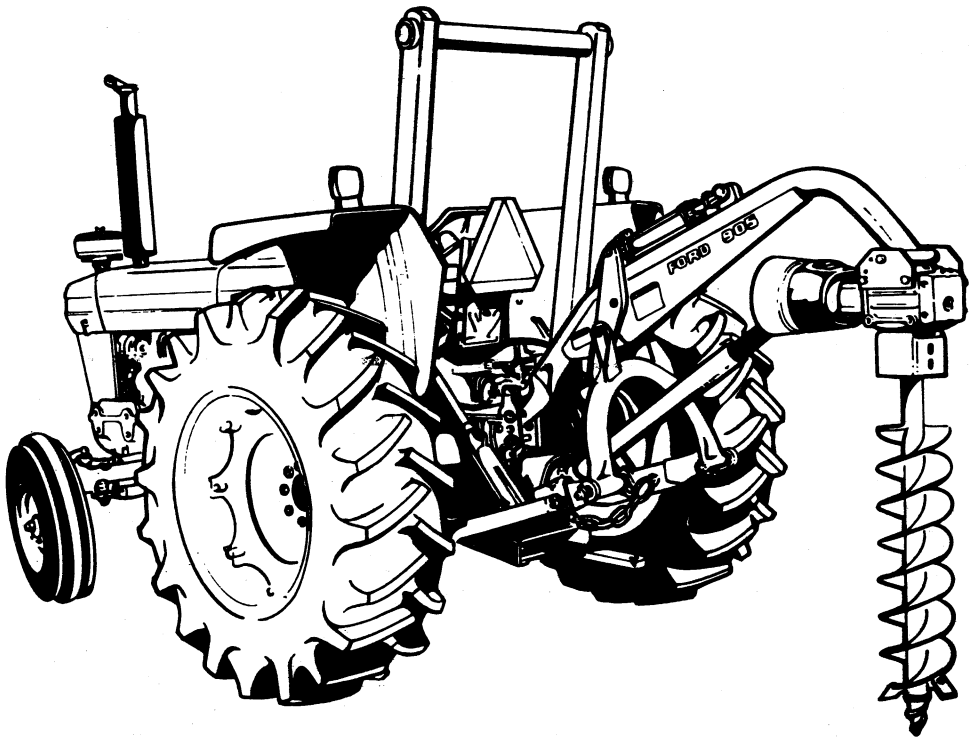
FORD

Series 905
Heavy Duty
Post Hole Digger



REPAIR MANUAL

Reprinted

CONTENTS

SAFETY PRECAUTIONS

Appropriate service methods and proper repair procedures are essential for the safe, reliable operation of all equipment as well as the personal safety of the individual doing the work. This Repair Manual provides general directions for accomplishing service and repair work with tested, effective techniques. Following them will help assure reliability.

There are numerous variations in procedures, techniques, tools, and parts for servicing equipment, as well as in the skill of the individual doing the work. This Manual cannot possibly anticipate all such variations and provide advice or cautions as to each. Accordingly, anyone who departs from the instructions provided in this Manual must first establish that he does not compromise his personal safety nor the integrity by his choice of methods, tools or parts.

— REPAIR PROCEDURES —

GEARBOX DISASSEMBLY

A. Drain oil from gearbox.

B. Remove two bolts securing driveline clutch to gearbox input shaft. Remove driveline.

C. Remove bolt securing auger to gearbox output shaft. Remove auger.

D. Remove four bolts (Figure 1, item 25) and clutch shield (26).

E. Remove four bolts (25) and auger shield (27).

F. Remove bolt and pin securing gearbox to boom. Remove gearbox.

G. Remove six bolts (13) and cover plate (10) from gearbox.

H. Pry out front and lower grease seal (1, 21) and top cap (14) using a small screw driver.

I. Remove front snap ring (2) using snap ring pliers. Remove lower bearing (4), shims (3), shaft (5), key (6) and gear (7).

J. Remove upper snap ring (2). Remove upper bearing (4) and shims (3).

K. Bend spring washer tab (19) out of ring nut (20) groove. Using hammer and center punch, tap ring nut counterclockwise to remove.

L. Remove front bearings (17, 18) shims (16) and shaft (15).

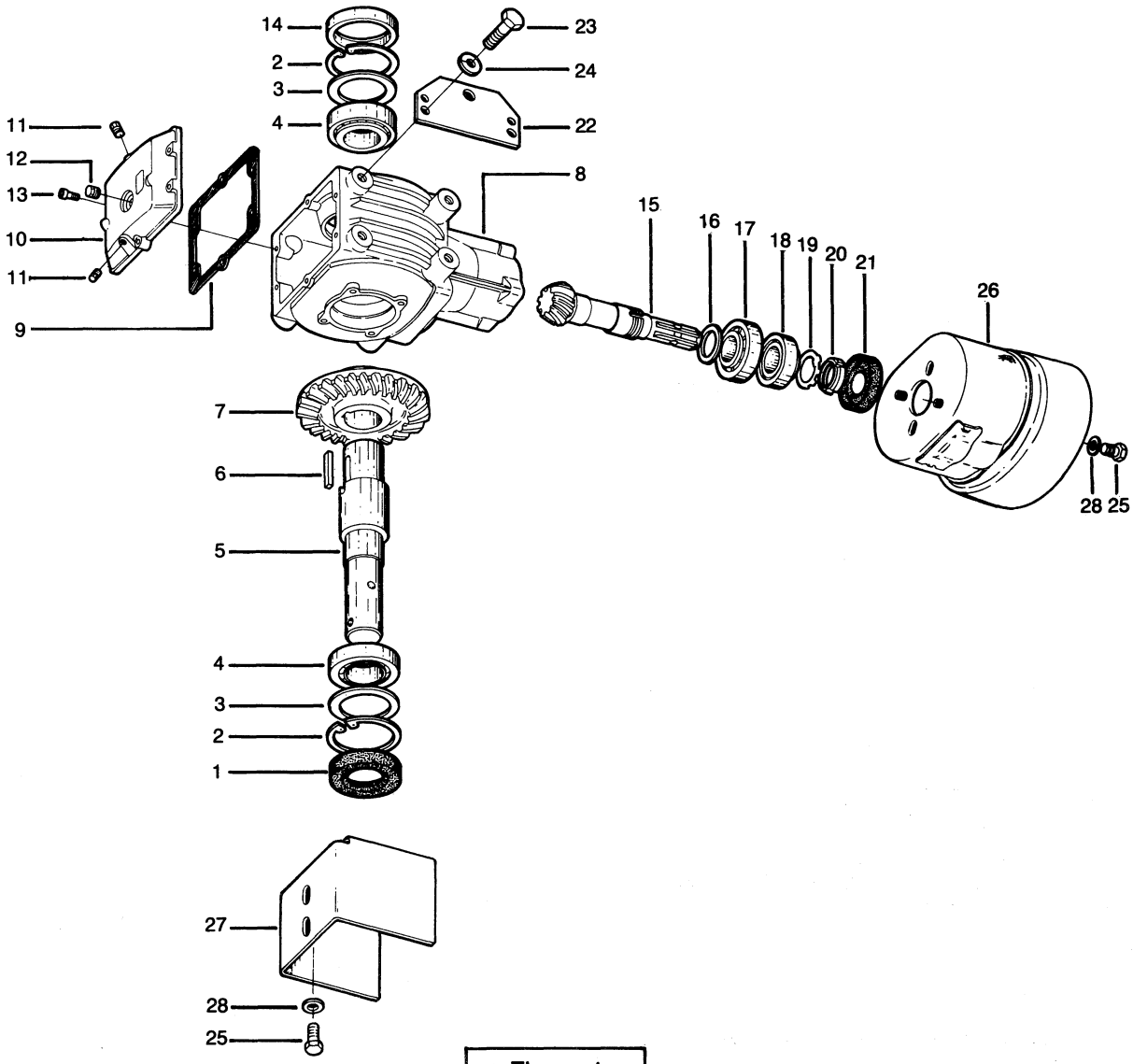


Figure 1

— REPAIR PROCEDURES —

GEARBOX REASSEMBLY (REFER TO FIGURE 1)

Before beginning assembly, clean all inside surfaces with solvent to remove foreign particles. Thoroughly clean contact areas for cover plate gasket.

A. Place shims (Figure 1, item 16) and bearing (17) on input shaft (15). Install shaft into housing.

B. Place bearing (18) spring washer (19) and nut (20) on input shaft. Tighten nut until bearings have 4-6 in./lbs. of pre-load. Bend tab on spring washer into slot on nut to lock into place.

C. Install bearing (4) shim (3) and snap ring (2) into top of housing.

D. Insert output shaft into housing. Place key (6) gear (7) bearing (4) and shims (3) onto output shaft and secure with snap ring (2).

E. Check output shaft for end play. If end play exists, add more shims. Check that backlash is .008"-.014". Move top shims to bottom bearing to increase backlash, or move bottom shims to top bearing to decrease backlash.

F. Install cover plate (10) and gasket (9). Sequentially tighten bolts to 22 ft./lbs.

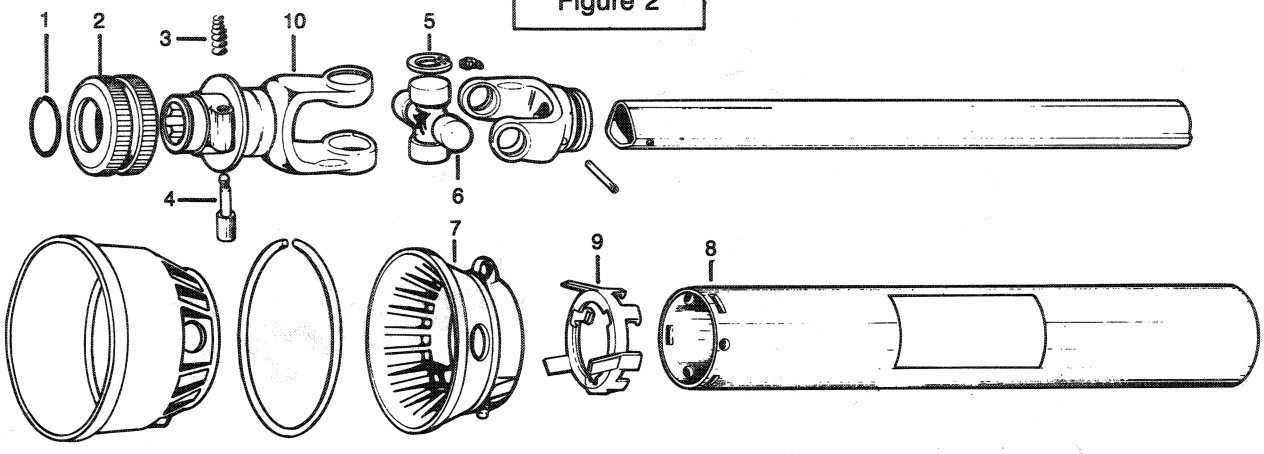
G. Install top cap (14) and seals (1, 21).

H. Fill gearbox with 115 ozs. of SAE 80W-140 or SAE90 wt. gear oil to bring oil level to check plug (12).

I. Install auger shield (27) onto gearbox using four bolts (25) and flatwashers (28).

J. Install clutch shield (26) onto gearbox using four bolts (25) and flatwashers (28).

Figure 2



DRIVESHAFT REPAIR

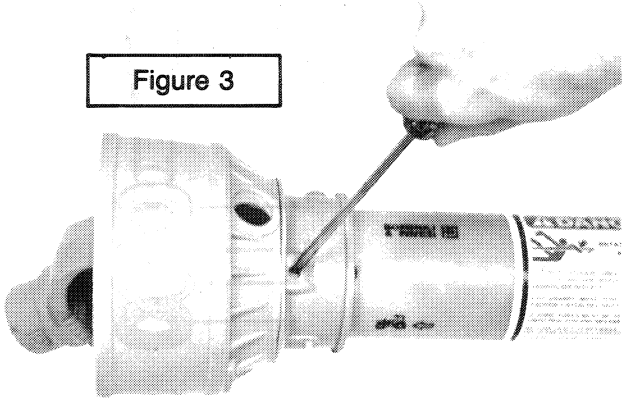
The two universal joints, retainer collar yoke, safety shields, and slip clutch can be rebuilt. If the yokes are worn internally and are loose, they should be replaced. If the shaft seems unusually loose indicating wear in the triangular shaft and tube, the entire driveshaft should be replaced. Replace the danger decals on driveshaft shielding if damaged or missing. Slip clutch repair procedures are described on page 4.

DRIVESHAFT DISASSEMBLY

The following instructions pertain to the tractor half of driveshaft due to the retaining collar. Implement half of driveline can be rebuilt using these instructions by skipping step "C" below.

NOTE: To remove driveshaft from gearbox, remove two bolts clamping slip clutch to gearbox input shaft. If clutch has slipped, it may be necessary to remove a bolt and spring from clutch assembly to allow clearance for clamp bolt removal.

Figure 3



A. Press three tabs and slide yoke shield (Figure 2, item 7) off tube. (Figure 3)

B. Remove plastic bearing (9) and tube (8). (Figure 2)

C. Clamp the retainer yoke (10) securely in bench vise. Remove snap ring (1) from the nose end of yoke. Remove spring (3) from quick disconnect (Q.D.) pin

— REPAIR PROCEDURES —

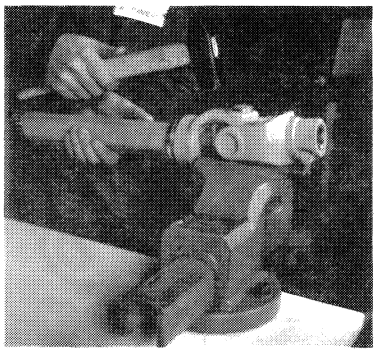


Figure 4

(4). Clean and inspect all retainer parts. Replace as needed. Reassemble the collar assembly.

D. Remove the four snap rings (5) that retain universal joint in place.

E. Remove bearing cups (6) as shown in Figure 4. Inspect the cup, rollers, seal, and cross for wear or damage. Replace entire universal joint if necessary.

DRIVESHAFT REASSEMBLY

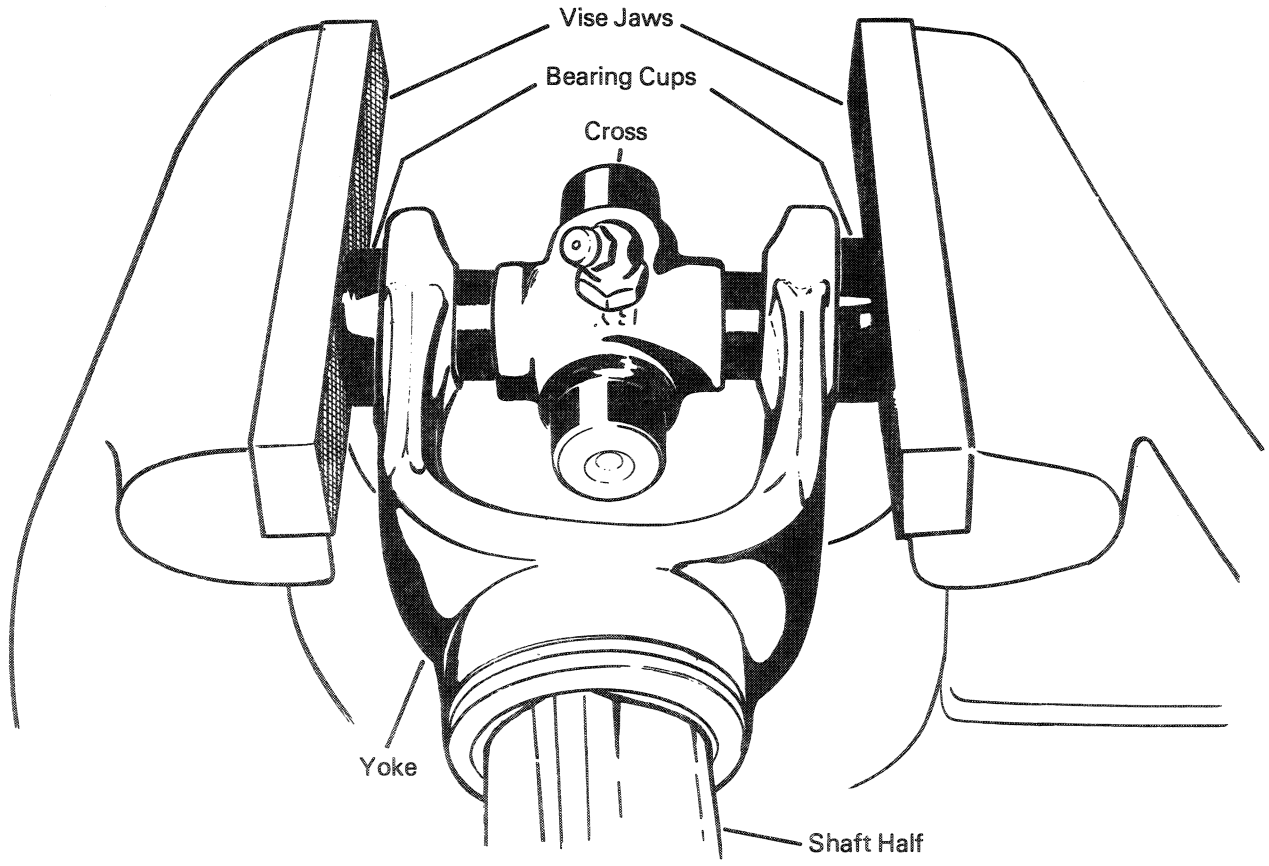
A. Using a vice, install cross and bearing cups onto shaft half and yoke as shown in Figure 5. Remove from vice and tap each bearing in until slot for snap ring is exposed. Install snap rings. If bearing cups will not slide in enough for snap rings to be installed, it usually indicates one or more needle rollers fell into bottom of cup. Correct immediately. If cup is forced, needle roller will be crushed necessitating replacement of entire cross and bearing assembly.

B. Install tube (Figure 2, item 8) onto shaft using plastic bearing (9) to retain.

C. Slide yoke shield (7) onto tube snapping tabs into place. Make certain plastic grease fitting is aligned with hole in bearing.

D. Reinstall driveshaft onto tractor and implement. Make certain yokes are securely locked into place.

Figure 5



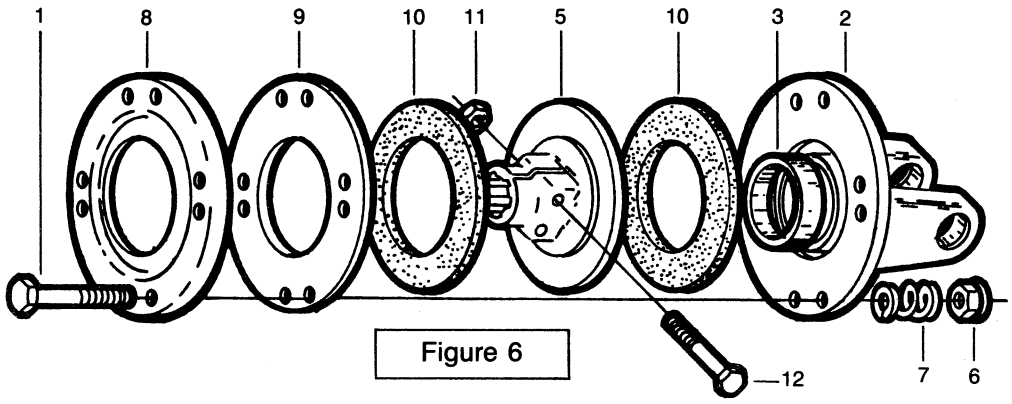


Figure 6

SLIP CLUTCH DISASSEMBLY

A. Remove bolts (Figure 6, item 1) nuts (6) and springs (7) retaining clutch plates.

B. Disassemble all components. Check the condition of all parts; especially the linings (10).

SLIP CLUTCH REASSEMBLY

A. Inspect bushing (3) in flanged yoke (2) and replace if worn.

B. Stack linings (10) friction plate (5) inner plate (9) and pressure plate (8) on top of flanged yoke (2).

C. Insert bolts (1) through all components, installing from pressure plate side. Place springs (7) and nuts (6) on corresponding bolts.

D. Tighten nuts in an alternating pattern until springs are 1" (26mm) in length.

E. Check that all spring heights are the same.

ATTENTION: Damage may occur to post hole digger or tractor if a torque setting of 686 ft./lbs. is exceeded.

SLIP CLUTCH ADJUSTMENT

The slip clutch is factory preset to the correct torque for protecting implement and tractor, and should seldom require adjusting. Should adjustment be needed, first check to be sure all spring lengths are within 1/64" of being the same. Initial setting is 1" (26mm). If necessary loosen nut (Figure 7, item 6) on any spring (7) that is unequal. Adjust all eight spring retaining nuts 2/3 of a turn (4 flats on nut) and check clutch slippage. If further adjustment is necessary, do so in 1/3 turn increments or consult your Ford Tractor Equipment Dealer. Adjust only to provide sufficient torque to prevent slippage under normal conditions. When rocks, roots, etc., are present, occasional slippage is normal for drivetrain protection.

ATTENTION: Damage may occur to post hole digger or tractor if a torque setting of 686 ft./lbs. is exceeded.

SLIP CLUTCH OPERATIONAL CHECK

After post hole digger has been stored for an extended period of time, the slip clutch should be checked to be sure it functions properly. Sink auger approximately halfway into ground. Loosen the eight nuts (Figure 7, item 6) retaining slip clutch springs (7) exactly three full turns. With tractor at idle speed, engage tractor PTO drive for 1-2 seconds. Clutch should slip without turning auger. If clutch does not slip, contact your Ford Tractor Equipment Dealer. Retighten nuts (6) three turns to within 1/64" of original position. Initial setting is 1" (26mm).

ATTENTION: Failure to retighten spring nuts (6) to original position may cause damage to post hole digger and/or tractor due to improper slip clutch torque setting.