MVH1724A.2

MODELS:
VH1724GC
VH1730GC
VH1737GX

ITEM NUMBER: _____

SERIAL NUMBER: _____

Owner's Manual

Instructions for Assembly, Testing, Operation, Servicing and Storage

24, 30, & 37 Ton Log Splitters: 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 and 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 endplate, wedge, logs, and log dislodger/strippers 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 an ignitable forest, brush, or grassy covered land, the engine exhaust should be equipped with a spark arrestor. See the "Specifications" section of this manual to determine if your splitter already has a spark arrestor. If not equipped, call Brave Product Support for ordering information.
- Keep a class ABC fire extinguisher with you.

STOP!

ADD OIL TO ENGINE BEFORE USING: Engine is shipped without oil. DO NOT start log splitter without first adding oil.
ADD HYDRAULIC OIL: Your log splitter was shipped without hydraulic oil. Refer to Periodic Maintenance section of this manual for instructions on filling the hydraulic reservoir
PRIME THE PUMP: The pump on your log splitter needs to be primed before use. Refer to Initial Setup section for instructions.
INSPECT COMPONENTS: Closely inspect to make sure no components are missing or damaged.
See Initial Unpacking and Set-up for instructions and for whom to contact to report missing or damaged parts.

Any Questions, Comments, Problems or Parts Orders
Call Brave Product Support 1-800-350-8739

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	DANGER (red) indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠WARNING	WARNING (orange) indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠CAUTION	CAUTION (yellow) indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
CAUTION	CAUTION (yellow) used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage. fig01453

Table of Contents

About Your Log Splitter

Thank you for purchasing your Brave 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's gasoline engine is used to pressurize the hydraulic system.

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

This log splitter model is capable of splitting logs up to 24" long and 16" in diameter.

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 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 this manual.

Contact Brave Product Support at 1-800-350-8739 for any questions about the appropriate use of this log splitter and/or optional accessories.

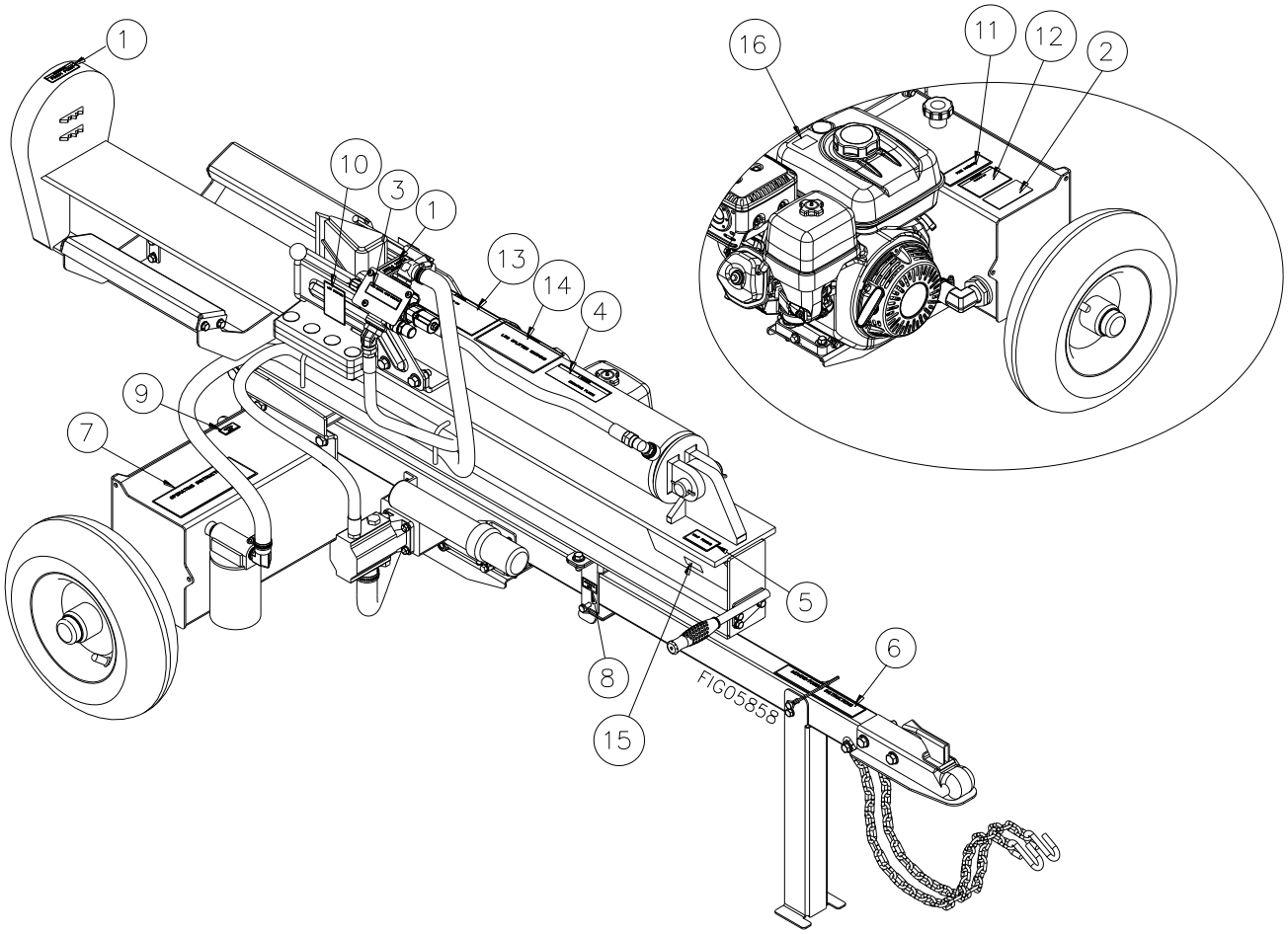
Warranty Registration:

Please fill out and submit the warranty registration page at the end of the manual so that we have your contact information for any future product literature or replacement parts you may need. You can also register online at www.braveproducts.com.

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 provide instruction on how to safely operate the splitter and remain available to answer any questions a renter/borrower might have.

Safety Label Locations



Always make sure safety labels are in good condition. If a safety label is missing or not legible, order new labels or unsafe operation could result. **Contact Brave Product Support at 1-800-350-8739**

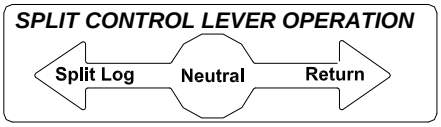
Ref#	Part #	Description	QTY
1	787944	Pinch Point Warning	2
2	788935	Fuel Fire Explosion Warning	1
3	778609	Split Control Directions	1
4	777891	Escaping Fluid Warning	1
5	791123	45 mph Decal	1
6	791105	Moving/Towing Instructions	1
7	777887	Operating Instructions	1
8	778597	Horizontal Lock Decal	1
9	778714	Vertical Lock Decal	1
10	778717	Log Stripper Warning	2
11	777890	Fire Hazard Warning	1
12	788937	Poisonous Gas Warning	1
13	777889	Stuck Log Warning	1
14	778610	Log Splitter Warning	1
15	---	Nameplate/Serial Number Decal	1
16	788936	Burn Hazard Decal (GC units only)	1

Safety Label Locations

1

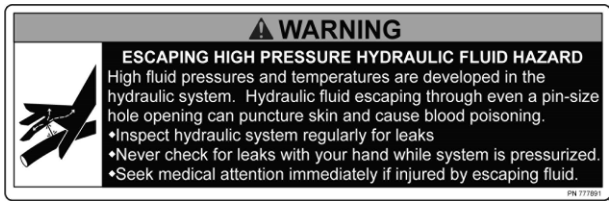
2

3

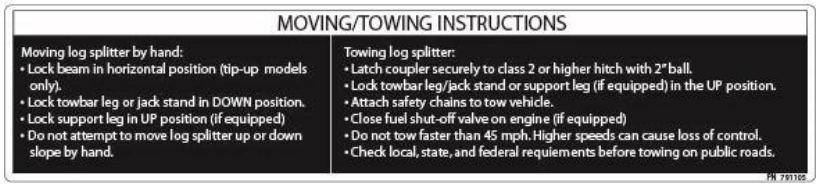


5

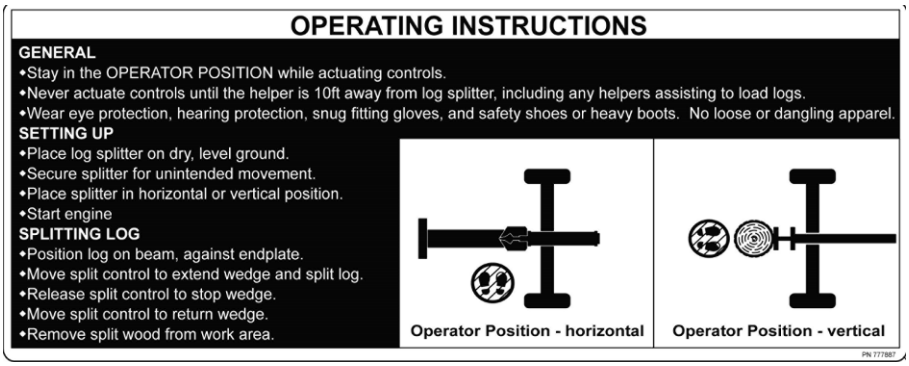
4



6



7



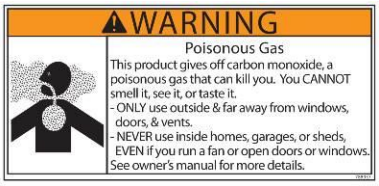
8

9

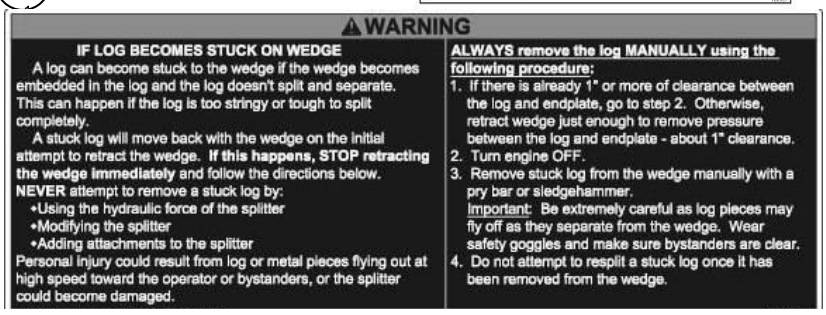
10

11

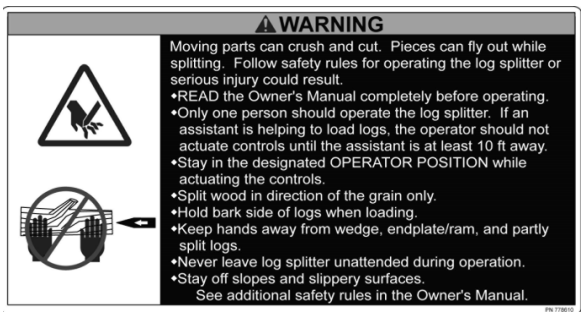
12



13

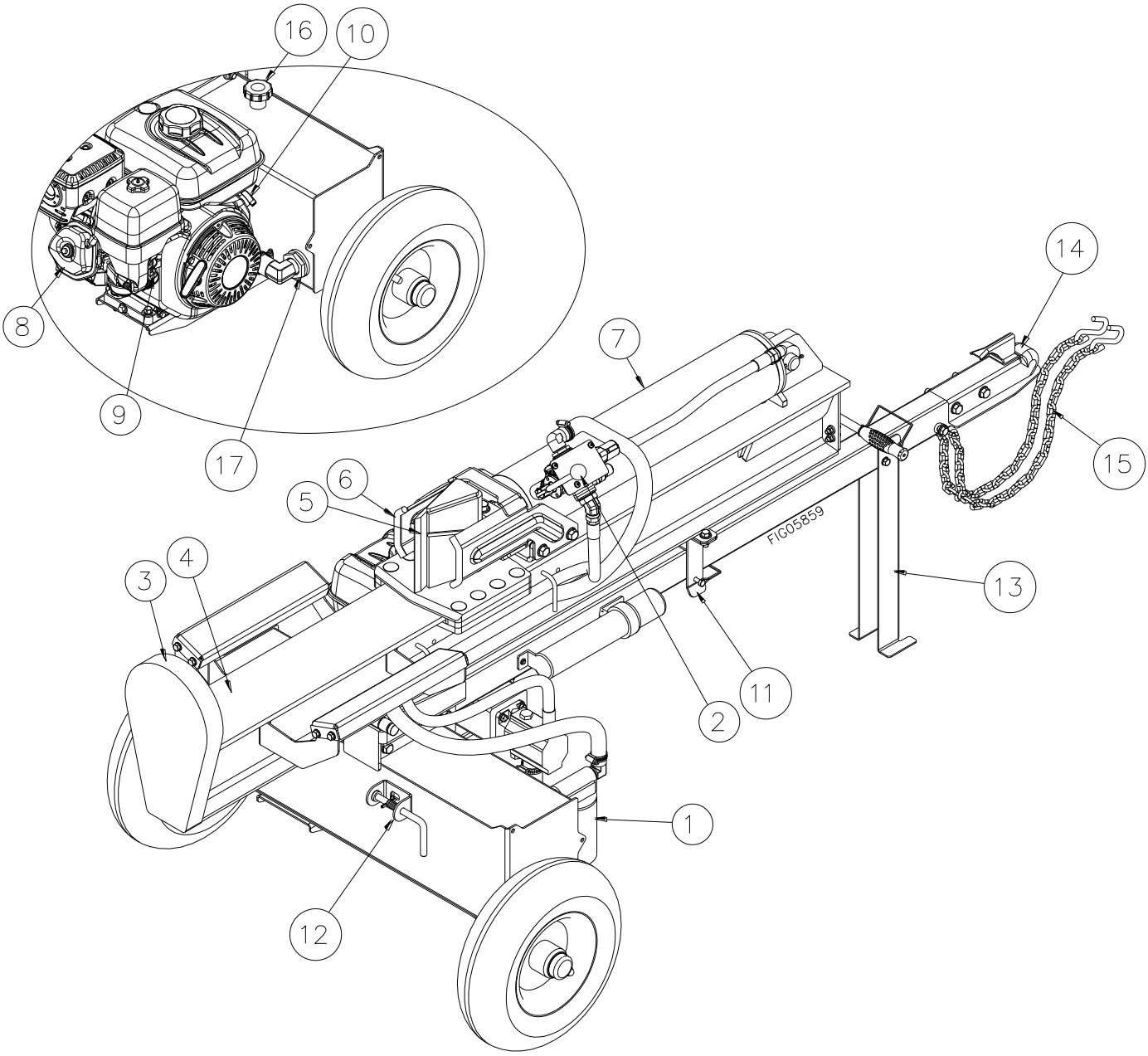


14



16

Machine Component Identification



Ref #	Description
1	Return Line Filter
2	Split Control Lever
3	End Plate
4	Beam
5	Wedge
6	Log Dislodger
7	Cylinder
8	Engine
9	Fuel On/Off

Ref #	Description
10	Engine On/Off
11	Horizontal Lock
12	Vertical Lock
13	Support Leg
14	2” Ball Coupler
15	Safety Chains
16	Hydraulic Reservoir Cap
17	Suction Strainer

Initial Setup

IMPORTANT!
Engine is shipped <u>without</u> oil. DO NOT start the engine before adding oil.
See Assembly Instructions section of this manual on page 37 to assemble the log splitter before setup.

<u>Step One:</u>
Inspect Log Splitter Components

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

- If you have missing or damaged components, please contact Product Support at 1-800-350-8739.

<u>Step Two:</u>
Add Oil to Engine

Add oil to the 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.)

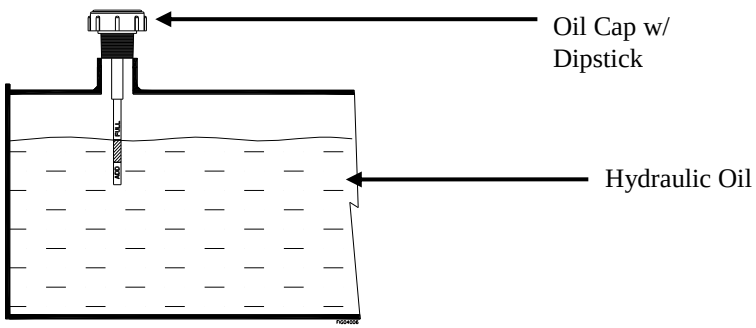
<u>Step Three:</u>
Add Hydraulic Oil to Reservoir

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.

- 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 near the suspected area (wear eye protection). Look for discoloration of the cardboard or wood.
- NEVER adjust the pressure 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 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.

IMPORTANT
The hydraulic system oil filter for your log splitter is not factory installed. Make sure the filter is installed before attempting to fill the hydraulic tank or start the engine. (Installation instructions are provided in the "Assembly Instructions" section and are also printed on the side of the filter).

1. Remove hydraulic oil dipstick.
2. Refer to the **Specifications** section for approximate hydraulic oil capacity.
3. Fill reservoir with 10wt AW32, ASLE H-150, or ISO 32 oil. Use a funnel
4. Replace hydraulic oil dipstick and check that oil level reads full. Note: Do not thread in dipstick when checking oil level.



Step Three:
Add Hydraulic Oil to Reservoir (continued)

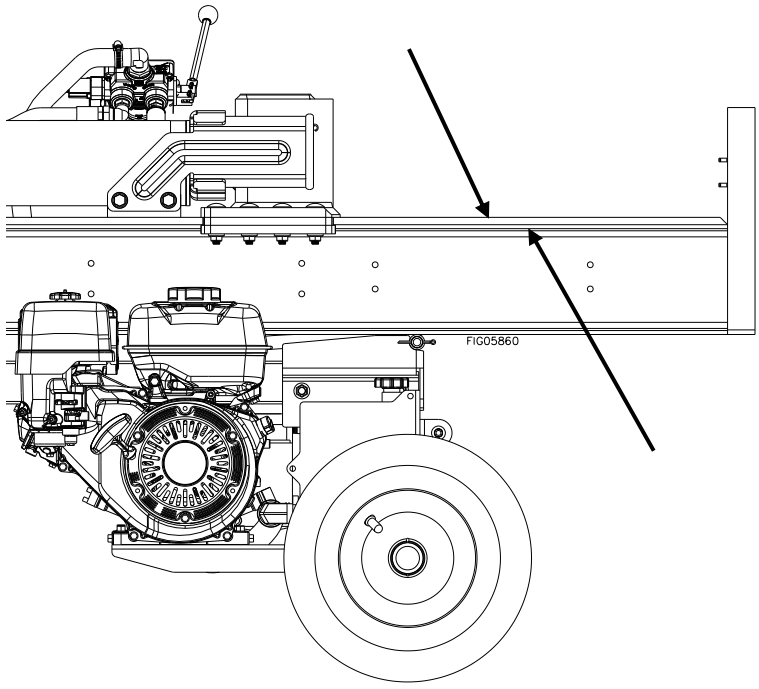
5. Disconnect the spark plug wire from the spark plug. This prevents the engine from starting until the hydraulic pump and cylinder are completely filled with oil. Make sure the spark plug wire is held away from the spark plug with string or other nonconductive material.
6. Push the valve control handle with one hand to the forward (extend) position (towards the front of the cylinder). Pull on the starter grip recoil at least 20 times so that hydraulic fluid has cycled through the pump.
7. Reconnect the spark plug wire to the spark plug.
8. Start engine and use control valve handle to extend and retract wedge five (5) times to remove air from the high pressure lines.
9. With wedge retracted, shut off engine.
10. Check oil level again. Fill if necessary.
11. Replace hydraulic oil fill/vent 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.

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 DEXRON III.

Step Four:
Lubricate Beam

Lubricate the surface of the beam with grease. This will help prevent wear between the wedge keepers and the beam.



Apply grease to the top of the beam and underneath the edge of the beam, where the wear pads travel.

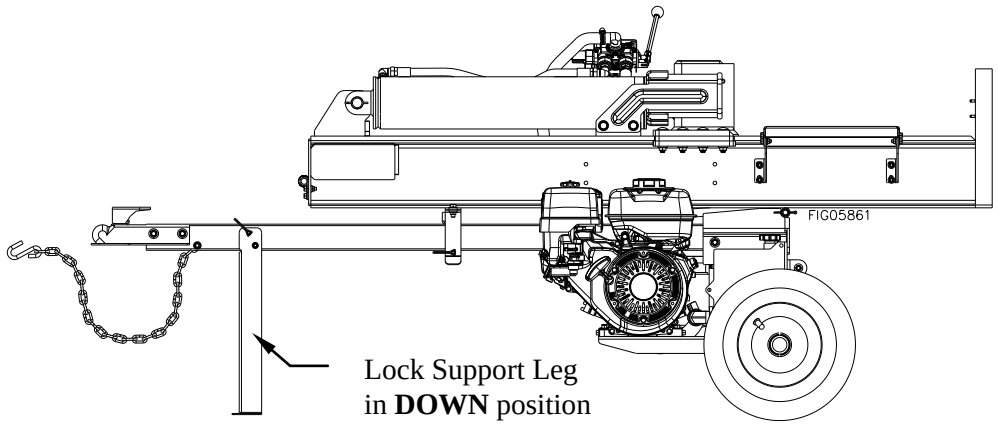
Moving and Towing to the Job Site

⚠ 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. Place in Horizontal Position	**Make sure the log splitter is locked in the horizontal position with horizontal latch before moving.** NEVER move log splitter when it is in vertical configuration because it will be unstable and could tip.
2. Engine Off	**IMPORTANT: Make sure log splitter engine is off.** Never move the log splitter with its engine running.
3. Fuel Valve Off (if equipped)	**Turn fuel valve off** to prevent carburetor flooding and reduce the chance of fuel leakage. Refer to Engine owner's manual for fuel valve location.
4. Lock Support Leg DOWN	**Lock support leg in DOWN position** before you move the log splitter. 
5. Move Log Splitter to Work Site or Tow Hitch	**Move log splitter by hand either directly to chosen work site or to vehicle hitch for towing.** (See Step Three: Before Each Use - Work Site Selection and Set-Up) Important Safety Instructions: • **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 and Towing to the Job Site

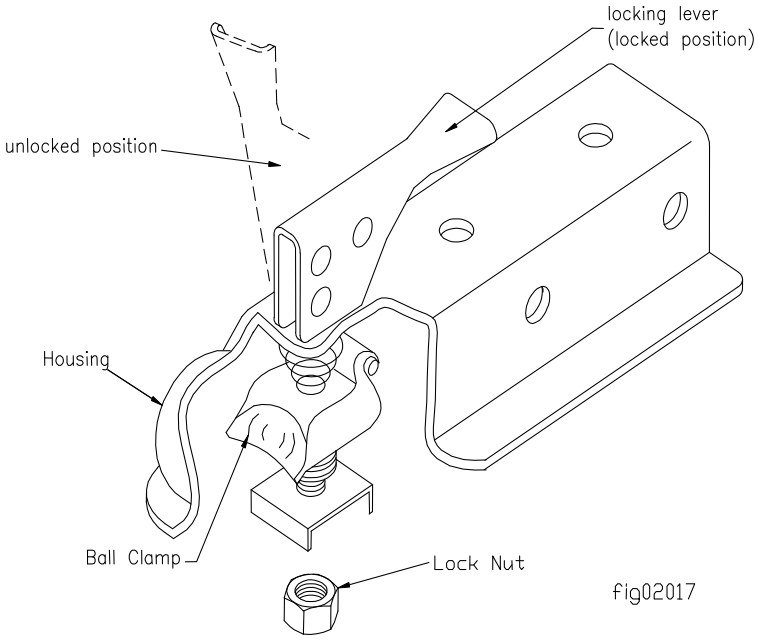
Towing:

1. Read Instructions	**Review towing safety instructions in your vehicle manual.**
2. Check Tires	**Make sure tires are fully inflated and in good repair.** ⚠**WARNING:** • Do not over-inflate tires. Serious injury can occur if tire explodes. • When seating a bead after repair, do not exceed 60 PSI. Pressures higher than 60 PSI can cause the tire and wheel to rupture and explode.
3. Engine Off	**IMPORTANT: Make sure log splitter engine is off.** Never move the log splitter with its engine running.
4. Fuel Valve Off (if equipped)	**Turn fuel valve off** to prevent carburetor flooding and reduce the chance of fuel leakage. Refer to Engine owner's manual for fuel valve location.

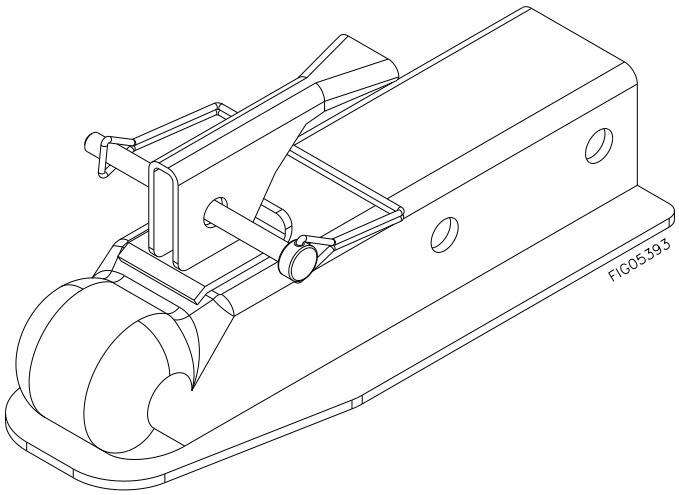
5. Attach to Hitch (2" ball)

Attach log splitter to vehicle hitch.

1. Attach log splitter's coupler to a class 2 or higher hitch with 2" ball (only).
2. Adjust coupler to ball by raising locking lever and turning lock nut with wrench.
3. Proper adjustment is obtained when coupler is as tight as possible on ball and locking lever can still be opened and closed.
4. Lock lever closed to secure the attachment.



5. Insert pin into locking lever to ensure it does not unlock while towing.

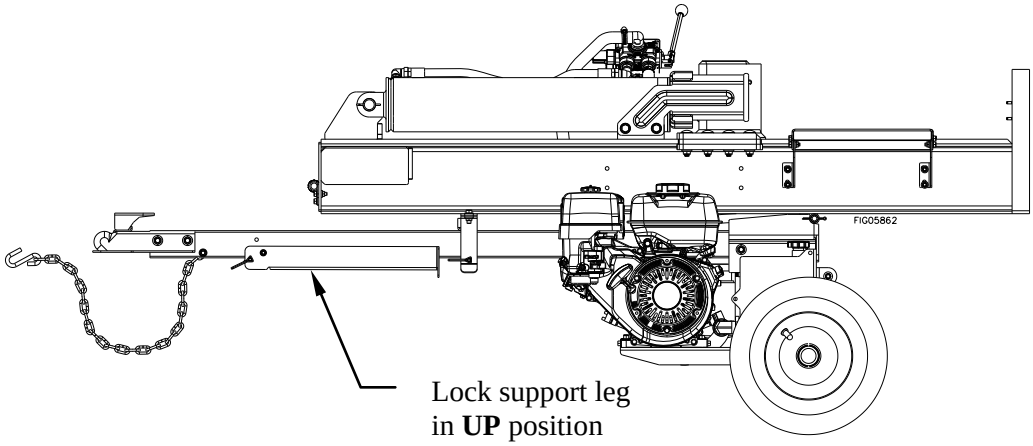


6. **Attach Safety Chains**

Attach safety chains.

1. Two safety chains must be used while towing.
2. Cross safety chains under the coupler allowing only enough slack for vehicle turns.

Moving and Towing to the Job Site

7. Lock Support Leg UP	**To provide adequate ground clearance while towing, secure the support leg in the UP position.** 
8. Tow to Desired Location	**Tow log splitter carefully to desired work site.** (See Step Three: Before Each Use – Work Site Selection and Set-Up) **Important safety instructions**: • **Added length**. Be aware of the added length of the splitter. • **Speed limit**. Never tow this log splitter over 45 mph. Faster speeds may result in loss of control. • **Rough terrain**. Drive slowly and take extra caution when traveling over rough terrain. • **On public roads**. If towing on a public road, make sure to comply with all local, state, and federal towing requirements. It is the sole responsibility of the purchaser to obtain licensing, trailer lights, safety chains or signage, as needed to comply. • **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.
9. Lock Support Leg DOWN and Unhitch	**Lock support leg in the DOWN position and disconnect from vehicle.** NEVER operate log splitter while it is attached to the vehicle. 1. Lock the support leg down and open the coupler latch assembly. 2. Unhitch from vehicle.

Before Each Use – Inspection/Maintenance

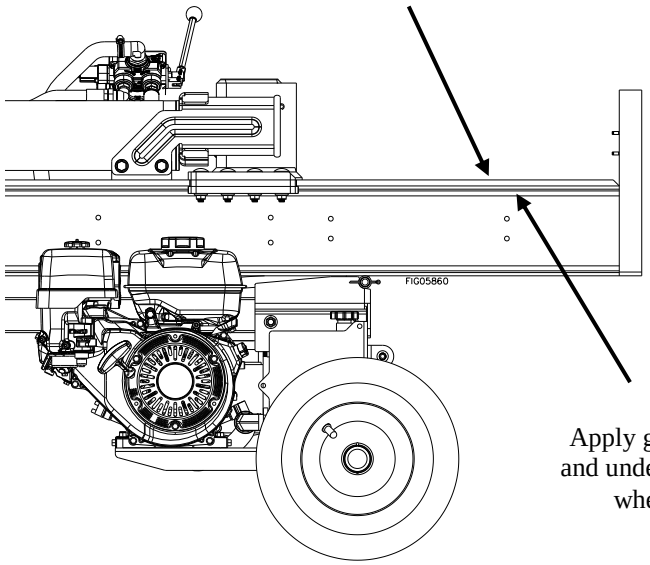
<u>Step One</u>: Inspect and maintain log splitter before each use

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 Split Control Lever back and forth several times.

<u>IMPORTANT</u>:
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 Pressure	**Perform all inspections/repairs with the engine off and hydraulic system pressure relieved.** 1. Make sure engine is off and cool. 2. Disconnect the spark plug. 3. 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.** 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, fan housing/recoil starter, 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, log dislodger, and endplate.
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 that all nuts and bolts are tight** to ensure the log splitter is in safe working condition.



Apply grease to the top of the beam and underneath the edge of the beam, where the wear pads travel.

Before Each Use – Inspection/Maintenance

5. Hydraulic System

Check the hydraulic system carefully:

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.

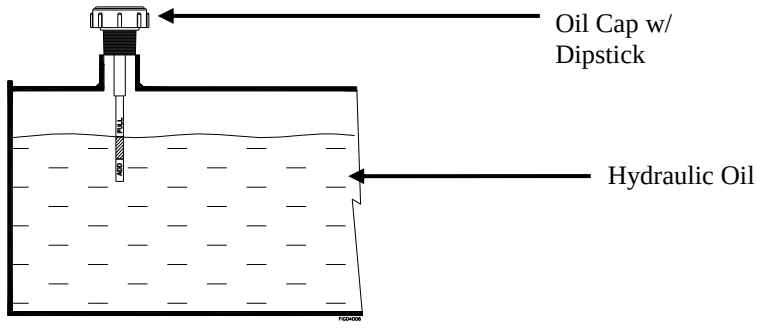
Do NOT operate the log splitter if there is any indication of damage or oily residue. Small leaks in hydraulic lines can cause severe injuries and can also be an indication of catastrophic failure in the near future. The life of hydraulic hoses may be from a few months to a few years, depending on use 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, 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.
- 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 near 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, 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 familiar with injection injuries.

6. Hydraulic Oil Level

Check the hydraulic oil level. Fill as needed – check that oil level reads full. Note: Do not thread in dipstick when checking oil level.



⚠ **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.

7. Engine

Inspect and perform engine maintenance as directed in the engine manual.

Before Each Use – Inspection/Maintenance

8. Spark Arrestor Muffler	**If the engine is equipped with a spark arrestor muffler, clean and inspect it regularly (follow spark arrestor manufacturer's service instructions).** Replace if damaged.
9. Tires	**Make sure tires are fully inflated and in good repair if you will be towing the splitter.** See tire sidewall for recommended tire pressure. **⚠WARNING:** • Do not over-inflate tires. Serious injury can occur if tire explodes. • When seating a bead after repair, do not exceed 60 PSI. Pressures higher than 60 PSI can cause the tire and wheel to rupture and explode.
10. Shields / Guards	**Replace all guards and shields after servicing the log splitter.**

Before Each Use – Fueling

Step Two: Fueling

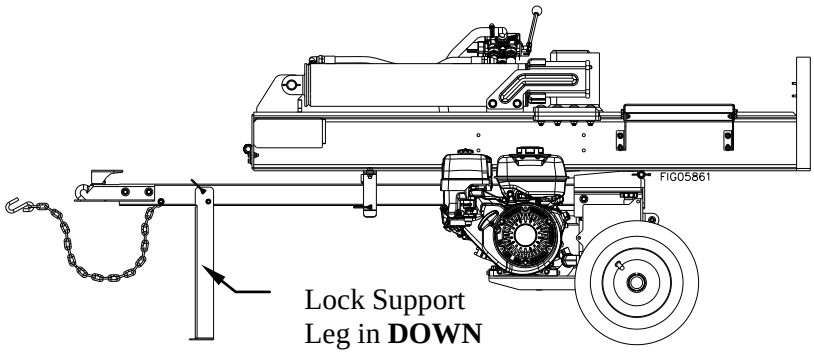
⚠ WARNING
Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel. Use extreme care when handling gasoline.

1. Engine Off and Cool	**The engine must be off and allowed to cool at least two minutes before adding fuel.** ⚠ **WARNING:** A running engine is hot enough to ignite fuel. Never add fuel or remove gas cap if engine is running or still hot.
2. Outdoor Location	**Fill fuel tank outdoors – never indoors.** ⚠ **WARNING:** Gasoline vapors can ignite if they collect inside an enclosure. Explosion can result.
3. Remove Gas Cap	**Remove engine gas cap.**
4. Add Gasoline	**Add gasoline through fill opening from a UL listed container.** **Important Safety Instructions:** • **Use approved container**. NEVER pump fuel directly into engine at gas station. Static charge can build and ignite fuel. Use a UL listed 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 expansion • **Heat / flames / sparks**. Stay away from sources of heat, flame, or sparks while adding fuel. 
5. Spills / Splashes	**Clean up fuel spills /splashes immediately.** 1. Move the log splitter away from spilled fuel on the ground. 2. Wipe fuel off engine and wait 5 minutes for excess fuel to evaporate before starting engine. 3. Gas soaked rags are flammable and should be disposed of properly. 4. If gasoline is spilled on your skin or clothes, change clothes and wash skin immediately.
6. Replace Gas Cap	**Replace gas cap securely before starting engine.**
7. Gasoline Storage	**Store extra gasoline in a cool, dry place in a UL listed, tightly sealed container.**

Before Each Use – Work Site Selection and Set-Up

Step Three: Work site selection and log splitter setup

⚠ 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. Inspect worksite for possible hazards before each use.** Requirements: 1. Dry-level surface with good footing. Stay clear of areas with mud, ice, tall grass, weeds, brush, or snow. 2. Outdoors, away from air intakes. ⚠ **WARNING:** 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 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:** 1. **IMPORTANT: If your splitter will be used near any unimproved forest, brush, or grassy covered land, *then engine must be equipped with a spark arrestor*.** (See the "Specifications" section of this manual to determine if your splitter already has a spark arrestor. Contact Brave Product Support at 1-800-350-8739 for information about obtaining a spark arrestor for your log splitter if it is unequipped.) 2. Make sure you comply with applicable local, state, and federal codes. 3. Keep a class ABC fire extinguisher available as a precautionary measure when operating the log splitter in dry areas.
3. Position Splitter	**Position muffler at least 7 ft. from combustible or flammable objects during operation.** Hot exhaust fumes from engine could cause fire. Also, hydraulic oil leaking or spraying on hot engine can ignite.
4. Lock Support Leg DOWN	**Lock the support leg in the DOWN position.**  Lock Support Leg in **DOWN**
5. Block Wheels	**Block the wheels to prevent unintended movement of the log splitter.**
6. Apply grease	**Apply grease to beam where the wedge travels.**

Splitting Operation

⚠ WARNING

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

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. Anyone 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 1-800-350-8739 to order new safety labels.

Splitting Operation

1. Put on Protective Clothing / Gear

Wear the following protective clothing and safety gear:

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.
5. **No loose/dangling apparel**. Loose or dangling apparel can become entangled in moving parts. Never wear jewelry or loose-fitting clothing.

2. Lock and Block

Block the wheels to prevent unintended movement of the log splitter. Check that:

1. The support leg is locked in the DOWN position.
2. The wheels are blocked.

3. Set to Horizontal or Vertical:

Set log splitter into either the horizontal or vertical splitting position.

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

<u>Note</u>:

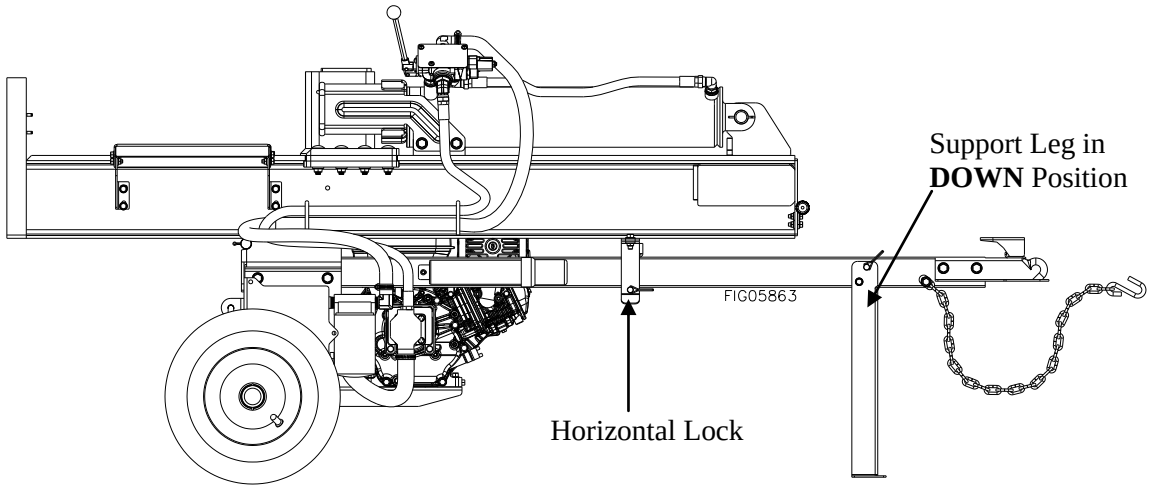
Musculoskeletal injury can result from lifting logs onto the log splitter if proper lifting techniques are not used or the logs are too heavy for a person's size, weight, or strength. In some cases, logs as small as 8" in diameter and 14" in length may be heavier than what some persons should be repeatedly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

a) Set to <u>Horizontal Position</u>

Make sure beam is locked securely in the horizontal position by checking the horizontal lock. Support leg must be locked in the down position.

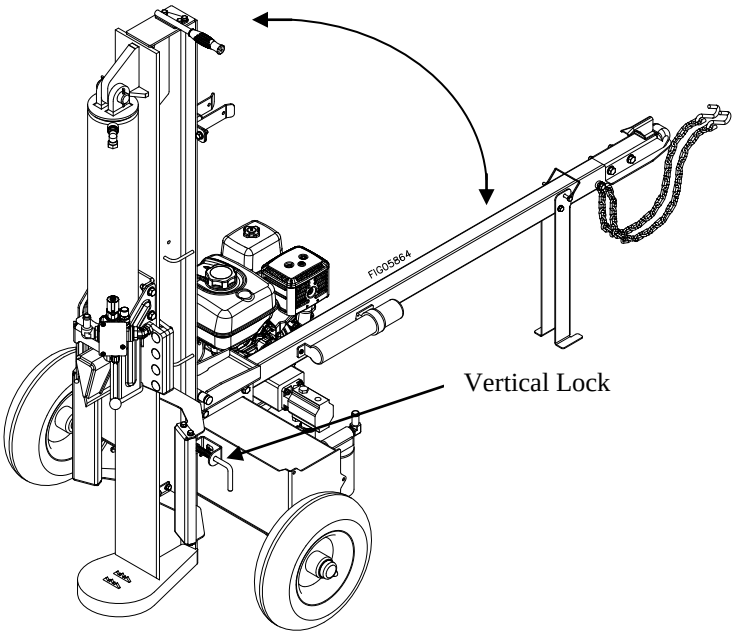


b) Set to *Vertical Position*

1. **Pull out horizontal lock catch pin, grasp lifting handle and lift beam until it rotates into vertical position.**

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

Vertical Splitting Position



2. **Lock in vertical position using vertical locking pin.**
3. **To return to horizontal position, unlock vertical position, grasp lifting handle and lower beam carefully in a controlled manner until it rests on the tow bar, lock beam in the horizontal position with catch pin.**

4. Start Engine

Start the engine.

See the engine owner's manual for engine starting instructions.

NOTE:

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.

WARNING

Burns. To avoid burns, stay clear of hot muffler if you are starting a warm engine.

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.

Splitting Operation

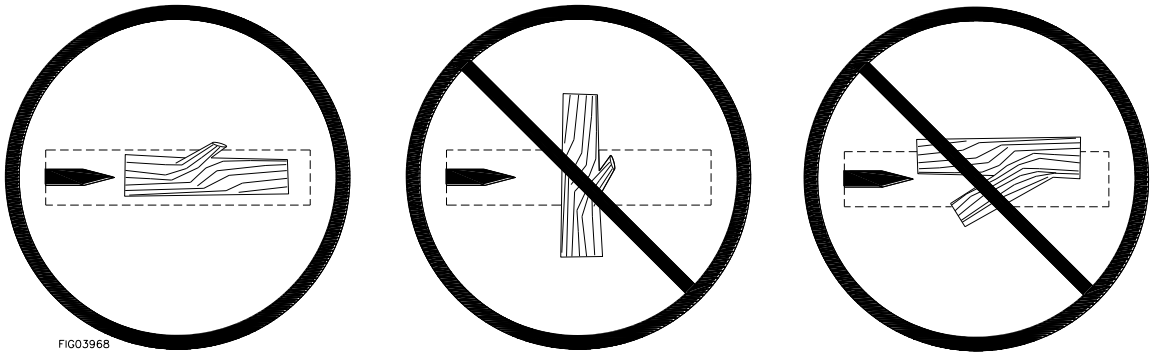
5. Load Log

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

Notes:

a) The log splitter is designed only for cutting lengthwise with the grain, NOT for cutting across the grain.

b) This log splitter is designed for cutting logs only up to a maximum of 16" in diameter and 24" long. Larger diameter logs could get stuck on the wedge and longer logs will not fit on the beam.



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:

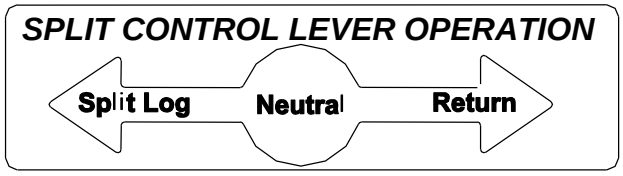
- **Hold bark side**. Hold the bark side of logs when loading or positioning, never the ends. Never place your hands or any part of your body between a log and any part of the log splitter.

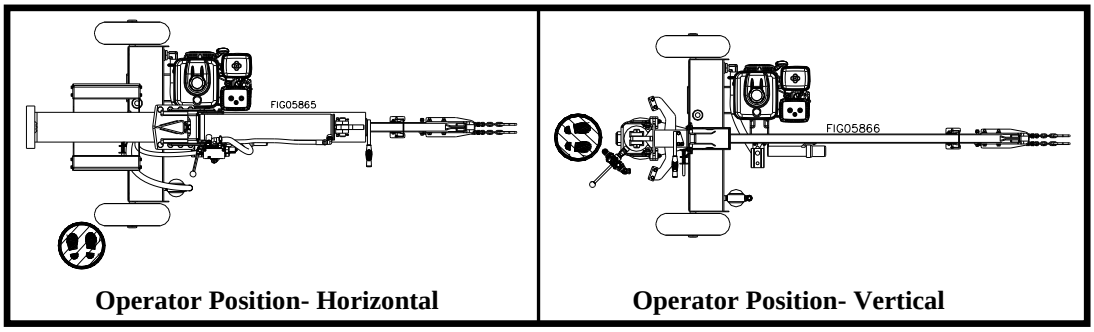
  NOTE for vertical position loading: Place the log on the endplate and turn it until it leans against the beam and is stable. If the log is too big or oddly shaped, stabilize the log with wooden shims between the log and endplate or ground. DO NOT use your leg or knee to stabilize the log. NEVER stabilize 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.
- **Forked logs**. Splitting forked logs can cause damage the log splitter. Trim the forked log with a chain saw prior to splitting the log.
- **Changing splitting position**. Do not change splitting positions (horizontal/vertical) with the engine running. You may contact the muffler and receive serious burns. Be careful to avoid contact with hot muffler even after the engine is turned off.

Splitting Operation

6. Extend Wedge

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





Operator Position- Horizontal | **Operator Position- Vertical**

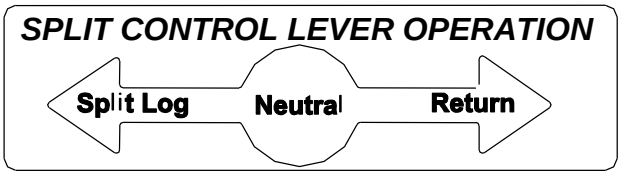
Important safety instructions:

- **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.*

7. 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

8. 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, retract the wedge completely to allow the log dislodger to strip the log from the wedge. Keep hands clear of log, wedge, and log dislodger while wedge is retracting.

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

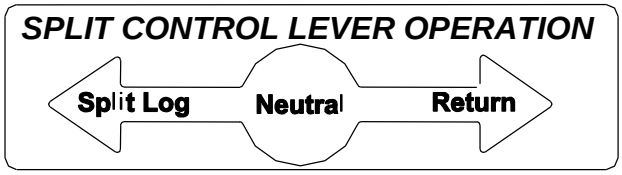
- Modifying the splitter.
- Adding attachments to the splitter.

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.

9. Return Wedge

Move Split Control Lever away from end plate 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 cause serious injury. Keep hands away from any moving parts.

10. 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.

11. After use

1. **Turn off engine.**
2. **Remove engine debris**.
   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, fan housing/recoil starter, and muffler areas.
   ⚠ **WARNING:** Avoid contact with hot muffler.
3. **Return to horizontal position**.
   If in the vertical position, return log splitter to the horizontal position for greater stability and to prepare for transportation. Avoid contact with hot muffler.

Storage

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

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. 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 beam and 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 systems. Deterioration problems may occur within a few months, or even less if gasoline was not fresh when you filled the 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 • 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 listed, 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 engine owner's manual.**
2. Hydraulic Oil Change	**Change hydraulic oil annually or every 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.

- 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 near the suspected area (wear eye protection). Look for discoloration of the cardboard or wood.
- NEVER adjust the pressure 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 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.

1. Fully retract wedge.

2. Disconnect the spark plug wire from the spark plug and turn fuel valve off.

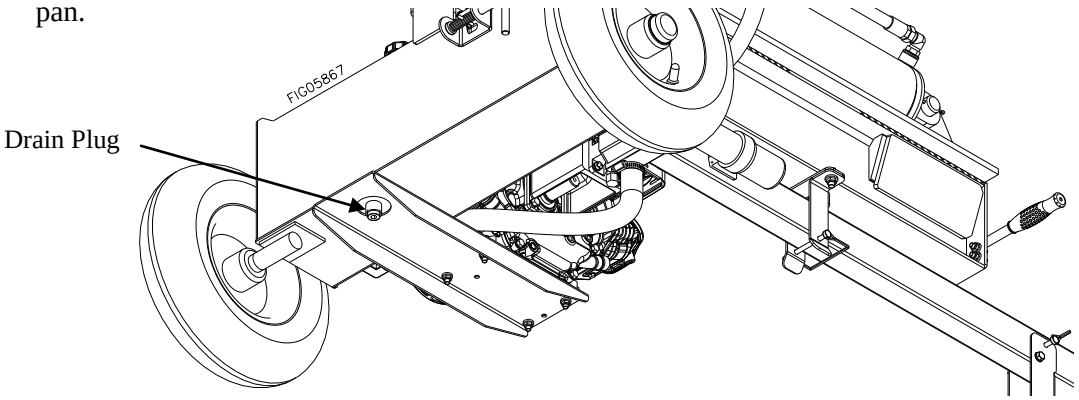
3. Use 10wt AW32, ASLE H-150, or ISO32 oil. See the "Specifications" section of this manual for hydraulic oil capacity.

4. With engine off, relieve hydraulic system pressure by moving Split Control Lever back and forth several times.

5. Remove hydraulic oil fill cap.

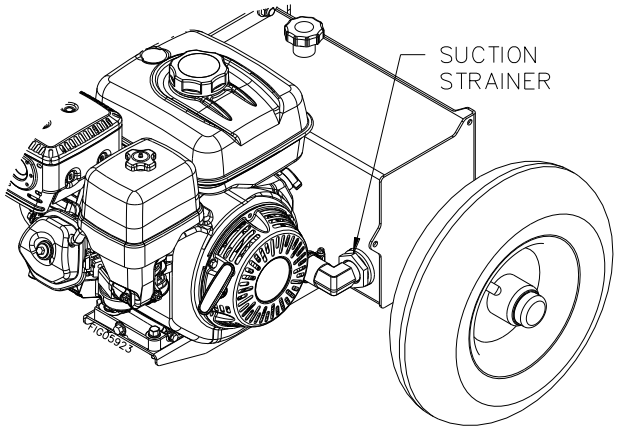
⚠ **WARNING:** NEVER remove the hydraulic oil fill cap when the engine is running or hot. Hot oil can escape causing severe burns. Allow the log splitter to cool completely before removing hydraulic oil fill cap.

6. Remove the drain plug from the hydraulic tank to drain the hydraulic oil into a 10 gallon pan.



2. Hydraulic Oil Change (continued)

7. Reinstall drain plug
8. Remove suction strainer and wipe off debris with a dry cloth.
9. Apply thread sealant and reinstall suction strainer



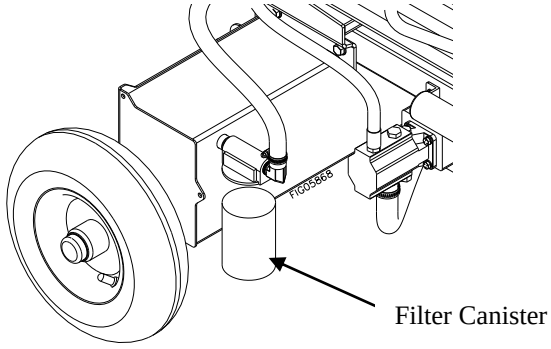
10. Dispose of used oil at an oil-recycling center. Used hydraulic oil is hazardous waste.
11. Fill the hydraulic tank and replace the oil fill cap.
12. Pull on the starter grip recoil at least 20 times so that hydraulic fluid has cycled through the pump.
13. Reconnect the spark plug wire to the spark plug and turn fuel valve on.
14. Start engine. Extend and retract wedge five (5) times to purge air from the system.
15. Check hydraulic oil level with the engine off and wedge retracted. Fill as needed – check that oil level reads full. Note: Do not thread in dipstick when checking oil level.

3. Oil Filter Change

Change return line filter after the first 50 hours of operation, and every 250 hours thereafter.

Replace return line filter (Refer to the parts breakdown section for part #).

1. Shut down the engine on the Log Splitter.
2. Relieve hydraulic system pressure by moving the splitter control lever back and forth several times.
3. Unthread the canister and discard it along with the accompanying seal. Note: A strap wrench may be required. Not provided.



4. Apply a small amount of lubricant to the new canister seal.
5. Install the new canister and hand tighten 3/4 turn after gasket makes contact with head.

4. Spark Arrestor Muffler

If the engine is equipped with a spark arrestor muffler, clean and inspect it regularly (follow engine manufacturer's service instructions). 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 the 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 all control valve handles back and forth to relieve pressure before changing or adjusting hydraulic components such as hoses, tubing, fittings, or other components.
   - Do not remove the hydraulic oil fill cap when the engine is running. Hot oil can escape causing severe burns. Allow the log splitter to cool completely before removing the hydraulic oil fill cap.
   - Do not adjust the pressure setting to the pump or valve.
   - Do not check for leaks with your hands. Leaks can be located by holding a piece of cardboard or wood (at least 2 feet long) with your hand at one end and passing the other end near 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 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 will injection injuries.

Problem	
Wedge will not move	Solution: A,D,E,H,J
Slow wedge speed when extending or retracting	Solution: A,B,C,H,I,K
Wood will not split or splits extremely slow	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, check for leaks in the suction line
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 Brave Product Support 1-800-350-8739

Specifications

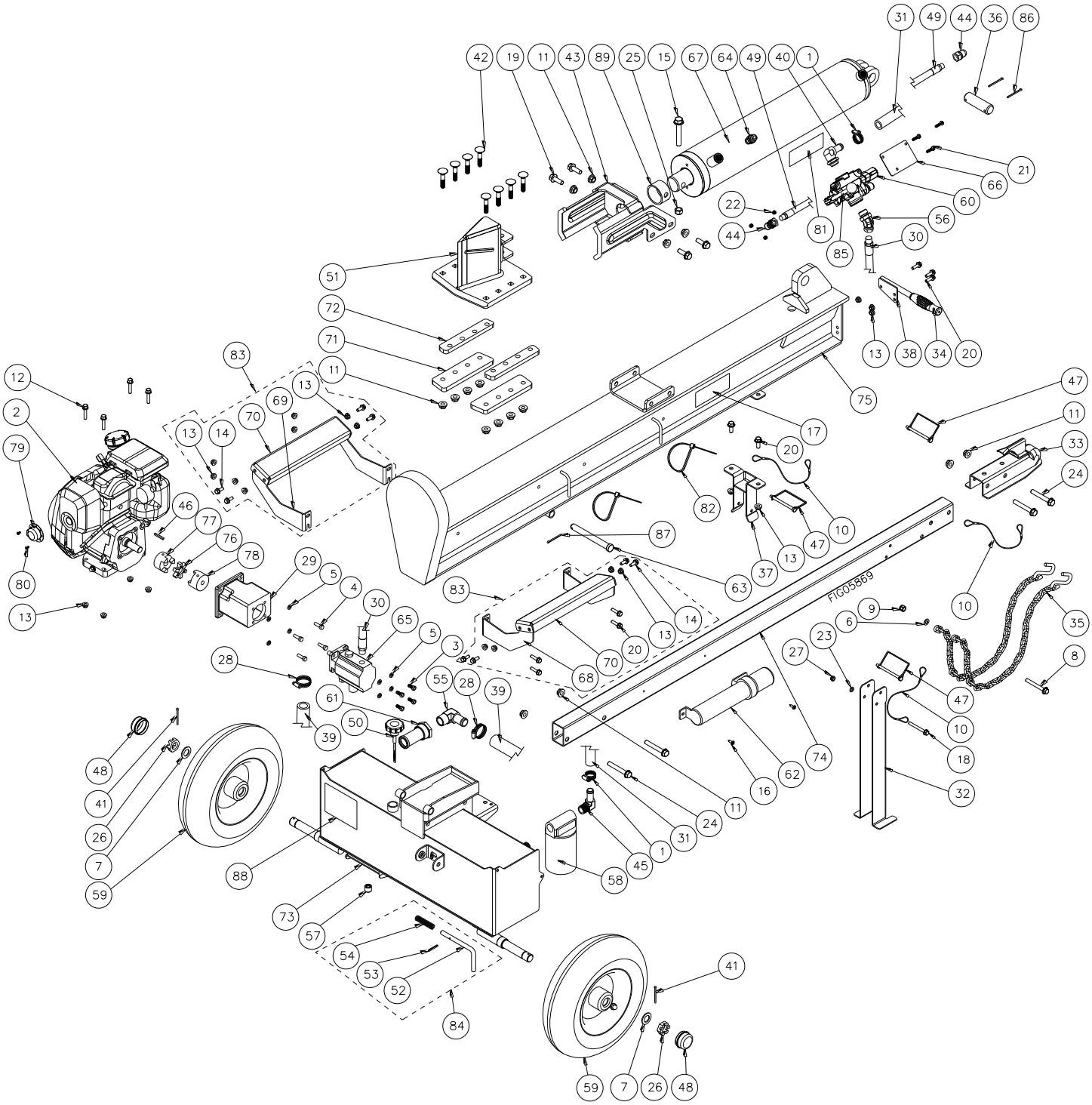
	VH1724GC	VH1730GC	VH1737GX
Splitting Force	24 Ton	30 Ton	37 Ton
Maximum Pressure	3500 PSI	3500 PSI	3500 PSI
Maximum Flow	11 GPM	13 GPM	16 GPM
Hydraulic Tank Capacity	7 Gal	7 Gal	7 Gal
Hydraulic Oil System Capacity (Cylinder, Tank, Hoses & Filter)	8 Gal	8-1/2 Gal	9 Gal
Hydraulic Fluid Type	*10wt AW32, ASLE H-150, or ISO32		
Cycle Time	13 Seconds	14 Seconds	14 Seconds
Engine	Honda GC160	Honda GC190	Honda GX270
Coupler Size	2″	2″	2″
Maximum Towing Speed	45 MPH	45 MPH	45 MPH
Operating Position	Vertical/Horizontal	Vertical/Horizontal	Vertical/Horizontal
Maximum Log Length	25″	25″	25″
Maximum Log Diameter	16″	16″	16″
Hydraulic Cylinder Bore	4″	4.5″	5″
Hydraulic Cylinder Stroke	24″	24″	24″
Spark Arrestor	No	No	Yes
Fuel Valve	Yes	Yes	Yes
Overall Dimensions	83L x 41W x 39H	83L x 41W x 41H	83L x 41W x 41H
Dry Weight	500 lbs.	525 lbs.	550 lbs.
Replacement Filter	BR001113	BR001113	BR001113

***** 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 DEXRON III

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 Brave Product Support 1-800-350-8739

Parts Breakdown – Exploded View – Rev A



Parts Breakdown – Exploded View – Rev A

Unit Key: A = VH1724GC, B = VH1730GC, C = VH1737GX

Ref	Part	Description	#	Unit
1	17141	3/4" Hose Clamp	2	All
2	GC160	Honda GC160 Engine	1	A
	GC190	Honda GC190 Engine	1	B
	GX270	Honda GX270 Engine	1	C
3	82087	5/16” - 18 x 3/4” HHCS	4	A,B
	82089	5/16” - 24 x 3/4” HHCS	4	C
4	82601	5/16” - 24 x 1” HHCS	4	All
5	82100	5/16” Split Lock Washer	8	All
6	82201	M10 Washer	1	All
7	778844	Axle Washer	2	All
8	82266	M10-1.5 x 80 HHSF	1	All
9	82270	M10-1.5 Nyloc Nut	1	All
10	782689	18” Lanyard	3	All
11	82642	M12-1.75 Nyloc Nut	16	All
12	82280	M8-1.25 x 40 HHSF	4	All
13	82281	M8-1.25 Ser. Flange Nut	21	All
14	82292	M8-1.25 x 20 HHCS	8	All
15	82528	M14-2 x 85 HHSF	1	All
16	82529	M6 x .75 Self Tapping Screw	2	All
17	796119	Decal, Beam Logo, VH1722	2	A
	796132	Decal, Beam Logo, VH1730	2	B
	796133	Decal, Beam Logo, VH1737	2	C
18	82546	M8-1.25 x 70 HHSF	1	All
19	82551	M12-1.75 x 1 1/4 HHSF	4	All
20	82561	M8-1.25 x 25mm Flange bolt	9	All
21	82562	M6-1 x 35 BHCS	3	All
22	82563	M6-1 Nyloc NUT	3	All
23	82564	M8 Flat Washer	13	All
24	82569	M12 - 1.75 x 80 HHSF	4	All
25	82570	M14 - 2 Nyloc Nut	1	All
26	777124	Spindle Castle Nut	2	All
27	777495	M8 - 1.25 Nyloc Nut	13	All
28	777835	13/16"-1 3/4" Hose Clamp	2	All
29	3030	Pump Bracket, Small	1	A,B
	BR020110	Pump Bracket, Large	1	C
30	794797	HP Supply Hose 1/2"x 62"	1	All
31	794798	LP Return Hose 3/4" x 67"	1	All
32	795052	Support Leg	1	All
33	BR008540	2" Trailer Coupler	1	All
34	778459	Hand Grip	1	All
35	1130	27" Chain w/ Hook	2	All
36	778592	Cylinder Pin	1	All
37	794939	Beam Rest	1	All
38	794924	Handle	1	All
39	794800	LP Suction Hose 1" x 22"	1	B,C
	795038	LP Suction Hose 3/4" x 22"	1	A
40	778642	90 O-Ring x Barb	1	All
41	BR008301F	Cotter Pin	5	All
42	794794	M12-1.75 x 60 Carriage	8	All
43	794653	Log Dislodger	1	All
44	778827	O-Ring x FNPT Swivel Elbow	2	All
45	778829	MNPT x Hose Barb Elbow	1	All
46	82141	Key, 3/16 x 1-1/2	1	A,B
	82143	Key, 1/4 x 1-3/4	1	C
47	778498	Pin Catch, 5/16" x 3.5"	2	All
48	124A	Dust Cap	2	All
49	794799	HP Cylinder Ext. Hose	1	All
50	784455	LS Breather/Dipstick	1	All
51	794647	Wedge	1	All

Ref	Part	Description	#	Unit
52	788243	Latch Rod, Short	1	B,C
	790897	Latch Rod, Long	1	A
53	788244	Latch Rod Pin	1	All
54	788245	Latch Spring	1	All
55	778829	MNPT x Hose Barb Elbow	1	A
	788504	1"NPT X 1" HB Elbow	1	B,C
56	791219	12 MOR-8 FP X 45 Forged	1	All
57	787711	1/2” Magnetic Hex Plug	1	All
58	791244	Filter Head	1	All
	BR001113	Filter Canister	1	All
59	BR008301	Wheel Assembly	2	All
60	791869	Valve	1	All
	BR004101-SK	Valve Seal Kit	1	All
61	4011	3/4” Strainer	1	A
	790470	1” Strainer	1	B,C
62	790471	Manual Tube	1	All
63	790472	Pivot Pin	1	All
64	790488	Straight Fitting	1	All
65	790677	13 GPM Pump	1	B
	791861	16 GPM Pump	1	C
	791862	11 GPM Pump	1	A
66	791187	Valve Plate	1	All
67	794825R	5” x 24” Cylinder w/ Decals	1	C
	783888	Cylinder Seal Kit	1	
	794826R	4.5”x 24” Cylinder w/ Decals	1	B
	794826K	Cylinder Seal Kit	1	
	794827R	4” x 24” Cylinder w/ Decals	1	A
	783885	Cylinder Seal Kit	1	
68	794721	Right Log Cradle Mount	2	All
69	794937	Left Log Cradle Mount	2	All
70	794722	Log Cradle Face Plate	2	All
71	794528	Keeper	2	All
72	794529	Keeper Spacer, Small	2	B,C
	794700	Keeper Spacer, Large	2	A
73	794474	Axle/Tank Weldment	1	All
74	794487	Tow Bar	1	All
75	794479	Beam Weldment, Small	1	A
	794506	Beam Weldment, Large	1	B,C
76	BR006001B	L090/095 Coupling Insert	1	C
	BR006002B	L075 Coupling Insert	1	A,B
77	BR006001C	L095 x 1” Coupling	1	C
	BR006002C	L075 x 3/4” Coupling	1	A,B
78	BR006001D	L095 x 1/2” Coupling	1	C
	BR006002D	L075 x 1/2” Coupling	1	A,B
79	BR003017D	Exhaust Deflector	1	A,B
80	785907	Exhaust Deflector Screw	2	A,B
81	796120	24 Ton Decal	2	A
	796121	30 Ton Decal	2	B
	796122	37 Ton Decal	2	C
82	82157	Zip Tie	2	All
83	794722K	Cradle Kit (Left and Right)	1	All
84	788243K	Latch Rod Kit, Short	1	B,C
	790897K	Latch Rod Kit, Long	1	A
85	791869HK	Handle Kit	1	All
86	796084	Cylinder Clevis Cotter Pin	2	All
87	792778	Hairpin Cotter Pin	1	All
88	796117	Decal, Brave Logo	1	A, B
	796118	Decal, Brave Pro Logo	1	C
89	790564	Adapter Sleeve	1	A, B

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, burns, fire or explosion, 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 age 16 to operate the log splitter. Anyone 16 years of age 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 cause serious injury if it rolls out of control or tips over.

Follow the safety instructions below for safely moving the log splitter.

General Safety While Moving

- **Horizontal position.** Make sure the log splitter is secured in the horizontal position before moving the log splitter. DO NOT move the log splitter when it is in the vertical position because it will be unstable and could tip.
- **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.

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.

Summary of Important Safety information for Operation

- **Tires.** Be sure the tires are fully inflated and in good repair before towing the log splitter. When adding air to the 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 45 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.** If towing on a public road, make sure to comply with all local, state, and federal towing requirements. It is the sole responsibility of the purchaser to obtain licensing, trailer lights, safety chains or signage, as needed to comply.
- **Unattended.** Turn off the towing vehicle before leaving the splitter unattended.
- **Disconnect before operating.** 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 "Rules for Safe operation." Failure to follow these rules may result in serious injury to the operator or bystanders.
- **Know how to stop.** Be thoroughly familiar with all controls and proper use of the equipment. Know how to stop the splitter and relieve system pressures 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, fan housing/recoil starter, 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 that 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, 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 cap when the engine is running. Hot oil can escape causing severe burns. Allow log splitter to cool completely before removing hydraulic oil 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 near 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.

- **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 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

- **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.
- **Fire extinguisher**. Keep a class ABC 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, brush, or snow.
- **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.

Summary of Important Safety information for Operation

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.
- **Forked logs**. Splitting forked logs can cause damage the log splitter. Trim the forked log with a chain saw prior to splitting the log.
- **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.*

Summary of Important Safety information for Operation

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**. 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, retract the wedge completely to allow the log dislodger to strip the log from the wedge. Keep hands clear of log, wedge, and log dislodger while wedge is retracting.

  ⚠**WARNING: NEVER** attempt to remove a stuck log by:
  - 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.
- **Changing splitting position**. Do not change splitting positions (horizontal/vertical) with the engine running. You may contact the muffler and receive serious burns. Be careful to avoid contact with hot muffler even after the engine is turned off.
- **Refueling**. Never refuel the engine until it has cooled at least two minutes.

Safety – After use

- **Return to horizontal**. If in the vertical position, turn off engine and return log splitter to the horizontal position for greater stability and to prepare for transportation. Avoid contact with hot muffler.
- **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, fan housing/recoil starter, 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

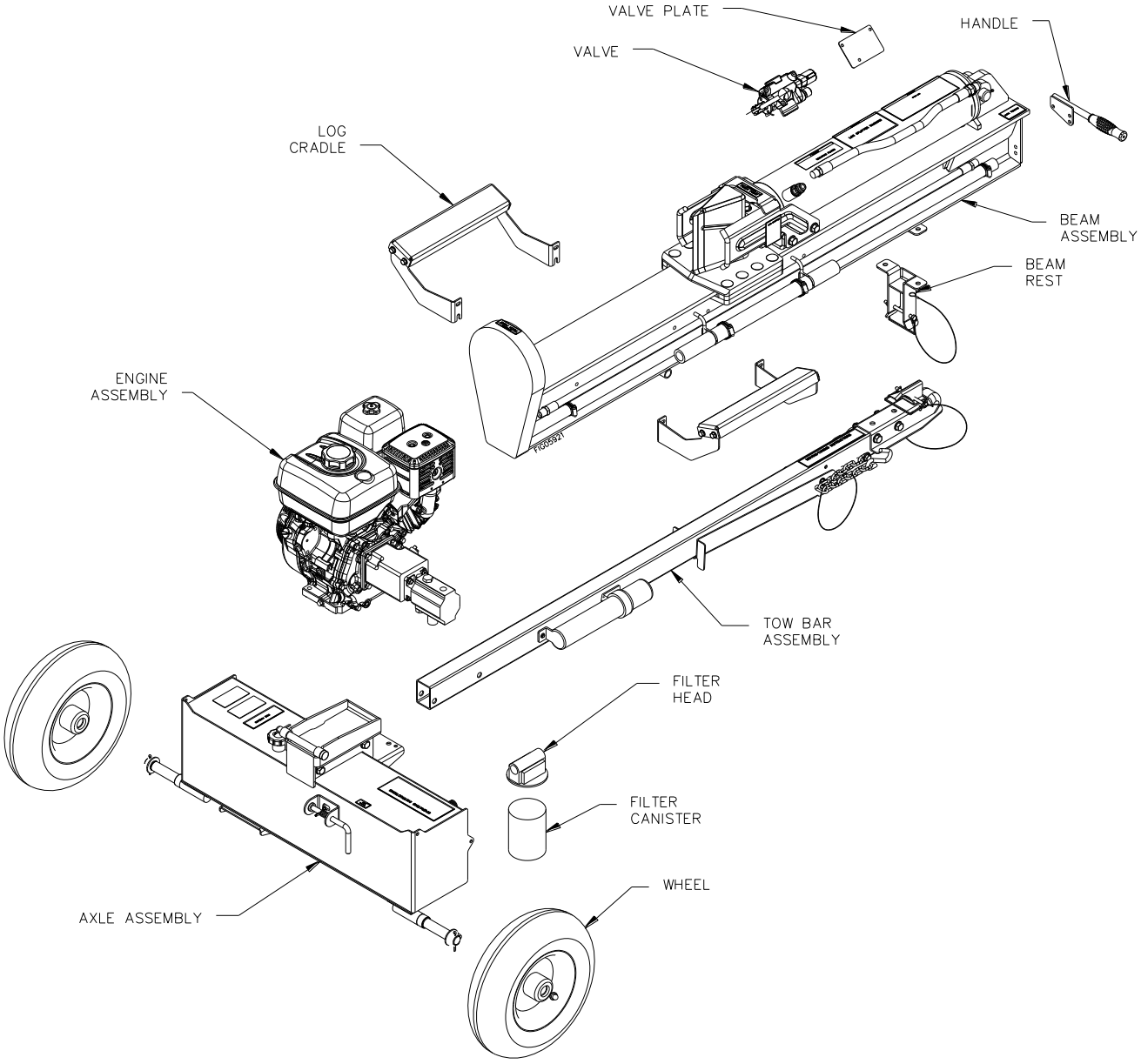
Dismantle shipping crate and remove parts from any boxes. Remove nuts and lag bolts holding the beam assembly, engine assembly, and axle assembly in place in the crate. Fasteners used for packaging can be discarded. Cut all zip ties and remove packaging materials from all components. Using this manual, identify and sort components as necessary.

Closely inspect all log splitter components.
If you have missing or damaged components, please contact Product Support at 1-800-350-8739.

Find a work space that is large enough to maneuver log splitter once completely assembled. Assemble log splitter on solid and level ground.

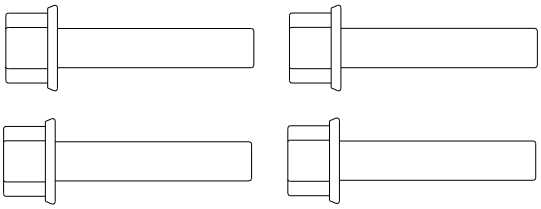
⚠ CAUTION
Heavy lifting required. Some of the components in these assembly instructions are heavy and cannot be lifted by one person safely. Plan on assembling this product when another person can be available to help.

Tools needed: Two adjustable wrenches, phillips screwdriver, 8mm socket, 10mm wrench, 13mm wrench, 18mm wrench, pliers, side cutter, hammer, ratchet, torque wrench, 13mm socket, 18mm socket, 38mm socket, 22mm crowfoot wrench, 32mm crowfoot wrench, and large oil filter wrench.

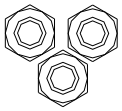


Assembly Instructions

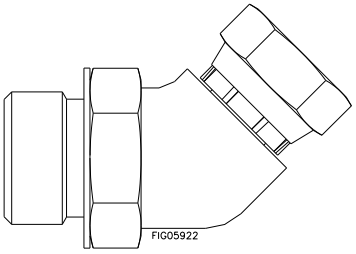
Parts Bag Contents



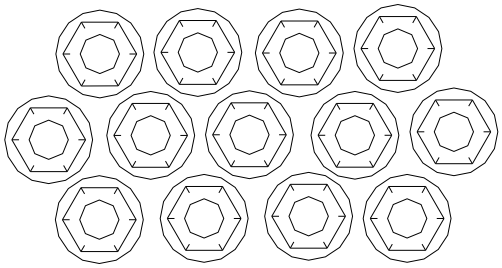
Part # 82280
M8-1.25 x 40mm
Qty: 4



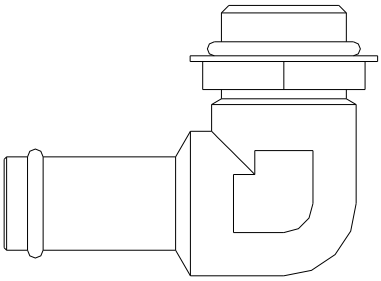
Part # 82563
M6-1.00 Nut
Qty: 3



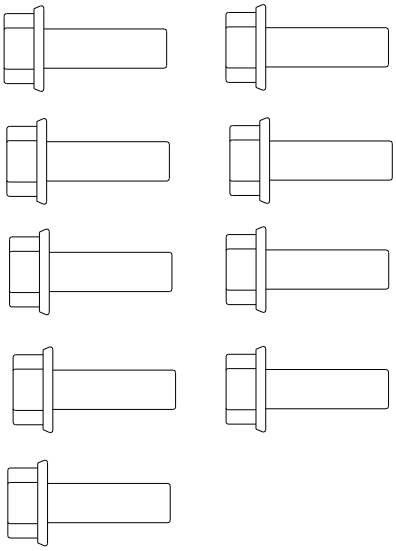
Part # 791219
Valve Inlet Fitting
Qty: 1



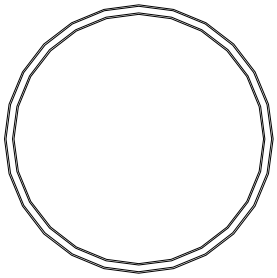
Part # 82281
M8-1.25 Nut
Qty: 13



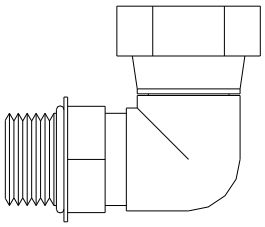
Part # 778642
Valve Outlet Fitting
Qty: 1



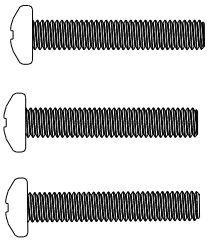
Part # 82561
M8-1.25 x 25mm
Qty: 9



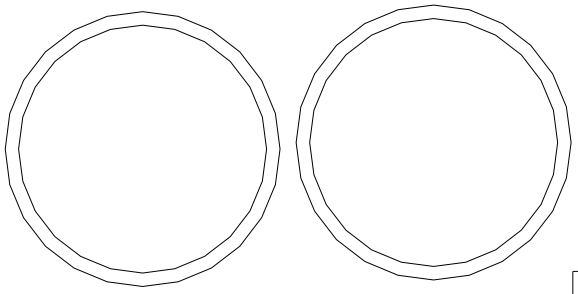
Part # 780599
White Plastic
Dust Cap Tool
Qty: 1



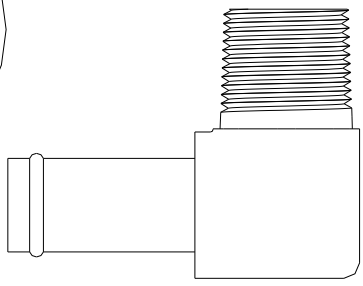
Part # 778827
Cylinder Hose Fitting
Qty: 1



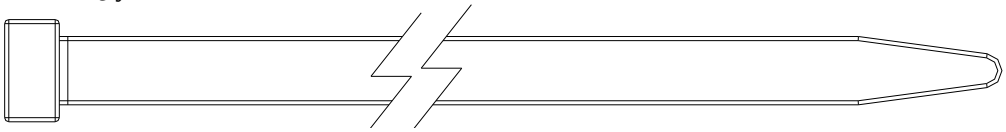
Part # 82562
M6-1.00 x 35mm
Qty: 3



Part # 780598
Dust Cap
Qty: 2



Part # 778827
Return Filter Fitting
Qty: 1



Part # 82157
Zip Tie (found in box with parts bag)
Qty: 2

Assembly Instructions

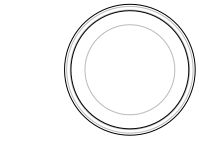
Step 1 – Wheels to Axle Assembly

- Remove everything from the axle (protective wrap, nut, washer, and cotter key).
- Slide wheel onto axle with valve stem facing out.
- Slide wheel washer up against the wheel bearing.
- Torque the axle nut to 30-40 ft.-lb.
- Rotate tire to ensure proper bearing seating.
- Loosen the axle nut until loose enough to turn the axle nut with your fingers.
- Re-tighten the axle nut until finger tight.
- Insert the cotter pin through the hole in axle nut and axle. Bend and spread prongs in opposite directions so the axle nut will not come off (make sure the wheel spins freely).
- Use dust cap tool and hammer to install the dust cap on the wheel hub, placing a small square of scrap lumber over the dust cap tool and tapping with the hammer. Tap until the dust cap is well seated against the hub.
- Repeat step for the other side.

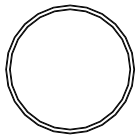
Tools Needed

- Torque Wrench
- Pliers
- Hammer
- Dust Cap Tool
- 38mm Socket
- Ratchet

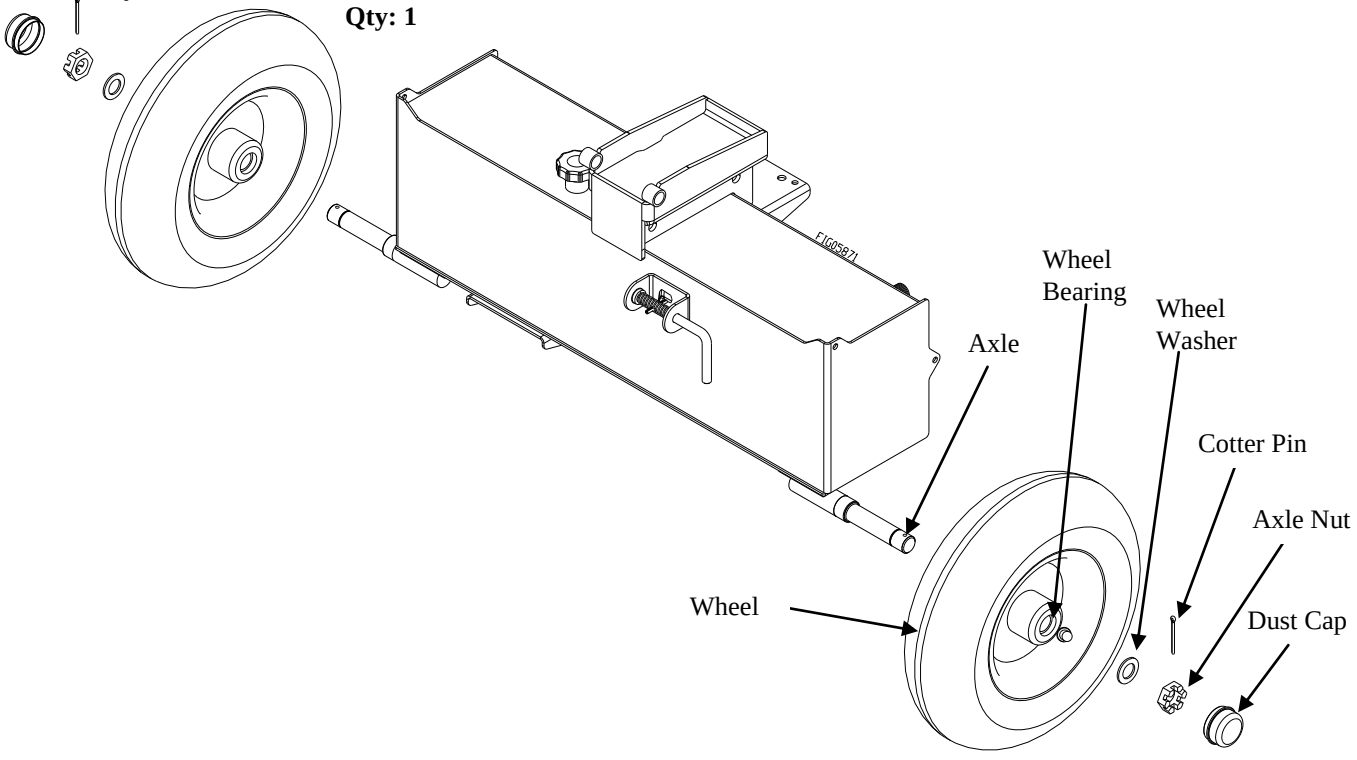
Components Needed from Parts Bag:



Part # 780598
Dust Cap
Qty: 2



Part # 780599
White Plastic
Dust Cap Tool
Qty: 1



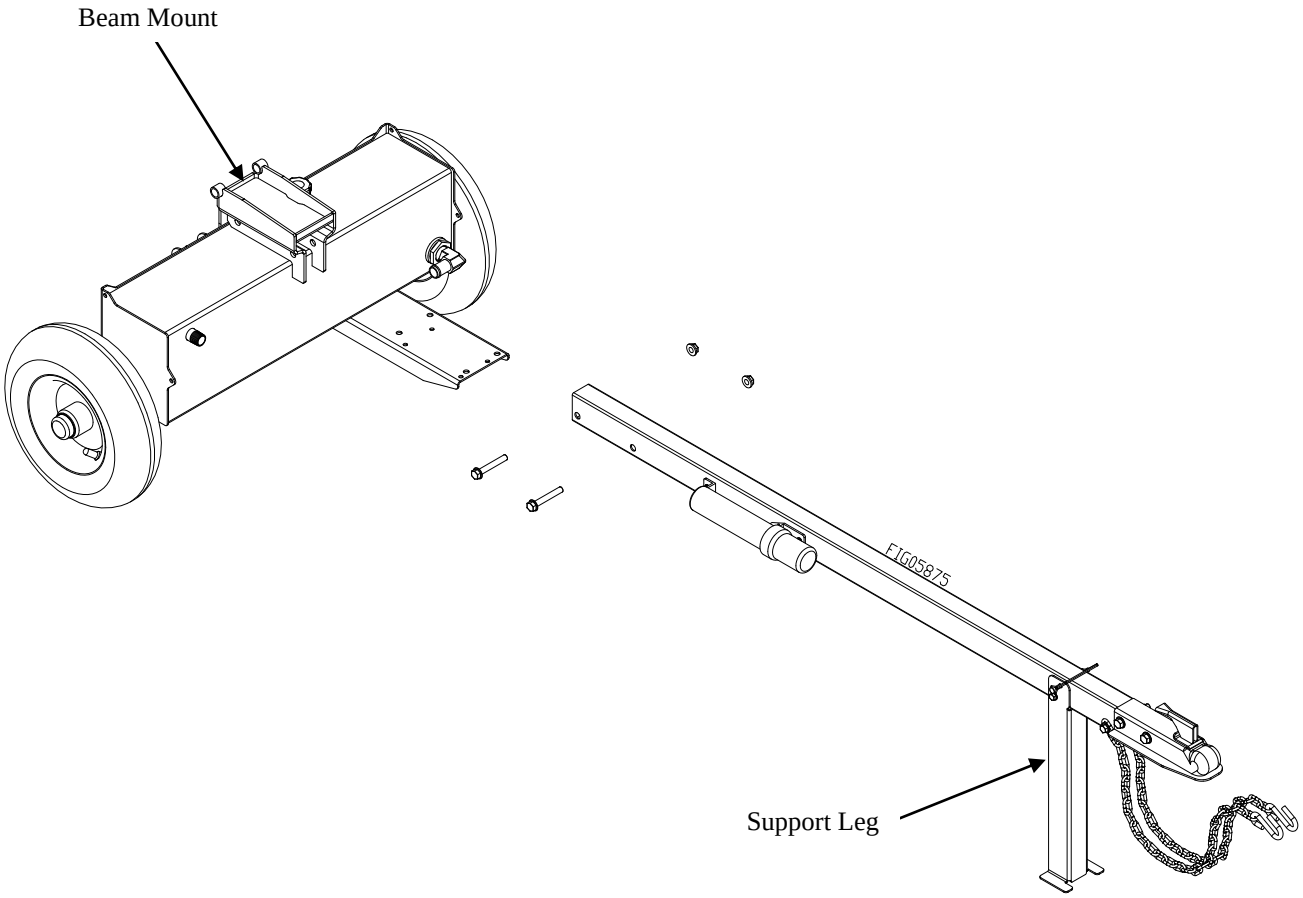
Assembly Instructions

Step 2 – Tow bar Assembly to Axle Assembly

- Remove bolts and nuts from the beam mount on top of the axle assembly.
- Slide tow bar assembly into the beam mount on top of the axle assembly.
- Lock the support leg in the down position on a flat surface so the tow bar is level.
- Align the holes and install (2) bolts and (2) nuts.
- Torque to 71 ft.-lb.

Tools Needed

- Ratchet
- Torque Wrench
- 18mm Socket
- 18mm Wrench



Assembly Instructions

Step 3 – Install Filter

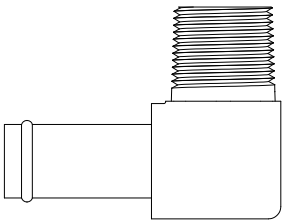
- CAUTION: Never back off an installed pipe fitting to achieve proper alignment. Loosening installed pipe fittings will corrupt the seal and contribute to leakage and failure.
- Screw finger-tight (1) Return Line Filter Head onto hydraulic tank return port. *NOTE: The arrow on filter head should point towards the tank. Also, thread sealant is already in place on hydraulic tank return port.*
- Wrench-tighten the filter head to 1.5-3.0 Turns Past Finger Tight position. Consider final orientation position as to not exceed the recommended Turns Past Finger Tight. Properly assembled fittings total thread engagement should be 3.5-6 turns.
- Lightly coat Return Line Filter Canister seal with oil.
- Screw finger-tight (1) Return Line Filter Canister onto bottom of return line filter head until gasket makes contact and continue until hand tight. Then, tighten filter an additional 1/2 turn with oil filter wrench.
- Screw finger-tight (1) Filter Fitting into the return line filter head.
- Wrench-tighten the fitting to 1.5-3.0 Turns Past Finger Tight position. Hold filter head with another wrench to keep it from turning past its desired position. Consider final orientation position as to not exceed the recommended Turns Past Finger Tight. Properly assembled fittings total thread engagement should be 3.5-6 turns, and fitting orientation should be as shown below (45° angle toward tow bar).

Tools Needed

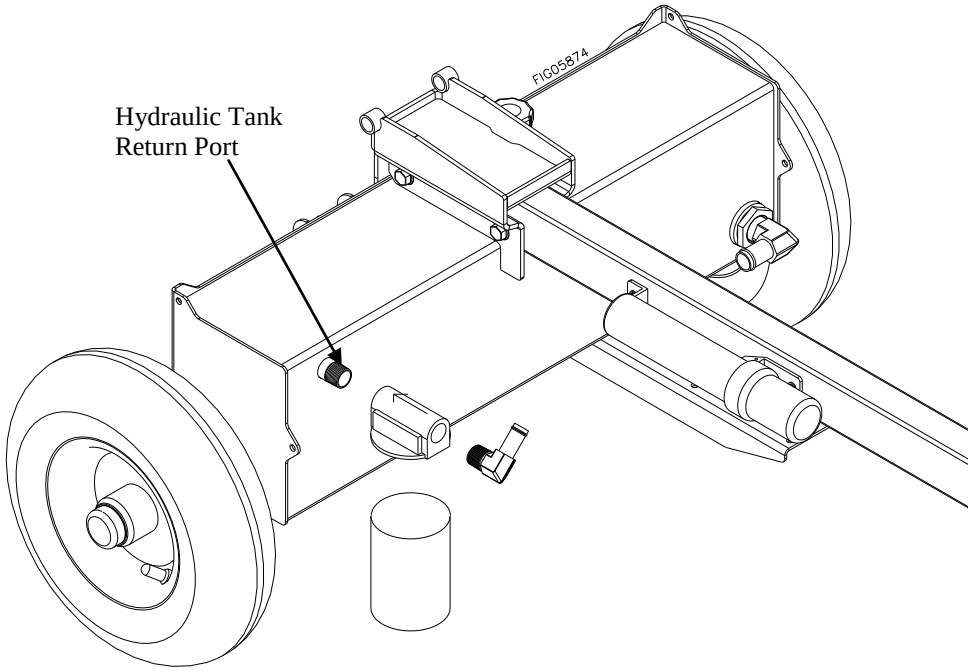
- (2) Adjustable Wrenches
- Oil Filter Wrench

NOTE: Do not over-tighten filter. This will cause difficulties in removing filter for periodic maintenance.

Fittings Needed from Parts Bag:



Part # 778827
Return Filter Fitting
Qty: 1



Assembly Instructions

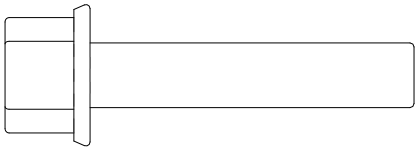
Step 4 –Engine Assembly to Axle Assembly

- Place engine assembly on engine mount and align the holes as shown in the engine mounting patterns.
- Install using (4) bolts and (4) nuts.
- Torque to 21 ft.-lb.

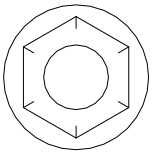
Tools Needed

- Ratchet
- Torque Wrench
- 13mm Socket
- 13mm Wrench

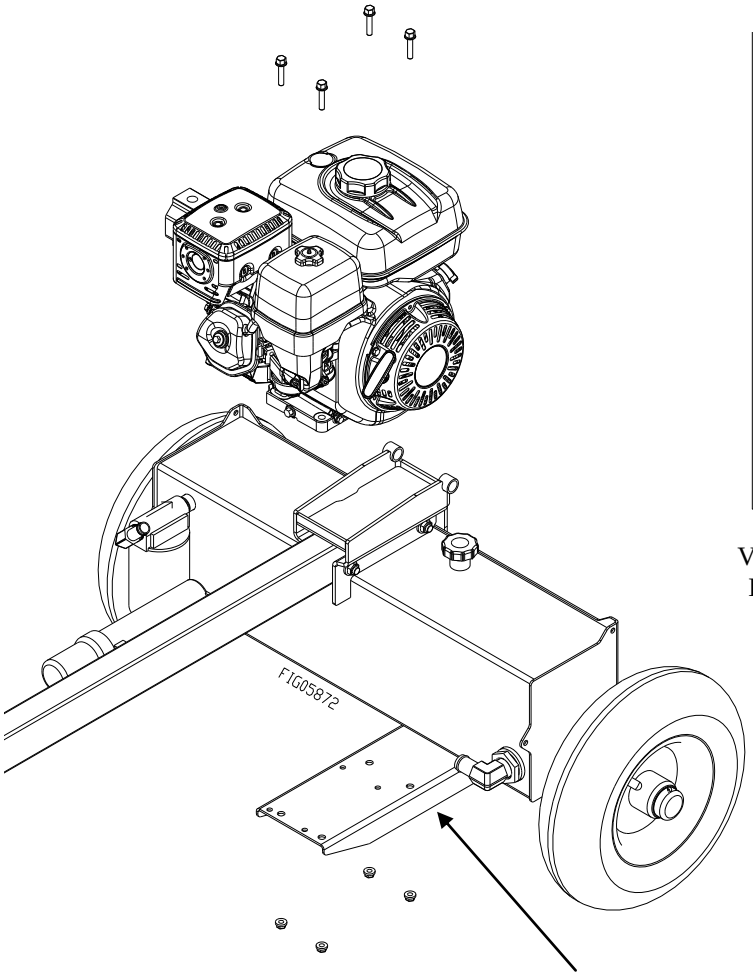
Fasteners Needed from Parts Bag:



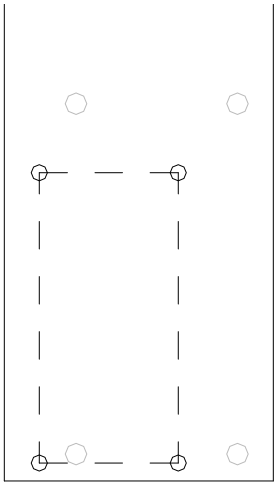
Part # 82280
M8-1.25 x 40mm
Qty: 4



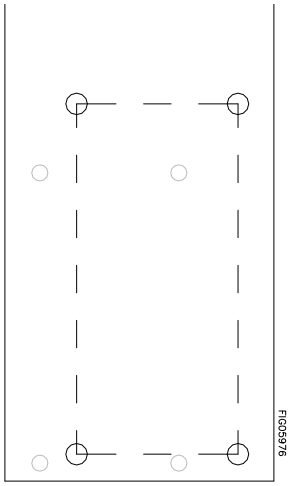
Part # 82281
M8-1.25 Nut
Qty: 4



Engine Mount



VH1724GC & VH1730GC
Engine Mounting Pattern



VH1737GX
Engine Mounting Pattern

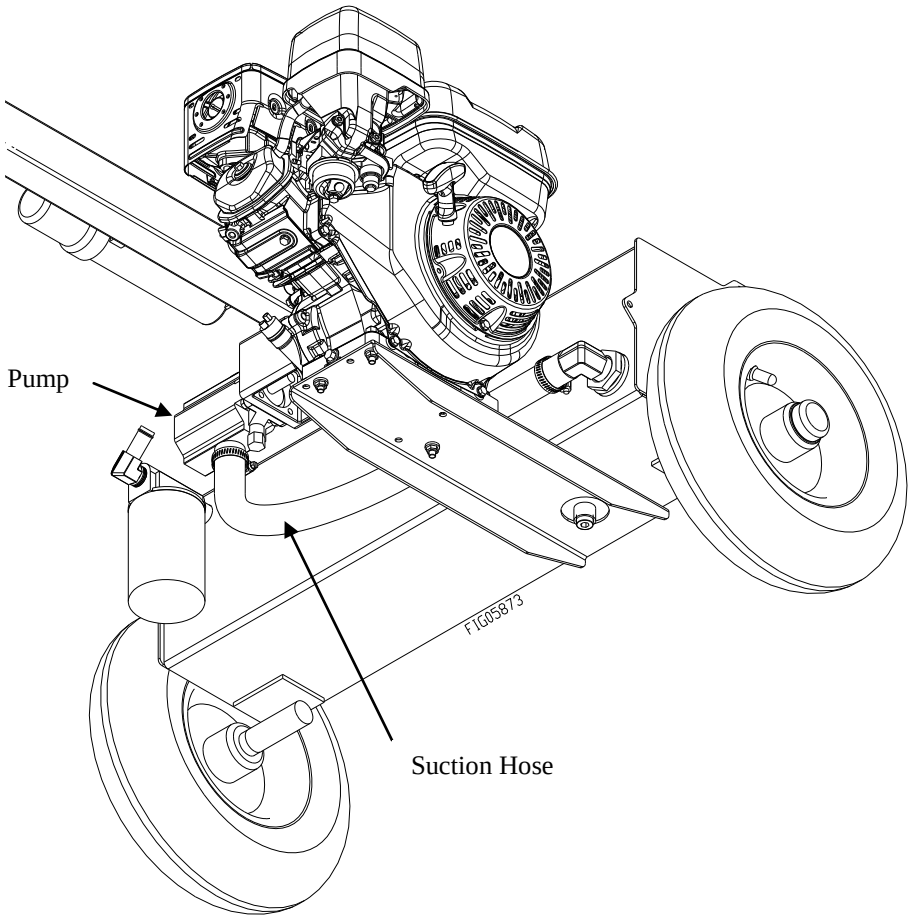
Assembly Instructions

Step 5 – Attach suction hose

- Remove the suction hose from the beam assembly (zip tied to side).
- Slide one end of the hose onto the elbow fitting on the axle assembly.
- Slide the suction hose onto the bottom of the pump.
- Loosen hose clamps and reposition to approximately 3/8” from ends of hose. Torque hose clamps to 77 in.-lbs.
- *Note: It may be necessary to loosen hose clamp on tank end of hose and reposition hose on tank end to achieve a length which allows installation to pump. Tighten hose clamp again after repositioning.*

Tools Needed

- 8mm socket
- Ratchet
- Torque wrench



Assembly Instructions

Step 6 – Stand beam upright

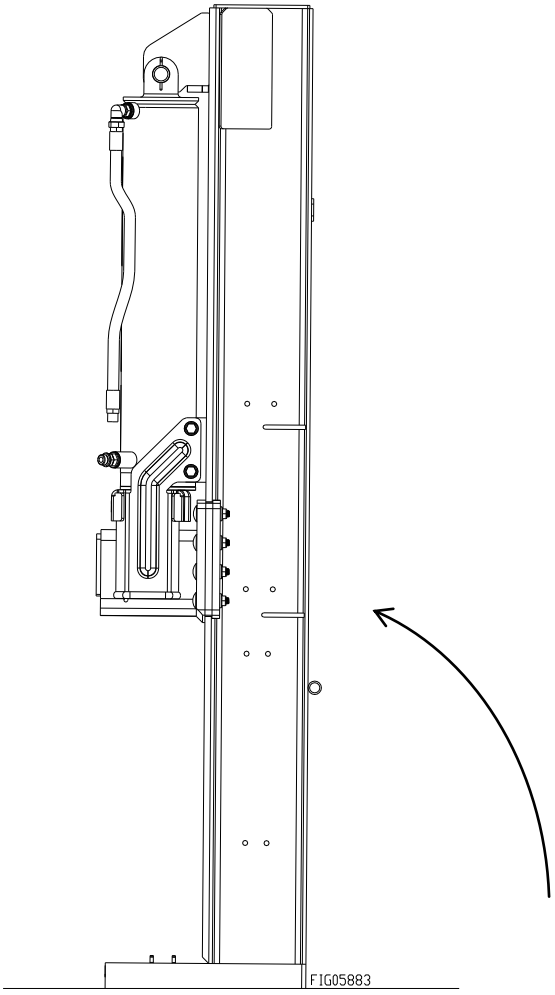
- CAUTION: Beam assembly is top heavy.
- Carefully stand beam assembly in vertical position on solid, level ground. **Assistance from a second person is required.**

Tools Needed

- None

⚠ WARNING

Make sure beam assembly is standing on flat, level area. Have another person steady the beam to prevent it from tipping over. The beam assembly weighs approximately 350 pounds and will cause bodily injury if it falls on someone.



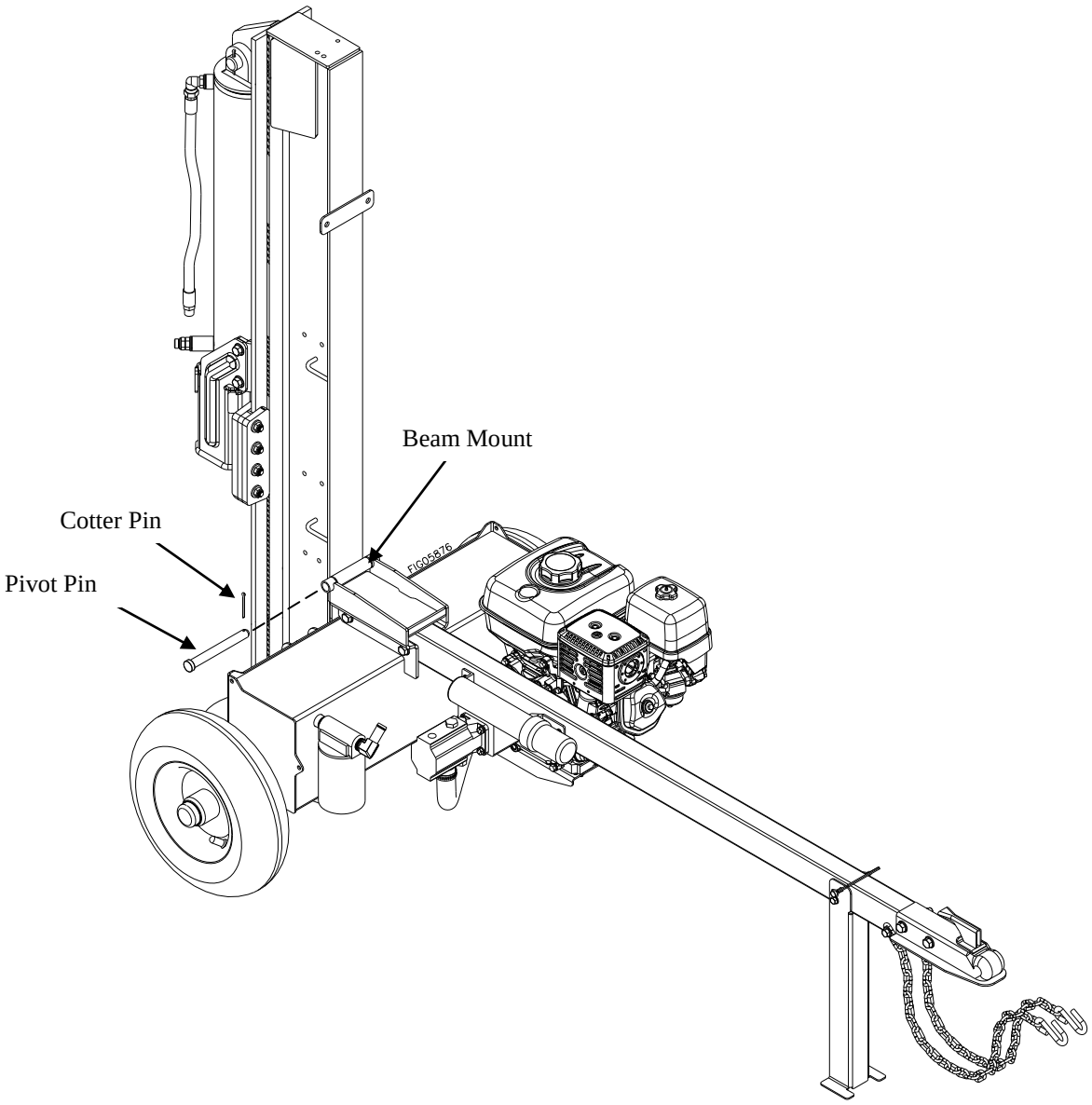
Assembly Instructions

Step 7 –Beam Assembly to Axle Assembly

- Remove pivot pin from the top of the axle assembly after removing the cotter pin.
- Carefully align the axle assembly with the beam assembly. Have a person hold the beam in place while maneuvering any assembly.
- Center the beam mount on the axle assembly with the beam mount on the beam assembly.
- Insert pivot pin through hole of beam mount. If desired, a hammer can be used to gently tap the pin into place.
- Install cotter pin.

Tools Needed

- Hammer



Assembly Instructions

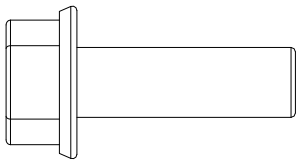
Step 8 – Beam rest to beam

- Loop the lanyard of the catch pin around the beam rest ear.
- Align beam rest with beam rest mounting bracket with the horizontal lock decal facing the valve side of the splitter. Attach to the beam using (2) bolts and (2) nuts.
- Torque nuts to 21 ft.-lb.
- Remove the catch pin from the hole in the beam rest and leave it dangling freely on the lanyard.

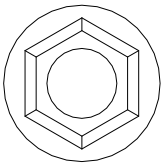
Tools Needed

- Ratchet
- Torque Wrench
- 13mm Socket
- 13mm Wrench

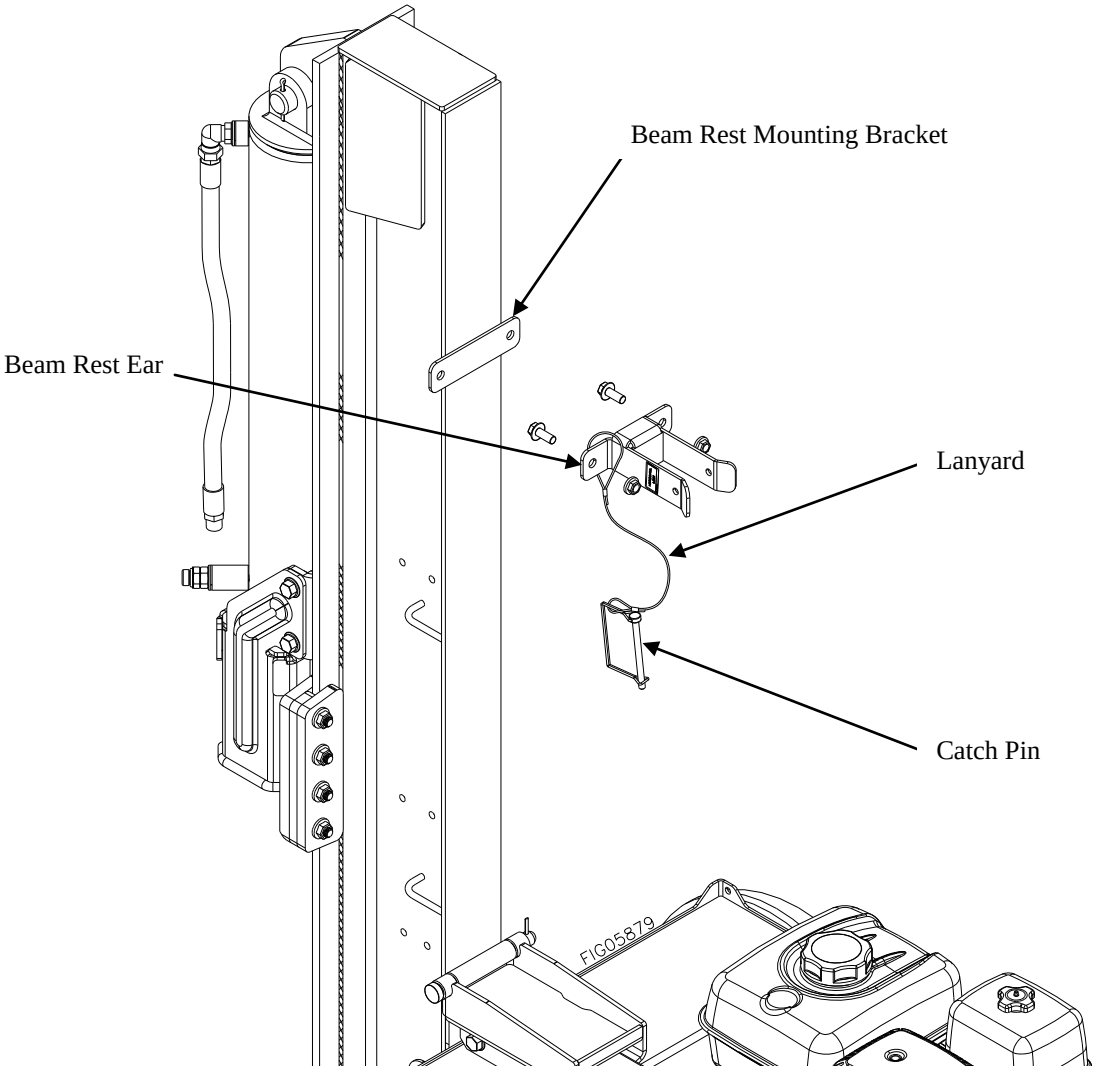
Fasteners Needed from Parts Bag:



Part # 82561
M8-1.25 x 25mm
Qty: 2



Part # 82281
M8-1.25 Nut
Qty: 2



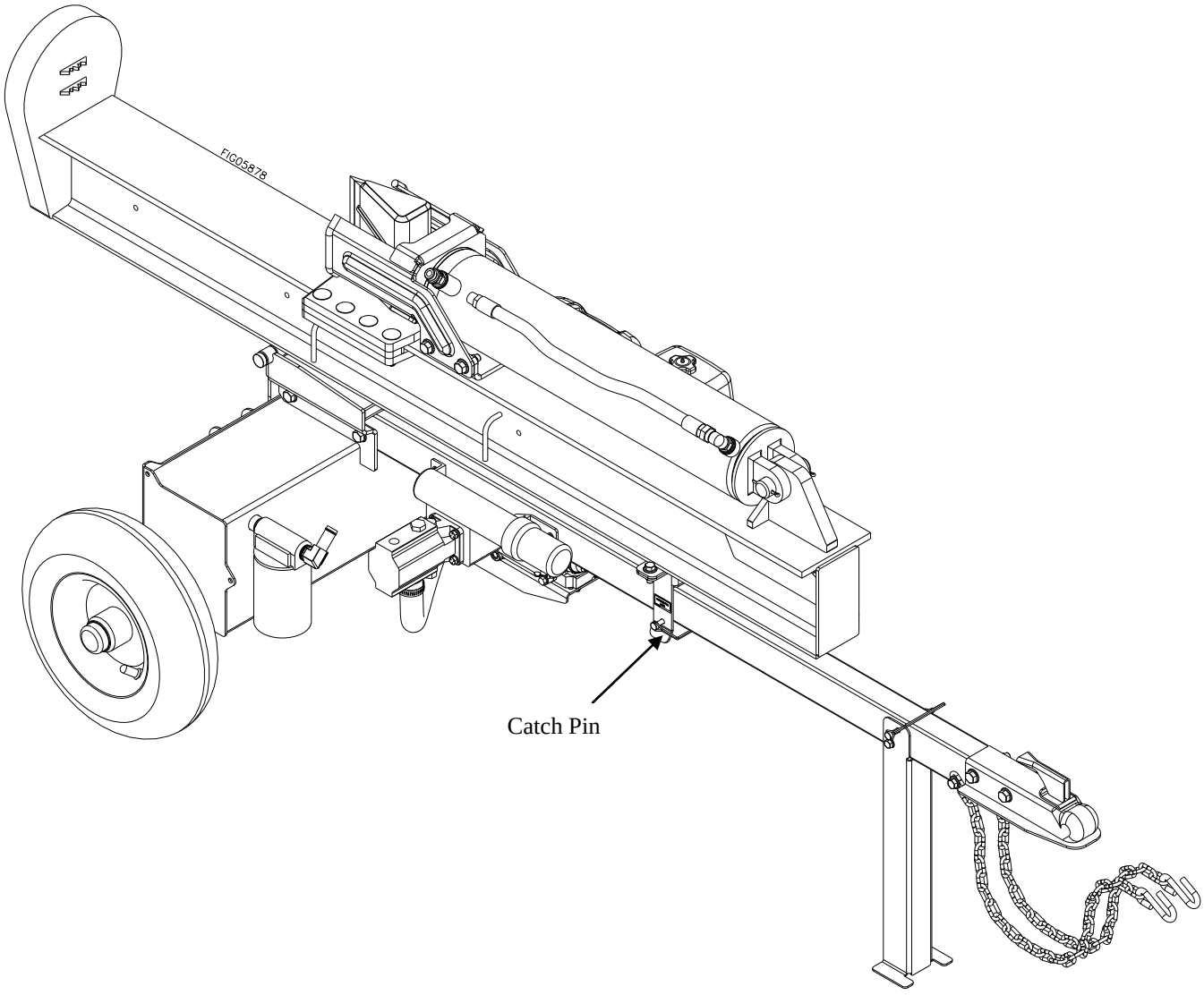
Assembly Instructions

Step 9 – Block and Rotate

- Block the wheels and rotate the beam assembly to the horizontal position.
- Insert the catch pin through the beam rest to lock the beam in the horizontal position.

Tools Needed

- None



Assembly Instructions

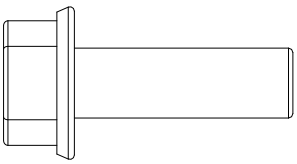
Step 10 – Handle to Beam

- Align handle weldment with holes in the front plate of the beam.
- Install (3) bolts and (3) nuts.
- Torque to 21 ft.-lb.

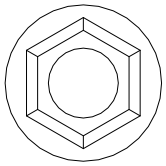
Tools Needed

- Ratchet
- Torque Wrench
- 13mm Socket
- 13mm Wrench

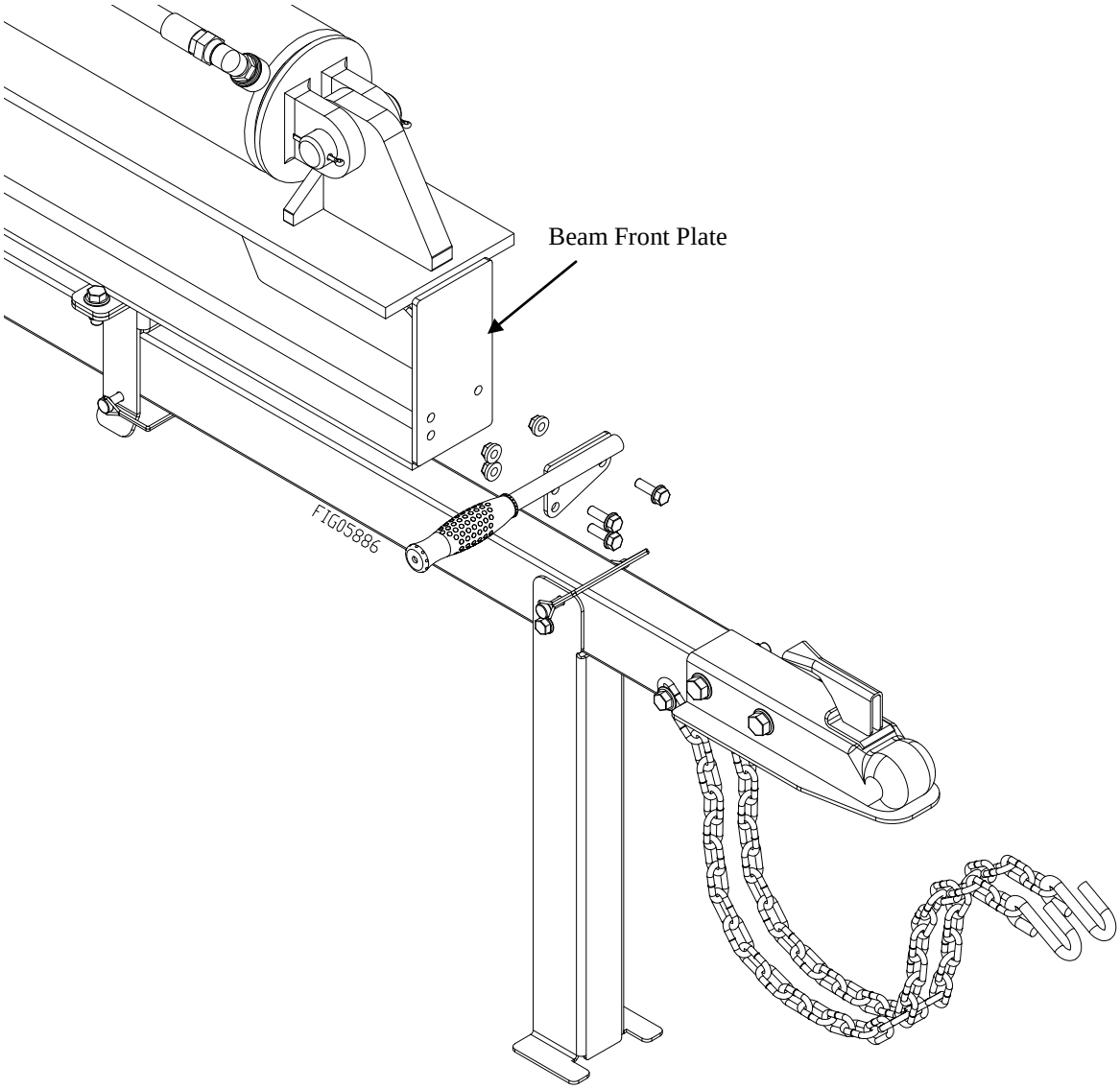
Fasteners Needed from Parts Bag:



Part # 82561
M8-1.25 x 25mm
Qty: 3



Part # 82281
M8-1.25 Nut
Qty: 3



Assembly Instructions

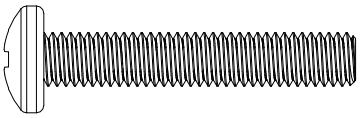
Step 11 – Install Valve

- Remove all plastic plugs from the valve.
- Looking at straight fitting from end with nut/washer/O-ring assembly, turn upper nut clockwise until it meets the lower nut.
- Use valve port marked "A" to thread the valve onto the straight fitting until the valve touches the o-ring.
- Back the valve off until valve is in the proper orientation.
- Hold the valve in the orientation shown below and torque nut against the valve at 37-46 ft.-lb.
- Attach the valve plate to the valve using (3) bolts and (3) nuts.

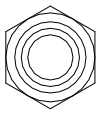
Tools Needed

- Phillips Screwdriver
- Torque Wrench
- 10mm Wrench
- Adjustable Wrench or 7/8" Wrench
- 22mm Crowfoot Wrench

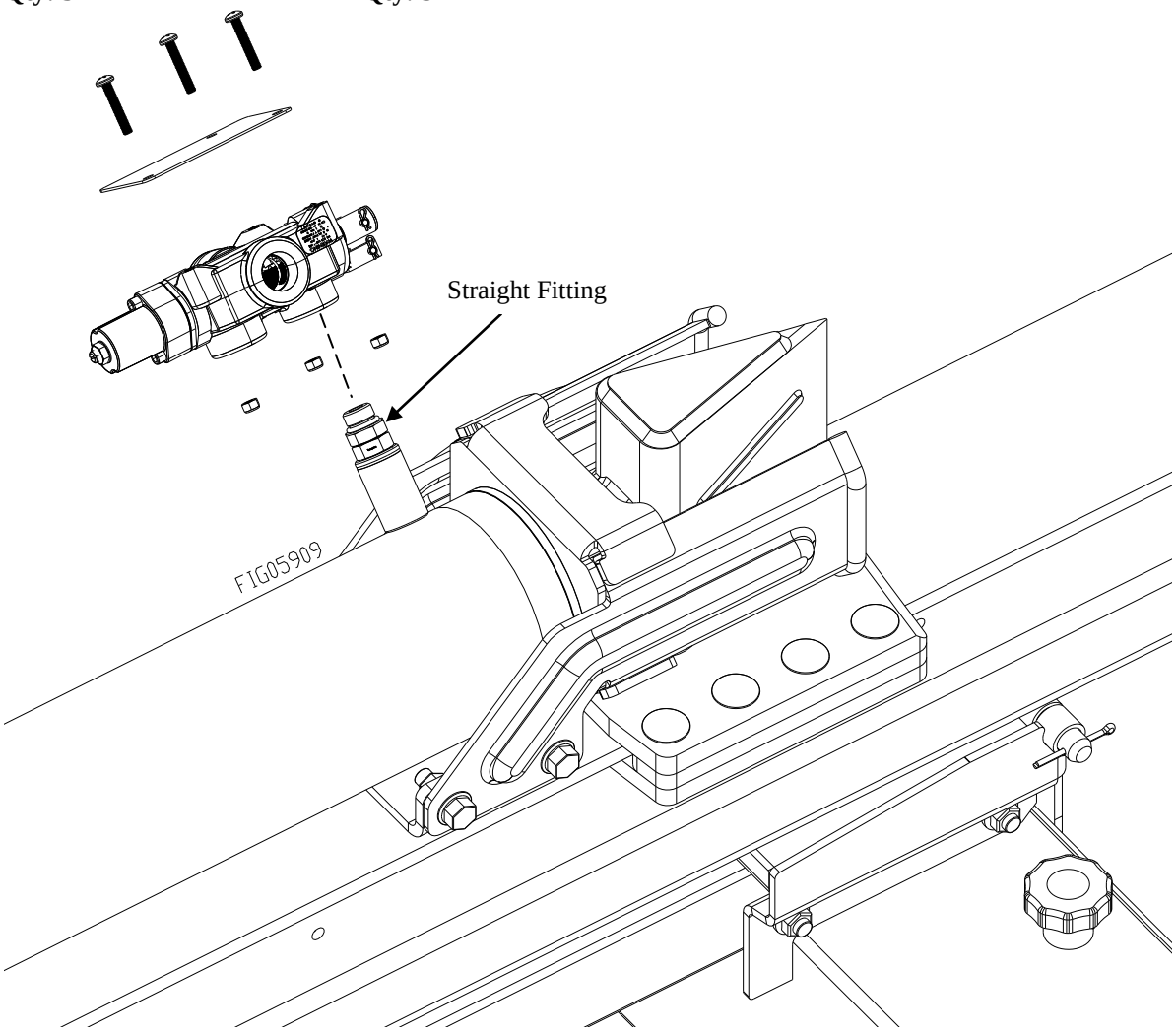
Fasteners Needed from Parts Bag:



Part # 82562
M6-1.00 x 35mm
Qty: 3



Part # 82563
M6-1.00 Nut
Qty: 3



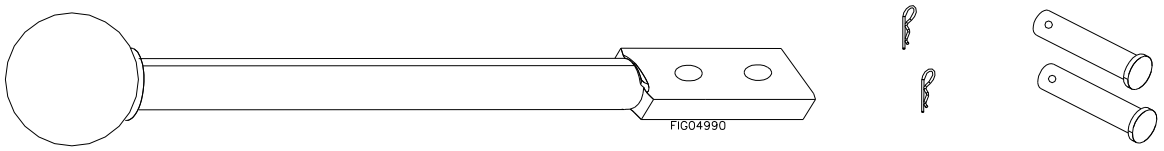
Assembly Instructions

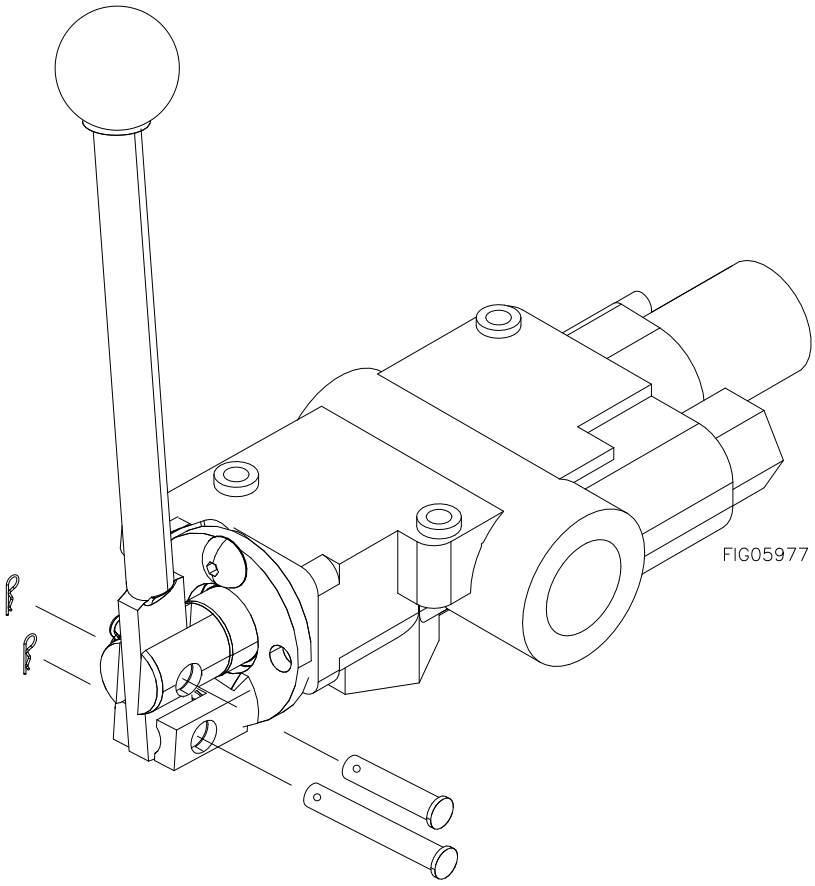
Step 12 – Install Handle on Valve

- Slide the valve handle into the clevis slots on the valve.
- Align the holes in the handle with the clevis holes.
- Insert the supplied pins through the holes and secure with the supplied bridge clips.

Tools Needed

- Pliers





Assembly Instructions

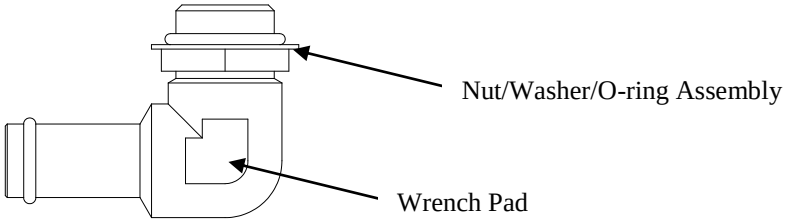
Step 13 – Install Valve Outlet Fitting

- Lubricate O-ring and threads on fitting with clean oil
- Looking at fitting from end with nut/washer/O-ring assembly, turn nut clockwise as far as possible
- Using wrench, turn (1) valve outlet fitting into the valve port marked "Out" until washer touches control valve. Continue turning until washer touches thread nearest wrench pad
- Back off fitting counterclockwise not exceeding one revolution until it is oriented as shown, facing the hitch end of the splitter.
- Place wrench on the wrench pad of fitting to prevent fitting from turning and torque nut to 70-87 ft.-lb.

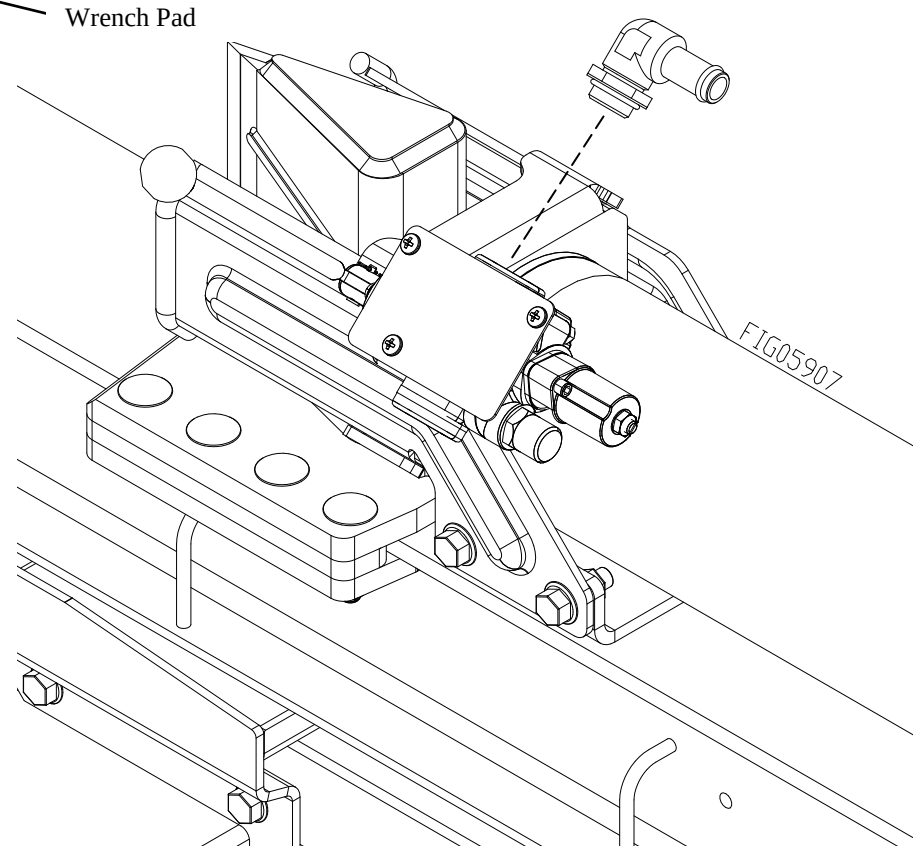
Tools Needed

- (2) Adjustable Wrenches
- Torque Wrench
- 32mm Crowfoot Wrench

Fitting Needed from Parts Bag:



Part # 778642
Valve Outlet Fitting
Qty: 1



Assembly Instructions

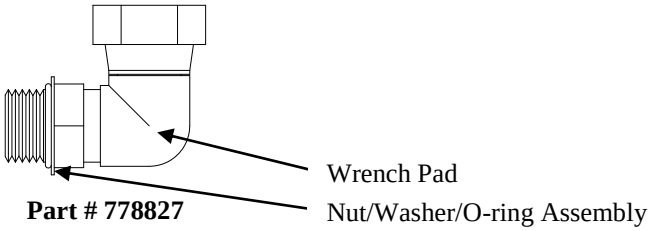
Step 14 – Install Cylinder Hose Fitting

- Lubricate O-ring and threads on fitting with clean oil.
- Looking at fitting from end with nut/washer/O-ring assembly, turn nut clockwise as far as possible.
- Using wrench, turn (1) cylinder hose fitting into valve port marked "B" until washer touches control valve. Continue turning until washer touches thread nearest wrench pad.
- Back off fitting counterclockwise not exceeding one revolution until it is oriented in the correct position, at a 90° angle.
- Place wrench on the wrench pad of fitting to prevent fitting from turning and torque nut to 37-46 ft.-lb.

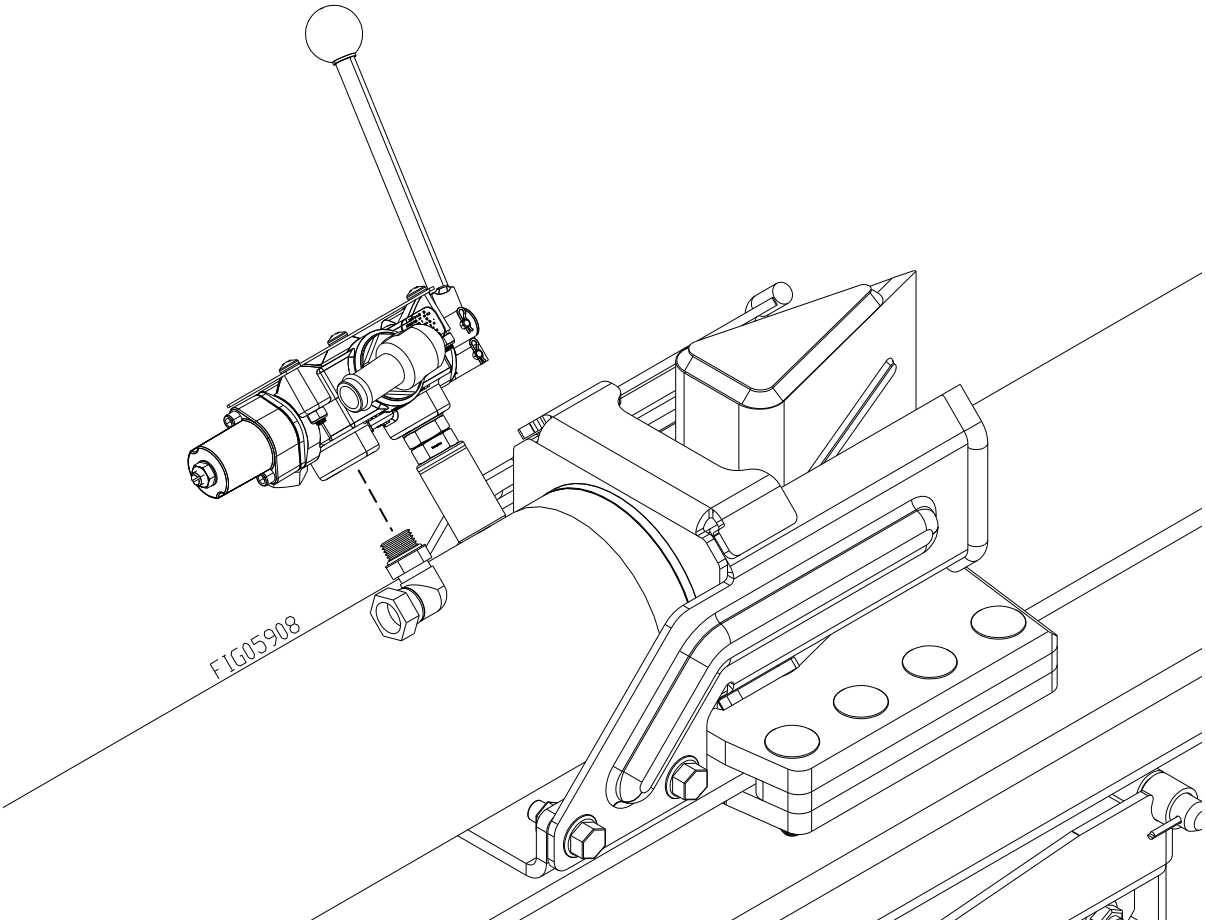
Tools Needed

- (2) Adjustable Wrenches
- Torque Wrench
- 22mm Crowfoot Wrench

Fitting Needed from Parts Bag:



Part # 778827
Cylinder Hose Fitting
Qty: 1



Assembly Instructions

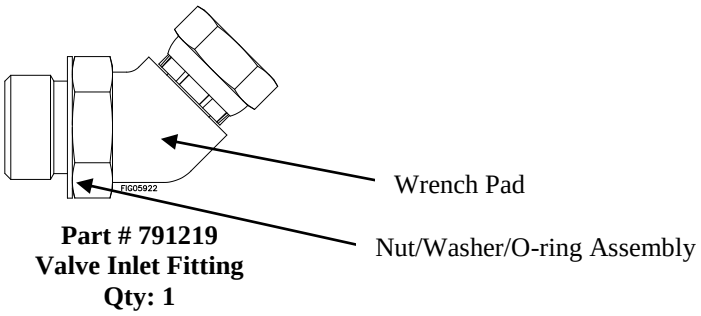
Step 15 – Install Valve Inlet Fitting

- Lubricate O-ring and threads on fitting with clean oil
- Looking at fitting from end with nut/washer/O-ring assembly, turn nut clockwise as far as possible
- Using wrench, turn (1) valve inlet fitting into valve port marked "IN" until washer touches control valve. Continue turning until washer touches thread nearest wrench pad
- Back off fitting counterclockwise not exceeding one revolution until it is oriented in the correct position, pointed directly down.
- Place wrench on the wrench pad of fitting to prevent fitting from turning and torque nut to 70-87 ft.-lb.

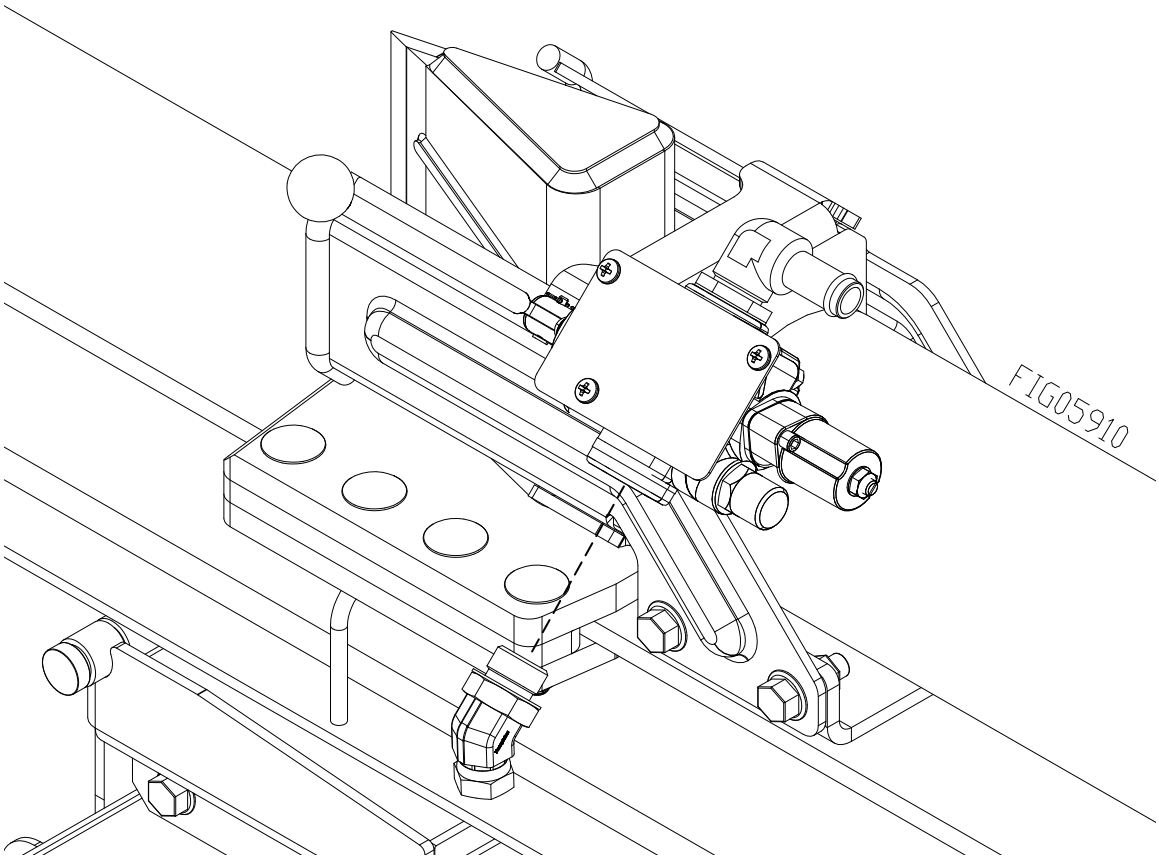
Tools Needed

- (2) Adjustable Wrenches
- Torque Wrench
- 32mm Crowfoot Wrench

Fitting Needed from Parts Bag:



Part # 791219
Valve Inlet Fitting
Qty: 1



Assembly Instructions

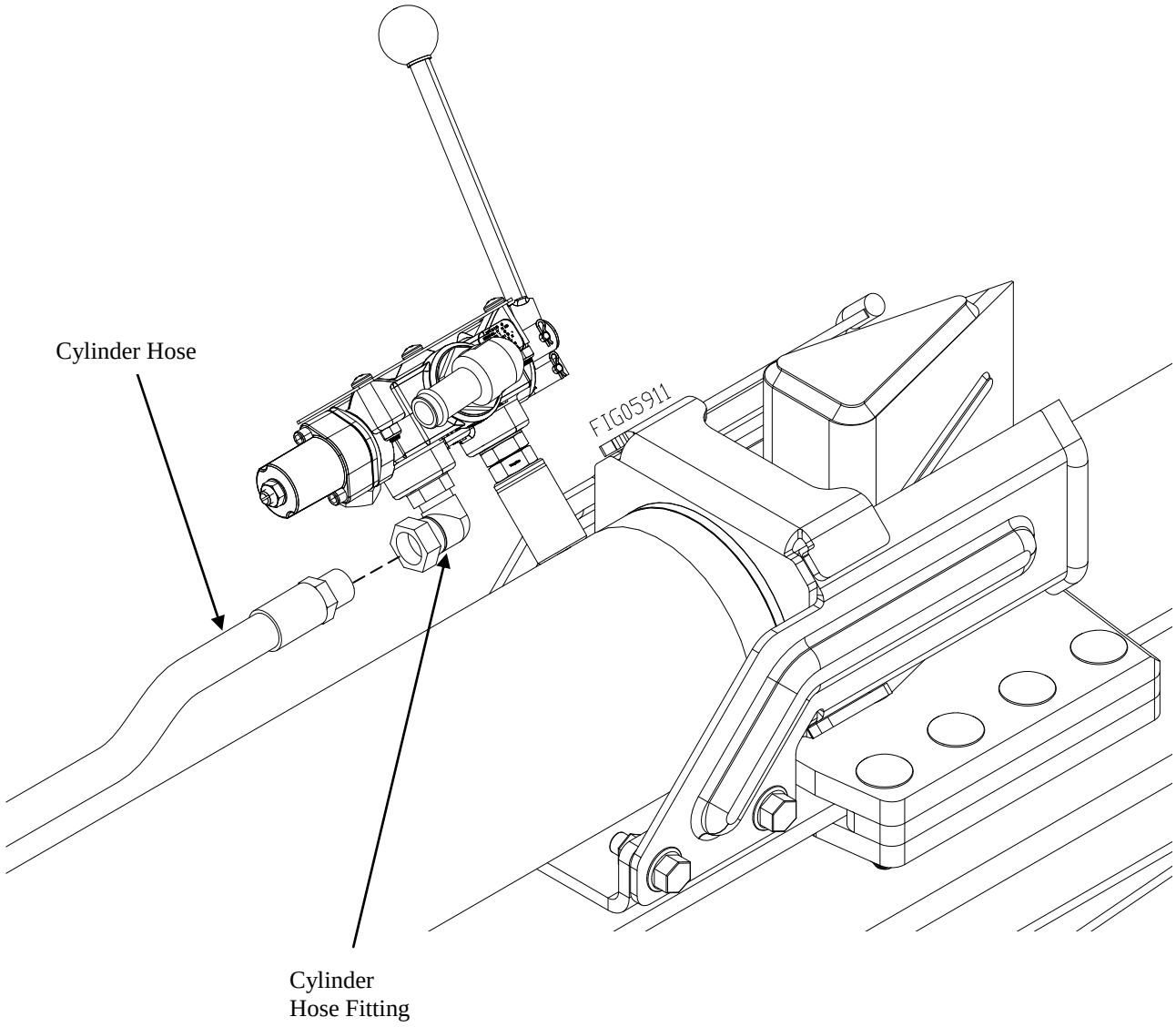
Step 16 – Install Cylinder Hose

- Route the cylinder hose to the cylinder hose fitting on the valve.
- Screw finger-tight cylinder hose to the cylinder hose fitting.
- Wrench-tighten the fitting.

Tools Needed

- (2) Adjustable Wrenches

NOTE: This connection is self-sealing and does not require any type of sealing material.



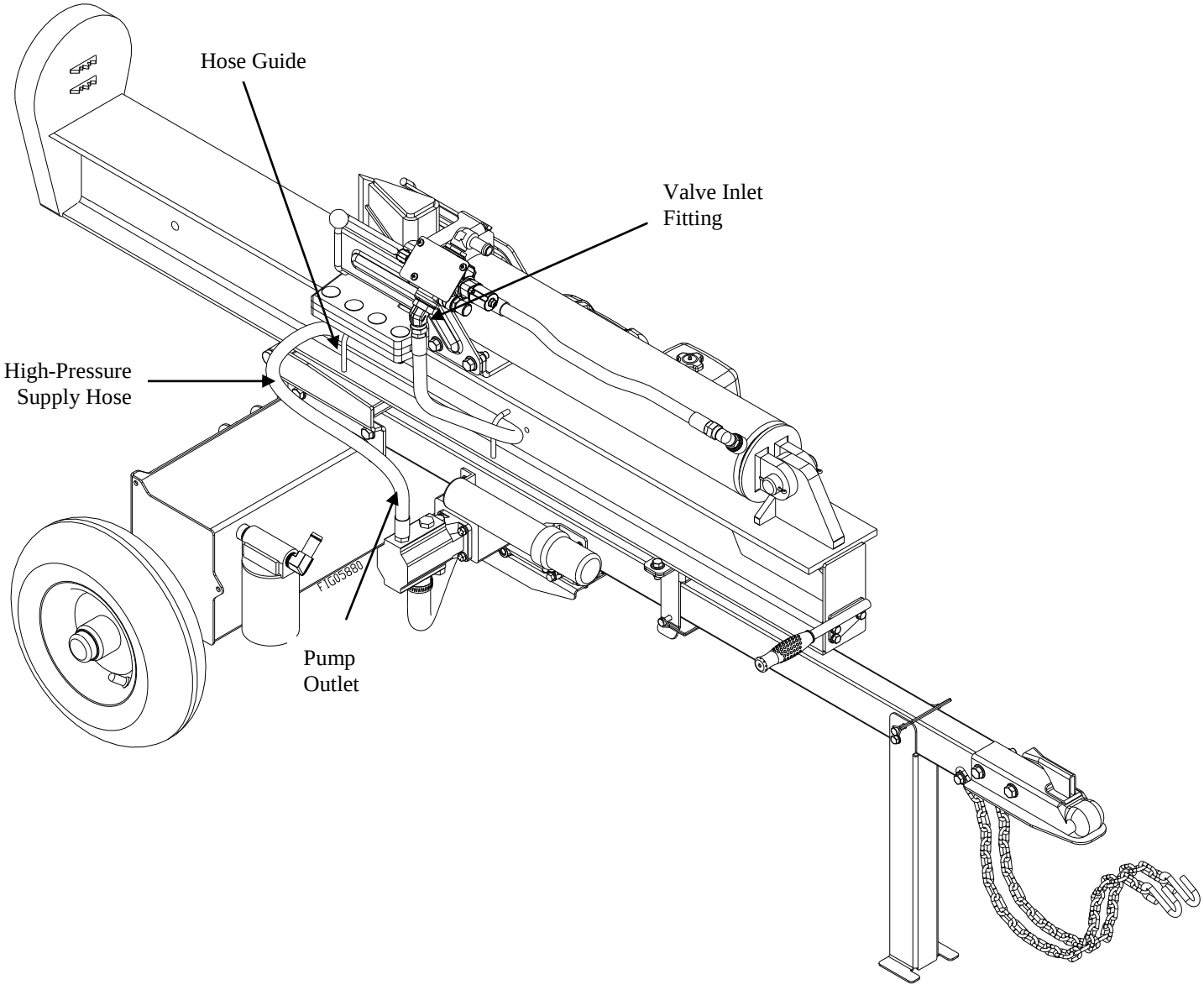
Assembly Instructions

Step 17 – High Pressure Hose

- Remove hose with fittings and sleeving from hose guides.
- Remove plastic plug from pump outlet with pliers (plastic plug is the outer most fitting).
- Screw hand-tight high pressure hose to the pump outlet.
- Wrench-tighten the fitting to 1.5-3.0 Turns Past Finger Tight position. Properly assembled fittings total thread engagement should be 3.5-6 turns.
- Route hose back through hose guides, with hose as far down on the beam as possible (high pressure hose will be routed on the bottom).
- Screw finger-tight remaining end of the High-Pressure Supply Hose to the Valve Inlet Fitting on the control valve inlet.
- Wrench-tighten the fitting.

Tools Needed

- (2) Adjustable Wrenches
- Pliers



Assembly Instructions

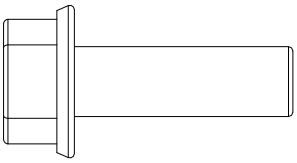
Step 18 – Install Log Cradles

- Insert (2) bolts in lower holes in the beam and install (2) nuts on bolts leaving them loose enough to install the cradles.
- Slide log cradles onto bolts as shown below (with flanges pointed toward the hitch end of the splitter).
- Install upper (2) bolts and (2) nuts and tighten.
- Torque to 21 ft.-lb.

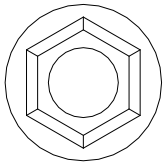
Tools Needed

- Ratchet
- Torque Wrench
- 13mm Socket
- 13mm Wrench

Fasteners Needed from Parts Bag:

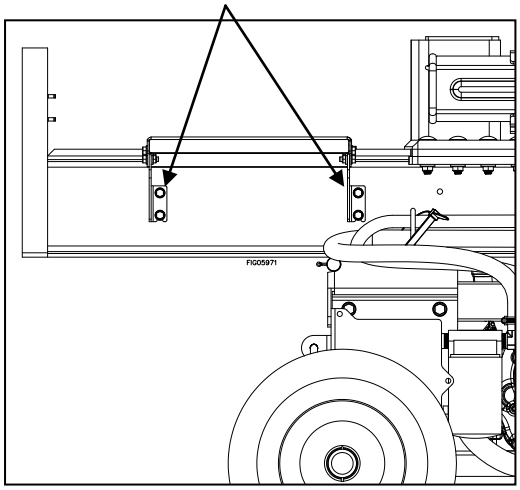


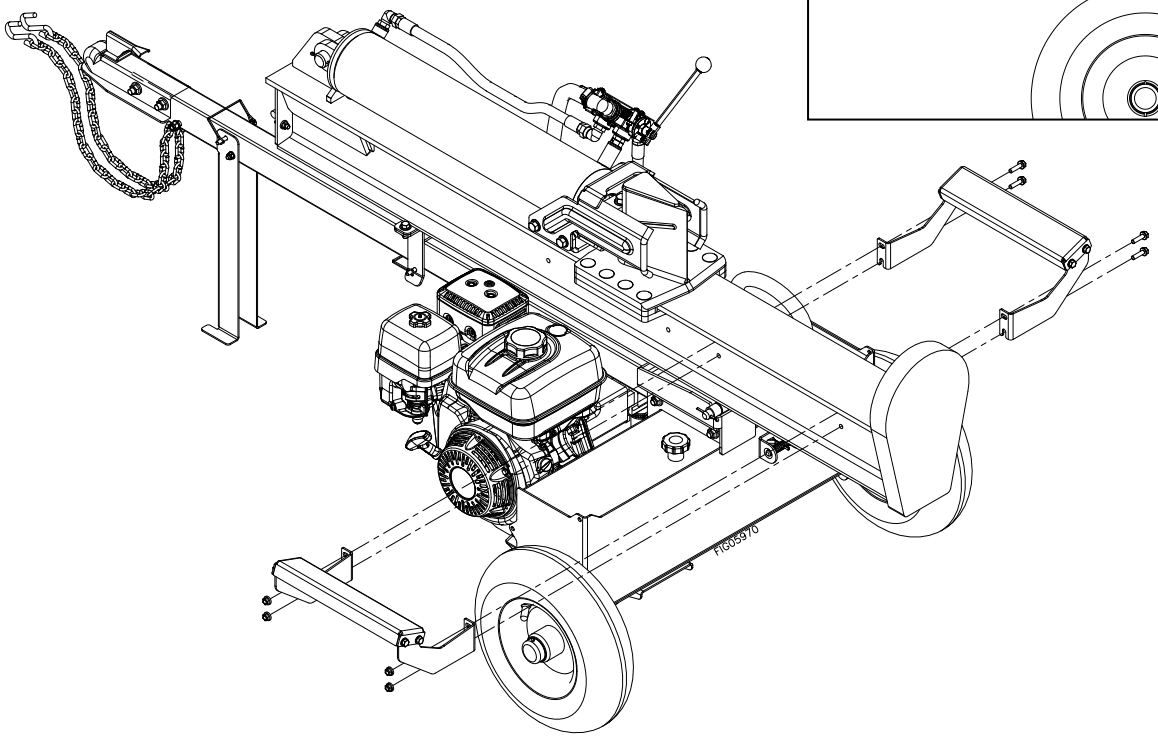
Part # 82561
M8-1.25 x 25mm
Qty: 4



Part # 82281
M8-1.25 Nut
Qty: 4

Note orientation of log cradle mounts





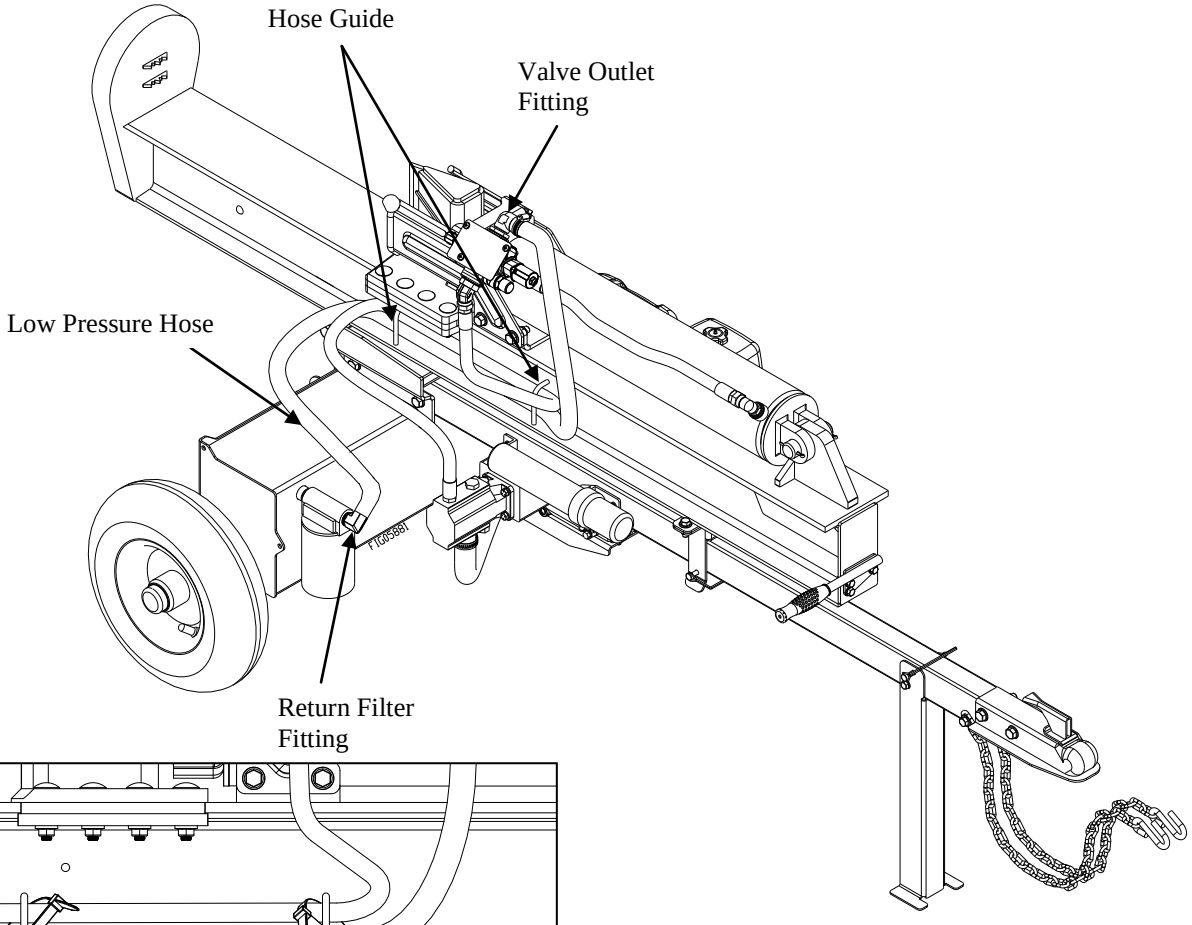
Assembly Instructions

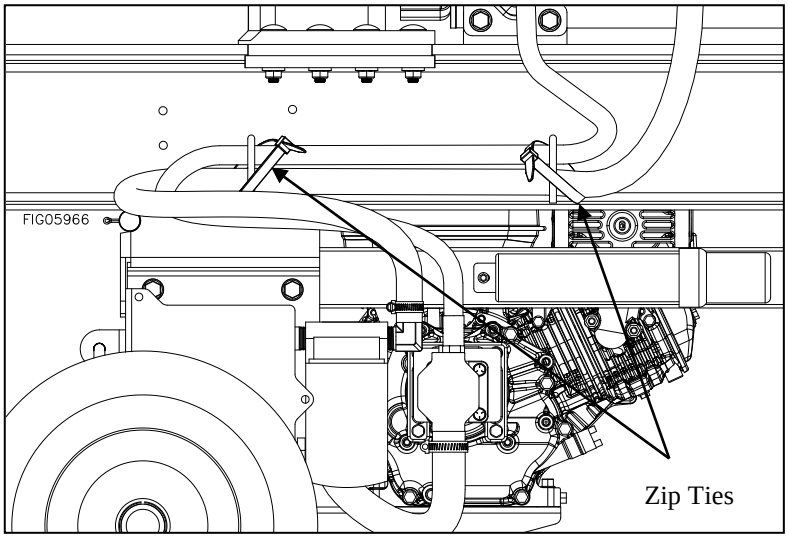
Step 19 – Low Pressure Return Hose

- Route the low pressure return hose from return filter fitting to valve outlet fitting leaving it run through the hose guides on beam.
- Loosen and then position and tighten hose clamps approximately 3/8" from ends of hose. Torque hose clamps to 77 in.-lbs.
- Put splitter into vertical position and check the hoses for kinking, loosen and twist if necessary, and return to horizontal position.
- Once the hoses are placed correctly and do not kink or catch going to and from the vertical position, wrap zip ties around both hoses and hose guides as shown below and tighten. Cut off tail end of zip ties with side cutter.

Tools Needed

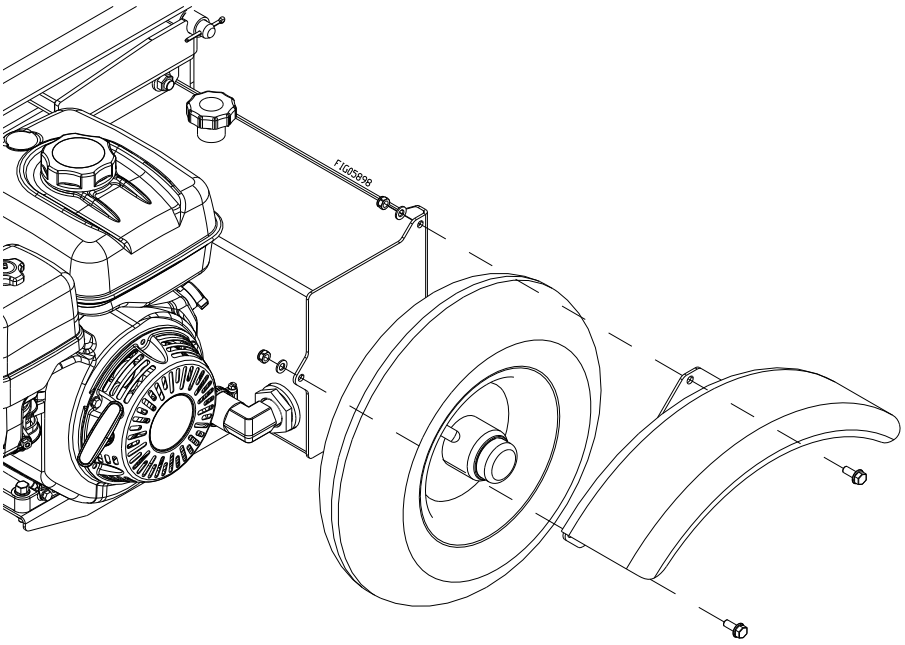
- 8mm Socket
- Ratchet
- Torque Wrench
- Side Cutter



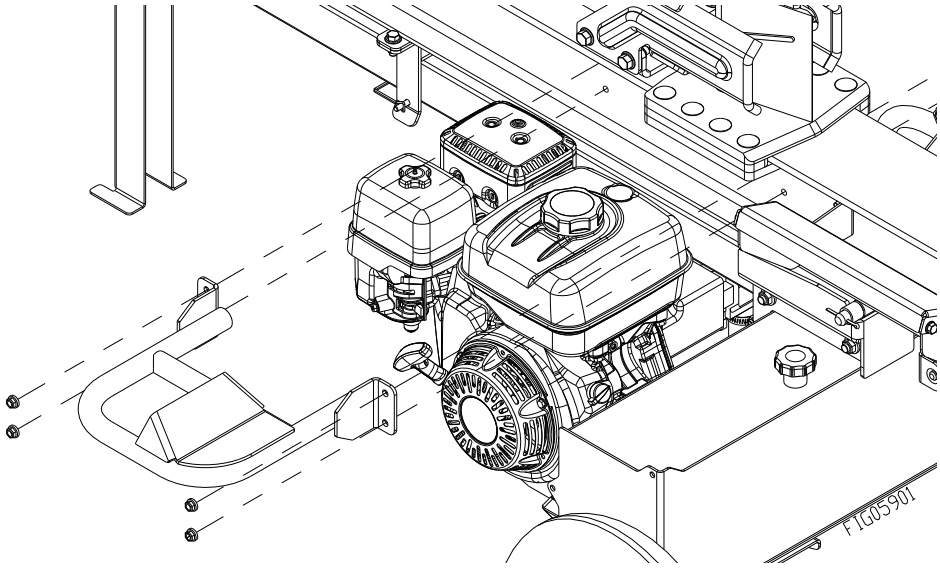


Available Accessories

Fender Kit (Item# 795171)
Fits all VH17 models



Engine Guard (Item# 795172)
Fits all VH17 models



<u>Any Questions, Comments, Problems or Parts Orders</u>
Call Brave Product Support 1-800-350-8739

This page is intentionally left blank

Limited Warranty

Dear Valued Customer:

The Brave 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 Brave 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.

Thoroughly read the instructions and understand the operation before using your product. Always contact Brave Product Support at 1-800-350-8739 prior to having any service or warranty work performed, as some services performed by parties other than Brave approved service centers may void this warranty. This limited warranty is in lieu of any other warranty expressed or implied, written or oral and Brave assumes no other responsibility or liability outside that expressed within this limited warranty.

Limited Warranty for Brave Log Splitter Models:

VH1724GC
VH1730GC
VH1737GX

	Consumer Warranty Period	Commercial Warranty Period
Weldments		
	2 years from date of purchase by user	2 year from date of purchase by user
Cylinders, Valves, Pumps		
	2 years from date of purchase by user	1 year from date of purchase by user
Wear Parts		
	In addition to the normal warranty, Brave shall warrant some normal wear items from defects in material or workmanship for a period of 30 days from the date of purchase by user. Normal wear items covered under this warranty are limited to: pins, grease zerks, keepers, wheel bearing, wires, hoses, springs, cables, couplers, filters, tires, and switches. Routine maintenance items such as lubricants, clutch adjustments, tune ups are not covered under warranty.	
Engines		
	The engine warranty is covered under the terms and conditions as outlined by the engine manufactures warranty contained herein and is the sole responsibility of the engine manufacturer. Normal engine maintenance such as spark plugs, oil changes, air filters, adjustments, fuel system cleaning and obstruction due to build up is not covered by this Brave limited warranty.	

"Consumer use" means personal residential household use by a consumer. **"Commercial use"** means all other uses, including, but not limited to, use for commercial, income producing or rental purposes or when purchased by a business.

This limited warranty applies to the original purchaser of the equipment (verification of purchase, in the form of a receipt, is the responsibility of the buyer), is non-transferable, and covers parts and labor. Parts will be replaced or repaired at no charge, except when the equipment has failed due to lack of proper maintenance. If a part is no longer available, the part may be replaced with a similar part of equal function. 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 Brave. Brave will not provide for replacement of complete products due to defective parts. Any costs incurred due to replacement or repair of items outside of a Brave approved facility is the responsibility of the buyer and not covered under warranty. Transportation costs to and from service center and/or service calls are the responsibility of the customer.

This limited warranty specifically excludes the following; failure of parts due to damage caused by accident, fire, flood, windstorm, acts of God, applications not approved by Brave in writing, corrosion caused by chemicals, use of replacement parts which do not conform to manufacturer's specifications, damage related to rodent and/or insect infestation 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. Also, outdoor power equipment needs periodic parts and service to perform well, and this limited warranty does not cover instances when normal use has exhausted the life of a component or the engine.

This limited warranty does not cover any personal injury or damage to surrounding property caused by failure of any part, misuse or inability to use the product. Alteration of the product, including safety features, shall void this limited warranty.

Repair or replacement of parts does not extend the warranty period. This limited warranty gives you specific legal rights. You may also have other rights that vary by state.

Please have model number, item number and serial number on hand prior to making a warranty claim or inquiry.

Brave
Product Registration Form

Your Information

Full Name: _____
Last First M.I.

Address: _____
Street Address Apartment/Unit #

_____
City State ZIP Code

Home Phone: _____ Alternate Phone: _____

Email Address: _____

Purchased From

Company: _____

Address: _____
Street Address Apartment/Unit #

_____
City State ZIP Code

Model Information

Purchase Date: _____

Application Type: □ Homeowner □ Commercial □ Rental

_____
Model *(i.e. VH1724GC)* Serial # *(i.e. VH1724GCA012345678)*

Signature: _____

IMPORTANT WARRANTY INFORMATION

To activate your Brave log splitter warranty, please fill out the information in the form below and mail to:
Brave, 20195 S. Diamond Lake Rd., STE 100, Rogers, MN 55374 or go online to www.braveproducts.com and complete our online product registration form.

20195 S. Diamond Lake Rd, Ste 100
Rogers, MN 55374
1-800-350-8739