



## VESTIL MANUFACTURING CORP.

2999 North Wayne Street, P.O. Box 507, Angola, IN 46703

Telephone: (260) 665-7586 -or- Toll Free (800) 348-0868

Fax: (260) 665-1339

[www.vestilmfg.com](http://www.vestilmfg.com)

# LP-6 LPG Cylinder Truck Use & Maintenance Manual



### Receiving instructions:

After delivery, IMMEDIATELY remove the packaging from the product in a manner that preserves the packaging and maintains the orientation of the product in the packaging; then inspect the product closely to determine whether it sustained damage during transport. **If damage is discovered during the inspection, immediately record a complete description of the damage on the bill of lading.** If the product is undamaged, discard the packaging.

### NOTES:

- 1) Compliance with laws, regulations, codes, and non-voluntary standards enforced in the location where the product is *used* is exclusively the responsibility of the owner/end-user.
- 2) VESTIL is **not liable** for any injury or property damage that occurs as a consequence of failing to apply either:
  - a) Instructions in this manual; or
  - b) Information provided on labels affixed to the product.

Vestil is not responsible for *any* consequential damages sustained as a result of failing to exercise sound judgment while assembling, installing, using or maintaining this product.

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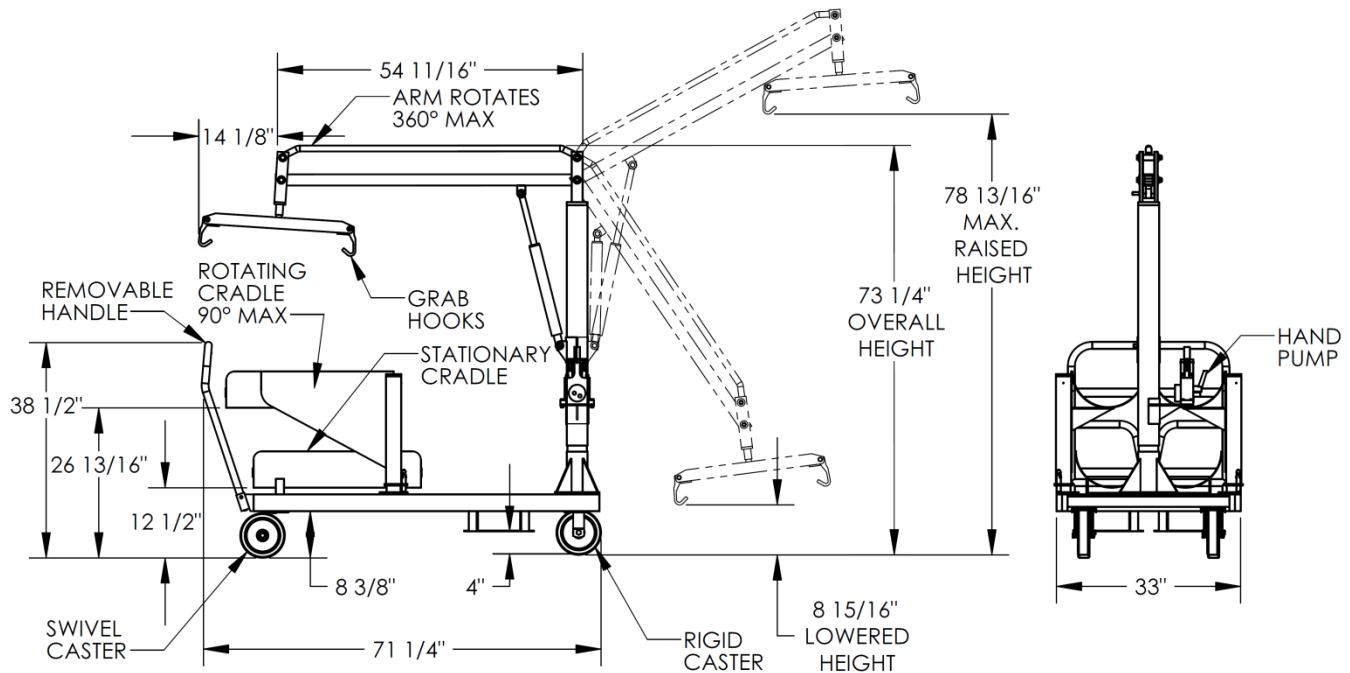
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## Product information:

Thank you for purchasing a model LP-6 LPG cylinder truck. Our cylinder trucks are durable, high-quality products rigorously engineered for dependability and simplicity. Although use and maintenance are intuitive, any person who might use or maintain this product should be familiar with the instructions provided in this manual.

LP-6 cylinder trucks provide a means lifting and transporting as many as 6 LPG cylinders. Our design includes a mast that can freely rotate in a full circle. The mast supports a manually-operated hydraulic pump, and the pump raises and lowers the load-lifting boom. Other features include: 1) a cylinder hook arm (see items no. 9, 21-24 on p. 3) at the end of the boom designed to simultaneously engage the top and bottom ends of an LPG cylinder; 2) built-in racks to secure LPG cylinders during transport (2 empty cylinders in the vertical position and 4 full cylinders in the horizontal position); 3) two rigid and two swivel casters for smooth movement; 4) welded steel construction with a painted finish.

Dimensions and other specifications appear below.



MODEL NUMBER: LP-6  
 STORAGE CAPACITY: 6 LP TANKS  
 ARM SERVICE RANGE: 15 1/4" TO 89 3/4"  
 OVERALL WIDTH: 33"  
 OVERALL LENGTH: 71 1/4"  
 OVERALL HEIGHT: 73 1/4"  
 GROUND CLEARANCE: 4" AT REAR OF UNIT  
 8 3/8" AT FRONT OF UNIT  
 8 X 2 GLASS FILLED NYLON CASTERS:  
 TWO SWIVEL W/BRAKE, TWO RIGID

APPROXIMATE WEIGHT IS: 636.10 lb.

## Safety Principles

This manual uses SIGNAL WORDS to identify and classify hazards associated with the use of this product. Signal words are accompanied by safety messages to explain how to use the product properly and thereby avoid injury. Each signal word also indicates the seriousness of the identified hazard.



**Identifies a hazardous situation which, if not avoided, WILL result in DEATH or SERIOUS INJURY. Use of this signal word is limited to the most extreme situations.**



**Identifies a hazardous situation which, if not avoided, COULD result in DEATH or SERIOUS INJURY.**

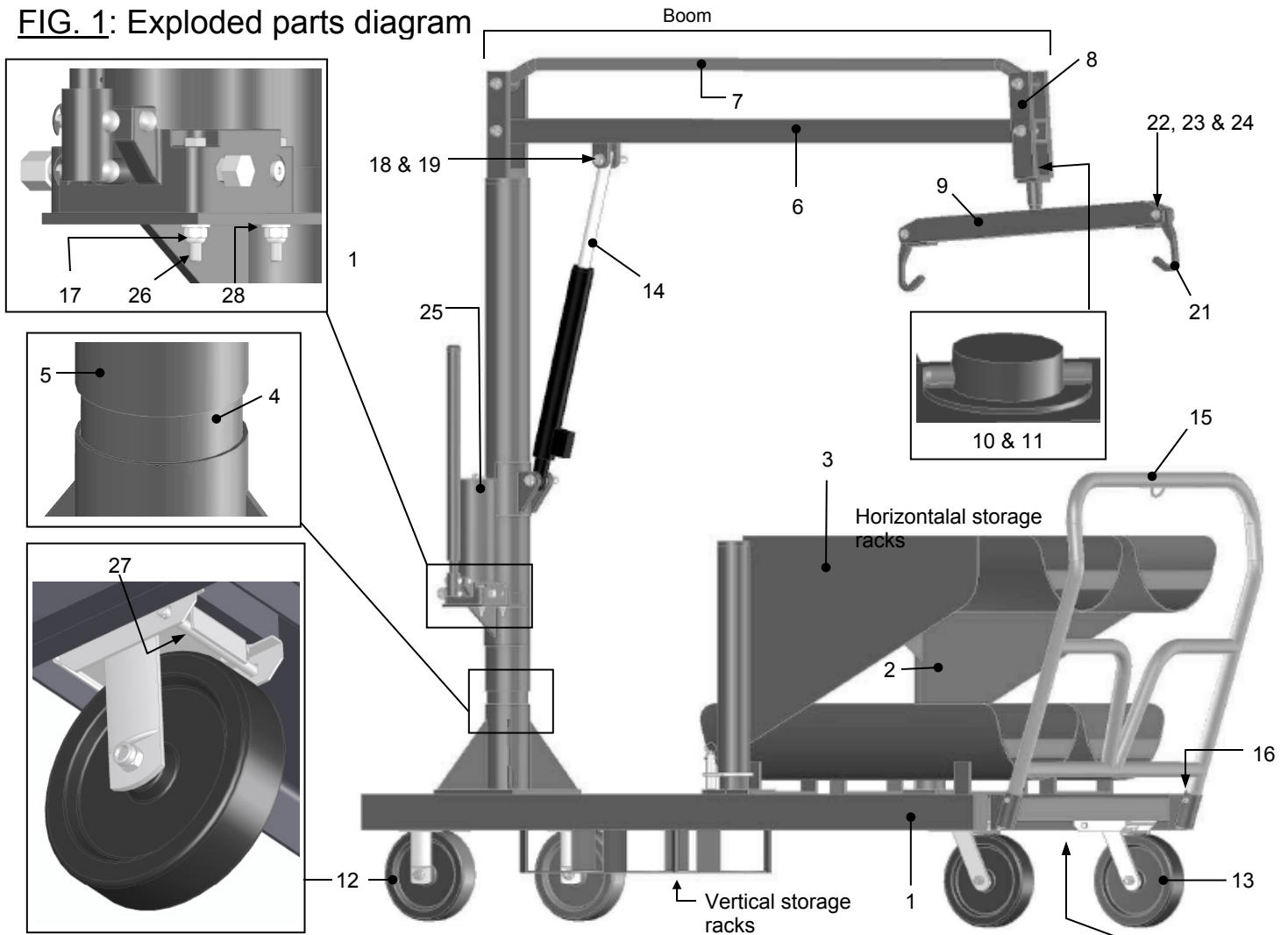


**Indicates a hazardous situation which, if not avoided, COULD result in MINOR or MODERATE injury.**



**Identifies practices likely to result in product/property damage, such as operation that might damage the cylinder truck.**

FIG. 1: Exploded parts diagram



Item no.	Part no.	Description	Quantity
1	33-514-113	LP-6 frame weldment	1
2	33-538-001	Right side cylinder cradle and outer mast weldment	1
3	33-538-002	Left side cylinder cradle and outer mast weldment	1
4	33-514-118	LP-6 inner mast weldment	1
5	33-514-114	LP-6 inner mast tube weldment	1
6	33-514-117	LP-6 arm tube weldment	1
7	33-514-115	LP-6 arm stiffener weldment	1
8	33-512-001	LP-6 outer hinge weldment	1
9	33-514-116	LP-6 hook arm/carriage weldment	1
10	33444	1 in. x 18 machine bushing	1
11	64137	3/16 in. x 1 1/2 in. spring pin	1
12	16-132-035	Rigid phenolic caster	2
13	16-132-037	PH-8/2-RB-S swiveling caster	2
14	99-021-928-P	1 in. – 14 in. hydraulic cylinder	1
15	16-025-031	Chrome handle	1
16	11011	1/4 in. – 20 UNC x 2 in. z-plated #2 bolt	2
17	37018	1/4 in. – 20 UNC z-plated nylock nut	4
18	33012	Plain USS flat washer	14
19	37030	1/2 in. – 13 Nylon insert lock nut	6
20	11219	1/2 in. – 13 UNC x 4 in. hex head bolt	6
21	33-037-002	LP-6 load hook	2
22	33008	3/8 in. z-plated flat washer	12
23	37024	3/8 in. nylock insert nut	2
24	11113	3/8 in. – 16 x 2 1/2 in. HHCS #2 z-plated bolt	2
25	99-140-003	Manually-operated hydraulic pump	1
26	11013	1/4 in. – 20 x 2 1/2 in. HHCS z-plated #2 bolt	2
27	99-112-006	Clevis pin	4
28	33004	1/4 in. narrow type A flat washer	2

[Not shown]  
Floor lock  
(see FIG. 3,  
on p. 4)

## Use instructions:

The operating instructions in this manual are intended to *supplement* LPG cylinder handling practices applied at your worksite. LP-6 cylinder trucks are designed for indoor use.

**Failure to read and understand the instructions included in this manual before using or maintaining the cylinder truck constitutes misuse.** Read the manual, as necessary, to refresh your understanding of the inspection and maintenance procedures explained on p. 5-6. DO NOT attempt to resolve any issue with the product unless you are authorized to do so and are certain that it will be safe to use afterwards.

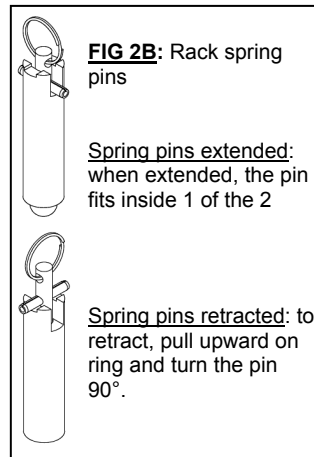
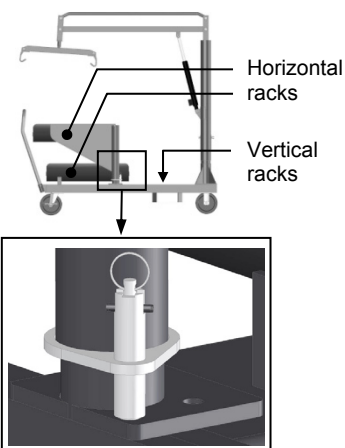
**WARNING** Improper use or maintenance might result in serious personal injury or even death. To reduce the likelihood of injury:

- Fully lower the boom and remove the load (cylinder) from the cylinder hook arm (see items no. 9 and 21 on p. 3) BEFORE leaving the crane unattended and BEFORE performing any work on the crane.
- DO NOT ride on or allow other person(s) to ride or climb on the truck.
- Instruct everyone to clear the area where the truck will be used including the travel path (if cylinder(s) must be transported). Instruct any person(s) assisting you to avoid contact with the boom while it is loaded and rotated. Never allow any person to get underneath a suspended cylinder.
- DO NOT attempt to lift a cylinder with the hook arm (see items no. 9 and 21 on p. 3) UNLESS BOTH load hooks securely engage the cylinder (see "Lift a cylinder with the hook arm on page 5).
- All labels affixed to the product must be readable and undamaged.
- Always carefully watch the boom and any suspended cylinder while using the truck to lift cylinders.
- ONLY use the truck on even, level surfaces.
- DO NOT use the cylinder truck if you: 1) observe any warping or deformation of the frame, boom, mast, hooks or hook arm; 2) hear unusual noise during use; 2) notice wheel damage or an uneven wear pattern on any of the wheels; or 3) the pump malfunctions or makes unusual sounds during use. Notify your supervisor and authorized maintenance personnel if you notice anything out of the ordinary.
- Do not exceed the load rating (capacity)! Injury to personnel or property damage including permanent damage to the truck could result. Rated load data appears in the table on p. 2 and on the capacity label affixed to the truck. (See "Labeling diagram" on p. 7). The label indicates the net capacity of the cylinder truck when handling a static (stable, non-shifting) load that has a horizontal center of gravity directly under the lifting hook. DO NOT apply any side loads (pull load to the side) to a suspended cylinder.
- DO NOT modify the truck IN ANY WAY. Unauthorized modifications automatically void the warranty and might make the cylinder truck unsafe to use.

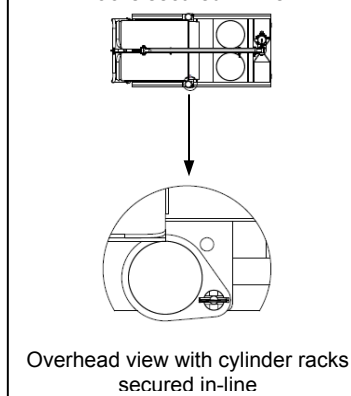
### Loading Cylinders onto Racks:

The upper cylinder racks can be rotated outward to give access to the lower racks. Spring pins fix the position of each upper rack in either an inline or rotated orientation (see Fig.'s 2C and 2D below). Each of the drawings below pair a view of the truck with the corresponding position of the spring pins below:

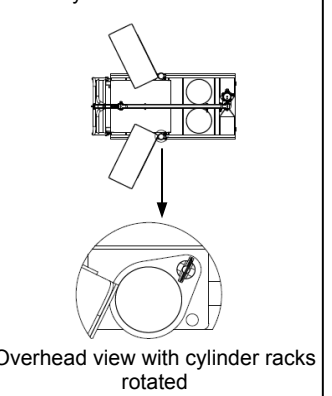
**FIG. 2A:** Side view



**FIG 2C:** Overhead view with cylinder racks secured in-line

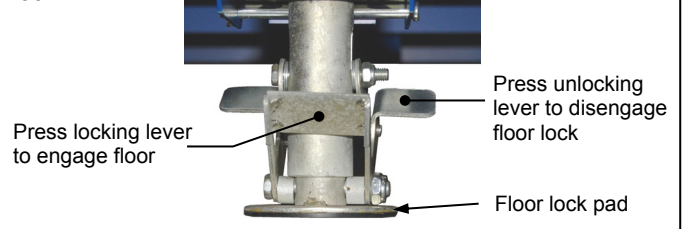


**FIG. 2D:** Overhead view with cylinder racks rotated



Place filled cylinders on the horizontal racks only. Use the vertical cylinder racks (see FIG. 1 on p. 3) to transport empty cylinders. Once loaded, push the cylinder truck to the location where a cylinder(s) will be unloaded. Position the truck as needed, and then immobilize the truck with the floor lock by stepping on the locking lever until the floor lock pad firmly contacts the floor (see FIG. 3). To release the floor lock, press on the unlocking lever.

**FIG. 3:** Floor lock



### Adjust Position of Boom and Hook Arm

The boom (items numbered 6 and 7 in FIG. 1 on p. 3) and mast rotate freely through 360°, i.e. the boom and mast do not lock in position. The manually-operated hydraulic pump adjusts the vertical position of the hook arm. To raise the boom, rotate the release valve lever on the pump body to the position shown in FIG. 4A below and then work the handle back and forth. Lower the boom by opening the release valve. To open the release valve rotate the lever in the opposite direction (direction of arrow in FIG. 4B).

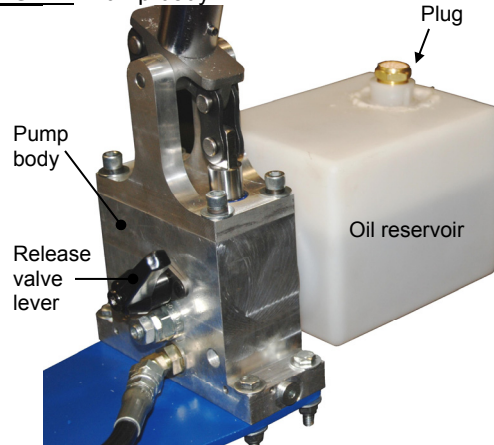
The operator can adjust the lowering speed by gradually and only partially opening the release valve, which can be accomplished by slowly rotating the release lever and not rotating it to the fully opened position. The boom is completely lowered when it will not lower further even though the release valve is still open.

The boom can be fixed at an elevation between completely lowered and fully raised by closing the release valve as the boom lowers. The boom will maintain vertical position until the release valve is opened again.

**FIG. 4A:** Manually-operated hydraulic pump



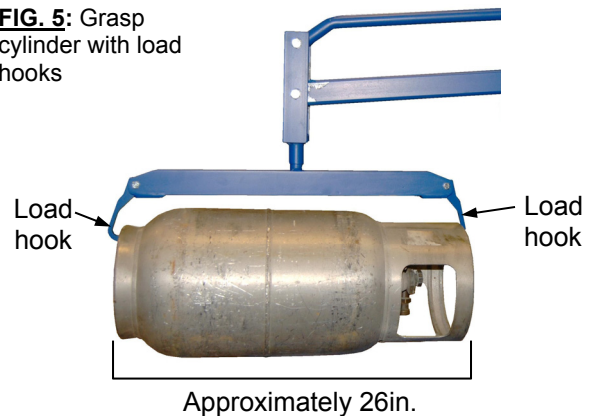
**FIG. 4B:** Pump body



### Lifting Cylinders with Hook Arm

Use the hook arm to load and unload cylinders from the horizontal racks only (see p. 3). [NOTE: Use vertical storage racks to store and transport empty cylinders.] Only lift LPG cylinders that fit securely in the hooks. To fit properly in both hooks, a cylinder should be approximately 26in. (~66cm) tall/long. DO NOT attempt to lift a cylinder that cannot be firmly engaged by BOTH lifting hooks (see FIG. 5 at right). Raise the boom to the height required for the job: 1) close the release valve if it is open (boom fully lowered); 2) move the handle back-and-forth to raise the boom.

**FIG. 5:** Grasp cylinder with load hooks



### Inspections & Maintenance:

**WARNING** Improper maintenance or repair may make the crane unsafe to use, which could result in serious personal injuries or death. DO NOT attempt to repair or maintain the crane UNLESS you are qualified and authorized to do so by your employer.

- Identify all potential hazards before beginning work, and always scrupulously adhere to worksite safety procedures.
- Fully lower and unload the boom BEFORE beginning maintenance/repairs.

(A) Inspect daily for [item numbers identified in parentheses refer to FIG. 1 on p. 3]:

- 1.) Oil leaks;
- 2.) Pinched or chafed hoses;
- 3.) Damage or structural deformation to the frame (item #1), the boom (#6 & 7), and hook arm (#9), load hooks (#21);
- 4.) Unusual noise or binding;
- 5.) Pump operates properly.

(B) Perform the following inspections and service at least once per month:

1.) Oil level. Completely lower the boom; then remove the reservoir plug (see FIG. 3B on p. 5). Oil should be within  $\frac{3}{4}$ " of the top of the reservoir. Change the oil if it darkens, becomes gritty, or turns a milky color (indicating the presence of water). Replace with anti-wear hydraulic oil of viscosity grade 150 SUS at 100°F, (ISO 32 at 40°C).

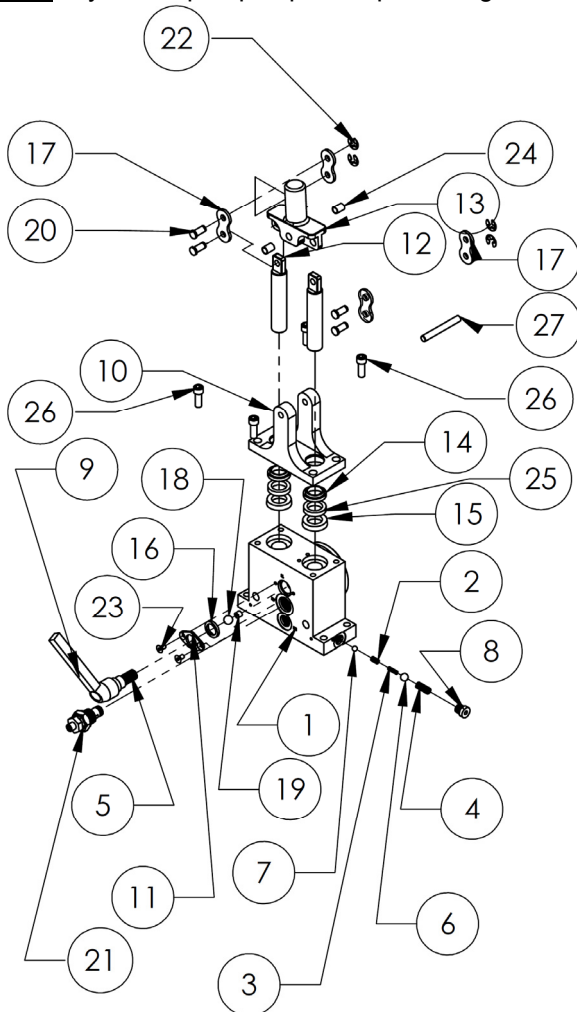
**NOTICE** Do not use brake fluid or jack oils in the hydraulic system. If oil is needed, use an anti-wear hydraulic oil with a viscosity of 150 SUS at 100°F (ISO 32 @ 40°C), such as AW 32 or HO 150 hydraulic oil, or a non-synthetic transmission fluid. You may use a synthetic transmission fluid if you flush the system with the synthetic fluid before filling the reservoir.

- 2.) Worn or damaged hydraulic hose.
- 3.) Condition of fasteners/hardware: bolts, nuts, pins, etc.
- 4.) Looseness, wear, or damage to the casters' bearings, mounting hardware, or surface material.
- 5.) Unusual noises or movement during operation.
- 6.) Labels (see FIG. 7 on p. 7): each label should be clean, readable, and undamaged.

### Hand-Operated Hydraulic Pump

If your pump is new or recently serviced, air likely is trapped inside the pump. To remove air from the pump, first fully lower the boom (see "ADJUST POSITION OF BOOM AND HOOK ARM" on p. 5); then remove the plug from the oil reservoir (see FIG. 4B on p. 5). Next, disconnect the hose from the cylinder, insert it into the reservoir, and submerge the end of the hose in the oil. Work the pump handle back-and-forth a number of times and observe the stream of oil flowing back into the reservoir. Pockets of air will escape from the stream of oil. Once the stream is free of air, reconnect the hose to the cylinder.

**FIG. 6:** Hydraulic pump exploded parts diagram



Item No.	Part No.	Description	Quantity
1	HP 1000	Pump body	1
2	99-146-006JY	Inlet check valve retainer spring	2
3	99-146-004JY	Inlet check valve spring	2
4	99-146-005JY	Outlet check valve spring	2
5	HP 1007	Lower release	1
6	375ball	Steel ball	2
7	250ball	Steel ball	2
8	6408H04O	Plug	2
9	Release handle	Release valve handle	1
10	HP 1003	Pivot bracket	1
11	HP 1009	Release seal retainer	1
12	HP 1004	Pump piston	2
13	HP 1001	Rocker	1
14	9403K15	Piston wiper	2
15	9505K82	Piston pump seal	2
16	9505K18	Release seal	1
17	HP 1008	80 chain link	4
18	9528K22	7/16in. ball	1
19	8491A596	Drill bushing	1
20	HP 1011	Pin	4
21	99-153-004	Relief valve	1
22	B27.1-NA3-S31	C-clip	4
23	94198	Countersunk beveled cap screw	2
24	HP 1012	Bushing	2
25	HP 1006	Seal spacer	2
26	93257	Socket head cap screw	4
27	ASME B18.8.8-0.3127 x 2.25	Dowel pin	1

**Labeling diagram:**

The product should always be labeled as shown below. Periodically inspect and clean the labels affixed to the product to maintain legibility. Replace all labels that are damaged, faded, or not easily readable.

Label #287 (actual label applied might have different appearance)

MODEL/MODÉLO/MODELE	_____
CAPACITY	_____ lbs.
CAPACIDAD/CAPACITÉ	_____ kgs.
SERIAL/SERIE/SÉRIE	_____

Label #209 on oil reservoir

ISO 32 / 150 SUS	
HYDRAULIC OIL OR NON-SYNTHETIC TRANSMISSION FLUID	
ACEITE HIDRAULICO O LIQUIDOS DE TRANSMISION NO SINTETICOS	
HUILE OU LIQUIDE HYDRAULIQUE NON-SYNTHEIQUE	
<small>Rev. 1003</small>	
VESTIL MANUFACTURING CORPORATION • Phone (260) 665-7586 • www.vestil.com	

Label #260

NOTICE	
OPERATING INSTRUCTIONS	
<ol style="list-style-type: none"> <li>1. Close valve clockwise.</li> <li>2. Actuate pump to desired height.</li> <li>3. Release valve counter-clockwise and allow leveler to rest on truck bed.</li> </ol>	
CAUTION: Keep valve released while loading truck.	
NOTA	
INSTRUCCIONES DE USO	
<ol style="list-style-type: none"> <li>1. Cierre la válvula hacia la derecha.</li> <li>2. Bombeo hasta la altura deseada.</li> <li>3. Abra la válvula hacia la izquierda y permita que la palanca se apoye en la cama del camión.</li> </ol>	
PRECAUCIÓN: Mantenga la válvula abierta mientras se cargue el camión.	
AVIS	
INSTRUCTIONS DE FONCTIONNEMENT	
<ol style="list-style-type: none"> <li>1. Fermer la soupape dans le sens des aiguilles d'une montre.</li> <li>2. Pousser la pompe à la hauteur désirée.</li> <li>3. Ouvrir la soupape en sens inverse des aiguilles d'une montre et laisser l'égalisateur de niveau reposer sur la plate-bande du camion.</li> </ol>	
PRUDENCE: Laisser la soupape ouverte pendant le chargement du camion.	
<b>VESTIL MANUFACTURING CORPORATION 260</b> <small>Angola, IN 46703 • (260) 665-7586 rev 8895</small>	

Label #212 (on both the left and right upper cylinder rack)

⚠ WARNING	⚠ ADVERTENCIA	⚠ AVERTISSEMENT
LOCK CASTER and/or FLOOR LOCK when loading and unloading	La RUEDECILLA de la CERRADURA y/o el PISO CIERRAN al cargar y descargar	LE PLANCHER de et/ou de ROULETTE DE SERRURE VERROUILLE en chargant et décharger
Vestil Manufacturing Corporation • Phone (260) 665-7586 • www.vestil.com		212 Rev 0709

## LIMITED WARRANTY

Vestil Manufacturing Corporation ("Vestil") warrants this product to be free of defects in material and workmanship during the warranty period. *Our warranty obligation is to provide a replacement for a defective original part if the part is covered by the warranty, after we receive a proper request from the warrantee (you) for warranty service.*

### Who may request service?

Only a warrantee may request service. *You are a warrantee if* you purchased the product from Vestil or from an authorized distributor AND Vestil has been fully paid.

### What is an "original part"?

An original part is a part used to make the product as shipped to the warrantee.

### What is a "proper request"?

A request for warranty service is proper if Vestil receives: 1) a photocopy of the Customer Invoice that displays the shipping date; AND 2) a written request for warranty service including your name and phone number. Send requests by any of the following methods:

Mail  
Vestil Manufacturing Corporation  
2999 North Wayne Street, PO Box 507  
Angola, IN 46703

Fax  
(260) 665-1339  
Phone  
(260) 665-7586

Email  
sales@vestil.com

In the written request, list the parts believed to be defective and include the address where replacements should be delivered.

### What is covered under the warranty?

After Vestil receives your request for warranty service, an authorized representative will contact you to determine whether your claim is covered by the warranty. Before providing warranty service, Vestil may require you to send the entire product, or just the defective part or parts, to its facility in Angola, IN. The warranty covers defects in the following original dynamic components: motors, hydraulic pumps, electronic controllers, switches and cylinders. It also covers defects in original parts that wear under normal usage conditions ("wearing parts"), such as bearings, hoses, wheels, seals, brushes, and batteries.

### How long is the warranty period?

The warranty period for original dynamic components is 90 days. For wearing parts, the warranty period is 90 days. The warranty periods begin on the date when Vestil ships the product to the warrantee. If the product was purchased from an authorized distributor, the periods begin when the distributor ships the product. Vestil may, at its sole discretion, extend the warranty periods for products shipped from authorized distributors by *up to* 30 days to account for shipping time.

### If a defective part is covered by the warranty, what will Vestil do to correct the problem?

Vestil will provide an appropriate replacement for any *covered* part. An authorized representative of Vestil will contact you to discuss your claim.

### What is not covered by the warranty?

1. Labor;
2. Freight;
3. Occurrence of any of the following, which automatically voids the warranty:
  - Product misuse;
  - Negligent operation or repair;
  - Corrosion or use in corrosive conditions;
  - Inadequate or improper maintenance;
  - Damage sustained during shipping;
  - Accidents involving the product;
  - Unauthorized modifications: DO NOT modify the product IN ANY WAY without first receiving written authorization from Vestil. Modification(s) might make the product unsafe to use or might cause excessive and/or abnormal wear.

### Do any other warranties apply to the product?

Vestil Manufacturing Corp. makes no other express warranties. All implied warranties are disclaimed to the extent allowed by law. Any implied warranty not disclaimed is limited in scope to the terms of this Limited Warranty.

