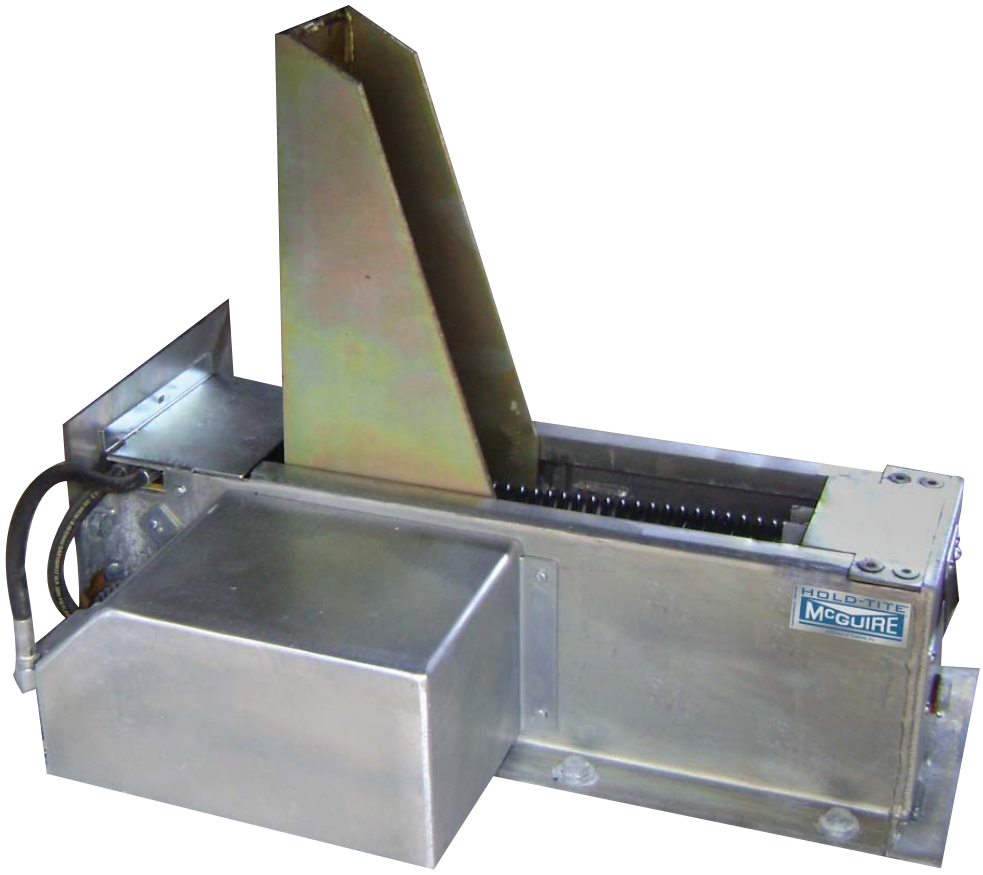
McGUIRE®
A Division of Systems, Inc.

HOLD-TITE®

Vehicle Restraint

OWNER'S / USER'S MANUAL
Low Amp Draw 8/2012 Present



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800.624.8473 • fax: 262.255.5917 • www.**wbmcguire**.com • techservices@docksystemsinc.com

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MAY 2014

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Recognize Safety Information

Safety-Alert Symbol

The Safety-Alert Symbol identifies important safety messages on equipment, safety signs, in manuals, or elsewhere. When you see this symbol, be alert to the possibility of personal injury or death. Follow the instructions in the safety message.

DANGER

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

WARNING

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

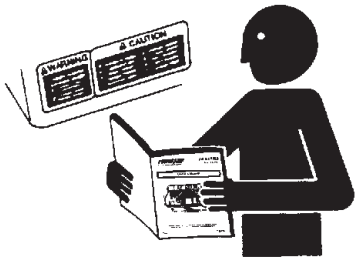
CAUTION

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

IMPORTANT

The use of the word IMPORTANT is to draw attention to a procedure that needs to be followed to prevent machine damage.

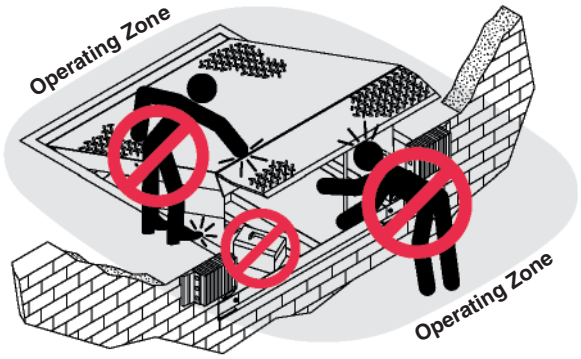
General Operational Safety Precautions



Read and understand the operating instructions and become thoroughly familiar with the equipment and its controls before operating the dock leveler.

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

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



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

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.

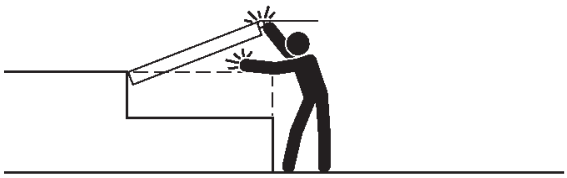
Operational Safety Precautions

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 freight carrier is entering or leaving area.

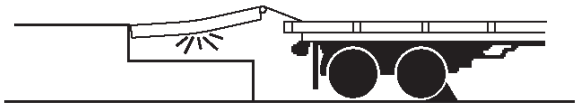
Do not move or use the dock leveling device if anyone is under or in front of it.



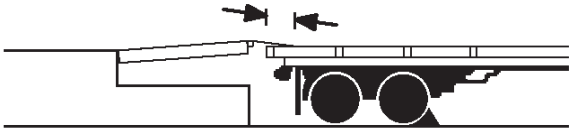
Keep hands and feet clear of pinch points. Avoid putting any part of your body near moving parts.

WARNING

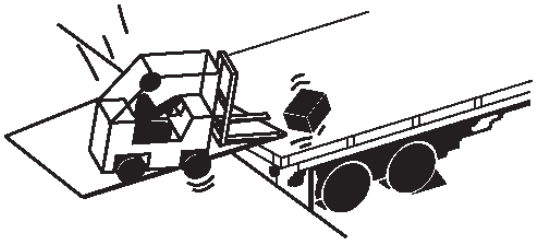
Chock/restrain all freight carriers. Never remove the wheel chocks until loading or unloading is finished and transport vehicle driver has been given permission to drive away.



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

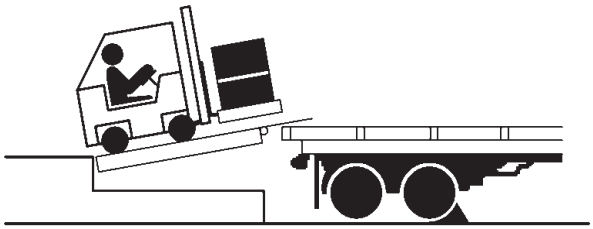


Make sure lip overlaps onto trailer at least 4 in. (102 mm).

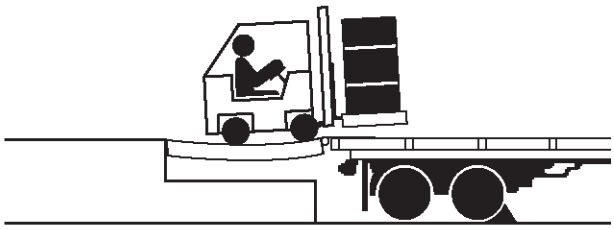


Keep a safe distance from both side edges.

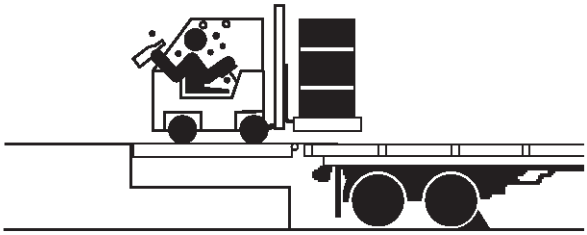
⚠ WARNING



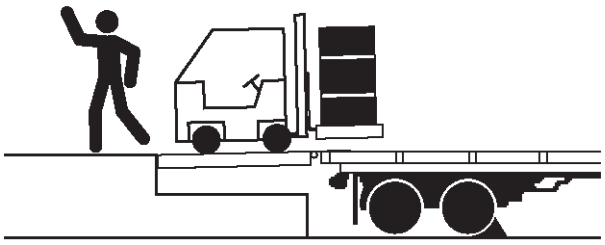
Do not use dock leveling device if freight carrier is too high or too low.



Do not overload the dock leveling device.



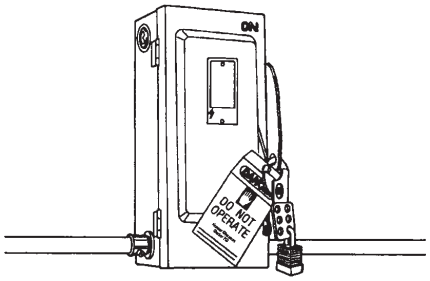
Do not operate any equipment while under the influence of alcohol or drugs.



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

Maintenance Safety Precautions

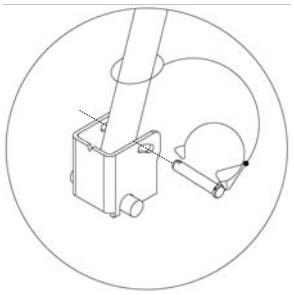
DANGER



Hydraulic and electrical power must be OFF when servicing the equipment. For maximum protection, use an OSHA approved locking device to lock out all power sources. Only the person servicing the equipment should have the key to unlock the device.

CAUTION

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.



The maintenance prop must be in the upright “service” position when working under the dock leveler. For maximum protection, use an OSHA approved locking device to lock the maintenance prop in the service position. Only the person servicing the equipment should have the key to unlock the device.

WARNING

ALWAYS disconnect electrical power source and ground wire before welding on dock leveler.

DO NOT ground welding equipment to any hydraulic or electrical components of the dock leveler. Always ground to the dock leveler frame.

Failure to follow these instructions may result in damage to dock leveler and/or serious personal injury or death.

WARNING

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

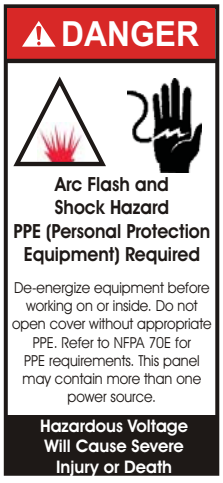
DO NOT grind or weld if uncontained hydraulic fluid or other flammable liquid is present. Stray sparks can ignite spills or leaks near the work area. Always clean up the oil leaks and spills before proceeding with grinding or welding.

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

Failure to follow these instructions may result in serious personal injury or death.

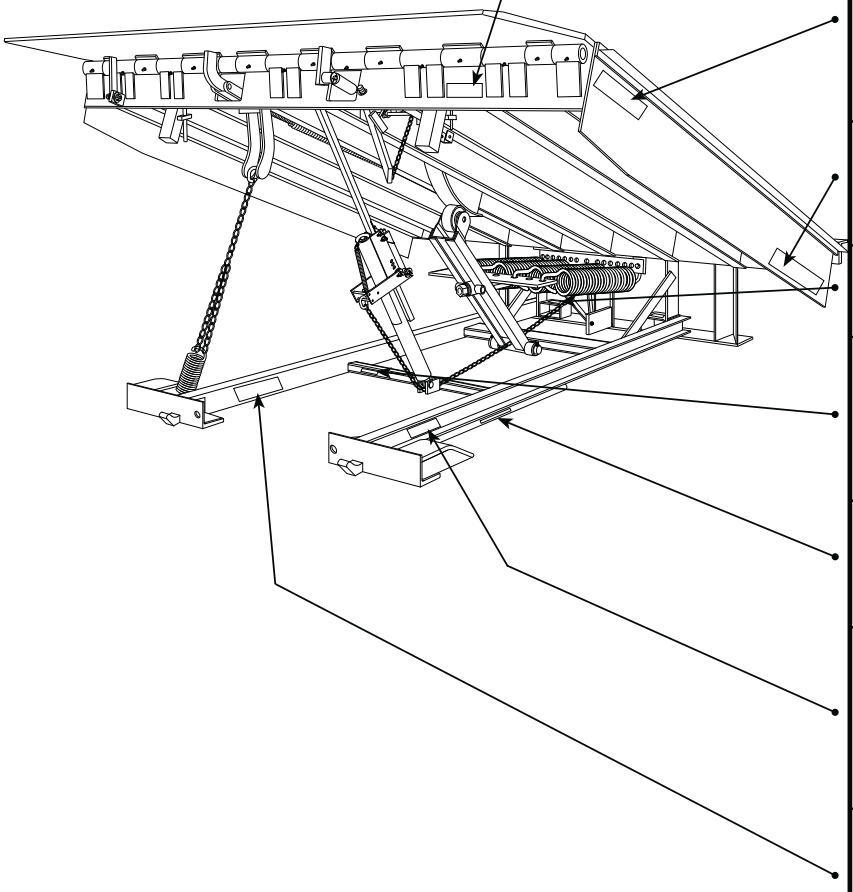
WARNING

ALWAYS stand clear of dock leveler lip when working in front of the dock leveler. Failure to do this may result in serious personal injury or death.

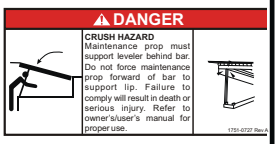


Dock Leveler Safety Decals

Every 90 days (quarterly) inspect all safety labels and tags to ensure they are on the dock leveler and are easily legible. If any are missing or require replacement, please call 1-800-643-5424 for replacements.



1751-0727



1751-0730 (x2)

(decal placed in same position on both sides)

1751-0329 (x2)

(decal placed in same position on both sides)

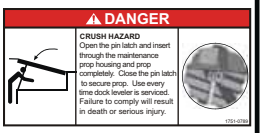
1751-0330 (x2)

(decal placed in same position on both sides)

1751-0728

1751-0788

1751-0789

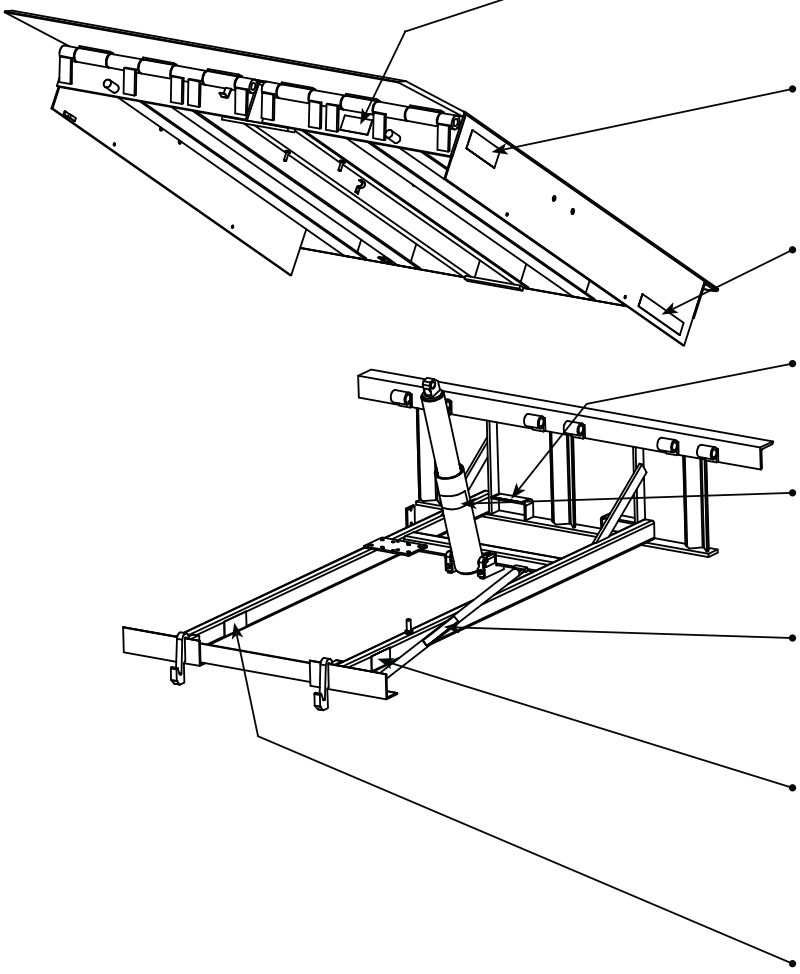


1751-0726

Note:
This is a example of dock leveler safety decals. See manual for your specific model for correct safety decal sheet or consulate Tech Serves

SAFETY DECALS

Every 90 days (quarterly) inspect all safety labels and tags to ensure they are on the dock leveler and are easily legible. If any are missing or require replacement, please call 1-800-643-5424 for replacements.



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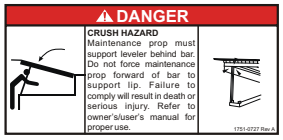
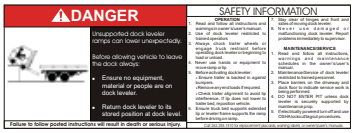


1751-0730 (x2)



(decal placed in same position on both sides)

1751-0329 (x2)

(decal placed in same position on both sides)

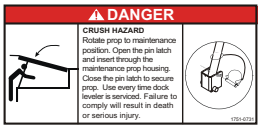
1751-0330 (x2)

(decal placed in same position on both sides)

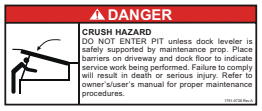
1751-0138

1751-0729

1751-0731



1751-0726



Note:
This is a example of dock leveler safety decals. See manual for your specific model for correct safety decal sheet or consulate Tech Serves

1. The owner/ user should recognize the inherent dangers of the interface between the loading dock and the transportation 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 and operating conditions. Maintaining, updating and re training 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. Owner's/user's shall actively maintain, update and retrain all operators on safe working habits and operations of the equipment.

2. The manufacturer shall provide to the initial purchaser 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.

3. It is recommended that when the transportation vehicle is positioned correctly in the dock opening and in contact with both bumpers, there shall be a minimum of 4.00 inches (100mm) overlap of the leveling device and the transportation vehicle at all times during the loading and unloading process.

4. The Owner/User must review all name plates, placards, decals, instructions and posted warnings and place the same in view of the operator or maintenance personnel for whom such warnings are intended for. Contact manufacturer for any replacements.

5. Manufacturer's recommended periodic maintenance and inspection procedures in effect at the date of shipment shall be followed at all times. Written documentation of maintenance, replacement parts or damage should be retained. In the event of damage notification to the manufacturer is required.

6. Loading dock equipment that has been structurally damaged or has experienced a sudden loss of main support while under load (such as what might occur when a transport vehicle pulls out from under the leveling device) shall be removed from service, inspected by a manufacturer's authorized representative, and repaired or replaced as needed before being placed back in service.

7. Any modifications or alterations of loading dock equipment shall only be done with prior written approval from the manufacturer and the same shall be at least as safe as the original equipment was prior to the modification and shall also satisfy all safety requirements of the manufacturer for the particular application of the leveling device.

8. When industrial moving devices are being used in the loading or unloading of product from the transportation vehicle, this vehicle shall have the brakes and wheel chocks applied appropriately or all other positive restraining device shall be fully utilized. It is recommended that trailers with air-ride suspension systems shall have its air exhausted prior to performing loading and unloading operation to minimize trailer bed drop.

9. Loading dock safety equipment should never be used outside of its intended use, vertical working range, or capacity. 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.

10. 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.

INTRODUCTION

Congratulations on your choice of a McGuire Hold-Tite vehicle restraint. This manual covers the Hold-Tite® vehicle restraint operating system.

Designed by McGuire to be a marvel of simplicity and efficiency, your vehicle restraint, when properly installed, will provide many years of trouble-free performance with an absolute minimum of maintenance. Its revolutionary hydraulic system efficiently controls and operates every function. To obtain maximum performance and longest possible use, a simple program of preventive maintenance is recommended and is outlined in this manual.

The Hold-Tite® vehicle restraint is designed to seek, find and maintain a tight, continuous hold on the RIG (Rear Impact Guard) bar, effectively eliminating "vehicle trailer creep". As an optional safety feature, the dock leveler and vehicle restraint can be interlocked, preventing operation of the dock leveler until the hold engages the transport vehicle RIG bar.

The vehicle restraint is firmly anchored to the drive way approach or the building wall for maximum holding power. The Hold-Tite® vehicle restraint is designed to withstand a pulling force of 30,000 lbs.

The Hold-Tite® vehicle restraint comes equipped with an electrical control panel, which allows push button operation of the vehicle restraint functions.

When combining a McGuire Dock Leveler with a Hold-Tite vehicle restraint, the control panel will allow for operation of both units in the same control panel.

Each Hold-Tite®, McGuire Dock Leveler 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 McGuire Technical Services.

Once again, thank you and congratulations on your purchase of a McGuire Hold-Tite® vehicle restraint.

Due to ongoing product improvement, some parts have changed, along with operation and trouble shooting methods. For further assistance, please contact:

McGuire Technical Service at 800-624-8473 or techservices@docksystemsinc.com

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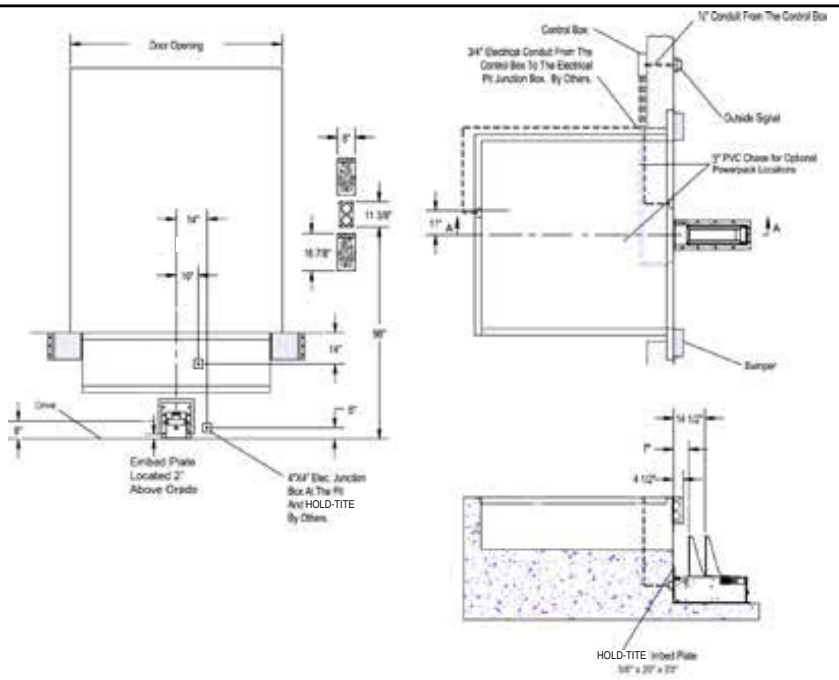
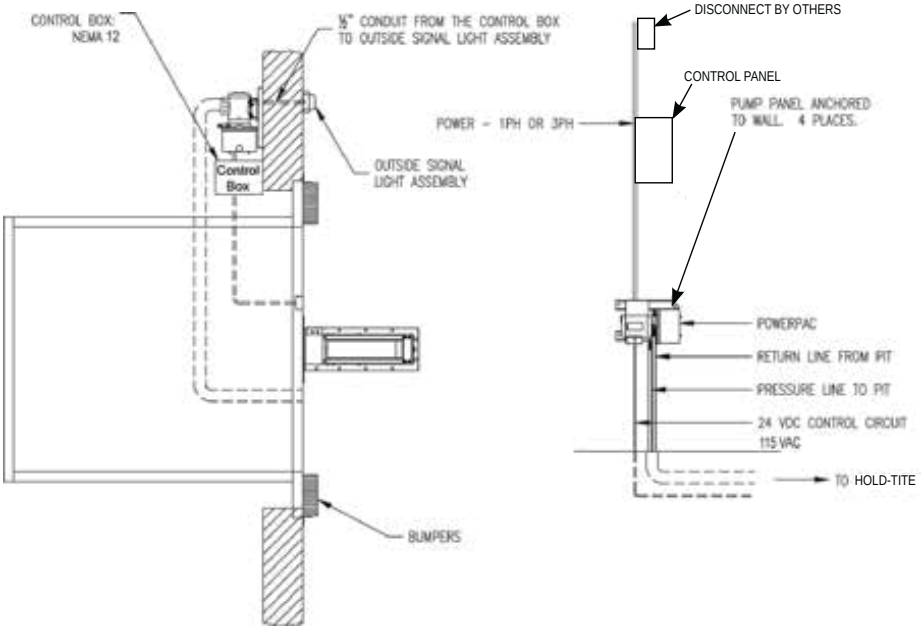
HOLD-TITE Overview



HOLD-TITE Remote Mount Powerpack

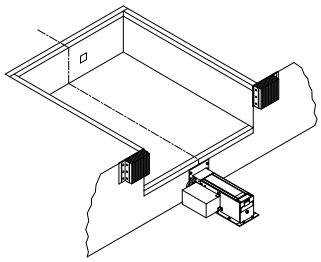


For comprehensive installation instructions of the HOLD-TITE read and understand the Installation and Operation Manual.

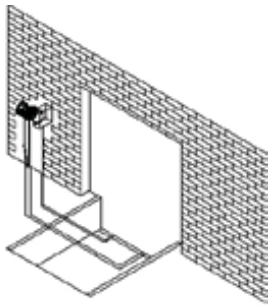
Powerpack Location Options

Coordinate powerpack location and hose length for proper placement.

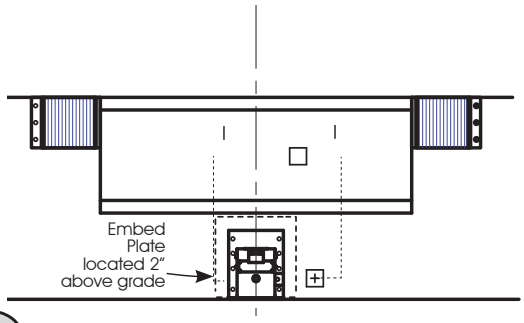
Dock Face (Self Contained)
Appropriate location when the likelihood of flooding, snow removal and damage from trailer/ trucks is minimal. Also recommended for use with non-hydraulically powered dock levelers.



Inside Building (Remote Mount)
Locate powerpck to minimize obstruction potential. Hydraulic and electrical lines from the Powerpack to the restraint are best placed through min. 3" PVC (hydraulic) and 3/4" (electrical) chase during pit construction.

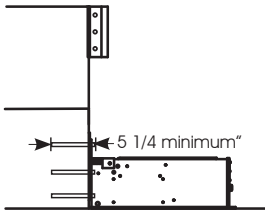


Concrete Dock Face (Standard Installation)



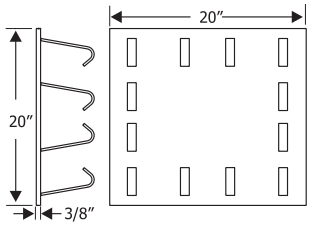
Wedge Anchors Method

Using back plate as a guide, drill six (6) holes for wedge anchors (3/4" x 5 1/4" min.) (Kit #2103-0005)



Wall Embed Method

Weld three sides of HOLD-TITE back plate to the optional embed mounting plate (Part #7953-0119) with continuous 1/4" fillet weld.



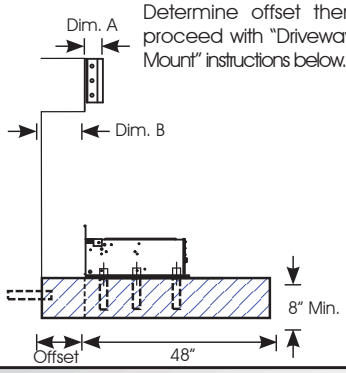
Cantilevered Dock (For bumper projection >4" or cantilevered dock or Edge-of-Dock leveler)

To determine size offset required, take total effective bumper projection (bumper size plus any cantilever) and subtract 4".

Offset Formula			
Dim. A Bumper Projection	**Dim. B** Cantelever		**Offset**
4"	+ Dim B	-4"	= Offset
6"	+ Dim B		
10"	+ Dim B		
15"	+ Dim B		

Driveway Mount

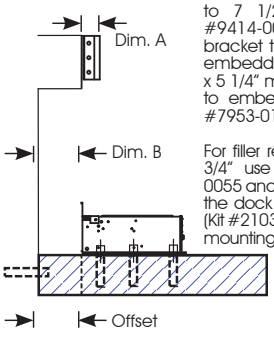
Determine offset then proceed with "Driveway Mount" instructions below.



Wall Mount

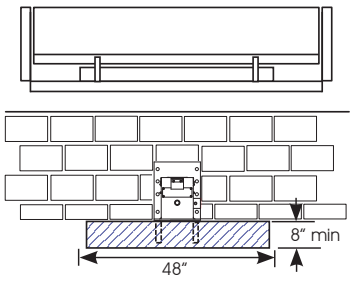
For filler requirements from 1 1/2" to 7 1/2" use cantilever bracket #9414-0054 and anchor cantilever bracket to the dock face or weld to embedded mounting plate (3/4" Dia. x 5 1/4" min. (Kit #2103-0004) or weld to embedded mounting plate (Part #7953-0119).

For filler requirements for 8 3/4" to 13 3/4" use cantilever bracket #9414-0055 and anchor cantilever bracket to the dock face (3/4" Dia. x 5 1/4" min. (Kit #2103-0004) or weld to embedded mounting plate (Part #7953-0119).



Driveway Mount (Recommended when dock face is unsuitable for HOLD-TITE Mounting)

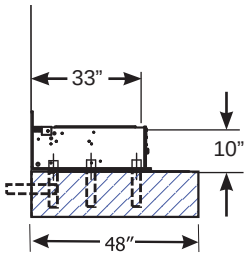
Driveway mount requires attachment to a concrete drive greater than 8" thick. For asphalt drive, pour 48" x 48" x 8" (min.) concrete pad and include six (6) 3/4" dowels into foundation wall. Then proceed with adhesive anchors or weld plate embed.



Drive Anchors Method

(Kit #2103-0003)

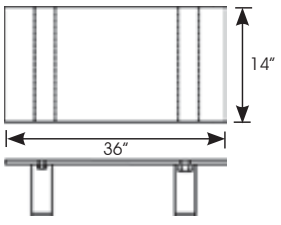
Install six (6) 3/4" Dia. x 5 1/4" min. wedge anchors at the base of the HOLD-TITE.



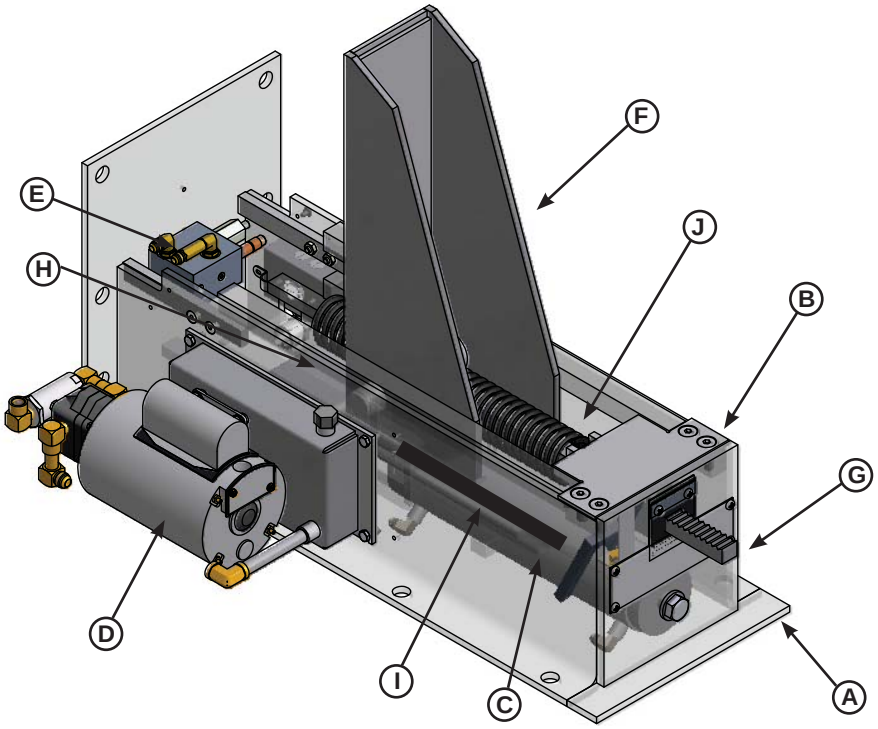
Drive Embed Method

Weld Method

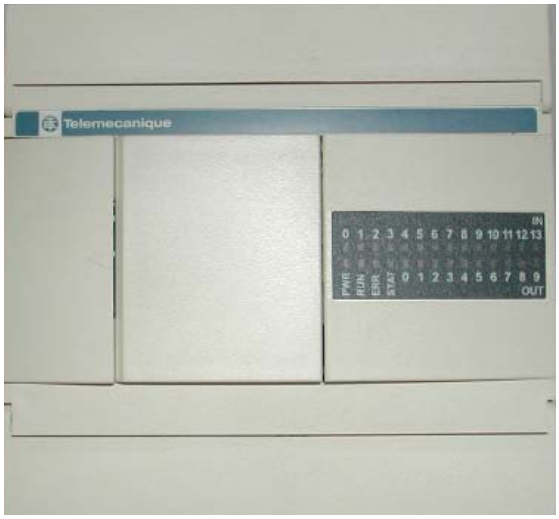
Properly locate and level the drive embed weld plate (Part #7953-0132) in the drive approach. Observe Cantilever conditions for proper positioning. Weld restraint to embed plate with a continuous 1/4" filet weld.



Component Identification.



A —Weldment
B —Latch Assembly
C —Hydraulic Cylinder
D — Power Pack SC Only
E — Valve Block
F — Shoe
G — Rack Weldment
H — Slide Block
I — Push Rod
J — Spring



"TWIDO" Programmable Logic Controller

Theory

When the engage button (A) is pushed on the control panel this activates an electric motor which, drives a hydraulic pump. The hydraulic pump forces oil into the hydraulic cylinder causes the shoe to raise.

The shoe will make contact with the ICC bar. The pump will shut off one the shoe is at 90deg. Once the vehicle is locked.

When the release button (B) is pushed the motor will run and lower the shoe. After the shoe is stored the pump shut off.

If no ICC Bar is preset Hold-Tite can be operated in bypass (C).

OPERATION

Operating Instructions

DANGER

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

DO NOT move or use the dock leveler if anyone is under or in front of leveler.

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

Failure to follow these instructions may result in severe personal injury or death.

WARNING

DO NOT overload the dock leveler.

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

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

Failure to follow these instructions may result in personal injury and/or damage to equipment.

WARNING

Only trained personnel should operate the dock leveler and vehicle restraint.

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

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

Make sure platform lip rests on the transport vehicles bed with at least 4 in. (102 mm) of overlap.

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

Failure to follow these instructions may result in serious personal injury or death.

SEQUENCE OF OPERATION - NORMAL

1. Check that the transport vehicle is positioned squarely against the dock bumpers.
   - Inside Red Light.
   - Outside Green Light.

2. Push ENGAGE button to activate restraint.
   - Inside Green and Yellow Light.
   - Outside Red Light.

3. ENGAGED on vehicle restraint.
   - Inside Green Light.
   - Outside Red Light.

4. Visually inspect restraint for proper engagement.

If RIG (Rear Impact Guard) is damaged or missing, dock leveler can be used in BYPASS.

IF BYPASS MODE IS REQUIRED
SEE: SEQUENCE OF OPERATION - BYPASS

FOR NORMAL OPERATION AFTER TRANSPORT VEHICLE IS ENGAGED CONTINUE WITH: STEP 4

5. Position dock leveler onto transport vehicle.

6. When loading or unloading is complete, return dock leveler to the stored position.

7. Release vehicle restraint and/or remove chocks from transport vehicles wheel.

SEQUENCE OF OPERATION - BYPASS

1. Check that the transport vehicle is positioned squarely against the dock bumpers.

2. Push ENGAGE button to activate restraint.
   - Inside Green Light, Red Outside Light

3. Visually inspect restraint for proper engagement.

   If RIG (Rear Impact Guard) is damaged or missing dock leveler can be used in BYPASS.

4. If RIG (Rear Impact Guard) is damaged or missing, Shoe will automatically return to the stored position.
   - Inside Amber Light and LED will flash for 30 seconds, then Flash Red (Do Not Enter).
   - Outside Red Light will flash for 30 seconds, then flash Green.

5. Secure transport vehicle wheel with wheel chocks.

6. Use key to activate BYPASS mode.
   - Inside Green Light with Amber Caution Light.
   - Outside Red Light.

7. Position dock leveler onto transport vehicle.

8. When loading or unloading is complete, return dock leveler to the stored position.
   -Inside Green Light with Amber Caution Light.
   -Outside Red Light.

9. Reset BYPASS mode to NORMAL mode by pressing the ENGAGE button once.
   - Inside Red Light, Amber turns Off.
   - Outside Green Light.
   - Pressing the ENGAGE button during any part of the cycle will end the ENGAGE mode.
   - Pressing the LOCK button a second time will cycle the PowerHold.

10. Un-chock the transport vehicle wheels when transport vehicle is ready to depart.

Hold-Tite® Light Sequence

CONDITION	LIGHTS	
	INSIDE	OUTSIDE
STORED BEGIN/END	(O/9) RED	(O/8) GREEN
IN MOTION	(O/6) AMBER	(O/7) (O/6) RED & STROBE
LOCKED	(O/5) GREEN	(O/7) RED
OVERRIDE	(O/5) (O/6) GREEN/AMBER	(O/7) (O/6) RED/STROBE
MISSED ICC	(O/6) 30sec (O/4) AMBER (TIME) RED	(O/7) 30sec (O/8) RED (TIME) GREEN STROBE (O/8)
TIMEOUT (FAILURE)	(O/9) (O/6) RED/AMBER	(O/7) (O/6) RED/STROBE
TIMEOUT (FAILURE) IN MOTION	(O/8) AMBER	(O/5) (O/8) RED/STROBE

A NEW LOCK CYCLE OR BYPASS WILL OVERRIDE MISSED ICC

TIMEOUT FAILURE OVERRIDE MISSED ICC

EMERGENCY STOP *(Where Equipped)* OVERRIDES EVERY OTHER CONDITION

WHEN E-STOP IS DEPRESSED	(O/4) RED	(O/5) RED

When the ENGAGE button is pushed on the control panel this activates an electric motor which, drives a hydraulic pump. The hydraulic pump forces oil into the hydraulic cylinder and causes the shoe to raise.

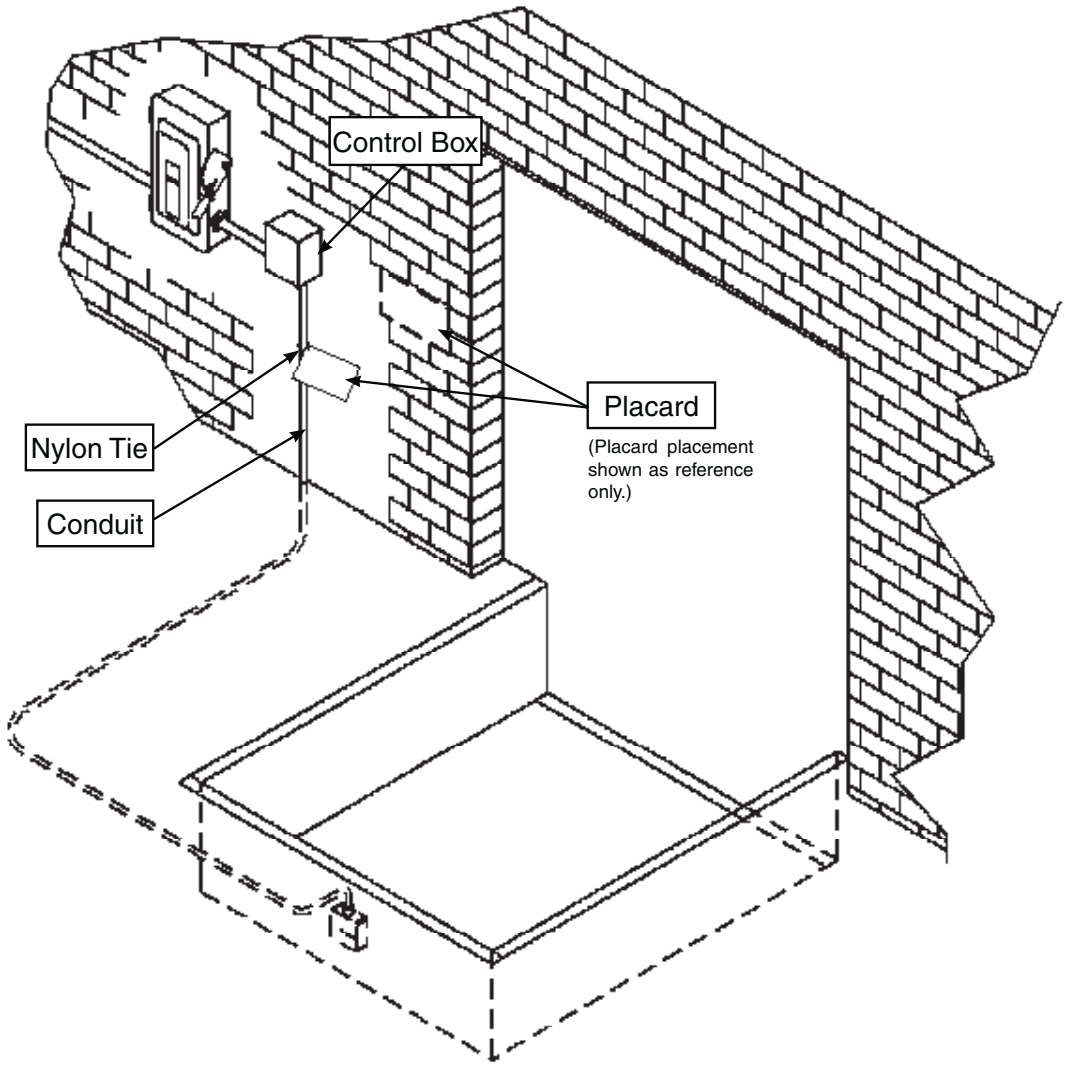
If no ICC Bar (Transport vehicle bumper)
ENGAGE button is activated motor will run the hydraulic pump. The Hold-Tite® cylinder will extend and rotates the restraint 90 deg. As the cylinder extends the slide block will travel under the shoe. The Slide block on the hydraulic cylinder will move a rod which will make contact with the Z bar. The Z bar will pass over the #3 prox switch. Input light #3 will light on the PLC. If input #4 is not lit on the PLC the power hold then store it's self. The shoe rotates to the stores position. The pump will turn off once input #13 prox is light on.

If ICC Bar (Transport vehicle bumper)
ENGAGE button is activated motor will run the hydraulic pump. The shoe will make contact with the ICC bar. As the shoe makes contact the shoe will travel away from the ICC bar. The rack will then pass in front #4 prox (mounted on the latch block). With the #4 prox lit will raise all the way and lock on the transport vehicle. The pump will shut off one the shoe is at 90deg. As the cylinder extends the slide block will travel under the shoe.

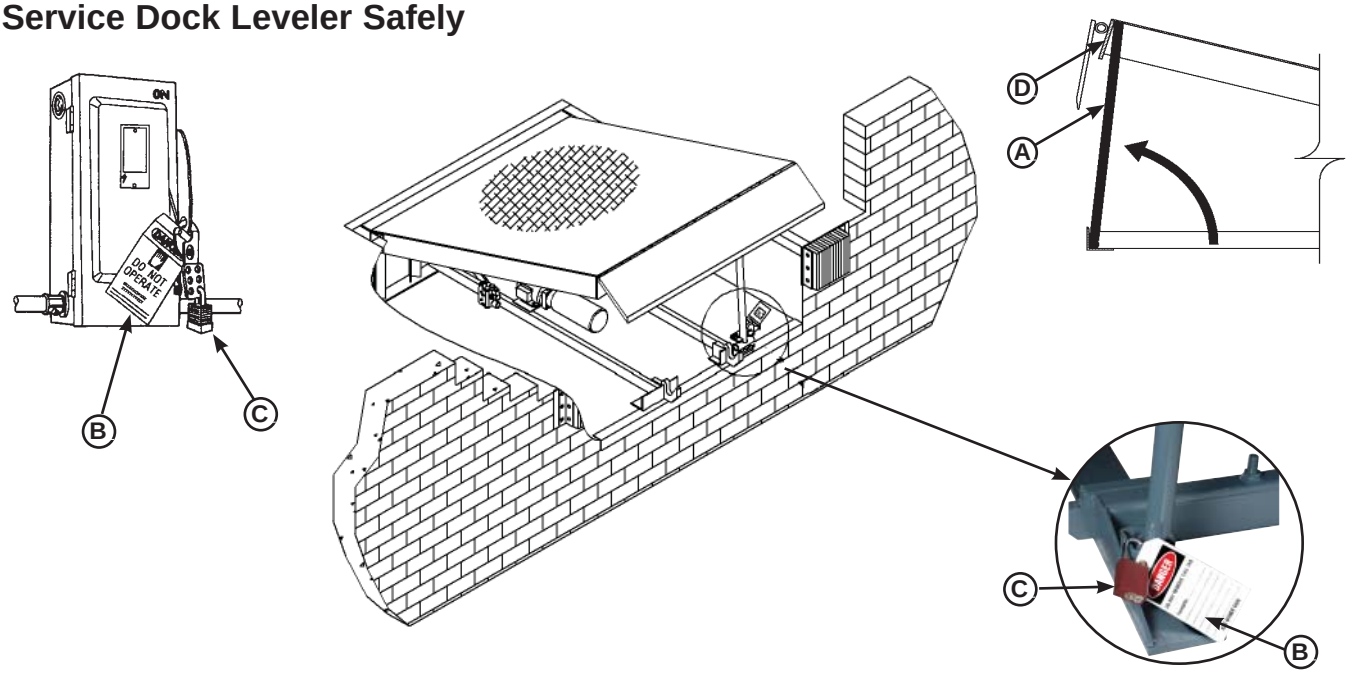
When the RELEASE button is pushed the motor will run and lower the shoe. The pump will turn off once input #13 prox is light.

Placard Installation Instructions

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



Service Dock Leveler Safely



A— Maintenance Prop B —Tag Out Device C — Lock Out Device D— Header

⚠ WARNING

When service under the dock leveler is required, always lock all electrical disconnects in the OFF position after raising the platform and engaging the maintenance prop. Failure to do this may result in serious personal injury or death.

⚠ WARNING

Always stand clear of the dock leveler lip when working in front of the dock leveler.

The maintenance prop MUST be in the service position when working under the dock leveler. For maximum protection, use an OSHA approved locking device to lock the maintenance prop in the service position. Only the person servicing the equipment should have the key to unlock the maintenance prop.

Unless the dock leveler is equipped with a tethered remote, two people are required to engage the maintenance prop: one person to operate the unit, the other person to engage the maintenance prop.

Failure to follow these instructions may result in serious personal injury or death.

⚠ WARNING

Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the dock leveler before maintenance is complete. Failure to do this may result in serious personal injury or death.

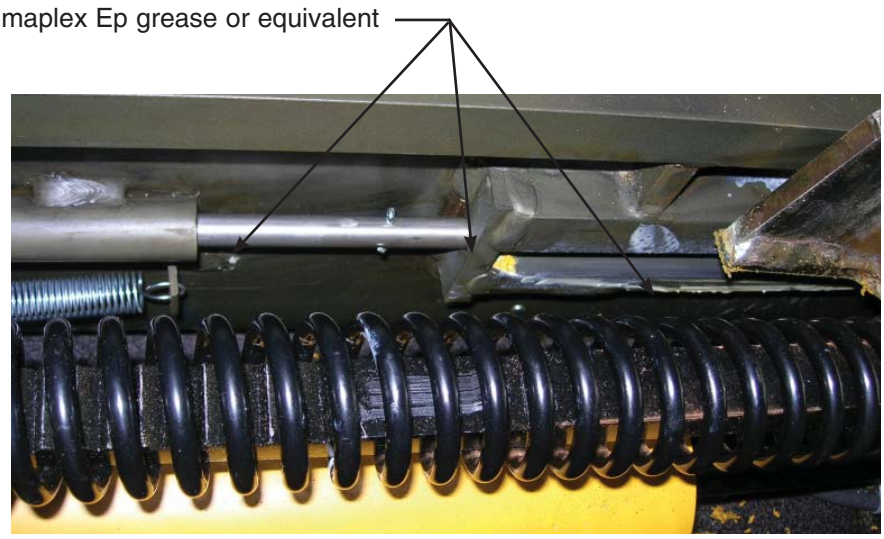
Whenever maintenance is to be performed under the dock leveler platform, support the platform with maintenance prop (A). Position the maintenance prop behind front header plate (D) while staying clear of the lip. The lip will fold down after the platform has rested on the maintenance prop. Lock the maintenance prop in the service (upright) position using an OSHA approved lockout device* (C) and tag out device* (B).

Whenever servicing the dock leveler, lock the electrical power disconnect in the OFF position. Use only an OSHA approved lockout device* (C) and tag out device (B).

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.

* Refer to OSHA regulation 1910.146.
* Refer to OSHA regulation 1910.147.

Periodic Maintenance



IMPORTANT
Failure to properly lubricate the vehicle restraint will cause abnormal operation of the restraint

Daily Maintenance

- Make sure that all the Inside and Outside signal lights work.

Weekly Maintenance

- Operate the Hold-Tite vehicle restraint through the complete operating cycle to maintain lubrication.

NOTE: - position.

- Inspect the slide block track and push rod areas. The areas must be kept free of dirt and debris. Build-up of foreign material in the track areas will cause abnormal operation.

Quarterly Maintenance

- Clean and Lubricate slide block track and push rod areas. Lubricate pins for the “Z” bar. Inspect and clean Prox switches.

Yearly Maintenance

- Repeat of Quarterly Maintenance.
- Change Hydraulic Oil (May be required earlier depending on conditions).

To ensure normal operation of the vehicle restraint, use only aircraft hydraulic fluid designed to meet or exceed military specification MIL-H-5606-G. It is recommended that the following hydraulic fluids be used:

- ULTRA-VIS-HVI-15
- Aero Shell Fluid 4 or Fluid 41
- Mobile Aero HFA Mil-HS606A or Aero HF
- Texaco Aircraft Hydraulic Oil 15 or 5606
- Exxon Univis J13

These fluid brands can be mixed together. Mixing with fluids that do not meet or exceed MIL-H-5606 G may damage the equipment and WILL void warranty. Use of hydraulic fluids with equivalent specifications to those listed here are acceptable.

Hold-Tite® Operating Range

WARNING

When service under the dock leveler is required, always lock all electrical disconnects in the OFF position after raising the platform and engaging the maintenance prop. Failure to do this may result in serious personal injury or death.

WARNING

Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the dock leveler before maintenance is complete. Failure to do this may result in serious personal injury or death.

WARNING

Always stand clear of the dock leveler lip when working in front of the dock leveler.

The maintenance prop MUST be in the service position when working under the dock leveler. For maximum protection, use an OSHA approved locking device to lock the maintenance prop in the service position. Only the person servicing the equipment should have the key to unlock the maintenance prop.

Unless the dock leveler is equipped with a tethered remote, two people are required to engage the maintenance prop: one person to operate the unit, the other person to engage the maintenance prop.

Failure to follow these instructions may result in serious personal injury or death.

Follow the installation instructions found in the Hold-Tite® Installation & Operation Manual prior to attempting any adjustments.

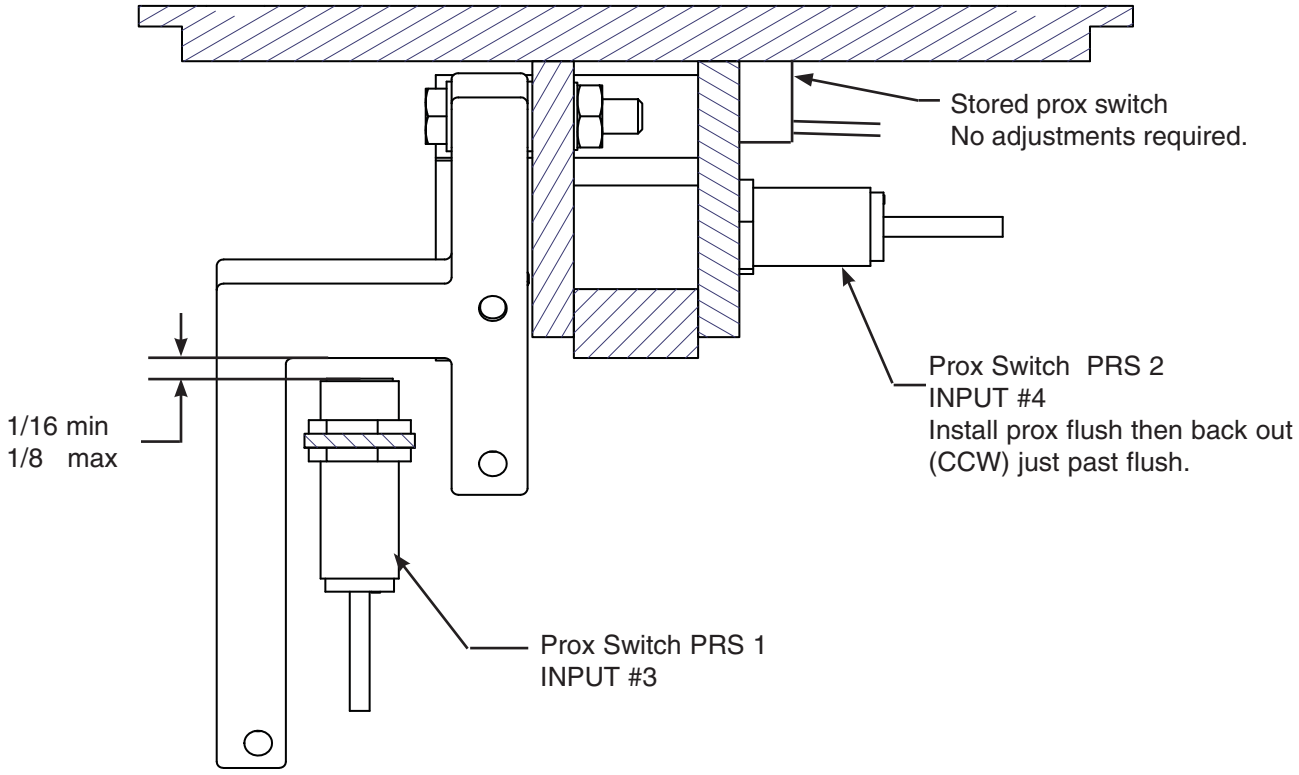
NOTE: Test operating range of Hold-Tite® without transport vehicle backed into dock.

1. Make sure the selector switch is in Normal and BYPASS mode has not been activated.
   - Red Inside Light, No Amber Light
   - Green Outside Light

2. Momentarily press the ENGAGE button. The Hold-Tite restraint will raise to 90 deg. NO transport vehicle the restraint will lower back to the stored position. The motor SHUT OFF when in the stored position.
   - Inside Amber Light for 30 seconds, then Red *Alarm will sound if equipped
   - Outside Red Light for 30 seconds, then Green

Operating range Refer to page 10.

Hold-Tite® Adjustments



The Operating range is not adjustable on a Hold-Tite® vehicle restraint.

IMPORTANT: Make sure that the wire from the prox switches are clear of all moving parts.

Proximity switch Adjustment and replacement.

A. Locate and remove four screws and cover on front of Hold-Tite assembly.

B. Adjust PRS 1. With the “Z’” bar rotated directly over the prox switch. The prox switch distance should between 1/16” and 1/8”.

C. Adjust PRS 2. The #2 prox switch must be threaded in until flush with the latch block. Turn prox switch out (CCW) until switch is no longer flush with the latch block.

Adjust Dock Leveler and Vehicle Restraint Interlock

WARNING

When service under the dock leveler is required, always lock all electrical disconnects in the OFF position after raising the platform and engaging the maintenance prop. Failure to do this may result in serious personal injury or death.

WARNING

Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the dock leveler before maintenance is complete. Failure to do this may result in serious personal injury or death.

WARNING

Always stand clear of the dock leveler lip when working in front of the dock leveler.

The maintenance prop MUST be in the service position when working under the dock leveler. For maximum protection, use an OSHA approved locking device to lock the maintenance prop in the service position. Only the person servicing the equipment should have the key to unlock the maintenance prop.

Unless the dock leveler is equipped with a tethered remote, two people are required to engage the maintenance prop: one person to operate the unit, the other person to engage the maintenance prop.

Failure to follow these instructions may result in serious personal injury or death.

Dock leveler and vehicle restraint interlock

The dock leveler can be interlocked with the vehicle restraint so that the leveler cannot be operated until the restraint has engaged the transport RIG (Rear Impact Guard) when the OPERATION switch is in NORMAL and has NOT been switched to BYPASS.

The vehicle restraint is interlocked with the dock leveler so that the restraint cannot be operated until the leveler is stored in the cross traffic position (lip fully folded, inside the keepers, and the platform level with the dock floor).

Leveler and restraint interlocking are overridden when the OPERATION switch is in BYPASS. The allows the independent operation of the leveler (the restraint cannot be operated in BYPASS).

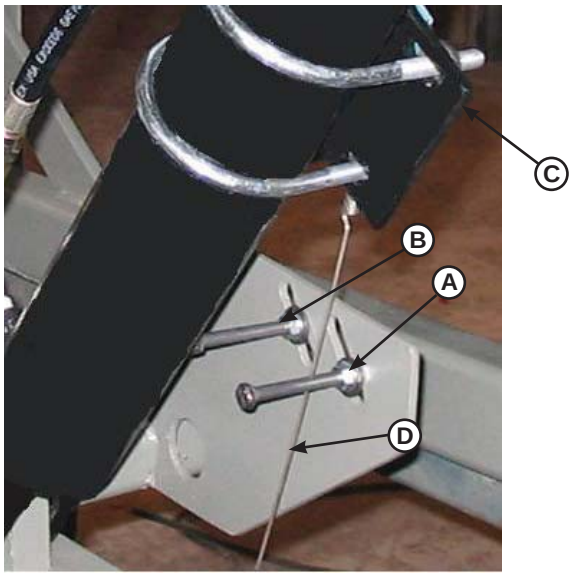
Pressing the restraint ENGAGE button when in BYPASS mode will return the leveler to NORMAL operating mode.

This option is not available on units equipped with the Auto Return to Dock option.

OPTIONAL EQUIPMENT ADJUSTMENTS

Adjust & Test Dock Leveler and Vehicle Restraint Interlock

Adjust Auto Return To Dock (ARTD)



A— ARTD ACTIVATE
B— ARTD DE-ACTIVATE
C— ARTD LIMIT SWITCH
D— ARTD SWITCH ARM

HP/H levelers are equipped with the optional Auto Return To Dock (ARTD) if leveler not interlocked with a vehicle restraint.

The ARTD allows the platform to automatically return to the cross-traffic (stored) position after the transport vehicle departs.

Adjust the ARTD as Follows:

NOTE: Placement of (A, B and C) are typical factory settings. ARTD is set to engage approximately one(1) in. before the front header hits the header stops.

1. Raise platform fully and engage the maintenance prop in the service position.

2. Turn OFF all electrical power to the dock leveler. Attach safety lockout and tagout devices. (Supplied by others)

3. Loosen nuts (A). Slide bolt up to engage ARTD higher below dock or slide down to engage ARTD lower below dock. Tighten nuts.

4. Turn power back on and run the unit through a full cycle and repeat if necessary.

5. Loosen nut (B) and slide bolt up to shut ARTD higher above dock or slide the bolt down to shut off the ARTD less above dock.

⚠ WARNING

When service under the dock leveler is required, always lock all electrical disconnects in the OFF position after raising the platform and engaging the maintenance prop. Failure to do this may result in serious personal injury or death.

⚠ WARNING

Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the dock leveler before maintenance is complete. Failure to do this may result in serious personal injury or death.

⚠ WARNING

Always stand clear of the dock leveler lip when working in front of the dock leveler.

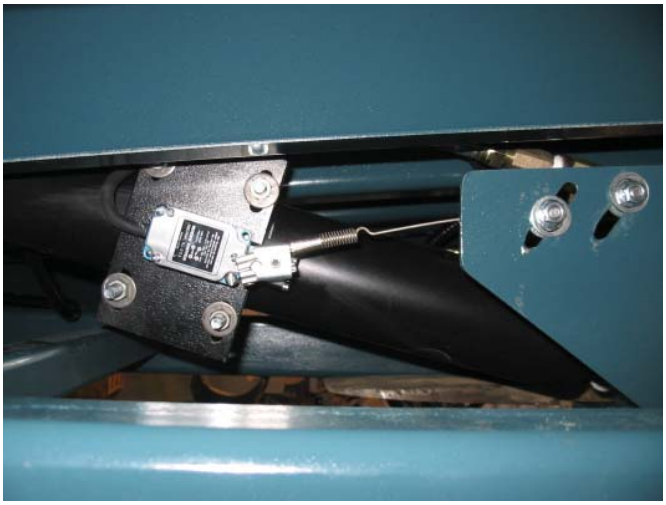
The maintenance prop MUST be in the service position when working under the dock leveler. For maximum protection, use an OSHA approved locking device to lock the maintenance prop in the service position. Only the person servicing the equipment should have the key to unlock the maintenance prop.

Unless the dock leveler is equipped with a tethered remote, two people are required to engage the maintenance prop: one person to operate the unit, the other person to engage the maintenance prop.

Failure to follow these instructions may result in serious personal injury or death.

NOTE: The unit must raise enough to allow the lip to fully retract to have the lip rest in to the lip keepers.

NOTE: The ARTD Switch arm (D) must be between both (A) and (B) to work properly.



In the full below dock position the switch arm (D) will be activated by the front bolt (A) and trapped under the back bolt (B). The switch will active approximately 1 inch before the front header is fully below dock.

As the platform starts to recycle the lip will pull in first and then the platform will start to raise. Once the platform is high enough to have the lip clear the lip keepers the back bolt (B) will de-activate the switch and turn off the pump and the platform will float down to rest in the lip keepers in the cross traffic position.

Below Dock End Load Switch

The Below Dock End Load Switch (E), controls the lip when end loading below dock. To activate turn the selector switch (F) to BELOW DOCK position.

This will DE-ACTIVATE the Auto Return to Dock feature.

Push and hold the RAISE button until the platform is fully open. The lip will extend until the switch opens up and stops the pump.
The lip will be extended only 2 - 3 inches to stay with in the bumper spacing.

The platform will float to the full below dock position and the trailer and be loaded/unloaded.

When complete, turn the Selector Switch(F) back to the NORMAL position and the platform will start to Auto Recycle to the cross traffic position.

NOTE:
When servicing Transport vehicles that are lower than dock height it is recommended the BELOW DOCK selector switch (F) be in the BELOW DOCK mode AFTER the lip is in the bed of the trailer to prevent the Auto Return feature to activate inadvertently.

⚠ CAUTION

Whenever end loading or unloading with the platform in the below-dock position, make sure the ARTD switch is in the BELOW DOCK position. DO NOT turn the ARTD switch to the NORMAL position until end loading or unloading is finished.

TROUBLE SHOOTING HOLD-TITE®

⚠ WARNING

When service under the dock leveler is required, always lock all electrical disconnects in the OFF position after raising the platform and engaging the maintenance prop. Failure to do this may result in serious personal injury or death.

⚠ WARNING

Always post safety warnings and barricade the work area at dock level and ground level to prevent unauthorized use of the dock leveler before maintenance is complete. Failure to do this may result in serious personal injury or death.

⚠ WARNING

Always stand clear of the dock leveler lip when working in front of the dock leveler.

The maintenance prop MUST be in the service position when working under the dock leveler. For maximum protection, use an OSHA approved locking device to lock the maintenance prop in the service position. Only the person servicing the equipment should have the key to unlock the maintenance prop.

Unless the dock leveler is equipped with a tethered remote, two people are required to engage the maintenance prop: one person to operate the unit, the other person to engage the maintenance prop.

Failure to follow these instructions may result in serious personal injury or death.

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
Inside and outside signal lights do not operate. Controller (PLC) RUN indicator is on solid (not flashing). Unit operates as normal.	Bad Flasher.	Replace flasher with wire. If lights operate (lights will not flash), replace flasher.
Restraint does not operate. Motor does not energize.	Motor overload device tripped.	Reset overload relay (3 phase) or replace fuse (1 phase) or reset breaker (1 phase-new models). Determine cause of device tripping. **NOTE:** *If replacing fuse, use fuse with equal specification .*
	Motor starter (3 phase) or motor relay (1 phase) not energizing. Combination Leveler and P-Hold Only.	Check controller output that sends a signal to starter or relay. Output may have failed OPEN. Use meter to check for contact closure when output ON.

Symptom	Possible Cause	Solution
Three-phase units only: Restraint does not operate. Motor energizes but does not run. **If motor hums, but does not run, overload device should trip.** **Combination Leveler and Hold-Tite Only.**	3 Phase units only - no voltage is present on one line. *NOTE: A motor that is missing voltage on one line is said to be single-phased.*	Check for blown fuses at branch circuit disconnect. Replace fuse. Determine cause of blown fuse.
		Check motor starter as follows: 1. Disconnect wires at load side of starter. 2. Energize the starter. 3. Measure line-to-line voltage at line side of starter. 4. Measure line-to-line voltage at load side of starter. 5. Line-side and load-side voltages should be approximately the same. Replace starter if voltage values are considerably different from one another.
		Check all wiring to motor for high resistance or no connection.
		Replace motor.
Three-phase units only: Restraint does not operate. Motor runs in reverse	Phase reversed.	Reverse any two legs at the branch circuit disconnect.
Single-phase units only: Restraint does not operate. **Motor energizes, but does not run.**	Line voltage too low.	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.
	Defective motor centrifugal switch.	Replace motor.
	Defective motor capacitor.	Replace motor.
	Low hydraulic fluid.	Add fluid, see Maintenance section for proper fluid level and type.
Restraint operates slowly.	Low hydraulic fluid.	Add fluid, see Maintenance section for proper fluid level and type.
	Pressure relief valve set too low. **(combination unit only)**	See pressure relief adjustments on page 48. **NOTE:** *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.* ** The full load amp value can be found on the inside cover of the control panel.*
	Hold-Tite raises Slow or Slow to release (SC Hold-Tite Only)	-Pressure Relief cartridge adjusted per max amp draw.
	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).

TROUBLE SHOOTING HOLD-TITE®

Symptom	Possible Cause	Solution
Restraint does not fully raise or motor over current device and/ or overload device continuously tripping.	Low hydraulic fluid.	Add fluid, see Maintenance section for proper fluid level and type.
	Debris in Tank	Drain and clean tank. I debris cannot be cleaned out replace tank.
Restraint does not raise.	Solenoid energized.	Locate solenoid (See Page 37). Coil must be de energized when P-Hold is in engage mode. -Check valve for Magnetism at the coil
	Bad Spool Valve	Remove coil from cartridge valve and cartridge valve from valve block. -Check valve for contaminant's and/or damage. -Replace valve if damaged. -Carefully wipe valve with clean rag (do not damage "O" rings on valve). **NOTE:** *Do not over tighten valve into block. Max Torque: 10-15 lb/ft. or snug to prevent leakage. Tighten coil snug, avoid over tightening and causing valve to bind.* Operate unit. Replace valve if problem persists and all other troubleshooting procedures performed.
Restraint will not lower to release transport vehicle.	Solenoid not energized.	Relay or PLC contact is stuck contacts. Test coil for Magnetism. Coil must be energized to release the transport vehicle.
	Bad Spool Valve.	Remove coil from cartridge valve and cartridge valve from valve block. -Check valve for contaminant's and/or damage. -Replace valve if damaged. -Carefully wipe valve with clean rag (do not damage "O" rings on valve). **NOTE:** *Do not over tighten valve into block. Max Torque: 10-15 lb/ft. or snug to prevent leakage. Tighten coil snug, avoid over tightening and causing valve to bind.* Operate unit. Replace valve if problem persists and all other troubleshooting procedures.

Symptom	Possible Cause	Solution
Restraint raises makes contact with ICC bar but does not lock. Then returns to stored position.	Improper location of Hold-Tite	Power Hold must have a 4" set back from bumper SEE page 11.
	Prox switch	1. Check prox switch #1 and #2. When metal is placed in front of prox the led light on the prox will light up. When the led on the prox is lit the inputs#3 and #4 on the plc will also be lit. -Shorted or open prox switch -open or shorted wires -Bad prox switch.
	Activation of #1 prox switch	Input 4 must come on first. The restraint shoe must make contact with the ICC bar. The restraint shoe will rotate as the hydraulic extends. The Slide block on the hydraulic cylinder push The rod. The rod will make contact with the Z bar. The Z bar will pass over the #1 prox switch. Input #3 will light on the PLC. The power hold then shut off. -Frozen or rusted push rod -Bend or damaged Z bar -adjustment to prox maybe required
	Activation of #2 prox switch	The restraint shoe must make contact with the ICC bar. The restraint shoe will rotate the ratchet will pass in front of the #2 prox switch, input #4
Lights flash but don't state.	Stored prox switch.	Check input #13 on PLC. If #13 is on light will be Red (inside) and Green (outside). check for damaged switch or wire connections.
Red lights flashing Inside and out.	Stored prox Switch	Restraint is not fully lowered.
		Possible damaged switch and / or bad wire connections.

NOTES

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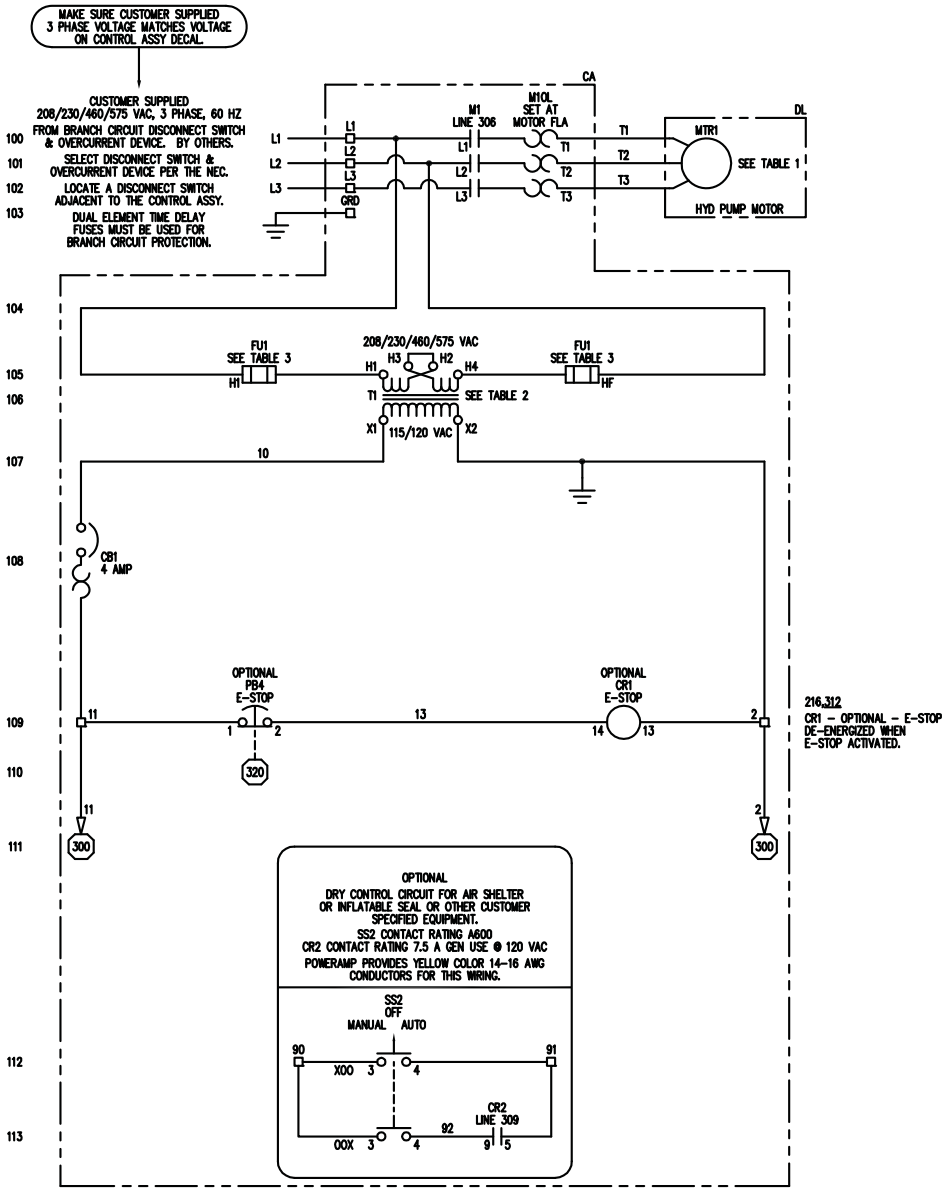


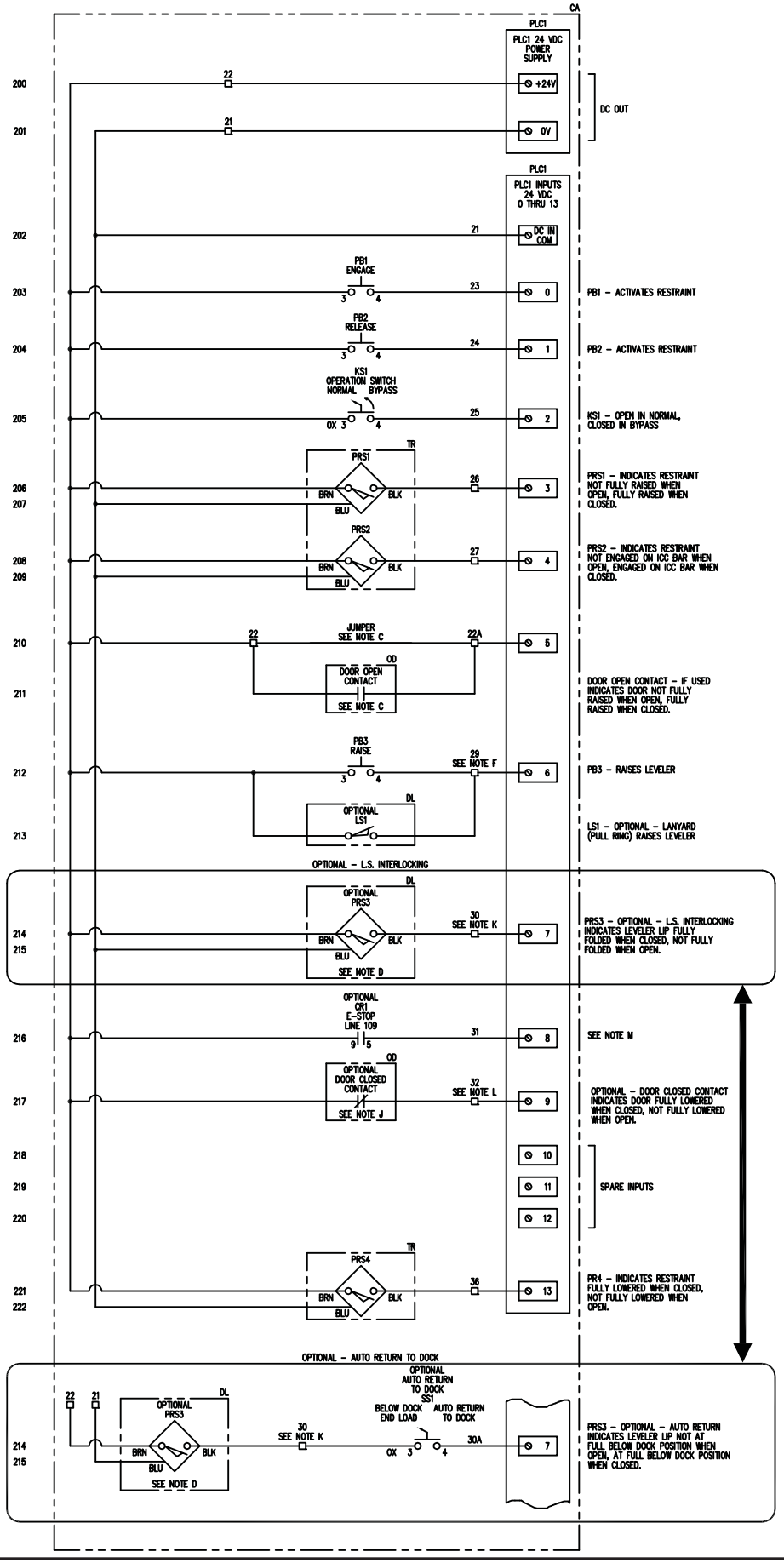
Generic Drawings are Shown
Provide serial number for specific drawings

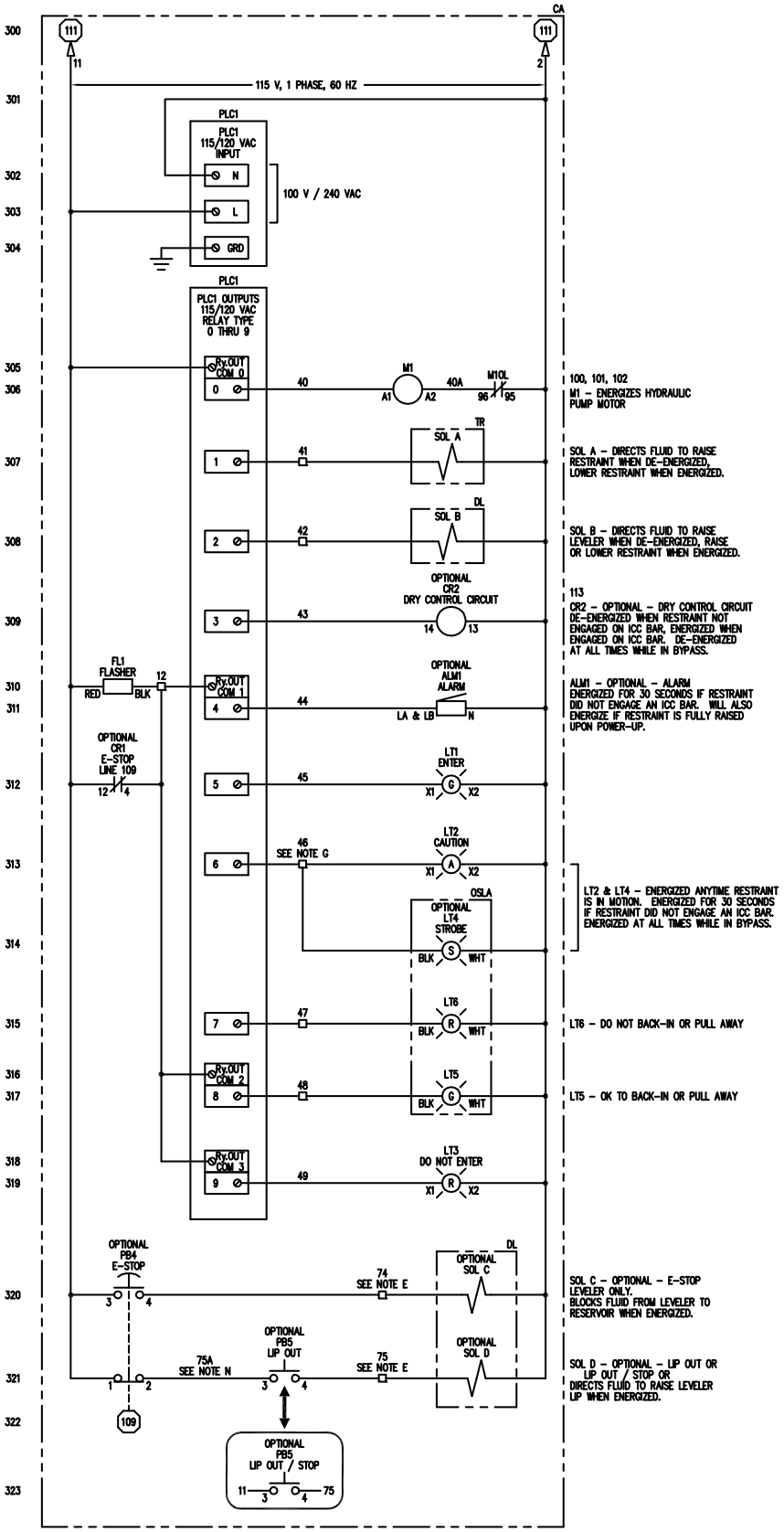
LADDER LOGIC HOLD-TITE

#1 Prox Switch
See Page 23

#2 Prox Switch
See Page 23

#13 Prox Switch
See Page 23





Generic Drawings are Shown
Provide serial number for specific drawings

PROGRAMMING

ISSUES FOR PROGRAMMING.

- Error light is flashing, PLC is either missing or damaged.
- Update to newer program
- Installation of new un programmed PLC

MATERIAL REQUIRED.
You will receive two (2) E-proms

- Blank run E-Prom.
- Program Specific E-Prom.

INSTALLATION

1. Turn power off power. (remove existing E-Prom if present).
2. Insert new “Blank Run” E-Prom.
3. Turn power on for 30 seconds.
4. Turn power off for 10 seconds repeat cycle 3 times.

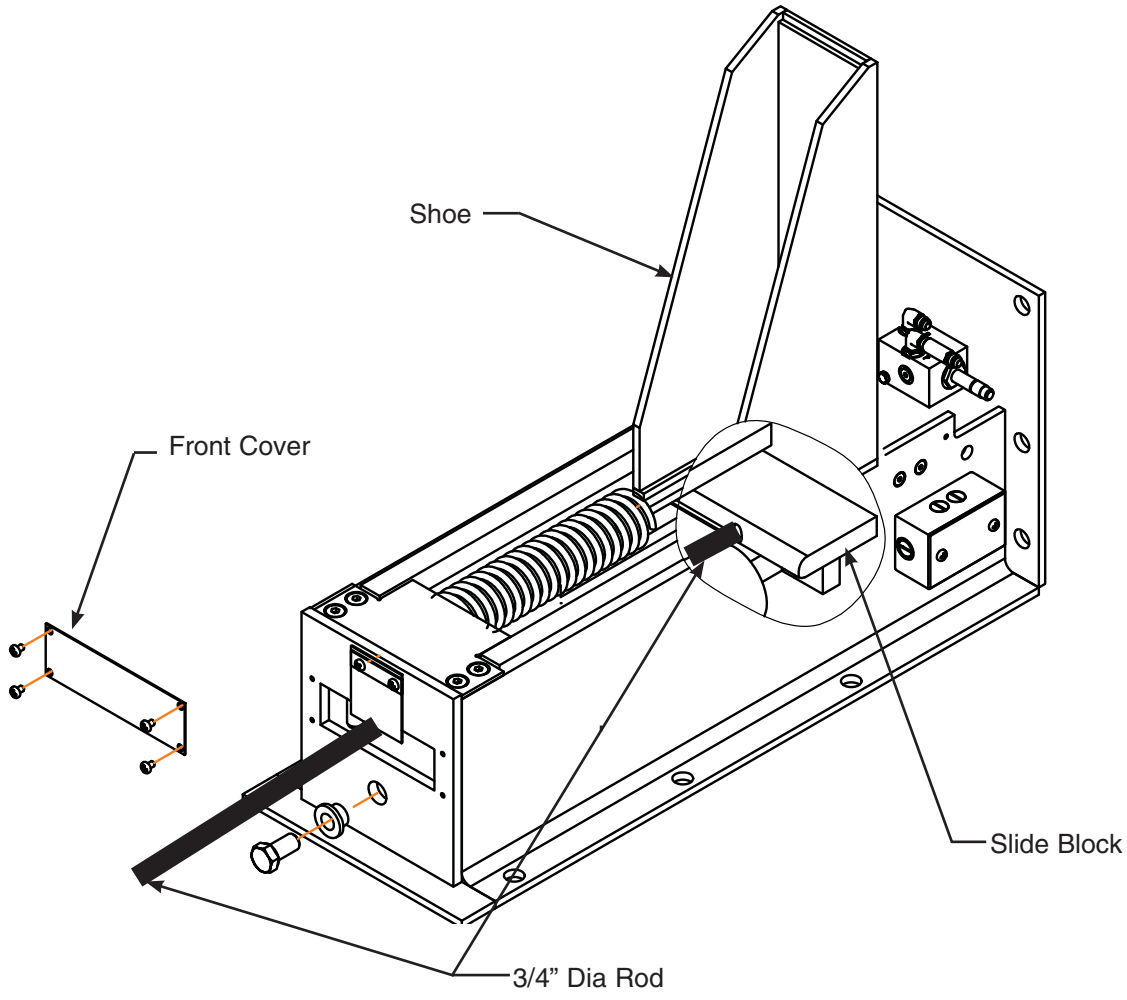
- Insert program chip (program specific)

Repeat steps 1,3 and 4. Allow light sequence to complete flashing. Run light should be on STEADY *not flashing*. Error light should NOT be *on*. Check for proper input and out put lights on the PLC.
If not, repeat steps 3 and 4 until PLC responds properly. If the PLC does not accept the program or if questions contact the Technical Service Department.

Note: The PLC will maintain the program even if the power is turned off.

Twido PLC

E-Prom



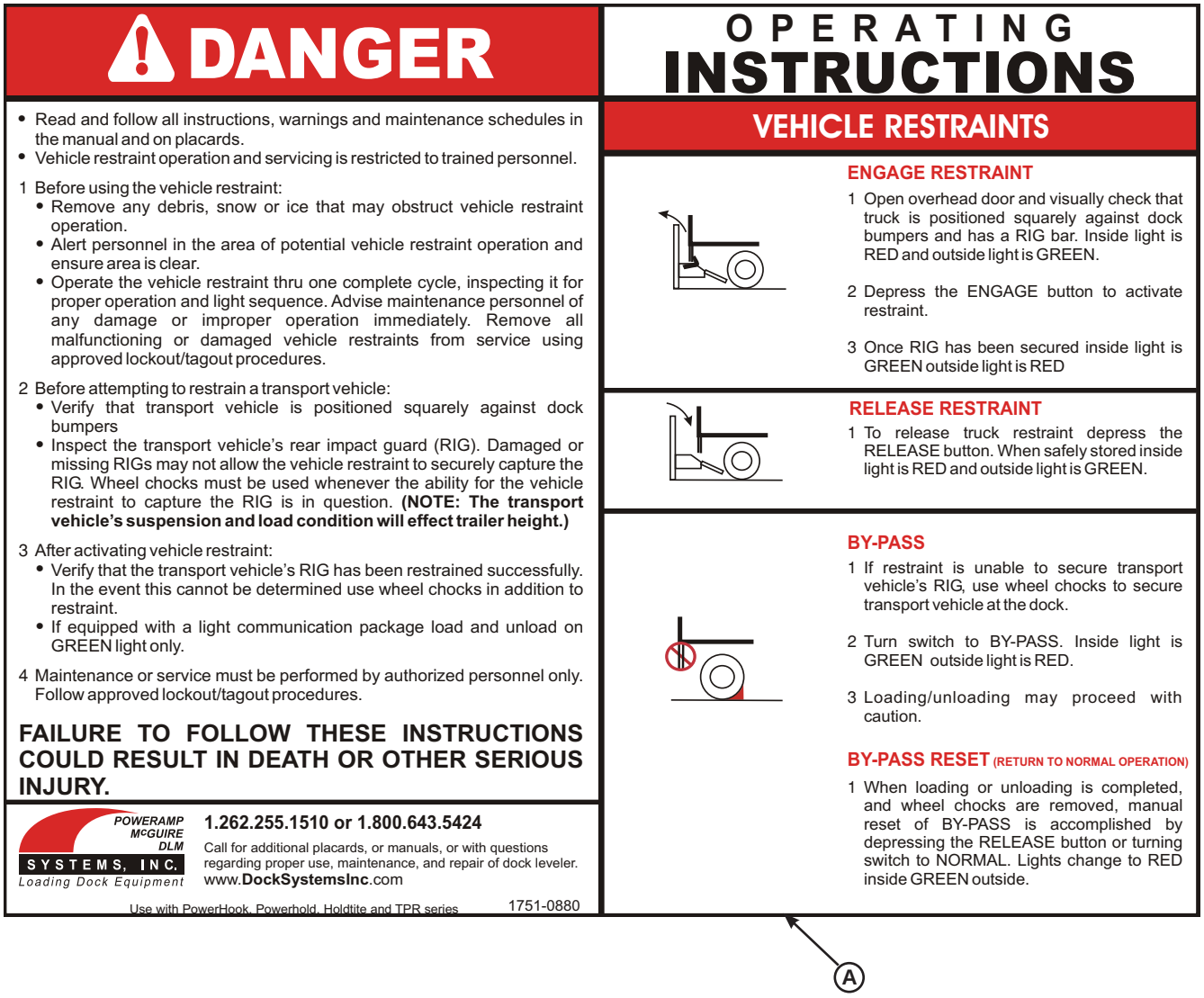
Tools required:

Large Hammer
3/4” Dia Rod Two Foot Lg.

Manual release.

- Lock out / tag out leveler.
- Remove front cover plate (4 screws)
- Remove bolt and washer holding cylinder in place.
- Install 3/4’ rod through front opening. Rod will fit in the slide block.
- Hammer 3/4 rod (4 to 5 hits) until the slide block travels past the shoe.

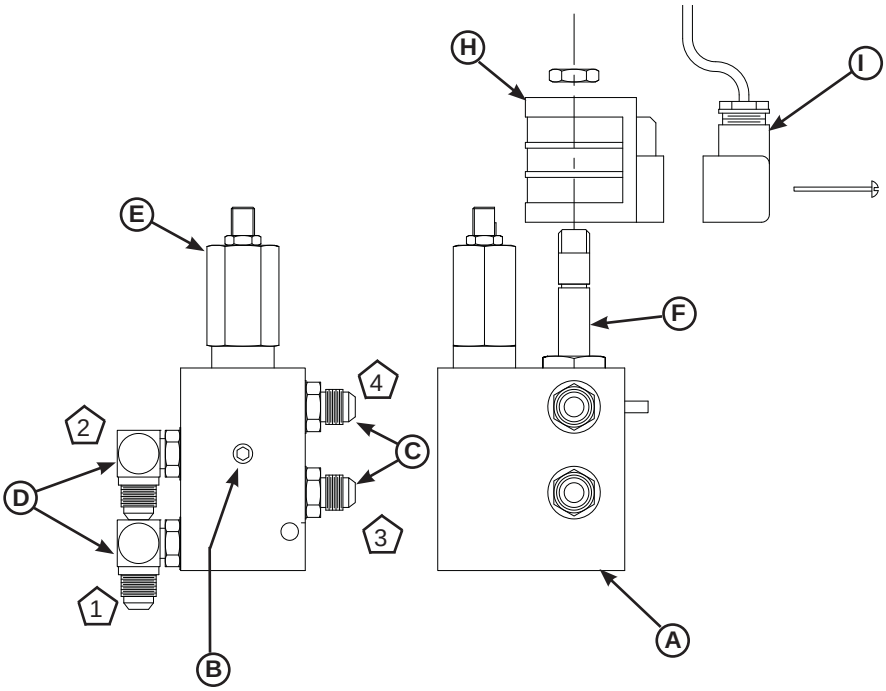
-The shoe will then drop.

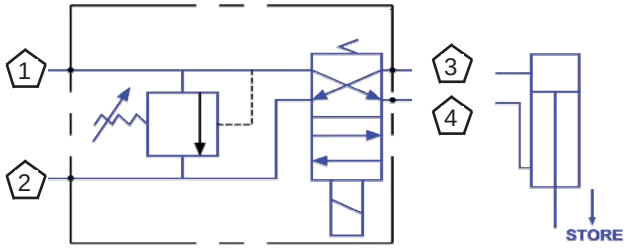


Item	Quantity	Part Number	Description
A	1	1751-0880	Placard Vehicle Restraints

Hold Tite Valve Block

Coil De-energized to raise restraint.
Energized to lower the restraint.



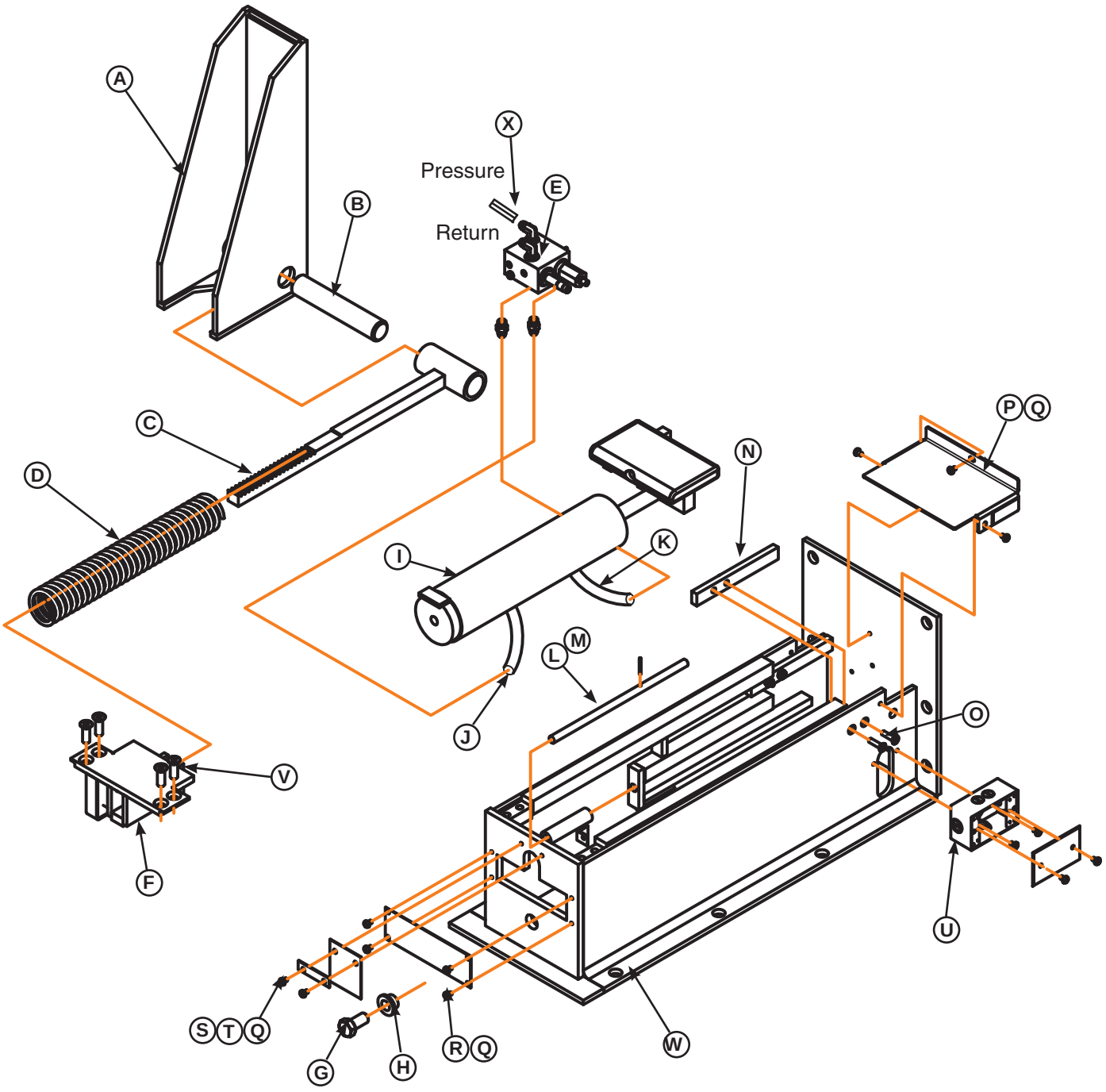


NOTE	DESCRIPTION
1	PRESSURE FROM PUMP
2	RETURN TO TANK
3	TO BLIND END OF POWERHOLD CYLINDER
4	TO ROD END OF POWERHOLD CYLINDER

Item	Quantity	Part Number	Description
A	1		Hydraulic Valve Body
B	1	9571-0007	Fitting Pipe Plug 1/8 NPT
C	2	9301-0109	Fitting Conn STR Thread
D	2	8581-0113	Fitting Elbow 90 Deg #6 ORB x #6 JIC
E	1	8581-0089	Valve Cartridge Relief
F	1	8581-0149	Valve Cartridge 4-Way
D	1	8583-0018	Complete Valve Assembly
H	1	8581-0004	Coil, Delta
I	1	4305-0319	Cable Assembly 22” Lg

*Provide dock leveler and/or Hold-Tite serial number when calling or faxing orders.

Hold-Tite Break Down



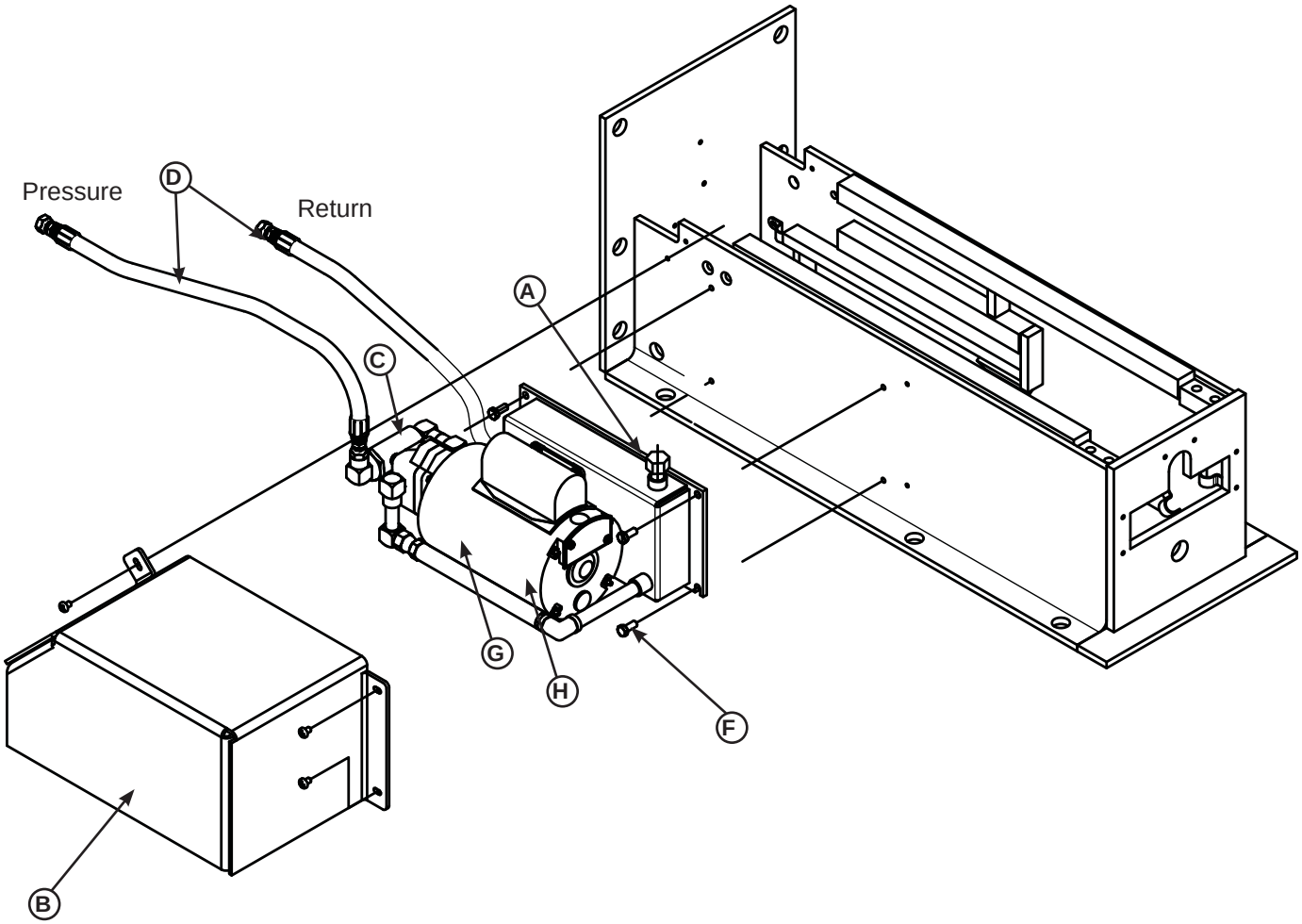
*Provide dock leveler and/or Hold-Tite serial number when calling or faxing orders.

Hold-Tite®

Item	Quantity	Part Number	Description
A	1	9414-0064	Restraint Shoe
B	1	9412-0030	Pin 1-1/2 X 8 LG
C	1	9414-0021	Rack Weldment
D	1	9411-0005	Spring, Rack Weldment
E	1	8583-0018	Valve Block
F	1	9414-0018	Latch Block Assembly (Includes Prox Switches)
G	1	2101-0118	Bolt 3/4-10 UNC X 1-1/2 LG
H	1	2101-0119	Bushing
I	1	9414-0073	Cylinder Complete (Includes Slide Block and Hoses)
J	1	9904-0059	Hose, 35” Lg.#6 Jic Swivel Both Ends
K	1	9904-0155	Hose, 21” Lg. #6 Jic Swivel Both Ends
L	1	9412-0095	Push Rod
M	1	2101-0045	Cotter Pin, 1/8 x 1.00
N	2	9412-0063	Removable Track Stop
O	4	2101-0009	Bolt 5/16-18
P	1	9411-0056	Access Cover, Top
Q	14	2101-0099	Screw 1/4-20 UNC x 3/8
R	1	9411-0060	Cover, Front
S	1	9411-0058	Weather Seal, Hold Down
T	1	0192-0016	Weather Seal, Ratchet
U	1	2753-0001	J-Box, Cover and Gasket SC (includes screws)
		2753-0002	J-Box, Cover and Gasket Remote (includes screws)
V	4	2101-0074	Screw, Allen Head 1/2-20 UNC x 1-1/2 Lg.
W	1	9414-0074	Base Weldment
X	1	8581-0137	One Way check Valve

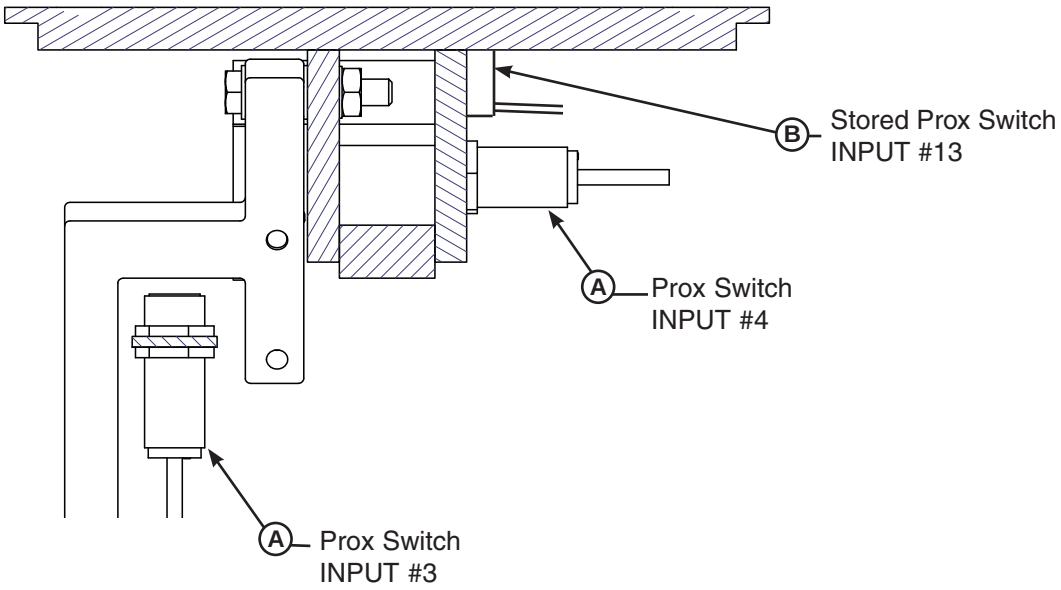
PARTS

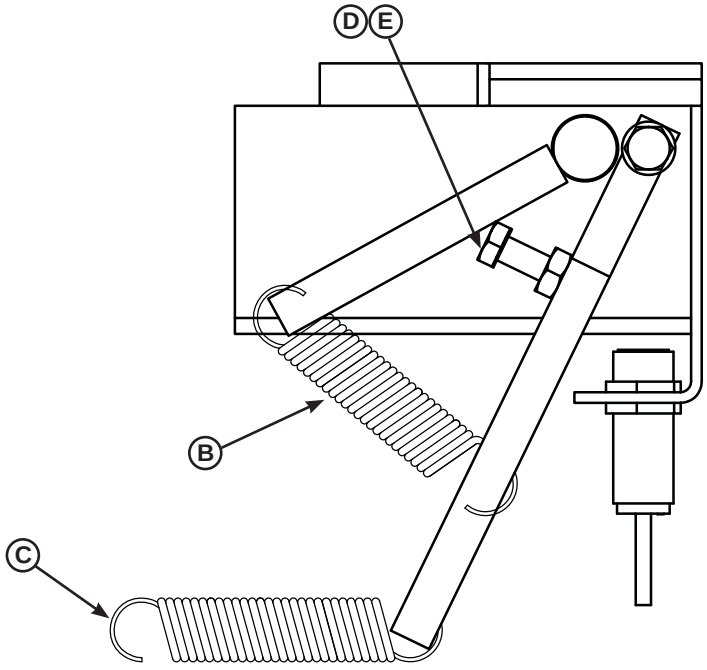
Hold-Tite® SC Power Pac



Item	Quantity	Part Number	Description
A	1	9301-0199	Breather Cap
B	1	9411-0047	Cover, Power Pac
C	1	9301-0121	Filter 3/8 NPT
D	2	9904-0051	Hose, 16.00” LG 3/8 NPTM / #6 Jic Swivel Female
F	7	2101-0009	Bolt 5/16-18 UNC 3/4 Lg.
G	1	3411-0049	Motor Only (low amp 6.8)
H	1	9395-0405	Power Pac Complete, SC (low amp 6.8)

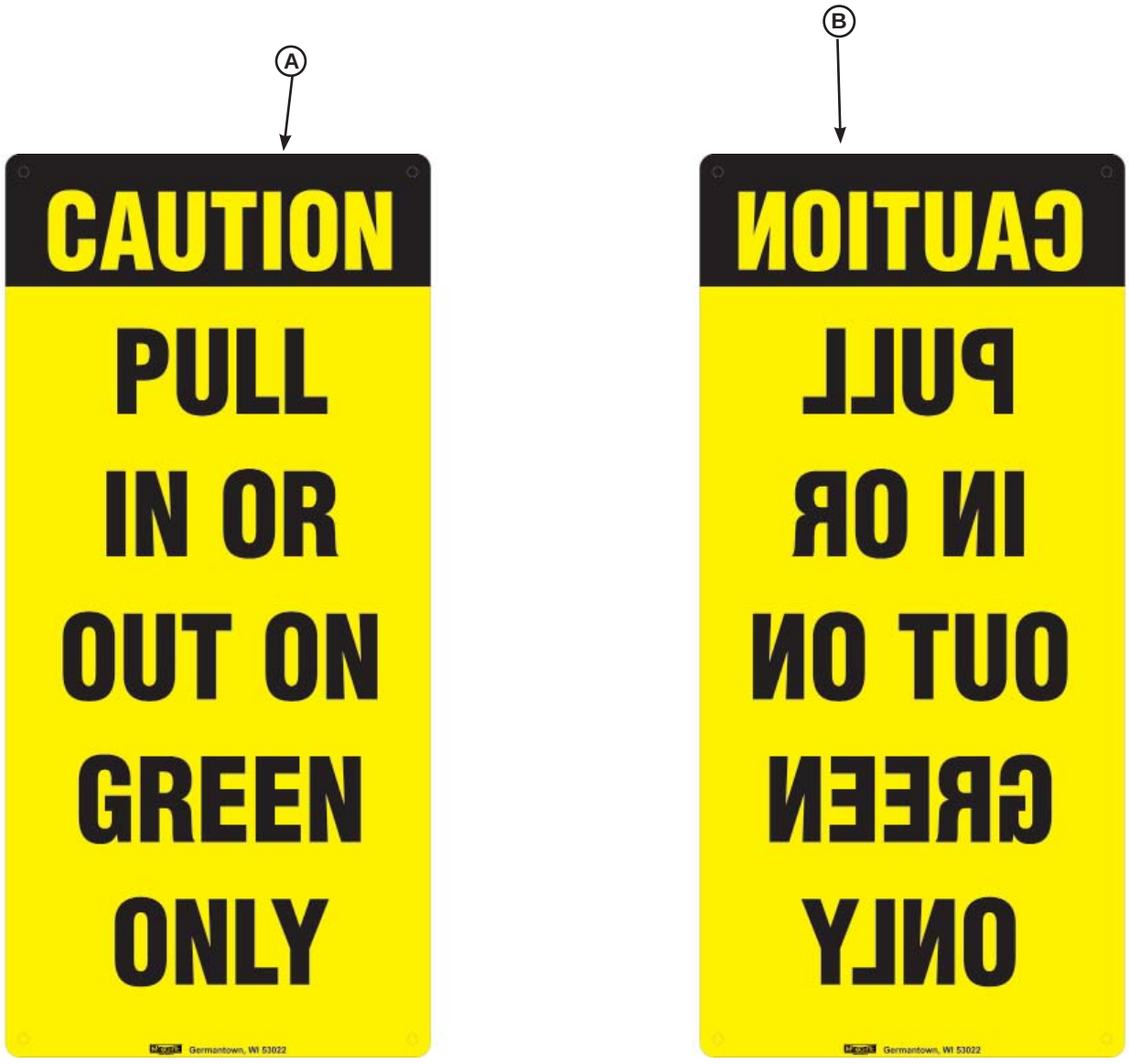
Hold-Tite® SC





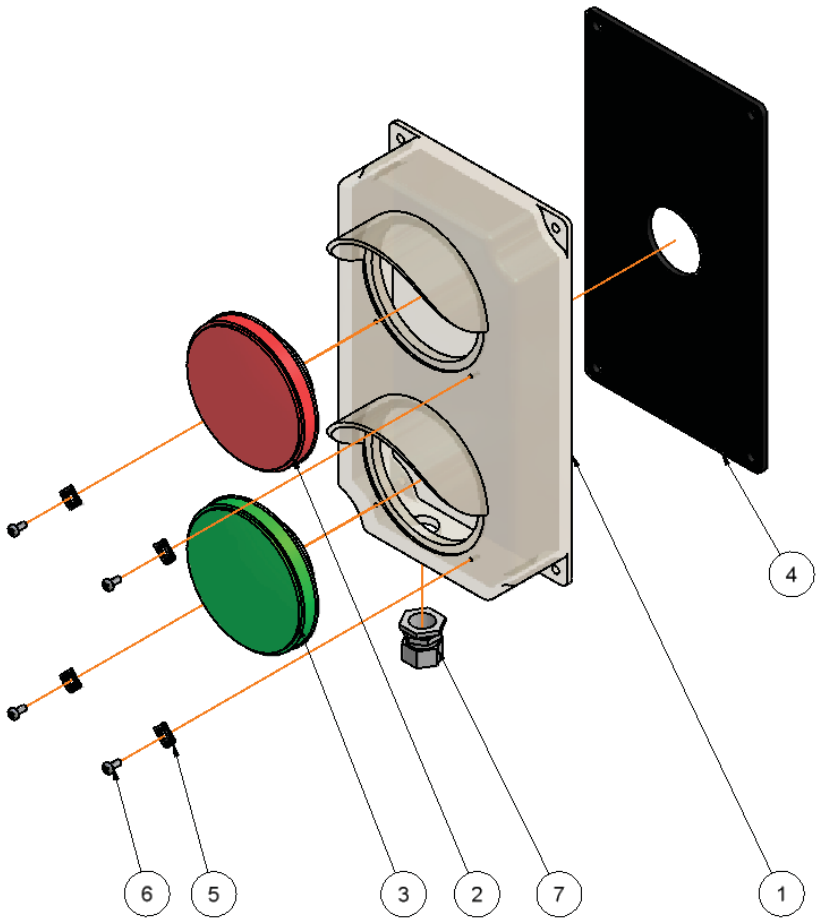
Item	Quantity	Part Number	Description
A	2	0963-0073	Prox Switch
B	1	0961-0563	Stored Prox Switch
C	1	0941-0008	Spring
D	1	0941-0009	Spring
E	1	2101-0012	Bolt 5/16-18 UNC
F	1	2101-0058	Nut, Hex 5/16-18 UNC
G	1	9414-0081	Latch Assembly (Complete With Prox Switches)

Outside Signs



Item	Quantity	Part Number	Description
A	1	1751-0033	SIGN,PULL IN/OUT ON GREEN ONLY RIGHT READING,16-7/8 x 8 x 3/32
B	1	1751-0034	SIGN,PULL IN/OUT ON GREEN ONLY MIRROR IMAGE,16-7/8 x 8 x 3/32

OSLA (Outside Light Assembly)



Item	Quantity	Part Number	Description
1-7	1	3055-0008	Complete Light Housing, Yellow Plastic, LED Lights
1-7	1	3055-0002	Complete Light Housing, Yellow Plastic, Incandescent Lights
1	1	3051-0002	Light Housing Only, Yellow Plastic
2	1	3051-0064	Lens Red, for use with incandescent bulbs
3	1	3051-0065	Lens Green, for use with incandescent bulbs
*	2	3051-0085	Lamp, 25W,120V,Incandescent, BAY (Rated 1000 Hours)
*	2	3051-0066	Socket Harness for Incandescent Lamp
2	1	3051-0102	Lens/Housing/Circuit Assembly Red-LED
3	1	3051-0103	Lens/Housing/Circuit Assembly Green-LED
4	1	3051-0068	Mounting Gasket
5	4	3051-0105	Clips, Lens Holding
6	4	3051-0104	Screw, Lens Holding Clip
7	1	x	Conduit Fastener, 3/4” x 3/8”

NOTES

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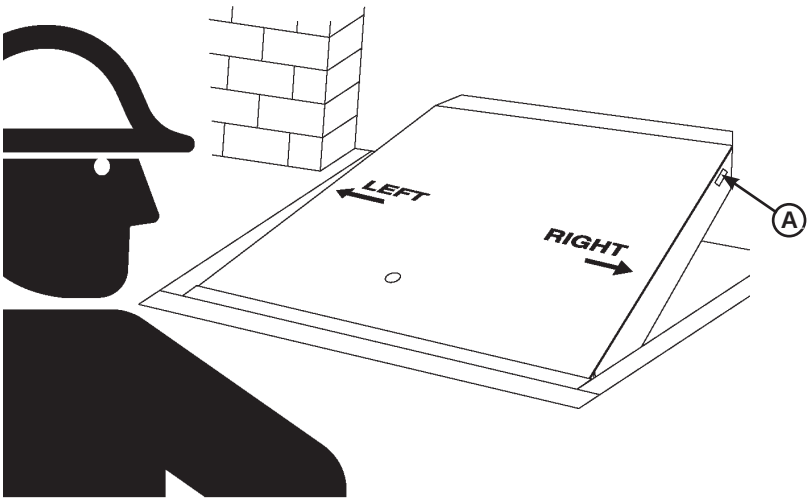
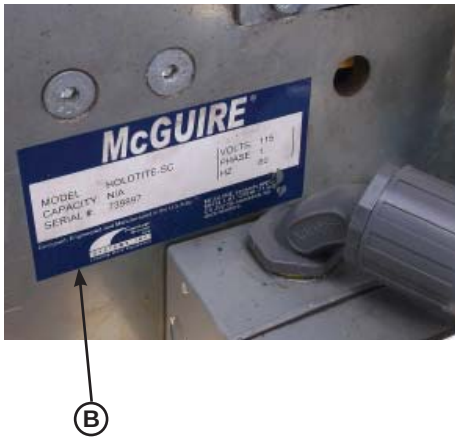
Customer Information





NOTE: Refer to illustration for left/right orientation of dock leveler.

The LEVELER model/serial number decal (A) is located on the right platform joist near the front (lip) of dock leveler.

The RESTRAINT model/Serial number decal (B) is located on the right side near The J Box.

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) becomes lost or damaged.

Also, write down Systems, Inc.'s job number, the company that installed the dock leveler, and the original owner's name. This will all help to identify the specific dock leveler 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 dock leveler MODEL NUMBER and/or SERIAL NUMBER.

For service, call or contact:

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

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

Dock Leveler Information

Model _____

Serial No. _____

Systems, Inc., Job No. _____

Vehicle Restraint Information

Model _____

Serial No. _____

Systems, Inc., Job No. _____

Original Owner Information

Name _____

Address _____

_____

Installer Information

Name _____

Address _____

_____

Date of Installation _____

McGuire WARRANTY

STANDARD PRODUCT WARRANTY

SYSTEMS, INC. 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 INC., covered by this warranty, SYSTEMS INC. 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 INC. AND ITS SUBSIDARIES 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, INTERUPTION OF BUSINESS OR LOSS OF GOODWILL.

PRODUCT SPECIFIC WARRANTY
"HOLDTITE® " SERIES LEVELER

In addition to the "Standard Product Warranty" provided with all McGuire Products, Systems Inc., guarantees materials, components and workmanship to be free of defects for the following extended periods:

•Structural Warranty – For a period of two (2) years from the date of shipment, this warranty specifically applies to; restraint shoe, pivot pin and frame weldment only.

•Hydraulic Warranty – For a period of two (2) years from date of shipment, this warranty specifically applies to; the hydraulic pump and motor, all hydraulic cylinders, hydraulic pressure lines, fittings and valves only.

•Electrical Warranty – For a period of two (2) years from date of shipment, this warranty specifically applies to; the control box components, proximity switches and coils only.