



POWERHORSE®

Owner's Manual

M1156M.2

ITEM NUMBER: 1156
SERIAL NUMBER:

Instructions for Assembly, Testing, Operation, Servicing, & Storage

Log Splitter: Outdoor hydraulic powered machine that splits wood logs.

⚠ 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, burns, fire or explosion, escaping high pressure hydraulic fluid, 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 endplates, 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

- If your log splitter is intended for use near any ignitable forest, brush, or grassy covered land, the engine exhaust should be equipped with a spark arrestor.
- Keep a fire extinguisher with you, rated for ordinary combustibles and flammable liquids.

STOP!

ASSEMBLY REQUIRED: This product requires assembly before use. Some of the components in this unit are heavy and cannot be lifted by one person safely. Please plan on assembling this product when another person can be available to help out. See "Assembly" section for instructions.

INSPECT COMPONENTS. Closely inspect upon receipt to make sure no components are missing or damaged. See "Assembly" section for instructions on whom to contact to report missing or damaged parts.

ADD ENGINE OIL and HYDRAULIC OIL BEFORE USING: This product is shipped without engine oil or hydraulic oil. DO NOT start log splitter before adding both oils. See "Assembly" and "Initial Unpacking & Set-up" sections for detailed instructions.

Any Questions, Comments, Problems or Parts Orders
Call PowerHorse Product Support 1-866-443-2576

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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About Your Log Splitter

Thank you for purchasing your PowerHorse log splitter!

About Your Log Splitter

This log splitter is a machine designed to split wood logs using a hydraulically powered moving wedge. The gasoline-powered engine is used to pressurize the system.

This log splitter model is capable of splitting logs up to 18" long and 12" in diameter

This log splitter is designed to split logs *lengthwise with the grain only*.

This log splitter model is designed with a *unique, timesaving feature* -- a double-edged cutting wedge that is capable of splitting wood on both the extension and retraction strokes of the wedge.

This log splitter is towable by ATV or tractor *at speeds under 15 MPH*. Higher speed towing requires a high-speed wheel kit (Part #1158), which includes:

- High speed tires
- Towing coupler
- Safety chains

The technical specifications for your log splitter are provided in the "Specifications" section 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 PowerHorse Product Support at 1-866-443-2576 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 may 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 available to answer any questions a renter/borrower might have.

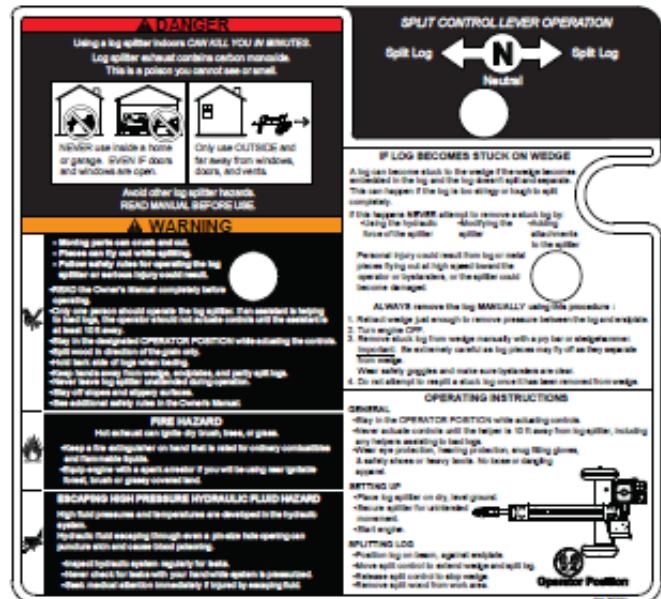
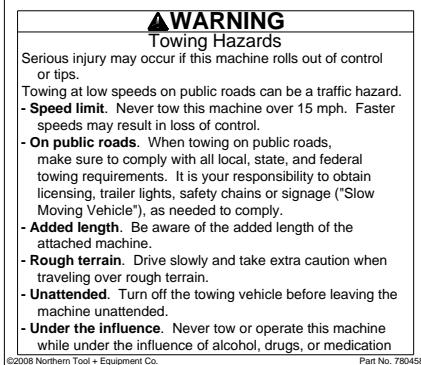
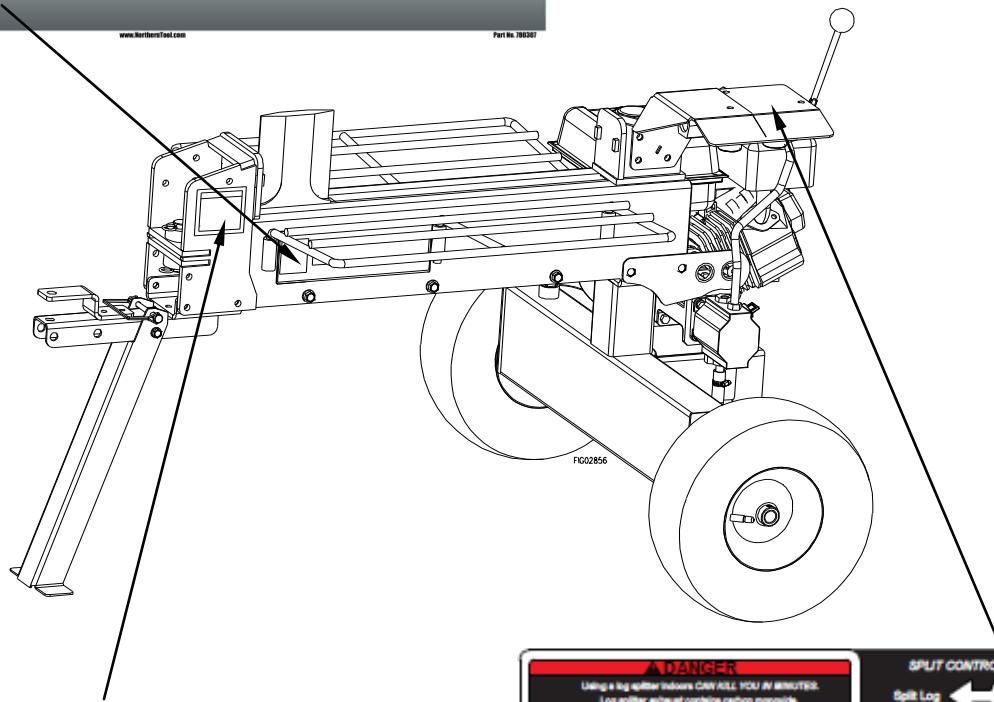
Safety Label Location



Northern Tool + Equipment Co. 1-888-442-2576

www.NorthernTool.com

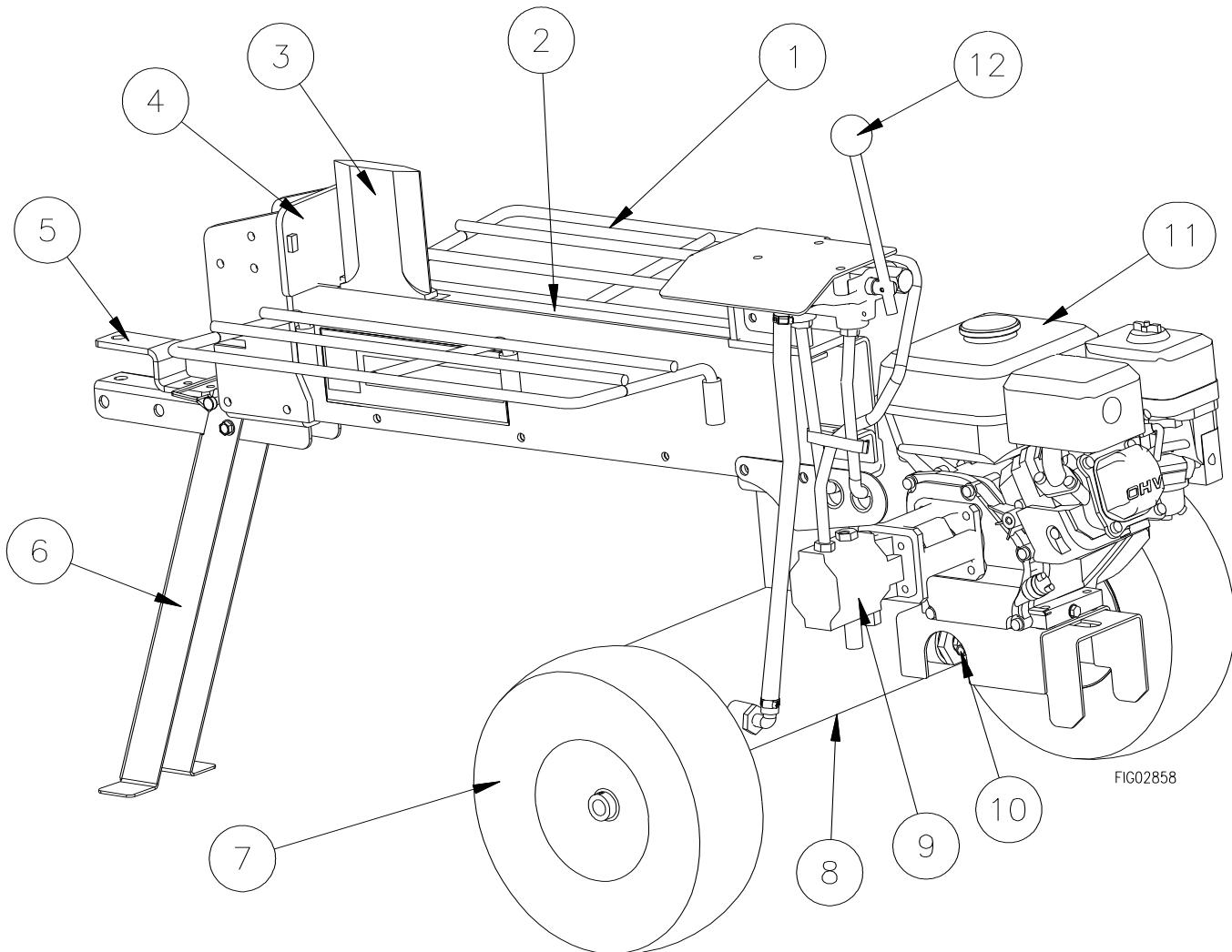
Part No. 780307



Part #	Description
787753	Splitter Warning / Instructions Decal
780307	PowerHorse Decal
780458	Low Speed Towing Warning

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.

Machine Components Identification



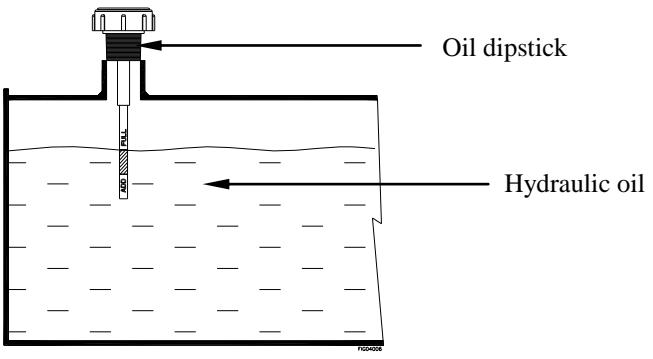
- 1.) **Log Table.** This large log table keeps the log from falling on the ground after splitting. The log table will keep the log on the beam without operator assistance.
- 2.) **Beam/Cylinder.** The hydraulic cylinder has a 3" bore and an 18" stroke.
- 3.) **Wedge.** The wedge has two tapered edges that allow splitting in both directions. The wedge features a taper that makes splitting easier.
- 4.) **End Plate.** The end plate keeps the log from moving as the wedge moves through the log.
- 5.) **Hitch.** Attaches the log splitter to your vehicle.
- 6.) **Leg.** The leg supports the log splitter while operating. The leg should be raised while towing (see Operation Instructions).
- 7.) **Tires.** The tires on this log splitter are low speed tires and should not exceed 15 MPH. For high speed towing (max 45mph) purchase tow kit separately. (Item # 1158)
- 8.) **Hydraulic Tank.** The hydraulic tank stores the hydraulic oil.
- 9.) **Hydraulic Pump.** The hydraulic pump makes the hydraulic oil flow through the system.
- 10.) **Suction Strainer.** The suction strainer removes debris from the hydraulic oil before entering the pump.
- 11.) **Engine.** The air-cooled engine powers the hydraulic pump.
- 12.) **Splitter Control Lever.** Use the split control lever to move the wedge forward and backward.

Initial Set-up

WARNING

Carefully read and follow all instructions for initial assembly and set-up of this log splitter.

Failure to properly assemble and set up this equipment could result in serious injury to the user or bystanders, or cause equipment damage.

Step One: Assemble log splitter	<p>Assemble your log splitter. See the “Assembly” section of this manual – It will provide you with detailed instructions on:</p> <ul style="list-style-type: none">• Inspecting shipped components and whom to contact if anything is missing or damaged.• Assembly.• Testing.
Step Two: Add oil to engine	<p>Add oil to engine. Using a funnel, add SAE 10W-30 oil up to the FULL mark on the dipstick. (See engine Owner’s Manual for oil capacity and location of fill cap.)</p>
Step Three: Add Hydraulic Oil to Reservoir	<ol style="list-style-type: none">1. Remove hydraulic oil dipstick.2. Refer to the Specifications section for approximate hydraulic oil capacity.3. Fill reservoir with 10 wt AW32, ASLE H-150, or ISO 32 oil. Use a funnel4. Replace hydraulic oil dipstick and check that oil level reads full. Note: Do not thread in dipstick when checking oil level.5. Start engine and use split control lever to extend and retract wedge 5 (five) times to remove air from the high pressure lines.6. With wedge retracted, check oil level again. Fill if necessary.  <p>The diagram illustrates a vertical rectangular hydraulic oil reservoir. At the top, there is a threaded cap with a handle. A vertical dipstick is inserted through the top cap, extending down into the reservoir. The dipstick has several horizontal markings, with the topmost one labeled 'FULL'. The liquid level in the reservoir is indicated by a dashed horizontal line, which is positioned between the 'FULL' mark and the next marking down. Arrows point from the text labels 'Oil dipstick' and 'Hydraulic oil' to their respective parts in the diagram.</p> <p>Note: If the log splitter will be run for long periods of time in outdoor temperatures above 70°F, we recommend changing the hydraulic oil to DEXTRON III.</p>
Step Four: Check Hydraulic system	<p>Check the hydraulic system carefully:</p> <ol style="list-style-type: none">1. Visually inspect all hoses, tubing, clamps/fittings, pump, and cylinder for cracks, fraying, kinks, or other damage.2. Check all components for oily residue, which may indicate a leak. <p>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</p>

Initial Set-up

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, disconnect the spark plug, and move the split control lever 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.
- NEVER adjust the pressure setting of the pump or valve.
- 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.

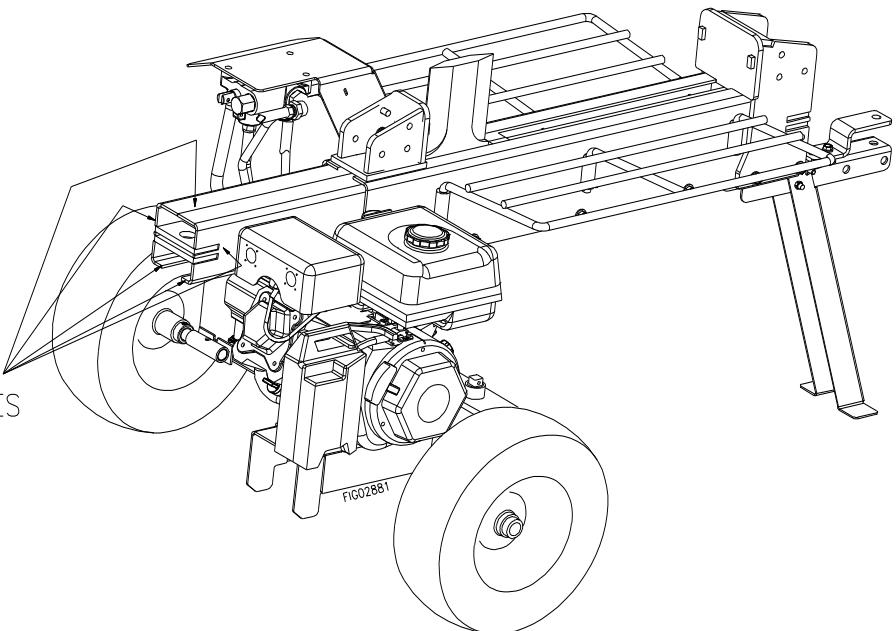
⚠WARNING: NEVER remove the hydraulic oil fill cap when the engine is running or hot. Hot oil can escape causing severe burns. Allow log splitter to cool completely before removing hydraulic oil fill cap.

Step Five: Lubricate slide rail beam

Lubricate wedge slide.

Extend the wedge slide as shown, and lubricate the surface of it with grease. This will help prevent wear between the wedge slide and beam.

APPLY GREASE
ON ALL BEAM
SLIDE SURFACES

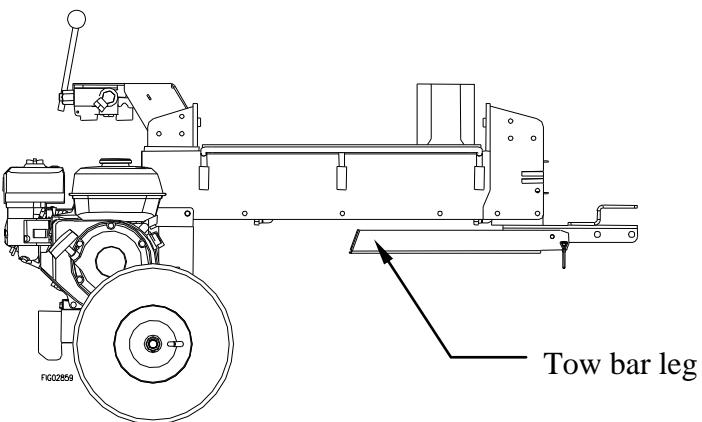


Moving & Towing to Job Site

WARNING

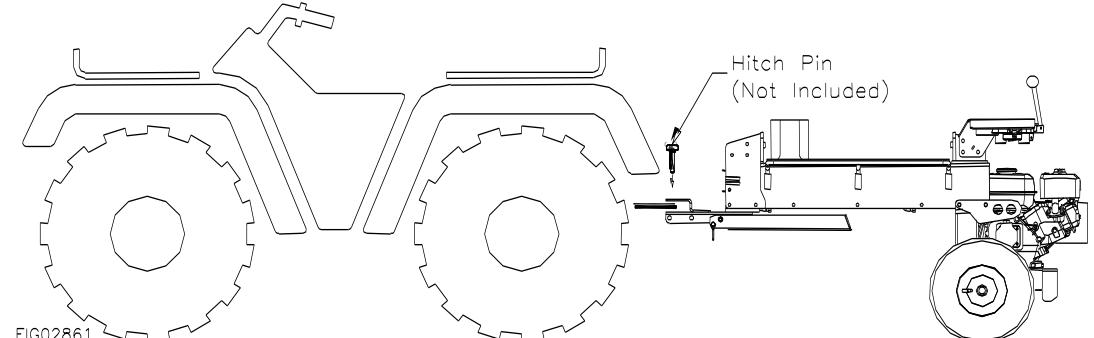
The log splitter is heavy. It can crush and cause serious injury if it rolls out of control or tips over.
Follow the instructions below for safely moving and towing the log splitter.

Moving the log splitter:

1. Engine off	IMPORTANT: Ensure log splitter engine is off. Never move the log splitter with its engine running
2. Fuel valve off	Turn fuel valve off to prevent carburetor flooding and reduce the chance of fuel leakage.
3. Tow bar leg UP	Lock the <u>tow bar leg</u> in the “UP” position before you move the log splitter anywhere by hand.  Tow bar leg
4. Move log splitter to work site or tow hitch	Move log splitter by hand either directly to chosen work site or to tow hitch for towing. (See “Before Each Use” section on selecting a work site) Important Safety Instructions: <ul style="list-style-type: none">• Hills. Do not move the log splitter up or down hills by hand - use a towing vehicle.• No riding. Never allow anyone to sit or ride on the log splitter.• No cargo. Never transport cargo or wood on the log splitter.

Moving & Towing to Job Site

Towing:

1. Read instructions	Review towing safety instructions in your vehicle manual.
2. Check tires	<p>Make sure tires are fully inflated and in good repair. See tire sidewall for recommended tire pressure.</p> <p>⚠️WARNING:</p> <ul style="list-style-type: none"> Do not over-inflate tires. Serious injury can occur if tire explodes. When seating a bead after repair, do not exceed 30 PSI. Pressures higher than 30 PSI can cause the tire and wheel to rupture and explode.
3. Attach Log Splitter to vehicle hitch.	<p>Attach Log Splitter to ATV or tractor hitch for low speed towing (up to 15 MPH) with a hitch pin or a draw pin.</p>  <ul style="list-style-type: none"> Towing over 15mph - For towing up to 45 mph, order item #1158 High-speed kit. Call PowerHorse Product Support at 1-866-443-2576.
4. Tow to desired location	<p>Tow log splitter carefully to desired work site. (See “Before Each Use” section on selecting an appropriate work site.)</p> <p>Important safety instructions:</p> <ul style="list-style-type: none"> Speed limit. Never tow this log splitter over 15 mph. Faster speeds may result in loss of control. On public roads. When towing on public roads: <ul style="list-style-type: none"> Make sure to comply with all local, state, and federal towing requirements. It is your responsibility to obtain licensing, trailer lights, safety chains or signage, as needed to comply. If driving slower than 15 MPH 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 required. SMV and SIS signs are generally available at farm equipment dealers. Added length. Be aware of the added length of the splitter. Rough terrain. Drive slowly and take extra caution when traveling over rough terrain. Unattended. Turn off the towing vehicle before leaving the splitter unattended. Under the influence. Never tow or operate this splitter while under the influence of alcohol, drugs, or medication
5. Lock leg down & unhitch	<p>Lock tow bar leg in the DOWN position and unhitch from vehicle. NEVER operate log splitter while it is attached to the vehicle.</p>

Before Each Use – Inspection / Maintenance

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

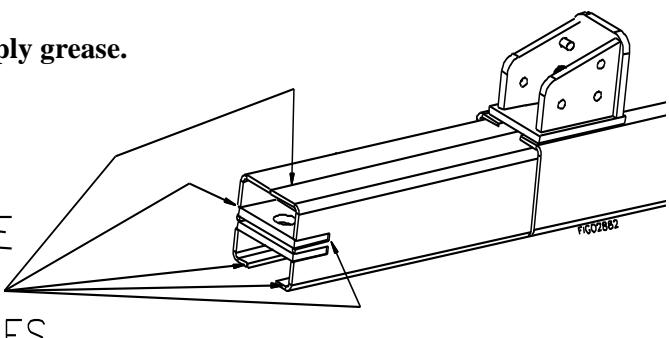
If the log splitter has been used previously, it must be inspected and maintained BEFORE EACH SUBSEQUENT USE.

! WARNING

ALWAYS shut off the engine, disconnect the spark plug, and relieve system pressure before inspecting, cleaning, adjusting, or repairing the splitter. Relieve system pressure by moving the 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. Engine off / relieve hydraulic pressure	Perform all inspections/repairs with the engine off and hydraulic system pressure relieved. <ol style="list-style-type: none">1. Make sure engine is off and cool.2. Disconnect the spark plug3. Relieve all hydraulic system pressure by moving the split control lever back and forth several times.
2. Remove debris	Remove debris from engine, muffler, and moving parts. <ol style="list-style-type: none">1. <u>Engine debris</u>. Debris on a hot engine can be a fire hazard. Clean debris and chaff from engine cylinder head, cylinder head fins, blower housing rotating screen, and muffler areas. Avoid contact with hot muffler.2. <u>Other debris</u>. Debris on moving parts can cause excess wear. Clear debris from the beam, wedge, and end plates.
3. Fuel tank / lines	Check fuel tank and fuel lines for leaks. Any fuel leak is a fire hazard. Fix any fuel leaks before starting engine.
4. Mechanical parts	Check to be sure all nuts and bolts are tight to make sure the log splitter is in safe working condition. Extend wedge slide, and apply grease. 
5. Hydraulic system	Check the hydraulic system carefully: <ol style="list-style-type: none">1. Visually inspect all hoses, tubing, clamps/fittings, pump, and cylinder for cracks, fraying, kinks, or other damage.2. Check all components for oily residue, which may indicate a leak.

Before Each Use – Inspection / Maintenance

	<p>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.</p> <p>⚠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:</p> <ul style="list-style-type: none">• Stop the engine, disconnect the spark plug, and move the split control lever 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.• NEVER adjust the pressure setting of the pump or valve.• 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.
6. Hydraulic oil level	<p>Check dipstick to make sure hydraulic oil level is to the fill line with cylinder retracted. Fill as needed. Note: Do not thread in the oil dipstick when checking hydraulic oil level.</p> <p><u>Note:</u> Fill the tank with 10 wt AW32, ASLE H-150, or ISO 32 hydraulic oil. If the log splitter will be run for long periods of time in outdoor temperatures above 70°F, we recommend changing the hydraulic oil to DEXTRON III.</p> <p>⚠WARNING: NEVER remove the hydraulic oil fill cap when the engine is running or hot. Hot oil can escape causing severe burns. Allow log splitter to cool completely before removing hydraulic oil fill cap.</p>
7. Engine	<p>Inspect and perform engine maintenance as directed in the engine manual.</p>
8. Spark arrestor muffler	<p>If the engine is equipped with a spark arrester muffler, clean and inspect it regularly (follow spark arrestor manufacturer's service instructions). Replace if damaged.</p>
9. Tires	<p>Make sure tires are fully inflated and in good repair if you will be towing the splitter.</p> <p>See tire sidewall for recommended tire pressure.</p> <p>⚠WARNING:</p> <ul style="list-style-type: none">• Do not over-inflate tires. Serious injury can occur if tire explodes.• When seating a bead after repair, do not exceed 30 PSI. Pressures higher than 30 PSI can cause the tire and wheel to rupture and explode.
10. Shields / guards	<p>Replace all guards and shields after servicing the log splitter.</p>

Before Each Use – Fueling

Step Two: Fueling

WARNING

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Use extreme care when handling gasoline.

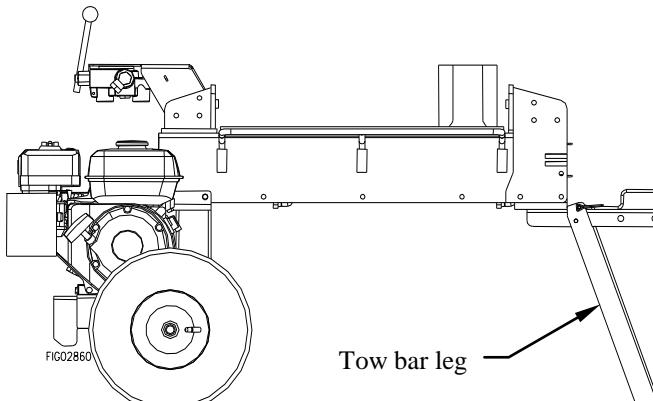
1. Engine off / cool	<p>The engine must be off and allowed to cool at least two minutes before adding fuel.</p> <p> WARNING: A running engine is hot enough to ignite fuel. Never add fuel or remove gas cap if engine is running or still hot.</p>
2. Outdoor location	<p>Fill fuel tank outdoors – never indoors.</p> <p> WARNING: Gasoline vapors can ignite if they collect inside an enclosure. Explosion can result.</p>
3. Remove gas cap	<p>Remove engine gas cap.</p>
4. Add gasoline	<p>Add gasoline through fill opening from an UL-approved container.</p> <p>Important Safety Instructions:</p> <ul style="list-style-type: none">Use approved container. NEVER pump fuel directly into engine at gas station. Static charge can build and ignite fuel. Use a UL approved fuel container to transfer gas to the engine.Don't overfill. DO NOT overfill the gas tank. Allow at least 1/2" of empty space below the fill neck to allow for fuel expansionHeat / flames / sparks. Stay away from sources of heat, flame, or sparks while adding fuel. <div style="text-align: center;"><p>WARNING</p><p>FEDERAL LAW prohibits the use of E15 in small engines. Per the EPA, E15 should ONLY be used in 2001 and newer passenger vehicles.</p><p>E15</p><p>790134</p></div>
5. Spills / splashes	<p>Clean up fuel spills /splashes immediately.</p> <ol style="list-style-type: none">Move log splitter away from spilled fuel on the ground.Wipe fuel off engine and wait 5 minutes for excess fuel to evaporate before starting engine.Gas soaked rags are flammable and should be disposed of properly.If gasoline is spilled on your skin or clothes, change clothes and wash skin immediately.
6. Replace gas cap	<p>Replace gas cap securely before starting engine.</p>
7. Gasoline storage	<p>Store extra gasoline in a cool, dry place in an UL approved, tightly sealed container.</p>

Before Each Use – Work Site Selection & Set-Up

Step Three: Work site selection 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	<p>Select an appropriate location for operating the log splitter.</p> <p><u>Requirements:</u></p> <ol style="list-style-type: none">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. <p>⚠ DANGER: The running engine gives off carbon monoxide, a poisonous gas that can kill you. You CANNOT smell it, see it, or taste it.</p> <ul style="list-style-type: none">• 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	<p>Take the following precautions against fire:</p> <ol style="list-style-type: none">1. IMPORTANT: If your splitter will be used near any unimproved forest, brush, or grassy covered land, <i>then engine must be equipped with a spark arrestor.</i>2. Make sure you comply with applicable local, state and federal codes.3. 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	<p>Position splitter at least 7 ft. from combustible objects during operation.</p> <p>Hot exhaust fumes from splitter engine could cause fire. Also, hydraulic oil leaking or spraying on hot engine can ignite.</p>
4. Lock leg down	<p>Lock leg in the “DOWN” position.</p>  <p>The diagram shows a side view of a log splitter. A tow bar leg is shown extending downwards from the rear of the machine. An arrow points to this leg with the label "Tow bar leg". The leg appears to be a hydraulic cylinder that has been extended and locked into a downward position.</p>
5. Block Wheels	<p>Block wheels to prevent unintended movement of the log splitter.</p>

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, burns, fire, falling or tripping; or from carbon monoxide poisoning.

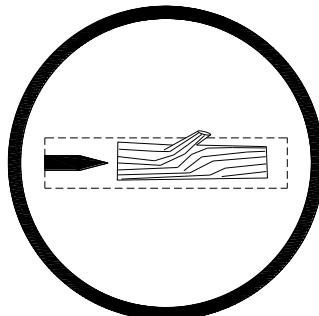
General safety information

- **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.
 - **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.
 - **Pressure setting.** NEVER increase the pressure setting of the pump or control valve.
- **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. The maximum speed of the engine, pump and wedge are preset within safe limits.
- **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.
- **Refueling.** Never refuel the engine until it has cooled at least two minutes.
- **Adjusting / repairing.** Always make sure the engine is off before cleaning, repairing or adjusting the splitter, except as recommended by the manufacturer. In addition, disconnect the spark plug and move all control handles back and forth to relieve system pressure *before changing or adjusting hydraulic system components* such as hoses, tubing, fittings or other components.
- **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 1-866-443-2576 to order new safety labels.

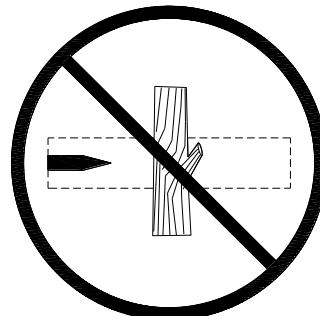
Splitting Operation

1. Put on protective clothing / gear	<p>Wear the following protective clothing and safety gear.</p> <ol style="list-style-type: none"> 1) Eye protection. Always wear safety glasses or goggles when operating the machine. Pieces of log may fly out and serious eye injury can occur 2) Boots. Falling logs can crush feet. Always wear safety shoes or heavy boots when operating or helping to load logs. 3) Gloves. Wear snug fitting gloves without drawstrings or loose cuffs. 4) Hearing protection. The use of earplugs or other hearing protection device is recommended. Applications 5) No Loose / dangling apparel. Loose or dangling apparel can become entangled in moving parts. Never wear jewelry or loose-fitting clothing
2. Lock & block	<p>Secure log splitter from unintended movement. Check that:</p> <ol style="list-style-type: none"> 1) The tow bar leg is locked in the DOWN position. 2) The wheels are blocked.
3. Start engine	<p>Start the engine. See the engine owner's manual for engine starting instructions.</p> <p>Note:</p> <ol style="list-style-type: none"> a) Make sure the hydraulic oil is above 10°F before starting the engine. Cold hydraulic oil can damage the hydraulic pump. b) If outdoor air temperature is below 32°F, allow log splitter to warm up by extending and returning the wedge several times before splitting wood. <p>⚠ WARNING:</p> <p>Burns. To avoid burns, stay clear of hot muffler if you are starting a warm engine.</p> <p>Carbon monoxide. The running 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.</p> <p>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.</p>
4. Load log	<p>Load log onto beam between the wedge and an endplate, cut edge against the endplate - positioned for a lengthwise cut.</p> <p>Notes:</p> <ol style="list-style-type: none"> a) This log splitter is equipped with a unique double-edged cutting wedge, which is capable of splitting wood on either the extension or retraction stroke of the wedge. b) The log splitter is designed <u>only</u> for cutting lengthwise with the grain, NOT for cutting across the grain. c) This log splitter is designed for cutting logs only up to 18" long and 12" in diameter (item #1156), 24" long and 16" in diameter (item #1157), lengthwise 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 wedge and partially split logs while loading, operating and unloading the log splitter.

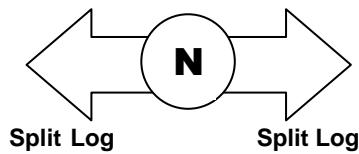
Important safety instructions:

- **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.
- **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. 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

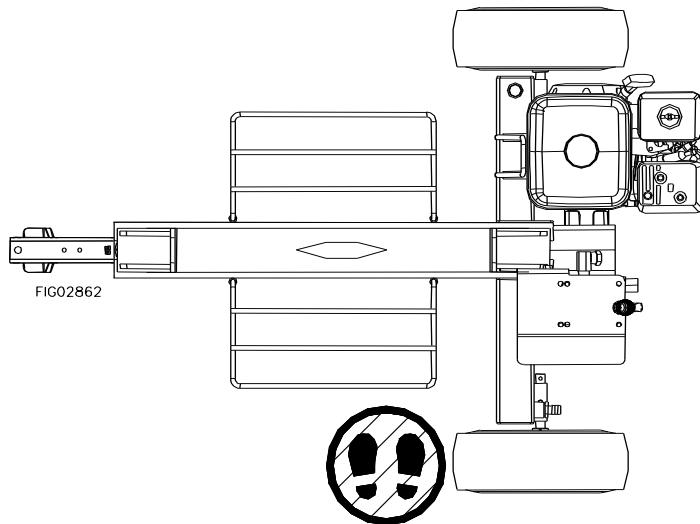
5. Extend wedge

Move Split Control Lever toward the end plate to move the wedge and split the log.

SPLIT CONTROL



Splitting Operation



Operator Position

Important safety instructions:

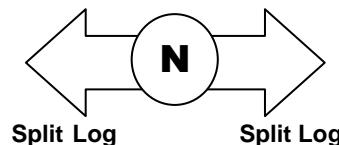
- **Operator position.** ALWAYS operate the log splitter from the manufacturer's indicated OPERATOR POSITION. (See diagram above.) Other positions are unsafe because they can increase the risk of injury from crushing, cutting, flying objects, or burns.
- **Remove hands.** Remove both hands from log before activating the 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.

SPLIT CONTROL



Splitting Operation

7. Important STUCK LOG procedure	<p>If a log does not split completely and becomes stuck on the wedge, follow the instructions below to remove the log.</p> <p>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.</p> <p>If this happens, follow the directions below.</p> <p>⚠WARNING: NEVER attempt to remove a stuck log by:</p> <ul style="list-style-type: none">• Using the hydraulic force of the splitter• Modifying the splitter• Adding attachments to the splitter <p>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.</p> <ol style="list-style-type: none">1. Remove pressure from log by moving wedge away from the endplate.2. Turn engine OFF.3. Remove stuck log from the wedge manually with a pry bar or a sledgehammer. <i>Important:</i> 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.
8. Remove split wood	<p>Move each log away from log splitter after it is split. Split logs left near the log splitter are a trip hazard.</p>
9. After use	<ol style="list-style-type: none">1. Turn off engine.2. Remove engine debris. <p>Debris on a hot engine can be a fire hazard. After the engine is off, clean debris and chaff from engine cylinder head, cylinder head fins, blower housing rotating screen, and muffler areas.</p> <p>⚠WARNING: Avoid contact with hot muffler.</p>

Any Questions, Comments, Problems or Parts Orders
Call PowerHorse Product Support 1-866-443-2576

Storage

WARNING

Gasoline vapors can ignite and cause a fire. Select a well-ventilated storage area away from sources of heat, flame, or sparks.

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

1. Retract cylinder	Retract the wedge completely to the hitch end of the log splitter to keep the rod protected from corrosion.
2. Cool	Allow the machine to cool 5 minutes before storing.  WARNING: A hot engine can be a fire hazard.
3. Wipe with oily rag	Wipe the wedge with an oily rag to prevent corrosion.
4. Engine manual	Refer to the engine manual for proper engine storage instructions. CAUTION: Gasoline will oxidize and deteriorate in storage. Old gasoline in the engine will cause hard starting and leave gum deposits that can clog the fuel system. Deterioration problems may occur within a few months, or even less if gasoline was not fresh when you filled the fuel tank. Short-Term Storage: 1. Consider adding a fuel stabilizer to extend fuel storage life. 2. Leave the fuel valve lever in the OFF position to reduce the possibility of fuel leakage. Long Term Storage: (between infrequent uses and at end of season) Drain the fuel tank and carburetor as instructed in the engine owner's manual. Important Safety Instructions: <ul style="list-style-type: none">• Always drain fuel from tank in outdoor, well-ventilated area.• Stay away from sources of heat, flame, or sparks while handling fuel.• Clean up fuel spills/splashes immediately.
5. Splitter storage location	Store the log splitter in a location away from corrosive material, sources of heat, open flames, sparks or pilot lights.  WARNING: Never store log splitter inside where there is a source of heat or an open flame, spark, or pilot light – such as water heaters, space heaters, furnaces, clothes dryers, or other gas appliances. Even if the log splitter's gas tank is empty, residual gasoline vapors could ignite. NOTE: Do not store the log splitter near fertilizer or any other corrosive material.
6. Gasoline storage	Store gasoline in a cool, dry place in an UL approved, tightly sealed container.  WARNING: Gasoline vapors can ignite if they collect inside an enclosure and explosion can result.

Periodic Maintenance

In addition to the maintenance performed with each use, periodic maintenance should also be performed according to the following schedule.

WARNING

ALWAYS shut off the engine, disconnect the spark plug, and relieve system pressure before 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. Engine Maintenance	Perform engine maintenance as specified in the engine owner's manual.
2. Hydraulic oil change	Change hydraulic oil annually / 100 hours.  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: <ul style="list-style-type: none">○ 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.○ NEVER adjust the pressure setting of the pump or valve.○ 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. <ol style="list-style-type: none">1. Use 10 wt AW32, ASLE H-150, or ISO32 oil.2. Relieve hydraulic system pressure by moving the split control lever back and forth several times.3. Remove hydraulic oil fill cap.  WARNING: NEVER remove the hydraulic oil fill cap when the engine is running or hot. Hot oil can escape causing severe burns. Allow log splitter to cool completely before removing hydraulic oil fill cap.4. Remove the suction hose from the hydraulic tank to drain the hydraulic oil.5. Fill with the specified quantity6. Replace dipstick and check that oil level reads full (before starting engine and checking oil level again). Note: Do not thread in the oil dipstick when checking the hydraulic oil level.7. Dispose of used oil at an oil-recycling center. Used hydraulic oil is hazardous waste.
3. Spark arrestor muffler	If the engine is equipped with a spark arrestor muffler, clean and inspect it regularly (follow manufacturer's service instruction). Replace if damaged.

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, burns, fire or explosion, or escaping high pressure hydraulic fluid.

Important Safety Instructions

1. **Engine off.** Always make sure the 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:
 - Stop the engine, disconnect the spark plug, and move split control lever back and forth to relieve pressure before changing or adjusting hydraulic system components such as hoses, tubing, fitting or other components.
 - Do not remove the hydraulic oil fill cap when the engine is running. Hot oil can escape causing severe burns. Allow log splitter to cool completely before removing hydraulic oil fill cap.
 - Do not adjust the pressure setting of the pump or valve.
 - 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,L
Wood will not split or splits extremely slowly	Solution: A,B,C,F,I,K
Engine bogs down during splitting	Solution: G
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
L - Drawing air through suction line	Check and tighten hose clamps on suction hose

Any Questions, Comments, Problems or Parts Orders

Call PowerHorse Product Support 1-866-443-2576

Specifications

Maximum Pressure	3000 PSI
Maximum Flow	3 GPM
Hydraulic Fluid Capacity....	2.25 Gallons
Hydraulic Fluid Type.....	10 wt AW32, ASLE H-150, or ISO32
Draw Pin Size.....	½" Diameter
Maximum Towing Speed...	15 MPH
Maximum Log Length	18"
Pressure Relief Setting	3000 PSI
Hydraulic Cylinder Bore ...	3"
Hydraulic Cylinder Stroke ..	18"
Spark Arrestor.....	No
Fuel Valve.....	Yes
Overall Dimensions	56”L x 39”W x 30”H
Dry Weight	235 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.

Any Questions, Comments, Problems or Parts Orders
Call PowerHorse Product Support 1-866-443-2576

Parts Breakdown – Exploded View – Rev M.2

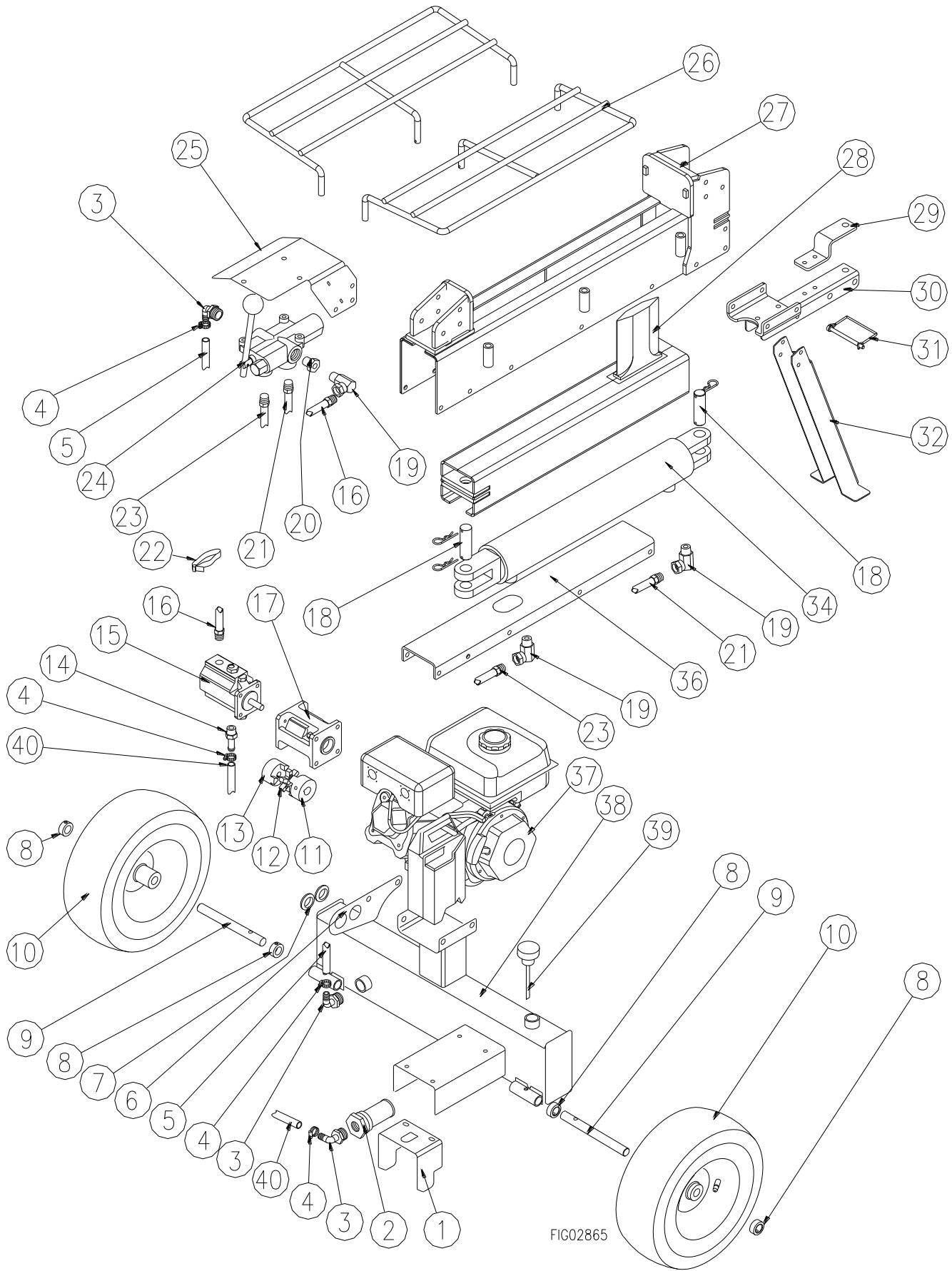


FIG02865

Parts Breakdown – Exploded View – Rev M.2

Item	Part Number	Description	Qty
1	780234	Tip Bracket	1
2	4011	4" Suction Strainer	1
3	779269	Hose Barb Elbow	3
4	777119	1/2" Hose Clamp	4
5	30160	1/2" PVC Hose	21"
6	782374	Hose Guide	1
7	782400	Grommet	2
8	305200	Wheel Retainer	4
9	780113	Stub Axle	2
10	778295	Tire	2
11	777910	3/4" Coupling	1
12	777912	Coupling Insert	1
13	777909	1/2" Coupling	1
14	780151	Pump Suction Fitting	1
15	10564	Hydraulic Pump	1
16	780148	Pump Hose	1
17	3030	4" Pump Bracket	1
18	406518	Clevis Pin	2
19	50RAS8	High Pressure Fitting	3
20	50CSC128	Reducer Fitting	1
21	782543	Long Cylinder Hose	1
22	82517	Zip Tie	1
23	780146	Short Cylinder Hose	1
24	781825	Control Valve	1
25	781824	Valve Plate	1
26	780266	Log Table	2
27	787338	Beam Assembly	1
28	787337	Beam Slide	1
29	780284	Upper Hitch	1
30	781992	Tow Leg Channel	1
31	778498	Pin Catch	1
32	781990	Tow Leg	1
34	782257	3"x18" Hydraulic Cylinder	1
36	787340	Bottom Plate	1
37	785558	208cc PowerHorse Engine	1
38	780768	Hydraulic Tank	1
39	786774	Hydraulic Dipstick	1
40	30160	1/2" PVC Hose	14"

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.
- **Pressure setting.** NEVER increase the pressure setting of the pump or control valve.

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 Moving and Towing the Log Splitter

WARNING

The log splitter is very heavy. It can crush and cause serious injury if it rolls out of control or tips over.

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

General Safety While Moving

- **Hills.** Do not move the log splitter up or down hills by hand -- use a towing vehicle.
- **Engine off.** Never move the log splitter with its engine running.
- **No riding.** Never allow anyone to sit or ride on the log splitter.
- **No cargo.** Never transport cargo or wood on the log splitter.

Summary of Important Safety Information for Operation

Safety During Towing

- **Read instructions.** Review towing safety instructions in your towing vehicle manual.
- **Securely attached.** Be sure the log splitter is securely attached to the towing vehicle before towing.
- **Tires.** Be sure tires are fully inflated and in good repair before towing the splitter. When adding air to tires, do not over-inflate -- serious injury could occur if tire explodes.
- **Added length.** Be aware of the added length of the splitter.
- **Speed limit.** Never tow this log splitter over 15 mph. Faster speeds may result in loss of control.
- **Rough terrain.** Be extra cautious and drive slowly when traveling over rough terrain.
- **Under the influence.** Never tow this splitter while under the influence of alcohol, drugs, or medication.
- **On public roads.** When towing on public roads:
 - Make sure to comply with all local, state, and federal towing requirements. It is your responsibility to obtain licensing, trailer lights, safety chains or signage, as needed to comply.
 - If driving slower than 15 MPH 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 required. SMV and SIS signs are generally available at farm equipment dealers.
- **Unattended.** Turn off the towing vehicle before leaving the splitter unattended.
- **Disconnect before operate.** Do not use the log splitter while it is connected to the towing vehicle.

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 drawstrings or loose cuffs.
- **Hearing protection.** The use of earplugs 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 engine is off before cleaning, repairing or adjusting the splitter, except as recommended by the manufacturer.
- **Engine debris.** Debris on a hot engine can be a fire hazard. With the engine off, clean debris and chaff from engine cylinder head, cylinder head fins, blower housing rotating screen, and muffler areas. Avoid contact with hot muffler.
- **Other debris.** Debris on moving parts can cause excess wear. With the splitter engine off, clear debris from moving parts.
- **Fuel tank / lines.** Before each use, check fuel tank and fuel lines for leaks. Any fuel leak is a fire hazard. Fix any fuel leaks before starting engine.
- **Mechanical parts.** Check to be sure all nuts and bolts are tight to make sure the log splitter is in safe working condition.
- **Hydraulic system.** Check the hydraulic system (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,

Summary of Important Safety Information for Operation

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

- Do not remove the hydraulic oil fill cap when the engine is running. Hot oil can escape causing severe burns. Allow log splitter to cool completely before removing hydraulic oil fill cap.
- Do not adjust the pressure setting of the pump or valve.
- 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 split control lever 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.
- **Spark arrestor muffler.** If the engine is equipped with a spark arrestor muffler, clean and inspect it regularly (follow manufacturer's service instructions). Replace if damaged.
- **Tires.** Be sure tires are fully inflated and in good repair before towing the splitter. When adding air to tires, do not over-inflate -- serious injury could occur if tire explodes.
- **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 During Fueling

Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Use extreme care when handling gasoline:

- **Fuel outdoors.** Fill fuel tank outdoors – never indoors. Gasoline vapors can ignite if they collect inside an enclosure. Explosion can result.
- **Use approved container.** Never pump fuel directly into engine at gas station. Static charge can build and ignite fuel. Use an UL approved fuel container to transfer gas to the engine.
- **Running / hot engine.** A running engine is hot enough to ignite fuel. Never add fuel or remove gas cap if engine is running or still hot. Stop the engine and allow it to cool, at least two minutes before adding fuel.
- **Heat / flames / sparks.** Stay away from sources of heat, flame, or sparks while adding fuel.
- **Don't overfill.** DO NOT overfill the gas tank. Allow at least 1/2" of empty space below the fill neck to allow for fuel expansion.
- **Replace cap.** Replace gas cap securely before starting engine.
- **Spills.** Clean up fuel spills immediately. Move log splitter away from spilled fuel on the ground. Wipe fuel off engine and wait 5 minutes for excess fuel to evaporate before starting engine. Gas soaked rags should be disposed of properly.
- **On skin / clothes.** If gasoline is spilled on your skin or clothes, change clothes and wash skin immediately.
- **Gasoline storage.** Store gasoline in a cool, dry place in an UL approved, tightly sealed container.

Safety in Work Site Selection / Set-up

- **Spark arrestor.** If your splitter will be used near any unimproved forest, brush, or grassy covered land, then engine should be equipped with a spark arrestor. See the "Specifications" section of this manual to determine if your splitter already has a spark arrestor. Make sure you comply with applicable local, state and federal codes.
- **Hot exhaust.** Hot exhaust fumes from engine can cause fire. Position muffler at least 7' from combustible objects during operation.

Summary of Important Safety Information for Operation

- **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.
- **Block wheels.** Always block the wheels to prevent unintended movement of the log splitter.
- **Carbon monoxide.** The running 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. The maximum speed of the engine, pump and wedge are preset within safe limits.
- **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.
- **Hot muffler.** If you are starting a warm engine, stay clear of muffler. It may still be hot enough to burn you.
- **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.** Always make sure the engine is off before cleaning, repairing or adjusting the splitter, except as recommended by the manufacturer. In addition, disconnect the spark plug and move all control handles back and forth to relieve system pressure *before changing or adjusting hydraulic system components* such as hoses, tubing, fittings or other components.
- **Carbon monoxide.** The running 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 end plate, 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 splitter engine is running. You could trip, actuate the controls, and get seriously injured.

Summary of Important Safety Information for Operation

- **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.
- **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.
- **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. If this happens, 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.

1. Remove pressure from log by moving wedge away from the endplate.
 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.
- **Refueling.** Never refuel the engine until it has cooled at least two minutes.

Safety – After use

- **Remove engine debris.** Debris on a hot engine can be a fire hazard. With the engine off, clean debris and chaff from engine cylinder head, cylinder head fins, blower housing rotating screen, and muffler areas. Avoid contact with hot muffler.
- **Let engine cool before storing.** Let engine cool for at least five minutes before storing. A hot engine can be a fire hazard.
- **Storage location.** Store the log splitter in a location away from sources of heat, open flames, sparks or pilot lights – such as water heaters, space heaters, furnaces, clothes dryers, or other gas appliances. Even if the log splitter's gas tank is empty, residual gasoline vapors could ignite.
- **Gasoline storage.** Store extra gasoline in a cool, dry place in an UL approved, tightly sealed container. Gasoline vapors can ignite if they collect inside an enclosure.
- **Periodic maintenance.** Perform periodic maintenance as directed in this manual to keep the log splitter in safe working condition.

Assembly Instructions

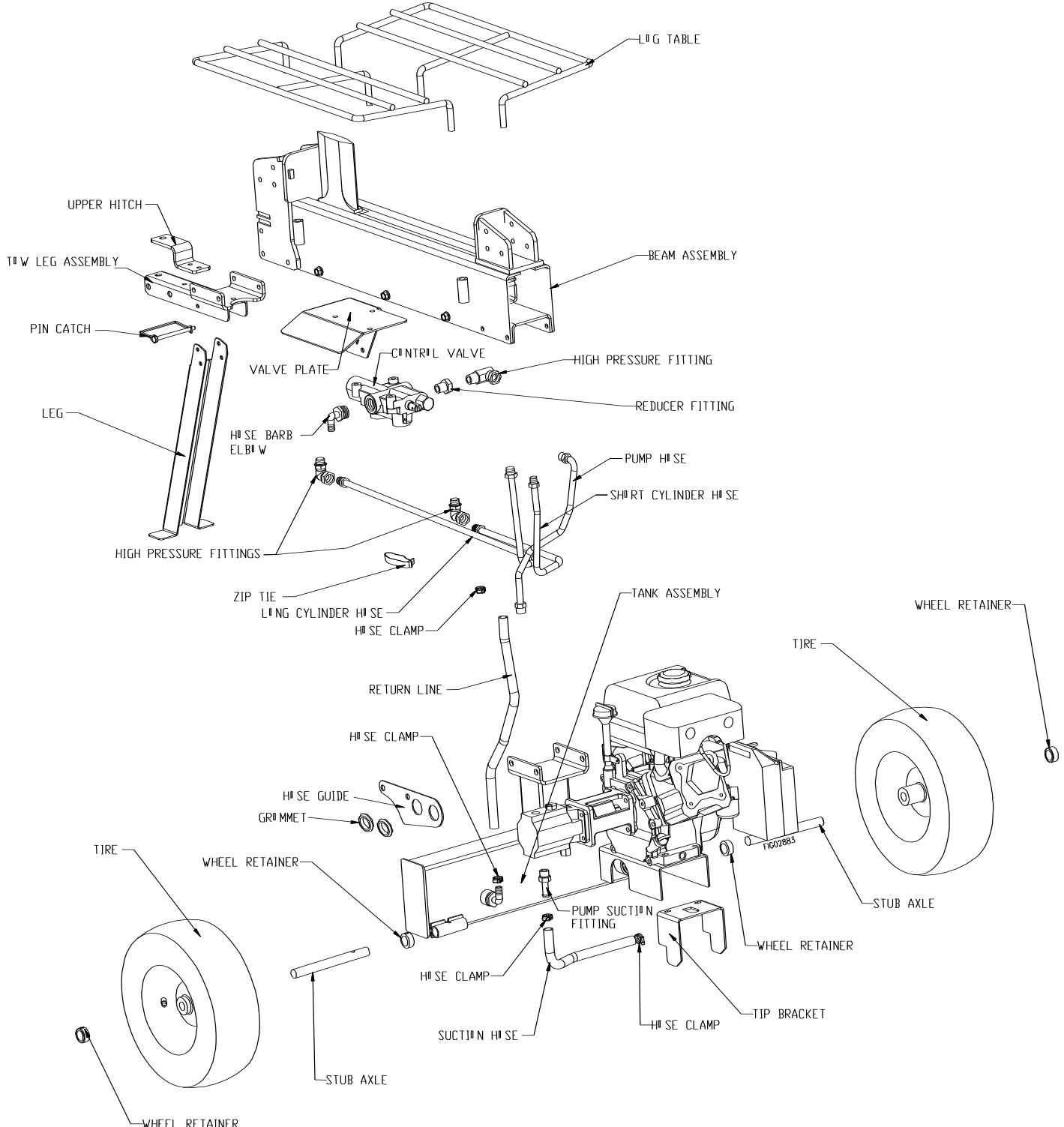
Closely inspect all log splitter components and contents of manual bag (see diagrams).

If you have missing components, contact PowerHorse Product Support at 1-866-443-2576.

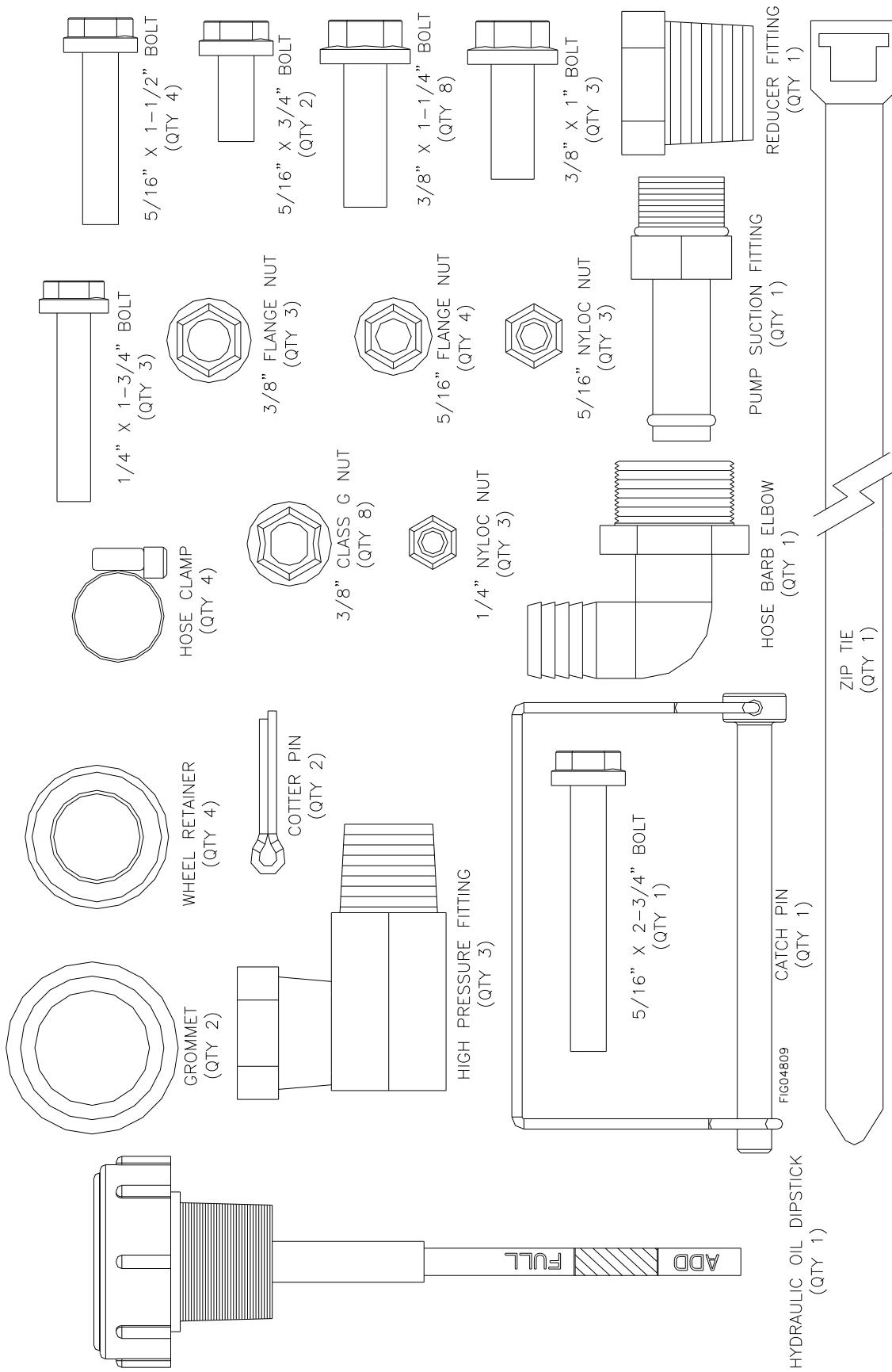
If you have damaged components, contact the Freight Company that delivered the unit and file a claim.

CAUTION! Heavy lifting required. Some of the components in these assembly instructions are heavy and cannot be lifted by one person safely. Please plan on assembling this product when another person can be available to help out.

Tools needed: Adjustable wrenches, Torque Wrench, Soft-Faced Mallet, Flat Blade Screw Driver, Teflon® Tape



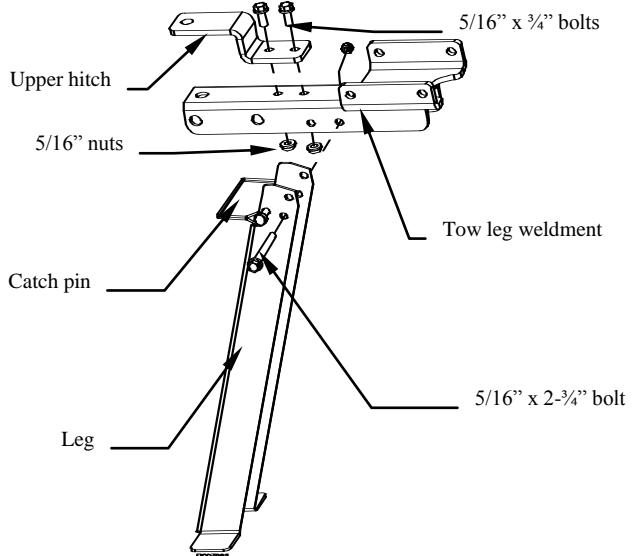
Assembly Instructions



Assembly Instructions

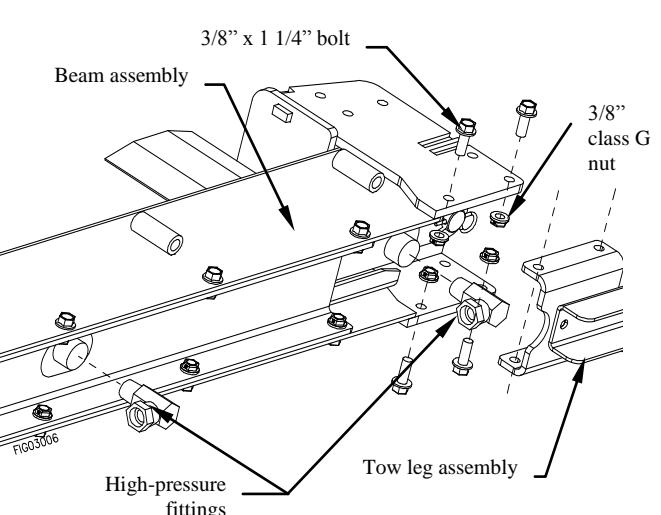
Step 1

- Install the Upper Hitch to the Tow Leg Weldment. Use 5/16" x 3/4" Bolts and 5/16" Flange Nuts to secure the Bracket. Using a Torque Wrench, Tighten to 20lb-ft.
- Install Leg to Tow Leg Weldment using 5/16 x 2-3/4 Bolt and 5/16 Nyloc nut.
- Install Catch Pin through Hole in Tow Leg, as shown.



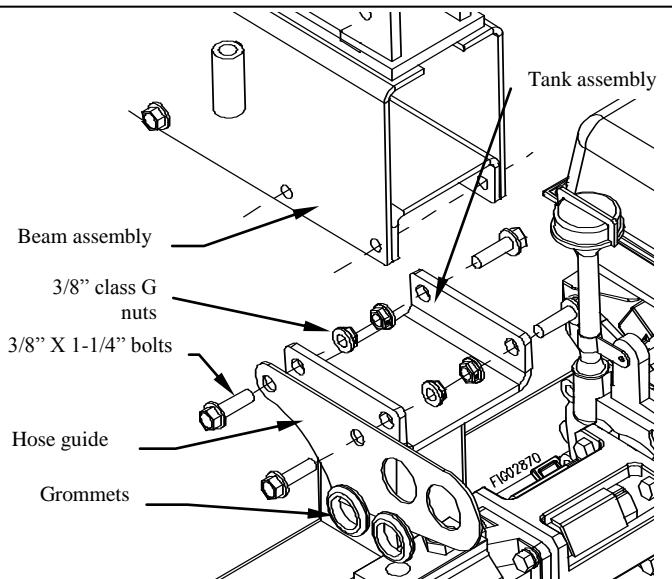
Step 2

- Install the High Pressure Fittings to the Beam Assembly. Thread the fittings into the cylinder. Orient the Fittings as shown.
- Install the Tow Leg Assembly to the Beam Assembly. Use 3/8" x 1 1/4" Bolts and 3/8" Class G Nuts. Using a Torque Wrench, tighten to 37lb-ft.



Step 3

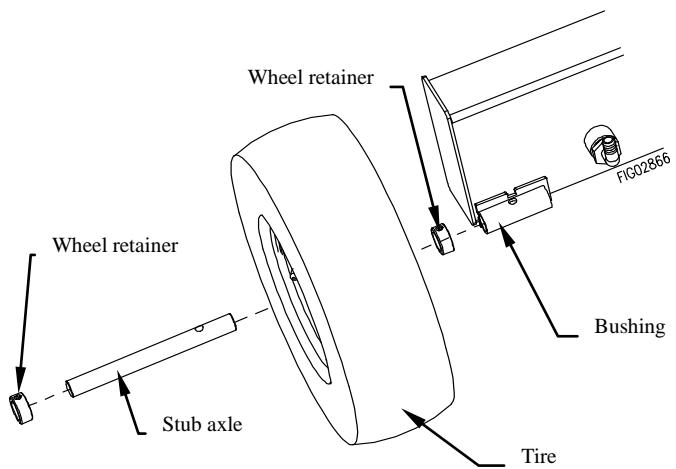
- Attach the Beam Assembly and the Hose Guide to the Hydraulic Tank Assembly.
- Use 3/8" x 1-1/4" Bolts, and 3/8" Class G Nuts. Using a Torque Wrench, tighten to 37lb-ft.
- Install Grommets into the Hose Guide.



Assembly Instructions

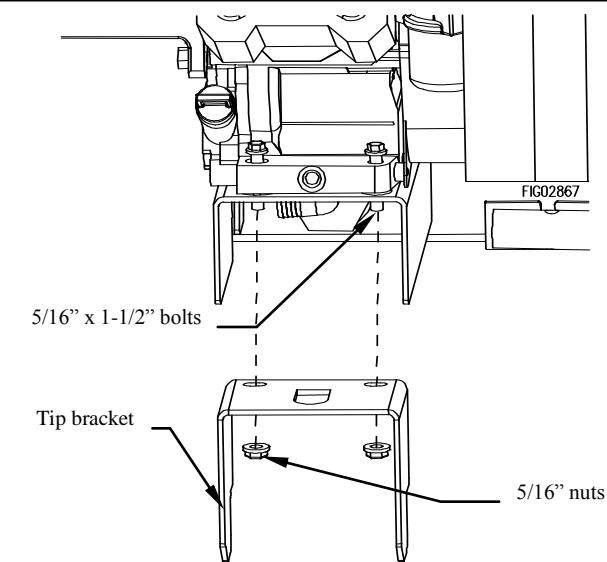
Step 4

- Install Wheel Retainer onto the end of the Axle. The Wheel Retainer should be flush with the end of the Stub Axle. Tighten the Set Screw.
- Slide the Stub Axle into the Tire. Slide a Wheel Retainer on the backside of the Stub Axle and tighten the Set Screw.
- Slide the Tire and Axle Assembly into the Bushing on the Tank. Secure with a 5/16" x 1-1/2" bolt and a 5/16" Nyloc nut.



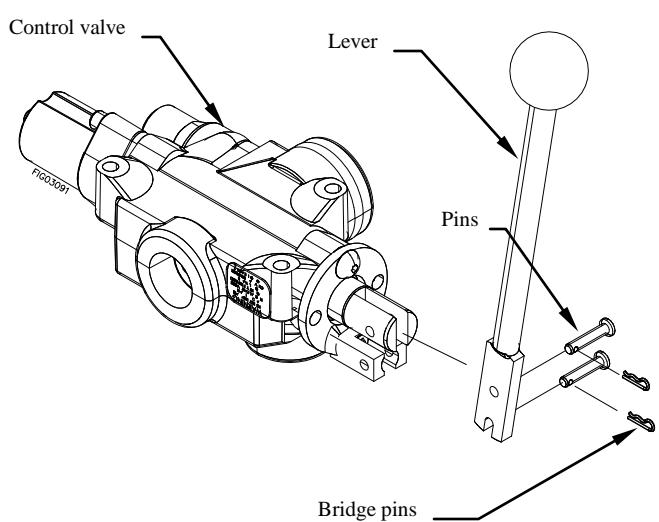
Step 5

- Install the Tip Bracket to the Hydraulic Tank Assembly. Use 5/16" x 1-1/2" Bolts and 5/16" Flange Nuts to secure the Bracket. Using a Torque Wrench, tighten to 20lb-ft.



Step 6

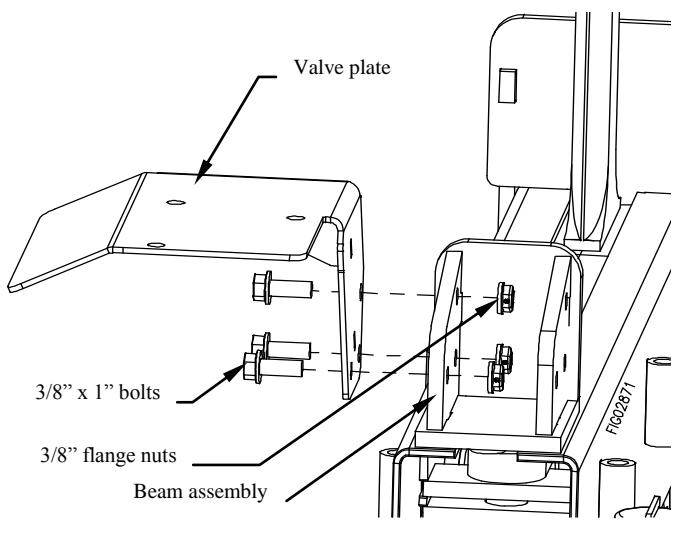
- Fasten Lever to Control Valve with Pins and Bridge Pins as shown.



Assembly Instructions

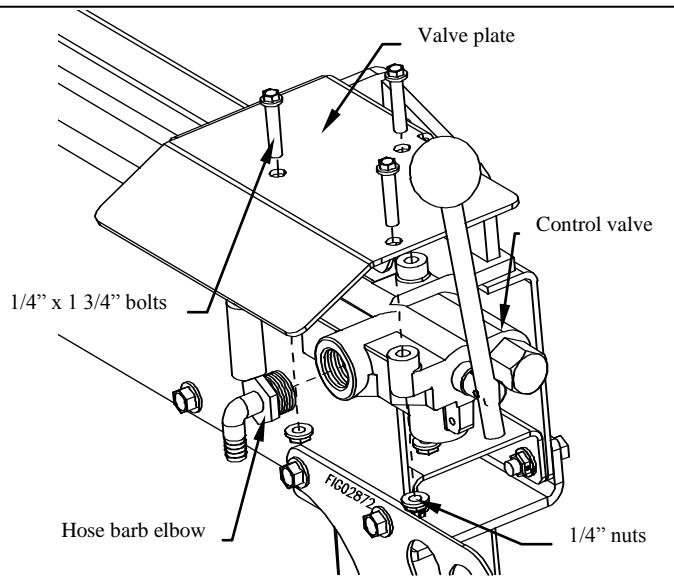
Step 7

- Install the Valve Plate to the Beam Assembly.
- Use 3/8" x 1" Bolts and 3/8" Flange Nut.



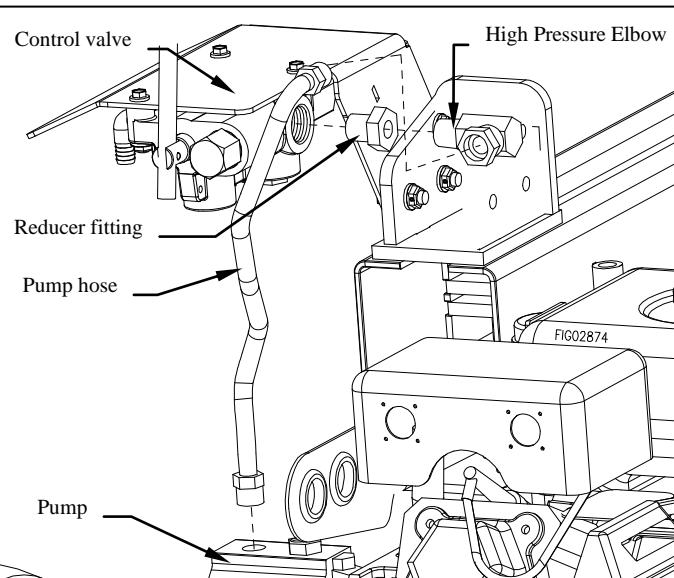
Step 8

- Install the Hose Barb Elbow to the Control Valve port marked "Out". Orient Hose Barb Down as Shown.
- Attach the Control Valve to the Valve Plate.
- Use 1/4" x 1 3/4" Bolts and 1/4" Flange Nuts



Step 9

- Thread the Reducer Fitting into the Control Valve port marked "IN".
- Thread the High Pressure Elbow into the Reducer Fitting. Orient the High Pressure Elbow as shown.
- Attach the O-ring side of the Pump Hose to the Pump.
- Attach the loose end to the High Pressure Elbow.

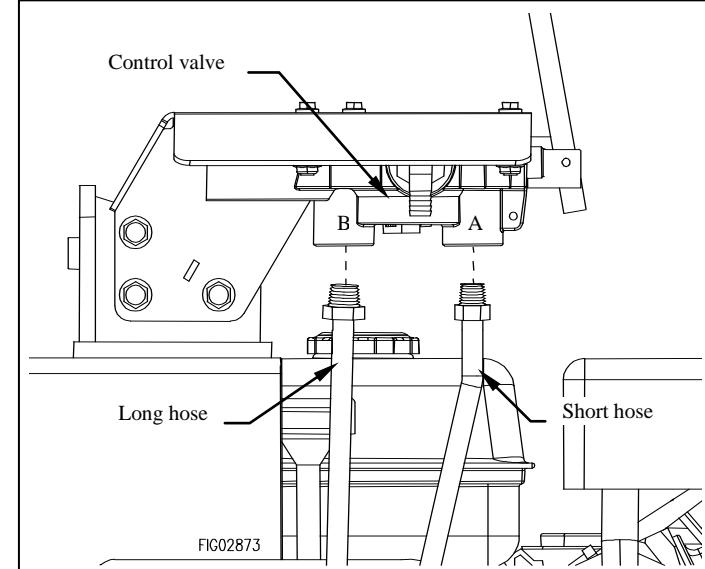


Assembly Instructions

Step 10

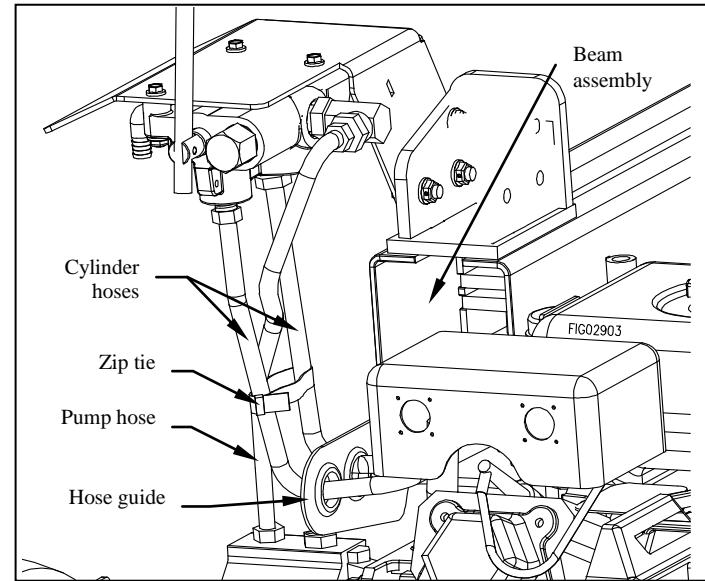
- Attach the Cylinder Hoses to the Control Valve.
- Use Teflon Tape on Hose Threads.
- Attach the Short Cylinder Hose to the Control Valve Port marked "A" in the figure.
- Attach the Long Cylinder Hose to the Control Valve Port marked "B" in the figure.

* Pump Hose not shown in figure for clarity



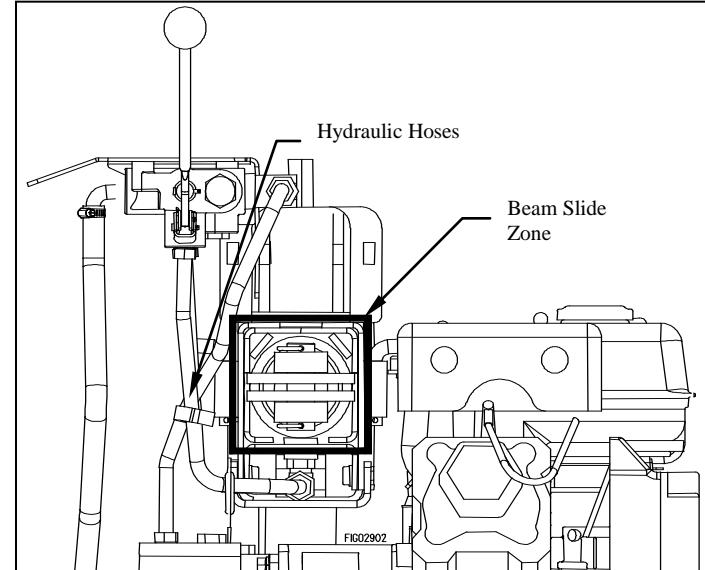
Step 11

- Route the Cylinder Hoses through the Hose Guide and then through the opening between the Beam Assembly and Hydraulic Tank Assembly, running the Cylinder Hoses along the bottom of the Beam Assembly toward the Hitch end of the unit.
- Install the Zip Tie around the pump and cylinder hoses.



⚠ WARNING

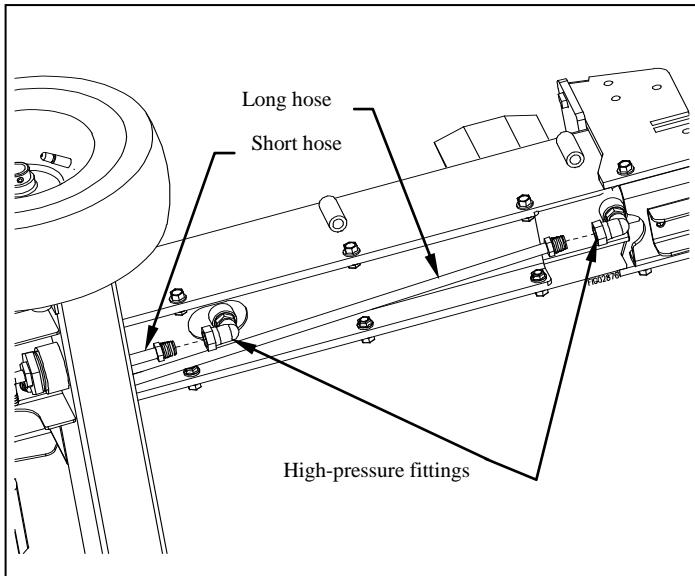
- All Hoses should be routed and secured outside of the beam slide zone.
- Note: Injury can occur if beam slide comes into contact with any hose.



Assembly Instructions

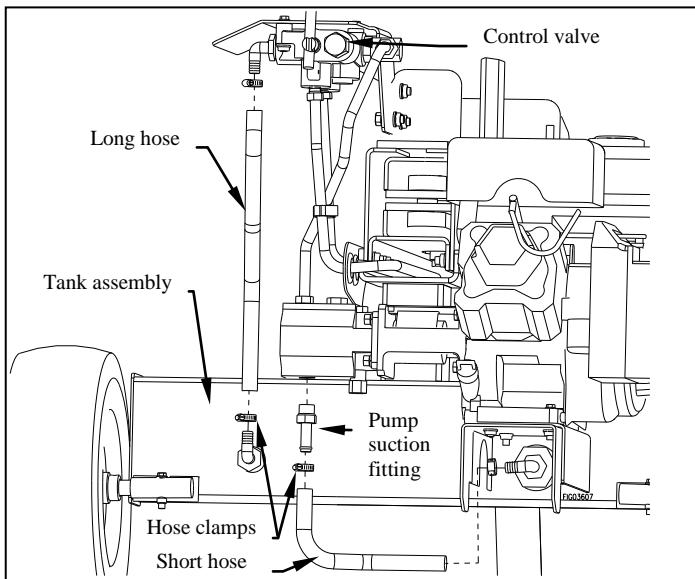
Step 12

- Attach the Cylinder Hoses to the High Pressure Fittings.



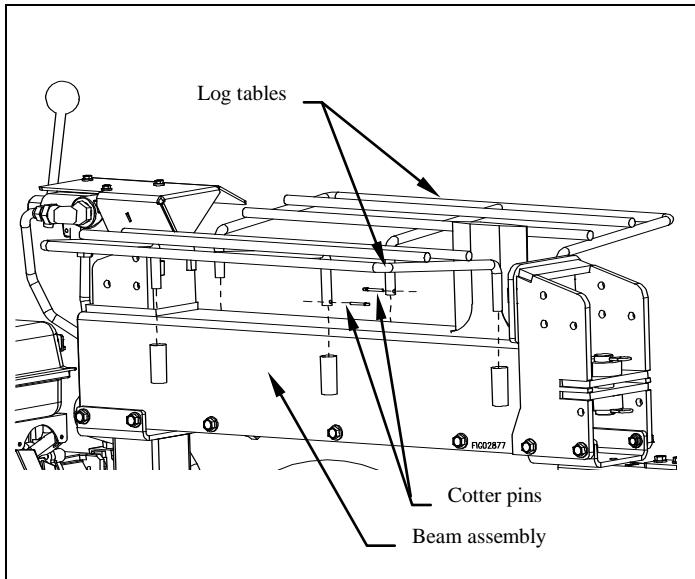
Step 13

- Connect the Long Low Pressure Hose to the Hydraulic Tank Assembly and the Control Valve with the Hose Clamps.
- Thread the Pump Suction Fitting into the Pump.
- Connect the Short Low Pressure Hose to the Hydraulic Tank Assembly and the Hydraulic Pump with the Hose Clamps.



Step 14

- Install the Log Tables to the Beam Assembly. A soft-faced mallet may be required.
- Secure the Log Tables with the supplied Cotter Pins.



Step 15

- Fill Log Splitter with Hydraulic Fluid as outlined in the Initial Unpacking & Set-Up section of the manual.
- Fill Engine with SAE 10W-30 as recommended by the Engine Manufacturer.

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Limited Warranty

Dear Valued Customer:

The Powerhorse Product you just purchased is built with the finest material and craftsmanship. Use this product properly and enjoy the benefits from its high performance. By purchasing a Powerhorse product, you show a desire for quality and durability. Like all mechanical equipment this unit requires a due amount of care. Treat this unit like the high quality piece of machinery it is. Neglect and improper handling may impair its performance. Please thoroughly read the instructions and understand the operation before using your product.

Limited Warranty

Powerhorse shall warranty any piece of equipment manufactured, or parts of equipment manufactured, to be free from defects in material or workmanship for a period of 2 years for noncommercial/nonrental use and a period of 90 days for commercial/rental use from the date of purchase by user.

Powerhorse shall warranty any wear item, including, but not limited to, valves, seals, pump diaphragms, hoses, and filter elements to be free from defects in material or workmanship for a period of 90 days from the date of purchase by user. This warranty applies to the original purchaser of the equipment and is non transferable. Verification of purchase is the responsibility of the buyer. Parts will be replaced or repaired at no charge, except when the equipment has failed due to lack of proper maintenance. Any misuse, abuse, alteration or improper installation or operations will void warranty. Determining whether a part is to be replaced or repaired is the sole decision of Powerhorse.

NOTE: Some services performed by parties other than Powerhorse may void warranty.

This warranty covers parts only. It will not provide for replacement of complete products due to defective parts. Components not manufactured by Powerhorse are guaranteed by their manufacturer and can be serviced at factory-authorized locations near you. Any costs incurred due to replacement or repair of items outside of a Powerhorse approved facility is the responsibility of the buyer and not covered under warranty. Powerhorse can supply you with the service center location in your area.

This warranty specifically excludes the following; failure of parts due to damage caused by accident, fire, flood, windstorm, acts of God, applications not approved by Powerhorse in writing, corrosion caused by chemicals, use of replacement parts which do not conform to manufacturer's specifications, and damage caused by vandalism. Additional exclusions: loss of running time, inconvenience, loss of income, or loss of use, including any implied warranty of merchantability of fitness for a specific use.

Warranty does not cover items subject to normal wear such as tires, receptacles or any part subject to direct physical contact by the public. This warranty does not cover any personal injury or damage to surrounding property caused by failure of any part.

This warranty is in lieu of any other warranty expressed or implied and Powerhorse assumes no other responsibility or liability outside that expressed within this warranty.

Please fill in the following information and have it on hand when you call in on a warranty claim.

Customer Number: _____

Date of Purchase: _____

Powerhorse Serial Number: _____

Item Number: _____



POWERHORSE®

Manufactured by
Northern Tool + Equipment Co., Inc
Burnsville, MN 55306
NorthernTool.com
Made in the USA