



Ingersoll

**HYDRAULIC PTO KIT
HP31, HP41
Operator's Manual 8-57220**

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See This Symbol Carefully Read The Message
That Follows and Be Alert To The Possibility
Of Personal Injury Or Death

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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WARNING

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 MANUALS 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.



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

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



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

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



CAUTION: Only operate controls while in the operator's position.



WARNING: Be sure the Hydraulic PTO lever is in the neutral position before starting the tractor. This control is NOT equipped with a neutral start switch and accidental engagement of the attachment could cause injury.

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.

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operator, safety rules, assembly and mounting instructions. Read this manual carefully before operating your hydraulic PTO.

design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

OPERATING INSTRUCTIONS

Moving the Hydraulic PTO handle forward causes the attachment to rotate forward (or in the normal operating direction). Moving the handle rearward will cause opposite motion. If the rotation is the opposite of this, refer to the Mounting section of your attachment operator's manual for proper valve to attachment motor hose hookup.

NOTE: Some attachments can not be operated in reverse rotation. Consult the attachment operator's manual for proper operation. A lockout spacer is provided with those attachments and must be installed to the valve handle bracket.

Always move the PTO handle full travel to insure maximum speed and power to the attachment unless otherwise indicated in the attachment operators manual.

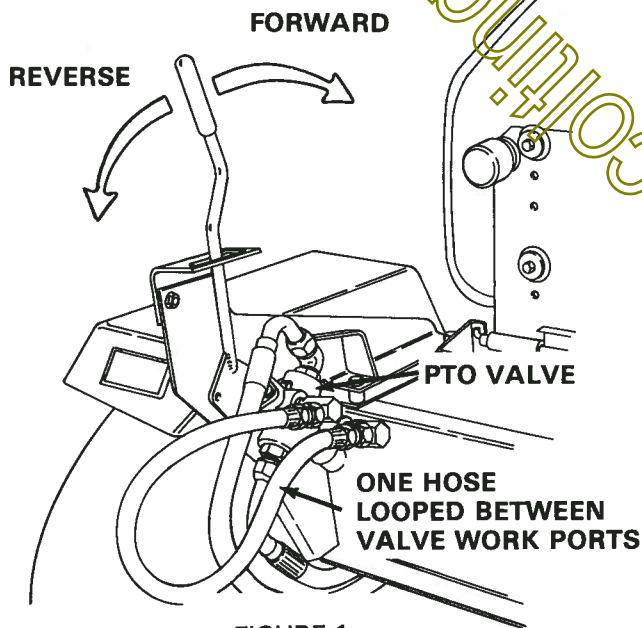


FIGURE 1

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



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



CAUTION: Only operate controls while in the operator's position.

The Hydraulic PTO may be left on the tractor when the attachment is removed.

VERY IMPORTANT

Only operate the tractor with attachment hoses connected or one hose looped between the valve work ports.

Failure to observe this procedure will result in oil loss (ports left open) or pump damage (ports plugged) if the valve is actuated.

The Hydraulic PTO may be used to drive other hydraulically driven devices. Consult your dealer for further information.



WARNING: Be sure the Hydraulic PTO lever is in the neutral position before starting the tractor. This control is NOT equipped with a neutral start switch and accidental engagement of the attachment could cause injury.

INSTALLATION

MOUNTING PTO VALVE

1. Remove the belly pan from the tractor.
2. Place a clean pan under the tractor travel valve and pump. Put the travel valve into the full forward position to prevent the reservoir from draining.

Place a piece of airtight plastic under the reservoir fill cap.

NOTE: Make sure to remove the plastic from under the reservoir fill cap before operating the tractor.

3. See Figure 2. Install the valve mounting bracket to the left hand fender mounting bolts.
 - A. For HP31, use the longer bolts and spacers provided. Place the spacers between the fender and valve mounting bracket as illustrated.
 - B. For HP41, use the shorter bolts and no spacers.

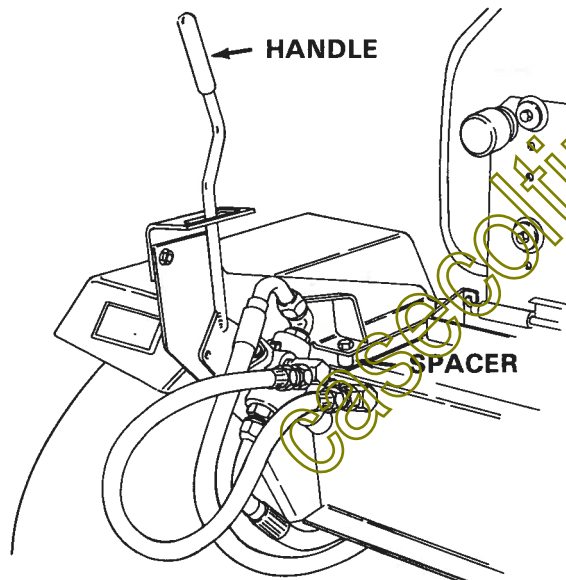


FIGURE 2

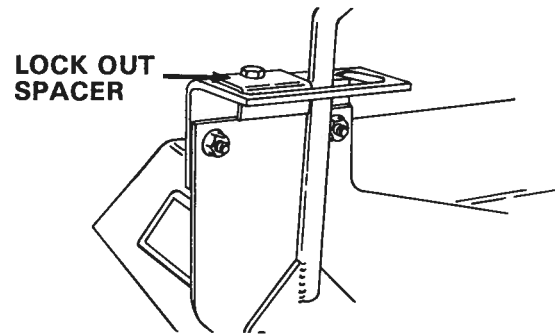


FIGURE 3

5. For use with the hydraulic vacuum or hydraulic cutter, install the lock out spacer so handle can not be moved rearward. Figure 3 shows the lock out spacer installed.

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.



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

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

next hose to PTO valve. Figure 7 shows supply hose routing for 3000 series. Figure 7 shows hose routing for 4000 series.

2. Figures 4 and 5. Install return hose from outlet port on PTO valve to inlet port of travel control valve. Leave fittings loose at this time.
3. Refer to **COMPLETING THE INSTALLATION** section for final assembly.

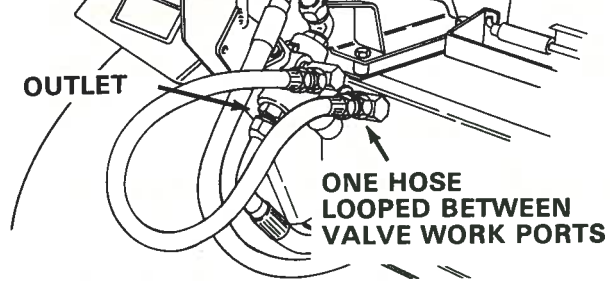


FIGURE 4 - 3000 Series

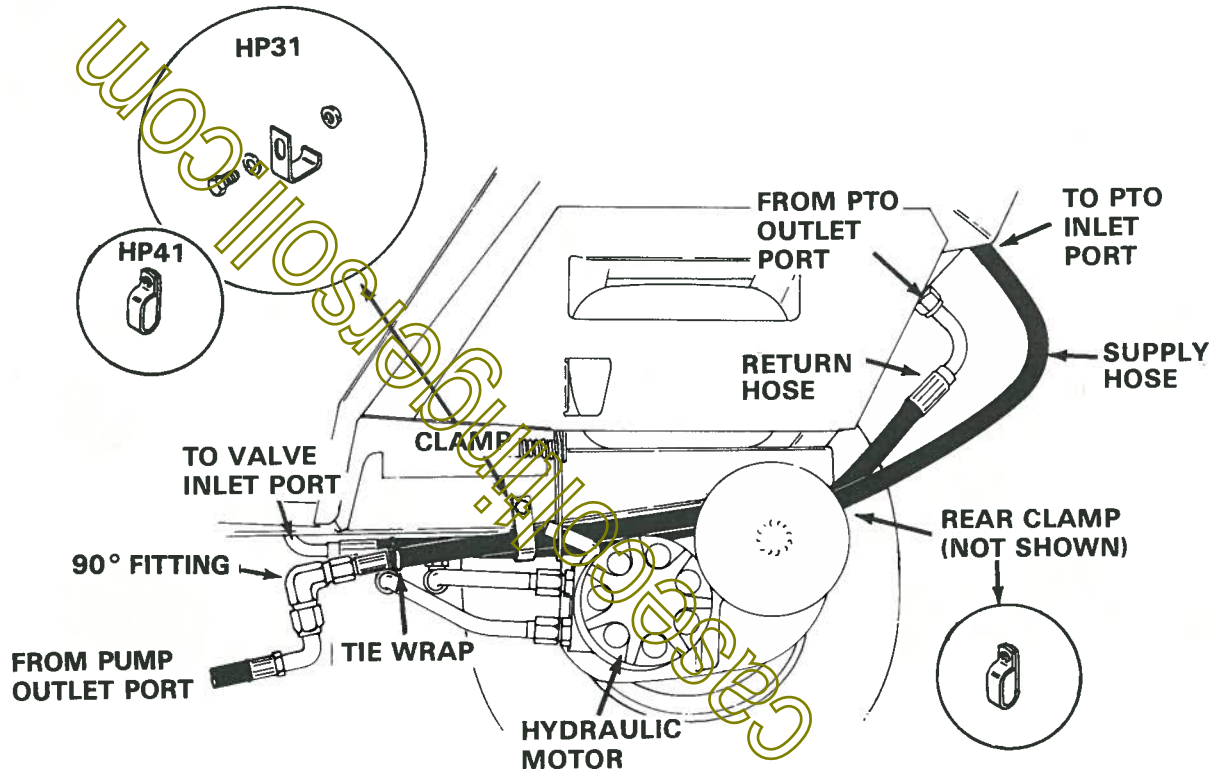


FIGURE 5 - 3000 Series Manual Steering (4000 Series Similar)

HOSE CONNECTIONS ON 3000/4000 SERIES TRACTORS WITH POWER STEERING

1. Figure 6. Remove original supply hose (Item 1) and steel tube (item 2) that goes from flow divider valve to inlet on travel control valve. These items are not re-used.
2. Figure 7. Install straight end of longer hose provided in PTO kit to fitting on flow divider valve. Connect other end of hose to PTO valve inlet fitting. Figure 4 shows supply hose routing for 3000 series. Figure 7 shows hose routing for 4000 series.
3. Figure 7 & 8. Install 90° elbow fitting to straight fitting on travel control valve inlet port. Install return hose provided in PTO kit from outlet port on PTO valve to inlet port on travel control valve.
4. Refer to COMPLETING THE INSTALLATION section for final assembly.

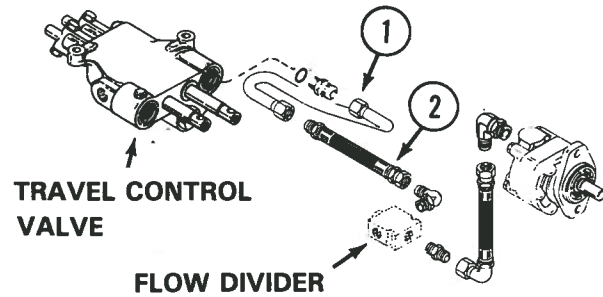


FIGURE 6 - 3000/4000 SERIES TRACTOR W/POWER STEERING - Travel Control Oil supply prior to Hydraulic PTO Installation.

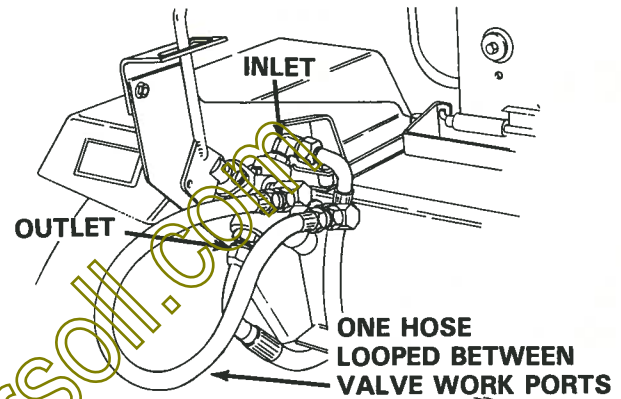
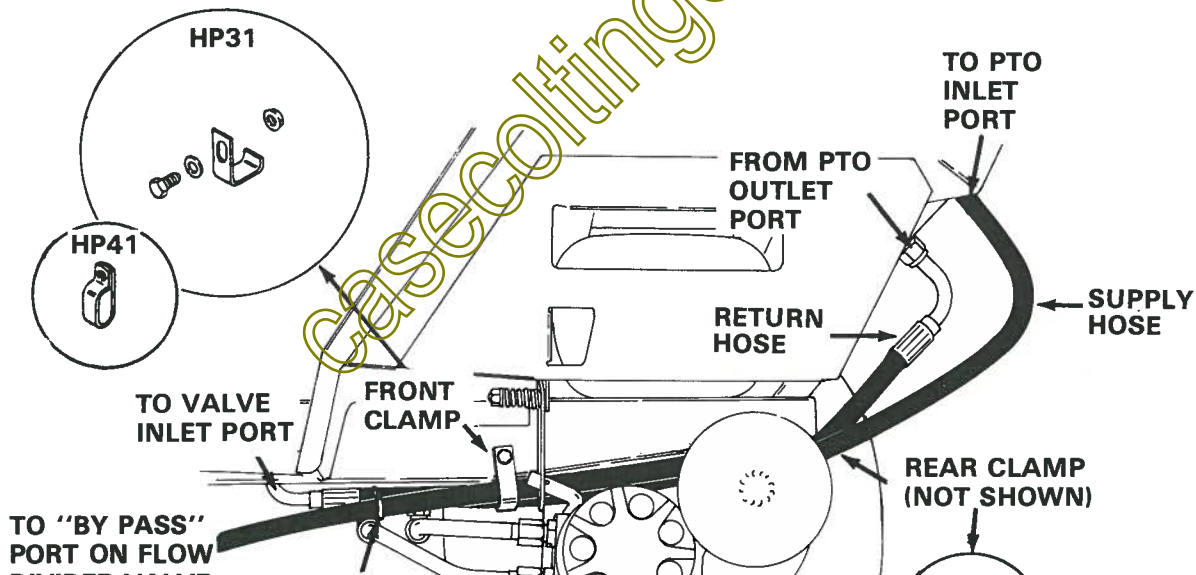


FIGURE 7 - 4000 Series



hoses away from range shift linkage. Centerpunch and drill 5/16" (8 mm) hole in left frame rail using hole in clamp as your guide. Use 5/16" NC x 1 bolt, flatwasher and flange nut to secure in position.

- c. Position rear clamp around hoses at existing hole in rear seat support. Secure clamp with 5/16" NC x 1 bolt, flatwasher and flange nut.
- d. Install tie wraps where indicated.
- e. Tighten all fittings.

2. For 4000 Series Tractors Refer to Figure 5 or 8.

- a. Position hoses on top of each other along outside of left frame rail with supply hose on top and the return hose on bottom.
- b. Position clamp around hoses and locate as shown to hold hoses away from range shift linkage. Centerpunch and drill 5/16" (8 mm) hole in left frame rail using hole in clamp as your guide. Use 5/16" NC x 1 bolt, flatwasher and flange nut to secure in position.
- c. Install tie wraps where indicated.
- d. Tighten all fittings.

IMPORTANT Check all hydraulic fittings for tightness.

VERY IMPORTANT If the hydraulic attachment is not being installed at this time, one hose must be looped between the PTO valve work ports. Failure to observe this procedure will result in oil loss (ports left open) or pump damage (ports plugged) if the valve is actuated.

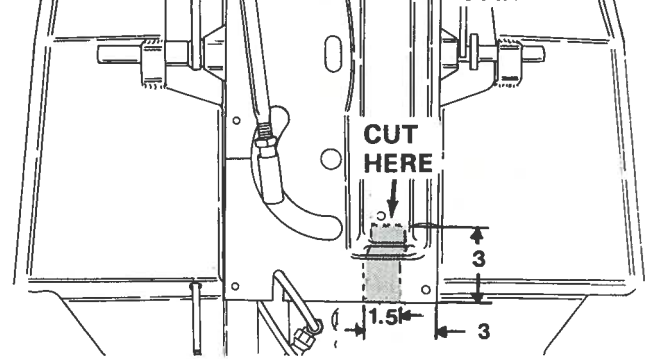


FIGURE 9

11. Cut away the left rear end of the belly pan. This is done to provide clearance for the hoses. Refer to Figure 9.
12. Reinstall the belly pan.
13. Remove piece of plastic from under hydraulic reservoir cap.

NOTE: An extra elbow is provided in each kit as package is designed to fit both manual and power steering models.

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