

OWNER'S MANUAL & SAFETY INSTRUCTIONS

Save This Manual Keep this manual for the safety warnings and precautions, operating, assembly, inspection, maintenance and cleaning procedures. Keep this manual in a safe and dry place for future reference.



Heavy Duty 1 Ton & 2 Ton FOLDING ENGINE CRANE






⚠ WARNING

Read carefully and understand all **ASSEMBLY AND OPERATION INSTRUCTIONS** before operating. Failure to follow the safety rules and other basic safety precautions may result in serious personal injury.

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WARNING SYMBOLS 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.
	Indicates a hazardous situation which, if not avoided, will result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in death or serious injury.
	Indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.
	Addresses practices not related to personal injury.

IMPORTANT SAFETY INFORMATION

WARNING

Read all safety warnings and instructions. *Failure to heed these markings may result in personal injury and/or property damage.*

Save all warnings and instructions for future reference.

The warnings, precautions, and instructions discussed in this manual cannot cover all possible conditions and situations that may occur. It must be understood by the operator that common sense and caution are factors which cannot be built into this product, but must be supplied by the operator.











- Study, understand, and follow all instructions before operating this device.
- Do not exceed 2 ton rated capacity for the Engine Crane.
- Use only on hard, level surfaces.
- Before moving, lower the load to the lowest possible point.
- Use only sling or chains with a rated capacity greater than the weight of the load being lifted.
- Do not allow load to swing or drop violently while lowering or moving.
- Do not make any alterations or modifications to Engine Crane. Do not adjust safety valve.
- Properly extend leg extensions and secure boom in proper setting before use.
- Follow capacities marked on boom; capacity decreases as boom lengthens.
- Wear safety goggles and heavy-duty work gloves during use.
- Verify replacement jack has same rating, mounting points and maximum length.
- Do not use for aircraft purposes.
- Inspect before every use; do not use if parts loose or damaged.
- Keep your work area clean and well lit. Cluttered work areas invite accidents.
- Keep bystanders, children, and visitors away while operating Engine Crane. Distractions can cause you to lose control.
- Stay alert. Watch what you are doing, and use common sense when operating a jack. Do not use a jack while tired or under the influence of drugs, alcohol, or medication. A moment of inattention while operating jacks may result in serious personal injury.
- Follow instructions in the "Inspection, Maintenance, And Cleaning" section of this manual. Use of unauthorized parts or failure to follow maintenance instructions may create a risk of injury and may void any applicable warranty.

Specifications

Capacity	1 Ton	2 Ton
Ram Capacity	3 Ton	8 Ton
Max Height	2130 mm	2170 mm

Assembly Instructions

Bolt Shaft Identification Chart

Chain Bolt	Boom Bolt	Post Bolt	Frame Bolt	Hinge Bolt	Top Ram Bolt	Bottom Ram Bolt	Hinge Bolt	Small Caster Bolt
Part #2 14x80mm	Part #6 14x90mm	Part #6 14x90mm	Part #6 14x90mm	Part #11 14x100mm	Part #7 16x85mm	Part #7 16x85mm	Part #10 16x120mm	Part #29 8x12mm
								
								

Hardware List

Part	Description	Qty
1	Hook & Chain	1
2	Bolt M14x80	1
3	Nut M14	7
6	Bolt M14x90	5
7	Bolt M16x85	2
8	Nut M16	3
10	Bolt M16x120	1
11	Bolt M14x100	1

Part	Description	Qty
16	Nut M8	24
17	Large Caster	4
18	Bolt M8x20	16
19	Lock Pin	4
20	R-Pin	4
21	Small Caster	2
22	Bolt M8x16	8

Note: Match shaft of bolt with shapes to determine bolt part number and function.

⚠WARNING TO PREVENT SERIOUS INJURY AND DEATH:
The correct bolts must be used during assembly. Carefully compare bolts to Bolt Identification illustration above and the measurements shown in the parts list and assembly diagrams near the end of this manual to make sure that the correct bolts are used in the correct place.
For safety and ease of assembly, use two people to assemble the Shop Crane.
CAUTION: DO NOT TIGHTEN ANY BOLTS UNTIL YOU ARE FULLY FINISHED WITH ASSEMBLY. OTHERWISE PARTS WILL NOT LINE UP PROPERLY.

1. To attach two Large Casters (17) to the rear section of the Base, align the four mounting holes in each Large Caster with the four mounting holes on the underside of each Base end. Secure in place using four Large Caster Bolts (18) and Nuts (16). See Figure 1.

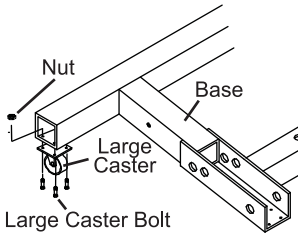


Figure 1

2. To attach two Small Casters (21) to the front section of the Base, align the four mounting holes in each Small Caster with the four mounting holes on the underside of each base end. Secure in place using four Small Caster Bolts (22) and Nuts (16). See Figure 2.

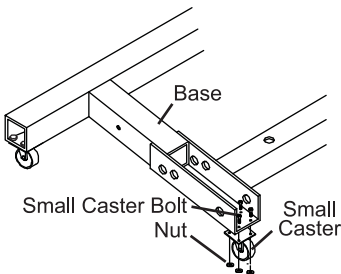


Figure 2

3. To attach one Large Caster (17) to the end of each Leg, align the four mounting holes in each Large Caster with the four mounting holes on the underside of each Leg. Secure in place using four Small Caster Bolts (18) and Nuts (16). See Figure 3.

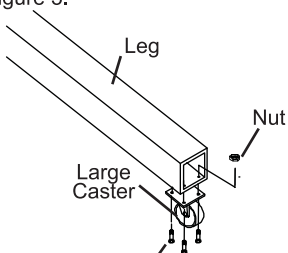


Figure 3

4. Slide Legs (23) into front of the Base (15). See Figure 4.

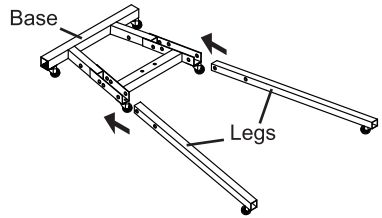


Figure 4

5. Lock Legs in place using the Lock Pins (19). To insert the R-Pins (20), lift up on front of Base until holes line up. After all four Lock Pins are inserted, insert one R-Pin through small hole at end of each Lock Pin until it snaps into place. See Figure 5.

Note: Make sure Lock Pins are secure before proceeding.

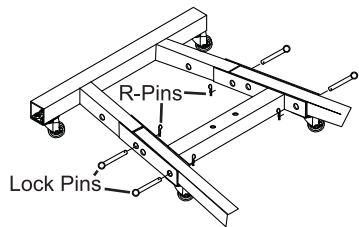


Figure 5

6. Use the Post Bolts (6) and Nuts (3) to secure the bottom of the Post to the Base. See Figure 6.

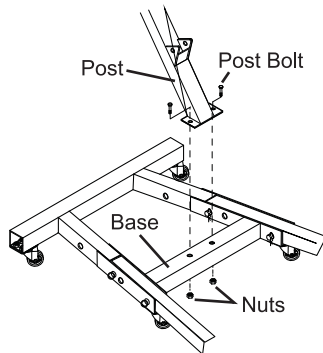


Figure 6

7. Use two Frame Bolts (6) and Nuts (3) to fasten the lower ends of the Supports to the inside of the Frame, then use one Hinge Bolt (11) and Nut (3) to fasten the top ends of the Supports to the Post. See Figure 7.

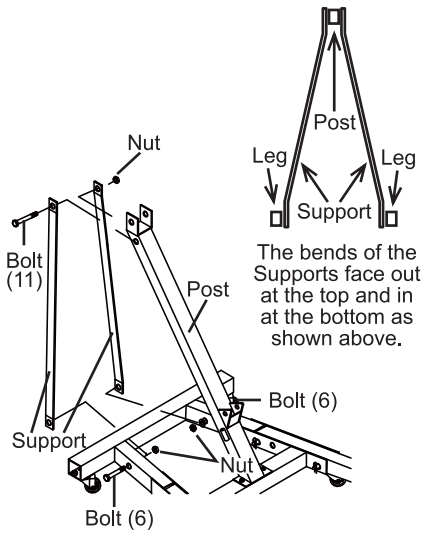


Figure 7

8. Use the Hinge Bolt (10) and Nut (8) to attach the Boom to the top of the Post. See Figure 8.

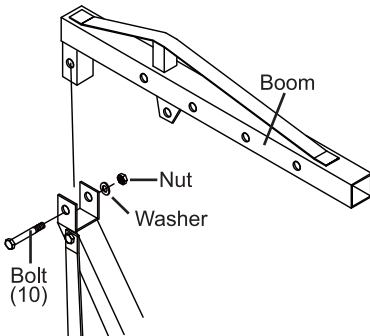


Figure 8

9. Use a Bottom Ram Bolt (7) and Nut (8) to attach lower end of the Ram to the Post and a Top Ram Bolt (7) and Nut (8) to attach the top of the Ram to the Boom. See Figure 9.

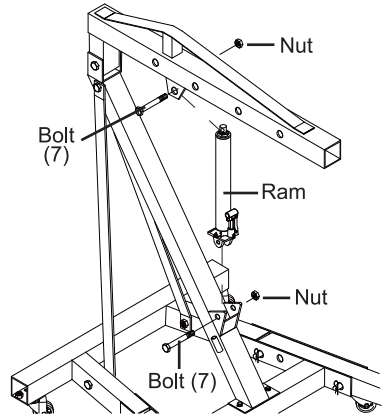


Figure 9

10. Slide the Boom Extension into the Boom and use the Bolt (6) and Nut (3) to secure at the desired load rating. Use the Bolt (2) and Nut (3) to attach the Hook and Chain to the end of the Boom Extension. See Figure 10.

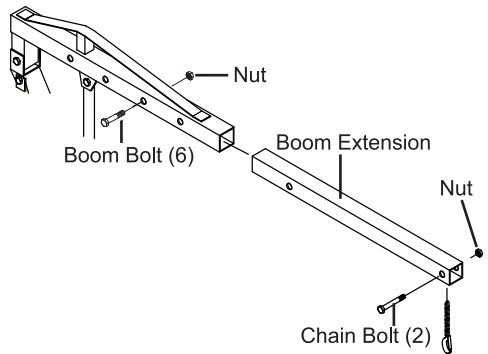


Figure 10

! SAVE THESE INSTRUCTIONS

Operating Instructions



Read the **ENTIRE** IMPORTANT SAFETY INFORMATION section at the beginning of this manual including all text under subheadings therein before set up or use of this product.

Note: Once Assembly is complete, tighten ALL Bolts before initial operation.

Lifting and Lowering

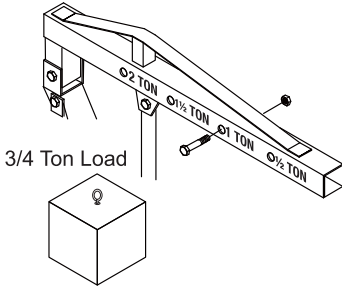


Figure 11

1. Locate the hole on the Boom with a weight limit higher than the weight you will be lifting. **For example: Locate the 1 TON hole on the Boom for a load that is under one Ton. See Figure 11.**

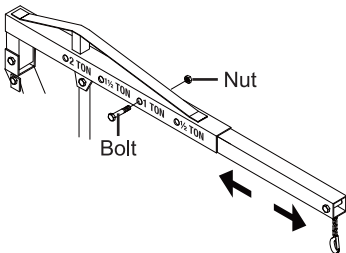


Figure 12

2. Adjust the Boom Extension so the hole furthest from the hook-end aligns with the chosen hole on the Boom. Secure into place by inserting the Bolt through all aligned holes and tightening in place with the Nut. See Figure 12.

WARNING! Do not stand under an object that is being lifted by the Engine Crane. Be aware of the possibility of a load slipping off the Hook and Chain. An item that falls from the Crane can cause serious injury.

3. Move the Crane so that the Hook and chain is directly above the item to be lifted.
4. Securely attach the Hook and Chain to the item.

5. To raise the Boom, turn the Jack's release valve fully clockwise (right). Insert the Handle into the Jack and pump (up and down) repeatedly until the item has been lifted to the desired height.

WARNING! Fully tighten the release valve or else the Jack may lower or may not be able to reach the full height.

WARNING! DO NOT MOVE THE CRANE WHEN UNDER LOAD. The Casters are not designed to be rolled when the Crane is lifting heavy objects.

6. To lower the Crane, SLOWLY turn the Jack's release valve counterclockwise (left).

Folding the Frame

WARNING! Do not fold crane while loaded.

1. Lower Crane all the way.
2. Remove R-Pins from the front Lock Pins. Remove the front Lock Pins. Leave rear Lock Pins in.
3. Raise Leg until it rests against Handle.
4. Insert a front Lock Pin into the middle hole of the Base, for each Leg, and reinsert R-Pins.

Bleeding Instructions

IMPORTANT! Before first use, check for proper hydraulic oil level and thoroughly test the equipment. If it does not work properly, bleed excess air from its hydraulic system as follows:

1. Open Release Valve and lower Jack completely.
2. Remove Oil Plug and fill with hydraulic oil (sold separately) to full level.
3. Apply downward pressure to the Boom and Pump the Jack Handle quickly several times.
4. Check the Oil Fill Hole and, if necessary, top off the Oil Fill Hole with hydraulic oil.
5. Replace the Oil Plug and close the Release Valve.
6. Test the equipment several times for proper operation before attempting to lift a load. If, after bleeding, the equipment still does not appear to be working properly, do not use the equipment until it has been repaired by a qualified service technician.

User-Maintenance Instructions



Procedures not specifically explained in this manual must be performed only by a qualified technician.



WARNING

TO PREVENT SERIOUS INJURY FROM TOOL FAILURE:

Do not use damaged equipment. If abnormal noise or vibration occurs, have the problem corrected before further use.

Cleaning, Maintenance, and Lubrication

1. Before each use, inspect the general condition of the Jack. Check for broken, cracked, or bent parts, loose or missing parts, and any condition that may affect the proper operation of the product. If a problem occurs, have the problem corrected before further use.
2. Before each use, thoroughly test the Jack for proper operation prior to its actual use. If the Jack appears not to be working properly, follow Bleeding the hydraulic Fluid Instructions.
3. Change the hydraulic oil at least once every year. To change the hydraulic oil:
 - a. With the Jack fully lowered, remove the Oil Filler Plug on the side of the Housing.
 - b. Tip the Jack to allow the old hydraulic oil to drain out of the Housing completely, and dispose of the old hydraulic oil in accordance with local regulations.
 - c. With the Jack upright, completely fill the Housing with a high quality hydraulic oil (not included) until the oil just begins to run out of the Oil Fill Hole.
 - d. Open the valve Release Screw and pump the Handle to bleed air from the system.
 - e. Reinstall the Oil Filler Plug.
4. Wipe dry with a clean cloth. Then, store the Jack in a safe, dry location out of reach of children and other non-authorized people.

Do not use damaged equipment.

TROUBLE SHOOTING



TO PREVENT SERIOUS INJURY:

Use caution when troubleshooting a malfunctioning jack.

Completely resolve all problems before use. If the solutions presented in the Troubleshooting guide do not solve the problem, have a qualified technician inspect and repair the Jack before use.

After the ram is repaired: Test it carefully without a load by raising it and lowering it fully, checking for proper operation, BEFORE RETURNING THE RAM TO OPERATION.

DO NOT USE A DAMAGED OR MALFUNCTIONING JACK!

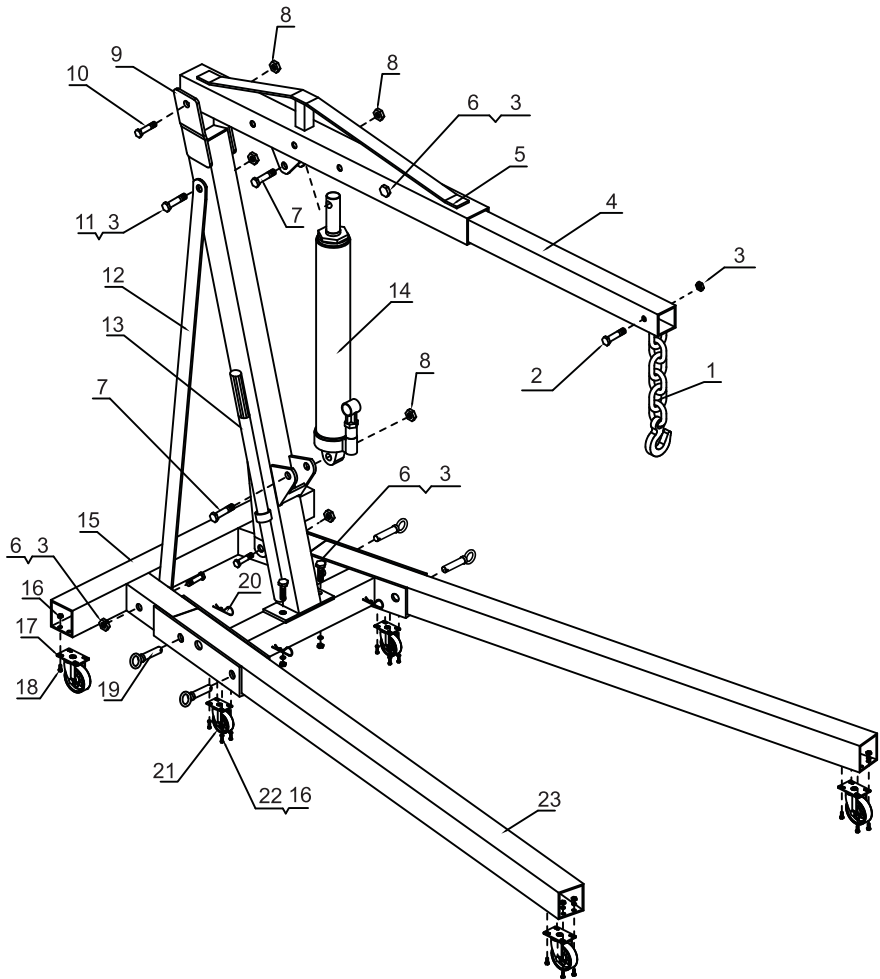
POSSIBLE SYMPTOMS						PROBABLE SOLUTION (Make certain that the Jack is not supporting a load while attempting a solution.)
Ram will not lift at its weight capacity	Hook lowers under load	Pump stroke feels spongy	Hook will not lift all the way	Handle moves up when Jack is under load	Oil leaking from filler plug	
X	X					Check that Release Valve is fully closed. Bleed air from the system.
X	X			X		Valves may be blocked and may not close fully. To flush the valves: 1. Lower the Chain / Hook and securely close the Release Valve. 2. Manually lift the Chain / Hook several inches. 3. Open the release valve and force the Chain / Hook down as quickly as possible.
X		X	X			Ram may be low on oil. Check the oil level and refill if needed.
						Ram may require bleeding - see Instructions on page 8.
					X	Unit may have too much hydraulic oil inside, check fluid level and adjust if needed.

Parts List and Diagram

Part	Description	Qty
1	Hook & Chain	1
2	Bolt M14x80	1
3	Nut M14	7
4	Boom Extension	1
5	Boom	1
6	Bolt M14x90	5
7	Bolt M16x85	2
8	Nut M16	3

Part	Description	Qty
9	Post	1
10	Bolt M16x120	1
11	Bolt M14x100	1
12	Support	2
13	Handle	1
14	Ram	1
15	Base	1
16	Nut M8	24

Part	Description	Qty
17	Large Caster	4
18	Bolt M8x20	16
19	Lock Pin	4
20	R-Pin	4
21	Small Caster	2
22	Bolt M8x16	8
23	Leg	2



Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.