

# SHOP MANUAL

## FORD

### FORDSON DEXTA, FORDSON SUPER DEXTA FORD 2000 SUPER DEXTA NEW PERFORMANCE SUPER DEXTA

Tractor serial number is stamped on left side of clutch housing flange and prefixed by model number. Engine serial number is stamped on left hand side of cylinder block.

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# CONDENSED SERVICE DATA

## GENERAL

Torque Recommendations	See End of Shop Manual
Engine Make	Perkins
Cylinders	3
Bore—Inches, Fordson Dexta	3.5
Bore—Inches, Fordson Super Dexta, Ford 2000 Super Dexta, New Performance Super Dexta	3.6
Stroke—Inches	5
Displacement—Cubic Inches, Fordson Dexta	144
Displacement—Cubic Inches, Fordson Super Dexta, Ford 2000 Super Dexta, New Performance Super Dexta	152.7
Compression Ratio (144 cu. in.)	16.5:1
(152.7 cu. in.)	17.4:1
Pistons Removed From:	Above
Main & Rod Bearings Adjustable?	No
Cylinder Sleeves—Type	Dry
Generator & Starter Make	Lucas

## TUNE-UP

Firing Order	1-2-3
Valve Tappet Gap—Intake & Exhaust	0.010 H
Valve Face Angle—Degrees	44
Valve Seat Angle—Degrees	45
Engine Low Idle—RPM	550
Engine High Idle—RPM (New Performance Super Dexta)	2450

Engine High Idle—RPM (All Other Models)	2200
PTO High Idle—RPM	See Paragraph 47 or 48
Battery Terminal Grounded	Positive

## SIZES—CAPACITIES—CLEARANCES

Crankshaft Journal Diameter	2.749
Crankpin Diameter	2.249
Camshaft Journals Diameter (Front)	1.87
(Center)	1.86
(Rear)	1.84
Piston Pin Diameter	1.25
Valve Stem Diameter, Intake	0.3115
Valve Stem Diameter, Exhaust	0.3115
Main Bearing Diametral Clearance	0.0025-0.0045
Rod Bearings Diametral Clearance	0.002-0.0035
Piston Skirt Clearance (144 cu. in. engine)	0.0035-0.0055
Piston Skirt Clearance (152 cu. in. engine)	0.0045-0.0065
Crankshaft End Play	0.002-0.010
Camshaft Bearing Diametral Clearance	0.004-0.008
Cooling System—Quarts	9
Crankcase—Quarts (with Filter)	8
Transmission—Quarts	14
Differential, Final Drive & Hydraulic Reservoir—Quarts	20.4
Steering Gear Housing	1 Pint

# FRONT SYSTEM AND STEERING

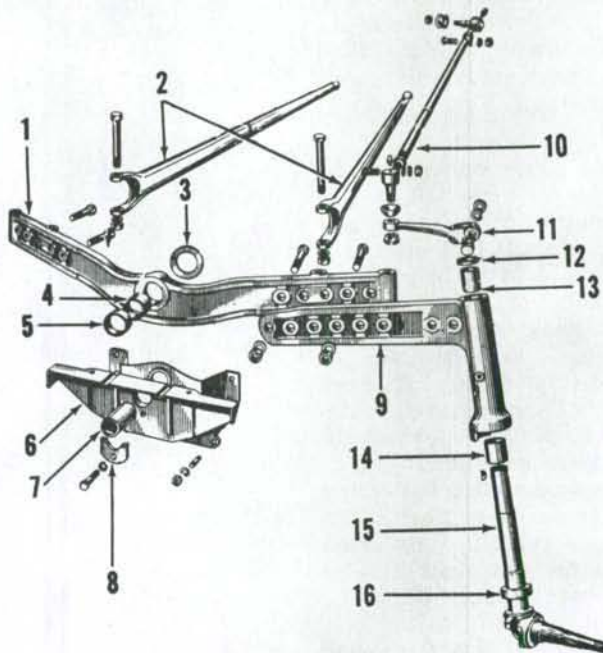


Fig. FO500—Exploded view of front axle and related parts used on the Fordson Dexta. Similarity to American produced Ford tractors will be noted.

- |                       |                       |                   |                    |
|-----------------------|-----------------------|-------------------|--------------------|
| 1. Axle center member | 5. Front spacer       | 9. Axle extension | 13. Upper bushing  |
| 2. Radius rod         | 6. Front support      | 10. Drag link     | 14. Lower bushing  |
| 3. Rear spacer        | 7. Pivot pin          | 11. Steering arm  | 15. Spindle        |
| 4. Pivot pin bushing  | 8. Pivot pin retainer | 12. Dust seal     | 16. Thrust bearing |

## SPINDLE BUSHINGS

1. To renew the spindle bushings, support front of tractor and disconnect steering arms from the wheel spindles. Slide spindle and wheel assemblies from axle extensions and remove old bushings using a cape chisel. Install new bushings using a piloted drift of the appropriate size. Internal diameter of new bushings are 1.2495-1.2515 for the upper bushing (13—Fig. FO500) and 1.3425-1.3445 for the lower bushing (14). Diameter of a new spindle (15) is 1.245-1.246 at the upper bearing surface and 1.338-1.339 for the lower.

## AXLE CENTER MEMBER AND PIVOT PIN BUSHING

2. To remove the axle center member (1—Fig. FO500), support front of tractor and unbolt radius rods and axle extensions from the axle center member. Remove the axle pivot pin clamping bolt and retainer (8) and remove the pivot pin using a pilot bearing puller and slide hammer. Slide axle center member sideways out of front support (6).

Axle pivot pin bushing (4) can be renewed at this time and should be installed with a piloted drift. New



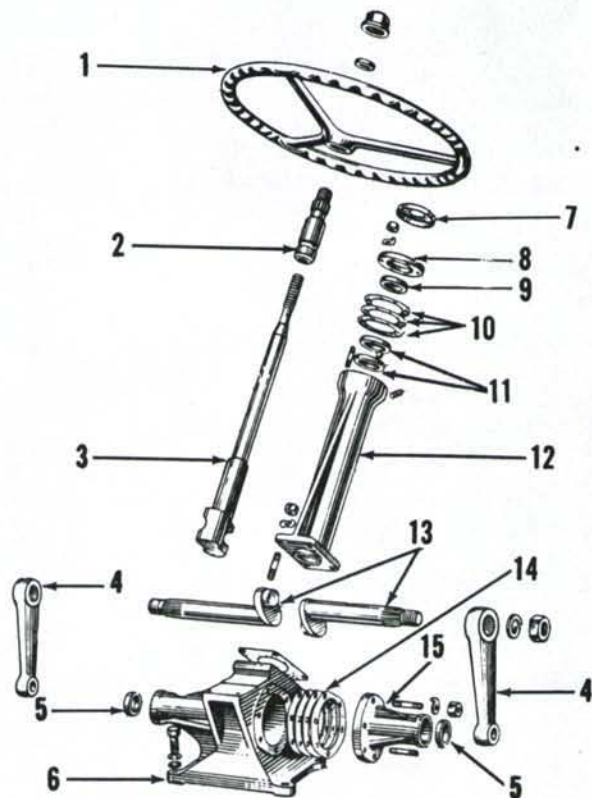


Fig. FO501 — Exploded view of worm and nut type steering gear. Rotary movement of the main nut (2) moves the worm shaft (3) vertically, rotating the two rocker shafts (13) in opposite directions.

1. Steering wheel
2. Steering gear main nut
3. Steering worm shaft
4. Steering arm
5. Oil seal
6. Main housing
7. Dust cap
8. Top cover plate
9. Oil seal
10. Shim pack
11. Ball bearings
12. Steering coulmn
13. Rocker shafts
14. Shim pack
15. Rocker shaft housing

bushing will require no final sizing if not distorted during installation. Make certain, however, that pivot pin has a free fit in the bushing before reinstalling the axle center member.

Tighten the pivot pin retaining cap screw to a torque of 75-85 ft.-lbs. and the front axle extension bolts to a torque of 100-110 ft.-lbs.

### FRONT SUPPORT

3. To remove the front support (6—Fig. FO500), remove front axle as outlined in paragraph 2, drain cooling system and remove the hinged hood, grille assembly and radiator. Unbolt and remove the front support from the engine mounting bolts.

### DRAG LINKS AND TOE-IN

4. Drag link ends are of the non-adjustable automotive type. The procedure for renewing the drag link ends is evident. Correct toe-in is  $\frac{1}{4}$  to  $\frac{1}{2}$ -inch. During original factory assembly, toe-in is correctly set and chisel marks are made on the spindle steering arms and axle extensions to mark the setting. In servicing the front end, make sure that each drag link is varied an equal amount to obtain the correct toe-in.

### STEERING GEAR

5. The worm and nut type steering gear used on the Dexta tractor is of unique design. An examination of the exploded view shown in Fig. FO501 will assist in understanding the steering gear operation.

The steering gear main nut (2) is secured to the upper end of steering column (12) by the loose ball bearing (11) which controls both end and side thrust. The main nut ball bearing is adjusted by means of the cover plate (8) and adjusting shims (10). Rotation of the steering wheel acts on the worm shaft (3) to raise or lower the shaft in the steering column. The two rocker shafts (13) act directly in machined slides in the lower end of the worm shaft to rotate the steering arms (4) in the proper direction to perform the steering action. End float of the rocker shafts is controlled by shims (14) between the left shaft housing (15) and the main housing (6).

6. **ADJUSTMENT.** Both the rocker shaft end float and the main nut bearing should be adjusted to eliminate slack without applying preload. The steering shaft main nut bearing controls side play as well as end float. To check the main nut bearing adjustment, grasp the rim of the steering

wheel and check for excessive rocking motion. If excessive motion is found, rig a dial indicator to contact the top of the steering wheel nut and measure the end float while moving the main nut back and forth with the steering wheel. To correct the bearing adjustment, first remove steering wheel nut and steering wheel, drive pin from the throttle lever and remove lever. Remove the four screws retaining upper instrument panel and move panel to the side out of the way. If necessary, the warning light bulb holders can be pulled out of their sockets. Bend back the locking tabs on the six cover plate retaining nuts and remove the nuts and cover plate. The cover plate oil seal can be renewed at this time. Remove shims corresponding in thickness to the measured end play and reinstall the cover plate and retaining nuts. Shims are available in thicknesses of 0.002, 0.004 and 0.010. Disconnect the steering drag links at the rear and check steering gear for free rotation before reassembling. Tighten the cover plate nuts to a torque of 10-15 ft.-lbs. and lock in place. Reassemble by reversing the disassembly procedure.

To check the end float of the rocker shafts, rig a dial indicator to bear on the end of the left rocker shaft and check for end float in the shaft by moving it back and forth with the steering arm. If end float is excessive, the steering gear should be removed and overhauled as outlined in paragraphs 7 and 8.



Fig. FO502—To remove the steering worm shaft from main housing, remove lower stud and withdraw shaft through side opening as shown.



**7. REMOVE AND REINSTALL.** To remove the steering gear assembly, first remove the hood, battery and steering housing lower side plates. Drain approximately ½ gallon of coolant from the radiator and remove the temperature indicator sending unit from the engine block. Remove the steering wheel, drive the pin from the throttle lever and remove lever. Remove the four screws retaining the upper instrument panel plate and remove the plate. Disconnect the fuel, primer and bleed back lines from the fuel tank and unbolt and remove the tank complete with upper instrument panel and temperature gage. Disconnect and remove the vertical throttle rod. Disconnect the drag links from the steering arms and unbolt and remove the steering gear assembly.

To reinstall, reverse the removal procedure. Secure the warning light bulb holders to the upper steering column with a piece of string before installing the fuel tank. Make sure the three rubber mounting pads are in place before fastening the fuel tank in place.

**8. OVERHAUL.** First remove the unit from the tractor as outlined in paragraph 7, then unstack and remove the six nuts retaining the steering gear top cover and remove the cover

(8—Fig. FO501). Remove the main nut upper race and the fifteen loose balls and unscrew the main nut (2) from the steering worm shaft (3). Invert the steering assembly over a drain pan and drain the oil. Unstack and remove the four nuts retaining the steering column (12) to the main housing and remove the column. The main nut bearing lower race can be removed from the upper end of the steering column at this time by drifting it out from below with a suitable drift.

Unstack and remove the six nuts retaining the left rocker shaft housing (15) to the main housing and remove the housing and left rocker shaft (13). Keep the adjusting shims (14) together in a safe place to avoid damage to the shims. Remove the lower stud from the main housing and remove the steering worm shaft from the side opening as shown in Fig. FO502.

Clean the parts in a suitable solvent and examine. Renew those that are scored, worn or otherwise damaged. Always renew the oil seals when the steering gear is disassembled. The outer and inner rocker shaft bushings are serviced and should be sized after installation if necessary.

Assemble the steering gear by reversing the disassembly procedure. When installing the left rocker shaft and housing, omit the shim pack and tighten the six retaining nuts evenly finger tight. Measure the gap in several places as shown in Fig. FO503 and equalize the gap by adjusting the nuts. When the gap has been equalized, use a feeler gage to determine the thickness of shim pack necessary to remove all end float without binding. Steel shims are available in thicknesses of 0.005 and 0.030 and paper gaskets in thicknesses of 0.002 and 0.010. The 0.010 gasket will compress to approximately 0.007 when nuts are

properly torqued. A paper gasket should be fitted on each side of the shim pack. Tighten the six retaining nuts to a torque of 55-65 ft.-lbs. and stake in place.

Reinstall the steering column and tighten the retaining nuts to a torque of 55-65 ft.-lbs.; then, install the steering nut, the fifteen bearing balls and upper race. Remove the shim pack (10—Fig. FO501) from the cover plate and install the plate and retaining nuts finger tight. Determine the thickness of the shim pack as outlined for the rocker shaft adjustment, remove the cover and install a shim pack of the proper thickness to just eliminate end float without causing any binding tendency. Tighten the six retaining nuts to a torque of 10-15 ft.-lbs. and stake in place. Center the steering worm shaft between the stops by counting the revolutions of the main nut and fill the steering gear with 90W lubricant as follows:

Remove the bleed plug in the upper end of the steering column and pour the lubricant down the center of the main nut until the upper end of the worm shaft is just covered. Reinstall the bleed plug and reinstall the steering gear on the tractor.

There are no master splines for the location of the steering arms on the rocker shafts. When correctly installed, both arms will incline to the rear approximately 7 degrees with the worm shaft half way between the stops. To aid in installing the arms, one chisel mark has been made on the outer end of the rocker shafts and two chisel marks are located on the outer face of the large boss on the steering arm. The chisel mark on the shaft should index with one of the marks on the steering arm, depending on which side of the tractor it is installed. If the chisel marks are in alignment and both arms incline to the rear an equal amount, the steering arms are properly installed.

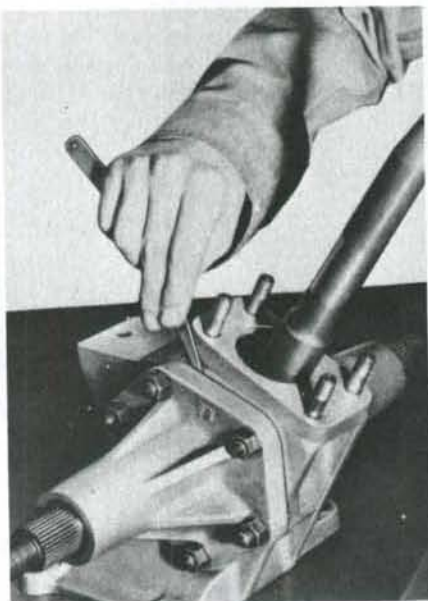


Fig. FO503—Rocker shaft and main nut bearing are adjusted to zero clearance by means of shims. Method of determining thickness of shim pack is shown, see text for details.

## ENGINE AND COMPONENTS

The Fordson Dexta tractor is equipped with a three-cylinder diesel engine having a bore of 3.5 inches, a stroke of 5 inches and a piston displacement of 144 cubic inches.

The Fordson Super Dexta, Ford 2000

Super Dexta and New Performance Super Dexta are equipped with a three-cylinder diesel engine having a bore of 3.6 inches, a stroke of 5.0 inches and a piston displacement of 152 cubic inches.