

OWNER'S MANUAL

HYDRAULIC DRUM STACKER MODEL HDC-450-60 / 72 / 84 / 96

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WARNINGS & SAFETY INSTRUCTIONS

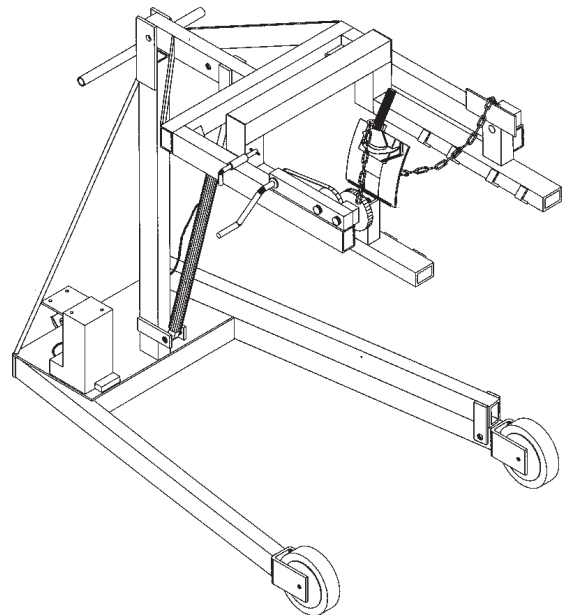
Read owner's manual completely before operating unit!

- * Remove drum & disconnect power before working on unit.
- * Do not stand below any part of a raised drum stacker or drum when unit is running.
- * Stand clear of drum while operating the hand crank or chain crank.
- * Use only maintenance parts supplied or approved by the manufacturer.
- * Do not change pressure relief valve setting.
- * Never operate stacker/rotator unless you are watching it.
- * Never exceed maximum capacity of 800 pounds for FULL drum: or 500 pounds for HALF-FULL drum.
- * Load drum at the center of the cradle.
- * Consult factory for uneven loading.
- * Do not continue to pump on the foot pump pedal if the cradle is not raising.
- * Do not use brake fluids or jack oils. Use AW-32 hydraulic oil or equivalent.
- * Consult factory if adding or performing any modifications to the original equipment.
- * Make sure all operator safety labels are in place (p.14).

RECEIVING INSTRUCTIONS

Every unit is thoroughly tested and inspected prior to shipment. However, it is possible that the unit may incur damage during transit. If you see damage when unloading make a note of it on the SHIPPER RECEIVER.

Remove all packing and strapping material, inspect for damage. IF DAMAGE IS EVIDENT, FILE A CLAIM WITH THE CARRIER IMMEDIATELY! Also, check the unit size, type of power unit, etc., to ensure the unit is correct for the intended application.



**HYDRAULIC DRUM STACKER
HDC-450 SERIES**

LOADING INSTRUCTIONS

The load capacity rating as inscribed on the nameplate of your unit designates the net capacity, assuming the cradle is aligned at the center of the drum. This capacity must never be exceeded, as permanent damage or injury may result.

OPERATING INSTRUCTIONS DRUM STACKER

Remove Hydraulic Drum Stacker (HDC-450), from the crate. Check carefully for damage and report any damage immediately. When using the Hydraulic Drum Stacker, you can either lift up the drum horizontally or vertically.

HORIZONTAL DRUM POSITION

For horizontal drum position, lower the cradle near floor position until you can slide in the cradle along the side of the drum. Open carrier cradle full width and hook cradle chain on stud. Move the unit in until the end of the cradle touch the end of the drum. Lock drum in place by clinching chain with ratchet tightener.

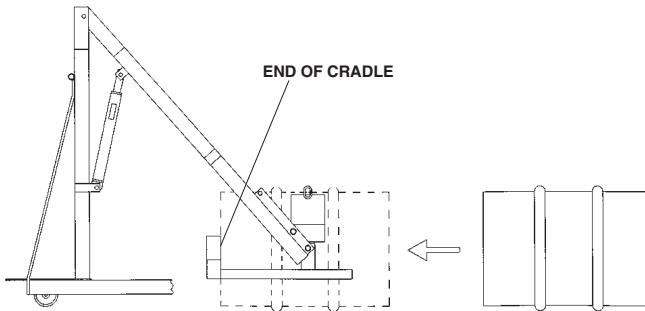


Figure 1

VERTICAL DRUM POSITION

For vertical drum position, rotate the cradle to vertical position and lower the cradle until the end of the cradle is the same height as the top of the drum. Open carrier cradle full width and hook cradle chain on stud. Move the unit in until the side of the drum touches the cradle. Once again, lock drum in place by clinching chain with ratchet tightener.

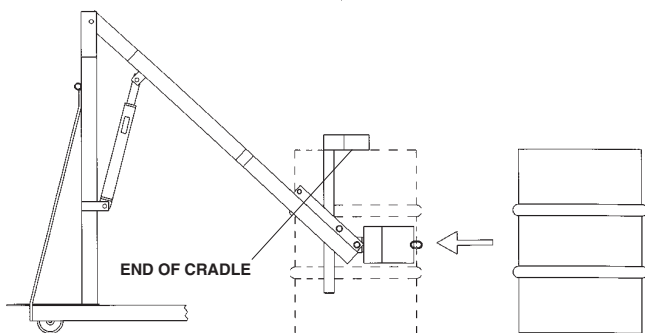


Figure 2

In both situations, raise the cradle until the drum is 3 - 4 inches above the ground before moving. It is recommended, but not required, the drum to be moved in a VERTICAL position. Remove control chain from box and place end of loop near operator. When stacking, rotate drum to the HORIZONTAL position.

Always stay clear of moving parts. The cradle will rise as the foot pedal is pumped. Depressing the release lever will lower the cradle at a control rate of descent.

In the event the unit is overloaded, the relief valve will open because of excessive pressure build up, and oil will bypass into the reservoir.

TO ROTATE DRUM:

Pull on chain, rotating drum to horizontal position for stacking. For best control of drum rotating angle, pay out one side of the loop while pulling in the other.

**** For model HDC-450-60, the drum is rotated using a hand crank instead of chain crank.**

**** When elevation is not required, transport the drum in the lowered position.**

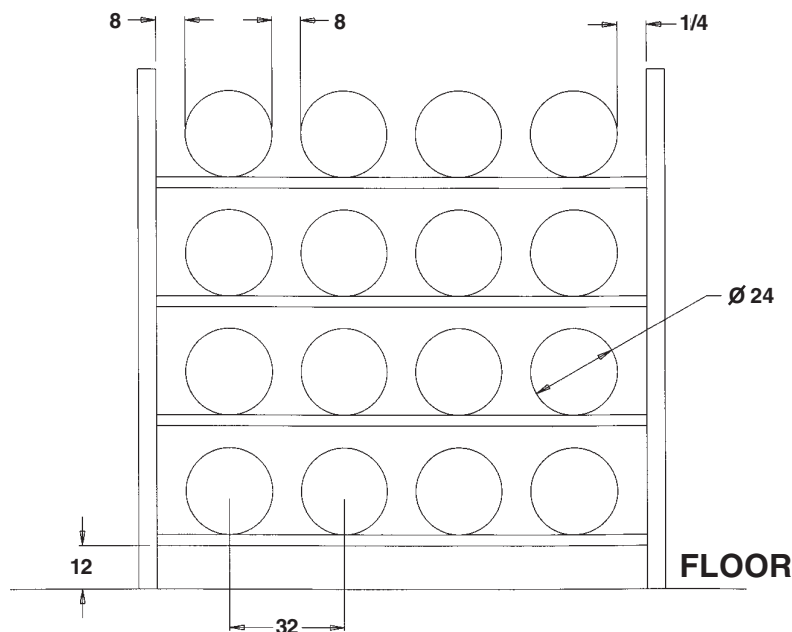
BOOM

The HDC-450 series may also be used as a hoist using the boom supplied with unit. The boom is stored conveniently on one of the lower straddle legs. Simply remove the 3/4" diameter pin from carriage and position boom on top of carriage, align holes and replace pin and clip. Lifting capacity for boom at hook position is 800 pounds. This capacity and load center must never be exceeded.

SAFETY INSTRUCTIONS FOR THE OPERATOR

- 1.) The HDC-450 series has a **MAXIMUM CAPACITY RATING** of 800 pounds **FULL**, and 500 pounds **HALF-FULL**, and is intended for lifting, moving, and stacking 55 GALLON steel drums. Do not exceed these ratings as the unsafe condition that may result could cause damage or excessive wear, or make the unit awkward to handle.
- 2.) Always load the unit properly. Make sure the end/top of the drum is touching the end of the cradle.
- 3.) When operating, loading, unloading, or maintaining your drum stacker, always use care and good judgement, have good footing and a firm hold. Keep hands and loose clothing etc., away from all moving parts. Never allow anyone to be below any part of a raised drum stacker, drum, or boom. Please read all instruction **THOROUGHLY** before attempting to operate your new drum stacker.
- 4.) Do not allow drum to impact on floor, ground, or dumping station etc., or there may be damage.
- 5.) Never use the unit if the cradle is in need of repairs or in the case of a malfunction.
- 6.) Notify your maintenance personnel or supervisor in case you notice anything out of the ordinary, such as binding, odd noises, appearance of oil, etc.
- 7.) Do not continue to pump on the foot pedal if the cradle is not raising. The foot pump may be permanently damaged. Relieve system pressure by depressing the release lever.
- 8.) It is recommended, but not required, the drum to be moved in a **VERTICAL** position. When stacking, rotate the drum to **HORIZONTAL** position.

RACK SPECIFICATIONS FOR THE HORIZONTAL DRUM STACKER (HDC-450 SERIES)



PERIODIC MAINTENANCE INSTRUCTIONS



BE SURE ALL POWER IS OFF BEFORE ATTEMPTING TO WORK ON THIS EQUIPMENT!
CAUTION: SERVICE WORK SHOULD BE PERFORMED ONLY BY TRAINED & QUALIFIED PERSONNEL

(A) Before Each Use Check For The Following

- 1.) Oil leaks.
- 2.) Worn or damaged hose.
- 3.) Structural deformation of cradle or frame.
- 4.) Unusual noise or binding.
- 5.) Check casters for proper operation.

Do not use if there are any of the above!

(B) Monthly Inspections

- 1.) Check oil level. Oil should be 1" to 1 1/2" below the top of the tank with the cradle in the fully lowered position. Add as necessary.
- 2.) Check for oil leaks.
- 3.) Check for worn or damaged hose.
- 4.) Check clevis and pivot points for wear.
- 5.) Periodically inspect all moving parts, framework, and contact areas for sign of wears, fatigue or loosening.
Tighten, adjust or replace parts as necessary to prevent failure and maintain proper function.
- 6.) Check oil cradle hinges, ratchet, pawl, chain and other moving parts periodically.
- 7.) Lubricate gear-train once a month with a good grade lubricant.
There are three grease fittings on the gear block, and one grease fitting in the idler bearing block.
- 8.) Check for unusual noise.
- 9.) Clean off dirt and debris.
- 10.) Make sure all warning labels are in place and in good condition (p.14).

(C) Yearly Inspection

Hydraulic oil should be changed at least once a year, or sooner if the oil darkens or becomes gritty. Flush reservoir before refilling. Presence of water is indicated if the oil turns milky. Recommended oil: AW-32 Hydraulic fluid or equal.

All maintenance work must be performed by qualified personnel with training in the repair of electrical and hydraulic components

OPERATION

Warning: Keep all personnel clear of the machine when it is in operation. Be certain no part of any person or object is under any part of the platform before lowering the unit.

Caution: Always carefully watch cradle and any load on it when it is in operation.

Do not exceed a rate of two feet per second when transporting a load with the drum stacker.

- The standard manually-powered stacker is furnished with a two-speed foot pump. Under empty or low load conditions, the pump pushes a higher volume of fluid to the cylinder and thus lifts the platform with fewer foot strokes. With a moderate to full load, the pump will automatically reduce its output in order to generate the required hydraulic pressure.
- To lift the platform, simply repeatedly press the foot pump's foot treadle. To lower the platform, press the small lever at the left corner of the pump with your toe. The unit will hold its position when the lowering lever is released.

VELOCITY FUSE OPERATION

There is a brass velocity fuse with a stainless steel spring in the base of each cylinder. In the event of a hydraulic hose or fitting failure, the cradle starts to lower at a fast rate. As soon as the descent speed exceeds the fuse's preset speed, the velocity fuse will shut off the oil flow and the cradle will remain nearly stationary until pressure is reapplied (after repairs are done). This safety feature reduces the possibility of accidental personal injury or damage to the unit or its loads. If air is introduced into the system, the velocity fuse can lock up even though no failure has occurred. To reset the velocity fuse just activate pump by depressing the "UP" button. Remove the load and follow the cylinder air bleed procedures on page 6.

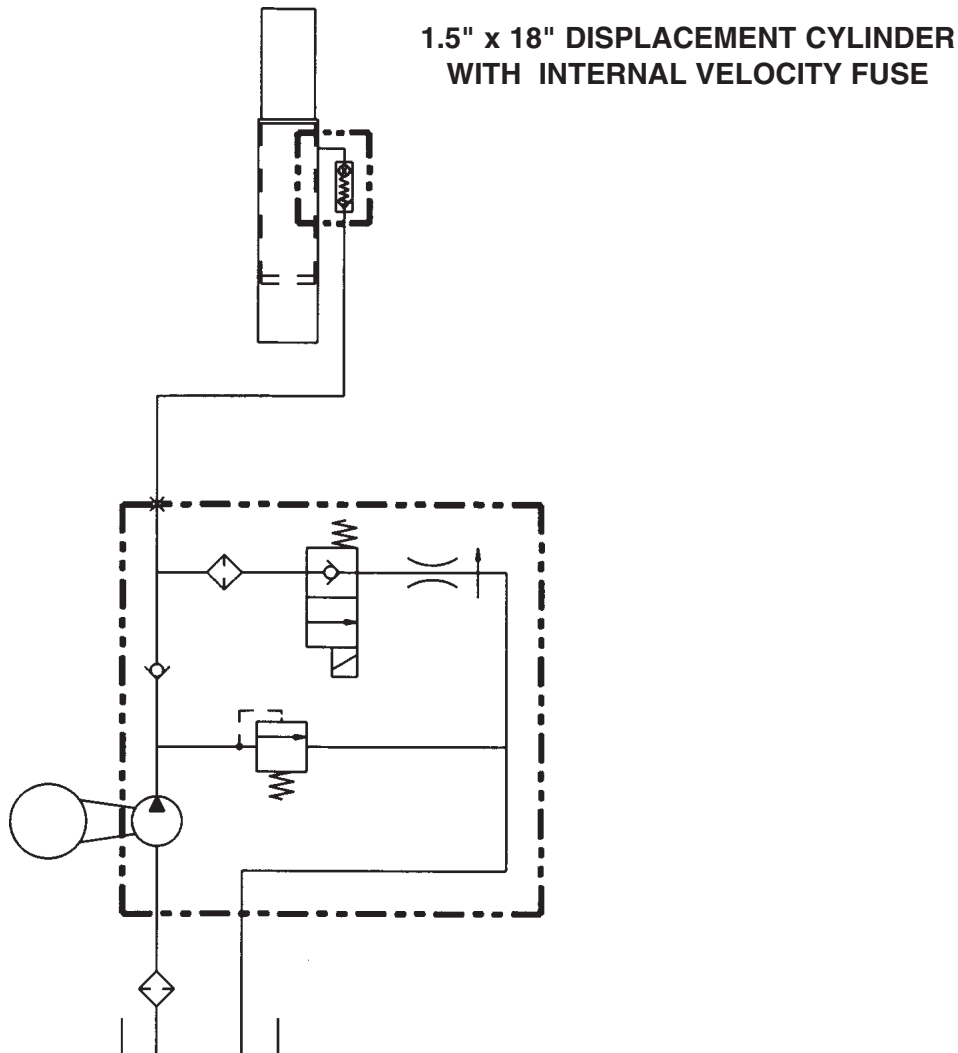
AIR BLEED PROCEDURE

If your unit descends very slowly or will not descend at all, air could be trapped in the hydraulic circuit and must be "bled" from the system. The Hydraulic Drum Stacker (HDC-450 Series) utilizes a "bleeder" fitting at the end of the cylinder near the cross tube. If you experience the above, follow these directions.

- 1.) Remove the drum from the cradle.
- 2.) Raise the unit.
- 3.) If available, place a 1/4" plastic hose over the cylinder bleeder screw.
- 4.) Loosen the bleeder screw at the top of the cylinder approximately 1/4 to 1/2 turn to allow trapped air to escape.
- 5.) When the cylinder is free of air, tighten the bleeder screw and remove the plastic hose.

Air can also become trapped in the foot pump.
Please refer to page 8 for the foot pump air bleed procedure.

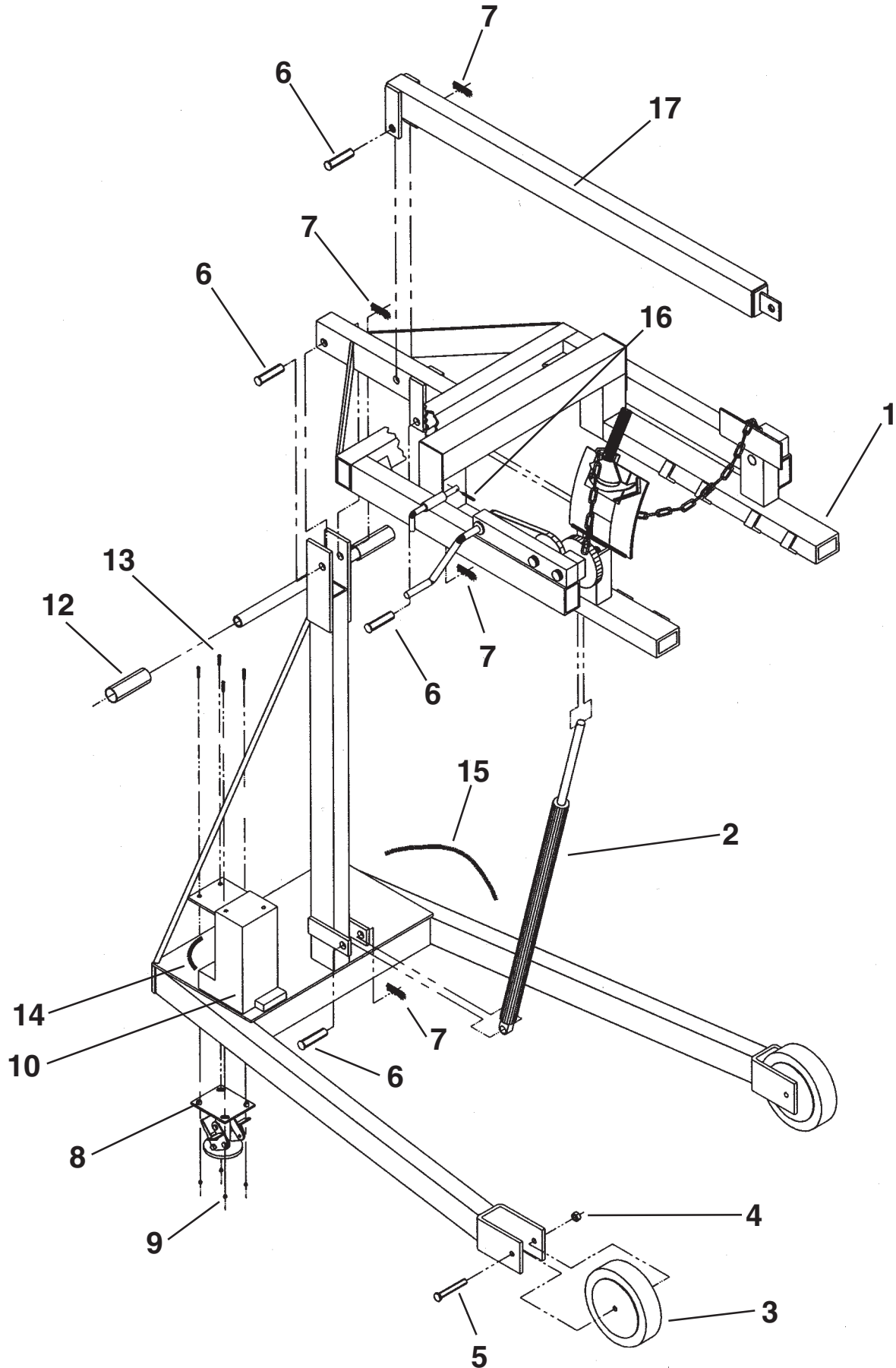
HYDRAULIC SCHEMATIC



Trouble shooting Guide for Single and Two-speed Hydraulic Foot Pump

Observation	Possible Cause	Remedy	<i>*Refer to exploded view</i>
1.) Cradle does not raise	<ul style="list-style-type: none"> a. Excessive load b. Oil is low c. Pinched hose d. Relief valve set too low 	<ul style="list-style-type: none"> a. Remove part of the load b. Fill oil to within one inch of the top of the reservoir c. Correct as necessary d. Increase only as necessary 	
2.) Foot pedal goes down hard but cradle does not raise	<ul style="list-style-type: none"> a. Particle of dirt under the pressure relief valve b. Particle of dirt under inlet check valve 	<ul style="list-style-type: none"> a. Lower cradle - Disassemble, clean and re assemble pressure relief valve* b. Lower cradle - Disassemble, clean and re assemble inlet check valve* 	
3.) Unit will pump under no load or when rapidly stroked, or pedal will stroke without pumping	<ul style="list-style-type: none"> a. Pump is air locked b. Inlet check valve has foreign material on seat c. Relief setting is out of adjustment d. Foreign material on relief valve seat 	<ul style="list-style-type: none"> a. Bleed air from system inlet b. Remove and clean inlet ball and seat c. Adjust relief setting higher d. Lowering valve has foreign material on the seat or is stuck in the open position 	
4.) Cradle raises when the pump is stroked but lowers on return stroke	<ul style="list-style-type: none"> a. Outlet check is leaking 	<ul style="list-style-type: none"> a. Clean foreign material from ball and seat 	
5.) Cradle raises but takes too much effort	<ul style="list-style-type: none"> a. Change pump displacement speed 	<ul style="list-style-type: none"> a. Slide locking collar back 	
6.) Cradle raises but is too slow	<ul style="list-style-type: none"> a. Change pump displacement speed b. Intake filter clogged c. Foreign material stuck under pressure relief valve or under inlet check valve 	<ul style="list-style-type: none"> a. Slide locking collar forward b. Lower cradle - drain reservoir, clean and flush debris, refill with clean oil c. Lower cradle - Disassemble, clean and re assemble pressure relief valve* 	
7.) Spongy or jerky operation	<ul style="list-style-type: none"> a. Check for foreign material stuck in clevis or pivot points or frame rails b. Oil is low 	<ul style="list-style-type: none"> a. Correct as necessary b. Fill oil to within one inch of the top of the reservoir 	
8.) Cradle lowers too slow	<ul style="list-style-type: none"> a. Pinched hose b. Intake filter clogged c. Foreign material lodged in velocity fuse d. Foreign material lodged in pressure compensated flow control valve 	<ul style="list-style-type: none"> a. Correct as necessary b. Correct as necessary c. Lower cradle - Disassemble, clean and re assemble d. Lower cradle - Disassemble, clean and re assemble pressure relief valve* 	
9.) Cradle lowers too fast	<ul style="list-style-type: none"> a. Foreign material lodged in pressure compensated flow control valve 	<ul style="list-style-type: none"> a. Lower cradle - Disassemble, clean and re assemble pressure relief valve* 	
10.) Cradle raises but does not lower	<ul style="list-style-type: none"> a. Foreign material lodged in pressure compensated flow control valve b. Release pin bent or missing c. Foreign object blocking roller travel d. Velocity fuse is locked 	<ul style="list-style-type: none"> a. Lower cradle - Disassemble, clean and re assemble pressure relief valve* b. Replace as necessary c. Correct as necessary d. Remove air from hydraulic system, to un lock, repressurize system 	

HDC-450 SERIES HYDRAULIC DRUM CARRIER/ROTATOR

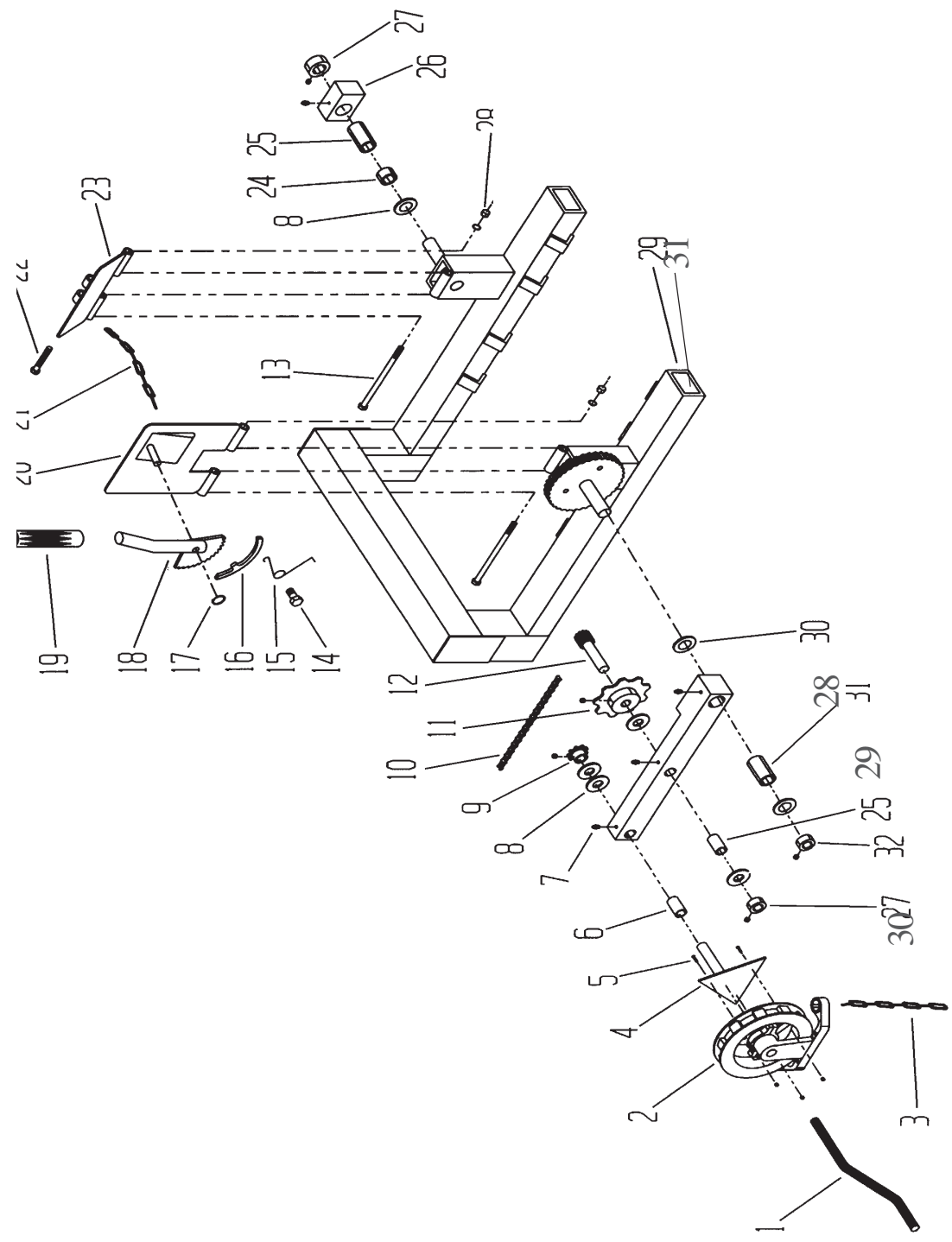


PARTS IDENTIFICATION
HDC-450 SERIES HYDRAULIC DRUM CARRIER/ROTATOR

ITEM NO.	DESCRIPTION	PART NO.	QTY
1	HDC cradle ass'y (see pages 6 & 7)	09538005	1
2	Hydraulic cyl., 1-1/2" dia. x 18" [HDC-450-60/72/84]	09021004	1
	Hydraulic cyl., 1-1/2" dia. x 18" [HDC-450-96 only]	09021004	2
3	Wheel, caster	16132036	2
4	Locking hex nut, 1/2"-20	A/L	2
5	Hex head cap screw, 1/2"-20 x 3-1/2"	A/L	2
6	Clevis pin, 3/4" dia. x 3-3/8"	09112006	4
7	Hitch pin clip, # 11 (Fastenal)	45285	4
8	Floor brake	16132080	1
9	Hex nut, 3/8"-16	A/L	4
10	Reservoir	15023001	1
11	Two-speed hydraulic foot pump (not shown)	250550	1
12	Handle grip	AL	2
13	Hex head cap screw, 3/8"-16 x 1"	A/L	4
14	Reservoir hose	09623001	1
15	Hydraulic hose (HDC-450-60)	09623002	1
	Hydraulic hose (HDC-450-72)	09623003	1
	Hydraulic hose (HDC-450-84)	09623004	1
	Hydraulic hose (HDC-450-96)	09623005	1
16	Spring pin, 3/16" x 1-1/2" (HDC-305-60 only)	A/L	1
17	Boom	09514031	1

A/L Available at local hardware store

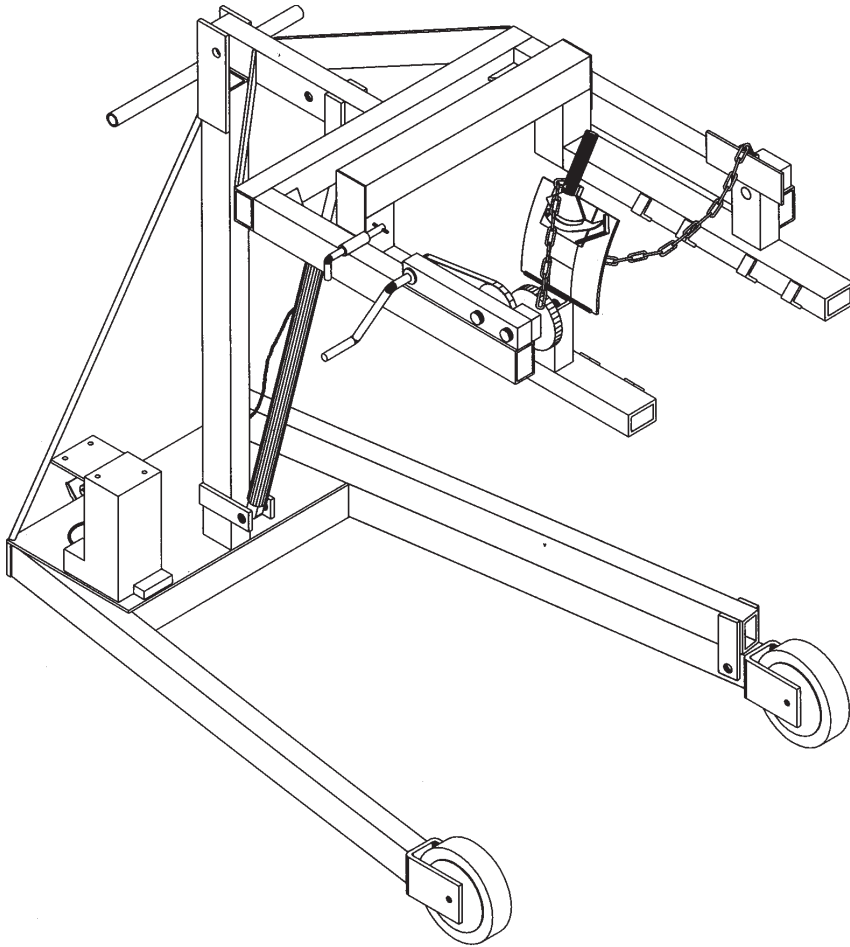
PARTS DIAGRAM FOR CRADLE ASSEMBLY (DRUM CARRIER/ROTATOR) HDC-450 SERIES



**PARTS DIAGRAM FOR CRADLE ASSEMBLY (DRUM CARRIER/ROTATOR
HDC-450 SERIES**

ITEM NUMBER	DESCRIPTION	PART NUMBER	QUANTITY
1a	Hand wheel (HDC-450-60 only)	1A-P	1
1	Chain wheel (HDC-450-72/84/96 only)	1-P	1
2	#1/0 Babbitt lock link chain (20") (HDC-450-72/84/96 only)	2-P	1
3	Chain wheel shaft w/triangle & bolts (HDC-450-72/84/96 only)	3-P	1
4	Bolt & nut, 5/16-18 x 1" (HDC-450-72/84/96 only)	35-P	3
5	Bearing, 3/4" ID x 2-1/2"	01111048	1
6	Grease fitting Alemite (1608B)	33-P	4
7	Washer, 3/4" SAE	09113004	5
8	Sprocket (12T # 35)	09042004	1
9	Roller chain (# 35-3/8" pitch)	09042006	1
10	Sprocket (36T # 35)	09042003	1
11	Pinion gear (7T) w/key	09042007	1
12	Hinge pins & nuts	157-P	2
13	Pawl shoulder screw and nut	170-P	1
14	Pawl spring	169-P	1
15	Pawl	168-P	1
16	Snap ring	166-P	1
17	Ratchet	165-P	1
18	Handle grip	136-P	1
19	Pawl & ratchet hinge plate	09516006	1
20	Binder chain	180-P	1
21	Chain bolt & nut (3/8"-16 x 2-1/2" HHMS)	155-P	1
22	Chain hinge plate	09516007	1
23	Spacer (3/4" ID)	20-P	1
24	Bearing (Randall SH186)	7-P	2
25	Bearing block	09113005	1
26	Collar (3/4" ID)	09145001	2
27	Washer & nut	21-P	2
28	Spur gear spacer	09113006	2
29	Bearing, 1" ID x 2-1/2"	01111047	1
30	Collar (1" ID)	09145003	1
31	Cradle assembly for 55 gal. steel drum	09538005	1

WARNING LABEL IDENTIFICATION
MAKE SURE ALL WARNING LABELS ARE IN PLACE!



1

**USE AW-32 HYDRAULIC
OIL OR
EQUIVALENT**

*Product safety signs or labels should be periodically inspected and cleaned by the product users as necessary to maintain good legibility for safe viewing distance ... ANSI 535.4 (10.21)
Contact manufacturer for replacement labels.

LIMITED WARRANTY

ONE YEAR LIMITED WARRANTY. The manufacturer warrants for the original purchaser against defects in materials and workmanship under normal use one year after date of purchase. (Not to exceed 15 months after date of manufacture.) Any part which is determined by the manufacturer to be defective in material or workmanship and returned to the factory, shipping costs prepaid, will be, as the exclusive remedy, repaired or replaced at our option. Labor costs for warranty repairs and/or modifications are not covered unless done at manufacturer's facilities. Any modifications performed without written approval of the manufacturer may void warranty. This limited warranty gives purchaser specific legal rights which vary from state to state.

LIMITATION OF LIABILITY. To the extent allowable under applicable law, the manufacturer's liability for consequential and incidental damages is expressly disclaimed. The manufacturer's liability in any event is limited to, and shall not exceed, the purchase price paid. Misuse or modification may void warranty.

WARRANTY DISCLAIMER. Our company has made a diligent effort to illustrate and describe the products shown accurately; however, such illustrations and descriptions are for the sole purpose of identification, and do not express or imply a warranty that the products are merchantable, or fit for a particular purpose, or that the products will necessarily conform to the illustrations or descriptions.

The provisions of the warranty shall be construed and enforced in accordance with the UNIFORM COMMERCIAL CODE and laws as enacted in the State of Indiana.

DISPOSITION. Our company will make a good faith effort for prompt correction or other adjustment with respect to any product which proves to be defective within the Limited Warranty. Warranty claims must be made in writing within said year.