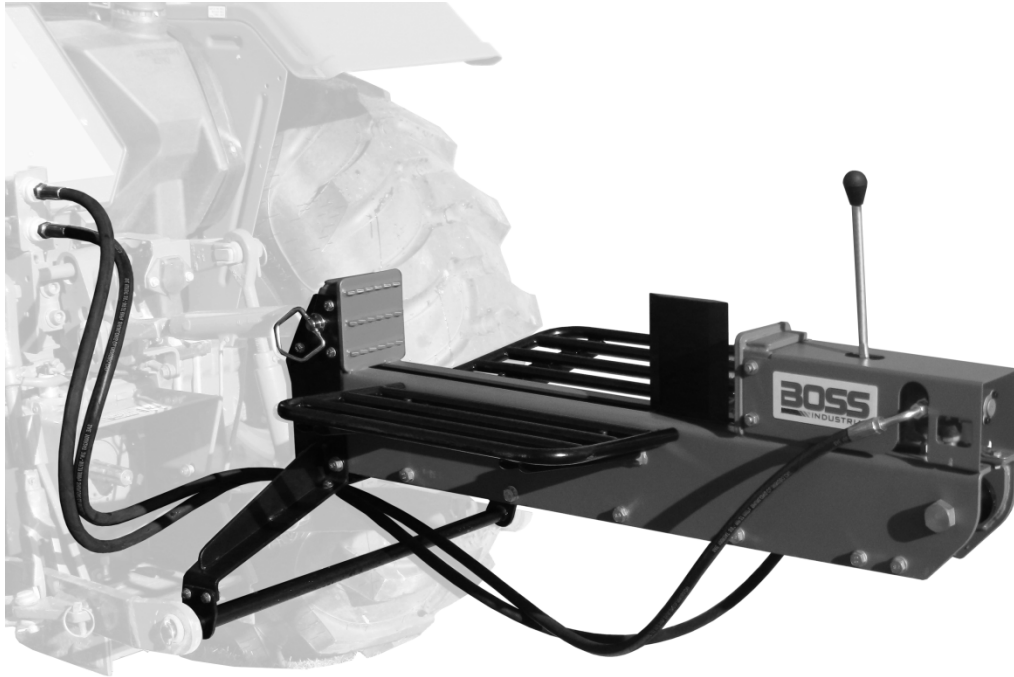




**DUAL-ACTION
3-POINT HITCH
16 TON LOG SPLITTER**



**MODEL NO.
3PT16T21**

Owner's Manual

ASSEMBLY & OPERATING INSTRUCTIONS

Purchase Date _____ Model NO. _____ Serial NO. _____
Dealer _____

Boss Industrial, Inc. · 123 Ambassador Drive, Suite 123 · Naperville, IL 60540 · USA
Phone: (800) 780-BOSS (2677) · Fax (331) 472-2976

To The Owner

Thank You!

Thank you for purchasing a BOSS Log Splitter. It was carefully engineered to provide excellent performance when properly operated and maintained.

Please read this entire manual prior to operating the equipment. It instructs you how to safely and easily set up, operate and maintain your machine. Please be sure that you, and any other persons who will operate the machine, carefully follow the recommended safety practices at all times. Failure to do so could result in personal injury or property damage.

All information in this manual is relative to the most recent product information available at the time of printing. Review this manual frequently to familiarize yourself with the machine, its features and operation. Please be aware that this Operator's Manual may cover a range of product specifications for various models. Characteristics and features discussed and/or illustrated in this manual may not be applicable to all models. We reserve the right to change product specifications, designs and equipment without notice and without incurring obligation.

The 3-Point Hitch log splitter is designed for CAT 1 tractors that ideally produce the hydraulic flow of 8 – 11 GPM at the pressure ratings of 2000 to 3000 PSI. DO NOT exceed 3400 PSI. The tractor hydraulic pressure ratings can be found at the tractor manufacturer's manual. If you have any problems or questions concerning the machine, phone an authorized service dealer or contact us directly. Boss Industrial's customer support phone number, website and mailing address can be found on this page. We want to ensure your complete satisfaction at all times..

Throughout this manual, all references to right and left side of the machine are observed from the operating position. The tractor manufacturer is responsible for all tractor-related issues with regards to performance, power-rating, specifications, warranty and service. Please refer to the tractor manufacturer's Owner's/Operator's Manual for more information.

Customer Support

Please do NOT return the machine to the retailer or dealer without first contacting the Customer Support Department.

If you have difficulty assembling this product or have any questions regarding the controls, operation, or maintenance of this machine, you can seek help from the experts. Choose from the options below:

- ◇ Visit us on the web at www.boss-industrial.com
- ◇ Call a Customer Support Representative at (800) 780-2677 or (331) 457-5670
- ◇ Write to Boss Industrial, Inc., 123 Ambassador Drive, Suite 123, Naperville, IL 60540

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IMPORTANT SAFETY INFORMATION



WARNING: Read and thoroughly understand all instructions in this manual and on safety decals before assembling or operating this log splitter. Failure to do so may cause serious injury or death. Do not allow anyone to operate this log splitter who has not read this manual. As with all power equipment, a log splitter can be dangerous if assembled or used improperly. Do not operate this log splitter if you have any questions concerning safe operation. To get answers to any questions, call our customer service department at 1-800-780-2677.

Si no entiende ingles, se prefiere que busque alguien que interprete las instrucciones para usted.



This SAFETY ALERT SYMBOL identifies important safety messages in this manual. Failure to follow this important safety information may result in serious injury or death.



DANGER! This machine was built to be operated according to the safe operation practices in this manual. As with any type of power equipment, carelessness or error on the part of the operator can result in serious injury. This machine is capable of amputating hands and feet and throwing debris. Failure to observe the following safety instructions could result in serious injury or death.

The following signal words and meanings are intended to explain the levels of risk associated with this product.



DANGER

DANGER indicates a hazardous situation which, if not followed, will result in serious injury or death.



WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in serious injury or death.



CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is important information about the proper use of your machine. Failure to follow this instruction could result in damage to your machine or property.



IMPORTANT SAFETY INFORMATION

SAFETY DECALS

Make sure that all safety warning decals are in good condition and readable. Always replace missing or defaced decals. Contact BOSS at 1-800-780-2677 for replacement decals.

CAUTION!	OPERATING INSTRUCTIONS	WARNING!
<ul style="list-style-type: none"> • Read and understand safety and operating instructions in this and Tractor owner's manual completely. Failure to do so may result in serious injury or death. • Always wear safety glasses, safety shoes, protective hearing devices, and tight fitting gloves during operation. • Set up log splitter with tractor on clear, level, dry and solid ground. Keep off slopes and slippery surfaces. • Do not leave the unit running unattended. • Only split wood in the direction of the grain. • No one under the age of 18 should operate log splitter. • Always stay in operator zone specified by manufacturer during operation. 	<p>3 POSITIONS OF CONTROL HANDLE</p> <p>FORWARD NEUTRAL REVERSE</p> <ul style="list-style-type: none"> • Attach log splitter to Tractor securely. • Start the Tractor engine, set the throttle to power the hydraulics of log splitter. • Move control handle fully extended back and forth for several cycles to bleed residual air. • Grab the sides of the log to load it onto the beam against the end plate. • If necessary, stabilize the log with your left hand on its sides, NEVER on the ends or the top. • Move the control handle to the FORWARD position with your right hand to split the log. Remove your left hand when the wedge just contacts the log. • Release the control handle to stop the wedge movement. • Move the control handle to the REVERSE position to retract the wedge to split a log on the other side. 	<ul style="list-style-type: none"> • Only one person is permitted to load logs and operate controls. Keep bystanders, children, pets and helpers at least 25 ft. away. • Keep work area clear of split wood, debris, and other obstacles. • Do not operate log splitter under the influence of alcohol or drugs. • Keep hands, feet and all body parts away from splitting wedge, end plate, partially split wood, and moving parts. • Do not stand on or reach over log splitter. • Never check for leaks with your hands during operation. High pressure fluid can escape from small holes and cause serious injury by puncturing skin which could result in blood poisoning. • NEVER use your hands to dislodge a log from the wedge. <p style="text-align: right;">Part #: 410-161</p>

Part #: 410-161

⚠ DANGER!	<p>KEEP HANDS / FEET AWAY!</p> <ol style="list-style-type: none"> 1. Do not use your hands to dislodge log from wedge. 2. Keep hands away from wedge, end plate, partially slit wood and moving parts. 3. If wedge moves FORWARD when control handle released, STOP USE IMMEDIATELY! Valve may be damaged. <p style="text-align: right;">Part #: 410-235</p>
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Part #: 410-235

⚠ DANGER!	<p>KEEP HANDS / FEET AWAY!</p> <ol style="list-style-type: none"> 1. Do not use your hands to dislodge log from wedge. 2. Keep hands away from wedge, end plate, partially slit wood and moving parts. 3. If wedge moves FORWARD when control handle released, STOP USE IMMEDIATELY! Valve may be damaged. <p style="text-align: right;">Part #: 410-233</p>	⚠ DANGER!
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Part #: 410-233

BOSS 16 Ton Log Splitter INDUSTRIAL 3PT16T21

Max. splitting force: 16 Ton
 Max. splitting length: 20.5 inch
 Max. splitting diameter: 13.5 inch
 Net weight: 224 lbs
 Serial NO.:

Meets ANSI B71.7-1985 Safety Standard

Boss Industrial, Inc.

123 Ambassador Drive, Suite 123, Naperville, IL 60540
 www.boss-industrial.com, 1-800-780-2677

Part #: 410-545




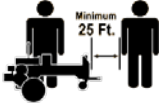





Part #: 410-545



IMPORTANT SAFETY INFORMATION

SAFETY SYMBOLS

This page depicts and describes safety symbols that may appear on this product. Read, understand, and follow all instructions on the machine before attempting to assemble and operate.

Symbol	Description
	READ THE OPERATOR'S MANUAL(S) Read, understand, and follow all instructions in the manual(s) before attempting to assemble and operate.
	FACE PROTECTION Always wear safety goggles or safety glasses with side shields, earplugs and a face shield when operating this product.
	WARNING— MOVING WEDGE Keep hands away from wedge, moving part, end plate, and partially split wood.
	BYSTANDERS Keep bystanders, helpers and children at least 25 feet away.
	SINGLE OPERATOR Only one person should operate the machine at a time. The adult who loads and stabilizes the log must be the person who operates control handle.
	WARNING— PRESSURIZED FLUID Never check for hose leaks with your hands. High pressure fluid can escape through a pin hole leak and cause serious injury by puncturing the skin and causing blood poisoning.
	WEAR GLOVES Always wear nonslip, heavy-duty protective gloves when operating this product.
	WEAR SAFETY FOOTWEAR Always wear nonslip steel-toed safety footwear when operating this product.
	WARNING— CARBON MONOXIDE Never run the splitter on tractor indoors or in a poorly ventilated area. Tractor engine exhaust contains carbon monoxide, an odorless and deadly gas.



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.

SAVE THESE INSTRUCTIONS!



IMPORTANT SAFETY INFORMATION

TRAINING

1. Read, understand, and follow all instructions on the machine and in the manual(s) before attempting to assemble and operate. Keep this manual in a safe place for future and regular reference and for ordering replacement parts.
2. Be familiar with all controls and their proper operation. Know how to stop the machine and disengage them quickly.
3. Never allow children under 18 years of age to operate this machine. Children 16 and over should read and understand the instructions and safe operation practices in this manual and on the machine and be trained and supervised by an adult.
4. Never allow adults to operate this machine without proper instruction.
5. Many accidents occur when more than one person operates the machine. No helper is allowed to assist in stacking logs.
6. Keep bystanders, pets, and children at least 25 feet from the machine while it is in operation. Be alert and turn the Tractor off if children or pets enter the work area.
7. Never allow anyone to ride on this machine.
8. Never transport cargo on this machine.
9. Hydraulic log splitters develop high fluid pressures during operation. Fluid escaping through a pin hole opening can penetrate your skin and cause blood poisoning, gangrene, or death. Give attention to the following instructions at all times:
 - a. Do not check for leaks with your hand.
 - b. Do not operate machine with frayed, kinked, cracked, or damaged hoses, fittings, or tubing.
 - c. Stop the tractor engine and relieve hydraulic system pressure by cycling the valve control lever from forward to reverse several times while tractor engine is not running; returning to neutral before repairing or adjusting fittings, hoses, tubing, or other system components.
 - d. Do not adjust the pressure settings of the valve.
10. Leaks can be detected by passing cardboard or wood, while wearing protective gloves and safety glasses, over the suspected area. Look for discoloration of cardboard or wood.
11. If injured by escaping fluid, see a doctor immediately. Serious infection or reaction can develop if proper medical treatment is not administered immediately.
12. Keep the operator zone and adjacent area clear for safe, secure footing.
13. Do not operate the log splitter on tractor in an enclosed area. Exhaust fumes from the tractor engine contains carbon monoxide which can be harmful or deadly when inhaled.



NEVER use this log splitter for any purpose other than splitting wood. It is designed for this use only. Any other use can cause serious injury or death.



IMPORTANT SAFETY INFORMATION

PRE-OPERATION

1. **BEFORE** operating this log splitter, make sure that you wear safety gear such as goggles or safety glasses, steel toed shoes and tight fitting gloves (without loose cuffs or draw strings). Always wear a protective hearing device when operating this log splitter.
2. **NEVER** wear loose clothing or jewelry that can be caught by moving parts of the log splitter. Keep clothing and hair away from all moving parts when operating this log splitter.
3. Check all safety guards and shields to be sure they are in the proper position. Never operate with safety guards, shields, or other protective features removed.
4. Make sure machine is on a flat, dry, solid ground before operating.
5. **ALWAYS** operate your log splitter attached on the Tractor in an open area. (Exhaust fumes contain carbon monoxide which can be deadly when inhaled.)
6. **ALWAYS** operate your log splitter in daylight or under good artificial light.
7. **ALWAYS** operate your log splitter on level ground. (Operating on a slope could cause the log splitter to roll over or logs to fall off.)
8. **ALWAYS** keep the work area clean. Remove split wood around the log splitter immediately so that you don't stumble over it.
9. Check all nuts, bolts and hydraulic fittings are tight to be sure the equipment is in a safe working condition.
10. Both ends of the log should be cut as square as possible to help prevent the log from riding out of the splitter during operation. Do not split logs greater than 20 inches in length. Uneven logs (e.g. knotted, curved, etc.) should not be used.
11. Do not allow familiarity with tools to make you careless. Remember that a careless fraction of a second is sufficient to inflict serious injury.



WARNING:



The operation of any power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles or safety glasses with side shields and, when needed, wear a full face shield and earplugs. We recommend a Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use eye protection which is marked to comply with ANSI Z87.1.



IMPORTANT SAFETY INFORMATION

OPERATION

1. **BEFORE** starting this machine, review the safe instructions in this manual and Tractor Owner's Manual. Failure to follow these rules may result in serious injury to the operator or bystanders.
2. **NEVER** leave this machine unattended with the tractor engine running.
3. **DO NOT** operate machine while under the influence of alcohol, drugs, or medication.
4. **NEVER** allow anyone to operate this machine without proper instruction.
5. **ALWAYS** operate this machine with all safety equipment in place and working. Make sure all controls are operating properly for safe operation.
6. When loading a log, always place your hands on the side of the log, not on the ends, and never use your foot to help stabilize a log. Failure to do so may result in crushed or amputated fingers, toes, hand, or foot.
7. **NEVER** use your foot, a rope or any extension device to operate the control lever on the valve. Only use hand.
8. Use only your right hand to operate the control handle.
WARNING! When stabilizing log with left hand, remove your hand when the wedge just contacts the log or serious injury may occur.
9. For logs which are not cut square, the least square end of the log should be placed toward the beam and wedge, and the square end placed toward the end plate.
10. **NEVER** place hands or feet between the log and splitting wedge during forward or reverse stroke as this could result in serious injury or death. **NEVER** attempt to load the log splitter when the ram or wedge is in motion.
11. **ALWAYS** keep fingers away from any cracks that open in the log while splitting. They can quickly close and pinch or amputate your fingers.
12. Keep your work area clean. Immediately remove split wood around the machine so you do not stumble over it.
13. **NEVER** straddle or step over the log splitter during operation.
14. **NEVER** reach or bend over the log splitter to pick up a log.
15. **NEVER try to split two logs on top of each other. NEVER try to cross split a log.**
16. **NEVER** operate your log splitter when it is in poor mechanical condition or in need of repair.



WARNING:

The 3-Point Hitch Log Splitter is designed for tractors with pressure ratings that are under 3700 PSI. Exceeding the recommended pressure rating will void the warranty and damage the equipment.

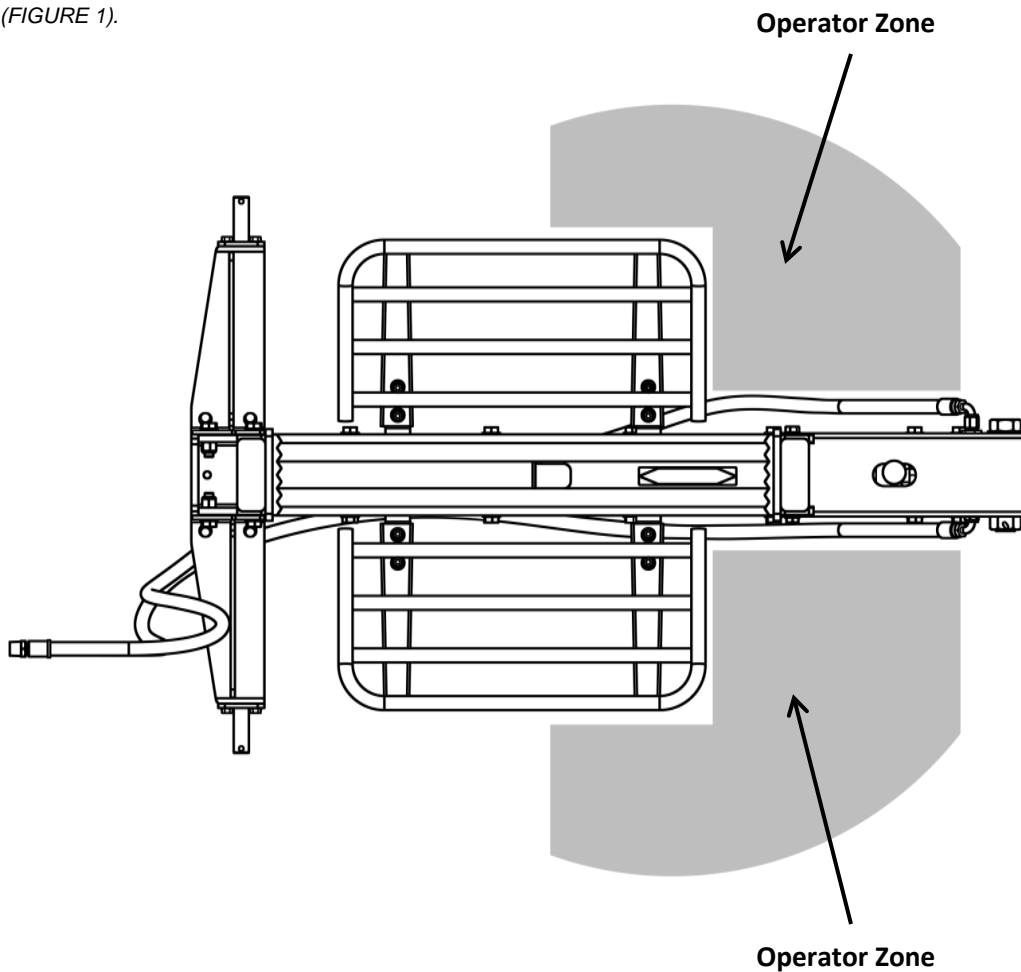


IMPORTANT SAFETY INFORMATION

OPERATOR ZONE

ONLY operate the log splitter from the operator zone as shown in the diagrams below. The operator has the safest and most efficient access to the control valve and the beam in this location. Operating the log splitter in another location can result in serious injury or death. See FIGURE 1.

(FIGURE 1).





IMPORTANT SAFETY INFORMATION

MAINTENANCE SAFETY

1. Before cleaning, inspecting or any maintenance procedure on the machine, stop the tractor engine, set the brake and remove the key, disengage hydraulic hoses, wait 10 minutes to allow all parts to cool down.
NEVER perform any service or repair on your log splitter without stopping the tractor engine.
2. Stop the tractor and relieve hydraulic system pressure by cycling the valve control lever from forward to reverse several times; returning to neutral before repairing or adjusting fittings, hoses, tubing, or other system components.
3. **ALWAYS** perform all recommended maintenance procedures before using your log splitter.
4. **ALWAYS** periodically check that all nuts, bolts, screws, hydraulic fittings and hose clamps are tight to be sure equipment is in safe working condition.
5. **ALWAYS** replace all damaged or worn parts immediately with original equipment manufacturer's (O.E.M.) parts only. Use of parts which do not meet the original equipment specifications may lead to improper performance and compromise safety.
6. The hydraulic system of your log splitter requires careful inspection along with the mechanical parts. Be sure to replace frayed, kinked, cracked or otherwise damaged hydraulic hoses or hydraulic components.
7. **NEVER** check for leaks of hydraulic fluid with your hand. Fluid escaping from a small hole can be almost invisible. Escaping fluid under pressure can have sufficient force to penetrate skin causing **SERIOUS INJURY** or even **DEATH**. Leaks can be safely detected by passing a piece of cardboard over the suspected leak and looking for discoloration.
8. **NEVER** adjust the hydraulic valve. The pressure relief valve on your log splitter is preset at the factory. Only a qualified service technician should perform this adjustment.
9. **ALWAYS** seek professional medical attention immediately if injured by escaping hydraulic fluid. Serious infection or reaction can develop if proper medical treatment is not administered immediately.



NEVER alter your log splitter in any manner. Such alterations may cause your log splitter to be unsafe and will void the warranty.



IMPORTANT SAFETY INFORMATION

TRANSPORTATION SAFETY

1. **ALWAYS** lift the Splitter to the full height of the 3-Point Hitch range carefully for safely transport.
2. **ALWAYS** shut off your tractor hydraulic controls, disengage hydraulic hoses, and set your splitter controls to the “Neutral” position before moving the log splitter on your tractor. Failure to do so may lead to improper performance and compromise safety.
3. **NEVER** carry any cargo or wood on your log splitter when moving around on your tractor.
4. **NEVER** allow anyone to sit or ride on your log splitter.
5. **ALWAYS** check before moving to make sure that the log splitter is correctly and securely attached to the three point hitches, and the hydraulic hoses to the pressure ports of tractor pump.
6. **ALWAYS** be careful when backing up with your log splitter behind your tractor. It could jackknife.
7. **NEVER** attempt to move this machine on your tractor over hilly or uneven terrain without a tow vehicle or adequate help.

SAVE THESE INSTRUCTIONS

ASSEMBLY & SET-UP INSTRUCTIONS

UNPACKING THE CONTAINER



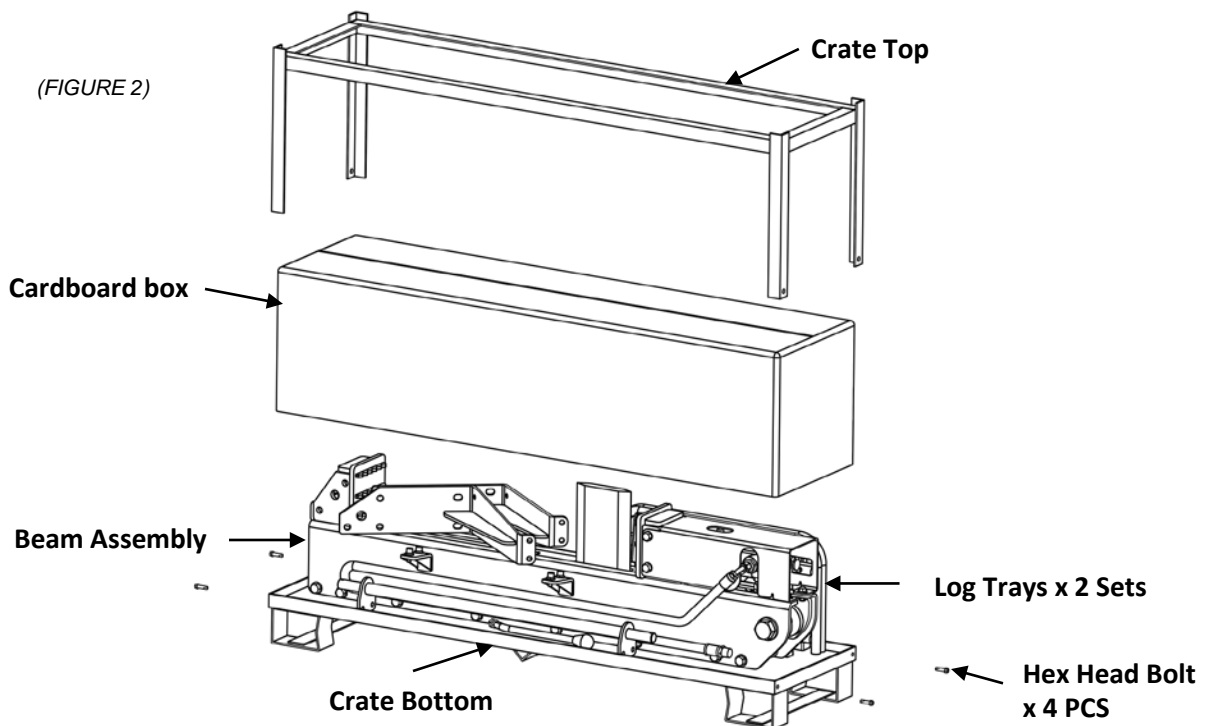
WARNING! Use extreme caution unpacking this machine. Some components are very heavy and will require additional people or mechanical handling equipment.

NOTE: All references in this manual to the left or right side and front or back of the log splitter are from the operating position only. Exceptions, if any, will be specified.

Unpacking tools needed:

1. Wrench 8mm
2. Scissors or knife

Step 1: Use a 8mm wrench to remove the four bolts on the metal crate, put aside the crate top, then remove the cardboard box. See FIGURE 2.



Step 2: Remove all loose parts included in the container, e.g. operator's manual, log trays, mounting brackets, axel, and hardware kits.

Step 3: . Remove the beam assembly on the crate bottom.

NOTE: DO NOT remove the strap securing the hydraulic hoses to the beam at this time, until you do all the assembly procedures.

If any parts are damaged or missing, please call our customer service department at 1-800-780-2677 for assistance.

NOTE: DO NOT discard the packing materials until you have carefully inspected and satisfactorily operated the tool.

ASSEMBLY & SET-UP INSTRUCTIONS

ASSEMBLY AND SET-UP

NOTE: Due to the weight / size of the log splitter, and coordination needed on the tractor controls to install the 3-Point Hitch log splitter to the tractor, it's recommended that two or more adults be present to assist with the assembling and set-up.

Get your tractor prepared for assembly:

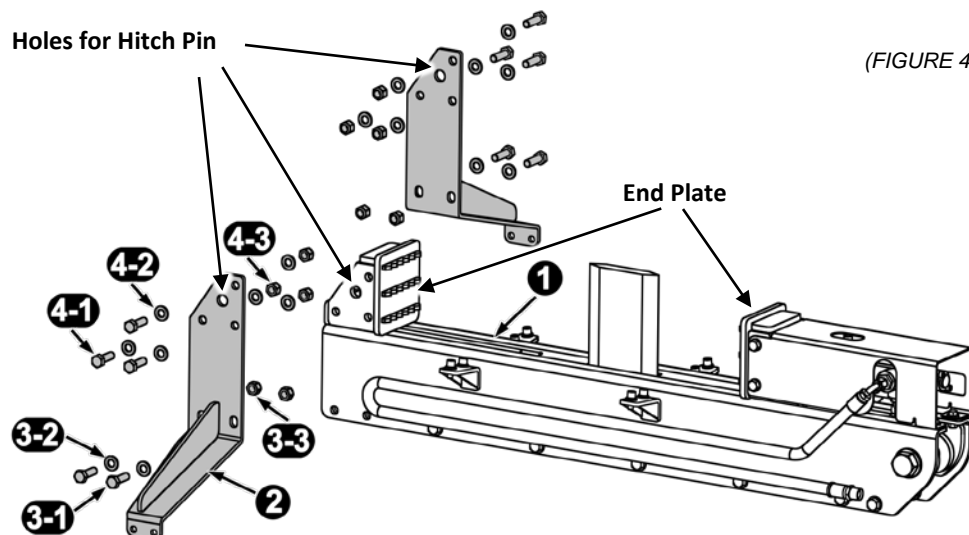
1. This 3-Point Hitch log splitter is designed for tractors with pressure ratings of 2000 to 3000 PSI. DO NOT exceed 3400 PSI (Category 1). Review the Tractor Owner's Manual to make sure your tractor meets the specifications of the 3-Point Hitch log splitter.
2. Check if the three Hitch Pin are available for your log splitter.
3. Different tractor needs different types and sizes of Tractor Hydraulic Connectors. For this reason, the Splitter Hoses do not have Connectors on the ends. You need to prepare the correct type / size connectors for your application. The Splitter Hose Threads are 1 / 2" NTP Male.

Assembling tools needed:

1. Wrench 16, 17, 18, 19mm one each
2. Allen wrench 6mm x 1

STEP 1: Install the 3-Point Hitch Side Mounting Brackets. See FIGURE 4.

1. Block the beam assembly off the ground. Two or more people are recommended to assist with raising the beam as it is very heavy. Lifting tools as hoist, crane, jack, etc. are strongly recommended. Be sure to keep hands away from any possible pinch points.
2. Remove the four sets of M12 Bolts, Washers, and Lock nuts from both sides of the front end of the beam.
3. Align the two middle holes on both Side Mounting Brackets with the holes on the Beam where the bolts were removed from, and then loosely secure with the M12 hardware just removed.
4. Align the 3 upper holes on both 3PT Hitch Mounting Brackets with the corresponding holes on both sides of End Plate Bracket, and then loosely secure the 6 sets of M10 hardware in the hardware kit # 21 attached.
5. Make sure the Hitch Pin moves freely in its holes, then tighten all bolts with wrenches.



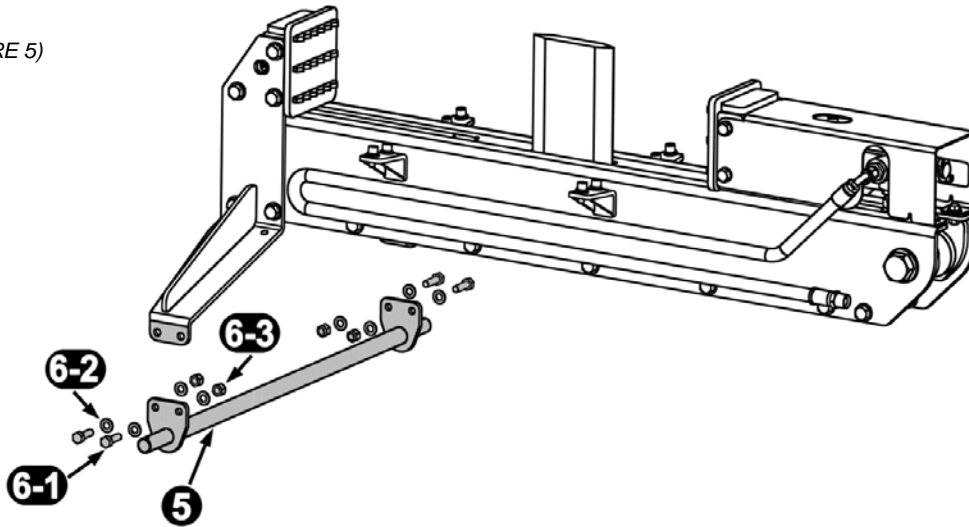
(FIGURE 4)

REF. NO.	DECSRIPTION	QTY.
1	Beam assembly	1
2	Side mounting bracket (L &R)	2
3	Hardware mounted on the beam, including:	
3-1	Hex head bolt / M12 x 35	4
3-2	Flat washer / M12	4
3-3	Lock nut / M12	4
4	Hardware kit # 21,including:	
4-1	Hex head bolt / M10 x 35	6
4-2	Flat washer / M10	12
4-3	Lock nut / M10	6

STEP 2: Install the Frame Axle.

1. Position the Frame Axel with its mounting ears outside of the bottom of both Side Mounting Brackets, and secure the Axel with M10 hardware in the hardware kit # 22 attached then, then tighten using a 16mm wrench on the bolts, and a 17mm wrench on the lock nuts. See FIGURE 5.

(FIGURE 5)

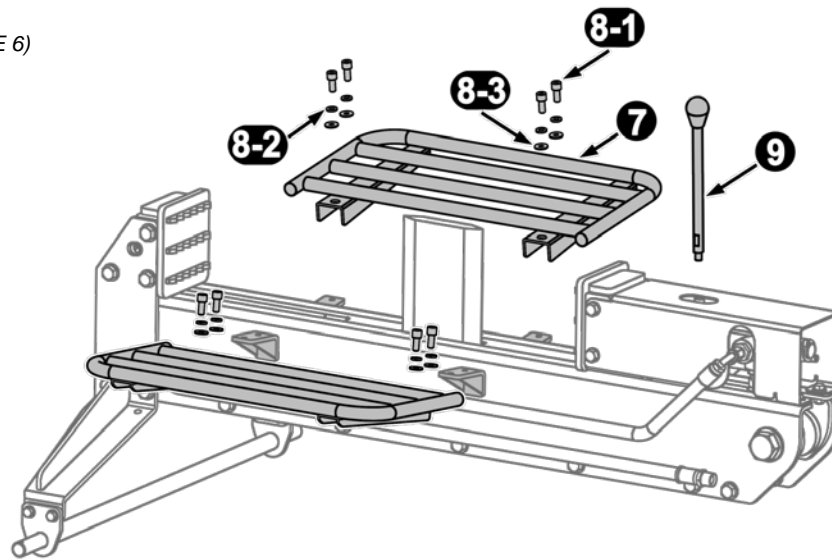


REF. NO.	DECSRIPTION	QTY.
5	Frame Axle	1
6	Hardware kit #22, including:	
6-1	Hex head bolt / M10 x 35	4
6-2	Flat washer / M10	8
6-3	Lock nut / M10	4

STEP 3: Install the Log Trays and Control Handle Lever. See FIGURE 6.

1. Remove the eight sets of M8 Bolts, and Washers from the four tabs on the beam.
2. Position the log tray frame onto the tabs as shown, and secure with the M8 hardware just removed, then tighten using the Allen Wrench 6mm.
3. Screw the control handle lever into its linkage part on top of the valve.

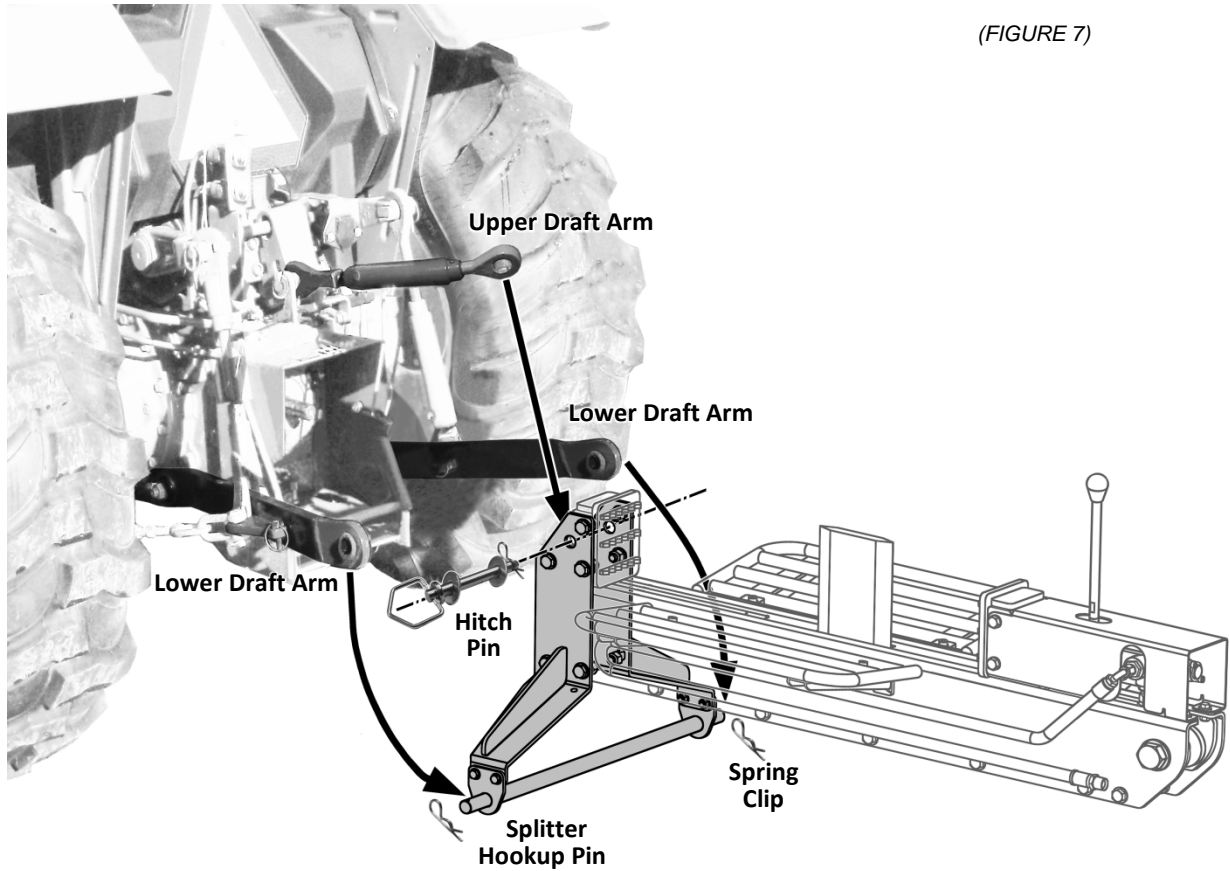
(FIGURE 6)



REF. NO.	DECSRIPTION	QTY.
7	Log Tray	2
8	Hardware mounted on the tabs of beam, including:	
8-1	Inner Hex head bolt / M8 x 20	8
8-2	Spring washer / M8	8
8-3	Flat washer / M8	8
9	Control Handle Lever	1

STEP 5: Attach the log splitter to the Tractor. See FIGURE 7.

1. Position the splitter behind the three point hitch arms, and adjust the Lower Draft Arms to the Splitter Hookup Pins at both ends of the Axle.
2. Slide the Lower Draft Arms onto the Splitter Hookup Pins, and secure with the Spring Clips.
3. Position the Upper Draft Arm inside the End Plate bracket; slide the Tractor Hitch Pin through the holes of the bracket and Upper Draft Arms as shown, and then secure with the Spring Clip.
4. Lift the log splitter off the ground using the Tractor 3-Point Hitch.



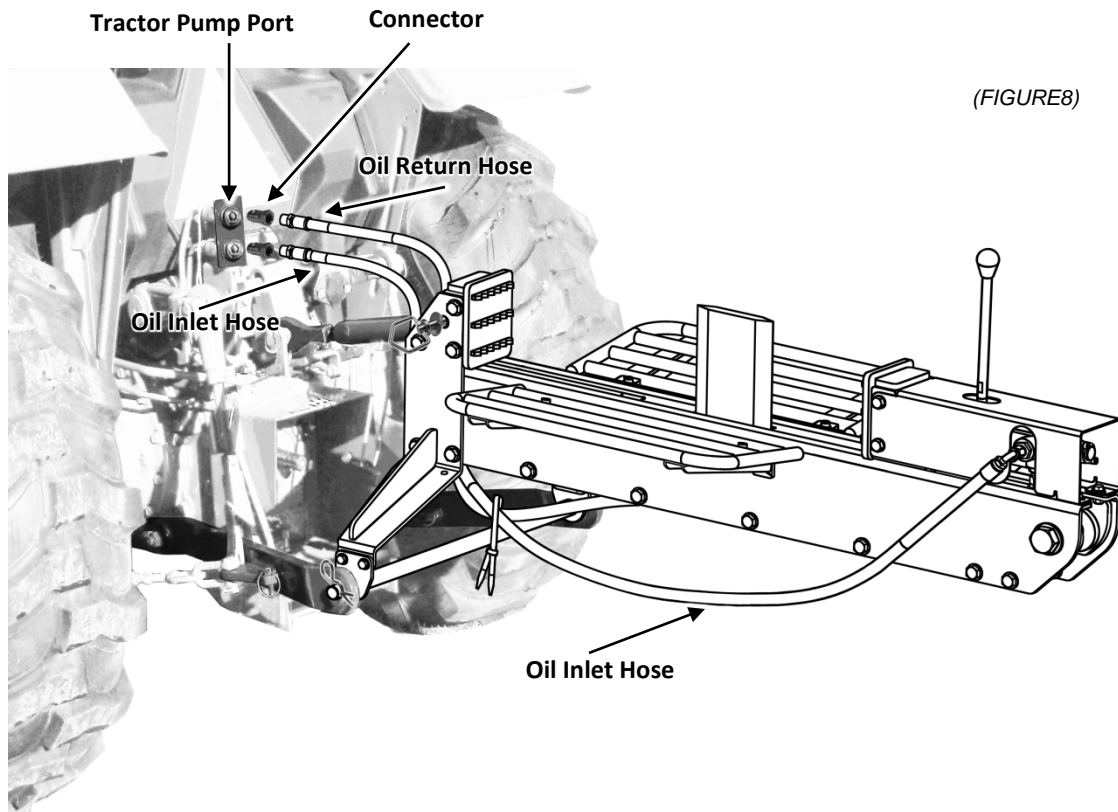
STEP 6: Attach both hoses to the Tractor. See FIGURE 8.

1. Cut the strap securing the Hoses to the Beam to release both hoses.
2. Remove Protective Caps from the open end of both hoses, and screw on the Connectors to both hoses.

NOTE: Different tractor needs different types and sizes of Tractor Hydraulic Connectors. For this reason, the Splitter Hoses do not have Connectors on the ends. You need to prepare the correct type / size connectors for your application. The Splitter Hose Threads are 1 / 2" NTP Male.

3. Route the hoses down underneath the Beam to the front end through the 3-Point Hitch Mounting Frame, secure two hoses to the Frame Axel with a cable tie, and plug the connectors into the Tractor Pump ports.

NOTE: Each hose has an Arrow Label to show the oil inlet / return direction. Refer to your Tractor Owner's Manual, or contact tractor supplier before attaching the connectors to tractor pump. If the hoses are attached to the wrong ports of the Tractor Pump, the splitter wedge will run in the opposite to the direction the control handle lever moved. Simply swap the hoses to the correct ports.



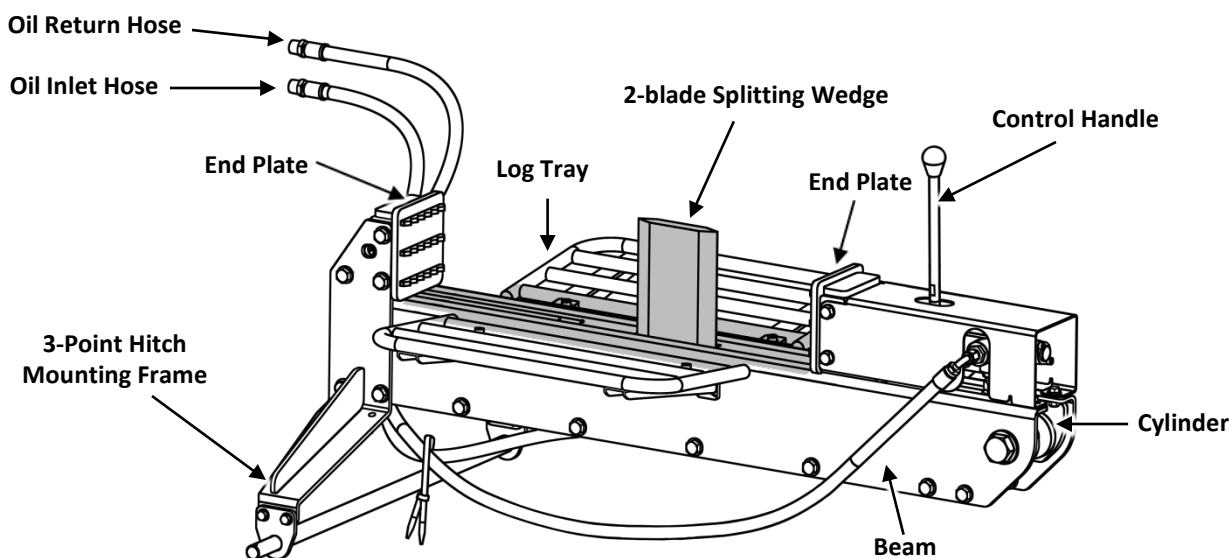
ASSEMBLY & SET-UP INSTRUCTIONS

KNOW YOUR TRACTOR

Refer to the Tractor Owner's manual for instructions on how to start and stop the Tractor engine, and how to set throttle and power the hydraulics to the Splitter.

KNOW CONTROLS & FEATURES

(FIGURE 9)



Tractor Engine Controls

See the tractor Owner's Manual for the location and function of the controls on the engine.

Control Handle

The control handle has three positions; Forward, Neutral and Reverse. See the Operation section for instructions.

End Plate

The end plate holds the log in place while the wedge splits the log.

Log Tray

The log tray is designed to catch the log after it is split.

2-blade Splitting Wedge

The wedge is used to split the wood.

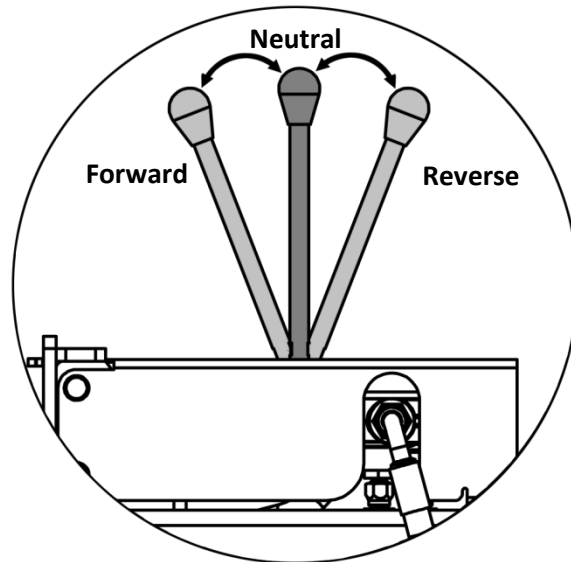
LUBRICATE BEAM AND WEDGE

Lubricate the beam area (where the splitting wedge will slide) with engine oil. Do not use grease. See FIGURE 9.

OPERATION INSTRUCTIONS

USING CONTROL HANDLE

The control handle has three positions. See FIGURE 10.



(FIGURE10)

- **FORWARD** — To split wood in Forward direction. Move the control handle to the FORWARD position to move wedge forward to split the log.
- **NEUTRAL** — To stop wedge. The control handle will return to the NEUTRAL position as soon as the handle is released, and the wedge stops moving at any point during splitting.
- **REVERSE** — To split another wood in Reverse direction. Move the control handle to the REVERSE position to move the wedge backward to split another log.

NOTE: The control handle will return to the NEUTRAL position as soon as the handle is released, and the wedge stops moving backward..



WARNING! If the control handle on your log splitter is not functioning properly, STOP USE IMMEDIATELY and contact an authorized service dealer.



WARNING! Do not attempt to service, repair or replace control valve. Contact an authorized service dealer.

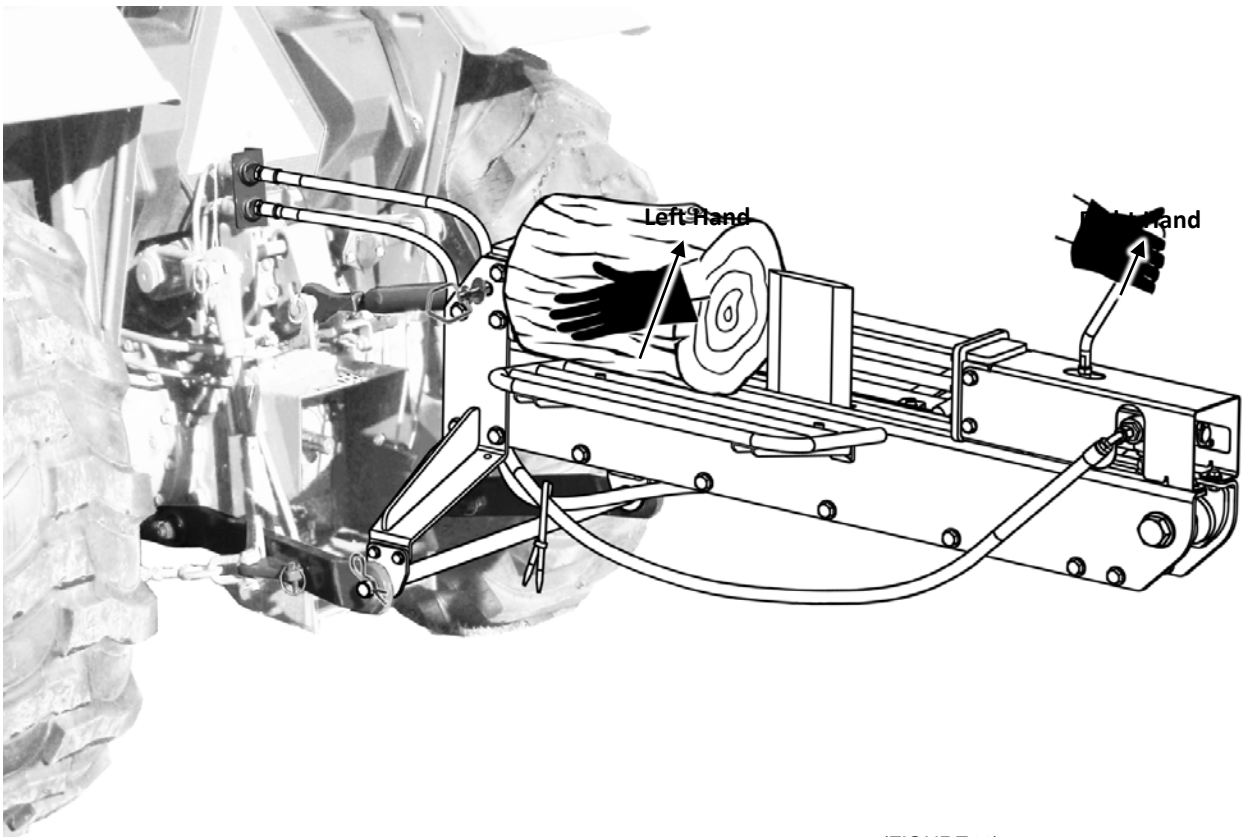


WARNING! Do not attempt to adjust or modify the control valve or the hydraulic system from its original settings or manufacturer in any way.

OPERATION INSTRUCTIONS

SPLITTING THE WOOD

1. Start the tractor, adjust your splitter to the desired height with the tractor 3 PT Hitch. Make sure the tractor is in neutral and the Emergency Brake is set.
2. Set throttle and power the hydraulics to the Splitter. Make sure to set the GPM and PSI from the low point to start in case extremely high pressure may damage the splitter valve. Then adjust to the ideal GPM and PSI for your job. See instructions on PAGE 23.
3. Operate the control lever, make the Splitting Wedge travel all the way to the end of stroke several cycles, to bleed the residual air in the hoses.
4. Place the log against the front end plate. See FIGURE 11.
5. To stabilize the log, place your left hand on the side of the log opposite the beam as shown in FIGURE 11.
6. Move the control handle to the forward position to split the wood. Remove left hand from the side of the log once wedge just contacts the log. Continue moving control handle forward to split the log.
7. Release the control handle to stop the wedge movement.
8. Move the control handle to the reverse position to split another log against the back end plate..



(FIGURE11)

OPERATION INSTRUCTIONS



WARNING! Never place a hand on the ends of the log, between the log and the end plate or the log and the splitting wedge.



WARNING! Only one operator permitted. The adult who loads and stabilizes the log, must be the person who operates the control handle.



WARNING! Never remove partially split wood from the wedge with your hands. Fingers may become trapped between the split wood.

SPLIT LARGE LOGS

When splitting a large log, or one in which the wood is extremely tough or stringy (such as elm), the first pass through the Splitter may not split the log into two sections. If this happens, turn the log and split off small sections. Repeat this process as necessary to split the entire log.

OPERATION TIPS

Always:

- 1 Follow the Checklist below each time you use your log splitter for optimum performance.
 - [] Check the general condition of the log splitters, e.g.: bolts, nuts, welds, clamps, hoses, etc.
 - [] Check hydraulic level in your tractor and fill as needed.
 - [] Check hydraulic hoses for cracks or wear.
 - [] Check the frame for stability.
 - [] Check the wedge for tightness, nicks and wear.
2. Bleed the air out of the hoses before operating.
3. Be alert and turn the Tractor off if children or pets enter the work area.
4. Use “pipe dope” on all hydraulic fittings.
5. Split wood along the grain (lengthwise) only.

Never:

1. Use when fluid is below 20° F or above 150° F.
2. Operate through relief valve for more than 5 seconds.
4. Attempt to adjust the unloading or relief valve settings.
5. Operate with air in hydraulic system.
6. Attempt to cut wood across the grain.
7. Attempt to remove partially split wood from the wedge with your hands. Use a hammer to knock it off.
8. Never allow children to operate the log splitter.

MAINTENANCE & ADJUSTMENTS



WARNING! Do not make any adjustments without first stopping the tractor engine, setting the brake, removing the key, disconnecting the hoses from the tractor hydraulic ports. Wait 10 minutes to allow all parts to cool down. Always wear safety glasses during operation or while performing any adjustments or repairs.

Beam and Splitting Wedge

Lubricate top, sides and bottom of the beam and where it comes into contact with the splitting wedge with engine oil before each use.

If the wedge becomes dull or nicked, it can be sharpened.

Moving around



WARNING! ALWAYS shut off your tractor hydraulic controls and your splitter controls to the “Neutral” position before moving the log splitter on your tractor. Failure to do so may lead to improper performance and compromise safety.



WARNING! Never attempt to move this machine on your tractor over hilly or uneven terrain without a tow vehicle or adequate help.

1. **ALWAYS** check before moving to make sure that the log splitter is correctly and securely attached to the three point hitches, and the hydraulic hoses to the pressure ports of tractor pump.
2. Lift the tractor 3-Point Hitch Arms to lift the log splitter the full height of the 3-Point Hitch range carefully for safely transport.
3. **ALWAYS** be careful when backing up with your log splitter behind your tractor. It could jackknife.

Off-Season Storage

If the log splitter will not be used for more than 30 days, prepare it for storage as follows:



WARNING! Never store the machine attached to the Tractor.

1. Clean the log splitter thoroughly.

NOTE: The use of pressure washers or a garden hose to clean the splitter is not recommended. They may cause damage to the bearings. The use of water will result in a shortened life and reduce serviceability.

2. Wipe the machine with an oiled rag to prevent rust, especially on the wedge and the beam.
3. Store the log splitter in a clean, dry area. Do not store it next to corrosive materials, such as fertilizer.

NOTE: If storing in an unventilated or metal storage shed, be certain to rustproof the equipment by coating it with a light oil or silicone.

TROUBLESHOOTING

Most problems are easy to fix. Consult the trouble shooting Table below for common problems and their solutions. If you continue to experience problems, contact us at www.boss-industrial.com, or call toll-free (800) 780 2677 for support.

If the machine should start making an unusual noise or vibration, shut down the tractor engine, wait 5 minutes for machine to cool down, then inspect for damage. Vibration is generally a warning of trouble. Check for damaged parts and clean, repair and / or replace as necessary.

Problem	Cause	Remedy
Cylinder rod will not move	<ol style="list-style-type: none"> 1. Shipping plugs left in hydraulic hoses. 2. Damaged relief valve. 3. Hydraulic lines blocked. 4. Incorrect oil level of your tractor. 5. Damaged control valve. 6. Blocked control valve. 7. Hoses connected to the wrong ports. 	<ol style="list-style-type: none"> 1. Disconnect hydraulic hoses, remove shipping plugs, and reconnect hoses. 2. See authorized service dealer. 3. Flush and clean hydraulic system. 4. Check oil level. 5. See authorized service dealer. 6. Flush and clean hydraulic system 7. Swap hose connections.
Slow cylinder shaft speed while extending and retracting	<ol style="list-style-type: none"> 1. Damaged relief valve. 2. Incorrect oil level of your tractor. 3. Contaminated oil. 4. Control valve leaking internally. 5. Internally damaged cylinder. 6. Excessive air in the hoses. 	<ol style="list-style-type: none"> 1. See authorized service dealer. 2. Check oil level. 3. Drain oil, clean reservoir and refill. 4. See authorized service dealer. 5. See authorized service dealer 6. Operate the control handle several times to repel the air.
Leaking Cylinder	<ol style="list-style-type: none"> 1. Worn seals. 2. Scored cylinder. 	<ol style="list-style-type: none"> 1. See authorized service dealer. 2. See authorized service dealer.
Wood will not split or wood splits too slowly	<ol style="list-style-type: none"> 1. Tractor throttle set too low. 2. Incorrect oil level of your tractor. 3. Contaminated oil. 4. Control valve leaking internally. 5. Overloaded cylinder. 6. Internally damaged cylinder. 7. Excessive air in the hoses. 	<ol style="list-style-type: none"> 1. Adjust Tractor throttle. 2. Check oil level. 3. Drain oil, clean reservoir and refill. 4. See authorized service dealer. 5. Do not attempt to split wood against the grain. 6. See authorized service dealer. 7. Operate the control handle several times to repel the air.
Wedge continues to move forward when control handle is released	<ol style="list-style-type: none"> 1. Damaged control valve 	<ol style="list-style-type: none"> 1. See authorized service dealer.
Control handle does not return to neutral when released from forward position	<ol style="list-style-type: none"> 1. Hydraulic fluid too cold. 2. Hydraulic fluid too thick. 3. Hydraulic fluid contaminated. 4. Damaged control valve. 	<ol style="list-style-type: none"> 1. Warm up engine. 2. Replace hydraulic fluid. 3. Replace hydraulic fluid. 4. See authorized service dealer.

SPECIFICATIONS

Model		3PT16T21
Engine		Tractor dependent
Tractor Requirements		Category 1 (2500 to 3200 PSI)
Cylinder (Bore x Stroke)		3 in. x 19 in.
Maximum Splitting Force		16 Tons*
Maximum Log Length		20.5 in.
Wedge Height		6.5 in.
Cycle Time	Forward	3.5 Seconds*
	Reverse	4 Seconds*
Net Weight		198 lbs

*Splitting force is determined by Splitter cylinder size and Tractor PSI. Cycle time depends on Splitter cylinder size and GPM that Tractor produces. Mechanical and environmental conditions could also influence the splitting force and cycle time.



WARNING! Before purchasing this 3-Point Hitch log splitter, make sure your Tractor ideally Produces the hydraulic flow of 8 – 11 GPM at the pressure ratings of 2000 to 3200 PSI. **DO NOT exceed 3700 PSI.** The tractor pressure ratings can be found at the tractor manufacturer's manual. Exceeding the recommended pressure rating will damage the equipment, and void the warranty.

WARRANTY

LIMITED WARRANTY STATEMENT

Boss Industrial, Inc., ("Boss Industrial") warrants to the original retail purchaser that this BOSS brand outdoor product is free from defect in material and workmanship and agrees to repair or replace, at Boss Industrial's, discretion, any defective product free of charge within these time periods from the date of purchase.

- Two years for all models if used for personal, family, or household use;
- 90 days for any unit used for other purposes, such as rental or commercial.

This warranty extends to the original retail purchaser only and commences on the date of the original retail purchase.

Any part of this product manufactured or supplied by Boss Industrial and found in the reasonable judgment of Boss Industrial to be defective in material or workmanship will be repaired or replaced without charge for parts and labor by a Boss Industrial authorized service center. **How to process a warranty claim? You must first call the BOSS INDUSTRIAL service hotline 1 800 780 2677. Our technical team will guide you in trouble shooting, repairing, or returning a defective part or machine. Any unauthorized repair or return without a valid Return Authorization Number from Boss Industrial will invalidate this warranty.** The expense of delivering the product to the dealer for warranty work and the expense of returning it back to the owner after repair or replacement will be paid by the owner. Boss Industrial's responsibility in respect to claims is limited to making the required repairs or replacements and no claim of breach of warranty shall be cause for cancellation or rescission of the contract of sale of any BOSS brand product. Proof of purchase will be required by the dealer to substantiate any warranty claim. All warranty work must be performed by a Boss Industrial authorized service center.

This warranty is limited to ninety (90) days from the date of original retail purchase for any Boss Industrial brand product that is used for rental or commercial purposes, or any other income-producing purpose.

This warranty does not cover any BOSS brand product that has been subject to misuse, neglect, negligence, or accident, or that has been operated in any way contrary to the operating instructions as specified in this operator's manual. This warranty does not apply to any damage to the product that is the result of improper maintenance or to any product that has been altered or modified. The warranty does not extend to repairs made necessary by normal wear or by the use of parts or accessories which are either incompatible with the BOSS brand product or adversely affect its operation, performance, or durability. In addition, this warranty does not cover:

- A. Tune-ups – Spark Plugs, Carburetors, Adjustments, Ignition, Filters
- B. Wear items – Tires, nylon liners, rubber seals, hydraulic oil, etc...
- C. Gas Engines – as they are covered under the Engine Manufacturers' Warranty.

Boss Industrial reserves the right to change or improve the design of any BOSS brand product without assuming any obligation to modify any product previously manufactured.

ALL IMPLIED WARRANTIES ARE LIMITED IN DURATION TO THE STATED WARRANTY PERIOD. ACCORDINGLY, ANY SUCH IMPLIED WARRANTIES INCLUDING MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, OR OTHERWISE, ARE DISCLAIMED IN THEIR ENTIRETY AFTER THE EXPIRATION OF THE APPROPRIATE TWO-YEAR, ONE-YEAR, OR NINETY-DAY WARRANTY PERIOD. BOSS INDUSTRIAL'S OBLIGATION UNDER THIS WARRANTY IS STRICTLY AND EXCLUSIVELY LIMITED TO THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS AND BOSS INDUSTRIAL DOES NOT ASSUME OR AUTHORIZE ANYONE TO ASSUME FOR THEM ANY OTHER OBLIGATION. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU. BOSS INDUSTRIAL ASSUMES NO RESPONSIBILITY FOR INCIDENTAL, CONSEQUENTIAL, OR OTHER DAMAGES INCLUDING, BUT NOT LIMITED TO, EXPENSE OF RETURNING THE PRODUCT TO AN AUTHORIZED BOSS INDUSTRIAL SERVICE CENTER AND EXPENSE OF DELIVERING IT BACK TO THE OWNER, MECHANIC'S TRAVEL TIME, TELEPHONE OR TELEGRAM CHARGES, RENTAL OF A LIKE PRODUCT DURING THE TIME WARRANTY SERVICE IS BEING PERFORMED, TRAVEL, LOSS OR DAMAGE TO PERSONAL PROPERTY, LOSS OF REVENUE, LOSS OF USE OF THE PRODUCT, LOSS OF TIME, OR INCONVENIENCE. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state. This warranty applies to all BOSS brand products manufactured by or for Boss Industrial and sold in the United States.



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