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P-JIB Portable Jib Crane Instruction Manual



Receiving instructions:

After delivery, remove the packaging from the product. Inspect the product closely to determine whether it sustained damage during transport. If damage is discovered, <u>immediately</u> record a complete description of the damage on the bill of lading. If the product is undamaged, discard the packaging.

Note:

The end-user is solely responsible for confirming that product design, installation, use, and maintenance comply with laws, regulations, codes, and mandatory standards applied where the product is used.

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Signal Words:

This manual uses SIGNAL WORDS to indicate the likelihood of personal injuries, as well as the probable seriousness of those injuries, if the product is misused in the ways described. Other signal words call attention to uses of the product likely cause property damage. The signal words used in this manual appear below along with their definitions.



Safe use recommendations:

We strive to identify hazards associated with the use of our products. However, material handling is inherently dangerous and no manual can address every risk. The end-user ultimately is responsible for exercising sound judgment at all times during use of this product.

WARNING Material handling is dangerous. Improper or careless operation might result in serious personal injuries sustained by the operator and bystanders. Always apply material handling techniques, including rigging methods, learned during training and use the product properly:

• Failure to read and understand the entire manual before assembling, using, or servicing the product <u>constitutes</u> <u>misuse</u>. Read the manual to refresh your understanding of proper use and maintenance procedures as necessary.

• DO NOT attempt to lift items that weigh more than the capacity of your crane. Capacity decreases as boom length increases. Capacities of both models appear in FIGS. 1B & 2B on pp. 4 and 6.

- DO NOT stand or sit on either the crane or the load. Avoid contact with the casters.
- Stand clear of the load while raising and lowering it.
- ONLY use the crane on <u>even</u>, <u>level</u>, improved surfaces (concrete or asphalt) capable of supporting the combined weight of the crane and a full capacity load. DO NOT attempt to move the crane up or down sloped surfaces.
- DO NOT perform maintenance on this crane UNLESS it is unloaded and the casters are chocked to prevent
- movement. If the crane requires repair, ONLY install manufacturer-approved replacement parts.
- DO NOT begin to raise a load until the load hook is centered above it.

• ALWAYS observe the boom while raising and lowering a load. It should rise smoothly. Watch for binding or jerky movement and listen for unusual noises.

- DO NOT use the crane unless it is in normal operating condition. Inspect the unit before each use following the inspection instructions on p. 9-10 to determine whether it is functioning normally.
- Always watch the load carefully while raising and lowering the boom.
- DO NOT continue to move the pump handle back-and-forth if the boom is fully elevated (does not continue to rise).
- Always lower and disconnect the load before leaving the crane unattended.
- Relieve hydraulic pressure by turning the release lever counterclockwise until the boom begins to descend. Lower the boom completely; then close the release valve.
- DO NOT alter the pressure relief valve setting!
- DO NOT use the crane UNLESS it is labeled as shown in "Labeling diagram" on p. 10.

• DO NOT modify this crane in any way. Modifications automatically void the limited warranty and might make the crane unsafe to use.

• Always make sure that the shackle pin (see item 35 on p. 3; item 34 on p. 5) is secure before applying a load to the stationary hook. Tighten the screw pin before each use.

NOTICE Proper maintenance is essential for this product to function properly.

- Follow the inspection and maintenance procedures provided on pp. 9-10. If repairs are necessary, only install manufacturer-approved replacement parts.
- Periodically lubricate pivot points.
- Keep the crane clean & dry.



no.	Part no.	Description	Qty.	no.	Part no. Description		Qty.
1	28-514-208	Weldment, base	1	20	37018 Nylock nut, grade 2, zinc-finish, ¹ / ₄ "-20		12
2	28-514-202	Weldment, boom, inner	1	21	28-612-005	28-612-005 Weldment, outrigger pin	
3	28-514-203	Weldment, boom, outer	1	22	11324	Hex bolt, ⁵ / ₈ "-11x5 ¹ / ₂ "	1
4	28-514-205	Weldment, mast	1	23	33016 Flat washer, low carbon, USS, zinc- plated, ⁵ / ₈ "		1
5	28/-514-206	Weldment, outrigger	2	24	37036	Nylock nut, zinc-plated, ⁵ / ₈ "-11	1
6	28-514-207	Weldment, lid	1	25	66122	¹ / ₂ "x4" clevis pin	1
7	16-025-025	Handle, formed, HT/ergo handle	1	26	28-110-001-001	Inner bearing	1
8	11105	Hex bolt, grade A, zinc-plated, ³ / ₈ "-16x1"	2	27	11101	Hex bolt, ³ / ₈ "-16x ¹ / ₂ "	
9	33008	Flat washer, low carbon, USS, zinc- plated, $\frac{3}{8}$ "	2	28	33622	Split lock washer, carbon steel, medium zinc-finish, ³ / ₈ "	
10	37024	Nylon insert lock nut, grade 2, zinc finish, $3/8$.16	2	29	99-140-003-001)-003-001 Pump, manual, hand pump	
11	35076	¹ / ₈ "x1" cotter pin, zinc-plated	4	30	33004 Flat washer, USS, zinc-plated, ¹ / ₄ "		4
12	99-112-006	Pin, clevis	4	31	36102 Hex nut, grade A, zinc plated, ¹ / ₄ "-20		4
13	08-145-001	Swivel hook, 2-ton capacity	2	32	16-132-208 Caster, 8"x2", swivel		2
14	99-021-928	Cylinder, hydraulic, 2"x18" stroke	1	33	16-132-233 Caster, rigid, GFN-8/2-R		2
15	66115	¹ / ₂ "-1 ³ / ₄ " clevis pin	2	34	21-042-002-001 Hand winch, foldable handle grip		1
16	45286	#11 hitch pin clip, ¹ / ₈ "x2 ⁵ / ₈ "	3	35	5 08-145-010 Shackle, ¹ / ₂ ", 2-ton capacity		1
17	65127	Cotter pin, zinc-plated, ³ / ₁₆ "-2	4	36	6 47-112-001 Clevis pin, 1" x 3 ¹ / ₄ "		2
18	30-001-011	Leveling jack	2	37	99-027-003	¹ / ₄ " cable pulley, 3" OD, ¹ / ₂ " ID	2

FIG 1B: P-JIB-2 specifications

The inner boom has 4 pin holes spaced 7 inches apart to allow boom length to be adjusted. Boom length determines the maximum rated load of the crane, which decreases as boom length increases as indicated in the table below.





1	28-514-209	Weldment, base	1	19	11324	Hex bolt, ⁵ / ₈ "-11x5 ¹ / ₂ "	1
2	28-514-202	Weldment, inner boom	1	20	33016	Flat washer, low carbon, USS, zinc-plated, $\frac{5}{8}$ "	1
3	28-514-203	Weldment, outer boom	1	21	37036 Nylock nut, zinc-plated, ⁵ / ₈ "-11		1
4	28-514-205	Weldment, mast	1	22	99-021-924-001 Cylinder, hydraulic, piston style, 3" x 20 stroke		1
5	28-514-206	Weldment, outrigger	2	23	66122	Clevis pin, ¹ / ₂ " x 4	1
6	28-514-207	Weldment, lid	1	24	28-110-001-001	Inner bearing	1
7	16-025-025	Handle, formed, ergo	1	25	11101 Hex bolt, ³ / ₈ "-16x ¹ / ₂ "		3
8	11105	Hex bolt, grade A, zinc plated, ³ / ₈ "-16x1"	2	26	33622	Split lock washer, carbon steel, mediun zinc finish, ³ / ₈ "	
9	33008	Flat washer, low carbon, USS zinc plated, ${}^{3}/_{8}$ "	18	27	99-140-003-001	Pump, manual, hand pump	1
10	37024	Nylon insert lock nut, grade 2, zinc finish, ³ / ₈ "-16	18	28	33004	33004 Flat washer, USS, zinc plated, ¹ / ₄ "	
11	08-145-001	Swivel hook, 2-ton capacity	2	29	36102 Hex nut, grade A, zinc plated, ¹ / ₄ "-20		4
12	66115	Clevis pin, $1/_{2}$ " x $1^{3}/_{4}$ "	2	30	16-132-171 Caster, 8"x3", phenolic, swivel		2
13	45286	#11 hitch pin clip, ¹ / ₈ " x 2 ⁵ / ₈ "	3	31	16-132-172	Caster, 8"x3", phenolic w/ fiber, rigid	2
14	65127	Cotter pin, zinc-plated, ³ / ₁₆ " x 2"	4	32	2 11107 Hex bolt, grade A, zinc finish, $\frac{3}{8}$ "-16 x1 ¹ / ₄ "		16
15	30-001-011	Levelling jack	2	33	21-042-002-001	Hand winch, foldable handle grip	1
16	11007	Hex bolt, ¹ / ₄ "-20 x 1 ¹ / ₄ "	16	34	08-145-010	Shackle, ¹ / ₂ ", 2-ton capacity	1
17	37018	Nylon lock nut, grade 2, zinc-finish, ¹ / ₄ " - 20	12	35	47-112-001	Clevis pin, 1"x3 ¹ / ₄ "	2
18	28-612-005	Weldment, outrigger pin	2	36	99-027-003	Cable pulley, ¹ / ₄ ", 3"OD, ¹ / ₂ "ID	2

FIG 2B: P-JIB-4 rated loads for specified boom lengths

The inner boom has 4 pin holes spaced 7 inches apart to allow boom length to be adjusted. Boom length determines the maximum rated load of the crane, which decreases as boom length increases as indicated in the table below.





Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	99-110-007	¹ / ₄ in. ball bearing	2	13	99-041-004	Plunger/piston, pump	
2	99-146-004	Spring, compression, inlet check	2	14	99-016-045	15 Bracket, pivot, casting	
3	99-146-006	Spring, compression, retainer	2	15	99-144-003	3 Wiper, solid profile, piston	
4	99-110-006	³ / ₈ in. ball bearing	3	16	99-113-005	5 Spacer, seal	
5	99-146-005	Spring, compression, outlet check	2	17	0129169	Lock washer, high collar, zinc-plated	
6	99-116-005	MORB hollow hex plug, SAE 4	2	18	93257	⁵ / ₁₆ in. – 18 x 1 ¹ / ₄ in. SHCS bolt	
7	99-153-006	Valve, pressure relief, 210 bar	1	19	99-040-004	Lever, rocker, casting	
8	99-111-004	Busing, seat, ball	1	20	99-042-001	Chain, side plate, #80	
9	99-144-005	Seal, square profile, release	1	21	99-144-015	Seal, U-cup	
10	99-117-008	Retainer, seal	1	22	99-039-003- 001	Pump, manual, hand pump	
11	94198	FHSCS utility grade, 10-24 x ³ / ₈ in.	2	23	ASME B18.8.2- 0.3127x2.5	5	
12	99-025-023	Handle, release	1	24		Clevis pin	4
				*	99-144-001	Replacement seals (kit)	1

Operating the crane:

The floor crane must be used only on improved surfaces (concrete or asphalt) that are even and level.

- 1) Attach appropriate rigging to the load.
- 2) Carefully push the crane to the work location; then low.
- Position the outriggers and deploy the floor locks. Outriggers can be rotated out to the side of the crane to enhance stability. Always keep the load between the outriggers (don't rotate the load beyond the outriggers).

To deploy the floor locks, rotate the hand cranks clockwise until the feet solidly contact the floor but <u>do not lift the front casters off of</u> the ground.

- Adjust the position of the boom.
 - a. To raise the boom, move the pump handle back-and-forth.
 - b. To lower the boom, slowly turn the release lever counterclockwise until the boom begins to lower. To increase the lowering speed, turn the release lever further counterclockwise. Close the release valve when boom adjustment is complete by turning the release lever clockwise until the connection is tight.
- 5) Attach the rigging to the stationary hook at the end of the boom. If the stationary hook cannot be lowered enough engage the rigging, connect the rigging to the winch hook. The winch hook capacity is always 800 pounds (363.6kg), <u>regardless of boom length</u>. To raise and lower the winch hook, turn the winch handle in the appropriate direction (see diagram).

Prevent load swing! Be sure that whichever hook is used is centered above the load before raising it. Do not raise the boom or the winch hook until the hook is centered above the load.

NOTE: Add the weight of all rigging to the weight of the load to calculate the net weight applied to the crane. The net weight must be less than or equal to the capacity of the crane. Capacity decreases as the boom is extended (see FIGS. 1B, 2B on pages 4 and 6).

- 6) Slowly raise the load until it is a few inches off of the ground.
 - a. The load should not swing as it rises.
 - b. The crane should not tip or rock when the load is suspended.
 - c. If the crane is unstable, lower the load and adjust rigging.
 - d. The mast rotates to allow the user to move loads to either side of the crane. Rotate the boom <u>slowly</u> when loaded. Don't rotate the load beyond the outriggers.
- 7) Lower the boom until there is slack in the rigging and disconnect the load from the hook.

Operating the hand pump:

The hydraulic pump controls up-and down-movement of the boom. With the lowering lever in the closed position (rotated clockwise until the connection is snug), move the pump handle back-and-forth to extend the cylinder. As the cylinder extends, the end of the boom rises and elevates the hooks.

To lower the boom, slowly rotate the release lever counterclockwise. The farther the lever is turned, the faster the boom lowers. To change load elevation but not lower the load completely, simply close the release valve when the load is at the desired height, i.e. turn the lever clockwise until the connection is snug.



Air bleeding procedure:

Air can be trapped inside the hydraulic circuit. If this happens, you might notice that the boom feels spongy when it is raised. If this happens, then air must be removed from the circuit. To remove air:

- 1. Lower the boom and disconnect the cylinder from the crane by removing the clevis pins (see "Hydraulic cylinder" above left).
- 2. Lay the cylinder on a flat surface with the hose on top.
- 3. Loosen the hose fitting but do not disconnect the hose. Wrap a rag around the fitting.
- 4. Circulate oil to the cylinder by slowly moving the handle back and forth. Air and oil will sputter from the fitting. When no more air is present, tighten the fitting and pin the cylinder to the crane.

Boom length adjustment:

To adjust the length of the boom, first use the hand pump to raise the boom to make it level. Remove the hitch pin and pull out the clevis pin. The inner boom is now free and can be pulled or pushed. Align the appropriate holes in the inner and outer booms to produce the desired boom configuration; then reinstall the pins.



Inspections & Maintenance:

Before using the crane for the first time, make a written record of its appearance. Include observations about each part of the crane, such as pivot points and pins, the hydraulic system (cylinder, pump, hoses, and oil tank), hooks, shackles and shackle pins, floor locks, casters, mast, boom, and supporting frame. Raise and lower the boom. Include notes about how easily the handle moves back-and-forth, as well as sounds heard during operation.

This record establishes "normal condition". During future inspections, compare current observations to the written record to determine if the unit is in normal condition. <u>DO NOT use the crane unless it is in normal condition</u>. If repairs are necessary, only install manufacturer-approved replacement parts.

(A) Before each use, inspect the following items:

- 1.) Frame, mast, cylinder brackets (where cylinder attaches to mast and boom), & booms (inner and outer) examine each item for damage and severe wear.
- 2.) Cylinder and pump check for oil leaks. Raise and lower the boom. Listen for unusual noises; watch the cylinder. Confirm that it extends and retracts smoothly.
- 3.) Load hook and shackle closely examine the load hook and shackle. Make sure that neither is severely worn, warped, bending or cracking. Confirm that the safety latch (of the hook) operates correctly. Also inspect the shackle bracket. The bracket should be square and rigid and lack cracks and significant bends. The pin hole (for the shackle pin) should not be elongated.
- 4.) Shackle and shackle pin: make sure that the shackle and pin are not bent, cracked, stretched, or severely worn. The opening in the lifting arm for the shackle should not be stretched, bent or cracked.
- 5.) Inner and outer booms: confirm that both parts are rigid and square.
- 6.) Make a dated record of the repairs, adjustments and replacements made.

- (B) Inspect the following at least once per month:
 - Oil level lower the boom completely. Oil should be within ³/₄in. of the top of the tank with the boom in the fully lowered position. [See "Yearly inspection", p. 10 for hydraulic fluid specifications.]
 - 2.) Hoses check for cuts, kinks, and other damage. Confirm that the ends of the hose are firmly fastened to the pump and the cylinder.
 - 3.) Hardware check the integrity of all nuts, bolts, and pins. Replace any item that is damaged.
 - 4.) Casters move the crane and determine whether any caster is loose, severely worn, or damaged. Remove material from the surface of the casters. Replace casters that do not roll smoothly or are bent or cracked.
 - 5.) Winch, cable, and pulleys examine the cable for frays, broken strands, kinks, etc. Make sure that the cable clamp (connects the hook to the cable) is secure. Make sure that all pulleys and retaining hardware are in normal condition.
 - 6.) Labels check all information/safety labels. The crane should be labeled at all times as shown in the labeling diagram on p. 10.

(C) Yearly inspection:

In addition to the inspections described above in parts A and B, check the hydraulic fluid at least once per year. Change the oil if it darkens, becomes gritty, or turns a milky color (indicating the presence of water). Replace the hydraulic fluid with anti-wear hydraulic oil of viscosity grade 150 SUS at 100°F, (ISO 32 at 40°C). Examples of proper hydraulic fluid are AW 32 and HO 150 hydraulic oil, and non-synthetic transmission fluid. You may use a synthetic transmission fluid if you flush the system with the synthetic fluid before filling the reservoir.

Labeling diagram:

The floor crane should be labeled as shown below. Replace all labels that are missing, faded, or not easily readable.



BEFORE LIFTING LOAD.

kgs

287 REV 0812

CAPACITÉ STATIQUE (distribuée régulièrement)

SERIAL/SERIE/SÉRIE

Made in China

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 <u>Customer Invoice</u> that displays the shipping date; AND 2) a <u>written request</u> for warranty service including your name and phone number. Send requests by any of the following methods:

Mail	<u>Fax</u>	Email
Vestil Manufacturing Corporation	(260) 665-1339	sales@vestil.com
2999 North Wayne Street, PO Box 507	Phone	
Angola, IN 46703	(260) 665-7586	

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 <u>original</u> 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 <u>90 days</u>. For wearing parts, the warranty period is <u>90 days</u>. 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 <u>automatically voids the warranty</u>:
 - Product misuse;
 - Negligent operation or repair;
 - Corrosion or use in corrosive environments;
 - Inadequate or improper maintenance;
 - Damage sustained during shipping;
 - Collisions or other incidental contacts causing damage to the product;
 - <u>Unauthorized modifications</u>: 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.

