

A Division of Systems, LLC

**POWERAMP**  
Premium Loading Dock Systems

**PowerLift**  
Surface Mount  
Truck Leveler

## Owner's/User's Manual



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Printed in U.S.A.  
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Manual No. 4111-0078  
Sept. 2018

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## Recognize Precautionary Information

### Safety-Alert Symbol



The Safety-Alert Symbol is a graphic representation intended to convey a safety message without the use of words. When you see this symbol, be alert to the possibility of death or serious injury. Follow the instructions in the safety message panel.

### **DANGER**

The use of the word DANGER signifies the presence of an extreme hazard or unsafe practice which will most likely result in death or severe injury.

### **WARNING**

The use of the word WARNING signifies the presence of a serious hazard or unsafe practice which could result in death or serious injury.

### **CAUTION**

The use of the word CAUTION signifies possible hazard or unsafe practice which could result in minor or moderate injury.

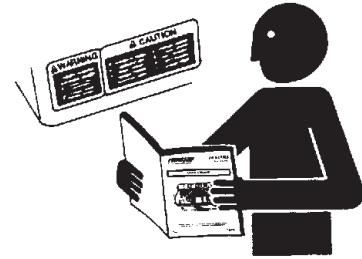
### **NOTICE**

The use of the word NOTICE indicates information considered important, but not hazard-related, to prevent machine or property damage.

## SAFETY INSTRUCTIONS

Indicates a type of safety sign, or separate panel on a safety sign, where safety-related instructions or procedures are described.

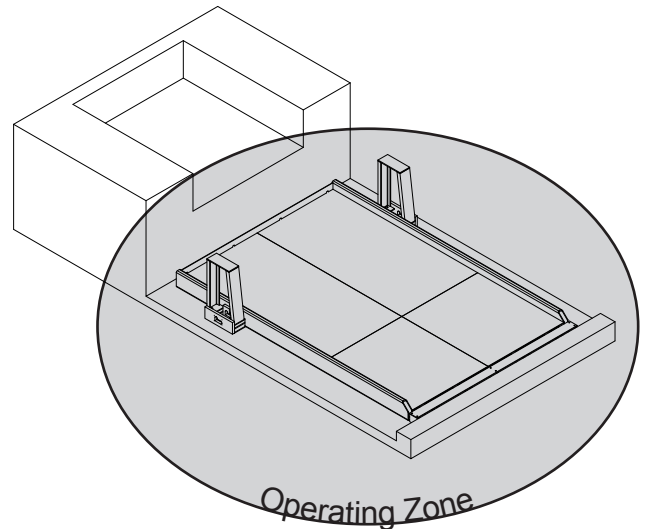
## General Operational Precautions



Read and understand the Owner's/User's Manual and become thoroughly familiar with the equipment and its controls before operating the dock leveling device or transport vehicle restraint.

Never operate a dock leveler or transport vehicle restraint while a safety device or guard is removed or disconnected.

Never remove DANGER, WARNING, or CAUTION signs, Placards or Decals on the equipment unless replacing them.



**Figure 1**

Do not start the equipment until all unauthorized personnel in the area have been warned and have moved outside the operating zone (Figure 1).

Remove any tools or foreign objects from the operating zone before starting.

Keep the operating zone free of obstacles that could cause a person to trip or fall.



**WARNING:** This product can expose you to chemicals including lead, which are known to the State of California to cause cancer or birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

# PRECAUTIONS

## Operational Precautions



Learn the safe way to operate this equipment. Read and understand the manufacturer's instructions. If you have any questions, ask your supervisor.

### **DANGER**



Stay clear of dock leveling device when transport vehicle is entering or leaving area.



Do not move or use the dock leveling device if anyone is under or in front of it.



Keep hands and feet clear of pinch points. Avoid putting any part of your body near moving parts.

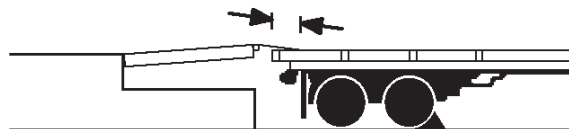
### **WARNING**



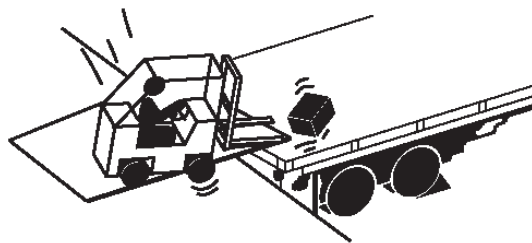
Chock/restrain all transport vehicles. Never remove the wheel chocks or release the restraining device until loading or unloading is finished, and transport driver has been given permission to drive away.



Do not use a broken or damaged dock leveling device or restraining device. Make sure proper service and maintenance procedures have been performed before using.



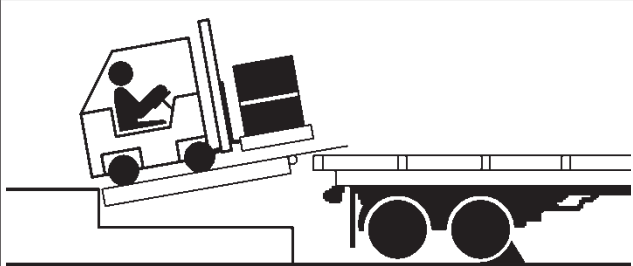
Make sure lip overlaps onto transport vehicle bed at least 4 in. (102 mm).



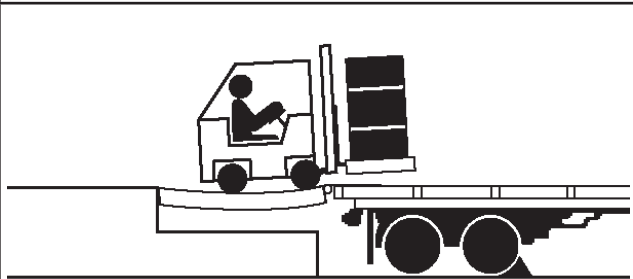
Keep a safe distance from both side edges.

**Operational Precautions**

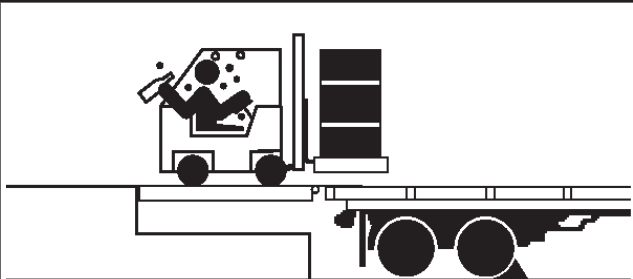
**! WARNING**



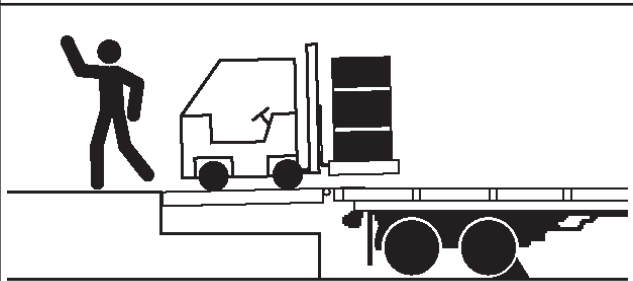
Do not use dock leveling device if transport vehicle is too high or too low.



Do not overload the dock leveling device.



Do not operate any equipment while under the influence of alcohol or drugs.

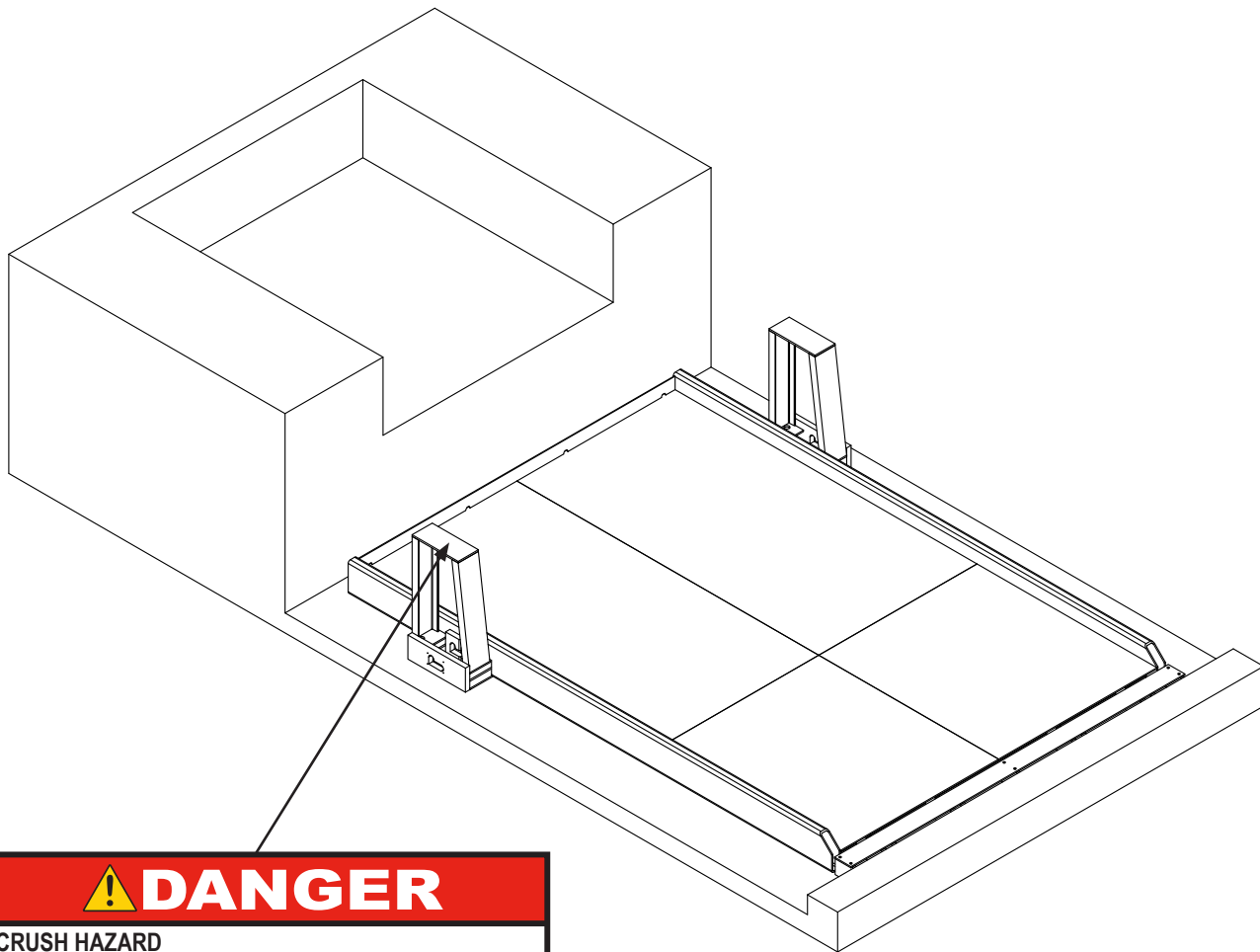


Do not leave equipment or material unattended on dock leveling device.

# PRECAUTIONS

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## Safety Decals



**! DANGER**


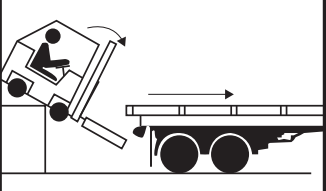
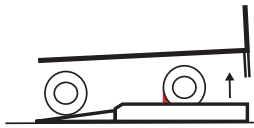
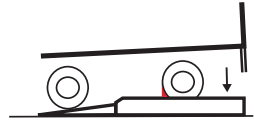
**CRUSH HAZARD**  
DO NOT extend hydraulic cylinder by a means other than hydraulic power.  
DO NOT REMOVE hydraulic cylinder until you refer to owner's/user's manual for proper maintenance procedures.  
Failure to comply will result in death or serious injury.

1751-1018 Rev A

**1751-1018**

**Figure 2**

## Placard

 <b>DANGER</b>		<b>OPERATING INSTRUCTIONS</b>	
<b>TRUCK LEVELERS</b>		<b>TRUCK LEVELERS</b>	
 <ul style="list-style-type: none"><li>• Read and follow all instructions, warnings, and maintenance schedules in the manual and on placards.</li><li>• Operation and servicing of truck leveler is restricted to authorized personnel.</li></ul> <ul style="list-style-type: none"><li>• Always chock vehicle wheels and set parking brakes before operating truck leveler or beginning to load or unload.</li><li>• Before activating truck leveler, ensure trailer is positioned correctly. If not, reposition trailer.</li><li>• Stay clear of hinges and front and sides of moving truck leveler.</li><li>• Never use hands or equipment to move the truck leveler.</li><li>• Never use damaged or malfunctioning truck leveler. Report problems immediately to supervisor.</li><li>• Always store truck leveler before vehicle leaves the dock.</li><li>• Disconnect power and follow proper lockout/tagout procedures for the truck leveler before entering the truck leveler pit or doing any repair or inspection under the truck leveler.</li></ul> <p><b>FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN DEATH OR OTHER SERIOUS INJURY.</b></p>	<p style="color: red; margin: 0;"><b>NORMAL OPERATION</b></p> <ol style="list-style-type: none"><li>1. Raise the truck leveler by Pressing and holding the RAISE button.</li></ol>  <ol style="list-style-type: none"><li>2. Hold the RAISE button until proper trailer height is achieved, then release the RAISE button.</li></ol>		
	 <p style="color: red; margin: 0;"><b>STORING LEVELER</b></p> <ol style="list-style-type: none"><li>1. Press the LOWER button until the truck leveler is fully lowered or flush with the surrounding drive approach, then release the LOWER button.</li></ol>		



Scan to view our owner's/user's manuals online.  
[www.LoadingDockSystems.com](http://www.LoadingDockSystems.com)

**1.800.643.5424**

Call for additional placards, or manuals, or with questions regarding proper use, maintenance, and repair of dock leveler.



WARNING: CANCER AND REPRODUCTIVE HARM  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)



1751-0879 Rev D

**1751-0879**



# OWNER'S/USER'S RESPONSIBILITIES

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- 1) The manufacturer shall provide to the initial purchaser and make the following information readily available to the owners/users and their agents, all necessary information regarding Safety Information, Operation, Installation and Safety Precautions, Recommended Initial and Periodic Inspections Procedures, Planned Maintenance Schedule, Product Specifications, Troubleshooting Guide, Parts Break Down, Warranty Information, and Manufacturers Contact Information, as well as tables to identify the grade(slope) for all variations of length or configuration of the dock leveling device and information identifying the maximum uncontrolled drop encountered when sudden removal of support while in the working range of the equipment.
- 2) When selecting loading dock safety equipment, it is important to consider not only present requirements but also future plans and any possible adverse conditions, environmental factors or usage. The owners/users shall provide application information to the manufacturer to receive recommendations on appropriate equipment specifications and capacity.
- 3) The owner/user must see all nameplates, placards, decals, instructions and posted warnings are in place and legible and shall not be obscured from the view of the operator or maintenance personnel for whom such warnings are intended for. Contact manufacturer for any replacements.
- 4) Dock leveling devices may become hazardous if the manufacturer's instructions regarding modifications or adjustments are not followed. Modifications or alterations of dock leveling devices shall only be made with prior written approval from the original manufacturer. These changes shall be in conformance with all applicable provisions of the MH30.1 standard and shall also satisfy all safety recommendations of the original equipment manufacturer of the particular application.
- 5) The owner/user should recognize the inherent dangers of the interface between the loading dock and the transport vehicle. The owner/ user should, therefore, train and instruct all operators in the safe operation and use of the loading dock equipment in accordance with manufacturer's recommendations and industry standards. Effective operator training should also focus on the owner's/user's company policies, operating conditions and the manufacturer's specific instructions provided with the dock leveling device. Maintaining, updating and retraining all operators on safe working habits and operation of the equipment, regardless of previous experience, should be done on a regular basis and should include an understanding and familiarity with all functions of the equipment. Owners/users shall actively maintain, update and retrain all operators on safe working habits and operations of the equipment.
- 6) An operator training program should consist of, but not necessarily be limited to, the following:
  - a) Select the operator carefully. Consider the physical qualifications, job attitude and aptitude.
  - b) Assure that the operator reads and fully understands the complete manufacturer's owners/users manual.
  - c) Emphasize the impact of proper operation upon the operator, other personnel, material being handled, and equipment. Cite all rules and why they are formulated.
  - d) Describe the basic fundamentals of the dock leveling device and components design as related to safety, e.g., mechanical limitation, stability, functionality, etc.
  - e) Introduce the equipment. Show the control locations and demonstrate its functions. Explain how they work when used properly and maintained as well as problems when they are used improperly.
  - f) Assure that the operator understands the capacity rating, nameplate data, placards and all precautionary information appearing on the dock leveling device.
  - g) Supervise operator practice of equipment.
  - h) Develop and administer written and practical performance tests. Evaluate progress during and at completion of the course.
  - i) Administer periodic refresher courses. These may be condensed versions of the primary course and include on-the-job operator evaluation.



# OWNER'S/USER'S RESPONSIBILITIES

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- 7) Loading dock safety equipment should never be used outside of its vertical working range, or outside the manufacturer's rated capacity. It shall also be compatible with the loading equipment and other conditions related to dock activity. Please consult the manufacturer if you have any questions as to the use, vertical working range or capacity of the equipment. Only properly trained and authorized personnel should operate the equipment.
- 8) It is recommended that the transport vehicle is positioned as close as practical to the dock leveling device and in contact with both bumpers. When an industrial vehicle is driven on or off a transport vehicle during loading and unloading operations, the transport vehicle parking brakes shall be applied and wheel chocks or a restraining device that provides equal or better protection of wheel chocks shall be engaged. Also, whenever possible, air-ride suspension systems should have the air exhausted prior to performing said loading and unloading operations.
- 9) When goods are transferred between the loading dock and a trailer resting on its support legs/ landing gear instead of a tractor fifth wheel or converter dolly, it is recommended that an adequate stabilizing device or devices shall be utilized at the front of the trailer.
- 10) In order to be entitled to the benefits of the standard product warranty, the dock safety equipment must have been properly installed, maintained and operated in accordance with all manufacturer's recommendations and/ or specified design parameters and not otherwise have been subject to abuse, misuse, misapplication, acts of nature, overloading, unauthorized repair or modification, application in a corrosive environment or lack of maintenance. Periodic lubrication, adjustment and inspection in accordance with all manufacturers' recommendations are the sole responsibility of the owner/user.
- 11) Manufacturer's recommended maintenance and inspection of all dock leveling devices shall be performed in conformance with the following practices: A planned maintenance schedule program must be followed, only trained and authorized personnel shall be permitted to maintain, repair, adjust and inspect dock leveling devices, and only the use of original equipment manufacturer parts, manuals, maintenance instructions, labels, decals and placards or their equivalent. Written documentation of maintenance, replacement parts or damage should be kept. In the event of damage, notification to the manufacturer is required.
- 12) Loading dock devices that are structurally damaged or have experienced a sudden loss of support while under load, such as might occur when a transport vehicle is pulled out from under the dock leveling device, shall be removed from service, inspected by a manufacturer's authorized representative, and repaired or replaced as needed or recommended by the manufacturer before being placed back in service.

# INTRODUCTION

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## General Information



**Figure 3**

This manual provides current information on the PowerLift Surface Mount truck leveler. Due to ongoing product improvement, some parts may have changed, along with operation and troubleshooting methods.

This manual describes these changes where applicable.

The PowerLift Surface Mount truck leveler comes equipped with an electrical control panel, which allows push button operation of the truck leveler functions.

Each PowerLift Surface Mount truck leveler unit and control panel has been factory pre-wired and tested to ensure satisfactory operation.

To illustrate which connections are to be made in the field at installation, electrical drawings are included with each order or by contacting Systems, LLC Technical Services.

PowerLift Surface Mount truck levelers are available in the following sizes, weight capacities, and options:

**Width**

Up to 12' 6" (3810mm)

**Length**

Consult Factory

**Capacity (CIR\*)**

50,000 lb (22 680 kg)  
55,000 lb (24 948 kg)  
60,000 lb (27 216 kg)  
65,000 lb (22 484 kg)

\* CIR (Comparative Industry Rating)

Call Poweramp to discuss available voltages, phases and options to meet your specific needs.

**Technical Service at 800-643-5424 or [techservices@loadingdocksystems.com](mailto:techservices@loadingdocksystems.com)**

## Component Identification

Inspect package and all components. Report any missing or damaged items immediately and note on the shipping Bill Of Lading (BOL).

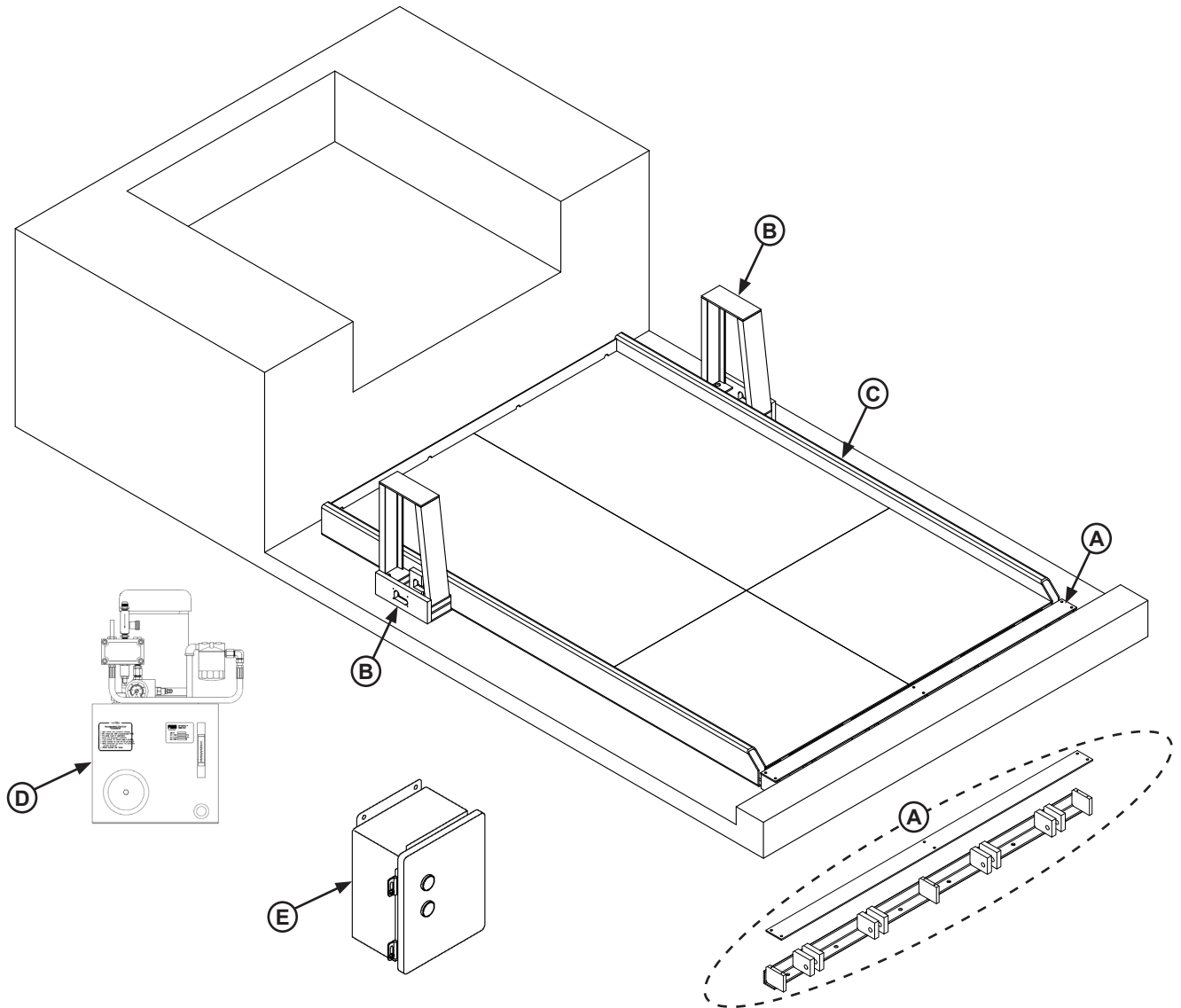


Figure 4

A - Trunnion Hinge  
Weldment

B - Cylinder Towers

C - Truck Leveler

D - Powerpack

E - Control Box\*

\*Control box appearance may vary depending on options.

# INSTALLATION

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## Installation Precautions

### **WARNING**

Post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of equipment before installation has been completed.

### **WARNING**

DO NOT grind or weld if hydraulic fluid or other flammable liquid is present on the surface to be ground or welded.

DO NOT grind or weld if uncontained hydraulic fluid or other flammable liquid is present. Stray sparks can ignite spills or leaks near the work area. Always clean up the oil leaks and spills before proceeding with grinding or welding.

Always keep a fire extinguisher of the proper type nearby when grinding or welding.

### **WARNING**

A hard hat or other applicable head protection should always be worn when working under or around a truck leveler.

### **CAUTION**

Only trained installation professionals with the proper equipment should install this product.

### **NOTICE**

DO NOT connect the truck leveler electrical wiring and ground connections until all welding has been completed.

DO NOT ground welding equipment to any hydraulic or electrical components of the truck leveler. Always ground welding equipment to the truck leveler frame, NEVER to the platform.

Failure to follow these instructions may damage the motor, hydraulics, wiring, and/or control panel.

## Installation Overview

**Note:** This is a generic overview of a typical installation. See full installation instructions on pages 12-19 and layout drawings provided by Systems, LLC for installation details.

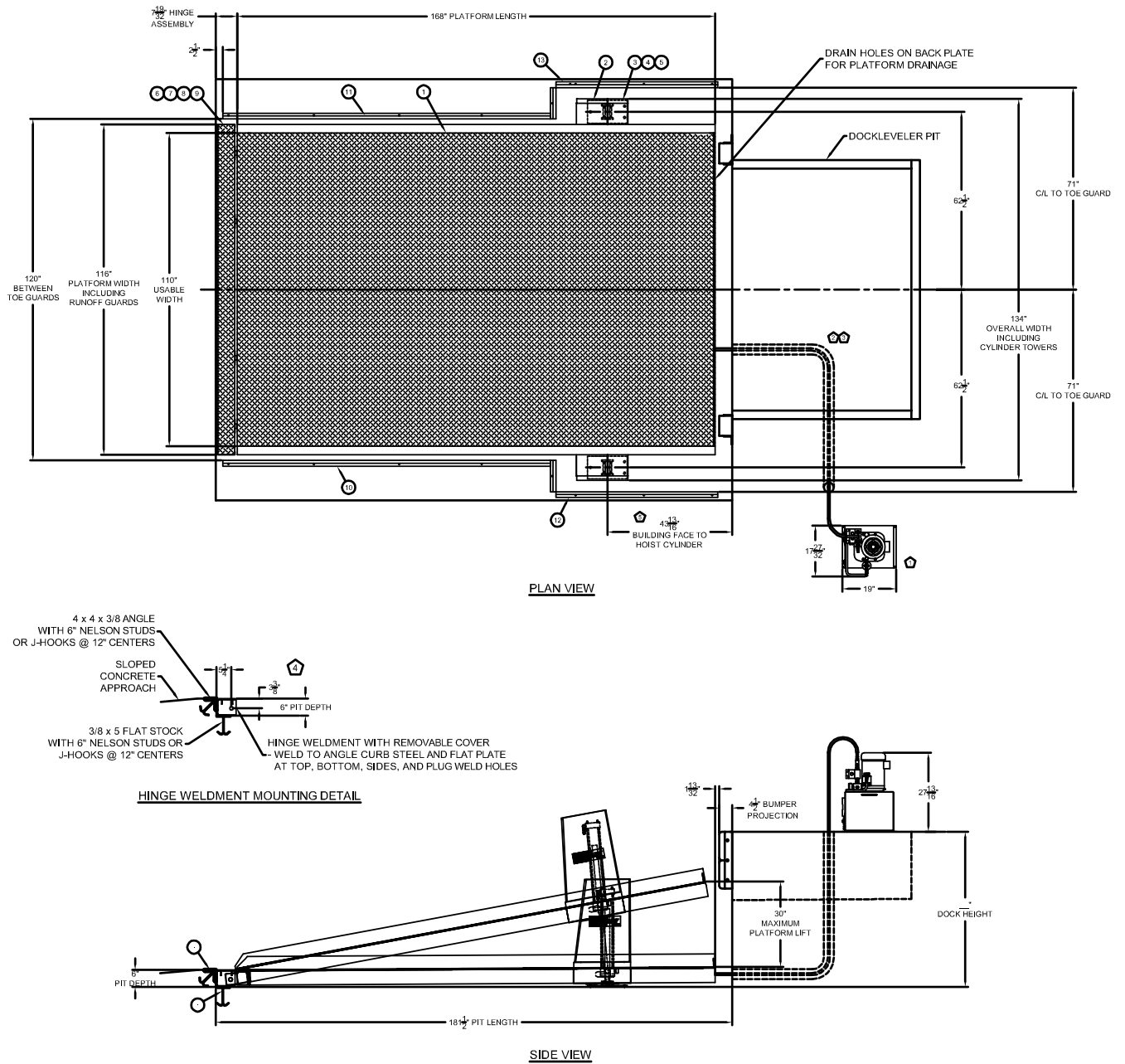


Figure 5

# INSTALLATION

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## Prepare Surface & Leveler

Before installing the truck leveler on the surface, the following work must be performed:

1. Ensure all truck leveler components are present and accounted for as shown on page 9.
2. Remove all debris from the surface and sweep it clean.
3. Check the entire truck leveler surface for proper construction according to the layout drawings provided by Systems, LLC.
4. Have four (4) blocks at least 8" (203.2 mm) tall and able to hold at least 2000 lbs (1000 kg) of weight to set the truck leveler on once it is unloaded from the transport vehicle.
5. Remove any control panel, parts and bumpers that may be banded to the truck leveler.
6. Install the truck bumpers as required.
7. Make sure the mounting hardware or lifting hooks have the appropriate lifting capacity for the truck leveler; check the Bill Of Lading (BOL) for actual shipping weight.
8. Attach lifting chains to the four corners of the truck leveler (see Figure 6) and to a lifting device (i.e., hoist or fork truck) having the appropriate lifting capacity and reach.

10. Once truck leveler is inside the building, or near the install position, place the truck leveler on four (4) blocks at least 8" (203.2 mm) tall and able to hold at least 2000 lbs (1000 kg) of weight to prepare the hydraulic installation.

### **WARNING**

The truck leveler is heavy. Use a lifting device and chains with the appropriate lifting capacity and reach.

9. If adjustments are needed to insert the truck leveler into a door opening or other tight space, place the truck leveler on four (4) blocks at least 8" (203.2 mm) tall and able to hold at least 2000 lbs (1000 kg) of weight.

### **NOTICE**

Truck leveler must be set on blocks at least 8" (203.2 mm) tall when unloading to protect components under the leveler.





Figure 6



Figure 7



# INSTALLATION

## Install Leveler & Hydraulics

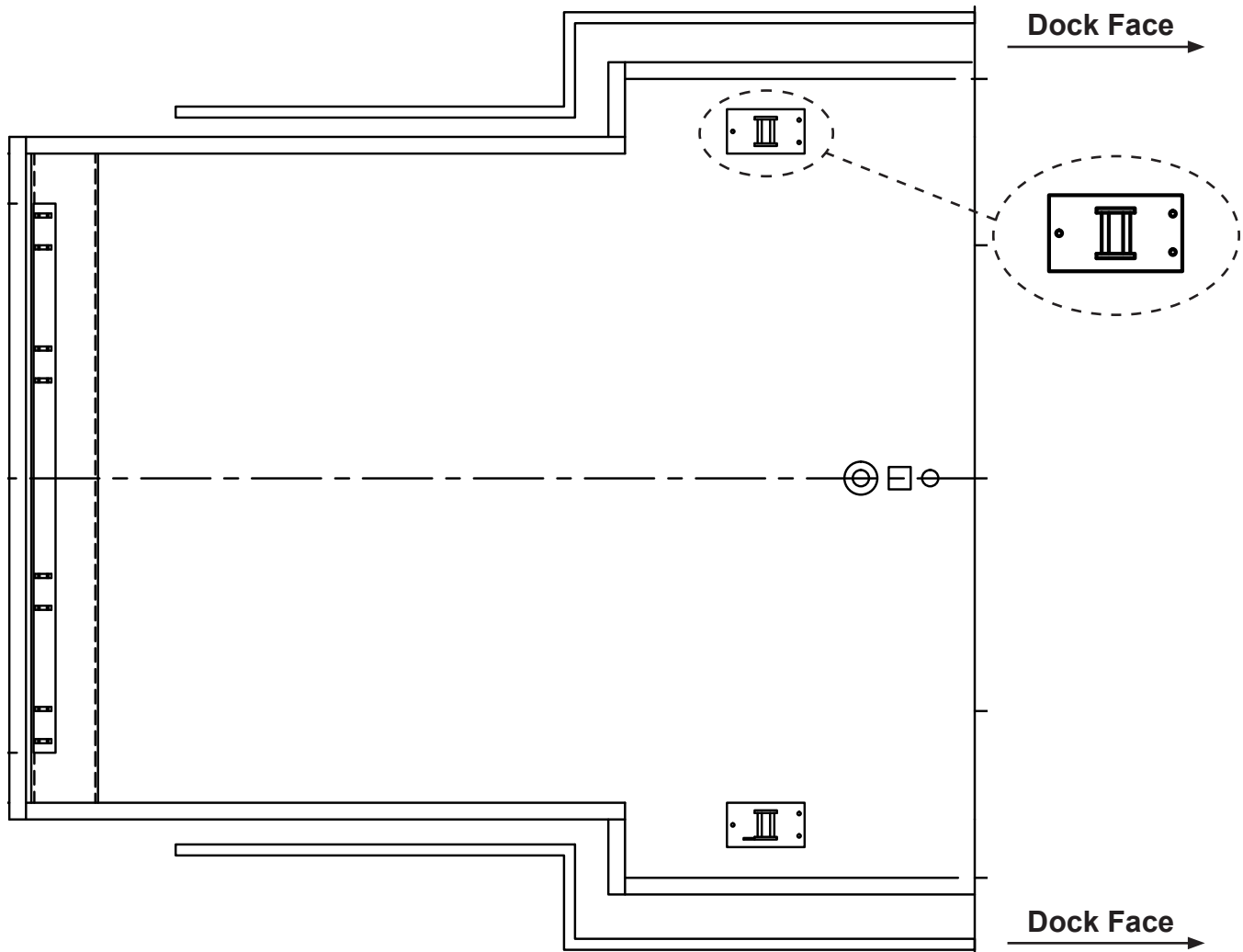


Figure 7

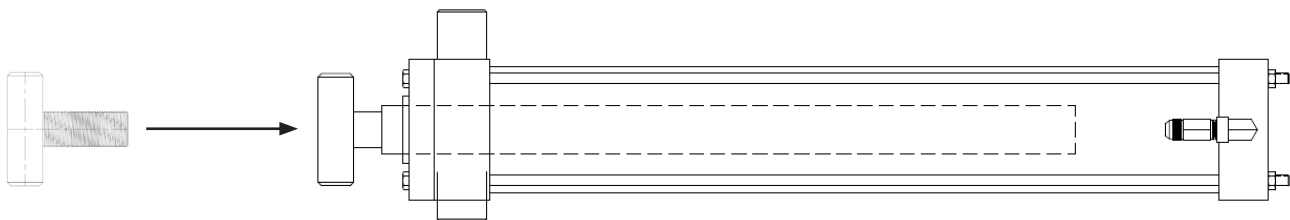


Figure 8

## Install Leveler & Hydraulics

1. Locate and anchor the hydraulic trunnions according to the layout drawings provided by Systems, LLC. Orient the trunnion with the two bolts toward the dock face as shown in Figure 7; use minimum 5/8" x 5" anchor bolts. Torque all anchors to the vendor specifications.

2. Locate and anchor the trunnion hinge weldment according to the layout drawings provided by Systems, LLC. Use minimum 5/8" x 5" anchor bolts. Torque all anchors to the vendor specifications.

3. Take the "T" bar weldment from the included parts and partially install into both main cylinders as shown in Figure 8.

4. Connect the long hydraulic hose from the Powerpack to the "T" fitting under the truck leveler as shown in Figure 9.

5. Using an appropriate lifting device, lower truck leveler on to the hydraulic trunnions and the rear hinge trunnion weldment as shown in Figure 10.

6. Using the pins provided, connect the truck leveler platform to the trunnion hinge weldment as shown in Figure 11.

7. Level the platform using the "T" bars at the end of each cylinder. Turn "T" bars clockwise all the way in, then adjust counter-clockwise incrementally to level the platform left to right.

## NOTICE

Level the unit front to rear and left to right. Shim as required to obtain a level platform, then weld the shim(s) and touch up with paint as needed.

8. Install the straps on the cylinder trunnions.

9. Disconnect the lifting device(s).

10. Locate the Powerpack per the layout drawings provided by Systems, LLC.

11. Anchor the Powerpack in place using minimum 3/8" x 3" anchor bolts. Torque all anchors to the vendor specifications.

12. Proceed to "Install Control Box and Wiring" on page 16.



Figure 9

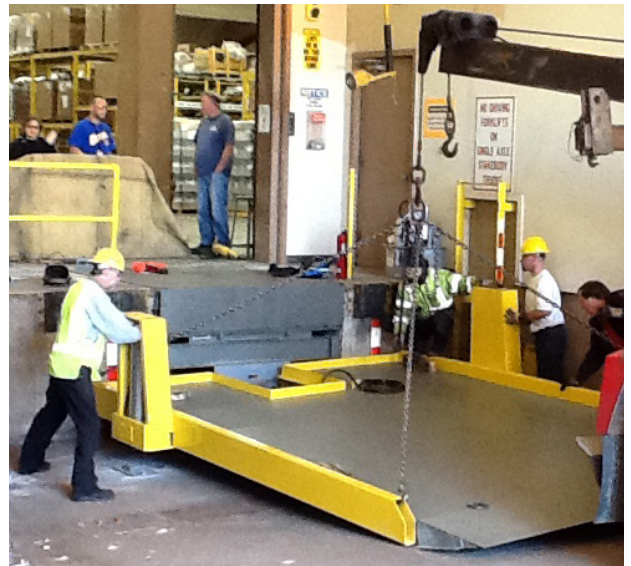


Figure 10



Figure 11

# INSTALLATION

## Install Control Panel and Wiring

### **DANGER**

Make sure that the power source has been locked out and tagged according to OSHA regulations and approved local electrical codes.

### **NOTICE**

DO NOT connect the dock leveler electrical wiring and ground connections until all welding has been completed.

DO NOT ground welding equipment to any hydraulic or electrical components of the dock leveler. Always ground welding equipment to the dock leveler frame, NEVER to the platform.

Failure to follow these instructions may damage the motor, hydraulics, wiring, and/or control panel.

### **CAUTION**

All electrical work — including the installation of the disconnect panel, control panel, and final connections to the pit junction box — must be performed by a certified electrician and conform to all local and applicable national codes.

### **DANGER**



#### **Arc Flash and Shock Hazard PPE [Personal Protection Equipment] Required**

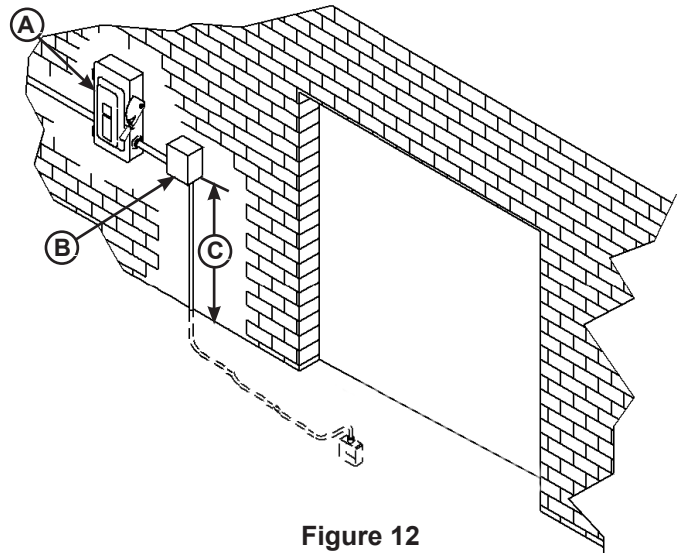
De-energize equipment before working on or inside. Do not open cover without appropriate PPE. Refer to NFPA 70E for PPE requirements. This panel may contain more than one power source.

**Hazardous Voltage  
Will Result in Death  
or Serious Injury**

175-4-0738 Rev A

### **NOTICE**

Where indicated, all components must be connected to a SAFETY EARTH GROUND that conforms to the 1999 National Electrical Code Section 250-50 section (a) or section (c) for a grounding electrode system.



**Figure 12**

**A— Disconnect Panel (provided by others)**  
**B— Control Panel**    **C— Distance, 48 in. (1219 mm)**

1. Mount the push-button control panel (B) so bottom of control panel-to-dock floor distance (C) is 48 in. (1219 mm). See Figure 12.
2. Install electrical disconnect panel (A) if not already installed. Disconnect panel supplied by others.
3. Install and connect the control wiring (see drawings supplied with equipment).
4. Connect the truck leveler power cable to the field wires in the junction box.
5. Seal the conduit in any location where the conduit crosses over temperature zones that could produce condensation.  
  
**Optional:** Install spacers between the wall and enclosure to provide temperature insulation and air flow. If the conduit could fill with water, a drip leg may be needed.
6. Install placard (see page 17).

## Placard Installation Instructions

- Owner/Users are responsible for the installation and placement of product placards.
- Make sure placard is in plain view of dock leveler and/or vehicle restraint operations.
- Suggested placement of placard is near control box attached to electrical conduit by using nylon cable tie. If there is no control box present, mount placard on wall to the immediate left of leveler at eye level.

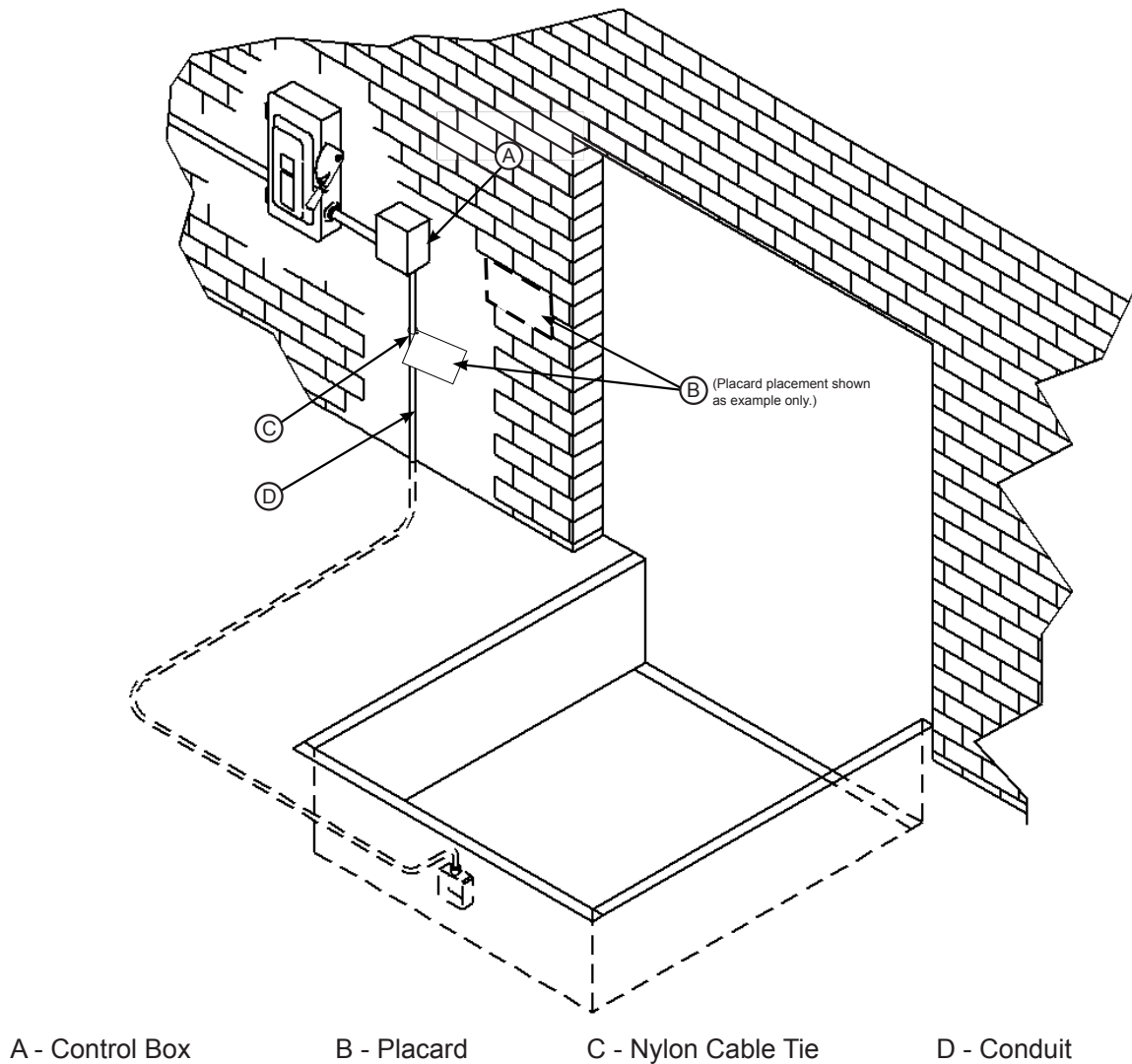
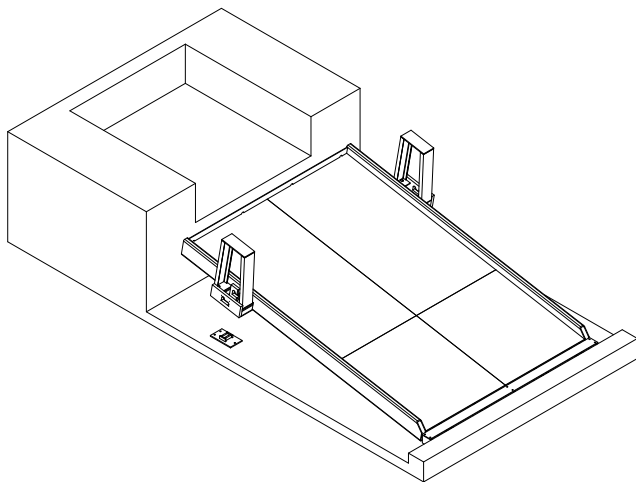


Figure 13

# INSTALLATION

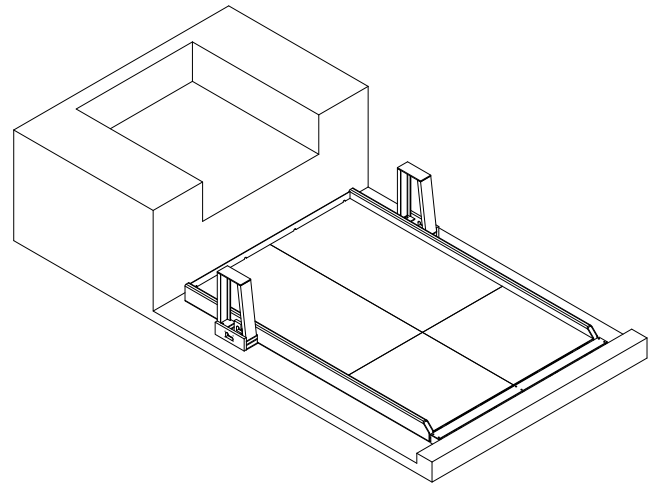
## Put New Truck Leveler Into Service

1. Verify that the hydraulic fluid reservoir is full.
2. Check that all hose routings are secured. Inspect for leaks on all hose connections.
3. Check that the leveler is flush with the surface and that the platform lip/ front hinge trunnion weldment contacts approach evenly.
4. If an excessive transition exists between the truck leveler and lip/ front hinge trunnion weldment to the approach, contact Technical Services for further instructions.
5. Turn the main electrical power ON.



**Figure 14**

6. Raise the leveler platform fully by pressing and holding the RAISE button.
7. Release the RAISE button. The platform will stop and remain in position.



**Figure 15**

8. Lower the leveler platform fully by pressing and holding the LOWER button.

**Note:** The truck leveler will lower very slowly when not loaded by a transport vehicle.

9. Perform steps 4-6 at least four times to purge any air that may be in the hydraulic system and to ensure proper operation.

10. If the truck leveler appears to be operating too slowly, the flow control valve on the Powerpack can be adjusted. Turn the flow control valve (A) clockwise to slow the unit down and counter-clockwise to increase the speed. See Figure 16.

**Note:** The unit has safety velocity fuses on both main cylinders to ensure safety in the event of a hose break. If the flow control is opened too far, the unit will lock up under its own weight on the velocity fuse(s). Close the flow control valve slightly and try again.

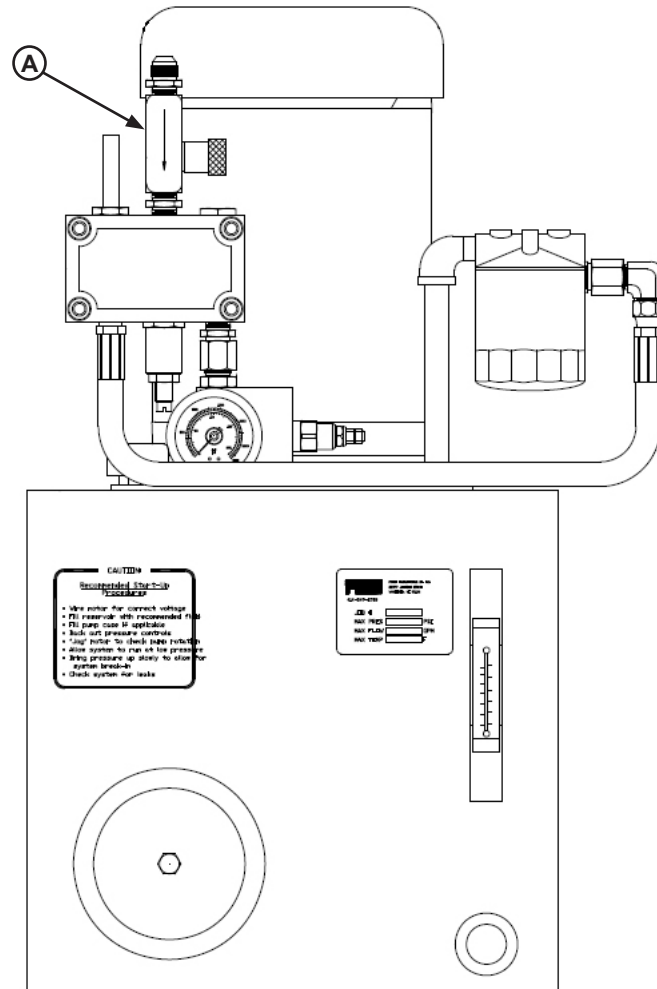


Figure 16

# OPERATION

## Operational Precautions

### **DANGER**

Stay clear of truck leveler and vehicle restraint when transport vehicle is entering or leaving dock area.

DO NOT move or use the truck leveler or restraint if anyone is under, on or in front of leveler.

Keep hands and feet clear of pinch points. Avoid putting any part of your body near moving parts.

### **WARNING**

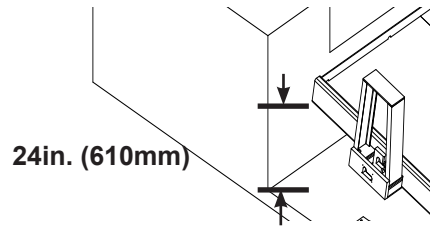
Only trained personnel should operate the truck leveler.

DO NOT use a broken or damaged truck leveler. Make sure proper service and maintenance procedures have been performed on leveler before using.

Transport vehicle wheels must be chocked unless a vehicle restraint is used. Never remove the wheel chocks until loading/unloading is finished and transport driver has been given permission to leave.

Maintain a safe distance from side edges of leveler during the loading/unloading process.

### **WARNING**



The PowerLift hydraulic truck leveler is designed to compensate for a maximum + 24 in.(610mm)\* of height difference between the loading dock floor and the approach.

\*Service height may vary with design specifications

DO NOT overload the truck leveler.

DO NOT operate any equipment while under the influence of alcohol or drugs.

DO NOT leave equipment or material unattended on the truck leveler.



## Operating Instructions

1. Check to make sure the transport vehicle is positioned squarely against dock bumpers.
2. Instruct driver to remain at the dock until the loading or unloading process has been completed.
3. Chock the transport vehicle wheels, or use a vehicle restraint if available.
4. Press the RAISE button on the control panel to raise the transport vehicle to the desired height.
5. Press the LOWER button on the control panel to lower the transport vehicle to the desired height.
6. When loading or unloading is finished, lower the platform fully by pressing and holding LOWER button until the unit is completely stored.
7. Remove chocks from transport vehicle wheels, or release the vehicle restraint if used.
8. Indicate to driver that the transport vehicle may leave the dock.

# MAINTENANCE

## Maintenance Precautions

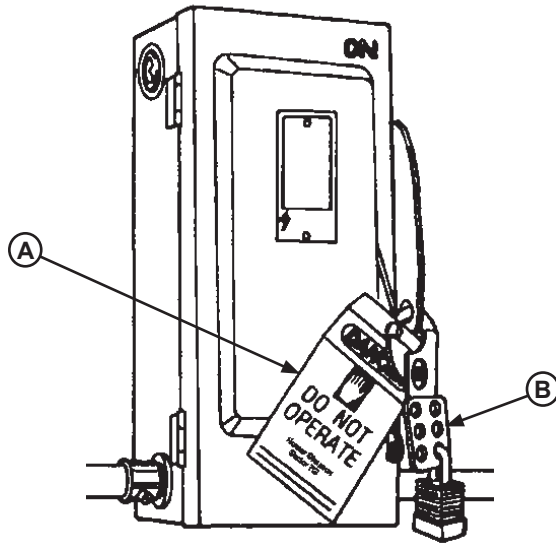
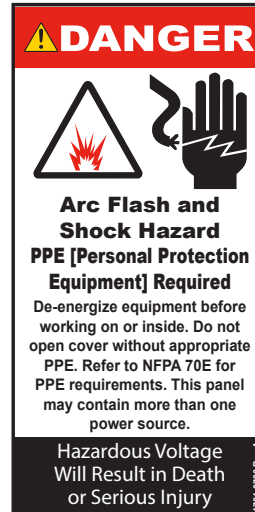


Figure 17

A— Tag Out Device




B—Lock Out Device

**! DANGER**

Use an additional means to support the truck leveler anytime when physically working in front of or under the truck leveler. This additional means may include, but is not limited to a boom truck, fork truck, stabilizing bar or equivalent.

When working with electrical or electronic controls, make sure that the power source has been tagged (A) and locked out (B) according to OSHA regulations\* and approved local electrical codes (see Figure 17).

**! WARNING**



Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the unit before maintenance is complete.

Whenever maintenance is to be performed under the truck leveler platform, support the platform by external means. When possible, lock out and tag out the external support in the service position using an OSHA approved lockout device\* (B) and tag out device\* (A).

Only the person servicing the equipment should have the capability to remove the lockout devices. The tag out devices\* must inform that repairs are in process and clearly state who is responsible for the lockout condition.

**! WARNING**

A hard hat or other applicable head protection should always be worn when working under or around a truck leveler.

\* Refer to OSHA regulations 1910.146. Confined Space and 1910.147. Lockout/Tagout

## Periodic Maintenance

### Weekly Maintenance

- Operate the truck leveler through the complete operating cycle to maintain lubrication.
- Clean all dirt and debris from around and on top of truck leveler. Build-up of foreign material in hinge and cylinder areas will cause abnormal operation.
- Check reservoir fluid level on the sight glass (C). Add fluid as required.
- Check all hose connections for leaking fluids. Repair or replace as needed.
- Check fluid filter gauge (B). Replace filter when indicated on dial.

### Quarterly Maintenance

- Complete Weekly Maintenance.
- Inspect the following for damage/abnormal wear:
  - Inspect area under the platform for damage.
  - Check welds for cracks.
  - Cylinder pins and mounting holes.
  - Hinge pins.
  - Inspect hoses, cylinders, fittings and powerpack.
  - Control box and conduit for damage.
- Lubricate the following areas with white lithium grease (see Figures 19 and 20):
  - (D)— Trunnion hinge pins.
  - (E)— Platform cylinder pivots.
- Verify main system pressure (A) is set at 2100 psi. See page 24 if adjustment is required.
- Check all anchors for proper torque specification.

### Approved Hydraulic Fluids

To ensure normal operation of the truck leveler, use only aircraft hydraulic fluid designed to meet or exceed military specification MIL-H-5606-G. The following hydraulic fluids are recommended:

- ULTRA-VIS-HVI-15
- Aero Shell Fluid 4 or Fluid 41
- Mobil Aero HFA Mil-H5606A or Aero HF
- Texaco Aircraft Hydraulic Oil 15 or 5606
- Exxon Univis J13
- Castrol Brayco Micronic 756

These fluid brands can be mixed together. Use of hydraulic fluids with equivalent specifications to those listed here are acceptable.

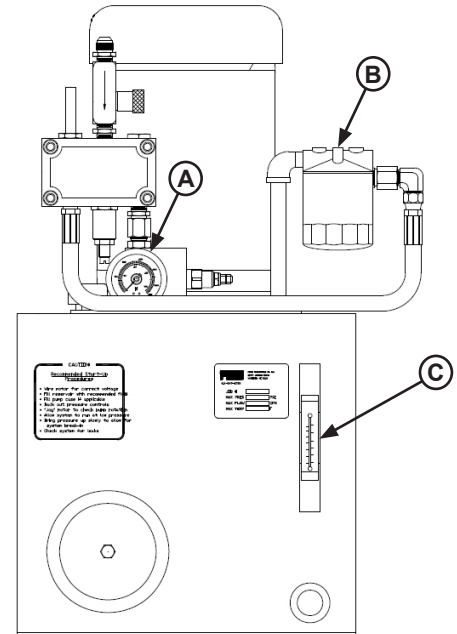


Figure 18

A — Pressure Gauge      C — Sight Glass  
B — Fluid Filter Gauge



Figure 19

D — Trunnion Hinge Pin

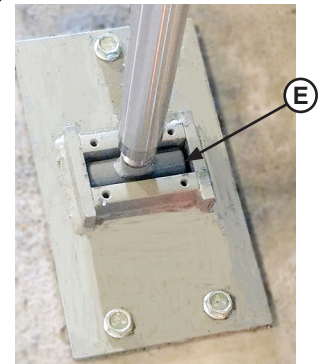


Figure 20

E — Platform Cylinder Pivot

## NOTICE

Use of fluids that do not have equivalent specifications to those in the preceding list will result in abnormal operation of the dock leveler and voiding of warranty.

## NOTICE

Failure to properly lubricate the truck leveler will cause abnormal operation of the leveler.

# ADJUSTMENTS

## Adjust Main Pressure Relief

### **WARNING**



Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the equipment before maintenance is complete.

### **WARNING**

A hard hat or other applicable head protection should always be worn when working under or around a truck leveler.

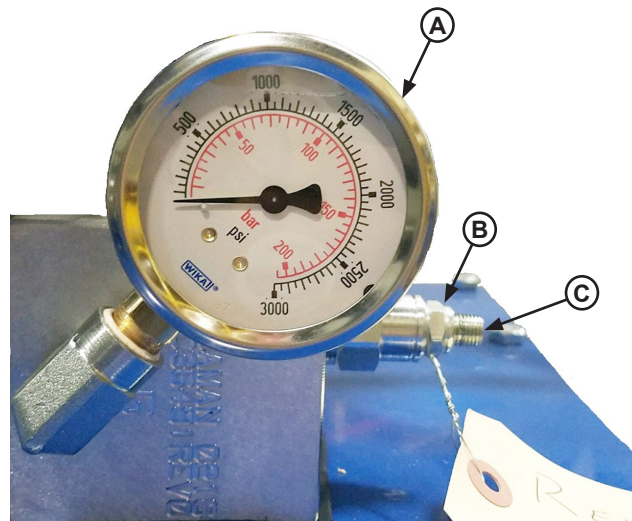


Figure 21

A— Pressure Gauge  
B— Jam Nut

C—Hex Adjusting Screw

**Note:** The main pressure relief may need to be *increased* if the platform does not rise/lower, or rises/lowers slowly and the system operates in pressure relief mode.

The main pressure relief may need to be *decreased* if the pump motor loads down when platform reaches the full raised or lowered position.

The pressure relief setting should never exceed 2100psi as shown.

See Troubleshooting section on pages 26-29 for more information.

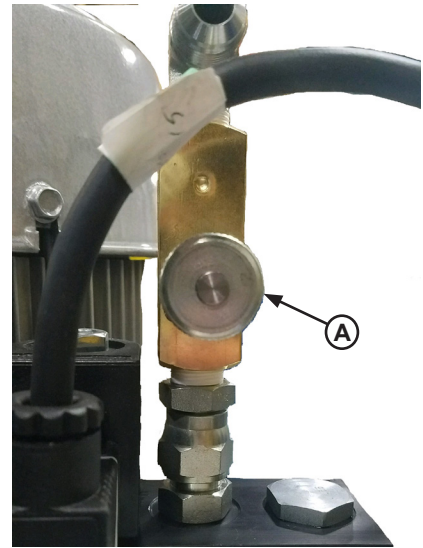
1. Loosen jam nut (B).
2. Adjust hex adjusting screw (C) as follows:
  - To increase pressure relief, turn hex screw clockwise.
  - To decrease pressure relief, turn hex screw counter-clockwise.
3. Tighten the jam nut.
4. Cycle leveler and verify pressure relief setting.
5. Repeat steps 1– 4 as necessary.

## Adjust Flow Control

If the truck leveler appears to be operating too slowly, the flow control valve (**A**) on the Powerpack can be adjusted. Turn the flow control valve clockwise to slow the unit down and counter-clockwise to increase the speed.

See Troubleshooting section on pages 26-29 for more information.

**Note:** The unit has safety velocity fuses on both main cylinders to ensure safety in the event of a hose break. If the flow control is opened too far, the unit will lock up under its own weight on the velocity fuse(s). Close the flow control valve slightly and try again.



**Figure 22**

**A — Flow Control Valve**

# TROUBLESHOOTING

## **DANGER**

Use an additional means to support the truck leveler anytime when physically working in front of or under the truck leveler. This additional means may include, but is not limited to a boom truck, fork truck, stabilizing bar or equivalent.

## **WARNING**

When service under the truck leveler is required, always lock all electrical disconnects in the OFF position after raising the platform.

Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the truck leveler before maintenance is complete.

A hard hat or other applicable head protection should always be worn when working under or around a truck leveler.

**Before performing the detailed troubleshooting procedures, check the following items first:**

- Check all fuses inside the control panel(s). Replace any blown fuse(s) with a fuse of equal specification.
- Make sure the correct voltages are present at the proper locations inside the control panel(s).

Symptom	Possible Cause	Solution
<b>Platform does not rise. Motor does not energize.</b>	Motor overload device tripped.	Reset overload relay or breaker. Determine cause of device tripping.
	Motor starter (three-phase) or motor relay (single-phase) not energizing.	Check voltage at starter or relay coil. <ul style="list-style-type: none"> <li>• If voltage is present and starter or relay does not energize, replace starter or relay.</li> <li>• If voltage is not present, check all components in series with the starter or relay coil.</li> </ul>

# TROUBLESHOOTING

Symptom	Possible Cause	Solution
<p><b><u>Three-phase units only:</u></b>  <b>Platform does not rise.</b>  <b>Motor hums, but does not run.</b></p>	<p>No voltage is present on one line.</p> <p><b>Note:</b> A motor that is missing voltage on one line is said to be single-phased.</p>	<p>Check for blown fuses at branch circuit disconnect. Replace fuse. Determine cause of blown fuse.</p>
		<p>Check motor starter as follows:</p> <ol style="list-style-type: none"> <li>1. Disconnect wires at load side of starter.</li> <li>2. Energize the starter.</li> <li>3. Measure line-to-line voltage at line side of starter.</li> <li>4. Measure line-to-line voltage at load side of starter.</li> <li>5. Line-side and load-side voltages should be approximately the same. Replace starter if voltage values are considerably different from one another.</li> </ol>
		<p>Check all wiring to motor for high resistance or no connection.</p>
<p><b><u>Three-phase units only:</u></b>  <b>Platform does not rise.</b>  <b>Motor runs in reverse</b></p>	<p>Phase reversed.</p>	<p>Reverse any two legs at the branch circuit disconnect.</p>
<p><b><u>Single-phase units only:</u></b>  <b>Platform does not rise.</b>  <b>Motor energizes, but does not run.</b></p>	<p>Line voltage too low.</p>	<p>Check wiring to motor for high resistance. Check for loose or corroded connections. Check if gauge of wires to motor are of correct size and specification for load requirement. Replace if necessary.</p>
	<p>Faulty motor centrifugal switch.</p>	<p>Replace motor.</p>
	<p>Faulty motor capacitor.</p>	<p>Replace motor.</p>



# TROUBLESHOOTING

Symptom	Possible Cause	Solution
Platform does not rise. Pump operates in pressure relief mode.	Heavy object(s) on platform.	Remove object(s) from platform. <b>Note:</b> For safety reasons, the dock leveler is designed to lift only the platform's own weight.
	Dock leveler binds.	Check for visible obstructions that could cause binding. Remove obstructions. If no obstructions found, contact Systems, LLC Technical Services.
	Pressure relief set too low.	Increase pressure relief. See page 24 for instruction. <b>Note:</b> The pressure relief valve must not be set at a level that causes the motor operating current to exceed the full load amp value* at any time, including when operating in pressure relief.  <i>* The full load amp value can be found on the inside cover of the control panel.</i>
Platform rises slowly.	Low hydraulic fluid.	Add hydraulic fluid, see page 23 for proper fluid level and type.
	Contaminated hydraulic system.	Clean and inspect valves. Flush contaminated oil from hydraulic system. Fill system with new oil; see page 23 for proper fluid level and type.
	Damage or blocked hydraulic hose(s) and/or valve(s).	Replace damaged hose(s). Check and remove blockage from hose(s) and/or valve(s).
	Pressure relief set too low.	Increase pressure relief. See page 24 for instruction. <b>Note:</b> The pressure relief valve must not be set at a level that causes the motor operating current to exceed the full load amp value* at any time, including when operating in pressure relief.  <i>* The full load amp value can be found on the inside cover of the control panel.</i>
Pump motor loads down when platform reaches the full raised position.	Pressure relief set too high.	Decrease pressure relief. See page 24 for instruction. <b>Note:</b> The pressure relief valve must not be set at a level that causes the motor operating current to exceed the full load amp value* at any time, including when operating in pressure relief.  <i>* The full load amp value can be found on the inside cover of the control panel.</i>

# TROUBLESHOOTING

Symptom	Possible Cause	Solution
<b>Platform does not rise to full height.</b>	Low hydraulic fluid.	Add hydraulic fluid, see page 23 for proper fluid level and type.
<b>Platform rises but does not lower.</b>	Solenoid not energized.	Locate solenoid. Coil must be energized when truck leveler lowers.  Check valve for magnetism at the coil.
	Faulty spool valve.	Remove coil from cartridge valve and cartridge valve from valve block.  -Check valve for contaminants and/or damage. -Replace valve if damaged. -Carefully wipe valve with clean rag (do not damage "O" rings on valve).  <b>NOTE:</b> Do not over-tighten coil on valve. Max torque is 0.83 ft. lbs. (just over finger tight). Do not over-tighten valve into block. Max torque is 15 ft. lbs. which will compress O-ring and prevent leakage.  Operate unit. Replace valve if problem persists after all other troubleshooting procedures.
<b>Platform locks into "safety" as platform lowers.</b>	Platform lowering speed is too fast.	Adjust platform down speed control. See Adjust Flow Control on page 25.  <b>Note:</b> Extreme cold weather and/or incorrect hydraulic fluid may also cause cylinder to lock. Decrease down speed to compensate.
	Incorrect or aged hydraulic fluid.	Replace hydraulic fluid, see page 23 for proper fluid level and type.

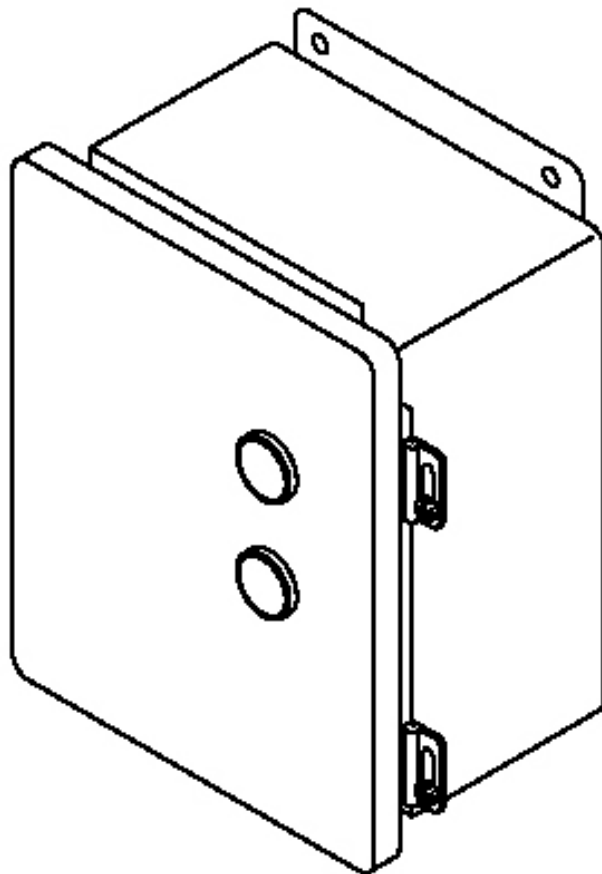
If additional troubleshooting assistance is required, contact Systems, LLC Technical Services with equipment serial number or customer order number (CO#).

**Technical Service at 800-643-5424 or [techservices@loadingdocksystems.com](mailto:techservices@loadingdocksystems.com)**

# PARTS

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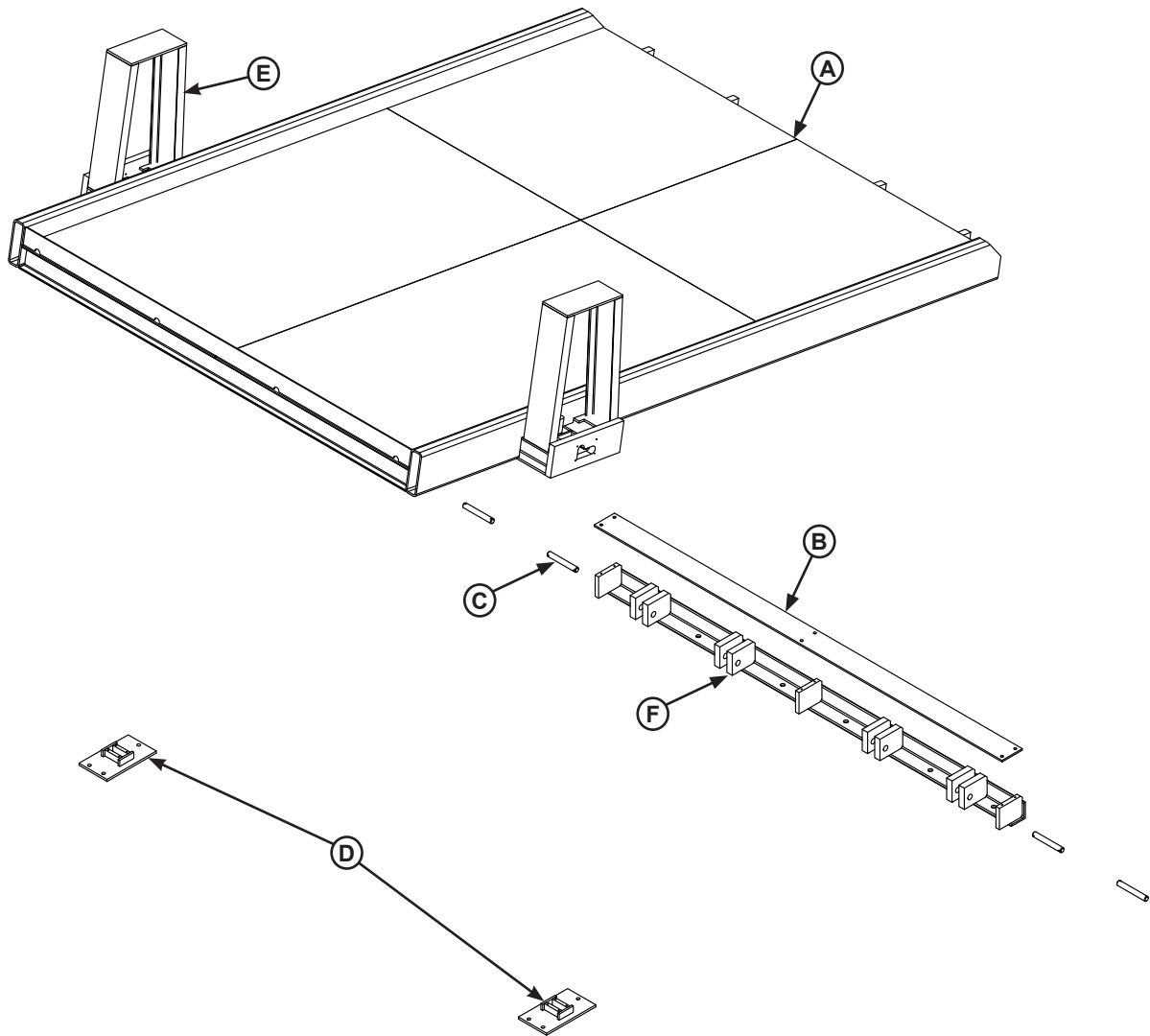
## Control Box



Part Number	Description
*	Control Box

\* Provide truck leveler serial number, voltage, phase, and options when e-mailing, calling or faxing controller orders.

## Frame and Platform



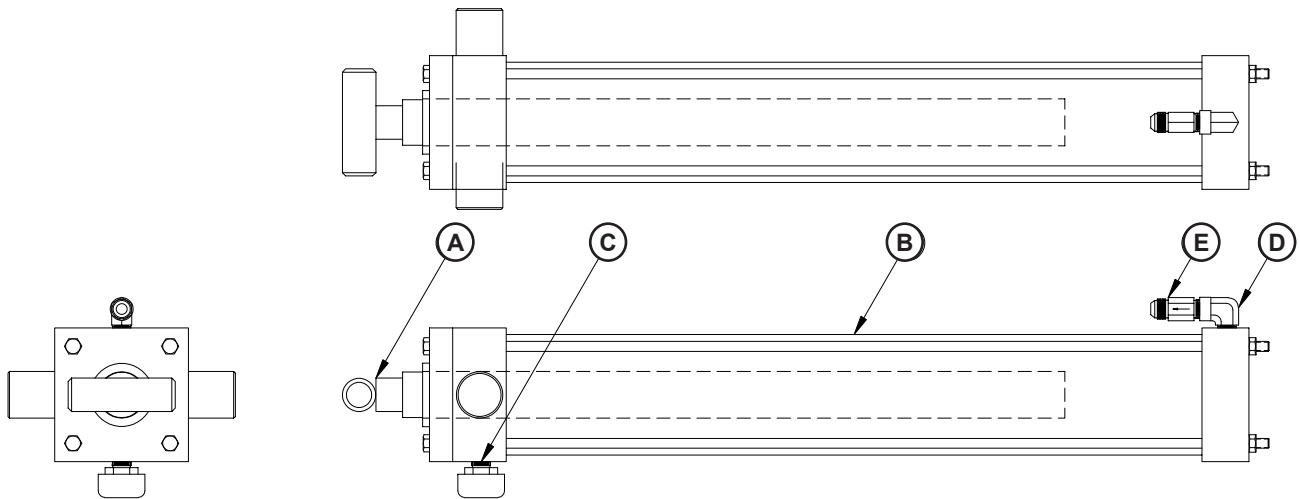
Item	Quantity	Part Number	Description
A	1	*	Platform Assembly
B	1	*	Trunnion Cover
C	4	*	Front Trunnion Pin
D	2	*	Main Cylinder Trunnions
E	4	*	Cover, Cylinder Tower
F	1	*	Front Trunnion Weldment

\* Provide truck leveler serial number and options when e-mailing, calling or faxing orders.

# PARTS

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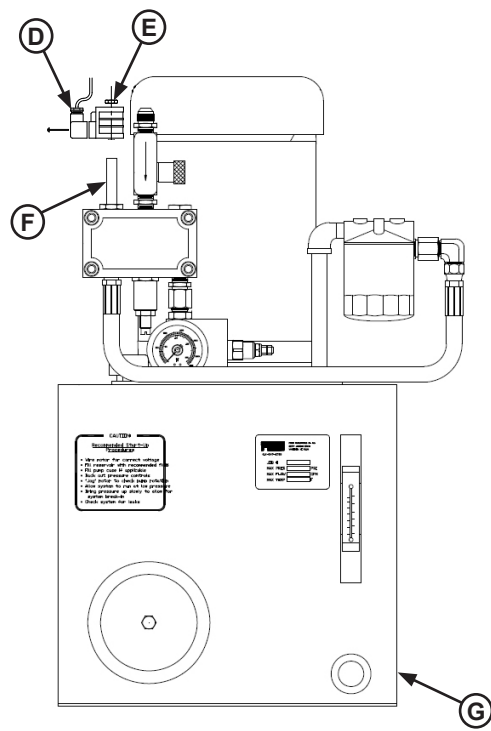
## Cylinder Assembly



Item	Quantity	Part Number	Description
*	1	<b>0525-0060</b>	<b>Cylinder Assembly, SMTL, Complete (Includes A-E)</b>
A	1	0524-0028	Trunnion Weldment - Cylinder
B	1	0521-0101	Hydraulic Cylinder
C	1	9301-0199	Fitting, Breather, Cap w/Dipstick
D	1	9301-0007	Fitting, Elbow, 90 Deg. Street, 3/8 NPTM x 3/8 NPTF
E	1	8581-0021	Velocity Fuse

# PARTS

## Hydraulic Parts





<b>Item</b>	<b>Quantity</b>	<b>Part Number</b>	<b>Description</b>
A	2	9904-0057	Hyd Hose, 1/2" x 108 Lg, #8 JICF both ends
B	1	9904-0120	Hyd Hose, 1/2" x 300 Lg, #8 JICF both ends
C	1	0521-0077	FTG, Tee, Union #8JIC
D	1	4301-0004	Cable Assembly
E	1	8581-0004	Delta Coil
F	1	8581-0010	Valve, Cartridge, 2-Way N.C., Poppet
G	1	*	Powerpack

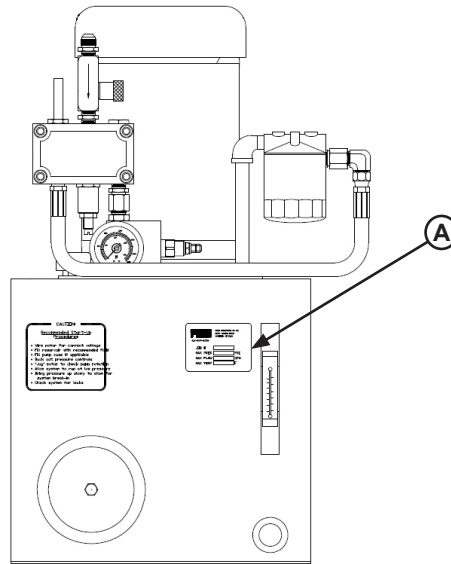
\* Provide truck leveler serial number and options when e-mailing, calling or faxing orders.

# MISCELLANEOUS

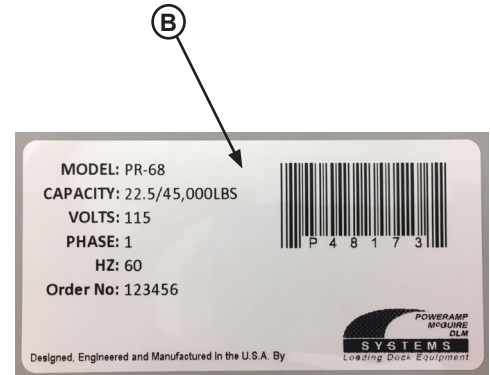
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## Customer Information



**Figure 23**



**Figure 24**

*NOTE: Refer to Figure 23 for orientation of powerpack and Figure 24 for example of decal.*

*The LEVELER model/serial number decal is located on the powerpack (A).*

When you receive your new equipment, write down the model and serial number in the form provided. This will help ensure safe keeping of the numbers in the event the model/serial number decal (A, B) becomes lost or damaged.

Also, write down Systems, LLC's order number, the company that installed the equipment, and the original owner's name. This will all help to identify the specific equipment if more information is required.

When ordering, use part numbers and description to help identify the item ordered. Do not use "item" numbers. These are only for locating the position of the parts. Always give MODEL NUMBER and/or SERIAL NUMBER.

For service, call or contact:

Systems, LLC  
P.O. Box 309  
Germantown, WI 53022

Phone: (800) 643-5424  
Fax: (262) 255-5917

[www.loadingdocksystems.com](http://www.loadingdocksystems.com)

### Dock Leveler Information

Model \_\_\_\_\_

Serial No. \_\_\_\_\_

Systems, LLC, Job No. \_\_\_\_\_

### Vehicle Restraint Information

Model \_\_\_\_\_

Serial No. \_\_\_\_\_

Systems, LLC Order No. \_\_\_\_\_

### Original Owner Information

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

### Installer Information

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Date of Installation \_\_\_\_\_

## **STANDARD PRODUCT WARRANTY**

SYSTEMS, LLC warrants that its products will be free from defects in design, materials and workmanship for a period of one (1) year from the date of shipment. All claims for breach of this warranty must be made within 30 days after the defect is or can with reasonable care, be detected. In no event shall any claim be made more than 30 days after this warranty has expired. In order to be entitled to the benefits of this warranty, the product must have been properly installed, maintained and operated in accordance with all manufacturer's recommendations and/or specified design parameters and not otherwise have been subject to abuse, misuse, misapplication, acts of nature, overloading, unauthorized repair or modification, application in a corrosive environment or lack of maintenance. Periodic lubrication, adjustment and inspection in accordance with all manufacturers' recommendations are the sole responsibility of the Owner/User.

In the event of a defect, as determined by SYSTEMS LLC, covered by this warranty, SYSTEMS LLC shall remedy such defect by repairing or replacing any defective equipment or parts, bearing the cost for the parts, labor and transportation. This shall be exclusive remedy for all claims whether based on contract, negligence or strict liability.

## **WARRANTY LIMITATIONS**

THE ABOVE WARRANTIES ARE IN LIEU OF ANY OTHER WARRANTIES, WHETHER EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. SYSTEMS LLC AND ITS SUBSIDIARIES SHALL NOT IN ANY EVENT BE LIABLE TO ANYONE, INCLUDING THIRD PARTIES, FOR INCIDENTAL, CONSEQUENTIAL OR SPECIAL DAMAGES OF ANY KIND INCLUDING BUT NOT LIMITED TO, BREACH OF WARRANTY, LOSS OF USE, LOSS OF PROFIT, INTERRUPTION OF BUSINESS OR LOSS OF GOODWILL.