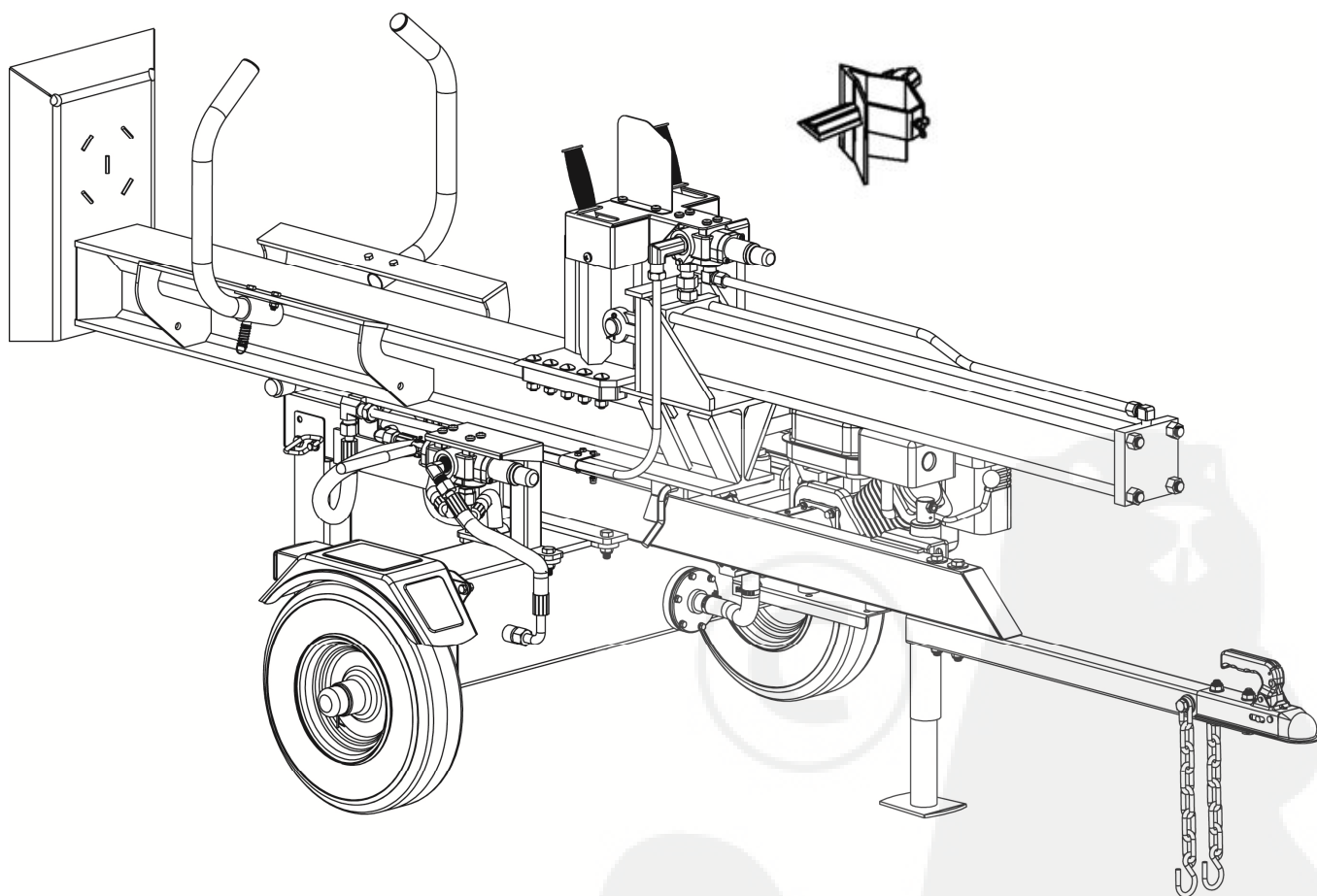


20TON LOG SPLITTER

Log Splitter: Outdoor product that splits wood logs for use as fuel in a fireplace or a woodstove.



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 without oil.

- When add oil, Verify oil level at the middle of the Oil Cup With O-Ring

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 Signal Word Definitions

	This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages that follow this symbol to avoid possible injury or death.
	DANGER (red) indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
	WARNING (orange) indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
	CAUTION (yellow) indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
	CAUTION (yellow) used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.

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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.



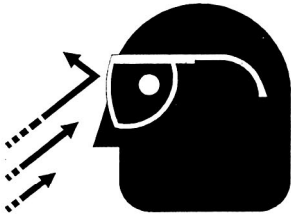
2.) Crush hazard.

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.

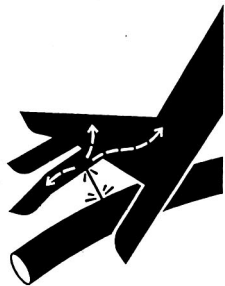
-Do not wear loose clothing. It can get tangled in moving parts of log splitter.

-Only use the log splitter in daylight so you can see what you are doing.



3.) Flying objects.

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



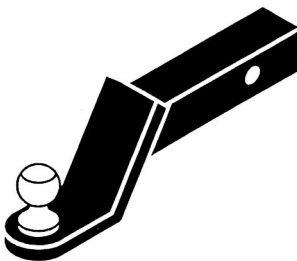
4.) Skin injection hazard.

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 UL 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

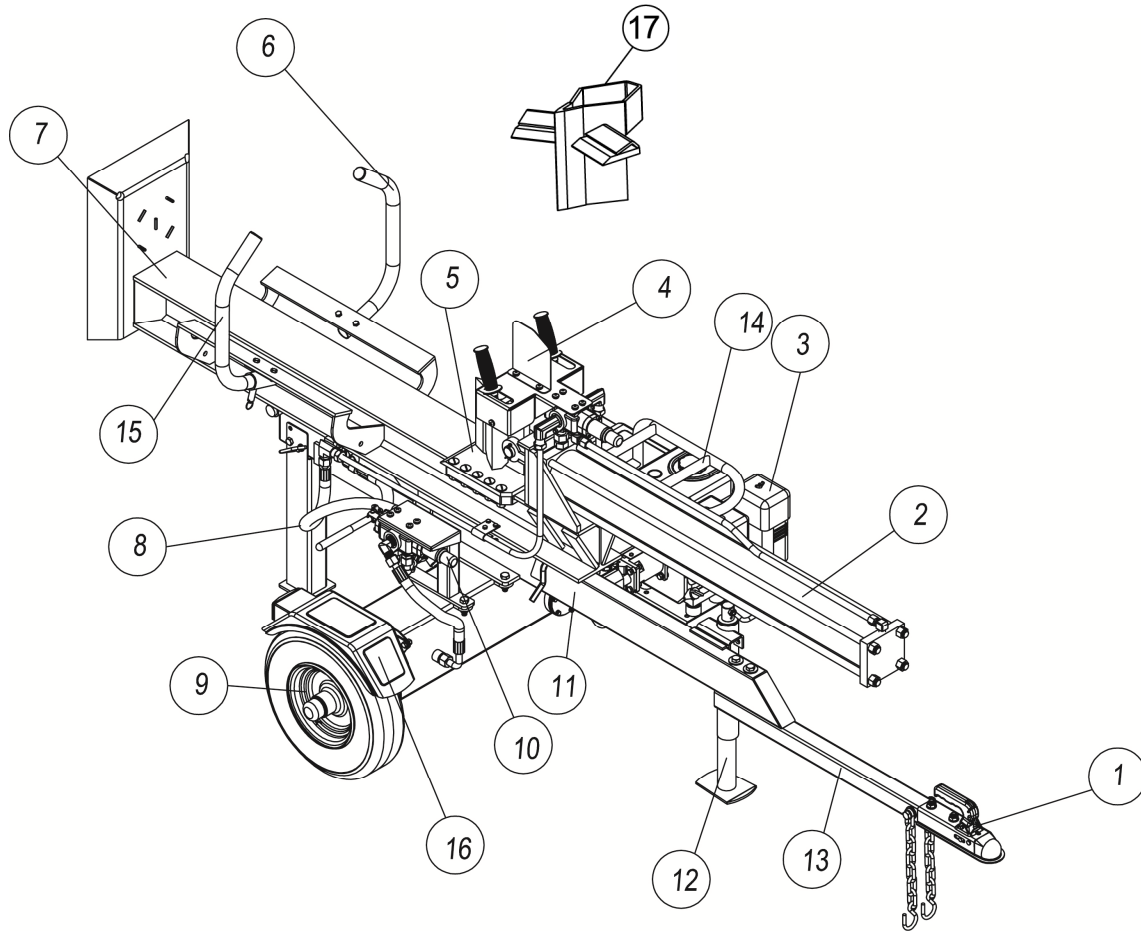


1.) Hot muffler.

You can be burned by muffler.
Do not touch.

Save These Instructions

Machine Component Definitions

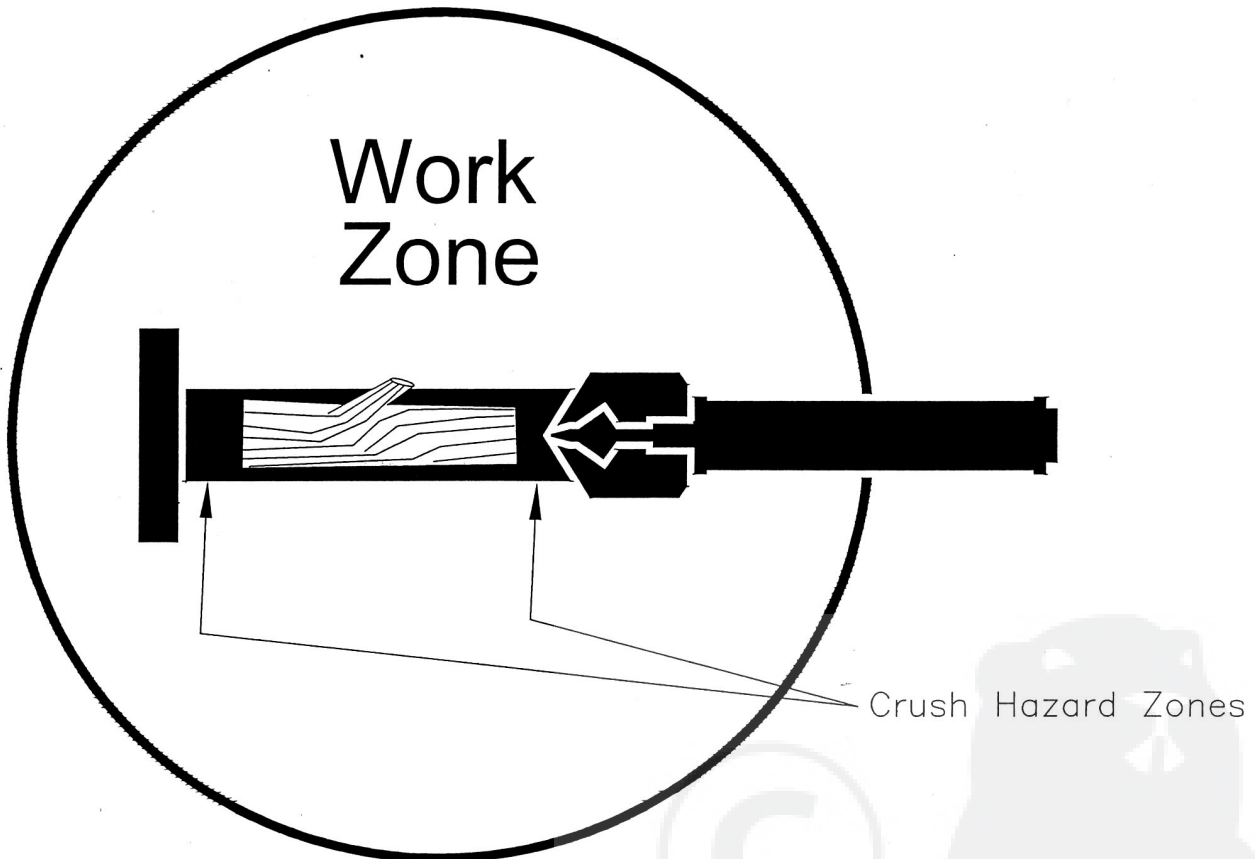


- 1.) **Coupler.** Attaches the log splitter to your vehicle. Fits only 50mm hitch balls.
- 2.) **Hydraulic Cylinder.** The hydraulic cylinder has a 4" bore and a 39.4" stroke.
- 3.) **Engine.** The air cooled engine powers the hydraulic pump.
- 4.) **Control Valve.** Use Two-handle to move the wedge slide forward and backward. It is rated to 3500 psi.
- 5.) **Wedge.** The wedge features wedge wings and a taper that makes splitting easier.
- 6.) **Log Cradle.** Keeps the log on the beam without operator assistance.
- 7.) **Beam.** The beam is made of 6" wide flange beam.
- 8.) **Rear Support.** The leg supports the log splitter while operating. The leg should be raised while towing (see Operation Instructions).
- 9.) **Tires.** Maximum rated speed is 45 MPH.
- 10.) **Small Control Valve.** Use it to control the Lift Ram to make the beam lift and down.
- 11.) **Tow Bar.**
- 12.) **Front Support.**
- 13.) **Lengthening Tow Bar.**
- 14.) **Engine Guard**
- 15.) **Adjustable Log Cradle.**
- 16.) **Fender.**
- 17.) **Cross Wedge**

⚠ 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 the two-handle of control valve FORWARD to split log.
- 5.) Pull the two-handle of control valve BACKWARD to return wedge to its original position.
- 6.) Clear the split wood from the work zone.



⚠ WARNING

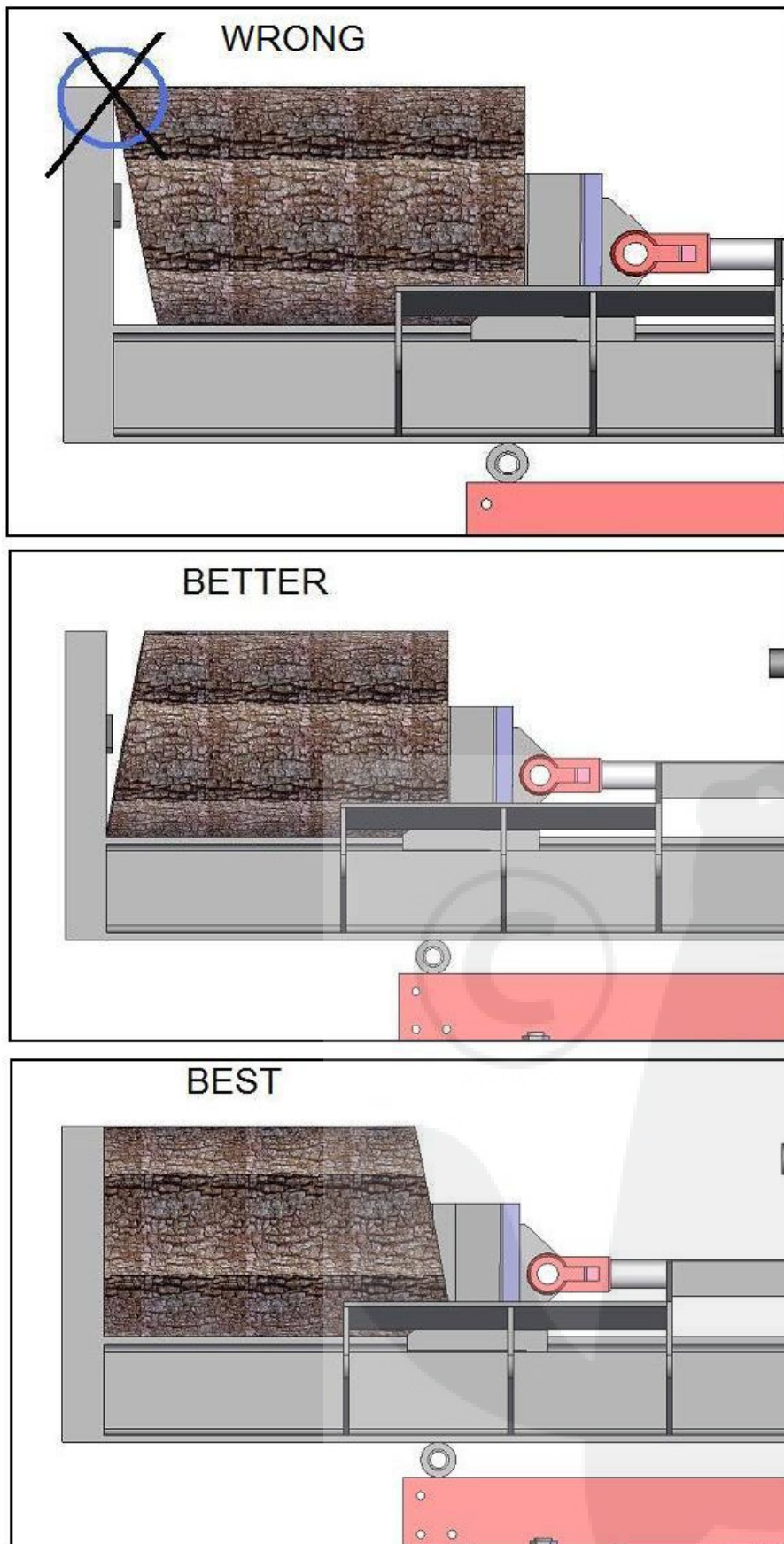
Crush hazard.

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.

⚠ Operation Instructions

HOW TO SPLIT THE LOG WITH SLANT SURFACE

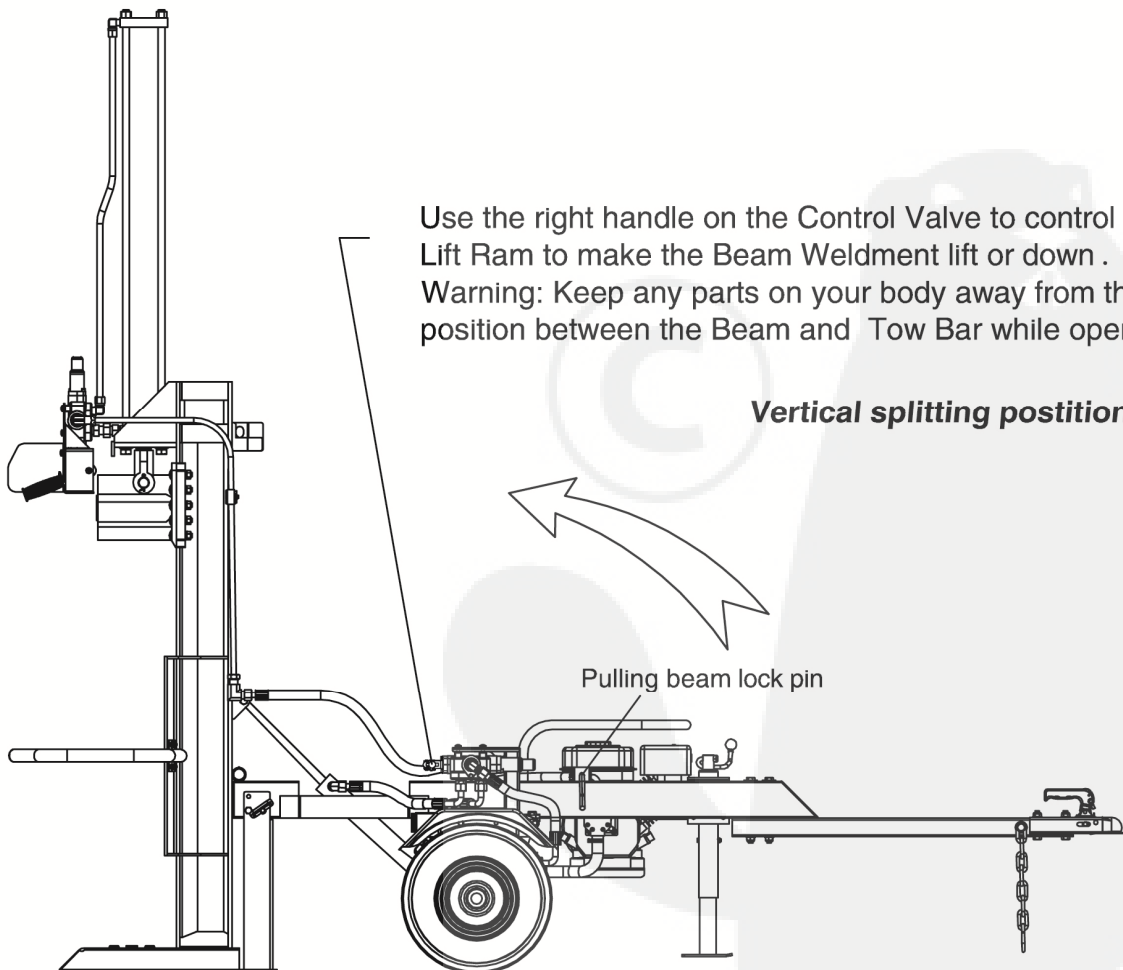
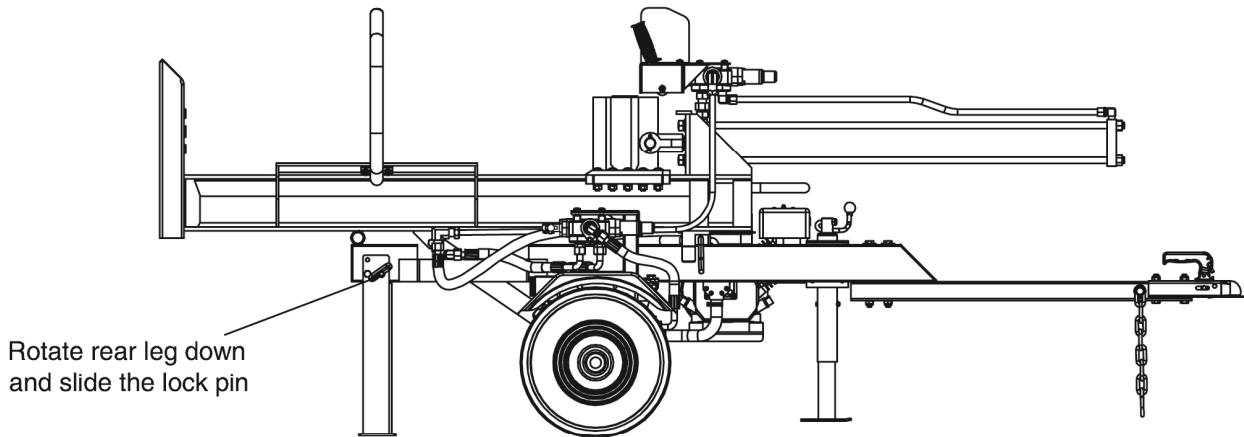


⚠ Operation Instructions

Horizontal and Vertical Operating Position

FOR HORIZONTAL USING

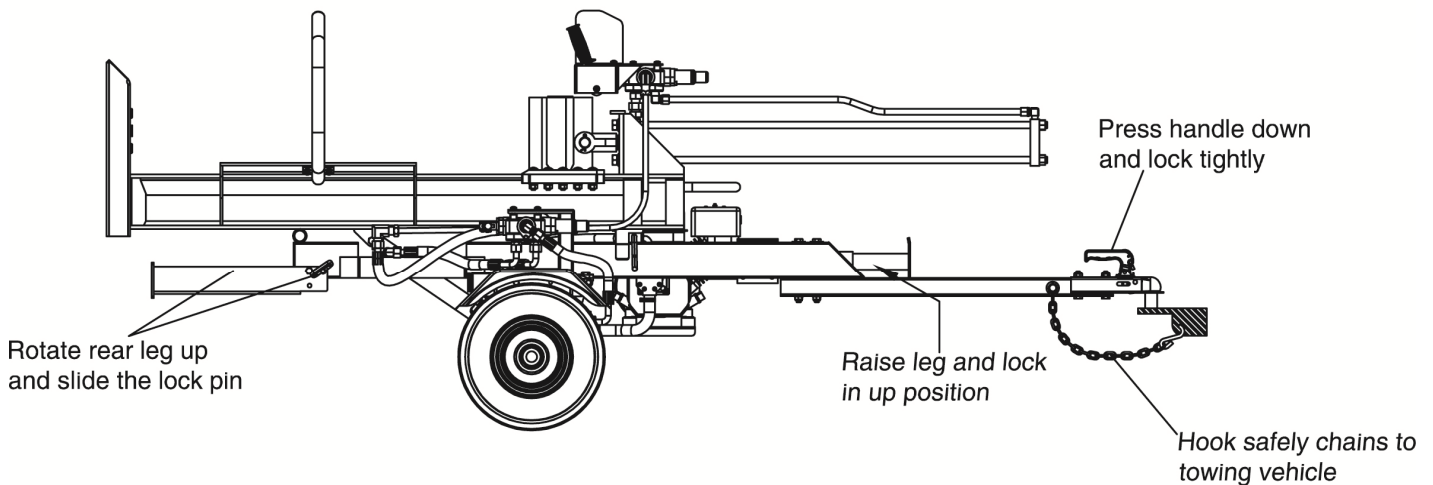
Horizontal splitting position



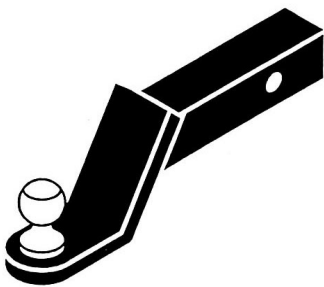
⚠ Operation Instructions

Driving Position

FOR VEHICLE TOWING



⚠ 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.

⚠ Maintenance and Storage

- ⚠ Before performing maintenance, the log splitter must be placed in maintenance mode.
- 1.) Turn off engine.
 - 2.) Disconnect spark plug wire.
 - 3.) 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

⚠ WARNING

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".



Troubleshooting

Problem	Solution
Cylinder rod will not move	SOLUTION: A,D,E,H,J
Slow cylinder shaft 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 control valve 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 (43.3" or less) to allow engine to speed up before contact.

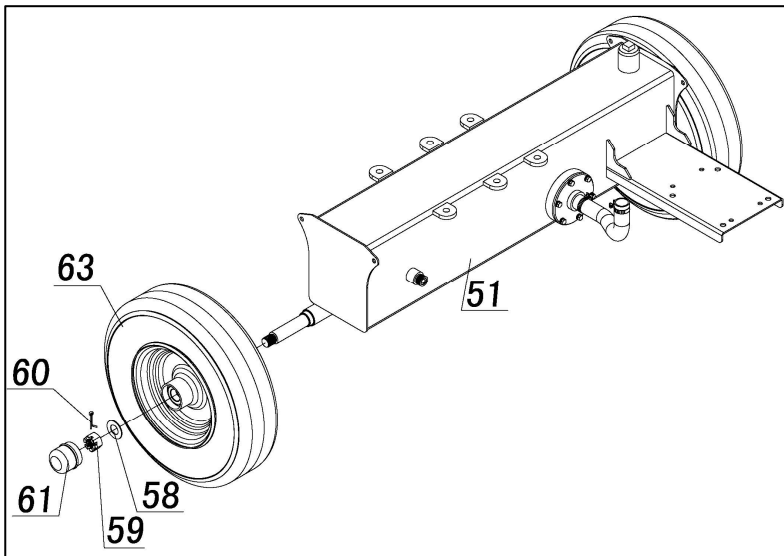
Specifications

Maximum Cylinder Force.....	20Ton
Maximum Pressure.....	3500 psi
Maximum Flow	35L/min
Hydraulic Fluid Capacity	4.6 gallons/17.5L
Hydraulic Fluid Type	10wt AW32, ASLE H-150, or ISO32
Coupler Size	50mm Ball
Maximum Towing Speed.....	45 MPH
Maximum Log Length	1100mm
Maximum log diameter.....	30CM
Pressure Relief Setting	725 psi
Hydraulic Cylinder Bore	4 in
Hydraulic Cylinder Stroke	1000mm
Overall Dimensions	3000X1270X1230mm

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 PROCEDURE

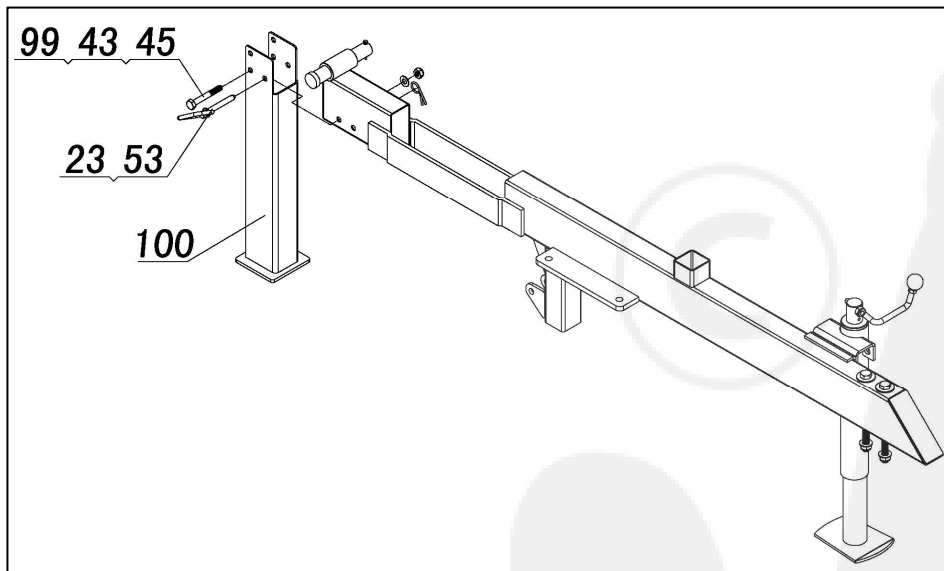
A: ASSEMBLY THE WHEEL



WARNING: After the slotted nut is tightened, then turn back 1/4 circle to make sure the tire can rotate smoothly and well without any wobbling. Without turning back 1/4 circle of the slotted nut may cause tire can't work normally.

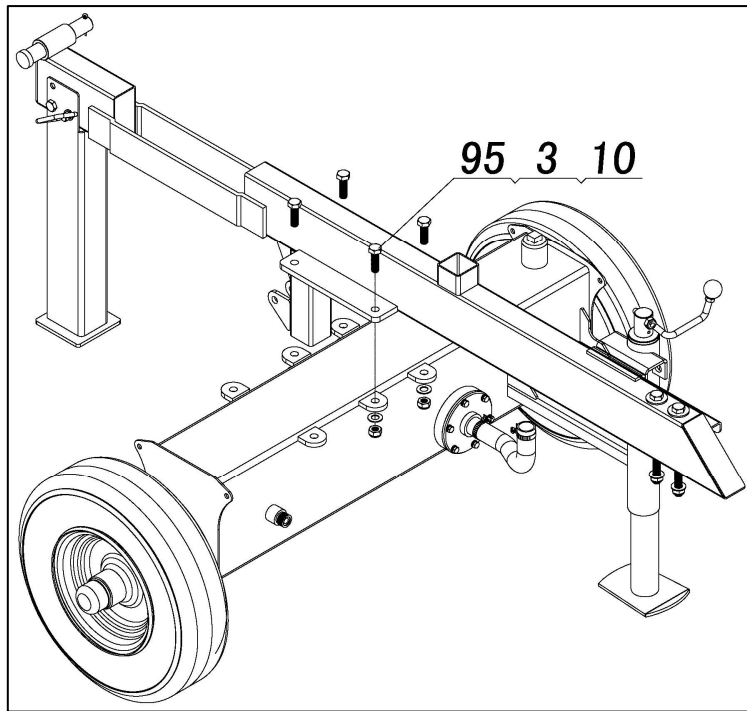
- 1: Assemble the wheel (63#) on the oil tank frame (51#), then fix the flat washer $\text{Ø}20$ (58#), hex thin nut M20x1.5 (59#), coter pin 4x36 (60#), and axle cap (61#).
2. The same way to assemble another wheel.

B: ASSEMBLY THE SUPPORT LEG



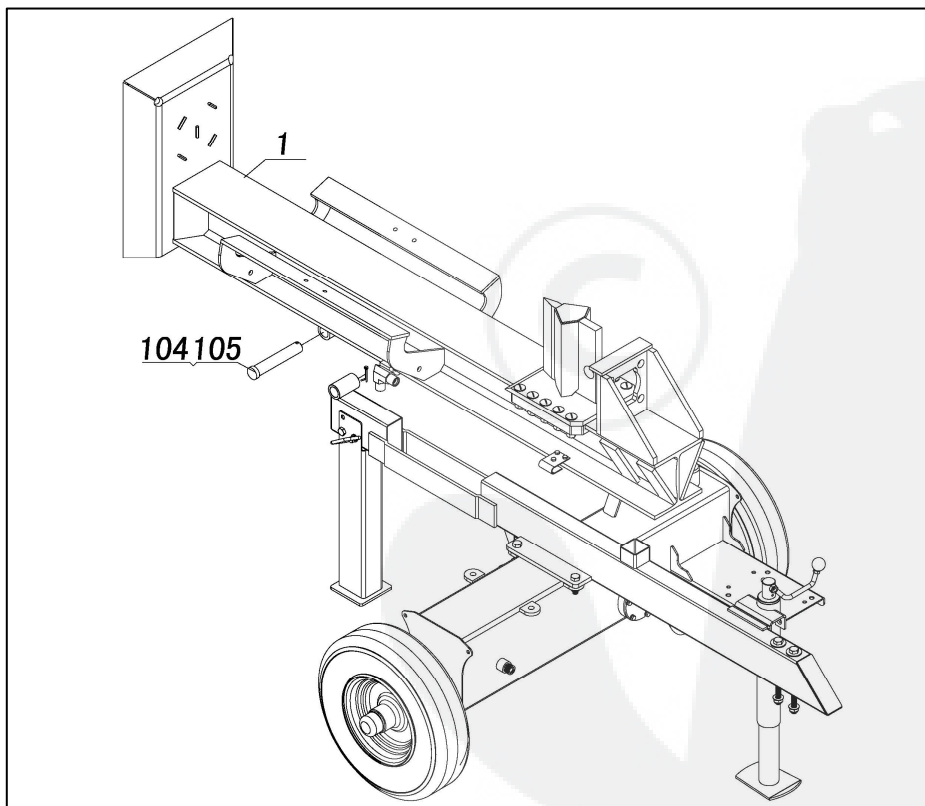
1. Assemble the rear support leg (100#) under the tow bar weldment by using hex bolt M10x75 (99#), flat washer $\text{Ø}10$ (43#), hex lock nut M10 (45#), handle ring (23#), and R pin (53#).

C: ASSEMBLY THE TOW-BAR WELDMENT



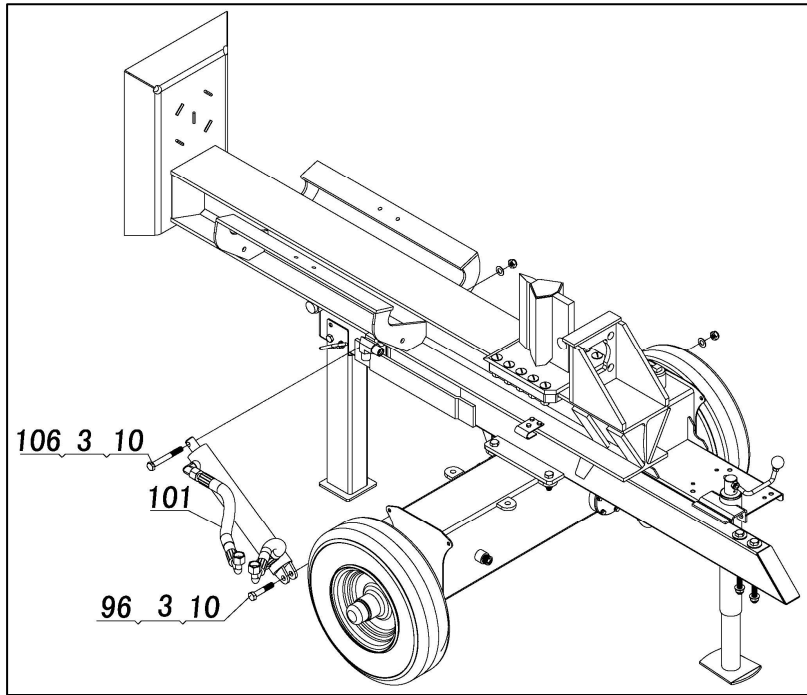
1. Assemble the tow-bar weldment on the oil tank frame using hex bolt M12X40 (95#), flat washer $\text{\O}12$ (3#) and nylon lock nut M12 (10#).

D: ASSEMBLY THE BEAM WELDMENT



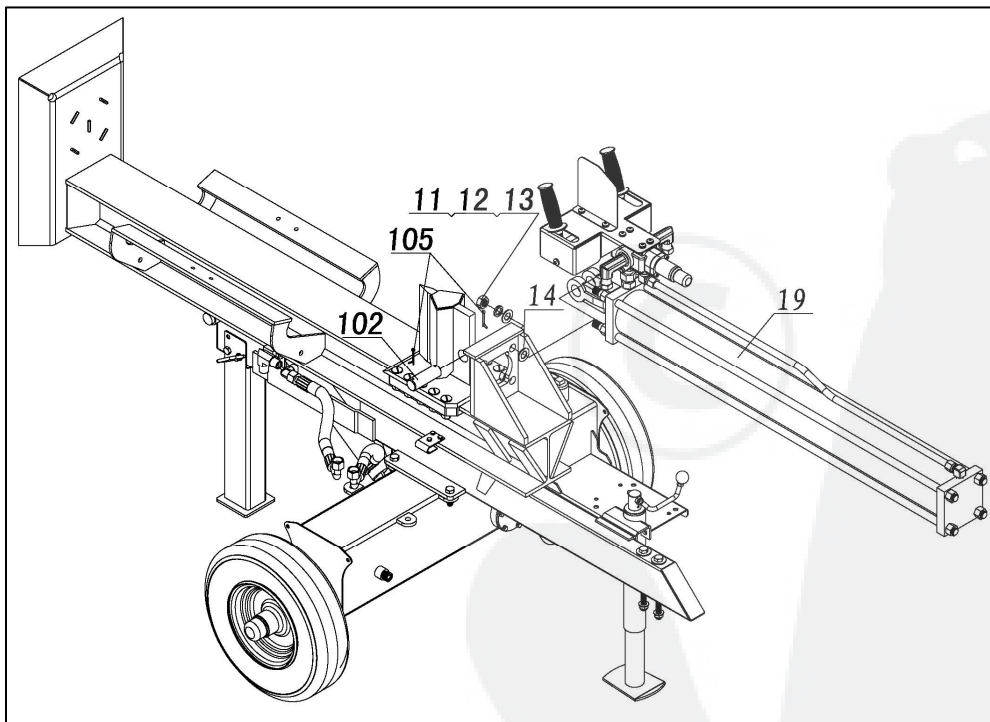
1. Assemble the beam weldment (1#) on the tow-bar weldment with the hinge pin (104#) and cotter pin 4X40 (105#).

E: ASSEMBLY THE LIFT RAM



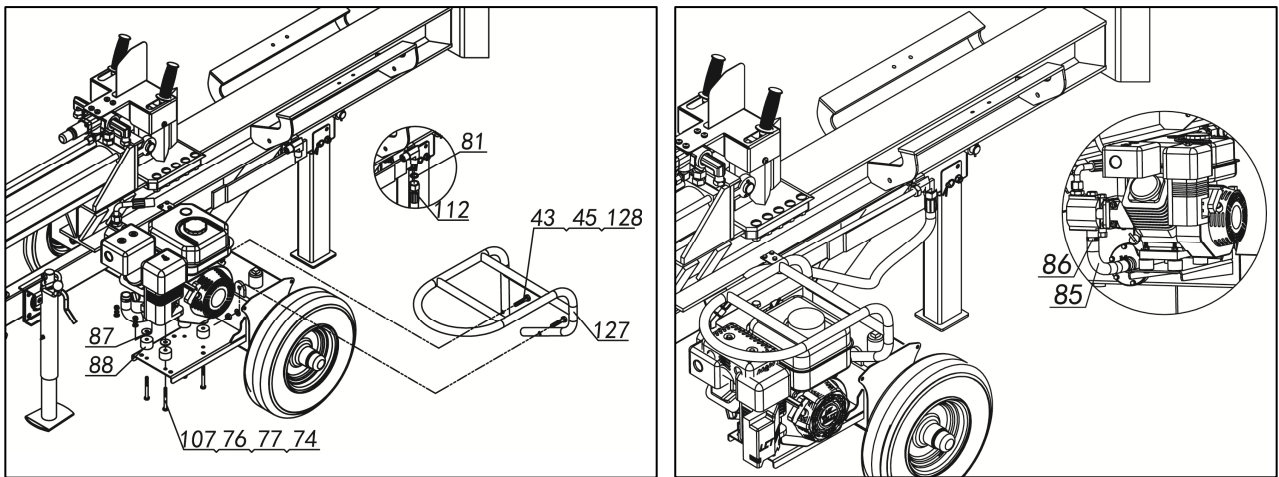
1. Insert the head of Lift Ram (101#) through the space in middle of tow bar to assemble on the beam weldment with hex bolt M12X100 (106#), flat washer $\text{Ø}12$ (3#) and nylon lock nut M12 (10#).
2. Assemble the end of lift ram (101#) on the oil tank with hex bolt M12X65 (96#), flat washer $\text{Ø}12$ (3#) and nylon lock nut M12 (10#).

F: ASSEMBLY THE CYLINDER AND WEDGE SLIP



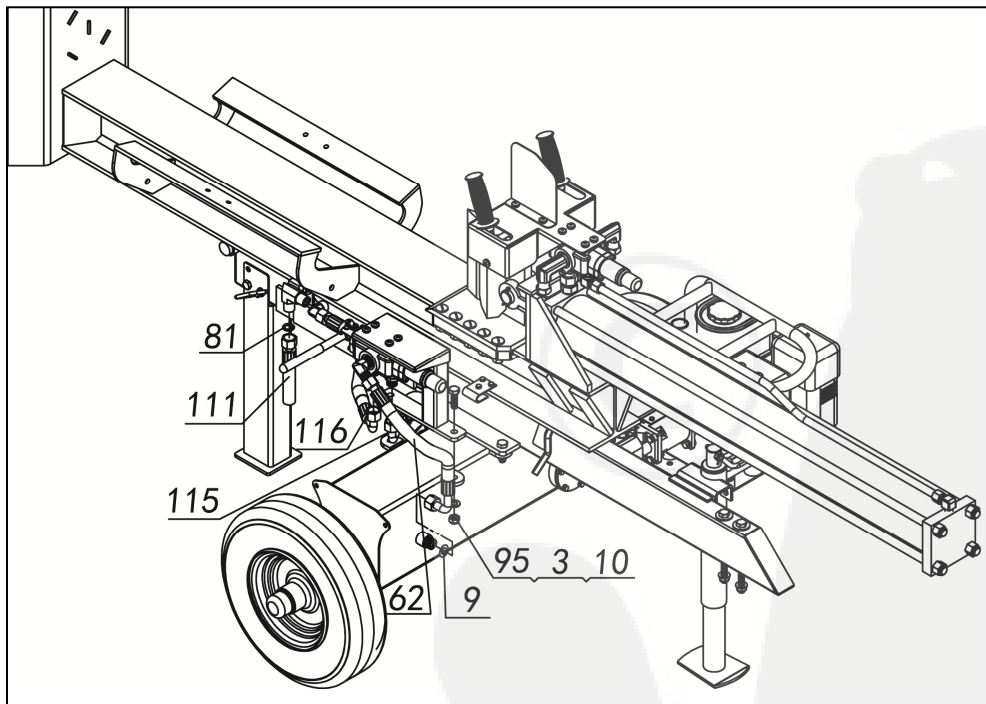
1. Put the cylinder (19#) to the beam using flat washer $\text{Ø}18$ (12#), lock washer $\text{Ø}18$ (11#) and hex nut M18 (13#). Add adjustable washer (14#) between the cylinder and cylinder mounting plate for adjusting.
2. Push the wedge making the hole on wedge and piston-rod connector alignment, then insert wedge pin (102#) and cotter pin 4x40 (105#).

G: ASSEMBLY THE ENGINE



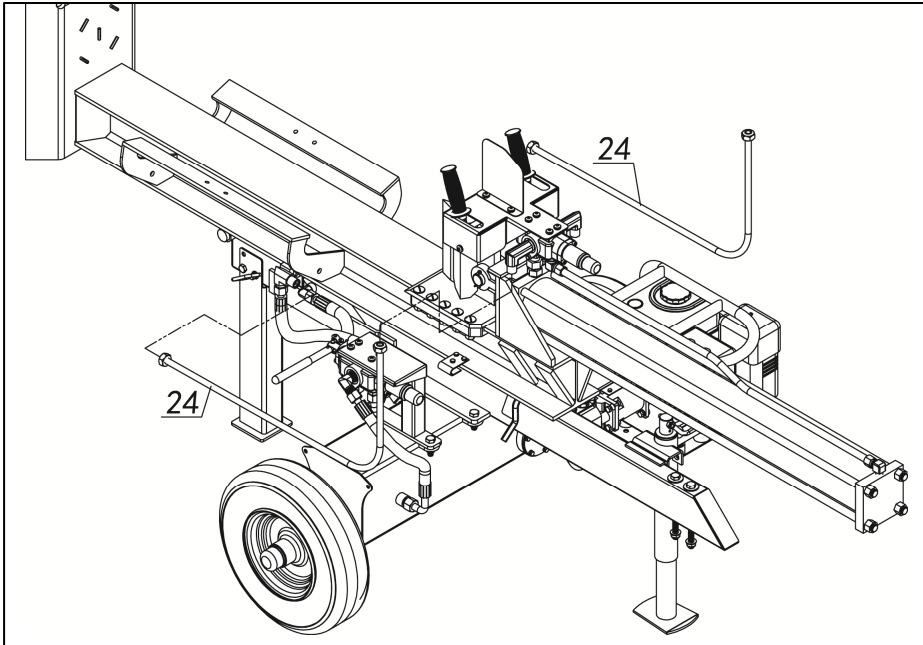
1. Assemble the engine on the oil tank frame using hex bolt M8X65 (107#), flat washer $\varnothing 8$ (77#), lock washer $\varnothing 8$ (76#), hex lock nut M8 (74#), polyurethane block (88#) and big flat washer $\varnothing 10$ (87#).
2. Then connect the oil suction pipe (85#) to the oil absorpt joint of the gear pump, tight with the clamp (#86). Connect the oil tube (transfer A-gear pump) (112#) to the cutting sleeve joint of the beam, then put a O ring 11.2x2.4 (81#).
3. Attach engine guard (127#) to the oil tank using hex bolt M10x50 (128#), flat washer $\varnothing 10$ (43#) and hex lock nut M10 (45#).

H: ASSEMBLY THE CONTROL VALVE.



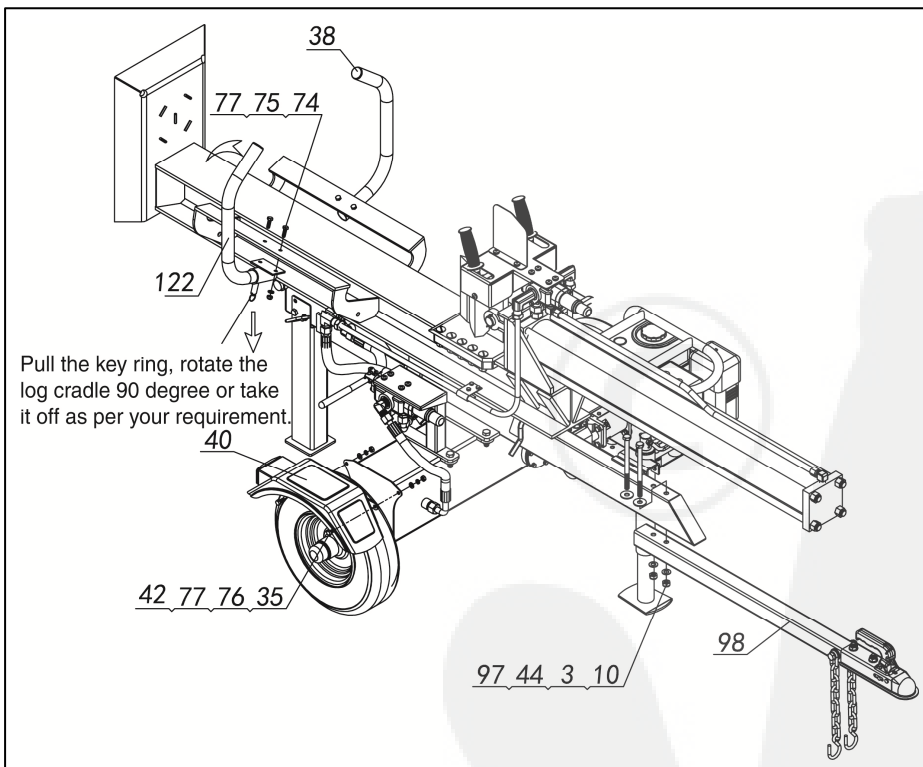
1. Assemble the small control valve on the oil tank by using hex bolt M12x40 (95#), flat washer $\varnothing 12$ (3#) and nylon lock nut M12 (10#).
2. Then insert oil return pipe (62#) to the oil tank connector put a o Ring $\varnothing 14 \times 2.5$ (9#). Connect the oil tube (transfer B-Valve B) (111#) to the another cutting sleeve joint of the beam, then put a O-ring 11.2x2.4 (81#). Insert the oil tube A (115#) and oil tube B (116#) of lift ram to the relevant joint of control valve.

I: ASSEMBLY THE METAL HYDRAULIC HOSE



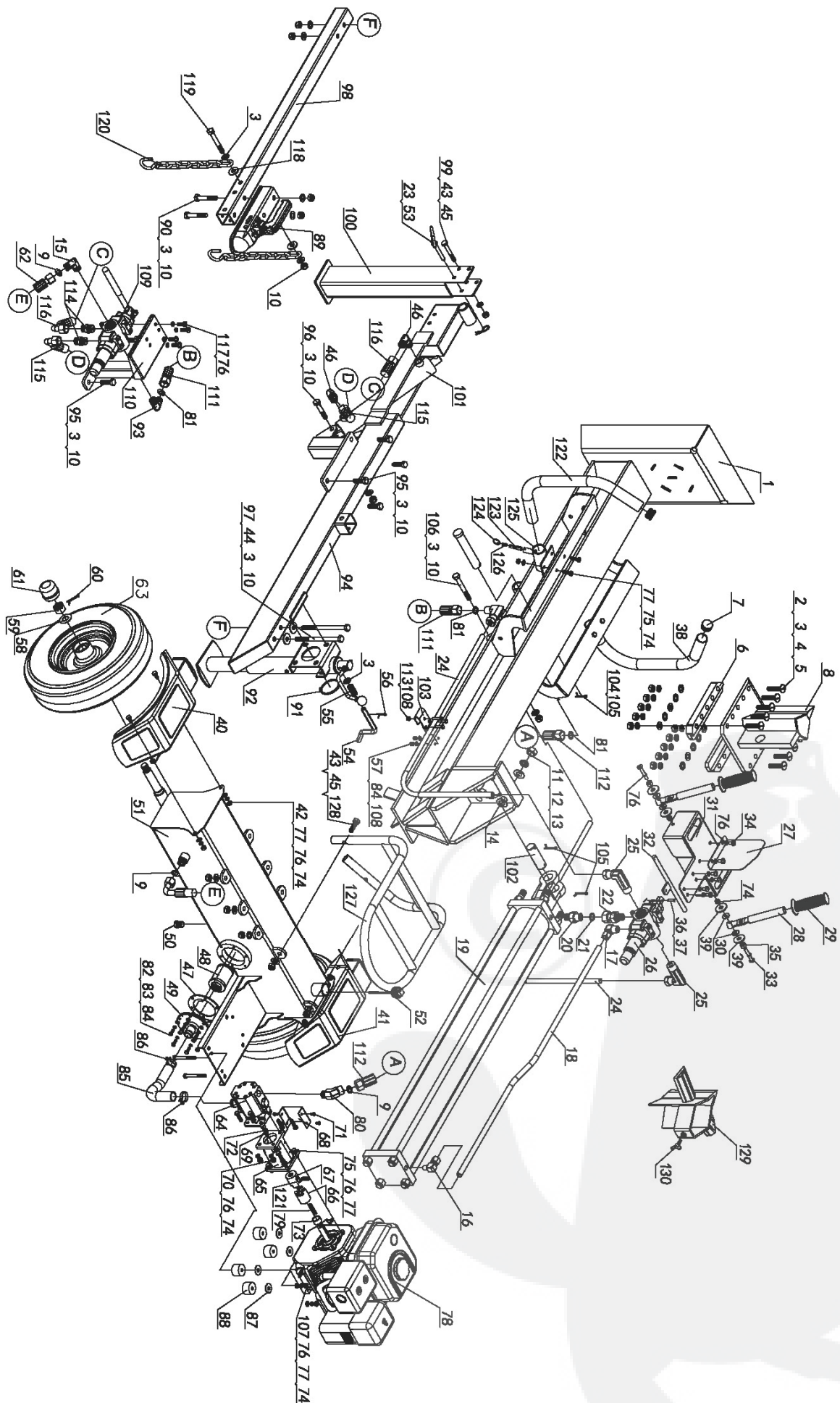
1. Connect both side of metal hydraulic hose (24#) to the cutting sleeve connector of beam and control valve.
Make sure to screw the Metal hose very tight by using about 150Nm torsion.

J: ASSEMBLY THE PROTECTION TUBE



1. Attach the protection tube (38# & 122#) to the log cradle using hex bolt M8x25 (75#), flat washer Ø8 (77#) and hex lock nut M8 (74#). The same way to assemble another protection tube.
2. Attach the left fender (40#) to the oil tank using hex bolt M8x20 (42#), flat washer Ø8 (77#), lock washer Ø8 (76#) and hex nut M8 (35#). The same way to assemble another right fender.
3. Attach the lengthening tow bar assembly (98#) to the tow bar using hex bolt M12x170 (97#), big flat washer Ø12 (44#), flat washer Ø12 (3#) and nylon lock nut M12 (10#).

LOG SPLITTER PARTS DRAWING



Ref.No.	Drawing No.	Description	Qty
1	LSE20-01000	Beam	1
2	919904-12055-DX12.9	Screw M12x55	10
3	9301-12000-DX	Flat Washer Ø12	25
4	9306-12000-DX	Lock Washer Ø12	10
5	9210-12000-DX	Hex Thick Nut M12	10
6	LSA22-03001	Keeper Spacer	2
7	LSA22-00011	Plastic end cap	2
8	LSE20-02000	Wedge	1
9	9901-14x2.5	O Ring 14 x 2.5	3
10	9206-12000-DX	Nylon Lock Nut M12	13
11	9306-18000-DX	Lock Washer Ø18	4
12	9301-18000-DX	Flat Washer Ø18	4
13	9201-18000-DX	Hex Nut M18	4
14	LSA22-00024-DX	Adjustable Washer	
15	LSE20-00004-DX	Right Angle Connector 2	1
16	LSE20-00005	Cutting Sleeve Connector B	1
17	LSP25-06000	Connector	1
18	LSE20-00001-DX	Metal Hydraulic Hose 1	1
19	LSE20-08000	Cylinder	1
20	LSA22-00009-DX	Cylinder Head Cover Joint	1
21	9901-16x2.5	O Ring 16x2.5	1
22	LSP25-17000	Active Joint	1
23	LSA22-16000-DX	Handle Ring	1
24	LSE20-00002-DX	Metal Hydraulic Hose 2	2
25	LSE20-00006	Cutting Sleeve Connector	2
26	M3VxxA-00001	Control Valve	1
27	M3VxxA-00002	Spacer Plate	1
28	N290-22001	Handle	2
29	Z330-00002	Plastic Handle Sleeve	2
30	C130-00004	Nylon Washer	4
31	M3VxxA-02000	Frame	1
32	M3VxxA-01000-DX	Connection Tube	1
33	9110-08050-DX	Screw M8x50	2
34	9105-08016-FH	Inner Hex Screw M8x16	6
35	9201-08000-DX	Hex Nut M8	2
36	9403-05026-DX	Hinge Pin Ø5x26	1
37	9404-02010-DX	Cotter Pin Ø 2x10	1
38	LSE20-08000	Protection Tube	1
39	9302-08000-DX	Big Flat Washer Ø8	4
40	LSP30-05000	Left Fender	1
41	LSP30-06000	Right Fender	1
42	9101-08020-DX8.8Q	Hex Bolt M8x20	4
43	9301-10000-DX	Flat Washer Ø10	3
44	9302-12000-DX	Big Flat Washer Ø10	2
45	9206-10000-DX	Hex Lock Nut M10	3
46	N900-00014	Angle Connector	2
47	LSP25-00021	Rubber Washer	1
48	LSP25-00022	Filter	1

Ref.No.	Drawing No.	Description	Qty
49	LSP25-15000-DX	Filter Mounting Plate	1
50	LSP25-00010-DX	Oil Plug	1
51	LSE20-03000	Oil Tank	1
52	LSP25-13000	Oil Bolt	1
53	LSP25-00012-DX	R Rin	1
54	LSP25-00008-DX	Safety Pin	1
55	LSP25-00003-DX	Spring	1
56	9404-03030-DX	Cotter Pin Ø3x30	1
57	9101-06025-DX8.8Q	Hex Bolt M6x25	4
58	9301-20000-DX	Flat Washer Ø20	2
59	LSP25-00020-FH	Slotted Nut M20x1.5	2
60	9404-04036-DX	Cotter Pin 4x36	2
61	LSP25-00009-DX	Axle Cap	2
62	LSE20-00011	Oil Return Pipe	1
63	LSP25-14000	Wheel	2
64	LSP25-10007	Gear Pump	1
65	LSP25-10005	Gear Pump Stand	1
66	LSP25-10002	Engine Connector	1
67	LSP25-10003	Gear Pump Connector	1
68	LSP25-10006	Connector Cover	1
69		Gear Pump Flat Key	1
70	9101-08030-DX8.8	Hex Bolt M8x30	4
71	9101-05010-DX8.8	Hex Bolt M5x10	4
72	LSP25-10008-FH	Wire Snap rings for shaft	1
73		Flat Key	1
74	9206-08000-DX	Nylon Lock Nut M8	18
75	9101-08025-DX8.8	Hex Bolt M8x25	8
76	9306-08000-DX	Lock Washer Ø8	28
77	9301-08000-DX	Flat Washer Ø8	16
78	LSP25-10001	Engine	1
79	LSP25-10004-DX	Engine Bushing	1
80	LSE35-00002-DX	130° Elbow Connector	1
81	9901-11.2x2.4	O Ring 11.2x2.4	3
82	9101-06020-DX8.8	Hex Bolt M6x20	6
83	9306-06000-DX	Lock Washer Ø6	6
84	9301-06000-DX	Flat Washer Ø6	10
85	LSP25-00018	Oil Pipe	1
86	LSP25-00011	Clamp	2
87	9302-10000-DX	Big Flat Washer Ø10	4
88	LSP25-00025	Polyurethane Block	4
89	Z104	50mm Coupler	1
90	9101-12070-DX8.8	Hex Bolt M12x70	2
91	9304-62000-FH	Wire Snap rings for shaft	1
92	LSE20-07000	Front Support Leg	1
93	LSE20-00003-DX	Angle Connector	1
94	LSE20-04000	Tow Bar	1
95	9101-12040-DX8.8	Hex Bolt M12x40	6
96	9101-12065-DX12.9	Hex Bolt M12x65	1

Ref.No.	Drawing No.	Description	Qty
97	9101-12170-DX8.8Q	Hex Bolt M12x170	2
98	LSE20-00018	Lengthening Tow Bar	1
99	9101-10075-DX8.8	Hex Bolt M10x75	1
100	LSA22-15000	Rear Support Leg	1
101	N29L-08000	Lift Cylinder	1
102	LSE20-00013-DX	Wedge Pin	1
103	LSL20E-00002	Hose Clamp	2
104	LSA22-00015-DX	Hinge Pin	1
105	9404-04040-DX	Cotter Pin 4x40	3
106	9101-12100-DX12.9	Hex Bolt M12x100	1
107	9101-08065-DX8.8	Hex Bolt M8x65	4
108	9206-06000-DX	Hex Lock Nut M6	6
109	LSM30-05000	Control Valve	1
110	LSE20-05000	Valve Mounting Plate	1
111	LSE20-00008	Hydraulic Hose(Connector B- Valve B)	1
112	LSE20-00015	Hydraulic Hose(Connector A-gear pump)	1
113	9101-06030-DX8.8	Hex Bolt M6 x 30	2
114	LSE20-09000	Throttle Connector	2
115	LSE20-00010	Hydraulic Hose B (lift cylinder)	1
116	LSE20-00009	Hydraulic Hose A (lift cylinder)	1
117	9110-08025-DX	Screw M8x25	4
118	LSP25-00015-DX	Thick Washer	2
119	9101-12090-DX	Hex Bolt M12x90	1
120	LSP25-11000-DX	Safety Chain	2
121	9121-06010-FH	Inner Hex Cone Point Set Screw M6x10	1
122	LSE2201-00001	Protection Tube A	1
123	Z330-00008-DX	Pawl	1
124	Z330-00017-DX	Key Ring	1
125	LSE2201-02000	Protection Tube Seat	1
126	Z330-00003-FH	Spring B	1
127	LSE20-10000	Engine Guide	1
128	9101-10050-DX8.8	Hex Bolt M10x50	2
129	LSE35-05000	Cross Wedge	1
130	919905-10035-DX	Wing Bolt M10X35	1