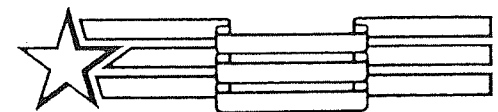


**Ingersoll**

**HYDRAULIC PTO KIT  
HP34A  
Operator's Manual 8-60470**



**QUALITY IN THE AMERICAN TRADITION**

Printed in U.S.A.


**Ingersoll Equipment Co., Inc.**

Winneconne, Wisconsin 54986-9576

[casecoltingersoll.com](http://casecoltingersoll.com)



**This Safety Alert Symbol Indicates Important Safety Messages In This Manual When You See This Symbol Carefully Read The Message That Follows and Be Alert To The Possibility Of Personal Injury or Death**



**WARNING**

IF THIS MACHINE IS USED BY AN EMPLOYEE OR IS LOANED OR RENTED. MAKE ABSOLUTELY CERTAIN THAT THE OPERATOR(S), PRIOR TO OPERATING:

1. IS INSTRUCTED IN SAFE AND PROPER USE.
2. REVIEWS AND UNDERSTANDS THE MANUAL(S) PERTAINING TO THE MACHINE.

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**BEFORE STARTING ENGINE**

STUDY OPERATOR'S MANUAL SAFETY MESSAGES  
 READ ALL SAFETY SIGNS ON MACHINE  
 CLEAR THE AREA OF OTHER PERSONS

**LEARN & PRACTICE SAFE USE OF CONTROLS BEFORE OPERATING**

IT IS YOUR RESPONSIBILITY TO UNDERSTAND AND FOLLOW MANUFACTURER'S INSTRUCTIONS ON MACHINE OPERATION, SERVICE, AND TO OBSERVE PERTINENT LAWS AND REGULATIONS OPERATOR AND SERVICE MANUAL'S MAY BE OBTAINED FROM YOUR EQUIPMENT DEALER

**SAFETY RULES**

**CAUTION:** Hydraulic systems are highly pressurized. Escaping hydraulic oil, even an invisible pinhole leak, can penetrate body tissues causing serious injury. Use a piece of wood or cardboard when looking for leaks - never use the hands or other parts of the body.



Remember, a careful operator is always the best insurance against an accident.

Always give complete and undivided attention to the job at hand.



Relieve hydraulic pressure before disconnecting circuits. When reassembling, make absolutely certain that all connections are tight.



**CAUTION:** Only operate controls while in the operator's position. Do not operate the machine while under the influence of alcohol or drugs.

If injured by hydraulic oil escaping under pressure, see a doctor immediately. Serious complications may arise if medical attention is not given at once.



**WARNING:** Be sure the Hydraulic PTO lever is in the neutral position before starting the tractor.

**IMPORTANT:** Always install new decals whenever the old decals are destroyed, lost, painted over or illegible. When individual parts are replaced that have decals attached, be sure to install a new decal with the new part. Decals are available from your authorized dealer.

## LOCKOUT PLATE

1. Remove jumper wire(s) from safety switch electrical connectors and install connectors to switches mounted to lockout plate assembly (23). These wires and connectors will be found between front seat support and fuel tank.

**IMPORTANT:** Unless PTO is being used with a tiller, the reverse lockout latch (24) must be installed. See figure 7.

2. Install the PTO lockout plate assembly (23) to the valve bracket as shown in figure 8 using two (2) 5/16" - 18 x 1/2" hex bolts (25). (NOTE: DO NOT tighten at this time.)
3. Center the PTO lockout plate assembly with the valve lever in the neutral position and tighten. (NOTE: Make sure PTO lever will move over and up into the forward position.)
4. Remove blank from shift cover, and re-install cover with four (4) phillip head screws removed in preparation steps. Install shift and PTO knobs.
5. Install screen on right side of steering tower with four (4) phillip head screws.
6. Install belly pan.
7. Check tractor hydraulic system. Add oil if needed.

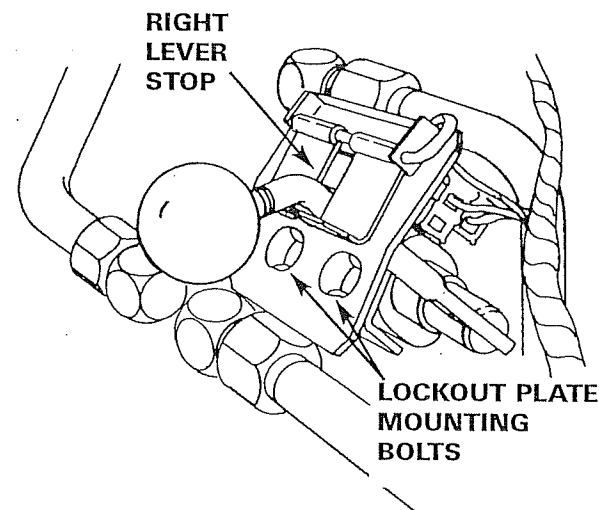


FIGURE 8

## NOTE: Extra parts included.

1. If a 3 point hitch is installed with this PTO on a 3000 series tractor, you must use the 45° fittings to provide proper clearance with quick couplers.
2. A hydraulic hose 1/2" ID x 56" long, male and female quick couplers have been provided for attachment hook ups.
3. Consult the attachment operators manual for hydraulic hose connections.

## OPERATION

DO NOT ENGAGE THE PTO WITHOUT A HYDRAULIC ATTACHMENT PROPERLY INSTALLED AND HOSES CONNECTED. SPIKE PRESSURES MAY OCCUR THAT COULD CAUSE PUMP DAMAGE.

CHECK TO INSURE ALL FITTINGS ARE TIGHT AND ALL WIRES ARE IN PLACE. CHECK THE HYDRAULIC FLUID LEVEL. START THE TRACTOR AND ENGAGE THE PTO AND CHECK FOR LEAKS.

**(CAUTION: NEVER CHECK FOR LEAKS WITH YOUR BARE HAND. HYDRAULIC FLUID MAY BE UNDER EXTREME PRESSURE AND WILL CAUSE SEVERE INJURY. USE A PIECE OF WOOD, CARDBOARD, OR A HEAVY PAIR OF RUBBER GLOVES.)**

Operate PTO while sitting on the tractor seat. (NOTE: Only operate PTO from the off seat position if your tractor is equipped with the off seat safety switch provided with the Chipper/Shredder and Log Splitter.)

1. To engage PTO: lift right LEVER STOP and slowly move the PTO LEVER to the right (see figure 8). As the attachment increases in speed, continue moving the lever to the right and up until it is in the detent position. (NOTE: DO NOT move the PTO LEVER to the left unless your attachment permits reverse operation. Motor damage may occur. (Consult your attachment owners manual.)

## MAINTENANCE:

Periodically check for leaks and the condition of your hoses. Always keep the quick couplers clean and install dust caps or plugs when not in use.

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## ASSEMBLY PROCEDURES

### PREPARATION

**NOTE: All reference to right or left is from operator's position.**

1. Remove belly pan from underside of tractor.
2. Remove transaxle shift cover by removing shift lever knob and four (4) phillip head screws.
3. Remove screen on right side of steering tower by removing four (4) phillip head screws.
4. Position travel lever in full forward to prevent hydraulic oil reservoir from draining.
5. Place a clean piece of plastic over hydraulic oil reservoir neck and install cap.

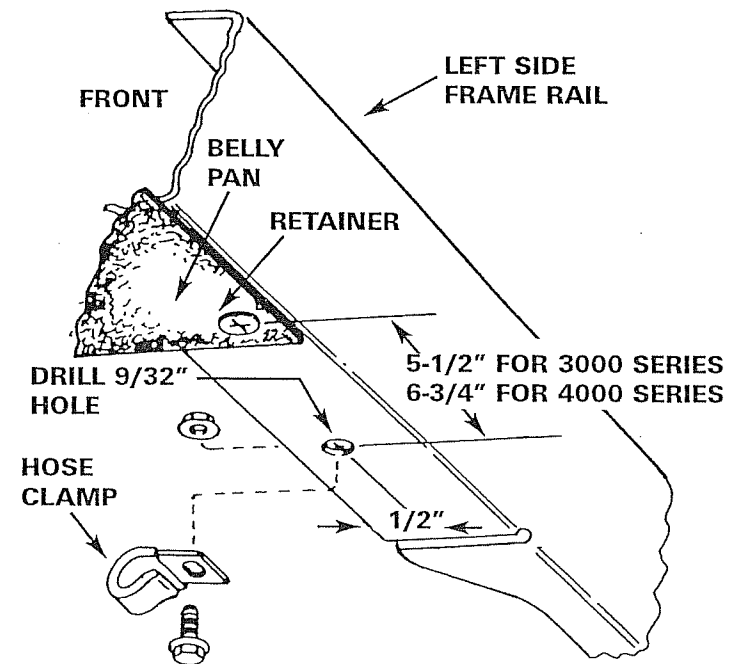


FIGURE 1

**NOTE:** Early production tractors did not have a clamp mounting hole in the left frame rail behind belly pan. See figure 1 and add hole if necessary.

**CAUTION:** DO NOT drill into hydraulic tube inside frame rail.

**NOTE:** Early production tractors did not have slots, or a second set of holes to allow easy mounting of work tube clamps. See figure 2 and add holes if necessary.

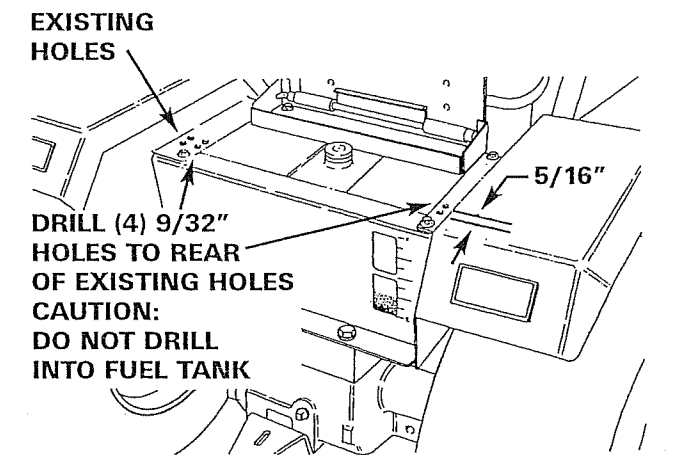


FIGURE 2

## INSTALLATION

### CASE DRAIN HOSE

1. Route 90° hose fitting up to cap nut fitting on hydraulic oil filter head (see figure 5). Center section of hose will lay up in right side frame rail. See figure 4. Rear section of hose will cross over behind travel valve and connect to adaptor fitting (21) at rear seat support. Tighten adaptor fitting (21) to hose (22).
2. Apply Teflon tape to adaptor fitting (21). Install three (3) belleville washers (20) as shown in figure 7.
3. Install adaptor fitting (21) through hole in rear seat support and install male quick coupler (19). DO NOT tighten at this time, fitting must be allowed to swivel.

4. Remove cap nut from fitting at hydraulic oil filter head. See figure 5. Install 90° case drain hose fitting. Position hose so it does not contact moving parts and tighten.
5. Tighten male quick coupler (19) at rear adaptor fitting (21) of case drain hose.
6. Install case drain hose clamp, bolt and nut. See figure 1. Clip hose in clamp.

#### PTO VALVE

1. Set PTO valve into position at front seat support as shown in figure 3.
2. Connect PTO outlet hose (30) (with two 90° bends) to the top of PTO valve. Use the shorter hose for 3000 series tractors and the longer hose for 4000 series tractors.

Connect the front of the hose (30) to the inlet of the travel valve. Use the 90° swivel elbow (31) if tractor is not equipped.

3. Connect PTO inlet hose (28) (with one 90° bend) to bottom fitting on PTO valve. Use the shorter hose for 3000 series tractors and longer hose for 4000 series tractors. Route hose as shown in figure 4.

For tractors **without** power steering:

- a. Disconnect "Pump to travel valve" hose at travel valve.
- b. Install front of PTO inlet hose (28) to pump hose. Use the 90° male elbow provided.

For tractors **with** power steering:

- a. Remove hose and tube between travel valve and flow divider valve.
- b. Install small tube provided (29) to flow divider valve.
- c. Connect front of PTO inlet hose (28) to tube at divider valve.

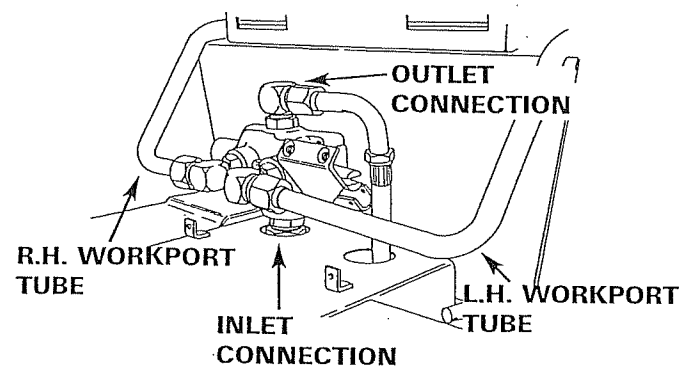


FIGURE 3

4. Fasten PTO valve to front seat support with two socket-head screws provided.

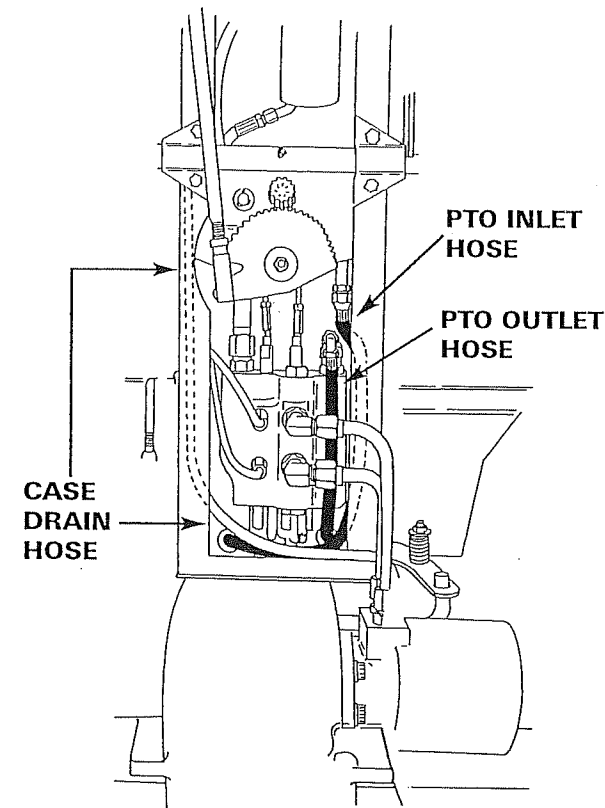


FIGURE 4

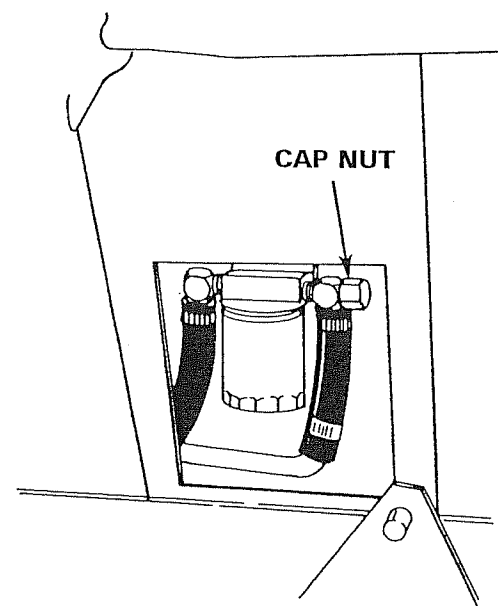


FIGURE 5

#### WORK PORT TUBES

1. Install work port tubes to PTO valve as shown in figure 3. The tubes should run parallel with the rear fenders. See figure 6.
2. Left hand tube. See figure 7.
  - a. Install pipe adaptor fitting (6) and pipe nipple (7). Use pipe thread sealant on both ends of pipe nipple.
  - b. Put mounting bracket (27) with rubber grommet (26) over pipe nipple. Secure to fender support with 1/4" x 3/4" bolts and flange lock nuts.
  - c. Install rubber dust plug (13) and female quick coupler (10) on pipe nipple.
3. Right hand tube. See figure 7.
  - a. Assemble the same as left hand tube but use male quick coupler (15) and rubber dust plug (14).

**NOTE:** If this PTO is to be used with a log splitter or chipper-shredder, do not install mounting bracket (27). Use clamp (8, 11) to secure R.H. tube. This will allow mounting of the off-seat operation switch. The clamp and switch are included with the log splitter or chipper-shredder.

4. Tighten all fittings.
5. Install black plastic conduit (4) (17) on both work port tubes. Secure the conduit with nylon ties (5) on each end.
6. Remove plastic from under reservoir cap and move travel lever to neutral.

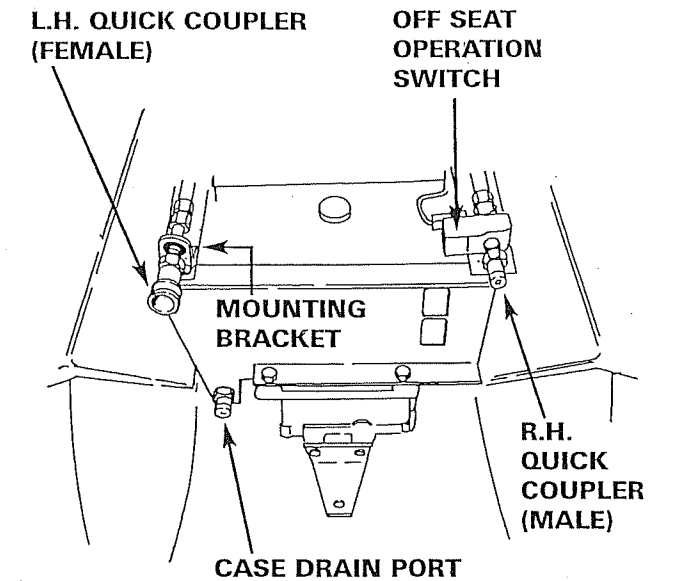


FIGURE 6

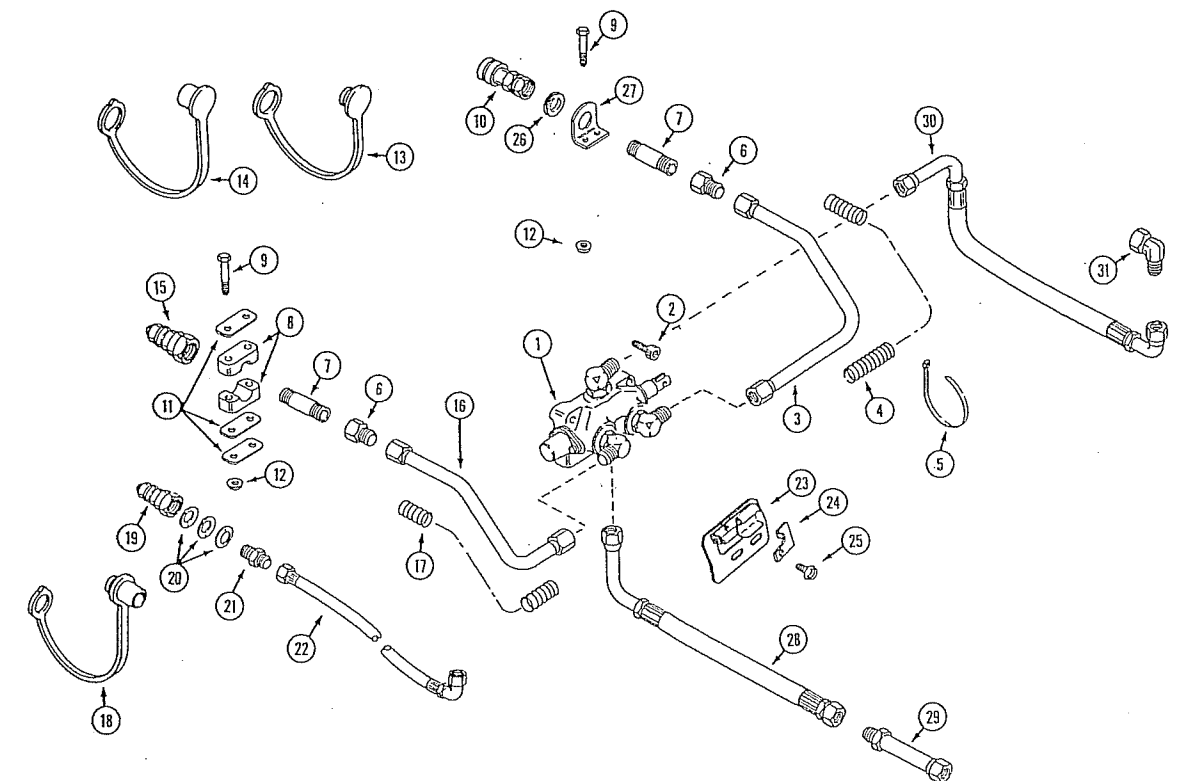


FIGURE 7