



**VESTIL MANUFACTURING CORP.**

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**CBFC Counterbalanced Floor Crane**



**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](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>.

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## SIGNAL WORDS

SIGNAL WORDS appear in this manual to draw the reader's attention to important safety-related messages. The following are signal words used in this manual and their definitions.

 <b>DANGER</b>	Identifies a hazardous situation which, if not avoided, <b>WILL</b> result in <b>DEATH</b> or <b>SERIOUS INJURY</b> . Use of this signal word is limited to the most extreme situations.
 <b>WARNING</b>	Identifies a hazardous situation which, if not avoided, <b>COULD</b> result in <b>DEATH</b> or <b>SERIOUS INJURY</b> .
 <b>CAUTION</b>	Indicates a hazardous situation which, if not avoided, <b>COULD</b> result in <b>MINOR</b> or <b>MODERATE</b> injury.
<b>NOTICE</b>	Identifies practices likely to result in product/property damage, such as operation that might damage the product.

## SAFETY INSTRUCTIONS

Vestil strives to identify foreseeable hazards associated with the use of its products, but no manual can address every conceivable risk. Minimize the likelihood of injury by observing the hazards identified below and by inspecting and maintaining the product as instructed in [INSPECTIONS & MAINTENANCE](#) on p. 6.

### WARNING

Risks of serious personal injuries or death.

- **Read and understand the entire manual before assembling, using or servicing the crane.** Read the manual to refresh your understanding of proper use and maintenance procedures whenever necessary.
- DO NOT use the crane unless the required ballast is installed in the counterbalance box. Ballast specifications appear on your *SPECIFICATIONS* document. See page 4, 5, or 7.
- DO NOT attempt to lift items that weigh more than the capacity of your crane. The capacity of the crane decreases as boom length increases. Capacities of each model for all 3 boom lengths are provided on your *SPECIFICATIONS* document as well as on labels 1157. See [LABELING DIAGRAM](#) on p. 12.
- ONLY use the crane on even, level, compacted surfaces 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 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.
- DO NOT perform maintenance on this crane UNLESS it is unloaded and both caster brakes are applied. If the crane requires repair, ONLY install manufacturer-approved replacement parts.
- DO NOT attempt to raise a load unless the load hook is centered above it.
- ALWAYS observe the boom while raising or lowering a load.. Watch for binding or jerky movement. Listen for unusual noises. Tag the unit "Out of Service". Do not use it if you observe anything abnormal.
- DO NOT use the crane unless it is in satisfactory condition. Inspect the unit before each use and as instructed in the [INSPECTIONS](#) section on p. 10-11 to determine whether it is in [SATISFACTORY CONDITION](#).
- 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.
- Before leaving the crane unattended, unload it and relieve hydraulic pressure by lowering the boom.
- DO NOT alter the pressure relief valve setting!
- DO NOT use the crane UNLESS every label is present and readable. See [LABELING DIAGRAM](#) on p. 12.
- 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 is secure before applying a load to the load hook. Tighten the shackle pin before each use. See [USING THE CRANE](#), diagrams on p. 9.
- Failing to maintain, or repair, the crane could make the crane unsafe to use and result in serious personal injuries or death. Only qualified personnel should perform maintenance and repairs.

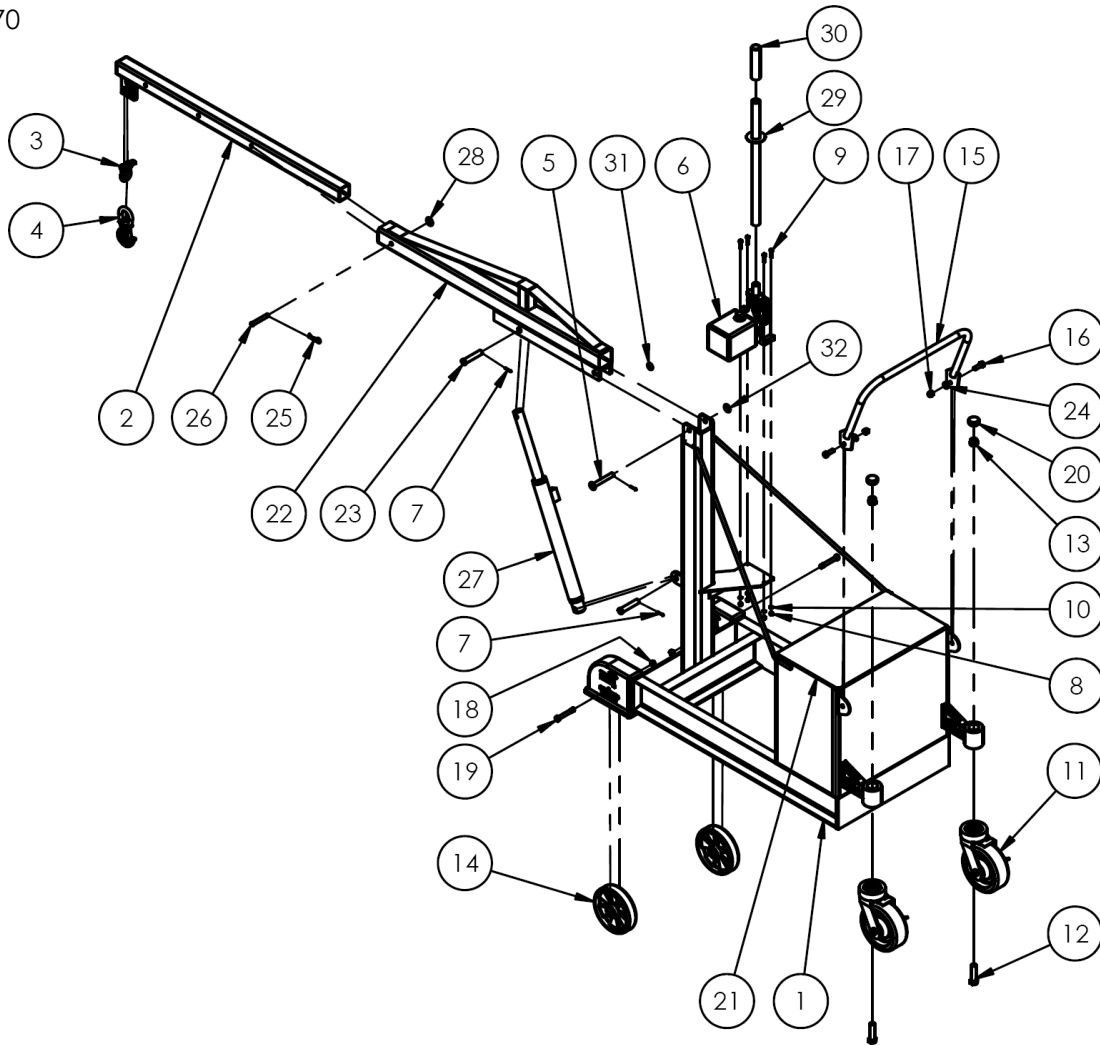
### NOTICE

Proper use and maintenance are essential for this product to function properly.

- Always use this product in accordance with the instructions in this manual and consistent with any training relevant to devices used in conjunction with this product (e.g. rigging).
- Periodically lubricate pivot points.
- Keep the product clean & dry.
- Only use approved replacement parts. Contact [TECHNICAL SERVICE](#) to order replacement parts.

# CBFC-500 & CBFC-1000 EXPLODED VIEW & BILL OF MATERIALS

16-006-370



Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	16-514-235 16-514-236	WELDMENT, FRAME CBFC-500 CBFC-1000	1 1	17	37030	1/2"-13 NYLON INSERT LOCK NUT, GRADE 2	2
2	28-514-089	FRAME, INNER BOOM WELDMENT	1	18	37032	1/2 nylon insert jam nut, GRADE 2	2
3	08-145-010	SPECIALTY HARDWARE, Ø1/2"-2 TON SHACKLE	1	19	16-145-031	BOLT W/GREASE ZERK, 1/2-13 X 3 1/2 LG.	2
4	08-145-001	SPEC HDW, SWIVEL HOOK 2-TON	1	20	99-024-003	GUARD/COVER/ENDCAP/PLUG	2
5	28-612-001	PIN, WELDMENT, PIVOT, OUTER BOOM, CBFC	1	21	16-014-386	FRAME, COUNTER WEIGHT, TOP	1
6	99-640-013	ASSEMBLY, HAND PUMP, 1/2 GAL. TANK	1	22	28-514-088	FRAME, WELDMENT, OUTER BOOM	1
7	65077	COTTER PIN, ZINC PLATED, 1/8" X 1-1/4"	3	23	33-112-034	CLEVIS PIN, ZINC PLATED, Ø3/4" X 3 3/4" LG	2
8	36102	HEX NUT, GRADE A, ZINC PLATED, 1/4-20	4	24	33011	FLAT WASHER, USS, PLAIN FINISH, Ø1/2"	2
9	11007	Ø 1/4-20 UNC x 1 1/4 LG HEX BOLT, GRADE A	4	25	45286	#11 HITCH PIN CLIP, Ø1/8" X 2 5/8 LG	1
10	33618	MEDIUM SPLIT LOCK WASHER, Ø1/4"	4	26	28-112-030	Ø1/2 X 3 1/2 RETAINING CLEVIS PIN, ZINC PLATED	1
11	16-132-227	CASTER, 8/3-SWB-NTP	2	27	99-021-904- 001	CYLINDER, HYDRAULIC, Ø1 1/2" x 18", RAM STYLE	1
12	11365	HHCS #2 Z-PLATED, 3/4 -10 x 3	2	28	33012	FLAT WASHER, LOW CARBON, ZINC FINISH, 1/2"	1
13	37039	NYLOCK NUT Z PLATED, GRADE 2, Ø3/4 - 10	2	29	07-525-008	ASSEMBLY, HANDLE	1
14	16-132-216	CASTER, WHEEL, GFN-8/2-W	2	30	07-025-005	HANDLE, BLACK RUBBER, 6"	1
15	15-525-007	HANDLE, WELDMENT	1	31	33092	FLAT WASHER Z-PLATED, Ø 3/4	2
16	11209	1/2-13 X 1 1/2" LG HHCS - ASTM A307 GRADE A, ZINC PLATED	2	32	33090	WASHER, FLAT, SAE, 5/8	1

## CBFC-500 RATED LOADS FOR SPECIFIED BOOM LENGTHS (16-007-370)

NOTE: DO NOT use the crane unless the inner and outer booms are securely pinned together. Although the outer boom has only one set of pin holes, the inner boom has 3 sets to allow boom length adjustments. Boom length is adjustable in 12 inch increments. The maximum rated load of the crane decreases as boom length increases as indicated in the table.

Boom length	Maximum rated load
39 <sup>1</sup> / <sub>4</sub> inches	500 lb. (227.3kg)
51 <sup>1</sup> / <sub>4</sub> inches	400 lb. (181.8kg)
63 <sup>5</sup> / <sub>16</sub> inches	300 lb. (136.4kg)

1in. = 2.54cm; 1kg = 2.2 lb.

### SPECIFICATIONS

A specifications document for CBFC-500 floor cranes is available online to anyone who visits Vestil's website. Specifications include dimensions, net weight, and capacity information. To access the appropriate specifications document, navigate to this webpage: <https://www.vestil.com/product.php?FID=587>. Scroll the page to the "Product Specifications Table". Click the button in the "PDFs" column that looks like a pencil inside a box. A PDF file will open. This file is the specifications document. Print a copy of the document and keep it with your copy of this manual. The following is an exemplar specifications document.

### COUNTER BALANCED FLOOR CRANE - CBFC-500

\*\*\* 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 SALESPERSON

**STANDARD FEATURES**  
 MODEL NUMBER IS CBFC-500  
 OVERALL WIDTH IS 29"  
 OVERALL LENGTH IS 135 1/8" MAX  
 OVERALL HEIGHT IS 102" MAX  
 MAX CAPACITY IS 500 LBS  
 HAND PUMP OPERATION  
 UNIT IS DURABLE LIQUID PAINT BLUE FINISH  
 INNER BOOM IS DURABLE LIQUID PAINT YELLOW FINISH  
 APPROX. SHIPPING WEIGHT: 1,259 LBS

**SPECIAL FEATURES**  
 NONE

**APPROVAL**

I, THE UNDERSIGNED, AGREE THAT THE PRODUCT AS REPRESENTED SATISFIES DESIGN AND DIMENSION REQUIREMENTS. I ALSO ACKNOWLEDGE MY DUTY TO CONFIRM PRODUCT AND INSTALLATION COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS AND STANDARDS.  
**UNITS REQUIRING APPROVAL DRAWINGS OR MODIFIED ARE NON-RETURNABLE**  
 As drawn     As marked

Signed: \_\_\_\_\_ Date: \_\_\_\_\_  
 Printed Name: \_\_\_\_\_  
**LEAD TIME WILL START UPON RECEIPT OF SIGNED APPROVAL DRAWING**

DISTRIBUTOR'S NAME: <b>VESTIL MANUFACTURING</b>		P.O.# X
W.O.# X	DATE: 6/12/2013	SALES: X
DRAWN BY: MTS	SCALE: 1:32	FILE NAME: 16-007-370
REFERENCE: X	QUOTE # X	
QUOTED LEAD TIME: X		

# CBFC-1000 RATED LOADS FOR SPECIFIED BOOM LENGTHS (16-007-369)

NOTE: DO NOT use the crane unless the inner and outer booms are securely pinned together. Although the outer boom has only one set of pin holes, the inner boom has 3 sets to allow boom length adjustments. Boom length is adjustable in 12 inch increments. The maximum rated load of the crane decreases as boom length increases as indicated in the table.

Boom length	Maximum rated load
39 <sup>1</sup> / <sub>4</sub> inches	1000 lb. (454.5kg)
51 <sup>1</sup> / <sub>4</sub> inches	700 lb. (318.2kg)
63 <sup>1</sup> / <sub>4</sub> inches	500 lb. (227.3kg)

1in. = 2.54cm; 1kg = 2.2 lb.

## SPECIFICATIONS

A specifications document for CBFC-1000 floor cranes is available online to anyone who visits Vestil's website. Specifications include dimensions, net weight, and capacity information. To access the appropriate specifications document, navigate to this webpage: <https://www.vestil.com/product.php?FID=587>. Scroll the page to the "Product Specifications Table". Click the button in the "PDFs" column that looks like a pencil inside a box. A PDF file will open. This file is the specifications document. Print a copy of the document and keep it with your copy of this manual. The following is an exemplar specifications document.

### COUNTER BALANCED FLOOR CRANE - CBFC-1000

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SWIVEL HOOK

13 1/2"

77 1/2" MAX  
53 1/2" MIN

12"

12"

ADJUSTABLE LENGTH TO (3) POSITIONS SPACED 12" APART

\*90" MAX  
5" MIN  
(WITH FULLY EXTENDED ARM)

MAX LOAD  
500 LBS @ 63 1/4"  
700 LBS @ 51 1/4"  
1000 LBS @ 39 1/4"

HAND PUMP OPERATION

18" ROTATED DOWN

40 5/8" MAX

COUNTERWEIGHT

RIGID CASTERS

SWIVEL CASTERS

145 1/4" MAX

80"

14 7/16"

25 1/2"

29"

3D VIEW SHOWN WITH THE BOOM IN THE RAISED POSITION  
SCALE 1:40

DIMENSION TOLERANCE ± 1/4"

1:64 SCALE SIDE VIEW SHOWING MAX HEIGHT

102" MAX

\*WHEN BOOM IS FULLY RETRACTED AND THE CYLINDER IS FULLY RETRACTED HOOK HEIGHT IS 16 7/16"

\*WHEN BOOM IS FULLY RETRACTED AND THE CYLINDER IS FULLY EXTENDED HOOK HEIGHT IS 74 7/16"

**STANDARD FEATURES**  
 MODEL NUMBER IS CBFC-1000  
 OVERALL WIDTH IS 29"  
 OVERALL LENGTH IS 145 1/4" MAX  
 OVERALL HEIGHT IS 102" MAX  
 MAX CAPACITY IS 1000 LBS  
 HAND PUMP OPERATION  
 UNIT IS DURABLE LIQUID PAINT BLUE FINISH  
 INNER BOOM IS DURABLE LIQUID PAINT YELLOW FINISH  
 APPROX. SHIPPING WEIGHT: 1,845 LBS

**SPECIAL FEATURES**  
 NONE

**APPROVAL**

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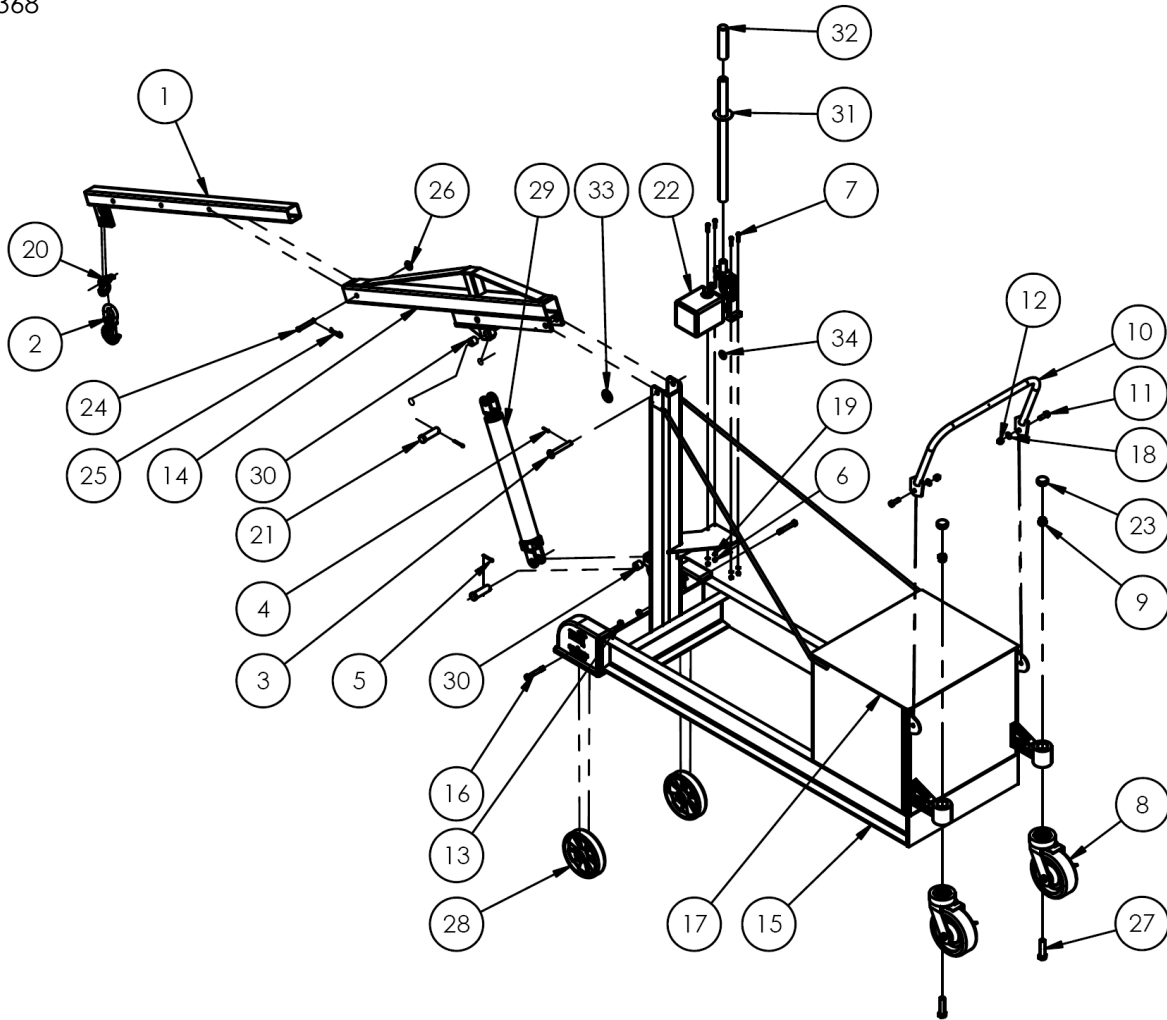
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REFERENCE: X	SCALE: 1:34	16-007-369
QUOTED LEAD TIME: X	QUOTE # X	



# CBFC-2000 EXPLODED VIEW & BILL OF MATERIALS

16-006-368



Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	28-514-089	FRAME, INNER BOOM WELDMENT	1	18	33011	FLAT WASHER, USS, PLAIN FINISH, Ø1/2"	2
2	08-145-001	SPEC HDW, SWIVEL HOOK 2-TON	1	19	33618	MEDIUM SPLIT LOCK WASHER, Ø1/4"	4
3	28-612-001	PIN, WELDMENT, PIVOT, OUTER BOOM, CBFC	1	20	08-145-010	SPECIALTY HARDWARE, Ø1/2"-2 TON SHACKLE	1
4	65077	COTTER PIN, ZINC PLATED, 1/8" X 1-1/4"	1	21	47-112-001	CLEVIS PIN, Ø1 x 3 1/4"	2
5	65127	COTTER PIN Z PLATED, 3/16 x 2	2	22	99-640-013	ASSEMBLY, HAND PUMP, 1/2 GAL. TANK	1
6	36102	HEX NUT, GRADE A, ZINC PLATED, 1/4-20	4	23	99-024-003	GUARD/COVER/ENDCAP/PLUG	2
7	11007	Ø 1/4-20 UNC x 1 1/4 LG HEX BOLT, GRADE A	4	24	28-112-030	Ø1/2 X 3 1/2 RETAINING CLEVIS PIN, ZINC PLATED	1
8	16-132-227	CASTER, 8/3-SWB-NTP	2	25	45286	#11 HITCH PIN CLIP, Ø1/8" X 2 5/8 LG	1
9	37039	NYLOCK NUT Z PLATED, GRADE 2, Ø3/4 - 10	2	26	33012	FLAT WASHER, LOW CARBON, ZINC FINISH, 1/2"	1
10	15-525-007	HANDLE, WELDMENT	1	27	11365	HHCS #2 Z-PLATED, 3/4 -10 x 3	2
11	11209	1/2-13 X 1 1/2" LG HHCS - ASTM A307 GRADE A, ZINC PLATED	2	28	16-132-216	CASTER, WHEEL, GFN-8/2-W	2
12	37030	1/2"-13 NYLON INSERT LOCK NUT, GRADE 2	2	29	99-021-948	CYLINDER, HYDRAULIC, Ø2" x 18" RAM STYLE W/ CLEVIS MOUNTS	1
13	37032	1/2 nylon insert jam nut, GRADE 2	2	30	01-111-006	BUSHING, POLYGON 1 ID X 1 LG	2
14	28-514-114	FRAME, WELDMENT, OUTER BOOM	1	31	07-525-008	ASSEMBLY, HANDLE	1
15	16-514-237	WELDMENT, FRAME	1	32	07-025-005	HANDLE, BLACK RUBBER, 6"	1
16	16-145-031	BOLT W/GREASE ZERK, 1/2-13 X 3 1/2 LG.	2	33	33096	FLAT WASHER, LOW CARBON, PLAIN FINISH, Ø1" x 2" OD	2
17	16-014-390	FRAME, COUNTER WEIGHT LID	1	34	33090	WASHER, FLAT, SAE, 5/8	1

# CBFC-2000 RATED LOADS FOR SPECIFIED BOOM LENGTHS (16-007-368)

NOTE: DO NOT use the crane unless the inner and outer booms are securely pinned together. Although the outer boom has only one set of pin holes, the inner boom has 3 sets to allow boom length adjustments. Boom length is adjustable in 12 inch increments. The maximum rated load of the crane decreases as boom length increases as indicated in the table.

Boom length	Maximum rated load
39 1/4 in.	2000 lb. (909.1kg)
51 1/4 in.	1500 lb. (681.8kg)
63 1/4 in.	1000 lb. (454.5kg)

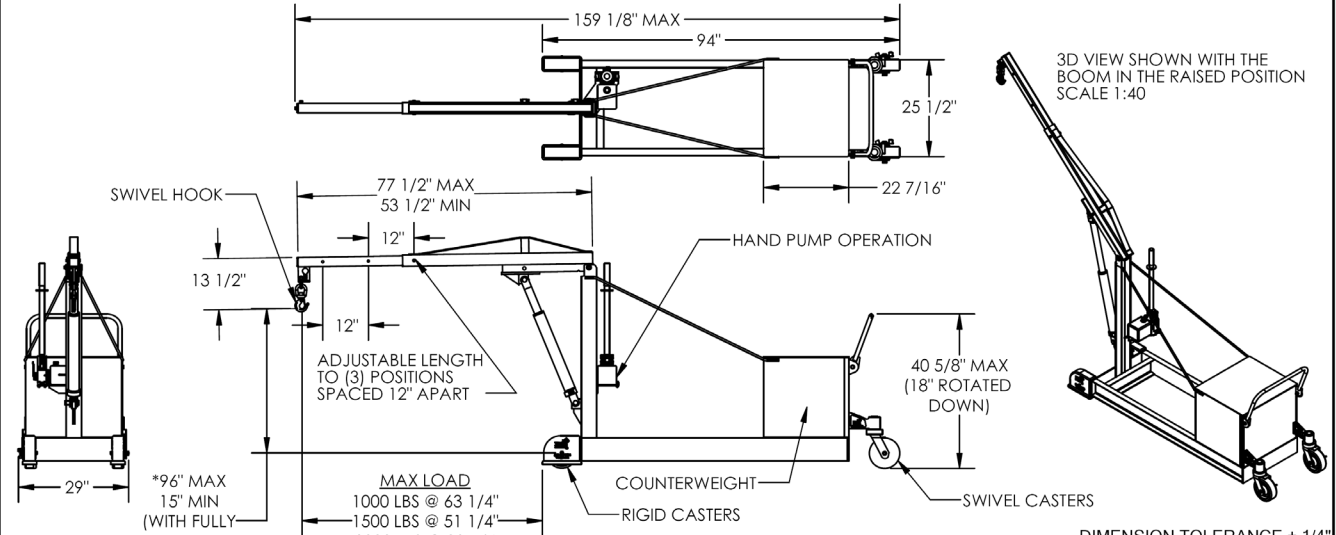
1in. = 2.54cm; 1kg = 2.2 lb.

## SPECIFICATIONS

A specifications document for CBFC-2000 floor cranes is available online to anyone who visits Vestil's website. Specifications include dimensions, net weight, and capacity information. To access the appropriate specifications document, navigate to this webpage: <https://www.vestil.com/product.php?FID=587>. Scroll the page to the "Product Specifications Table". Click the button in the "PDFs" column that looks like a pencil inside a box. A PDF file will open. This file is the specifications document. Print a copy of the document and keep it with your copy of this manual. The following is an exemplar specifications document.

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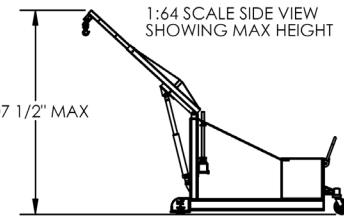


\*WHEN BOOM IS FULLY RETRACTED AND THE CYLINDER IS FULLY RETRACTED HOOK HEIGHT IS 23 3/16"

\*WHEN BOOM IS FULLY RETRACTED AND THE CYLINDER IS FULLY EXTENDED HOOK HEIGHT IS 78 3/16"

#### STANDARD FEATURES

- MODEL NUMBER IS CBFC-2000
- OVERALL WIDTH IS 29"
- OVERALL LENGTH IS 159 1/8" MAX
- OVERALL HEIGHT IS 107 1/2" MAX
- MAX CAPACITY IS 2000 LBS
- HAND PUMP OPERATION
- UNIT IS DURABLE LIQUID PAINT BLUE FINISH
- INNER BOOM IS DURABLE LIQUID PAINT YELLOW FINISH
- APPROX. SHIPPING WEIGHT: 2,356 LBS



#### SPECIAL FEATURES

NONE

DIMENSION TOLERANCE ± 1/4"

I, THE UNDERSIGNED, AGREE THAT THE PRODUCT AS REPRESENTED SATISFIES DESIGN AND DIMENSION REQUIREMENTS. I ALSO ACKNOWLEDGE MY DUTY TO CONFIRM PRODUCT AND INSTALLATION COMPLIANCE WITH ALL APPLICABLE FEDERAL, STATE AND LOCAL REGULATIONS AND STANDARDS.

**UNITS REQUIRING APPROVAL DRAWINGS OR MODIFIED ARE NON-RETURNABLE**

[ ] As drawn [ ] As marked

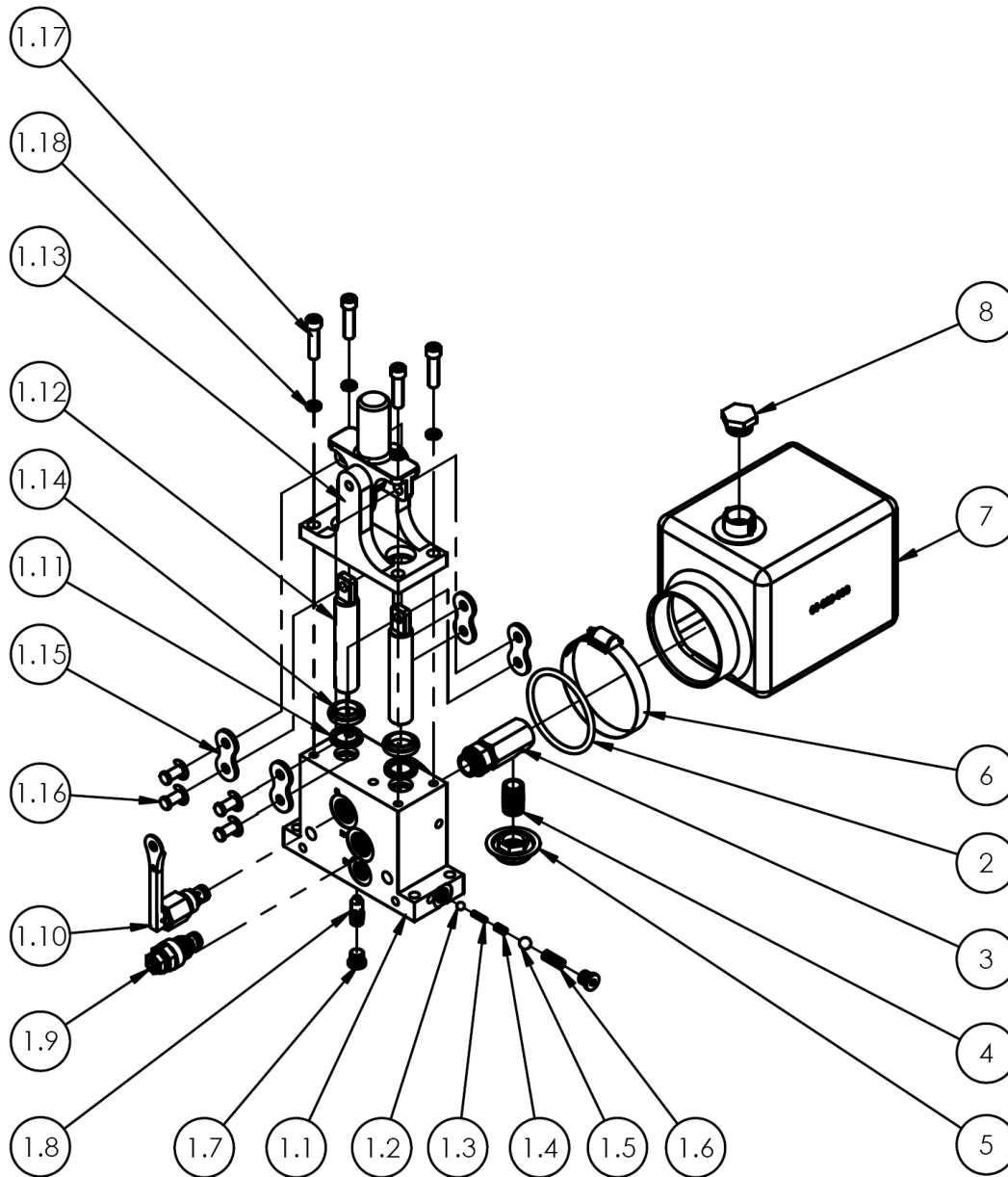
Signed: \_\_\_\_\_ Date: \_\_\_\_\_

Printed Name: \_\_\_\_\_

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DRAWN BY: MTS		DATE: 6/12/2013
SALES: X	SCALE: 1:32	FILE NAME:
QUOTED LEAD TIME: X	QUOTE # X	16-007-368

# MANUAL HYDRAULIC PUMP EXPLODED VIEW & BILL OF MATERIALS (99-640-013)



ITEM	PART NO.	DESCRIPTION	QTY.	ITEM	PART NO.	DESCRIPTION	QTY.
1	99-140-005	SUB-ASSEMBLY, MANUAL PUMP, HAND	1	1.13	99-640-008	SUB-ASSEMBLY, PUMP, ROCKER	1
1.1	99-039-005	BODY, MANUAL PUMP, HAND	1	1.14	99-144-003	WIPER, SOLID PROFILE, PISTON	2
1.2	99-110-007	BEARING, BALL, Ø1/4"	2	1.15	99-042-001	CHAIN, SLIP FIT, SIDE PLATE, #80	4
1.3	99-146-004	SPRING, COMPRESSION, INLET CHECK	2	1.16	11484-01103	PIN, SS GROOVED CLEVIS w/ SNAP RING	4
1.4	99-146-006	SPRING, COMPRESSION, RETAINER	2	1.17	93257	SHCS 5/16-18 x 1 1/4	4
1.5	99-110-006	BEARING, BALL, Ø3/8"	2	1.18	129169	LOCK WASHER, HI COLLAR, ZINC PLATED	4
1.6	99-146-005	SPRING, COMPRESSION, OUTLET CHECK	2	2	99-144-007	O-RING, MANIFOLD, 3" OD	1
1.7	99-116-005	FITTING, HYDRAULIC, 04MORB HOLLOW HEX PLUG	3	3	99-116-001	SUCTION FITTING, MINI MANIFOLD	1
1.8	99-153-038	FLOW CONTROL, PRES. COMP., 1.0 GAL.	1	4	99-031-033	ACCESSORIES, NIPPLE, CLOSE PIPE	1
1.9	99-153-006	VALVE, PRESSURE RELIEF, 210 BAR	1	5	99-031-029	ACCESSORIES, HYDRAULIC	1
1.10	99-153-080	VALVE, CARTRIDGE w/TOGGLE ARM	1	6	99-145-061	Clamp, Worm Gear Hose, 2 13/16 - 3 3/4	1
1.11	99-144-015	SEAL, U-CUP	2	7	01-023-008	RESERVOIR, OIL	1
1.12	99-041-004	PLUNGER/PISTON, PUMP	2				



## OPERATING THE MANUAL HYDRAULIC PUMP

This floor crane utilizes a hand-operated hydraulic pump to control the up and down movement of the boom and load hook. When the release lever is in the vertical home/closed position, moving the pump handle back-and-forth causes oil to fill the cylinder causing it to extend. The moving end of the cylinder attaches to the bottom of the outer boom. As the cylinder extends, the end of the boom and the load hook are elevated. Move the pump handle back-and-forth until the load hook is appropriately elevated for your task.

To lower the boom, pivot the release lever away from the pump body until the end of the boom begins to descend. The farther the lever is pivoted, the faster the boom lowers. Lowering can be stopped at any time by pivoting the release lever back to the vertical home position.

## USING THE CRANE

- 1) Carefully push the floor crane to the load. Apply both caster brakes by pressing down on the brake levers. See diagram below.
- 2) Attach appropriate rigging to the load. Rigging will attach to the load hook at the end of the boom.
- 3) If necessary, adjust the position of the boom.

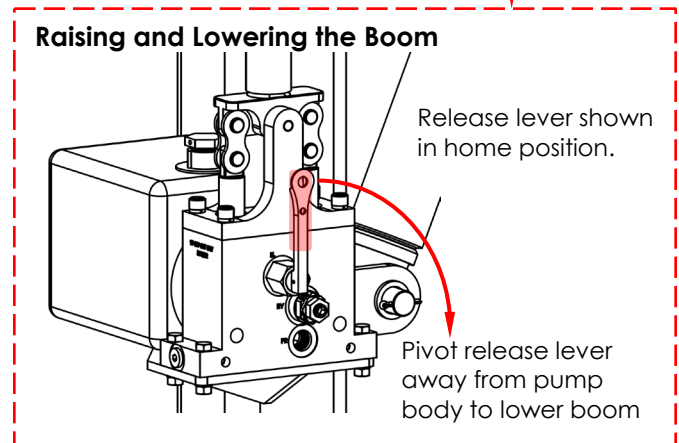
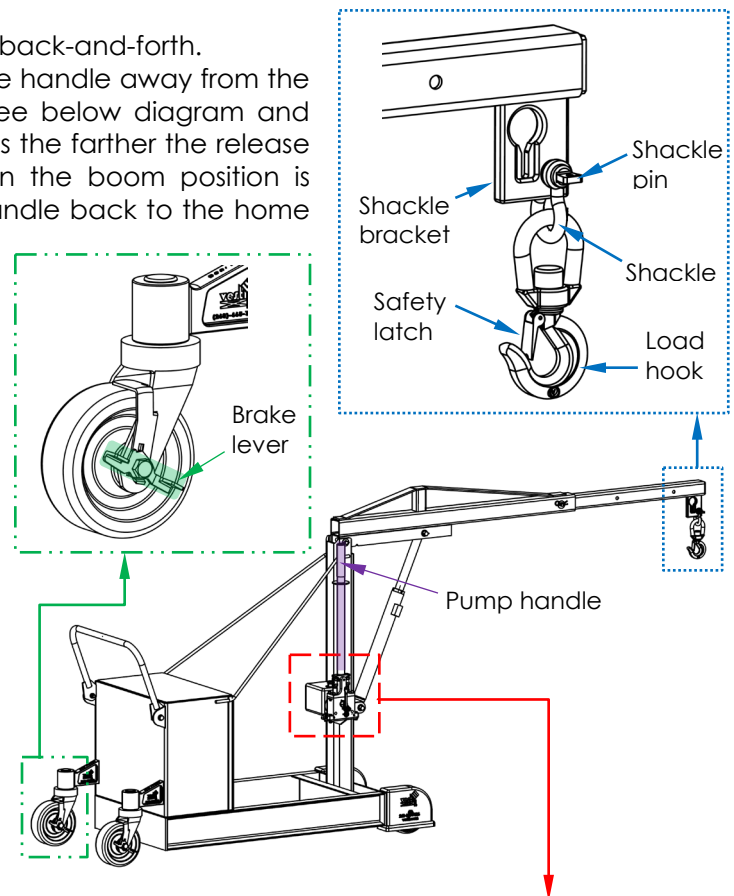
a. Raise the boom by moving the pump handle back-and-forth.

b. Lower the boom by slowly pivoting the release handle away from the pump body until the boom begins to lower. See below diagram and [item no. 1.10 on p. 8](#). The lowering rate increases the farther the release lever is pivoted. Close the release valve when the boom position is adequately adjusted by pivoting the release handle back to the home position.

- 4) Attach the rigging to the load hook. The floor crane must be on a sound, level and dry surface. Before raising the boom, be sure that the load hook is centered above the load. If the hook is not centered above the load, the load might swing when the boom lifts it off of the ground.

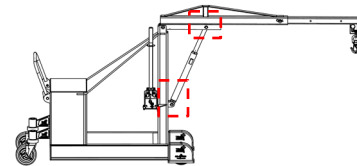
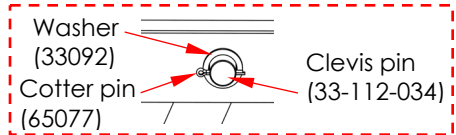
**NOTE:** Rigging and all other load-engaging equipment must be added to the weight of the load to determine the net weight of the load applied to the crane. The net weight must be less than or equal to the rated load of the crane. Rated load for each model of crane decreases when the boom is extended. Refer to your *SPECIFICATIONS* document (see [page 4, 5, or 7](#)); see also label 1153 in [LABELING DIAGRAM](#) on p. 12.

- 5) Slowly raise the load until it is suspended a few inches above the ground. Do not elevate the load any more than necessary.
  - 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 when the load is suspended, do not use the crane to transport the load. Return it to the ground and use another means to move it.
- 6) Transport the load by carefully pushing the crane to the destination. Turn slowly and stop slowly to minimize load swing. Do not leave the crane with a suspended load. Always lower the boom until the load is entirely supported by the ground or other surface before leaving the crane.



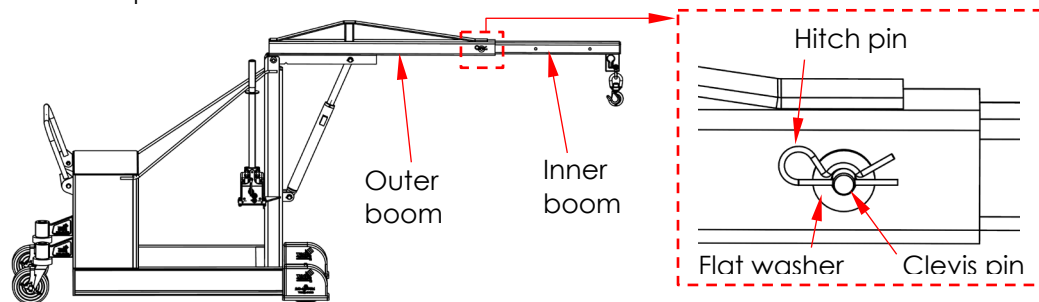
## AIR PURGING PROCEDURE

1. Disconnect the cylinder from the crane by removing the cotter pins, clevis pins, and washers. Don't disconnect the hose.
2. Lay the cylinder on a flat surface with the hose & hose fitting on top.
3. Loosen the hose fitting from the cylinder 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 reconnect the cylinder to the crane.



## BOOM LENGTH ADJUSTMENT

To adjust the length of the boom, raise the boom until it is level. Remove the hitch pin and flat washer and then pull out the clevis pin. The inner boom is now unfastened from the outer boom. Align the appropriate holes in the inner and outer booms to achieve the necessary boom configuration and then re-pin them.



## RECORD OF SATISFACTORY CONDITION

Before putting the crane into service, describe the appearance and functions of the crane in writing. Include observations about each part of the crane. Photograph the unit from multiple angles. Include close range photographs of pivot points and pins, the hydraulic system (cylinder, pump, hoses, and oil tank), hooks, shackles and shackle pins, casters, and caster brakes. Use the crane to lift a test weight. Raise and lower the boom. Include notes about how much force is required to move the pump handle back-and-forth, as well as sounds heard while the cylinder extends and retracts (boom elevates and lowers, respectively). Thoroughly photograph the unit and all labels applied to it. Collect all writings and photographs in a file. This file is a record of the crane in **satisfactory condition**.

## INSPECTIONS & MAINTENANCE

### ⚠ WARNING

Lower the boom and unload the crane **BEFORE** beginning maintenance/repairs. Apply both caster brakes. Only qualified, authorized personnel trained to maintain hydraulic components should attempt troubleshooting and repair of this equipment.

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

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

- 1) Hydraulic system – Check all fittings, couplers, and the oil tank for oil leaks and other damage. Also check the hose for cuts, kinks, leaks, or other damage.
- 2) Frame elements, cylinder brackets (connection points of cylinder to the frame), & booms (inner and outer) – Examine each item for damage, deformation, and rust and corrosion.

- 3) Cylinder and pump – Raise and lower the boom. Listen for unusual noise; watch the cylinder to confirm that it extends and retracts smoothly (does not bind). Check seals for leaks.
  - 4) Load hook and shackle – Carefully examine the load hook, shackle, and shackle pin for significant wear, warps, bends or cracks. Make sure that the shackle pin is tight. 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.
- (B) Inspect the following at least ONCE PER MONTH:
- 1) Oil level – Lower the boom completely. Oil should be within 3/4in. of the top of the reservoir with the boom in the fully lowered position. See [YEARLY INSPECTION](#) below for the hydraulic fluid specifications.]
  - 2) Hoses – Check for cuts, kinks, and other damage. Confirm that the fittings at the ends of the hose are firmly connected to the pump and to 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, significantly worn, or damaged. Remove any material stuck to the surface of the casters.
  - 5) Crane overall – Listen for unusual noises and watch for abnormal movement while elevating and lowering the boom. The frame should be square and rigid. Examine welds. Make sure all welds are intact and are free of rust and corrosion.
  - 6) Labels – Check all information/safety labels. The crane should be labeled at all times as shown in the [LABELING DIAGRAM](#) on p. 12.

(C) Yearly inspection

In addition to [BEFORE EACH USE](#) and [MONTHLY](#) inspections, 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), for example, AW 32 or HO 150 hydraulic oil, or a non-synthetic transmission fluid. You may use a synthetic transmission fluid if you flush the system with the synthetic fluid before filling the reservoir.

## TROUBLESHOOTING

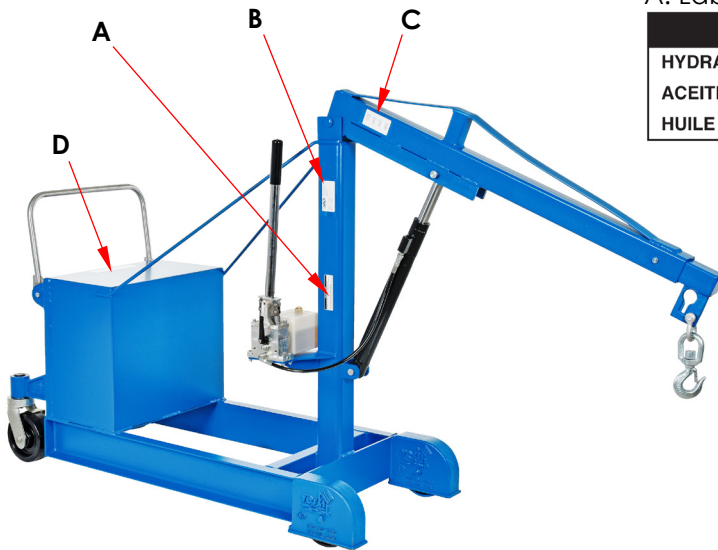
Refer to [MANUAL HYDRAULIC PUMP EXPLODED VIEW AND BILL OF MATERIALS](#) on page 8.

Issue	Explanation	Remedy
1. Cylinder does not extend when I move the handle	a. Too much weight applied (load exceeds capacity). b. Too little oil in hydraulic system. c. Pinched hydraulic hose. d. Relief valve pressure setting too low.	a. Remove enough of load that weight of load is within capacity. b. Add oil until level is within one inch of top of reservoir. c. Correct as appropriate. d. Increase pressure setting as necessary, but NEVER to more than 3,000psi
2. A lot of force is required to move the handle	e. Autoshifter valve stuck in deactivated position. f. Load exceeds capacity.	e. Remove port plug from port marked "UL" (on manifold); then remove piston. Inspect piston and springs f. Reduce load to be within capacity
3. Cylinder extends only when unloaded or handle pumped rapidly. -OR- I can pump the handle but the cylinder does not move.	g. Pump is air locked. h. Debris on seat of inlet check valve. i. Pressure setting of relief valve needs adjustment. j. Debris on seat of relief valve.	g. Remove air from the pump. See <a href="#">Air Purging Procedure</a> on p. 10. h. Remove inlet check valve and clean debris from valve seat (the bottom of the cavity in pump body that valve fits into). i. Increase pressure setting as necessary, but NEVER more than 3,000psi. j. Remove relief valve and clean debris from valve seat in pump body.
4. Cylinder extends during down stroke of handle, but lowers during	k. Outlet check valve stuck in open position.	k. Remove, disassemble, clean (with mineral spirits or kerosene), reassemble and reinstall outlet check valve assemblies.

return stroke.		
5. Have to keep pumping handle to maintain cylinder extension	l. Outlet check valve allowing oil to return to pump chamber. m. Release valve allowing oil to leak back to the tank.	l. Remove both outlet check valves. Clean valves. Score bottom of chamber for ball bearing. m. Remove release valve assembly, inspect, clean, & repair as necessary
6. Pump feels spongy or cylinder extends in jerks	n. Oil level is low o. Air present in pump and/or cylinder	n. Add oil until within 1in. of top of reservoir. o. Purge air by following <a href="#">Air purging procedure</a> on p. 10.
7. Cylinder retracts very slowly	p. Flow control valve obstructed	p. Remove valve and inspect for debris or non-operating spool
8. Cylinder retracts too rapidly	q. Flow control valve obstructed or not moving freely	q. Remove valve and inspect for debris or non-operating spool

## 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 [http://www.vestilmfg.com/parts\\_info.htm](http://www.vestilmfg.com/parts_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 206: hydraulic fluid specifications

<b>ISO 32 / 150 SUS</b>	
HYDRAULIC OIL OR NON-SYNTHETIC TRANSMISSION FLUID	
ACEITE HIDRAULICO O LIQUIDOS DE TRANSMISION NO SINTETICOS	
HUILE OU LIQUIDE HYDRAULIQUE NON-SYNTHEIQUE	
206	
Rev. 1111	

B: Label 1153 (on counterweight): model & capacity

MODEL / MODÉLO / MODÈLE	_____
WEIGHT / PESO / MASS	_____
CAPACITY / CAPACIDAD / CAPACITÉ	_____
SERIAL / SERIE / SÉRIE	_____
UNITS: 2.2 lb. = 1kg      1" (or 1in.) = 2.54cm	
<b>1153</b>	

C: Label 1157: Maximum rated load for each boom length (both sides of boom)

HORIZONTAL USABLE LENGTH	CBFC-500 CAPACITY	CBFC-1000 CAPACITY	CBFC-2000 CAPACITY
39 1/2" / 99.695 cm	500 lb. / 226 kg	1000 lb. / 453 kg	2000 lb. / 907 kg
51 1/2" / 129.54 cm	400 lb. / 181 kg	700 lb. / 317 kg	1500 lb. / 680 kg
63 1/2" / 160.655 cm	300 lb. / 136 kg	500 lb. / 226 kg	1000 lb. / 453 kg

D: Label 586 (on counterweight): use-related warnings

⚠ WARNING	⚠	⚠ AVERTISSEMENT
<ul style="list-style-type: none"> <li>DO NOT exceed rated capacity</li> <li>LOWER LOAD before moving to avoid load swing</li> <li>NEVER STAND under, beside or in front of load</li> <li>USE on hard level surface</li> <li>INSPECT connections before using</li> <li>READ manual before use</li> </ul>	<ul style="list-style-type: none"> <li>No exceda la capacidad tasada</li> <li>Descienda la carga antes de mover para evitar que la carga se balancee</li> <li>Nunca se situe debajo, al lado o delante de la carga</li> <li>Use en una superficie a nivel dura</li> <li>Inspeccione las conexiones antes del uso</li> <li>Lea el manual antes del uso</li> </ul>	<ul style="list-style-type: none"> <li>NE PAS DÉPASSER la capacité nominale</li> <li>DESCENDRE la charge avant de la transporter pour éviter la giration</li> <li>JAMAIS vous mettre sous, à côté de ou devant une charge</li> <li>UTILISER sur un sol plat et dur</li> <li>INSPECTER les connexions avant utilisation</li> <li>LIRE le guide avant utilisation</li> </ul>
586 rev 1210		



## 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:

<u>US Mail</u>	<u>Fax</u>	<u>Email</u>
Vestil Manufacturing Corporation 2999 North Wayne Street, PO Box 507 Angola, IN 46703	(260) 665-1339 <u>Phone</u> (260) 665-7586	<a href="mailto:info@vestil.com">info@vestil.com</a> Enter "Warranty service request" 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.