

6-TON FOOT-OPERATED ELECTRIC LOG SPLITTER

OWNER'S MANUAL



WARNING:

Read carefully and understand all INSTRUCTIONS before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

Item #1187

For technical questions and replacement parts, please call 1-800-222-5381.

| Thank you very much for ch | oosing a NORTHERN TOOL + EQUIPMENT CO., INC. Product! Fo |
|------------------------------|---|
| future reference, please con | plete the owner's record below: |
| Model: | Purchase Date: |
| Save the receipt, warranty a | nd these instructions. It is important that you read the entire manua |
| to become familiar with this | roduct before you begin using it. |

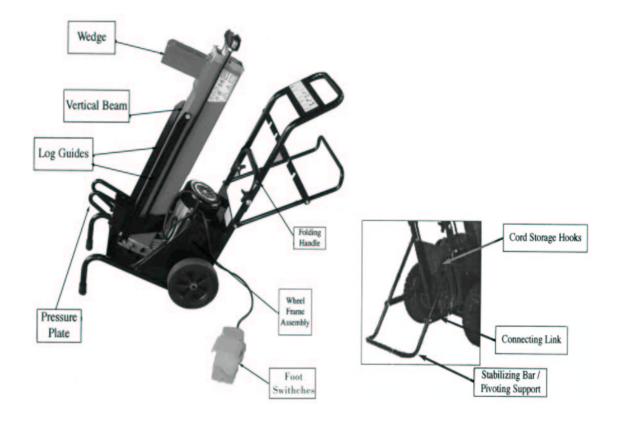
This machine is designed for certain applications only. Northern Tool + Equipment strongly recommends this machine is not modified and/or used for any application other than that for which it was designed. If you have any questions relative to a particular application, DO NOT use the machine until you have first contacted Northern Tool + Equipment to determine if it can or should be performed on the product.

INTENDED USE

The Northern Industrial electric log splitter is designed for residential (noncommercial) use and makes your job less physically demanding, safer and more efficient.

TECHNICAL SPECIFICATIONS

| Description | Specifications |
|-------------------|----------------|
| Voltage | 110 Volts |
| Max. Output Force | 6 tons |
| Max. Motor Speed | 3400 RPM |
| Max. Ram Travel | 15" stroke |
| Max. Log Length | 20" (520mm) |
| Max. Log Diameter | 12" |
| Wheel Size (Dia.) | 8" |



GENERAL SAFETY RULES

WARNING: Read and understand all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

WARNING: The warnings, cautions, and instructions discussed in this instruction manual cannot cover all possible conditions or situations that could occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.

SAVE THESE INSTRUCTIONS

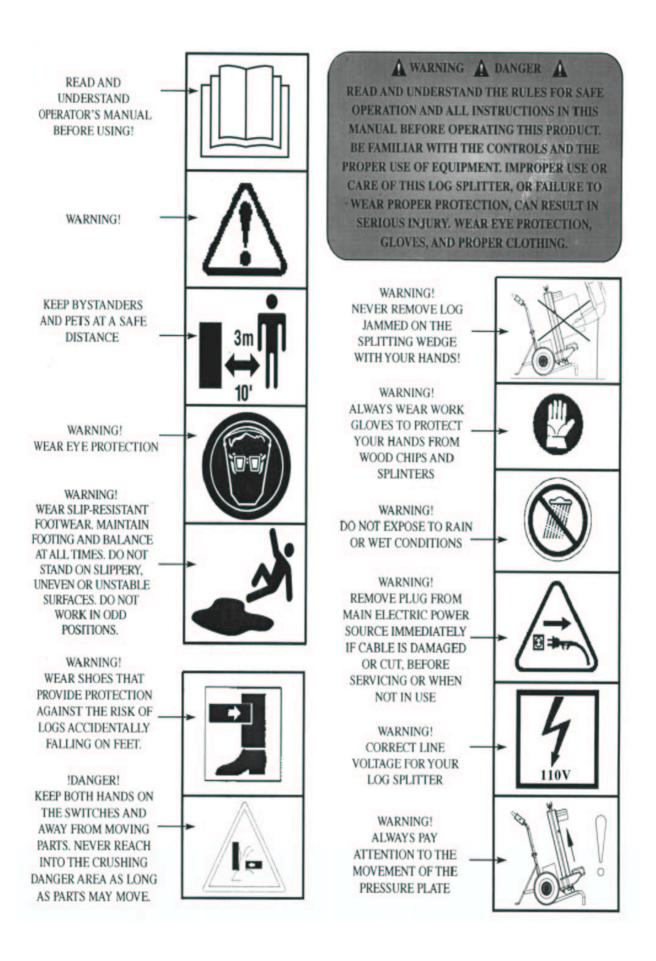
Special Safety Information

1. Safety Decals

An important part of the safety system incorporated in this log splitter are the Warning Labels and Information Decals found on various parts of the log splitter. These decals must be replaced in time due to abrasion, etc. It is your responsibility to replace the decals when they become hard to read. (The location of these decals and their part numbers for ordering as below)



Warning! Read and understand the rules for safe operation and all instructions in this manual before operating this product. Be familiar with the controls and the proper use of equipment. Improper use or care of this log splitter, or failure to wear proper protection, can result in serious injury. Wear eye protection, gloves and proper clothing.



ELECTRICAL SAFETY

WARNING! Always check to ensure the power supply corresponds to the voltage on the rating plate.

Do not abuse the cord. Never use the cord to carry the tool. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately. Damaged cords may cause a fire and increase the risk of electric shock.

Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.

Double insulated tools are equipped with a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still doesn't fit, contact a qualified electrician to install a polarized outlet. Do not change the plug in any way.

Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators. There is an increase risk of electric shock if you body is grounded.

Never open the switch boxes or motor cover. Never try to do any electrical repairs yourself. Contact a qualified electrician, or contact a qualified service center for help and information.

IMPORTANT! For additional protection, it is recommended that a GFCI outlet be used.

When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W." These cords are rated for outdoor use and reduce the risk of electric shock. Make sure the extension cord is in good condition before use.

Based on the total length of cord that you are going to use, check the chart to make sure the cord meets the correct minimum cord gauge (AWG) requirements:

| Length in Feet | 0 to 50 | 51 to 100 | 101 to 150 |
|----------------|---------|-----------|------------|
| Gauge (AWG) | 14 | 12 | 10 |

Warning! Using an undersized cord, a less-than-minimum AWG cord, or an excessively long cord could cause a loss in power (voltage drops). This prevents the motor from developing its full power and overheats the unit.

Do not expose power tools to rain or wet conditions. Water entering a power tool will increase the risk of electric shock.

Do not let your fingers touch the terminals of plug when installing or removing the plug to or from the outlet.

Never yank the cord to disconnect it from the socket or outlet; pull from the plug.

Never attempt to move or reposition the log splitter by pulling the cord.

Don't operate the log splitter with a damaged electrical or extension cord.

Never operate the log splitter unless the power cord is plugged into a properly grounded outlet that supplies 110-120V power, and a minimum of 8.5 amps of current.

PERSONAL SAFETY

Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or

medication. A moment of inattention while operating power tools may result in serious personal injury.

Dress properly. Do not wear loose clothing of jewelry. Keep your hair, clothing and gloves away from moving parts. Loose clothes, jewelry or long hair can be caught in moving parts. Air vents often cover moving parts and should be avoided.

Always use ANSI Standard Z87.1 eye protection and other safety equipment. Safety equipment such as dust mask, non-skid safety shoes, hardhat, or hearing protection used for appropriate conditions will reduce personal injuries.

Avoid accidental starting. Ensure the switch is in the off position before plugging tool into power outlet.

Do not overreach. Keep proper footing and balance at all times. This enables better control of the power tool in unexpected situations.

Remove adjusting keys or wrenches before turning the tool on. A wrench or key that is left attached to a rotating part of the tool may result in personal injury.

The log splitter is to be operated by one person only! Keep in mind that the operator or user is responsible for accidents or hazards occurring to other people or their property. Always keep area clear of children, pets, and bystanders.

Never request the assistance of another person to help you remove a jammed log, or for any other reason.

Don't allow children incapable people, or people who are not familiar with these instructions to operate this log splitter.

Always inspect your unit before each use and ensure that handles, guards and fasteners are secure and in place. Be sure that all electricals cords are not damaged or broken.

Never attempt to use an incomplete machine or one fitted with unauthorized modification. Any modifications to your machine can cause personal injuries, and will void your Warranty.

Check the log before splitting. It should be free from nails or wire that may fly out during a splitting operation. This could cause personal injury or damage to the machine. The end of the log should be cut as squarely as possible.

Never attempt to split more than one log at a time, unless the ram is fully extended, and you need the second log to complete the split of the first log.

Do not attempt to load the log while the ram of the log splitter is in motion. You could get trapped and injured.

Keep your hands and body parts away from the open splits and cracks in the log. The wood can close in suddenly and cause injury.

Do not try to disconnect or override any safety features.

Never leave the machine unattended when in use.

Do not use machine in an area were natural gas, gasoline fumes, dust or flammable liquids are present.

HYDRAULIC SAFETY

Periodically check for hydraulic fluid leaks by placing a sheet of cardboard under the wood splitter when system is running.

Warning! Never use your hand or any part of your body to check for hydraulic system leaks while the system is pressurized. Escaping pressurized fluid can have enough force to penetrate skin and cause serious injury.



Narning! Before performing any maintenance, be sure that:

- Log splitter is disconnected from the power source
- Pusher plate is fully retractable (returned to the lowest position) and no residual hydraulic energy is left in the system.
- Your machine is clean. Do not contaminate hydraulic fluid. Contaminants of hydraulic fluid include solid particles, air, water or ay other matter that impairs the function of the fluid. Contamination accelerates wear of hydraulic components.
- · Oil has cooled

Changing Hydraulic Oil

Oil should be changed after every 200 hours of operation.

The drain screw is located under the unit.

Recommended Oil Types:

Shell Tellus T22

Aral Vitam GF22

SP Energol HCP22

Mobil DTE 11 or equivalent

IMPORTANT: Do not mix fluid brands and types. Do not use other grade.

To drain the oil, tip unit back on support bracket, place an empty container that can hold at least 1 Gallon (4 Liters) of oil under the log splitter.

Use an Allen Wrench and remove Drain Port Plug and O-ring in the aluminum bottom cover plate of the log splitter.

Hold the handle, move unit up a little and position it under the angle. Using an Allen Wrench, unscrew the dipstick and open the Oil Fill Port to let air in and help the oil flow out. Wait until the oil completely escapes from the oil reservoir.

Reinstall the Drain Port Plug and the O-ring seal. Be careful not to damage the threads of the Aluminum Bottom Cover.

After the used oil is drained, pour approximately 0.7 Gallon (2.6 Liters) of recommended oil into the Oil Fill Port.

Clean the Dipstick and insert it to check the oil level; it should be between the two notches on the stem. If level is low, add recommended type of the hydraulic oil. If the level is too high, poor out a little at a time into a container.

IMPORTANT! If the oil level is too high, the heat will not be dissipating quickly enough and the temperature of the hydraulic system will rise. If the oil level is too low, it may cause cavitation.*

*Cavitation occurs when the volume of hydraulic fluid demanded by any part of a hydraulic circuit exceeds the volume of fluid being supplied. If there is an air bubble in the system, the force applied gets used compressing the air in the bubble rather than moving the piston. This affects the efficiency of the system. In this case, Force (Rated 6 tons) will be cut down.

Reinstall the Dipstick and the O-ring. Be careful not to damage the threads of the Dipstick Plug and Aluminum Top Cover.

Clean thoroughly.

Loosen air bleed screw, turn 3-4 times.

Purge air from the hydraulic system by cycling the pressure plate back and forth 3 to 4 times.

Warning! Dumping used hydraulic oil in the environment is forbidden and illegal. The fluid must be disposed of in accordance with local environmental rules and procedures.

TOOL USE AND CARE

Do not use the splitter if the switch does not turn it on and off. Any power tool that cannot be controlled with the switch is dangerous and must be repaired by an authorized service representative.

Disconnect the power from tool and place the switch in the locked or off position before making any adjustments, changing accessories, or storing power tools. Such preventive safety measures reduce the risk of starting the power tool accidentally.

Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool. Power tools are dangerous in the hands of untrained users.

Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tools operation. If damaged, have the power tool repaired before use. Many accidents are caused by poorly maintained power tools.

Keep the blade sharp and clean. Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control. Keep handles dry, clean, and free from oil and grease.

Use only accessories that are recommended by the manufacturer for your model.

Accessories that may be suitable for one tool may create a risk of injury when used on another tool.

Keep proper oil level.

Follow instructions for lubrication and oil change.

Keep cart dry, clean and free from oil and grease.

Sharpening the Wedge

Sharpen the splitting wedge as needed, using a fine-toothed file to remove any burrs, nicks or flat spots from the wedge.

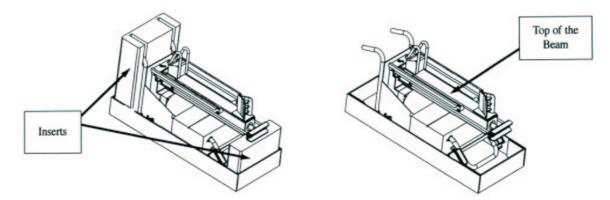
Transport

Disconnect the cord from power source before moving or repositioning the splitter. Log splitter is equipped with two 10" dia. wheels to make it easy to move around.

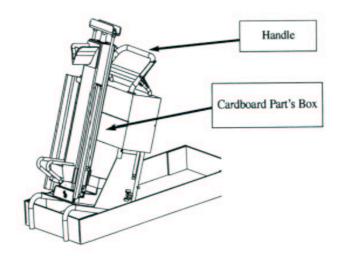
If you'd like to move your log splitter to different locations, secure the unit during transport to prevent damage or injury. Always tighten the bleed screw to prevent oil spillage.

UNPACKING AND ASSEMBLY

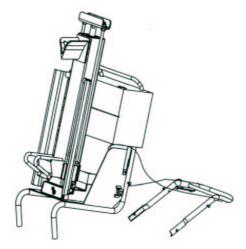
1. Cut bands; remove cover and two inserts supporting the top and the bottom of the unit.



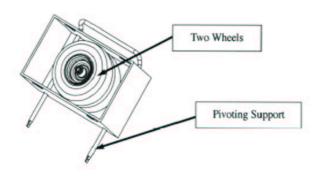
2. Put log splitter with the cardboard part's box in the vertical position by holding the top of the beam and carefully lifting the top of the log splitter until it can stand.

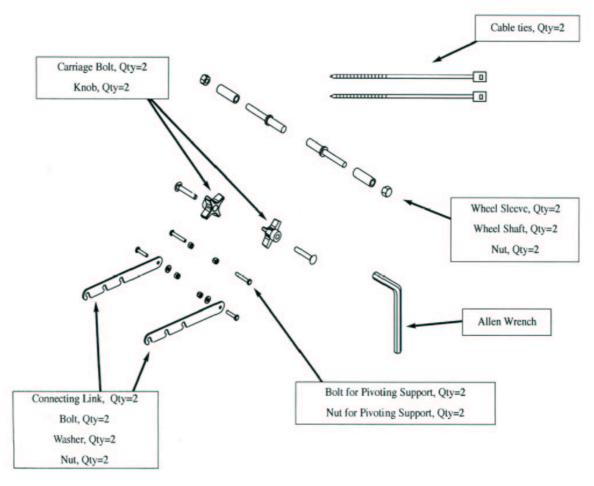


3. Remove handle from the box first and place it on the floor.

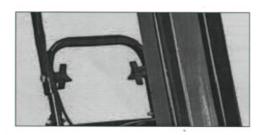


- 4. Remove and open parts box that is packaged between the log splitter cart and the vertical beam.
- 5. Remove hardware bag, pivoting support and wheels from the box.



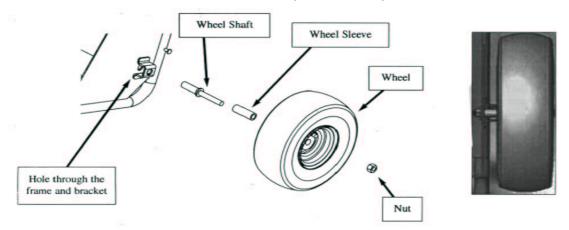


6. Folding Handle: Install the folding handle onto the frame using knobs and carriage bolts. To do this, align square opening of the folding handle with the frame's round hole and insert carriage bolt through. Secure it with the handle knob. Repeat the same steps for the opposite side of the handle and tighten the knobs.

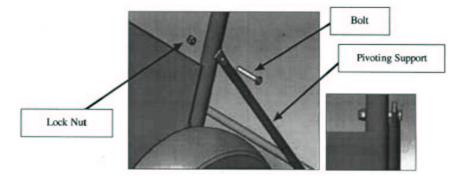


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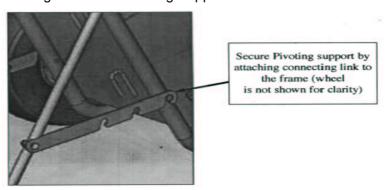
7. **Installing Wheels:** Put Wheel Sleeve onto the Wheel Shaft first, insert the assembly in the hub of the Wheel and secure it with the Nut provided. Slide the opposite side of the Wheel Shaft through the opening in the frame and bracket, then screw, it into the welded nut. Start by hand and then use a wrench and secure the wheel. Repeat these steps to install the second wheel.



8. **Pivoting Support Installation:** Align mounting hole of the Pivoting support with the frame hole, insert bolt and secure with Lock Nut. Repeat these steps to attach the other side of the Pivoting Support.



9. Attach Connecting Link to the Pivoting Support.



OPERATION

Overview

An electric motor assembly provides the power for the system. The motor is connected to a hydraulic oil pump that creates a flow of high-pressure oil which runs to a solenoid valve. A switch set and the solenoid valve let the operator actuate the hydraulic cylinder to split a log. An internal reservoir holds the hydraulic oil that feeds the pump. The hydraulic assembly is attached to the wheel frame assembly, making it easy to move the log splitter around with no lifting. The frame is

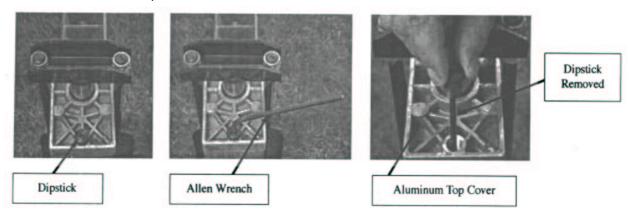
equipped with folding handles for storage, pivoting support for stability and cord storage hooks for convenience. This log splitter is designed with foot-operated control only. The electrical motor is protected by a 8.5 amp circuit breaker and the pressure relief valve protects the hydraulic assembly in case a log gets jammed. If this happens, after about 5 seconds, the pressure plate slowly travels down to the original position and can be immediately re-activated.

Before You Start Splitting

Before each use, inspect your unit and ensure that all handles, guards and fasteners are secure and in place. Be sure that all electrical cords are not damaged or broken.

Before use of the long splitter, check it for alignment of moving parts, free running of moving parts, breakage of parts, mounting and any other conditions that may affect its operation. Inspect Hydraulic Fluid Level. Remove the Dipstick using the Allen Wrench provided, clean the Dipstick and insert it to check the oil level. It should be between the two notches on the stem. If level is low, add recommended type of the hydraulic oil. If the level is too high, pour out a little at a time into a suitable container.

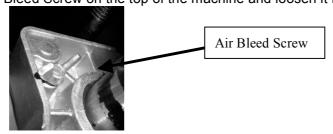
Reinstall the Dipstick and the O-ring seal. Be careful not to damage the threads of the Plug and Aluminum Top cover.



Any damaged part of the log splitter should be properly repaired or replaced by an authorized service center, unless otherwise indicated in this instruction manual.

Do not use the log splitter if the switch does not turn it 'on' and 'off'. Have any defective switches replaced by an authorized service center.

Lubricate ram, vertical beam and guides to reduce wear. Use #2 lithium grease. Find the Air Bleed Screw on the top of the machine and loosen it by turning 3-4 times.



NOTE: Do not over tighten and strip air bleed screw threads.

WARNING! The Pressure Relief Valve protects the hydraulic assembly when the log is jammed for about 5 seconds. The pressure plate slowly travels down the original position and can be immediately re-activated. If the log does not split immediately, do not force the pressure plate of the log splitter. Stop the log splitter, reposition the log by turning it and try again. If the wood still cannot be split, it means that the log exceeds the capacity of the machine and should be rejected.

Overloading or abusing your log splitter can cause premature failure and can result in injury. Use common sense.

Always be sure to stand inside the Operator Zone when running your log splitter.

IMPORTANT: Before starting the splitting operation, cycle pressure plate of the splitter three to four times back and forth by pushing and releasing switches to help remove any air that may have mixed into the hydraulic fluid during handling, storage, etc. Oil is incompressible; therefore, to ensure the efficiency of the log splitter, it is important that the hydraulic system does not contain air bubbles. If there is an air bubble in the system, the force applied gets used compressing the air in the bubble rather than moving the piston. This can compromise the efficiency of the system.

Splitting Wood

- 1. Place the log splitter on firm, leveled ground and block the wheels to prevent them from rolling.
- 2. Split wood in the direction of the grain; never place wood across the log splitter.
- 3. Do not hold the log by the ends when you are positioning it onto the log splitter.

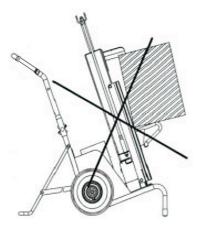




4. Place the log on the pressure plate of the machine. Be sure that the body of the log is lying firmly against the vertical beam of the log splitter and the end of the log is well supported by the pressure plate. If the log tends to wobble, reposition it by turning it. The supporting guides help to keep the log at the center or the log splitter.

NOTE: Maximum log size is 20" long and 12" diameter.

If the log moves away from the beam, retract the pressure plate and turn the log 90 degrees.
 Do not force the log on the tip part of the blade; this can damage blade welds and the body of the machine.



While operating the log splitter, always be sure of safe and secure operating position and stand inside of the Operator Zone.

- Activate pressure plate (see section on Foot-Operated Switch Plate) and keep holding until
 split pieces of the log fall away. Then release switch plate. This will cause the pressure plate
 to retract to its starting position.
- 2. When the job is finished and you are ready to store your log splitter, tighten the bleed screw to prevent oil leakage during storage time.

NOTE: We recommend that wood be left to air dry, as it will make the splitting process much easier and faster. Wood which is well-seasoned also produced up to 44% more heat than green wood. Several things can limit the splitting capacity of the log splitting. Knotty wood, wood with twisted grain, or a stump with roots. The more of these characteristics present in a piece of wood, the more difficult it will be to split.

A knot is that portion of a branch that has become incorporated in the bole of a tree. The influence of a knot on the mechanical properties of a wood member is due to the interruption of continuity and change in the direction of wood fibers associated with the knot.

The diameter of a log does not necessarily indicate the difficulty of the split. A larger log can be split easier than a smaller log, if its fiber is straight.

Foot-Operated Switch Box:

Make sure the log splitter is firm, level ground, and block the wheels.

Place the wood properly into the machine.

Place the foot-operated switch box on a flat, even surface, avoiding water and wet conditions.

Move hands away from working area; place them on the cart handle.

Step on the switch lightly and the machine with start to operate. Keep your foot on the switch through the entire wood-splitting operation.

Remove your foot from the switch box and the machine will return to its original position. **WARNING!** NEVER start the machine when hands are in the working areas!



Removal of logs jammed on the wedge.



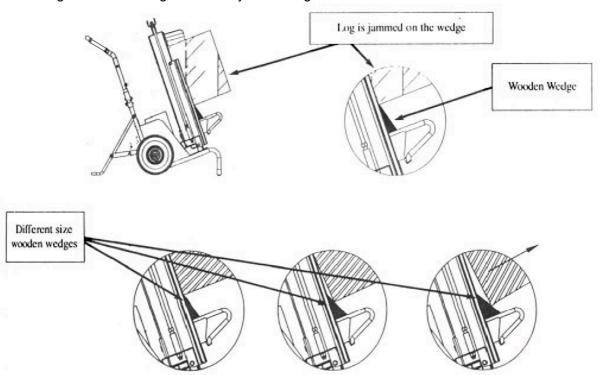
Never request the assistance of another person to help you remove a jammed log! Never remove a log jammed on the splitting wedge with your hands!

Keep your hands and body parts away from the open splits and cracks in the log.

The wood can close suddenly and cause injury.

Never try to remove the jammed log by hitting it with a hammer or any other object — this can damage the hydraulic pump cover, motor cover or other parts of the log splitter.

- 1. Release foot switch and wait until pressure plate is fully retracted and returns in the lowest position.
- 2. Place a piece of wood shaped as wedge under the jammed log and activate the pressure plate of the log splitter to push it up and under the jammed log. Repeat this process using larger wooden wedges until the jammed log is released.



MAINTENANCE

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Marning! Before performing any maintenance, be sure that:

- Log splitter is disconnected from the power source
- Pusher plate is fully retractable (returned to the lowest position) and no residual hydraulic energy is left in the system.

STORAGE

Clean Unit.

Lubricate for rust prevention.

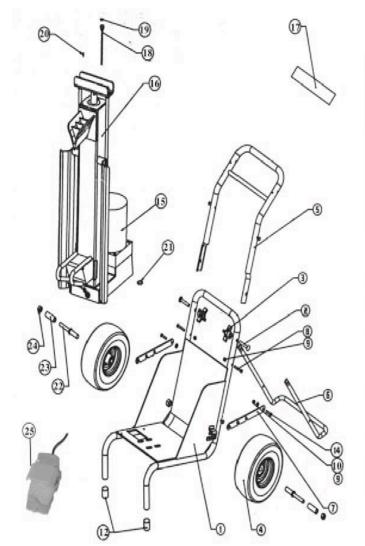
Tighten the Air Bleed Screw.

Fold in the handle (optional).

Store in a sheltered/dry area not accessible to children.

| Problem | Possible cause | Remedy |
|--|--|--|
| Log fails to split | Incorrect positioning of the log Log exceeds permitted dimensions or the wood is too hard for the capacity of the machine Wedge has burs, nicks or flat spots and needs to be sharpened Oil level is low Leak of hydraulic oil. Hydraulic pressure is too low. | Re-position the log Put this log aside and try different one Sharpen the splitting wedge · Adjust the oil level Place piece of cardboard under the log splitter to locate the leak. Worn components should be replaced. Contact qualified hydraulic mechanic for assistance. |
| Pressure plate advances with a jerky motion or with strong vibration | · Air in the system | Open bleed screw, and cycle pressure plate of the log splitter three to four times back and forth to help remove any air that may have mixed into the hydraulic fluid. Check and adjust hydraulic oil level. |
| Slow pressure plate response | · Hydraulic fluid level is low | · Check and adjust hydraulic oil level. |
| Hydraulic oil leak | Bleed screw was not tightened before machine was moved Worn hydraulic oil seals. | Tighten the bleed screw before moving log splitter Contact a qualified hydraulic mechanic for assistance or take unit to an authorized service center |

DIAGRAM & PARTS LIST



| | PART NO | DESCRIPTION | QTY |
|----|--|-----------------------------|-----|
| 1 | THE RESERVE OF THE PARTY OF THE | CART BOTTOM WELDED ASSEMBLY | 1 |
| 2 | 510500 | CARRIAGE BOLT | 2 |
| 3 | 510501 | KNOB | 2 |
| 4 | 510101 | WHEEL 8" DIA | 2 |
| 5 | 510102 | HANDLE, UPPER ASSEMBLY | 1 |
| 6 | 510103 | STABILIZING BAR | 1 |
| 7 | 510104 | CONNECTING LINK | 2 |
| 8 | 510509 | BOLT HEX | 2 |
| 9 | 510507 | NUT LOCK | 6 |
| 10 | 510508 | WASHER | 4 |
| 11 | 510502 | SOLENOID PROTE CTION BRACE | 2 |
| 12 | 510105 | END CAP | 2 |
| 14 | 510503 | BOLT HEX | 2 |
| 15 | 510900 | MOTOR 110V | 1 |
| 16 | 510108 | HYDRAULIC ASSEMBLY | 1 |
| 17 | 510601 | WARNING LABEL | 1 |
| 18 | 510110 | DIP STICK | 1 |
| 19 | 510111 | DIP STICK SEAL | 1 |
| 20 | 510510 | BLEED SCREW | 1 |
| 21 | 510512 | DRAIN PLUG SEAL | 1 |
| 22 | 510144 | WHEEL SHAFT | 2 |
| 23 | 510145 | WHEELSLEEVE | 2 |
| 24 | 510524 | WHEEL NUT | 2 |
| 25 | 510107 | SWITCH BOX ASSEMBLY | 2 |

WARNING

Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- · Lead from lead-based paints,
- Crystalline silica from bricks and cement and other masonry products, and
- Arsenic and chromium from chemically treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.



Northern Tool + Equipment Co., 2800 Southcross Drive West P.O. Box 1499 Burnsville, MN 5337-0499 Made in China.