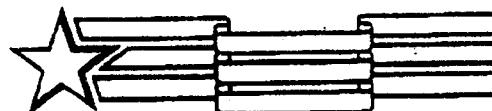


Ingersoll

WOOD SPLITTER
AHSWD
Operator's Manual 8-57700

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QUALITY IN THE AMERICAN TRADITION

Ingersoll Equipment Co., Inc.

Winneconne, Wisconsin 54986-9576



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

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.**



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.

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SAFETY RULES



The safety messages contained in this manual are to be used together with the safety messages appearing in your Tractor Operator's Manual. Make sure you review both manuals before you operate the Tractor Wood Splitter combination.



CAUTION Read the operator's manual completely before attempting to use this wood splitter.



CAUTION Before starting this wood splitter, review the Rules for Safe Operation. Failure to follow these rules may result in serious injury to the operator or bystanders.



CAUTION Do not allow anyone to operate your wood splitter who has not read the operator's manual or has not been instructed on the proper use of the wood splitter.



CAUTION Never allow children or untrained adults to operate this wood splitter.



CAUTION Most accidents occur when more than one person operates the wood splitter. If a helper is assisting in loading logs to be split, never actuate controls until the helper is clear of the area.



WARNING Never allow anyone to ride on the wood splitter.



CAUTION Never transport car on the wood splitter.



CAUTION Extremely high fluid pressures are developed in hydraulic wood splitters. Pressurized hydraulic fluid escaping through a pin hole opening can puncture skin and cause severe fluid poisoning. Therefore, the following instructions should be followed at all times:

1. Do not operate the wood splitter with frayed, kinked, cracked or damaged hoses, fittings or tubing.
2. Stop the engine and release hydraulic system pressure by stroking the valve handle both ways several times before changing or adjusting fittings, hoses, tubing or other system components.
3. Do not adjust the pressure settings of the pump or valve.
4. Do not check for leaks with your hand. Leaks can be located by passing cardboard or wood over the suspected area. Look for discoloration. If injured by escaping fluid, see a doctor at once. Serious infection or reaction can develop if proper medical treatment is not administered immediately.



CAUTION Keep the operator zone and adjacent area clear for secure footing.



WARNING Always operate the wood splitter with all protective equipment in place and all controls properly adjusted.



CAUTION If your wood splitter is equipped with an internal combustion engine and intended for use near any unimproved forest, brush, or grass covered land, the engine exhaust should be equipped with a spark arrester. Take fire fighting equipment with you. Make sure you comply with local, state, and federal codes.



CAUTION Ram type machines should be used only for splitting wood and only in the direction of the grain. If the manufacturer has attachments for other uses, follow their instructions and safe operating instructions.



CAUTION Always operate the wood splitter at manufacturer's recommended speed.



WARNING Always keep hands and feet clear of moving parts.



CAUTION Always shut off the engine while repairing or adjusting the wood splitter except as recommended by the manufacturer.



WARNING When loading the wood splitter, place your hands on the sides of the log, outside of the path for the wedge or ram. Never place your hands or any part of your body between a log and any part of the wood splitter.



CAUTION On logs that are not cut square, the longest portion of the log should be rotated down and placed at the wedge end.



CAUTION Never attempt to split more than one (1) log at a time unless the ram has been fully extended and a second log is needed to complete the separation of the first log.



CAUTION Use only your hand to operate the wood splitter controls.



CAUTION Do not refuel the engine until it has cooled for several minutes.



CAUTION Clean debris and chaff from engine cylinder, cylinder head fans, blower housing, rotating screen and muffler areas. If the engine is equipped with a spark arrester, muffler clean and inspect it regularly. Follow manufacturer's service instructions. Replace if damaged.



CAUTION Be thoroughly familiar with all controls and with the proper use of the equipment.

- 1 Always wear safety shoes or heavy boots. A dropped log can seriously injure.
- 2 Always wear safety glasses or goggles to provide eye protection from flying splinters when operating the machine.
- 3 Avoid wearing jewelry or loose fitting clothing that might become entangled in moving or rotating parts of the machine.



WARNING Make sure the wood splitter is on a level surface. Block the wheels securely before operating the machine to avoid possible injury from unexpected machine movement.



CAUTION Never store the equipment with fuel in the tank inside a building where fumes might reach an open flame or spark. Allow the engine to cool before storing in any enclosure.



CAUTION Always operate the wood splitter from the manufacturer's indicated operator zone to assure maximum operator safety.



CAUTION Clean debris from movable parts, but only when the engine is shut off.



CAUTION Logs to be split should be cut as squarely as possible to avoid unexpected movement of split wood.



CAUTION Check to be sure all nuts and bolts are tight to assure the equipment is in safe working condition.



CAUTION Never leave the wood splitter unattended with the power source operating.



WARNING Pinch point. Keep hands away from ram, wedge and partially split wood. Pinching can cause injury. Stand clear and keep hands and feet from under wood splitter when changing height. Unexpected movement can cause injury.



CAUTION Never operate the wood splitter when under the influence of alcohol, drugs, or medication. Proper operation requires a clear head.



CAUTION The owner should instruct all operators how to properly operate a wood splitter.



CAUTION: Do not disconnect quick coupler while engine is running. Personal injury or damage to equipment may result.

IMPORTANT: Always install new decals whenever 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 new part. Replacement decals are available from your dealer.

INTRODUCTION

This Operator's Manual is for Model AHSWD Wood Splitter.

This Operator's Manual includes:

- a. Safety Rules
- b. Installation Procedure
- c. Operating Procedure
- d. Specifications
- e. Maintenance

Read this manual before operating your Wood Splitter.

The words, "Right, Left, Front and Rear" as used in this manual indicate directions when you are in tractor's operator's seat in normal operating position.

See your authorized dealer for parts or repairs.

Ingersoll Equipment Co., Inc. reserves the right to make improvements in design or changes in specifications at any time, without incurring any obligation relating to such changes.

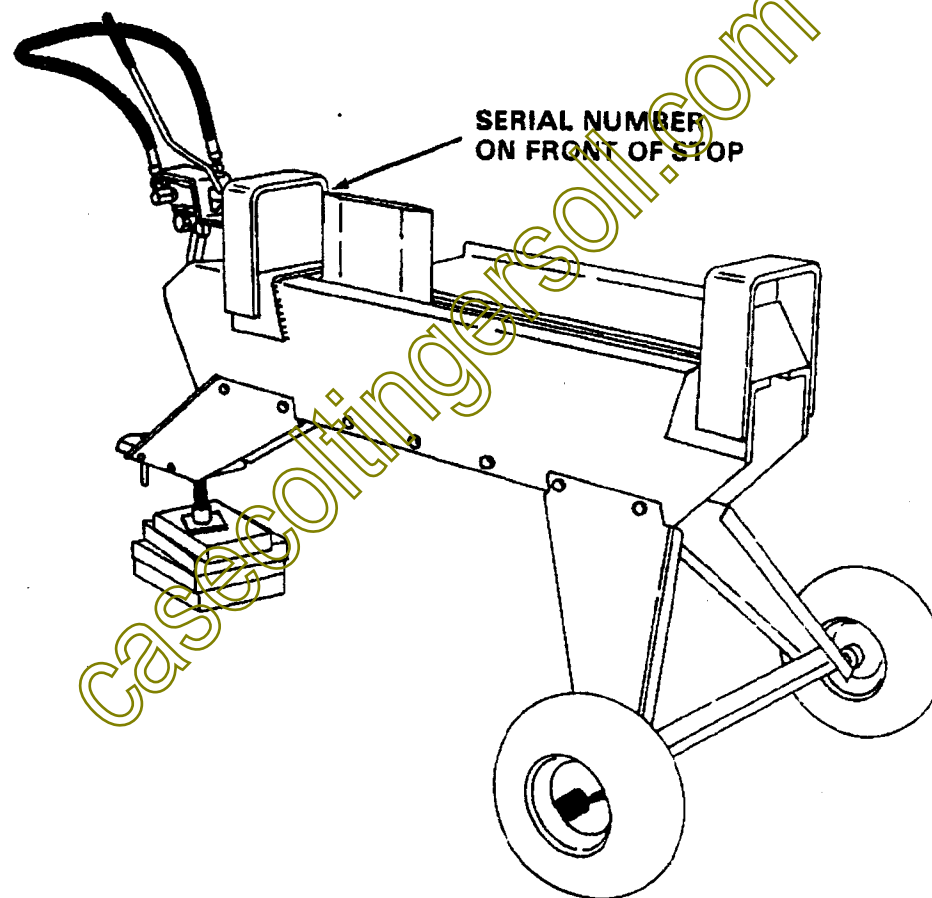


FIGURE 1

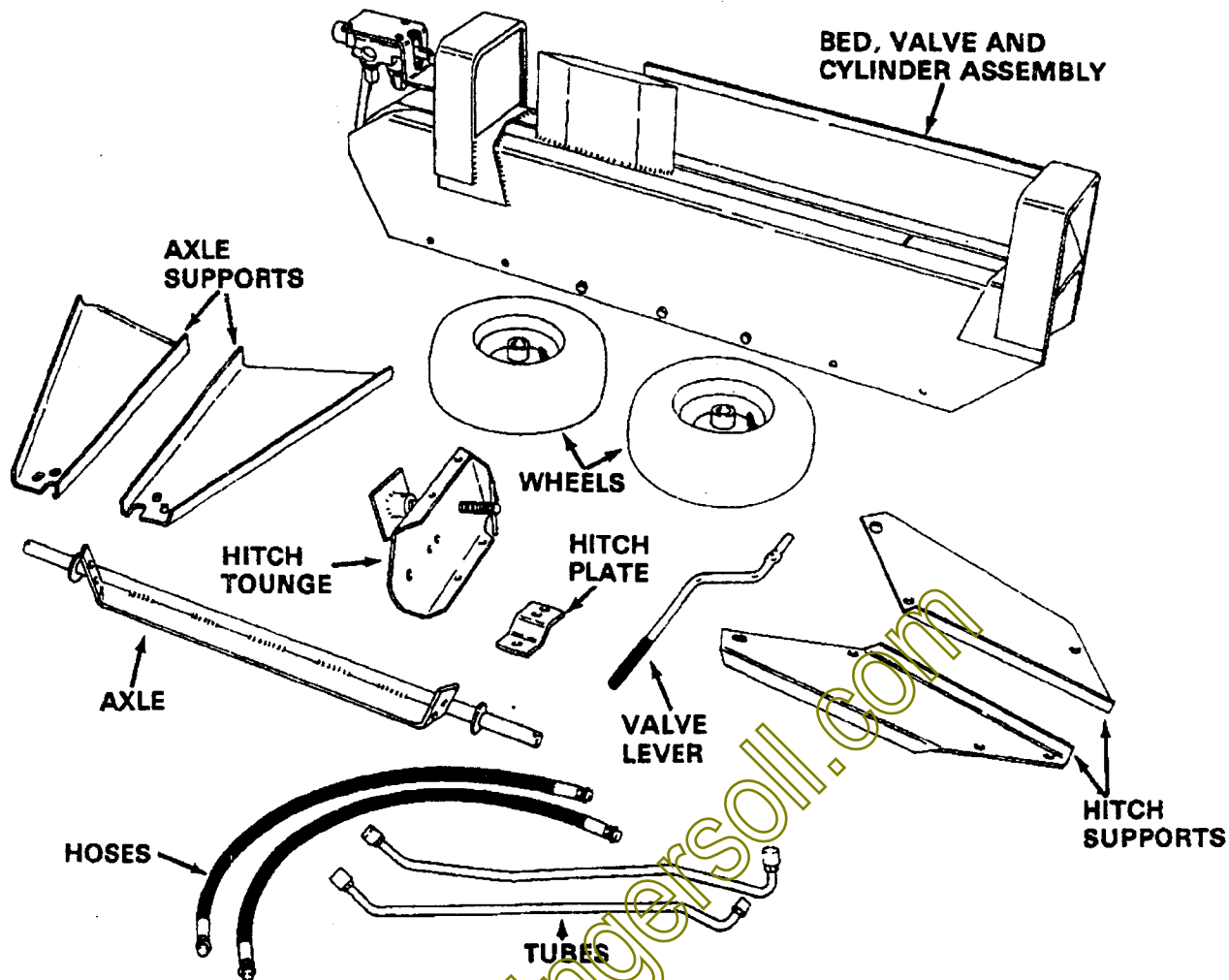


FIGURE 2 Wood Splitter - Disassembled

ATTACHMENT APPLICATION

Model AHSWD Wood Splitter will fit on any tractor equipped with a hydraulic PTO.

NOTE: This excludes 1976 and 1977 year model tractors with the metal hydraulic reservoir under the battery. This reservoir does not have adequate oil volume or expansion space to accommodate this wood splitter.

SPECIFICATIONS

Cycle Time (out & return)	10.2 seconds*
Cycle Time (out & return)	12.8 seconds**
Maximum Opening	25" (635 mm)
Splitting Stroke	24" (609 mm)
Splitting pressure	
outward stroke	12 tons (106,750 N)
return stroke	9.8 tons (87,180 N)
Relief Valve Setting	2500 PSI (17,236 kPa)
Hydraulic Cylinder	3.5" (88mm)
Rod	1.5" (38mm)
Shipping Weight	375 lb. (170 kg)
Tire Pressure	22 PSI (150 kPa)
Maximum Towing Speed	9.4 mph (15 km/h)

** on 200, 400, 600, 4000, 6000 series tractors
 * on 3100, 4100 series tractors

ASSEMBLY AND INSTALLATION

1. Remove tractor draw bar and install heavy duty draw bar provided.

For low clearance tractors: Install draw bar so it "steps up" from mounting bolts. See Figure 3.

For high clearance tractors: Install draw bar so it "steps down" from mounting bolts. See Figure 4.

2. Lay splitter bed upside down as shown.

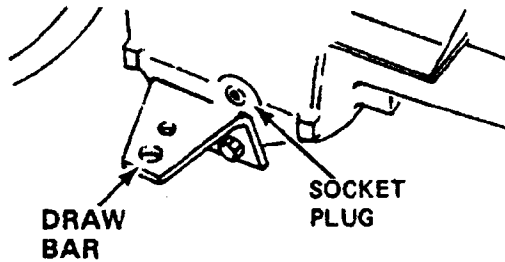


FIGURE 3

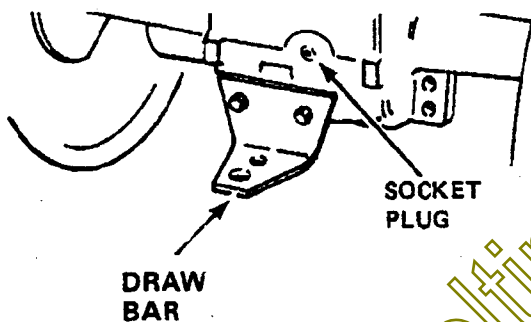


FIGURE 4

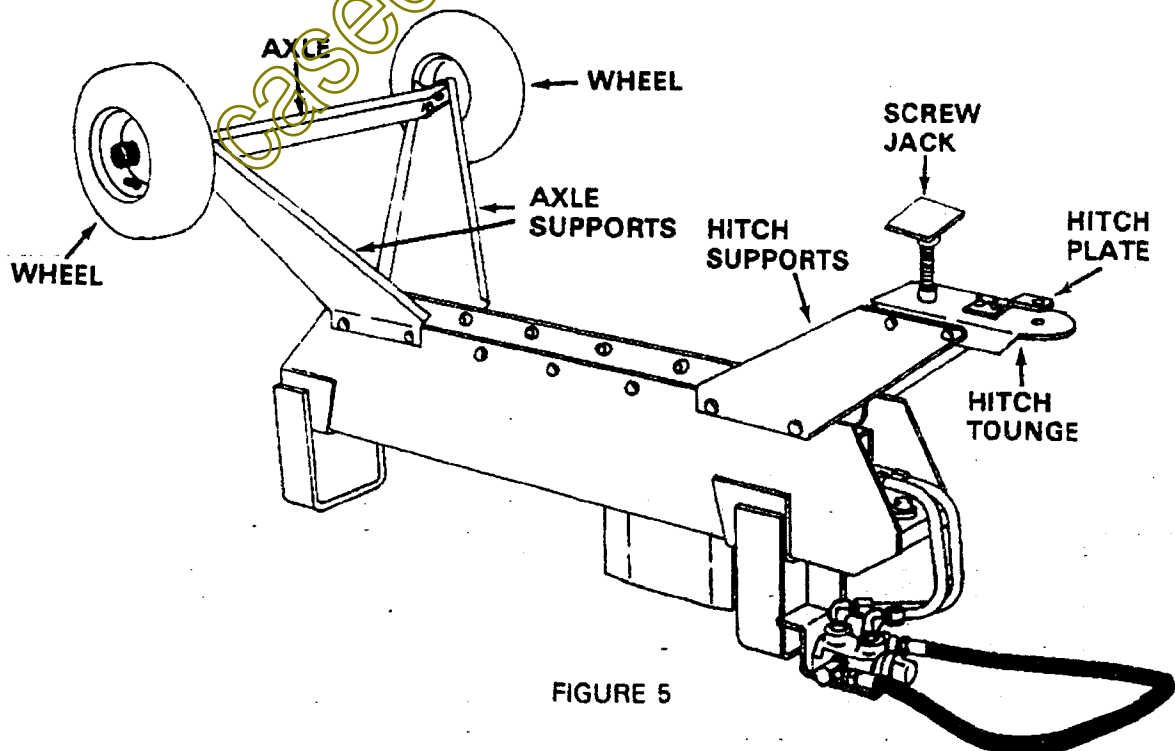


FIGURE 5

3. Loosely attach axle supports to rear holes of splitter bed. The supports must be to outside of bed and must slant to rear.
4. Fasten the axle to axle supports. Use 5/16" x 7/8" bolts and flange lock nuts. Tighten axle support bolts.
5. Install wheels with valve stem to outside. Use washers and cotter pins provided. Apply grease and install plastic axle caps.
6. Loosely attach hitch supports to front holes of splitter bed. Supports must slant to front as shown.
7. Install hitch tongue to hitch supports. Use 3/8" x 7/8" bolts and flange lock nuts. Tighten hitch support bolts.
8. Install hitch plate to bottom of tongue. Use 5/16" x 3/4" bolts, lockwashers and nuts.
9. Turn splitter over. Put blocking under screw jack.

IMPORTANT: To avoid physical injury, make sure you have help.

10. Adjust screw jack to align splitter hitch with tractor draw bar. Move tractor rearward and fasten to splitter with hitch pin provided.
11. Install valve handle with offset facing forward. Use small clevis pin and cotter pin provided.

HYDRAULIC HOSE ROUTING

(On Garden Tractors)

Hose routing model M17, N17, HP30, HP40, HP31, and HP41 PTO (see figure 6).

- a. rear port of PTO valve to inlet (R.H.) port of splitter valve.
- b. front port of PTO valve to outlet (L.H.) port of splitter valve.

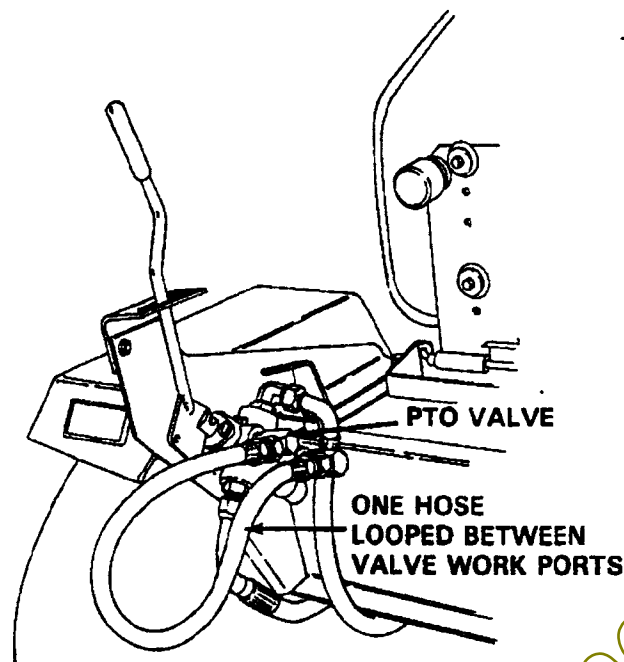


FIGURE 6

Hose routing model J17 and L17 PTO (not shown).

- a. front port of PTO valve to inlet (R.H.) port of splitter valve.
- b. rear port of PTO valve to outlet (L.H.) port of splitter valve.

Hose routing model HP32, HP42 and HP34 PTO or 3100 and 4100 series tractors (see figure 7).

- a. outlet (L.H.) coupler on tractor to inlet (R.H.) port of splitter valve.
- b. inlet (R.H.) coupler on tractor to outlet (L.H.) port of splitter valve.

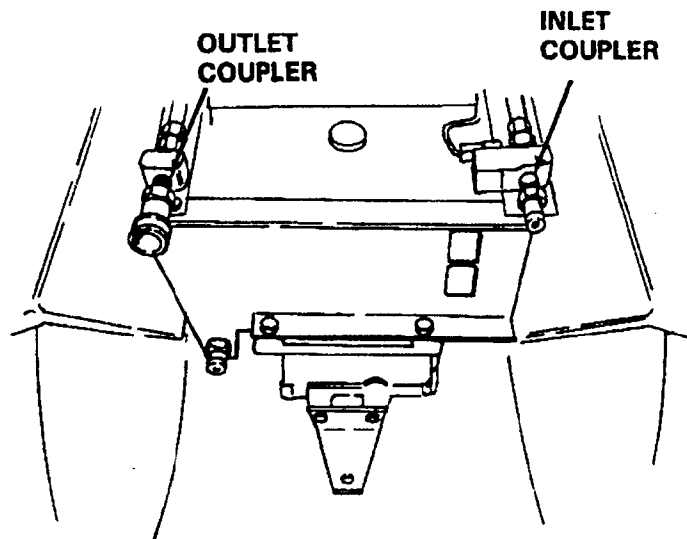


FIGURE 7

IMPORTANT: Tractor PTO must be in forward position to supply hydraulic flow to splitter. Keep tractor engine at slow speed when activating splitter for first time. Splitter wedge must move same direction as splitter handle. Switch hoses if movement is not correct.

(On 600 and 6000 Loaders)
(not shown)

1. a. L.H. port of tractor PTO to R.H. (inlet) port of splitter valve.
- b. R.H. port of tractor PTO to L.H. (outlet) port of splitter valve.
2. Move lever on loader PTO to the right. This will supply hydraulic flow to splitter.
3. Keep loader engine at slow speed when activating splitter for first time. Move splitter handle slightly. Splitter wedge must move same direction as splitter handle. If movement is not correct, switch hydraulic connections.



CAUTION Extremely high fluid pressures are developed in hydraulic hose splitters. Pressurized hydraulic fluid escaping through a pin hole opening can puncture skin and cause severe blood loss. Therefore, the following instructions should be heeded at all times.

1. Do not operate the wood splitter with the hydraulic hose and hose fittings damaged or if they are leaking.
2. When the hose is cut, the size of the hole will be determined by the system pressure. By releasing the pressure, handle the hose several times before changing or adjusting fittings, hoses, tubing or other system components.
3. Do not adjust the pressure setting of the pump or valve.
4. Do not use the hose with any form of leak, even if it can be patched or repaired on wood. Cut the hose before it reaches the discharge tip. If needed, by using a sharp knife, cut the hose at an angle to the discharge tip. Do not use a power saw to cut the hose. Do not use a power saw to cut the hose. Do not use a power saw to cut the hose.

HYDRAULIC COUPLING SWITCH INSTALLATION

This switch must be installed on 3000, 4000, 3100, 4100 series tractors PIN 14167800 and after to allow off seat operation.

This kit must not be used with hydraulic driven attachments where tractor is in motion.



WARNING: To prevent personal injury, do not use hydraulic coupling kit when tractor is being used with hydraulic driven attachment requiring tractor motion.

INSTALLATION

See Figure 8

1. Install switch into bracket. Use black or grey w/white triangle switch on all 3100, 4100 series. Use grey switch for 3000, 4000 Series PIN 14167800 and up. Switch plunger must be to inside of switch bracket and switch terminals should face away from mounting portion of switch bracket.

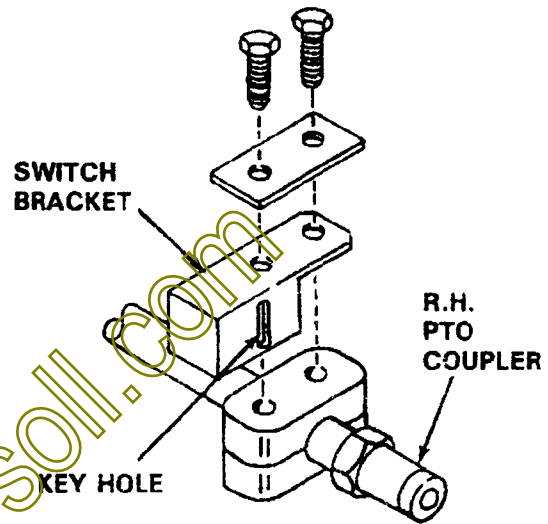
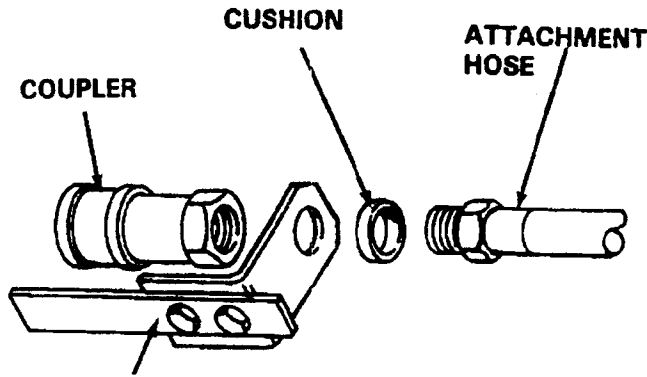


FIGURE 8—Switch Bracket

2. Remove two 1/4" bolts securing R.H. PTO hydraulic tube clamp blocks to inside of R.H. fender.
3. Position switch bracket between upper clamp block and block reinforcement plate. Reinstall 1/4" bolts and secure all parts to R.H. fender.
4. Connect switch harness to switch. Harness and connector can be found in area near PTO valve.

See Figure 9

5. Install key cushion and key assembly to return hose for stationary hydraulic attachment to be used. Use hydraulic thread sealant on hose fitting and securely tighten female quick coupling.



KEY

FIGURE 9—Key Installation

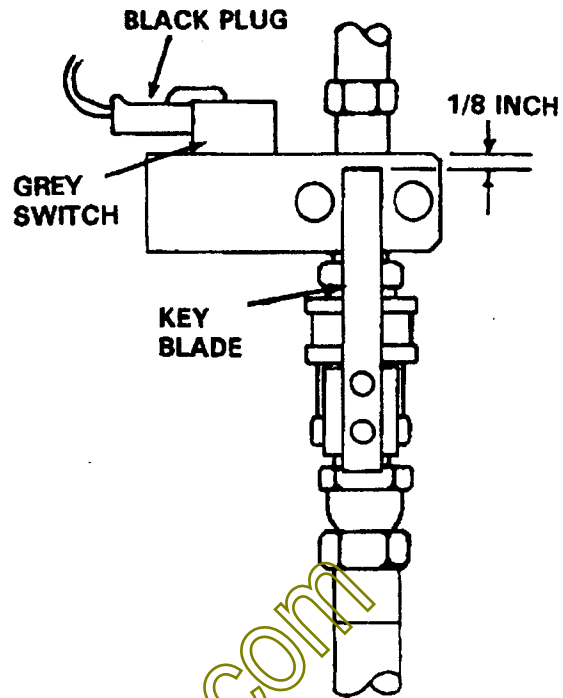


FIGURE 10—Adjusting Key to Switch

See Figure 10

6. Connect couplers with key positioned over top of PTO tube clamp assembly as shown.
7. End of key blade must be 1/8" (3mm) short of forward edge of switch bracket. Loosen key blade mounting bolts and adjust as required. Retighten key blade mounting bolts.
8. Disconnect couplers.

See Figure 11

9. Align key blade on hydraulic attachment return hose with key hole in switch bracket. Connect R.H. coupling set.
10. Connect attachment supply hose with L.H. PTO coupler on tractor.
11. To check operation, start tractor engine and engage PTO lever on tractor. If coupling switch is operating properly you should be able to remove your weight from tractor seat and tractor will continue to run.

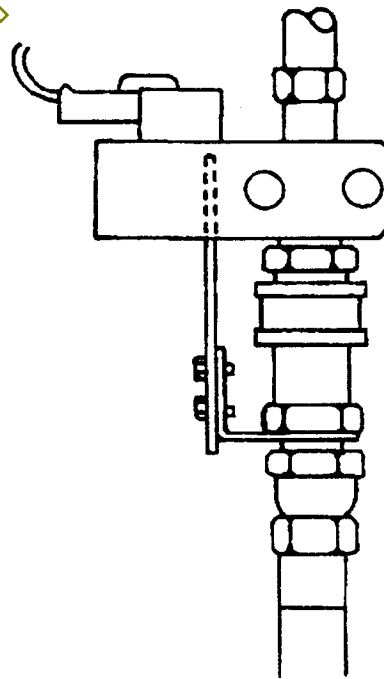


FIGURE 11
Coupling Switch Connected for Operation

REMOVAL PROCEDURE

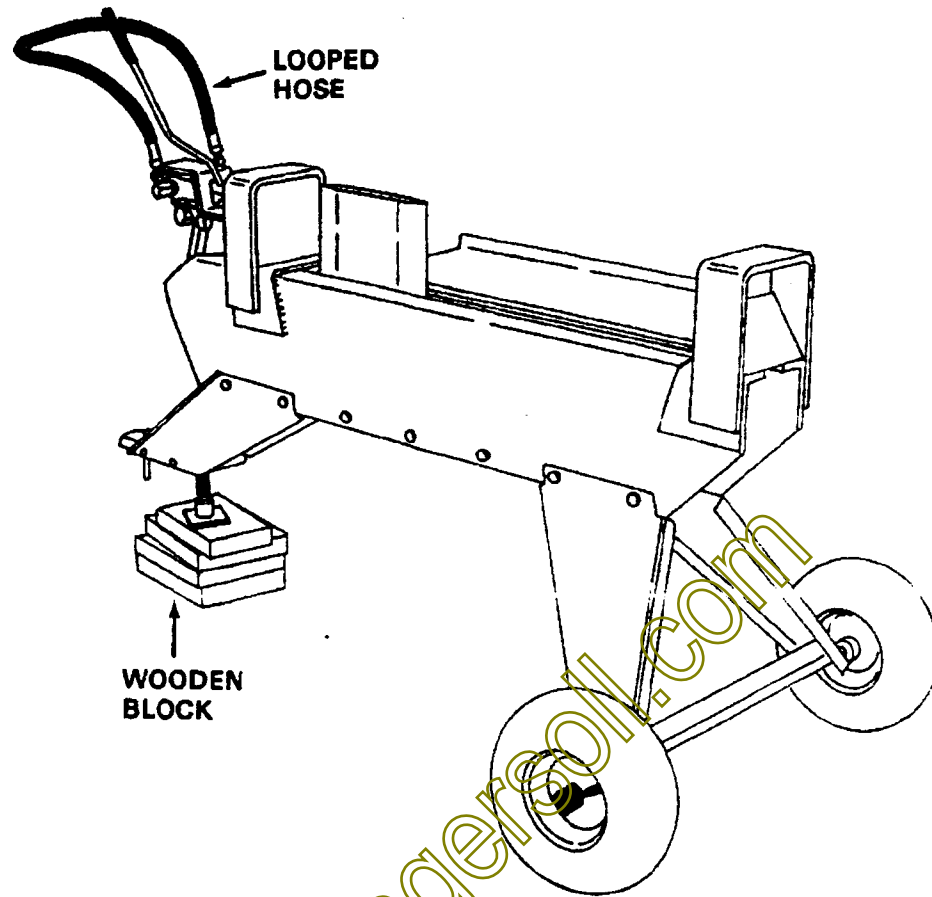


FIGURE 12

1. Park tractor/splitter in splitter storage place.
2. Place a wooden block under jack. Lower jack until weight is removed from the draw bar. Remove hitch pin.
3. Retract wedge fully during storage.
4. **IMPORTANT:** Shut off engine.
5. Relieve hydraulic pressure by stroking valve handle both ways several times. Remove hydraulic hoses. Loop one hose between work ports on hydraulic PTO on tractor, except on 3100 and 4100 series.
6. Roll or drive the tractor slightly ahead.



CAUTION: Do not disconnect quick coupler while engine is running. Personal injury or damage to equipment may result.

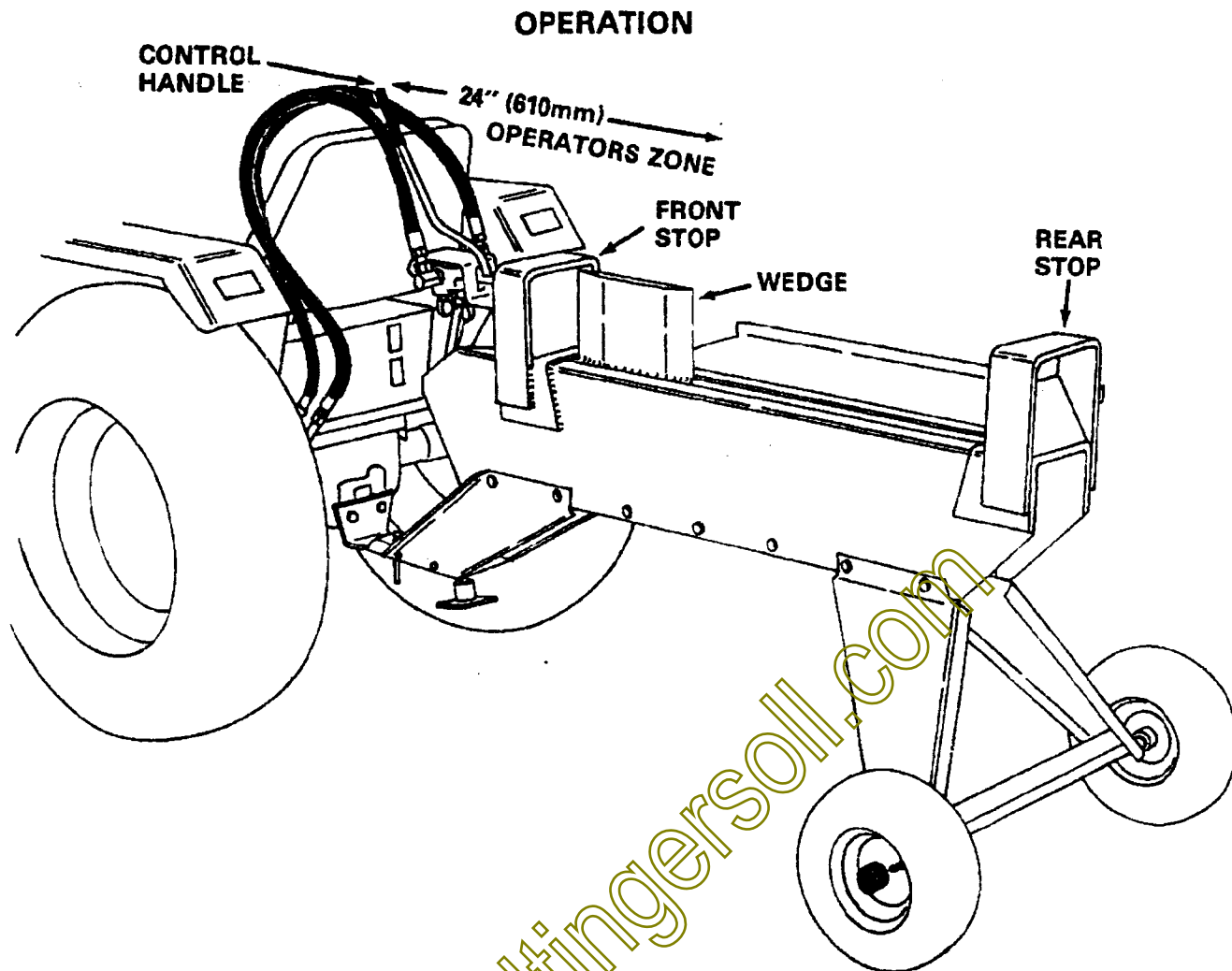


FIGURE 13

OPERATING CONTROLS

1. Wood Splitter control handle

Move handle rearward to extend wedge. To retract wedge, move handle forward. Handle will return to neutral when you remove your hand.



CAUTION Read the operator's manual completely before attempting to use this wood splitter.

2. Mechanical Drive Clutch - (Early Models)

If no belt driven attachment is mounted, engage attachment drive clutch when using Wood Splitter. This will reduce wear on clutch hub. (Remember, the attachment drive clutch must be in "off" to start the tractor engine.)



CAUTION Keep the operator zone and adjacent area clear for secure footing.

POSITION TRACTOR

1. Position tractor on a level surface free of obstructions that may cause you to lose your footing.
2. Place two-speed transaxle in neutral.
3. Apply parking brake and block both sides of rear wheels.



WARNING Make sure the wood splitter is on a level surface. Block the wheels securely before operating the machine to avoid possible injury from uncontrolled machine movement.

PREPARATION



CAUTION Before starting this wood splitter, review the "Rules for Safe Operation". Failure to follow these rules may result in serious injury to the operator or bystanders.

Always operate Wood Splitter from the manufacturer's indicated operator zone to assure maximum operator safety.



CAUTION Always operate the wood splitter from the manufacturer's indicated operator zone to assure maximum operator safety.

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