

**RUGGED *MADE***

**QUICK  
START  
GUIDE**

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***PLEASE READ  
BEFORE  
ASSEMBLY***



## LOG SPLITTER QUICK START GUIDE

Congratulations on your purchase of a RuggedMade log splitter! This is a high quality, high performance piece of equipment that will serve you well if operated and maintained properly. After you have taken delivery of your new splitter and inspected it thoroughly for possible shipping damage, please follow this quick start guide to assemble and operate your new splitter. Read the safety guidelines in this guide before operating the splitter.

### ASSEMBLY

Watch the assembly video at [www.ruggedmade.com](http://www.ruggedmade.com) and read the engine owner's manual, which can be downloaded at the same website.

#### \*\*\*RETURN FILTER\*\*\*

Make sure the "FLOW" indicator arrow on top of the aluminum filter head points **toward** the hydraulic tank. Incorrect installation will damage filter.



### WHAT YOU WILL NEED

- Tools, including a large adjustable wrench for hydraulic fittings
- Hydraulic Fluid: Use AW32 (SAE 10 weight) or AW46 (SAE 20 weight). Use the amount listed in Table 1. Do not 'top off' the tank after cycling the cylinder to prevent excess fluid being purged through the vent on the hydraulic tank cap.  
**\*\*\*Do not use "universal" or "general purpose" tractor fluid\*\*\***
- Engine Oil:
  - Synthetic SAE 5W-30 for year-round operation (-20° to 120° F)
  - Conventional SAE 30 for warm weather operation (40° to 100° F)
  - Conventional SAE 10W-30 for year-round operation (0° to 100° F)
  - Fill to threads on filler port so that low-oil cutoff switch does not kill spark
- Bearing grease for wheels
- Battery: If your splitter is equipped with electric start, we recommend a **12N9-4B-1** 12V 9Ah battery.

#### Hydraulic Fluid Capacity

- RS-300 Series: 8 gal
- RS-500 Series: 8 gal
- RS-700 Series: 12 gal

Table 1

### OPERATION - Inspect the splitter regularly

- Loose hardware, guide plate bolts, coupler screws, engine bolts, muffler
- Engine oil and hydraulic fluid level
- Air filter
- Tire pressure, particularly if towing
- Hose condition; check for cracks or leaks
- Lubricate the top of the beam as needed
- Sharpen the blade as needed

### BREAK-IN

After the first five hours of operation, change the engine oil. Check all hardware and fasteners for tightness, including parts assembled at the factory. Inspect the set screws on the jaw coupler for tightness.

**WARNING: SOME ENGINES SHIP WITHOUT OIL. CHECK OIL LEVEL BEFORE STARTING!**

### MAINTENANCE

Like any piece of equipment, your RuggedMade log splitter requires routine maintenance to maintain a high level of performance, safety, and reliability.

- Change the engine oil every 25 hours or as required by the manufacturer (See owner's manual)
- Replace the hydraulic fluid and clean the mesh strainer every 200 hours or annually.
- Replace the return line filter element every 200 hours.
- Inspect and replace as necessary: air filter, spark plug, rubber jaw coupler spider (elastomer)
- Grease the wheel bearings

If you have questions, please visit [ruggedmade.com](http://ruggedmade.com), send e-mail to [support@ruggedmade.com](mailto:support@ruggedmade.com), or call our Customer Service Team at **1-855-878-4433**

# OPERATION GUIDE

## Safety First!

The most important safety device is the operator. Use care when operating this machine. Hydraulic log splitters are able to amputate hands and feet, and wood fragments can be thrown. Failure to observe safety guidelines could result in serious injury or death. Keep hands away from all pinch points. Wear appropriate safety gear, including gloves, eye, and ear protection. Do not wear loose clothing. Do not operate the log splitter if children are nearby.

## Fuel

Use only FRESH fuel with an octane rating of 90 or higher. Most fuel available in the US contains 10% ethanol. Ethanol attracts water. Fuel from gas stations can go bad in as little as two weeks and can make your engine hard to start and cause it to run poorly.

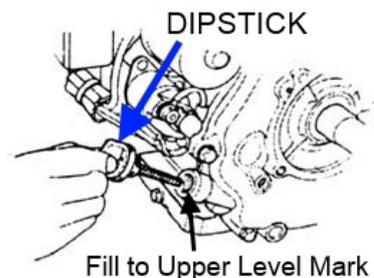
Storing Your Splitter: Drain all the fuel from the tank and the carburetor bowl. Run the engine until it stops due to fuel starvation. Fill the tank with ethanol-free fuel. Ethanol-free fuel has a long shelf life and is available from most outdoor power equipment dealers. Run the engine for a few minutes on the ethanol-free fuel so that it reaches all parts of the fuel system.

Do not over-fill the fuel tank. This may clog the vent line (aka "tip-over valve") and create a vacuum in the fuel tank, which will prevent fuel from flowing to the carburetor. Over-filling the tank can also push fuel into the black plastic CARB emissions canister. This will cause the engine to run poorly or not start. Before towing your splitter, run the engine with the fuel petcock in the "off" position until the engine stops. This will prevent raw fuel from entering the engine while being transported.

## Engine Oil

Check the engine oil level before each use. Add oil if level is low. Always check engine oil level on level ground when the engine is cold. The oil level should be up to the threads on the fill port. Your engine is equipped with a low oil cut-off switch. If the oil level is even slightly low, this switch will kill the ignition and your engine will stop. Operating your splitter on a slope may cause the low oil switch to sense low oil and stop the engine. Follow the engine manufacturer's maintenance schedule and change the oil regularly. Use 10W-30 or 10W-40 four-stroke (4-cycle) engine oil for normal operation. A light viscosity 'winter weight' 5W-30 oil can be used for cold-weather operation.

*Note: Some engines ship without engine oil.*



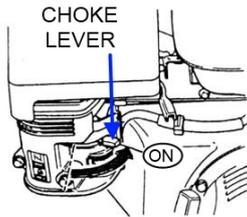
## Electric Start

All engines come equipped with a recoil pull starter, even if electric start is included. If your engine is equipped with an electric starter, use the key switch on the control panel. It has an "OFF" position, a "RUN" position, and a spring-loaded "START" position. Make sure the re-settable circuit breaker has not tripped by pushing the button in. Turn the key clockwise to the START position and hold it to crank the engine over. Release the key when the engine starts. Do not crank the engine for more than five seconds at a time. Wait 60 seconds between start attempts to allow the electric starter to cool. To turn the engine off, turn the key counter-clockwise to the "OFF" position. The engine will keep the battery charged if used regularly. If the battery has been sitting for an extended period of time, it may lose its charge and be unable to start the engine. It will need to be charged with an external charger.

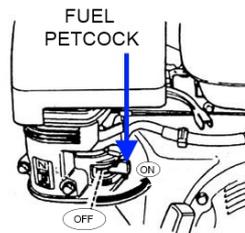
## Starting the Engine

Read the engine owner's manual before operating the engine. Only start the engine in a well-ventilated area. Make sure no people or pets are near the splitter before starting the engine. Make sure the hydraulic control valves are in the neutral position before starting and that nothing is in front of the splitting blade.

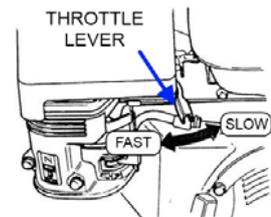
### To Start the Engine:



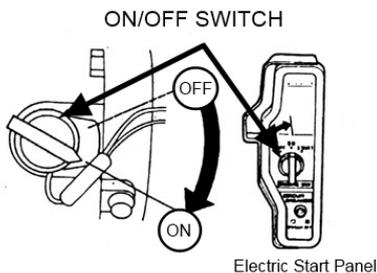
Move the choke lever to the right to the "CHOKE CLOSED" position (Partial choke may be sufficient when engine is warm)



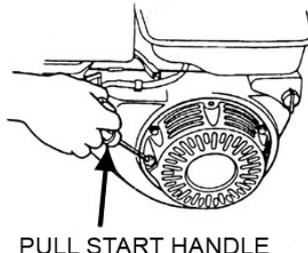
Move the fuel petcock lever to the right to the "ON" position



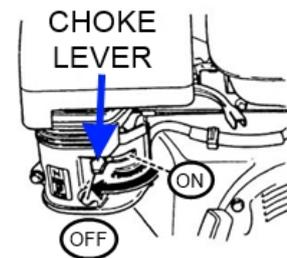
Set the throttle lever to the mid-throttle position



Turn the ignition ON/OFF switch clockwise to the "ON" position

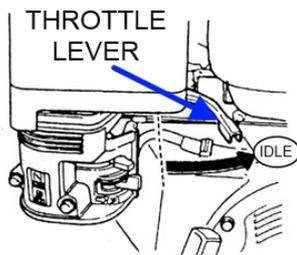


Pull the recoil starter handle in a swift, smooth manner until the engine starts



After the engine starts, move the choke lever to mid-choke position and allow the engine to warm up. Turn the choke off when the engine is warm.

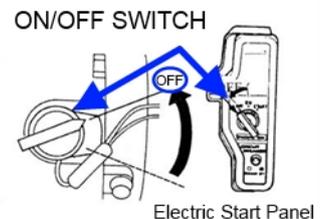
### To Shut Off the Engine:



To turn the engine off, move the throttle lever to the right to the "IDLE" position



Move the fuel petcock lever to the left to the "OFF" position



Turn the ON/OFF switch counter-clockwise to the "OFF" position.

## Hydraulic Control Valve(s)

The hydraulic control valve(s) should be in the neutral position before starting or stopping the engine. Make sure no body parts or objects are in front of the blade or push plate when starting the engine. If you use a tarp or cover to protect your splitter, make sure the weight of the tarp does not push the valve lever into the forward or reverse position, as this will cause the cylinder rod to start moving as soon as the engine starts. This could damage the splitter or cause injury.

Allow the engine oil and hydraulic fluid to warm up before running the engine at full power and splitting wood. Operate the engine at full throttle for optimal performance.

The cylinder rod will move in a jerky manner after initial assembly. This is caused by air in the hydraulic system. The hydraulic system will automatically bleed air from the lines through the vent in the reservoir cap. The cylinder rod(s) will move smoothly after a few cycles of extending and retracting. Excess hydraulic oil may escape through the vent on the hydraulic tank fill cap/dipstick.

Be careful when using the return detent feature of the log splitter valve. The hydraulic cylinder rod will retract without the need to keep your hand on the valve lever. Injury and damage to the splitter can occur. Keep your eyes on the splitter and keep parts of your body away from any pinch points.



Your log splitter is very powerful. Do not allow pieces of wood to become lodged behind the horizontal blades of RS-500 series models. Retracting the rod when a log is jammed behind the blade may damage the log stripper and the valve. The heavy-duty log stripper will remove normal sized pieces of split wood off of the blade, but it is not designed to crush logs.

The maximum load for the hydraulic log lift and the catcher tray is 300 pounds.

The four-way blade is designed for splitting straight grain logs of 20" diameter or less. Do not use the four-way blade to split over-size logs or logs with knots. Remove the four-way blade (or four-way wings) and split over-size and knotty logs into smaller pieces before using the four-way blade.

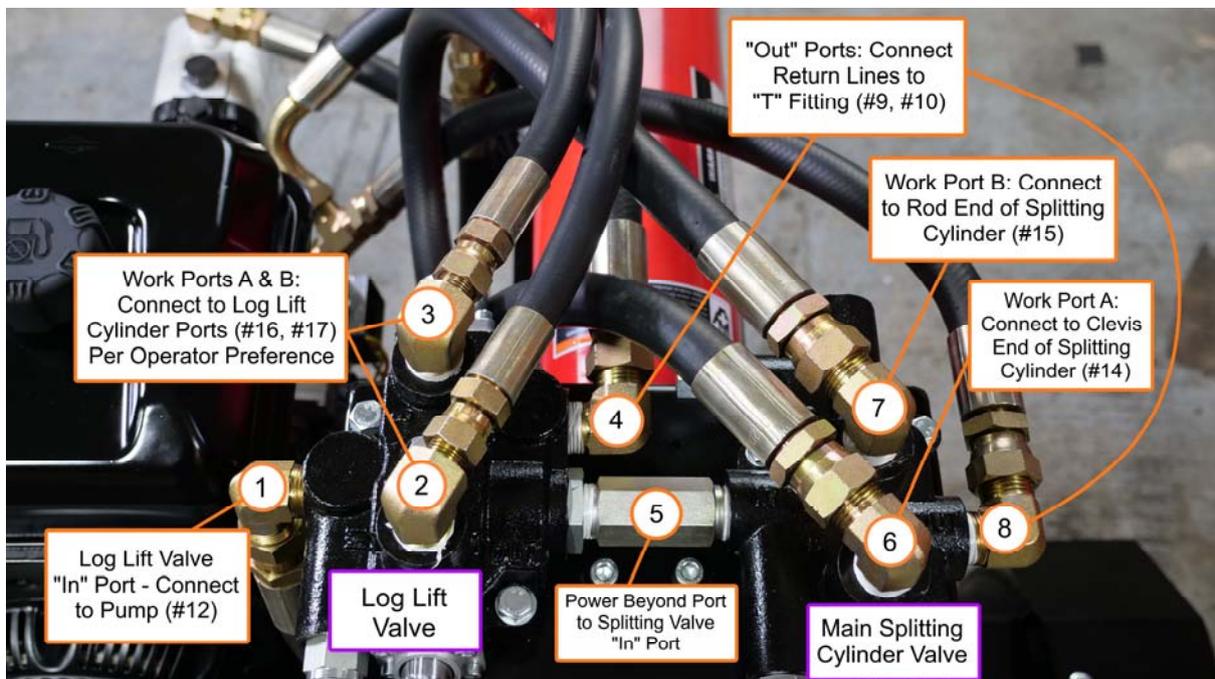
On models equipped with a slip-on four-way blade, allow the slip-on blade to slide all the way down the main blade so that it is resting on the beam. Do not attempt to hold the blade higher up on the main blade to split over-size logs. This may damage the splitter and will void the warranty. Do not install the blade up-side-down; the beveled edge on the horizontal wings should face **up**.

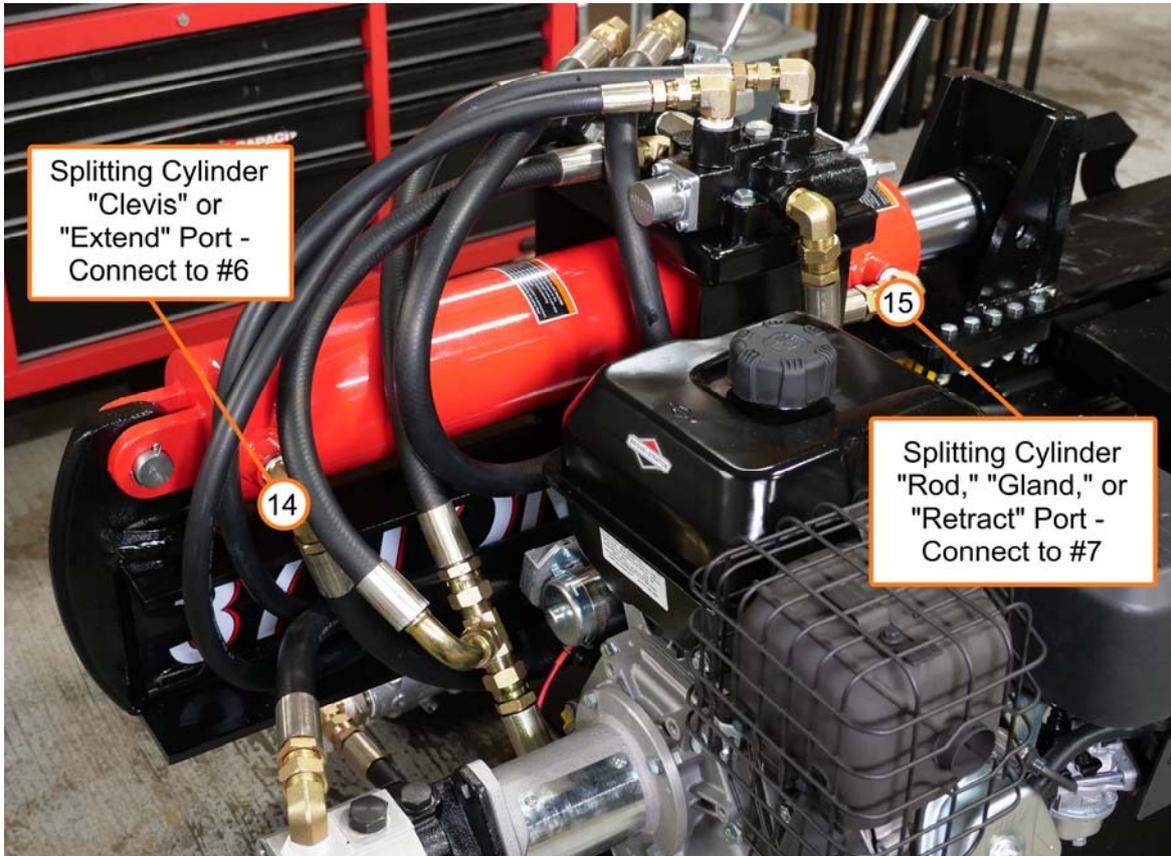
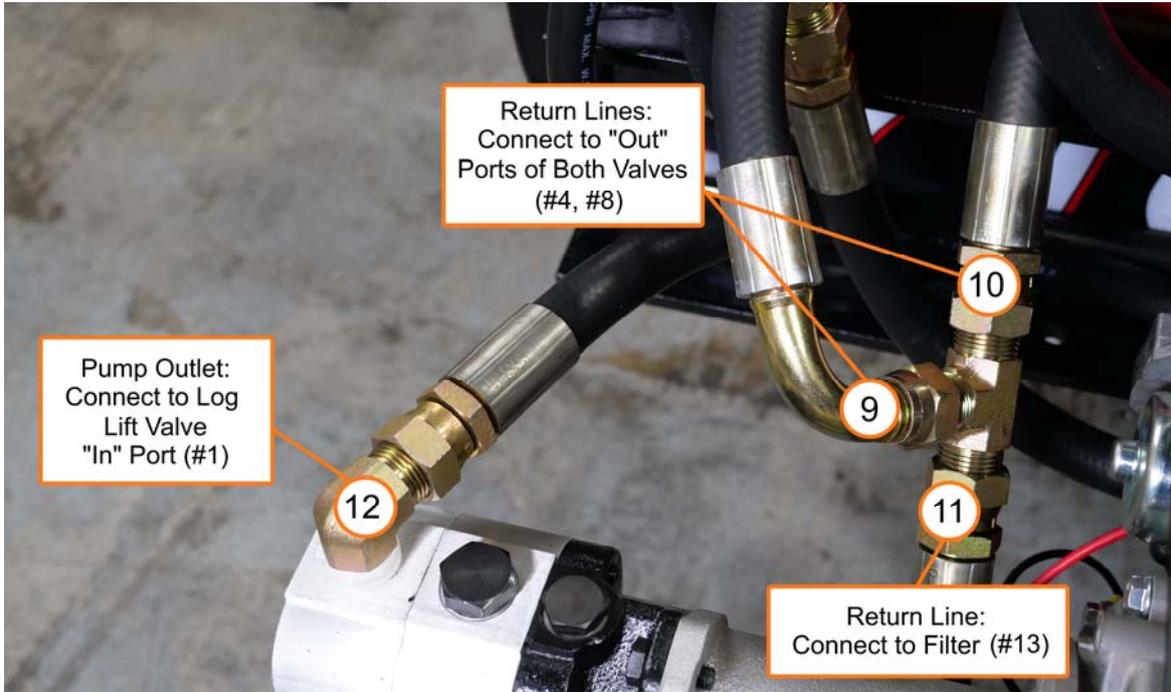


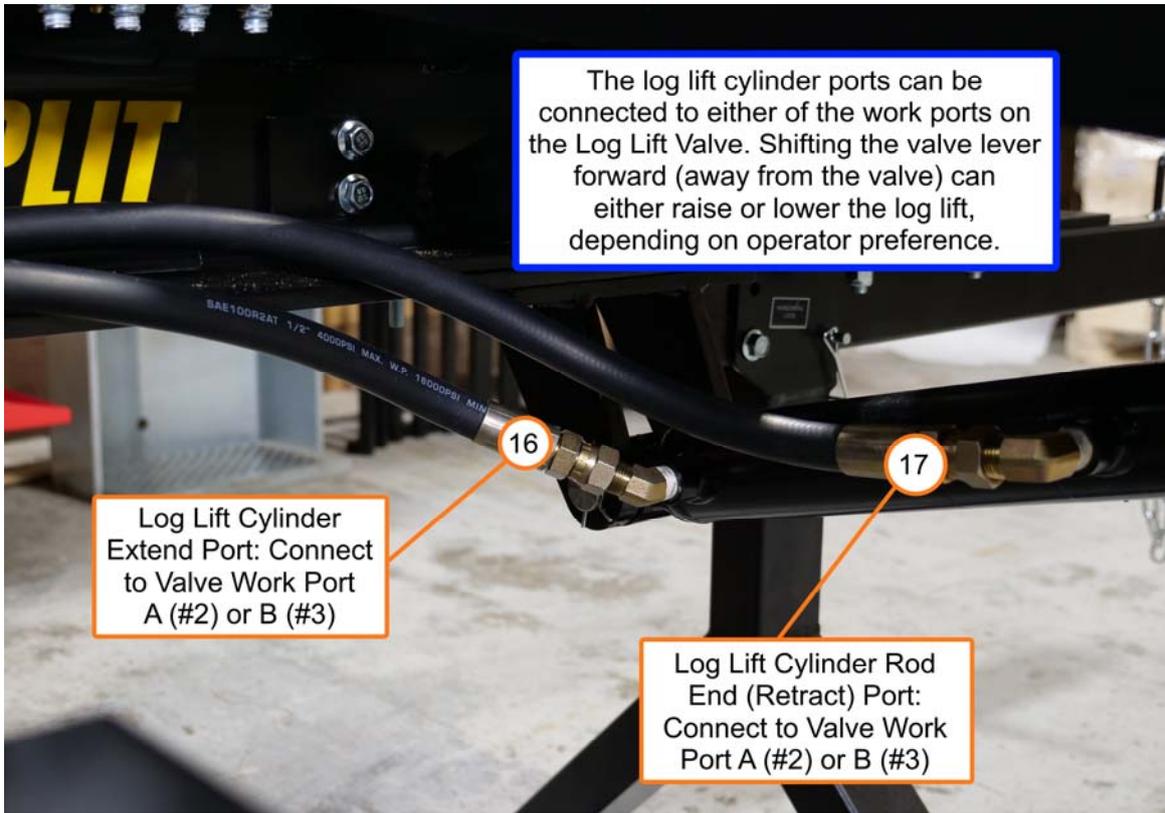
## RS-700 SERIES LOG SPLITTER HYDRAULIC HOSE ROUTING GUIDE

Congratulations on your purchase of a RuggedMade log splitter equipped with a hydraulic log lift! The log lift is convenient and it increases productivity as you split wood. Please refer to this guide when connecting the hydraulic hoses and fittings to the valves, cylinders, pump, and return filter.

- #1 to #12: Log Lift Valve "Inlet" Port to Pump
- #2 to #16: Log Lift Valve Port A to Log Lift Cylinder "Extend" End Port
  - (Can be connected to #17 per operator preference)
- #3 to #17: Log Lift Valve Port B to Log Lift Cylinder "Extend" End Port
  - (Can be connected to #16 per operator preference)
- #4 to #9: Log Lift Valve "Outlet" Port Return Line with 90° Bend to "T" Fitting
- #8 to #10: Splitting Cylinder Valve "Outlet" Port Return Line to "T" Fitting
- #5: Power Beyond Sleeve Port on Log Lift Valve to "Inlet" Port on Main Splitting Cylinder Valve
- #6 to #14: Splitting Cylinder Valve Work Port A to Clevis End Port of Splitting Cylinder
- #7 to #15: Splitting Cylinder Valve Work Port B to Rod/Gland End Port of Splitting Cylinder
- #11 to #13: Return Line "T" Fitting to Filter and Reservoir







Be sure to use PTFE thread seal tape or thread seal dope on all NPT (National Pipe Thread) tapered connections. Do *not* use tape on the 37° compression connections between hoses and fittings.

NPT fittings require a fair bit of force to install fully because the sealing action relies on slight deforming of the threads as the male and female threads engage with each other. The 37° beveled compression connections between hoses and fittings do *not* require much force. Using too much torque can damage the swivel collars. Make sure the hoses are straight as you tighten the collar. Take the weight off the hose while installing. You should be able to get it snug with your fingers. Use a wrench for final tightening.

You can usually tighten an NPT fitting a bit more to get the ideal angle for hose routing. Sometimes, it is best to stop before you get to what you think will be the perfect angle and make final adjustments later. But make sure you will be able to get a wrench on it after other parts are installed. If you need to turn an NPT fitting counter-clockwise to align it, you will not have a reliable seal. You should remove it completely, re-apply tape, and re-install it.

Note some fittings must be installed in a particular order to avoid problems with interference:

- Elbow #3 must be installed before #5
- #7 must be installed before #6

Make sure the bipod leg can retract fully without touching the log lift hoses. Adjust the angle of the 90° and 45° fittings on the log lift cylinder as necessary.

Install the bracket for the two log lift hoses onto the beam first. Then feed the log lift hoses through the bracket.

Install both valve levers so that they are angled away from the valve. Otherwise, the lever will hit the body of the valve and will not have full throw in both directions.

Depending on which position you use when bolting the tank to the beam, the hose routing may change.

There will be air in the system when first assembled and any time hoses are disconnected. The cylinders may move in a rapid, jerky manner initially. The system will need to be cycled a few times for the air to be purged through the vented reservoir cap.

#### **SAFETY**

Always wear eye protection and cover all skin when operating a high-pressure hydraulic system. Pin-hole leaks can create a jet of fluid that can be dangerous. Any time work has been performed on the system, including disconnecting and re-connecting hoses and fittings, check for leaks the next time the engine is run.

If you have questions, please visit  
[ruggedmade.com](http://ruggedmade.com)  
or send e-mail to  
[support@ruggedmade.com](mailto:support@ruggedmade.com)  
Call our Customer Service Team  
Toll-Free at: 1-855-878-4433

# HYDRAULIC RETURN FILTER

**\*\*\*IMPORTANT\*\*\***

This filter must be installed on the RETURN side of the hydraulic system. Connect it to the valve "OUT" port(s)



Make sure the FLOW indicator arrow on top of the aluminum filter head points **toward** the hydraulic tank. Lightly lubricate the gasket with hydraulic fluid.

*Incorrect installation will damage filter*



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Use AW32 (SAE 10 Weight) or  
AW46 (SAE 20 Weight) Hydraulic Fluid  
***Do not use "universal" or "general purpose"  
tractor fluid. Do not use engine oil.***

# SAFETY GUIDE

## ***The most important safety device is the operator.***

Familiarize yourself with the safe operation of this equipment in a safe environment before using it to split wood.

Do not attempt to modify this log splitter. Altering this equipment or using it in a manner other than that for which it was designed, may result in serious injury or death and will void the warranty.

This machine should only be operated by responsible adults. Do not allow children to operate this machine.

Do not attempt to operate this equipment while under the influence of alcohol, drugs or medication.

Only operate this equipment outdoors and ensure adequate ventilation. Never operate the engine in an enclosed area. Engine exhaust contains carbon monoxide which is odorless and deadly if inhaled. The exhaust (muffler) gets very hot. Do not touch it or place anything on a hot engine.

It is easier for accidents to occur when more than one person is operating the equipment. Exercise caution and use clear communication when more than one person is engaged in its operation. Observers, children, and pets should stay at least 20 feet away from the work area.

Appropriate protective gear should always be worn, including; gloves, eye and hearing protection, and boots. Do not wear loose clothing. Keep hair away from moving parts.

Your log splitter should only be operated on smooth, level ground to reduce the possibility of tipping over and causing an accident.

Do not fill the gas tank when the engine is running or hot. The engine should be allowed to cool before refueling.

Never take your eyes off the splitter when the cylinder rod is moving, especially when using the auto-return detent, to prevent pinching hands or damaging the log splitter.

Use your hands to operate the valve control lever(s). Do not modify the control system or use feet, knees, ropes, or other improvised devices.

Do not split more than one log at a time.

Do not place hands or feet between log and splitting wedge or between log and flat plate when the cylinder rod is moving. As logs are split, gaps will be created between pieces of the log. The log can retain significant spring tension and these gaps can close suddenly. Do not place hands, fingers, or clothing in these gaps.

Your splitter may be equipped with a log lift and/or a work table mounted next to the splitter area. Do not reach across the splitting area while operating the splitter. Always walk around the splitter to reach the opposite side.

When placing a log in the splitting area, hold it from the sides. Never load a log by holding it by the ends. Never attempt to place a log in the splitting area while the cylinder rod is moving.

Always split wood in the direction of the grain. Attempting to split cross-grain may cause the log to explode. Pieces of wood may fly out of your splitter and cause serious injury. Cross-grain splitting will also strain the hydraulic system and may damage the log splitter.

Do not leave the splitter unattended while the engine running. Turn off the engine before leaving the work area.

Cut both ends of each log as squarely as possible to prevent the log from sliding off of the splitter during operation. Do not exceed the rated log length capacity of the log splitter.

Never attempt to loosen or remove hydraulic fittings, hydraulic hoses, filters, or the reservoir cap while the engine is running. Hydraulic fluid can escape and cause serious injury. Before servicing the hydraulic system, turn off the engine, cycle the valve levers to release system pressure, and allow the fluid to cool. If high pressure hydraulic fluid escapes and injures your skin, seek medical treatment immediately.

Always maintain your splitter in good mechanical condition. Perform all recommended and required service and inspect the condition of the splitter before operating. Do not attempt to operate your splitter if it is need of repair.

## **TOWING**

Use caution when towing the log splitter. It is not equipped with a suspension system. Do not exceed 40 MPH while towing the log splitter.

Use the correct size 2" tow ball. Securely attach the splitter to the towing vehicle with the provided safety chains. Make sure the support leg(s) and any other components, such as log lift or catcher tray, are secured in their respective towing positions.

Check tire pressure and condition of tires before towing. Make sure wheel bearing lubrication service has been performed and that the castle nut cotter pins were installed properly.

Turn off the fuel petcock on the engine and run the engine until it quits. Then turn engine on/off switch to the off position. This will prevent raw fuel from draining into the engine.

Use caution when backing up when the log splitter is connected to the tow vehicle. It is easy to jackknife the splitter.

Do not operate the equipment while connected to the tow vehicle. Disconnect the splitter from the tow vehicle and deploy the support leg(s) before operation.

All RuggedMade products are sold with the express understanding that the purchaser and any person allowed to operate the product by the purchaser are thoroughly familiar with the safe and correct operation of the product. Contact us with any questions regarding safe and efficient operation.

### **TELL EVERYONE WHAT YOU THINK**

We would love to know what you think of your new splitter and see pictures and video of what you're splitting! Feedback about your new log splitter helps us constantly improve our products and helps future customers in their shopping experience. We would be grateful if you would take a few minutes to submit a product review on RuggedMade

If you have questions, please visit [ruggedmade.com](https://ruggedmade.com), send e-mail to [support@ruggedmade.com](mailto:support@ruggedmade.com), or call our Customer Service Team Toll-Free at 1-855-878-4433