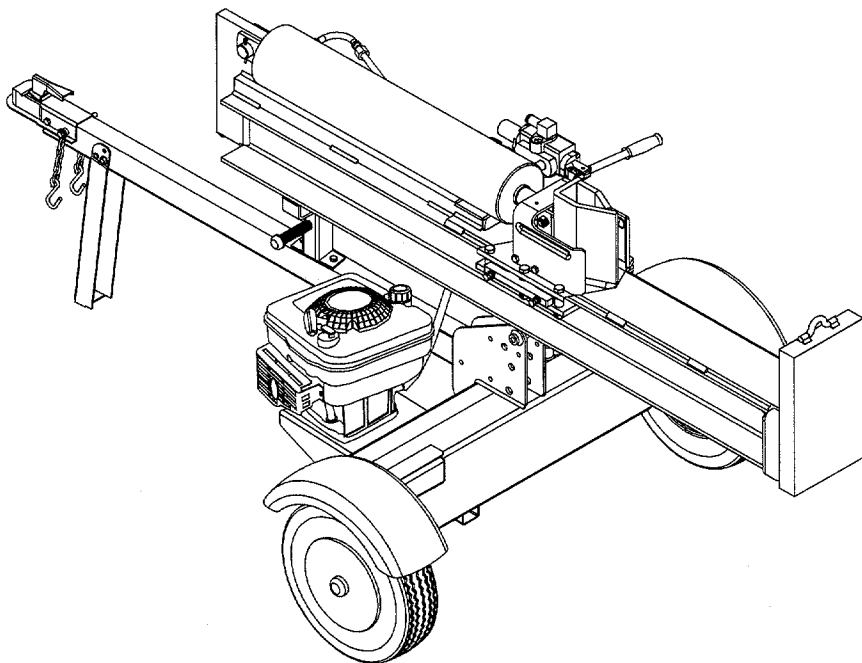




OPERATOR'S MANUAL

LOG SPLITTER VERTICAL SHAFT



IMPORTANT: READ SAFETY RULES AND INSTRUCTIONS CAREFULLY

Warning: This unit is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the State of California the above is required by law (Section 4442 of the California Public Resources Code). Other states may have similar laws. Federal laws apply on federal lands. A spark arrester for the muffler is available through your nearest engine authorized service dealer or contact the service department, P.O. Box 368022 Cleveland, Ohio 44136-9722.

MTD PRODUCTS INC. P.O. BOX 368022 CLEVELAND, OHIO 44136-9722

SECTION 1: FINDING YOUR MODEL NUMBER

This Operator's Manual is an important part of your new log splitter. It will help you assemble, prepare and maintain your log splitter. Please read and understand what it says.

Before you start to prepare your log splitter for its first use, please locate the model plate and copy the information from it in this Operator's Manual. The information on the model plate is very important if you need help from your dealer or the MTD customer support department.

- Every log splitter has a model plate. You can locate it by standing behind the unit in the operating position and looking down at the hydraulic tank. See Figure 1.


	This is where your model number will be.
	This is where your serial number will be.
	Copy the model number here: _____
	Copy the serial number here: _____

Figure 1

SECTION 2: CALLING CUSTOMER SUPPORT

- **LOCATE YOUR MODEL NUMBER AND SERIAL NUMBER** — Record this information in the space provided. To find your unit's specific model number and serial number, see SECTION 1: FINDING YOUR MODEL NUMBER.
- If you are having difficulty assembling this product or if you have any questions regarding the controls, operation or maintenance of this unit, please call the Customer Support Department.
- Customer Support can be reached by dialing: **1- (330) 220-4MTD (4683)**
or
1- (800)-800-7310
- Please have your model number and serial number ready when you call.
- Although both numbers are important, you will be asked to enter only your **serial** number before your call can be processed.

SECTION 3: IMPORTANT RULES FOR SAFE OPERATION



WARNING: THIS SYMBOL POINTS OUT IMPORTANT SAFETY INSTRUCTIONS WHICH, IF NOT FOLLOWED, COULD ENDANGER THE PERSONAL SAFETY AND/OR PROPERTY OF YOURSELF AND OTHERS. READ AND FOLLOW ALL INSTRUCTIONS IN THIS MANUAL BEFORE ATTEMPTING TO OPERATE YOUR LOG SPLITTER. FAILURE TO COMPLY WITH THESE INSTRUCTIONS MAY RESULT IN PERSONAL INJURY. WHEN YOU SEE THIS SYMBOL HEED ITS WARNING.



WARNING: The Engine Exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



DANGER: Your log splitter was built to be operated according to the rules for safe operation in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. If you violate any of these rules, you may cause serious injury to yourself or others.

1. TRAINING

- Before operating this splitter, read and understand this operator's manual completely. Become familiar with it for your own safety. To fail to do so may cause serious injury. Do not allow anyone to operate your splitter who has not read this manual. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
- Never use your splitter for any other purpose than splitting wood. It is designed for this use and any other use may cause an injury. Your log splitter is a precision piece of power equipment, not a toy. Therefore, exercise extreme caution at all times.
- Never allow children to operate your log splitter. Do not allow adults to operate it without proper instruction. Only persons well acquainted with these rules of safe operation should be allowed to use your log splitter.
- Only the operator is to be near your log splitter during use. Keep all others, including pets and children, a minimum of 20 feet away from your work zone. Flying wood can be hazardous. If a helper is assisting in loading logs, never activate the control until the helper is clear of the area. More accidents occur when more than one person operates the log splitter than at any other time.
- No one should operate this unit while intoxicated or while taking medication that impairs the senses or reactions. A clear mind is essential for safety. Never allow a person who is tired or otherwise not alert to use your splitter.

2. PREPARATION

- Never wear loose clothing or jewelry that can be caught by moving parts of your log splitter and pull you into it. Keep clothing away from all moving parts of your log splitter.
- Wear proper head gear to keep hair away from moving parts. Always wear protective hearing devices as needed.
- Always wear safety shoes. A dropped log can seriously injure your foot.
- Always wear safety glasses or goggles while operating your splitter. A piece of splitting log could fly off and hit your eyes.
- Wear leather work gloves. Be sure they are tight fitting without loose cuffs or draw strings.
- Use your log splitter in daylight, or under good artificial light.
- Never operate your splitter on slippery, wet, muddy or icy surfaces. Safe footing is essential in preventing accidents.
- Never operate your splitter while it's still attached to a towing vehicle.
- Only operate your splitter on level ground and not on the side of a hill. It could tip, or rolling logs or poor footing could cause an accident. Operating

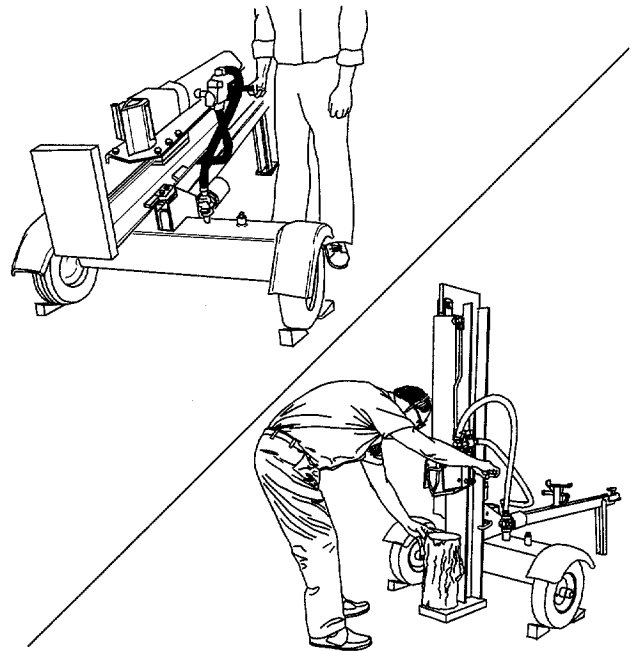
the splitter on level ground also prevents the spillage of gasoline from the fuel tank.

- Never attempt to move the log splitter over hilly or uneven terrain without a tow vehicle or adequate help.
- Always block the wheels to prevent movement of log splitter while in operation.
- Check the fuel before starting the engine. Gasoline is an extremely flammable fuel. Do not fill the gasoline tank indoors, when the engine is running, or while the engine is still hot. Replace gasoline cap securely and wipe off any spilled gasoline before starting the engine as it may cause a fire or explosion.
- Both ends of each log must be cut as square as possible to help prevent the log from riding out of the splitter during operation.

3. OPERATION

- **Vertical Operating Position:** Stand in front of the log splitter.

Horizontal Operating Position: Stand behind the reservoir tank. See illustrations.



- Know how to stop the unit and disengage the controls.
- Never place hands or feet between log and splitting wedge or between log and end plate during forward or reverse stroke. To do so may result in crushed or amputated fingers or toes, or worse, you may lose an arm or foot.
- Do not straddle the splitter when using it. A slip in any position could result in a serious injury.
- Do not step over your log splitter when the engine is running. You may trip or accidentally activate the

splitting wedge if you step over. If you need to get to the other side, walk around.

- Never try to split two logs on top of each other. One may fly out and injure you.
- When loading the log splitter, place your hands on the side of the log, not at the ends. Never attempt to load your splitter while the splitting wedge is in motion. You may get caught by the wedge and injured.
- Only use your hand to operate the splitting wedge or control lever. Never use your foot or a rope or any other extension device. This could result in your inability to stop your splitter quickly enough to avoid injury.
- Always keep fingers away from any cracks that open in the log during splitting operation. They can quickly close and pinch or amputate your fingers.
- Never attempt to split woods across the grain. Some types of wood may burst or fly out of your splitter and result in injury to you or a bystander.
- For logs that are not cut square, the longest portion of the log should be rotated down and the most square end placed against the splitting wedge.
- Keep your work area clean. Immediately remove split wood around your splitter so that you do not stumble over it. Clean chips and dirt off end plate (wood platform) after each log is split, or whenever necessary to maintain flat contact between wood and end plate (platform).
- Never move the log splitter while the engine is running.
- Never leave your log splitter unattended with the engine running. Shut off the engine if you are leaving your splitter, even for a short period of time. Someone could accidentally activate the splitting wedge and be injured.
- Do not run engine in an enclosed area. Exhaust gases contain carbon monoxide. This odorless gas can be deadly when inhaled.
- Be careful not to touch the muffler after the engine has been running. It will be HOT!
- If the equipment should start to vibrate abnormally, stop the engine and check immediately for the cause. Vibration is generally a warning of trouble.
- When cleaning, repairing or inspecting, make certain all moving parts have stopped. Disconnect the spark plug wire and keep the wire away from the plug to prevent accidental starting.

4. CUSTOMER RESPONSIBILITIES

- Do not operate your splitter in poor mechanical condition or when in need of repair.
- Periodically check that all nuts, bolts, screws, hose clamps and hydraulic fittings are tight to be sure equipment is in safe working condition. Where appropriate, check all safety guards and shields to be sure they are in the proper position. Never operate your splitter with safety guards, shields or other

protective features removed. These safety devices are for your protection.

- Replace all damaged or worn parts such as hydraulic hoses and fittings immediately with manufacturer approved replacement parts.
- Do not change the engine governor settings or overspeed the engine. This increases the hazard of personal injury. The maximum engine speed is preset by the manufacturer and is within safety limits.
- Do not alter your splitter in any manner such as attaching a rope or extension to the control lever or adding to the width or height of the wedge. Such alterations may cause your splitter to be unsafe.
- Perform all recommended maintenance procedures before you use your splitter.
- Do not service or repair your log splitter without disconnecting the spark plug wire and moving it away from the spark plug.
- Never store the equipment with gasoline in the tank inside of a building where ignition sources are present, such as hot water and space heaters, clothes dryers and the like. Allow the engine to cool before storing in any enclosure.
- Always store gasoline in an approved, tightly sealed container. Store the container in a cool, dry place. Do not store in a building where ignition sources are present.
- To reduce fire hazard, keep engine free of grass, leaves, wood chips, and excessive grease and oil.
- The hydraulic system of your log splitter requires careful inspection, along with the mechanical parts. Be sure to replace frayed, kinked, or otherwise damaged hydraulic components.
- Fluid escaping from a very small hole can be almost invisible. Do not check for leaks with your hand. Escaping fluid under pressure can have sufficient force to penetrate skin, causing serious personal injury. Leaks can be located by passing a piece of cardboard or wood over the suspected leak and looking for discoloration.
- Should it become necessary to loosen or remove any hydraulic fitting or line, be sure to relieve all pressure by shutting off the engine and moving the control handle back and forth several times.
- Do not remove the cap from the hydraulic tank or reservoir while your log splitter is running. Hot oil under pressure could cause injury.
- The pressure relief valve on your splitter is preset at the factory. Do not adjust the valve. Only a qualified service technician should perform this adjustment.
- Completely drain fuel tank prior to storage. This guards against accumulation of fuel fumes which could result in a fire hazard.
- Never store log splitter outside without a waterproof cover. Rain will cause rust on the inside of the cylinder.

5. TOWING

- This unit should not be towed on any street, highway or public road without checking the existing federal, local or state vehicle requirements. Any licensing or modifications such as taillights, etc., needed to comply with the existing federal, local or state vehicle requirements is the sole responsibility of the purchaser.

***If a "Statement of Origin" is required in your state, see your local dealer to receive one.**

- Before towing, be certain the log splitter is correctly and securely attached to the towing vehicle, and the safety chains are in place. Leave slack in chains for turning allowance.
- Use a class I or higher hitch ball with a 1-7/8" ball. Keep ball socket and clamp face lubricated with chassis grease.
- Be sure the coupler is secured to the hitch ball and the lock lever is down tight and locked.
- Check vehicle hitch, ball and coupler for signs of wear or damage. Replace any parts that are worn or damaged before towing.

- The coupler must be secured to the log splitter tongue tube with the original equipment bolts and nuts. See your local dealer for replacement parts. Coupler nuts should be tightened securely (23 foot pounds).
- Make sure beam assembly is securely latched in the horizontal position and jack stand (if provided) is pivoted and secured in the UP position before towing the log splitter. Never tow with the beam in the vertical position.
- Do NOT tow the log splitter faster than 45 MPH. Higher speeds may damage the log splitter. Excessive speeds may cause the log splitter to "fishtail" or otherwise become unstable.
- Check the tire pressure on log splitter tires. 30 PSI is the maximum for highway travel.
- When parking, storing or operating your log splitter, keep the coupler off the ground so dirt will not build up in the ball socket.
- Do not allow anyone to sit or ride on your splitter. They can easily fall off and be seriously injured.



WARNING - YOUR RESPONSIBILITY: Restrict the use of this power machine to persons who read, understand and follow the warnings and instructions in this manual and on the machine.



MOVING LOG SPLITTER BY HAND:

Lock beam in horizontal position.
Lock jack stand in down position.
Do not attempt to move log splitter up or down a slope by hand

S30230

TOWING LOG SPLITTER:

Lock beam in horizontal position.
Attach coupler to Class I or higher hitch with 1-7/8" ball. Latch securely.
Raise jack stand and latch securely in full up position.
Attach safety chains to tow vehicle.
Do not tow faster than 45 mph. High speed may cause loss of control.
Check local, state and federal requirements before towing on any public road.

<p>VERTICAL</p>	<p>OPERATOR'S INSTRUCTIONS</p> <ol style="list-style-type: none"> 1. Place log splitter on flat dry solid ground. 2. Lock in either the Horizontal or Vertical position. 3. Set the engine throttle at maximum speed. 4. Place the log against the end plate. 5. Stabilize the log when needed on its sides, NEVER on the end between the log and the splitting wedge. 6. Only one adult should stabilize the log and operate the control. 7. Move the control handle in the splitting direction. 8. Release the control handle to stop the wedge movement. 9. Move the control handle opposite the splitting direction to return the wedge. 	<p>READ OPERATOR'S MANUAL</p> <p>HORIZONTAL</p>	<p>HORIZONTAL POSITION LOCK</p>	<p>DANGER</p> <p>AVOID SERIOUS INJURY OR DEATH</p> <ul style="list-style-type: none"> ■ KEEP HANDS AWAY FROM WEDGE, END PLATE, PARTLY SPLIT WOOD AND MOVING PARTS. ■ HOLD LOG ON ITS SIDE, NOT ON ENDS WHEN LOADING. ■ ONLY ONE ADULT SHOULD OPERATE LOG SPLITTER AND LOAD THE LOG. KEEP BYSTANDERS, NEPHEWS AND CHILDREN AT LEAST 10 FEET AWAY. ■ SPLIT WOOD ONLY IN DIRECTION OF THE GRAIN. ■ HIGH PRESSURE FLUID CAN ESCAPE THROUGH A PIN HOLE LEAK AND CAUSE SERIOUS INJURY BY PUNCTURING THE SKIN AND CAUSING BLOOD POISONING. ■ NEVER CHECK FOR LEAKS WITH YOUR HANDS. ■ OPERATE THE LOG SPLITTER ON LEVEL SURFACE. LOCK IT IN VERTICAL OR HORIZONTAL POSITION. ■ WEAR PROTECTIVE WORK GLOVES, SAFETY SHOES AND SAFETY GLASSES, WATCH YOUR FOOTING. ■ NEVER OPERATE UNDER THE INFLUENCE OF ALCOHOL OR DRUGS. ■ DO NOT REFUEL A HOT OR RUNNING ENGINE. 	
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Figure 2 Safety labels found on unit

SECTION 4: UNPACKING AND ASSEMBLY

ITEMS REQUIRED FOR ASSEMBLY

- Crowbar or Large Screwdriver
- Adjustable Wrenches
- Screwdriver
- Cutters
- Engine Oil
- Unleaded Gasoline
- Dexron III Automatic Transmission Fluid or 10W AW hydraulic fluid (approximately 7 gallons)



WARNING: Exercise extreme caution as parts are very heavy. Mechanical handling equipment should be used, or sufficient people to prevent injury.

IMPORTANT: This unit is shipped WITHOUT GASOLINE or OIL in the engine. After assembly, see separate engine operator's manual for proper fuel and engine oil recommendations.

1. Pry the top, sides and ends off crate using a crowbar or large screwdriver.
2. Set panels aside to avoid tire punctures or personal injury.
3. Remove and discard plastic bag that covers unit.

Note: Do Not remove the banding from around the tank until the log splitter is assembled.

4. Remove the two bolts, lock washers and hex nuts that secure the tongue assembly to the beam assembly. Unlock the two beam locks by pulling out on the beam locks and pivoting them down. Remove the tongue assembly. See Figure 3.

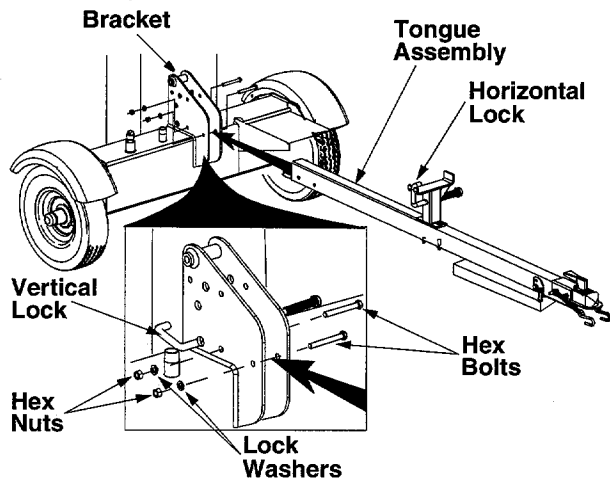


Figure 3

5. Place the end of the tongue assembly in between the brackets on the wheel and reservoir tank assembly. Secure with hardware just removed and tighten to 23 ft-lbs. See Figure 3.
6. Remove the spring clip and clevis pin from the jack stand. Pivot the jack stand to the operating position (90°), and secure with spring pin and clevis pin. See Figure 4.

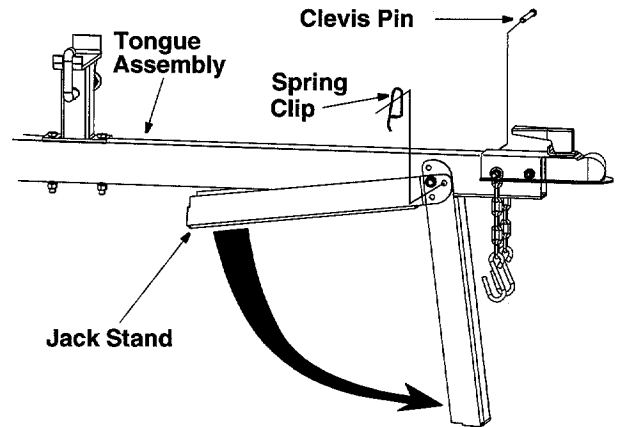


Figure 4

7. Cut the two straps from around the reservoir tank assembly.
8. Remove the lag screw and washer which secures the beam assembly to the bottom of the crate.
9. Lower the beam assembly to its horizontal position. Make certain the beam is locked securely with the horizontal beam lock. See Figure 5.
10. Pull the log splitter off the pallet.

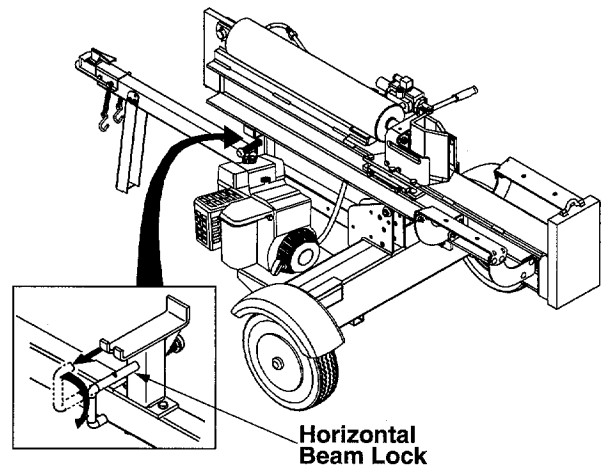


Figure 5

PREPARING THE ENGINE

1. Place the log splitter on a firm, level surface.
2. Fill engine with gasoline and oil as instructed in the separate engine manual packed with your log splitter.

PREPARING THE LOG SPLITTER

1. Lubricate the beam area where splitting wedge will slide with engine oil (**DO NOT USE GREASE**). Make certain to oil both front and back of the beam face.
2. Remove reservoir vent plug. See Figure 6.

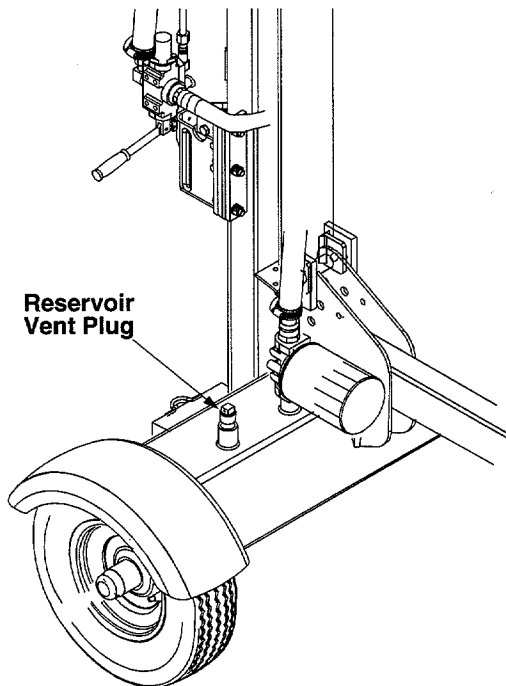


Figure 6

3. Fill the reservoir tank to the within 3" to 3 1/2" from the top of fill tube with Dexron III automatic transmission fluid, or 10W AW hydraulic fluid. Check fluid level using a scale. Do not overfill. Replace vent plug securely. See Figure 7.

NOTE: The reservoir tank has a capacity of approximately 4 gallons.

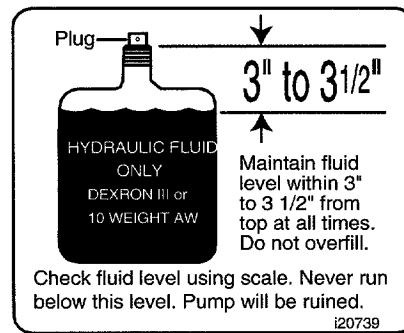


Figure 7

4. Disconnect the spark plug wire. Prime the pump by pulling the recoil starter, to turn the engine over, approximately 10 times.
5. Reconnect the spark plug wire.
6. Start engine. (**See Starting The Engine in OPERATION SECTION**)
7. Use the control handle to engage the wedge to the far extended position.
8. Retract the wedge.
9. Refill tank to within 3" to 3 1/2" from the top of the fill tube.
10. Extend and retract the wedge 12 complete cycles to remove trapped air in the system (system is "self-bleeding").
11. Refill the reservoir to within 3" to 3 1/2" from the top of the fill tube. Much of the original fluid has been drawn into the cylinder and hoses. Make certain to refill the reservoir, to prevent extreme damage to the hydraulic pump. Failure to refill the tank will void your warranty.

NOTE: Some fluid may overflow from the vent plug as the system builds heat and the fluid expands and seeks a balanced level.



WARNING: Do not operate the log splitter without the proper amount of hydraulic oil in the reservoir tank.

SECTION 5: CONTROLS

ENGINE CONTROLS

See the separate engine operator's manual that was packed with your log splitter.

LOG SPLITTER CONTROLS

CONTROL HANDLE

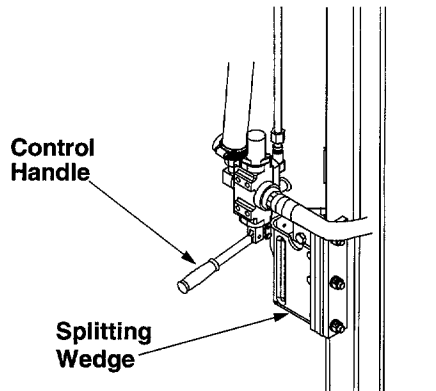


Figure 8

The control handle has three positions. See Figure 8.

Splitting: Push the control handle forward or down. Splitting wedge moves toward the end plate.

Neutral: Control handle will return to neutral position when handle is released. Splitting wedge stops in place.

Disengage: Pull the control handle up or back. Splitting wedge moves toward the cylinder. The control handle will lock in the disengage position. It will return to neutral automatically when the disengage stroke is complete.

BEAM LOCKS

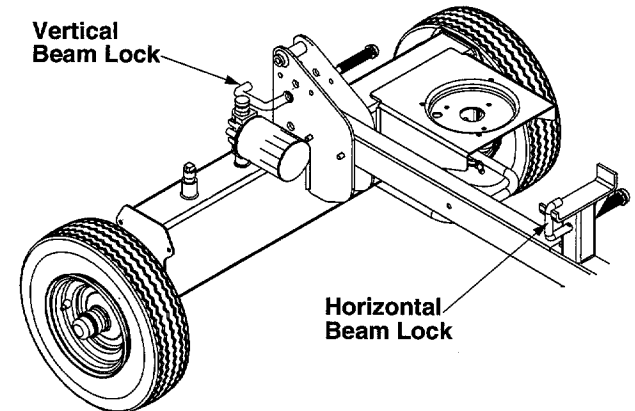


Figure 9

There are two beam locks one for each operating position. See Figure 9.

Vertical: The vertical beam lock is located next to the oil filter.

Horizontal: The horizontal beam lock is part of the beam support latch bracket.

SECTION 6: OPERATION

Always:

- Use clean fluid and check fluid level regularly
- Use Dexron III Automatic Transmission Fluid or 10W AW hydraulic fluid.
- Use a filter (clean or replace regularly)
- Use a breather cap on fluid reservoir
- Keep end of reservoir return tube below fluid level
- Make certain pump is mounted and aligned properly
- Use a flexible "spider" type coupling between engine and pump driveshafts
- Keep hoses clear and unblocked
- Bleed air out of hoses before operating
- Flush and clean hydraulic system before start-up after any malfunction or servicing
- Use "pipe dope" on all hydraulic fittings

- Allow time for warm-up before splitting wood
- Prime the pump before initial start-up by turning over the engine with spark plug disconnected
- Split wood with the grain (lengthwise) only

Never:

- Use when fluid is below 20° F., or above 150° F.
- Use a solid engine/pump coupling
- Operate through relief valve for more than several seconds
- Attempt to adjust unloading or relief valve settings without pressure gauges
- Operate with air in hydraulic system
- Use teflon tape on hydraulic fittings
- Attempt to cut wood across the grain

TO STOP ENGINE

1. Move the engine shut-off switch to the OFF position or move throttle control to the STOP position.
2. After engine has stopped, disconnect spark plug wire from spark plug to prevent accidental starting while equipment is unattended.

STARTING THE ENGINE

IMPORTANT: Refer to the separate engine manual for detailed starting instructions.

1. Place the engine shut-off switch to ON position or move throttle control lever to FAST position.
2. Make sure fuel shut-off located under gasoline tank is open (if so equipped).

Engines with choke lever: Place choke lever in CHOKE position (a warm engine may not require choking).

Engines with primer: Prime engine as instructed in separate engine manual.

3. Grasp starter handle and pull rope out slowly until engine reaches start of compression cycle (rope will pull slightly harder at this point). Let the rope rewind slowly.



WARNING: When restarting a warm engine, keep away from muffler and other heated surfaces on the engine.

4. Pull rope with a rapid, continuous, full arm stroke. Keep a firm grip on the starter handle. Let the rope rewind slowly. Do not let starter handle snap back against starter.
5. Repeat instructions until engine fires. When engine starts, move choke lever halfway between CHOKE and RUN.
6. Gradually move choke lever to RUN position as engine warms up.
7. If weather is cold, run wedge up and down beam 6 to 8 times to circulate the hydraulic fluid.

USING THE LOG SPLITTER

Never attempt to cut a log in half sideways. Always split the log lengthwise. Maximum log length is 24".



WARNING: When splitting heavy logs, always use the log splitter in the vertical position.



WARNING: Wear leather work gloves, safety shoes and safety glasses when operating log splitter. Ensure safe footing.

1. Place the log splitter on level, dry and solid ground.
2. Place the beam in either the horizontal or vertical position and lock in place with the appropriate locking rod.
3. Block the front and back of both wheels.
4. Set the engine throttle to maximum speed.
5. Place the log against the end plate. Only split wood in the direction of the grain.
6. When necessary to stabilize the log, place your hand only on sides of log, **NEVER on the end between the log and splitting wedge.**
7. **ONLY ONE ADULT SHOULD STABILIZE THE LOG AND OPERATE THE CONTROL HANDLE** so the operator has full control over stabilizing the log and movement of the splitting wedge.

OPERATING POSITIONS

CONTROL HANDLE POSITIONS

- Move control handle FORWARD or DOWN to split wood.
- Release the control handle to stop the wedge movement.
- Move control handle BACK or UP to return the wedge.

TRANSPORTING THE LOG SPLITTER

1. Lower the beam to its horizontal position. Make certain the beam is locked securely with the horizontal beam lock.
2. Unhook the spring clip and remove the clevis pin from the jack stand. Support the tongue, and pivot the jack stand up against the tongue. Secure with the clevis pin and spring clip just removed.
3. Attach the hitch to a towing vehicle, making certain to latch securely.
4. Attach the safety chains to the towing vehicle.
5. Plug in the taillights as instructed in the taillight kit manual included with your log splitter.

VERTICAL

- For vertical operation, pull the horizontal beam lock out and pivot it down to release the beam. Pivot the beam to the vertical position.
- Lock the beam in the vertical position, by pulling out on the vertical beam lock and pivoting it to the left.
- Stand in front of the log splitter to operate the control handle and to stabilize the log. See Figure 10.

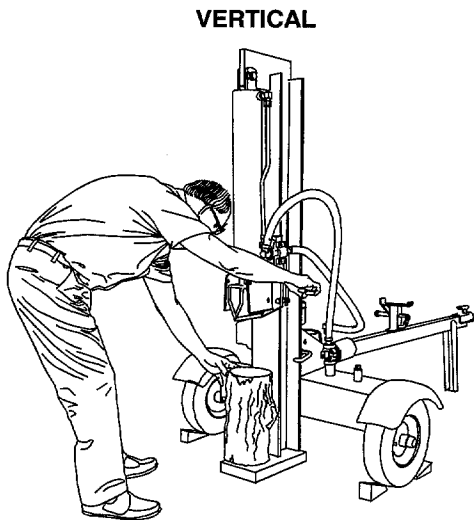


Figure 10

HORIZONTAL

- For horizontal operation, pull the vertical beam lock out and pivot it down. Pivot the beam to the horizontal position.
- Lock the beam in the horizontal position, by pulling out on the horizontal beam lock and pivoting it to the left.
- Stand behind the reservoir tank to operate the control handle and to stabilize the log. See Figure 11.

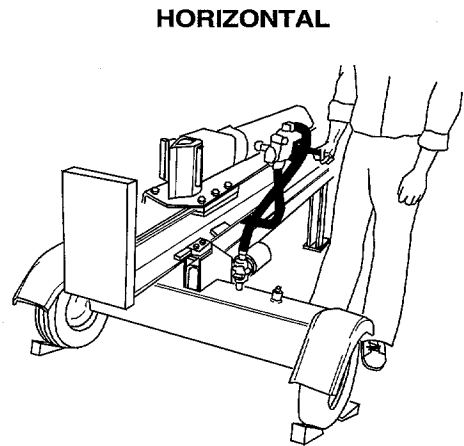


Figure 11

SECTION 7: ADJUSTMENTS



WARNING: Always stop the engine and disconnect the spark plug wire before performing any adjustments.

WEDGE PLATE ADJUSTMENT

As normal wear occurs, periodically adjust the bolts on the side of the wedge plate as follows to eliminate the excess space between the wedge plate and the beam. See Figure 12.

Adjust wedge plate as follows:

1. Loosen the jam nuts on the two adjustment bolts on the side of the gib plate, located beneath the splitting wedge. Turn the adjustment bolts in until snug, then back them off slowly until the wedge assembly will slide on the beam.
2. Tighten the jam nuts securely against the gib plate to hold the adjustment bolts in this position.

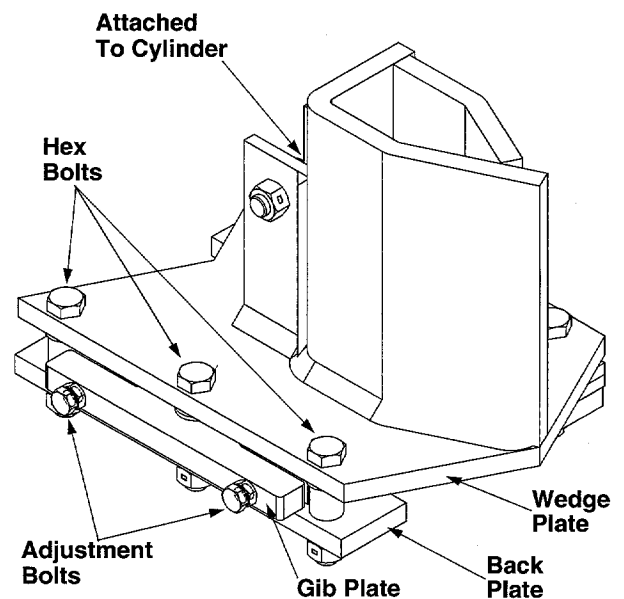


Figure 12

GIB PLATE ADJUSTMENT

Periodically remove and replace the “gibs” (spacers) between the wedge plate and the back plate as follows. See Figure 12.

NOTE: If desired, the gibs may be rotated and/or turned over for even wear.

Adjust Gib Plate as follows:

1. Remove the center bolt on top of the wedge plate. Slide the gib plate out.
2. Remove and replace the gibs. Reassemble the gib plate, making certain flat washers are in place under the gib plate.
3. Readjust the bolts on the side of the wedge plate as instructed above.

SECTION 8: MAINTENANCE



WARNING: Always stop the engine and disconnect the spark plug wire before performing any maintenance or repairs.

RESERVOIR FLUID

Check the hydraulic fluid level in the log splitter reservoir tank before each use. **Maintain fluid level within 3” to 3 1/2” from top at all times.** Change the hydraulic fluid in the reservoir every 100 hours of operation. Disconnect the suction hose from the bottom of the reservoir tank, and drain the fluid into a suitable container. Refill using only Dexron III automatic transmission fluid or 10W AW hydraulic fluid.

Be aware of the environment when disposing of used petroleum products. Please dispose of used hydraulic fluid, engine oil and any by products from the maintenance of you log splitter at approved recycling centers.

NOTE: Drain the fluid and flush the reservoir tank and hoses with kerosene whenever any repair work is performed on the tank, hydraulic pump or valve. Contaminants in the fluid will damage the hydraulic components. (Should be performed by an authorized service dealer.)



WARNING: Use extreme caution when working with kerosene, as it is an extremely flammable fluid.

HYDRAULIC FILTER

Change the hydraulic filter every 50 hours of operation. Use only a 10 micron hydraulic filter. Order part number 723-0405.

BEAM AND SPLITTING WEDGE

Lubricate both sides of the beam (where it comes into contact with the splitting wedge) before each use with engine oil. The wedge plate on the log splitter is designed so the gibs on the side of the wedge plate can be removed and rotated and/or turned over for

even wear. Make certain to readjust the adjustment bolts so wedge moves freely, but no excess space exists between the wedge plate and beam.

HOSE CLAMPS

Check the hose clamps on the suction hose (attached to side of the pump) for proper tightness before each use. Check the hose clamps on the return hose at least once a season.

ENGINE

Refer to the separate engine manual for all engine maintenance instructions.

FLEXIBLE PUMP COUPLER

The flexible pump coupler is a nylon “spider” insert, located between the pump and engine shaft. Over a period of time, the coupler will harden and deteriorate.

Replacement is needed if you detect vibration or noise coming from the area between the engine and the pump. If the coupler fails completely, you will experience a loss of power.

IMPORTANT: Never hit the engine shaft in any manner, as a blow will cause permanent damage to the engine.

When replacing the flexible pump coupler, proceed as follows. Follow the instructions carefully as the alignment is critical.

1. Disconnect the spark plug wire from the spark plug, and secure it away from the spark plug.
2. Remove three nuts and lock washers which secure the pump to the coupling shield. Two nuts are at the bottom corners and one is in the top center.
3. Remove the pump.
4. Rotate the engine by pulling starter handle until engine coupling half set screw is at bottom. Loosen set screw using allen wrench. Slide coupling half off of engine shaft.

5. Loosen set screw on pump coupling half, and remove coupling half.
6. Slide new engine coupling half onto the engine shaft until the end of the shaft is flush with the inner portion of the coupling half. (There must be space between end of the engine support bracket and coupling half.) Tighten set screw.
7. Install pump coupling half and key on pump shaft. Rotate coupling half until set screw faces down. Do not tighten set screw.
8. Install nylon "spider" onto engine coupling half.
9. Align pump coupling half with nylon "spider" by rotating engine using starter handle. Slide coupling half into place while guiding three mounting bolts through holes in pump support bracket.
10. Secure with nuts and washers removed earlier.
11. Set .010 inch to .060 inch clearance between the nylon "spider" and the engine coupling half by sliding a matchbook cover between the nylon "spider" and the engine coupling half and moving pump coupling half as needed. Secure pump coupling half with set screw. See Figure 13.

NOTE: Make certain proper clearance is obtained before tightening set screw.

12. Reattach spark plug wire to spark plug.

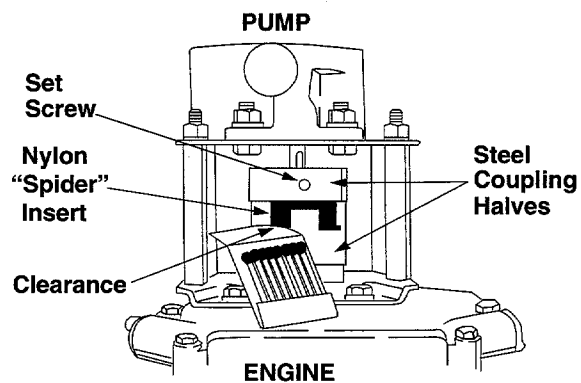


Figure 13

TIRES

See sidewall of tire for recommended pressure. Maximum tire pressure under any circumstances is 30 p.s.i. Equal tire pressure should be maintained on all tires.



WARNING: Excessive pressure (over 30 p.s.i.) when seating beads may cause tire/rim assembly to burst with force sufficient to cause serious injury.

SECTION 9: OFF-SEASON STORAGE

If the log splitter will not be used for a period longer than 30 days, the following steps should be taken to prepare the log splitter for storage.

1. Clean the engine and the entire log splitter thoroughly.
2. Refer to the engine manual for correct engine storage instructions.

3. Wipe unit with an oiled rag to prevent rust, especially wedge and beam.
4. Store unit in a clean, dry area. Do not store next to corrosive materials, such as fertilizer.

NOTE: When storing any type of power equipment in an unventilated or metal storage shed, care should be taken to rustproof the equipment by coating with a light oil or silicone.

SECTION 10: CONDITIONS WHICH WILL VOID YOUR WARRANTY

1. Failure to maintain proper fluid level in reservoir will void your warranty, causing permanent damage to pump by allowing air to be drawn into pump. Fluid will become foamy.
2. Changing the relief valve setting or pressure adjustment of control valve without proper knowledge and instruction from the factory will void your warranty. A very minor adjustment could destroy the structural and safety limits for which the unit was designed. The system will produce more power than the structure will withstand. Higher pressure could cause the hoses to burst, cylinder to rupture and intense fluid releases, which could result in serious personal injury.
3. Disassembling the pump will void your warranty. If replacement is necessary, merely disconnect and replace. Do not attempt to adjust pump settings, as they are adjusted by the manufacturer at the factory.
4. Use of incorrect hydraulic fluid will void your warranty. Use only Dexron III automatic transmission fluid or 10W AW hydraulic fluid.
5. The flexible pump coupler must be inspected regularly. Allowing the coupler to deteriorate will void your warranty. Deterioration of spider insert and prolonged use after its deterioration will destroy pump bearings, engine bearings and the coupler hubs.
6. Improper beam lubrication will cause premature wear and looseness. Lubricate the beam regularly. Lack of lubrication will void your warranty.
7. Improper adjustment of splitting wedge will void your warranty. If wedge is too loose, cylinder beam and wedge wear will result. Allowing the wedge to loosen and be used under operating stress will cause damage which will not be covered under warranty. If wedge is too tight, severe beam damage will result which will not be covered under warranty.
8. Do not overheat the hydraulic system. Excessive heat will destroy the hydraulic system with hardened O-rings and excessive friction.
9. Do not attempt to start in temperatures under 20° F. without pre-heating fluid in reservoir. Excessively cold fluid cannot circulate and draw into pump.
10. Repair any leaks in hydraulic system immediately. Unattended leaks will cause air to enter system and/or decrease fluid level in reservoir, causing damage to the hydraulic system which will not be covered by warranty.

SECTION 11: TROUBLE SHOOTING GUIDE

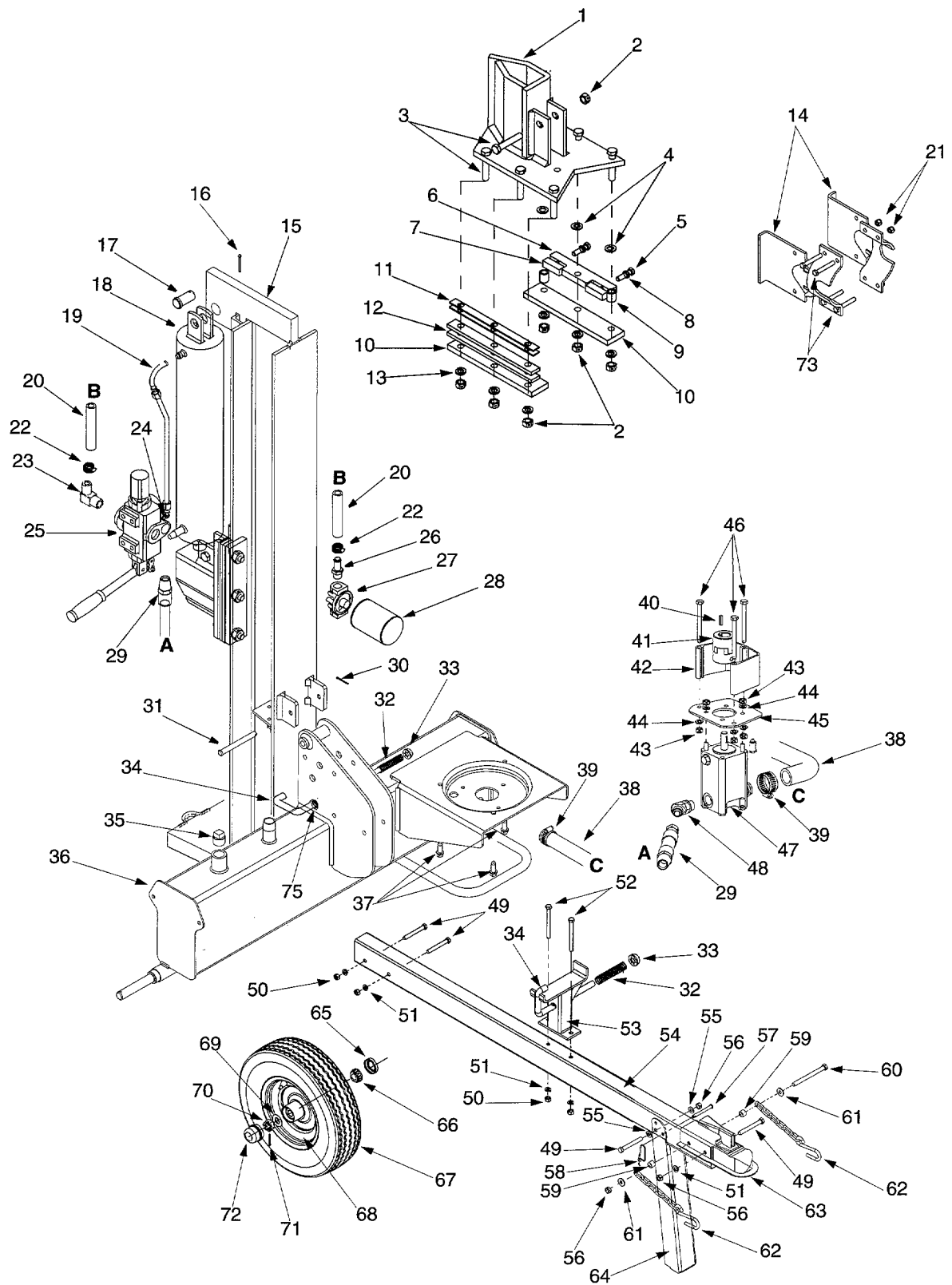
Problem	Possible Cause(s)	Corrective Action
Engine fails to start	Dirty air cleaner. Fuel shut-off valve closed (if so equipped). Fuel tank empty, or stale fuel. Choke not in ON position. Blocked fuel line. Spark plug wire disconnected. Faulty spark plug.	Refer to the engine manual packed with your unit. Open fuel shut-off valve. Fill tank with clean fresh gasoline. Fuel will not last over thirty days unless a fuel stabilizer is used. Move switch to ON position. Clean fuel line. Connect wire to spark plug. Clean, adjust gap or replace.
Engine runs erratic	Unit running on CHOKE. Spark plug wire loose. Blocked fuel line or stale fuel. Water or dirt in fuel system. Dirty air cleaner. Carburetor out of adjustment.	Move choke lever to OFF position. Connect and tighten spark plug wire. Clean fuel line; fill tank with clean fresh gasoline. Fuel will not last over thirty days unless a fuel stabilizer is used. Drain fuel tank. Refill with fresh fuel. Refer to the engine manual packed with your unit. Refer to the engine manual packed with your unit.
Engine overheats	Engine oil level low. Dirty air cleaner. Air flow restricted. Carburetor not adjusted properly.	Fill crankcase with proper oil. Refer to the engine manual packed with your unit. Stop engine and disconnect spark plug wire. Remove blower housing and clean. Refer to the engine manual packed with your unit.

SECTION 12: HYDRAULIC TROUBLE SHOOTING GUIDE

Trouble	Possible Causes	Corrective Action
Cylinder rod will not move	Broken drive shaft. Shipping plugs left in hydraulic hoses. Set screws in coupling not adjusted properly. Loose shaft coupling. Gear sections damaged. Damaged relief valve. Hydraulic lines blocked. Incorrect oil level. Damaged directional valve. Blocked directional valve.	Return unit for authorized repair. Disconnect hydraulic hoses, remove shipping plugs, reconnect hoses. See operator's manual for correct adjustment. Correct engine/pump alignment as necessary. See operator's manual. Return unit for authorized repair. Return unit for authorized repair. Flush and clean hydraulic system. Check oil level. Return unit for authorized repair. Flush and clean hydraulic system; return unit for authorized repair.
Slow cylinder shaft speed while extending and retracting	Gear sections damaged. Excessive pump inlet vacuum. Slow engine speed. Damaged relief valve. Incorrect oil level. Contaminated oil. Directional valve leaking internally. Internally damaged cylinder.	Return unit for authorized repair. Make certain pump inlet hoses are clear and unblocked-use short, large diameter inlet hoses. Return unit for authorized repair. Return unit for authorized repair. Check oil level. Drain oil, clean reservoir, refill, make certain oil return tube is below oil level. Return unit for authorized repair. Return unit for authorized repair.
Leaking cylinder	Broken seals. Scored cylinder.	Return unit for authorized repair. Return unit for authorized repair.
Engine runs but wood will not split, or wood splits too slowly	Small gear section damaged. Pump check valve leaking. Excessive pump inlet vacuum. Incorrect oil level. Contaminated oil. Directional valve leaking internally. Overloaded cylinder. Internally damaged cylinder.	Return unit for authorized repair. Return unit for authorized repair. Make certain pump inlet hoses are clear and unblocked; use short, large diameter inlet hoses. Check oil level. Drain oil, clean reservoir, refill, make certain oil return tube is below oil level. Return unit for authorized repair. Do not attempt to split wood against the grain. Return unit for authorized repair.
Engine stalls during splitting	Low horsepower/weak engine. Overloaded cylinder.	Return unit for authorized repair. Do not attempt to split wood against the grain. If engine stalls repeatedly, take unit for authorized repair.
Engine will not turn or stalls under low load conditions	Engine/pump misalignment. Frozen or seized pump. Low horsepower/weak engine. Hydraulic lines blocked. Blocked directional valve.	Correct alignment as necessary. See operator's manual. Return unit for authorized repair. Return unit for authorized repair. Flush and clean hydraulic system. Flush and clean hydraulic system; return unit for authorized repair.
Will not split logs	Reservoir fluid level low.	Check and fill reservoir tank as instructed in Operation section of this manual.
Leaking pump shaft seal	Broken drive shaft. Engine/pump misalignment. Gear sections damaged. Poorly positioned shaft seal. Plugged oil breather.	Return unit for authorized repair. Correct alignment as necessary. See operator's manual. Return unit for authorized repair. Return unit for authorized repair. Make certain reservoir is properly vented.

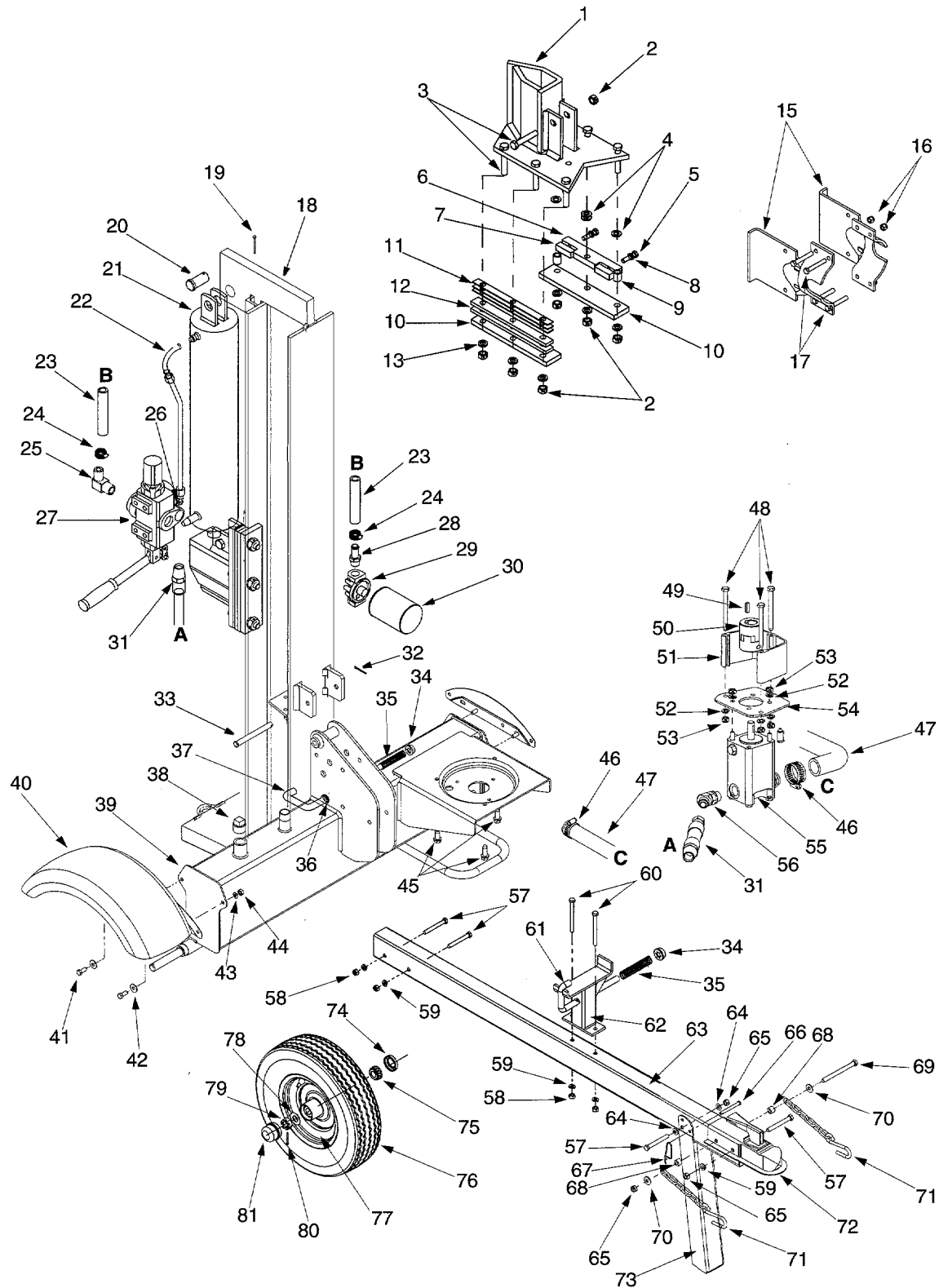
Note: For repairs beyond the minor adjustments above, contact your local authorized service dealer.

Models 500, 501, & 510



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	781-0323B	Wedge Asm	38	735-0256	Suction Hose
2	712-0239	Lock Nut 1/2-20	39	726-0174	Hose Clamp
3	710-1018	Hex Cap Screw 1/2-20 x 2.75	40	714-0122	Sq.-Key 3/16" x .75"
4	736-0192	Flat Washer .531 x .93 x .090	41	718-0686	Flexible Coupling
5	710-0459A	Hex Cap Screw 3/8-24 x 1.5	42	719-0353	Coupling Shield
6	781-0356	Floating Gib Plate	43	712-0123	Hex Nut 5/16-24
7	781-0351	Adjustable Gib	44	736-0119	L-Wash. 5/16" I.D.*
8	712-3001	Hex Jam Nut 3/8-24	45	781-0097	Rear Coupling Support Bracket
9	750-0743	Spacer	46	710-1338	Hex Screw 5/16-24 x 3.25
10	781-0537	Back Bracket	47	718-0683	Gear Pump (11 GPM)
11	781-0352A	Adjustable Gib Shim	48	737-0329	45 Degree Elbow
12	781-0350A	Fixed Gib	49	710-0521	Hex Bolt 3/8-16 x 3" Lg.
13	736-0921	Lock Washer 1/2	50	712-0798	Hex Nut 3/8-16 Thd.*
14	781-0168A	Stripper Side	51	736-0169	L-Wash. 3/8" I.D.*
15	681-0093	Beam Asm	52	710-0411	Hex Bolt 3/8-16 x 4" Lg.
16	714-0211	Cotter Pin	53	681-0110	Support Beam Asm
17	711-1135	Clevis Pin	54	781-0680A	Tube
18	718-0307	Hydraulic Cylinder	55	736-0185	Flat Washer 3/8
19	727-0471	Hydraulic Tube	56	712-0375	Hex L-Nut 3/8-16 Thd.
20	727-0443	Return Hose 3/4" I.D. x 44" Lg.	57	711-0813	Clevis Pin 5/16 x 2.5" Lg.
21	712-0130	Lock Nut 3/8-16	58	732-0194	Spring Pin
22	726-0132	Hose Clamp 5/8"	59	750-0497	Spacer 3/8" I.D. x .625" O.D.
23	737-0153	Return Elbow	60	710-0944	Hex Bolt 3/8-16 x 4" Lg. (Grd 5)
24	737-0192	90° Solid Male Adapter	61	736-0262	FI-Wash. 3/8" I.D. x .87" O.D.
25	718-0481	Control Valve	62	713-0433	Chain—Tow Hitch
26	737-0235	3/4" Hose Adapter	63	727-0311	Hitch Coupler
27	737-0306	Filter Housing	64	781-0162	Jack Stand
28	723-0405	Oil Filter	65	721-0168	Bearing Seal Only
29	727-0502	High Pressure Hydraulic Hose	66	741-0987	Bearing Cone
30	714-0470	Cotter Pin 1/8" Dia.	67	634-0186	Wheel Assembly
31	738-0805	Hinge Pin 1/2 x 4.8" Lg.	68	634-0188	Rim Assembly
32	732-0583	Comp. Spring 4" Lg.	69	736-0351	FI-Wash. .76" I.D. x 1.5" O.D.
33	726-0214	Push Cap	70	712-0359	Slotted Nut 3/4-16 Thd.
34	781-0690	Locking Rod	71	714-0162	Cotter Pin 5/32" Dia. x 1-1/4" Lg.
35	737-0236	Pipe Plug	72	734-0873	Hub Cap
36	681-0092A	Frame Asm	73	710-3144	Hex Cap Screw 3/8-16 x 2.0
37	710-0654A	Hex Washer Screw 3/8-16 x 1.0	75	736-0116	Flat Washer .635 ID x .93 OD

Models 530, 550, 560, and 561



REF. NO.	PART NO.	DESCRIPTION	REF. NO.	PART NO.	DESCRIPTION
1	781-0323B	Wedge Asm	42	736-0159	5/16 Washer
2	712-0239	Lock Nut 1/2-20	43	736-0119	Lock Washer 5/16
3	710-1018	Hex Cap Screw 1/2-20 x 2.75	44	712-0123	Hex Nut 5/16-24
4	736-0192	Flat Washer .531 x .93 x .090	45	710-0654A	Hex Washer Screw 3/8-16 x 1.0
5	710-0459A	Hex Cap Screw 3/8-24 x 1.5	46	726-0174	Hose Clamp
6	781-0356	Floating Gib Plate	47	735-0256	Suction Hose
7	781-0351	Adjustable Gib	48	710-1338	Hex Screw 5/16-24 x 3.25
8	712-3001	Hex Jam Nut 3/8-24	49	714-0122	Sq. Key 3/16" x .75
9	750-0750	Spacer	50	718-0686	Flexible Coupling
10	781-0537	Back Bracket	51	719-0353	Coupling Shield
11	781-0352A	Adjustable Gib Shim	52	736-0119	L-Washer 5/16" ID
12	781-0350A	Fixed Gib	53	712-0123	Hex Nut 5/16-24
13	736-0921	Lock Washer 1/2	54	781-0097	Rear Coupling Support Bracket
14	712-0239	Lock Nut 1/2-20	55	718-0683	Gear Pump (11gpm)
15	781-0168A	Stripper Side	56	737-0329	45 Degree Elbow
16	712-0130	Lock Nut 3/8-16	57	710-0521	Hex Bolt 3/8-16 x 3" Lg.
17	710-0859	Hex Cap Screw 3/8-16 x 2.5	58	712-0798	Hex Nut 3/8-16
18	681-0126	Beam Asm	59	736-0169	L-Washer 3/8" ID
19	714-0211	Cotter Pin	60	710-0411	Hex Bolt 3/8-16 x 4" Lg.
20	711-1135	Clevis Pin	61	781-0690	Locking Rod
21	718-0306	Hydraulic Cylinder	62	681-0110	Support Beam Asm
22	727-0471	Hydraulic Tube	63	781-0680A	Tube
23	727-0443	Return Hose 3/4" ID x 44" Lg	64	736-0185	Flat Washer 3/8
24	726-0132	Hose Clamp 5/8"	65	712-0375	Hex Lock Nut 3/8-16
25	737-0153	Return Elbow	66	711-0813	Clevis Pin 5/16 x 2.5"
26	737-0192	90 Degree Solid Male Adapter	67	732-0194	Spring Pin
27	718-0481	Control Valve	68	750-0497	Spacer 3/8" ID x .625" OD
28	737-0235	3/4" Hose Adapter	69	710-0944	Hex Bolt 3/8-16 x 4" Lg.
29	737-0306	Filter Housing	70	736-0262	Flat Washer 3/8" ID x .87" OD
30	723-0405	Oil Filter	71	713-0433	Chain - Tow Hitch
31	727-0502	High Pressure Hydraulic Hose	72	727-0311	Hitch Coupler
32	714-0470	Cotter Pin 1/8" Dia	73	781-0162	Jack Stand
33	738-0805	Hinge Pin 1/2 x 4.8" Lg.	74	721-0168	Bearing Seal Only
34	726-0214	Push Cap	75	741-0987	Bearing Cone
35	732-0583	Comp. Spring 4" Lg.	76	634-0186	Wheel Assembly
36	736-0116	Flat Washer .635 ID x .93 OD	77	634-0180	Rim Assembly
37	781-0690	Locking Rod	78	736-0351	Flat Washer .76" ID x 1.5" OD
38	737-0236	Pipe Plug	79	712-0359	Slotted Nut 3/4-16
39	681-0092A	Frame Asm	80	714-0162	Cotter Pin 5/32" x 1-1/4" Lg.
40	681-0138	Fender Asm †	81	734-0873	Hub Cap
41	710-0157	Hex Cap Screw 5/16-24 x .75			

† If Equipped

MANUFACTURER'S LIMITED WARRANTY FOR:



The limited warranty set forth below is given by MTD PRODUCTS INC ("MTD") with respect to new merchandise purchased and used in the United States, its possessions and territories.

MTD warrants this product against defects in material and workmanship for a period of two (2) years commencing on the date of original purchase and will, at its option, repair or replace, free of charge, any part found to be defective in material or workmanship. This limited warranty shall only apply if this product has been operated and maintained in accordance with the Operator's Manual furnished with the product, and has not been subject to misuse, abuse, commercial use, neglect, accident, improper maintenance, alteration, vandalism, theft, fire, water or damage because of other peril or natural disaster. Damage resulting from the installation or use of any accessory or attachment not approved by MTD Products Inc. for use with the product(s) covered by this manual will void your warranty as to any resulting damages.

Normal wear parts or components thereof are subject to separate terms as follows: All normal wear part or component failures will be covered on the product for a period of 90 days regardless of cause. After 90 days, but within the two year period, normal wear part failures will be covered ONLY IF caused by defects in material or workmanship of OTHER component parts. Normal wear parts and components include, but are not limited to, belts, blades, blade adapters, grass bags, rider deck wheels, seats, snow thrower skid shoes, shave plates and tires. Batteries are covered by a 90-day limited replacement warranty.

HOW TO OBTAIN SERVICE: Warranty service is available, WITH PROOF OF PURCHASE THROUGH YOUR LOCAL AUTHORIZED SERVICE DEALER. To locate the dealer in your area, please check for a listing in the Yellow Pages or contact the Customer Service Department of MTD PRODUCTS INC by calling 1-800-800-7310 or writing to P.O. Box 368022, Cleveland, Ohio 44136-9722. No product returned directly to the factory will be accepted unless prior written permission has been extended by the Customer Service Department of MTD PRODUCTS INC.

This limited warranty does not provide coverage in the following cases:

- a. The engine or component parts thereof. These items carry a separate manufacturer's warranty. Please refer to the applicable manufacturer's warranty on these items.

- b. Routine maintenance items such as lubricants, filters, blade sharpening and tune-ups, or adjustments such as brake adjustments, clutch adjustments or deck adjustments; and normal deterioration of the exterior finish due to use or exposure.
- c. Log splitter pumps, valves and cylinders have a separate one year warranty.
- d. MTD does not extend any warranty for products sold or exported outside of the United States of America, its possessions and territories, except those sold through MTD's authorized channels of export distribution.

No implied warranty, including any implied warranty of merchantability or fitness for a particular purpose, applies after the applicable period of express written warranty above as to the parts as identified. No other express warranty or guaranty, whether written or oral, except as mentioned above, given by any person or entity, including a dealer or retailer, with respect to any product shall bind MTD. During the period of the Warranty, the exclusive remedy is repair or replacement of the product as set forth above. (Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.)

The provisions as set forth in this Warranty provide the sole and exclusive remedy arising from the sales. MTD shall not be liable for incidental or consequential loss or damages including, without limitation, expenses incurred for substitute or replacement lawn care services, for transportation or for related expenses, or for rental expenses to temporarily replace a warranted product. (Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusion or limitation may not apply to you.)

In no event shall recovery of any kind be greater than the amount of the purchase price of the product sold. Alteration of the safety features of the product shall void this Warranty. You assume the risk and liability for loss, damage, or injury to you and your property and/or to others and their property arising out of the use or misuse or inability to use the product.

This limited warranty shall not extend to anyone other than the original purchaser, original lessee or the person for whom it was purchased as a gift.

How State Law Relates to this Warranty: This limited warranty gives you specific legal rights, and you may also have other rights which vary from state to state.