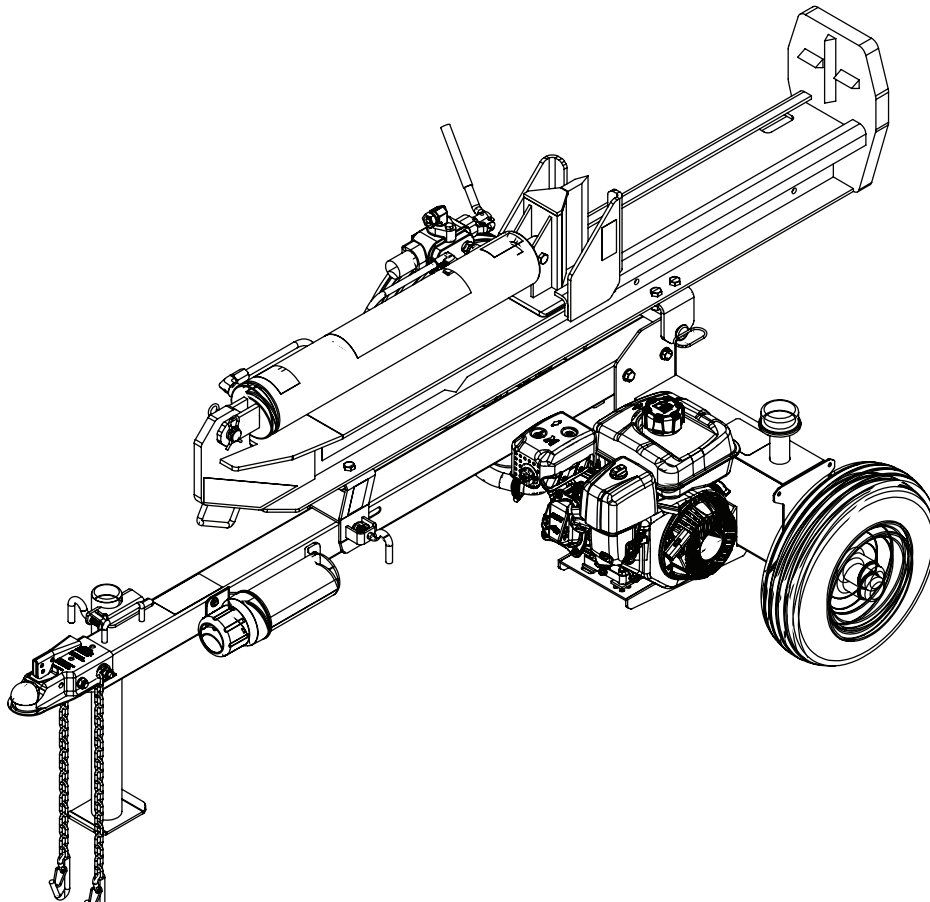




# POWERKNOX

## 25-TON, 30-TON, & 35-TON VERTICAL/HORIZONTAL LOG SPLITTERS



## Operation Manual

MODEL #'s 31-403 (25-Ton), 31-404 (30-Ton), 31-405 (35-Ton)



This safety alert symbol identifies important safety messages in this manual. Failure to follow this important safety information may result in serious injury or death.

For Service or Questions:  
Call 720-213-4816



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# IMPORTANT SAFETY INFORMATION



**WARNING**

**WARNING:** Read and understand the complete Operation Manual before assembling or using this product! Failure to comprehend and comply with warnings, cautions and instructions for assembly and operation could result in serious injury or death.



Do not permit children to operate this equipment at any time. Do not permit others that have not read and understood the complete Operation Manual to operate this equipment. Operation of power equipment can be dangerous. It is the sole responsibility of the operator to understand the assembly and safe operation of this product.

Call our customer service department at 720-213-4816 if you have any questions or concerns about the safe operation of this equipment.



**DANGER**

## INTENDED USE

Do Not Use the log splitter for any purpose other than splitting wood, for which it was designed. Any other use is unauthorized and may result in serious injury or death.

## PERSONAL PROTECTIVE EQUIPMENT

When operating this log splitter it is essential that you wear safety gear including goggles or safety glasses, steel toed shoes and tight fitting gloves (no loose cuffs or draw strings). Always wear ear plugs or sound deafening headphones to protect against hearing loss when operating this log splitter.



**CAUTION**

Do Not wear loose clothing or jewelry that can be caught by moving parts of the log splitter. Keep clothing and hair away from all moving parts when operating this log splitter.





# IMPORTANT SAFETY INFORMATION



**DANGER**

## GENERAL SAFETY

Failure to follow warnings, cautions, assembly and operation instructions in the Operation Manual may result in serious injury or death.

Read the Operation Manual before operation.

Do not permit children to operate this equipment at any time. Do not permit others that have not read and understood the complete Operation Manual to operate this equipment.

Keep all people and pets a minimum of 10 feet away from the work area when operating this log splitter. Only the operator is to be near the log splitter during use.

Do not operate the log splitter when under the influence of alcohol, drugs or medication.

Do not allow a person who is tired or otherwise impaired or not completely alert to operate the log splitter.

## PREPARATION OF THE LOG

Both ends of the log should be cut as square as possible to prevent the log from rotating out of the splitter during operation.

Do not split logs greater than 25 in. in length.



**DANGER**

## WORK AREA

Do not operate the log splitter on icy, wet, muddy or otherwise slippery ground. **ONLY** operate your log splitter on level ground.

Operating on a slope could cause the log splitter to roll over or logs to fall off of the equipment, which could result in injury.

Do not operate the log splitter in an enclosed area. Exhaust fumes from the engine contain carbon monoxide which can be harmful or deadly when inhaled.

Do not move the log splitter over hilly or uneven terrain without a tow vehicle or adequate help.

Use a tire chock or block on the wheels to prevent movement of the log splitter while in operation.

Operate the log splitter in daylight or under good artificial light.

Keep the work area free of clutter. Remove split wood from around the log splitter immediately after each use to avoid potential tripping.

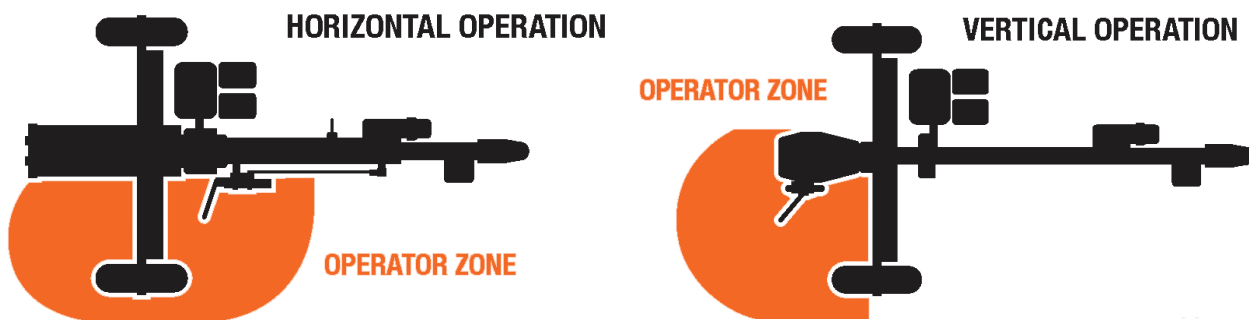
# IMPORTANT SAFETY INFORMATION

## OPERATION OF THE LOG SPLITTER

Operate the log splitter from within the operation zone as shown in the diagrams below. The operator has the safest and most efficient access to the control valve and the beam in these locations.



Failure to operate the log splitter in this position can result in serious injury or death.



Make sure the operator knows how to stop and disengage the controls before operating.

Do not place hands or feet between the log and splitting wedge during forward or reverse stroke. Serious injury or death could result.

Do not straddle or step over the log splitter during operation.

Do not reach or bend over the log splitter to pick up a log.

Do not attempt to split two logs on top of each other.

Do not attempt to cross split a log.

Do not attempt to load your log splitter when the ram or wedge is in motion.

Use your hand to operate the control lever on the valve. Do not use your foot, a rope or any extension device.

Do not move the log splitter while the engine is running.

Never leave the equipment unattended while the engine is running. Shut off the engine even if you are leaving the log splitter for a short period of time.

Avoid contact with the muffler and other hot areas of the engine during operation or after running to prevent burns.



# IMPORTANT SAFETY INFORMATION

## REPAIR AND MAINTENANCE SAFETY



**DANGER**

Do not operate the log splitter when it is in poor mechanical condition or in need of repair. Frequently check that all nuts, bolts, screws, hydraulic fittings and hose clamps are tight.

Do not alter the log splitter in any manner. Any alteration will void the warranty and could cause the log splitter to be unsafe to operate.

Perform all recommended maintenance procedures before using the log splitter. Replace all damaged or worn parts immediately.

Do not tamper with the engine to run it at excessive speeds. The maximum engine speed is preset by the manufacturer and is within safety limits. See Kohler engine manual.

Remove the spark plug wire before performing any service or repair on the log splitter.

Always check the level of hydraulic oil and engine oil before operation.

Replacement parts must meet manufacturer's specifications.

## HYDRAULIC SAFETY

The hydraulic system of the log splitter requires careful inspection along with the mechanical parts. Be sure to replace frayed, kinked, cracked or otherwise damaged hydraulic hoses or hydraulic components.

Check for hydraulic fluid leaks by passing a piece of paper or cardboard underneath or over the area of the leak. Do not check for leaks with your hand. Fluid escaping from the smallest hole, under pressure, can have enough force to penetrate the skin causing serious injury or death.

Seek professional medical attention immediately if injured by escaping hydraulic fluid. Serious infection or reaction can develop if medical treatment is not administered immediately.

Relieve all pressure by shutting off the engine and moving the valve control handle back and forth should it become necessary to loosen or remove any hydraulic fitting.

Do not remove the cap from the hydraulic tank or reservoir while the log splitter is running. The tank could contain hot oil under pressure which could result in serious injury.

Do not adjust the hydraulic valve. The pressure relief valve on the log splitter is preset at the factory. Only a qualified service technician should perform this adjustment.



# IMPORTANT SAFETY INFORMATION

## FIRE PREVENTION



CAUTION

Do not operate the log splitter near an open flame or spark. Hydraulic oil and gasoline are flammable and can explode. Do not fill the gas tank while the engine is hot or running. Allow the engine to cool before refueling. Do not smoke while operating or refueling the log splitter. Gas fumes can easily explode. Refuel the log splitter in a clear area with no gas fumes or spilled gas. Use an approved fuel container. Replace the gas cap securely. If gasoline has spilled, move the log splitter away from the area of the spill and avoid creating any source of ignition until the spilled gas has evaporated. Keep a Class B fire extinguisher on hand when operating this log splitter in dry areas as a precautionary measure against possible flying sparks. Drain the fuel tank prior to storage to avoid the potential fire hazard. Store gasoline in an approved, tightly sealed container. Store the container in a cool, dry place. Turn the fuel shut off valve on the engine to the "OFF" position before towing the log splitter. Failure to do so may result in flooding the engine.



CAUTION

### IMPORTANT NOTE:

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 (optional by manufacturer) is available as an accessory at your nearest engine dealer. Always check the legal requirements in your area.

# IMPORTANT SAFETY INFORMATION



**DANGER**

## TOWING SAFETY

Check all local and state regulations regarding towing, licensing, and lights before towing your log splitter.

Check before towing to make sure that the log splitter is correctly and securely attached to the towing vehicle and that the safety chains are secured to the hitch or bumper of the vehicle with enough slack to allow turning. Always use a Class I, 2" ball with this log splitter.

Do not carry any cargo or wood on the log splitter.

Do not allow anyone to sit or ride on the log splitter.

Disconnect the log splitter from the towing vehicle before operating it.

Use care when backing up with the log splitter in tow to avoid jack-knifing. Allow for added length of the log splitter when turning, parking, crossing intersections and in all driving situations.

Do not exceed 45 mph when towing your log splitter. Towing the log splitter at speeds higher than 45 mph could result in loss of control, damage to the equipment, serious injury or death. Adjust towing speed for terrain and conditions. Be extra cautious when towing over rough terrain especially railroad crossings.

## CALIFORNIA PROPOSITION 65 WARNING

Engine exhaust, some of its constituents and certain product components contain or emit chemicals known to the state of California to cause cancer and birth defects or other reproductive harm.

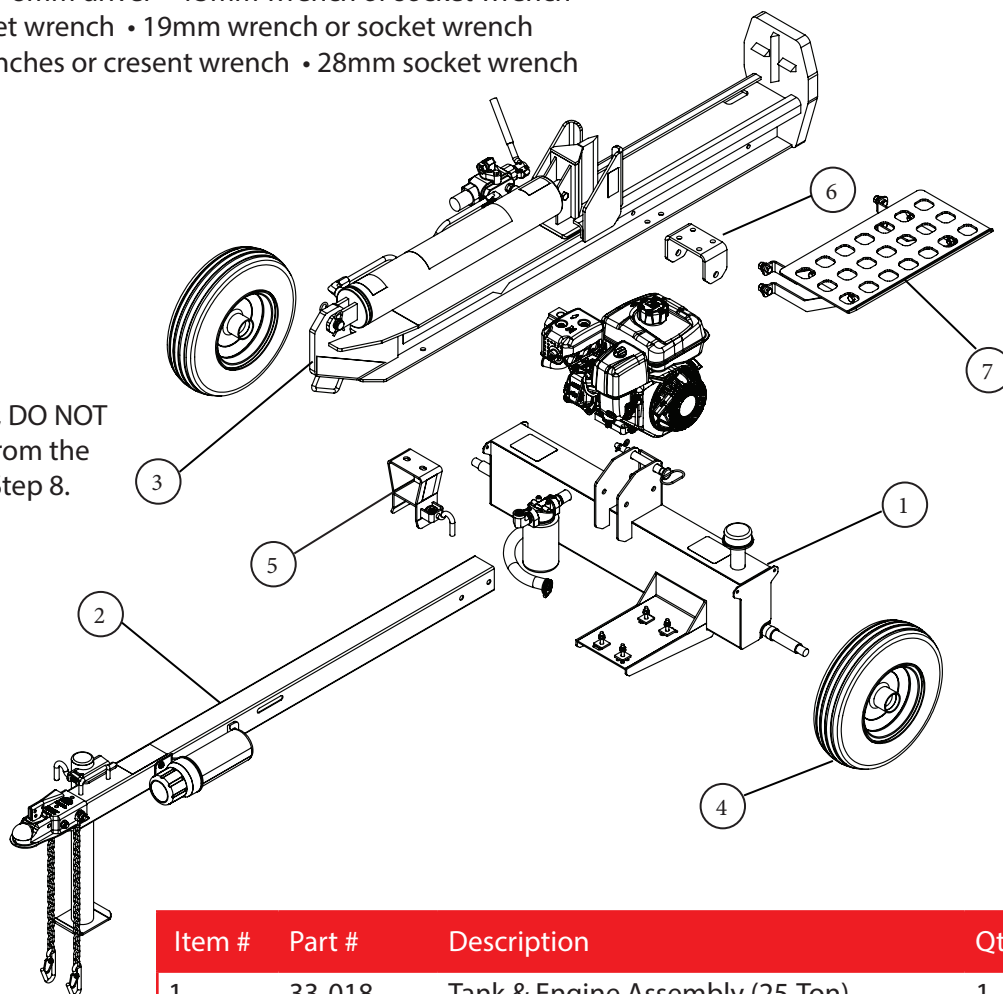
# ASSEMBLY OVERVIEW

List of tools needed for assembly:

Hammer • Needle nose pliers • Box cutters • #2 Phillips screw driver  
 6mm hex key wrench • 8mm driver • 13mm wrench or socket wrench  
 17mm wrench or socket wrench • 19mm wrench or socket wrench  
 22mm and 24mm wrenches or crescent wrench • 28mm socket wrench

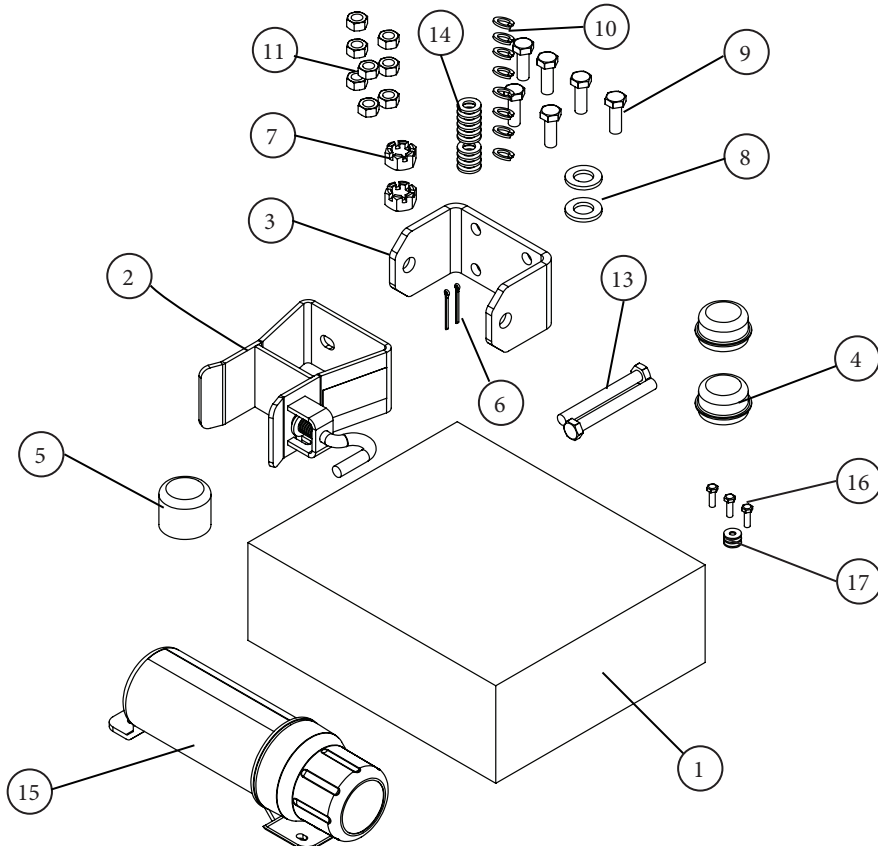


On pre-filled log splitters, DO NOT REMOVE the end caps from the hydraulic hoses until Step 8.



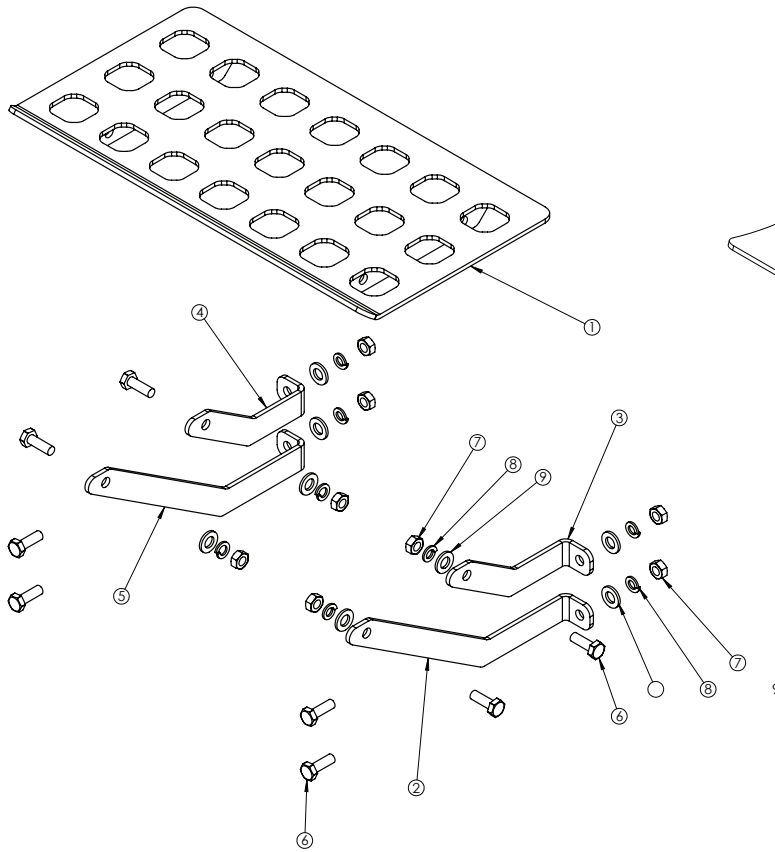
Item #	Part #	Description	Qty.
1	33-018	Tank & Engine Assembly (25-Ton)	1
	33-019	Tank & Engine Assembly (30-Ton)	
	33-020	Tank Assembly (35-Ton)	
2	33-022	Tongue & Stand Assembly (25/30-Ton)	1
	33-023	Tongue & Stand Assembly (35-Ton)	
3	33-028	Beam & Cylinder Assembly (25-Ton)	1
	33-029	Beam & Cylinder Assembly (30-Ton)	
	33-030	Beam & Cylinder Assembly (35-Ton)	
4	21-074	Wheel/Tire Assembly, 4.80 x 8 in.	2
5	33-035	Assy, Beam Lock Bracket	1
6	33-036	Beam Pivot Bracket	1
7	33-040	Log Catcher Kit Assembly (25-Ton)	1
	33-041	Log Catcher Kit Assembly (30/35-Ton)	
8	33-063	Engine/Pump Assembly (25-Ton)*	1
	33-064	Engine/Pump Assembly (30-Ton)*	
	33-065	Engine/Pump Assembly (35-Ton)*	

# HARDWARE KIT

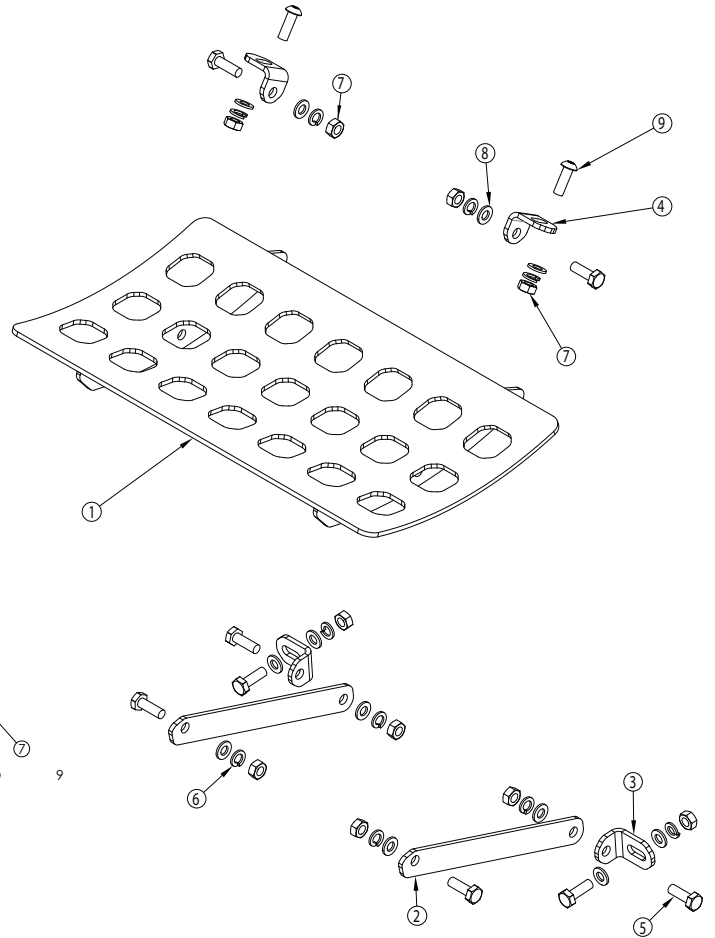


Item #	Part #	Description	Qty.
1	33-054	Hardware Kit	1
2	33-035	Beam Lock Assembly	1
3	33-036	Beam Pivot Bracket Plate	1
4	21-074	Hub Cap	2
5	21-075	Hub Cap Tool	1
6	90520A108	Cotter Pin, 1/8 in. x 1-1/2 in.	2
7	95030A270	Castle Nut, 3/4 in.16	2
8	98023A036	Flat Washer, 3/4 in.	2
9	91280A718	Hex Bolt, M12 x 1.75 x 35mm, G8.8	6
10	91202A246	Lock Washer, M12	8
11	90591A181	Hex Nut, M12 x1.75, G8.8	8
12	29-004	Manual, 25/30/35 Ton	1
13	91280A740	Hex Bolt, M12 x 1.75 x 110mm, G8.8	2
14	98687A114	Flat Washer, M12	10
15	24-014	Manual Canister	1
16	91280A330	Hex Bolt, M6 x 1.0 x 20mm, G8.8	3
17	91100A150	Fender Washer, M6	3

# LOG CATCHER KIT



33-040  
Log Catcher Assembly  
Kit For 25-Ton

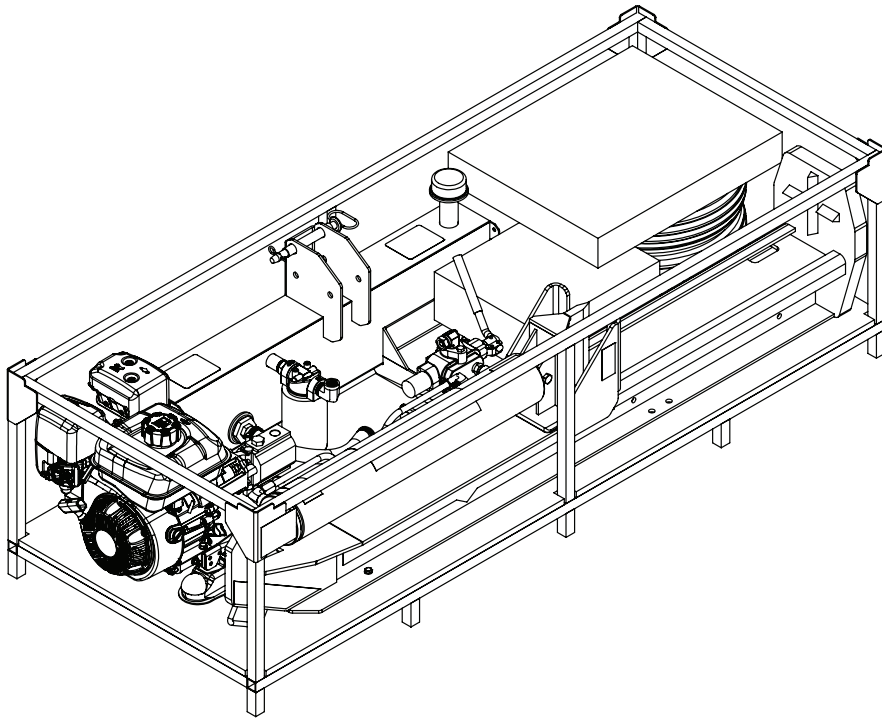


33-041  
Log Catcher Assembly  
Kit For 30/35-Ton

Item #	Part #	Description	Qty.
1	33-044	Log Catcher Grate	1
2	33-045	Support Arm, Large Right	1
3	33-046	Support, Right	1
4	33-047	Support Arm, Left	1
5	33-048	Support Arm, Large Left	1
6	91280A645	Hex Bolt, M10 x 30mm	8
7	90591A171	Hex Nut, M10	8
8	91202A246	Lock Washer, M10	8
9	91166A280	Flat Washer, M12	8

Item #	Part #	Description	Qty.
1	33-051	Log Catcher Grate	1
2	33-052	Log Catcher Support Plate	2
3	33-053	Log Catcher Mount, Lower	2
4	33-054	Log Catcher Mount, Upper	2
5	91280A645	Hex Bolt, M10 x 30mm	8
6	91202A246	Lock Washer, M10	10
7	90591A171	Hex Nut, M10	10
8	91166A280	Flat Washer, M10	12
9	91306A786	Button Head Screw, M10x30mm	2

# 1. UNPACKING THE CONTAINER

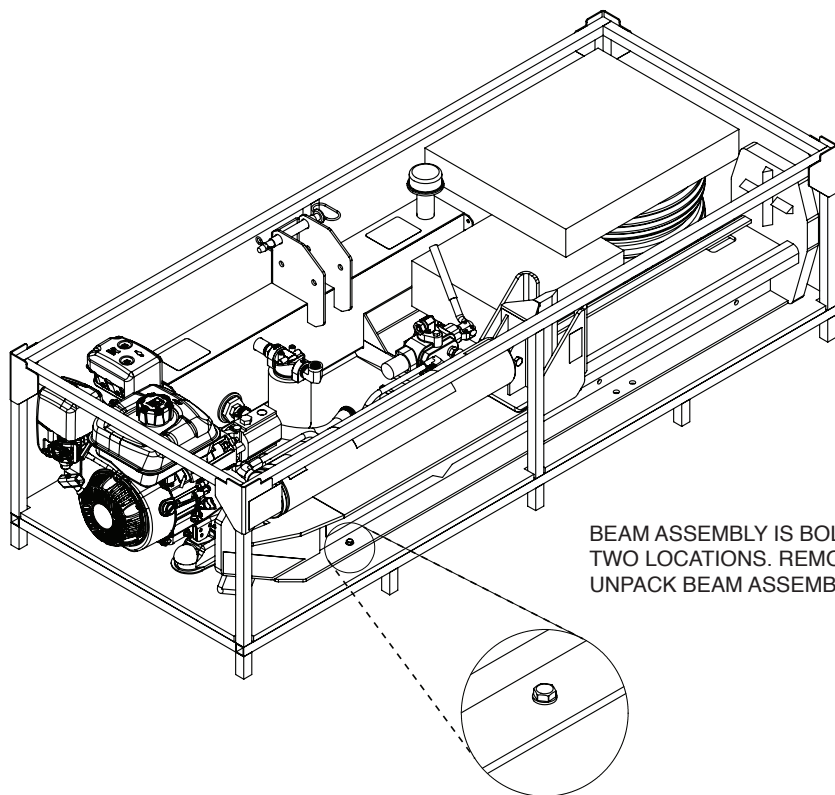


Step 1.1 Remove plastic wrap on crate.

# 1. UNPACKING THE CONTAINER [CONT.]

Step 1.2 Remove restraining bolts (tee nut bolts) from the beam.

Use a 13mm wrench or socket to remove the two hex bolts that are securing the beam to the crate bottom (as shown below). Please note that the two hex bolts are located diagonally opposed to each other.

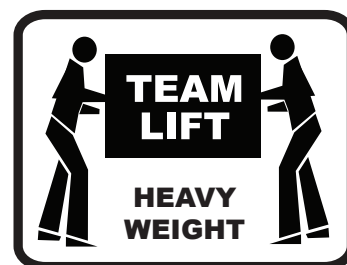


BEAM ASSEMBLY IS BOLTED DOWN IN TWO LOCATIONS. REMOVE BOLTS TO UNPACK BEAM ASSEMBLY.



Use Caution When Lifting - Heavy Weight!

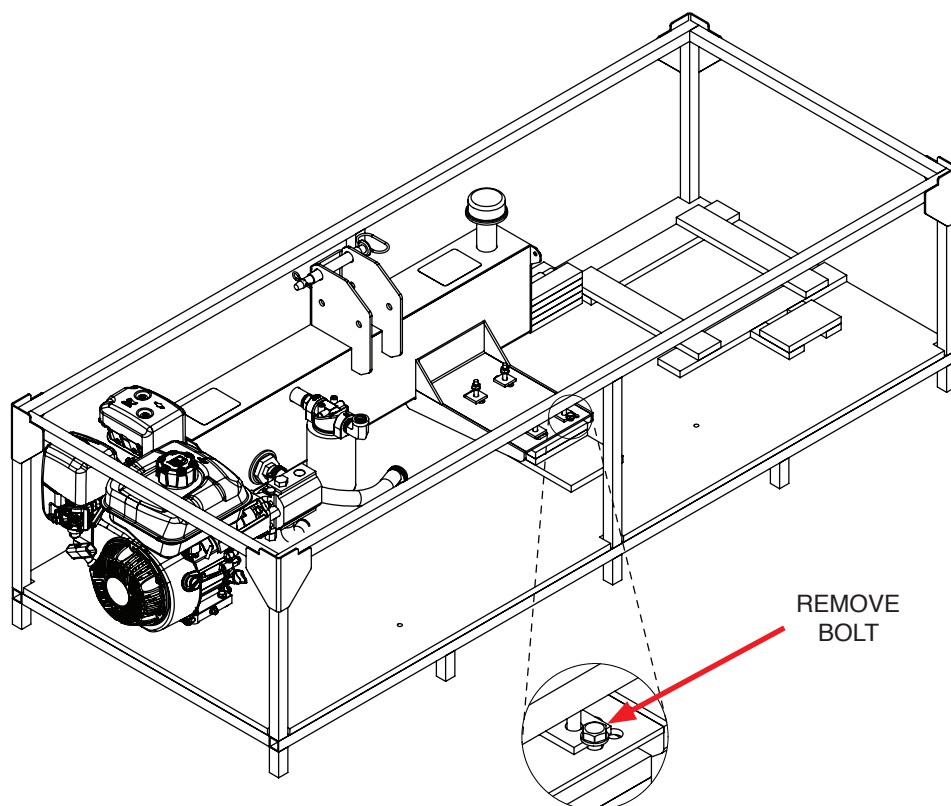
Step 1.3 Remove beam and cylinder assembly from metal crate with assistance of a helper. Lift beam and cylinder assembly to its vertical position standing upright on the beam's footplate.





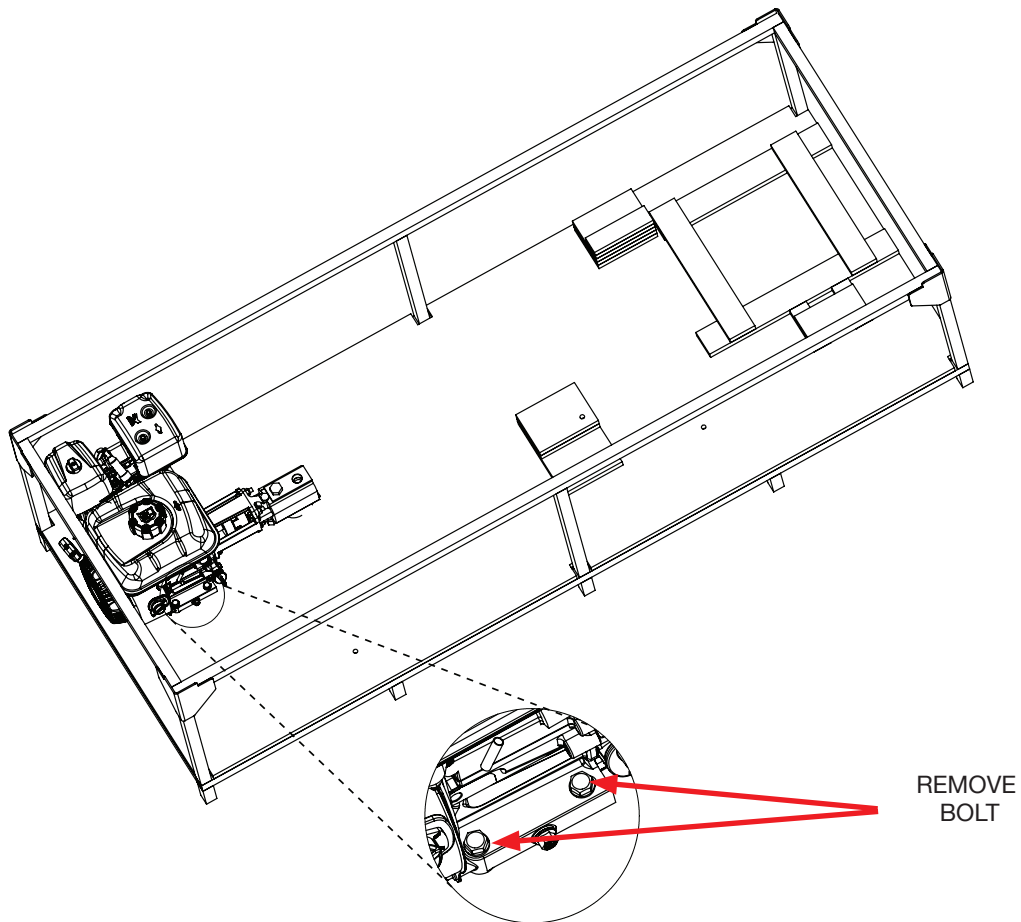
## 1. UNPACKING THE CONTAINER [CONT.]

Step 1.4 Use a 13mm wrench or socket to remove the single hex bolt that is securing the tank assembly to the crate bottom (as shown below).



## 1. UNPACKING THE CONTAINER [CONT.]

Step 1.5 Use a 13mm wrench or socket to remove the two hex bolts that secure the Kohler engine to the crate bottom (as shown below).



Step 1.6 Remove Tank & Engine Assembly from crate, then remove the engine assembly.

## 2. TANK AND ENGINE ASSEMBLY

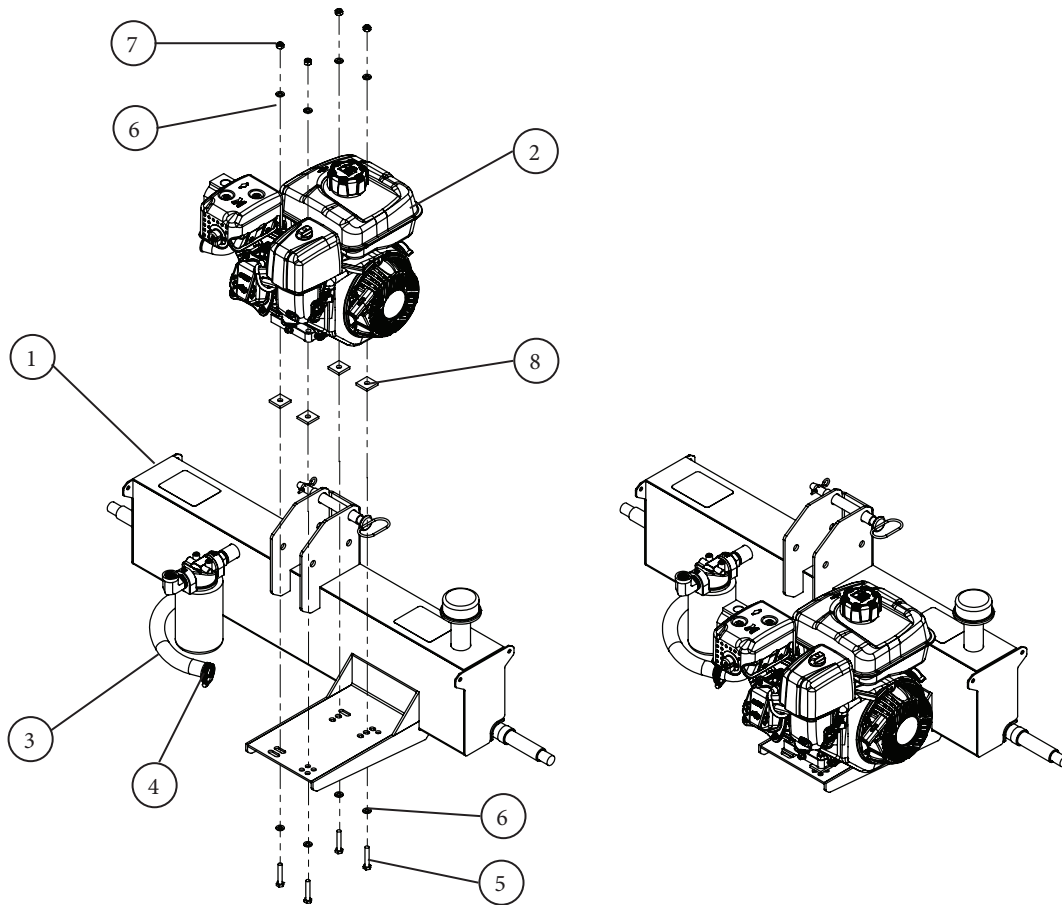
Step 2.1 Remove Engine Bolts **F** from tank.

Step 2.2 Place Engine **C** on tank.

Step 2.3 Secure Engine on Tank **B** in 4 places with Hex Bolt, M8 x 45mm, G8.8 **F**, Flat Washer, M8 **G** and Hex Nut, Locking nut, M8 x 1.25, G8.8 **H**

Step 2.4 Attach Suction Line Tube **D** to Pump.

Step 2.5 Fasten the Suction Line Tube to the Pump Assembly with Hose Clamp **E**.



Item #	Part #	Description	Qty.
1	33-015	Tank Assembly (25-Ton)	1
	33-016	Tank Assembly (30-Ton)	
	33-017	Tank Assembly (35-Ton)	
2	33-063	Kohler Engine/Pump Assy (25-Ton)	1
	33-064	Kohler Engine/Pump Assy (30-Ton)	
	33-065	Kohler Engine/Pump Assy (35-Ton)	
3	31-058	Suction Line Tube, Wire Reinforced	1
4	31-076	Hose Clamp, 15/16 in. to 1-1/4 in.	2
5	91280A544	Hex Bolt, M8 x 45mm, G8.8	4
6	98687A112	Flat Washer, M8	8
7	90576A117	Hex Nut, locking nut, M8 x 1.25, G8.8	4
8	33-070	Rubber Engine Damper	4

### 3. TANK AND WHEEL ASSEMBLY

Installing the wheels:

Step 3.1 Remove disposable spindle covers and wheel bearing covers.

Step 3.2 Slide Wheel/Tire Assembly **C** on to the spindle with valve stem of tire facing outwards.

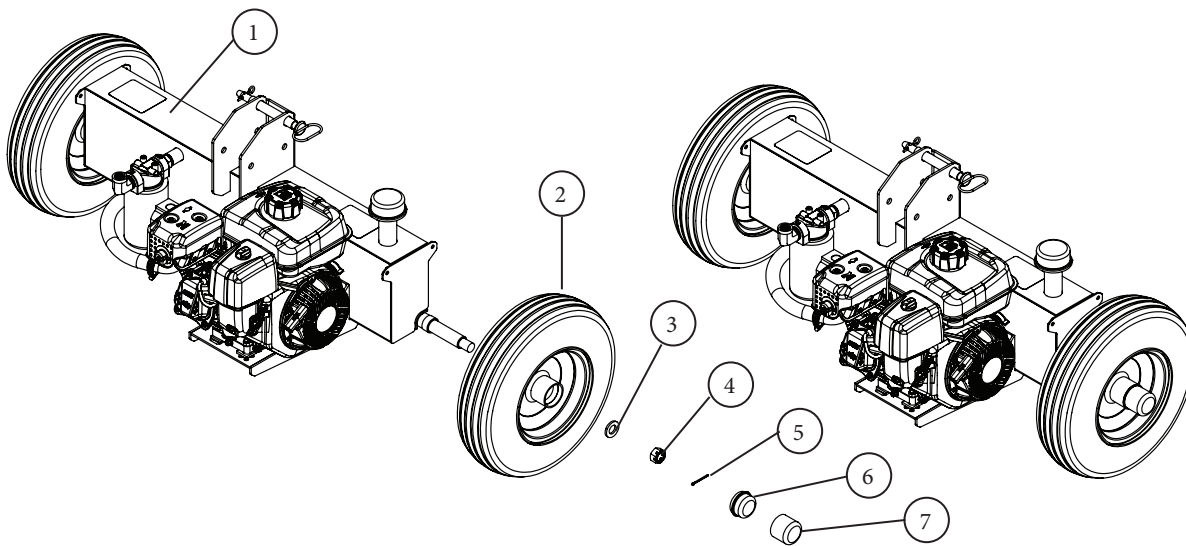
Step 3.3 Install the Flat Washer, 3/4 in. **D** onto the spindle.

Step 3.4 Thread the slotted Castle Nut, 3/4 in. **E** onto the spindle. The slotted nut should be attached with a 28mm socket tight enough to eliminate the free-play of the wheel assembly and not tighter. Make sure the wheels can freely rotate. The Castle Nut needs to be oriented to allow for the installation of the Cotter Pin, 1/8 in. **F**.

Step 3.5 Install the Cotter Pin, 1/8 in. **F** through the Castle Nut, 3/4 in. **E** and spindle. Bend pin ends around spindle to secure its position.

Step 3.6 Install the Hub Cap **G** using the Hub Cap Tool **H**. Gently tap on the hub cap tool with a hammer to drive the hub cap into place.

Step 3.7 Repeat these steps to install the 2nd wheel.

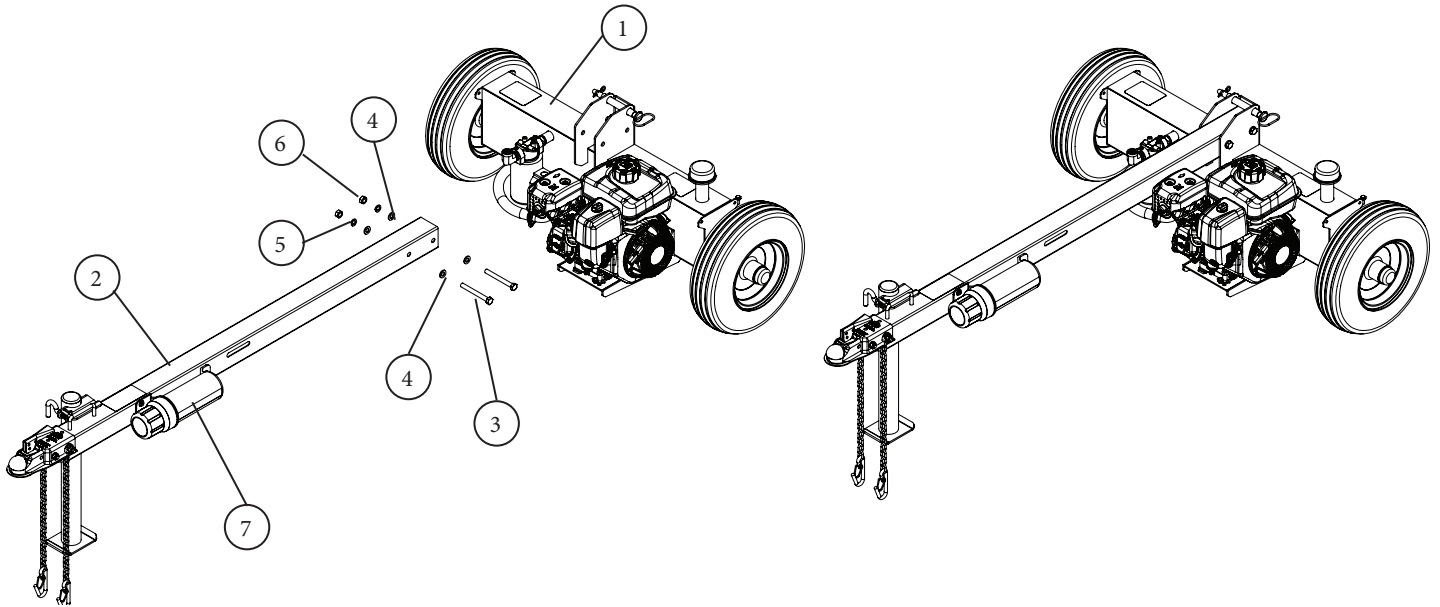


Item #	Part #	Description	Qty.
1	33-018	Tank & Engine Assembly (25-Ton)	1
	33-019	Tank & Engine Assembly (30-Ton)	
	33-020	Tank & Engine Assembly (35-Ton)	
2	21-074	Wheel/Tire Assembly, 4.80 x 8 in.	2
3	98023A036	Flat Washer, 3/4 in.	2
4	95030A270	Castle Nut, 3/4-16, Clear Zinc	2
5	90520A108	Cotter Pin, 1/8 in. x 1-1/2 in.	2
6	21-074	Hub Cap	2
7	21-075	Hub Cap Tool	1

#7 (HUB CAP TOOL) IS ONLY TO BE USED TO INSTALL #6 (HUB CAP)

## 4. TANK AND TONGUE ASSEMBLY

Step 4.1 Attach the Tongue & Stand Assembly **C** to the Tank & Engine Assembly **B** with Hex Bolt, M12 x 1.75 x 1.10mm **D**; Flat Washer, M12 **E**; Lock Washer, M12 **F**; and Hex Nut, M12 x 1.75 **G** in two places. Tighten securely using 19mm socket wrenches.

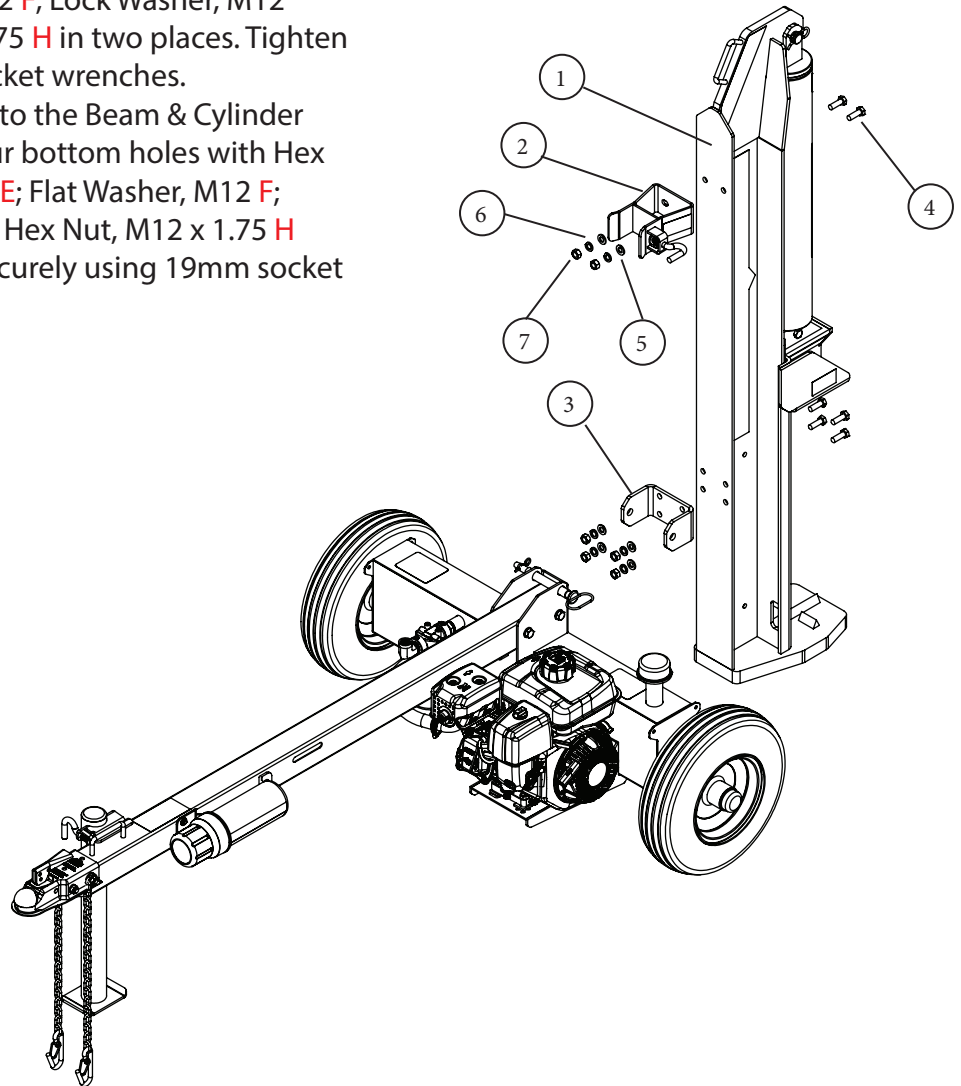


Item #	Part #	Description	Qty.
1	33-018	Tank & Engine Assembly (25-Ton)	1
	33-019	Tank & Engine Assembly (30-Ton)	
	33-020	Tank & Engine Assembly (35-Ton)	
2	33-022	Tongue & Stand Assembly (25/30-Ton)	1
	33-023	Tongue & Stand Assembly (35-Ton)	
3	91280A740	Hex Bolt M12 x 1.75 x 110mm, G8.8	2
4	98687A114	Flat Washer, M12	10
5	91202A246	Lock Washer, M12	8
6	90591A181	Hex Nut, M12 x 1.75, G8.8	8
7	24-014	Manual Canister	1
8	91280A330	Hex Bolt, M6 x 1.0 x 20mm, G8.8	3
9	91100A150	Fender Washer, M6	3

## 5. BEAM BRACKET ASSEMBLY

Step 5.1 Attach the Beam Lock Bracket **C** to the Beam & Cylinder Assembly **B** with Hex Bolt, M12 x 1.75 x 35mm **E**; Flat Washer, M12 **F**; Lock Washer, M12 **G**; and Hex Nut, M12 x 1.75 **H** in two places. Tighten securely using 19mm socket wrenches.

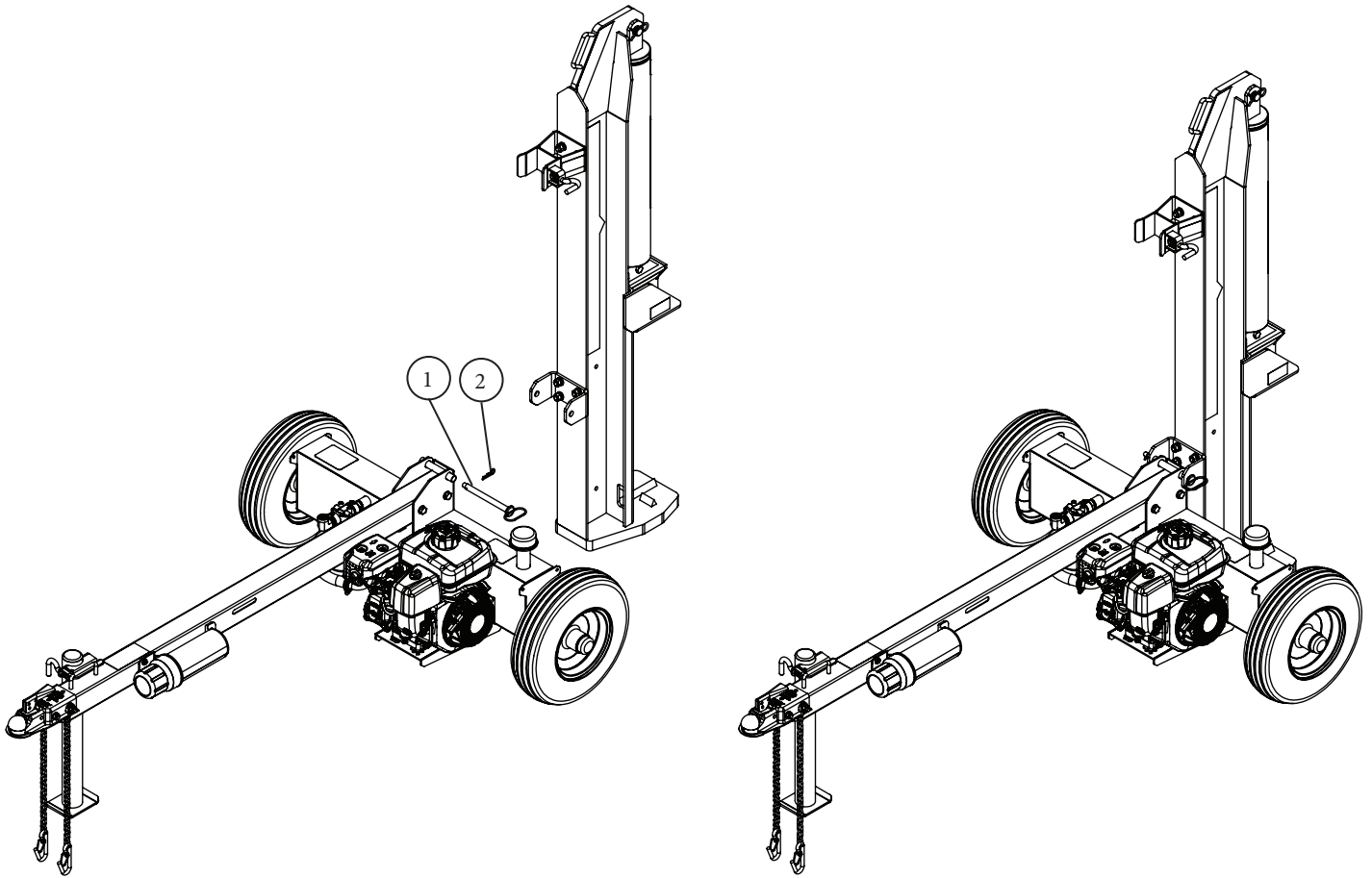
Step 5.2 Attach the Pivot Bracket **D** to the Beam & Cylinder Assembly **B** using the four bottom holes with Hex Bolt, M12 x 1.75 x 35mm **E**; Flat Washer, M12 **F**; Lock Washer, M12 **G**; and Hex Nut, M12 x 1.75 **H** in four places. Tighten securely using 19mm socket wrenches.



Item #	Part #	Description	Qty.
1	33-028	Beam & Cylinder Assembly (25-Ton)	1
	33-029	Beam & Cylinder Assembly (30-Ton)	
	33-030	Beam & Cylinder Assembly (35-Ton)	
2	33-035	Assy, Beam Lock Bracket	1
3	33-036	Beam Pivot Bracket	1
4	91280A718	Hex Bolt, M12 x 1.75 x 35mm, G8.8	7
5	98687A114	Flat Washer, M12	10
6	91202A246	Lock Washer, M12	8
7	90591A181	Hex Nut, M12 x 1.75, G8.8	8

## 6. BEAM AND TANK ASSEMBLY

- Step 6.1 Rotate the Jack Stand attached to the side of the Tongue Assembly downwards into position by releasing the pin and then securing the release pin.
- Step 6.2 Remove the Retaining Clip, 1/8 in. **C** and Hitch Pin, 5/8 in. x 6-1/4 in. **B** from the assembled unit (as shown below).
- Step 6.3 Slowly back the assembled unit up to the Beam & Cylinder Assembly. Align the Tongue Bracket of the assembled unit to the Pivot Bracket of the Beam Assembly.
- Step 6.4 Once the brackets are aligned, install the Hitch Pin **B** through the brackets then install the Retaining Clip **C** into the Hitch Pin.



Item #	Part #	Description	Qty.
1	43-078	Hitch pin, 5/8 in. x 6 1/4 in.	1
2	98350A920	R-Clip, 1/8 in., Fits 1/2 in. to 3/4 in.	1



## 7. HYDRAULIC LINKE CONNECTION



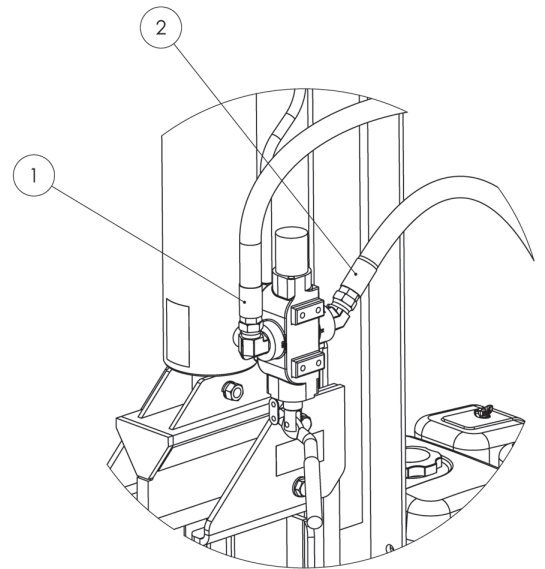
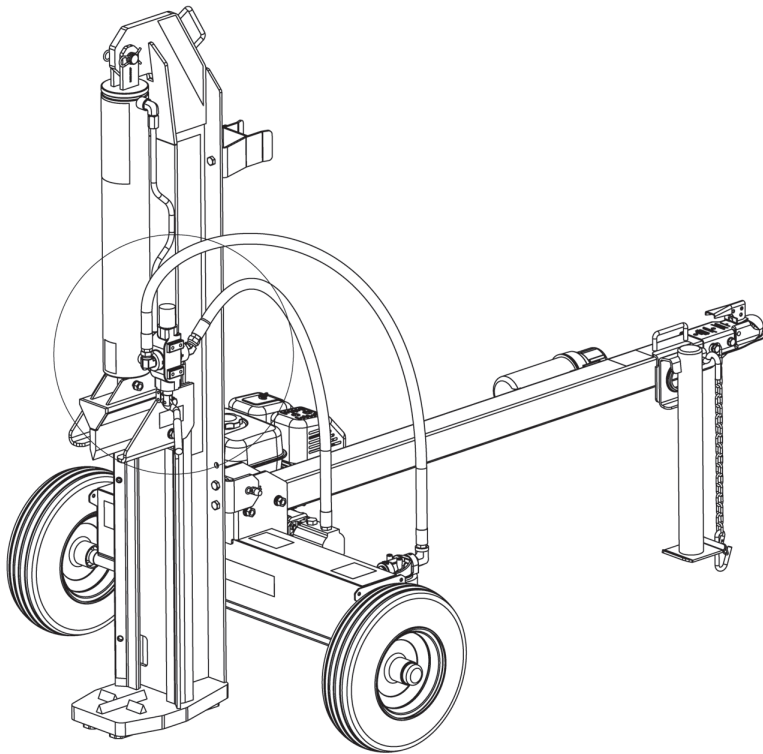
### CAUTION

On pre-filled log splitters, hold hoses above the level of the hydraulic tank before removing end caps.

Step 7.1 Hold Hydraulic Hoses **B** and **C** above the level of the hydraulic tank to prevent fluid leakage and remove the end caps.

Step 7.2 Apply teflon tape or pipe sealant on to the hose fitting threads. Install the ends of the two Hydraulic Hoses **B** and **C** to the Valve (as shown in detail drawing). Securely tighten the fitting connections using 22mm and 24mm wrenches.

Step 7.3 Remove tank cap and install the vent cap.

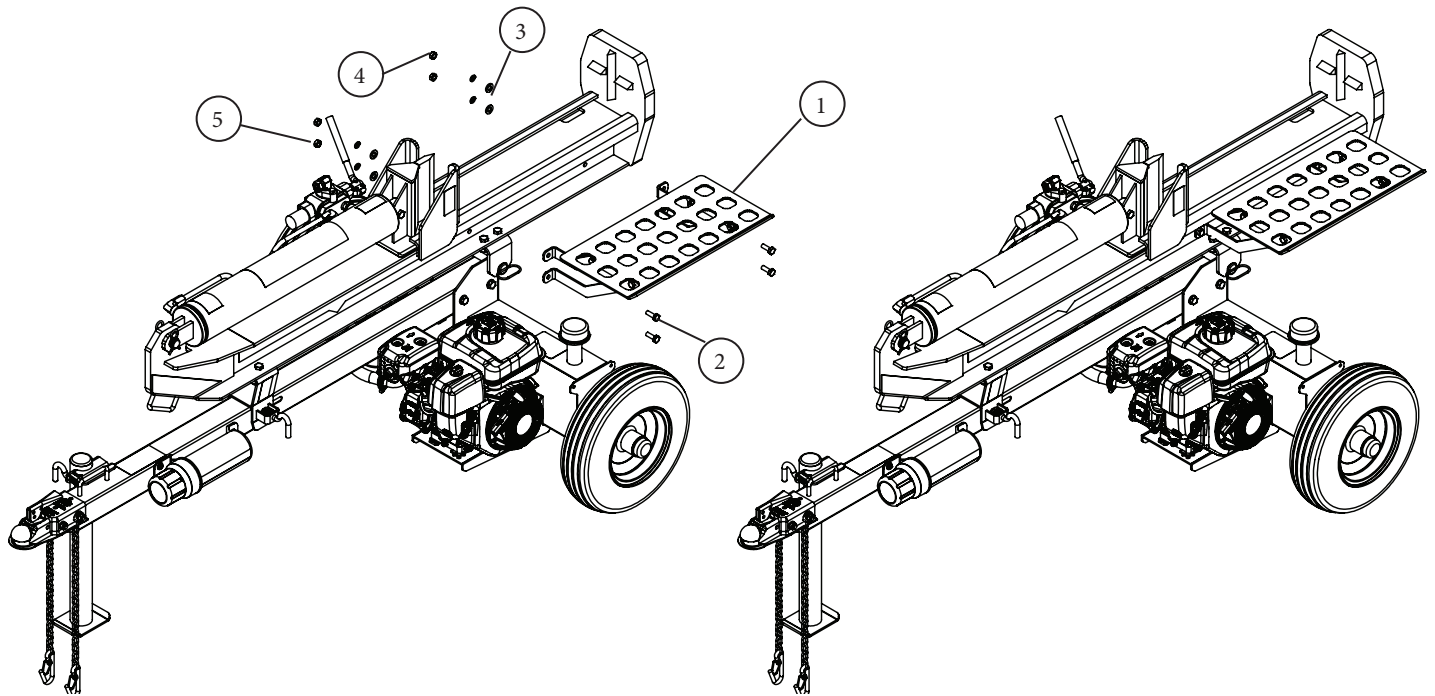


Item #	Part #	Description	Qty.
1	31-056	Hydraulic Hose, 1/2 in. x 60 in.	1
2	31-057	Hydraulic Hose, 1/2 in. x 41 in., High Pressure	1

## 8. LOG CATCHER INSTALLATION

Step 8.1 Rotate Beam & Cylinder Assembly down from upright position and lock in place with the release pin.

Step 8.2 Install the Log Catcher Assembly **B** with Hex Bolts, M10 x 1.5 x 30mm **C**; Flat Washer, M10 **D**; Lock Washer, M10 **E**; Hex Nut, M10 x 1.5 **F**; and Button Screw, M10 x 1.5 x 30mm **G**; in 2 places. Tighten hex nuts securely with a 17mm socket wrench and tighten button screws with 6mm hex key wrench.



Item #	Part #	Description	Qty.
1	33-040	Log Catcher Kit (25-Ton)	1
	33-041	Log Catcher Kit (30/35-Ton)	
2	91280A645	Hex Bolt, M10 x 1.5 x 30mm, G8.8	2
3	91166A280	Flat Washer, M10	6
4	91202A246	Lock Washer, M10	4
5	90591A171	Hex Nut, M10 x 1.5, G8.8	4
6	91306A786	Button Screw, M10 x 1.5 x 30mm, G8.8	2

## 9. FINAL INSTALLATION CHECK

Check tightness of all fittings, nuts and bolts prior to filling the log splitter with fluids.

# OPERATING INSTRUCTIONS



**DANGER**

**WARNING:** Read and understand the complete Operation Manual before assembling or using this product! Failure to comprehend and comply with warnings, cautions and instructions for assembly and operation could result in serious injury or death.

Do not permit children to operate this equipment at any time. Do not permit others that have not read and understood the complete Operation Manual to operate this equipment. Operation of power equipment can be dangerous. It is the sole responsibility of the operator to understand the assembly and safe operation of this product.

Call our customer service department at 720-213-4816 if you have any questions or concerns about the safe operation of this equipment.



**CAUTION**

**CAUTION:** Oil must be added to the hydraulic reservoir and the engine before starting or operation.

## HYDRAULIC OIL RECOMMENDATIONS

**STEP 1:** Please add approximately 4 gallons of hydraulic fluid. The remaining hydraulic fluid will be added after the cylinder is cycled. AW32 or AW46 hydraulic oil is recommended. Automatic transmission fluid can be substituted instead of hydraulic oil when temperatures are below 32°F. Use only clean oil and take care to prevent dirt from entering the hydraulic reservoir.

## ENGINE OIL RECOMMENDATIONS

Use 4-stroke automotive detergent oil. SAE 10W-30 is recommended for general use. Refer to the SAE Viscosity Grades chart in your engine owner's manual for average temperature ranges. The engine manufacturer recommends using API SERVICE Category SE or SF oil. The engine oil capacity is 20 oz. for Kohler SH265 (25-Ton) and 40 oz. for Kohler C395 (30/35-Ton). Always check oil level before starting the engine and keep level full.

# OPERATING INSTRUCTIONS

Step 2: After the hydraulic reservoir and the engine crankcase are filled with oil, start the engine. The hydraulic pump is self-priming. With the engine running, move the hydraulic valve lever toward the foot plate. This will cause the cylinder to extend and expel air. When the cylinder is fully extended, retract it. Repeat this procedure several times. An erratic movement of the cylinder indicates that there is still air in the system. Add about 1.0 to 1.5 gallons of hydraulic fluid. Five gallons will register just above the top fill line on the dip stick. The total capacity of the entire hydraulic system is 6.5 gallons for the 25-Ton log splitter with 5 gallons of hydraulic fluid the minimum required to operate, and 8 gallons total for the 30-Ton and 35-Ton log splitters with 6.5 gallons of hydraulic fluid minimum to operate.

NOTE: If the tank is overfilled it will expel oil from the breather cap when the cylinder is retracted. Cycle the cylinder again until it has a constant speed which indicates that all air has been expelled.

## STARTING INSTRUCTIONS

NOTE: Refer to the Engine Owner's Manual for complete information on starting, maintenance and troubleshooting.

1. Move the fuel valve lever to the ON position.
2. To start a cold engine, move the choke lever to the CLOSE position. To restart a warm engine, leave the choke lever in the OPEN position.
3. Move the throttle lever away from the SLOW position, about 1/3 of the way toward the FAST position.
4. Turn the engine switch to the ON position.
5. Pull the starter grip until you feel resistance, then pull briskly. Return the starter grip gently.
6. If the choke lever has been moved to the CLOSE position to start the engine, gradually move it to the OPEN position as the engine warms up.
7. To stop the engine in an emergency, simply turn the engine switch to the OFF position. Under normal conditions, move the throttle lever to the SLOW position and then turn the engine switch to the OFF position. Then turn the fuel valve lever to the OFF position.

For further information on starting and stopping the engine, refer to your engine owner's manual.

# OPERATING INSTRUCTIONS



## CAUTION

CAUTION: Turn Fuel Shut Off Valve to the “Off” position before towing to avoid flooding the engine.

NOTE: The engine’s maximum speed is factory preset at 3600 RPM as the no load speed. The throttle should be set at the maximum speed for wood splitting to reach the horsepower required for the pump.



## WARNING

WARNING: Review safety information related to operation of the log splitter on pages 3-6 of this manual. Make sure that you have the recommended personal protective equipment described on page 3.

1. Set up the log splitter in a clear, level area and block the wheels. Make sure that the suction port on the tank is always on the lower side of the log splitter.
2. For horizontal operation place a log on the beam against the foot plate. Make sure the log is securely on the foot plate and against the beam. To split wood in the vertical position, release the pin on the beam latch located on the front end of the beam. Carefully tilt the beam up until the foot plate is sitting squarely on the ground and the log splitter is stable. Place the log on the foot plate against the beam. When the beam is returned to the horizontal position make sure the beam latch is securely locked down.
3. With the engine running, depress the valve handle so that the cylinder will drive the wedge into the log. Extend the cylinder until the log splits or to the end of its stroke. If the log has not completely split after the cylinder has reached the end of its extension, retract the cylinder.

IMPORTANT: Leaving the valve in the “actuate” position at the end of the stroke may damage the pump. Always use extra care when splitting logs with unsquare ends.

Store manuals in the Manual Cannister attached to the tongue of the log splitter or file in a safe place for future reference.

# OPERATING INSTRUCTIONS

NOTE: For operation in wooded areas, obtain a spark arrestor for the exhaust system. See the engine operating and maintenance manual and check with your authorized service center. See also Fire Prevention on page 5 of this manual.

IMPORTANT: To extend the life of the hydraulic cylinder avoid bottoming out the wedge plate to the foot piece. To conform with industry safety recommendations the wedge stops 1/2 inches from the end of the stroke.

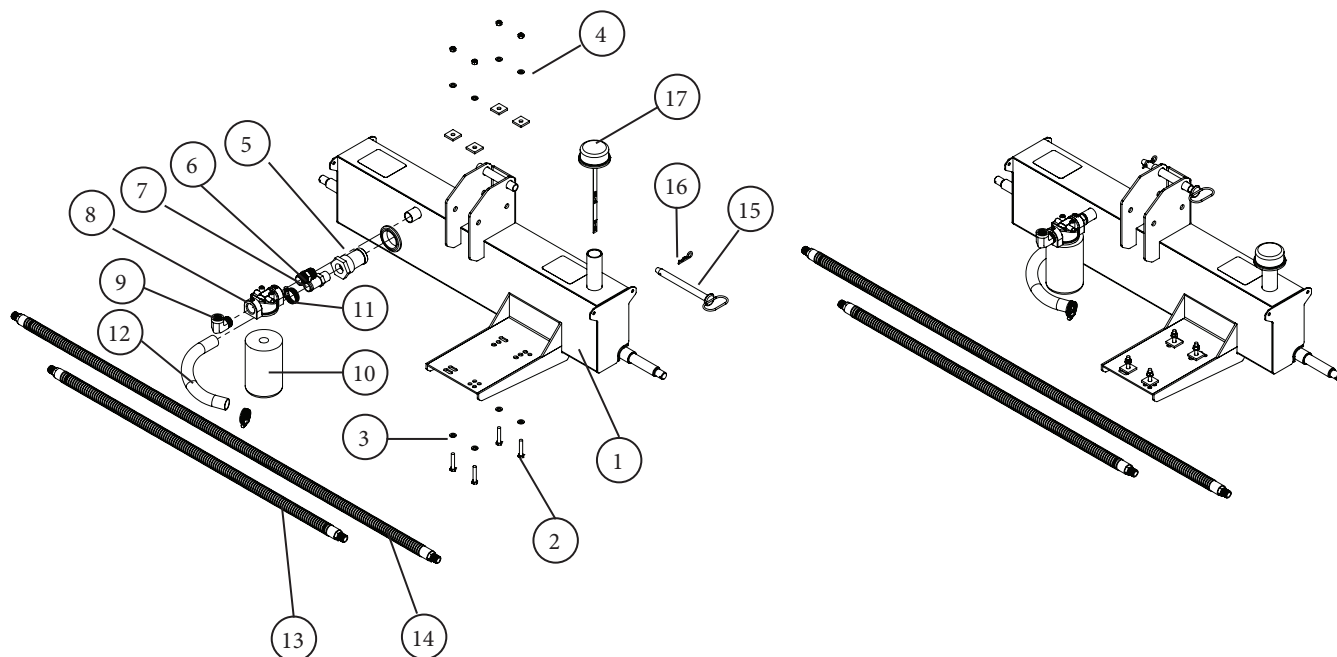
## TOWING

This log splitter is equipped with pneumatic tires, a Class I coupler (2 in. diameter ball required) and safety chains. Before towing, the safety chains must be secured to the hitch or bumper of the vehicle. Local regulations should be checked regarding licensing, lights, towing, etc. Turn fuel shut off valve on the engine to the "Off" position prior to towing. Failure to do so may result in flooding the engine. Do not exceed 45 mph when towing this log splitter. See also Towing Safety on page 9 of this manual.

## MAINTENANCE

1. Consult the operating and maintenance instructions of the engine manufacturer for engine care and maintenance.
2. Always check the oil level of the hydraulic reservoir before operation. Operating the log splitter without an adequate oil supply will cause severe damage to the pump.
3. Change the oil filter after the first 25 hours of operation. There after change the oil filter every 100 hours or seasonally, whichever comes first.
4. To drain the hydraulic oil, loosen the clamp on the hose coming from the fitting on the bottom of the tank. It is located just to the right of the oil filter.
5. If the wedge becomes dull or nicked, it can be removed and sharpened. Remove the bolt that connects the wedge to the cylinder. The hose from the valve may need to be removed. Carefully lift the cylinder to allow the wedge to slide forward. The wedge can now be lifted off and sharpened.
6. Clean the breather cap after 25 hours of operation. Clean it more often when operated in dusty conditions. To clean, remove the breather cap from the tank and flush with kerosene or liquid detergent to remove the dirt.
7. See Repair and Maintenance on page 7 of this manual.
8. All replacement parts must meet manufacturer's specifications.

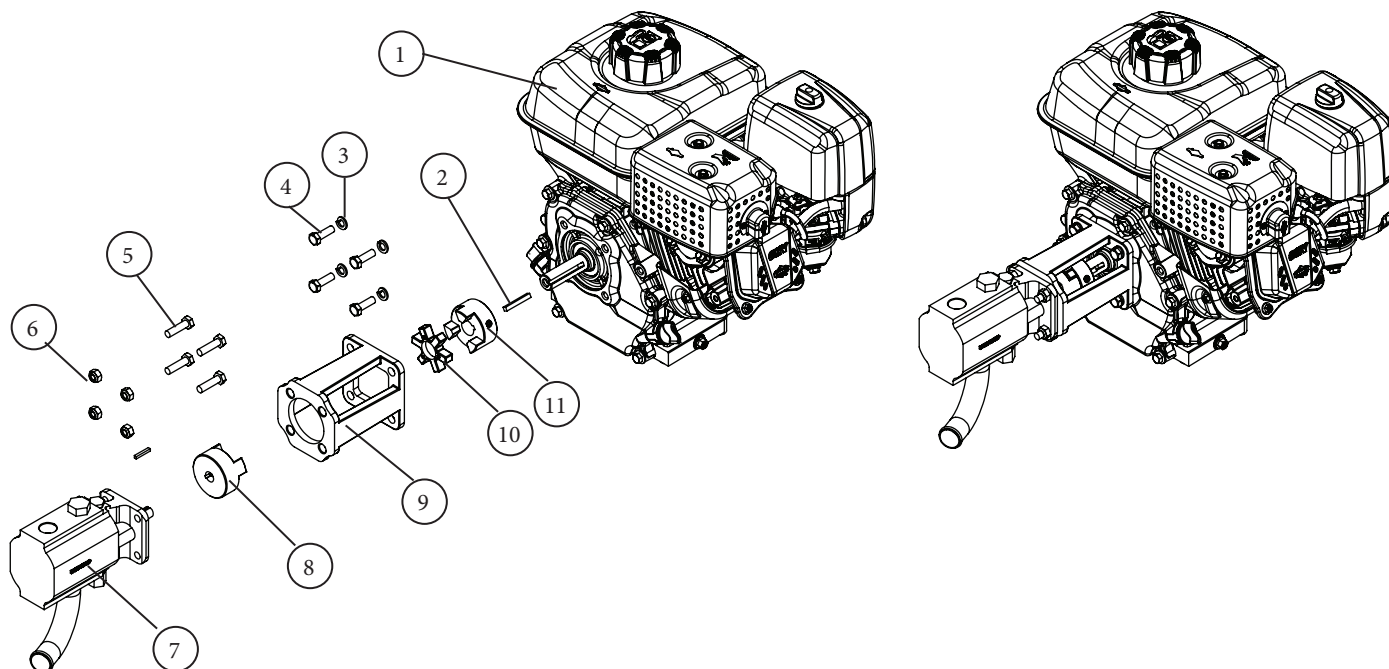
# TANK ASSEMBLY



Item #	Part #	Description	Qty.
1	33-005 33-006 33-007	Tank with Decals (25-Ton) Tank with Decals (30-Ton) Tank with Decals (35-Ton)	1
2	91280A544	Hex Bolt, M8 x 1.25 x 45mm, G8.8	4
3	98687A112	Washer, M8	8
4	90576A117	Nylock Nut, M8 x 1.25, G8.8	4
5	31-304	Suction Filter	1
6	31-043	Fitting, 3/4 NPT to 1 in. Tube	1
7	31-009	Fitting, M 3/4 NPT, M 3/4 NPT	1
8	31-305	Filter Base, 3/4 NPT, 1-12 UNF	1
9	31-044	Elbow M 3/4 NPT, F 1/2 NPT	1
10	31-303	Hydraulic Oil Filter	1
11	31-076	Hose Clamp, 15/16 in. to 1-1/4 in.	2
12	31-058	Suction Line Tube, Wire Reinforced	1
13	31-057	Hydraulic Hose, 1/2 in. x 41 in., High Pressure	1
14	31-056	Hydraulic Hose, 1/2 in. x 60 in.	1
15	43-078	Hitch Pin, 5/8 in. x 6 1/4 in.	1
16	98350A920	R-Clip, 1/8 in., 1/2 in. to 3/4 in.	1
17	28-030	Vent Cap Assembly	1

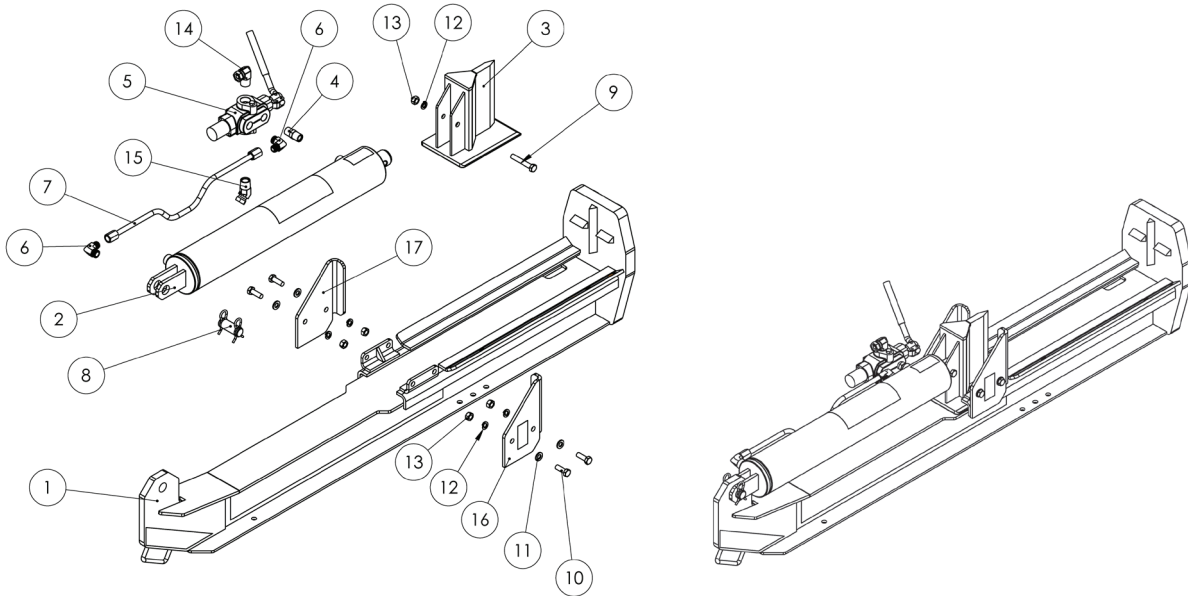


# PUMP & ENGINE PARTS



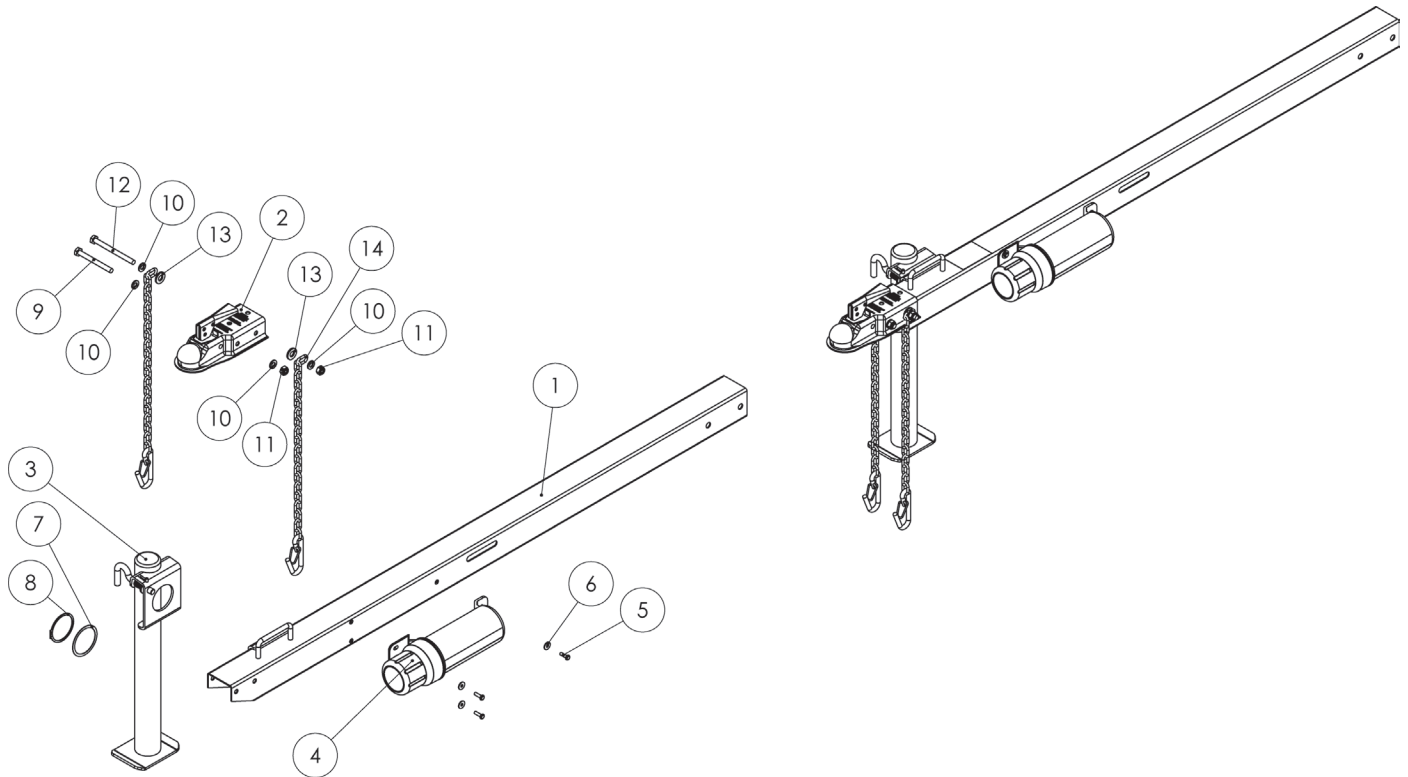
Item #	Part #	Description	Qty.
1	32-011 32-012	Engine, Kohler SH265 (25-Ton) Engine, Kohler CH395 (30/35-Ton)	1
2	98870A160 98870A245	Bar, Key Stock, SQ 3/16 in. x 1-1/2 in. (25/30-Ton) Bar, Key Stock, SQ 1/4 in. x 2 in. (35-Ton)	1
3	91202A238	Lock Washer, M8	4
4	92865A583	Hex Bolt, 5/16"-24 X 1", G5	4
5	91310A538	Hex Bolt, M8 x 1.25 x 30mm, G8.8	4
6	90576A117	Hex Nut, locking nut, M8 x 1.25, G8.8	4
7	31-261 31-260 31-263	Pump 2 Stage, 15 GPM (25-Ton) Pump 2 Stage, 17.5 GPM (30-Ton) Pump 2 Stage, 19.5 GPM (35-Ton)	1
8	31-355	Jaw Coupler Assembly, 1/2 in. Bore, L090	1
9	31-270 31-272	Pump Mount, 92mm BC (25/30-Ton) Pump Mount, LG 127mm BC (35-Ton)	1
10	31-353	Jaw Spider Coupler, L090	1
11	31-358 31-360	Jaw Coupler Assembly, 3/4 in. Bore (25/30-Ton) Jaw Coupler Assembly, 1 in. Bore (35-Ton)	1

# BEAM PARTS



Item #	Part #	Description	Qty.
1	33-025	Beam (25-Ton)	1
	33-026	Beam (30-Ton)	
	33-027	Beam (35-Ton)	
2	31-170	Cylinder Assembly, 4 in., F 1/2 NPT (25-Ton)	1
	31-171	Cylinder Assembly, 4-1/2 in., F 1/2 NPT (30-Ton)	
	31-172	Cylinder Assembly, 5 in., F 1/2 NPT (35-Ton)	
3	33-009	Wedge, 8 in. (25-Ton)	1
	33-010	Wedge, 8.5 in. (30-Ton)	
	33-011	Wedge, 9 in. (35-Ton)	
4	31-000	Nipple, 1/2 NPT, 1/2 NPT	1
5	31-289	Valve, Adjustable Detent, 4000 PSI	1
	31-290	Valve, Adjustable Detent, 3800 PSI	
	31-291	Valve, Adjustable Detent, 3600 PSI	
6	31-001	Elbow, 1/2 NPT, 1/2 Flare Tube	2
7	31-055	Tube, 1/2 OD, Flared, 3/4-16 in. Nuts	1
8	31-060	Clevis Pin Assembly, 1 in. OD, w/clips	1
9	95327A698	Hex Bolt, M12 x 1.75 x 75mm, G8.8	1
10	91280A718	Hex Bolt, M12 x 1.75 x 35mm, G8.8	4
11	98687A114	Flat Washer, M12	4
12	91202A246	Lock Washer, M12	1
13	90591A181	Hex Nut, M12X1.75, G8.8	1
14	31-044	Elbow M 3/4 NPT TO F1/2 NPT	1
15	31-049	Fitting, 45, M 3/4NPT TO F1/2NPT	1
16	33-075	Stripper Plates, RT	1
17	33-076	Stripper Plates, LT	1

# TONGUE PARTS



Item #	Part #	Description	Qty.
1	33-055	Tongue	1
2	21-032	Ball Coupler Assembly, 2 in.	1
3	33-056 33-057	Tongue Stand (25/30-Ton) Tongue Stand with Jack (35-Ton)	1
4	29-004	Manual Canister	1
5	91280A330	Hex Bolt, M6 x 1.0 x 20mm, G8.8	3
6	91100A150	Fender Washer, M6	3
7	50-001	Shim, OD 75mm, ID 64mm x 1mm	1
8	98541A490	Retaining Ring, External, 63mm Shaft	1
9	91280A658	Hex Bolt, M10 x 1.5 x 100mm, G8.8	1
10	98687A113	Flat Washer, M10	4
11	90576A118	Hex Nut, locking nut, M10 x 1.5, G8.8	2
12	91280A661	Hex Bolt, M10 x 1.5 x 120mm, G8.8	1
13	98023A033	Flat Washer, 1/2 in.	2
14	33-058	Safety Chain	2

# REGISTRATION

WARRANTY VOID IF REGISTRATION IS NOT MAILED WITHIN 15 DAYS OF RECEIVING ITEM.

Fill out this page and mail to:  
15000 West 44th Ave, Suite B  
Golden, CO 80403

Serial #: \_\_\_\_\_

Purchase Date: \_\_\_\_\_

Purchased From: \_\_\_\_\_

Purchaser: \_\_\_\_\_

Purchaser's Address: \_\_\_\_\_

City: \_\_\_\_\_ State: \_\_\_\_\_ Zip Code: \_\_\_\_\_

Phone: \_\_\_\_\_ Email: \_\_\_\_\_

Attach a copy of receipt or proof of purchase.

Acceptance of responsibility:

I (purchaser) have read the Operation Manual and Limited Warranty or someone has read and explained all instructions to me. I understand this warranty does not cover any labor and that all disputes will be settled by binding arbitration. Warranty void if any attempt to repair or replace defective parts has been made by an unauthorized personnel. The mark next to each item below confirms my acceptance of responsibility for the use and maintenance of this log splitter. I understand that I alone am responsible for the proper maintenance, care and safe operation of this log splitter.

\_\_\_\_\_ Received and read the Operation Manual

\_\_\_\_\_ Understand the safety warnings

\_\_\_\_\_ Specifications accepted

\_\_\_\_\_ Controls understood

\_\_\_\_\_ Maintenance requirements understood

I (purchaser) understand that persons who have not read and understand the operations manual should not be allowed to use the machinery. Children especially should not operate or be near the equipment. Anyone operating the log splitter must have read the safety and operations manual.

Is this log splitter used in a business:

No: \_\_\_\_\_ Yes, business type: \_\_\_\_\_

Owner / Purchaser Signature: \_\_\_\_\_

This warranty is not effective unless the purchaser mails this registration and warranty form within 15 days of receipt. The warranty may be refused if the registration is not legible, completed and signed. It is the responsibility of the purchaser to assure that the registration form is received.





# WARRANTY

## IMPORTANT NOTICE

We, the manufacturer, reserve the right to change the product and/or specifications in this manual without notification. The manual is for information usage only and the pictures and drawings depicted herein are for reference only.

## Warranty Repair and Service

Do not return this product to the store for warranty issues or repair. Call our customer service department at 720-213-4816.

Record the information below for future reference.

Model No. \_\_\_\_\_

Serial No. \_\_\_\_\_

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

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

# SPECIFICATIONS

SKU/Part No.	31-403 (25-Ton)	31-404 (30-Ton)	31-405 (35-Ton)
Maximum Splitting Force	25-Tons <sup>1</sup>	30Tons <sup>1</sup>	35 Tons <sup>1</sup>
Engine <sup>2</sup>	6.5 HP 196cc <sup>3</sup> Kohler SH265	9.5 HP 277cc <sup>3</sup> Kohler CH395	9.5 HP 277cc <sup>3</sup> Kohler CH395
Maximum Log Length	25"	25"	25"
Cycle Time, Down & Back	9.4 Seconds <sup>1</sup>	10.5 Seconds <sup>1</sup>	11.5 Seconds <sup>1</sup>
Cylinder	4" Dia. x 24" Stroke	4-1/2" Dia. x 24" Stroke	5" Dia. x 24" Stroke
Pump, Two Stage	15 GPM	17.5 GPM	19.5 GPM
Wedge, Heat-Treated Steel	8" High	8.5" High	9" High
Beam	8" Foot Plate	8.5" Foot Plate	9" Foot Plate
Hydraulic Capacity	6.5 Gallons Max. <sup>4</sup>	8.5 Gallons Max. <sup>4</sup>	8.5 Gallons Max. <sup>5</sup>
Shipping Weight	565 Lbs.	575 Lbs.	675 Lbs.

## Common Specifications

Valve	Auto Return with Adjustable Detent
Wheels	D.O.T. Approved 16" O.D. Road Tires
Coupler	2" Ball with Safety Chains
Replacement Filters	Part # 31-303 Return Filter
	Part # 31-304 Suction Screen

<sup>1</sup>Tonnage and cycle times may vary dependent upon mechanical and environmental conditions.

<sup>2</sup>EPA/CARB Approved/50 State Legal

<sup>3</sup>As rated by engine manufacturer

<sup>4</sup>Minimum Operational Capacity is 5 Gallons of Hydraulic Fluid

<sup>5</sup>Minimum Operational Capacity is 6 Gallons of Hydraulic Fluid

For Service or Questions:

Call 720-213-4816

