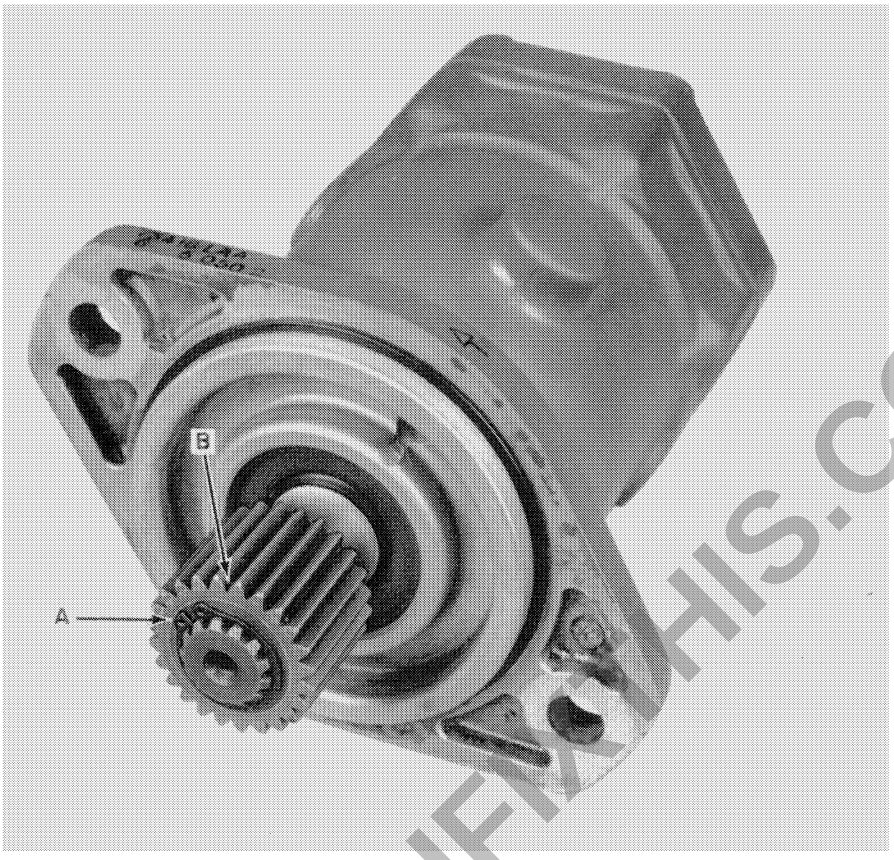


FIGURE 8

PUMP
Disassembly

1. Clean outside of pump thoroughly before disassembling pump.
2. Remove snap ring, A, Figure 8, and remove gear, B.
3. Remove rear snap ring after gear is removed.

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HYDROSTATIC SYSTEM

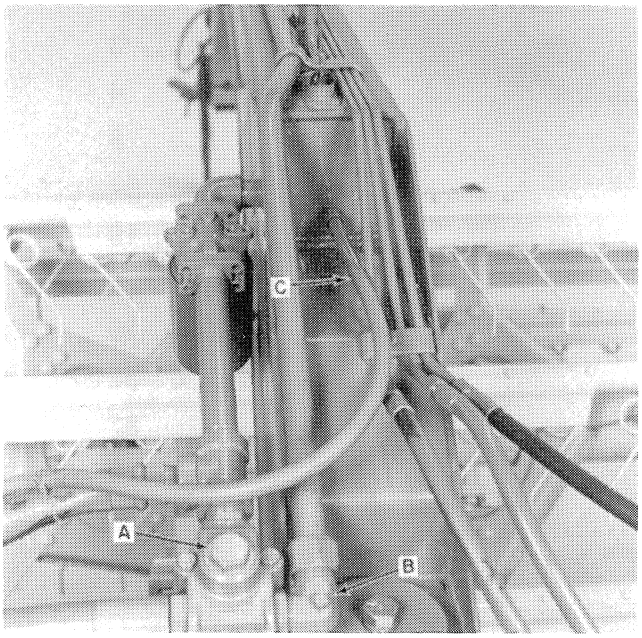


FIGURE 1



FIGURE 2

The hydrostatic system consists of a pump and gearbox assembly, relief valve, motor, and filter. The high pressure oil from the pump goes through the pressure relief valve and then to the motor. Return oil is filtered between the motor and the tongue reservoir.

If a unit loses hydraulic power, use the following procedure to troubleshoot the system.

1. Check the hydrostatic oil level in the tongue as detailed in the operator's manual.
2. Change the oil filter.
3. Remove the relief valve, A, Figure 1, from the housing. Clean the valve and inspect for wear or contamination. Inspect O-rings for possible wear and replace if worn or damaged. Reinstall valve or replace and then test machine.

WARNING: GAUGES, GAUGE FITTINGS, AND HOSES MUST HAVE OPERATING PRESSURE RATINGS AT LEAST 25 PERCENT HIGHER THAN HIGHEST PRESSURES OF THE SYSTEM.

NEVER ADJUST RELIEF VALVES TO HIGHER PRESSURES THAN THOSE SPECIFIED BY THE EQUIPMENT MANUFACTURER.

WARNING: ALWAYS PROTECT THE SKIN AND EYES FROM ESCAPING FLUID UNDER PRESSURE. FLUID UNDER PRESSURE CAN HAVE SUFFICIENT FORCE TO PENETRATE THE SKIN, CAUSING SERIOUS PERSONAL INJURY.

IF INJURED BY ESCAPING FLUID, OBTAIN MEDICAL ASSISTANCE AT ONCE. SERIOUS INFECTION OR REACTION CAN DEVELOP IF MEDICAL TREATMENT IS NOT ADMINISTERED IMMEDIATELY.

BEFORE DISCONNECTING LINES OR FITTINGS, BE SURE TO RELIEVE ALL PRESSURE. BEFORE APPLYING PRESSURE TO THE SYSTEM, BE SURE ALL CONNECTIONS ARE TIGHT AND THAT LINES, PIPES, AND HOSES ARE NOT DAMAGED.

4. Remove ¼" NPT plug, B, Figure 1, and install a high pressure gauge. **NOTE: The relief valve is set for 3500 psi (24,133 kPa) and is non-adjustable.**
5. Block the machine by placing a wrench on the lower roll hub as shown in Figure 2. **NOTE: Turn the machine by hand until the wrench contacts the main frame.**

WARNING: MAKE SURE WRENCH IS PROPERLY SECURED BEFORE STARTING TRACTOR TO CHECK PRESSURE.

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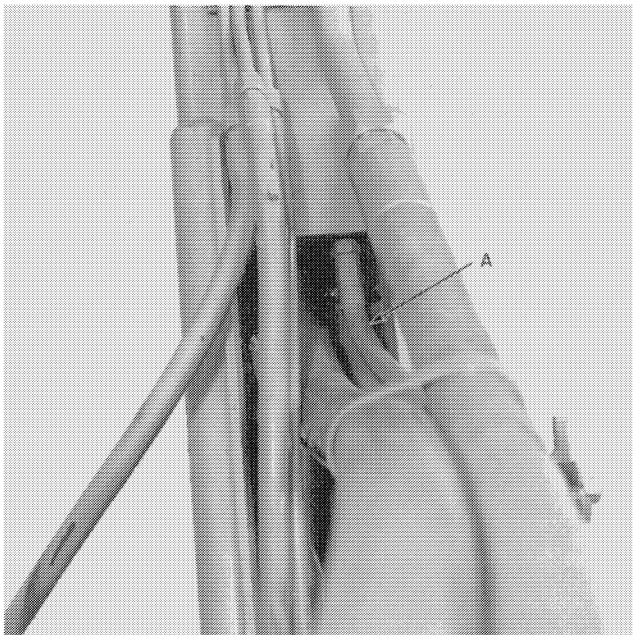


FIGURE 3

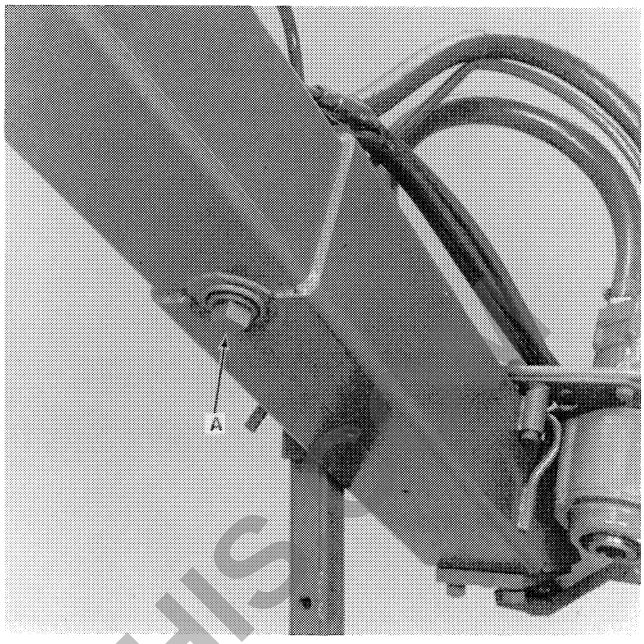


FIGURE 4

Start the tractor and engage the PTO. The pressure should be 3500 psi (24,133 kPa). *IMPORTANT: Do not bypass oil through the relief valve for any length of time as tremendous heat will build up in the valve. If pressure is normal, the relief valve is functioning properly and leakage must be checked at pump and motor.*

6. If a flow meter is not available to check case drain oil volume at pump, oil can be collected in a measurable container. Disconnect case drain return line, A, Figure 3, and install a ⅜" pipe plug in tongue.
7. Start the tractor and time a certain volume of oil collected. Normally the flow should be approximately 1½ gallons (5.5 L) per minute. Any amount over 2 gallons (7 L) indicates worn internal pump components and pump must be rebuilt.
8. If pump oil volume is normal, check volume at motor case return line. Remove line at C, Figure 1.

Normal flow should be approximately 1½ gallons (5.5 L) per minute. Any amount over 2 gallons (7 L) indicates worn internal motor components and motor must be rebuilt.

HYDROSTATIC OIL

The hydrostatic oil must be kept free of dirt, dust, water, rust, etc., or hydrostatic components could be severely damaged. If a catastrophic failure occurs with a pump or motor, the system must be drained.

To drain the oil, lower the front of the tongue as low as possible. Remove drain plug, A, Figure 4. Remove lines from pump and motor. Clean hoses and tubing with air and solvent.

Flush tongue by spraying solvent under pressure into rear of tongue so metal chips, etc. will be moved to front of tongue. Clean chips and foreign material from front of tongue through drain port.

Install pump, motor, hose, tubing and drain plug. Install new filter and add five gallons (19 L) of hydraulic oil. Refer to operator's manual for approved oils.

Start tractor and run at about ½ throttle to allow full flow through filter. This procedure will help clean system if any contamination was left in it.

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GENERAL INFORMATION

"Left" and "right" are determined from a position facing in the direction of travel of the unit during operation.

Install a lock washer on all bolts unless a jam nut or self-locking nut is specified. Install a flat washer on all slotted holes except under the heads of carriage and truss head bolts.

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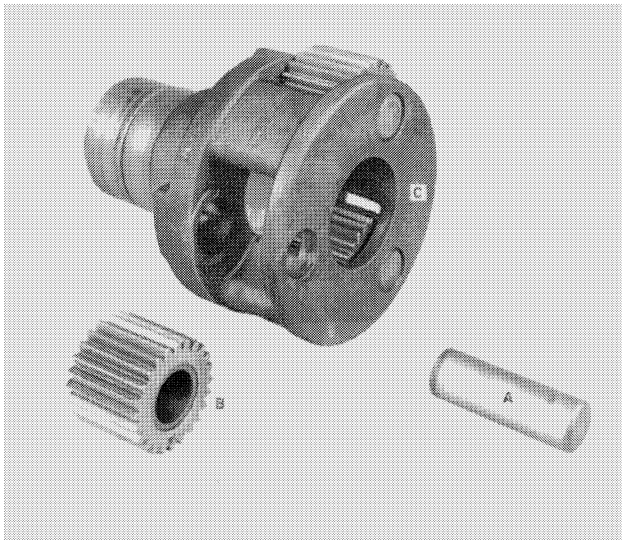


FIGURE 20

8. To remove gears, B, Figure 20, press pin shafts, A, from carrier, C.

Inspection

1. Wash all parts thoroughly in a cleaning solvent.
2. Examine gear teeth and internal teeth in housing, C, Figure 15. The teeth should show no signs of excessive wear. Worn parts must be replaced.
3. If the ID of the gear teeth exceeds .755" (20 mm) replace the gears.
4. Inspect the splines inside the carrier for wear. Replace carrier if splines are worn.

Assembly

1. Install bearing, F, and retaining ring, E, Figure 19, in front plate.
2. Install gears in carrier and press pin shafts, A, Figure 20, in until they are flush.
3. Press carrier assembly, B, through bearing in front plate and install retaining ring, A, Figure 18.
4. Press shaft seal, E, Figure 18, in front plate and install retaining ring as shown in Figure 16.
5. Install new O-ring on face of front plate at D, Figure 15, and install assembly into housing. Secure with four cap screws and washers and tighten to 15-18 ft. lbs. (20-24 N·m) torque.
6. Install new O-ring on face of adapter plate, A, Figure 15, and install on housing assembly. Secure plate with two cap screws and tighten to 55-60 ft. lbs. (74-81 N·m) torque.

HYDROSTATIC MOTOR

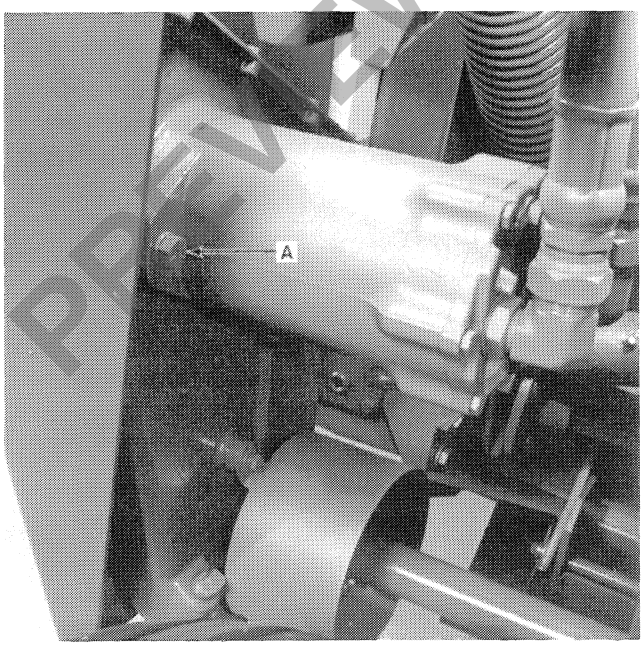


FIGURE 21

Removal

1. Disconnect hoses from motor, Figure 21. Cap hoses to prevent foreign material from entering system.
2. Remove mounting bolts, A, and slide motor out of gearbox.

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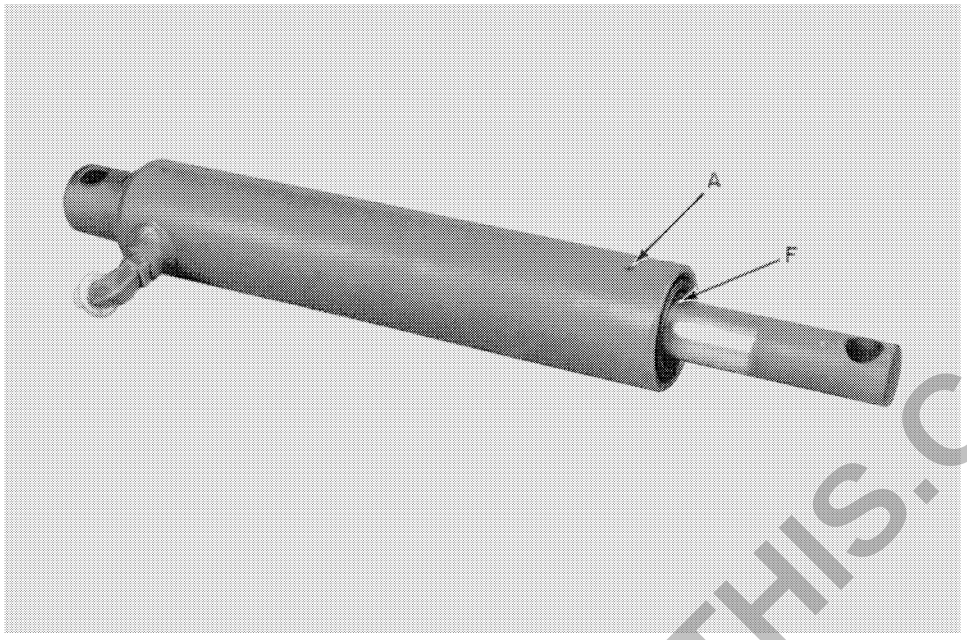


FIGURE 42

3. Install piston, I, Figure 41, and lock nut, E. Tighten lock nut to 155 ft. lbs. (210 N·m) torque.
4. Install O-ring, G, and seal, F, Figure 41.
5. Insert complete piston rod assembly into barrel and install retaining ring, B, Figure 39.
6. Install set screw, A, Figure 38, aligning it with groove in cylinder head, H, Figure 41.

SLAVE CYLINDER DISASSEMBLY

1. Remove set screw, A, Figure 42.
2. Tap the cylinder head, F, Figure 42, into cylinder far enough to remove retaining ring, B, Figure 43.
3. Pull complete cylinder rod assembly out of barrel.

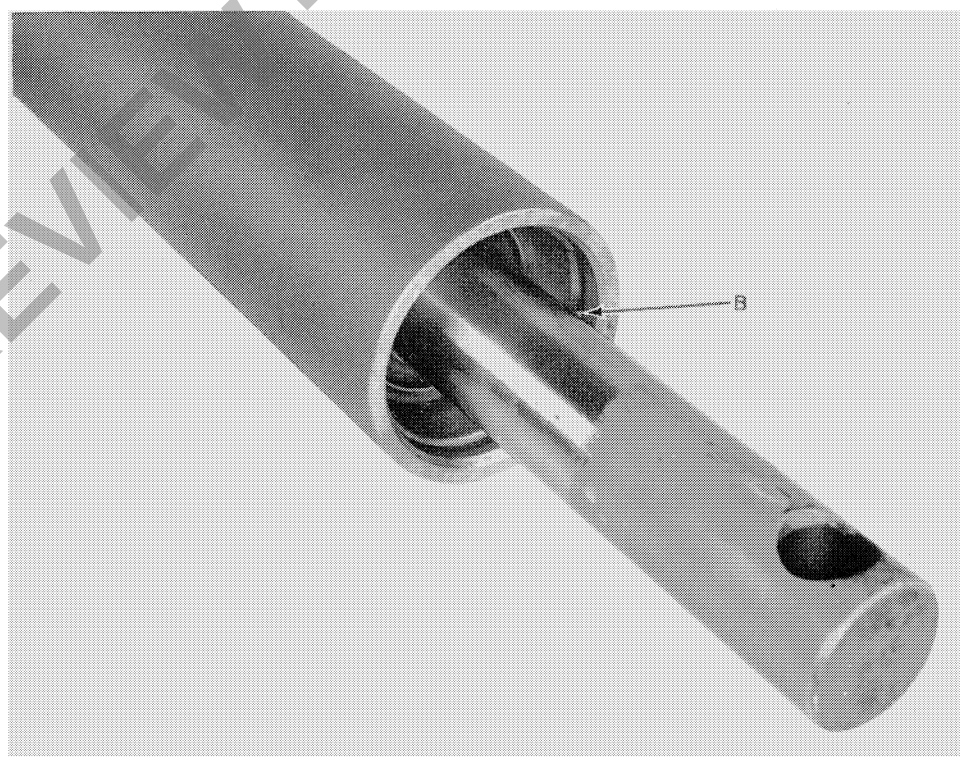


FIGURE 43

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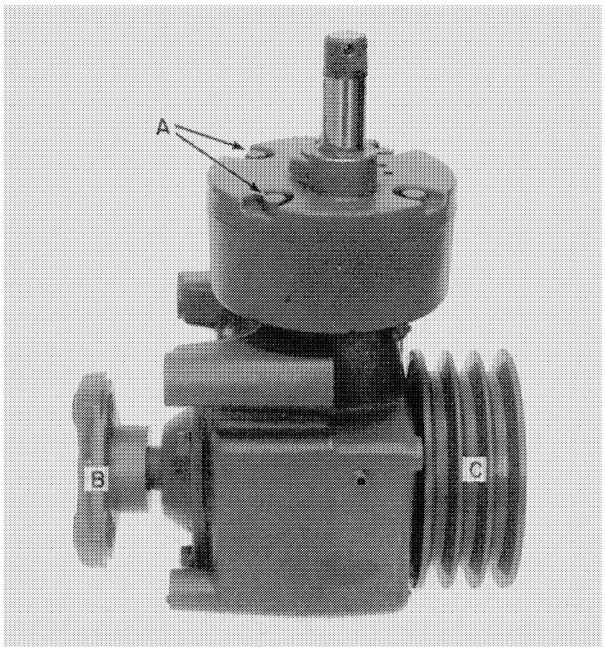


FIGURE 67

Remove four bolts, A, Figure 67, to separate crank hub, B, Figure 66, and flywheel, C.

3. Clamp coupler, B, Figure 67, in a vise to keep shaft from rotating.

   Remove seal, D, Figure 66, and nut, E. Remove O-ring, F, from between nut and bearing.

4. Remove coupler, B, Figure 67, and either sheave, C, on right-hand gearbox or sprocket, C, Figure 64, on left-hand gearbox.

5. Remove cover, A, Figure 68, and note position of the oil check plug.

6. Remove bearing caps, L and M, Figure 66. Remove shaft and gear assembly, S, from housing. Remove seals, P, and bearing cups, O, from caps.



FIGURE 68



FIGURE 69

7. Remove bearings, N, from shaft. Spacer, W, can then be removed. **NOTE: Do not attempt to remove gear, T, spacer, U, or snap ring, V, from shaft. The gear is pressed on the shaft after the snap ring and spacer are installed.**

8. Use a press or driver and remove pinion shaft assembly, I, from housing. Remove bearing cone, J, from shaft.

9. Use a punch and remove bearing cup, K, and shims, X, from housing. Remove bearing cup, H, from the neck of the gearbox. **NOTE: Clean all parts. Carefully inspect all parts for wear or pitting. Replace as required.**

Assembly

NOTE: Pack all bearings with a general purpose grease. Use appropriate size spacers to install bearing cups, cones and seals.

1. Install shims, X, Figure 66, and bearing cup, K. Use the same amount of shims as previously used if the original bearing and housing are used. If a new bearing or housing is used, the amount of shims to use must be determined by adding the number stamped on the housing of the gearbox at A, Figure 69, and the number on the slip of paper packed with the bearing. This total, converted to thousandths of an inch, represents the amount of shims to be used. For example: a 7 stamped on the gearbox and an 8 on the paper with the bearing totals 15.

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