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OWNER'S MANUAL

MODEL - SELF SUPPORTING BRIDGE CRANE

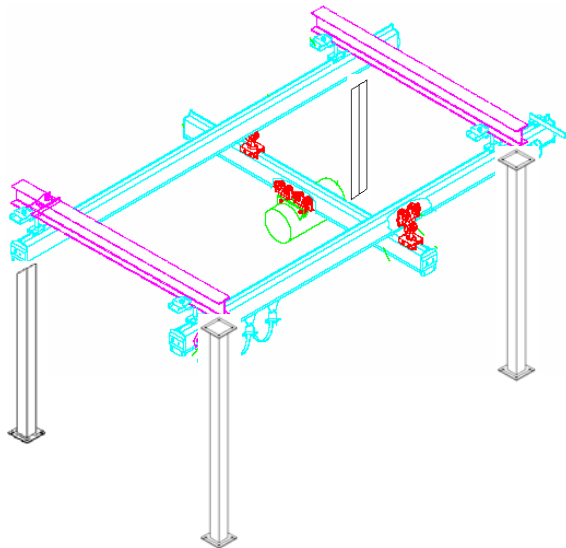
Serial number _____

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IMPORTANT NOTES, WARNINGS AND SAFETY INSTRUCTIONS

Ensure that all employees understand and follow the following.

- ☞ Failure to read and understand this owner's manual before using or servicing the Self Supporting Bridge Crane constitutes a misuse of the product. All persons who will install, use, or care for this product must be familiar with this material.
- The load must be removed before any work is performed on the Self Supporting Bridge Crane.
- Ensure that all information / safety / warning labels stay in place and are legible.
- Do not use the Self Supporting Bridge Crane if any damage or unusual noise is observed.
- Always watch the hoist and load carefully when the hoist & trolley are in operation.
- The Self Supporting Bridge Crane must be lagged to the floor before operating.
- The Self Supporting Bridge Crane is intended for installation / use only on compacted, improved surfaces. Six inch minimum reinforced concrete is required.
- ◆ Do not perform any modifications to the Self Supporting Bridge Crane without the manufacturer's approval. Failure to receive authorization for changes to the equipment could void the warranty.
- ◆ Maintenance and repairs are to be done only by personnel qualified to perform the required work. Consideration will not be given for warranty repair charges without prior written authorization by the manufacturer.
- ◆ Do NOT use for lifting transporting or supporting humans.
- ◆ Do NOT use crane as a method of grounding equipment.



WHEN ORDERING

REPLACEMENT PARTS:

We take pride in using quality parts on the equipment we manufacture. We are not responsible for equipment problems resulting from the use of unapproved replacement parts.

To order replacement or spare parts for this equipment, contact the factory.

In any communication with the factory please be prepared to provide the machine's serial number, which is indicated on the machine dataplate.

RECEIVING INSTRUCTIONS

It is possible that this product could incur damage during transit.

Inspect the unit closely when it arrives. *If you see evidence of damage or rough handling to either the packaging or to the product when it is being unloaded, **immediately** make a note of it on the Bill Of Lading!*

It is important that you remove the product's packaging upon its arrival to ensure that there is no concealed damage or to enable a timely claim with the carrier for freight damage.

Also verify that the product and its specifications are as ordered.

INSTALLATION (AND/OR ASSEMBLY) INSTRUCTIONS – SELF SUPPORTING BRIDGE CRANE

Review this entire page before installing the Self Supporting Bridge Crane.

Consult the factory in the event there are any questions or problems at the time of installation, or for information regarding optional features not covered by the owner's manual.

The Self Supporting Bridge Crane must be removed from the shipping wood and securely anchored to a concrete surface before use!

- Modifications or additions to the Self Supporting Bridge Crane without prior manufacturer's authorization may void the Crane's warranty. The addition of ancillary equipment to the Self Supporting Bridge Crane may necessitate that its load capacity be reduced.
- The installation must be made so that it complies with all the regulations applicable to the machine and its location. The end-user must verify that the supplied equipment is installed so it will be suited to the environment in which it will be used.
- Installation must be performed by suitably trained personnel with access to the appropriate equipment. The electrical aspects of the installation should be performed by an electrician.

For a typical installation of a standard Self Supporting Bridge Crane you will need the following:

1. A fork truck or hoisting means to unload the Self Supporting Bridge Crane from the freight truck and set it into place.
2. A smooth, level, and adequately strong concrete surface on which to mount the Self Supporting Bridge Crane.
3. Concrete anchors, a masonry drill, a masonry bit, hand tools, grout, and steel shims. Consult the building's architect or facility engineer to determine the best size and type of hardware with which to anchor the machine to the floor.
4. An appropriate power supply circuit and electrical disconnect matching the motor voltage and current requirements. The end-user is responsible for supplying the branch circuit's required ground fault and short-circuit protection.

To install a standard Self Supporting Bridge Crane:

1. Anchor the frame to the floor through the 11/16" holes located in the base plates.
2. Shim and/or grout under the full length of the frame sides.
3. Make permanent connection to the power supply, using an appropriate wiring method.
4. Clean up any debris, and verify that all of the information/safety/warning labels are in good condition.

INSTALLING MASONRY ANCHORS

The most important factor in choosing the proper anchor is the type of load it will carry. Shear loads are caused when the weight of the fixture exerts force parallel to, or along, the surface of the concrete. Tensile loads are caused when the fixture exerts force perpendicular to, or away from, the concrete surface.

Because precise knowledge of the condition of concrete at a given location is typically lacking, the standard recommendation is that the anchor you choose should be rated for about four times the load's weight it will carry if it will bear a static load, and eight times the load's weight if it will carry a dynamic or impact load. Static loads are loads that merely sit or hang without ever experiencing a change in load conditions. Impact, or dynamic, loads have forces that vary in some way, such as when a load is driven across an edge-of-dock dockleveler or a speed bump.

The holding power of any anchor depends on: the quality of the concrete -- if the concrete is old and crumbly, the holding power of the fastener will be reduced, and; its position -- if the anchor is placed near the edge of the concrete, or if two anchors are placed too close together, the force generated by the anchor might break the concrete.

☞ An anchor should be placed no closer to the edge of the concrete than the distance equal to five times the anchor's width. Therefore, a 1/2" diameter anchor should be no closer than 2 1/2" (1/2" times five) from the edge of the concrete. Also, two anchors should never be placed closer than ten times the anchor's width from each other. In other words, two 1/2" anchors should be at least 5" (1/2" x ten) apart.

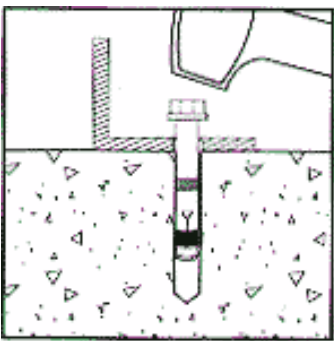
◆ Two types of one-piece, mechanical expansion anchors are popular.

Sleeve anchors have a steel sleeve on the shank, split at the bottom so it can expand. The bolt has a cone-shaped plug at the base, and a nut on the top. When you place the anchor in the hole and tighten the nut, it draws the bolt upward, pulling the plug into the sleeve and expanding it against the hole. Once installed, sleeve anchors cannot be removed. They are available in a variety of head styles, however -- a removable hex head, an acorn nut, or either round- or flat-head screws.

The shank of a wedge anchor is similar to a sleeve anchor -- a solid shank, threaded at the top and with a cone-shaped plug at the bottom. But the shank of a wedge anchor is grooved on opposite sides. In each groove is a rectangular shank with a spade-shaped wedge on the end. As the nut on top is tightened, the washer pushes the rectangular shanks down, which spreads the wedges over the plug. A wedge anchor cannot be removed once it is installed. Wedge anchors always have a hex head screw with a washer so the material can be removed and reinstalled.

☞ As a rule, use sleeve anchors when working with soft concrete or installing them in the mortar joints between block or brick. Also use sleeve anchors when you suspect that the concrete may have voids in it. Sleeve anchors have a larger bearing surface than wedge anchors. Use wedge anchors for maximum holding power in hard concrete.

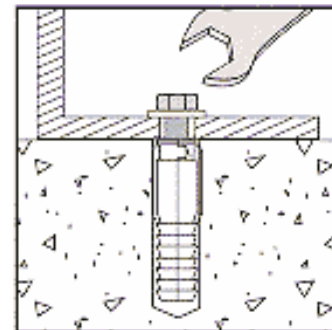
◆ Once the proper type of anchor is determined, select the size of fastener that is closest to the size of the anchoring hole in the product. Anchoring products' specifications vary from one manufacturer to the next -- if the manufacturer's installation instructions differ from the information in this document, always follow the manufacturer's instructions. When drilling a hole for a masonry screw, it is a good idea to utilize the special bit sold by the screw manufacturer. Proper hole sizing is critical for optimal holding power. Never use a dull bit, because it tends to produce a larger hole than the same size of sharp bit. When drilling large holes in masonry, it is much easier and more accurate to start with a smaller bit and step up gradually to the required bit diameter. Eye protection and a dust mask should be worn when drilling and cleaning the holes.



- To install wedge or sleeve anchors, first position the material you want to anchor. Mark the locations of the product's anchor holes on the concrete. The product can be left in place if there is adequate clearance to allow for drilling the holes. Use a hammer drill to drill the holes in the concrete at the product's bolt hole location. Make sure the holes are the specified diameter for the anchor that you plan to use, and at least 1/4" deeper than the length of the anchor. Blow the dust out of the drilled holes with compressed air or a blow-out bulb. Place the product over the anchor holes and insert the anchors into the holes. Use an appropriately-sized washer between the bolt head and the product if necessary to prevent the product's hole from eventually pulling over the bolt head. Tighten a sleeve anchor two to three turns to expand it. Tighten a wedge anchor three to five turns. The anchor manufacturer's instructions might specify that the anchor is to be tightened with a torque wrench to a certain number of foot-pounds.

- Installing a two-step mechanical anchor: For a two-step anchor, tap the anchor into the hole, then position the item being mounted and install the fastener. Again, use washers if necessary if there is a possibility that the product could eventually pull off of the bolt head. Tighten the fastener until its head is fully seated against the mounted item and secure in the hole. Do not over tighten it, or you might break the fastener or ruin the anchor's bond with the concrete.

Note: To determine the proper type of concrete fastener to use for a specific application, consultation with the building's architect or facility engineer is recommended.



OPERATION INSTRUCTIONS – SELF SUPPORTING BRIDGE CRANE

- *Ensure that all employees involved in the operation of this Self Supporting Bridge Crane understand and follow these instructions!*

The standard Self Supporting Bridge Crane is suitable for use indoors in most non-classified locations. It is intended to be used to lift and move stable, evenly-distributed, non-hazardous materials loads.

Loading:

Note: The addition of any ancillary equipment to the Self Supporting Bridge Crane by third parties must be taken into account when determining the maximum working load.

Warning: Do not exceed the Self Supporting Bridge Crane's load ratings. Injury to personnel or permanent damage to the Self Supporting Bridge Crane could result from exceeding the listed capacity.

Operation:

Inspect the Crane, Hoist and Trolley function daily.

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 crane or load before lowering the unit.

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

The Self Supporting Bridge Crane is furnished with a constant-pressure (dead-man style) pushbutton control.

Pressing the "UP" pushbutton or foot switch will turn on the power unit to raise the platform. The platform will raise only while the control is pressed. Upon releasing the control, the platform will stop and hold its position.

Pressing the "DOWN" pushbutton or foot switch will energize the lowering valve to allow the platform to descend by gravity (the motor does not run). Again, releasing the control will stop the platform movement, and the unit will hold its position.

Caution: Never use the Self Supporting Bridge Crane if any damage or unusual noise is observed, if it is in need of repairs, or if it seems to be malfunctioning. Notify your supervisor or maintenance personnel if you notice anything out of the ordinary.

Ensure that all information/safety/warning labels stay in place and are legible. Refer to the labels page in this manual.

INSPECTION INSTRUCTIONS

Per OSHA Regulations **1910.179** and American Society of Mechanical Engineers (A.S.M.E.) **B30.17 "Overhead and Gantry Cranes."**, all gantry cranes should have an:

1910.179(j)(1)(i) Initial inspection - Prior to initial use all new and altered cranes shall be inspected to insure compliance.

Besides that, for gantry cranes in regular service, there are two general classifications of inspections based upon the intervals at which the inspection should be performed. The intervals in turn are dependent upon the nature of the critical components of the crane and the degree of their exposure to wear, deterioration, or malfunction. The two general classifications are herein designated as "frequent" and "periodic" with respective intervals between inspections as defined below:

1910.179(j)(1)(ii)(a) Frequent inspection - Daily to monthly intervals.

1910.179(j)(1)(ii)(b) Periodic inspection - 1 to 12 month intervals.

1910.179(j)(2) Frequent Inspection

The following items shall be inspected for defects at intervals as defined above or as specifically indicated, including observation during operation for any defects which might appear between regular inspections. All deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

- All functional operating mechanisms for maladjustment interfering with proper operation. Daily.
- Hooks with deformation or cracks. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and the serial number, or other identifier, of the hook inspected.
- Hoist chains, including end connections, for excessive wear, twist, distorted links interfering with proper function, or stretch beyond manufacturer's recommendations. Visual inspection daily; monthly inspection with a certification record which includes the date of inspection, the signature of the person who performed the inspection and an identifier of the chain which was inspected.
- All functional operating mechanisms for excessive wear of components.
- Rope reeving for noncompliance with manufacturer's recommendation.

1910.179(j)(3) Periodic Inspection

Complete inspections of the crane shall be performed at intervals as generally defined above, depending upon its activity, severity of service, and environment, or as specifically indicated below. These inspections shall include the requirements of the frequent inspection stated above and in addition, the following items. All deficiencies such as listed shall be carefully examined and determination made as to whether they constitute a safety hazard:

- Deformed, cracked, or corroded members.
- Loose bolts or fasteners.
- Cracked or worn hoist.
- Worn, cracked or distorted parts such as pins, bearings, shafts, gears, rollers, locking and clamping devices.
- Load, wind, and other indicators over their full range, for any significant inaccuracies.
- Gasoline, diesel, electric, or other power plants for improper performance or noncompliance with applicable safety requirements. (IF APPLICABLE)
- Excessive wear of chain drive sprockets and excessive chain stretch.

TESTING INSTRUCTIONS

OSHA also requires two classifications of testing to be performed [per OSHA Regulations **1910.179(k)**]. These two testings are:

1910.179(k)(1) Operational tests

1910.179(k)(2) Rated load test

1910.179(k)(1) Operational Tests

- (i) Prior to initial use all new and altered cranes shall be tested to insure compliance with this section including the following functions:
 - (a) Hoisting and lowering.
 - (b) Trolley travel.
 - (c) Bridge travel.
 - (d) Limit switches, locking and safety devices.
- (ii) The trip setting of hoist limit switches shall be determined by tests with an empty hook traveling in increasing speeds up to the maximum speed. The actuating mechanism of the limit switch shall be located so that it will trip the switch, under all conditions, in sufficient time to prevent contact of the hook or hook block with any part of the trolley.

1910.179(k)(2) Rated Load Test

Test loads shall not be more than 125 percent of the rated load unless otherwise recommended by the manufacturer. The test reports shall be placed on file where readily available to appointed personnel.

**REFER TO OSHA'S STANDARD 1910.179 FOR COMPLETE INFORMATION ON
OVERHEAD & GANTRY CRANE DEFINITIONS, GENERAL REQUIREMENTS,
HOISTING EQUIPMENT, MAINTENANCE, ROPE INSPECTION,
HANDLING OF THE LOAD, AND
OTHER REQUIREMENTS.**

For OSHA publications, including informational materials
on standards and regulations, please contact:

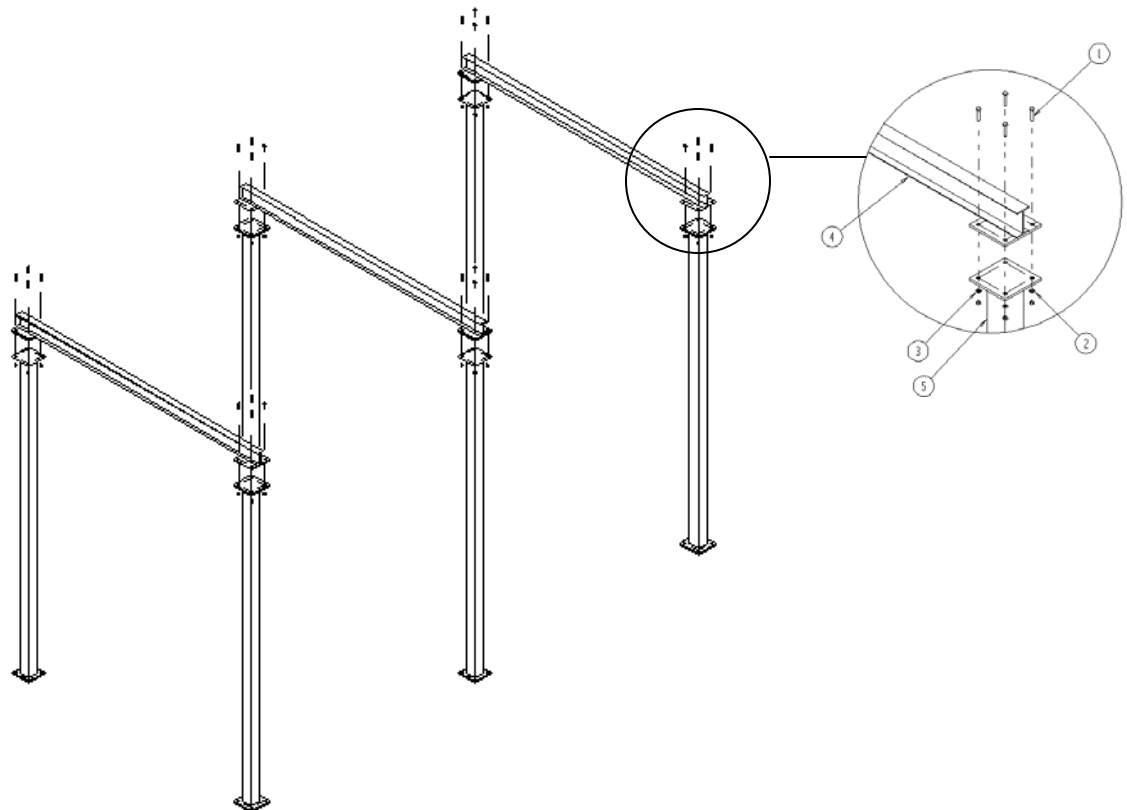
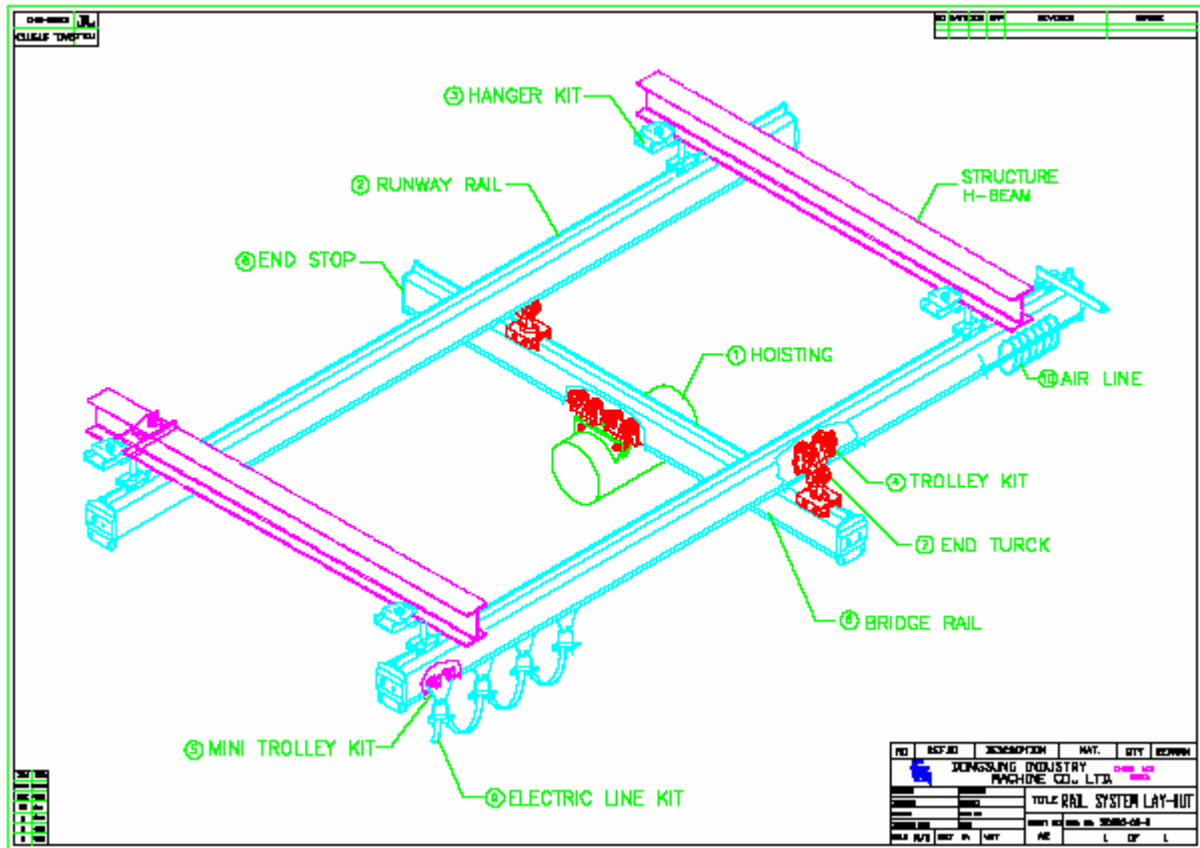
OSHA's Publications Office
200 Constitution Avenue, N.W., Room N3101
Washington, DC 20210
Ph.: (202)219-4667 Fax: (202)219-9266

**ALSO REFER TO AMERICAN SOCIETY OF MECHANICAL ENGINEERS (A.S.M.E.)
B30.17 "OVERHEAD & GANTRY CRANES."**

For copies of A.S.M.E. B30.17
please contact:

American Society of Mechanical Engineers
Order Department 1-800-THE-ASME

EXPLODED PARTS VIEW AND BILL OF MATERIALS – SELF SUPPORTING BRIDGE CRANE



BILL OF MATERIALS – SELF SUPPORTING BRIDGE CRANE FRAME LEGS & CROSS BEAMS

Item #:	Description	Part number	Qty.
1	BOLT, 5/8 - 11 UNC x 2 LG	A/L	24
2	LOCK WASHERS 5/8" DIA	A/L	24
3	NUT, 5/8 - 11 UNC	A/L	24
4a	FRAME, I - BEAM CROSS SUPPORTS x 140" lg	28-514-131	3
4b	FRAME, I - BEAM CROSS SUPPORTS x 200" lg	28-514-132	3
4c	FRAME, I - BEAM CROSS SUPPORTS x 260" lg	28-514-133	3
5	FRAME, TUBING UPRIGHT, 5 x 5 TUBE x 160" lg	28-514-130	6

BILL OF MATERIALS – SELF SUPPORTING BRIDGE CRANE BRIDGE CRANE ASSEMBLY

Item #:	Description	Part number	Qty.
1	RAIL (A)		
2	RAIL (B)		
3	RAIL (C) (ON 30 FOOT RUNWAY ONLY)		
4	HANGER KIT		
5	TROLLEY ASSEMBLY		
6	LOAD BAR		
7	END TRUCK		
8	END STOP		
9	ELECTRIC TROLLEY (HOIST)		
10	HARDWARE KIT		

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"): bearings, hoses, wheels, seals, brushes, batteries, and the battery charger.

How long is the warranty period?

The warranty period for original components is 1 year. The warranty period begins on the date when Vestil ships the product to the warrantee. If the product was purchased from an authorized distributor, the period begins when the distributor ships the product. Vestil may extend the 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 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 environments;
 - Inadequate or improper maintenance;
 - Damage sustained during shipping;
 - Collisions or other incidental contacts causing damage to 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.

