



M1103D

ITEM NUMBER: 1103

SERIAL NUMBER: _____

Owner's Manual

3 Point Log Splitter: Category 1&2 tractor implement that splits wood logs. Uses tractor's auxiliary hydraulics.

WARNING

READ and UNDERSTAND this manual completely before using log splitter.

All operators of this equipment must read and completely understand all safety information, operating instructions, maintenance and storage instructions. Failure to properly operate and maintain the log splitter could result in serious injury to the operator or bystanders from moving parts that can crush or cut, flying objects, escaping high pressure hydraulic fluid, fire, or carbon monoxide poisoning. In particular, be aware of the following hazards:

Crush and Cut Hazards

Moving parts can crush and cut hands and fingers. Keep hands clear of endplate, wedge, and logs while splitting.

High Pressure Hydraulic Fluid Hazards

High fluid pressures and temperatures are developed in hydraulic log splitters. Hydraulic fluid escaping through even a pin-size hole opening can puncture skin and cause severe blood poisoning. Inspect hydraulic system regularly for possible leaks. Never check for leaks with your hand while the system is pressurized. Seek medical attention immediately if injured by escaping fluid.

Fire Hazards

- Keep a fire extinguisher with you that is rated for ordinary combustibles and flammable liquids if you will be using your log splitter near any ignitable forest, brush, or grassy covered land.

STOP!

READ YOUR TRACTOR MANUAL TO DETERMINE HOW TO HOOK UP TO TRACTOR HYDRAULICS:

There are many variations of auxiliary hydraulic connections on tractors. Read your tractor manual or check with you local dealer to determine how to properly connect the log splitter to your tractor's auxiliary hydraulics.

HYDRAULIC CONNECTION HOSES NOT INCLUDED: You need to provide your own supply and return hoses for connecting the log splitter to your tractor's auxiliary hydraulic connections. See p. 9 for instructions on determining the type and length of hoses you will need.

DETERMINE TRACTOR RPM THAT WILL PRODUCE NO MORE THAN 11 GPM HYDRAULIC FLOW RATE: Your tractor's engine speed will determine the flow rate, and it is unsafe to operate the log splitter at a flow rate higher than 11 GPM. You should read your tractor manual in advance to know how to keep the flow rate at or below 11 GPM before you operate the log splitter.

Any Questions, Comments, Problems or Parts Orders

Call NorthStar Customer Service 1-800-270-0810

Hazard Signal Word Definitions

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	DANGER (red) indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	WARNING (orange) indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION (yellow) indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
	CAUTION (yellow) used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

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Table of Contents

About Your Log Splitter	4
Safety Label Locations.....	5
Machine Component Identification	7
Initial Unpacking & Set-Up.....	8
Connecting to Tractor & Transporting to Job Site.....	9
Before Each Use:	
Step One: Inspection / Maintenance	12
Step Two: Work Site Selection & Set-Up	14
Splitting Operation.....	15
Storage.....	22
Troubleshooting.....	23
Specifications	24
Parts Breakdown- Exploded View	25
Summary of Important Safety Information for Operation.....	26

Safety Label Locations

Thank you for purchasing your Northstar log splitter.

About Your Log Splitter

This log splitter is a machine designed to split wood logs using a hydraulically powered moving wedge. The log splitter is connected to and powered by your tractor's hydraulic system.

This log splitter is designed to split logs *up to 24" long and 16" in diameter, lengthwise with the grain only.*

Your splitter can be used in either a vertical or horizontal splitting position:

- When the splitter is set up to operate in the horizontal splitting position, a log is placed on the horizontal beam and the wedge moves horizontally into the end of the log to split it.
- When the splitter is set up to operate in the vertical splitting position, the log is placed on the endplate, upright on its end, and the wedge moves down into the top of the log to split it.

The horizontal splitting position is used for lighter logs that can be easily loaded onto the beam. The vertical splitting position is used for heavier logs that are difficult to load onto the beam.

The technical specifications for your log splitter are provided on p. 22 of this manual.

WARNING

This log splitter uses a high pressure hydraulic system to generate a very strong splitting force. Read the manual completely before using the machine to understand how to safely operate and maintain it.

Follow all safety precautions presented throughout this manual. A summary of important safety information can be found at the end of the manual.

Contact Northstar Customer Service at 1-800-270-0810 for any questions about the appropriate use of this log splitter and/or optional accessories.

Warranty Registration:

Please fill out and submit the warranty registration card so that we have your contact information for any future product literature or replacement parts you may need.

Attention: All Rental Companies and Private Owners who loan this equipment to others!
All persons to whom you rent/loan the log splitter must have access to and read this manual. Keep this owner's manual with the splitter at all times and advise all persons who will operate the machine to read it. You must also provide personal instruction on how to safely operate the splitter and remain available to answer any questions a renter/borrower might have.

Safety Label Locations

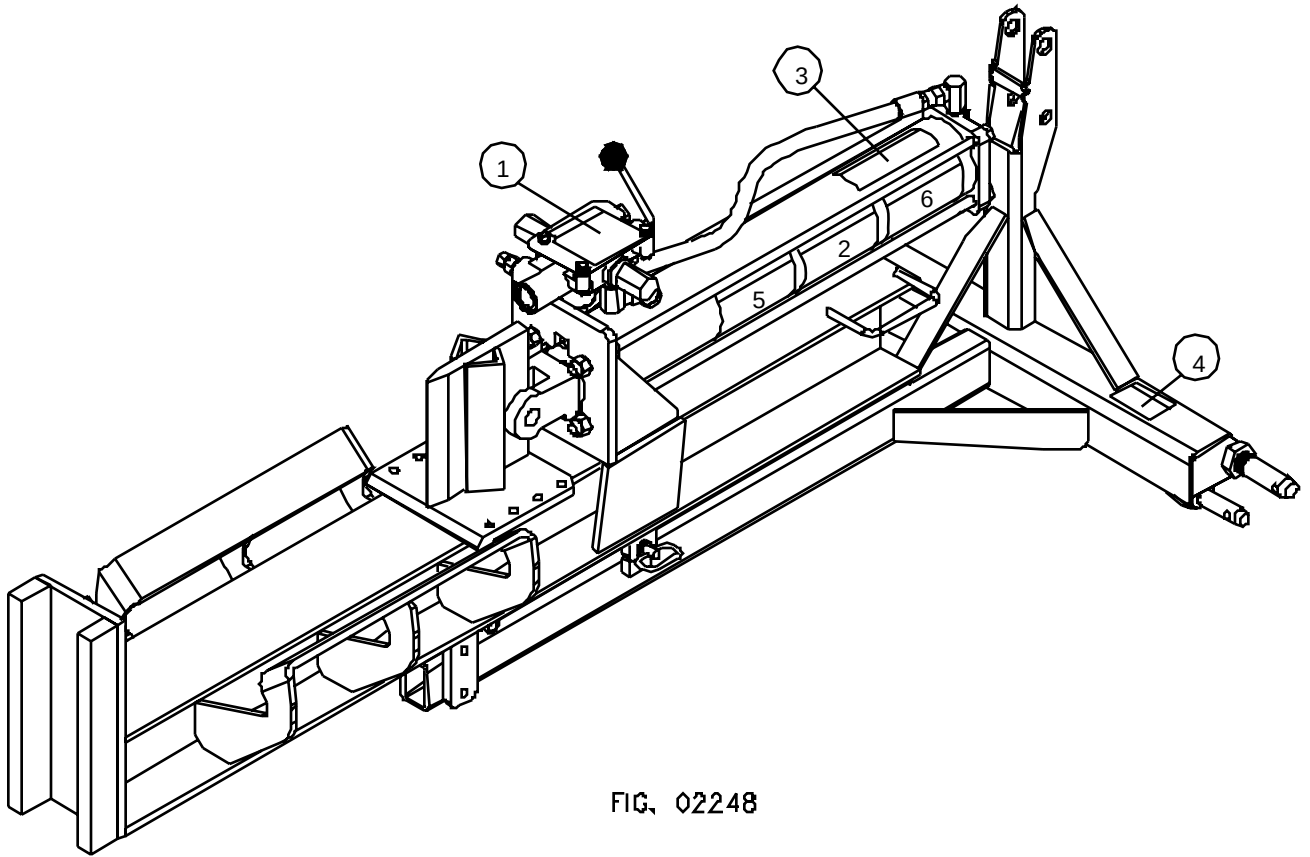


FIG. 02248

Reference number	Part Number	Description
1	777886	Splitter Warning Decal
2	777897	Moving/Towing Decal
3	777891	Hydraulic Fluid Warning Decal
4	39259	Warning Decal
5	777887	Splitter Operating Instruction Decal
6	777889	Stuck Log Warning Decal

Always make sure safety labels are in place and in good condition. If a safety label is missing or not legible, order new labels or unsafe operation could result.

Safety Label Locations

1

SPLIT CONTROL LEVER OPERATION

Split Log ← N → Return
Neutral

⚠ WARNING

Moving parts can crush and cut. Pieces can fly out while splitting. Follow safety rules for operating the log splitter or serious injury could result.

- READ the Owner's Manual completely before operating.
- Only one person should operate the log splitter. If an assistant is helping to load logs, the operator should not actuate controls until the assistant is at least 10 ft away.
- Stay in the designated OPERATOR POSITION while actuating the controls.
- Split wood in direction of the grain only.
- Hold bark side of logs when loading.
- Keep hands away from wedge, endplate/arm, and partly split logs.
- Never leave log splitter unattended during operation.
- Stay off slopes and slippery surfaces.

See additional safety rules in the Owner's Manual.

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2

CONNECTING TO TRACTOR/DRIVING WITH LOG SPLITTER ATTACHED

Connecting to Tractor:

- Engage tractor parking brake.
- Lock beam in horizontal position (tip-up models only).
- Secure lower hitch stud to tractor's lower link with hitch pins.
- Secure upper hitch stud to tractor's upper link with hitch pin.
- Connect hydraulic hose from tractor supply port to connection at top of splitter control valve.
- Connect second hydraulic hose from tractor return port to connection at bottom of splitter control valve.

Driving with Log Splitter Attached:

- Read tractor manual for instructions on driving with 3-point hitch mounted implement attached.
- Drive slowly and with extra caution, especially on rough or sloped terrain.
- If you will be driving at speeds slower than 25MPH on public roads, it is recommended that you display a "Slow Moving Vehicle" (SMV) emblem. Between 25 and 40 MPH, a "Speed Identification Symbol" (SIS) is sometimes also required. SMV and SIS signs are generally available at farm equipment dealers.
- Check local, state, and federal vehicle requirements before driving on public roads.
- Engage parking brake before operating log splitter.

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3

⚠ WARNING

ESCAPING HIGH PRESSURE HYDRAULIC FLUID HAZARD

High fluid pressures and temperatures are developed in the hydraulic system. Hydraulic fluid escaping through even a pinhole hole opening can puncture skin and cause blood poisoning.

- Inspect hydraulic system regularly for leaks.
- Never check for leaks with your hand while system is pressurized.
- Seek medical attention immediately if injured by escaping fluid.

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4

⚠ WARNING

POISONOUS GAS

This product's use gives off carbon monoxide, an odorless gas that can kill you.

- ONLY use outdoors and away from air intakes.
- NEVER use inside homes, garages, or sheds. EVEN IF you run a fan or open doors and windows.

See product manual for more details.

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5

OPERATING INSTRUCTIONS

GENERAL:

- Stay in the OPERATOR POSITION while actuating controls.
- Never actuate controls until the helper is 10ft away from log splitter, including any helpers assisting to load logs.
- Wear eye protection, hearing protection, snug fitting gloves, and safety shoes or heavy boots. No loose or dangling apparel.

SETTING UP

- Place log splitter on dry, level ground.
- Secure splitter for unintended movement.
- Place splitter in horizontal or vertical position.
- Start engine.

SPLITTING LOG

- Position log on beam, against endplate.
- Move split control to extend wedge and split log.
- Release split control to stop wedge.
- Move split control to return wedge.
- Remove split wood from work area.

Operator Position - horizontal

Operator Position - vertical

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6

⚠ WARNING

IF LOG BECOMES STUCK ON WEDGE

A log can become stuck to the wedge if the wedge becomes embedded in the log and the log doesn't split and separates. This can happen if the log is too stringy or tough to split completely.

A stuck log will move back with the wedge on the initial attempt to retract the wedge. If this happens, STOP retracting the wedge immediately and follow the directions below.

NEVER attempt to remove a stuck log by:

- Using the hydraulic force of the splitter
- Modifying the splitter
- Adding attachments to the splitter

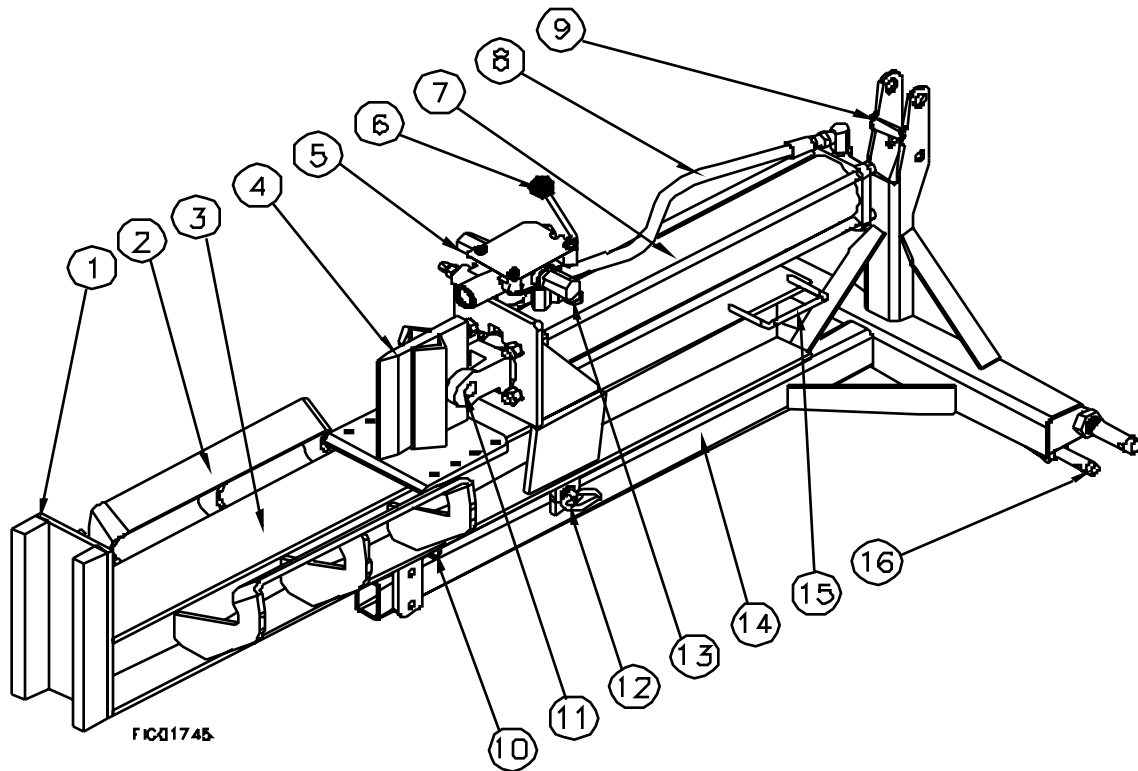
Personal injury could result from log or metal pieces flying out at high speed toward the operator or bystanders, or the splitter could become damaged.

ALWAYS remove the log MANUALLY using the following procedure:

1. If there is already 1" or more of clearance between the log and endplate, go to step 2. Otherwise, retract wedge just enough to remove pressure between the log and endplate - about 1" clearance.
2. Turn engine OFF.
3. Remove stuck log from the wedge manually with a pry bar or sledgehammer. Important: Be extremely careful as log pieces may fly off as they separate from the wedge. Wear safety goggles and make sure bystanders are clear.
4. Do not attempt to resplit a stuck log once it has been removed from the wedge.

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Machine Component Identification



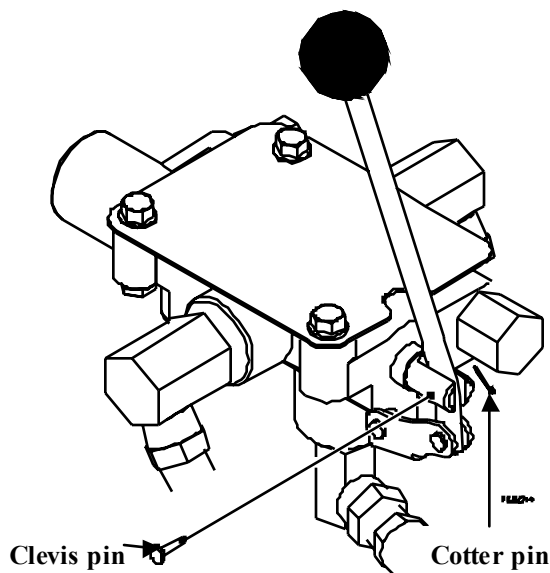
- 1.) **Endplate.** The endplate and log cradle help stabilize logs before splitting them.
- 2.) **Log Cradle.** Keeps the log on the beam without operator assistance
- 3.) **Beam.** The beam is made of 6" wide flange beam (also called I-Beam or H-Beam).
- 4.) **Wedge.** The wedge features wedge wings that make splitting easier.
- 5.) **Hydraulic Supply Port.** The hydraulic supply hose from the tractor connects here. This is a 1/2"NPT threaded connection.
- 6.) **Control Valve Handle.** Use the control valve handle to move the wedge forward and backward.
- 7.) **Hydraulic Cylinder.** The hydraulic cylinder has a 4" bore and a 24" stroke. It is rated to 2500 PSI.
- 8.) **Work Port Hose.** This hose directs hydraulic oil to the rear work port making the cylinder extend to split the wood.
- 9.) **Mast.** Use the mast to attach the splitter to the upper link on your 3 point hitch. It is equipped with two holes so it will fit both category one and two hitches.
- 10.) **Vertical Lock Point.** Insert the hitch pin into this location to lock the log splitter into vertical splitting position.
- 11.) **Cylinder Clevis.** The cylinder clevis is used to attach the cylinder to the splitting wedge.
- 12.) **Horizontal Lock Point.** Insert the hitch pin into this location to lock the log splitter into horizontal splitting position.
- 13.) **Hydraulic Return Port.** The hydraulic return hose from the tractor connects here. This is a 1/2"NPT threaded connection.
- 14.) **Subframe.** The subframe is made of high strength structural tubing.
- 15.) **Handle.** The handle assist in lifting the log splitter to the vertical position.
- 16.) **Lower Hitch Studs.** Use the lower hitch studs to attach the log splitter to your tractor's lower links. There are two sets of pins provided so the splitter will fit both category one and two hitches.

Connecting to Tractor & Transporting to Job Site

Step 1: Secure split control valve lever

Secure split control valve lever.

1. Split control lever is shipped taped to the hydraulic cylinder. Untape to release.
2. Raise lever to align lever hole with two holes on control valve bracket.
3. Insert clevis pin into aligned holes. Insert cotter pin in hole at end of clevis pin to prevent clevis pin from slipping out. Spread ends apart on cotter pin.



Step Two: Inspect log splitter components

Closely inspect all log splitter components. (See Machine Components Identification section of this manual on p. 6 for diagram of components.)

- If you have missing components, contact Customer Service at 1-800-270-0810.
- If you have damaged components, contact freight company that delivered the unit and file a claim.

Step Three: Lubricate slide rail beam

Lubricate the surface of the slide rail beam with engine oil.

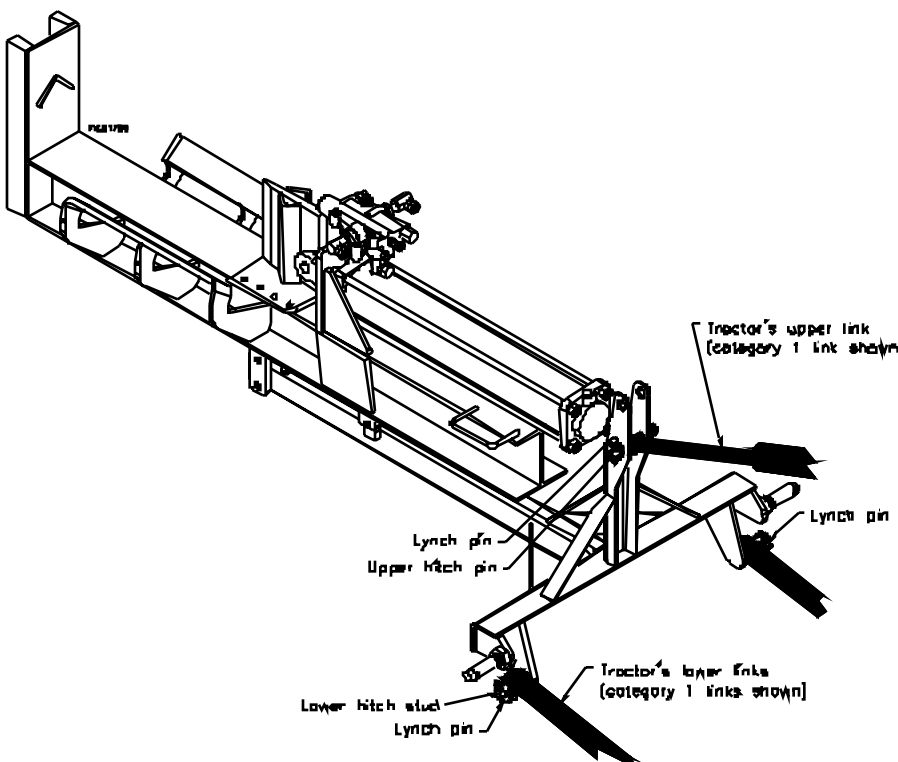
This will help prevent wear between the slide plates and beam.

Connecting to Tractor & Transporting to Job Site



WARNING

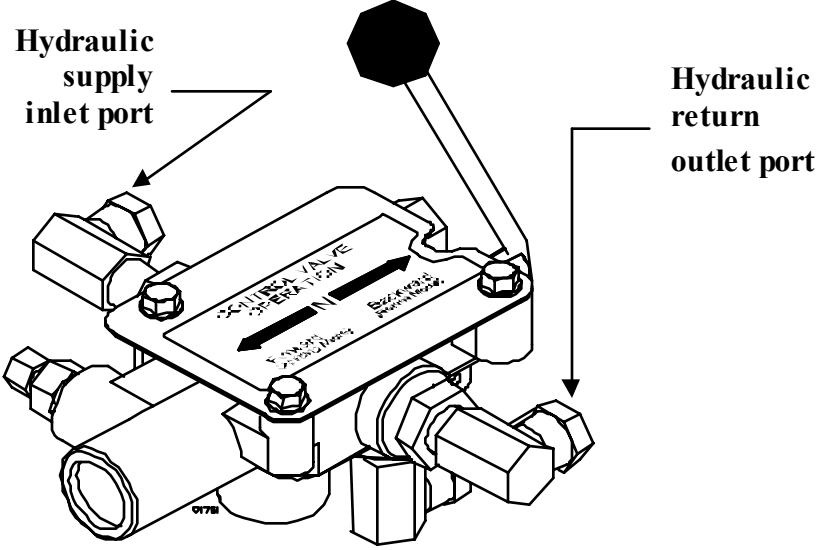
The log splitter must be correctly mounted and then attached to the tractor hydraulic system for safe operation. Follow the instructions below for safely mounting and connecting the log splitter.

1. Read instructions	Review your tractor manual or check with your dealer for instructions and safety information about how to properly connect the log splitter to your tractor's hydraulics. Since there are many variations of hydraulic connections on tractors, ensuring a correct hook-up to your tractor is your responsibility.
2. Lock beam in horizontal position	Ensure the beam is locked in the horizontal position before attaching splitter to the tractor.
3. Tractor off & Parking brake Engaged	Turn off the tractor and engage the parking brake before attaching the log splitter.
1. Attach to tractor 3-point hitch links	Attach log splitter to tractor's 3-point hitch links. 1. Connect the tractor's lower link to the lower hitch studs of the log splitter.. Secure with lynch pins. 2. Connect the tractor's upper link to the upper hitch pin of the log splitter. Secure with lynch pin. 



WARNING:

Connecting to Tractor & Transporting to Job Site

	An improperly attached log splitter could become dislodged during transportation or operation, which could result in serious injury to the operator or bystanders. Do not drive the tractor or operate the log splitter until you are sure the log splitter is properly attached and hitch pins are fully engaged.
5. Measure & cut hydraulic hoses to correct length	Measure & cut hydraulic hoses to the appropriate length for connecting log splitter hydraulics to tractor. 1. You will need to supply two ½" hydraulic hoses rated for 3000 psi with male, ½" NPT threaded ends. 2. Measure the distance from your tractor's hydraulic supply port to the connection at the top of the log splitter's control valve. 3. Measure the distance from your tractor's hydraulic return port to the connection at the bottom of the log splitter's control valve. 4. Cut two hydraulic hoses to an appropriate length for making these connections. Make sure there is sufficient, but not excessive, length such that hoses will not stretch, bind, kink, or dangle.  The diagram shows a log splitter control valve with a handle. Two ports are labeled: 'Hydraulic supply inlet port' at the top and 'Hydraulic return outlet port' at the bottom. The valve has a central handle with a black knob. The valve body is labeled 'CONTROL VALVE' and 'OPERATION'. There are also labels for 'Pressure' and 'Flow direction'. The valve is connected to a hydraulic cylinder, which is labeled '9778'.
6. Connect hydraulic hoses	Connect the hydraulic hoses: 1. Connect one hose from the tractor's hydraulic supply port to the connection at the top of the log splitter's control valve. 2. Connect the second hose from the tractor's return port to the connection at the bottom of the log splitter's control valve. 3. Check to be sure that all fittings are tight. ⚠️ WARNING: Make sure all fittings are tight before applying pressure. High fluid pressures and temperatures are developed in the hydraulic system. Hydraulic fluid escaping through even a tiny opening can burn or puncture skin, resulting in wounds that could cause blood poisoning, infection, disability, gangrene, amputation, or death. If injured by escaping fluid, no matter how small the wound is, see a doctor at once.

Transporting log splitter to the job site:

Connecting to Tractor & Transporting to Job Site

WARNING

Serious injury can occur if the tractor on which the log splitter is mounted is driven unsafely.

- | | |
|--|---|
| 1. Lock splitter in horizontal position | Always ensure the log splitter is locked in the horizontal position before transporting.
The tractor will be more stable while transporting the splitter if the splitter is in the horizontal position. Additionally, the splitter is less likely to be damaged. |
| 2. Drive to desired location | Drive tractor and log splitter carefully to desired work site.
(See instructions on p. 13 on selecting an appropriate work site)

<u>Important safety instructions:</u> <ul style="list-style-type: none">• Read tractor instructions. Review safety instructions in your tractor manual with regard to driving with 3-point hitch mounted equipment attached.• Securely attached. Be sure splitter is securely attached before transporting.• Added length. Be aware of the added length of the splitter.• Reduced road stability. Be aware that heavy, 3-point hitch mounted equipment can reduce road stability, regardless of the amount of front-end counterweight added. Drivers should take extra caution when driving with the log splitter attached. Reduce your speed and take extra caution during turns or while driving on rough or sloped terrain.• No riding or cargo on splitter. Never ride or transport cargo on the log splitter.• On public roads. If transporting the log splitter on a public road, make sure to comply with all local, state, and federal requirements.• Unattended. Turn off the tractor before leaving the splitter unattended.• Under the influence. Never tow or operate this splitter while under the influence of alcohol, drugs, or medication. |
| 3. Engage parking brake | Make sure the tractor's parking brake is engaged before operating the log splitter.

 WARNING: If the parking brake is not engaged, the tractor could roll while you are operating the log splitter. Personal injury could result. Always engage the parking brake before leaving the tractor while the splitter is attached. |

Before Each Use – Inspection / Maintenance

Step One: Inspect and maintain log splitter before each use.

If the log splitter has been used previously, it must be inspected and maintained BEFORE EACH SUBSEQUENT USE.

WARNING

ALWAYS shut off the tractor, relieve system pressure, and disconnect hydraulic lines before inspecting, cleaning, adjusting, or repairing the splitter. Relieve system pressure by moving Split Control Lever back and forth several times.

IMPORTANT:

If a part needs replacement, only use parts that meet the manufacturer's specifications. Replacement parts that do not meet specifications may result in a safety hazard or poor operation of the log splitter.

1. Tractor off / relieve hydraulic pressure	Perform all inspections/repairs with the tractor off and hydraulic system pressure relieved. 1. Turn off tractor engine. 2. Relieve all hydraulic system pressure by moving the Split Control Lever and the tractor hydraulic control valve handle back and forth several times. 3. Disconnect the hydraulic lines.
2. Remove debris	Remove debris from moving parts. Debris on moving parts can cause excess wear. Clear debris from the slide beam wedge, and endplate.
3. Mechanical parts	Check to be sure all nuts and bolts are tight to make sure the log splitter is in safe working condition.
4. Hydraulic Components	Check the hydraulic components carefully: 1. Visually inspect all hoses and clamps/fittings for cracks, fraying, kinks, or other damage. 2. Check all components for oily residue, which may indicate a leak. Do NOT operate the log splitter if there is any indication of damage or oily residue. Small leaks in hydraulic lines can cause severe injuries and can also be an indication of catastrophic failure in the near future. The life of hydraulic hoses may be from a few months to a few years, depending on use and storage patterns.  WARNING: High fluid pressures and temperatures are developed in hydraulic log splitters. Hydraulic fluid escaping through a pin hole sized opening can burn or puncture skin, resulting in wounds that could cause blood poisoning, infection, disability, gangrene, amputation, or death. Therefore, the following instructions should be heeded at all times when inspecting or servicing the hydraulic components of the log splitter: • Stop the engine and move all control valve handles back and forth to relieve pressure before changing or adjusting hydraulic system components such as hoses, tubing, fittings or other components. • NEVER check for leaks with your hand. Leaks can be located by holding a piece of cardboard or wood (at least two feet long) with your hand at one end and passing the other end over the suspected area (wear eye protection). Look for discoloration of the cardboard or wood. • If injured by escaping fluid, no matter how small the wound is, see a doctor at once. A typical injection injury may be a small puncture wound that does not look serious.

Before Each Use – Inspection / Maintenance

	However, severe infection or reaction can result if proper medical treatment is not administered immediately by a doctor who is familiar with injection injuries.
5. Shields / guards	Replace all guards and shields after servicing the log splitter.

Before Each Use – Work Site Selection & Set-Up

Step Three: Work site and log splitter set-up.



WARNING

It is important to select an appropriate work site and properly set up the log splitter in order to minimize the risk of slips and falls, equipment rolling or tipping over, carbon monoxide poisoning, and accidental fires.

1. Select location	Select an appropriate location for operating the log splitter. <u>Requirements:</u> 1. Dry, level surface with good footing. Stay clear of areas with mud, ice, tall grass, weeds, or brush. 2. Outdoors, away from air intakes. ⚠️ WARNING: The running tractor engine gives off carbon monoxide, a poisonous gas that can kill you. You CANNOT smell it, see it, or taste it. • ONLY run log splitter <u>OUTDOORS</u> and away from air intakes. NEVER run log splitter inside homes, garages, sheds, or other buildings or semi-enclosed spaces. These spaces can trap poisonous gases, EVEN if you run a fan or open windows. • If you start to feel sick, dizzy, or weak while using the log splitter, shut off the engine and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.
2. Fire precautions	Take the following precautions against fire: Keep a fire extinguisher available (classified for both ordinary combustibles & flammable liquids) as a precautionary measure when operating the log splitter in dry areas.
3. Position 7' from any combustibles or flammable liquids	Position tractor exhaust and other hot elements of the tractor engine at least 7 ft. from combustible objects during splitter operation. Hot exhaust fumes from tractor engine could cause fire.
4. Engage parking brake	Make sure the tractor's parking brake is engaged before operating the log splitter. ⚠️ WARNING: If the parking brake is not engaged, the tractor could roll while you are operating the log splitter. Personal injury could result.

Splitting Operation



WARNING

Before starting the log splitter, review the following instructions and safety information for safe operation.

Failure to follow these rules may result in serious injury to the operator or bystanders from moving parts that crush, cut, or entangle; from flying objects, fire, falling or tripping; or from carbon monoxide poisoning.

General safety information:

- **Read manual.** Do not allow anyone to operate the log splitter who has not read the Owner's Manual or has not been instructed on the safe use of the splitter. The log splitter owner should instruct all operators in safe log splitter operation.
- **Age restrictions.** Never allow anyone under 16 years old to operate the log splitter. Children 16 years and older must be trained and supervised by a trained adult.
- **Intended use.** Log splitters should only be used for splitting wood logs, lengthwise with the grain. Do not use for other purposes as unforeseen hazards may result.
- **Modifications.** Never modify or alter the log splitter in any way. Modifications can create serious safety hazards and will void the warranty:
 - **Attachments.** Never add attachments to the splitter, except for authorized accessories supplied by the manufacturer with instructions for safe installation and use.
 - **Remote control.** NEVER attach a rope, cable, or other remote device to the splitting control.
 - **Splitting wedge.** NEVER attempt to change the height or speed of the splitting wedge.
- **Safety equipment / controls.** Always operate the log splitter with all safety equipment in place and in good working order, and all controls properly adjusted for safe operation.
- **Know how to stop.** Be thoroughly familiar with all controls and with the proper use of the equipment. Know how to stop the log splitter and relieve system pressures quickly if needed.
- **Operating speed.** Always operate the log splitter at the manufacturer's recommended speed. Adjust the tractor engine speed so the flow rate does not exceed 11 GPM (see tractor specifications for determining relationship between flow rate and engine speed.) Higher flow rates make the beam slide move dangerously fast.
- **Daylight only.** Only use the log splitter in daylight so you can see what you are doing.
- **Smoking / sparks.** Never smoke while operating the log splitter, and never operate near sources of sparks or flames.
- **Under the influence.** Never operate, or let anyone else operate, the log splitter while under the influence of alcohol, drugs, or medication.
- **Unattended.** Never leave the machine unattended while the engine is running.
- **Adjusting / repairing.** Turn the tractor off before cleaning, repairing, or adjusting the log splitter. Before changing or adjusting hydraulic system components such as hoses or fittings, first relieve hydraulic line pressure by moving the Split Control Lever and the tractor hydraulic control valve handles back forth several times, and then disconnect hydraulic lines.
- **Replace labels.** Always make sure safety labels are in place and in good condition. If a safety label is missing or not legible, order new labels because unsafe operation can result. Call 1-800-270-0810 to order new safety labels.

Splitting Operation

1. Put on protective clothing / gear

Wear the following protective clothing and safety gear:

- Eye protection.** Always wear safety glasses or goggles when operating the machine. Pieces of log may fly out and serious eye injury can occur.
- Boots.** Falling logs can crush feet. Always wear safety shoes or heavy boots when operating or helping to load logs.
- Gloves.** Wear snug fitting gloves without draw strings or loose cuffs.
- Hearing protection.** The use of ear plugs or other hearing protection device is recommended.
- No Loose / dangling.** Loose or dangling apparel can become entangled in moving parts. Never wear jewelry or loose-fitting clothing.

2. Engage parking brake

Secure log splitter from unintended movement – make sure the tractor's parking brake is engaged before operating the log splitter.



WARNING: If the parking brake is not engaged, the tractor could roll while you are operating the log splitter. Personal injury could result.

3. Set to horizontal or vertical

Set log splitter into either the horizontal or vertical splitting position

The HORIZONTAL splitting position is used for lighter logs that can be easily loaded onto the beam. The VERTICAL splitting position is used for light logs as well as heavy logs that are difficult to load onto the beam.

Note:

Musculoskeletal injury can result from lifting logs onto the log splitter if proper lifting techniques are not used or the logs are too heavy for a person's size, weight, or strength. In some cases, logs as small as 8" in diameter and 14" in length may be heavier than what some persons should be repeatedly lifting onto the splitter.

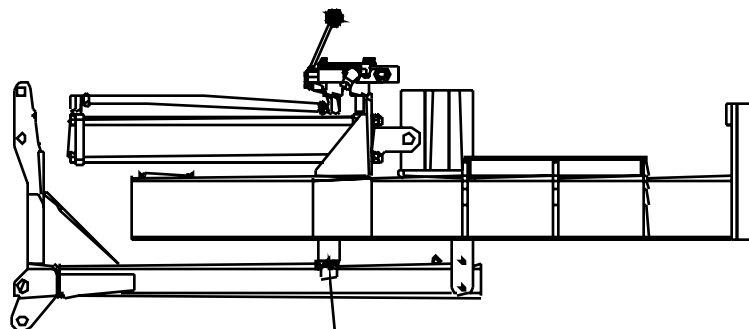
The use of the vertical splitting position can greatly reduce the need to lift logs onto the splitter. Employers are advised to consider NIOSH lifting guidelines when assigning employees to log splitting tasks for an extended period of time.



WARNING: NEVER change splitting positions with the engine running. You may contact the muffler and receive serious burns.

- Set to horizontal Position

Make sure beam is locked securely in the horizontal position with the hitch pin.



Hitch Pin

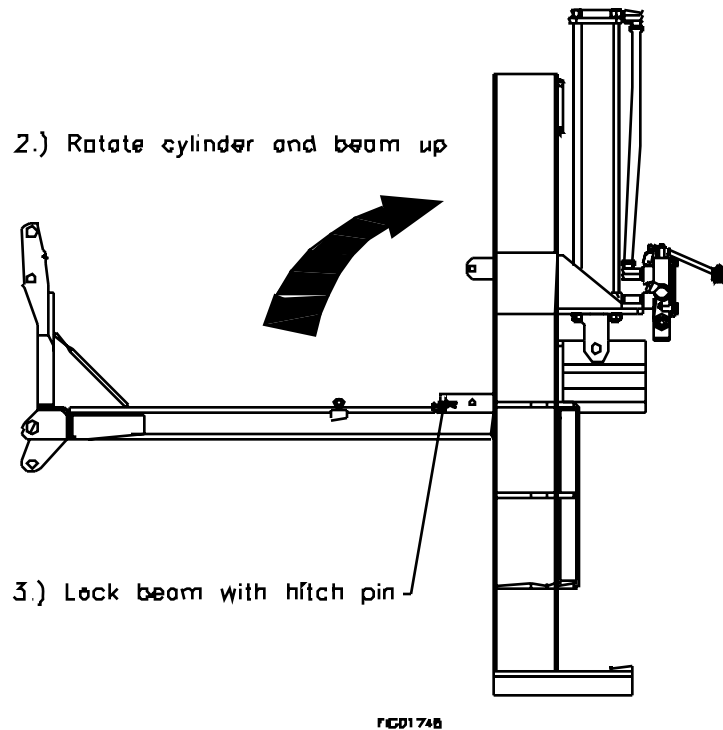
- Set to vertical

Splitting Operation

position

1) Set in vertical position using following steps:

- Unlock beam by removing hitch pin.
- Rotate cylinder and beam until beam is vertical (NOTE: beam is heavy).
- Lock into position with hitch pin again.



2) To return to horizontal position:

- Unlock beam by removing hitch pin.
- Rotate cylinder and beam down carefully in a controlled manner until beam is horizontal.
- Lock beam in horizontal position with hitch pin.

⚠ WARNING: Crush hazard. The beam is heavy- do not let it just drop. It could crush fingers or cause damage to the splitter.

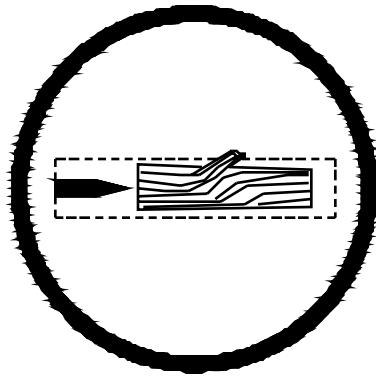
4. Load log

Load log onto beam with a cut end against the endplate – positioned for a lengthwise cut.

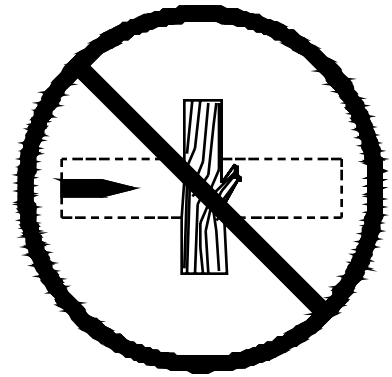
NOTES:

- The log splitter is designed only for cutting lengthwise with the grain NOT for cutting across the grain.
- This log splitter is designed for cutting logs only up to a maximum of 24" long and 16" in diameter lengthwise cutting with the grain only. Larger diameter logs could get stuck on the wedge and longer logs will not fit on the beam.

Splitting Operation



Correct log orientation



Incorrect log orientation

⚠ WARNING: ALWAYS keep hands and feet away from the endplate, wedge, and partially split logs while loading, operating, and unloading the log splitter.

Important safety instructions:

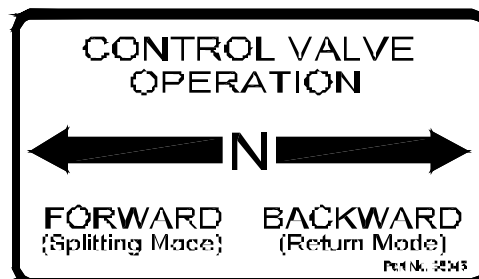
- **Hold bark side.** Hold the bark side of logs when loading or positioning, never the ends. Never place your hands or any part of your body between a log and any part of the log splitter.

Note for vertical position loading: Place the log on the endplate and turn it until it leans against the beam and is stable. If the log is too big or oddly shaped, stabilize the log with wooden shims between the log and the endplate or ground. **DO NOT** use your leg or knee to stabilize the log. **NEVER** stabilize the log by placing your hand on top of the log.

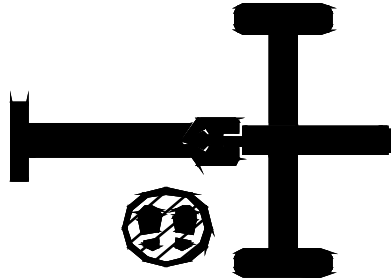
- **Wedge moving.** NEVER load or unload logs while the wedge is moving
- **Straddling / reaching across.** Never straddle, reach across, or step over the beam while the engine is running and the log splitter is in the horizontal position. You could trip, actuate the controls, and get seriously injured.
- **Unsplit log pile.** Do not pile logs to be split in a place that will make you reach across the log splitter in order to load them.
- **Square log ends.** Logs that are not cut square can slide out while splitting and become a safety hazard or cause excessive force to log splitter components. Use a chainsaw to cut logs square on each end before attempting to split them.
- **Single log.** Never attempt to split more than one log at a time. Pieces of log can unexpectedly be thrown from the machine causing serious injury.
- **Split along grain.** Do not use the log splitter to split logs across the grain. Doing so will damage the log splitter and could also cause pieces of log to be thrown, injuring the operator or bystanders.

5. Extend wedge

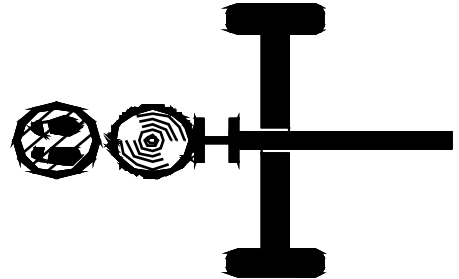
Move Split Control Lever toward endplate to extend wedge and split log.



Splitting Operation



Operator Position - horizontal



Operator Position - vertical

02244

Important safety instructions:

- **Operator position.** ALWAYS operate the log splitter from the manufacturer's indicated OPERATOR POSITION. (See diagram above.) Other positions are unsafe because they can increase the risk of injury from crushing, cutting, flying objects, or burns.
- **Remove hands.** Remove both hands from log before activating Split Control Lever.
- **Hand activate.** Use only your hand to operate the Split Control Lever. Never use any other body part, or a rope, cable, or other remote device to actuate the control.
- **Second person.** Many accidents occur when there is more than one person involved in loading and operating the log splitter. Only one person should operate the controls. If a second person is assisting in loading logs, the operator must NEVER actuate the Split Control Lever until the assistant and all bystanders are at least 10 feet away. NEVER allow an assistant to hold the log in place while the operator actuates the Split Control Lever.

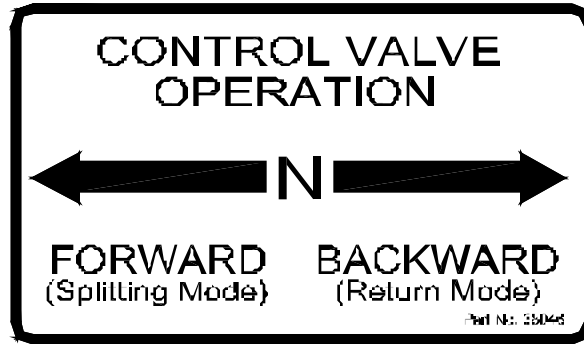
6. Stop wedge

Release Split Control Lever to stop wedge movement when log is split.

⚠ WARNING: Cracks in logs can close quickly and pinch fingers. Keep fingers away from any cracks that open in partially split logs.

Splitting Operation

6. Important STUCK LOG procedure



If a log does not split completely and becomes stuck on the wedge, follow the instructions below to remove the log.

A log can become stuck to the wedge if the wedge becomes embedded in the log and the log doesn't split and separate. This can happen if the log is too stringy or tough to split completely. A stuck log will move back with the wedge on the initial attempt to retract the wedge. If this happens, **STOP** retracting the wedge immediately and follow the directions below.

⚠ WARNING: NEVER attempt to remove a stuck log by:

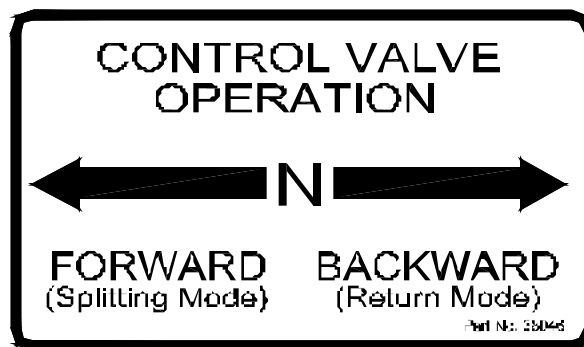
- Using the hydraulic force of the splitter
- Modifying the splitter
- Adding attachments to the splitter

Personal injury could result from log or metal pieces flying out at high speed toward the operator or bystanders, or the splitter could become damaged.

1. If there is already 1" or more of clearance between the log and endplate, go to step 2. Otherwise, retract wedge just enough to remove pressure between the log and endplate – about 1" clearance. (Move split control to return, allow wedge to move about 1", then stop the wedge by moving the split control to neutral "N".)
2. Turn engine OFF.
3. Remove stuck log from the wedge **manually** with a pry bar or a sledgehammer.
Important: Be extremely careful as log pieces may fly off as they separate from the wedge. Make sure bystanders are clear and wear safety goggles.
4. Do not attempt to resplit a stuck log once it has been removed from the wedge. Manually split with an axe, or cut with a chainsaw.

7. Return wedge

Move Split Control Lever away from endplate to return wedge. Once the control valve is actuated in the return direction, the wedge is designed to keep returning by itself completely and then stop automatically.



⚠ WARNING:

Stay clear while the wedge is returning. It is still powerful enough on the return stroke to

Splitting Operation

cause serious injury.

8. Remove split wood

Remove split wood from area.

Move each log away from log splitter after it is split. Split logs left near the log splitter are a trip hazard.

9. After use

Return splitter to horizontal position.

If in the vertical position, return log splitter to the horizontal position for greater stability and prepare for transportation.

Storage

Follow the instructions below for storing your log splitter between uses.

1. Retract wedge	Retract the wedge completely to keep the rod protected from corrosion.
2. Wipe with oily rag	Wipe the beam and wedge with an oily rag to prevent corrosion.
3. Splitter storage location	Store the log splitter in a dry location away from corrosive material. <u>NOTE:</u> Do not store the log splitter near fertilizer or similar corrosive materials.

Troubleshooting



WARNING

Before troubleshooting or attempting to service, read the following safety instructions to avoid serious injury to the operator or bystanders from moving parts that can crush or cut, cause burns, fire or explosion, or escaping high pressure hydraulic fluid.

Important Safety Instructions:

1. **Engine off.** Always make sure the tractor engine is off before cleaning, repairing or adjusting the splitter, except as recommended by the manufacturer.
2. **Hydraulic safety.** High fluid pressures and temperatures are developed in hydraulic log splitters. Hydraulic fluid escaping through a pin hole sized opening can burn or puncture skin, resulting in wounds that could cause blood poisoning, infection, disability, gangrene, amputation, or death. Therefore, the following instructions should be heeded at all times when inspecting or servicing the hydraulic components of the log splitter:
 - Turn off tractor engine, move all control valve handles back and forth to relieve pressure, and disconnect hydraulic lines before changing or adjusting hydraulic system components such as hoses, tubing, fittings or other components.
 - NEVER check for leaks with your hand. Leaks can be located by holding a piece of cardboard or wood (at least two feet long) with your hand at one end and passing the other end over the suspected area (wear eye protection). Look for discoloration of the cardboard or wood.
 - If injured by escaping fluid, no matter how small the wound is, see a doctor at once. A typical injection injury may be a small puncture wound that does not look serious. However, severe infection or reaction can result if proper medical treatment is not administered immediately by a doctor who is familiar with injection injuries.

Problem	
Cylinder rod will not move	Solution: A,D,E,H,J
Slow cylinder shaft speed when extending or retracting	Solution: A,B,C,H,I,K
Wood will not split or splits extremely slowly	Solution: A,B,C,F,I,K
Tractor engine bogs down during splitting	Solution: G
Tractor engine stalls under low load condition	Solution: D,E
Cause	Solution
A- Insufficient oil to pump	Check oil level in reservoir
B- Air in oil	Check oil level in reservoir
C- Excessive pump inlet vacuum	Check pump inlet hose for blockage or kinks
D- Blocked hydraulic lines	Flush and clean the splitter hydraulic system
E- Blocked control valve	Flush and clean the splitter hydraulic system
F- Low control valve setting	Adjust control valve with a pressure gauge
G- High control valve setting	Adjust control valve with a pressure gauge
H- Damaged control valve	Return control valve for authorized repair
I- Internal control valve leak	Return control valve for authorized repair
J- Damaged cylinder piston	Return cylinder for authorized repair
K- Internally damaged cylinder	Return cylinder for authorized repair

Any Questions, Comments, Problems or Parts Orders

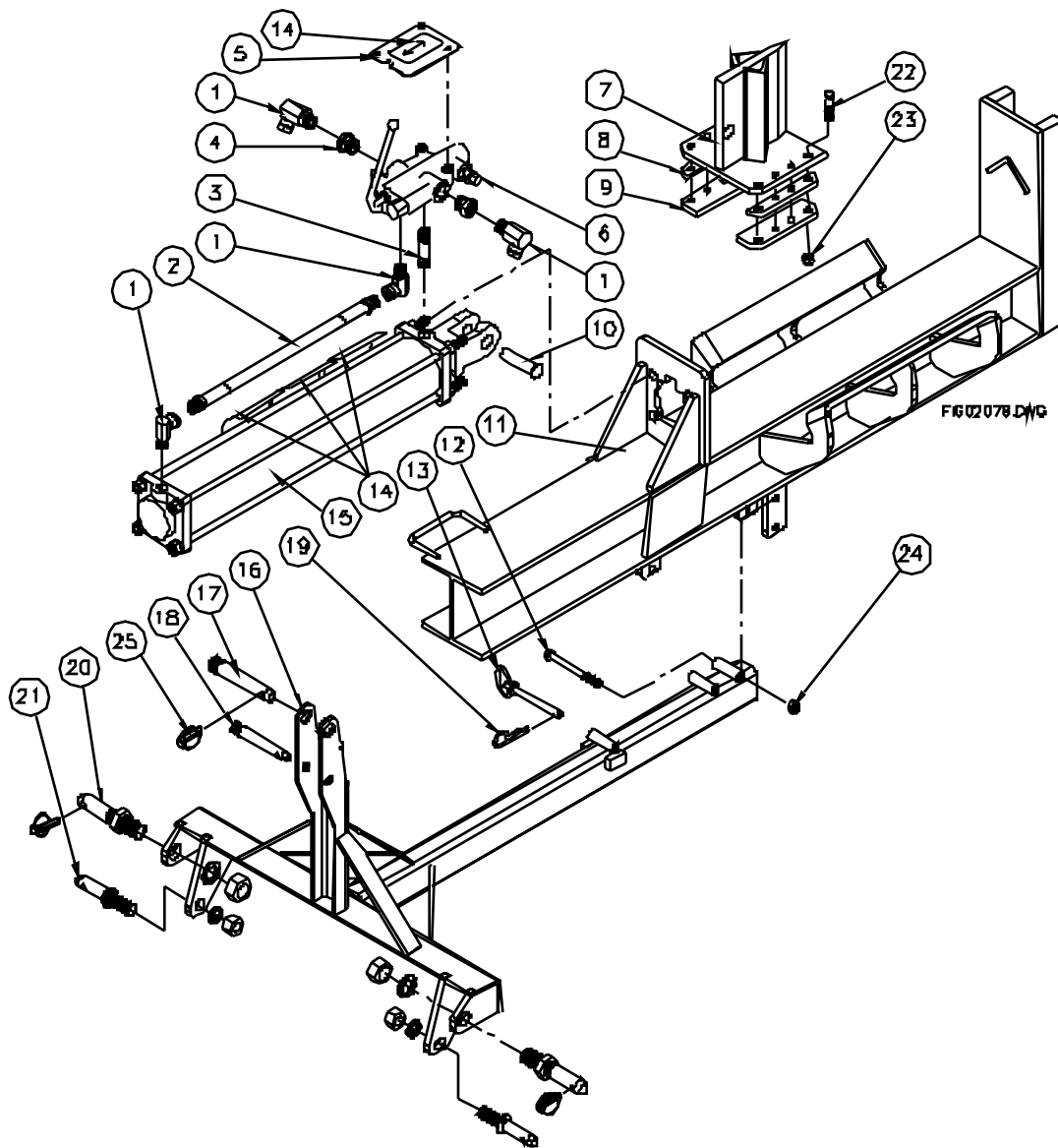
Call Northstar Customer Service 1-800-270-0810

Specifications

Maximum Pressure	2500 PSI
Maximum Flow	11gpm
Hydraulic Fluid Capacity....	1.5 gallons (hoses and cylinder)
Hydraulic Fluid Type.....	See tractor manual.
3 Point Hitch Category	1 and 2
Maximum Log Length	24 in
Maximum Log Weight	100 lb
Pressure Relief Setting	2500 PSI
Hydraulic Cylinder Bore	4 in
Hydraulic Cylinder Stroke ..	24 in
Overall Dimensions	73”L x 31”W x 27.5”H
Dry Weight	350 lb

The manufacturer reserves the right to make improvements in design and/or changes in specifications at any time without incurring any obligation to install them on units previously sold.

Parts breakdown – Exploded View 1103 REV D



ITEM	PART#	DESCRIPTION	QTY
1	50RASB	Right angle fitting. 1/2" M x 1/2" F	4
2	777341	Work port hose, 1/2" x 25" long	1
3	37017	Pipe Fitting. 1/2" M x 3" long	1
4	50CSC12B	3/4" M x 1/2" F Reducer	2
5	37494	Plate, Control Valve	1
6	2020	Control valve and handle	1
7	38436	Wedge	1
8	37025	Spacer	2
9	37024	Keeper	2
10	40651B	Clevis pin, 1" x 3" long	1
11	37B47	Beam	1
12	82119	1/2 x 5" bolt	1
13	30059	Hitch pin, 1/2" x 4-3/4" long	1

ITEM	PART#	DESCRIPTION	QTY
14	38046	Warning decal sheet	1
15	3701B	Cylinder. 4" x 24", tie rod mount	1
16	777272	Subframe	1
17	2501935	Upper hitch pin, category 2	1
18	2501937	Upper hitch pin, category 1	1
19	30312	Bridge Pin	1
20	2501933	Lower hitch stud, category 2, w/ nut	2
21	2501930	Lower hitch stud, category 1, w/ nut	2
22	82114	7/16 x 2" bolt	8
23	82115	7/16" nut	8
24	82037	1/2" nut	1
25	38159	Lynch Pin	3

Summary of Important Safety Information for Operation



WARNING

Carefully read and make sure you understand the following safety information before using the log splitter.

Improper use or maintenance of the log splitter can result in serious injury to the operator or bystanders from moving parts that can crush or cut, flying objects, escaping high pressure hydraulic fluid, or carbon monoxide poisoning.

Introduction

- **Read manual.** Read this Operator's Manual and the engine Owner's Manual completely before attempting to use the log splitter. Serious injury or death can result if safety instructions are not followed.
- **Instruct operators.** The log splitter owner should instruct all operators in safe log splitter operation.
- **Intended use.** Log splitters should only be used for splitting wood logs, lengthwise with the grain. Do not use for other purposes, as unforeseen hazards may result.

Prohibition Against Modifications

Never modify or alter the log splitter in any way. Modifications can create serious safety hazards and will void the warranty.

- **Attachments.** Never add attachments to the splitter, except for authorized accessories supplied by the manufacturer with instructions for safe installation and use.
- **Engine speed.** The maximum engine speed is preset at a safe limit. Never attempt to modify the engine speed setting to run at a higher speed.
- **Fuel/exhaust system.** NEVER modify or add to the exhaust system, fuel tanks, or fuel lines. Fire can result.
- **Remote control.** NEVER attach a rope, cable, or other remote device to the splitting control.
- **Splitting wedge.** NEVER attempt to change the height or speed of the splitting wedge.

Operator Restrictions

- **Untrained operators.** Do not allow anyone to operate the log splitter who has not read the Owner's Manual or been instructed on the safe use of the splitter.
- **Minimum operator age.** Never allow anyone under 16 years old to operate the log splitter. Children 16 years and older must be trained and supervised by a trained adult.

Safety in Connecting to Tractor & Transporting to Job Site



WARNING

The log splitter must be correctly mounted and then attached to the tractor hydraulic system for safe operation.

Follow the instructions below for safely moving and towing the log splitter.

Safety in Connecting Log Splitter to Tractor

- **Read tractor instructions.** Review tractor manual or get instructions from your tractor dealer about how to properly connect the log splitter to your tractor's auxiliary hydraulics.
- **Engage tractor brake.** Make sure the tractor's parking brake is engaged while you are attaching the log splitter.
- **Tractor off.** The tractor engine must be off while mounting the log splitter and making connections to the tractor's hydraulics.
- **Check mounting.** An improperly mounted log splitter could become dislodged during transportation or operation, which could result in serious injury to the operator or bystanders. Do not drive the tractor or operate the log splitter until you are sure the log splitter is properly mounted and hitch pins are fully engaged.
- **Check hydraulic connections/fittings.** Make sure all hydraulic line fittings are tight before applying pressure. High fluid pressures and temperatures are developed in the hydraulic system. Hydraulic fluid escaping through even a tiny

Summary of Important Safety Information for Operation

opening can burn or puncture skin, resulting in wounds that could cause blood poisoning, infection, amputation or death. If injured by escaping hydraulic fluid, no matter how small the wound is, see a doctor at once.

Safety in Transporting to Job Site

- **Read tractor instructions.** Review safety instructions in your tractor manual with regard to driving with 3-point hitch mounted equipment attached.
- **Securely attached.** Be sure splitter is securely attached before transporting.
- **Horizontal position.** Make sure log splitter is secured in the horizontal position before transporting. Do not move the log splitter when it is in the vertical position because it will be less stable.
- **Added length.** Be aware of the added length of the splitter.
- **Reduced road stability.** Be aware that heavy, 3-point hitch mounted equipment can reduce road stability, regardless of the amount of front-end counterweight added. Drivers should take extra caution when driving with the log splitter attached. Reduce your speed and take extra caution during turns or while driving on rough or sloped terrain.
- **No riding or cargo on splitter.** Never ride or transport cargo on the log splitter.
- **On public roads.** If transporting the log splitter on a public road, make sure to comply with all local, state, and federal requirements.
- **Under the influence.** Never tow or operate this splitter while under the influence of alcohol, drugs, or medication.
- **Engage brake before operating.** Engage tractor's parking brake before operating log splitter.
- **Unattended.** Turn off the tractor and engage parking brake before leaving the splitter unattended.

Safety – Before Use Read/instruct

- **Read manual.** Do not allow anyone to operate the log splitter who has not read the Owner's Manual or has not been instructed on the safe use of the splitter.
- **Review safety rules.** Before starting this log splitter, review the instructions for safe operation. Failure to follow these instructions may result in serious injury to the operator or bystanders.
- **Know how to stop.** Be thoroughly familiar with all controls and with the proper use of the equipment. Know how to stop the log splitter and relieve system pressure quickly if needed.

Personal protective equipment

- **Eye protection.** Always wear safety glasses or goggles when operating the machine. Pieces of log may fly out and serious eye injury can occur.
- **Boots.** Falling logs can crush feet. Always wear safety shoes or heavy boots when operating or helping to load logs.
- **Loose / dangling.** Loose or dangling apparel can become entangled in moving parts. Never wear jewelry or loose-fitting clothing.
- **Gloves.** Wear snug fitting gloves without draw strings or loose cuffs.
- **Hearing protection.** The use of ear plugs or other hearing protection device is recommended.

Safety During Inspection/Maintenance

Always inspect your log splitter before each use, and repair as needed, to keep it in safe working condition:

- **Engine off.** Always make sure the tractor engine is off before cleaning, repairing or adjusting the splitter, except as recommended by the manufacturer.
- **Other debris.** Debris on moving parts can cause excess wear. With tractor engine off, clear debris from moving parts.
- **Hot exhaust.** Hot exhaust fumes from the tractor engine can cause fire. Position tractor exhaust and other hot elements of tractor at least 7' from combustible objects during operation.
- **Mechanical parts.** Check to be sure all nuts and bolts are tight to assure the log splitter is in safe working condition.
- **Hydraulic components.** Check the hydraulic components (hoses, tubing, clamps/fittings, pump, and cylinder) carefully before each use. Do not operate the log splitter with frayed, kinked, cracked or damaged hydraulic hoses, fittings, or tubing, or if oily residue is observed on any of the components. High fluid pressures and temperatures are developed in the log splitter. Hydraulic fluid escaping through a pin hole sized opening can burn or puncture skin, resulting in wounds that could cause blood poisoning, infection, disability, gangrene, amputation, or death. Therefore,

Summary of Important Safety Information for Operation

the following instructions should be heeded at all times when inspecting or servicing the hydraulic components of the log splitter:

- Do not check for leaks with your hand. Leaks can be located by holding a piece of cardboard or wood (at least two feet long) with your hand at one end and passing the other end over the suspected area (wear eye protection). Look for discoloration of the cardboard or wood.
- Stop the engine, disconnect the spark plug, and move all control valve handles back and forth to relieve pressure before changing or adjusting hydraulic system components such as hoses, tubing, fittings or other components.
- If injured by escaping fluid, no matter how small the wound is, see a doctor at once. A typical injection injury may be a small puncture wound that does not look serious. However, severe infection or reaction can result if proper medical treatment is not administered immediately by a doctor who is familiar with injection injuries.
- Hot exhaust. Hot exhaust fumes from the tractor engine can cause fire. Position tractor exhaust and other hot elements of tractor engine at least 7' from combustible objects during operation.
- **Guards / shields.** Make sure all guards and shields are replaced after servicing the log splitter.
- **Replacement parts.** If a part needs replacement, only use parts that meet the manufacturer's specifications. Replacement parts that do not meet specifications may result in a safety hazard or poor operation of the log splitter.

Safety in Work Site Selection / Set-up

- **Fire extinguisher.** Have a Class B fire extinguisher available as a precautionary measure when operating the log splitter in dry areas.
- **Level, dry surface.** To prevent accidental falls and equipment tip over, make sure the splitter is situated on a dry, level surface with good footing. Stay clear of areas with mud, ice, tall grass, weeds, or brush.
- **Engage parking brake.** Always engage the tractor's parking brake before operating the splitter to prevent unintended movement.
- **Carbon monoxide.** The running tractor engine gives off carbon monoxide, a poisonous gas that can kill you. You CANNOT smell it, see it, or taste it. ONLY run log splitter OUTDOORS and away from air intakes. NEVER run log splitter inside homes, garages, sheds, or other semi-enclosed spaces. These spaces can trap poisonous gases, EVEN if you run a fan or open windows. If you start to feel sick, dizzy, or weak while using the log splitter, shut off the engine and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.

Safety – During Use

General Safety During Use

 **WARNING:** Before starting this log splitter, review the following rules for safe operation. Failure to follow these rules may result in serious injury to the operator or bystanders.

- **Safety equipment / controls.** Always operate the log splitter with all safety equipment in place and in good working order, and all controls properly adjusted for safe operation.
- **Operating speed.** Always operate the log splitter at the manufacturer's recommended speed. Adjust the tractor engine speed so the flow rate does not exceed 11 GPM (see tractor specifications for determining relationship between flow rate and engine speed.) Higher flow rates make the beam slide move dangerously fast.
- **Know how to stop.** Be thoroughly familiar with all controls and with the proper use of the equipment. Know how to stop the log splitter and relieve system pressures quickly if needed.
- **Daylight only.** Only use the log splitter in daylight so you can see what you are doing.
- **Smoking / sparks.** Never smoke while operating the log splitter, and never operate near sources of sparks or flames.
- **Unattended.** Never leave the machine unattended while the engine is running.
- **Under the influence.** Never operate, or let anyone else operate, the log splitter while under the influence of alcohol, drugs, or medication.
- **Adjusting / repairing.** Turn the tractor off before cleaning, repairing, or adjusting the log splitter. Before changing or adjusting hydraulic system components such as hoses or fittings, first relieve hydraulic line pressure by moving the Split Control Lever and the tractor hydraulic control valve handles back and forth several times, and then disconnect hydraulic lines.

Summary of Important Safety Information for Operation

- **Carbon monoxide.** The running tractor engine gives off carbon monoxide, a poisonous gas that can kill you. You CANNOT smell it, see it, or taste it. If you start to feel sick, dizzy, or weak while using the log splitter, shut off the engine and get to fresh air RIGHT AWAY. See a doctor. You may have carbon monoxide poisoning.
- **Other exhaust dangers.** Engine exhaust, some of its constituents, and certain vehicle components contain or emit chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. Avoid inhalation of exhaust.

Safety in Loading, Operating, and Unloading

- **Square log ends.** Logs that are not cut square can slide out while splitting and become a safety hazard or cause excessive force to log splitter components. Use a chainsaw to cut logs square on each end before attempting to split them.
- **Single log.** Never attempt to split more than one log at a time. Pieces of log can unexpectedly be thrown from the machine causing serious injury.
- **Split along grain.** Do not use the log splitter to split logs across the grain. Doing so will damage the log splitter and could also cause pieces of log to be thrown, injuring the operator or bystanders.
- **Keep hands clear.** ALWAYS keep hands and feet away from the endplate, wedge, and partially split logs while loading, operating and unloading the log splitter.
- **Operator position.** ALWAYS operate the log splitter from the manufacturer's indicated OPERATOR POSITION. Other positions are unsafe because they can increase the risk of injury from crushing, cutting, flying objects, or burns.
- **Straddling / reaching across.** Never straddle, reach across, or step over the beam while the engine is running and the log splitter is in the horizontal position. You could trip, actuate the controls, and get seriously injured.
- **Second person.** Many accidents occur when there is more than one person involved in loading and operating the log splitter. Only one person should operate the controls. *If a second person is assisting in loading logs, the operator must NEVER actuate the Split Control Lever until the assistant and all bystanders are at least 10 feet away. NEVER allow an assistant to hold the log in place while the operator actuates the Split Control Lever.*
- **Loading/Unloading**
 - **Unsplit log pile.** Do not pile logs to be split in a place that will make you reach across the log splitter in order to load them.
 - **Hold bark side.** Hold the bark side of logs when loading or positioning, never the ends. Never place your hands or any part of your body between a log and any part of the log splitter.

NOTE: for vertical position loading: Place the log on the endplate and turn it until it leans against the beam and is stable. If the log is too big or oddly shaped, stabilize the log with wooden shims between the log and endplate or ground. DO NOT use your leg or knee to stabilize the log. NEVER stabilize the log by placing your hand on top of the log.

- **Wedge moving.** NEVER load or unload logs while the wedge is moving.
- **Cracks.** Cracks in logs can close quickly and pinch fingers. Keep fingers away from any cracks that open in partially split logs.
- **Split log pile.** Move each log away from log splitter after it is split. Split logs left near the log splitter are a trip hazard.
- **Remove hands.** Remove both hands from log before activating Split Control Lever.
- **Hand activate.** Use only your hand to operate the Split Control Lever. Never use any other body part, or a rope, cable, or other remote device to actuate the control.
- **Returning wedge.** Once the control valve is actuated in the return direction, the wedge is designed to keep returning by itself completely and then stop automatically. Stay clear while the wedge is returning. It is still powerful enough on the return stroke to cause serious injury
- **Log stuck on wedge.** A log can become stuck to the wedge if the wedge becomes embedded in the log and the log doesn't split and separate. This can happen if the log is too stringy or tough to split completely. A stuck log will move back with the wedge on the initial attempt to retract the wedge. If this happens, **STOP** retracting the wedge immediately and follow the directions below to manually remove the log:

IMPORTANT: NEVER attempt to remove a stuck log by using the hydraulic force of the splitter, or by modifying or adding attachments to splitter. Personal injury could result from log or metal pieces flying out at high speed toward the operator or bystanders, or the splitter could become damaged.

Summary of Important Safety Information for Operation

1. If there is already 1" or more of clearance between the log and endplate, go to step 2. Otherwise, retract wedge just enough to remove pressure between the log and endplate – about 1" clearance. (Move split control to return, allow wedge to move about 1", then stop the wedge by moving the split control to neutral "N".)
2. Turn engine OFF.
3. Remove stuck log from the wedge **manually** with a pry bar or a sledgehammer. Be extremely careful, as log pieces may fly off as they separate from the wedge. Wear safety goggles and make sure bystanders are clear.
4. Do not attempt to resplit a stuck log once it has been removed from the wedge.

Safety – After use

- **Return to horizontal.** If in the vertical position, return log splitter to the horizontal position for greater stability and to prepare for transportation.
- **Storage location.** Store the log splitter in a dry location away from corrosive material.
- **Periodic maintenance.** Perform periodic maintenance as directed in this manual to keep the log splitter in safe working condition.