

# **HYPER SPLIT**

## **20-TON VERTICAL/HORIZONTAL LOG SPLITTER**



SKU: 33-267



## **Operator's Manual**

(Manual Part Number: 29-095)



A warranty registration card is included with this booklet. Register for your warranty within 2 weeks of purchase date for superior customer service.

## KEY TO SYMBOLS

	Indicates the possibility of death or serious injury.
<b>Notice:</b>	Indicates essential information.
	Indicates additional information.

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## INTRODUCTION

### Welcome!

Thank you for buying a HyperSplit. We design our products to meet the high demands of our industrial and commercial clients, with ease-of-use that's aimed at homeowners and do-it-yourselfers. That means that our products are tough enough to meet rigorous industry standards, but designed for non-professionals to use, too. We warranty all HyperSplit hardware against manufacturer's defect for 5 years from purchase date, and all hydraulic components for 3 years.\*

A warranty registration insert is included with this manual. Register your product today for the best customer-service experience.

If you have feedback or questions, we want to know!

Contact us at: **customerservice@tooltuffdirect.com or 720-437-7640**

\* Engine covered by engine manufacturer's warranty. See warranty section for details.

For safety, better performance, and a longer service life with your log splitter, read and understand this manual. We have included information relevant to general use and maintenance that will help you keep your log splitter in serviceable condition and maximize the product's working life. Consider this manual a permanent part of the device, keep it with the device, and include it with the device if you sell it.

Call or email our technical support line if you have any questions about the safe operation of this log splitter: **techsupport@tooltuffdirect.com or 720-437-7640**

Note: Some illustrations and specifications in this manual may vary in according to the legal requirements of different countries. All content is subject to change without notice by the manufacturer.

For warranty claims, parts replacement, repairs, and technical support, record the following information below:

**Model No.** HyperSplit 20-ton log splitter – SKU: 33-267

**Serial No.** [See p. 7 for location]

**Date of Purchase** \_\_\_\_\_

**Place of Purchase** \_\_\_\_\_

**HYPER ⚡ SPLIT**

Keep this instruction manual for future reference!



**Read and understand this operator's manual** before operating your log splitter. Keep yourself and others safe by taking note of all safety information, heeding all warnings, and observing all precautions. Retain these instructions for future reference. Refer to this manual regularly and when questions arise.



**Failure to follow safety instructions outlined in this manual may result in serious injury or death**, damage to the device, and/or damage to property. Like all power equipment, working with a log splitter carries the risk of significant injury and even death. *It is not possible to list all of the risks that are associated with misuse or abuse of this device.* Read and follow all instructions, safety guidelines, and maintenance schedules in this manual.



## PERSONAL PROTECTIVE EQUIPMENT

When operating this log splitter it is essential that you wear safety gear, including goggles or safety glasses, steel toed shoes, well fitted gloves (no loose cuffs or drawstrings), and hearing protection.



## INTENDED USE

This log splitter is engineered, designed, and built to split logs. **DO NOT** use it for any purpose other than splitting logs. Using the log splitter for any other purpose is unauthorized, will void any warranties or guarantees, and may result in damage to the device and property, personal injury, or even death.



## OWNER'S RESPONSIBILITY

- Proper assembly, maintenance, and safe use of the log splitter.
- Adherence to all safety instructions and operator's guidelines.
- Proper assembly, maintenance, and safe use of the log splitter.
- Correct assembly: modification prohibited.
- Maintenance of the log splitter according to directions and schedules included in this manual.
- Correct use: Ensure that anyone who uses the log splitter is familiar with all controls and safety precautions.

**Use common sense  
and be safe!**



## GENERAL SAFETY PRECAUTIONS

- **NEVER** run a gasoline engine in an enclosed space: You risk death or poisoning by carbon monoxide.
- **NEVER** use your hand to check for a hydraulic fluid leak. If you suspect a leak in the hydraulic system, use a piece of paper, cardboard, or wood to check for escaping fluid.
- **ALWAYS** set up the log splitter on level, even ground before operating. **NEVER** set up or operate log splitter on a slope.
- **DO NOT** wear loose clothing or jewelry when operating the log splitter. Keep hands, feet, hair, and clothing away from moving parts.
- **NEVER** operate the log splitter in or near explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power equipment can create sparks which may ignite fine dust or fumes.
- **DO NOT** operate this or any power equipment under the influence of alcohol or drugs.
- **DO NOT** allow anyone to operate the log splitter who has not read this operator's manual unless you provide proper instruction and supervision.
- **NEVER** allow children to play on or around, climb on, or operate the log splitter.
- Before any maintenance, repairs, or adjustments turn engine off, allow to cool, remove spark plug wire from spark plug, and relieve hydraulic system by cycling the valve.
- **NEVER** use a damaged, modified, poorly maintained, or improperly assembled log splitter.
- **BEWARE** of moving wedge! **NEVER** place any part of your body between the splitting wedge and foot plate or log.
- **DO NOT** operate when others are nearby: Keep all people and pets a minimum of 10 feet away from the work area when operating the log splitter.
- Perform all regular maintenance as described in this manual: ensure all screws, nuts and bolts, and hydraulic fittings are tight.
- **NEVER** leave machine unattended while the engine is running.
- Cut logs as squarely as possible before feeding into log splitter.
- Split one log at a time.
- **ALWAYS** split logs *with* the grain of the wood.
- Turn off engine and allow to cool before fueling.
- **ALWAYS** operate the log splitter in a well lit area; Avoid operating in dim, low-light conditions.
- **ALWAYS** lock the stand in place and chock the tires before operating the log splitter.
- **DO NOT** operate the log splitter on uneven terrain, rough ground, or in wet, slippery, muddy, or icy conditions.

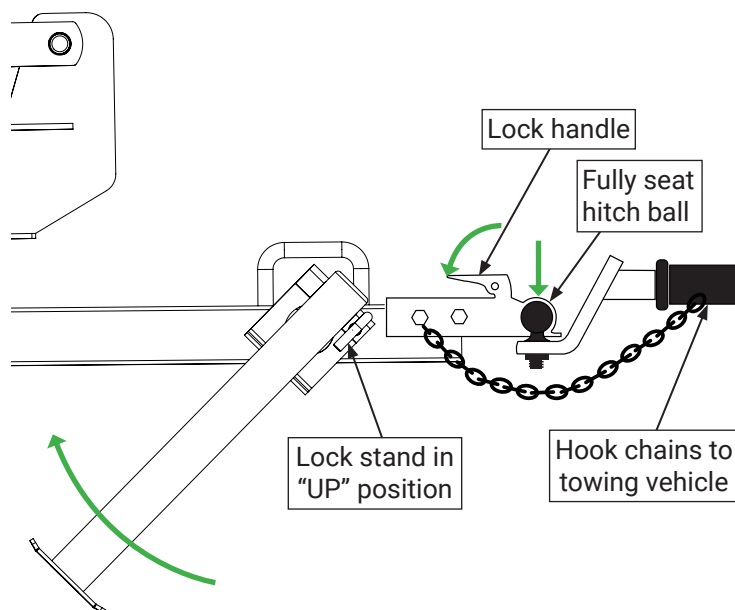




## TOWING SAFETY

- Review applicable state and local regulations before towing your log splitter: licensing, lighting, weight, and towing capacity requirements vary by state and by vehicle.
- Consult your vehicle's guidelines about towing capacity and best practices.
- Before towing, ensure the ball-coupler connection is secure and **ALWAYS** engage the safety chains.
- Before towing, turn the engine's fuel valve to OFF.
- Be aware that this log splitter does not have a suspension system: Drive carefully on unpaved or bumpy roads, and avoid excessive speeds.
- **Never** load cargo onto the log splitter or attempt to use it to transport wood.
- **DO NOT** allow anyone to sit or ride on the log splitter when it is being towed.
- Disconnect the log splitter from the towing vehicle before operating.
- If you are not experienced or have doubts, educate yourself about best practices before towing the log splitter.

### Attaching the tow hitch



## FIRE PREVENTION

- Turn off engine and allow to cool before fueling.
- **DO NOT** operate the log splitter near open flame or fire.
- Clear logs and wood debris from the work area regularly to prevent sparks from igniting. Keep the area around the muffler clear at all times.
- If fuel or oil is spilled, clean the spill area immediately—**DO NOT** operate near spilled fuel or oil.
- Check that the gas cap and hydraulic-tank cap are securely tightened before starting the engine.
- Never Keep a class B fire extinguisher on hand when operating the log splitter as a precaution against fuel or oil fires.



**This log splitter uses a gas-powered internal combustion engine which may pose a fire risk, especially in natural environments such forest-covered lands or grasslands. It is critical that the engine is fitted with a spark arrester (included with most models) and / or deflector when operating in these or other fire-prone areas.**



Consult federal, state, and local authorities regarding fire codes and regulations, and fire prevention resources.

### IMPORTANT NOTE :

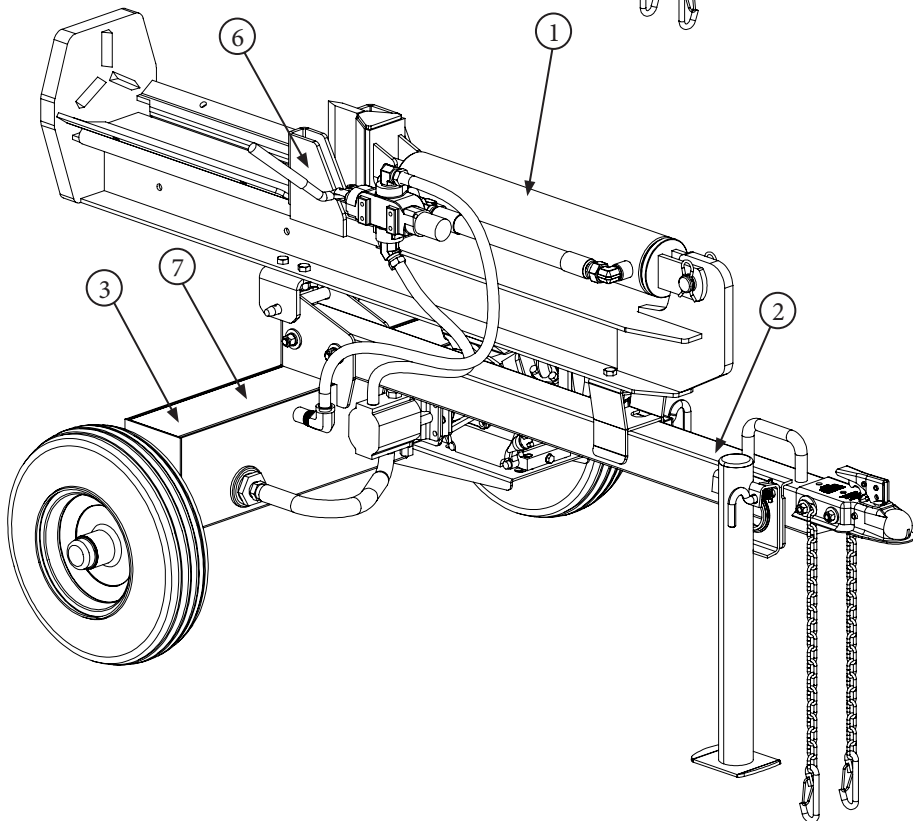
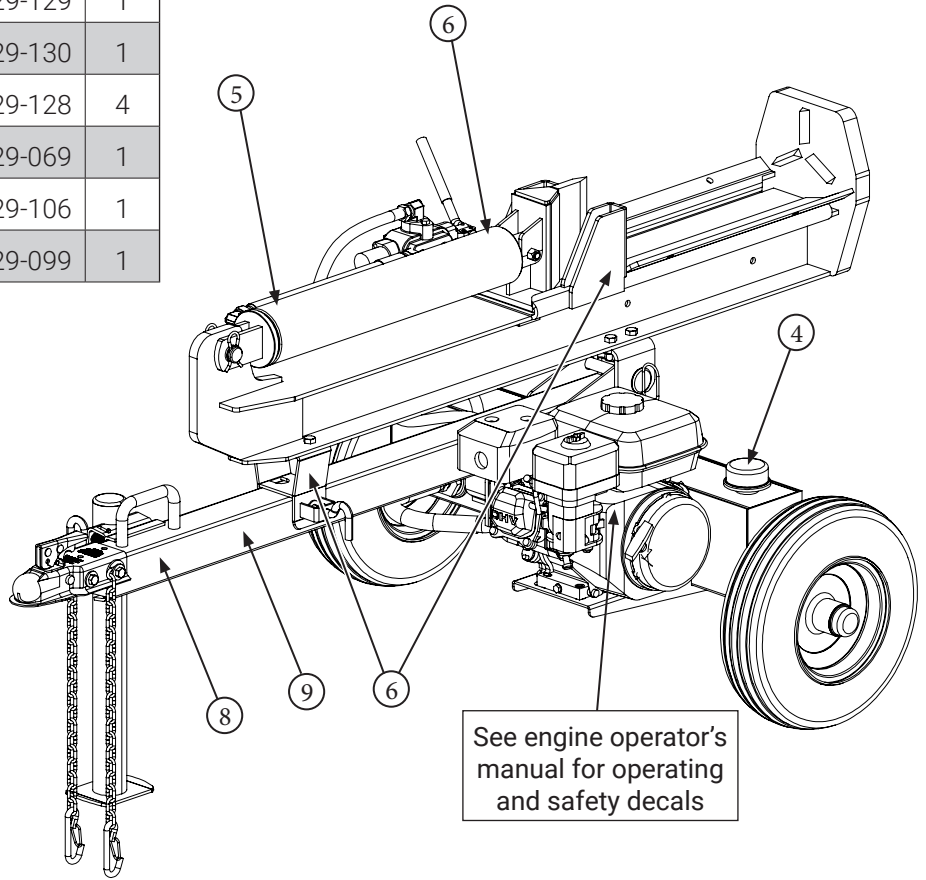
As a precautionary measure against possible flying sparks, always take a Class B fire extinguisher with you when operating this log splitter in dry areas. This log splitter is equipped with an internal combustion engine and should not be used on or near any unimproved forest-covered, brush-covered or grass-covered land unless the engine's exhaust system is equipped with a spark arrester meeting applicable local or state laws (if any). If a spark arrester is used, it should be maintained in effective working order by the operator. In the state of California, a spark arrester is required by law. Other states have similar laws. Federal laws apply on federal lands. A spark arrester muffler is optional and available as an accessory at your nearest engine dealer. Always check the legal.



# SAFETY DECALS, CONTINUED

C

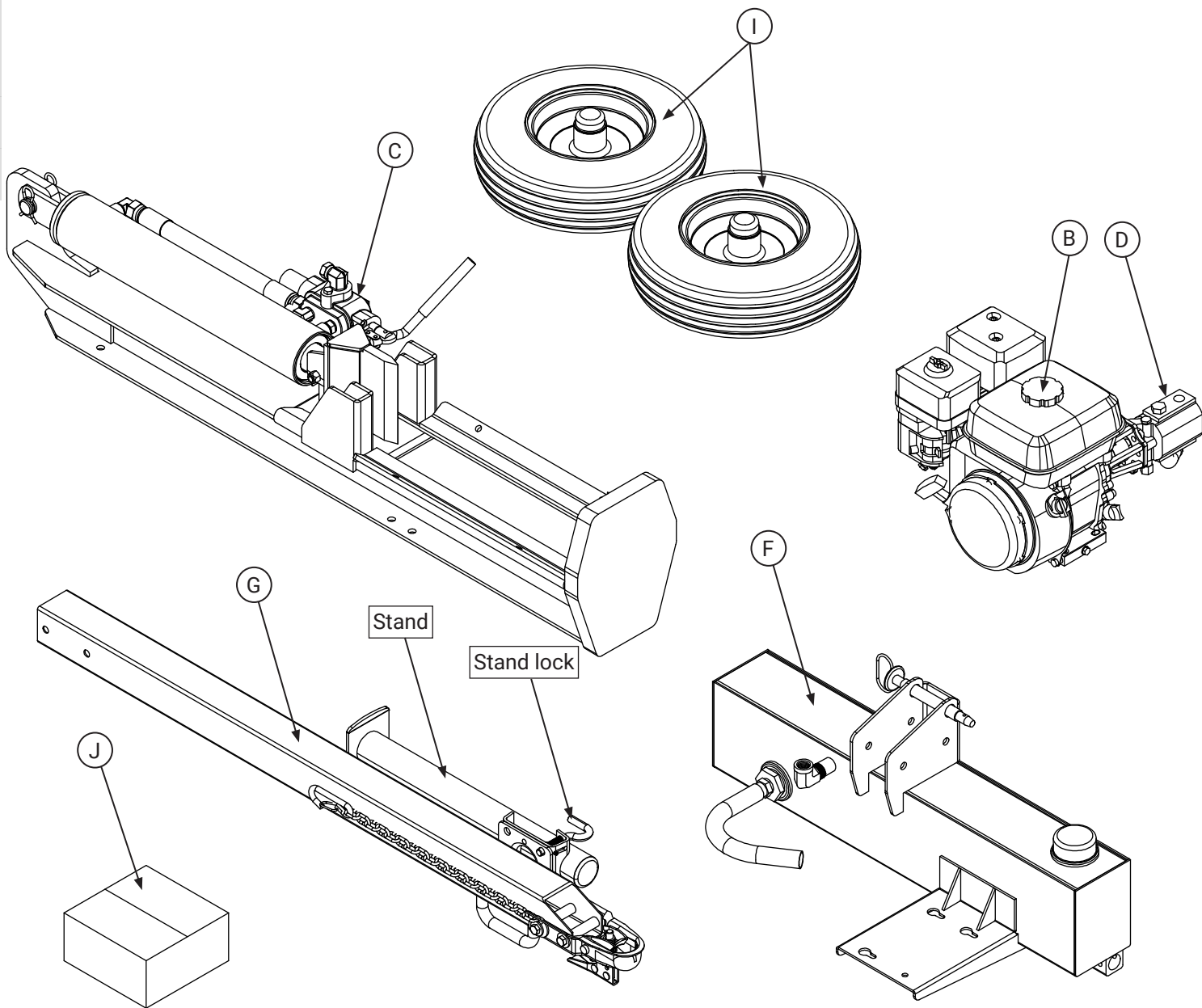
Decals			
Ref.	Description	SKU	Qty.
1	Operating instructions – Warning	29-126	1
2	Towing safety – Warning	29-109	1
3	Operator work area – Warning	29-127	1
4	Fill cap – Notice	29-129	1
5	Hot surface – Caution	29-130	1
6	Pinch point – Danger	29-128	4
7	Hydraulic fluid guide – Notice	29-069	1
8	Pressurized hydraulic fluid – Warning	29-106	1
9	Carbon monoxide – Danger	29-099	1



# COMPONENTS AND FEATURES

The major components and features of your HyperSplit log splitter are listed here for ease of reference. For a detailed breakdown of parts and components, refer to the parts lists at the back of this manual.

## Unassembled components:



**HYPER  SPLIT**

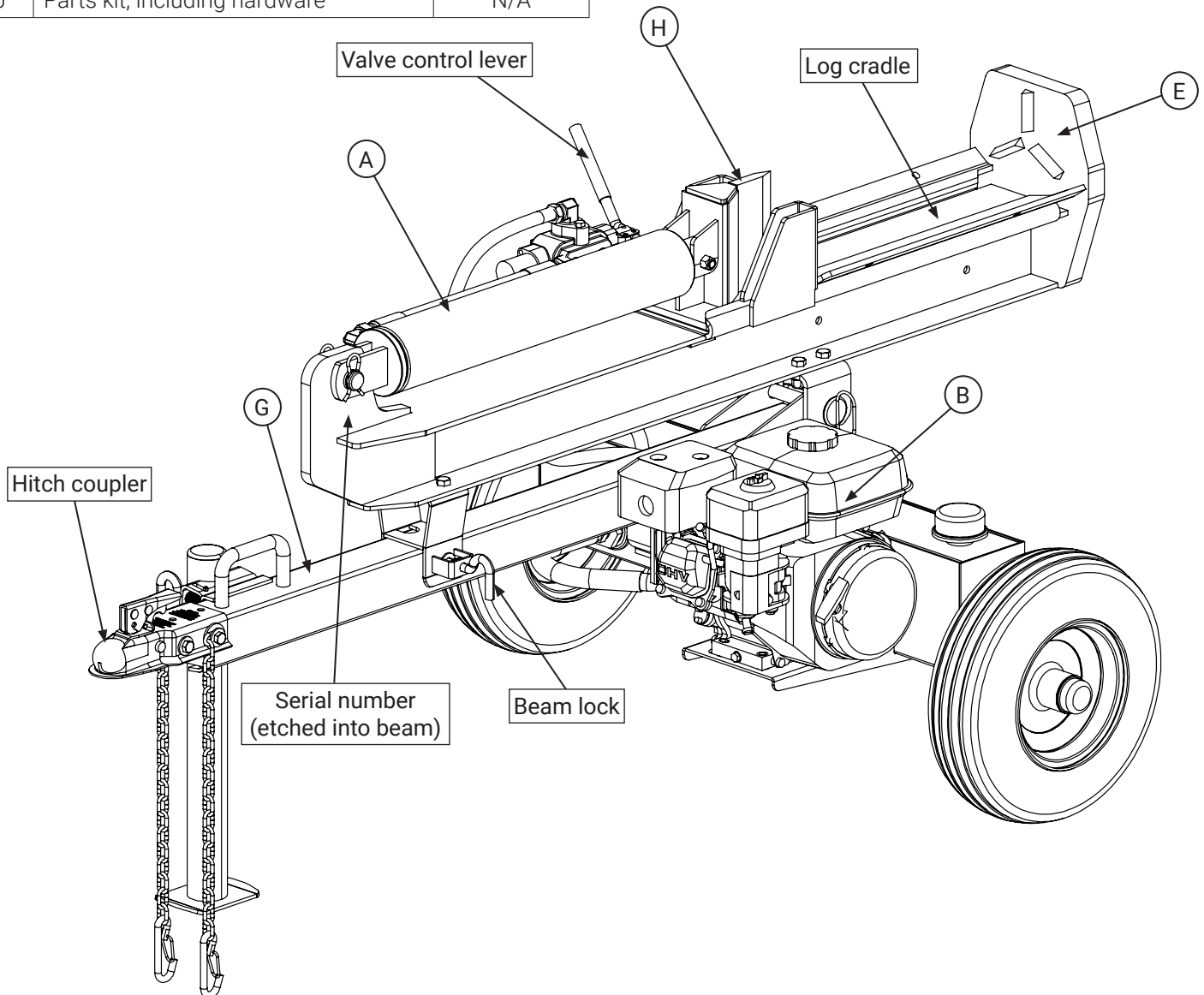
**20-TON**

# COMPONENTS AND FEATURES, CONTINUED

## Components and Features

Ref.	Description	SKU
A	Cylinder, 3.5 in. x 18 in.	31-419
B	7HP Rato 212cc engine	32-034
C	Adjustable detent valve, A7, 4,000 psi	31-289
D	Hydraulic pump, 13 GPM	31-251
E	Beam with 7 in. foot	33-034
F	Hydraulic tank	33-263
G	Tongue assembly with 2 in. ball coupler and stand	33-246
H	Wedge, 7 in.	33-172
I	Wheel assembly with axle; 16 in. dia. with 1 in. bearing	33-165
J	Parts kit, including hardware	N/A

D



## Tools required:

- Needle-nose pliers
- Box cutter
- #2 Phillips screw driver
- 13mm socket wrench
- 16mm socket wrench
- 18mm socket wrench
- Socket extension (optional)
- 2 large adjustable wrenches
- Liquid or Teflon pipe-thread sealant

## Step 1: Unpacking the crate

Remove the parts from the crate and prepare them for assembly.



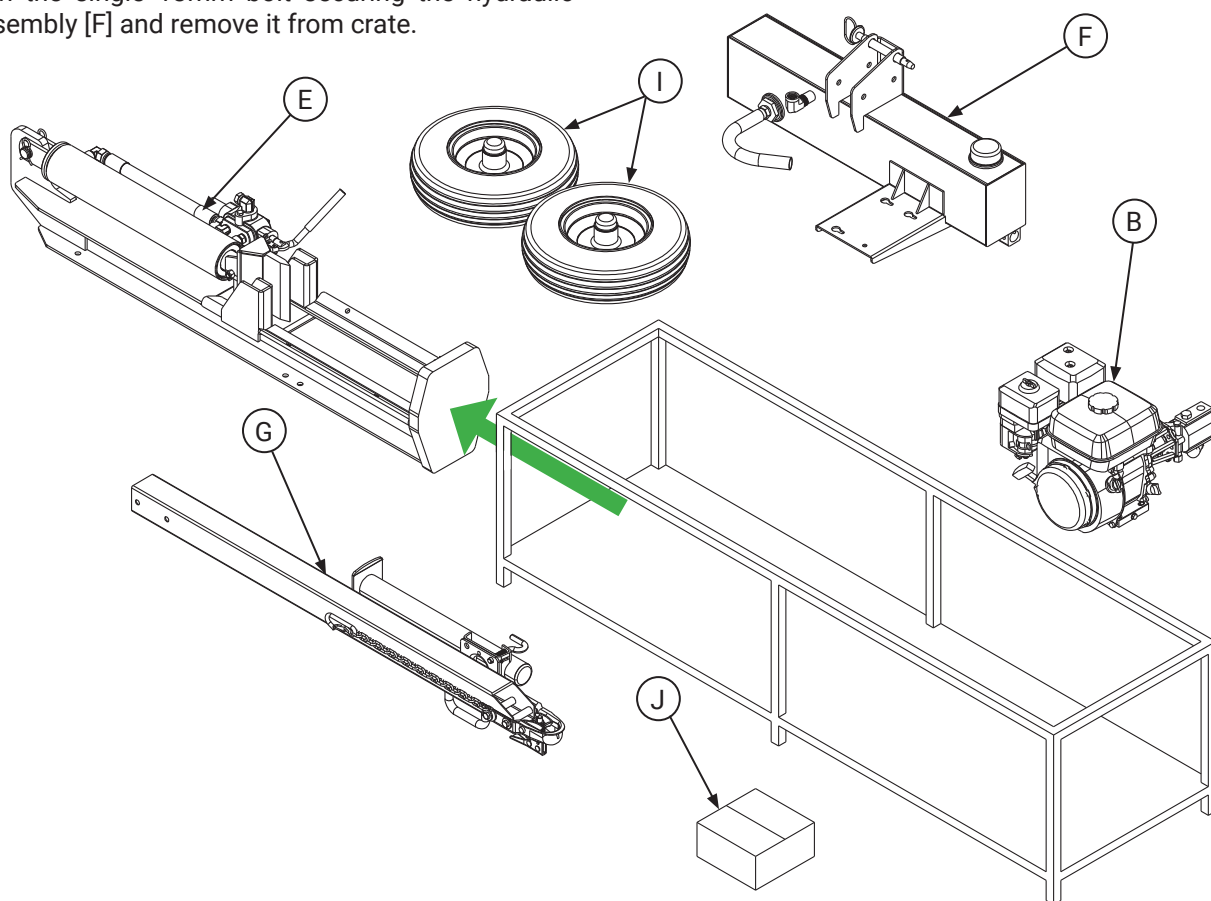
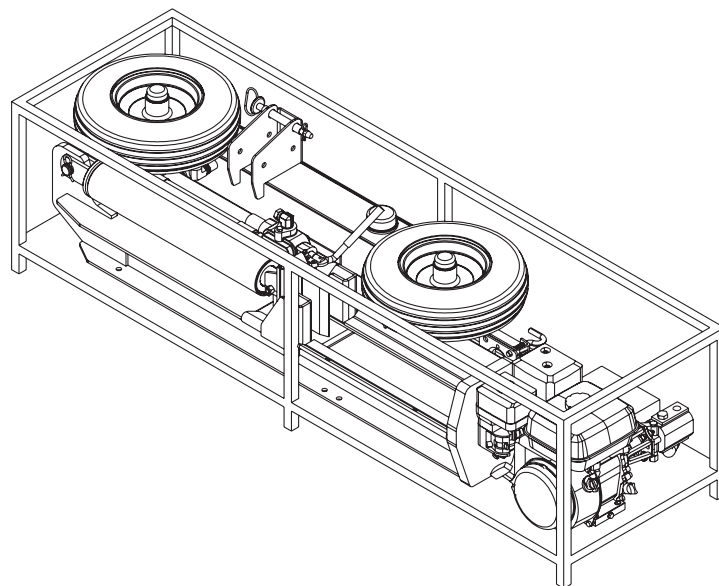
**Heavy objects! Team lift: Get help moving the beam assembly and engine.**



**Tools needed:** 13mm socket wrench, crescent wrench, or adjustable wrench.


Place the crate in a flat area with space to build the log splitter. Begin by unwrapping the crate. Note that some of the parts are fastened to the crate with bolts or straps.

1. Remove the wheels [I] and parts kit [J], from crate.
2. Remove the beam assembly [E]: Unfasten the two 13mm bolts at base of beam, and slide it out of the crate.
3. Remove the tongue assembly [G].
4. Unfasten two 13mm bolts securing the engine assembly [B], and remove it from crate.
5. Unfasten the single 13mm bolt securing the hydraulic tank assembly [F] and remove it from crate.



## Step 2: Attaching the wheels

To begin assembly, mount the wheels [I] onto the hydraulic tank [F].

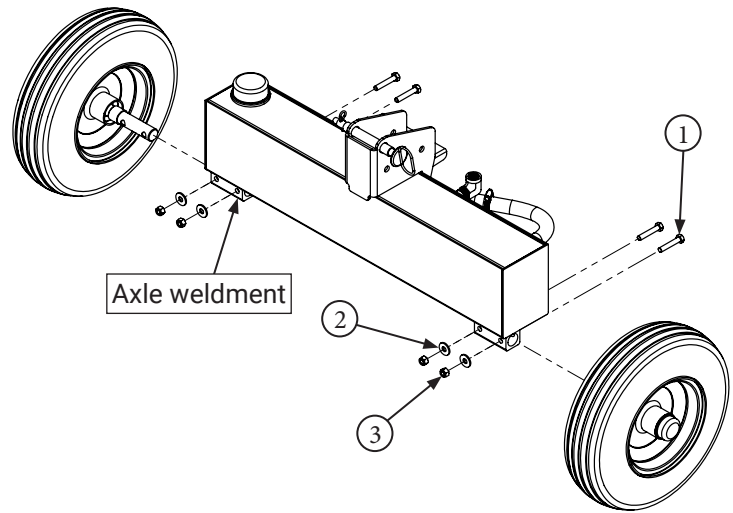
 **Tip** Tools needed: 16mm socket and adjustable wrench.

Insert the axle into the weldment and align the bolt holes. Insert the M10 bolts fully, mount the flat washers on the bolts, then thread on the nylock nuts. Fasten securely.

Attach both wheels.


Step 2 Hardware		
Ref.	Description	Qty.
1	Hex head bolt, M10 X 1.5 X 55mm *	4
2	Flat washer, M10 *	4
3	Nylock nut, M10 *	4

\* Replacement hardware may be obtained locally.



## Step 3: Mounting the tongue

Attach the tongue assembly [G] to the hydraulic tank [F].

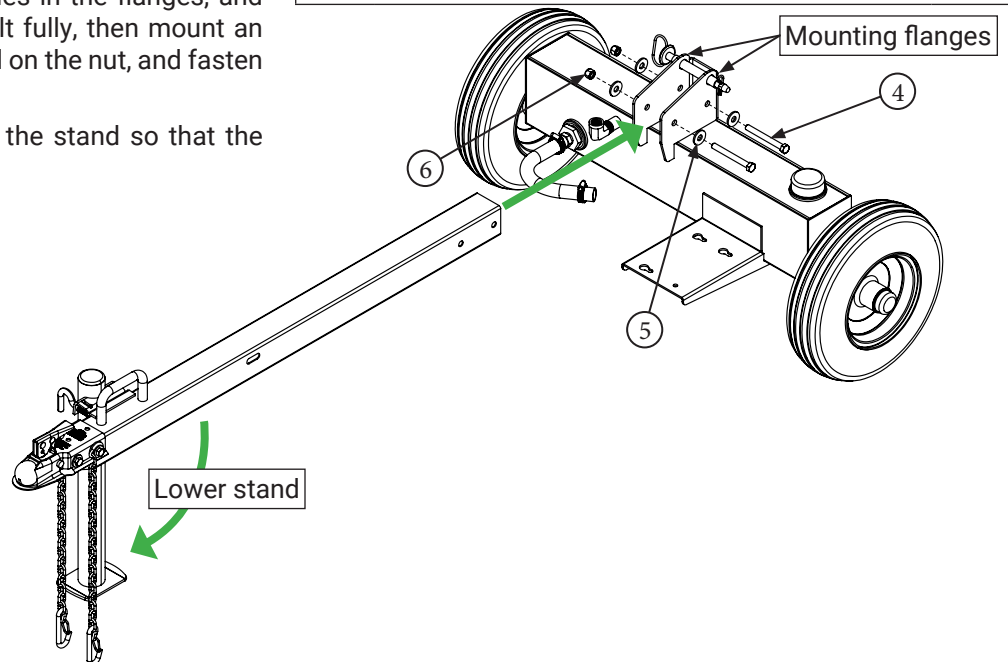
 **Tip** Tools needed: 16mm socket and adjustable wrench.

Slide the tongue between the mounting flanges on the hydraulic tank. Put an M12 washer on each M12 bolt, align the holes in the tongue with the holes in the flanges, and set the bolt through. Insert each bolt fully, then mount an M12 flat washer onto the bolt, thread on the nut, and fasten securely.

Once the tongue is attached, lower the stand so that the tank sits level with the ground.

Step 3 Hardware		
Ref.	Description	Qty.
4	Hex bolt, M12 X 1.75 X 110mm	1
5	Flat washer, M12	2
6	Nylock nut, M12	3

\* Replacement hardware may be obtained locally.



## Step 4: Mounting the engine

Use the quick-mount brackets to attach the engine [B] to the hydraulic tank [F].



**Heavy object! Lift engine with care. Dropping the engine risks damage to the device and possible injury! Team lift!**



**Tools needed:** 13mm socket wrench, crescent wrench, or adjustable wrench.

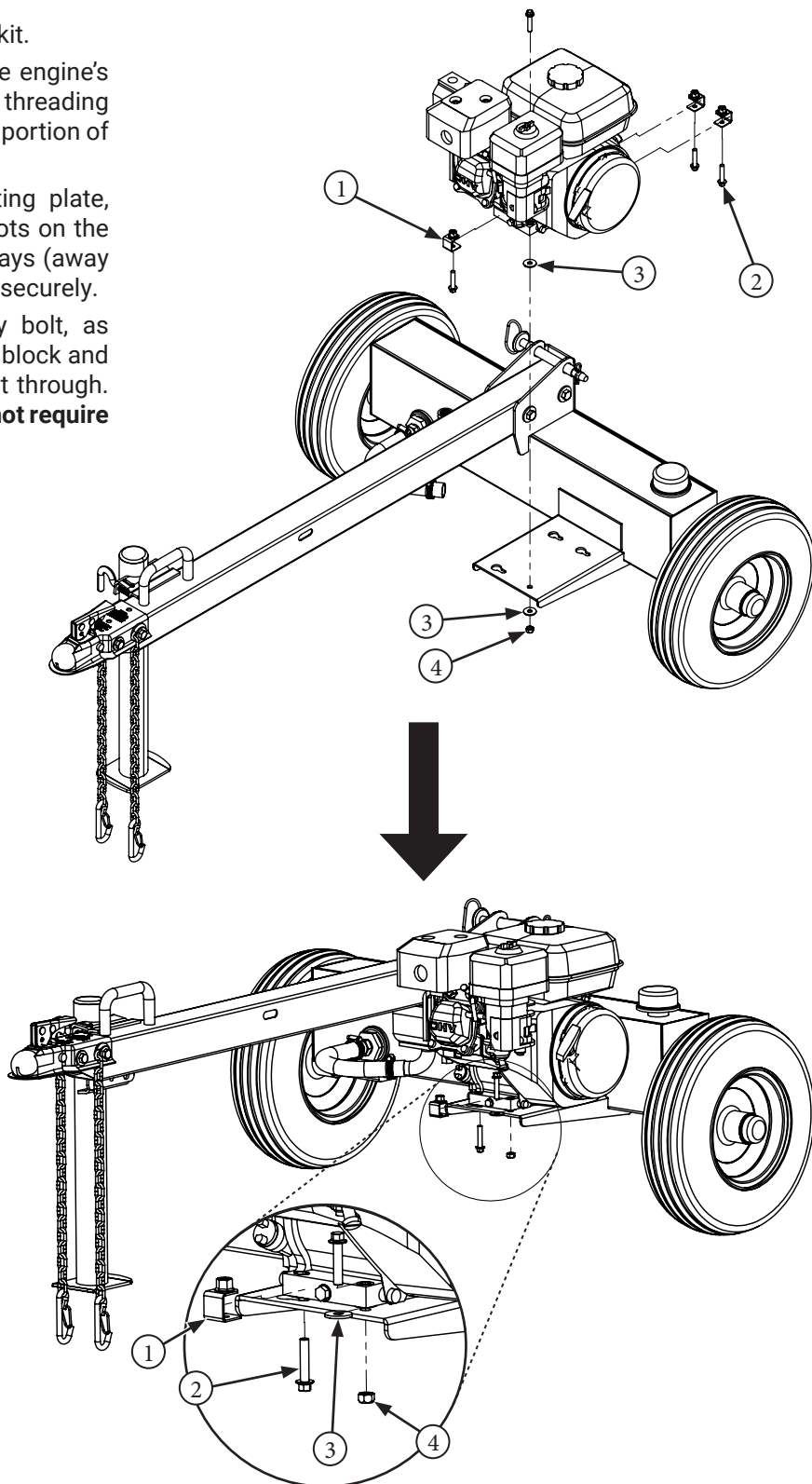
Locate the quick mount brackets in the hardware kit.

1. Install three (3) quick-mount brackets onto the engine's mounting block at the locations shown. Begin threading the M8 flanged bolts into the bracket, leaving a portion of the bolt exposed.
2. Lower the engine [B] down onto the mounting plate, setting the exposed bolt heads through the slots on the engine-mounting plate. Slide the engine sideways (away from tongue [G]) to seat, then tighten the bolts securely.
3. Secure the engine in position with the stay bolt, as shown. Slide a flat washer between the engine block and the mounting plate before setting the stay bolt through. Fasten securely. **Note: the final stay bolt does not require a mounting bracket.**

### Step 4 Hardware

Ref.	Description	Qty.
1	Quick mount bracket	3
2	Hex head bolt, flanged, M8, 1.25 X 40mm *	4
3	Flat washer, M8 *	2
4	Nylock nut, M8 *	1

\* Replacement hardware may be obtained locally.



## Step 5a: Assembling the beam

Stand the beam [E] upright on level ground. Stabilize the beam, then attach the mounting hardware.



**Heavy object! Team lift: Get help lifting the beam assembly. Stabilize well before proceeding.**

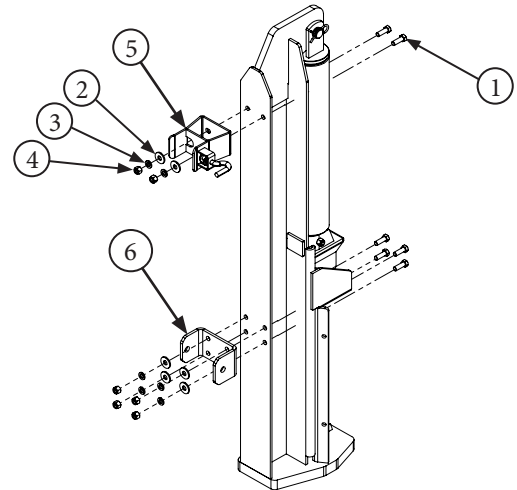


Tools required: 18mm socket with extension and driver and adjustable wrench

Use the hardware (included) to fasten the brackets onto the beam. Note: the beam-lock assembly [5] attaches to the top or cylinder-end of the beam, with the locking mechanism facing the engine (away from the operator).

Step 5a Hardware		
Ref.	Description	Qty.
1	Hex head bolt, M12 X 1.75 X 35mm *	6
2	Flat washer, M12 *	6
3	Split lock washer, M12 *	6
4	Hex nut, M12 *	6
5	Beam-lock assembly; SKU: 33-149	1
6	Beam pivot bracket, slotted; SKU: 33-140	1

\* Replacement hardware may be obtained locally.



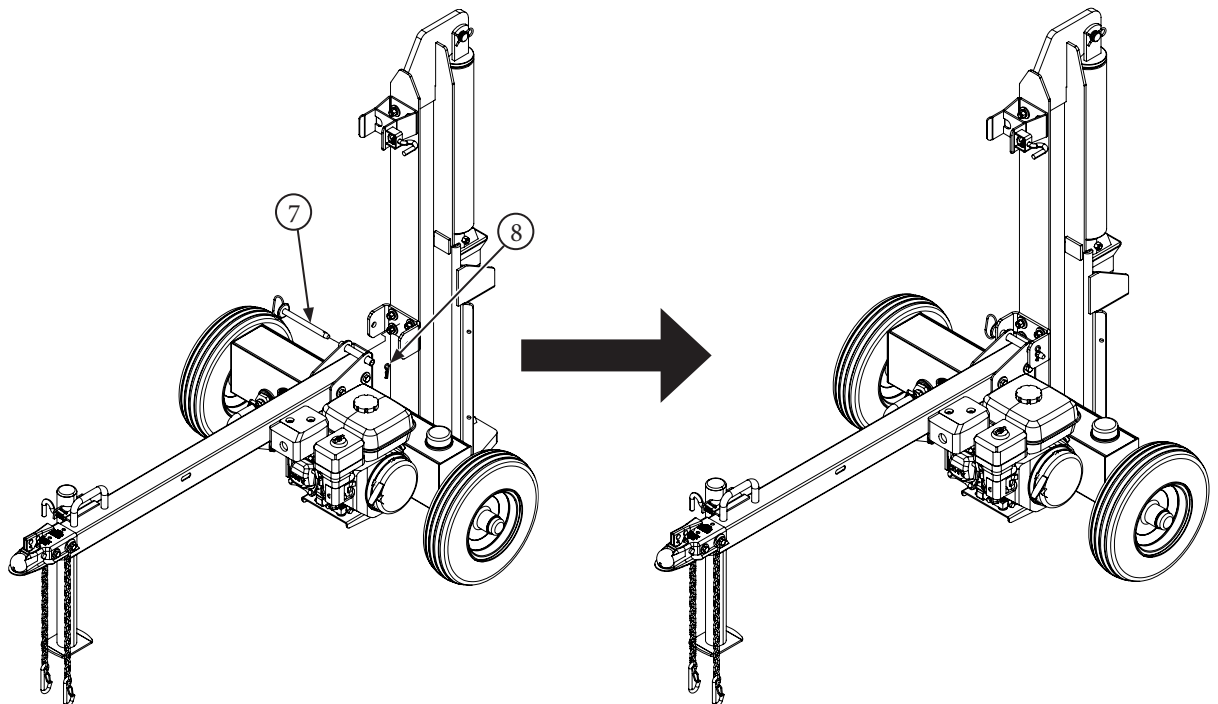
## Step 5b: Attaching the tank

Attach the tank assembly to the beam.

1. Move the tank, tongue, and engine assembly into position.
2. Align the holes, and insert the hitch pin [7], followed by the M16 flat washer and R-clip pin [8].

Step 5b Hardware		
Ref.	Description	Qty.
7	Hitch pin; SKU: 43-078	1
8	R clip, 3mm wire, 72mm length *	1

\* Replacement hardware may be obtained locally.



## Step 6: Connecting the hydraulic hoses

Attach all hydraulic hoses.



Ensure all hydraulic connections are fully seated and firmly tightened. Loose hydraulic fittings pose a serious safety risk once the system is pressurized.

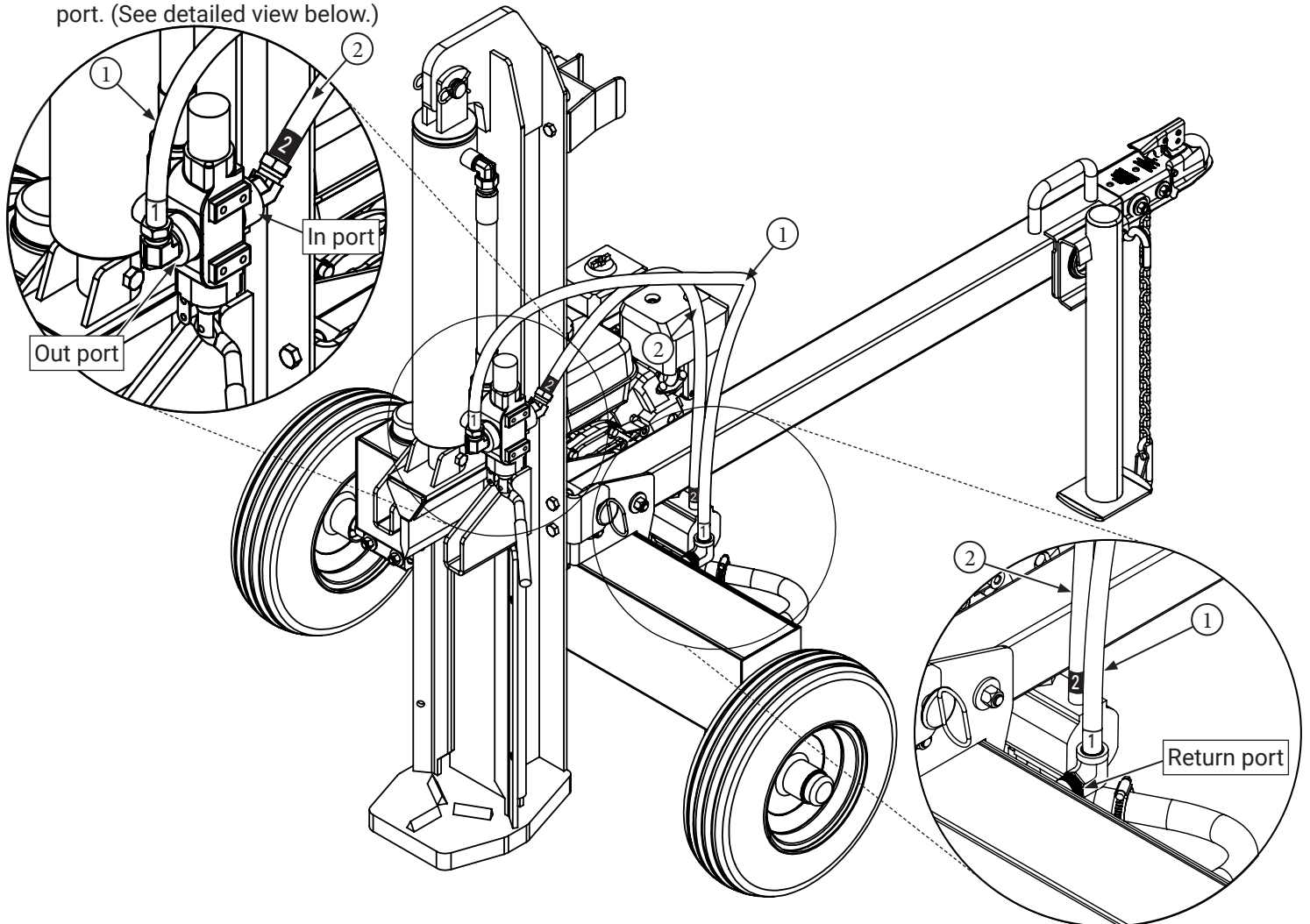
**Notice:** NPT fittings require liquid thread sealant (preferred) or Teflon tape. Make sure these joints are correctly threaded, completely seated, and securely fastened.

**Notice:** If the log splitter is purchased already filled with hydraulic fluid, the operator should check the fluid level on the dipstick before starting, and contact the retailer for the grade of hydraulic fluid used to fill the hydraulic tank [F].



Tools required: 2 large adjustable wrenches or one (1) large adjustable and one (1) 25mm crescent wrench.

- Connect hose 1 from the valve's OUT port to the return port on the tank. (See detailed view below.)
- Connect hose 2 from the hydraulic pump to the valve's IN port. (See detailed view below.)




Step 6 Hydraulic hoses

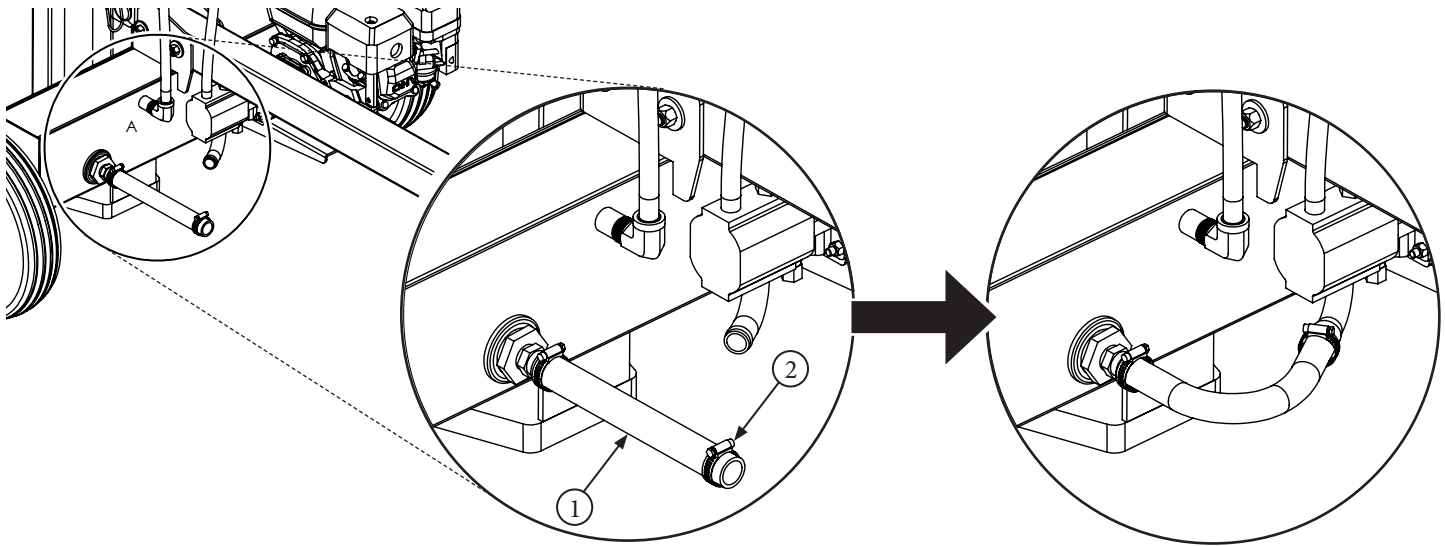
Ref.	Description	Qty.
1	Hydraulic hose, 1/2 in X 59 in., 4000 PSI, w/ 1/2 in. M NPT X 1/2 in. F swivel; SKU: 31-390	1
2	Hydraulic hose, 1/2 in X 41 in., 4000 PSI, w/ 1/2 in. M NPT X 1/2 in. F swivel; SKU: 31-391	1

## Step 7: Attaching the suction hose

Securely attach the suction hose from the hydraulic tank [F] to the hydraulic pump [D].

 **Tip** Tools required: #2 Phillips screw driver

1. Check the connection of the suction hose to the outlet port on the hydraulic tank [F]: The hose must be fully seated and the clamp securely tightened.
2. Remove cap from pump's inlet port, then seat the other end of the suction hose on the fitting and secure with the hose clamp. Make sure this connection is tight and secure.



Step 7 Hardware		
Ref.	Description	Qty.
1	Hydraulic suction hose, 1 in. X 10-1/2 in.; SKU: 31-019	1
2	Hose clamp, 7/8 in. - 1-1/4 in. *	2
* Replacement hardware may be obtained locally.		

E



## Setting up the log splitter

Setting up the log splitter correctly is critical to the safe operation and upkeep of the machine. Follow the guidelines below for best results.



**Always use a tow vehicle when moving the log splitter over rough, uneven, hilly, or sloped terrain. Never set up the log splitter on a slope: you risk roll-over and the possibility of serious injury or death.**



In most cases, using a tow vehicle is the easiest and most economical way to move the log splitter into position.

Set-up procedure:

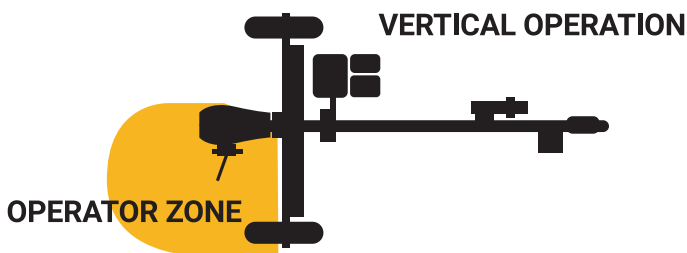
1. Find a flat, level space of ground to deploy the log splitter.
2. Clear the ground of debris and tripping hazards.
3. Move the log splitter into position and chock the tires to prevent unintended movement.
4. Set up the log splitter in the vertical or horizontal configuration; see diagrams below.



**Uncouple the log splitter from the towing vehicle before use (if applicable).**



**The operator must stay in the operator zone when splitting wood. The operator has the safest, most efficient access to the control lever and log cradle in these working locations. Operating outside of this area could result in injury or death.**



## Preparing wood to split

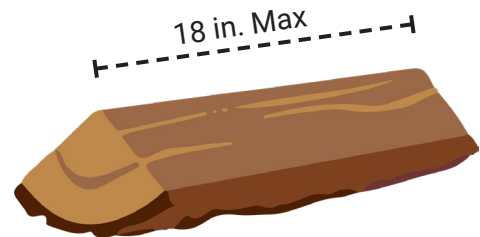
Preparing the logs to be split is critical to the safe operation of the log splitter. Plan ahead and prepare your wood before you start up the log splitter.



**Square cut your logs: Angle-cut or ragged-ended logs can slide or twist out of position when the wedge makes contact, and may be ejected from the log cradle.**



**18"** is the maximum length log that will fit in the log cradle. For best results, prepare the wood by square-cutting the ends before starting the log splitter.



Use a chain saw to cut logs down to a length of 18 inches or less before feeding them into the log splitter.

Clear cut logs from the working area immediately.



**Never reach across a log splitter when the engine is running, or put any part of your body into the log cradle. Only one person may operate the log splitter at a time.**

## Starting the engine

Basic instructions for starting a small gasoline engine are included here for your reference. Before you start the engine and for more details, review the engine operator's manual included with the log splitter.

**Notice:** Failure to follow the operating and maintenance guidelines in the engine's manual may cause premature wear and/or failure of the engine, and may void the warranty.

First, check that the engine has an adequate supply of fuel and engine oil, and make sure the air filter is in place and in good condition.



Use fuel with low ethanol content (>10%) or no ethanol. Ethanol can dissolve plastic components such as fuel lines.



**Always follow the fueling guidelines in the engine operator's manual. Failure to follow guidelines could result in an explosion, burns, wild fires, destruction of property, or death.**

- **Don't add fuel to a hot engine: turn it off and allow it to cool.**
- **Fill the tank in an area with good air flow.**
- **Don't overfill the fuel tank.**
- **Check the fuel lines for leaks and cracks.**
- **Keep your fuel bottle away from open flame, sparks, or other sources of ignition.**
- **Don't start the engine near spilled fuel.**



The operator's manual for your specific engine has detailed information about:

- The engine's features and controls;
  - Fuel and oil requirements;
  - Fueling, starting, and stopping the engine;
  - Maintenance schedules and procedures;
  - Operating and safety decals;
  - Carburetor and engine speed;
  - Servicing the spark plug
  - Servicing the exhaust system;
  - Changing the engine oil;
  - Adding engine oil;
  - Servicing the air filter;
  - Servicing the fuel system;
  - Storing the engine and fuel stabilizers;
  - Troubleshooting;
- and other topics.

**To start the engine:**

1. Set the hydraulic valve in neutral position.
2. If the engine is cold, start by setting the choke lever to the closed position. |\ For a warm engine, the choke lever can stay in the open position. |†
3. Set the fuel-valve lever to ON.
4. Move the throttle lever away from the SLOW position, between ¼ to ½ of the way to the FAST position.
5. Turn the engine switch to the ON position.
6. Pull the starter cord gently until you feel resistance, then pull briskly. Repeat.
7. If the choke is set to the closed position, move it toward the open position by degrees as the engine warms up.
8. Once the engine fires, fully open the choke, and move the throttle to FAST position.

## Stopping the engine

To stop the engine in an emergency, simply turn the engine switch to the OFF position.

Under normal conditions:

1. Move the throttle lever to SLOW.
2. Flip the engine switch to the OFF position.
3. Move the fuel-valve lever to the OFF position.

**Notice:** Stopping the engine suddenly at high RPMs or under heavy load can damage the engine.

## "Running in" the engine

When first using the engine, fill it with a standard blended engine oil (not synthetic); see engine operator's manual for recommendations. Change the oil after the first 5 hours of running time.



Change the engine oil after the first 5 hours of run time.

Check the engine operator's manual for the recommended oil type for your engine.

Be aware that ambient operating temperatures will impact the viscosity of the engine oil, and certain types of oil will work better in specific conditions.

**Notice:** Used engine (and hydraulic) oil is an environmental hazard if not properly disposed of. Used oil disposal services, such as those at automotive service centers, are available in many locations around the country. Disposal services turn used oil into a valuable resource: Be a good steward and dispose of your used oil properly.

## Splitting wood

Splitting wood with a hydraulic log splitter is a simple process.

1. Set the log in the cradle. Split with the grain, never perpendicular to it.
2. Push the valve control lever forward, towards the foot plate. Hold the lever in this position and continue to extend the wedge until the log is split.
3. If you hit a stubborn knot, you may need to retract the wedge and reposition the log.
4. Pull the valve control lever back toward the cylinder. The auto-return (detent) will return the rod back to the starting position.
5. Clear the split wood and load the next log.

**Notice:** All HyperSplit log splitters come standard with an adjustable detent auto-return control valve. When you pull the lever back, the detent holds the valve in reverse until the rod is completely retracted. The valve then returns to neutral position.

If the auto-return function does not work, or stops working properly, contact customer service for a diagnosis, or visit our on-line support page (link on page 27).

## Clearing out the log cradle

When the cylinder cycles, the wedge [H] runs along guides built into the beam [E]. Over time, the guides can become clogged with wood chips and debris which affects the movement of the wedge. Check the guides for blockage regularly.

Inspect the wedge guides and remove trapped debris regularly.

Wear gloves and get a good implement—a long screwdriver or other tool—to clear wood chips and trapped debris from guides.

## Inspecting hydraulic lines

Periodically inspect the condition of hydraulic lines. Hydraulic lines are required to handle up to 4000psi of pressure. Damaged lines can be a safety risk, and leaks waste expensive hydraulic fluid.



**High-pressure hydraulic fluid can be injected under the skin causing serious injury and even death! Never use your hand to check for a leak! Replace damaged hydraulic lines immediately.**

- Before starting, inspect hoses for cracks and wear.
- While unit is running, inspect hoses and fittings for leaks. If a leak is suspected, use a piece of paper or cardboard to check; **never use your hand.**
- If leaks are detected, turn off the unit, and cycle the hydraulic system to relieve pressure. Allow unit to cool before attempting any maintenance.
- Replace cracked, worn, or damaged hydraulic lines immediately.
- If fittings are leaking, remove, clean, and reinstall with thread-sealing tape or liquid thread sealant.

## Hydraulic fluid care

Dirty or contaminated hydraulic fluid can cause premature wear and damage to components. Follow the instruction below for a longer service life with your log splitter.

- Check the hydraulic fluid level regularly; it should be at the top of the “full” line on the dipstick.
- Add fluid as needed. Never run your log splitter with an insufficient supply of hydraulic oil. If fluid is low, check system for leaks.
- Check the quality of the hydraulic fluid seasonally. Oil should not be dark or cloudy. Contaminated fluid causes damage to the hydraulic components.
- Seasonal changes in ambient temperature and humidity can cause condensed water to accumulate in the hydraulic system, especially during long-term storage. Once hydraulic oil is contaminated with water, it is no longer fit for use. Drain and replace your hydraulic oil if cloudy or dark.

## Emptying the hydraulic tank

To drain the hydraulic fluid:

1. Find a suitable collector for used oil.
2. Disconnect the suction hose from pump and allow oil to drain into collector.
3. Periodically drain oil collector into container suitable for oil recycling.
4. To completely drain:
  - a. Disconnect the tank from the beam and hydraulic hoses.
  - b. Remove the filter-mounting flange and tilt the tank to dump any remaining oil.
  - c. See next section: *Hydraulic suction filter maintenance*.
  - d. Dispose of used oil responsibly.

For instructions on filling the hydraulic reservoir, see p. 18.

## Hydraulic suction filter maintenance

All HyperSplit log splitters are fitted with hydraulic suction filter that can become clogged or degraded over time. Check the filter every 50 hours of run time or when changing the hydraulic fluid.



**Wear personal protective equipment such as safety glasses and rubber gloves when handling hydraulic oil, and a respirator for chemical solvents.**

To access the hydraulic suction filter, first drain the hydraulic reservoir [F] (see above), then remove the filter with a large adjustable wrench (see diagram).

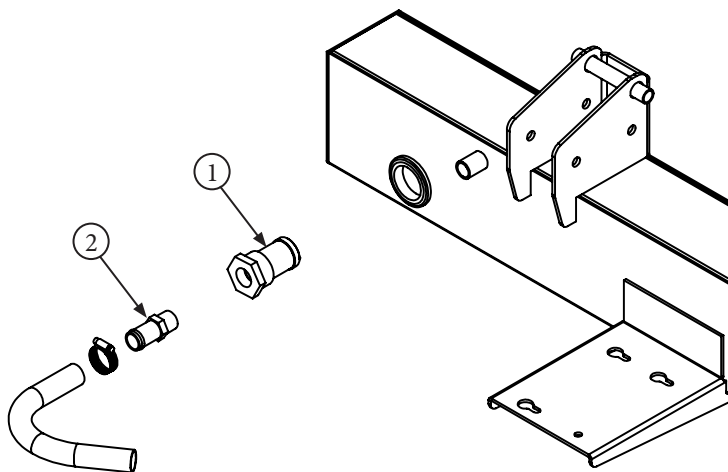
Examine the filter for contamination and degradation: If the filter is dirty but in good condition, clean it before refilling the reservoir (cleaning instructions below). If the filter is damaged, replace it. A new filter can be order from the manufacturer; see page 27 of this manual for contact details.

### Cleaning the filter:

1. Be gentle while cleaning the filter so as not to damage it.
2. Unscrew the filter from the mounting flange and set upside-down to allow any excess hydraulic oil to drain away.
3. Next, soak the filter in a shallow bath of solvent (ethanol, acetone) or degreaser (e.g.: Simple Green) to loosen up any contamination.
4. Then, blow out the filter with compressed air to remove debris and contamination. Wear your mask!
5. Inspect the tank for any buildup or sludge; clean if necessary.
6. Reinstall the filter with pipe thread sealant and tighten firmly.

## Maintaining the hydraulic suction filter

Ref.	Description	Qty.
1	Suction filter, 25 micron; SKU: 31-304	1
2	Barbed fitting, 3/4 in. NPT to 1 in. pipe nipple; SKU: 31-043	1



## Short-term storage

When storing your log splitter for less than a month:

1. Retract the rod.
2. Turn off the engine and allow to cool.
3. Clean off the log splitter with a damp cloth.
4. Cover the log splitter or move it to a location where it will not be exposed to the elements.

## Long-term storage

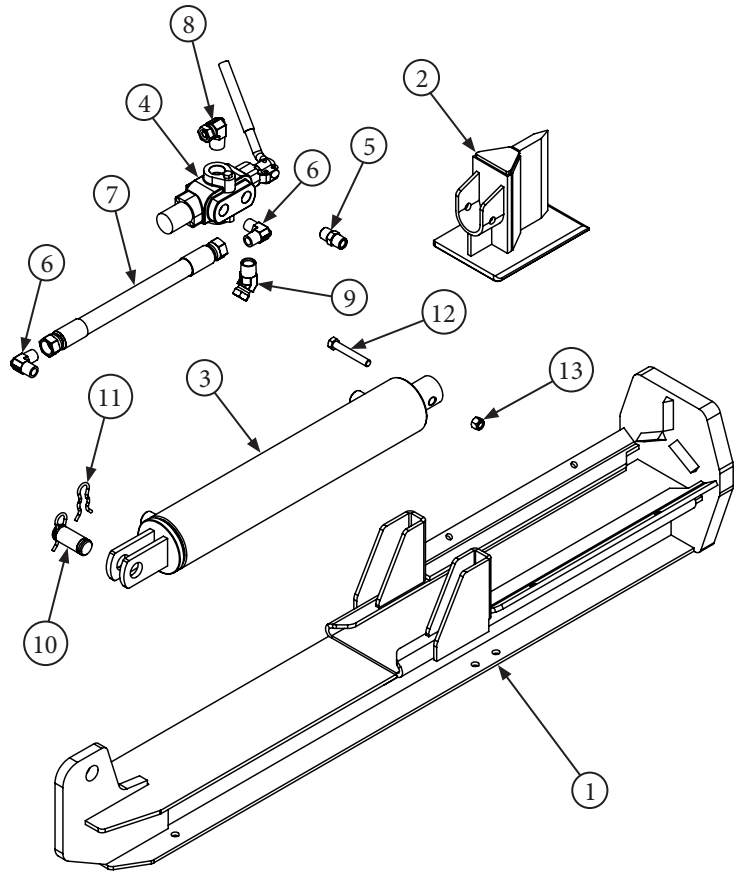
- Follow the instructions in the engine owner's manual to prepare the engine for storage.
- Service the air filter according to the guidelines in the engine owner's manual. Order new air and oil filters for next season if necessary.
- Retract the cylinder rod to protect it from corrosion.
- With a damp rag, wipe down the log splitter to remove built up dust and debris.
- Clean out any wood chips and blockage from the log cradle.
- Wipe down the beam [E], wedge [H], and tank [F] with an oily rag to protect from rust.
- Touch up any scratches or dings with a rust-resistant touch-up paint.
- Cover completely with a tarp to avoid dust build up and water collection.
- For best results, move the log splitter to a location where it will not be exposed to the elements.

# PARTS LIST

## Beam, Cylinder, Valve Assembly

Ref.	Description	SKU
1	Beam, 7in. foot	33-034
2	Wedge, 7 in.	33-172
3	Cylinder, 3-1/2 in.	33-419
4	Valve, A7, w/ angled handle	31-289
5	Hydraulic fitting, straight, 1/2 in. NPT male to 1/2 in. NPT male	31-000
6	Hydraulic fitting, 90°, 1/2 in. NPT male to 1/2 in. JIC male (x 2 qty.)	31-240
7	Hydraulic hose, 1/2 in. X 18 in., 4000 PSI, 1/2 in. NPFT swivel to 1/2 in. NPFT swivel	31-241
8	Hydraulic fitting, 3/4" NPT male to 1/2 in. NPT male elbow	31-242
9	Hydraulic fitting, 45°, 3/4" NPT male to 1/2 in. NPT male	31-243
10	Rod pin for clevis-type cylinder, 1-1/8 in. X 2 in.	33-073
11	Cylinder rod-pin clip, 1 to 1-1/8 in.	33-074
12	Hex bolt, M12 X1.75 X 80mm	*
13	Nylock nut, M12	*

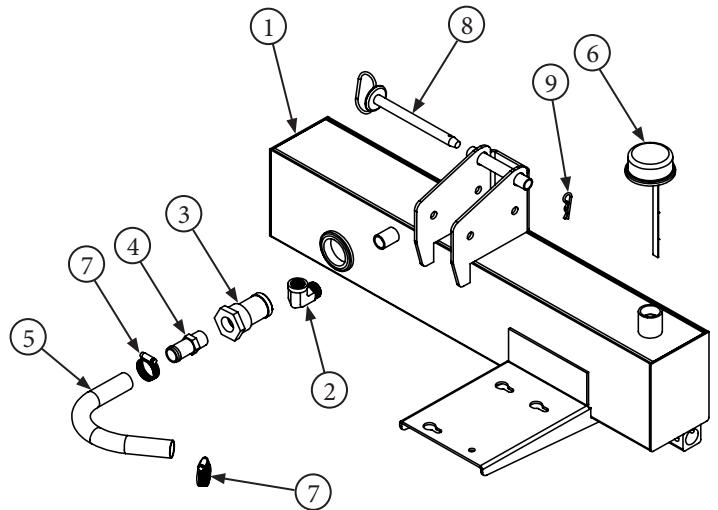
\* Replacement hardware may be obtained locally.



## Hydraulic Tank Assembly

Ref.	Description	SKU
1	Hydraulic tank weldment	33-251
2	Hydraulic fitting, 90°, 3/4 in. NPT male to 1/2 in. NPT female	31-244
3	Suction filter, 100 lpm	31-304
4	Barbed fitting, 3/4 in. NPT to 1 in. pipe nipple	31-043
5	Hydraulic suction hose, 1 in. X 10-1/2 in.	31-019
6	Vent cap w/ dip stick	28-030
7	Hose clamp, 3/4 in. - 1-1/4 in.	*
8	Hitch pin, 5/8" diameter X 6-1/4 in.	*
9	R clip, 3mm gauge	*

\* Replacement hardware may be obtained locally.

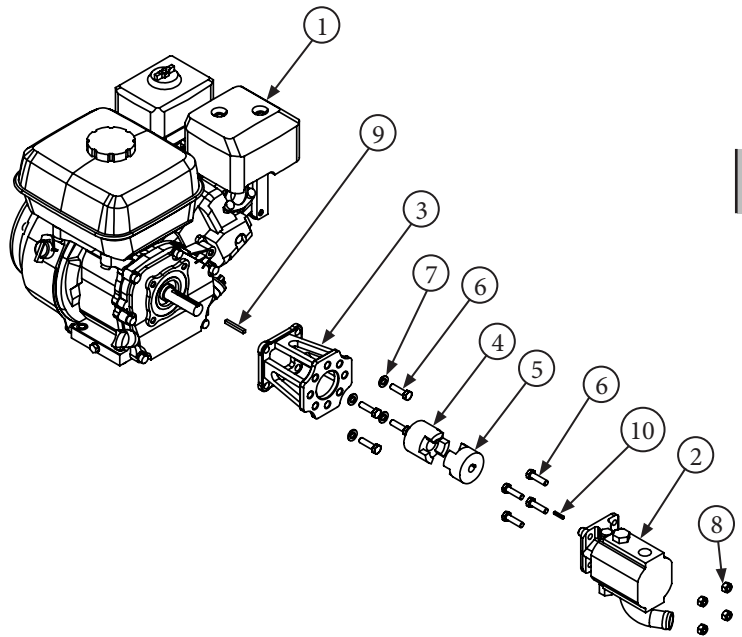


# PARTS LIST, CONTINUED

## Engine and Pump Assembly

Ref.	Description	Qty.	SKU
1	Rato engine, 212cc	1	32-034
2	Hydraulic pump, 13 GPM	1	31-251
3	Pump mount, 5-7 HP	1	31-270
4	Steel coupler, 3/4 in.	1	31-385
5	Steel coupler, 1/2 in.	1	31-386
6	Hex bolt, M8 X 1.25 X 30mm	8	*
7	Lock washer, M8	4	*
8	Nylock nut, M8	4	*
9	Square key, 3/16 in. X 1-1/2 in.	1	*
10	Square key, 1/8 in. X 1 in.	1	*

\* Replacement hardware may be obtained locally.

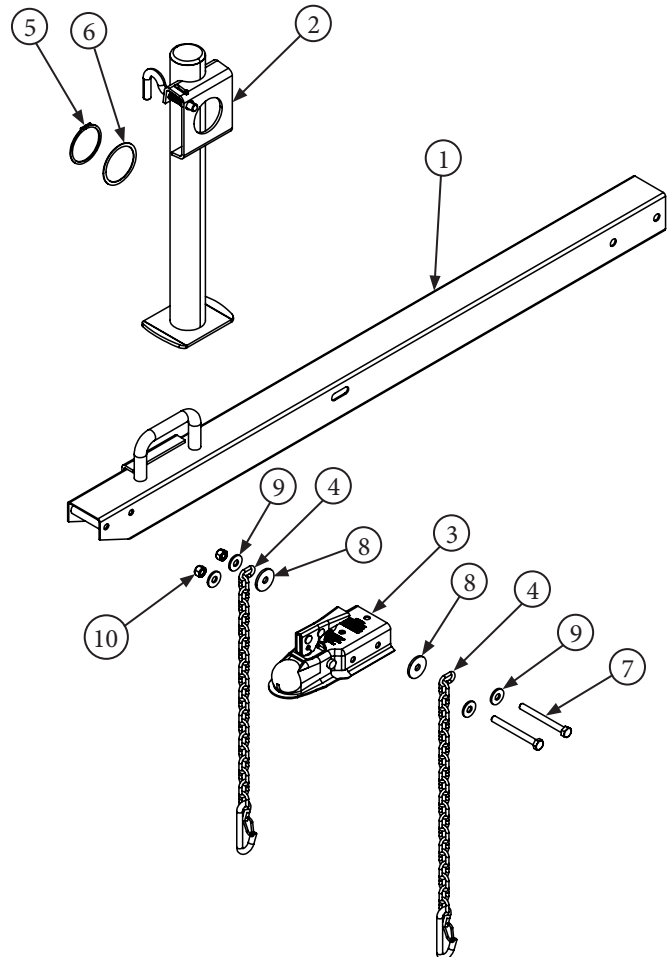


H

## Tongue Assembly

Ref.	Description	Qty.	SKU
1	Tongue weldment	1	33-247
2	Stand	1	33-056
3	Ball coupler assembly, 2 in.	1	33-068
4	Safety chain assembly	2	33-058
5	Retaining ring, external, 63mm diameter	1	33-420
6	Adjustable fiber washer	1	31-421
7	Hex bolt, M10 X 1.5 X 100mm, GR 8.8	2	*
8	Fender washer, M10	2	*
9	Washer, M10	4	*
10	Nylock nut, M10 (x 2)	2	*

\* Replacement hardware may be obtained locally.



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# TROUBLESHOOTING

Problem	Possible cause	Solution
Engine does not start	Engine switch in "OFF" position; Engine fuel shut-off valve closed	Set switch in "ON" position. Open fuel valve.
	Engine is out of fuel	Add fuel (High octane, low/no ethanol)
	Unit under load during start-up	Cycle valve handle (move back and forth) to remove load; set valve to neutral position.
	Faulty spark plug; spark plug disconnected	Check spark plug is fully seated.
Engine stops suddenly during operation	Engine is out of fuel	Add fuel
	Spark plug wire loose	Attach spark-plug wire securely
Engine starts but runs roughly	Oil level is low - oil sensor may shutoff engine	Fill crank case to level indicated; Set up log splitter on flat, level surface
	Choke in wrong position	Adjust choke
Engine power level low; Engine overheats	Insufficient air intake	Check air filter; if needed clean or replace air filter. Check for blockage in air intake system
Ram/wedge moves slowly or unevenly	Air in the hydraulic system	Purge air by extending and retracting the wedge several times without load until the motion is smooth; add fluid
	Debris lodged in beam guides	Clear debris from beam
	Low hydraulic fluid	Check oil level; add oil as needed
Oil leaking from fittings or hoses	Loose hydraulic fitting	Inspect fitting and install correctly
Oil leaking from front of cylinder	Faulty cylinder seals	Recondition cylinder
	Scored or bent cylinder rod	Contact customer service
Wedge will not extend or retract	Control valve is faulty	Contact customer service
	Jaw coupler disengaged	Check engine-to-pump coupler connection
	Low hydraulic oil	Check oil level; add oil as needed
	Hydraulic cylinder is faulty	Replace cylinder seals
Wedge extends and retracts but will not build pressure to split wood	Key has fallen out of pump or engine	Check drive keys in pump and engine
Wedge extends and retracts but will not build pressure to split wood	Faulty cylinder seal; Key has fallen out of pump or engine	Check drive keys in pump and engine; recondition cylinder
Wedge does not auto-return	Faulty control valve	Contact customer service
Wedge extends but will not return	Faulty cylinder	Contact customer service
Excessive bouncing while towing	Tires over or under inflated	Inflate tires to pressure indicated on sidewalls; slow down towing speed

**Before performing any maintenance turn off unit and allow to cool, cycle hydraulic system several times to relieve pressure, turn engine switch and fuel shut-off valve to "OFF" position, and disconnect spark-plug wire.**

# LOG SPLITTER SPECIFICATIONS

HyperSplit 20-ton Log Splitter Specifications	
<i>Feature</i>	<i>Rating or Capacity</i>
Maximum splitting force	20 tons
Cycle time	6.2 seconds
Wedge height	7 inches
Hydraulic pump	13gpm, 2-stage gear pump
Hydraulic oil	AW-32 , -46, or -68 hydraulic oil
Hydraulic system capacity	5.5 gal. max. / 4.5 gal. min. operational capacity
Maximum log length	18 inches
Hydraulic cylinder	3½in. (90mm) diameter
Maximum pressure	4000 psi
Wheel size	4.80 x 8, 16 in. tire with 1in. bearing
Hitch type	2 in. ball coupler
Engine	7HP Rato 212cc

Scan this QR code to visit our log splitter support page for up-to-date maintenance and troubleshooting information and videos:



## MANUAL & SUPPORT

### QR Code Instructions:

Use the camera app on your smartphone in the same manner you would if you were taking a photo. Your smartphone will recognize the code, and a link will appear on the screen. Tap the link and you will be directed to the support page on our website.

**Questions? For service call or e-mail:**  
**720-437-7640**  
**customerservice@tooltuffdirect.com**  
**techsupport@tooltuffdirect.com**

# **HYPER ⚡ SPLIT**

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ToolTuff Direct  
15000 W. 44th Ave., Suite B  
Golden, CO