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

FHSN-Series Knockdown Steel Fixed Height Gantry 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 http://www.vestilmfg.com/parts_info.htm.

Electronic Copies of Instruction Manuals

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

Table of Contents

Table of Figures

Copyright 2020 Vestil Manufacturing Co.

SPECIFICATIONS

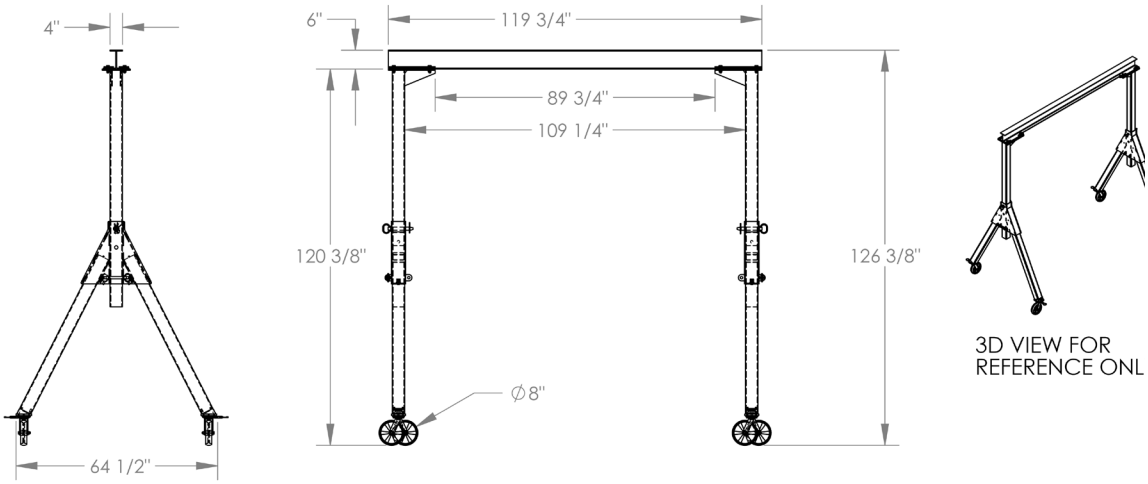
Documents that provide specifications for FHSN series mobile cranes are available online to anyone who visits the Vestil website. Specifications include dimensions, net weight, and capacity information. Acquire the appropriate specifications document by opening this webpage: https://www.vestil.com/product.php?FID=520 Click the "PDF's (Manuals, Drawings, etc.)" drop down menu. Scroll the page to the "Approval Drawings" section and find the file for the model you purchased. Click on the appropriate document. A PDF file will open. This file is the specifications document. Print a copy of the document as soon as your crane is delivered. Keep the document with your copy of this manual. If you encounter difficulties while trying to obtain a copy of the specifications document, for example your model is not included on the FHSN webpage or you cannot access and/or print the document, contact the *TECHNICAL SERVICE DEPT*. Contact information is provided on the cover page of this manual.

The following is an exemplar specifications document for model FHSN-2-10.

FIXED STEEL GANTRY CRANE - KNOCKDOWN - FHSN-2-10

APPROX WEIGHT: 770.05 lbs.
DOES NOT INCLUDE WEIGHT OF POWER OR

*** ANY ADDITIONS, DELETIONS, OR OMISSIONS MUST BE CORRECTED ON THIS DRAWING AS THIS DRAWING WILL BE CONSIDERED ALL INCLUSIVE *
ALL GRAPHICS PROVIDED ARE FOR REFERENCE ONLY. IF CERTAIN DIMENSIONS ARE CRITICAL PLEASE VERIFY THOSE DIMENSIONS WITH YOUR SALESF



DIMENSION TOLERANCE ± 1/4"

STANDARD FEATURES
MODEL NUMBER IS FHSN-2-10
CAPACITY IS 2,000 LBS.
BASE WIDTH IS 64 1/2"
OVERALL HEIGHT IS 126 3/8"
I-BEAM HEIGHT IS 6"
I-BEAM FLANGE WIDTH IS 4"
OVERALL I-BEAM LENGTH IS 119 3/4"
USABLE I-BEAM LENGTH IS 89 3/4"
UNDER I-BEAM HEIGHT IS 120 3/8"
CASTERS: (4) Ø8" X 2" WIDE GLASS FILLED NYLON SWIVEL CASTERS WITH FOUR LOCKING POSITIONS

SPECIAL FEATURES
NONE

APPROVAL
I, THE UNDERSIGNED, AGREE THAT THE PRODUCT REPRESENTED SATISFIES DESIGN AND DIMENSIO REQUIREMENTS. I ALSO ACKNOWLEDGE MY DUT CONFIRM PRODUCT AND INSTALLATION COMPLIANCE WITH ALL APPLICABLE FEDERAL, ST, AND LOCAL REGULATIONS AND STANDARDS.
ANY MODIFIED UNITS ARE NON-RETURN
[ ] As drawn [ ] As marked
Signed:_____ Date:___
Printed Name:_____
LEAD TIME WILL START UPON RECEIPT OF SIGNED APPROVAL

FOR INTERNAL USE ONLY PROJECT SIGN OFF		DISTRIBUTOR'S NAME: VESTIL MANUFACTURING		P.O.# X
SALES				W.O.# X
ENG.		DRAWN BY:	DATE: 02/27/15	SALES: X
FAB.		REFERENCE: X	SCALE: 1:36	FILE NAME:
POWER		QUOTED LEAD TIME: X	QUOTE # X	28-007-3

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.

DANGER **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.**

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

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 crane.

Copyright 2020 Vestil Manufacturing Corp.

SAFETY INSTRUCTIONS

Vestil strives to identify foreseeable hazards associated with the use of its products. However, no manual can address every conceivable risk. The most effective way to avoid injury is to exercise sound judgment when assembling, using, inspecting, and maintaining this crane. **Keep a copy of this manual with the crane at all times.** For example, put the copy inside a plastic pouch and attach the pouch to the frame. **Anyone who uses this crane must be made aware that a copy of the manual is available and where to find it.**

DANGER Risk of electrocution.

- DO NOT assemble, maintain, or use the crane in an area where it could contact electrified wires.
- Regularly inspect electrical wiring in the area where the crane is used. DO NOT contact electrical wiring, especially wiring with exposed conductors (damaged insulation) with the crane.

WARNING Material handling is dangerous and could result in serious personal injuries or death.

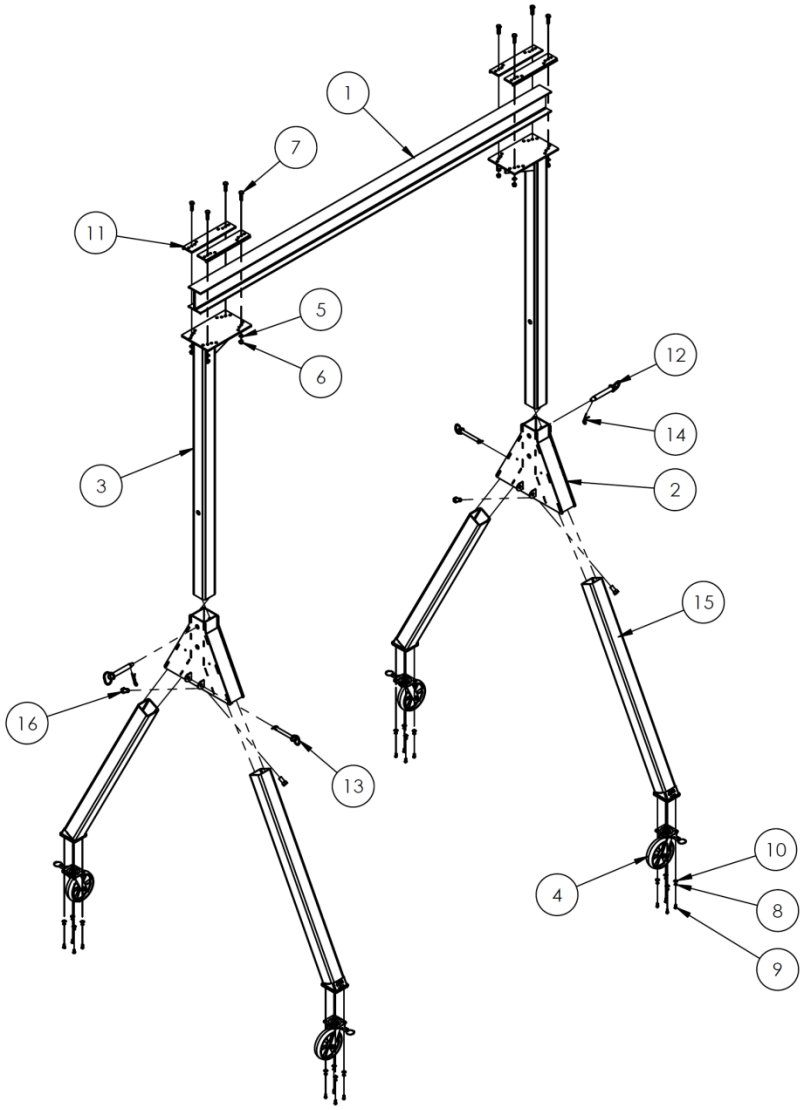
- Inspect the usage area each time the crane is used. Make sure that all debris on the ground is removed.
- DO NOT use a damaged or malfunctioning crane. ALWAYS inspect the crane before each use by following the *INSPECTIONS AND MAINTENANCE* instructions on p. 14. DO NOT use the crane unless every part is in *SATISFACTORY CONDITION*. DO NOT use the crane unless it is in *SATISFACTORY CONDITION*. See *RECORD* page 13.
- Secure any hoist and/or trolley attached to the crane in the center of the I-beam before adjusting crane height.
- DO NOT attempt to lift a load that weighs more than the capacity of your crane. Capacity information is provided on product labeling. See *LABELING DIAGRAM* section of this manual on p. 16.
- Keep clear of the suspended load. DO NOT put any part of your body under the load while it is suspended.
- Inform all persons in the usage area that you are going to use the crane; instruct them to stay clear of the crane and the load during operation.
- DO NOT lift people with the crane. DO NOT lift loads over people.
- DO NOT allow people to climb on the load or the crane.
- DO NOT operate manual motions with other than manual power.
- DO NOT push or pull the crane with a vehicle. Slowly and carefully push on the (trailing end) of the crane to move it. DO NOT stand beneath the I-beam while pushing the crane.
- DO NOT travel up/down sloped surfaces. Only traverse even, level ground.
- ALWAYS load the crane in accordance with *LOADING THE CRANE* recommendations on p. 13.
- DO NOT lift a load unless your hoist is centered above it. If the hoist is not centered over the load, the load will swing as it leaves the ground.
- DO NOT remove, obscure, or modify any label on the crane. DO NOT use the crane if any label is damaged, missing, or not easily readable from a safe distance. See *LABELING DIAGRAM* on p. 16. Contact Vestil for replacement labels.
- DO NOT modify the crane in any way without the express approval of Vestil in writing. Unapproved modifications automatically void the *LIMITED WARRANTY (P. 17)* and might make the crane unsafe to use.
- **DO NOT use the crane to transport loads unless your crane is equipped with V-groove casters that run on V-track rails. ONLY use the crane to lift loads!**

NATIONAL STANDARDS

This product is a portable A-frame gantry crane (PGC). ASME standard B30.17 (the “Standard”) applies to PGC’s. Acquire a copy of the latest version of the Standard. Follow all use and maintenance/care instructions provided in the Standard as well as all other provisions for PGC owners and users. If any content in this manual conflicts with recommendations or provisions in the Standard, apply the provisions from the Standard. Vestil encourages you to immediately contact its *TECHNICAL SERVICE* department to report inconsistencies.

Copyright 2020 Vestil Manufacturing Corp.

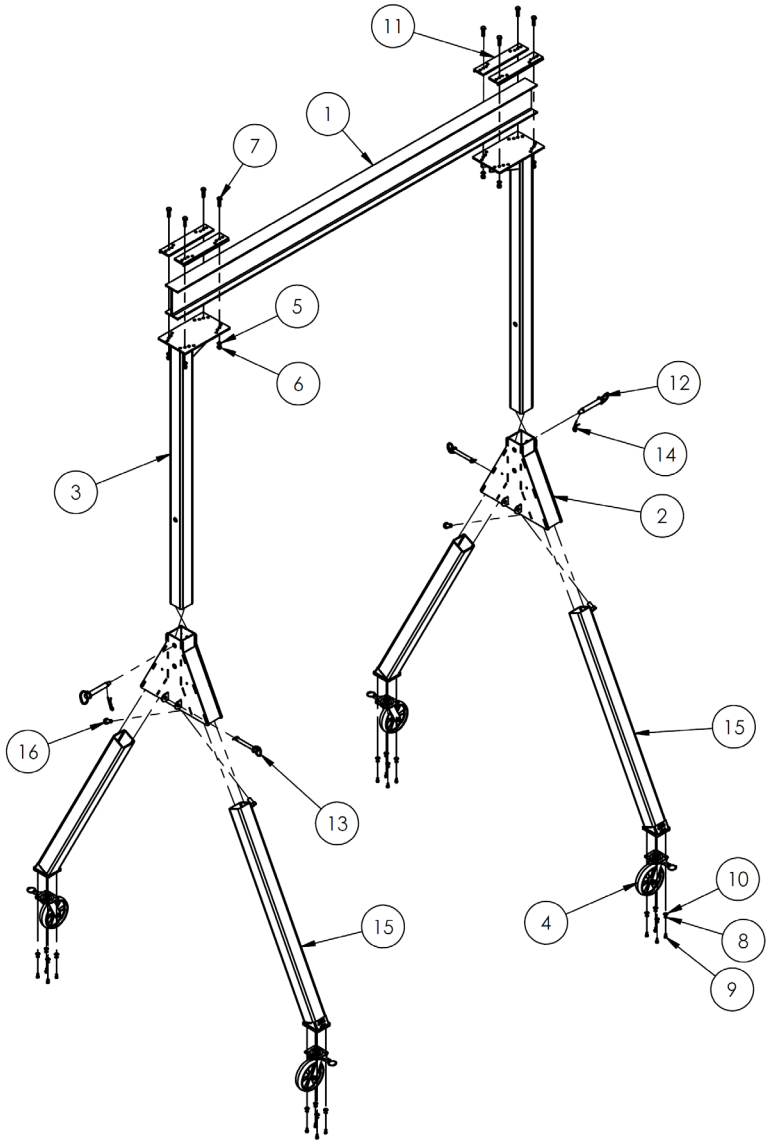
FIG. A: FHSN-2-10, FHSN-2-15, & FHSN-2-20 Exploded View



Item	Part no.	Description	Quantity
1	 28-014-384 28-014-385 28-014-392	Frame, domestic steel I-beam: FHSN-2-10 FHSN-2-15 FHSN-2-20	 1 1 1
2	28-514-237	Weldment, steel leg yoke	2
3	28-514-254	Weldment, upright assembly	2
4	16-132-249	GFN-8/2-S locking caster	4
5	33626	$^{1}/_{2}$in. zinc-plated lock washer	8
6	19211-A	$^{1}/_{2}$in. – 13, A325 structural nut	8
7	19211-B	$^{1}/_{2}$in. – 13 x 2in. A325 structural bolt	8
8	33620	$^{5}/_{16}$in. zinc-plated lock washer	16
9	11053	$^{5}/_{16}$in. – 18 x $^{3}/_{4}$in. HHCS #2 zinc-plated bolt	16
10	33006	$^{5}/_{16}$in. USS zinc-plated flat washer	16
11	28-516-053	Weldment, I-beam clamp	4
12	28-112-027	Pin, adjustment/axel, pivot, roller	2
13	28-112-007	$^{3}/_{4}$in. x 6” retaining pin	2
14	45282	#6 hitch pin clip	2
15	28-514-240	Weldment, 10ft. crane leg	4
16	11359	$^{3}/_{4}$in. – 10 x $1^{1}/_{2}$in. HHCS #2 zinc-plated bolt	4

Copyright 2020 Vestil Manufacturing Corp.

FIG. B: FHSN-4-10, FHSN-4-15, FHSN-4-20 Exploded View

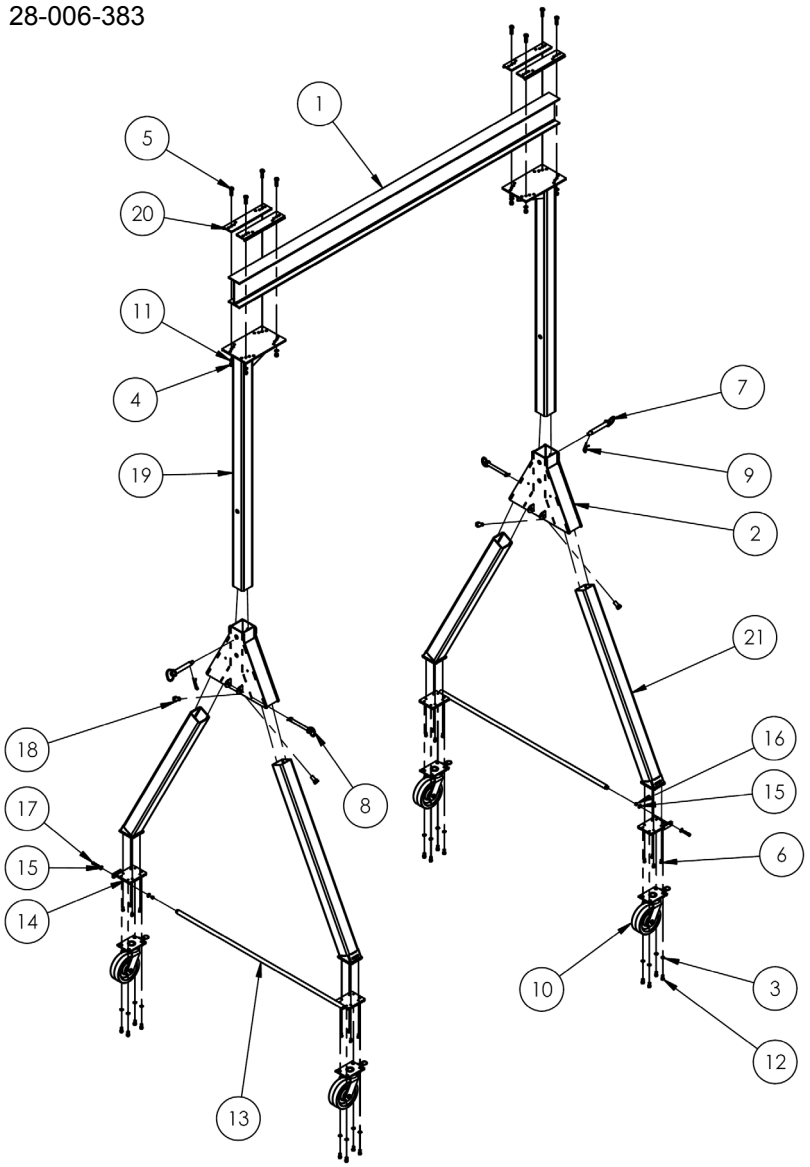


Item	Part no.	Description	Quantity
1	28-014-387 28-014-388 28-014-394	Frame, domestic steel I-beam: FHSN-4-10 FHSN-4-15 FHSN-4-20	 1 1 1
2	28-514-237	Weldment, steel leg yoke	2
3	28-514-254	Weldment, upright assembly	2
4	16-132-249	GFN-8/2-S locking caster	4
5	33626	$^{1}/_{2}$in. zinc-plated lock washer	8
6	19211-A	$^{1}/_{2}$in. – 13, A325 structural nut	8
7	19211-B	$^{1}/_{2}$in. – 13 x 2in. A325 structural bolt	8
8	33620	$^{5}/_{16}$in. zinc-plated lock washer	16
9	11053	$^{5}/_{16}$in. – 18 x $^{3}/_{4}$in. HHCS #2 zinc-plated bolt	16
10	33006	$^{5}/_{16}$in. USS zinc-plated flat washer	16
***11**	28-516-053	Weldment, I-beam clamp	4
12	28-112-027	Pin, adjustment/axel, pivot, roller	2
13	28-112-007	$^{3}/_{4}$in. x 6” retaining pin	2
14	45282	#6 hitch pin clip	2
15	28-514-240	Weldment, 10ft. crane leg	4
16	11359	$^{3}/_{4}$in. – 10 x 1$^{1}/_{2}$in. HHCS #2 zinc-plated bolt	4

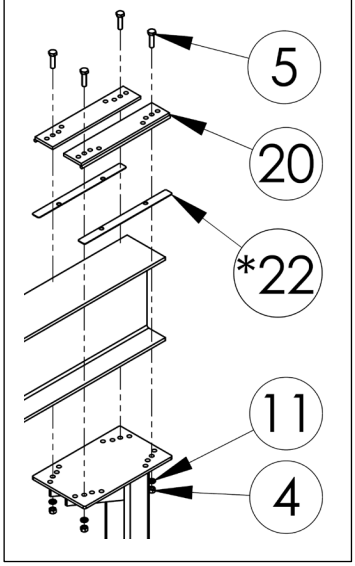
Copyright 2020 Vestil Manufacturing Corp.

FIG. C: FHSN-6-10, FHSN-6-15, & FHSN-6-20 Exploded View

28-006-383



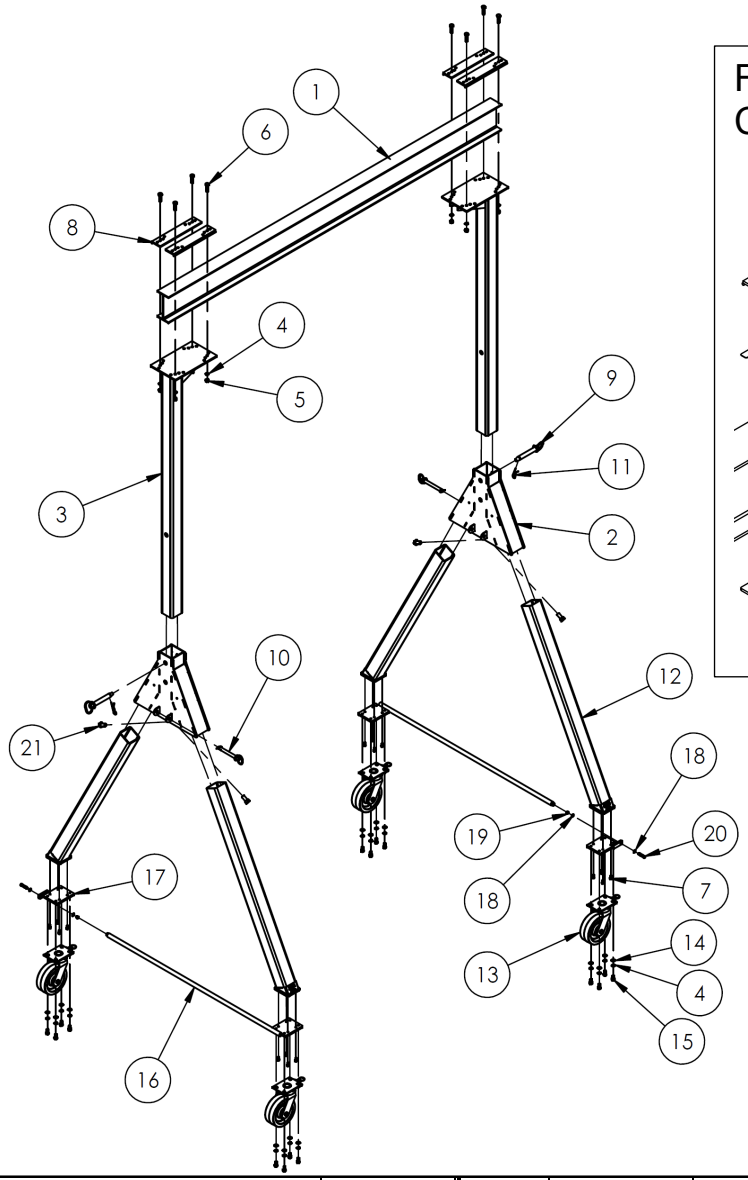
FHSN-6-20 Beam Clamp with Shim

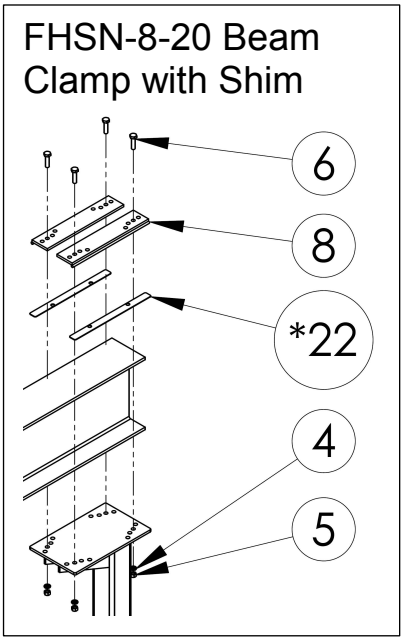


Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	28-014-387 28-014-391 28-014-417	FRAME, DOMESTIC STEEL I-BEAM: FHSN-6-10 FHSN-6-15 FHSN-6-20	1	**12**	13155	HHCS #5 Z PLATED, 7/16-14 UNC x 1 LG..	16
2	28-514-237	WELDMENT, STEEL LEG YOKE	2	**13**	28-514-245	WELDMENT, LEG SET CROSS BRACE	2
3	33624	LOCK WASHER, Z PLATED, Ø 7/16	16	**14**	28-514-258	WELDMENT, CROSS BRACE BOLT END, 6/8K	2
4	19211-A	Ø1/2-13 NUT - COMES W/BOLT IN COMBO #19211	8	**15**	33008	FLAT WASHER, LOW CARBON, USS, ZINC PLATED, 3/8"	4
5	19211-B	Ø1/2-13 x 2" A325 BOLT(ORDER COMBO #19211 W/NUT)	8	**16**	36106	HEX NUT, GRADE A, ZINC PLATED, 3/8-16	2
6	11053	Ø 5/16 - 18 x 3/4 LG, HHCS #2 Z PLATED	16	**17**	13111	HHCS #5 Z PLATED, Ø3/8 - 16 x 2 LG	2
7	28-112-027	PIN, AXLE, PIVOT, ROLLER	2	**18**	11359	HHCS #2 Z-PLATED, 3/4 -10 x 1 1/2	4
8	28-112-007	HARDWARE, RETAINING PIN Ø3/4 X 6 5/8	2	**19**	28-514-254	WELDMENT, UPRIGHT ASSEMBLY, FHS	2
9	45282	#6 HITCH PIN CLIP	2	**20**	28-516-053	WELDMENT, I-BEAM CLAMP	4
10	16-132-064	Ø8" x 3" PHENOLIC 4 WAY SWIVEL LOCK CASTER	4	**21**	28-514-240	WELDMENT, LEG	4
11	33626	LOCK WASHER Z PLATED, Ø 1/2”	8	***22**	28-113-022	Shim, top plate clamp shim	4

Copyright 2020 Vestil Manufacturing Corp.

FIG. D: FHSN-8-10, FHSN-8-15, & FHSN-8-20 Exploded View

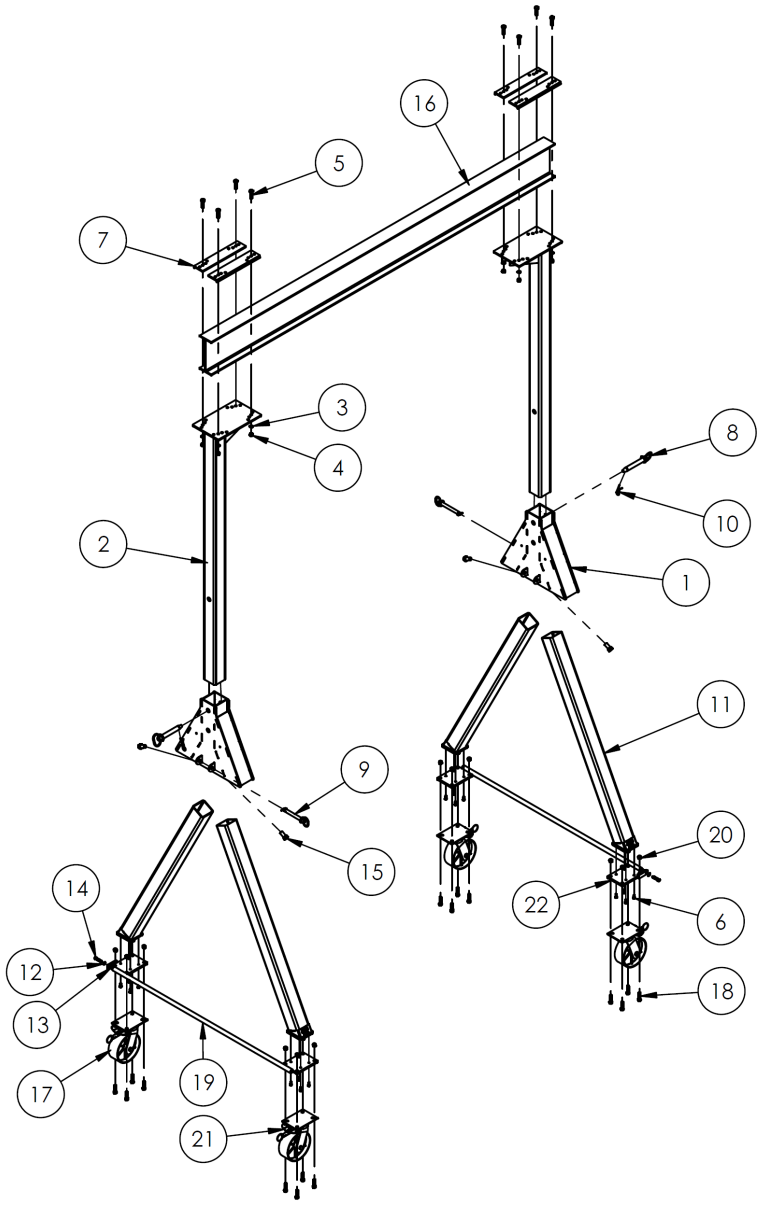




Item	Part no.	Description	Quantity	Item	Part no.	Description	Quantity
1	28-014-387 28-014-391 28-014-417	Frame, domestic steel I-beam: FHSN-8-10 FHSN-8-15 FHSN-8-20	1 1 1	**12**	28-514-240	Weldment, 10ft. crane leg	4
2	28-514-237	Weldment, steel leg yoke	2	**13**	16-132-064	8in. x 3in. phenolic 4-way swivel lock caster	4
3	28-514-254	Weldment, upright assembly	2	**14**	33001	$^{1}/_{2}$in. USS flat washer	16
4	33626	$^{1}/_{2}$in. zinc-plated lock washer	24	**15**	13205	$^{1}/_{2}$in. – 13 x 1in. HHCS grade 5 zinc-plated bolt	16
5	19211-A	$^{1}/_{2}$in. – 13, A325 structural nut	8	**16**	28-514-245	Weldment, leg set cross brace	2
6	19211-B	$^{1}/_{2}$in. – 13 x 2in. A325 structural bolt	8	**17**	28-514-258	Weldment, cross brace bolt end	2
7	11053	$^{5}/_{16}$in. – 18 x $^{3}/_{4}$in. HHCS #2 zinc-plated bolt	16	**18**	33008	$^{3}/_{8}$in. zinc-plated USS flat washer	4
8	28-516-053	Weldment, I-beam clamp	4	**19**	36106	$^{3}/_{8}$in. – 16 zinc-plated hex nut	2
9	28-112-027	Pin, adjustment/axel, pivot, roller	2	**20**	13111	$^{3}/_{8}$in. – 16 x 2in. HHCS #5 zinc-plated bolt	2
10	28-112-007	$^{3}/_{4}$in. x 6” retaining pin	2	**21**	11359	$^{3}/_{4}$in. – 10 x 1$^{1}/_{2}$in. HHCS #2 zinc-plated bolt	4
11	45282	#6 hitch pin clip	2	***22**	28-113-022	Shim, top plate clamp shim	4

Copyright 2020 Vestil Manufacturing Corp.

FIG. E: FHSN-10-10, FHSN-10-15 Exploded View



Item	Part no.	Description	Quantity	Item	Part no.	Description	Quantity
1	28-514-237	Weldment, steel leg yoke	2	**12**	33008	$^{3}/_{8}$ in. zinc-plated USS flat washer	4
2	28-514-254	Weldment, upright assembly	2	**13**	36106	$^{3}/_{8}$ in. – 16 zinc-plated hex nut	2
3	33626	$^{1}/_{2}$ in. zinc-plated lock washer	8	**14**	13111	$^{3}/_{8}$ in. – 16 x 2 in. HHCS #5 zinc-plated bolt	2
4	19211-A	$^{1}/_{2}$ in. – 13 A325 structural nut	8	**15**	11359	$^{3}/_{4}$ in. – 10 x 1$^{1}/_{2}$ in. HHCS #2 zinc-plated bolt	4
5	19211-B	$^{1}/_{2}$ in. – 13 x 2in. A325 Structural bolt	8	**16**	28-014-390	Domestic steel I-beam: FHSN-10-10 FHSN-10-15	 1 1
6	11053	$^{5}/_{16}$ in. – 18 x $^{3}/_{4}$ in. HHCS #2 zinc-plated bolt	16	**17**	16-132-243	8in. x 3in. ductile steel caster	4
7	28-516-083	Weldment, I-beam clamp	4	**18**	13211	$^{1}/_{2}$ in. – 13 x 2in. HHCS #5 zinc-plated bolt	16
8	28-112-027	Pin, adjustment/axel, pivot, roller	2	**19**	28-514-256	Weldment, leg set cross brace	2
9	28-112-007	$^{3}/_{4}$in. x 6” retaining pin	2	**20**	37030	$^{1}/_{2}$ in. – 13 nylon insert lock nut	16
10	45282	#6 hitch pin clip	2	**21**	16-132-305	Batwing caster position lock	4
11	28-514-240	Weldment, 10’ (H) crane leg	4	**22**	28-514-259	Weldment, cross brace bolt end	2

Copyright 2020 Vestil Manufacturing Corp.

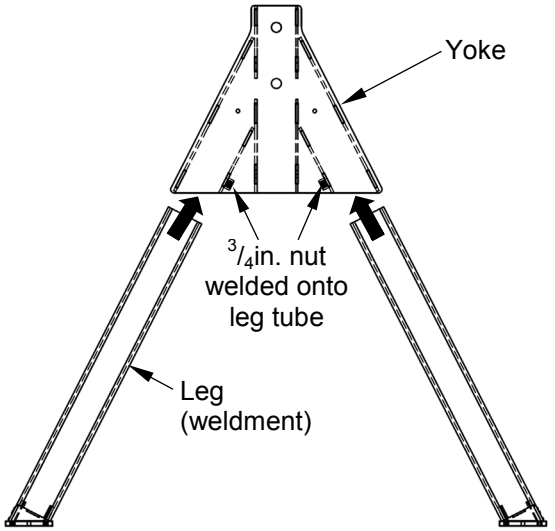
ASSEMBLING THE CRANE

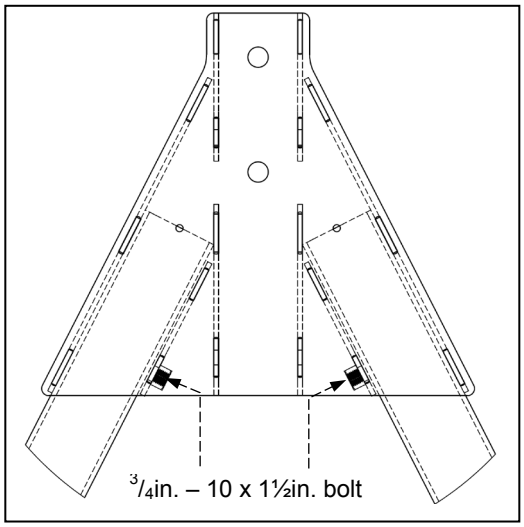
WARNING ONLY qualified personnel should assemble this crane. Improper assembly could result in serious personal injuries or death.

- Read this instruction manual in its entirety ***before*** assembling the crane.
- **DO NOT** modify the crane in any way without first receiving written approval from Vestil.
- **DO NOT** use the crane if you notice damage to, or deformation of, the beam, uprights, or either of the leg assemblies. Using a crane with damaged components could result in crane collapse.
- **DO NOT** use the crane if any of the hardware (bolts, nuts, clamps, etc.) is damaged. Contact *TECHNICAL SERVICE* to order replacement parts.
- **DO NOT** use the crane if any caster is damaged. A damaged caster may cause the crane to tip/fall over.

NOTICE The crane can be used both indoors and outdoors. However, it should be sheltered from the weather when not in use.

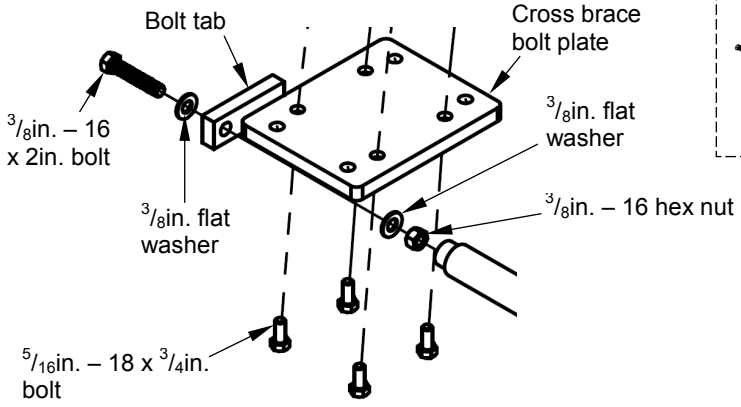
Step 1a: Insert legs into the leg yokes; then secure the legs in the yokes by installing $^{3}/_{4}$in. – 10 x 1½in. bolts through the $^{3}/_{4}$in. square nuts welded to the outer surface of the leg tubes.

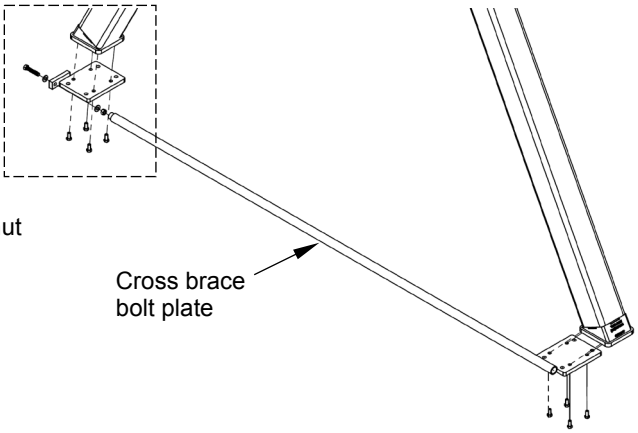




[6k, 8k and 10k models only]

Step 1b: Attach cross brace (28-514-246) and cross brace bolt plate (28-514-259) to bottoms of legs; then fasten the cross brace to the bolt tab with $^{3}/_{8}$in. hardware.





Copyright 2020 Vestil Manufacturing Corp.

Step 2: Fasten the upright weldments ("uprights") to the yokes. Then fasten two beam clamps to the beam bracket of each upright. NOTE: Models FHSN-6-20 and FHSN-8-20 require shim (28-113-022).

Lay the leg assemblies flat on the ground. Slide the uprights into the corresponding receivers of the yokes. Align the pinhole in each upright with the pinhole in a yoke receiver as shown in Fig. 2A below. Use an adjustment pin to attach each upright to a leg receiver. Remove the hitch clip from the end of the pin. Insert the pin through the pin holes and reinstall the hitch clip.

Fig. 2A: Upright-to-Leg Assembly Connections

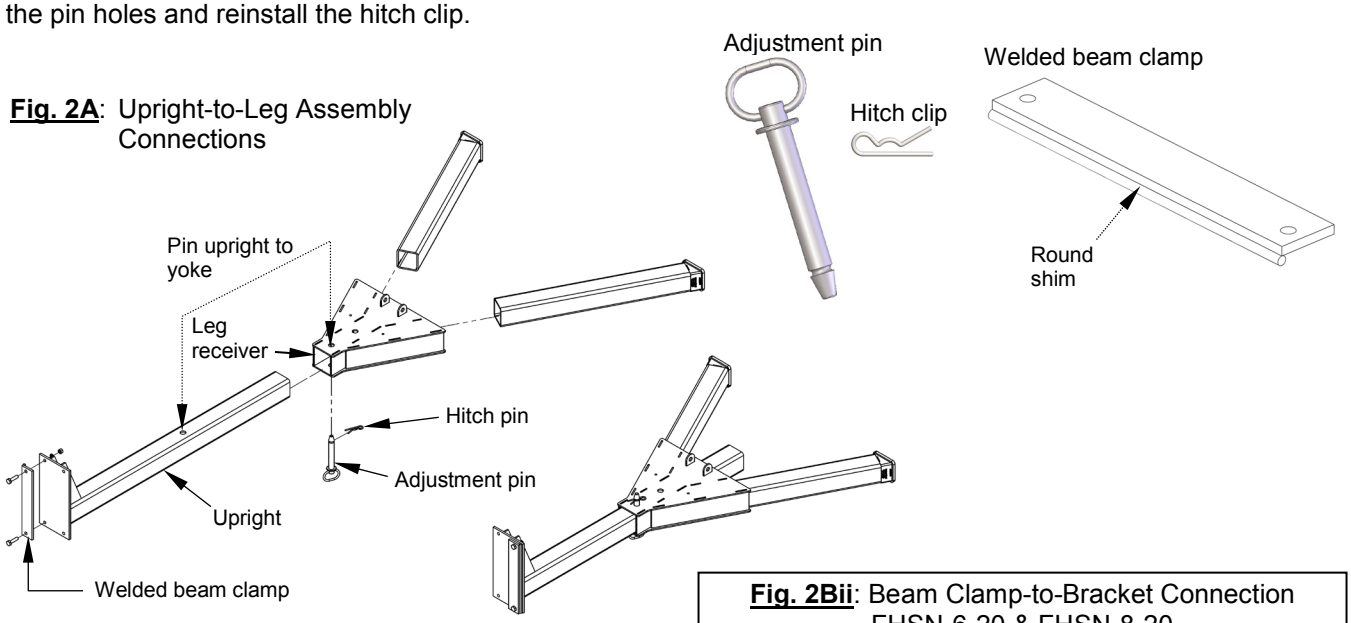


Fig. 2Bi: Beam Clamp-to-Bracket Connection

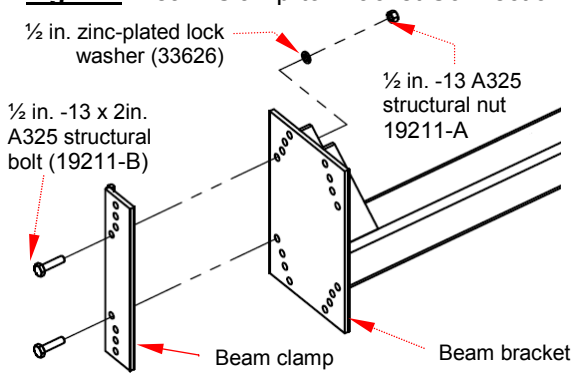
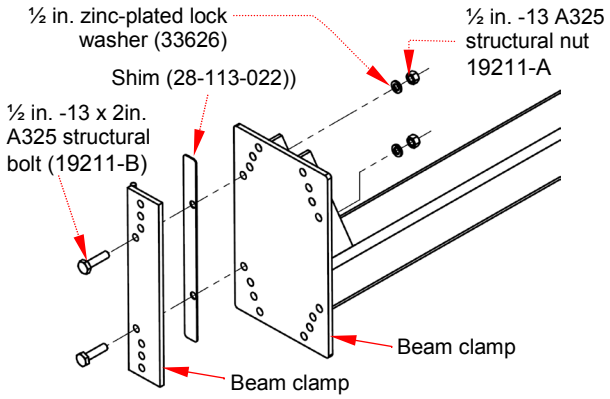


Fig. 2Bii: Beam Clamp-to-Bracket Connection FHSN-6-20 & FHSN-8-20



Step 3: Couple the I-beam to the uprights.

Insert the flange of the I-beam into the gap between the beam clamp and the top of each upright (beam bracket); then secure the flange on the opposite side by installing the remaining beam clamp as shown in the diagrams below.

FIG. 3Bi: Exploded view of beam connection

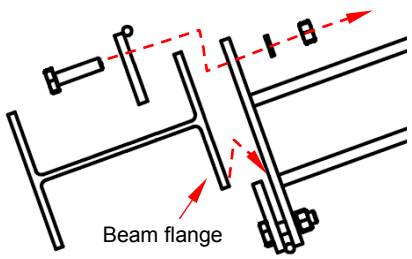


FIG. 3Bii: Exploded view of beam connection (FHSN-6-20 & FHSN-8-20)

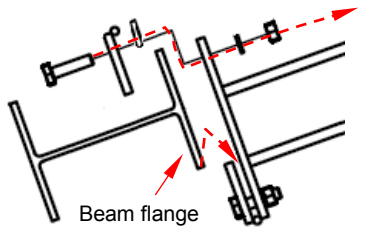
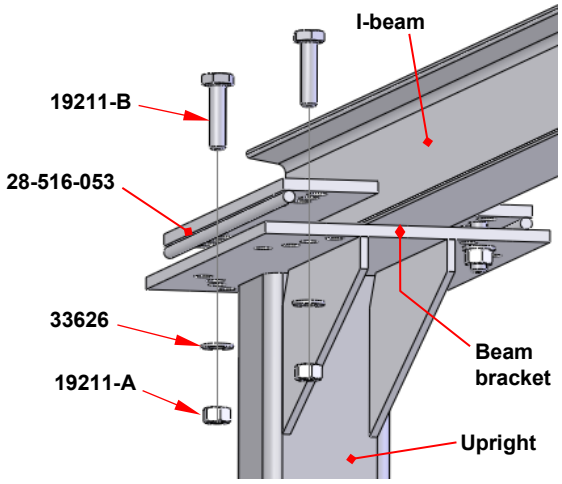


Fig. 3A: I-beam Connection to Beam Bracket of Upright

Copyright 2020 Vestil Manufacturing Corp.

Fig. 3C: Beam Clamp Connection to Beam Bracket



Part no.	Description	Qty.
33626	½ in. lock washer	8
19211-A	½ in. – 13 structural nut	8
19211-B	½ in. – 13 x 2 in. bolt	8
28-516-053	Welded beam clamp	4
***28-113-022**	*Shim, top plate clamp shim	*4

*FHSN-6-20 and FHSN-8-20 only

Fig. 3D: Complete clamp connection to upright

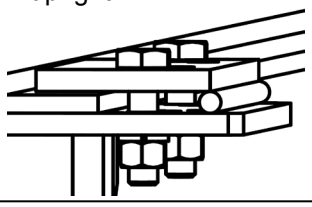


Fig. 3F: Complete clamp connection (FHSN-6-20 & FHSN-8-20)

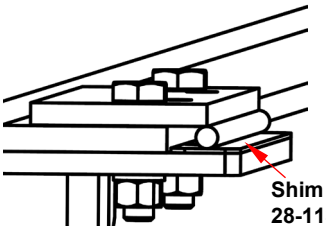
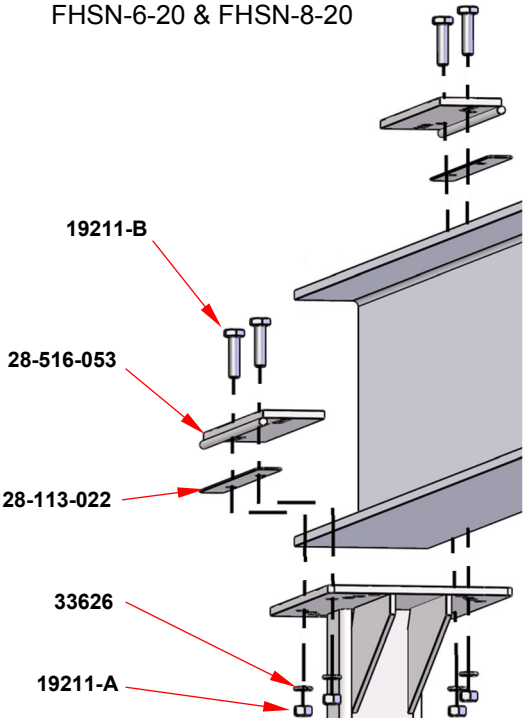


Fig. 3E: Beam Clamp + Shim Connection to Bracket FHSN-6-20 & FHSN-8-20



Step 4: Tighten the beam clamp fasteners to 50 - 52 ft·lb of torque.

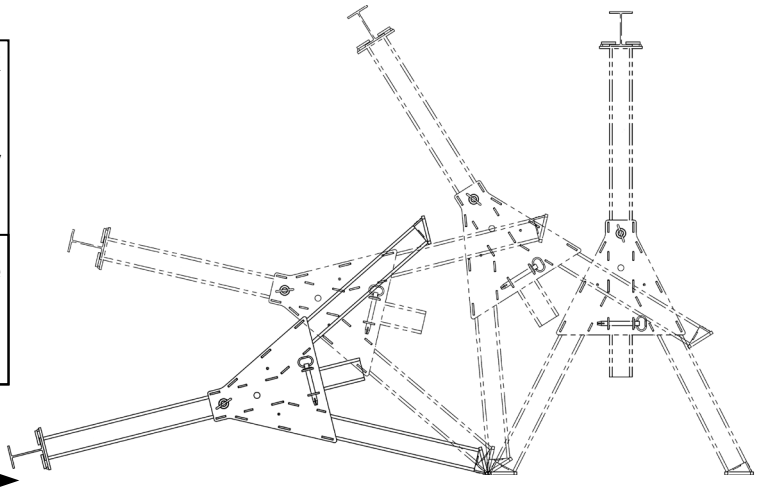
Step 5: Stand the crane on its feet.

Rotate the crane onto its feet in a careful and *controlled* manner. For instance, attach a hoist chain to the I-beam. S*lowly* raise the beam until the crane stands on its feet. Alternatively, raise the crane with a fork truck. Position the forks under the I-beam and slowly raise the beam until the crane rotates onto its feet in a controlled manner.

Approach the crane with a fork truck from this side and slide the forks under the I-beam.

Slowly raise the beam and slowly drive forward until the crane stands on its feet.

⚠WARNING DO NOT raise the beam unless all other persons have moved to a location away from and behind the fork truck.



Copyright 2020 Vestil Manufacturing Corp.

Step 6: Connect the casters to the legs. Diagrams show standard casters.

a. Raise the crane 8-10 inches off of the ground (e.g. with a fork lift or hoist).
b. Attach a caster to the foot of each leg using the hardware shown.
c. Position a caster underneath each foot as shown in the diagrams.

Fig. 6A: Caster attachment

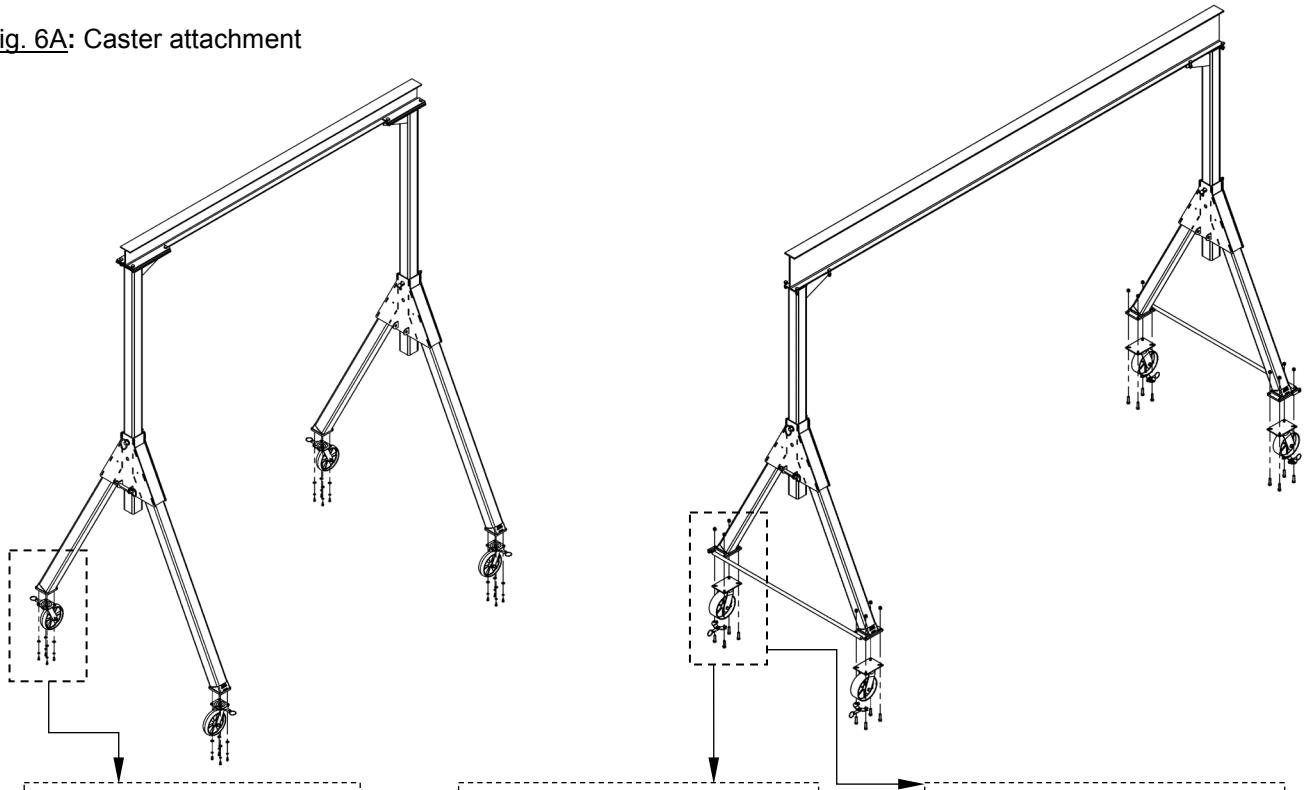
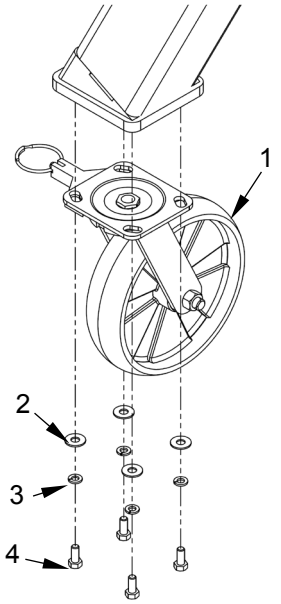
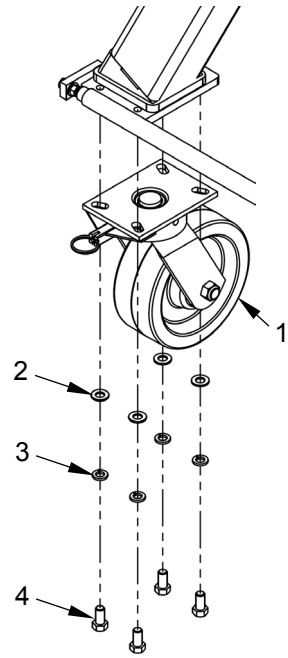


Fig. 6B: Caster attachment (AHSN-2 and AHSN-4 models)



1 GFN-8/2-S caster
2 $^{5}/_{16}$ in. zinc-plated USS flat washer
3 $^{5}/_{16}$ in. zinc-plated lock washer
4 $^{5}/_{16}$ in. – 18 x ¾ in. HHCS #2 zinc-plated bolt

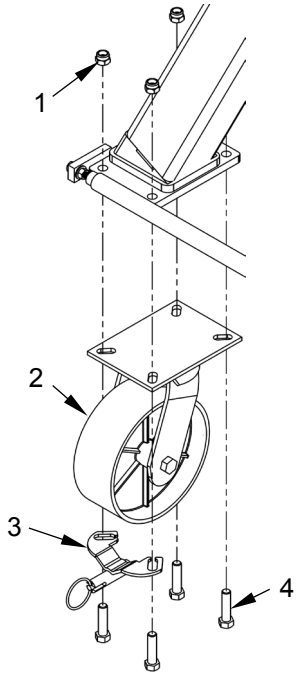
Fig. 6C: Caster attachment (AHSN-6 & AHSN-8 models)



1 PH-8/3-4PSL swivel lock caster
2 $^{5}/_{16}$ in. zinc-plated flat washer
3 $^{5}/_{16}$ in. zinc-plated lock washer
4 $^{5}/_{16}$ in. – 18 x $^{3}/_{4}$ in. HHCS #2 zinc-plated bolt

-OR-

Fig. 6D: Caster attachment (AHSN-10-15-10)



1 ½ in. – 13 lock nut
2 Ø8in. x 3in. ductile steel caster
3 Batwing caster position lock
4 ½ in. – 13 x 2in. HHCS #5 zinc-plated bolt

Copyright 2020 Vestil Manufacturing Corp.

USING THE CRANE

Before using the crane for the first time, perform a *BEFORE AND AFTER* inspection described on p. 14.

⚠ WARNING

Risk of severe personal injury or death.

- Only use this crane if you are qualified and trained to use it. The operating instructions in this manual *supplement* safe crane and hoist operation practices applied at your work site. Acquire a copy of the most recent edition of ASME B30.17 and apply all operation, inspection, maintenance, and care recommendations.
- ALWAYS apply the safe material handling practices learned from your training program. Always follow the hoist and trolley manufacturers' instructions regarding proper use of their products.
- All personnel not participating in the use of the crane must stay out of the area during use. Be certain no part of any person or object is under any part of the boom (I-beam) or the suspended load at any time and particularly before lowering it. Instruct all persons to remain at a safe distance during operation.
- Always carefully watch the boom and any load hanging from it while using the crane.
- BEFORE the load is connected to the hoist, lock or immobilize the casters, for example with chocks.
- Only use this crane on level concrete (or equal) surface.
- DO NOT use the crane, tag it out of service, and notify your supervisor and authorized maintenance personnel if: 1) you observe any damage or hear unusual noise during operation; or 2) you observe any warping or deformation of the I-beam, uprights, casters, legs, yokes, load hook or hoist chain/cable.
- DO NOT operate a hoist with twisted, kinked, or damaged chain or rope. DO NOT operate a rope hoist unless the rope is properly seated in its groove.

LOADING THE CRANE

Position the trolley and hoist directly above the load. Center the trolley and hoist above the center of the load and position the long axis of the I-beam above the center of the load. Proper and improper positioning is illustrated in Diagrams 7A & 7B.

Connect the load to the hoist chain/cable, according to the instructions supplied with your hoist and the method applied at your work site. Raise the load only as high as is necessary to position it. Once the load is properly centered above the work location, lower it until it is supported by the ground/ work surface. Disconnect the load from the hoist. Return the crane to its storage location.

If you must move the load to a different location, **move the crane and load separately to the work location. Only use the crane to lift loads.**

If your crane is equipped with V-Groove casters and V-Track is installed, the crane can be moved on the track while loaded**.** The hoist must be immobilized. Raise the load only as far as necessary. Push the trailing end of the crane, not the load. Push slowly and carefully to avoid load swing.

Diagram 7A: Center hoist above center of load

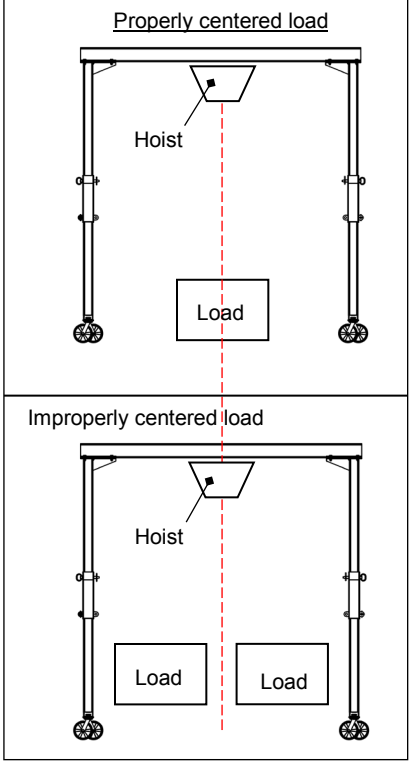
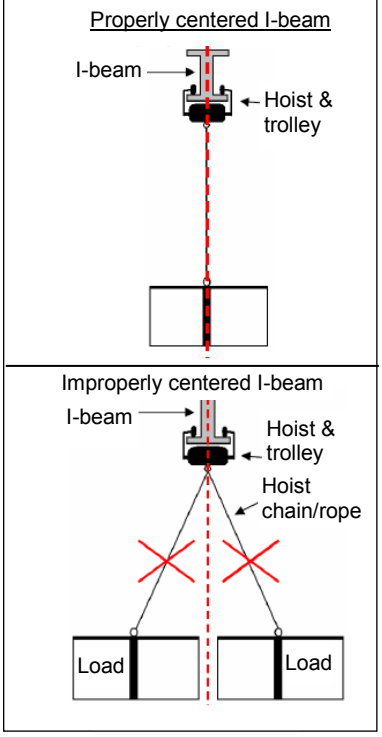


Diagram 7B: Center the long axis of the I-beam above the center of the load.



RECORD OF SATISFACTORY CONDITION (THE "RECORD")

Thoroughly examine the crane after assembling it and before putting it into service. Record the condition and appearance of each of the frame members (I-beam, legs, yokes, cross braces), the wheels and/or casters, beam clamps, and all fasteners (bolts, nuts, etc.). Thoroughly photograph the crane from multiple angles. Include close range photographs of the casters and/or wheels, all labeling, and all beam clamp connections. Add the photographs to the record. Collate all photographs and writings into a single file. This file is a record of the crane in satisfactory condition. Compare the results of all *INSPECTIONS* to this Record to determine whether the crane is in satisfactory condition. Do not use the crane unless it is in satisfactory condition. Purely cosmetic changes, like damaged paint or powdercoat, are not changes from satisfactory condition. However, touchup paint should be applied as soon as damage occurs. If your crane is not painted or powdercoated, touchup paint is not required.

Copyright 2020 Vestil Manufacturing Corp.

INSPECTIONS AND MAINTENANCE

NOTE: Inspection procedures are included in the most current revision of ASME B30.17. As stated in the *NATIONAL STANDARDS* section on p. 3, Vestil recommends that you acquire a copy of the most recent revision of this standard. Apply all use and maintenance/care instructions in the standard. Vestil also recommends that you contact your local occupational health and safety authority to determine if any authorities (laws, regulations, codes, ordinances, etc.) apply inspection requirements where the crane is used.

Inspections and all repairs should be performed only by qualified persons. Compare the results of each inspection to the *RECORD OF SATISFACTORY CONDITION*. Do not use the crane unless every part is in satisfactory condition. **DON'T GUESS! If you have any questions or concerns about the condition of your crane, contact the *TECHNICAL SERVICE* department.** The phone number is provided on the cover page of this manual. *Never make temporary repairs of damaged or missing parts*. Only use manufacturer-approved replacement parts to restore the crane to satisfactory condition.

A. **Before and after each use**, including first use, unload the crane and inspect the following components:
   1) **I-Beam –** Examine the entire beam, especially the lower flanges, for bends, cracks, and other forms of damage.
   2) **Beam clamps, beam clamp fasteners, and festoon kit (if installed)** – Clamp connections are shown in *Step* 3 on p. 10-11. Festoon kit connections are diagrammed on p. 15. Visually verify that all lock washers are fully compressed. The clamps should equally overlap the I-beam flange.
   3) **Beam brackets –** Look for cracks, elongations around bolt holes, warps, bends, etc.
   4) **Casters and caster fasteners** – Examine each caster for cracks, warps, tears, grooves, pitting, and significant wear. Push the crane a short distance. All 4 casters should be in continuous contact with the ground. Confirm that the casters roll smoothly without wobbling or skidding. Make sure that caster fasteners are tightly connected. Fastener connections are shown in *Step 5* on p. 11.
   5) **Pins** – Check both adjustment pins. Pinned connections are shown in *Step 2* on p. 10. Both adjustment pins should be fully inserted and pin stops should be perpendicular to the pins to secure them in place. All 4 of the clevis pins should be fully inserted and secured in place with cotter pins.
   6) **Yokes –** Closely examine both yokes. Look for cracks, bends, chips, warps, and other forms of damage. Pay particular attention to the openings in the yoke. Make sure that there are no elongations, warps, or cracks around the openings.
   7) **Legs** – Check all 4 of the legs for damage.
   8) **Cross braces –** Inspect both leg assemblies. Look for cracks, bends, warps, and other forms of damage. Pay particular attention to pin holes and bolt holes. Look for elongations, cracks, etc.

B. **At least once per month** – Unload the crane and inspect the following:
   1) **Beam clamps, beam clamp fasteners, and festoon kit (if installed)** – Use a torque wrench to tighten each bolt and nut to 50-52ft·lb. Examine all of the clamps for damage such as deformations and cracks. The I-beam flange should be solidly clamped to the tops of the uprights.
   2) Lay the crane over so that the I-beam is on the ground.
      a) Adjustment pins – One at a time, remove each adjustment pin and examine it. Look for cracks, warps, pitting, and other forms of damage. Confirm that the pin stop operates normally. Reinstall each pin after inspecting it.
      b) Legs – Examine top end of each leg. Look for warps, cracks, and other forms of damage. Reinstall each leg once its inspection is finished.

C. **Once per year** – Perform a load test of the crane. Lift a load equal to 125% of its rated load (capacity). Only lift the load high enough to ensure that it is entirely supported by the crane. Move the load and hoist the full usable length of the I-beam. Return the test load to the ground. Perform inspections A (Before and after each use) and B (Monthly).

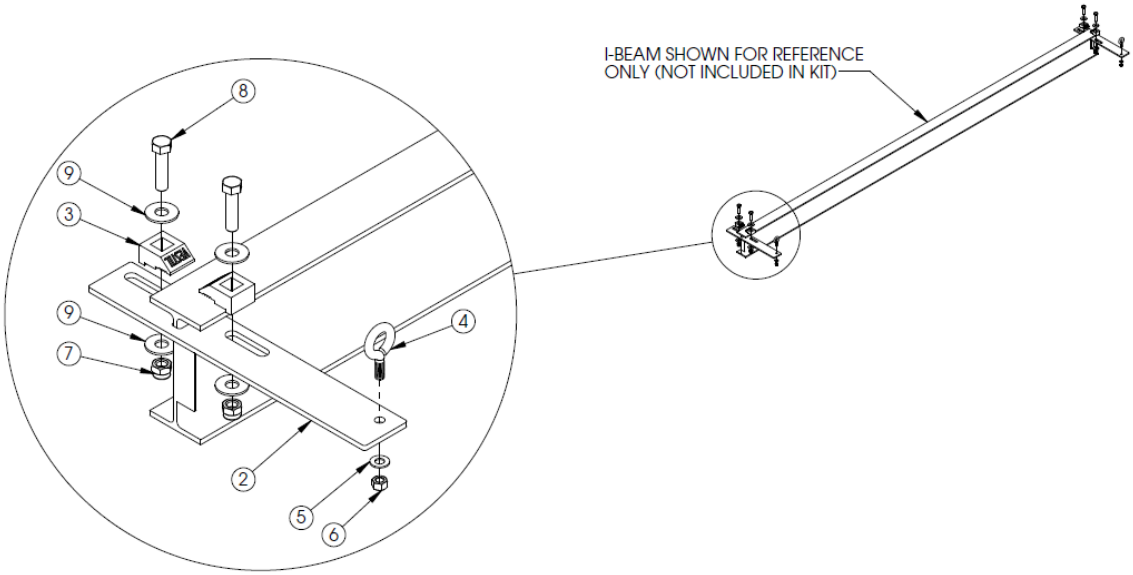
NOTE: Perform this part C whenever the crane is partially or fully disassembled and then reassembled, e.g. after installing replacement parts.

Copyright 2020 Vestil Manufacturing Corp.

INSTALLING THE OPTIONAL FESTOON KIT

NOTE: This kit does not come with the crane. It is an option that must be purchased separately.

Attach the festoon kit to one end of the I-beam as shown in the following diagram. Use a torque wrench to tighten each bolt and nut to 50-52ft·lb.

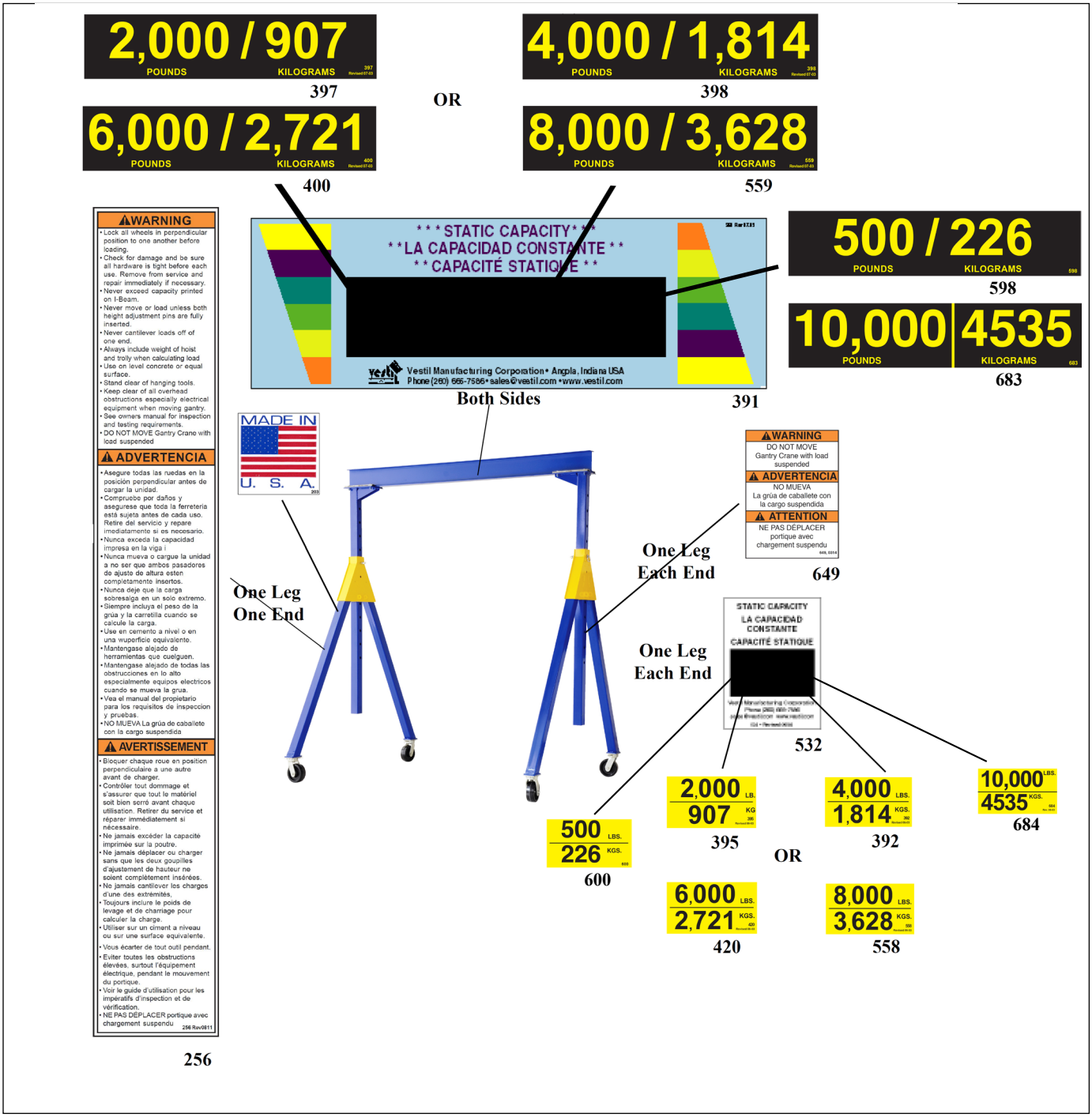


Item	Part no.	Description	Quantity
2	28-016-169	Hold down plate	2
3	28-145-002	I-beam clamp	4
4	42234	$^{3}/_{8}$ in. -16 x 1in. turned eye bolt	2
5	33008	$^{3}/_{8}$ in. zinc-plated flat washer	2
6	36106	$^{3}/_{8}$ in. -16 zinc-plated hex nut	2
7	37030	$^{1}/_{2}$ in. – 13 nylon insert lock nut	4
8	11211	$^{1}/_{2}$ in. – 13 x 2 in. HHCS zinc-plated bolt	4
9	33012	$^{1}/_{2}$ in. zinc-plated USS flat washer	8
10	45503	$^{1}/_{8}$ in. wire rope (1 in. longer than 1-beam)	1
11	34785T4	Quick-grip wire rope clamp	2
12	CV200	Plastic cable tie	7
13	O-RING15	Metal ring	6
14	FCOIL 143-001	Coiled power cord	1

Copyright 2020 Vestil Manufacturing Corp.

LABELING DIAGRAM

Each unit should be labeled as shown in the diagram. Label content and location are subject to change so your product might not be labeled exactly as shown. Compare the diagram below to your *RECORD OF SATISFACTORY CONDITION*. If there are any differences between actual labeling and this diagram, contact *TECHNICAL SERVICE*. Replace all labels that are damaged, missing, or not easily readable (e.g. faded). To order replacement labels or to inquire whether your unit is properly labeled, contact the technical service and parts department online at http://www.vestilmfg.com/parts_info.htm or by calling (260) 665-7586 and asking for the *PARTS DEPARTMENT*.



Copyright 2020 Vestil Manufacturing Corp.

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

US Mail	Fax	Email
Vestil Manufacturing Corporation	(260) 665-1339	info@vestil.com
2999 North Wayne Street, PO Box 507	Phone	Enter "Warranty service request"
Angola, IN 46703	(260) 665-7586	in the 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, motor controllers, 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 1 year. For wearing parts, the warranty period is 90 days. 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 not covered by the warranty?

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

Events that automatically void this 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;
- Unauthorized modifications: 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.

Copyright 2020 Vestil Manufacturing Corp.