the procedure. It should be noted also that in a few instances a note has been made that certain tools are suitable for use on gearboxes prior to Serial No. 957E-63953 and no reference has been made to modified or new tools for these applications on current gearboxes. This is because a re-appraisal has been made of the necessary tools and where no specific tool is mentioned it has been possible to perform the operations without special equipment.

A further point to be noted is that prior to Serial No. 957E-63953 the main drive shaft oil seal retainer and gearbox front cover plate screws were retained by locking wire, but subsequent to this number, special locking plates with turn-over tabs to lock the screw heads were introduced. In this section reference is made to locking tabs only, but where locking wire was originally used this method of locking may still be applied if so desired.

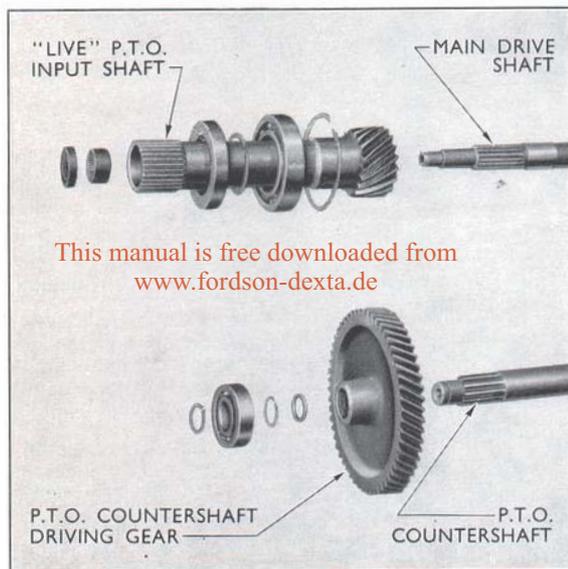


Fig. 2  
Live P.T.O. Shaft and Gears

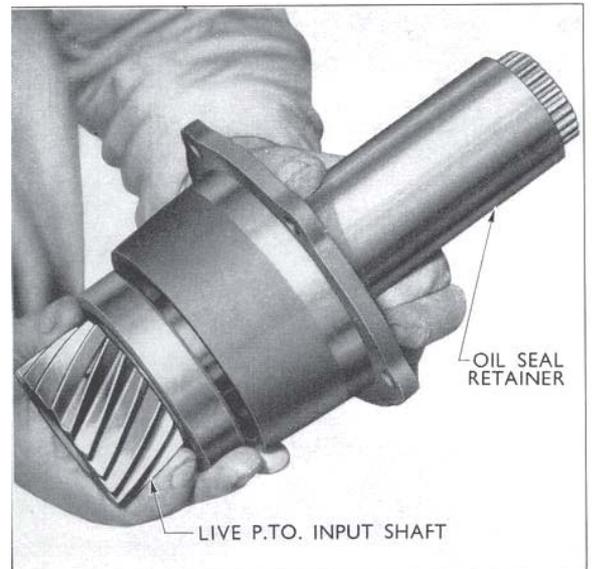


Fig. 3  
Refitting P.T.O. Input Shaft

**To Remove the Main Drive Shaft Oil Seal (Standard Transmission)**

**To Remove the P.T.O. Input Shaft Oil Seals ('Live' P.T.O. Transmission)**

1. Split the tractor at the engine/clutch flange (see Engine section 'To Remove the Engine and Front Axle Assembly'). Disconnect the clutch release rod from the clutch release arm, lift away the return spring from the release fork and remove the clutch release bearing.
2. Extract the split pins and clevis pins retaining the clutch release fork to the cross-shaft and withdraw the shaft. Remove the clutch return spring and fork from the housing.
3. Remove the oil seal retainer after straightening the locking tabs and removing the five securing screws. Withdraw the oil seal from the retainer housing.
  - 3a. Remove the P.T.O. input shaft and oil seal retainer (as an assembly). This assembly is retained by the same securing screws and locking tabs as are used on standard transmissions (see operation 3).
  - 3b. Detach the circlip securing the P.T.O. input shaft rear bearing to the retainer and withdraw the retainer and rear oil seal assembly from the shaft.
  - 3c. Extract the rear oil seal from the retainer.
  - 3d. Extract the front oil seal from the internal bore of the shaft, being careful not to damage the needle roller bearing which is located behind the oil seal.

**To Replace the Main Drive Shaft Oil Seal  
(Standard Transmission)**

**To Replace the P.T.O. Input Shaft Oil Seals  
( ' Live ' P.T.O. Transmission)**

1. Assemble the main drive shaft oil seal to the retainer with sharp edge of the seal facing outwards (i.e. towards the gearbox) using Tool No. T.7067 with 550 handle.

1a. Assemble the front oil seal to the P.T.O. input shaft using Tool No. T.7071 with 550 handle, ensuring that the sharp edge of the seal faces inwards. Take particular care not to damage the front roller bearing during this operation. The seal locates on the first shoulder in the bore at the front end of the shaft.

1b. Replace the rear oil seal in the retainer with the sharp edge of the seal facing outwards (i.e. towards the gearbox) using Tool No. T.7076 with 550 handle.

1c. Assemble the P.T.O. input shaft to the retainer (see Fig. 3) and secure by fitting the appropriate circlip in the retainer housing, locating it directly behind the rear bearing.

2. Slide the retainer over the main drive shaft and secure to the front cover plate with the five set screws and locking tabs.

**Note.**—The top screw passes through both the retainer and the front cover plate and is therefore longer than the other four screws.

Tighten the retaining screws to 40 lb./ft. torque and secure by means of the locking tabs.

2a. Slide the P.T.O. input shaft and oil seal retainer assembly over the main drive shaft and secure the retainer to the front cover plate observing the same precautions as for the assembly of the oil seal retainer on standard transmissions.

3. Enter the clutch cross-shaft into the clutch housing sufficiently to enable the release bearing return spring to be placed over the inner end of the shaft with the hooked end of the spring facing the left-hand side of the clutch housing. Place the release fork in the housing with the lug on the fork adjacent to the spring. Fully assemble the cross-shaft picking up the release fork.

Retain the fork to the cross-shaft with two clevis pins and secure with the appropriate split pins. The fork must project upwards with the release arm in the normal working position.

4. Rotate the fork in a forward direction, locate the release bearing on the oil seal retainer and link the fork with the slots in the bearing hub.

5. Place the outer end of the return spring in the pocket formed in the side of the clutch housing and link the inner end of the spring with the lug on the side of the release fork. Connect the clutch release rod to the release arm with a clevis pin and split pin.

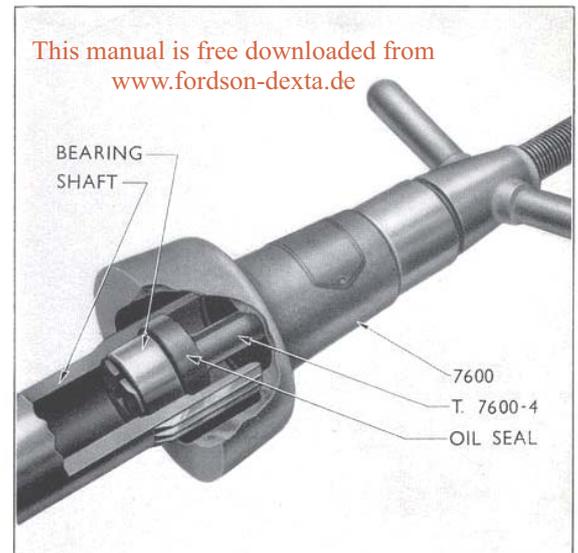


Fig. 4

**Removing P.T.O. Input Shaft Front Bearing**

6. Join the clutch housing to the engine as outlined in the Engine Section 'To Replace the Engine and Front Axle Assembly'.

**To Remove the P.T.O. Input Shaft Front and Rear Bearings ( ' Live ' P.T.O. Transmission only).**

1. Refer to the instructions for removal of the P.T.O. input shaft oil seals and withdraw the P.T.O. input shaft and oil seal retainer assembly. Extract the rear circlip and remove the shaft from the retainer.

2. If the front bearing requires servicing first extract the oil seal then remove the bearing using Main Tool No. 7600 and split collets T.7600-4 (see Fig. 4).

3. Remove the circlip retaining the rear bearing to the shaft and drive the bearing from the shaft by means of a suitable drift located between the teeth of the ' Live ' P.T.O. input shaft behind the bearing. On tractors produced before Serial No. 957E-63953 this bearing may be removed using adaptors T.7000-16 with Main Tool No. T.7000.

**To Replace the P.T.O. Input Shaft Front and Rear Bearings ( ' Live ' P.T.O. Transmission only).**

1. To assemble the rear bearing on to the shaft, place adaptors No. T.7000-10 in Tool No. T.7000, locate the bearing within the adaptors and pass the shaft through the bearing. Insert thrust pad T.7000-10/b into the bore at the gear end of the shaft, press the bearing into position and retain with the appropriate circlip.

2. Whenever the front bearing has been removed it should be regarded as expendable and both the bearing and the oil seal should be replaced by new parts.

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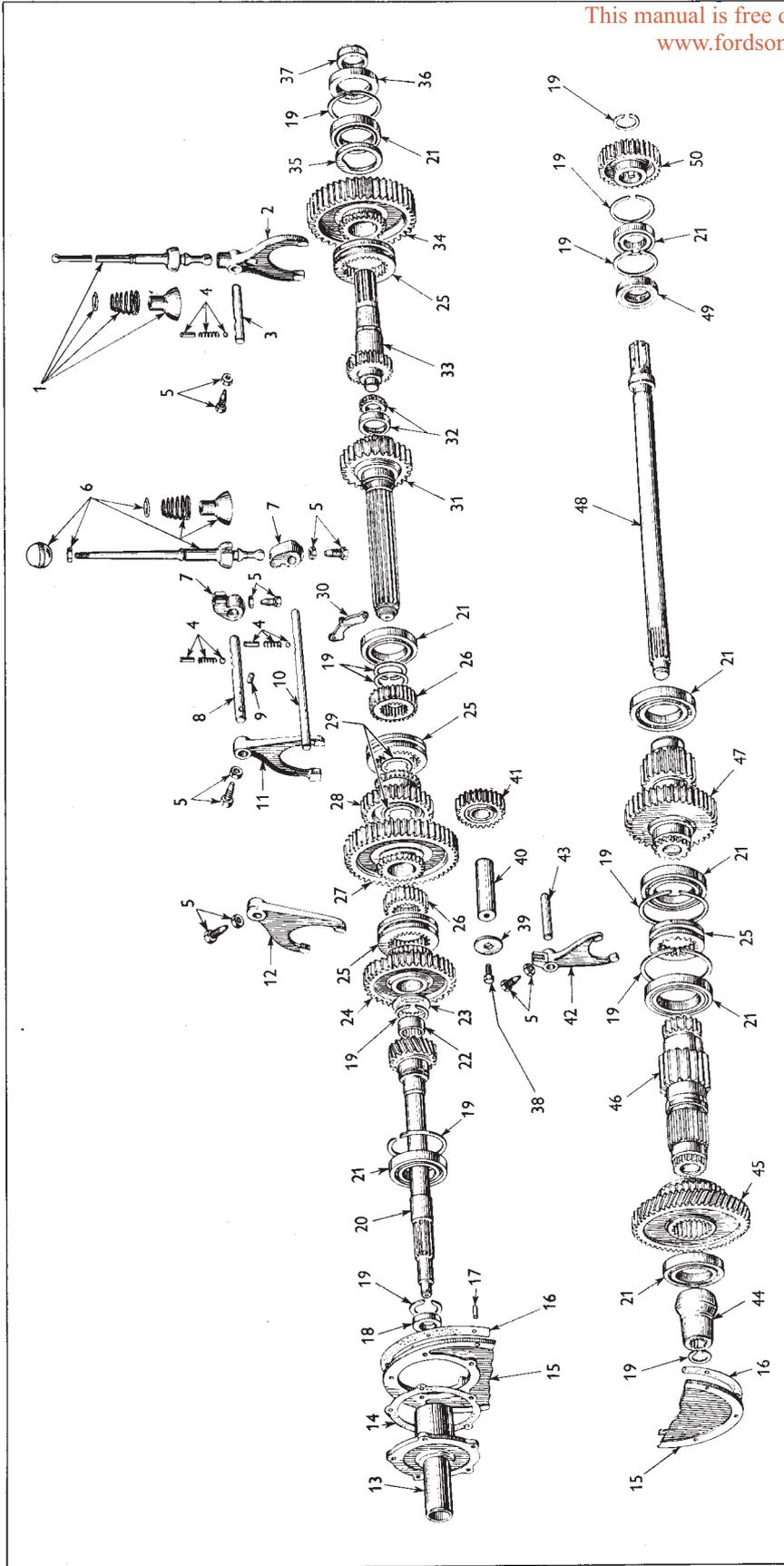


Fig. 5 Exploded View of Gearbox (Standard Transmission)

- 1 Secondary Gear Change Lever Assembly
- 2 High/Low Selector Fork
- 3 Selector Rail
- 4 Selector Plunger, Spring and Ball
- 5 Selector Fork Retaining Screw and Locknut
- 6 Main Gear Change Lever Assembly
- 7 Selector Rail Gates
- 8 Reverse Selector Rail
- 9 Selector Rail Interlock
- 10 1st/3rd/2nd/5th Selector Rail
- 11 Reverse Selector Fork
- 12 1st/3rd/2nd/5th Selector Fork
- 13 Oil Seal Retainer
- 14 Oil Seal Retainer Gasket
- 15 Front Cover Plate
- 16 Front Cover Plate Gasket
- 17 Front Cover Plate Dowel
- 18 Main Drive Shaft Oil Seal
- 19 Circlip
- 20 Main Drive Shaft
- 21 Ball Bearing
- 22 Spigot Roller Bearing
- 23 Thrust Washer
- 24 2nd/5th Gear
- 25 Sliding Coupling
- 26 Connector
- 27 1st/3rd Gear
- 28 Reverse Gear
- 29 Thrust Washer
- 30 Main Shaft Retaining Plate
- 31 Main Shaft
- 32 Spigot Bearing
- 33 Secondary Output Shaft
- 34 Secondary Output Shaft Gear
- 35 Thrust Washer
- 36 Oil Seal
- 37 Oil Seal Sleeve
- 38 Reverse Idler Retaining Bolt
- 39 Flat Washer
- 40 Reverse Idler Shaft
- 41 Reverse Idler Gear Assembly
- 42 4th/6th Selector Fork
- 43 4th/6th Selector Fork Supporting Rail
- 44 P.T.O. Driving Coupling
- 45 Transmission Countershaft Cluster Gear
- 46 Transmission Countershaft
- 47 Secondary Transmission Countershaft
- 48 P.T.O. Countershaft
- 49 Oil Seal
- 50 Hydraulic Pump Driving Gear

It is most important that the new bearing is fitted at the correct distance, i.e. 1.01 in. (25.65 mm.) from the front face of the shaft. Ring adaptor No. T.7000-20/a and its corresponding thrust pad T.7000-20/b used with guide sleeve T.7000-20/e in Tool No. T.7000 ensures that this distance is correct.

First place the new front bearing on the thrust pad with the end carrying the manufacturer's name facing towards the pad (i.e. away from the bore in the shaft). Place the guide sleeve in the front end of the shaft, locating the gear end in the slave ring of Main Tool No. T.7000.

Enter the bearing and pad into the guide sleeve and operate the centre screw of Tool No. T.7000 to press the bearing into the correct position. *It must not be pressed on to the shoulder at the inner end of the counterbore in the shaft.*

3. Replace the front oil seal and complete the assembly as previously described on page 2.

#### To Remove the Main Drive Shaft Assembly

1. Drain the oil from the gearbox.
2. Remove the bonnet, disconnect the battery and remove the control panel side plates (four self-tapping screws in each plate).

Disconnect the two rear lamp wires from the main wiring loom (snap connectors).

3. Disconnect the brake and clutch rod clevises at their front ends.

**3a. Remove the brake cross-shaft lever and key and withdraw the brake pedals and cross-shaft as an assembly.**

4. Remove the horizontal exhaust pipe (if fitted).
5. Disconnect the front axle radius rods at their rear ends.

Remove the steering wheel and throttle control lever from the vertical control shaft. Release the instrument panel by removing the four screws securing it to the fuel tank and lift the instrument panel away from the steering column leaving all wiring connections attached.

Remove the three bolts retaining the fuel tank rear support bracket to the gearbox housing and the two bolts securing the fuel tank to its front support bracket.

Lift the tank sufficiently for the rear support to clear the gearbox flange and insert suitable wooden wedges between the steering drop arm and the tank to hold it in this position.

Firmly support the gearbox housing and install lifting tackle on the engine.

Remove the retaining bolts and nuts securing the gearbox to the clutch housing and move the engine and clutch housing assembly complete with steering box and fuel tank away from the gearbox.

5a. Suitably support the gearbox/clutch unit and split the tractor at the engine/clutch housing flange (see Engine Section 'To Remove the Engine and Front Axle Assembly').

5b. Open the fuel tank tap and drain off the contents through the main fuel feed pipe.

5c. Disconnect the injector leak-off pipe from the tank and remove the pipe.

5d. Move the throttle lever upwards, so pushing the forward end of the throttle horizontal operating rod through the adjacent slot in the battery heat baffle. Release the operating rod block from the linkage friction pad by removing the retaining linkage clip.

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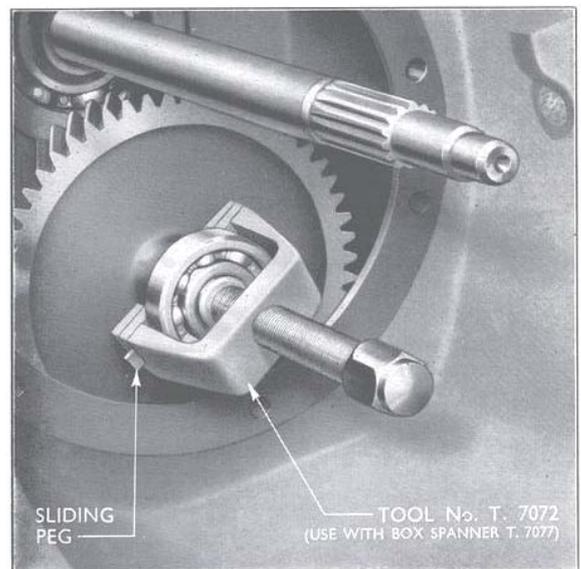


Fig. 6

#### Removing P.T.O. Countershaft Front Bearing

5e. Remove the five bolts retaining the battery heat baffle and battery tray to the top of the clutch housing and lift away the tray and baffle complete with air cleaner and forward controls of the throttle linkage. Removing these bolts also releases the battery earth strap and the earth lead from the main wiring loom.

5f. Remove the bolts securing the front and rear fuel tank support brackets to the clutch and gearbox housing.

5g. Unscrew the four bolts securing the steering gear to the clutch housing.

5h. Lift away the steering gear, fuel tank and support brackets, control panel and wiring as one complete assembly. The assembly should be handled and stored carefully to avoid damaging any parts.



Fig. 7  
Removing Main Drive Shaft

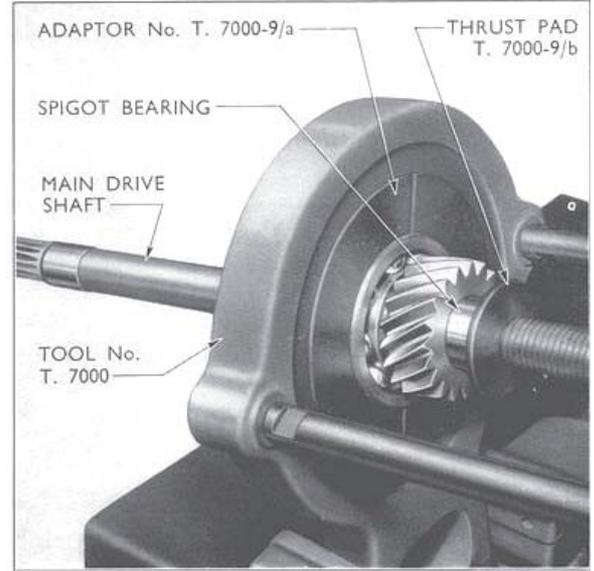


Fig. 8  
Replacing Main Drive Shaft Spigot Bearing

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5i. Remove the clutch release bearing, return spring and fork and withdraw the clutch cross-shaft.

5j. Straighten the locking tabs and remove the screws retaining the front cover plate (the top screw passes through both the oil seal retainer and the cover plate) and remove the cover plate, P.T.O. input shaft and oil seal retainer as an assembly.

5k. Remove the circlip retaining the P.T.O. countershaft front bearing to the countershaft and using Tool No. T.7072 with special box spanner T.7077 withdraw the bearing from the shaft (see Fig. 6). Ensure that the small sliding pegs of the tool fit snugly behind the inner race of the bearing when carrying out this operation.

5l. Remove the bolts, nuts and spring washers securing the clutch housing to the gearbox and lift away the clutch housing.

6. Extract the circlip retaining the main drive shaft ball bearing to the clutch housing and withdraw the shaft and bearing assembly (see Fig. 7).

*To Overhaul the Main Drive Shaft Assembly*

*Either the ball or the spigot (roller) bearing may be serviced independently but the ball bearing must be in position before assembling the spigot bearing to the shaft.*

- (i) Remove the circlip retaining the ball bearing to the shaft and drive the bearing from the shaft by means of a suitable drift located

*between the helical teeth behind the bearing. On tractors produced before Serial No. 957E-63953 the bearing may be removed using adaptors T.7000-9/a with Main Tool No. T.7000.*

- (ii) *If necessary, withdraw the spigot (roller) bearing from the gear end of the shaft using Main Tool No. 7600 and split collets T.7600-5.*

*Whenever the spigot bearing is removed, it is recommended that it is discarded and a new bearing used on reassembly.*

- (iii) *Reverse the shaft and ball bearing in the Main Tool T.7000 and using adaptors T.7000-9/a and thrust pad T.7000-9/b in the spigot bearing end of the shaft, draw the ball bearing into position and retain with an appropriate circlip.*

- (iv) *If the spigot bearing has been removed, assemble a new spigot bearing to the main drive shaft as illustrated in Fig. 8.*

*It is important that when the new spigot bearing is fitted, it is assembled at a depth of .09 in. (2.29 mm.) from the drive shaft rear face, and that the end of the bearing carrying the manufacturer's name faces away from the bore in the shaft. Thrust pad T.7000-9/b ensures that the correct depth is maintained.*

*It must not be pressed to such a depth as to seat on the bottom of the counterbore in the shaft.*

### To Replace the Main Drive Shaft Assembly

1. Place the main drive shaft assembly in the clutch housing and retain by fitting a circlip behind the ball bearing. Where a single clutch is fitted, careful assembly is necessary to obviate damage to oil seal, clutch disc splines and spigot bearing.
2. Using a new gasket and guide studs (Tool No. T.7068) join the engine/clutch housing assembly to the gearbox.

**Note.**—It may be necessary to use an extra long bolt and nut on each side of the assembly in order to draw the two housings completely together and ensure that the main transmission countershaft front bearing seats fully into its location in the clutch housing.

Insert the retaining bolts, spring washers and nuts and tighten securely.

Locate the ball ends of the front axle radius rods in the ball cups on the gearbox housing and refit the radius rod ball caps.

Remove the wooden wedges, lower the fuel tank into position and replace the tank to front support bracket bolts and the fuel tank rear support bracket to gearbox housing bolts.

Refit the instrument panel and warning light retaining plate.

Replace the throttle control lever and the steering wheel.

**2a.** Place the P.T.O. driving gear within the rear compartment of the clutch housing and install guide studs (Tool No. T.7068) in diametrically opposite holes in the gearbox flange. Using a new gasket, join the clutch and gearbox housings, assembling the P.T.O. driving gear to the splines of the P.T.O. countershaft as the housings are moved together. Insert the retaining bolts, nuts and spring washers and tighten securely.

**2b.** Tap the front ball bearing onto the P.T.O. countershaft and retain with the appropriate circlip.

**2c.** Replace the front cover plate, P.T.O. input shaft and oil seal retainer assembly, using a new gasket between the cover and housing. Fit the locking plates and retaining screws. Tighten the retaining screws to a torque of 40 lb. ft. and secure by means of the locking tabs.

**2d.** Assemble the clutch cross-shaft, fork, return spring and release bearing.

**2e.** Replace the steering gear, fuel tank and support brackets, control panel and wiring assembly. Secure the steering box to the clutch housing with four bolts (the forward bolt on the right-hand side also retains the horn assembly), and the fuel tank rear support bracket to the gearbox housing with three bolts.

**2f.** Refit the battery heat baffle and air cleaner assembly and the battery tray. Secure the fuel tank front support bracket and the rear of the battery tray to the clutch housing with three bolts. (The right-hand bolt also secures the main wiring loom earth connection and the left-hand bolt the battery earth strap.)

Secure the front of the battery tray and the heat baffle to the clutch housing with two bolts. (The right-hand bolt also secures the main wiring loom clip.)

**2g.** Reconnect the throttle horizontal operating rod block to the linkage friction pad (at the heat baffle) and retain with the linkage clip.

Connect the injector leak-off pipe to the fuel tank.

**2h.** Join the engine to the clutch housing as described in the Engine Section 'To Replace the Engine and Front Axle Assembly'.

**2i.** Refit the brake pedals and cross-shaft assembly, fit a Woodruff key to the left-hand end of the cross-shaft, assemble the cross-shaft arm and retain with a pinch bolt.

3. Reconnect the clutch and brake operating rods.

4. Refit the horizontal exhaust pipe (if required).

5. Reconnect the rear lamp wiring to the main wiring loom and replace the control panel side plates.

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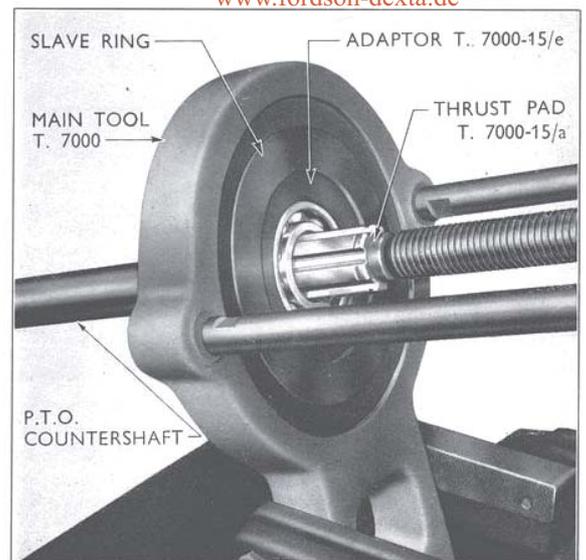


Fig. 9

Removing P.T.O. Countershaft Rear Bearing

6. Replace the battery leads and refit the bonnet.
7. Fill the gearbox with the correct grade of lubricant (see specification).

**7a. Fill the fuel tank and bleed the injection system.**

**To Remove the Secondary Transmission**

1. Drain the oil from rear transmission and follow operations 1, 2, 3, 4 and 5 of sub-section headed 'To Remove the Main Drive Shaft Assembly' then remove the circlip retaining the P.T.O. countershaft driving coupling to the countershaft and extract the coupling.

**1a. Drain the oil from the rear transmission and follow operations 1, 2, 3, 3a, 4, 5a, 5i, 5j and 5k of sub-section headed 'To Remove the Main Drive Shaft Assembly'.**

2. Remove the front foot plate bracket to gearbox housing bolts on either side of the tractor.
3. Firmly support the rear transmission housing, remove the bolts and nuts securing the gearbox to the rear transmission and separate these assemblies.
4. Remove the hydraulic pump driving gear shroud, extract the circlip retaining the hydraulic pump driving gear to the rear of the P.T.O. countershaft and withdraw the gear from the shaft.
5. Remove the locking wire and retaining screws and lift away the rear cover plate assembly complete with P.T.O. countershaft.
6. If necessary extract the circlip retaining the P.T.O. countershaft rear bearing to the rear cover plate and withdraw the countershaft and bearing.

**To Renew the P.T.O. Countershaft Rear Bearing**

*Main Tool No. T.7000 with slave ring may be used to withdraw and replace the P.T.O. countershaft rear bearing.*

- (i) Locate adaptor T.7000-15/e behind the bearing and place the shaft and bearing assembly together with the adaptor in the Main Tool (in which the slave ring has already been assembled).
- (ii) Place thrust pad T.7000-15/a between the rear end of the shaft and the centre screw of the tool (see Fig. 9) and press the shaft through the bearing.
- (iii) To replace the bearing, first place adaptor T.7000-15/d within ring T.7000-15/e and assemble to the P.T.O. countershaft so that the inner adaptor locates against the front face of the oil seal journal.



Fig. 10

**Replacing Secondary Output Shaft Oil Seal**

- (iv) Place this assembly in Main Tool T.7000, using the Main Tool slave ring to locate the outer adaptor.
- (v) Position the bearing on the rear end of the P.T.O. countershaft and using replacement thrust sleeve T.7000-15/b between the bearing and the centre screw of the Main Tool press the bearing onto the shaft until it seats against the rear face of the oil seal journal.

**o Overhaul the Rear Cover Plate Assembly**

- (i) Extract the secondary transmission output shaft oil seal.
- (ii) Extract the P.T.O. countershaft oil seal.
- (iii) Using adaptor T.7073 with 550 handle, fit a new secondary transmission output shaft oil seal to the rear cover plate, making the assembly from the outside of the cover and driving the seal as far as possible into the retainer (see Fig. 10) without actually contacting the circlip when the circlip is against the rear face of its groove. Several alternative types of oil seal are used in this location but if the type being fitted has a spring loaded main sealing edge, ensure that this edge faces the inside of the cover plate.
- (iv) Using adaptor T.7074 with 550 handle, fit a new P.T.O. countershaft rear oil seal to the rear cover plate ensuring that the main sealing edge faces the inside of the cover. Make the assembly from the inside of the cover and drive the seal into position to seat against the retaining circlip.

7. Partially remove the secondary transmission countershaft gear assembly so that the inner bearing is free from its locating bore and lower the assembly on to the floor of the gearbox rear compartment. Withdraw the secondary transmission output shaft and gear assembly followed by the secondary countershaft assembly (see Fig. 11).

*To Overhaul the Secondary Countershaft Assembly*

- (i) Remove the front bearing from the countershaft. On tractors produced before Serial No. 957E-63953 the bearing may be removed using adaptors T.7000-14 with the Main Tool T.7000.
- (ii) Repeat the operation on the rear bearing using the same adaptors and Main Tool.
- (iii) New bearings may be fitted with these adaptors by reversing the dismantling procedure.

*To Overhaul the Secondary Transmission Output Shaft Assembly*

The following procedure pre-supposes that a complete overhaul of the assembly is to be undertaken. If required, however, the front bearing inner race may be removed, using the same tools, without disturbing the gear, rear bearing and oil seal sleeve, and vice versa.

The front (spigot) bearing inner race is a press fit on the output shaft and it must be serviced as a matched assembly with the cup which is held in the rear counterbore of the transmission main shaft. (Refer to page 13 'To Overhaul the Main Shaft' and note that the tool for replacement of the cup has been designed for use with the inner race assembled

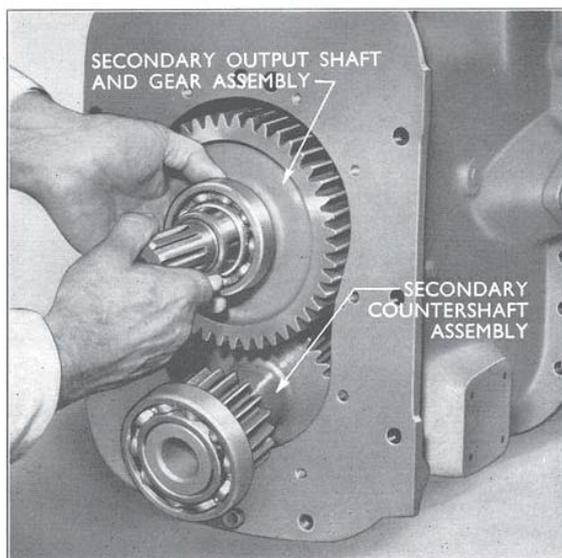


Fig. 11  
**Removing Secondary Gearbox Shafts**

to the cup. The cup must therefore be assembled to the main shaft before the assembly of the inner race to the secondary transmission output shaft.)

- (i) Assemble split adaptors T.7000-12 around the front bearing inner race and place the assembly in Main Tool T.7000. (See Fig. 12.) Apply pressure to the front end of the shaft by tightening the centre screw of the tool and withdraw the bearing inner race.
- (ii) Place the output shaft assembly in Tool No. T.7000 (without adaptors) with the front face of the gear against the tool frame and the splined end of the shaft towards the centre screw of the tool. The gear, thrust washer, rear bearing and oil seal sleeve may then be withdrawn in one operation (see Fig. 13).

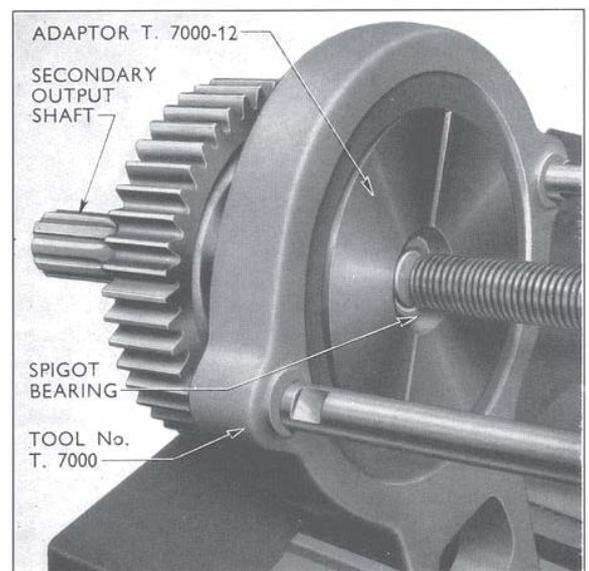


Fig. 12  
**Removing Secondary Output Shaft Spigot Bearing**

- (iii) To rebuild the assembly, replace the gear on the shaft with the dog teeth adjacent to the splined connector. Fit the thrust washer and note that a flat on the washer matches a corresponding flat on the outside diameter of the shoulder on the shaft.
- (iv) Place ring adaptor T.7000-13 within slave ring of Tool No. T.7000, locate the bearing on the shaft and pass the rear end of the shaft through the ring adaptor so that the spigot end of the shaft faces towards the centre screw of the tool. Press the bearing into position to seat against the thrust washer.
- (v) Remove the shaft assembly from the tool, locate the oil seal sleeve on the shaft (with the chamfered end of the sleeve facing away from the bearing) and replace this assembly in the Main Tool. (See Fig. 14.)

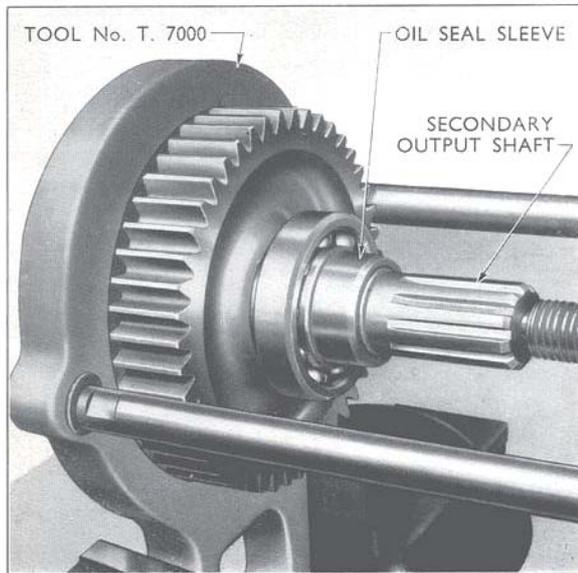


Fig. 13  
Dismantling Secondary Output Shaft

Press the oil seal sleeve into position to seat against the bearing.

- (vi) Remove the assembly and substitute split adaptors T.7000-12 for those formerly used. Place the front bearing inner race in the adaptors and locate the output shaft assembly between the bearing race and the centre screw of the tool. Press the shaft into the bearing until it seats securely against the shoulder on the shaft.

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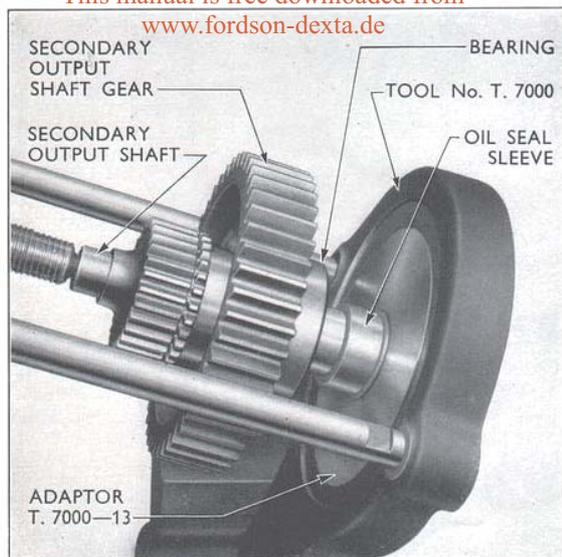


Fig. 14  
Replacing Secondary Output Shaft Oil Seal Sleeve

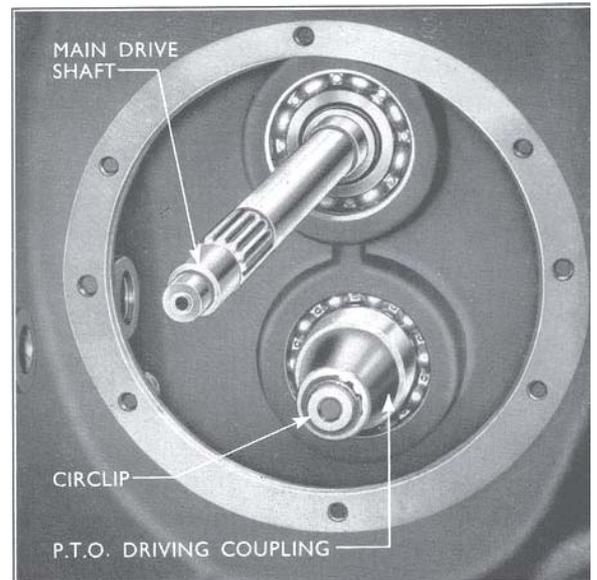


Fig. 15  
P.T.O. Countershaft Driving Coupling

**To Replace the Secondary Transmission**

1. Ensure that the High/Low sliding coupling is located within the jaws of the fork and move to the 'High' speed engaged position on the main shaft.
2. Place the secondary countershaft assembly within the rear compartment of the gearbox, but do not press the front bearing into its bore otherwise it will be impossible to assemble the secondary transmission output shaft assembly.
3. Install the secondary output shaft assembly, then press the secondary countershaft and bearing assembly fully into position.

**Note:**—The secondary output shaft and the High/Low sliding coupling are serviced as a matched assembly, the faces of the splines on shaft and coupling being marked to show their relative radial assembled position. These marks must coincide when assembly of the output shaft is completed.

4. Assemble the P.T.O. countershaft and bearing assembly to the rear cover plate, using guide sleeve T.7097 to prevent damage to the oil seal, and secure with the appropriate circlip.
5. Using a new gasket between the cover plate and gearbox, replace the cover plate and P.T.O. countershaft assembly. Ensure that the two dowels, fitted at the top and bottom of the cover plate, locate correctly in the corresponding dowel holes in the rear face of the gearbox housing.

**5a. Examine the P.T.O. countershaft driving gear to ensure that the thrust washer and circlip are fitted to the internal bore. Place the gear in the rear compartment of the clutch housing.**

Using a new gasket between cover plate and gearbox, replace the rear cover plate and P.T.O. countershaft assembly picking up the P.T.O. driving gear on the forward splines of the countershaft as the assembly is made.

6. Fit and tighten the rear cover plate retaining screws to a torque of 40 lb./ft., then secure with locking wire.

7. Assemble the P.T.O. countershaft driving coupling to the splines of the P.T.O. and main transmission countershafts and secure with the appropriate circlip (see Fig. 15).

**7a. Support the rear of the P.T.O. countershaft and tap the front bearing onto the shaft. Insert a circlip in the groove in the P.T.O. countershaft directly in front of the bearing location to retain the bearing in position.**

8. Replace the hydraulic pump driving gear (see Fig. 16), retaining it to the countershaft with the appropriate circlip.

9. Fit the hydraulic pump driving gear shroud and ensure that the small tab at the bottom of the shroud is turned up to correctly locate in the cut-out of the boss in the base of the rear cover plate. Stake the edge of the shroud into the groove machined in the cover boss.

10. Locate a new gasket on the rear axle housing flange and assemble two guide studs (Tool No. T.7068/a) to the gearbox flange. The threaded ends of the guide studs must first be screwed into the retaining plates (T.7068/b) and the protruding threaded ends then inserted in the bolt holes in the flange and retained by the appropriate nuts.

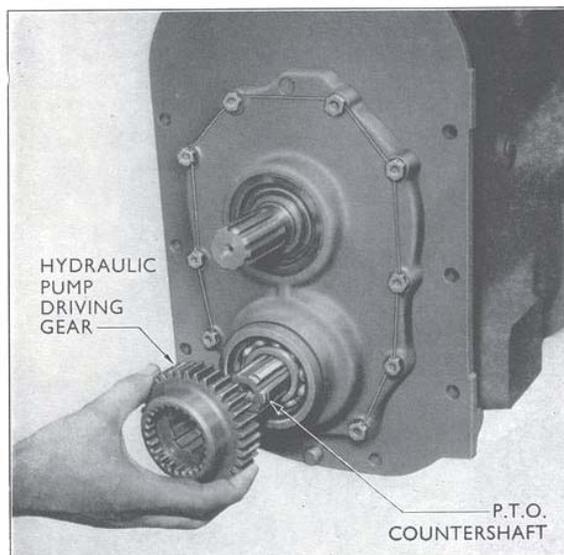


Fig. 16  
Replacing Hydraulic Pump Driving Gear

11. Locate the main drive coupling well forward on the rear axle drive pinion splines with the P.T.O. shifter lever in the disengaged position.

12. Join the gearbox and rear transmission housings, lining them up carefully on the guide studs so as to engage the main drive coupling splines with the secondary output shaft of the gearbox. Fit the flange bolts, nuts and spring washers and tighten securely.

13. Refit the footplate bracket to gearbox housing bolts. **The lower bolt on the left-hand side also secures the clutch pedal return spring tab on 'Live' P.T.O. transmissions.**

14. Refer to section headed 'To Replace the Main Drive Shaft' and follow operation 2.



Fig. 17  
Removing Main Countershaft Gear and Bearing

**14a. Refer to section headed 'To Replace the Main Drive Shaft' and follow operations 2c, 2d and 2i.**

15. Refer to section headed 'To Replace the Main Drive Shaft' and follow operations 3, 4, 5, 6 and 7.

16. Refill the rear transmission with the same type of oil as was used in the gearbox.

#### To Remove the Transmission Main Shaft Assembly

1. Remove the secondary transmission output shaft and countershaft assemblies as outlined in section headed 'To Remove the Secondary Transmission'.

**1a. Remove the clutch housing as outlined in operations 1 to 5I of sub-section headed 'To Remove the Main Drive Shaft', drain the oil from the rear transmission and carry out operations 2 to 7 of sub-section headed 'To Remove the Secondary Transmission'.**

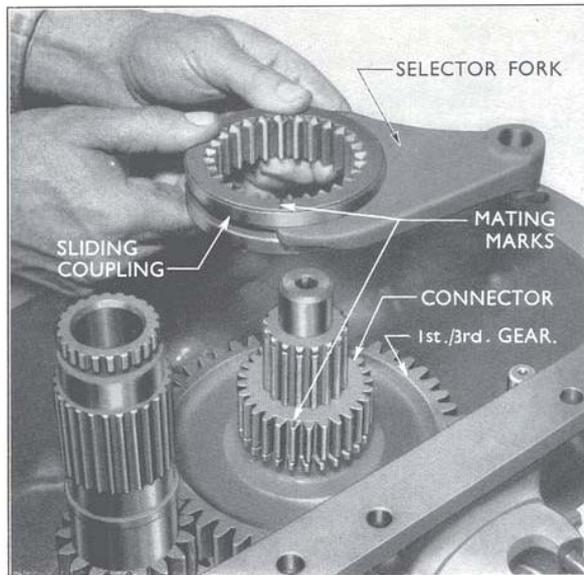


Fig. 18  
**Removing 1st/3rd; 2nd/5th Sliding Coupling**

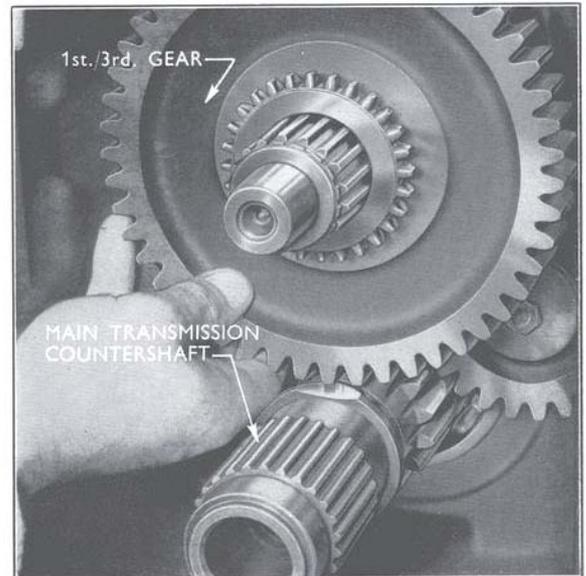


Fig. 19  
**Removing First/Third Gear**

2. Place the gearbox on its rear face.
3. Draw the main transmission countershaft cluster gear and front bearing from the countershaft, using extension legs T.555-1/a in Main Tool No. 555. When using this tool, first assemble the legs to the outer holes in the swinging arms, but do not tighten the retaining nuts. Locate thrust pad T.555-1/b in the end of the countershaft and place the tool so that the recess in each leg fits around the teeth of the large gear of the cluster (see Fig. 17). The arms of the tool should always 'trail' and care should be taken to ensure that the lower edges of the recesses in the legs seat firmly behind the gear teeth.

Tighten the nuts retaining the legs to the swinging arms and operate the centre screw of the tool to withdraw the gear and bearing in one operation.

4. Extract the circlip from the front end of the mainshaft and remove the splined thrust washer, followed by the second/fifth gear. Loosen the locknut and remove the screw from the first/third/second/fifth speed selector fork and withdraw the fork and sliding coupling (see Fig. 18).

Remove the corresponding splined connector followed by the first/third gear, thrust washer, reverse idler driven gear and the second thrust washer.

When removing the first/third gear from the mainshaft, the main transmission countershaft should be positioned so that the flat machined face on the tapered portion of the shaft is facing the mainshaft as illustrated in Fig. 19.

5. Turn the gearbox on to its base, remove the selector cover and levers as an assembly, and extract the three selector plungers and springs. Suitably seal off the holes from which the springs and plungers have been removed so that the balls are not lost during subsequent operations.
6. Remove the high/low speed sliding coupling, loosen the corresponding selector fork retaining screw locknut, extract the screw and withdraw the selector rail and fork. The selector ball will drop and care should be taken not to lose it.
7. Free the transmission main shaft by removing the rear bearing retaining plate which is held by two self-locking screws. Withdraw the main shaft, bearing and reverse connector as an assembly.

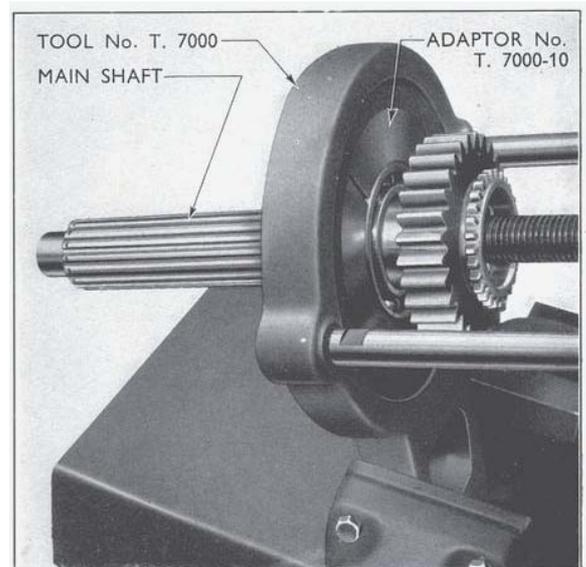


Fig. 20  
**Replacing Main Shaft Bearing**

*To Overhaul the Transmission Main Shaft Assembly*

- (i) *Withdraw the connector from the shaft and remove the circlip against which the connector was located. Remove the circlip retaining the ball bearing and remove the bearing from the mainshaft using split adaptors T.7000-10 with the Main Tool T.7000.*

*On tractors produced before Serial No. 957E-63953 the mainshaft bearing is retained by means of a circlip in front of the connector and a spacing collar is located between the connector and the bearing. Remove the circlip, connector and spacer before removing the bearing as described above.*

- (ii) *To assemble the ball bearing to the shaft, place adaptors T.7000-10 in Tool No. T.7000, locate the bearing on the shaft and place this assembly in the tool with the front face of the bearing located in the adaptors (see Fig. 20). Press the bearing into position to seat against the shoulder directly behind the gear.*

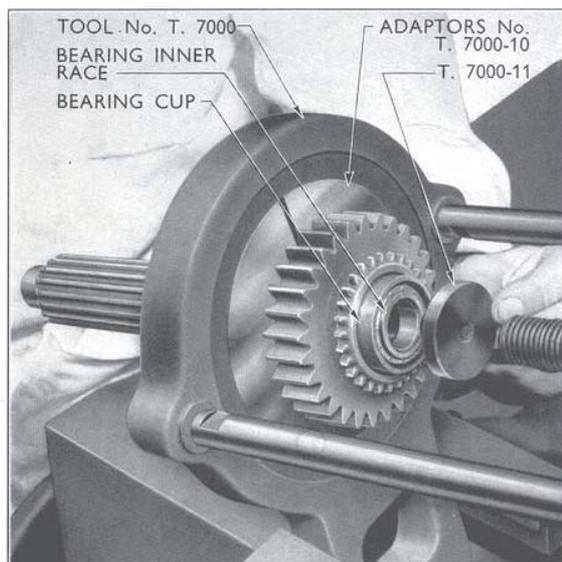


Fig. 21

**Replacing Spigot Bearing Cup**

*Fit the circlip to retain the bearing. Replace the circlip against which the connector locates and replace the connector.*

*On tractors produced before Serial No. 957E-63953, replace the spacer to locate against the ball bearing, fit the connector and secure to the mainshaft by means of the appropriate circlip.*

- (iii) *If it is found necessary to remove the spigot bearing cup at the gear end of the shaft, the*

*ball bearing should first be removed when it will be noted that two holes are provided in the gear to enable a suitable pin punch to be inserted and the cup driven out. The cup and its corresponding inner race (on the secondary output shaft) must be serviced as a matched pair (see 'To Overhaul the Secondary Transmission Output Shaft Assembly').*

- (iv) *To replace the bearing cup, refit the ball bearing as previously described, assemble the inner race to the cup and locate the complete bearing in the counterbore at the rear of*

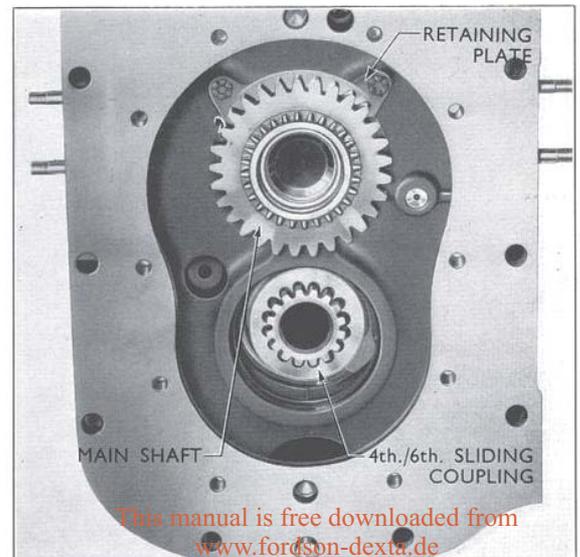


Fig. 22

**Main Shaft Retaining Plate**

*the main shaft. With the main shaft assembly in Tool No. T.7000 and split adaptors T.7000-10 around the ball bearing, locate thrust pad T.7000-11 in the inner race (see Fig. 21). Press the bearing into position until the cup seats firmly in the bottom of the counterbore. Remove the inner race and assemble to the secondary transmission output shaft as previously described.*

**To Replace the Transmission Main Shaft Assembly**

1. Hold the reverse fork and sliding coupling as close as possible to the main shaft rear bearing bore, and fit the main shaft assembly, picking up the internal splines of the sliding coupling on the external splines of the reverse connector and seating the main shaft ball bearing in the upper bore in the front wall of the gearbox rear compartment.

**Note.**—The reverse connector and sliding coupling are serviced as a matched assembly, the faces of the splines being marked to indicate their

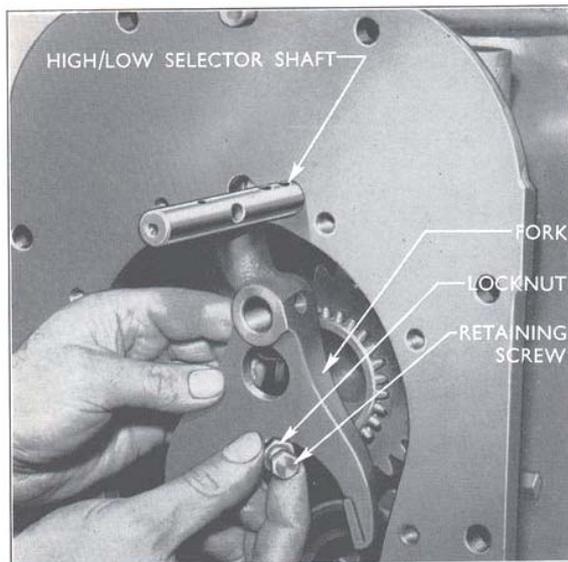


Fig. 23  
**Replacing High/Low Selector Fork and Rail**

relative radial assembled position. These marks must coincide when the main shaft assembly is completed.

2. Position the bearing retaining plate against the rear of the bearing and secure to the gearbox with two self-locking screws (see Fig. 22). Tighten the self-locking screws to 23 lb. ft. torque.

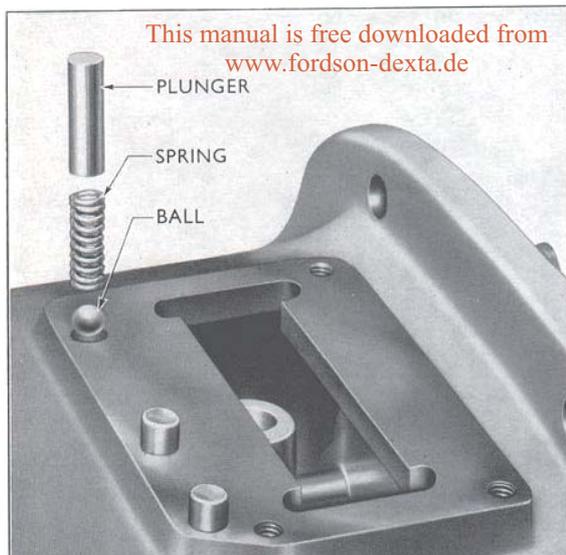


Fig. 24  
**Gear Selector Balls, Springs and Plungers**

3. Position the high/low speed fork, in the rear compartment of the gearbox. The fork must be assembled with the hollow boss (for the selector lever) facing towards the left-hand side of the gearbox (see Fig. 23). Assemble the corresponding selector rail picking up the fork and insert the fork to rail securing screw ensuring that the screw locates firmly in the depression in the selector rail before tightening the locknut.

4. Replace the centre and left-hand selector springs and plungers followed by the right-hand (high/low) selector ball, plunger and spring (see Fig. 24).

5. Refit the selector lever and housing assembly engaging the levers with the selector rail gates and the high/low selector fork.

Use a new gasket between the selector housing and the gearbox housing, fit the retaining screws and lockwashers and tighten securely.



Fig. 25  
**Fitting Main Countershaft Front Bearing**

6. Turn the gearbox onto its rear face and fit the thrust washer, reverse driven gear and second thrust washer to the mainshaft.

Note that on tractors produced before Serial No. 957E-63953 these thrust washers are not fitted.

7. Turn the main transmission countershaft so that the machined flat on the tapered portion of the shaft is facing towards the mainshaft. Replace the first/third gear with the dog teeth facing outwards.

8. Assemble the first/third/second/fifth speed connector. This is a close sliding fit on the splines of the main shaft and it may be necessary to try several positions in order to obtain the best fit.

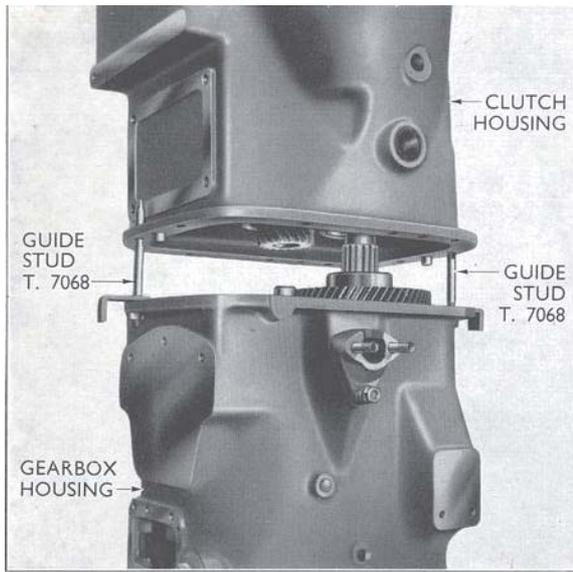


Fig. 26  
Assembling Clutch Housing to Gearbox

9. Place the corresponding sliding coupling within the jaws of the first/third/second/fifth speed selector fork and assemble the fork to the appropriate selector rail, at the same time picking up the splines of the connector on the sliding coupling.

**Note.**—The connector and sliding coupling are serviced as a matched assembly, the faces of the splines being marked to indicate their relative radial position when assembled (see Fig. 18).

Secure the fork to the rail with a retaining screw and tighten the locknut.

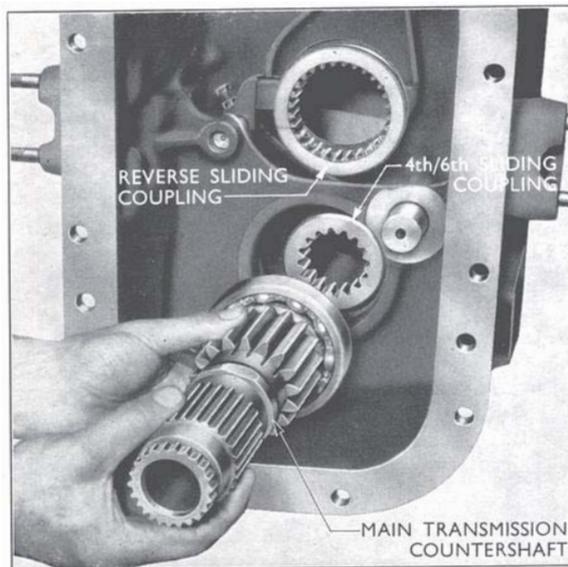


Fig. 27  
Withdraw Main Countershaft

10. Assemble the second/fifth gear to the main shaft (dog teeth inwards) followed by the thrust washer and fit a circlip to retain the assembly to the main shaft.

11. Fit the main transmission countershaft cluster gear with the smaller gear facing inwards and install the front bearing using Tool No. T.7069 with 550 handle (see Fig. 25).

**11a.** Using guide studs T.7068, join the clutch housing to the gearbox (see Fig. 26).

12. Turn the assembly onto its base, insert the high/low sliding coupling within the jaws of the corresponding selector fork and complete the assembly by following the operations listed under sub-section headed 'To Replace the Secondary Transmission'.

**12a.** Turn the assembly onto its base, insert the high/low sliding coupling within the jaws of the corresponding selector fork and follow operations 1 to 13 of sub-section headed 'To Replace the Secondary Transmission' then carry out operations 2c to 7a of sub-section headed 'To Replace the Main Drive Shaft'.

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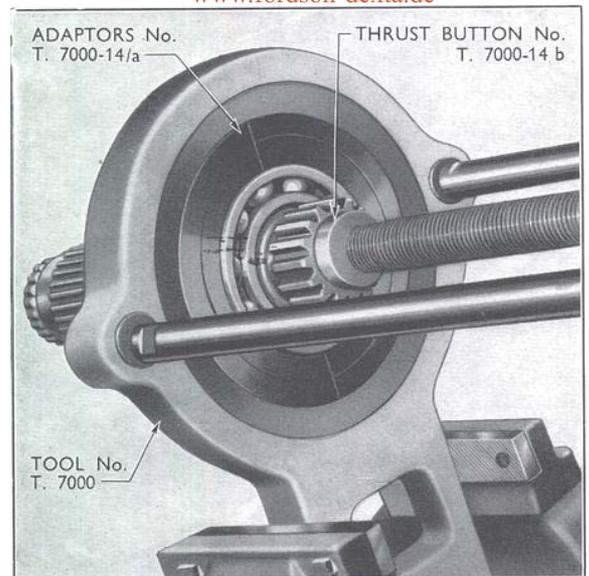


Fig. 28  
Removing Main Countershaft Rear Bearing

**12b.** Refill the rear transmission with a similar grade of oil as was used in the gearbox.

**To Completely Dismantle the Gearbox**

1. Remove the main shaft as described in the previous sub-section.

2. Remove the reverse idler retaining bolt and washer and withdraw the reverse idler gear from the front compartment of the gearbox.

On tractors produced before Serial No. 957E-63953, on which the reverse idler gear is retained by a long bolt passing through the idler shaft, remove the self-locking nut and plain washer (located in the gearbox rear compartment) from the retaining bolt and extract the reverse idler gear, retaining bolt and washer from the front compartment of the gearbox.

3. Withdraw the main transmission countershaft and rear bearing assembly (see Fig. 27).

*If so desired, the rear bearing may be withdrawn from the countershaft using adaptors T.7000-14/a and thrust pad T.7000-14/b in Tool No. T.7000 as illustrated in Fig. 28.*

*The same adaptors may be used to effect replacement of the bearing on the shaft by reversing the dismantling procedure.*

4. Loosen the locknuts on the two selector rail gate retaining screws and remove the screws and gates.

5. Remove the reverse sliding coupling, loosen the reverse fork retaining screw and slide the selector rail from the gearbox followed by the selector fork.

The selector ball will drop when the shaft is removed and should be placed with the selector springs and plungers removed earlier in the dismantling sequence.

6. Remove the first/third/second/fifth gear selector rail and collect the selector ball which will drop when the rail is removed.

7. If necessary remove the expansion plug located on the left-hand side of the gearbox (in the cross-drilling between the selector rails at the selector rail front support) and extract the selector rail interlock.

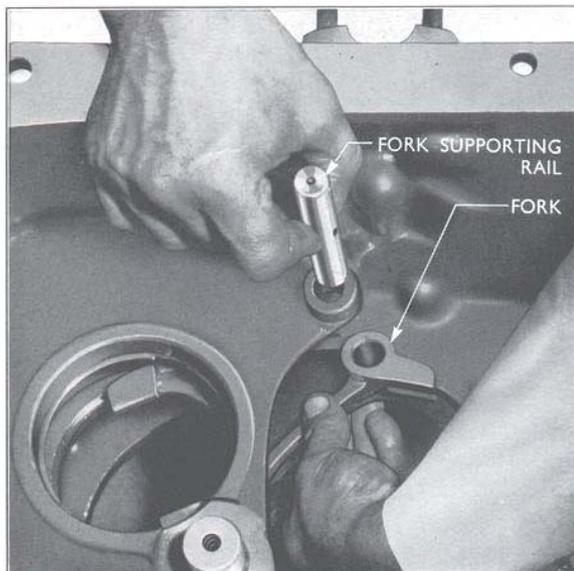


Fig. 29  
Replacing 4th/6th Selector Fork

8. Loosen the locknut and remove the fourth/sixth gear selector fork screw, withdraw the selector fork supporting rail followed by the fork and remove the sliding coupling from the gearbox.

9. If necessary, remove the circlips retaining the main transmission countershaft rear bearing and the secondary transmission countershaft front bearing to their respective bores in the gearbox.

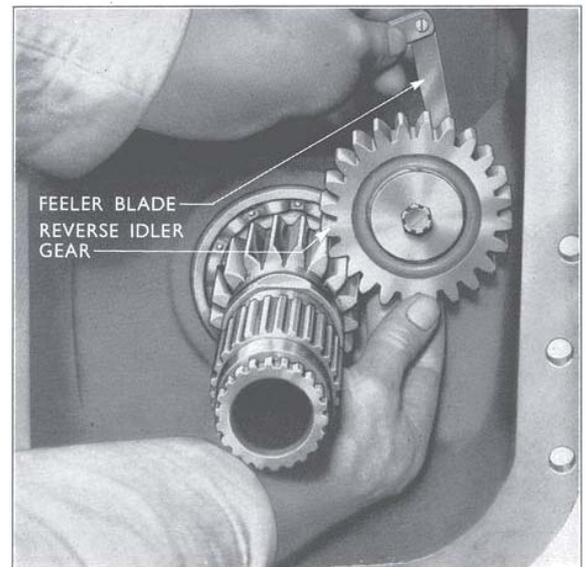


Fig. 30

#### Checking Reverse Idler Gear End-float

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10. Drive out the reverse idler shaft if it is necessary to effect a replacement.

#### To Rebuild the Gearbox/Clutch Unit

1. Replace the circlips retaining the main transmission countershaft rear bearing and secondary countershaft front bearing to the gearbox. The bearings will already be assembled to their respective shafts and will be fitted to the gearbox as built up assemblies later in the sequence.

2. Place the gearbox on to its rear face using suitable packing to protect the rear flange. If the reverse idler gear shaft has been removed, it should now be replaced and driven into position so that it protrudes between 1.30 to 1.31 in. (33.02 to 33.27 mm.) forward of the front face on the counterbore in the gearbox wall with the tapped hole towards the front.

3. Assemble the fourth/sixth gear selector fork supporting rail, picking up the selector fork as the rail is moved into position (see Fig. 29). The slot in the selector fork boss should incline towards the centre of the gearbox so that it can be linked with the reverse selector fork.

Insert the retaining screw ensuring that the tapered end of the screw enters the depression in the selector fork supporting rail and tighten the locknut.

4. Position the reverse fork in the gearbox with the slot in the fork linked with the tongue on the fourth/sixth gear fork. Insert the reverse selector rail picking up the corresponding fork. Make the assembly from the front of the gearbox and ensure that the three closely spaced notches in the rail face upwards and to the rear. Ensure that the fork to rail securing screw enters the depression in the rail and tighten the locknut.

5. Replace the selector gate on the rear end of the reverse selector rail (in the rear compartment of the gearbox) with the open side of the gate slot facing the left-hand of the gearbox. Tighten the retaining screw ensuring that the tapered end of the screw enters the depression in the rail and securely tighten the locknut.

6. Replace the interlock in the cross-drilling in the selector rail front support and insert the first/third/second/fifth speed selector rail picking up the corresponding selector gate in the rear compartment of the gearbox. The three closely spaced notches on the rail go to the rear and face upwards, and the slot in the gate faces the corresponding slot in the adjacent selector gate. Tighten the selector gate retaining screw ensuring that the tapered end of the screw locates correctly in the depression in the rear end of the shaft and then securely tighten the locknut. Install the interlock bore sealing cap.

7. Insert the reverse sliding coupling within the jaws of the reverse selector fork and then place the fourth/sixth sliding coupling within the jaws of the fourth/sixth selector fork.

8. Move the fourth/sixth fork and coupling as close as possible to the front wall of the gearbox. This will facilitate replacement of the main transmission countershaft and bearing assembly which should now be fitted. The dog teeth on the countershaft must pick up the internal splines of the sliding coupling as the bearing is assembled to the housing.

**Note.**—The outside diameter of this coupling is less than that of the other three couplings which are used on this gearbox.

9. Turn the gearbox onto its base and install the reverse idler gear (boss on gear facing inwards). Secure the gear to the shaft by means of the self locking bolt screwed into front end of the shaft.

On tractors produced before Serial No. 957E—63953, insert the long retaining bolt and washer, making the assembly from the front of the gearbox. Fit the plain washer and self-locking nut to the end of the retaining bolt which protrudes into the rear compartment of the gearbox.

Check that the end-float of the gear is between .010 and .025 in. (.25 and .63 mm.). A small break-out of the counterbore enables a feeler to be inserted between the back face of the gear and the machined face of the wall separating the front and rear gearbox compartments (see Fig. 30).

10. Refit the main shaft and complete the assembly as outlined under sub-section headed 'To Replace the Transmission Main Shaft Assembly'.

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**GEARBOX SPECIFICATIONS**

**Gear Ratios and Road Speeds (10 × 28 Rear Tyres)**

Gear	Ratio	Final Ratio	800 r.p.m.		1500 r.p.m.		1800 r.p.m.		2000 r.p.m.	
			MPH	KPH	MPH	KPH	MPH	KPH	MPH	KPH
1st	30.5	204	.51	.82	.96	1.54	1.16	1.86	1.27	2.04
2nd	17.0	113.5	.92	1.48	1.72	2.77	2.08	3.35	2.30	3.70
3rd	10.28	68.6	1.53	2.46	2.87	4.62	3.43	5.54	3.82	6.15
4th	7.55	50.2	2.08	3.35	3.90	6.28	4.68	7.54	5.20	8.38
5th	5.73	38.2	2.74	4.41	5.14	8.27	6.16	9.92	6.85	11.03
6th	2.53	16.8	6.18	9.96	11.59	18.67	13.92	22.42	15.45	24.88
Low Reverse	18.70	124.2	.84	1.35	1.57	2.53	1.89	3.04	2.10	3.38
High	6.30	42.0	2.49	4.01	4.67	7.52	5.60	9.01	6.22	10.01
<i>P.T.O. Standard and "Live"</i>	3.333	—	<i>P.T.O. Revs. per minute at above engine speed</i>							
			240		450		540		600	

	Inches	Millimetres
<b>Main Drive Shaft Needle Roller Bearing</b>		
Rear face of shaft to rear face of bearing	0.09	2.29
<b>"Live" P.T.O. Input Shaft Needle Roller Bearing</b>		
Front face of shaft to front face of bearing	1.01	25.65
<b>Reverse Idler Shaft</b>		
Protrusion into gearbox front compartment	1.30 to 1.31	33.02 to 33.27
<b>Reverse Idler Gear</b>		
End-float	.010 to .025	.25 to .64
<b>Lubricant</b>		
	Above 20°F. (—7°C.)	S.A.E. 30 H.D. } or 20W/30 H.D
	Below 20°F. (—7°C.)	S.A.E. 20 H.D. }

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Tightening Torque Figures	lb. ft.	kg.m.
Gearbox housing to clutch housing	35	4.84
Oil seal retainer to front cover plate	40	5.53
Front cover plate to clutch housing	40	5.53
Rear cover plate to gearbox	40	5.53
Main shaft retaining plate screws	23	3.18

	<i>Inches</i>	<i>Millimetres</i>
<b>Main Drive Shaft Needle Roller Bearing</b>		
Rear face of shaft to rear face of bearing .. .. .	0.09	2.29
<b>“ Live ” P.T.O. Input Shaft Needle Roller Bearing</b>		
Front face of shaft to front face of bearing .. .. .	1.01	25.65
<b>1st/3rd, 2nd/5th Main Shaft Gears and Reverse Driven Gear</b>		
Inside diameter .. .. .	1.801 to 1.802	45.746 to 45.771
<b>Main Shaft Spline</b>		
Outside diameter .. .. .	1.7994 to 1.7999	45.705 to 45.718
Clearance .. .. .	.0011 to .0026	.028 to .0660
<b>Reverse Idler Shaft</b>		
Outside diameter .. .. .	1.122 to 1.123	28.449 to 28.524
<b>Reverse Idler Gear</b>		
Bore diameter (Bush) .. .. .	1.1245 to 1.1255	28.562 to 28.588
Clearance .. .. .	.0015 to .0035	.038 to .089
<b>Reverse Idler Shaft</b>		
Protrusion into gearbox front compartment .. .. .	1.30 to 1.31	33.02 to 33.27
<b>Reverse Idler Gear</b>		
End-float .. .. .	.010 to .025	.25 to .64
<b>P.T.O. Countershaft</b>		
Rear bush—internal diameter (finished size) .. .. .	.502 to .503	12.75 to 12.78
Rear end of bush to rear end of countershaft .. .. .	.10	2.54
<b>Secondary Output Shaft</b>		
{ Diameter at oil seal sleeve .. .. .	1.5001 to 1.5006	38.102 to 38.115
{ Oil seal sleeve internal diameter .. .. .	1.498 to 1.499	38.049 to 38.075
{ Interference .. .. .	.001 to .0026	.027 to .067
<b>Secondary Output Shaft</b>		
{ Diameter at gear location .. .. .	1.873 to 1.874	47.574 to 47.600
{ Secondary output shaft gear internal diameter (bush) .. .. .	1.875 to 1.876	47.625 to 47.651
{ Clearance .. .. .	.001 to .003	.025 to .077

<i>Tightening Torque Figures</i>	<i>lbs. ft.</i>	<i>kg.m.</i>
Gearbox housing to clutch housing .. .. .	35	4.84
Oil seal retainer to front cover plate .. .. .	40	5.53
Front cover plate to clutch housing .. .. .	40	5.53
Rear cover plate to gearbox .. .. .	40	5.53
Main shaft retaining plate screws .. .. .	23	3.18

Lubricant .. .. . Above 20°F. (−7°C.) S.A.E. 30 H.D. } or 20W/30 H.D.  
 Below 20°F. (−7°C.) S.A.E. 20 H.D.

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## SUPER DEXTA GEARBOX

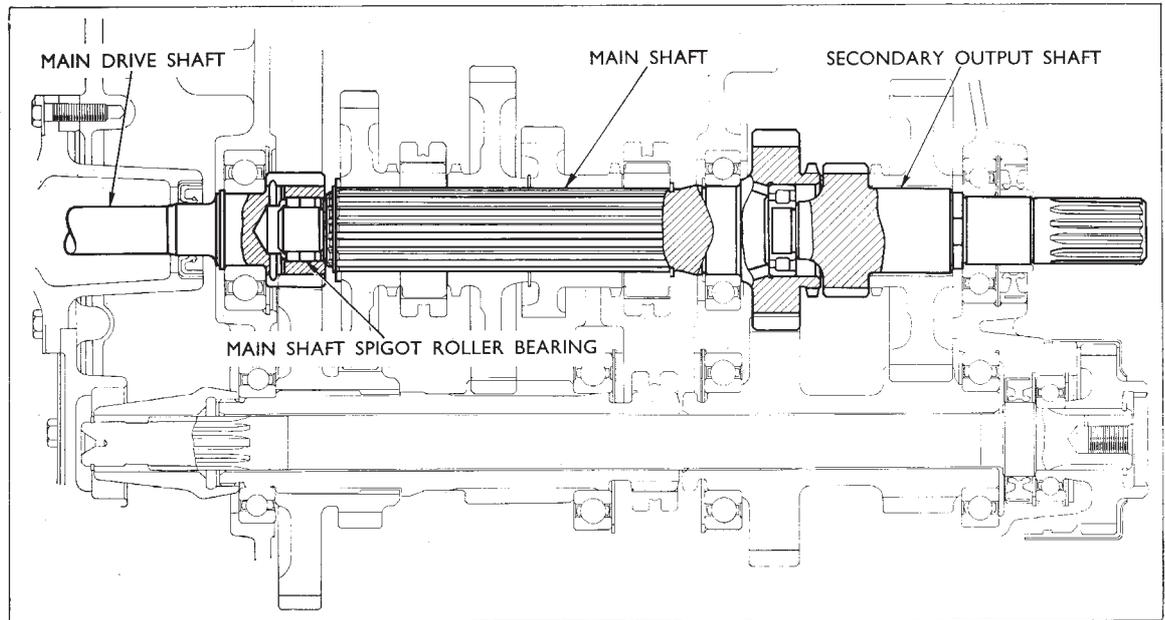


Fig. 31

### Special Super Dextra Gearbox Components

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Whilst the gearbox assembly fitted to the Super Dextra gives the same overall gear ratios and is basically the same as that used on the standard Dextra, some of the Super Dextra gearbox components have increased strength in order to transmit the greater power available from the Super Dextra engine.

Fig. 1 illustrates four of the parts which are affected and the differences are described in detail in this section.

#### Main Shaft Spigot Bearing

The "Torrington" type main shaft spigot roller bearing, which is a press fit in the main drive shaft of the standard Fordson Dextra gearbox, is not suitable for use in the Super Dextra gearbox.

A "Hoffmann" type, fully floating, roller bearing (see Fig. 32) is fitted to the Super Dextra gearbox. No special service tools are required for assembly purposes as is necessary with the "Torrington" type bearing (see page 6) but it is important that the correct main drive shaft is used.

#### Main Drive Shaft

The spigot roller bearing bore in the Super Dextra main drive shaft differs in size from that in the standard Dextra shaft and it has four lubrication holes drilled between the gear teeth into the bore (see Fig. 33) as against one hole in the current standard Dextra shaft. To provide further identification the shafts

are marked with different colour paint spots—see Identification Chart.

#### Main Shaft

The spigot journal of the main shaft used in the Super Dextra gearbox has a diameter of 0.9968 to 0.9973 in. (25.318 to 25.331 mm.) whereas that of the standard Dextra shaft has a diameter of 1.225 to 1.1230 ins. (28.511 to 28.524 mm.).

These shafts are also marked with different colour paint spots for identification purposes—see Identification Chart.

#### Secondary Output Shaft

The splined end of the Super Dextra secondary output shaft is larger in diameter than the equivalent portion of the standard Dextra shaft. In addition the Super Dextra shaft has 14 splines whereas the standard shaft has 10 splines.

#### Reverse Idler Shaft

In addition to the parts mentioned above the reverse idler shaft used on the Super Dextra differs from that fitted to previous Dextra models. The current shaft completely replaces all previous shafts for service on all Dextra tractors and it may be identified by its length, 4.18 ins. (106.17 mm.), and the presence of a threaded hole in the inner end. Very early Dextra shafts also had a length of 4.18 ins. (106.17 mm.) but did not have a threaded hole in the end.

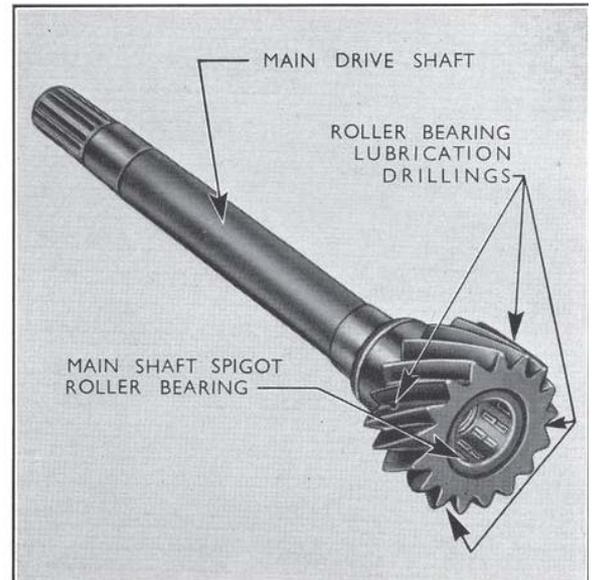
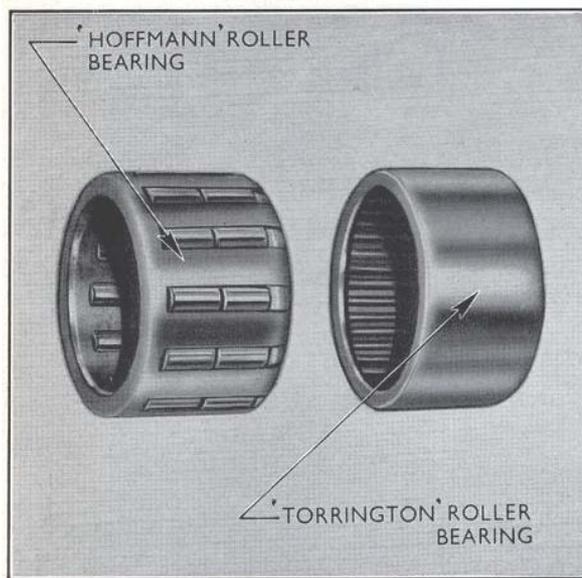
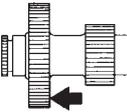
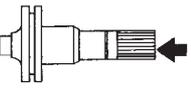


Fig. 32 Main Shaft Spigot Bearings [www.fordson-dexta.de](http://www.fordson-dexta.de) Fig. 33 Main Drive Shaft and Bearing Assy. (Super Dextra)

Special ratio gearboxes are fitted to both Standard and Super Dextra tractors for certain Export territories to meet legal requirements in respect of speed. The gears which differ from standard are also shown in the following chart.

**IDENTIFICATION CHART**

ITEM	PAINT MARKING			
	STANDARD DEXTA		SUPER DEXTA	
	Standard Ratio	Special Ratio	Standard Ratio	Special Ratio
 MAIN DRIVE SHAFT	YELLOW No. of teeth 17	YELLOW No. of teeth 17	WHITE No. of teeth 17	WHITE No. of teeth 17
 SECONDARY COUNTERSHAFT	YELLOW No. of teeth 37/20	RED No. of teeth 33/18	YELLOW No. of teeth 37/20	RED No. of teeth 33/18
 MAINSHAFT	YELLOW No. of teeth 28	LIGHT BLUE No. of teeth 32	WHITE No. of teeth 28	RED No. of teeth 32
 SECONDARY OUTPUT SHAFT	YELLOW No. of splines 10	YELLOW No. of splines 10	WHITE No. of splines 14	WHITE No. of splines 14
 SECONDARY OUTPUT SHAFT GEAR	YELLOW No. of teeth 45	RED No. of teeth 47	YELLOW No. of teeth 45	RED No. of teeth 47