



Vestil Manufacturing Co.

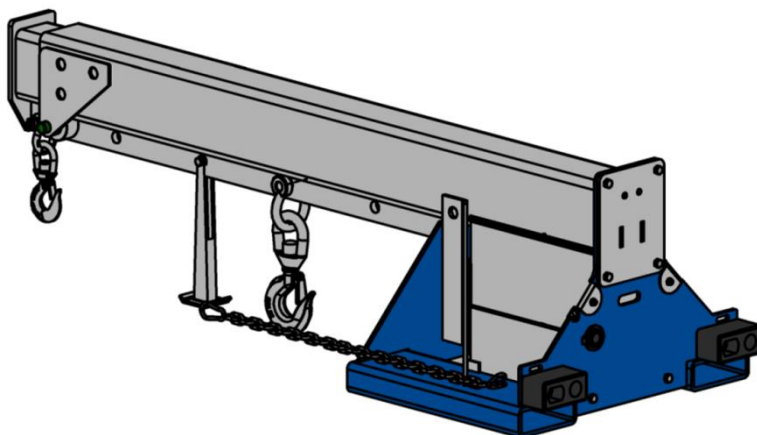
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LM-1T-8-24-HBE-TP/DC Fork Truck Booms



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 in this manual draw the reader's attention to important safety-related messages.

 DANGER	Identifies a hazardous situation which, if not avoided, <u>WILL</u> result in DEATH or SERIOUS INJURY. Use of this signal word is limited to the most extreme situations.
 WARNING	Identifies a hazardous situation which, if not avoided, <u>COULD</u> result in DEATH or SERIOUS INJURY.
 CAUTION	Indicates a hazardous situation which, if not avoided, <u>COULD</u> 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. Material handling is dangerous and no manual can address every conceivable risk. The end-user must exercise sound judgment at all times. Acquire a copy of the latest version of ANSI B56.1 from www.ITSDF.org. Apply all relevant portions of Part II "For the User". The following recommendations complement the guidance provided in B56.1.

WARNING

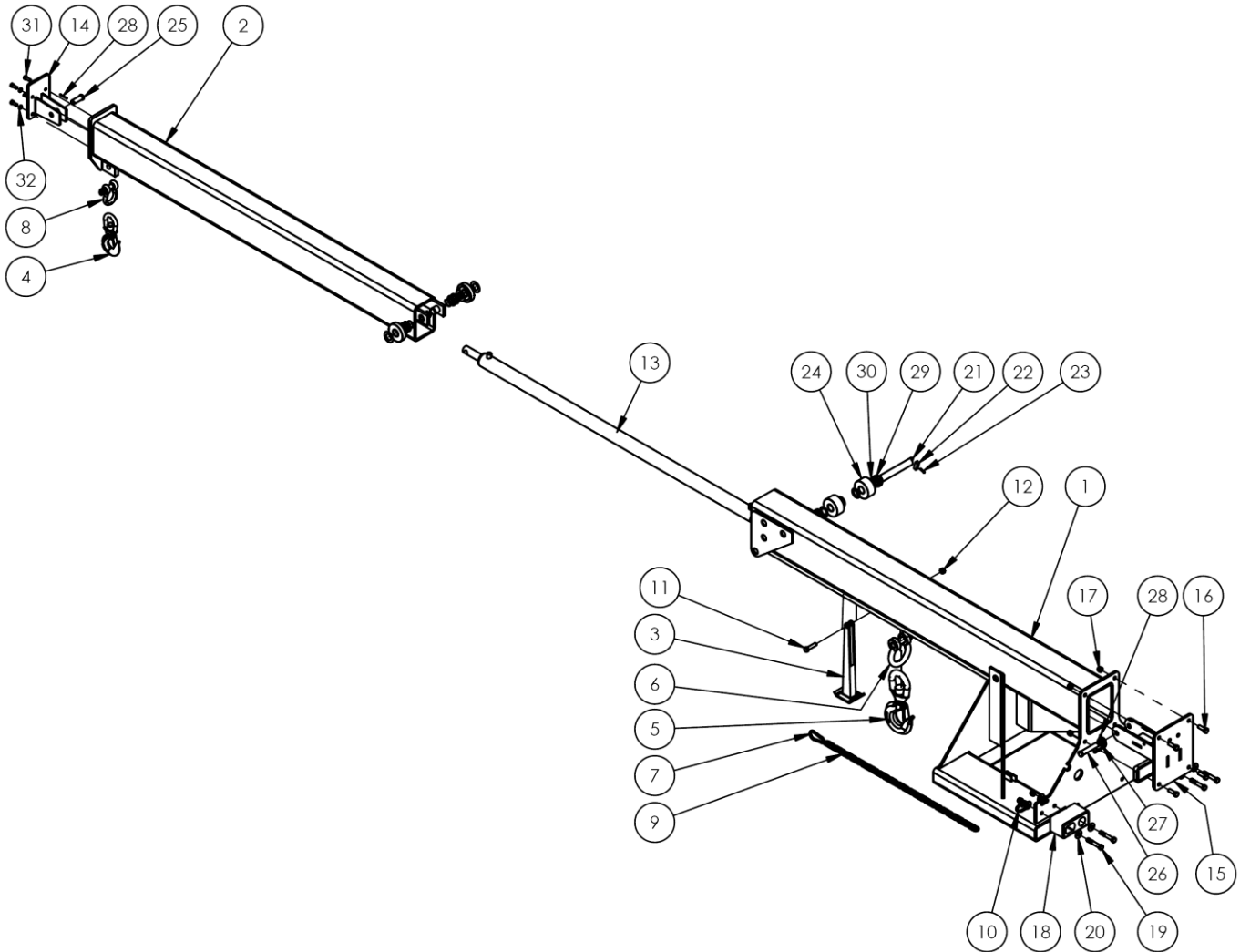
Material handling is dangerous. Improper or careless operation might result in serious personal injuries.

- Always use this boom in compliance with all rules applied to fork truck attachments at your worksite.
- DO NOT use a damaged boom. Only use the boom if it is in [SATISFACTORY CONDITION](#) (see [RECORD](#), p. 10). Inspect the boom before each use according to the relevant [INSPECTION](#) instructions on p. 10.
- DO NOT *contact* electrified wires with the boom, load, or lift truck.
- DO NOT use the boom if the safety chain is damaged or missing. The only function of the safety chain is to prevent the boom from sliding off of the forks. DO NOT use the safety chain to lift loads. It is NOT intended or designed to bear the full load rating of the boom.
- DO NOT lift the boom until the restraint strap is securely connected to the carriage of the fork truck.
- DO NOT attempt to lift a load weighing more than the boom's maximum rated load. [LOAD RATINGS](#) for all boom variants appear on [page 5](#). Also see [LOAD TESTS](#) on p. 10.
- NEVER lift this boom, or loads connected to the boom, over people.
- DO NOT permit any person to stand beneath, or travel under, the boom or the load.
- Inform everyone in the area to stay clear of the boom and the supported load during use.
- DO NOT allow people to ride on either the boom or the load.
- DO NOT use the boom if any label is damaged, missing, or not easily readable from a reasonable, safe distance. Contact [TECHNICAL SERVICE](#) to order labels. See [LABELING DIAGRAM](#), p. 11.
- ALWAYS apply proper (fork) lift operation practices learned during your training program.
- Always make sure that shackle pins (see shackles in applicable [EXPLODED VIEW](#) on either [p. 3](#) or [p. 4](#)) are secure before applying a load to the load hook. Tighten the screw pin [before each use](#).
- Before raising the boom from the floor AND before attaching the load to the boom, tilt the fork lift mast away from the boom to ensure that the boom will not slide towards the tips of the forks.
- ALWAYS follow the [USING THE BOOM](#) instructions that appear on [p. 8 - 9](#). Failure to properly position a load might cause a dangerous degree of load swing when the boom is elevated.
- Only use the boom to lift loads. DO NOT use the boom to drag items.
- Transport loads with the load as low as possible.
- Drive, brake, and turn slowly with suspended loads to avoid causing the load to swing.
- DO NOT modify the boom in any way. Modifications automatically void the [LIMITED WARRANTY](#) (p. 12) and might make the boom unsafe to use.

NATIONAL STANDARDS

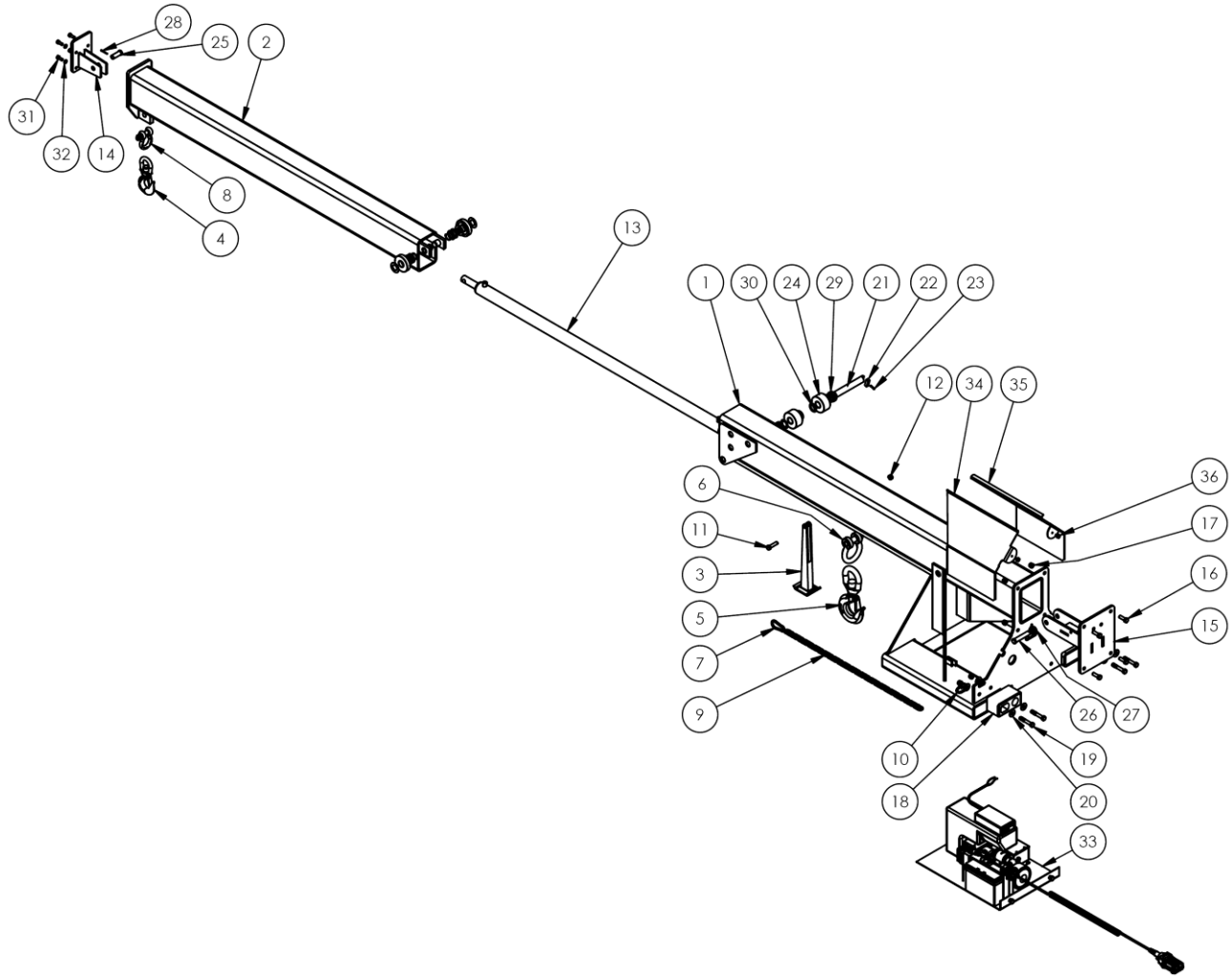
US OSHA Rule 1910.178 (29 CFR 1910.178; the "Rule") classifies this boom as a (lift truck) front end attachment whenever it is mounted on a lift truck. The Rule incorporates American National Standard ANSI/ITSDF B56.1 (the "Standard"). The Standard is published by the Industrial Truck Standards Development Foundation on its website (www.itsdf.org) where it is freely downloadable at <http://www.itsdf.org/cue/b56-standards.html>. Before putting this device into service, you must acquire a copy of the Standard. Apply all relevant parts of Part II: For the User. **Lift truck users must mark/label the truck to identify the boom, show the weight of the truck and boom combination, and show the capacity of the truck with the boom at maximum elevation with the load laterally centered.** If instructions provided in this manual conflict with the Standard, then you should apply the instructions in the Standard. Vestil requests that you immediately share any such conflicts with its [TECHNICAL SERVICE](#) personnel. Contact information for [TECHNICAL SERVICE](#) appears on the cover page of this manual.

LM-1T-8-24-HBE-TP Exploded View & Bill of Materials (08-006-397)



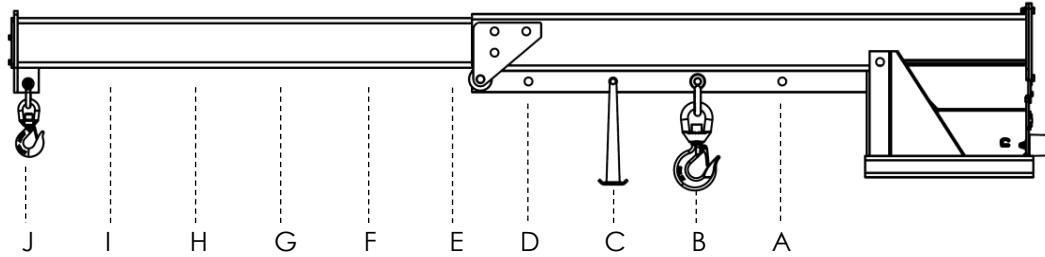
Item	Part No.	Description	Qty.	Item	Part no.	Description	Qty.
1	08-514-350	Weldment, frame, boom	1	17	37030	1/2"-13 Nylon insert lock nut	8
2	08-514-354	Weldment, inner tube	1	18	29-001-017-001	Bumper, 6" x 3 ³ / ₁₆ " x 3"	2
3	08-014-134	Frame, front support leg casting	1	19	11215	1/2"-13 x 3", hex bolt, gr. A, z-finish	4
4	08-145-002	Swivel hook, 3-ton	1	20	33012	1/2" flat washer, low carbon, z-finish	8
5	08-145-005	Swivel hook, 5-ton	1	21	01-112-015	Pin, cylinder pivot	1
6	08-145-006	7/8" – 6 1/2 ton shackle	1	22	01-020-003	Boss, stop pin mount	1
7	08-145-041	Snap hook, 5/16"	1	23	64133	3/16" x 1" spring pin, plain finish	1
8	99-145-019	Shackle, 5/8", 3-ton	1	24	05-527-300	Roller assembly	2
9	99-145-037	5/16" chain 36" long	1	25	28-112-043	3/4" x 2" clevis pin, z-plated	1
10	99-145-084	Lap link	1	26	33-112-034	3/4" x 3 ³ / ₄ " clevis pin, z-plated	1
11	11211	1/2" -13UNC x 2" HHCS z-plated bolt	1	27	33426	3/4" machined bushing, low carbon, plain finish	2
12	36110	1/2" – 13UNC zinc-plated hex nut	1	28	65078	Extended prong cotter pin, 1/8"x1 1/2"	2
13	99-021-063	Cylinder, hydraulic, 1 1/4" x 60"	1	29	34314	1 1/8"ID x 1 7/8"OD split shaft collar	2
14	08-511-001	Weldment, bracket, cylinder end mount	1	30	33454	1 3/4"-18ga. narrow machinery bushing, plain finish	4
15	08-511-002	Weldment, bracket, cylinder mount	1	31	11105	3/8"-16 x 1" hex bolt, gr. A, z-plated	4
16	11209	1/2"-13 x 1 1/2", HHCS – ASTM A307, gr. A, zinc-plated bolt	4	32	33622	3/8" split lock washer, carbon steel, medium z-finish	4

LM-1T-8-24-HBE-DC Exploded View & Bill of Materials (08-006-398)



Item	Part No.	Description	Qty.	Item	Part no.	Description	Qty.
1	08-514-350	Weldment, frame, boom	1	19	11215	1/2"-13 x 3", hex bolt, gr. A, z-finish	4
2	08-514-354	Weldment, inner tube	1	20	33012	1/2" flat washer, low carbon, z-finish	8
3	08-014-134	Frame, front support leg casting	1	21	01-112-015	Pin, cylinder pivot	1
4	08-145-002	Swivel hook, 3-ton	1	22	01-020-003	Boss, stop pin mount	1
5	08-145-005	Swivel hook, 5-ton	1	23	64133	3/16" x 1" spring pin, plain finish	1
6	08-145-006	7/8" - 6 1/2 ton shackle	1	24	05-527-300	Roller assembly	2
7	08-145-041	Snap hook, 5/16"	1	25	28-112-043	3/4" x 2" clevis pin, z-plated	1
8	99-145-019	Shackle, 5/8", 3-ton	1	26	33-112-034	3/4" x 3 3/4" clevis pin, z-plated	1
9	99-145-037	5/16" chain 36" long	1	27	33426	3/4" machined bushing, low carbon, plain finish	2
10	99-145-084	Lap link	1	28	65078	Extended prong cotter pin, 1/8"x1 1/2"	2
11	11211	1/2" -13UNC x 2" HHCS z-plated bolt	1	29	34314	1 1/8"ID x 1 7/8"OD split shaft collar	2
12	36110	1/2" - 13UNC zinc-plated hex nut	1	30	33454	1 3/4"-18ga. narrow machinery bushing, plain finish	4
13	99-021-063	Cylinder, hydraulic, 1 1/4" x 60"	1	31	11105	3/8"-16 x 1" hex bolt, gr. A, z-plated	4
14	08-511-001	Weldment, bracket, cylinder end mount	1	32	33622	3/8" split lock washer, carbon steel, medium z-finish	4
15	08-511-002	Weldment, bracket, cylinder mount	1	33	08-660-001	Power unit subassembly, 12VDC (exploded view on p. 6)	1
16	11209	1/2"-13 x 1 1/2", HHCS - ASTM A307, gr. A, zinc-plated bolt	4	34	08-024-020	Guard, left power unit cover	1
17	37030	1/2"-13 Nylon insert lock nut	8	35	08-024-021	Guard, right power unit cover	1
18	29-001-017-001	Bumper, 6" x 3 3/16" x 3"	2	36	32415	5/16"-18 x 1 1/2" thread cutting screw	2

Load Ratings for Varying Load Attachment Points and Boom Extension Lengths

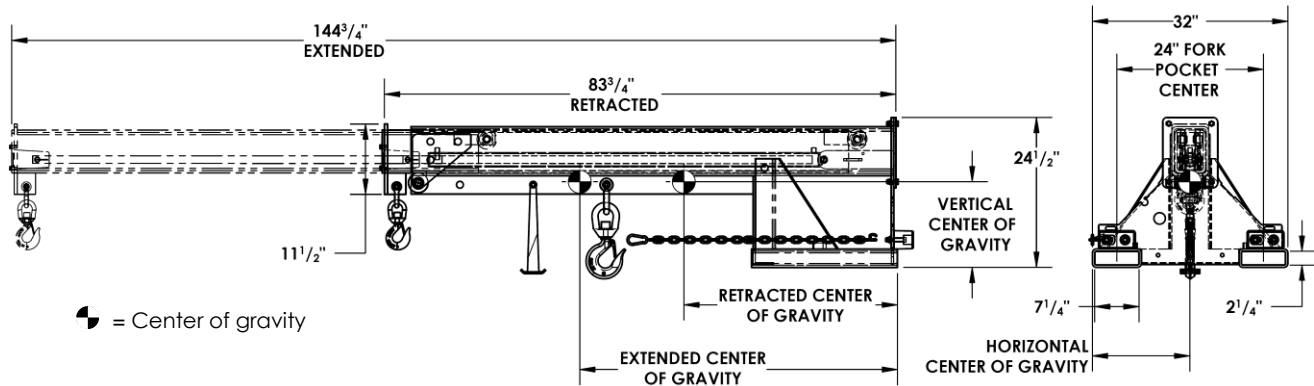


Hook position	A	B	C	D	E	F	G	H	I	J
Distance from end of boom in inches (cm)	36" 91 cm	48" 122 cm	60" 152 cm	72" 183 cm	84" 213 cm	96" 244 cm	108" 274 cm	120" 305 cm	132" 335 cm	144" 366 cm
Maximum rated load of a load suspended from a single hook located at the corresponding "Hook position".										
LM-1T-8-24-HBE-TP	8000 lb. 3636 kg	6650 lb. 3022 kg	6000 lb. 2727 kg	5300 lb. 2409 kg	4650 lb. 2113 kg	4000 lb. 1820 kg	3500 lb. 1590 kg	3000 lb. 1363 kg	2600 lb. 1181 kg	2200 lb. 1000 kg
LM-1T-8-24-HBE-DC	8000 lb. 3636 kg	6650 lb. 3022 kg	6000 lb. 2727 kg	5300 lb. 2409 kg	4650 lb. 2113 kg	4000 lb. 1820 kg	3500 lb. 1590 kg	3000 lb. 1363 kg	2600 lb. 1181 kg	2200 lb. 1000 kg

The center of gravity of the boom changes as boom length changes. As shown in the diagram below, the horizontal center of gravity may be located at any point from RHCG to EHCG:

- Retracted horizontal center of gravity (RHCG): boom fully *retracted* and unloaded. RHCG is measured from the "origin point" of the above diagram (edges of the fork pockets);
- Extended horizontal center of gravity (EHCG): boom fully *extended* and unloaded. EHCG is also measured from the "origin point" of the above diagram (edges of the fork pockets);
- All other combinations of boom extension and load position produce a horizontal center of gravity located somewhere between RHCG and EHCG.

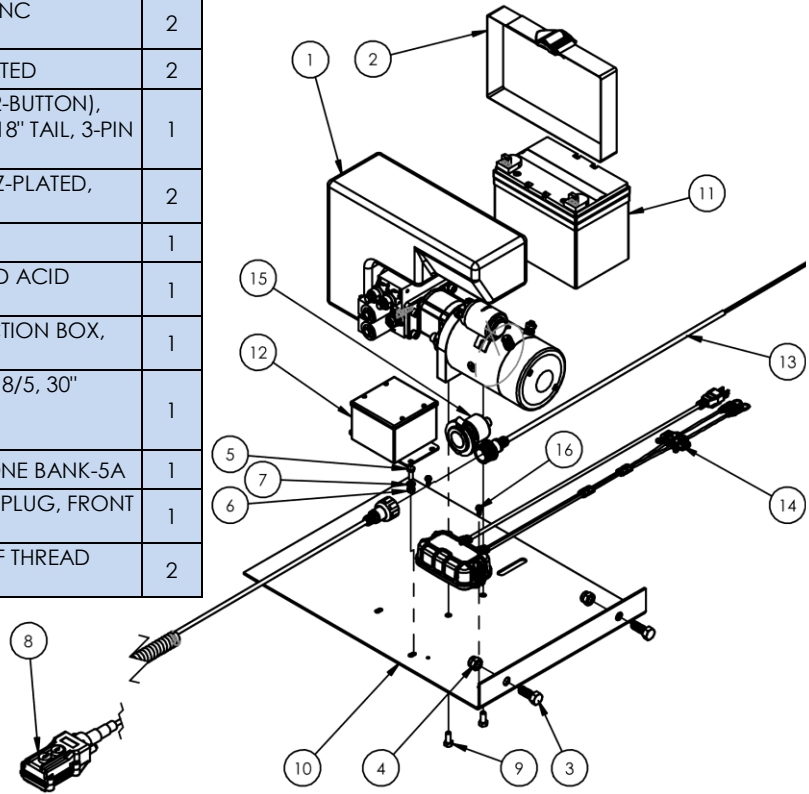
Centers of gravity, net weight, and dimensions



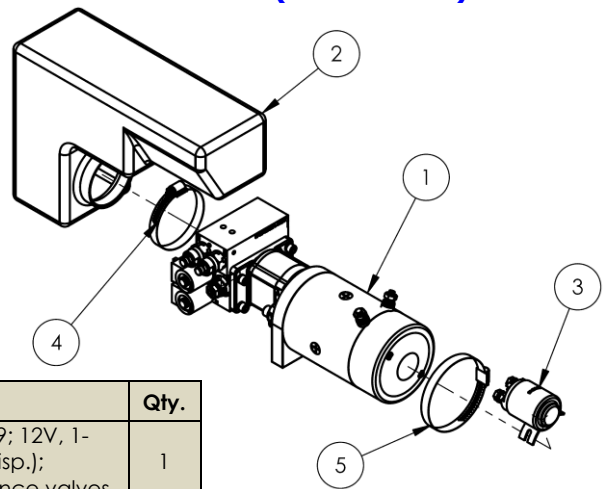
Model	Extended horizontal center of gravity	Retracted horizontal center of gravity	Vertical center of gravity	Horizontal center of gravity	Net weight
LM-1T-8-24-HBE-TP	52" (132.1 cm)	34 ¹⁵ / ₁₆ " (88.7 cm)	14" 35.6 cm	16" 40.6 cm	714 lb. 324.5 kg
LM-1T-8-24-HBE-DC	47 ³ / ₁₆ " (119.9 cm)	32 ¹ / ₁₆ in. (81.4 cm)	13 ¹ / ₈ " 33.3 cm	15 ³ / ₄ " 40.0 cm	805 lb. 365.9 kg

Power Unit Exploded View and Bill of Materials (Part No. 08-660-001 on p. 4)

Item	Part no.	Description	Qty.
1	99-160-232	Power unit subassembly, 12VDC	1
2	99-034-013	STRAP, BATTERY BOX, W/ BUCKLE	1
3	11207	HHCS #2 Z Plated, GRADE A, Ø1/2 - 13 x 1 1/4 LG	2
4	37030	1/2"-13 NYLON INSERT LOCK NUT, GRADE 2	2
5	11003	HEX BOLT, GRADE A, ZINC PLATED, 1/4-20 X 3/4"	2
6	37018	NYLON LOCK NUT, GRADE 2, ZINC FINISH, 1/4"-20	2
7	33002	Ø3/16 USS FLAT WASHER Z-PLATED	2
8	99-522-027	ASSEMBLY, HAND CONTROL (2-BUTTON), CORD, COILED, 18/3, 18"-90", 18" TAIL, 3-PIN MOLDED MALE PLUG	1
9	11053	Ø 5/16 - 18 x 3/4 LG HHCS #2 Z-PLATED, GRADE A	2
10	08-016-110	BRACKET, POWER TRAY	1
11	21-139-002	BATTERY, 12V DC, SEALED LEAD ACID (AGM)	1
12	99-029-027	CONTROL ENCLOSURES, JUNCTION BOX, 4x4x3	1
13	99-533-017	ASSEMBLY, CORD, STRAIGHT, 18/5, 30" MOLDED FEMALE RECEPTACLE, 5-PIN	1
14	99-139-021	BATTERY CHARGER, 6V/12V, ONE BANK-5A	1
15	21-034-005	CONNECTOR, FLANGED INLET PLUG, FRONT MOUNT W/ COVER, 15A, 125V	1
16	32406	#10-24 UNC x 1/2", HWH TYPE F THREAD CUTTING	2

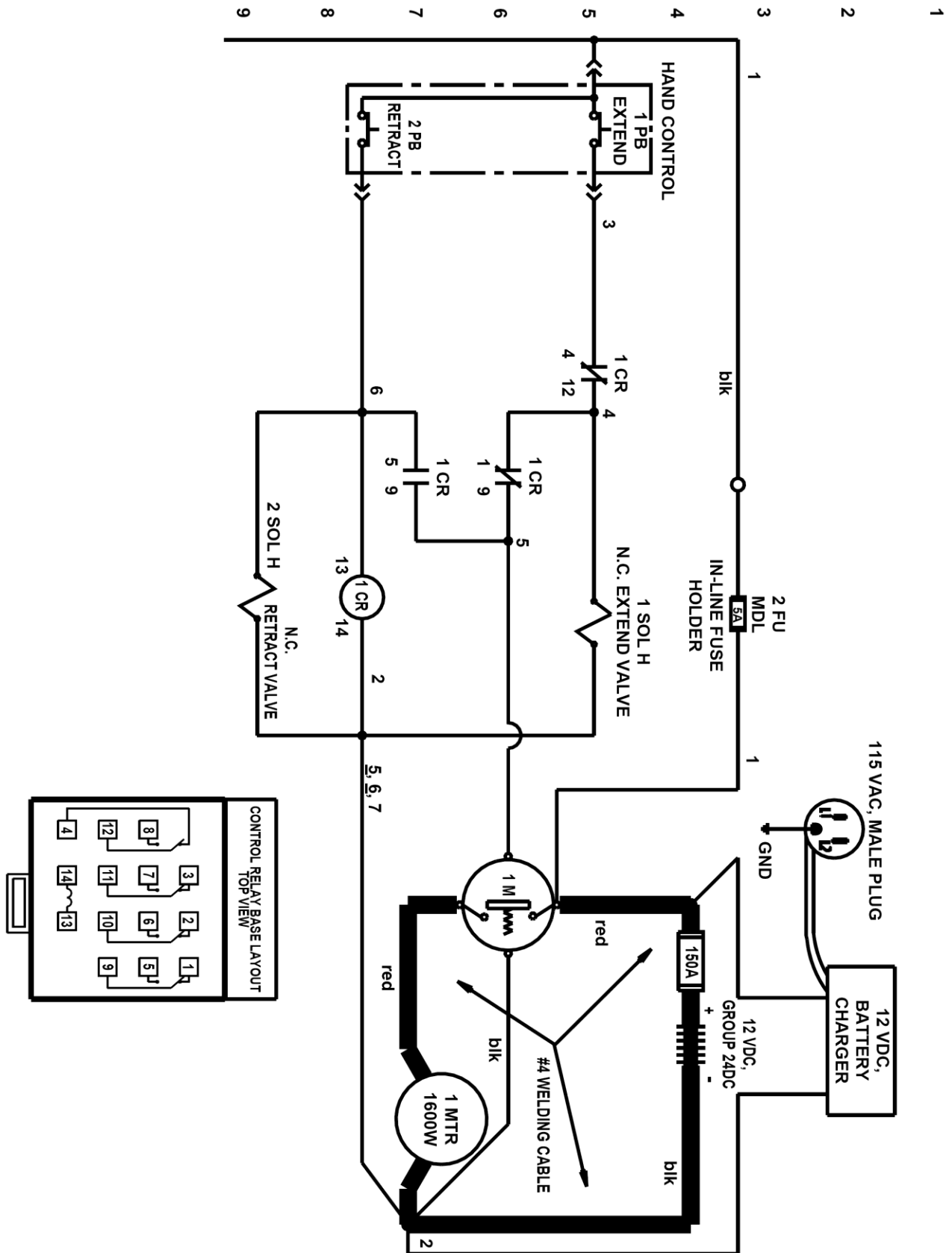


Power Unit Subassembly Exploded View and Bill of Materials (99-160-232)



Item	Part no.	Description	Qty.
1	99-160-231	Subassembly: Motor + Pump (99-137-029; 12V, 1-phase, 2.15HP, 1800rpm, 1600W, 0.073disp.); Manifold (99-627-021) with counterbalance valves	1
2	99-023-002	Reservoir, non-torsional, 3" boss	1
3	99-034-028	Motor contactor, 12V coil	1
4	99-145-061	Clamp, worm gear hose, 2 ¹³ / ₁₆ " - 3 ³ / ₄ "	1
5	99-145-164	Clamp, worm gear hose, 3 ⁹ / ₁₆ " - 4 ¹ / ₂ "	1

Electric Circuit Diagram (LM-1T-8-24-HBE-DC) 08-124-001



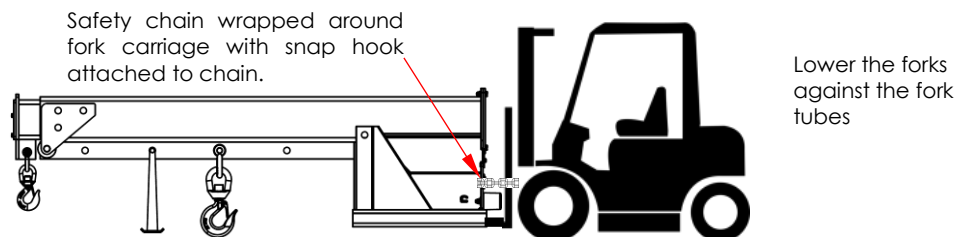
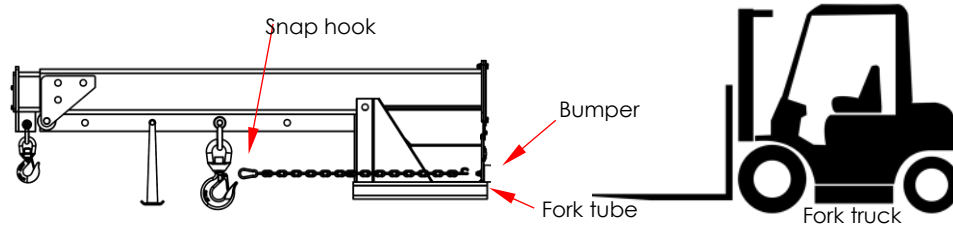
USING THE BOOM

This boom is a front-end attachment according to OSHA rule [29 CFR 1910.178](#). Do not use the boom until the manufacturer of your forklift approves its use in writing and provides adjusted tags for your forklift.

⚠️ WARNING Improper use of this product might result in serious personal injuries.

- DO NOT use this boom with rough terrain lift trucks or telehandlers (boom trucks). ONLY use it with high lift fork trucks utilizing a vertical mast and carriage.
- DO NOT mount the hopper on stackers or manually propelled lift trucks.
- DO NOT operate the truck carrying this hopper on unimproved surfaces. Only operate on concrete or asphalt surfaces.
- DO NOT attempt to lift loads weighing more than the capacity of the boom or your forklift, **whichever is smaller**. Confirm that the load weighs less than the maximum rated load of your boom at the intended attachment point. See [CENTERS OF GRAVITY AND LOAD RATINGS](#) on p. 5 see also [LABELING DIAGRAM](#) on p. 11. Confirm that your fork lift is rated to lift the combined weight of the boom, rigging, and the load.
- Contact the manufacturer of your fork lift BEFORE using the boom and request:
 1. Written approval to use the boom with your lift truck; AND
 2. Markings (labels) for the lift truck that: a) Identify your LM-boom; AND b) Provide the approximate net weight of the forklift truck and boom at the maximum fork elevation with a laterally-centered load. See 29 CFR 1910.178(a)(5).
- DO NOT connect a load to only 1 hook, which will cause the load to rotate during lifting and transport operations. Loads must be connected to both hooks.

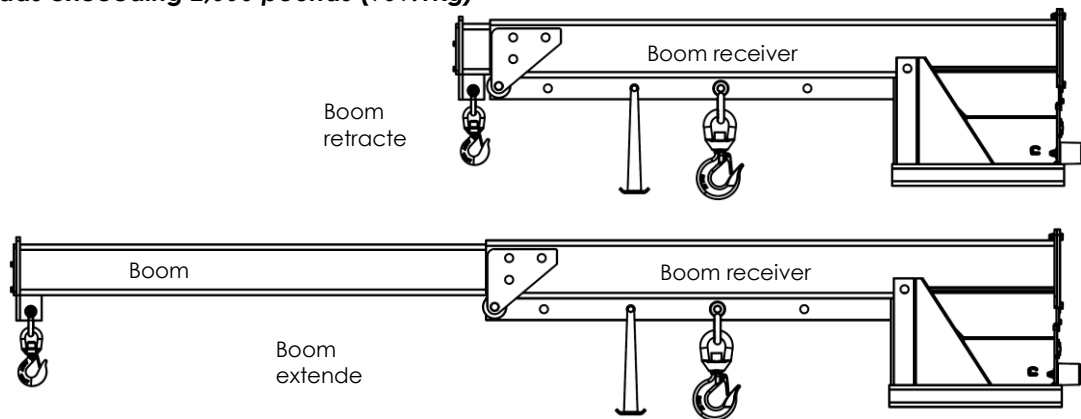
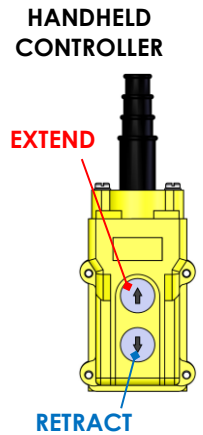
1. Drive the forklift forward and insert the tines into the fork pockets. Carefully drive as far forward as possible until the forks gently contact the bumpers. Lower the forks completely. The drawings below demonstrate this step.



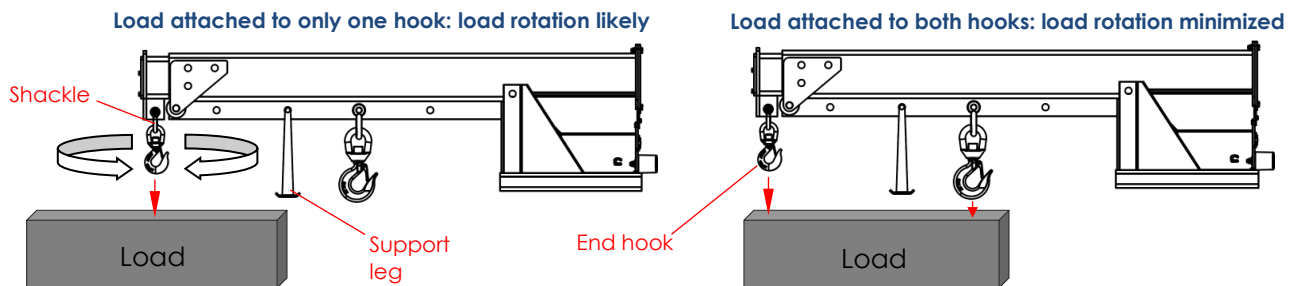
2. Securely connect the unit to the carriage of the forklift with the safety chain. Wrap the safety chain around the fork carriage and fasten the snap hook to the chain/strap. There should be no slack in the chain/strap. The sole purpose of the safety chain is to prevent the boom from sliding off of the forks. It is NOT intended or designed to bear the full load rating.
3. [LM-1T-8-24-HBE-TP only] Hydraulic hoses are labeled "EXTEND" and "RETRACT". Attach the hoses to hydraulic remote ports on your forklift. The controls for the remote extend and retract the cylinder.
4. Adjust boom length. The inner boom is driven by a hydraulic cylinder. The hydraulic circuit that controls the cylinder is either provided by your fork truck or by a DC (battery) power unit.
 - a. LM-1T-8-24-HBE-TP utilizes the hydraulic system of your fork truck. Two (2) hoses, labeled "EXTEND" or "RETRACT", extend through the back end of the boom. Connect each hose to the appropriate remote hydraulic port. Use the controls for the remote to extend or retract the inner boom.
 - b. LM-1T-8-24-HBE-DC includes a power unit housed between the fork tubes and beneath the outer boom. Use the handheld controller to extend or retract the boom as desired. A handheld controller connects to the power unit via a pigtail cord. The controller has 2 buttons: **↑** and **↓**. The **↑** button causes the cylinder to extend inside the boom. The **↓** button retracts the cylinder.
 - i. Extending the boom: Press the **↑** button to activate the electric motor. The motor turns the pump. As the pump rotates, oil is drawn from the reservoir. Oil passes through the suction filter & enters the pump. The pump pushes oil through an energized directional valve (RT); then through counterbalance valve 1CB and into the blind end of the cylinder. As oil fills the cylinder, the cylinder extends while oil is pressed out of the rod end of the cylinder, through counterbalance

valve 2CB, and through a second directional valve (LT). During boom extension, LT is in its default/unactuated position. From there, oil returns to the reservoir. The counterbalance valves prevent jerky movement as the boom extends and retracts. Releasing the button turns off the motor and stops the boom. The boom maintains position until a control button (↑ / ↓) is pressed.

- ii. **Retracting the boom:** Pressing the ↓ button causes the pump to push oil through energized directional valve LT, through counterbalance valve 2CB, and into the rod end of the cylinder. Oil flows from the blind end of the cylinder and through counterbalance valve 1CB. Oil flows through unactuated directions valve RT and into the reservoir. If the button is released before the boom is fully retracted, the boom maintains position until either control button is pressed.
- iii. Boom configurations shown below are retracted and extended. **DO NOT** extend or retract the boom while it is loaded unless the load weighs 2,000 pounds or less. **The powered extension and retraction feature cannot be used with loads exceeding 2,000 pounds (909.1kg)**



5. Attach the load to the boom. First, connect the load to appropriate rigging. Then, attach the rigging to the end hook or to both the end hook and the stabilizing hook (see diagrams below).
 - a. Verify that the load attachment is stable. See **Test the stability of the load in the rigging (below)**.
 - b. Raise the load to no more than 6-8 inches above ground (entirely suspended from the boom).
 - c. Slowly transport the load to the desired unloading location.
 - d. Slowly lower the load until it is entirely supported by the ground and there is slack in all rigging.
 - e. Disconnect the rigging from the hooks.
 - f. Adjust the fork height to be no more than 6-8 inches above ground.
 - g. Return the boom to its storage location.



Test the stability of the load in the rigging. Raise the forks slowly to minimize load movement. Raise the forks until the entire load is suspended. Watch the load and boom closely for either: 1) Load sliding in rigging; or 2) Boom sliding towards the tips of forks. If you notice either issue, immediately lower the forks and adjust the rigging. Retest the stability of the load in the rigging. Tilt the forklift mast slightly towards the cab to prevent the boom from sliding on the forks.

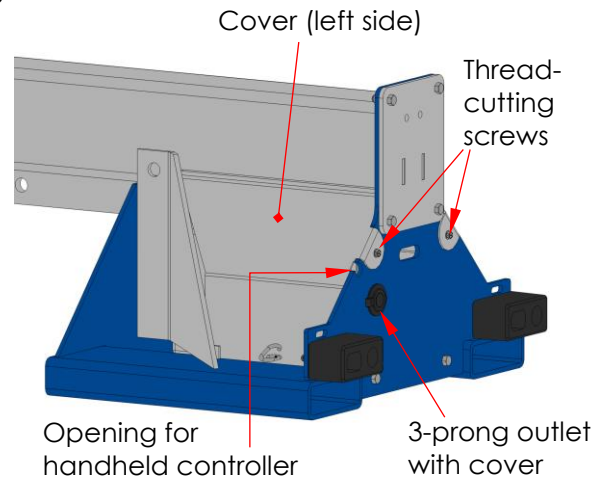
- Only raise the load 6-8 inches above the ground to transport it. Adjust load height to avoid obstacles along the travel path. After clearing the obstacle, lower the forks so that the load is again 6-8 inches above the ground.
- DO NOT exceed approximately 1.5 mph (2.2fps) while transporting a load with the boom.
- Travel ONLY on smooth, level surfaces. Turn slowly. After a turn is completed, wait for the load to stop swinging before resuming travel.
- If the load is unstable while suspended, DO NOT use the boom.

Accessing the Power Unit & Battery Charger

The power unit is housed in the space between the fork tubes and the bottom of the boom receiver. It is protected by 2 cover pieces that fasten to the frame. See Items 34 & 35 in the [EXPLODED VIEW](#) on p. 4. Access the power unit by removing 1 or both of the covers. Each cover is fastened to the frame with a $\frac{5}{16}$ "-18x $\frac{1}{2}$ " thread-cutting screw (item 36 on p. 4). Remove the screws; then lift the covers and set them aside.

The power unit includes an on-board battery charger. The charger is connected to a 3-prong inlet integrated into the rear plate of the frame. A cover protects the inlet. To recharge the battery, open the cover and connect a 3-prong extension cord to the inlet. Use the shortest extension cord possible to recharge the battery.

Contact [TECHNICAL SERVICE](#) to discuss problems with the power unit or battery charger.



RECORD OF SATISFACTORY CONDITION

Before putting the boom into service, make a detailed record of its appearance and functions. Thoroughly photograph the unit and all labels applied to it. Closely photograph both of the hooks and shackles, fork tubes, the power unit, hydraulic hoses (LM-1T-8-24-HBE-TP), and the handheld controller and its electrical cord. Add the photographs to the record. Extend and retract the boom. Describe the motion of the boom and sounds heard as it moves. Include a description of the sound level. Attach a test load to the boom. The load should weigh no more than 2000 lb. (909.1kg). Extend and retract the boom again and record your observations. Measure the throat opening of each hook. Add the measurements to the record. This record establishes satisfactory condition. Compare results of future inspections to the record to determine whether a part is in satisfactory condition. Repair or replace all parts that are not in satisfactory condition. Contact [TECHNICAL SERVICE](#) to order replacement parts.

LOAD TESTS

After creating a [RECORD OF SATISFACTORY CONDITION](#) and before using the boom for the first time, a qualified person should conduct a load test. The test load should be 125% of the rated load (capacity) of the boom. For instance, if the rated load (capacity) is 1,000 lb. (454.5kg) the test load should be 1,250 pounds (568.2kg). Raise the load off of the ground until it is entirely suspended from the boom. Leave the load suspended for a few minutes. Return it to the ground and unload the boom. Perform a *Monthly Inspection* as described in the [INSPECTIONS](#) section (p. 10). The boom should undergo load testing immediately after it is repaired or modified. Never modify the boom without first receiving written approval from Vestil.

NOTE: If your boom is used with a lift truck whose capacity is less than 125% of the rated load of your boom PLUS the weight of the boom, then load testing as described above should not be performed. Instead, the boom must be rerated (capacity reduced) and be tested with an appropriate load weight for your lift truck. The boom must also be relabeled to reflect the rerated capacity. Mark/label the truck to identify the boom, show the weight of the truck and boom combination, and show the capacity of the truck with the boom at maximum elevation with the load laterally centered. Use the [LOAD TEST RECORD](#) page at the end of this manual to record the weight used to load test your boom based on the rerated capacity.

INSPECTIONS

Inspections and repairs should only be performed by qualified persons. Compare the results of each inspection to the [RECORD OF SATISFACTORY CONDITION](#) (the "RECORD"). Do not use the boom unless all parts are in satisfactory condition. Replace parts that are not in satisfactory condition before using the boom again. **DON'T GUESS!** **If you have any questions about the condition of your boom, 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. Replace the entire unit if it cannot be restored to satisfactory condition.

⚠ WARNING

If an inspection reveals problems, restore the boom to satisfactory condition BEFORE using it again. DO NOT use a boom that is structurally damaged in any way. Structural damage includes, but is not limited to, cracked welds, warping or deformation of the back plate, carriage brackets, boom, or boom sleeve.

1. **Before each use** — Examine the boom for cracks, significant rusting/corrosion, or damaged hooks, shackles, carriage brackets.
2. **Monthly inspection** — At least once per month, and before using the boom for the first time, inspect:
 - Back plate, carriage brackets, carriage latch, and fasteners** — The back plate should be square and solid. Each bracket should be rigidly welded or fastened to the frame. Examine the carriage latch. Confirm that it latches and unlatches properly. Look for significant wear, damage, or indications of metal fatigue to any portion of the carriage brackets and fasteners, back plate, or carriage latch.
 - Boom** — Check all welds. The boom should be straight, rigid, and undamaged, i.e. no cracks, punctures, warps, rust or corrosion, etc. The boom should slide without binding inside the receiver/sleeve.
 - Hooks and shackles** — Examine the end hook & the stabilizing hook. Record a measurement of the throat opening of each hook. Compare the measurements with those taken during the very first inspection. Replace a hook if its throat opening is more than 15 percent wider than the original throat opening measurement, or if the hook is twisted more than 10° from the plane of the unbent hook. Discard damaged hooks. The latch of the end hook should close automatically. Shackles should be securely attached to the underside of the boom. Examine all pins that attach shackles to the boom for cracks and warps.
 - Frame and fork pockets** — Fork tubes should be square and solid. Each tube should be rigidly welded to the frame. Look for excessive wear, damage to, or metal fatigue in, any portion of the fork pockets, frame, boom or boom receiver.
 - Power unit** — Remove the covers. See [ACCESSING THE POWER UNIT](#) on p. 10.
 - Safety chain** — All links of the chain should be intact and of equal dimensions. The chains should be securely attached to the lap link. The lap link should be solidly welded to the frame. The snap hook at the end of the chain should close completely and automatically.
 - Support leg** — Inspect the support leg. It should be straight, undamaged (no cracks or deformations), and securely attached to the underside of the boom.
 - Labels** — The unit should always be labeled as shown in the [LABELING DIAGRAM](#) on p. 11. Replace any label that is damaged, faded, or not easily readable.
3. **Annual Luff Test** — At least once per year, perform a [LOAD TESTS](#) (p. 10) of the boom. Afterwards, conduct a [MONTHLY INSPECTION](#). Confirm [SATISFACTORY CONDITION](#) before returning the boom to service.

MAINTENANCE

Implement a maintenance program to ensure that the boom remains in satisfactory condition. The following steps should be utilized in conjunction with maintenance procedures applicable to fork truck attachments provided in the most recent edition of ANSI B56.1.

Step 1: Tag the boom, "Out of Service."

Step 2: Remove dirt and other matter from all surfaces.

Step 3: Conduct a Monthly inspection. If significant deformities, corrosion, rusting, or excessive wear is found, DO NOT continue to use the product.

Step 4: Perform all necessary adjustments, replacements and/or repairs. DO NOT modify the boom.

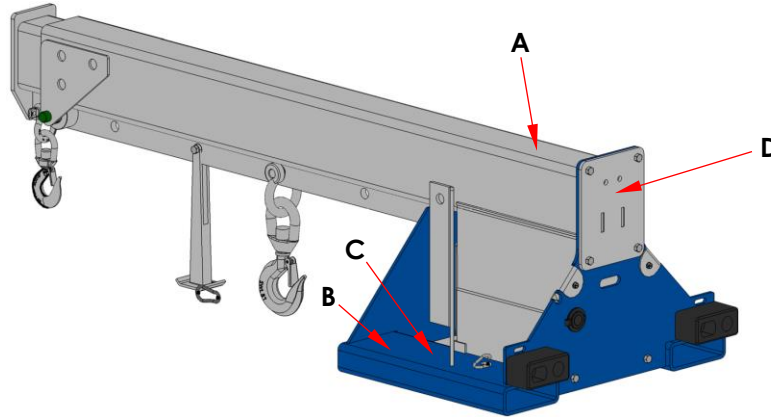
⚠ WARNING

DO NOT return the boom to service until all necessary adjustments and repairs are complete! An adjustment is a simple correction that restores the boom to [SATISFACTORY CONDITION](#), such as tightening loose fasteners or removing debris from surfaces. Repair means removal of worn parts and installation of replacement parts. **NEVER** modify (alter) the boom, e.g. bend a structural member or remove a part or parts.

Step 5: Make a dated record of all repairs, adjustments, and replacements performed.

LABELING DIAGRAM

The unit should be labeled as shown in the diagram. However, label content and location are subject to change so your product might not be labeled exactly as shown. Compare this diagram to your RECORD OF SATISFACTORY CONDITION. Replace all labels that are damaged, missing, or not easily readable (e.g. faded). Order replacement labels by contacting the TECHNICAL SERVICE & PARTS DEPARTMENT online at http://www.vestilmfg.com/parts_info.htm. Alternatively, you may request replacement parts and/or service by calling (260) 665-7586 and asking the operator to connect you to the PARTS DEPARTMENT.



A: Label 1133 (applied to top surface of boom receiver)

⚠ WARNING		⚠ ADVERTENCIA																																																								
Material handling is inherently dangerous; improper use of this product might result in serious personal injuries sustained by the operator and/or bystanders. To reduce the risks: • Properly attach boom to fork truck 1. Drive lift truck forward until forks contact ends of fork pockets; 2. Safety chain/strap must not be able to disconnect from carriage; AND 3. Chain/strap must be taut. Connect to carriage via shortest line. • DO NOT use if safety chain/strap is damaged or absent. • Law requires you to contact manufacturer of your (fork) lift truck BEFORE using boom to request: 1. Written approval to use boom with lift truck [29 CFR 1910.178(a)(4)]; 2. Markings (labels) for lift truck that: - Identify this fork-mounted boom; AND - Give approximate <u>rated load</u> of truck and boom at maximum fork elevation with laterally centered load. [29 CFR 1910.178(a)(5)] • DO NOT use boom UNTIL lift truck manufacturer provides corrected maximum rated load tags for your forklift truck. • DO NOT attempt to lift more than the rated load of the boom or lift truck attachment is <u>smaller</u> . The table below shows the maximum rated load of the BOOM ONLY; you MUST compare the appropriate table entry with the corrected max. rated load label provided by the fork truck manufacturer. ONLY use boom with fork truck rated for 8,000 pounds or more. • ONLY extend or retract boom while loaded if load weighs 2,000 pounds or less (909kg or less). • DO NOT stand boom on end. Always store boom in horizontal position. • DO NOT use boom as jib crane. Only use boom as a lift truck attachment. • DO NOT use to lift loads overhead. ONLY raise load as high as necessary to move it. Keep personnel clear of suspended load. • Always have a copy of owner's manual. Copies of manual can be downloaded from www.vestil.com .		Manejo de materiales es inherentemente peligroso; uso inapropiado de este producto podría resultar en lesiones personales graves sostenidas por el operador y/o los espectadores. Para reducir los riesgos: • Conectar apropiadamente el brazo a la carretilla elevadora. 1. Conducir la carretilla elevadora hacia adelante hasta que las horquillas queden en contacto con los extremos de los bolsillos de la horquilla 2. Seguridad de la cadena / correa no debe ser capaz de desconectarse del carro 3. Cadena / correa tiene que estar tensada. Conecte al transporte a través de la línea más corta • NO utilizar si la cadena de seguridad / correa está dañada o ausente. • La ley requiere que usted se ponga en contacto con el fabricante de la carretilla elevadora ANTES de utilizar la pluma para solicitar: 1. Aprobación por escrito para usar la pluma con la carretilla elevadora [29 CFR 1910.178 (a) (4)]; 2. El marcado (etiquetas) para carretilla elevadora que: - Identificar este tenedor montada de la pluma Y - Dar el peso neto apropiado de la carretilla elevadora y el auge en la cota máxima del tenedor con la carga centrada lateralmente [29 CFR 1910.178 (a) (5)] • NO use la pluma HASTA que el fabricante de la carretilla elevadora proporcione o corrija las etiquetas de carga nominal máxima para su carretilla elevadora. • NO intente levantar más de la carga nominal de la pluma o elevadora de horquilla lo que sea menor. La siguiente tabla muestra la carga nominal máxima de la pluma. SOLAMENTE. Debe compararse la entrada de la tabla apropiada con la máxima corrección, etiqueta de carga nominal proporcionado por el fabricante carretilla elevadora. ÚNICAMENTE use la pluma con carretilla elevadora con capacidad para 8,000 libras o más. • Extienda o retraiga SOLAMENTE la pluma mientras está cargada si la carga pesa 2,000 libras o menos (909 kg o menos). • No pare la pluma de punta, siempre almacene auge en posición horizontal • NO use la pluma como un brazo de grúa. Sólo utilice la pluma como un adjunto para la carretilla elevadora. • NO use para levantar cargas por encima. Solamente planteen la carga a la altura necesaria para moverla. Mantenga al personal alejado de la carga suspendida • Siempre tenga una copia del manual del propietario. Copias de manual se puede descargar desde www.vestil.com .																																																								
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B: Label 1153 (on either fork tube)

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 218 (on either fork tube)

⚠ WARNING	⚠ ADVERTENCIAS
Improper use might result in death or serious personal injury. Attach device to fork carriage with safety chain/strap. • Drive lift truck forward until forks contact ends of fork pockets. • Chain/straps must not be able to disconnect (slide free) from carriage. • Safety chain/strap must be taut. Connect chain/strap to carriage via shortest line.	El uso inapropiado puede resultar en muerte o heridas personales. Atar aparato al mástil del montacargas con cadenas/correas. • Maneje el montacargas para adelante hasta que las cuñas hagan contacto con la orilla del bolsillo de las cuñas. • La cadenas y correas no deben de deslizarse (soltarse) del mástil del montacargas. • La cadena/correa de seguridad debe de estar apretado. Asegure la cadena/correa al mástil via la ruta mas corta.

D: Label 1210 (on back of boom receiver): DO NOT use with telehandlers.

⚠ WARNING
Using this front end attachment exposes occupants & bystanders to risks of serious personal injuries or death. • DO NOT use this front end attachment with rough terrain lift trucks or telehandlers (boom lifts). ONLY use this attachment with high lift fork trucks utilizing a vertical mast and carriage. • DO NOT operate truck with attachment on unimproved surfaces. ONLY operate the truck with the attachment on concrete or asphalt surfaces capable of supporting the truck and a full capacity load.

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 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.



LOAD TEST RECORD

Document each load test performed on your boom.

Date of load test: _____ Boom serial no. _____ Boom weight: _____ Lift truck identification: _____ Lift truck capacity: _____ Test load weight: _____	Date of load test: _____ Boom serial no. _____ Boom weight: _____ Lift truck identification: _____ Lift truck capacity: _____ Test load weight: _____
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