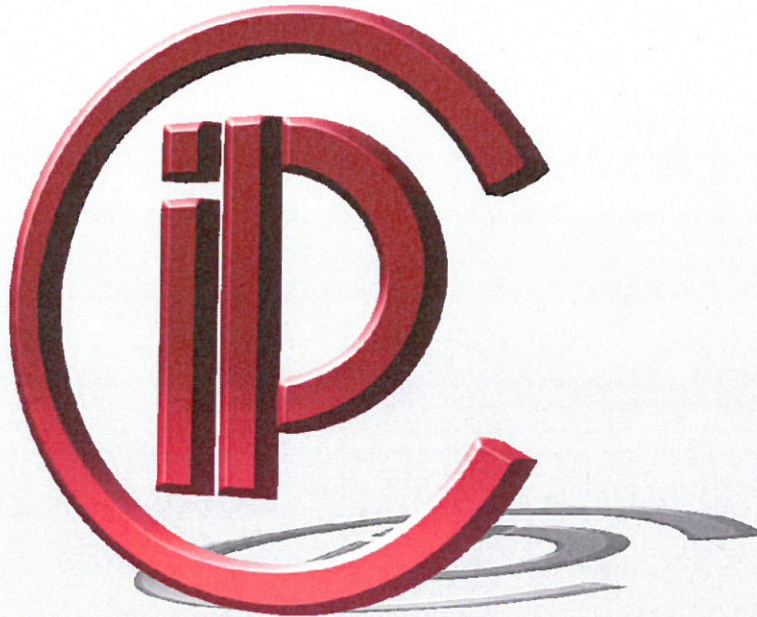




PM Series Vertical Material Lift

Installation Manual

For Reference Only



*PLEASE NOTE: THE ILLUSTRATIONS IN
THIS MANUAL ARE NOT TO SCALE OR
DETAIL AND ARE FOR
REFERENCE ONLY*

SERIAL NUMBER

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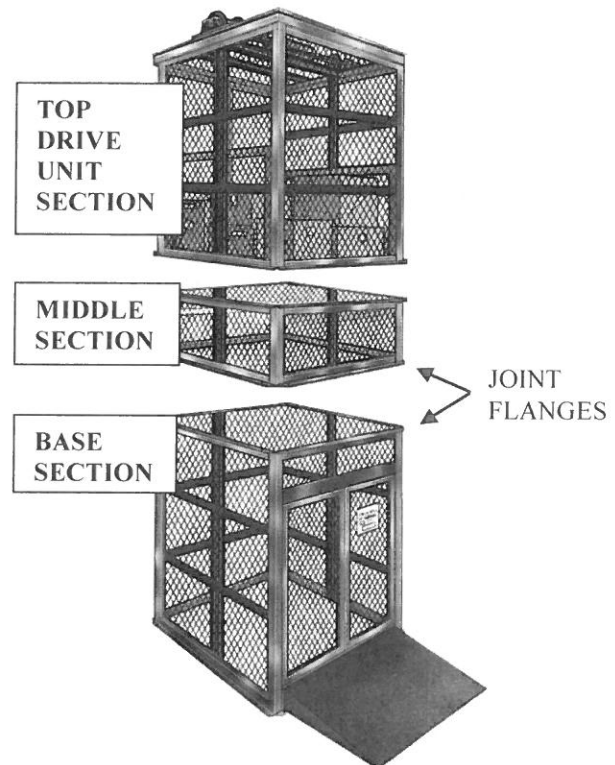
6 Mechanical Installation

6.1 General Installation

The Pallet Master Material Lift is of modular design, consisting of two or more frame sections, depending on the travel height. The base section, middle section(s) and top drive unit section complete the assembly, with the motor mounted on the top drive unit section. Depending on the space allowed, this section should not need to be disassembled.

NOTES:

- This unit is not free standing and must be braced to ensure stability of the unit during operation.
- The lift must be level and plumb. Shim as necessary. Twisting or racking of the lift will result in potential platform binding, loose or uneven tension on wire ropes, switch misalignments, or uneven roller wear.
- When mounting conduit to the outside enclosure of the lift, do not let anything protrude into the path of the platform carriage. The running clearance is 1 ½". **DO NOT MOUNT ANYTHING THAT IS NOT PART OF THE LIFT ENCLOSURE.**
- Floor mounting and wall anchorage hardware is to be supplied by the installer. All hardware is to be ½" in diameter and of suitable length for the application.



6.2 Installation in Open Areas

1. Position the lower section of the lift at the desired lift location in relation to the upper level. Be sure the lower section is level and plumb with the floor; shim as required. At this point, it is critical that you square up the unit.
2. Position the intermediate and upper sections of the lift directly over the lower section using the alignment pins as a guide. Be sure the gates of the lift are facing the proper direction based on the loading/unloading configuration you specified. Align all sections of the lift and secure them together with the joint hardware that was supplied.
3. **NOTE:** Be sure the guide rails of the enclosure section match up correctly before tightening all joints. Guide rail joints may have to be tapered due to steel variations to ensure smooth transition between sections.

4. Through-the-floor applications may require bolting the top and middle sections together, pulling them up through the floor opening then tying off the overhead structure while the base is positioned underneath. Secure the wall brackets to the wall as required. Secure the base to the floor with anchor bolts.

WARNING: Proper structural support must be present. Only qualified personnel are to perform the hoisting operations.

5. Secure the wall support brackets to the wall as required. Secure the base to the floor with anchor bolts.
6. Install threshold plates and ramps as required maintaining at least a $\frac{3}{4}$ " but no more than $1\frac{1}{2}$ " clearance between the threshold and the moving platform.

7 Electrical Installation

It is the responsibility of the owner of the lift to ensure the lift is installed in accordance with all applicable ordinances and regulations. All lifts manufactured by Custom Industrial Products, Inc. are intended to be installed in accordance with the ANSI/ASME B20.1 specifications for Vertical Reciprocating Conveyors. **THESE LIFTS ARE FOR MATERIAL USE ONLY AND NOT FOR PERSONNEL USE.**

CAUTION:

- **HAZARDOUS VOLTAGE:** Use all appropriate safety precautions when working with/around electricity. Failure to do so can result in injury or death. Only trained personnel should install or service the lift.
- **UNINTENDED OPERATION:** Failure to properly install the lift can result in unintended operation of the unit. This could result in injury or death. Only trained personnel should install or service the lift.
- **LOCK-OUT/TAG-OUT:** Always use the proper Lock-Out/Tag-Out procedure when servicing the lift to prevent injury.
- **COMMISSIONING:** The lift should be thoroughly inspected and proper operation verified before the lift is put into service. Refer to Section 7.4.6 "Electrical Installation Check-Off".

The Pallet Master is prewired at the factory for indoor applications and requires minor electrical hookups on the unit itself. Inbound power is to be provided by the contractor or end-user.

7.1 Incoming Power Requirements

Consult the nameplate of the lift, which is located on the inside of the door of the electrical panel, for the proper power requirements for the lift. If the facility power does not match the required power for the unit, the use of step-down or bucket-boost transformers may be required. Transformers may or may not have been supplied with the lift per the purchaser's discretion at the time of the sale. Refer to the transformer manufacturer's documentation for information on the proper application and connection of the transformer. Failure to provide proper incoming power will result in damage or poor performance of the lift.

7.2 Disconnect and Over-Current Requirements

The lift requires the installation of a Main Disconnect Switch and over-current protection not provided by Custom Industrial Products, Inc. An appropriately sized Fusible Disconnect Switch with the proper over-current protection should be used. Refer to the amperage requirements as listed on the nameplate inside the door of the electrical panel. For most interior applications the Square D brand Disconnect Switch (model number D321N for units up to 30A max or model number D322N for units up to 60 A max) or equivalent is recommended.

NOTE: ALWAYS USE A DISCONNECT SWITCH WITH THE PROPER ELECTRICAL AND ENVIRONMENTAL RATINGS.

7.3 Electrical Disconnect Mounting

The disconnect described in the previous section is to be mounted immediately adjacent to the Electrical Enclosure and be readily accessible with unobstructed access to the operator. (NFPA79-5.3)

Workspace

The working space around the Electrical Enclosure should be cleared so as to provide a clear working area which will allow the door of the enclosure to open a minimum of 90 degrees, with an unobstructed working space in front of the enclosure 2 ½ feet wide and 3 feet deep. The working space will also extend no less than 6 feet from the floor. The working space will not be used for storage. (NFPA79-11.5)

7.4 Connecting the Sections

7.4.1 Control Signal

The electrical connections for the control signals between the upper and lower levels of the lift occur inside the Second Level Junction box located on the outside of the Safety Enclosure for the Second Level.

1. Remove the cover for the junction box.
2. Route the signal cables from the main enclosure to the junction box.
3. Insert the strain relief on each signal cable into the junction box and secure with the strain relief nut.
4. Connect the wires from the signal cables to the wires in the junction box. Each wire is individually tagged. Connections should match number to number. *IMPORTANT NOTE: Match the wires based on the numbers ONLY. Color coding does not apply on the inside of the junction box.*
5. Install junction box cover.
6. Secure the cables to the unit. (See Section 7.4.4 "Securing the Cables".)

7.4.2 Motor

The motor is connected directly to the main Electrical Enclosure.

1. Open the door of the Electrical Enclosure.
2. Un-spool the motor cable from the upper section of the lift.
3. Insert the strain relief on the motor cable into the enclosure and secure with the strain relief nut.
4. Connect the wires from the motor cable to the terminal blocks labeled T1, T2, T3, M and N as indicated on each wire.
5. Verify all connections are secure.
6. Secure the cable to the unit. (See Section 7.4.4 "Securing the Cables".)

7.4.3 Power

Electrical Power comes from the Main Disconnect Switch (previously discussed) to the Electrical Enclosure.

1. Verify the facility power matches the power requirements as designated on the equipment nameplate located inside the door of the enclosure.
2. Install the Main Disconnect Switch if it is not already in place.
3. Turn off the Main Disconnect.
4. Connect the Main Disconnect to the Electrical Enclosure. Enclosure connections will be at the Circuit Breaker and Ground terminal block located on the left end of the lower DIN Rail. *IMPORTANT NOTE: Connections from the Main Disconnect should be made in accordance with all applicable codes and ordinances.*
5. Verify all connections are secure.
6. Secure the cable to the unit. (See Section 7.4.4 "Securing the Cables".)

7.4.4 Securing the Cables

Reference NFPA79-13.1.5

1. When using the cable connection method the cables are to be secured to the frame of the unit or the safety enclosures.
2. Cables are to be secured so as to closely follow the surface and structural members of the unit and in such a way as it will not be damaged in normal operation.
3. Cables should not be secured to guards or panels that are likely to be removed for servicing.
4. Cables should not be secured to the gates or other moving parts of the lift.
5. Cables are to be secured every 36 inches in a vertical run and every 12 inches in a non-vertical run

7.4.5 Selecting the Operating Mode

Refer to the "Operation Modes" section of this manual for a description of the three operating modes. Units configured to operate in the Manual Mode will have a jumper wire installed from TB25A to TB25B. During installation or maintenance of the lift, the Maintenance Mode can be used to operate the lift at the low-speed setting. Refer to the FILL IN BLANK Section of this manual as needed.

NOTE: When using the Maintenance Mode, it is imperative to use **EXTREME CAUTION**. This procedure will bypass all switches, including safety features. Securing the gates to prevent access during this operation is strongly recommended. **ONLY TRAINED TECHNICIANS SHOULD ATTEMPT THIS PROCEDURE.**