

Operating Instructions & Parts Manual



Engine Cranes

Model

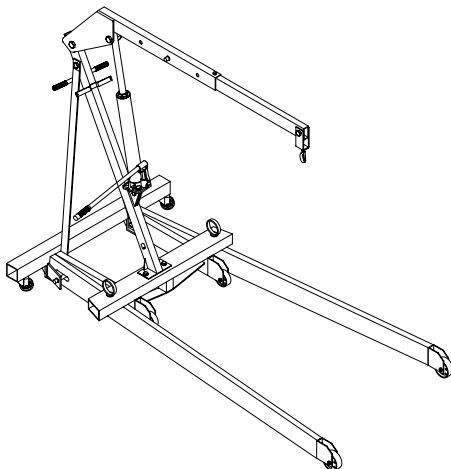
44010 (*Foldable Legs*)

44020 (*Retractable Legs*)

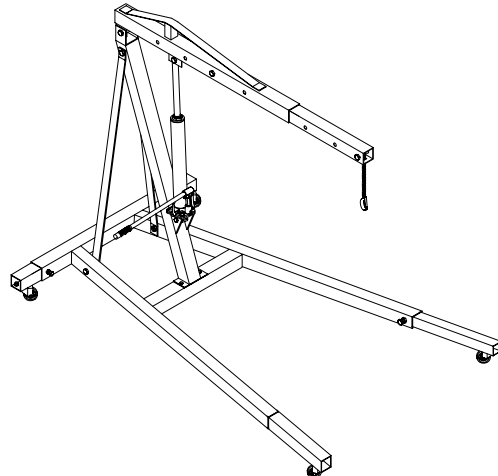
Capacity

1 Ton

2 Ton



Model 44010



Model 44020



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.

ADVERTENCIA

- Leer, comprender, y seguir las instrucciones antes de utilizar el aparato.
- El manual de instrucciones y la información de seguridad deben estar comunicados en lengua del operador antes del uso.
- No seguir estas indicaciones puede causar daños personales o materiales.

WARNING

To avoid **crushing and related injuries**:



NEVER work on, under or around a load supported only by engine crane.
ALWAYS use adequately rated engine stand.

SFA Companies

<http://www.omegalift.com>

Read this manual and follow all the Safety Rules and Operating Instructions before using this product.

Printed in China
44010-M0 rev 11/07

SAFETY and GENERAL INFORMATION

Save these instructions. For your safety, read, understand, and follow the information provided with and on this engine crane before using. The owner and/or operator of this equipment shall have an understanding of engine cranes and safe operating procedures before attempting to use. The owner and/or operator shall be aware that the use and repair of this product may require special skills and knowledge. Instructions and safety information shall be conveyed in the operator's native language before use of this engine crane is authorized. If any doubt exists as to the safe and proper use of this product, remove from service immediately.

Inspect before each use. Do not use if broken, bent, cracked, or damaged parts (including labels) are noted. Any engine crane that appears damaged in any way, operates abnormally or is missing parts, shall be removed from service immediately. If you suspect that the engine crane was subjected to a shock load (a load dropped suddenly, unexpectedly upon it), immediately discontinue use until it has been checked by a factory authorized service center (contact distributor or manufacturer for list of authorized service centers). It is recommended that an annual inspection be done by qualified personnel. Labels and owner's manuals are available from manufacturer.

PRODUCT DESCRIPTION

This engine crane is intended to be used to remove, install and transport in the lowered position, rated capacity **automotive and light truck engines and engine assemblies**. It must be used with appropriately rated engine leveller, sling and/or chains which are NOT INCLUDED. After removing, immediately transfer the load to an appropriately rated work station such as an engine stand.



Do not use this device for any purpose other than that for which it is expressly intended.

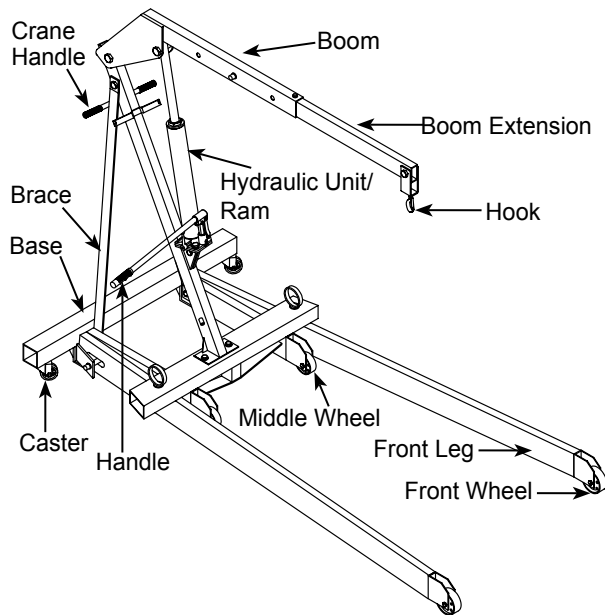


Figure 1 - Model 44010 Components

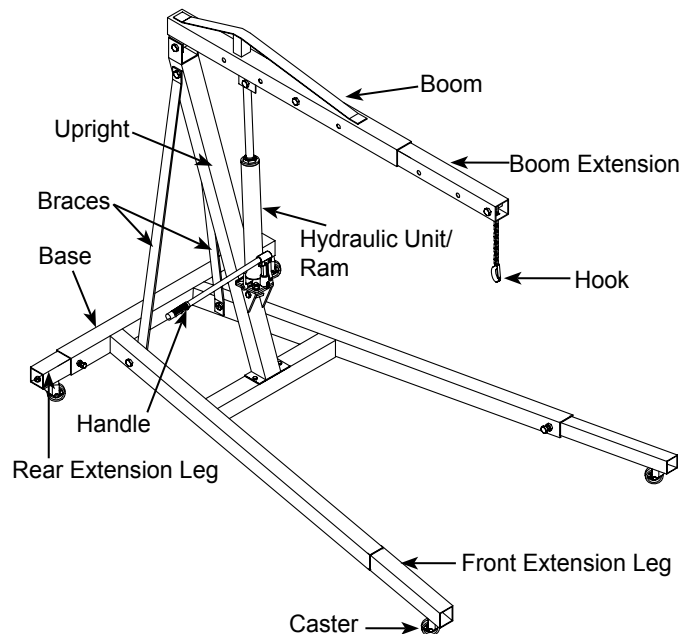


Figure 2 - Model 44020 Components

ASSEMBLY

Model 44010:

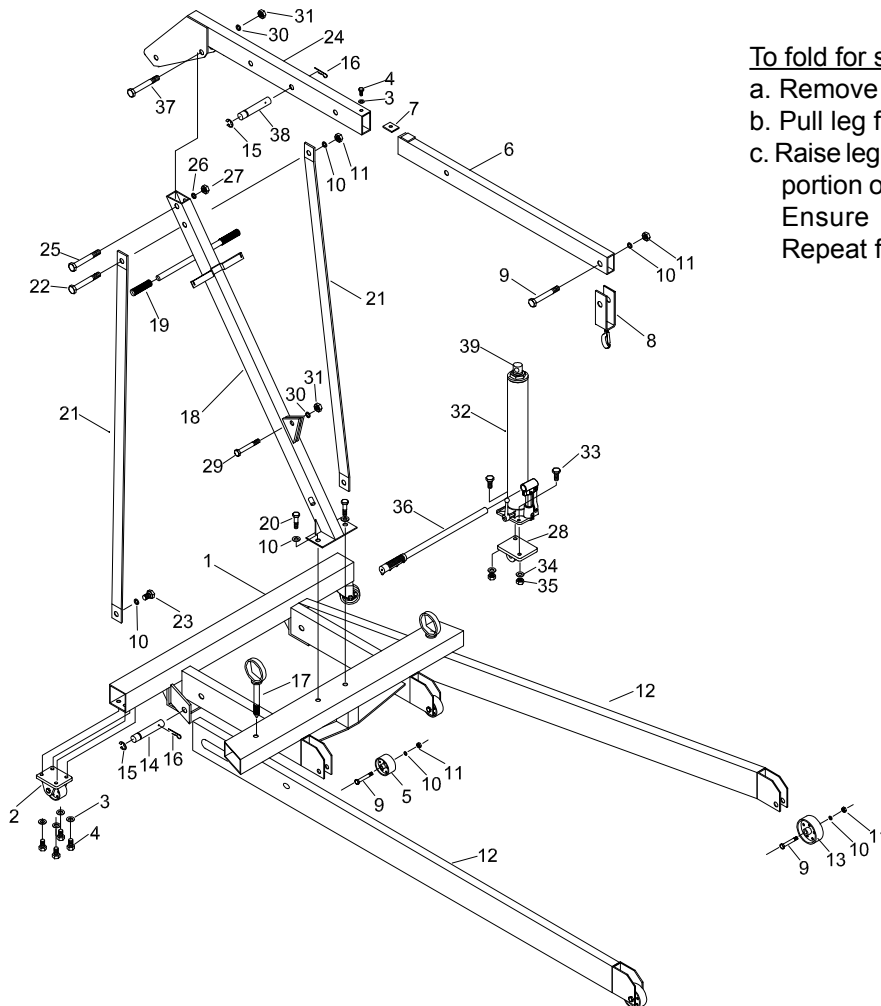
1. Make sure all parts are present (refer Fig. 1 & 3). If any parts are missing or damaged, contact customer service.
2. Attach caster (#2) to base (#1) using M8x16 bolts and washers (#4 & 3), then attach 3-1/2" wheels (#5) using bolts, washers & nuts (#9, 10 & 11).
3. Install the 5" wheels (#13) to front legs (#12) using bolts, washers & nuts (#9, 10 & 11).
4. Attach two front legs (#12) to base (#1) using pin, "E" clip, snap pin & lock bolt (#14, 15, 16 & 17).
5. Attach upright (#18) to base (#1) using two bolts & nuts (#20 & 10). Upright must lean towards the rear of the base as shown. Leave nuts finger tight.
6. Attach two braces (#21) to upright (#18) with bolt, washer & nut (#22, 10 & 11). Leave nut finger tight.
7. Attach the bottom of braces (#21) to inside of base (#1) using two each bolts & nuts (#23 & 10).
8. Tighten all bolts from upright (#18) to base (#1), braces (#21) to upright (#18), and braces (#21) to base (#1).
9. Attach hydraulic unit (#32) to the mounting bracket

(#28) using bolts, washers & nuts (#33, 34 & 35). Then position the assembly between mounting ears on upright (#18), and attach using bolt, washer & nut (#29, 30 & 31).

Note: Handle socket of hydraulic unit must face the front of the base as shown. Tighten nut. Lean hydraulic unit assembly back against upright.

10. Connect boom (#24) to upright using bolt, washer & nut (#25, 26 & 27).
11. Hold boom (#24) and pivot hydraulic unit (#32) out away from upright. Attach the ram of hydraulic unit (#39) to boom with bolt, washer & nut (#37, 30 & 31). Tighten nut.
12. Slide boom extension (#6) into boom and secure in retracted position using pin, "E" clip & cotter pin (#38, 15 & 16). Three positions available: 1/2 ton, 3/4 ton, and 1 ton position.
13. Slide square washer (#7) into boom using bolt & washer (#4 & 3).
14. Insert hook (#8) to boom extension using bolt, washer & nut (#9, 10 & 11).

Note: Check all fasteners for tightness, including those pre-assembled at the factory. Tighten where required.



To fold for storage:

- a. Remove pin (#17)
- b. Pull leg forward and aside, away from base.
- c. Raise leg until it nears vertical, engage notched portion of upright onto notched portion of leg. Ensure notched portions are interlocked. Repeat for remaining leg.

Size of Hardware Kits	Qty
3 -Lock Washer M8	9
4 -Bolt M8x16	9
7 -Washer M8	1
9 -Bolt M12x65	5
10 -Lock Washer M12	10
11 -Nut M12	6
20 -Bolt M12x70	2
22 -Bolt M12x90	1
23 -Bolt M12x30	2
25 -Bolt M20x100	1
26 -Lock Washer M20	1
27 -Nut M20	1
29 -Bolt M16x70	1
30 -Lock Washer M16	2
31 -Nut M16	2
33 -Bolt M10x30	2
34 -Lock Washer M10	2
35 -Nut M10	2
37 -Bolt M16x90	1

Figure 3 - Assembly Illustration for Model 44010

ASSEMBLY

Model 44020:

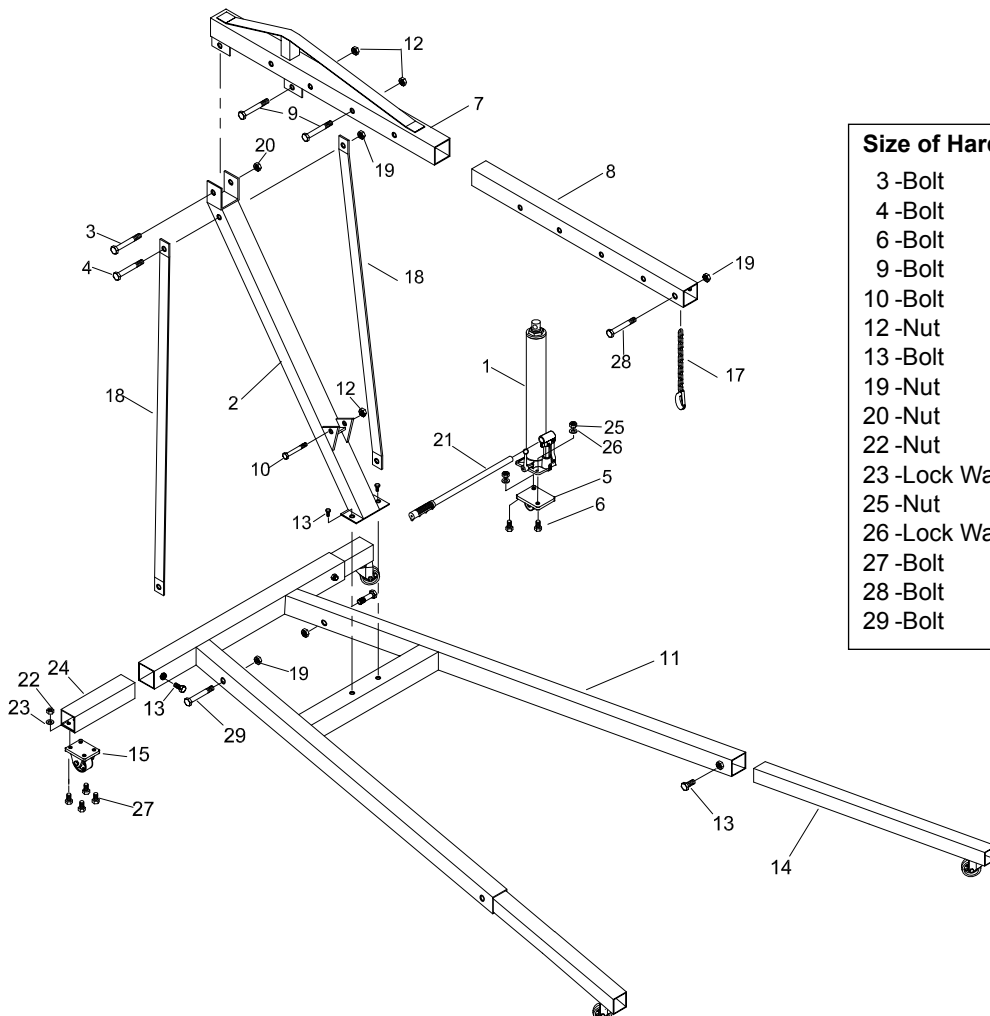
1. Make sure all parts are present (refer Fig. 2 & 4). If any parts is missing or damage, contact customer service.
1. Attach swivel casters (#15) to rear extension legs (#24) with bolts, washers & nuts (#27, 23 & 22).
2. Slide front extension legs (#14) and rear extension legs (#24) into base (#11), secure with bolts (#13) into base, tighten bolts.

Note: Do not tighten any bolts unless told to. Never extend leg extensions beyond factory marked position on each leg. Extend each leg extension an equal distance from the base.

3. Place upright (#2) on the base (#11) and secure with bolts (#13). Leave bolts finger tight.
4. Attach braces (#18) on each side of upright at top and secure with bolt & nut (#4 & 19). Place bottom of braces to inside of base, and secure with bolts & nuts (#29 & 19).

5. Attach bracket (#5) to hydraulic unit (#1) with bolts, washers & nuts (#6, 25 & 26). Then attach the assembly to upright mounting ears using bolt & nut (#10 & 12).
6. Place boom (#7) on top of upright (#2) and secure with bolt & nut (#3 & 20). Pump hydraulic unit using handle (#21) until ram extends approximately 2". Place boom mounting bracket on top of ram and secure with bolt & nut (#9 & 12).
7. Slide boom extension (#8) into the boom (#7), ensure the slot for chain faces down and secure with bolt & nut (#9 & 12) in correct hole on boom for your particular job. Four positions available: 1/2 ton, 1 ton, 1 1/2 ton and 2 ton.
8. Slide chain and hook (#17) through slot in lower front of boom extension (#8) and secure with bolt & nut (#28 & 19) as shown.

Note: Check all fasteners for tightness, including those pre-assembled at the factory. Tighten where required.



Size of Hardware Kits		Qty
3-Bolt	M20x120	1
4-Bolt	M12x100	1
6-Bolt	M10x30	2
9-Bolt	M16x90	2
10-Bolt	M16x75	1
12-Nut	M16	3
13-Bolt	M12x25	6
19-Nut	M12	4
20-Nut	M20	1
22-Nut	M8	16
23-Lock Washer	M8	16
25-Nut	M10	2
26-Lock Washer	M10	2
27-Bolt	M8x16	16
28-Bolt	M12x75	1
29-Bolt	M12x90	2

Figure 4 - Assembly Illustration for Model 44020

BEFORE USE

1. Verify that the product and the application are compatible, if in doubt call Omega technical service (888) 332-6419.
2. Before using this product, read the operator's manual completely and familiarize yourself thoroughly with the product, its components and recognize the potential hazards associated with its use.
3. To familiarize yourself with basic operation, turn the release valve lever:
 - a. Clockwise until firm resistance is felt to further turning. This is the '**CLOSED**' release valve position used to **raise** the ram plunger.
 - b. Counter-clockwise, but no more than 2 turns from the closed position. This is the '**OPEN**' release valve position used to **lower** the ram plunger.



*Make certain that all personnel are clear of the load before lowering. **Control** the rate of descent of the load **at all times**. The **more** you open the release valve, the faster the load descends.*

4. Remove hydraulic unit and position as shown in figure 5.
5. With ram plunger fully retracted, remove the oil filler plug. Insert the handle into the handle sleeve, then pump 6 to 8 strokes. This will help release any pressurized air, which may be trapped within the reservoir. Ensure the oil level is just below the oil filler hole. Reinstall the oil filler plug.
6. Reinstall hydraulic unit.
7. Check to ensure that crane rolls freely, that the pump and release valve operate smoothly. Raise and lower the unloaded crane throughout the lifting range before putting into service. Replace worn or damaged parts and assemblies with Factory Authorized Replacement Parts only.

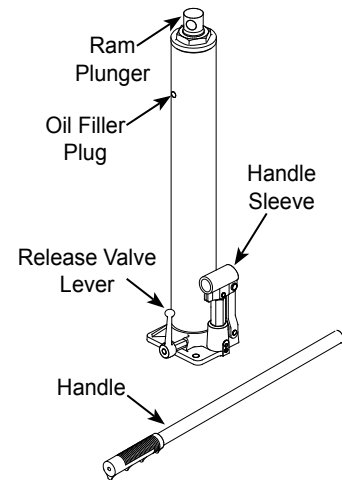


Figure 5 - Hydraulic Unit/ Ram

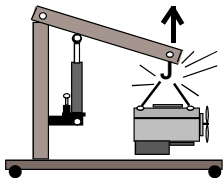
SPECIFICATIONS

Model	Rated Capacity	Ram Hydraulic Stroke	Base Length	Base Width (Front)	Base Width (Rear)	Boom Position	Min. Hook Height	Max. Hook Height	Boom Length
44010	1 Ton	19"	71 5/8"	18 1/2"~ 44 7/8"	31 1/2"	1 Ton	4 7/8"	82 1/4"	33 7/8"
						3/4 Ton	3 3/8"	85"	39 3/4"
						1/2 Ton	0"	86 5/8"	45 5/8"
44020	2 Ton	19"	62 3/8"~ 90 3/4"	29"~ 33 7/8"	34 5/8"~ 53 1/8"	2 Ton	18 3/8"	69 1/4"	48 3/4"
						1 1/2 Ton	14"	75 1/4"	57 3/4"
						1 Ton	9 1/4"	81 1/4"	66 3/4"
						1/2 Ton	5"	86 1/2"	76 3/4"

WARNING

- **Study, understand, and follow** all instructions provided with/on this device before use.
- After removing, **immediately** transfer the engine to an appropriately rated work station such as an engine stand.
- **Do not** exceed rated capacity. **Do not** exceed rated capacity for **each boom and/or leg** position.
- Use **only** on hard, level surface.
- **Before moving** a loaded crane, make certain that load is stable, in its lowest possible position, and is moved over a smooth, hard level surface.
- Use of this engine crane is limited to the lifting, lowering, and transporting in the lowest possible position, automotive and light truck engines. It is **NOT** a work station and should never be used as a work station.
- Off center loading may cause the engine to tip unexpectedly and cause loaded crane to tip over.
- Do not allow load to swing or drop violently while lowering or moving.
- Only attachments and/or adapters supplied by the manufacturer shall be used.
- No alterations shall be made on this product.
- **Failure to heed** these markings may result in **personal injury and/or property damage**.

WARNING



To avoid crushing and related injuries:

- NEVER work on, under or around a loaded crane.
- **Immediately** transfer the load to an appropriately rated engine stand.
- **Be alert** and **sober** when using this product! **Never** operate this equipment when under the influence of drugs or alcohol.
- **DO NOT** place yourself or anyone else over the loaded boom or in its line of travel.
- Use **only** hardened, appropriately sized fasteners to secure engine to crane.
- Use **only** chains and slings with a **capacity equal to or greater** than that of the crane.
- **Never** extend boom extension beyond leg extension (Model 44020).

OPERATION

For model 44020:

The crane features length adjustable boom and, length and width adjustable leg extensions. Extend both rear legs to an equal width. It is recommended that both rear legs be extended to the maximum allowable distance as limited by the marking on each leg. Both front leg extensions must be positioned to match the rated capacity markings on the booms. Both rear and front legs must be secured by means of a locking fastener found on each leg frame tube. Do not overtighten.



 **Both front legs *must* be extended to an equal length *and* match the rated capacity markings found on the boom. *Never* operate crane with boom and leg extensions positioned at **different capacities**. See Fig. 6.**




Figure 6

For All Models:

ALWAYS refer to vehicle service manual and/or shop manual for location of appropriate engine lift points and removal procedures. Each engine removal/ installation may require different tools, procedures, and level of expertise.

 **Lift only on areas of the engine as specified by the vehicle manufacturer.**

 **ALWAYS** lock legs into position with the provided locking means.

 **ALWAYS** verify that the crane and the application are compatible. **NEVER** load the engine crane with an engine that extends beyond an imaginary line drawn connecting the centerlines of the front and rear wheel/ caster axles as shown in Figure 7.

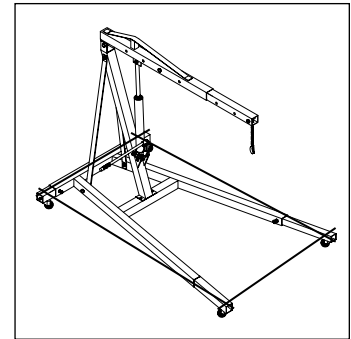



Figure 7

1. Ensure that the load does not exceed the rated capacity of your chosen **boom and leg position**.
2. Secure appropriately rated engine leveler, chain or sling assembly (NOT INCLUDED) to the vehicle manufacturers' recommended engine lift points.
3. Secure the engine crane safety hook assembly to the engine leveler, chain or sling assembly.
4. Refer to vehicle service manual and/or shop manual for location of appropriate engine lift points and removal procedures. Each engine removal/ installation may require different tools, procedures, and level of expertise.
5. When ready to remove engine, turn release valve clockwise until firm. Pump handle until load is high enough to clear vehicle.

Note: Avoid rolling the loaded engine crane. To help position an engine stand if necessary, move only across smooth, level, seamless surfaces.

Before moving, ensure the load:

- a. is lowered to the lowest practical position by turning the release valve counter-clockwise slowly and carefully, and always below the center of gravity.
- b. is prevented from swinging and inadvertent shifting.

 **Never** put any portion of your body under engine when it is supported by the engine crane. **Do not** move crane off of hard, smooth, level surface! **Before moving crane**, lower the boom as far below horizontal as possible, yet still allowing movement!

 **Never** stand over loaded boom nor in its intended line of travel.

6. Remove engine, then immediately transfer the engine to appropriate engine support device (engine stand). Turn release valve lever counter-clockwise to lower the load, but never more than 2 full turns. **Control** the rate of descent of the load **at all times**. The more you open the release valve, the faster the load descends.
7. Check to ensure stand is secure before working on or around.

MAINTENANCE

Periodically inspect the engine crane and fasteners. Replace worn or damaged parts with factory replacement parts only. Ensure caster, wheels, boom extension, leg extensions (if equipped) and pump assembly move freely.

Important: Use only a good grade hydraulic jack oil. We recommend Mobil DTE 13M or equivalent. Avoid mixing different types of fluid and Never use brake fluid, turbine oil, transmission fluid, motor oil or glycerin. Improper fluid can cause failure of the jack and the potential for sudden and immediate loss of load.

Adding Oil to Hydraulic Unit

1. Carefully remove hydraulic unit from crane.
2. With ram fully lowered and pump piston fully depressed, set hydraulic unit in its upright, level position. Remove oil filler plug.
3. Fill with oil until just below the rim of the oil filler plug hole. Reinstall the oil filler plug.

Changing Oil of Hydraulic Unit

For best performance and longest life, replace the complete fluid supply annually.

1. Carefully remove hydraulic unit from crane.
2. With ram fully lowered and pump piston fully depressed, remove oil filler plug.
3. Lay the hydraulic unit on its side and drain the fluid into a suitable container.

Note: Dispose of hydraulic fluid in accordance with local regulations.

4. Set hydraulic unit in its level upright position. Fill with oil until just below the rim of the oil filler hole. Reinstall the oil filler plug.

Lubrication

If rust appears, sand affected area and cover with suitable utility paint. A periodic coating of light lubricating oil to pivot points, axles and hinges will help to prevent rust and assure that wheels, casters, and pump assemblies move freely.

Cleaning

Periodically check the pump piston and ram for signs of rust or corrosion. Clean as needed and wipe with an oily cloth.

Note: Never use sandpaper or abrasive material on these surfaces!

Storage

Store the engine crane with the pump piston, ram, and boom fully lowered and the release valve open, but never more than 2 full turns. This will help prevent rust and corrosion to those critical surfaces of hydraulic unit.

TROUBLESHOOTING

Symptom	Possible Causes	Corrective Action
Crane will not lift load	<ul style="list-style-type: none"> • Release valve not tightly closed • Overload condition 	<ul style="list-style-type: none"> • Ensure release valve tightly closed • Remedy overload condition
Crane will lift, but not maintain pressure	<ul style="list-style-type: none"> • Release valve not tightly closed • Hydraulic unit malfunction 	<ul style="list-style-type: none"> • Ensure release valve tightly closed • Contact Omega Tech. Service
Crane will not lower after unloading	<ul style="list-style-type: none"> • Reservoir overfilled • Linkage binding 	<ul style="list-style-type: none"> • Ensure load is removed, then drain fluid to proper level • Clean and lubricate moving parts
Poor lift performance	<ul style="list-style-type: none"> • Fluid level low • Air trapped in system 	<ul style="list-style-type: none"> • Ensure proper fluid level • With ram fully retracted, remove oil filler plug to let pressurized air escape, then reinstall oil filler plug
Crane will not lift to full extension	<ul style="list-style-type: none"> • Fluid level low 	<ul style="list-style-type: none"> • Ensure proper fluid level

REPLACEMENT PARTS

Not all components of the engine crane are replacement items, but are illustrated as a convenient reference of location and position in the assembly sequence. When ordering parts, please give the Model number and parts description. Call or write for current pricing: SFA Companies 10939 N. Pomona Ave. Kansas City, MO 64153, U.S.A. E-Mail: sales@omegalift.com Tel: (888) 332-6419 Fax: (816) 891-6599 Website: <http://www.omegalift.com>

Model: 44010

Item	Part No.	Description	Qty.
1	BL80-10000-000	Hydraulic Unit	1
2	5905-00100-100	Oil Filler Plug	1
3	BL80-20000-000	Pump Handle	1
4	T473-00005-000	Hydraulic Unit Bracket	1
5	T474-07000-000	Hook Assembly	1
6	T474-00003-000	Front Wheel, 5"	2
7	T474-00002-000	Middle Wheel, 3-1/2"	2
8	T474-04000-000	Caster, 3-1/2"	2

Item	Part No.	Description	Qty.
9	T474-03000-000	Lock Pin	2
10	T474-00001-000	Braces	2
11	T474-08000-000	Boom Extension	4
-	T474-09000-000	Hardware Kit	-
-	BL800S-034	Seal Kit, Hydraulic Unit	-
-	44010-L0	Label	-
-	44010-M0	Manual	-

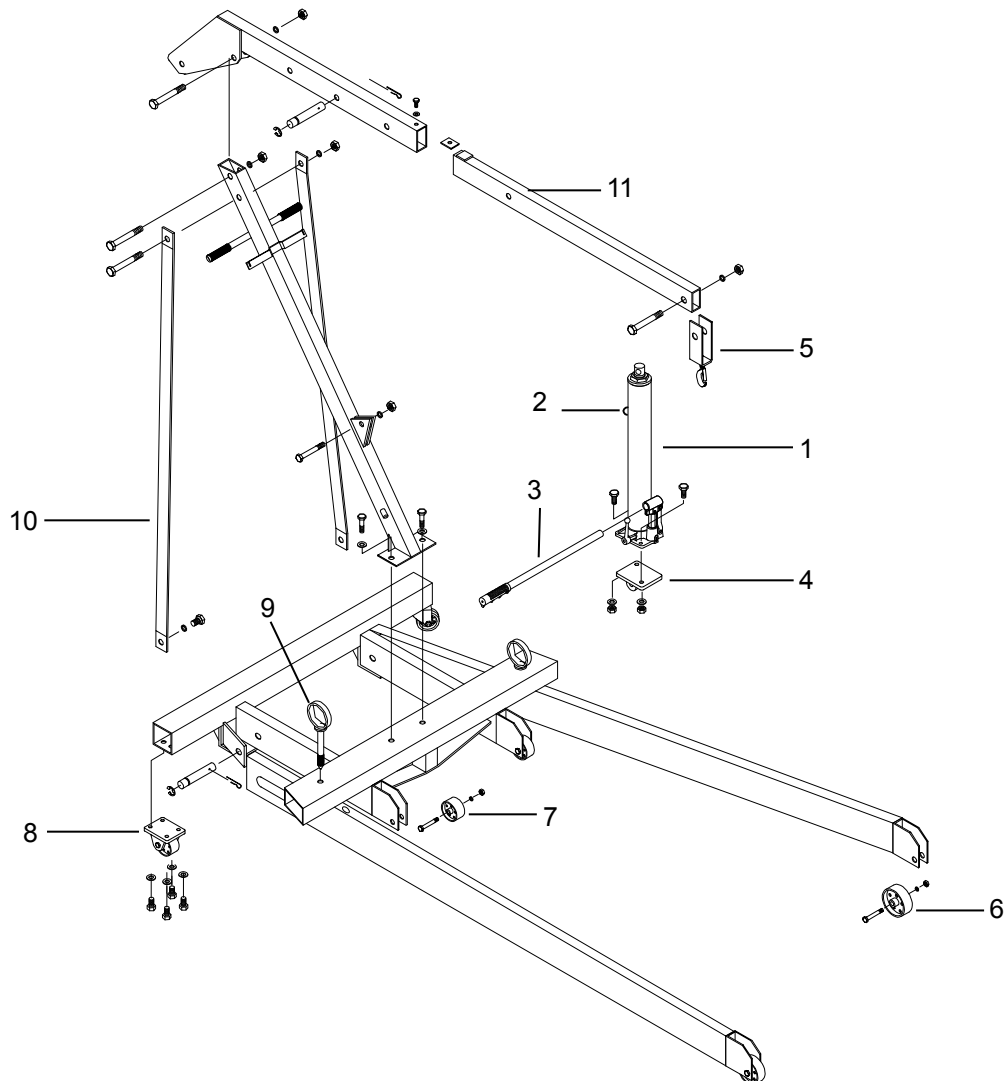


Figure 7 - Replacement Parts Illustration for Model 44010

Model: 44020

Item	Part No.	Description	Qty.
1	BL80-10000-000	Hydraulic Unit	1
2	5905-00100-100	Oil Filler Plug	1
3	BL80-20000-000	Pump Handle	1
4	T473-00005-000	Hydraulic Unit Bracket	1
5	T473-05000-000	Hook Assembly	1
6	T473-04000-000	Caster, 3-1/2"	4
7	T473-00001-000	Braces	2

Item	Part No.	Description	Qty.
8	T473-00003-000	Boom Extension	1
9	T473-00004-100	Front Leg Extension	2
10	T473-00002-100	Rear Leg Extension	2
-	T473-06000-000	Hardware Kit	-
-	BL800S-034	Seal Kit, Hydraulic Unit	-
-	44020-L0	Label	-
-	44010-M0	Manual	-

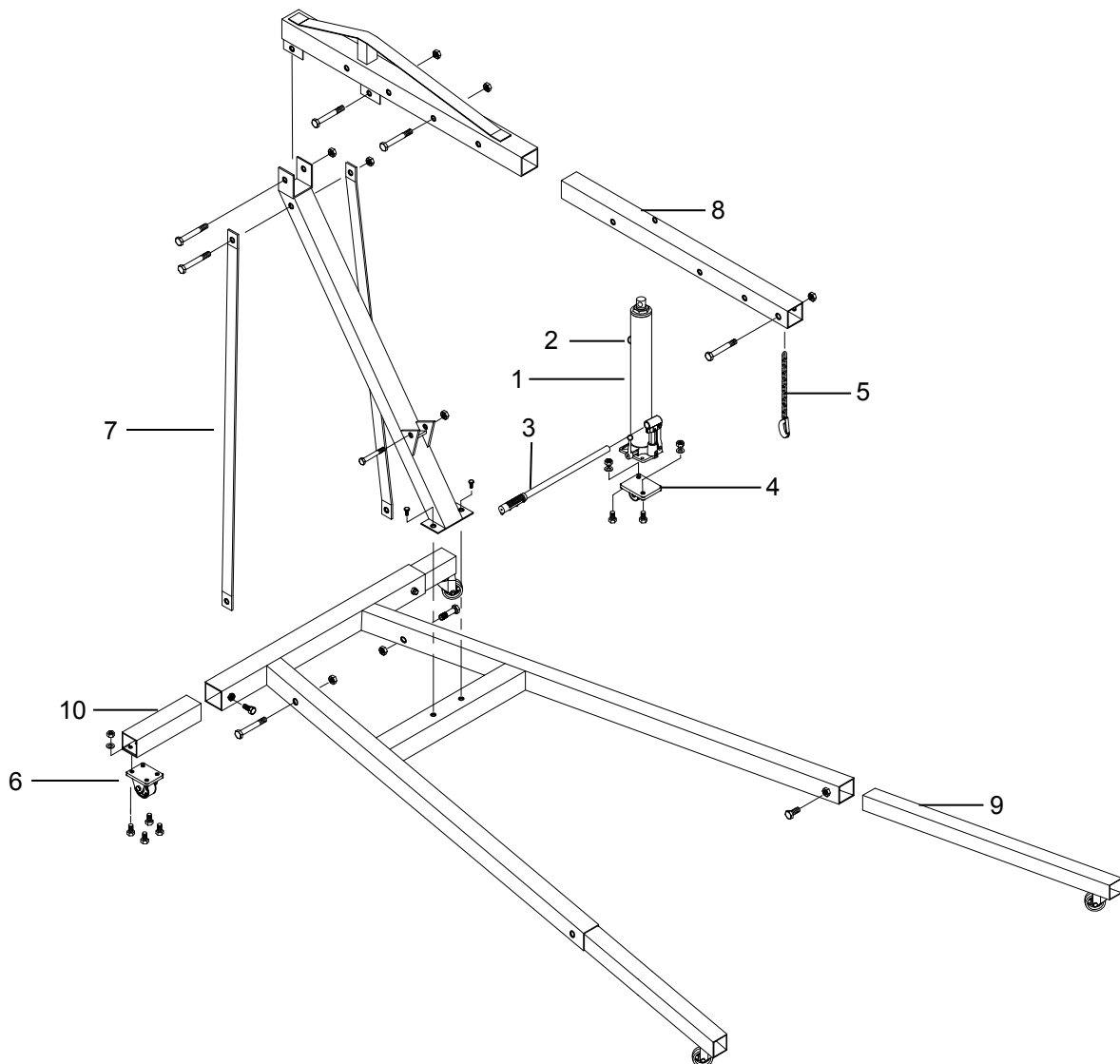


Figure 8 - Replacement Parts Illustration for Model 44020

ONE YEAR LIMITED WARRANTY

For a period of one (1) year from date of purchase, **SFA Companies** will repair or replace, at its option, without charge, any of its products which fails due to a defect in material or workmanship under normal usage. This limited warranty is a consumer's exclusive remedy.

Performance of any obligation under this warranty may be obtained by returning the warranted product, freight prepaid, to **SFA Companies** Warranty Service Department, 10939 N. Pomona Ave., Kansas City, MO 64153.

Except where such limitations and exclusions are specifically prohibited by applicable law, (1) THE CONSUMER'S SOLE AND EXCLUSIVE REMEDY SHALL BE THE REPAIR OR REPLACEMENT OF DEFECTIVE PRODUCTS AS DESCRIBED ABOVE. (2) **SFA Companies** SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGE OR LOSS WHATSOEVER. (3) ANY IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, SHALL BE LIMITED TO ONE YEAR, OTHERWISE THE REPAIR, REPLACEMENT OR REFUND AS PROVIDED UNDER THIS EXPRESS LIMITED WARRANTY IS THE EXCLUSIVE REMEDY OF THE CONSUMER, AND IS PROVIDED IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED. (4) ANY MODIFICATION, ALTERATION, ABUSE, UNAUTHORIZED SERVICE OR ORNAMENTAL DESIGN VOIDS THIS WARRANTY AND IS NOT COVERED BY THIS WARRANTY.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights, and you may also have other rights, which vary from state to state.



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