Table of Contents Rev. 12/9/2020 VAN-J, MANUAL

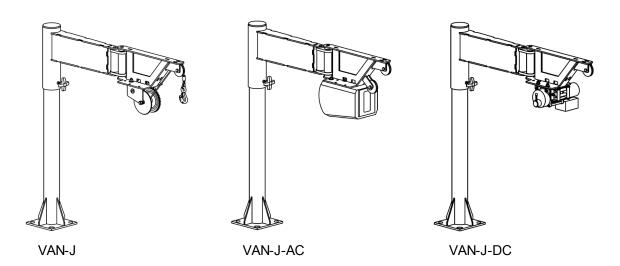


# Vestil Manufacturing Corp.

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

Web: www.vestilmfg.com e-mail: info@vestil.com

# VAN-J Series Vehicle Mounted Jib Cranes 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, record a complete description of it 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, use, and maintenance comply with laws, regulations, codes, and mandatory standards applied where the product is used.

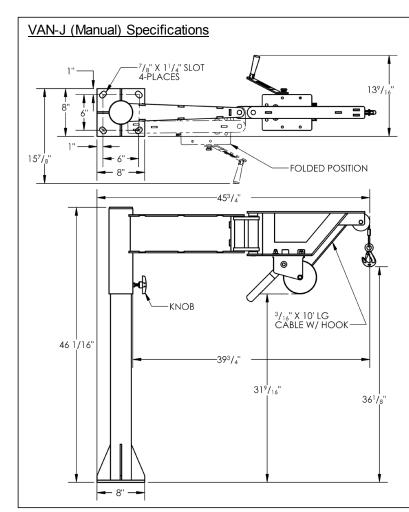
#### **Technical Service & Replacement Parts**

For answers to questions not addressed in these instructions and to order replacement parts, labels, and accessories, call our Technical Service and Parts Department at (260) 665-7586. The Department can also be contacted online at https://www.vestil.com/page-parts-request.php.

#### **Electronic Copies of Instruction Manuals**

Additional copies of this instruction manual may be downloaded from https://www.vestil.com/page-manuals.php.

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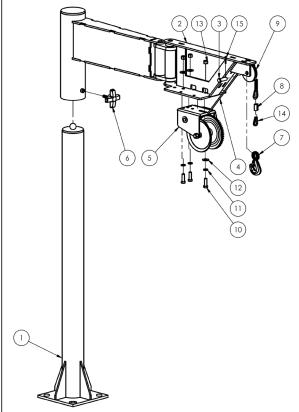
Capacity = 400 lb.Net weight = 95 lb.Overall width =  $13^9/_{16}$ " Usable width = 8" Overall length =  $45^3/_4$ " Usable length =  $39^3/_4$ " Overall height =  $46^1/_{16}$ " Usable height =  $36^1/_8$ "

Usable height =  $36^{1}/8^{"}$ Base mounting holes are  $^{7}/8^{"} \times 1^{1}/4^{"}$  slots

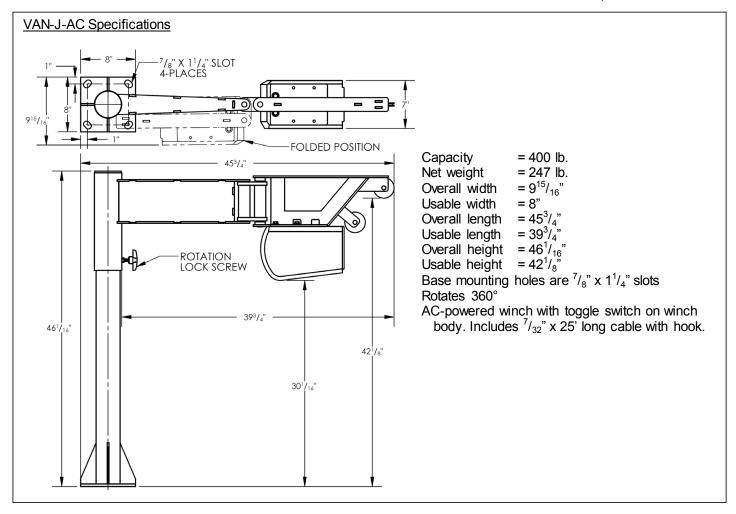
Rotates 360°

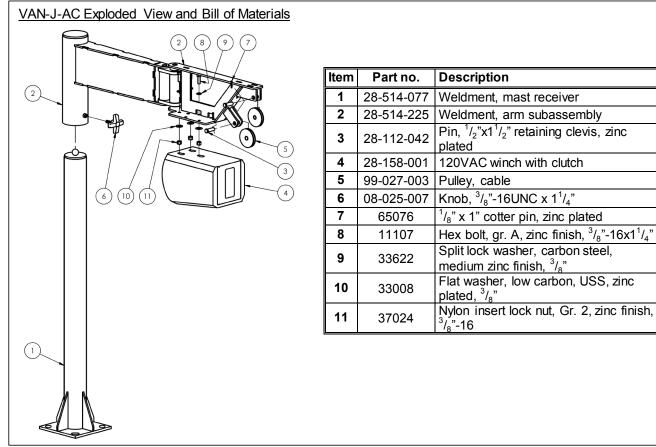
Manual winch includes  $^{3}/_{16}$ " x 10' long cable with hook

# VAN-J (Manual) Exploded View and Bill of Materials



Item	Part no.	Description	Qty.
1	28-514-098	Weldment, mast receiver	
2	28-514-097	Weldment, arm subassembly	
3	28-112-042	Pin, <sup>1</sup> / <sub>2</sub> "x1 <sup>1</sup> / <sub>2</sub> " retaining clevis, zinc plated	
4	21-145-014	Specialty hardware, <sup>3</sup> / <sub>16</sub> " aircraft cable	
5	21-042-002- 001	Manual winch, foldable handle	
6	08-025-007	Knob, <sup>3</sup> / <sub>8</sub> "-16UNC x 1 <sup>1</sup> / <sub>4</sub> "	
7	08-145-045	Clasp hook, <sup>3</sup> / <sub>4</sub> " mouth opening	
8	99-145-067	Compression sleeve, <sup>3</sup> / <sub>16</sub> " x 1"	
9	99-027-003	Pulley, cable	
10	11107	Hex bolt, gr. A, zinc finish, $\frac{3}{8}$ "-16x1 $\frac{1}{4}$ "	
11	33622	Split lock washer, carbon steel, medium zinc finish, <sup>3</sup> / <sub>8</sub> "	
12	33008	Flat washer, low carbon, USS, zinc plated, 3/8"	
13	37024	Nylon insert lock nut, Gr. 2, zinc finish, 3/8"-16	
14	21-145-013	Specialty hardware, thimble	1
15	65076	<sup>1</sup> / <sub>8</sub> "x1" cotter pin, zinc plated	1





Qty.

1

1

2

2

1

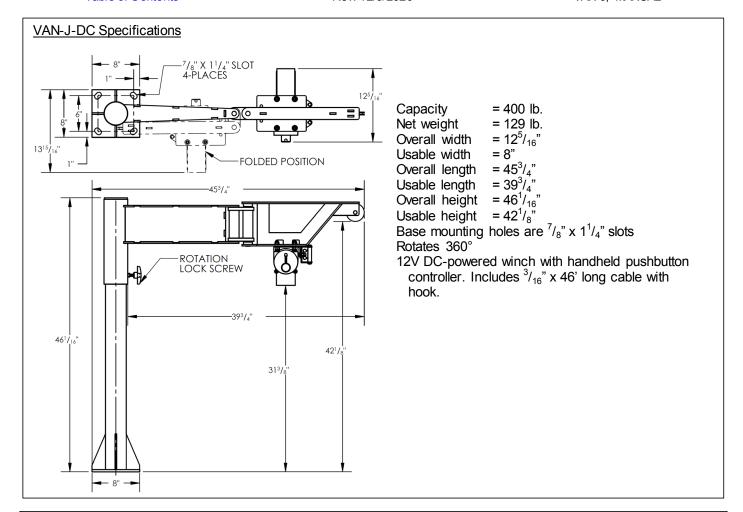
2

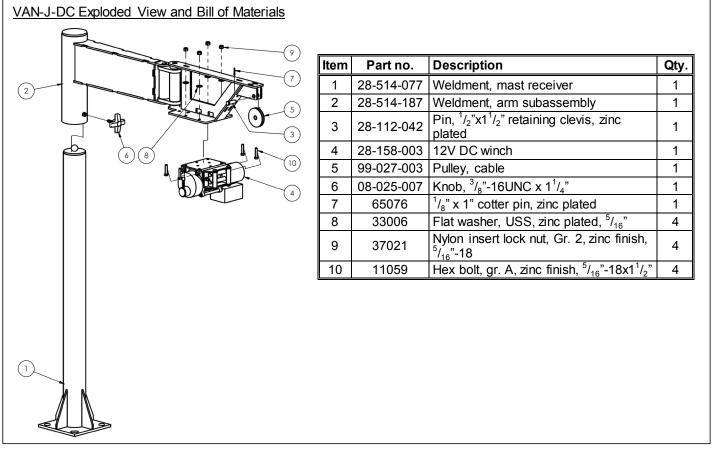
3

3

3

3





#### SIGNAL WORDS

This manual uses SIGNAL WORDS to direct the reader's attention to important safety-related messages. These messages describe actions or omissions that could result in personal injury or property damage. Each signal word corresponds to a specific hazard level.

**A** DANGER

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

**AWARNING** 

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

**A**CAUTION

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

NOTICE

Identifies practices likely to result in product/property damage, such as operation that might damage the product or other property.

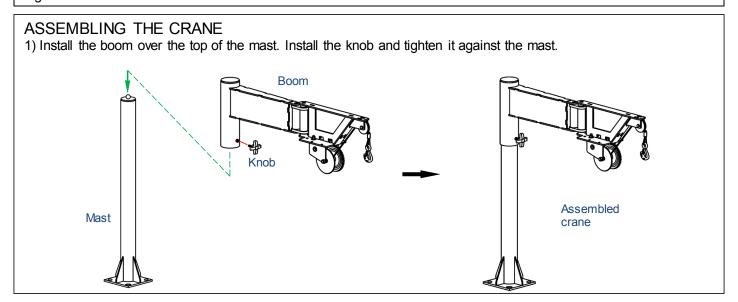
### SAFETY INSTRUCTIONS

Vestil strives to identify all foreseeable hazards associated with the use of its products. However, material handling is dangerous and no manual can address every conceivable risk. Ultimately, the most effective way to prevent injury is to apply sound judgment whenever using this device.

ADANGER DO not install or use the crane in areas where it will contact electrified wires. Electrocution might occur if the crane, hoist, or load, etc. contacts electrified wires.

AWARNING Improper or careless operation might result in serious personal injuries.

- ALWAYS apply operation, inspection, and maintenance recommendations in 29 CFR 1910.179. Contact the occupational safety and health institution of the state where the crane is used for requirements applied to jib cranes.
- DO NOT use a damaged or malfunctioning jib! Restore the crane to normal operating condition before returning it to service.
- DO NOT exceed the capacity of your jib. See SPECIFICATIONS for your crane, p. 2, 3, or 4. The weights of the load, rigging, and all other equipment attached to the jib must be added together to determine the net weight applied to the jib. The net weight must not exceed the capacity.
- Always perform the FUNCTION TESTS on p. 6 before each use.
- Inform all persons in the area that you are going to use the crane. Instruct them to stay out of the area during operation.
- NO ONE should ever stand beneath or travel under the crane when a load is suspended from it.
- DO NOT use the jib to lift/support people.
- ALWAYS load the jib as recommended in *USING THE CRANE* on p. 7. Failure to properly position a load might cause the load to swing when it is lifted. Load swing might result in serious injury.
- DO NOT use the crane if any label is unreadable, damaged, or missing. See *LABELING DIAGRAM* on p. 9. Contact Vestil for replacement labels.
- DO NOT modify the crane! Modifications automatically void the *LIMITED WARRANTY* on either p. 10 or p. 11 and might make the crane unsafe to use.



#### INSTALLING THE CRANE

Refer to the applicable exploded view on page 2, 3, or 4.

<u>Step 1</u>: Contact the vehicle manufacturer to determine the appropriate place to install the crane as well as the hardware that should be used to fasten the crane to the vehicle. (Bolt slots in the mounting plate are  $^{7}/_{8}$ " x  $1^{1}/_{4}$ " to accept bolts up to  $^{3}/_{4}$ " in diameter). When choosing an installation site, consider the following factors:

- a. The vehicle must be able to support the combined weight of the crane and a load weighing 125% of the capacity, i.e.
   400 lb. x 1.25 = 500 lb.
- b. The installation location must also be able to withstand the dynamic forces exerted on it by the jib as the vehicle moves.
- c. The boom must be able to rotate freely, i.e. without running into the sides of the vehicle.

<u>Step 2</u>: Put the jib into storage configuration. Fold the boom against itself and wrap a strap around it. The jib should remain completely assembled and in storage configuration during the installation.

<u>Step 3</u>: Using the mounting plate as a template, mark the locations of the bolt holes on the vehicle surface. Drill  $^9/_{16}$ " holes in the locations of the markings for the anchoring hardware.

Step 4: Align the bolt holes in the mounting plate with the holes drilled in step 3. One person should stabilize the jib while the other fastens the mounting plate to the vehicle using the hardware and any backing or stiffeners recommended by the vehicle manufacturer.

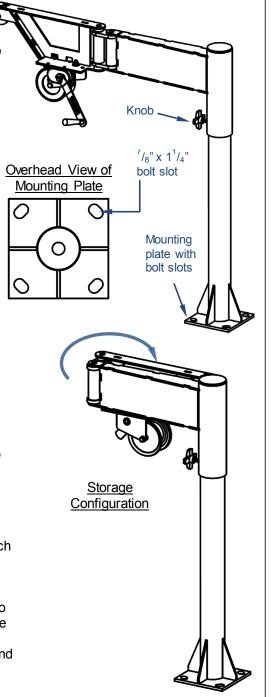
Step 5 [DC and AC models]: Prepare the winch for operation.

- a. [AC units] Connect the power cord to the power supply. On
- b. [DC units]: Connect the power supply cord and pendant control cable to the winch.

Step 6: Lower and raise the cable hook.

- a. Manual units: Wind the handle clockwise to raise the hook or counterclockwise to lower the hook.
- b. Powered units: press the up and down buttons on either the toggle switch (AC units) or the handheld pendant controller (DC units). Watch the cable. Confirm that it smoothly winds off of and onto the winch spool.

Step 7: Perform a load test on the jib by using it to lift a test weight equal to 125% of the rated capacity (500 lb.). Inspect both the crane and the vehicle after performing the load test. Look for cracks, bends, and other forms of damage at and around the installation site. Repair the site, if necessary, and perform another load test to confirm that problems are resolved.



## **FUNCTION TESTS**

Verify that the jib operates normally by performing the tests below. If an issue is discovered, tag the crane "Out of Service". Restore the crane to normal operating condition before returning it to service.

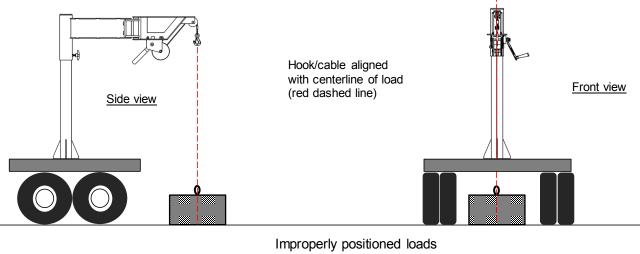
- 1. Test the mast bearing: Rotate the boom in both directions. Make sure that it rotates smoothly. Listen for unusual noises. If the crane wobbles or is unusually noisy as it rotates, remove the boom from the mast and grease the bearing at the top of the mast. If lubrication does not resolve the problem, the bearing might need to be replaced. Contact the factory to discuss the problem and to order replacement parts.
- 2. Test the winch: Lower and raise the load hook. Make sure that the hook moves at a constant rate. The cable should not bind as the winch operates.

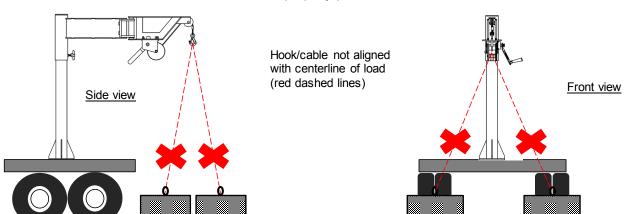
#### USING THE CRANE

To properly operate the crane, apply the following steps.

- 1. Connect the power cord to the power supply.
  - a. AC units: connect to a properly grounded, GFCI-protected, 115V outlet.
  - b. DC units: make sure battery connections are secure.
- 2. Apply appropriate rigging to the load.
- 3. Adjust the length and angle of the boom as your application requires. Consult the appropriate table on page 2 to make sure that the load does not exceed the capacity of the crane in its present configuration.
- 4. If your crane has a manual winch, stand on the same side of the crane as the winch handle. Turn the handle clockwise to lower the hook. If your winch is equipped with a powered winch, then it is electronically controlled. Both AC and DC-powered winches utilize a constant pressure ("dead man") pushbutton controller. Press the DOWN button on the handheld controller. The winch will operate only while a control button is pressed. Releasing the button causes the winch to stop and the hook will maintain its position.

Lower the hook sufficiently to attach the load rigging to it. The load center should be directly below the hook to prevent significant load swing as it rises. Proper and improper positioning is diagrammed below:





- 5. Tighten the knob tightly against the mast.
- 6. Turn the winch handle counterclockwise or press the UP button to raise the load. Loosen the knob and slowly rotate the boom. Position the load as desired; then lower it until it is entirely supported by the vehicle.

**NOTE:** Powered winches are designed for intermittent use. Extended use without pause to allow the motor to cool will damage the motor. Maximum continuous run time is 3 minutes.

- 7. Put the crane into storage configuration:
  - a. Fold the boom against itself.
  - b. Strap the boom sections together.
  - c. [AC and DC units] Unplug the winch power cord and store it inside the vehicle whenever the jib is not in use.

# RECORD OF SATISFACTORY CONDITION (THE "RECORD")

Before putting the crane into service, create a written record that describes the appearance of each part of the crane and how it operates. Take photographs from multiple angles. Include close-range photos of all labeling, mounting bolts, pulleys, pivot points, hooks, fasteners, and the winch. Cycle the winch up and down. Record your observations about how the unit looks and sounds as the hook rises and lowers. Measure the throat opening of the hook and record the measurement. Collect all writings and photographs into a single file. This file is a record of the crane in satisfactory condition. Compare results of all inspections to this Record to determine whether a component is in satisfactory condition or if it requires repair or replacement. Restore the unit to satisfactory condition before returning it to service.

#### INSPECTIONS & MAINTENANCE

Inspections and repairs should only be performed by qualified persons. Compare the results of each inspection to the <u>RECORD OF SATISFACTORY CONDITION</u> (the "RECORD"). Do not use the crane unless all parts are in satisfactory condition. Replace parts that are not in satisfactory condition before returning the crane to service. **DON'T GUESS!** If you have any questions about the condition of your crane, contact the <u>TECHNICAL SERVICE</u> department. The phone number is provided on the cover page of this manual. <u>Never make temporary repairs of damaged or missing parts</u>. Only use manufacturer-approved replacement parts. Inspect and maintain the unit as described below to preserve normal operability. Remove it from service if it is damaged in any way that affects normal operation. If the unit cannot be restored to satisfactory condition, disassemble it and dispose of the parts. The unit must be retested at 125% of its rated capacity anytime the crane is repaired or modified. Inspect the following:

#### A. At least once per month

- 1. **Winch and pulleys**: cycle the winch up and down. Confirm that the cable winds off of and back onto the drum smoothly. The hook should not lower on its own. The cable pulley should not be loose or severely worn and should rotate freely as the cable passes over it.
- 2. **Winch cable**: check for reeving, fraying, thinning, birdcaging, and elongating regions. If the cable is damaged, replace it.
- 3. [Powered units] **Winch power cord**: examine the cord for damage and areas where the outer sheath has been damaged. Repair all damage before using the winch again.
- 4. **Frame elements**: examine the mast and both segments of the boom for damage, deformation, corrosion, cracked welds, and severe wear. Inspect all pivot points for severe wear. All frame members should be square, rigid, and free of significant rusting. Remove rust with steel wool or a metal bristle brush, clean the areas to remove rust particles, and apply touchup paint to the affected areas.
- 5. **Hook**: visually inspect the hook before each use. Look for deformations and cracks. Immediately discard the hook if it is cracked or if the throat opening is more than 15% in excess of the original throat opening. Discard the hook if it is twisted more than 10° from the plane of the hook in its original condition. Confirm normal operation and operation of the safety latch.
- 6. **Vehicle**: inspect the vehicle where the crane is mounted. Closely examine the area around the mounting plate. Look for rust, corrosion, and metal fatigue. Check the mounting plate (base of the mast), the anchoring hardware, and the vehicle bed/floor particularly around the anchor bolts. Make sure that the mast is securely anchored (i.e. does not wobble). Confirm that anchoring hardware is in normal condition.
- 7. Labels: confirm that all labels are in good condition and in place as shown in the "Labeling Diagram" (p. 9).

#### B. At least every 6 months

Conduct a load test. Lift a test weight equal to 125% of the capacity (500 lb.). After the test, examine the crane, winch, cable, and the vehicle where the crane is mounted. Look for deformations, cracks, and metal fatigue. Do not continue to use the crane unless both it and the supporting vehicle are in normal condition.

#### TROUBLESHOOTING

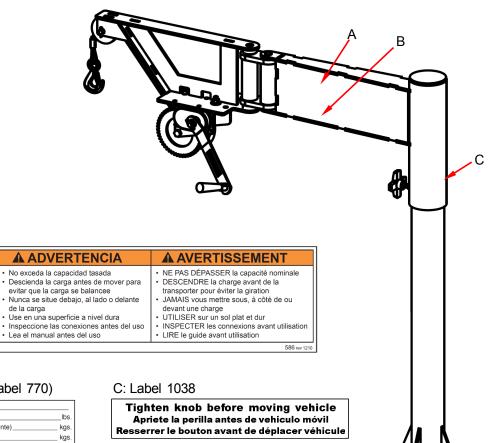
Unload the crane and (if applicable) disconnect the winch from the power supply before troubleshooting an issue.

Problem	Possible causes	Solutions	
1) Winch doesn't work when	a. No supply voltage	a. Test with meter. Check circuit protectors for	
button pressed		open condition. If circuit protection has	
		opened, test all parts of circuit with multimeter.	
		Verify power supply cord and controller cord	
		are properly attached to winch.	
	b. Bad connection in control circuit	b. Test with multimeter.	
	c. Battery discharged	c. Test with volt meter. Charge battery is low	
		(12.65V = full_charge).	
2) Cable jumps or lurches as	d. Poor spooling on winch reel/drum	d. Spool out the cable and inspect it for kinks,	
the winch operates		etc. Re-spool cable onto winch reel. Replace	
		cable if damaged.	
	e. Kink in cable	e. Replace cable if kinks cannot be	

		straightened.
Winch motor hums but drum does not rotate	f. Overload condition	f. Reduce load weight. Verify cable not binding.
does not rotate	g. Supply voltage too low	g. Check with meter. Charge battery (DC units) or change supply cord (AC units). Supply cord should be as wide and short as possible.
Mast does not rotate without great effort	h. Knobs tightened. i. Bearing overly worn.	h. Loosen knobs. i. Remove mast from mast receiver. Inspect bearing. Replace bearing if severely worn.
5) Personnel receive electric shocks when touching the jib or vehicle when winch in use.	, , ,	j. Allow winch to dry <u>completely</u> before using it again.
	k. Winch wiring problem.	k. Check winch electrical circuit including ground.

# LABELING DIAGRAM

Label content and location are subject to change so your product might not be labeled exactly as shown. Compare the diagram below with the RECORD. If you have any questions about labeling, contact TECHNICAL SERVICE. Replace all labels that are damaged, missing, or not easily readable (e.g. faded). To order replacement labels, contact the technical service and parts department online at <a href="http://www.vestilmfg.com/parts">http://www.vestilmfg.com/parts</a> info.htm. Alternatively, request replacement parts and/or service by calling (260) 665-7586 and asking the operator to connect you to TECHNICAL SERVICE.



# A: Label 586

# **A WARNING** DO NOT exceed rated capacity LOWER LOAD before moving to avoid

- load swing NEVER STAND under, beside or in front
- of load
- USE on hard level surface
- INSPECT connections before using
   READ manual before use

# · No exceda la capacidad tasada

- Descienda la carga antes de mover para
- evitar que la carga se balancee Nunca se situe debajo, al lado o delante de la carga
- Use en una superficie a nivel dura

#### B: Label 287 (covered with label 770)

MODEL/MODÉLO/MODÈLE STATIC CAPACITY (evenly distributed) lbs. LA CAPACIDAD CONSTANTE (distribuida uniformemente) kgs. CAPACITÉ STATIQUE (distribuée régulièrement) kqs. SERIAL/SERIE/SÉRIE 287 REV 0812

#### LIMITED WARRANTY: VAN-J-AC & VAN-J-DC

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 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.

#### Definition of "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 one of the following methods:

US MailFaxEmailVestil Manufacturing Corporation(260) 665-1339info@vestil.com2999 North Wayne Street, PO Box 507PhoneEnter "Warranty service request"Angola, IN 46703(260) 665-7586in subject field.

In the written request, list the parts believed to be defective and include the address where replacements should be delivered. 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 will require you to send the entire product, or just the defective part (or parts), to its facility in Angola, IN.

#### What is covered under the warranty?

The warranty covers defects in the following original, dynamic parts: 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 <u>90 days</u>. For wearing parts, the warranty period is <u>90 days</u>. Both warranty periods begin on the date 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 a warranty period 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 <u>not</u> covered by the warranty?

The Warrantee (you) are responsible for paying labor costs and freight costs to return the product to Vestil for warranty service.

#### **Events that automatically void the Limited Warranty.**

- Misuse;
- Negligent assembly, installation, operation or repair;
- Installation/use in corrosive environments;
- Inadequate or improper maintenance;
- · Damage sustained during shipping;
- · Collisions or other accidents that damage the product;
- <u>Unauthorized modifications</u>: Do not modify the product IN ANY WAY without first receiving written authorization from Vestil.

#### 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. Vestil makes no warranty or representation that this product complies with any state or local design, performance, or safety code or standard. Noncompliance with any such code or standard is not a defect in material or workmanship.

#### LIMITED WARRANTY: VAN-J (manual winch)

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 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.

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The warranty covers defects in the following original, dynamic parts: 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 <u>1 year</u>. For wearing parts, the warranty period is <u>90 days</u>. Both warranty periods begin on the date 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 a warranty period for products shipped from authorized distributors by up to 30 days to account for shipping time.

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

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#### 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. Vestil makes no warranty or representation that this product complies with any state or local design, performance, or safety code or standard. Noncompliance with any such code or standard is not a defect in material or workmanship.