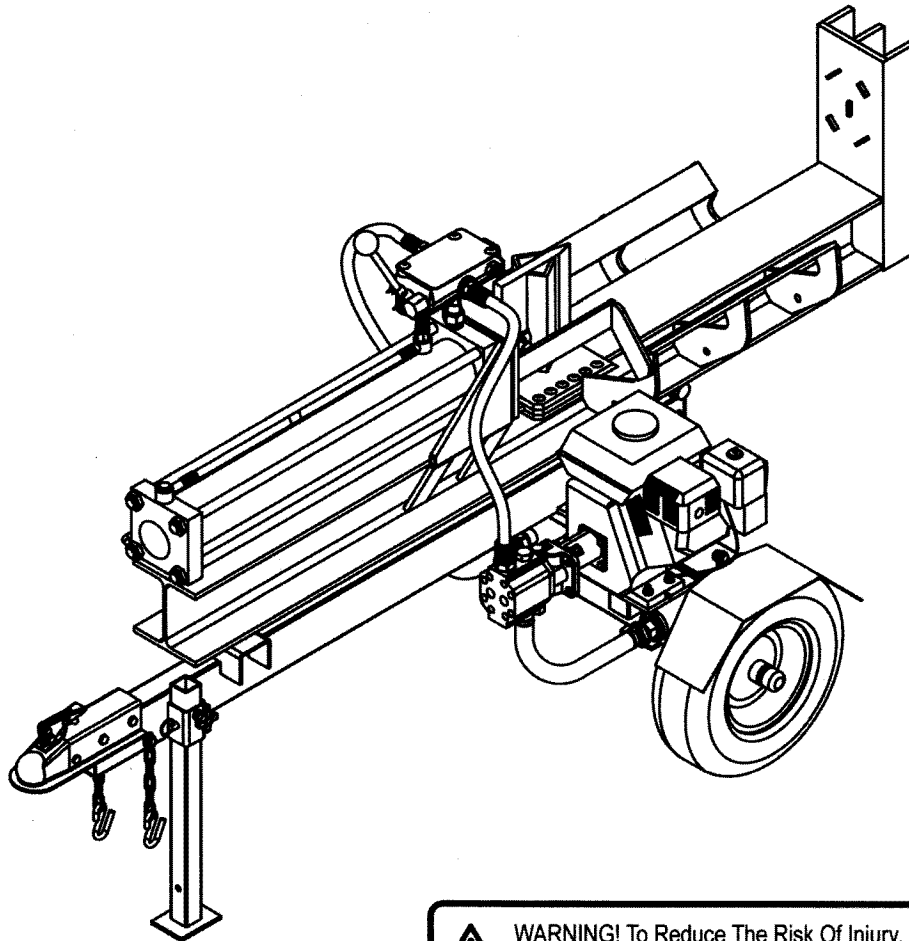


Owner's Manual

22 Ton Log Splitter

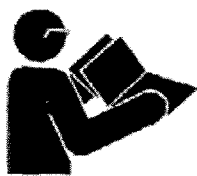


WARNING! To Reduce The Risk Of Injury, User
Must Read And Understand Instruction Manual.

SP-LS22

FOR SERVICE CALL: 888-896-6881
PARA SERVICIO LLAME: 888-896-6881

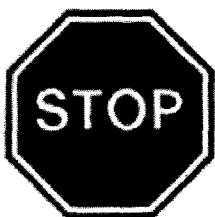
www.steele-products.com



WARNING

Read this manual.

Serious injury or death can result if safety instructions are not followed.



Engine is shipped without oil.

-Before starting engine, fill with SAE 10W-30 motor oil.

-See engine manual for engine oil capacity.

Hydraulic reservoir is shipped with oil.

-When adding oil, check oil level and make sure there is enough oil before you start the unit.

Closely inspect all log splitter components.

-If you have damaged components then: Contact the freight company that delivered the unit and file a claim.

Hazard Icons and Definitions



This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.



DANGER

DANGER (red) indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



WARNING

WARNING (orange) indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION

CAUTION (yellow) indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

CAUTION

CAUTION (yellow) used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

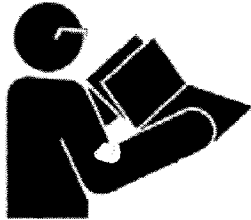
TABLE OF CONTENTS

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▲ IMPORTANT SAFETY RULES



WARNING



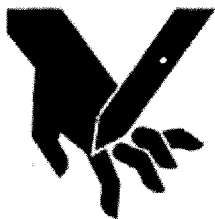
1.) Read this manual completely.

Serious injury or death can result if safety instructions are not followed.

Everyone who operates the log splitter must read and completely understand all safety rules, operating instructions, and maintenance instructions.

You must be 16 or older to operate this machine. Keep untrained people away.

-Shut engine off before leaving log splitter unattended.



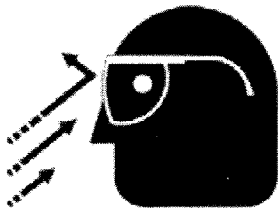
2.) Crush hazard.

Wedge can cut through skin and break bones. Keep both hands away from wedge and endplate.

-Serious accidents can happen when other people are allowed inside the work zone. Keep everyone else out of the work zone while operating control valve.

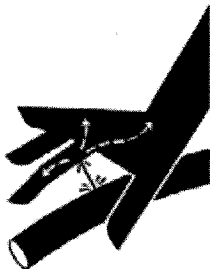
-Do not wear loose clothing. It can get tangled in moving parts of log splitter.

-Only use the log splitter in daylight to prevent sight obstruction.



3.) Flying objects.

Pieces of log may fly out while splitting. Wear safety glasses. Serious eye injury can occur.



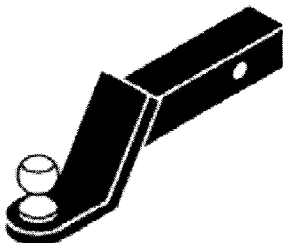
4.) Skin injection hazard.

High pressure fluid can inject under skin resulting in serious injury including amputation.

-Make sure all fittings are tight before applying pressure. Relieve system pressure before servicing.

-Do not check for leaks with hand. Instead, use a piece of cardboard to check for leaks.

-If skin injection happens, seek immediate "Surgical Treatment".



5.) Towing hazard.

Serious injury or death can occur if towing safety rules are not followed.

-Review towing safety warnings in your towing vehicle manual.

-Drive safely. Be aware of the added length of the log splitter.

-Never ride or transport cargo on the log splitter.

-Drive the vehicle with the log splitter securely attached.

-Turn off the vehicle before leaving the log splitter unattended.

-Choose a level surface to operate the log splitter.

-Block the log splitter wheels to prevent unintended movement.

-Never tow or operate this splitter while under the influence of alcohol, drugs, or medication.

Save These Instructions

IMPORTANT SAFETY RULES



WARNING



6.) Risk of fire and explosion.

Hot exhaust fumes from engine can cause fire. Gasoline is highly flammable and explosive. You can be burned or seriously injured when handling fuel.

- Position muffler at least 7 feet from combustible objects.
- Before adding fuel, stop the engine and keep heat, sparks, and flame away. Do not add fuel when engine is running or still hot. No smoking near engine.
- Do not pump fuel directly into engine at gas station. Static charge can build and ignite fuel. Use a safety approved fuel container to transfer gas to the engine. Wipe up fuel spills immediately.
- Only store and handle fuel outdoors. Gasoline vapors can ignite if they collect inside an enclosure. Explosion can result.
- Do not change or add to exhaust system. Fire can result.
- Do not change or add fuel tanks or fuel lines. Fire can result.
- Before each use, check fuel tank and fuel lines for leaks. Any fuel leak is a fire hazard. Fix any fuel leaks before starting engine.
- During transportation take precautions to make sure machine will not tip over and cause a fuel leak fire hazard.



7.) Breathing hazard.

Poisonous fumes from engine can kill you. Do not operate indoors even if ventilated. For outdoor use only.



CAUTION

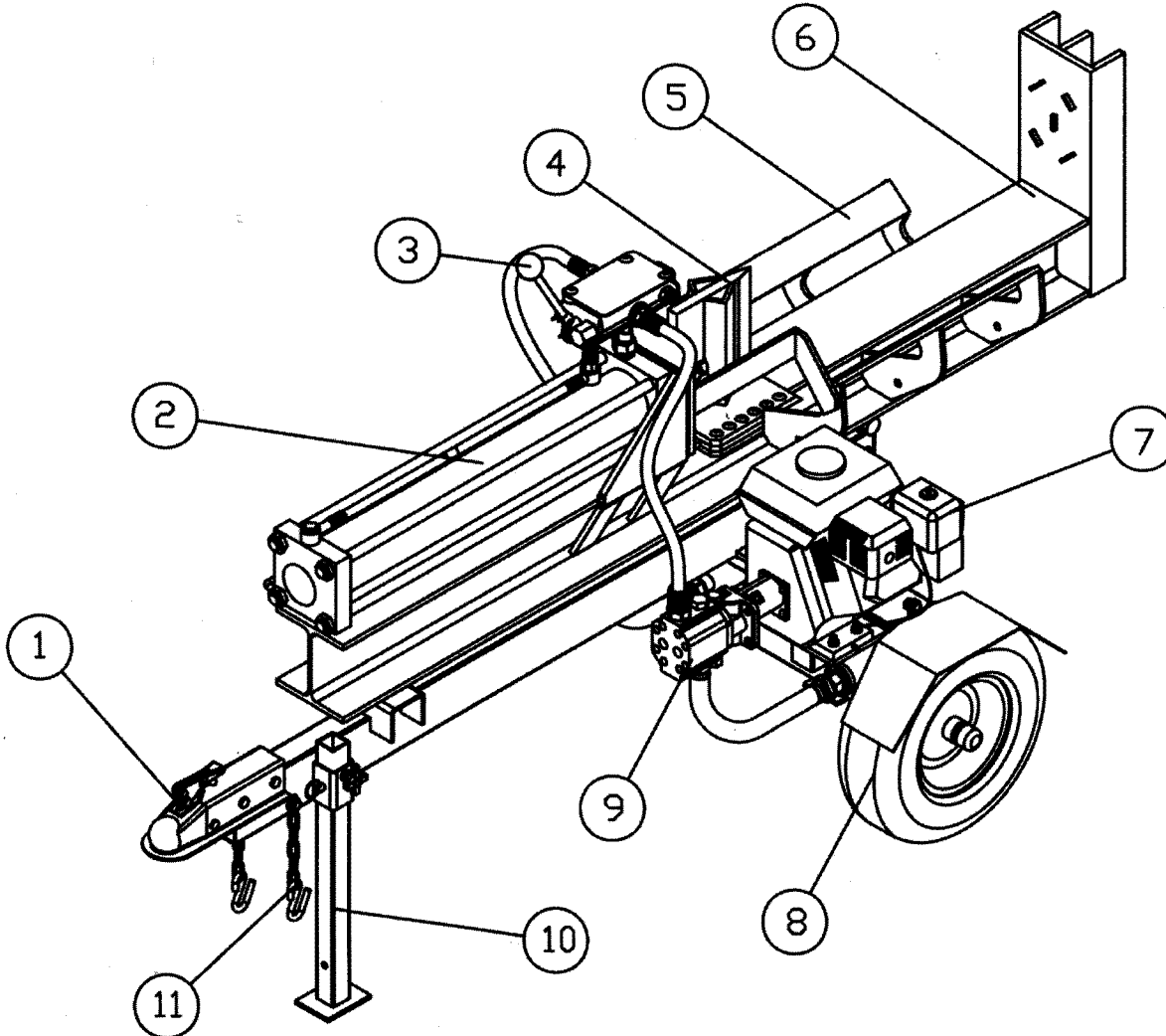


1.) Hot muffler.

You can be burned by muffler.
Do not touch.

Save These Instructions

MACHINE COMPONENT DEFINITIONS

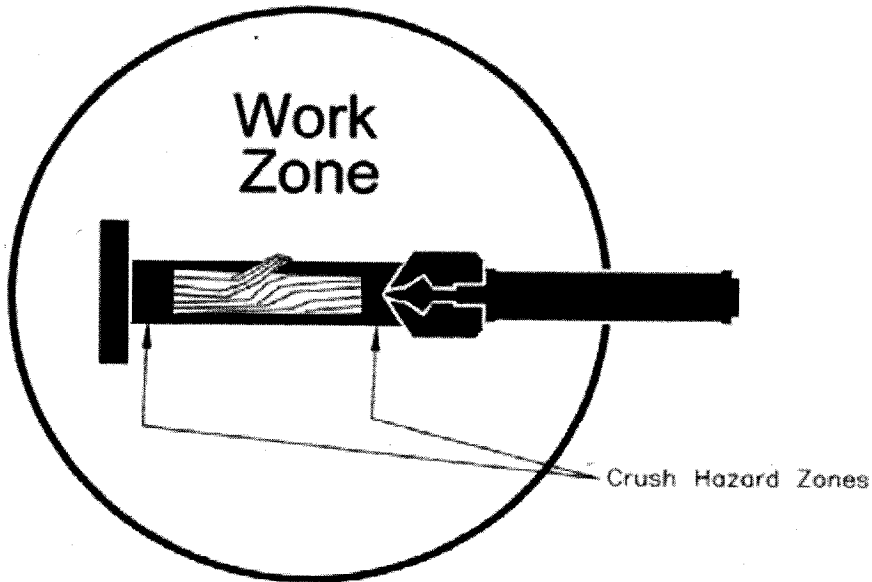


- 1.) **2" Coupler.** Attaches the log splitter to your vehicle. Fits only 2" hitch balls.
- 2.) **Hydraulic Cylinder.** The hydraulic cylinder has a 4½" bore and a 23" stroke. It is rated to 3500 psi.
- 3.) **Control Valve Handle.** Use the control valve handle to move the wedge slide forward and backward.
- 4.) **Wedge.** The wedge features wedge wings and a taper that makes splitting easier.
- 5.) **Log Cradle.** Keeps the log on the beam without operator assistance.
- 6.) **Beam.** The beam is made of 6" wide flange beam (also called I-Beam).
- 7.) **Engine.** The air cooled engine powers the hydraulic pump.
- 8.) **Tires.** Maximum rated speed is 30 mile per hour.
- 9.) **Gear Pump.** The gear pump makes the hydraulic oil flow through the system.
- 10.) **Leg.** The leg supports the log splitter while operating. The leg should be raised while towing (see Operation Instructions).
- 11.) **Safety Chains.** A safety feature to prevent loss of log splitter while towing.

▲ OPERATION INSTRUCTIONS

Proper Operation of the Log Splitter

- 1.) Load a log onto the beam and against the endplate.
- 2.) Serious accidents can happen when other people are allowed inside the work zone. Keep everyone else out of the work zone while operating control valve.
- 3.) Make sure hands are clear of crush hazard zones.
- 4.) Push control valve handle FORWARD to split log.
- 5.) Push control valve handle BACKWARD to return wedge to its original position.
- 6.) Clear the split wood from the work zone.

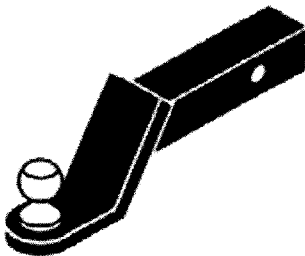


▲ WARNING

Crush hazard.

Wedge can cut through skin and break bones. Keep both hands away from wedge and beam slide.

- Serious accidents can happen when other people are allowed inside the work zone. Keep everyone else out of the work zone while operating control valve.
- Do not wear loose clothing. It can get tangled in moving parts of log splitter.
- Only use the log splitter in daylight so you can see what you are doing.



▲ WARNING

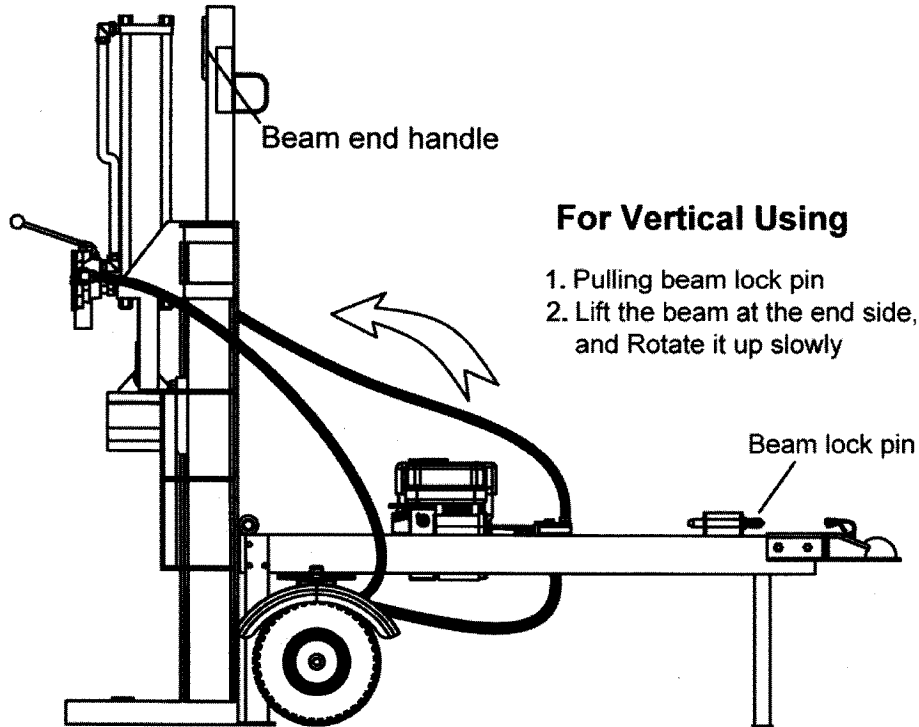
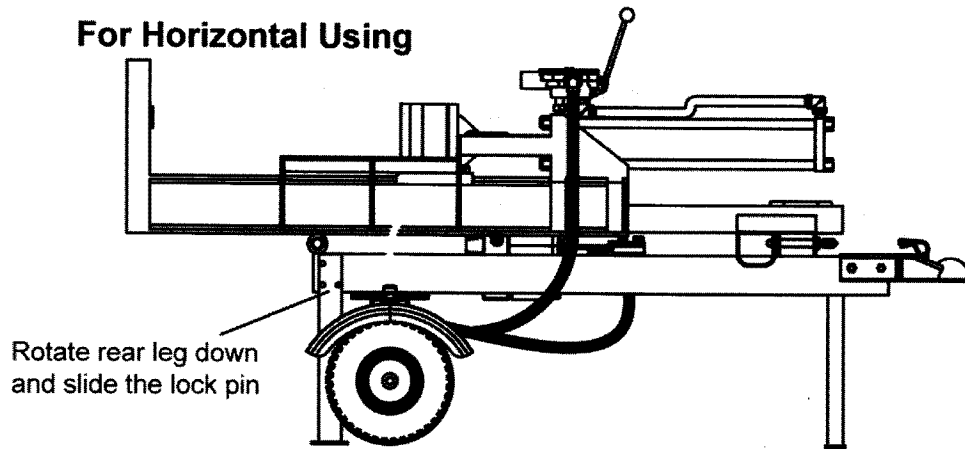
Towing hazards.

Serious injury or death can occur if towing safety rules are not followed.

- Review towing safety warnings in your towing vehicle manual.
- Drive safely. Be aware of the added length of the log splitter.
- Never ride or transport cargo on the log splitter.
- Drive the vehicle with the log splitter securely attached.
- Turn off the vehicle before leaving the log splitter unattended.
- Choose a level surface to operate the log splitter.
- Block the log splitter wheels to prevent unintended movement.
- Never tow or operate this log splitter while under the influence of alcohol, drugs, or medication.

▲ OPERATION INSTRUCTIONS

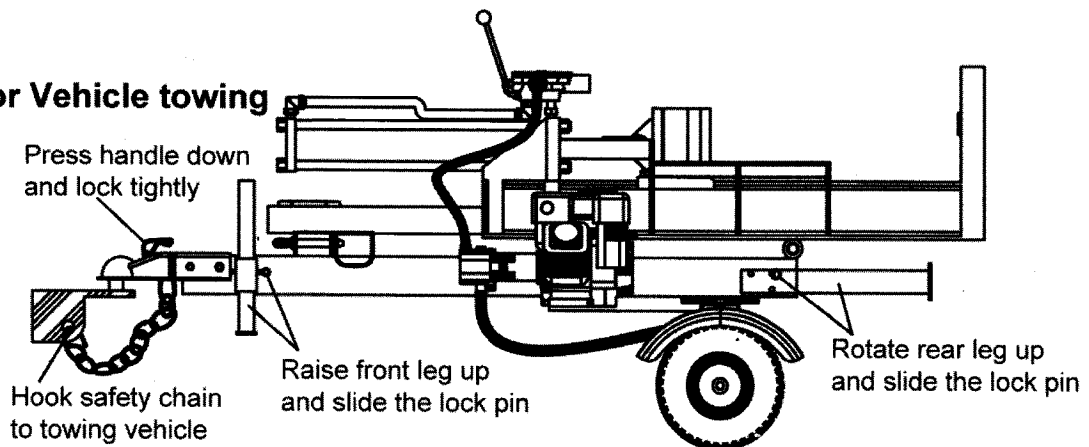
For Horizontal Using



For Vertical Using

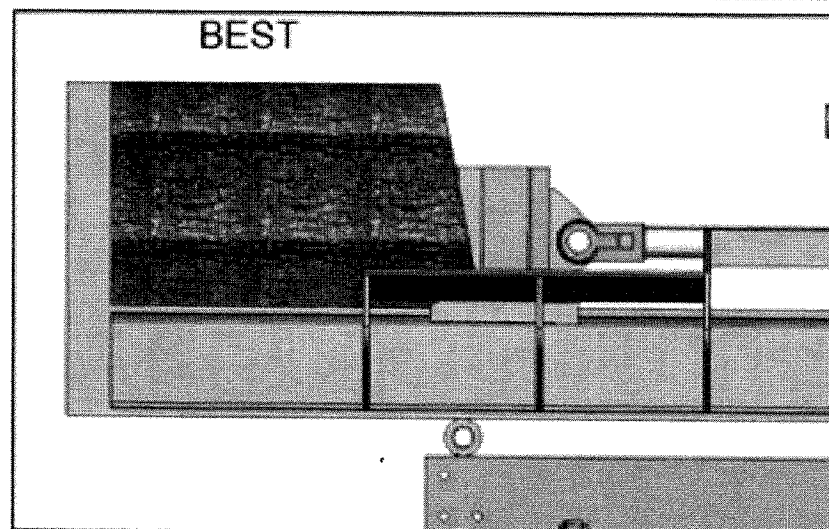
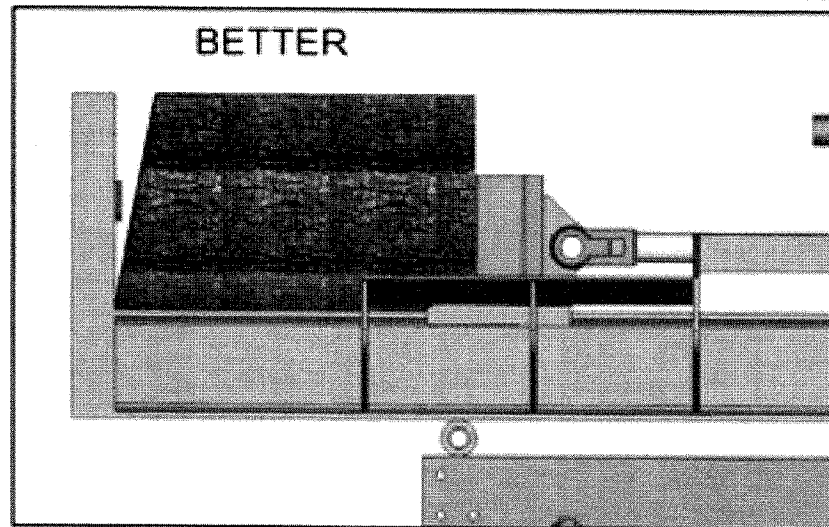
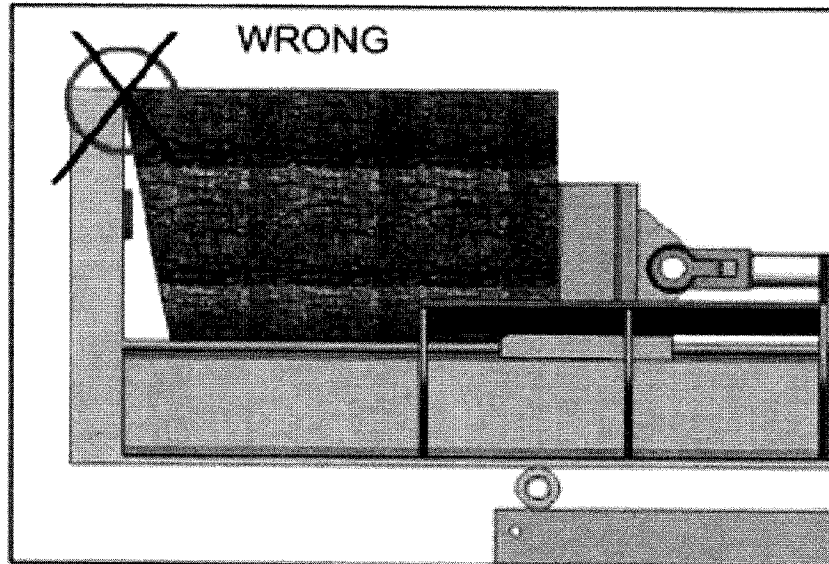
1. Pulling beam lock pin
2. Lift the beam at the end side, and Rotate it up slowly

For Vehicle towing



▲ OPERATION INSTRUCTIONS

HOW TO SPLIT A LOG WITH AN ANGLED EDGE



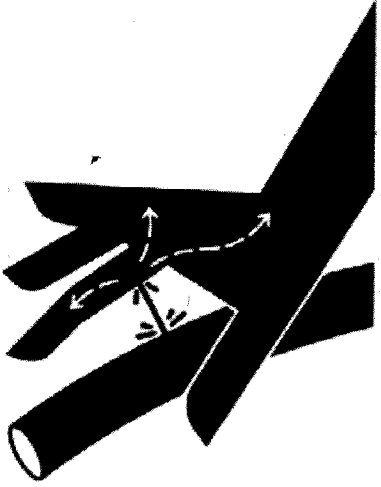
▲ MAINTENANCE AND STORAGE

- ▲ Before performing maintenance, the log splitter must be placed in maintenance mode.
- 1.) Turn off engine.
 - 2.) Move the control valve handle forward and backward to relieve hydraulic pressure.

▲ After performing maintenance, make sure all guards, shields, and safety features are put back in place. Failure to follow this warning can result in serious injury.

Refer to the engine owner's manual for engine maintenance.

What	When	How
Hoses	Each Use	Inspect for exposed wire mesh and leaks. Replace all worn or damaged hoses before starting engine
Hydraulic Fittings	Each Use	Inspect for cracks and leaks. Replace all damaged fittings before starting engine
Nuts and Bolts	Each Use	Check for loose bolts
Beam	Each Use	Apply grease to beam surface
Moving Parts	Each Use	Clear debris

	<h3>▲ WARNING</h3>
	<p>Skin injection hazard.</p> <p>High pressure fluid can inject under skin resulting in serious injury including amputation.</p> <ul style="list-style-type: none"> -Make sure all fittings are tight before applying pressure. Relieve system pressure before servicing. -Do not check for leaks with hand. Instead, use a piece of cardboard to check for leaks. -If skin injection happens, seek immediate "Surgical Treatment".

TROUBLESHOOTING

Problem	
Cylinder rod will not move	SOLUTION: A,D,E,H,J
Slow cylinder rod speed when extending or retracting	SOLUTION: A,B,C,H,I,K,L
Wood will not split or splits extremely slowly	SOLUTION: A,B,C,F,I,K
Engine bogs down during splitting	SOLUTION: G,L
Engine stalls under low load condition	SOLUTION: D,E,L,M
Cause	Solution
A -Insufficient oil to pump	Check oil level in reservoir
B -Air in oil	Check oil level in reservoir
C -Excessive pump inlet vacuum	Check pump inlet hose for blockage or kinks
D -Blocked hydraulic lines	Flush and clean the splitter hydraulic system
E -Blocked control valve	Flush and clean the splitter hydraulic system
F -Low control valve setting	Adjust control valve with a pressure gauge
G -High control valve setting	Adjust control valve with a pressure gauge
H -Damaged control valve	Return control valve for authorized repair
I -Internal control valve leak	Return control valve for authorized repair
J -Internal cylinder leak	Return cylinder for authorized repair
K -Internally damaged cylinder	Return cylinder for authorized repair
L -Engine Control out of adjustment	Adjust idle control nuts
M -Engine is loaded during idle down mode	Use shorter log length (24" or less) to allow engine to speed up before contact.

SPECIFICATIONS

Maximum Pressure.....	3500 psi
Maximum Flow	8 gpm
Hydraulic Fluid Capacity	2.5 gallons or the level of the oil in the middle of oil window on oil tank.
Hydraulic Fluid Type	10wt AW32, ASLE H-150, or ISO32
Coupler Size	2" Ball
Maximum Towing Speed.....	30MPH
Maximum Log Length	24 in
Maximum Log Weight	100 lb
Hydraulic Cylinder Bore	4½ in
Hydraulic Cylinder Stroke	23 in
Maximum Log Diameter	12in

The manufacturer reserves the right to make improvements in design and/or changes in specifications at any time without incurring any obligation to install them on units previously sold.

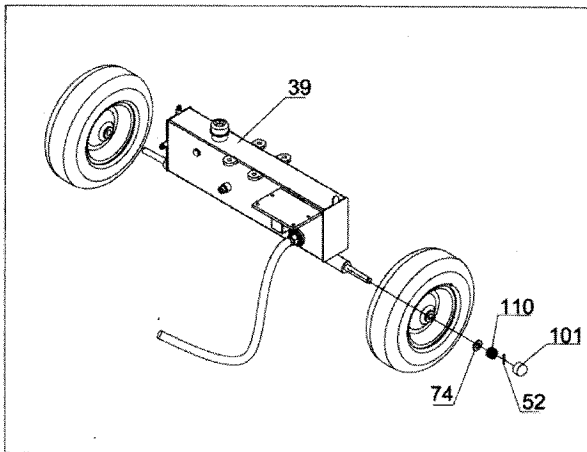
ASSEMBLY

Open Shipping Crate

1. Set the shipping crate on a solid, flat surface.
2. Carefully cut the shipping bands and remove lid of shipping crate.
3. Using two people to lift, carefully remove the engine, oil tank, wheels, tow bar, support legs, and hardware. (For parts reference see page16-18 in manual)
4. Leave the hydraulic cylinder/log cradle in the shipping crate until step 5 in the assembly process.
5. Locate all hardware before beginning assembly.

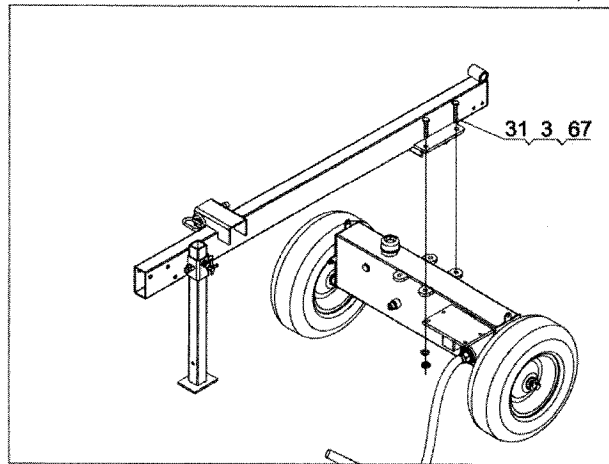
STEP 1: WHEEL ASSEMBLY

Fix the wheel to the oil tank (#39) axle by a flat washer $\varnothing 20$ (#74), slotted nut M16x1.5 (#110), cotter pin $\varnothing 4 \times 36$ (#52) and attach the axle cap (#101).



STEP 3: ATTACH TOW BAR TO OIL TANK

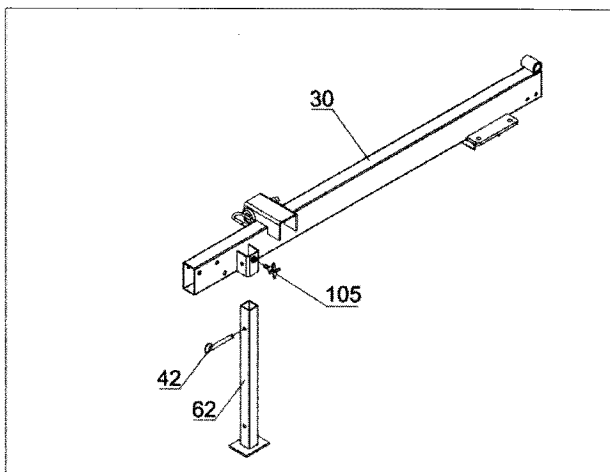
Fix the tow bar to the oil tank by using 4 sets of hex bolt M12x40 (#31), flat washer $\varnothing 12$ (#3) and lock nut M12 (#67).



ATTACH TOW BAR AND SUPPORT

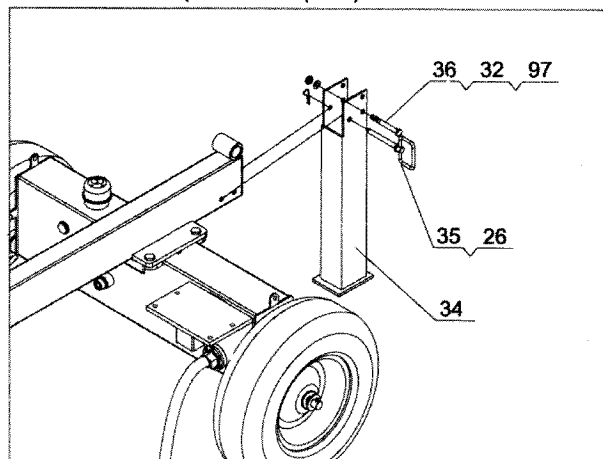
LEG

Fix the support leg (#62) to the tow bar (#30) by a pin (#42) and handle wheel (#105).



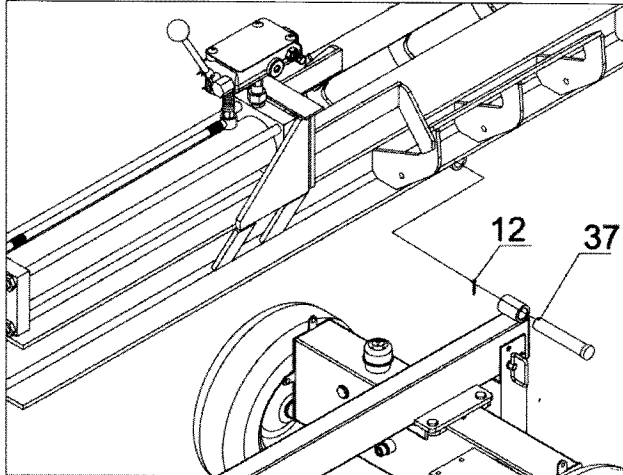
STEP 4: ASSEMBLE REAR SUPPORT LEG

Fix the rear support leg (#34) to the tow bar by using hex bolt M10x75 (#36), lock nut M10 (#32), flat washer $\varnothing 10$ (#97). Slide in hitch pin (#35) and secure with R pin $\varnothing 3 \times 55$ (#26).



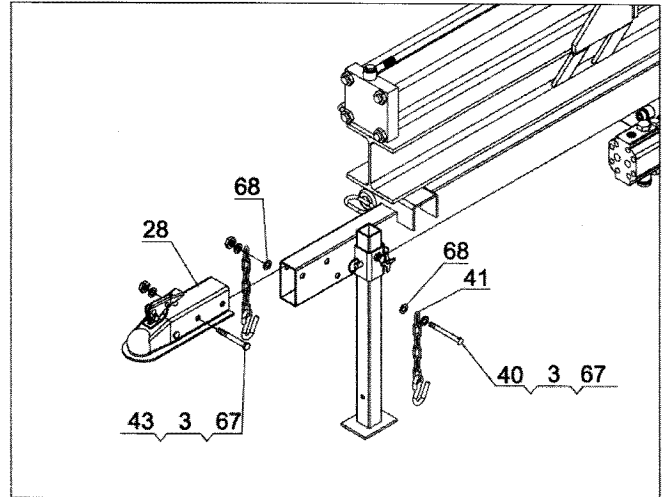
STEP 5: ATTACH HYDRAULIC CYLINDER LOG CRADLE

Assemble the Beam to the tow bar, secure with cotter pin $\varnothing 4 \times 40$ (#12) & hitch pin (#37).



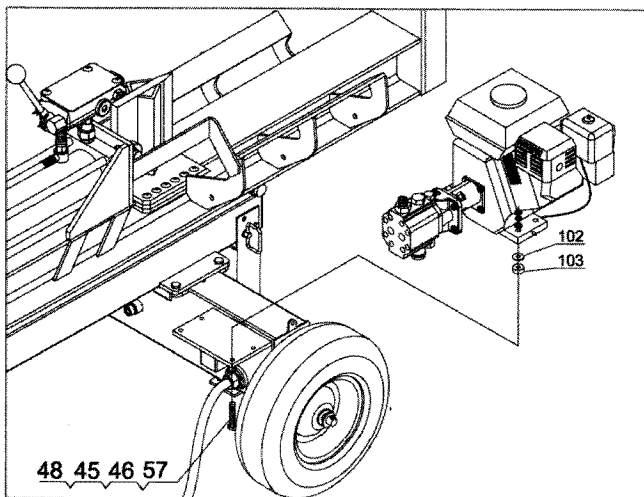
STEP 7: ATTACH BALL COUPLER & CHAIN

1. Attach the coupler (#28) to the tow bar by using hex bolt M12x80 (#43), flat washer $\varnothing 12$ (#3) and lock nut M12 (#67).
2. Attach two chains (#41) to the tow bar by using hex bolt M12x90 (#40), flat washer $\varnothing 12$ (#3), lock nut M12 (#67) and thick flat washer $\varnothing 12$ (#68).



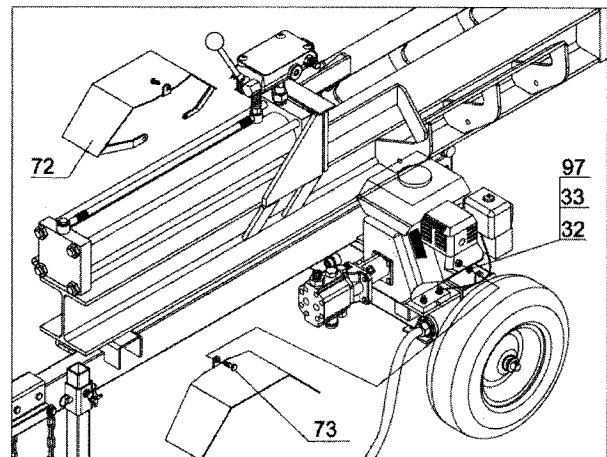
STEP 6: ATTACH ENGINE

1. Assemble the engine to the oil tank by using hex bolt M8x55 (#48), flat washer $\varnothing 8$ (#45), lock washer $\varnothing 8$ (#46) and lock nut M8 (#57).
2. Place 4 polyurethane blocks (#103) and big flat washer $\varnothing 10$ (#102) between the engine and mounting plate.



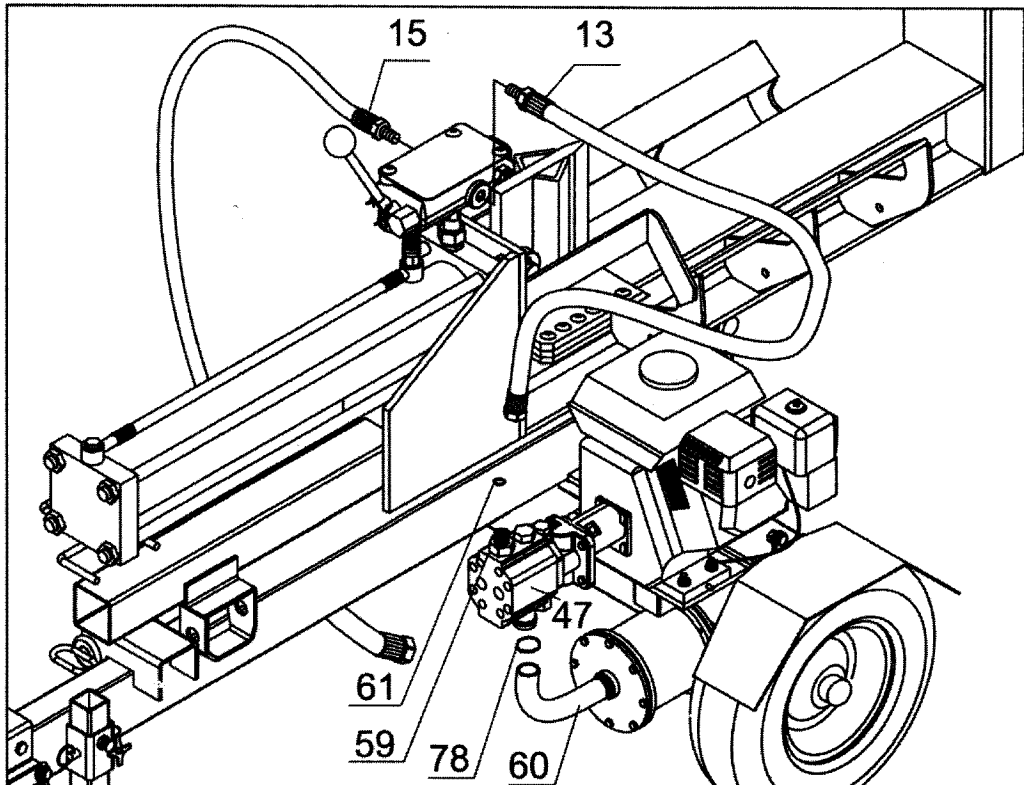
STEP 8: ATTACH WHEEL FENDERS

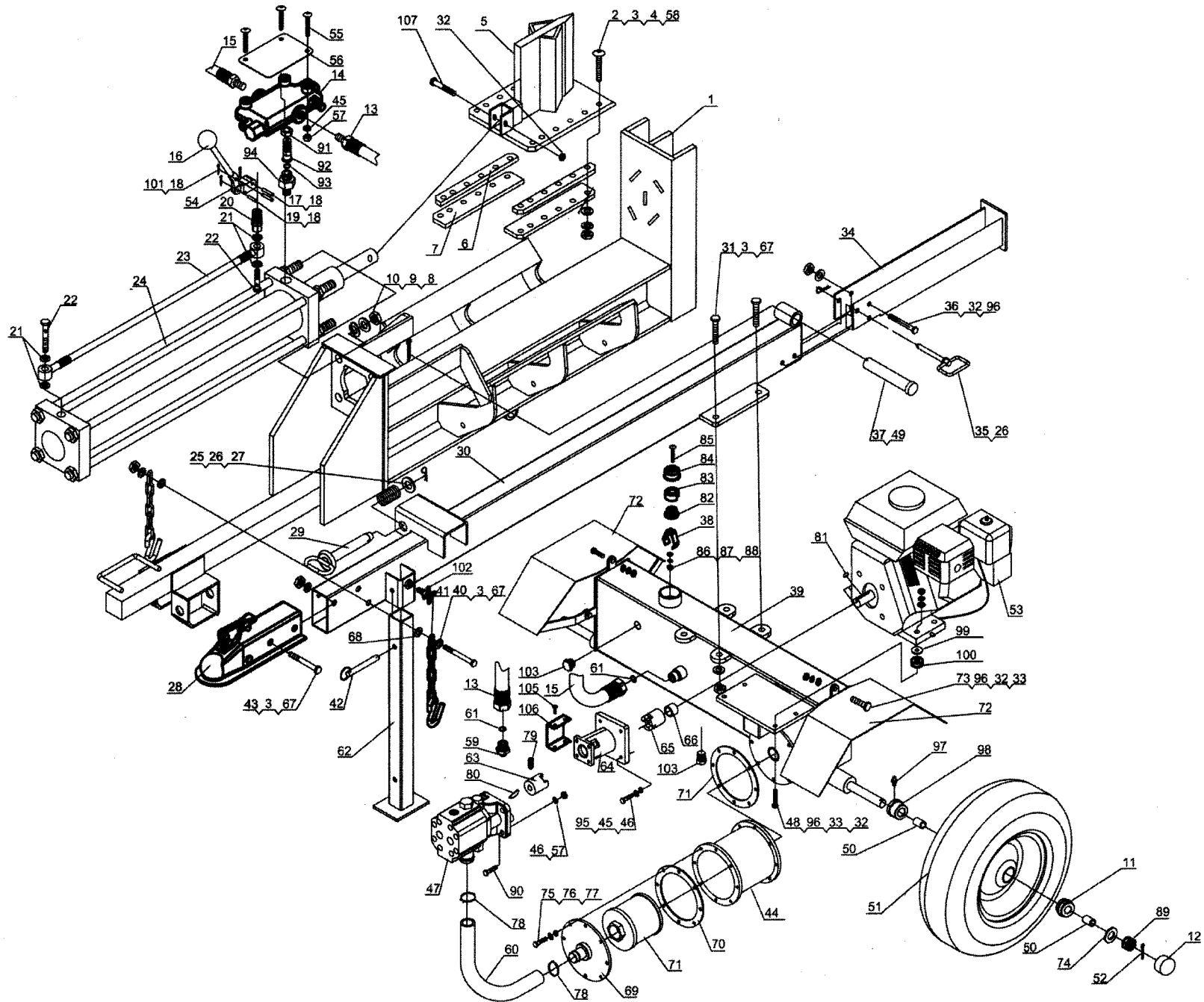
Attach two wheel fenders (#72) to the oil tank using hex bolt M10x25 (#73), flat washer $\varnothing 10$ (#97), lock washer $\varnothing 10$ (#33) and lock nut M10 (#32).



STEP 9: ATTACH HYDRAULIC HOSES

1. Thread the outlet connector (#59) to the top of the gear pump (#47). Use Teflon tape to ensure tight fit.
2. Place an O ring (#61) onto the exposed threads of the outlet connector. Then attach hose (#13) to outlet connector.
3. Attach hose (#15) to the port on the oil tank. Place an O ring (#61) on the port and tighten the hose using Teflon tape.
4. Attach the oil pipe (#60) to the bottom of the gear pump (#47) by the clamp (#78).





PARTS DRAWING

PARTS LIST

Ref#	Description	Qty	Ref#	Description	Qty
1	Beam	1	38	Breather Cap	1
2	Bolt M12x55	12	39	Oil Tank	1
3	Flat Washer Ø12	20	40	Bolt M12x90	1
4	Hex Thick Nut M12	12	41	Safety Chain with Hook	2
5	Wedge Slide	1	42	Pin	1
6	Keeper Spacer	2	43	Bolt M12x80	2
7	Keeper Plate	2	44	Outlet oil tube assembly	1
8	Lock Washer Ø24	4	45	Flat Washer Ø8	7
9	Flat Washer Ø24	4	46	Lock Washer Ø8	8
10	Hex Nut M24	4	47	Gear Pump	1
11	Axle Outside Bushing	2	48	Bolt M10x60	4
12	Axle Cover	2	49	Split Pin 4x40	1
13	Hydraulic Hose (Valve-Pump)	1	50	Composite bearing	4
14	Control Valve	1	51	Wheel / Tire Assembly	2
15	Hydraulic Hose (Valve-Oil Tank)	1	52	Split Pin 4x36	2
16	Valve Handle	1	53	Engine 9HP	1
17	Pin 5x25	1	54	Valve Handle Connector	1
18	Split Pin 2x10	3	55	Round-head Bolt M8x45	3
19	Pin 5x16	1	56	Plate	1
20	Valve A Joiner	1	57	Hex Lock Nut M8	7
21	Combination Washer Ø14	4	58	Lock Washer Ø12	12
22	Bolt Connector	2	59	Outlet Connector of Pump	1
23	Hydraulic Hose (Valve-Cylinder)	1	60	Oil Pipe	1
24	Cylinder	1	61	O ring 16x2.4	2
25	Flat Washer Ø20	1	62	Front Support Leg	1
26	R Pin 3x55	2	63	Gear Pump Connector	1
27	Spring	1	64	Gear Pump Stand	1
28	2" Coupler	1	65	Engine Connector	1
29	Hitch Pin	1	66	Engine Bushing	1
30	Tow Bar	1	67	Hex Lock Nut M12	7
31	Bolt M12x40	4	68	Thick Flat Washer ø12	2
32	Hex Lock Nut M10	12	69	Filter Fix Plate	1
33	Lock Washer Ø10	10	70	Rubber Washer	2
34	Rear Support Leg	1	71	Filter	1
35	Hitch Pin	1	72	Fender	2
36	Bolt M10x75	1	73	Hex Bolt M10x25	6
37	Hinge Pin	1	74	Flat Washer Ø20	2

Ref#	Description	Qty	Ref#	Description	Qty
75	Hex Bolt M6x20	16	92	Valve B Joiner	1
76	Lock Washer Ø6	16	93	O Ring 20x2.4	1
77	Flat Washer Ø6	16	94	Front Cover Connector	1
78	Clamp	2	95	Hex Bolt M8x25	4
79	Screw M6x10	1	96	Flat Washer Ø10	11
80	Semicircular Key	1	97	Oil Cup M6	2
81	Flat Key	1	98	Axle Inside Bushing	2
82	Oil Cap Bushing	1	99	Big Flat Washer Ø10	4
83	Sponge	1	100	Polyurethane Block	4
84	Oil Cap	1	101	Pin 5x22	1
85	Screw M4x12	1	102	Handwheel	1
86	Hex Lock Nut M4	1	103	Oil Indicator	1
87	Lock Washer Ø4	1	104	Oil Plug	1
88	Flat Washer Ø4	1	105	Tapping Screw	4
89	Hex Slotted Nut M16x1.5	2	106	Connector Cover	1
90	Hex Bolt M8x30	4	107	Bolt M10x75	1
91	Nut	1			

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