



# Heavy Duty Engine Cranes

## Operating Instructions & Parts Manual

**Model Number**

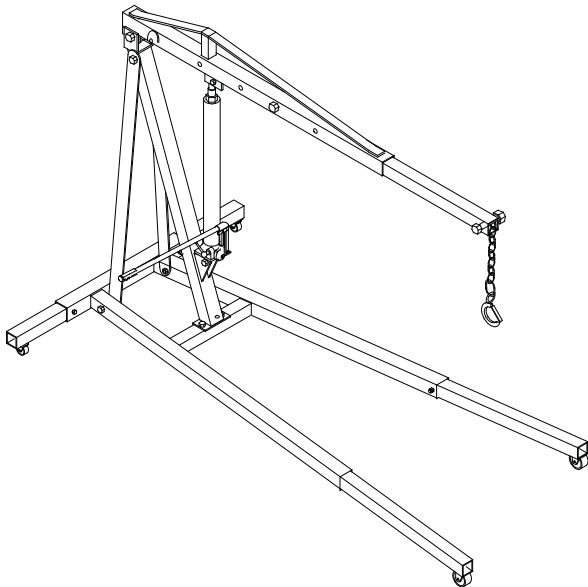
**ATD-7484**

**ATD-7485 (Foldable Legs)**

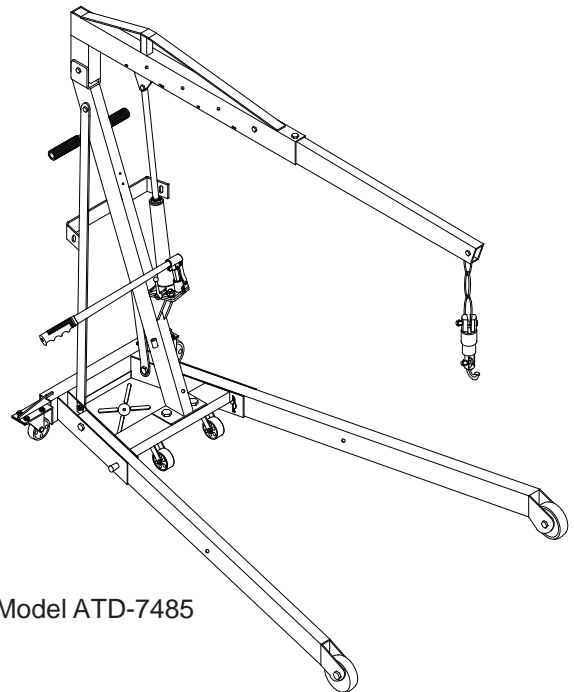
**Capacity**

**2 Ton**

**2 Ton**



Model ATD-7484



Model ATD-7485

**⚠ WARNING ⚠**

**WARNING:** This product may contain chemicals, including lead, known to the State of California to cause cancer, birth defects or other reproductive harm. *Wash hands after handling.*

**Save these instructions.** For your safety, read and understand the information contained within. The owner and operator shall have an understanding of this product and safe operating procedures before attempting to use this product. Instructions and Safety information shall be conveyed in the operators native language before use of this product is authorized. Make certain that the operator thoroughly understands the inherent dangers associated with the use and misuse of the product. If any doubt exists as to the safe and proper use of this product as outlined in this factory authorized manual, remove from service until which time it is clear. **Inspect before each use.** Do not use if broken, bent, cracked or otherwise damaged parts are noted. If the crane has been or suspected to have been subjected to a shock load, discontinue use until checked out by an authorized factory service center. Owners and operators of this equipment shall be aware that the use and subsequent repair of this equipment may require special training and knowledge. It is recommended that an annual inspection be done by qualified personnel and that any missing or damaged parts, decals, warning / safety labels or signs be replaced with factory authorized replacement parts only. Any crane that appears to be damaged in any way, is worn or operated abnormally should be removed from service immediately until such time as repairs can be made.

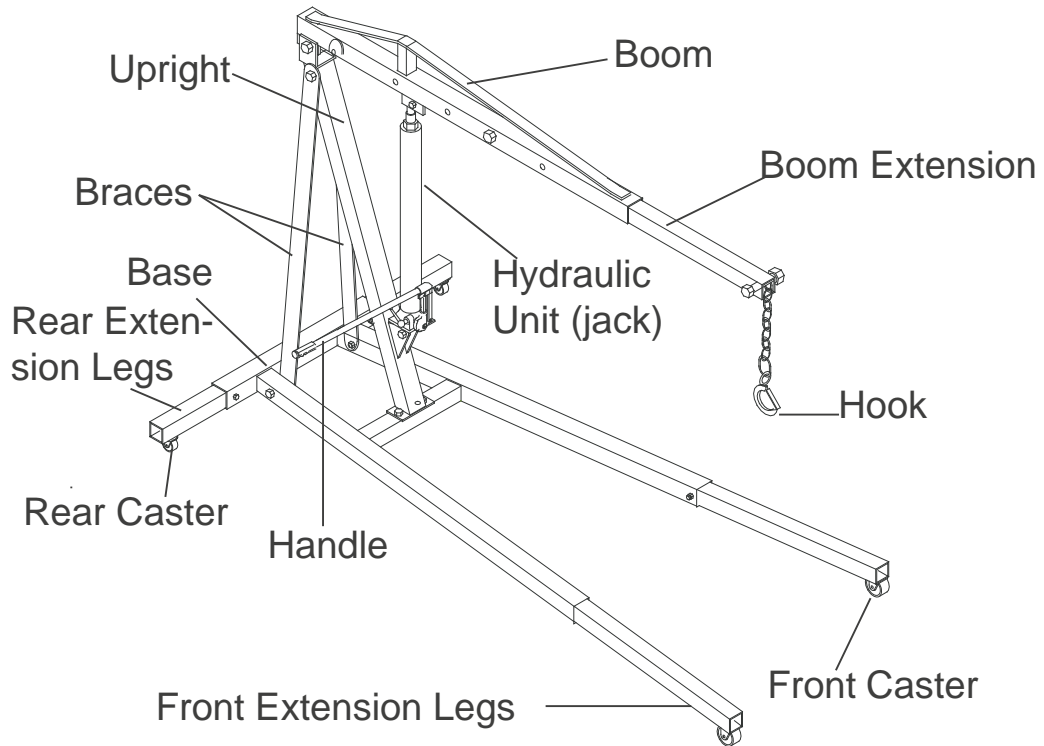
## PRODUCT DESCRIPTION

ATD Tools Engine Cranes are designed to safely lift and lower rated capacity engines. It is an aid in the removal and installation of automotive and light truck engines. Welded steel tube construction, heavy duty chains and safety hooks, steel casters and wheels along with compliance with the latest **ASME / ANSI - PALD** standards ensure safety, strength and stability. Model ATD-7485 is a foldable, space saver design. Each has air actuated option.

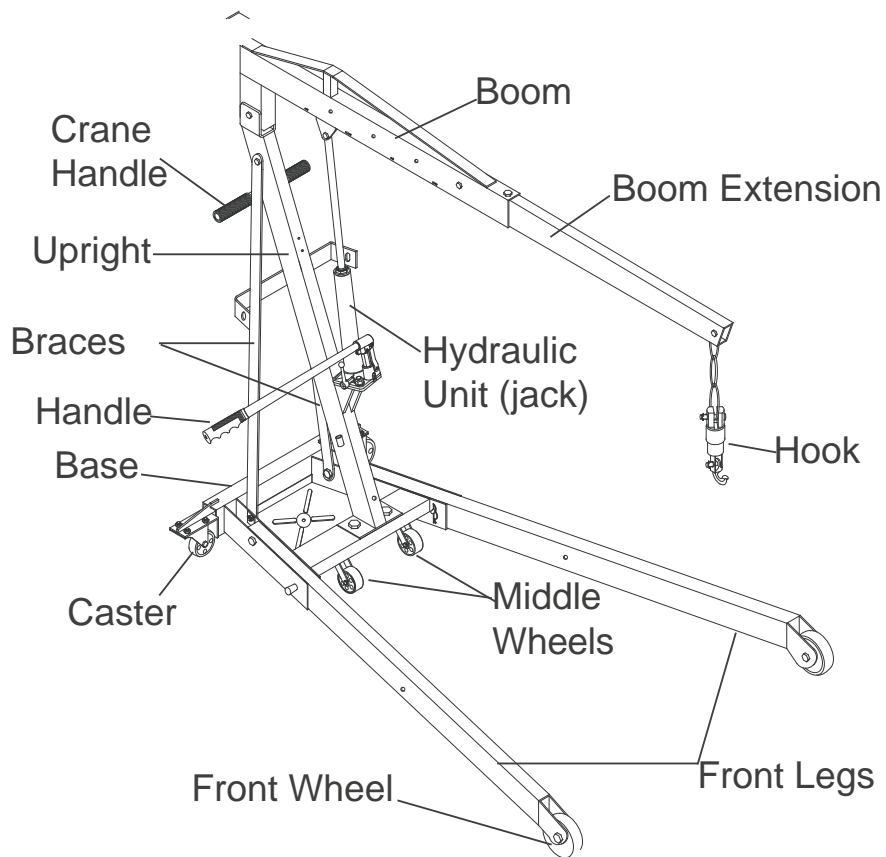
## SPECIFICATIONS

Model	Base Length	Base Width (Front)	Base Width (Rear)	Height	Wheel Diameter (Front)	Wheel Diameter (Rear)	Weight
ATD-7484	62-1/2" to 89-1/2"	29" to 33-7/8"	34-5/8" to 53-1/8"	57"	3-1/2"	3-1/2"	266.25 lbs.
ATD-7485	78-1/2"	37-7/8"	30-3/8"	57" (73" folded)	5"	3-1/2"	266 lbs.

Model	Boom Position	Capacity	Min. Hook Height	Max. Hook Height	Boom Length
ATD-7484	1	2 Ton	18-3/8"	69-1/4"	48-3/4"
	2	1-1/2 Ton	14"	75-1/4"	57-3/4"
	3	1 Ton	9-1/4"	81-1/4"	66-3/4"
	4	1/2 Ton	5"	86-1/2"	76-3/4"
ATD-7485	1	2 Ton	0"	59-1/4"	48-5/8"
	2	1-1/2 Ton	0"	63"	55-5/8"
	3	1 Ton	0"	66-5/8"	62-7/8"
	4	1/2 Ton	0"	70-1/2"	69-7/8"



**Figure 1- Model ATD-7484 components**



**Figure 1- Model ATD-7485 components**

## BEFORE USE

1. Inspect crane before each use. Do not use if bent, broken or cracked components are noted. Ensure that casters/wheels and boom move freely. Check for and tighten any loose assemblies.
2. Verify that the product and the application are compatible, if in doubt call for Technical Service (888) 332-6419.
3. Before using this product, read the owner's manual completely and familiarize yourself thoroughly with the product and the hazards associated with its improper use.
3. Open the release valve by turning the release valve lever counter-clockwise (no more than 1/2 full turn).
4. With ram fully lowered, remove oil filler plug and pump handle 6 to 8 full strokes. This will help release any trapped air within the reservoir. Ensure the oil level is just below the oil filler hole. Reinstall the oil filler plug. Close release valve by turning it clockwise firmly.
5. 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.
6. Replace worn or damaged parts and assemblies with Factory Authorized Replacement Parts only. Lubricate as instructed in Maintenance Section.



## WARNING

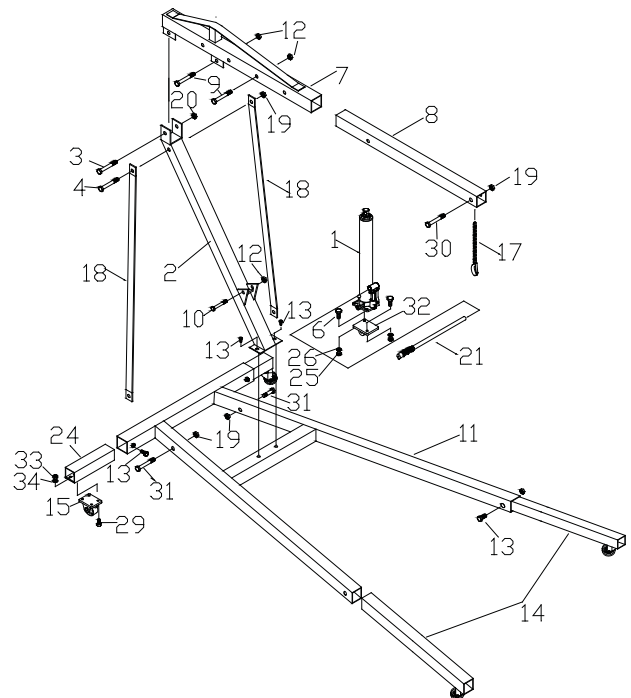
- Study, understand, and follow all instructions provided with and on this device before operating this device.
- Do not exceed rated capacity for each boom position.
- Use the device only on a hard, level surface.
- Only use chains and slings with a capacity equal to or greater than that of the crane.
- If loaded crane must be moved, make certain that load is stable, is in lowest possible position and is moved over a smooth, hard level surface.
- Avoid shock loads caused by the rapid opening and closing of release valve.
- Shock loads may cause the load to swing, causing the crane to flip violently, bend or break.
- Ensure the boom is fully lowered before checking or adding fluid to the hydraulic unit.
- Never extend boom extension beyond leg extension (Model ATD-7484).
- Do not stand over loaded boom nor in its intended line of travel.
- Do not use adapters or accessories that are not provided initially.
- Do not use the device for any purpose other than that for which it is intended.
- No alterations shall be made to this device.
- Failure to heed these markings may result in personal injury and/or property damage.

## ASSEMBLY

**For Model ATD-7484:** (See Figure 1)

1. Attach casters (#15) to rear extension legs (#24) with M8x20 bolts, washers and nuts (#29, 33 & 34).
  2. Slide front extension legs (#14) and rear extension legs (#24) into base frame (#11), secure with M12x25 bolts (#13) in frame, tighten bolts.
- Note:** Do not tighten any bolts unless told to. Never extend beyond mark on leg. Extend each leg extension equal distance from frame.
3. Place post (#2) on the base frame and secure with M12x25 bolts (#13). Leave bolts finger tight.
  4. Attach braces (#18) on each side of post at top and secure with M12x100 bolt and nut (#4 & 19). Place bottom of braces on inside of base frame secure with M12x90 bolts and nuts (#31 & 19).
  5. Attach bracket (#32) to hydraulic unit (#1) with M10x30 bolts, washers and nuts (#6, 25 & 26). Then attach to post using M16x75 bolt and nut (#10 & 12).
  6. Place boom (#7) on top of post, secure with M20x120 bolt and nut (#3 & 20). Pump hydraulic unit using handle (#21) until ram is approximately 2" above. Place front mounting bracket on boom, on top of ram and secure with M16x90 bolt and nut (#9 & 12).
  7. Slide boom extension (#8) to boom (#7), make sure the slot for chain (#17) faces down and secure with M16x90 bolt and nut (#9 & 12). 4 positions available: 1/2 ton, 1 ton, 1 1/2 ton and 2 ton.
  8. Insert chain and hook(#17) to boom extension (#8) with M12x75 bolt and nut (#30 & 19).

**Note:** Check all fasteners for tightness, including those pre-assembled at the factory. Tighten where required. Do not load beyond rated capacity.



4 Figure 3 - Assembly Illustration for model ATD-7484

## ASSEMBLY (continued)

### For Model ATD-7485: (see Figure 2)

1. Attach caster assembly (# 23) to base frame (# 24) using M8x16 bolts, washers and nuts (# 14, 21 & 22).
  2. Install 3.5 " middle wheels (# 33) to base frame (# 24) using M8x60 bolts, rod cover, washers and nuts (# 31, 32, 22 & 21).
  3. Attach two front legs (# 27 & 35) to base frame (# 24) using M16x85 bolts, washers and nuts (# 43 & 9). Then secure the legs with stop bar and pin (#25 & 34) to the front hole of the legs.
  4. Attach upright (# 18) to base frame using M12x80 bolts, washers and nuts (# 20 & 10). Upright must lean towards the rear of the base frame as shown. Leave nuts finger tight.
  5. Attach braces (# 17) to upright(# 18) with M12x80 bolt, washer and nut (# 13 & 2). Leave nut finger tight.
  6. Attach braces (#17 to inside of base frame (24) using M12x35 bolts, washers and nuts (# 20 & 2).
- Note:** Braces assemble to inside of base frame.
7. Tighten upright to base frame, braces to upright, and braces to base frame bolts.
  8. Attach hydraulic unit (# 41) to the bracket (# 39) using M10x30 bolts, washers and nuts ( # 38, 37 & 36). Then position to mounting ears on post, attach using M16x75 bolt, washer and nut (# 10 & 9).

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

9. Connect boom (# 8) to upright (# 18) using M20x100 bolt, washer and nut (# 12 & 11).
10. Hold boom and pivot hydraulic unit out away from upright and position ram between mounting brackets on boom. Attach hydraulic unit to boom with M16x75 bolt, washer and nut (# 10 & 9). Tighten nuts.
11. Slide boom extension (# 4) into boom and secure in retracted position using M12x70 bolt and nut (# 7 & 2). 4 positions available: 1/2 ton, 1 ton, 1 1/2 ton and 2 ton.
12. Slide square washer (# 5) into boom, secure using M8x16 bolt and washer (# 6, 22)
13. Insert hook (# 1) to boom extension using M12x60 bolt, washer and nut (# 3 & 2).
14. Attach legs support bracket (# 19) to upright (# 18) with M6x10 bolts (# 42).
15. Attach handle to upright (# 18) with M8x16 bolts (# 14).

### To fold for storage:

- a. Remove stop bar and pin (# 25 & 34).
- b. Raise leg until it leans on the legs support bracket (# 19).

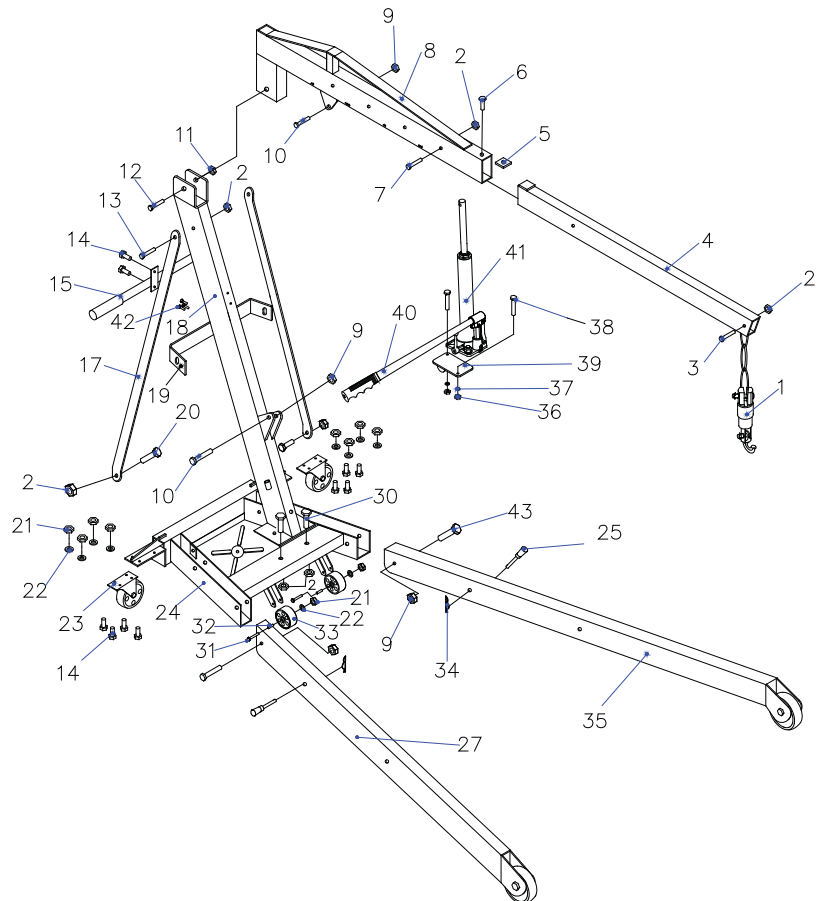


Figure 4 - Assembly Illustration for model ATD-7485

## OPERATION

1. Load capacity should be coordinated with boom extension and legs extension. For model ATD-7484, do not extend boom extension beyond the marking that coordinate with the legs extension.
2. Secure engine to chain/sling hook assembly, ensure load is centered.
3. Follow vehicle service manual recommendations to remove engine. When ready to remove engine, turn release valve clockwise until firm. Pump handle until load is high enough to clear vehicle. (squeeze lift control valve for air actuated option)

**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, but always below the center of gravity.
  - b. is prevented from swinging and inadvertent shifting.
4. Immediately transfer the load to appropriate engine support device (engine stand).
  5. Check to ensure stand is secure before working on or around.

### ! SAFETY MESSAGE !

Be sure all tools and personnel are clear before lowering load. Lift only on areas of the engine as specified by the vehicle manufacturer.

## WARNING



To avoid crushing and related injuries: NEVER work on, under or around a load supported only by engine crane. Immediately transfer the load to an appropriately rated engine stand.

## MAINTENANCE

**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 premature failure of the jack and the potential for sudden and immediate loss of load.

**For air actuated units:** When used daily, pour a teaspoon of proper lubricant into the air inlet of the lift control valve. Connect valve to air supply and squeeze valve lever to operate. This will evenly distribute lubricant and properly prepare the hydraulic power unit for use. Periodically check for leaks at air connections. Use thread compound to repair. Avoid the use of thread tape when possible.

### Adding oil

1. With ram fully lowered and pump piston fully depressed, set jack in its upright, level position.
2. Remove oil filler plug and fill until oil is level with the filler plug hole. Re-install oil filler plug.

### Changing oil

For best performance and longest life, replace the complete fluid supply at least once per year.

1. With ram fully lowered and pump piston fully depressed, remove from crane body. With jack in its upright, level position, remove oil filler plug.
2. Lay the jack on its side and drain the fluid into a suitable container.

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

3. Set jack in its level upright position.
4. Fill with oil until just below the rim of the oil filler plug hole. Re-install filler plug.

### Lubrication

A coating of light lubricating oil to pivot points, axles and hinge 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

When not in use, store the crane with pump piston and ram fully retracted.

## TROUBLESHOOTING

Symptom	Possible Causes	Corrective Action
Crane will not lift load	<ul style="list-style-type: none"> <li>• Release valve not tightly closed</li> <li>• Overload condition</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure release valve tightly closed</li> <li>• Remedy overload condition</li> </ul>
Crane will lift, but not maintain pressure	<ul style="list-style-type: none"> <li>• Release valve not tightly closed</li> <li>• Overload condition</li> <li>• Hydraulic unit malfunction</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure release valve tightly closed</li> <li>• Remedy overload condition</li> <li>• Contact Tech. Service (888) 332-6419</li> </ul>
Crane will not lower after unloading	<ul style="list-style-type: none"> <li>• Reservoir overfilled</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure load is removed, then drain fluid to proper level</li> </ul>
Poor lift performance	<ul style="list-style-type: none"> <li>• Fluid level low</li> <li>• Air trapped in system</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure proper fluid level</li> <li>• With ram fully retracted, remove oil filler plug to let pressurized air escape, then reinstall oil filler plug</li> </ul>
Crane will not lift to full extension	<ul style="list-style-type: none"> <li>• Fluid level low</li> </ul>	<ul style="list-style-type: none"> <li>• Ensure proper fluid level</li> </ul>

## ONE YEAR LIMITED WARRANTY

For a period of one (1) year from date of purchase, **ATD Tools, Inc.** will repair or replace, at its option, without charge, any of its products which fails due to a defect in material or workmanship, or which fails to conform to any implied warranty not excluded hereby.

Performance of any obligation under this warranty may be obtained by contacting your distributor or point of sale for further instructions. Please retain your proof of purchase, as it will be needed for any claim.

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, and (2) **ATD Tools, Inc.** SHALL NOT BE LIABLE FOR ANY CONSEQUENTIAL OR INCIDENTAL DAMAGE OR LOSS WHATSOEVER, and (3) THE DURATION OF ANY AND ALL EXPRESSED AND IMPLIED WARRANTIES, INCLUDING WITHOUT LIMITATION, ANY WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, IS LIMITED TO A PERIOD OF ONE (1) YEAR FROM DATE OF PURCHASE.

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.

## REPLACEMENT PARTS

Available Parts: Please refer to the Parts drawing when ordering parts. Not all components of the jack are replacement items, but are illustrated as a convenient reference of location and position in the assembly sequence. When ordering parts, give model number, part number and description below. Call your distributor for current pricing.

### Model ATD-7484:

Ref.	Part No.	Description	Quantity
1	T473-05000-000	Hook Assembly	1
2	BL80-60000-000	Hydraulic Unit	1
3	T473-00005-000	Hydraulic Unit Bracket	1
4	BL80-20000-000	Handle	1
5	T473-04000-000	Caster Assembly 3 1/2"	4
6	T473-00001-000	Braces	2
7	T473-00002-100	Leg Extension, Short	2
8	T473-00004-100	Leg Extension, Long	2
9	T473-00003-000	Boom Extension	1
—	T473-06000-000	Hardware Kit	-
—	BL800S-034	Repair Kit for Hydraulic Unit	-
—	ATD7484-M2	Manual	1

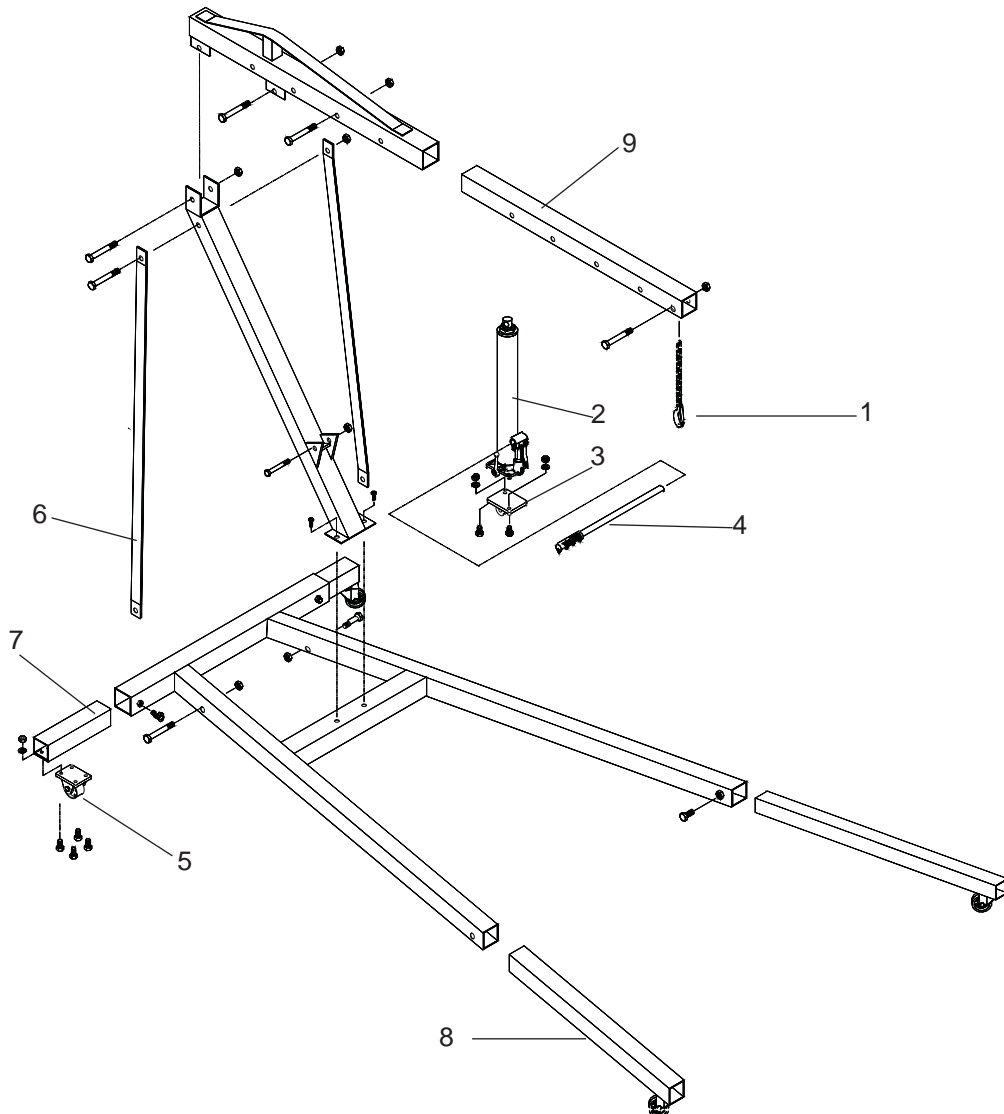


Figure 5 - Replacement Parts Illustration for model ATD-7484



### Model ATD-7485:

<u>Ref.</u>	<u>Parts No.</u>	<u>Description</u>	<u>Quantity</u>
01	T476-01000-000	Boom Extension	1
02	T476-08000-000	Rotating Knock-down Hook	1
03	BL80-70000-000	Hydraulic Pump	1
04	BL80-16002-000	Release Valve Lever	1
05	T473-00005-000	Hydraulic Unit Bracket	1
06	BL80-20000-000	Hydraulic Pump Handle	1
07	T476-06000-000	Leg Extension, Left	1
08	T476-07000-000	Leg Extension, Right	1
09	T476-00001-000	Brace	2
10	T474-04000-000	Caster	2
11	T474-00002-000	Middle Wheel, 3 1/2"	2
12	T476-00003-000	Front Wheel, 5"	2
13	T940-03003-000	Handle Grip	2
—	BL800S-034	Repair Kit for Hydraulic Unit (not shown)	-
—	ATD7484-M2	Manual	1

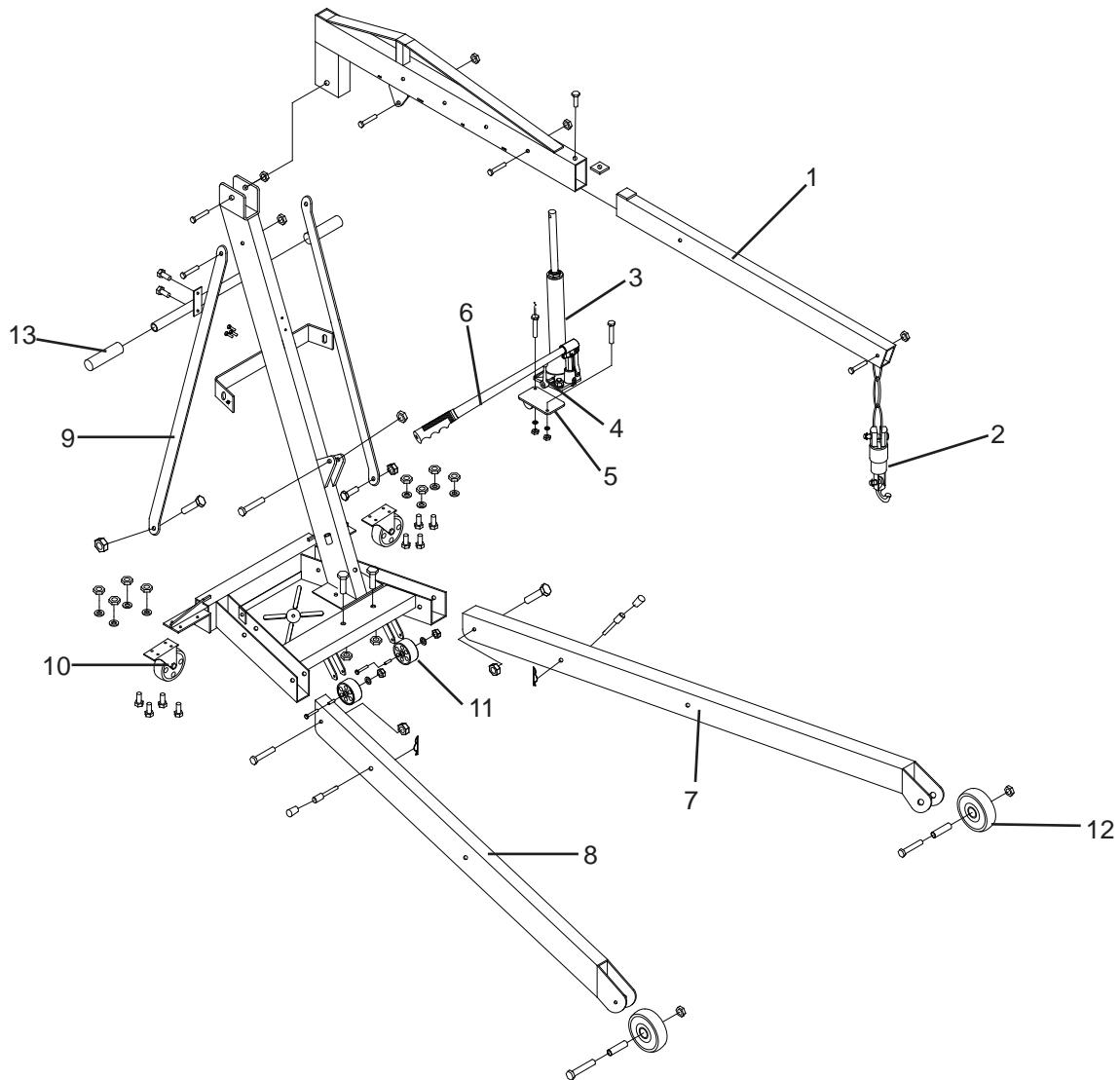


Figure 6 - Replacement Parts Illustration for model ATD-7485