

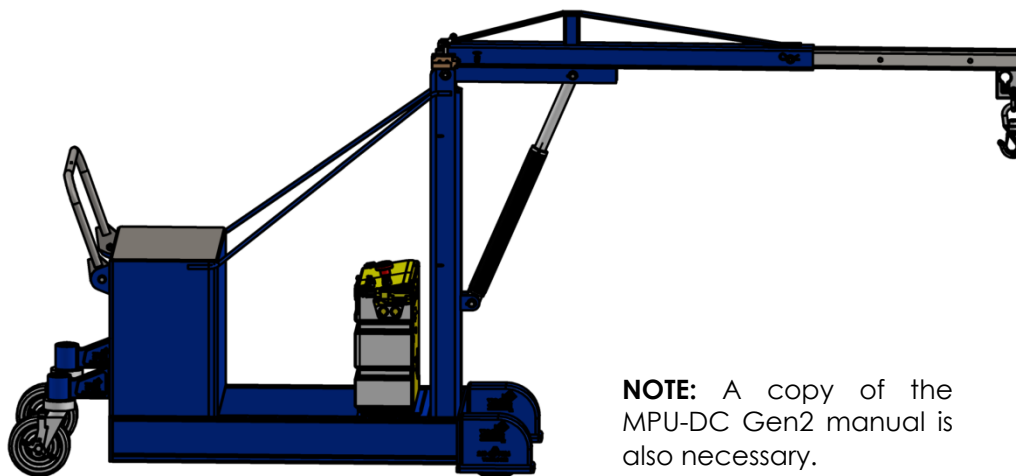


VESTIL MANUFACTURING CORP.

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CBFC-DC Powered Lift Counterbalanced Floor Cranes



NOTE: A copy of the MPU-DC Gen2 manual is also necessary.

Receiving Instructions

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

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

Technical Service & Replacement Parts

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

Electronic Copies of Instruction Manuals

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

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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.

⚠ 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 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. 10-11.

⚠ 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 label 1157. See [LABELING DIAGRAM](#) on [p. 11](#).
- 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" and 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. 9-10](#) to determine whether it is in [SATISFACTORY CONDITION](#).
- Always watch the load carefully while raising and lowering the boom.
- Before leaving the crane unattended, unload it and lower the boom to relieve hydraulic pressure.
- 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. 11](#).
- 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](#) and corresponding diagrams on p. 8.
- 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.

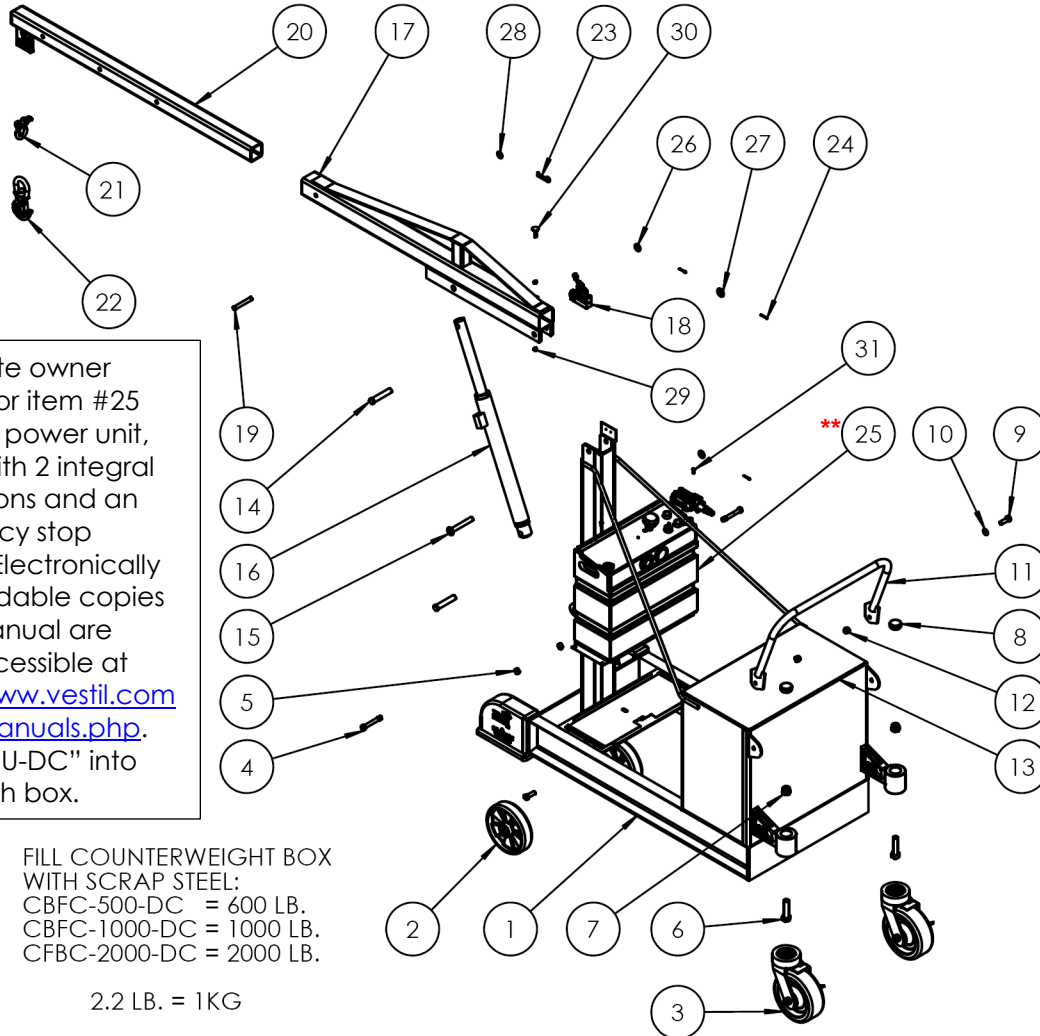
NOTICE

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 consistently 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-DC & CBFC-1000-DC EXPLODED VIEW & BILL OF MATERIALS

16-006-543



****Separate owner manual for item #25 (modular power unit, gen. 2, with 2 integral pushbuttons and an emergency stop button). Electronically downloadable copies of the manual are freely accessible at <https://www.vestil.com/page-manuals.php>. Type "MPU-DC" into the search box.**

FILL COUNTERWEIGHT BOX WITH SCRAP STEEL:
 CBFC-500-DC = 600 LB.
 CBFC-1000-DC = 1000 LB.
 CFBC-2000-DC = 2000 LB.

2.2 LB. = 1KG

Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	16-514-379 16-514-380	WELDMENT, FRAME CBFC-500-DC CBFC-1000-DC	1 1	17	16-514-377	WELDMENT, FRAME, OUTER BOOM	1
2	16-132-216	CASTER, WHEEL, GFN-8/2-W	2	18	01-022-001	LIMIT SWITCH W/ROLLER ARM	1
3	16-132-227	CASTER, 8/3-SWB-NTP	2	19	28-112-030	Ø1/2 X 3 1/2 RETAINING CLEVIS PIN, ZINC PLATED	1
4	16-145-031	BOLT W/GREASE ZERK, 1/2-13 X 3 1/2 LG.	2	20	28-514-089	FRAME, INNER BOOM WELDMENT	1
5	37032	1/2 nylon insert jam nut, GRADE 2	2	21	08-145-010	SPECIALTY HARDWARE, Ø1/2"-2 TON SHACKLE	1
6	11365	HHCS #2 Z-PLATED, 3/4 -10 x 3	2	22	08-145-001	SPEC HDW, SWIVEL HOOK 2-TON	1
7	37039	NYLOCK NUT Z PLATED, GRADE 2, Ø3/4 -10	2	23	45286	#11 HITCH PIN CLIP, Ø1/8" X 2 5/8 LG	1
8	99-024-003	GUARD/COVER/ENDCAP/PLUG	2	24	65077	COTTER PIN, ZINC PLATED, 1/8" X 1-1/4"	3
9	11209	1/2-13 X 1 1/2" LG HHCS - ASTM A307 GRADE A, ZINC PLATED	2	**25	99-160-097	MODULAR POWER UNIT, GEN II (2-Pushbuttons + Emergency Stop button)	1
10	33011	FLAT WASHER, USS, PLAIN FINISH, Ø1/2"	2	26	33092	FLAT WASHER Z-PLATED, Ø 3/4	2
11	15-525-007	HANDLE, WELDMENT	1	27	33090	WASHER, FLAT, SAE, 5/8	1
12	37030	1/2"-13 NYLON INSERT LOCK NUT, GRADE 2	2	28	33086	FLAT WASHER, ZINC PLATED, SAE, 1/2" X 1.062" OD	1
13	16-014-386	FRAME, COUNTER WEIGHT, TOP	1	29	36102	HEX NUT, GRADE A, ZINC PLATED, 1/4-20	2
14	33-112-034	CLEVIS PIN, ZINC PLATED, Ø3/4" X 3 3/4" LG	2	30	22804	FLAT COUNTERSUNK HEAD ELEVATOR BOLT, PLAIN FINISH, GRADE A, 1/4-20X1.5	1
15	28-612-001	PIN, WELDMENT, PIVOT, OUTER BOOM, CBFC	1	31	32030	HWH TEK DRILL & TAP	2
16	99-021-904-001	CYLINDER, HYDRAULIC, Ø1 1/2" x 18", RAM STYLE	1				

CBFC-500 RATED LOADS FOR SPECIFIED BOOM LENGTHS (16-007-543)

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 inches	500 lb. (227.3kg)
51 ¹ / ₄ inches	400 lb. (181.8kg)
63 ¹ / ₄ inches	300 lb. (136.4kg)

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

SPECIFICATIONS

A specifications document for CBFC-500-DC 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-DC

*** 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

135 1/8" MAX
70"
14 7/16"
25 1/8"
77 1/2" MAX
53 1/2" MIN
12"
12"
13 1/2"
12"
ADJUSTABLE LENGTH TO (3) POSITIONS SPACED 12" APART
12V DC POWER UNIT
COUNTERWEIGHT
18" ROTATED DOWN FULLY
40 3/4" MAX
SWIVEL HOOK
*90" MAX
5" MIN (WITH FULLY EXTENDED ARM)
29"
MAX LOAD
300 LBS @ 63 1/4"
400 LBS @ 51 1/4"
500 LBS @ 39 1/4"
RIGID CASTERS
SWIVEL CASTERS
3D VIEW SHOWN WITH THE BOOM IN THE RAISED POSITION SCALE 1:40
RAISE AND LOWER BUTTONS
DIMENSION TOLERANCE ± 1/4"

1:64 SCALE SIDE VIEW SHOWING MAX HEIGHT
102 1/4" MAX

SPECIAL FEATURES
NONE

STANDARD FEATURES
MODEL NUMBER IS: CBFC-500-DC
OVERALL WIDTH IS: 29"
OVERALL LENGTH IS: 135 1/8"
OVERALL HEIGHT IS: 102 1/4"
MAX CAPACITY IS: 500 LBS
12V DC POWER UNIT W/ ON-BOARD CHARGER & BATTERY CHARGE INDICATOR
UNIT IS DURABLE LIQUID PAINT BLUE FINISH
INNER BOOM IS DURABLE LIQUID PAINT YELLOW FINISH
APPROX. SHIPPING WEIGHT: 1,319 LBS

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: VESTIL MANUFACTURING		F.O.# X
DRAWN BY: JGP	DATE: 2/10/2022	W.O.# X
REFERENCE: X	SCALE: 1:34	FILE NAME:
QUOTED LEAD TIME: X	QUOTE # X	16-007-543

CBFC-1000 RATED LOADS FOR SPECIFIED BOOM LENGTHS (16-007-544)

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 inches	1000 lb. (454.5kg)
51 ¹ / ₄ inches	700 lb. (318.2kg)
63 ¹ / ₄ inches	500 lb. (227.3kg)

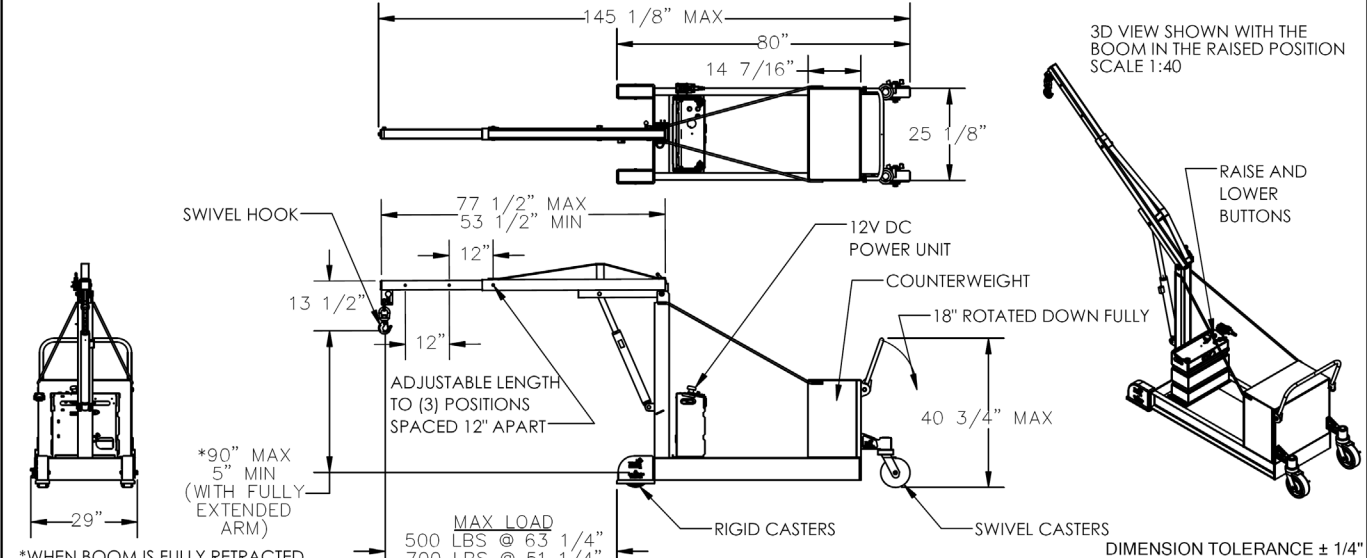
1in. = 2.54cm; 1kg = 2.2 lb.

SPECIFICATIONS

A specifications document for CBFC-1000-DC 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-DC

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 ALL GRAPHICS PROVIDED ARE FOR REFERENCE ONLY. IF CERTAIN DIMENSIONS ARE CRITICAL PLEASE VERIFY THOSE DIMENSIONS WITH YOUR SALESPERSON

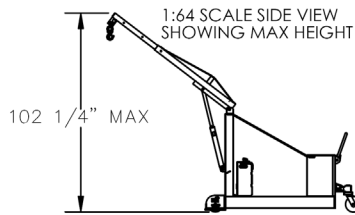


*WHEN BOOM IS FULLY RETRACTED AND THE CYLINDER IS FULLY RETRACTED HOOK HEIGHT IS 16 7/16"

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

STANDARD FEATURES

- MODEL NUMBER IS: CBFC-1000-DC
- OVERALL WIDTH IS: 29"
- OVERALL LENGTH IS: 145 1/8"
- OVERALL HEIGHT IS: 102 1/4"
- MAX CAPACITY IS: 1,000 LBS
- 12V DC POWER UNIT W/ ON-BOARD CHARGER & BATTERY CHARGE INDICATOR
- UNIT IS DURABLE LIQUID PAINT BLUE FINISH
- INNER BOOM IS DURABLE LIQUID PAINT YELLOW FINISH
- APPROX. SHIPPING WEIGHT: 1,865 LBS



SPECIAL FEATURES
NONE

APPROVAL

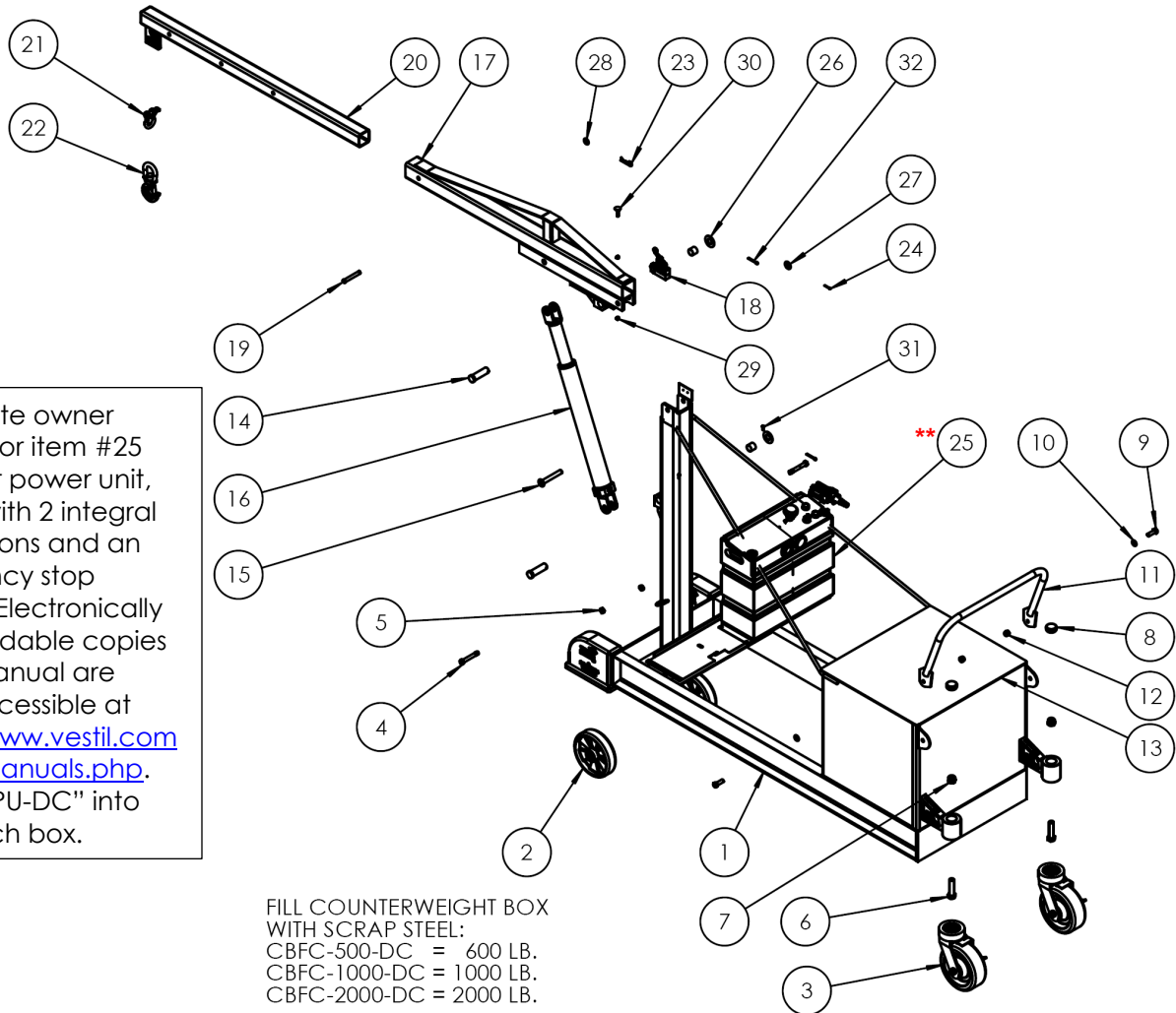
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UNITS REQUIRING APPROVAL DRAWINGS OR MODIFIED ARE NON-RETURNABLE
 As drawn As marked

Signed: _____ Date: _____
 Printed Name: _____
 LEAD TIME WILL START UPON RECEIPT OF SIGNED APPROVAL DRAWING

DISTRIBUTOR'S NAME: VESTIL MANUFACTURING		P.O.# X
DRAWN BY: JGP		DATE: 2/10/2022
REFERENCE: X	SCALE: 1:34	SALES: X
QUOTED LEAD TIME: X	QUOTE # X	FILE NAME: 16-007-544

CBFC-2000 EXPLODED VIEW & BILL OF MATERIALS

16-006-545



****Separate owner manual for item #25 (modular power unit, gen. 2, with 2 integral pushbuttons and an emergency stop button). Electronically downloadable copies of the manual are freely accessible at <https://www.vestil.com/page-manuals.php>. Type "MPU-DC" into the search box.**

FILL COUNTERWEIGHT BOX WITH SCRAP STEEL:
 CBFC-500-DC = 600 LB.
 CBFC-1000-DC = 1000 LB.
 CBFC-2000-DC = 2000 LB.

Item	Part no.	Description	Qty.	Item	Part no.	Description	Qty.
1	16-514-381	WELDMENT, FRAME	1	18	01-022-001	LIMIT SWITCH W/ROLLER ARM	1
2	16-132-216	CASTER, WHEEL, GFN-8/2-W	2	19	28-112-030	Ø1/2 X 3 1/2 RETAINING CLEVIS PIN, ZINC PLATED	1
3	16-132-227	CASTER, 8/3-SWB-NTP	2	20	28-514-089	FRAME, INNER BOOM WELDMENT	1
4	16-145-031	BOLT W/GREASE ZERK, 1/2-13 X 3 1/2 LG.	2	21	08-145-010	SPECIALTY HARDWARE, Ø1/2"-2 TON SHACKLE	1
5	37032	1/2 nylon insert jam nut, GRADE 2	2	22	08-145-001	SPEC HDW, SWIVEL HOOK 2-TON	1
6	11365	HHCS #2 Z-PLATED, 3/4 -10 x 3	2	23	45286	#11 HITCH PIN CLIP, Ø1/8" X 2 5/8 LG	1
7	37039	NYLOCK NUT Z PLATED, GRADE 2, Ø3/4 -10	2	24	65077	COTTER PIN, ZINC PLATED, 1/8" X 1-1/4"	1
8	99-024-003	GUARD/COVER/ENDCAP/PLUG	2	**25	99-160-097	MODULAR POWER UNIT, GEN II (DISPLAY ONLY)	1
9	11209	1/2-13 X 1 1/2" LG HHCS - ASTM A307 GRADE A, ZINC PLATED	2	26	33096	FLAT WASHER, LOW CARBON, PLAIN FINISH, Ø1" x 2" OD	2
10	33011	FLAT WASHER, USS, PLAIN FINISH, Ø1/2"	2	27	33090	WASHER, FLAT, SAE, 5/8	1
11	15-525-007	HANDLE, WELDMENT	1	28	33086	FLAT WASHER, ZINC PLATED, SAE, 1/2" X 1.062" OD	1
12	37030	1/2"-13 NYLON INSERT LOCK NUT, GRADE 2	2	29	36102	HEX NUT, GRADE A, ZINC PLATED, 1/4-20	2
13	16-014-390	FRAME, COUNTER WEIGHT LID	1	30	22804	FLAT COUNTERSUNK HEAD ELEVATOR BOLT, PLAIN FINISH, GRADE A, 1/4-20X1.5	1
14	47-112-001	CLEVIS PIN, Ø1 x 3 1/4"	2	31	32030	HWH TEK DRILL &TAP	2
15	28-612-001	PIN, WELDMENT, PIVOT, OUTER BOOM, CBFC	1	32	65127	COTTER PIN Z PLATED, 3/16 x 2	2
16	99-021-948	CYLINDER, HYDRAULIC, Ø2" x 18" RAM STYLE W/ CLEVIS MOUNTS	1	33	01-111-006	BUSHING, POLYGON 1 ID X 1 LG	2
17	16-514-378	WELDMENT, FRAME, OUTER BOOM	1				

CBFC-2000 RATED LOADS FOR SPECIFIED BOOM LENGTHS (16-007-545)

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-DC 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-2000-DC

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ALL GRAPHICS PROVIDED ARE FOR REFERENCE ONLY. IF CERTAIN DIMENSIONS ARE CRITICAL PLEASE VERIFY THOSE DIMENSIONS WITH YOUR SALESPERSON

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

RAISE AND LOWER BUTTONS

12V DC POWER UNIT

COUNTERWEIGHT 18\" ROTATED DOWN FULLY

40 3/4\" MAX

SWIVEL CASTERS

RIGID CASTERS

ADJUSTABLE LENGTH TO (3) POSITIONS SPACED 12\" APART

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

12\"

13 1/2\"

SWIVEL HOOK

*96\" MAX
15\" MIN (WITH FULLY EXTENDED ARM)

29\"

159\" MAX

94\"

22 7/16\"

25 1/8\"

107 1/4\" MAX

1:64 SCALE SIDE VIEW SHOWING MAX HEIGHT

SPECIAL FEATURES
NONE

STANDARD FEATURES
MODEL NUMBER IS: CBFC-2000-DC
OVERALL WIDTH IS: 29\"
OVERALL LENGTH IS: 159\"
OVERALL HEIGHT IS: 107 1/4\"
MAX CAPACITY IS: 2,000 LBS
12V DC POWER UNIT W/ ON-BOARD CHARGER & BATTERY CHARGE INDICATOR
UNIT IS DURABLE LIQUID PAINT BLUE FINISH
INNER BOOM IS DURABLE LIQUID PAINT YELLOW FINISH
APPROX. SHIPPING WEIGHT: 2,356 LBS

MAX LOAD
1000 LBS @ 63 1/4\"
1500 LBS @ 51 1/4\"
2000 LBS @ 39 1/4\"

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: _____ P.O.# X
VESTIL MANUFACTURING W.O.# X
DRAWN BY: JGP DATE: 2/10/2022 SALES: X
REFERENCE: X SCALE: 1:34 FILE NAME:
QUOTED LEAD TIME: X QUOTE # X 16-007-545

DIMENSION TOLERANCE ± 1/4"

RAISING AND LOWERING THE BOOM

This floor crane utilizes a modular power unit (MPU) to control the up and down movement of the boom and load hook. To activate the power unit, turn the power selector switch ON, pull out the emergency stop button (E-stop) and press the appropriate control button (UP or DOWN) on either the MPU or the handheld controller.

Pressing and holding the UP button causes oil to fill the cylinder. As oil fills the cylinder, it extends. 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. Press the UP button until the load hook is adequately elevated for your task.

Lower the boom by pressing the DOWN button on either the MPU or handheld controller. Release the button when the boom is lowered to the desired point.

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 pressing the **UP button** on either the MPU of the handheld controller.

b. Lower the boom by pressing the **DOWN button** on either the MPU or the handheld controller.

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. 11](#).

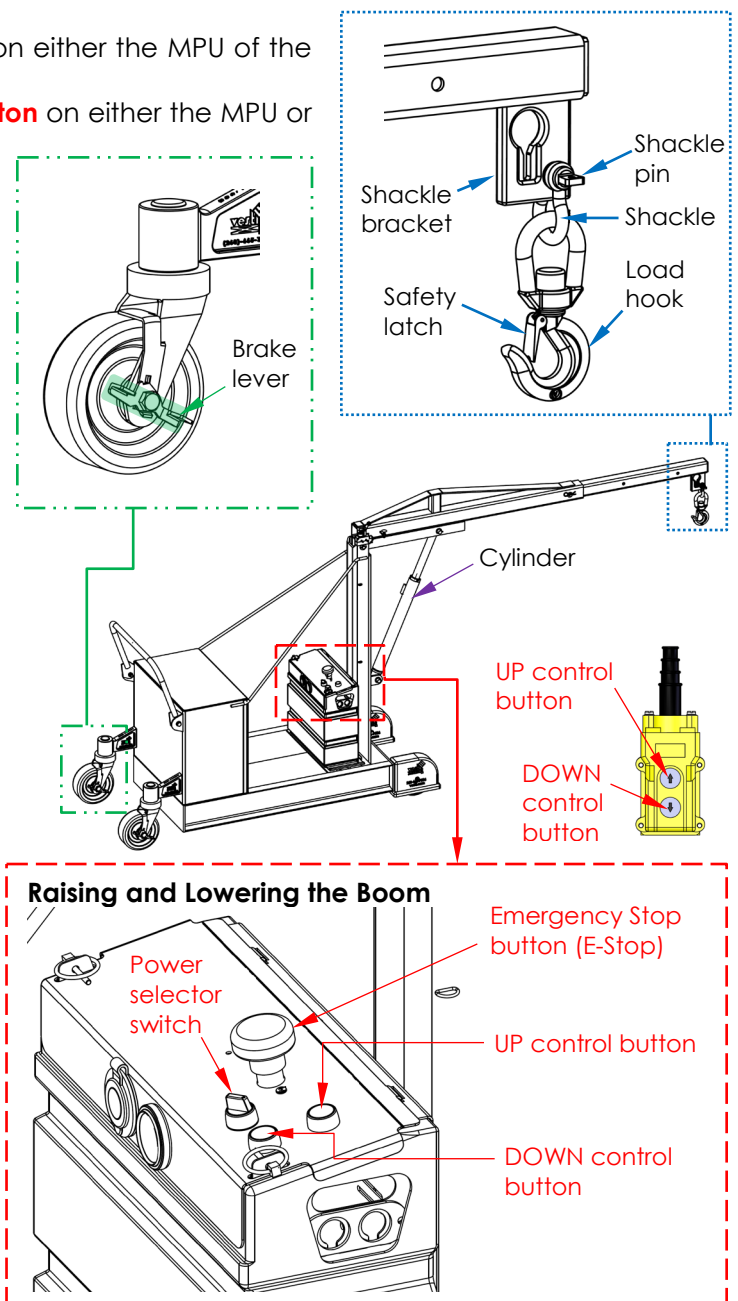
5) Slowly raise the load until it is suspended a few inches above the ground. Do not elevate the load any more than necessary.

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.

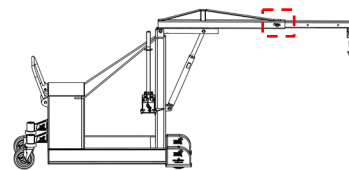
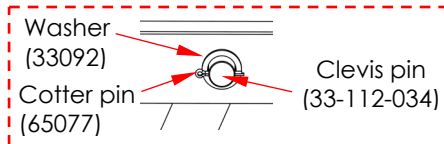
6) Transport the load by carefully pushing the crane to the destination. Turn slowly. Stop slowly to minimize load swing. Do not leave the crane with a suspended load. Always lower the boom until the load is entirely supported by the ground or other surface before leaving the crane.



AIR PURGING PROCEDURE

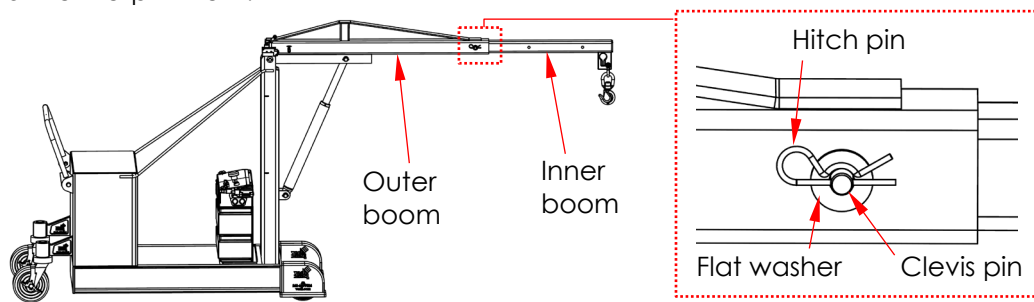
The cylinder is designed to automatically purge air. If sponginess is observed when the cylinder is extended, unload the crane and cycle the cylinder a few times, i.e. fully extend the cylinder and then completely retract it.

The cylinder includes an integral velocity fuse. The purpose of the fuse is to prevent the cylinder from retracting too rapidly in the event of a sudden loss of hydraulic pressure. A sudden loss of pressure could result if, for example, a hose is punctured. If the cylinder will not retract and the hydraulic system is intact (no leaks, punctures, etc.) the velocity fuse is probably closed. Contact [TECHNICAL SERVICE](#) for assistance.



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, modular power unit, hose(s), 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 sounds heard while the power unit operates and 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**. Create a corresponding *RECORD* for the modular power unit as instructed in the [MPU-DC GEN2 owner manual](#).

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. Apply all relevant inspections as instructed in the [MPU-DC GEN2 owner manual](#) as well.

(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 (part of the MPU): Raise and lower the boom. Listen for unusual noise; watch the cylinder to confirm that it extends and retracts smoothly (does not bind). Check cylinder seals for leaks.
- 4) Load hook and shackle: Thoroughly 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 $\frac{3}{4}$ in. 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 labels applied to the product. The crane must be labeled as shown in the [LABELING DIAGRAM](#) on p. 11.

(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

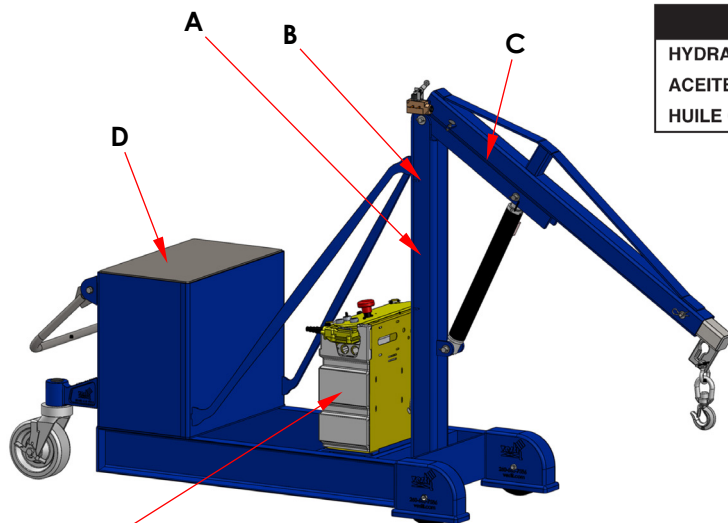
Refer to the appropriate *EXPLODED VIEW* on [page 3](#) or [6](#). Also refer to [MPU-DC GEN2 owner's manual](#).

Issue	Explanation	Remedy
1. Cylinder does not extend when I press the UP control button	a. Too much weight applied (load exceeds capacity). b. Too little oil in hydraulic system. c. Pinched hydraulic hose. d. Battery voltage 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 tank. c. Correct as appropriate. d. Recharge battery.
3. Cylinder extends only when unloaded.	g. Pump is air locked. h. Debris on seat of inlet check valve. j. Debris on seat of relief valve.	g. Remove air from the pump. See Air Purging Procedure on p. 9. h. Remove inlet check valve and clean debris from valve seat (the bottom of the cavity in pump body that valve fits into). j. Remove relief valve and clean debris from valve seat in pump body.
4. Cylinder extends but lowers on its own.	k. Outlet check valve stuck in open position.	k. Remove, disassemble, clean (with mineral spirits or kerosene), reassemble and reinstall outlet check valve assemblies.
5. Have to keep pressing UP	l. Outlet check valve allowing oil to return to pump chamber.	l. Remove both outlet check valves. Clean valves. Score bottom of chamber for ball

button to maintain cylinder extension	m. Release valve allowing oil to leak back to the tank.	bearing. m. Remove release valve assembly, inspect, clean, & repair as necessary
6. Cylinder is spongy or 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 Air purging procedure on p. 9.
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. Alternatively, request replacement parts and/or service by calling (260) 665-7586 and asking the operator to connect you to [TECHNICAL SERVICE](#).



See Labeling Diagram in [MPU-DC GEN2 owner's manual](#)

A: Label 206: hydraulic fluid specifications

ISO 32 / 150 SUS	
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
1153	

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 hazards

⚠ WARNING	⚠	⚠ AVERTISSEMENT
<ul style="list-style-type: none"> • DO NOT exceed rated capacity • LOWER LOAD before moving to avoid load swing • NEVER STAND under, beside or in front of load • USE on hard level surface • INSPECT connections before using • READ manual before use 	<ul style="list-style-type: none"> • No exceda la capacidad tasada • Descienda la carga antes de mover para evitar que la carga se balancee • Nunca se situe debajo, al lado o delante de la carga • Use en una superficie a nivel dura • Inspeccione las conexiones antes del uso • Lea el manual antes del uso 	<ul style="list-style-type: none"> • NE PAS DÉPASSER la capacité nominale • DESCENDRE la charge avant de la transporter pour éviter la giration • JAMAIS vous mettre sous, à côté de ou devant une charge • UTILISER sur un sol plat et dur • INSPECTER les connexions avant utilisation • LIRE le guide avant utilisation
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	info@vestil.com 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 90 days. 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.