

A Division of Systems, Inc.

DLM
DOCK LEVELER
MANUFACTURING

TPR UniLock™
PATENT PENDING
Truck Restraint

Owner's/User's Manual



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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.

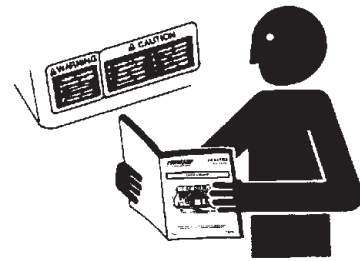
NOTICE

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 as described.

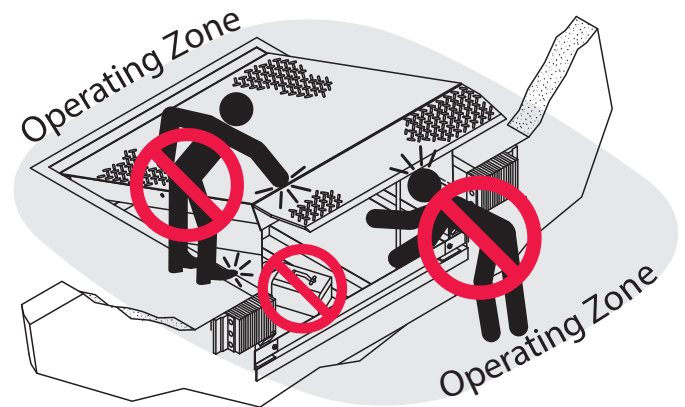
General Operational Precautions



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

Never operate a 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.



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.

PRECAUTIONS

Operational Precautions



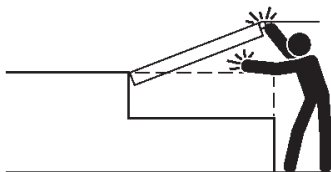
Learn the safe way to operate this equipment. Read and understand the manufacturer's instructions. If you have any questions, ask your supervisor.

DANGER

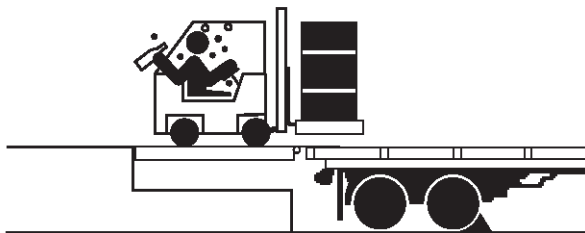


Stay clear of dock leveling device and restraint when transport vehicle is entering or leaving area.

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



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



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

WARNING



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

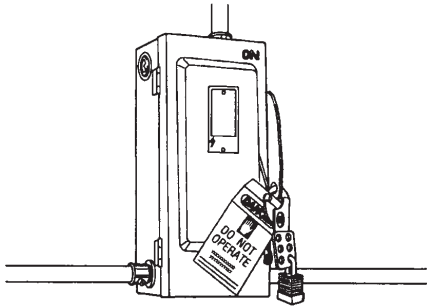
Do not use a broken or damaged restraint device. Make sure proper service and maintenance procedures have been performed before using.

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PRECAUTIONS

Maintenance Precautions

DANGER



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.

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.

WARNING

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

DO NOT ground welding equipment to any electrical components of the restraint. Always ground to the restraint frame.

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.


* Refer to OSHA regulation 1910.146. Confine Space
* Refer to OSHA regulation 1910.147. Lockout/Tagout

Restraint Precautionary Decals


Every 90 days (quarterly) inspect all precautionary labels, placards and tags to ensure they are present and easily seen and legible. If any are missing or require replacement, please call Technical Services for replacements. 800-643-5424

 <h1 style="margin: 0;">DANGER</h1>	<h1 style="margin: 0;">OPERATING INSTRUCTIONS</h1>
<h2 style="margin: 0;">VEHICLE RESTRAINTS</h2>	<h2 style="margin: 0;">VEHICLE RESTRAINTS</h2>
<ul style="list-style-type: none"> Read and follow all instructions, warnings, and maintenance schedules in the manual and on placards. Vehicle restraint operation and servicing is restricted to authorized personnel. <ol style="list-style-type: none"> Before using the vehicle restraint: <ul style="list-style-type: none"> Remove any debris, snow, or ice that may obstruct vehicle restraint operation. Alert personnel in the area of potential vehicle restraint operation and ensure area is clear. Operate the vehicle restraint through one complete cycle inspecting it for proper operation and light sequence. Advise maintenance personnel of any damage or improper operation immediately. Remove all malfunctioning or damaged vehicle restraints from service using approved lockout/tagout procedures. Before attempting to restrain a transport vehicle: <ul style="list-style-type: none"> Verify that transport vehicle is positioned squarely against dock bumpers. Inspect the transport vehicle's rear impact guard (RIG). Damaged or missing RIGs, lift gates or other obstructions may not allow the vehicle restraint to securely capture the RIG. Wheel chocks must be used whenever the ability for the vehicle restraint to capture the RIG is in question. (NOTE: The transport vehicle's suspension and load condition will affect trailer height.) After activating vehicle restraint: <ul style="list-style-type: none"> Verify that the transport vehicle's RIG has been restrained successfully. In the event this cannot be determined, use wheel chocks in addition to restraint. If equipped with a light communication system, load and unload on GREEN light only. Maintenance or service must be performed by authorized personnel only. Follow approved lockout/tagout procedures. <p style="text-align: center;">FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN DEATH OR OTHER SERIOUS INJURY.</p>	<div style="background-color: black; color: white; padding: 5px;"> <p>ENGAGE RESTRAINT</p> <ol style="list-style-type: none"> Open overhead door and visually check that transport vehicle is positioned squarely against dock bumpers and has a RIG bar. Inside light is RED and outside light is GREEN (if equipped with lights). (Powered Restraints) Depress the ENGAGE button to activate restraint. (Manual Restraints) Using release bar, pull upward on release latch until restraint is released. Visually inspect that RIG bar has been restrained successfully. In the event this cannot be determined, use wheel chocks in addition to restraint. <ul style="list-style-type: none"> If RIG bar is missing or damaged, use wheel chocks to secure transport vehicle at dock. Loading/unloading may proceed with caution. (Automatic Light Controls) When RIG is secured inside light is GREEN and outside light is RED. (Manual Light Controls) Once RIG is secured turn switch to SERVICE TRAILER. Inside light is GREEN and outside light is RED. </div> <div style="background-color: black; color: white; padding: 5px;"> <p>RELEASE RESTRAINT</p> <ol style="list-style-type: none"> (Powered Restraints) To release restraint depress the RELEASE button. When safely stored inside light is RED and outside light is GREEN. (Manual Restraints) To release restraint push down on restraint arm with release bar until restraint is completely stored. (Note: Restraint is completely stored when release latch engages restraint arm.) (Automatic Light Controls) When safely stored inside light is RED and outside light is GREEN. (Manual Light Controls) When safely stored turn switch to DO NOT SERVICE TRAILER. Lights change to RED inside and GREEN outside. </div> <div style="background-color: black; color: white; padding: 5px;"> <p>BY-PASS</p> <ol style="list-style-type: none"> If restraint is unable to secure transport vehicle's RIG, use wheel chocks to secure transport vehicle at the dock. Turn switch to BY-PASS. Inside light is GREEN and outside light is RED. Loading/unloading may proceed with caution. <p>BY-PASS RESET (RETURN TO NORMAL OPERATION)</p> <ol style="list-style-type: none"> When loading or unloading is completed and wheel chocks are removed. Manual reset of BY-PASS is accomplished by turning switch to NORMAL. Lights change to RED inside and GREEN outside. <p style="font-size: small; text-align: center;">Use for PowerStop and StopTite series</p> </div>
 <p>Scan to view our owner's/user's manuals online. www.DockSystemsInc.com 1.800.643.5424 Call for additional placards, or manuals, or with questions regarding proper use, maintenance, and repair of dock leveler.</p>	 <p style="font-size: x-small;">1751-0880 Rev D</p>

	<div style="background-color: red; color: white; padding: 5px;">  <h1 style="margin: 0;">DANGER</h1> </div> <h1 style="margin: 20px 0;">NO STEP</h1> <p style="font-size: x-small; text-align: right;">1751-0149 Rev B</p>
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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

1751-0857 Rev A


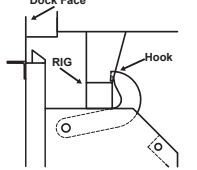
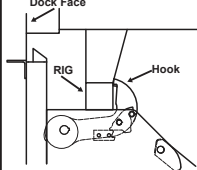
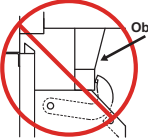
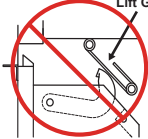


DANGER



Lockout/Tagout power before servicing.
Comply with OSHA 1910.147

1751-0857 Rev A

 <h1 style="margin: 0;">DANGER</h1>	
 <p>TPR Hook must securely capture Rear Impact Guard (RIG). Visually inspect before loading/unloading transport vehicle.</p> <ul style="list-style-type: none"> Area around RIG should be free of plates, lift gates or other obstructions for hook to securely capture the RIG. 	 <p>TPR UniLock Hook must securely capture Rear Impact Guard (RIG). Visually inspect before loading/unloading transport vehicle.</p>
<p>If hook is NOT able to securely capture the RIG, transport vehicle must be secured by other means.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>Obstructions</p> </div> <div style="text-align: center;">  <p>Lift Gates</p> </div> </div> <ul style="list-style-type: none"> Inspect all lights and alarm (if equipped) daily for proper operation. Only authorized personnel who have read and understand the owner's/user's manual should operate TPR vehicle restraint. Maintain TPR vehicle restraint in accordance to owner's/user's manual. <p style="font-size: x-small; text-align: center;">Call Systems Inc. for assistance at (800) 643-5424</p> <p style="font-size: x-small; text-align: right;">1751-0851 Rev A</p>	

OWNER'S/USER'S RESPONSIBILITIES

- 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.
- 2) 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 restraining device 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 restraining 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.
- 3) When selecting a restraining device, 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.
- 4) 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.
- 5) Modifications or alterations of restraining devices shall be made only with prior written approval from the original manufacturer. These changes shall be in conformance with all applicable provisions of the MH30.3 standard and shall also satisfy all safety recommendations of the original equipment manufacturer of the particular application.
- 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 restraining 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 functions. Explain how they work when used properly and maintained as well problems when they are used improperly.
 - f) Assure that the operator understands nameplate data, placards and all precautionary information appearing on the restraining 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.
- 7) 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.

OWNER'S/USER'S RESPONSIBILITIES

- 8) 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.
- 9) 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.
- 10) Manufacturer's recommended maintenance and inspection of all restraining 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 restraining 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.
- 11) Restraining devices that are structurally damaged 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

General Information

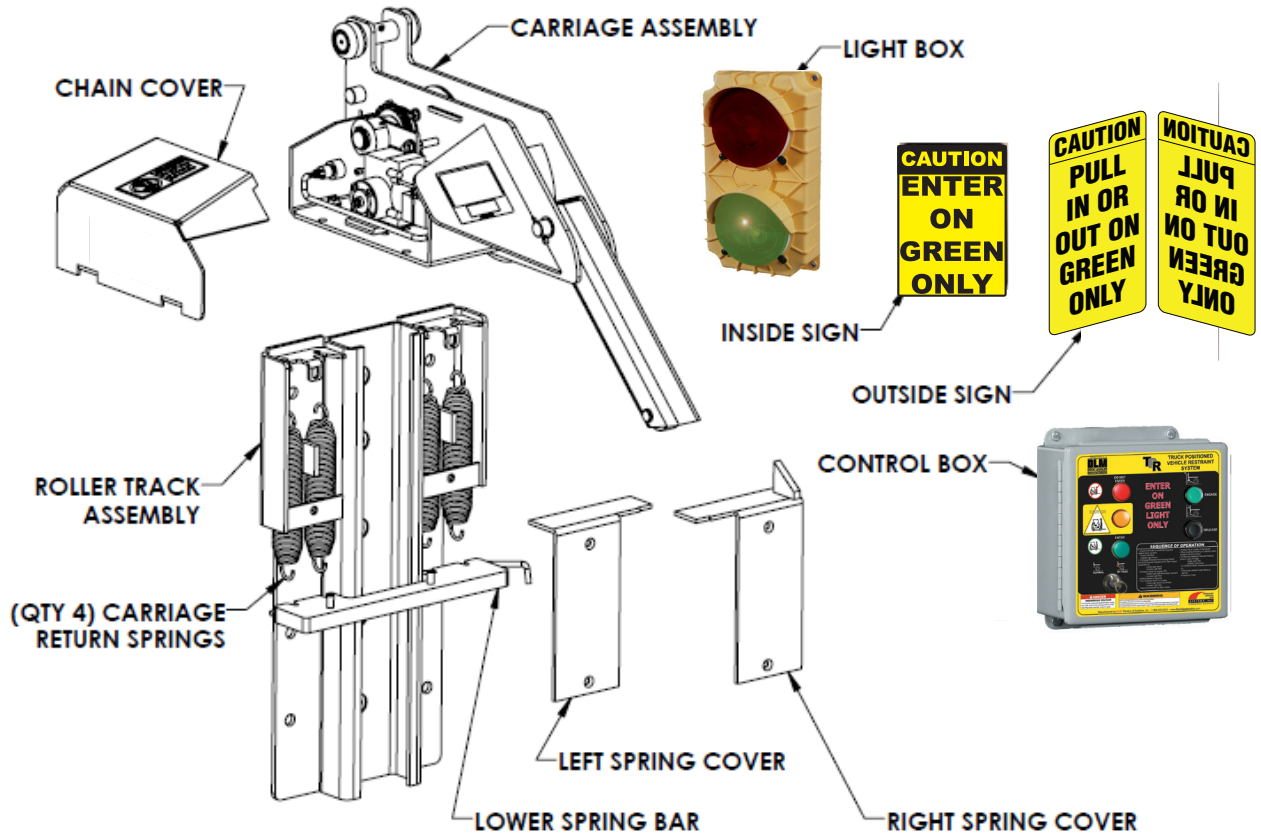


This manual provides current information on the TPR UniLock truck restraint. Due to ongoing product improvement, some parts may have changed, along with operation and troubleshooting methods. This manual describes these changes where applicable. For further assistance, please contact:

Technical Service at 800-643-5424 or techservices@docksystemsinc.com


Component Identification

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



(15) - Concrete Anchors included. (not shown)

PLACARD

 <h1 style="margin: 0;">DANGER</h1>	<h1 style="margin: 0;">OPERATING INSTRUCTIONS</h1>
<p>• Read and follow all instructions, warnings, and maintenance schedules in the manual and on placards.</p> <p>• Vehicle restraint operation and servicing is restricted to authorized personnel.</p> <ol style="list-style-type: none"> Before using the vehicle restraint: <ul style="list-style-type: none"> Remove any debris, snow, or ice that may obstruct vehicle restraint operation. Alert personnel in the area of potential vehicle restraint operation and ensure area is clear. Operate the vehicle restraint through one complete cycle inspecting it for proper operation and light sequence. Advise maintenance personnel of any damage or improper operation immediately. Remove all malfunctioning or damaged vehicle restraints from service using approved lockout/tagout procedures. Before attempting to restrain a transport vehicle: <ul style="list-style-type: none"> Verify that transport vehicle is positioned squarely against dock bumpers. Inspect the transport vehicle's rear impact guard (RIG). Damaged or missing RIGs, lift gates or other obstructions may not allow the vehicle restraint to securely capture the RIG. Wheel chocks must be used whenever the ability for the vehicle restraint to capture the RIG is in question. (NOTE: The transport vehicle's suspension and load condition will affect trailer height.) After activating vehicle restraint: <ul style="list-style-type: none"> Verify that the transport vehicle's RIG has been restrained successfully. In the event this cannot be determined, use wheel chocks in addition to restraint. If equipped with a light communication system, load and unload on GREEN light only. Maintenance or service must be performed by authorized personnel only. Follow approved lockout/tagout procedures. <p style="text-align: center;">FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN DEATH OR OTHER SERIOUS INJURY.</p>	<h3 style="text-align: center;">VEHICLE RESTRAINTS</h3> <p>ENGAGE RESTRAINT</p> <ol style="list-style-type: none"> Open overhead door and visually check that transport vehicle is positioned squarely against dock bumpers and has a RIG bar. Inside light is RED and outside light is GREEN (if equipped with lights). (Powered Restraints) Depress the ENGAGE button to activate restraint. (Manual Restraints) Using release bar, pull upward on release latch until restraint is released. Visually inspect that RIG bar has been restrained successfully. In the event this cannot be determined, use wheel chocks in addition to restraint. <ul style="list-style-type: none"> If RIG bar is missing or damaged, use wheel chocks to secure transport vehicle at dock. Loading/unloading may proceed with caution. (Automatic Light Controls) When RIG is secured inside light is GREEN and outside light is RED. (Manual Light Controls) Once RIG is secured turn switch to SERVICE TRAILER. Inside light is GREEN and outside light is RED. <p>RELEASE RESTRAINT</p> <ol style="list-style-type: none"> (Powered Restraints) To release restraint depress the RELEASE button. When safely stored inside light is RED and outside light is GREEN. (Manual Restraints) To release restraint push down on restraint arm with release bar until restraint is completely stored. (Note: Restraint is completely stored when release latch engages restraint arm.) (Automatic Light Controls) When safely stored inside light is RED and outside light is GREEN. (Manual Light Controls) When safely stored turn switch to DO NOT SERVICE TRAILER. Lights change to RED inside and GREEN outside. <p>BY-PASS</p> <ol style="list-style-type: none"> If restraint is unable to secure transport vehicle's RIG, use wheel chocks to secure transport vehicle at the dock. Turn switch to BY-PASS. Inside light is GREEN and outside light is RED. Loading/unloading may proceed with caution. <p>BY-PASS RESET (RETURN TO NORMAL OPERATION)</p> <ol style="list-style-type: none"> When loading or unloading is completed and wheel chocks are removed, Manual reset of BY-PASS is accomplished by turning switch to NORMAL. Lights change to RED inside and GREEN outside. <p style="text-align: right; font-size: small;">Use for PowerStop and StopTie series</p>

INSTALLATION

INSTALL ROLLER TRACK PLATE

Install roller track plate onto dock face at specified location by welding to an embedded steel plate or by using the fifteen (15) concrete anchors provided in conjunction with welding to pit steel and a leveler frame.

The roller track plate must be plumb with dock face. If not, use and weld (6) shims 2" wide x 25 5/8" long. If shims are over 1/2" thick use longer anchors. If shims need to be 1" thick or more, contact Technical Support

NOTE: Trim roller track plate, as necessary, up to a maximum of 5" from the bottom.

NOTE: Some mechanical dock levelers have an adjusting nut access hole in the leveler front subframe. If the UniLock vehicle restraint roller track interferes with the access hole, the track plate must be cut to allow access.

NOTE: Some levelers are slightly recessed within the pit and thus require a shim to be inserted between the roller track plate and the leveler front subframe and welded in place.

If you have questions, contact Technical Support at (800) 643-5424.

ANCHOR INSTALLATION INSTRUCTIONS

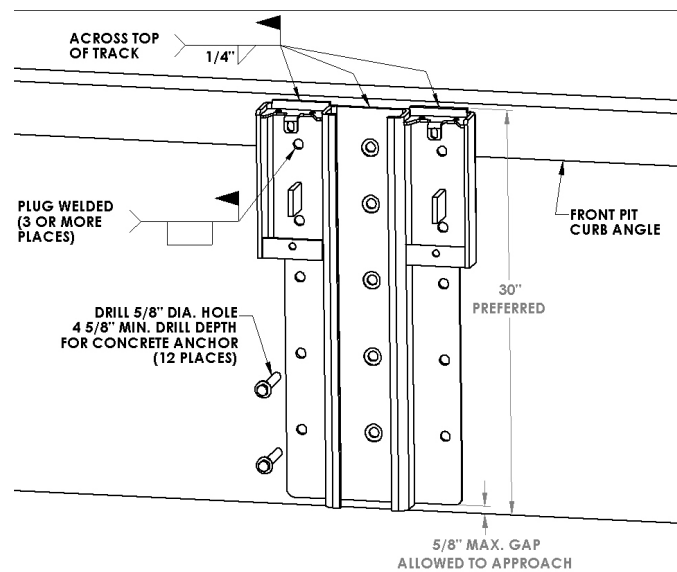
- Fifteen (15) concrete anchors are provided with each UniLock vehicle restraint. An anchor must be installed in each roller track plate hole except for those plug-welded to embedded steel.
- Put roller track plate in place.
- Drill hole of 5/8" diameter and minimum of 4-5/8" deep. Clean out hole.
- Insert anchor and drive flush with roller track plate, making sure that the threaded wedge is inserted first. Do not disassemble anchor prior to installation.
- Install all anchors and torque to 60 ft-lbs.

WARNING

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

NOTICE

Whether there is a leveler or not, a 4 inch thick bumper is required. DO NOT install UniLock restraint on docks without 4 inch thick bumpers. For thicker bumpers, consult the factory.



WELDING INSTALLATION INSTRUCTIONS

If the installation being worked on is a retrofit or replacement situation, the following electrical connections must be disconnected prior to welding:

LOCKOUT/TAGOUT the power at the fused disconnect, then remove the motor and limit switch connections from the control harness located in the outside junction box.

Once all welding has been completed, reconnect all the wires.

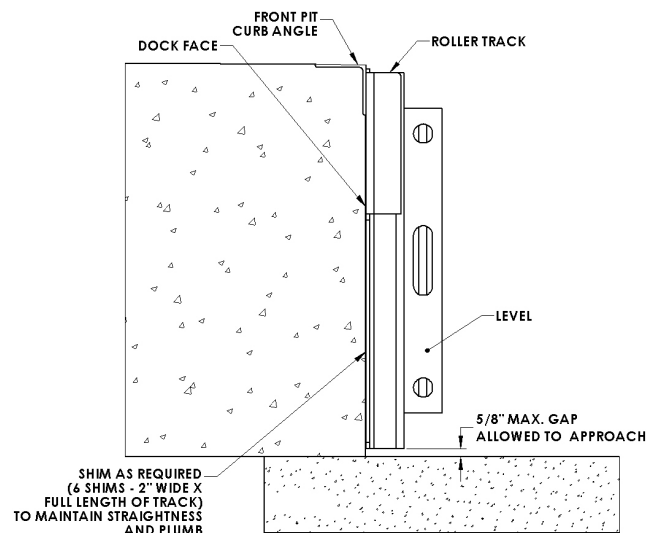
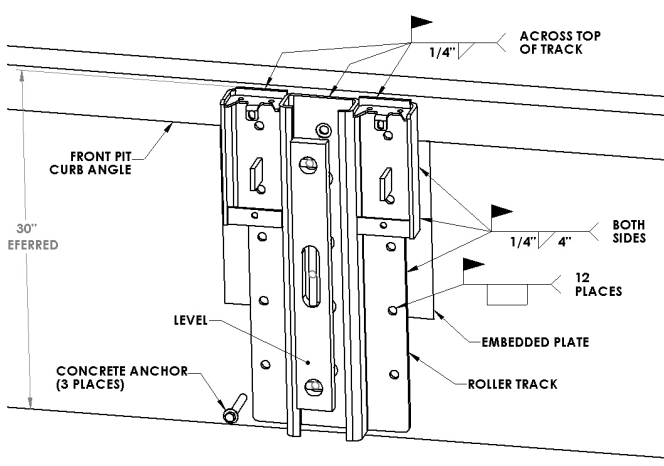
NOTES:

1. NEVER install the UniLock vehicle restraint directly onto concrete block or brick dock face.
2. When welding the UniLock vehicle restraint, disconnect power and ground leads to leveler or earth ground
3. Due to actual conditions, total mounting height may be different.
4. Plug weld all holes that are in contact with the embedded mounting plate. All fifteen (15) holes must be either plug welded or anchored.
5. Shims must be the full length of the roller track mounting plate. Minimum electrode must be 1/8" 7018 or better
6. Clean and touch up all welds once complete.

NOTICE

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

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

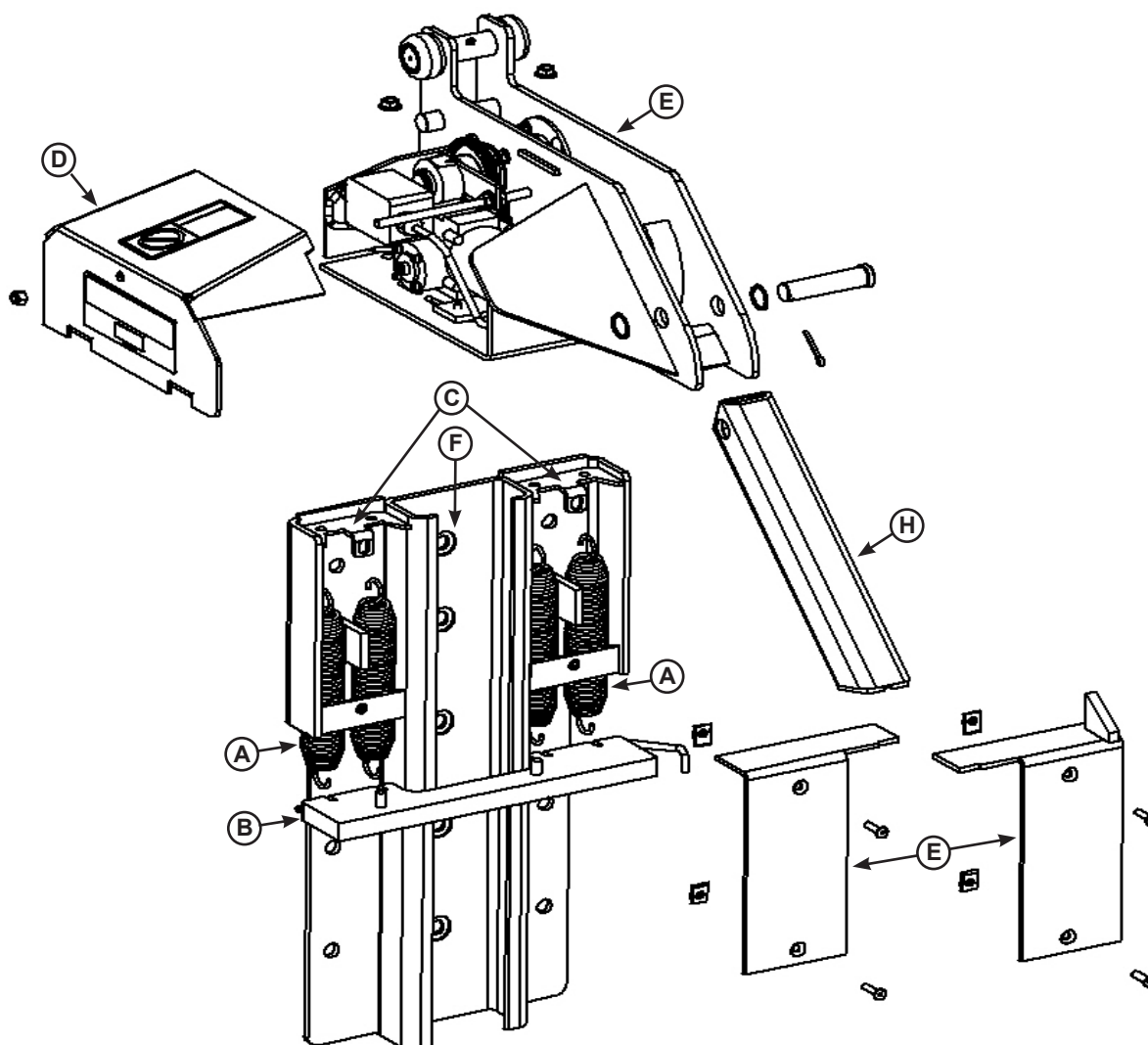


INSTALLATION

1. Attach the four (4) springs (A) to the lower spring bar (B).
2. Pull springs (A) upward and slide over top spring mounts (C) on the track roller plate.
3. Remove motor cover (D).
4. Slide the carriage assembly (E) into the roller track (F), position and bolt the lower spring bar (B) to the bottom of the TPR carriage.
5. Install right and left spring covers (G) with clip nuts and flat head screws provided.
6. Install the motor cover (D).
7. Install slope extension (H).

CAUTION

Use lifting device (e.g. crane, jack) when lifting carriage (approx. 110 lbs.).



DANGER

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

If the incoming electrical power for the UniLock vehicle restraint is taken from a nearby electrical appliance, e.g., overhead door opener, verify that the amperage is in accordance with local and federal codes.

The UniLock vehicle restraint 1/10 HP motor requires 120V, single phase power, 60 Hz power and 10 amps of current to operate properly.

If you have questions, contact Technical Support at (800) 643-5424.

CAUTION

When drilling access holes in the control box, DO NOT penetrate too deep, components may be damaged.

DO NOT turn control upside down to drill any access holes. To prevent damaged to electrical components from debris cover components prior to drilling

Seal all conduit entrances to prevent moisture from entering the control box.

DO NOT use compressed air to clean control box. Recommended to vacuum debris from inside.

The control box and all wiring should be installed by a qualified electrician in accordance with all national and local electrical codes.

The UniLock vehicle restraint assembly includes a 63" long flexible wiring harness, the control box with lights and the outside signal light box. The outside junction box, conduit fittings and wire are provided by others; be sure to use a qualified installer utilizing quality materials.

Refer to component location information. Electrical schematics for wiring information can be found inside the control box.

WARNING

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

TEMPERATURE CONTROLLED APPLICATION INSTALLATION GUIDELINES

Route the conduit to enter through the side or bottom of the enclosure. If the conduit could fill with water, a drip leg may be needed.

Seal the conduit in any location where the conduit crosses over temperature zones that could produce condensation.

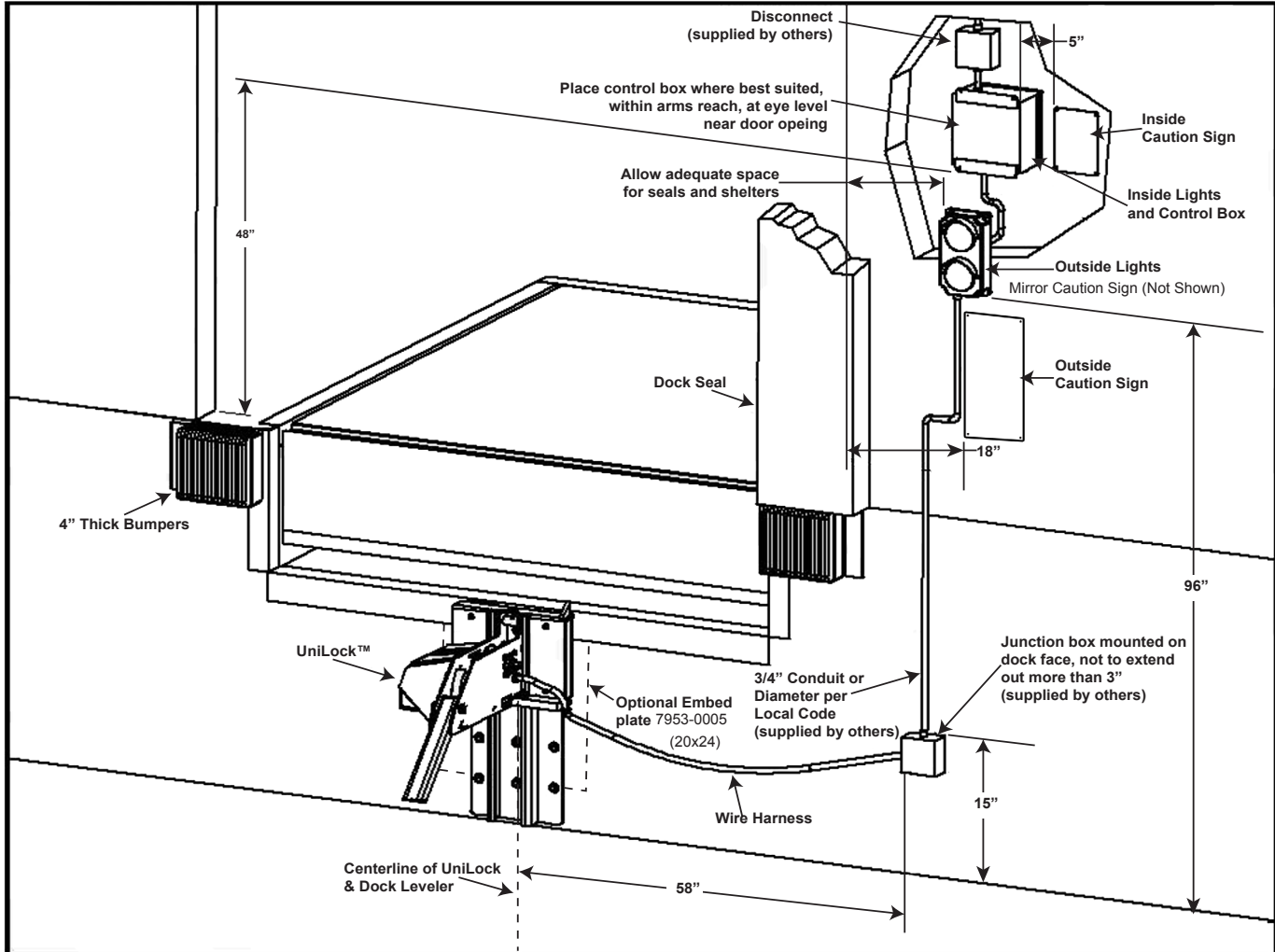
Install spacers between the wall and enclosure to provide temperature insulation and air flow.

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.

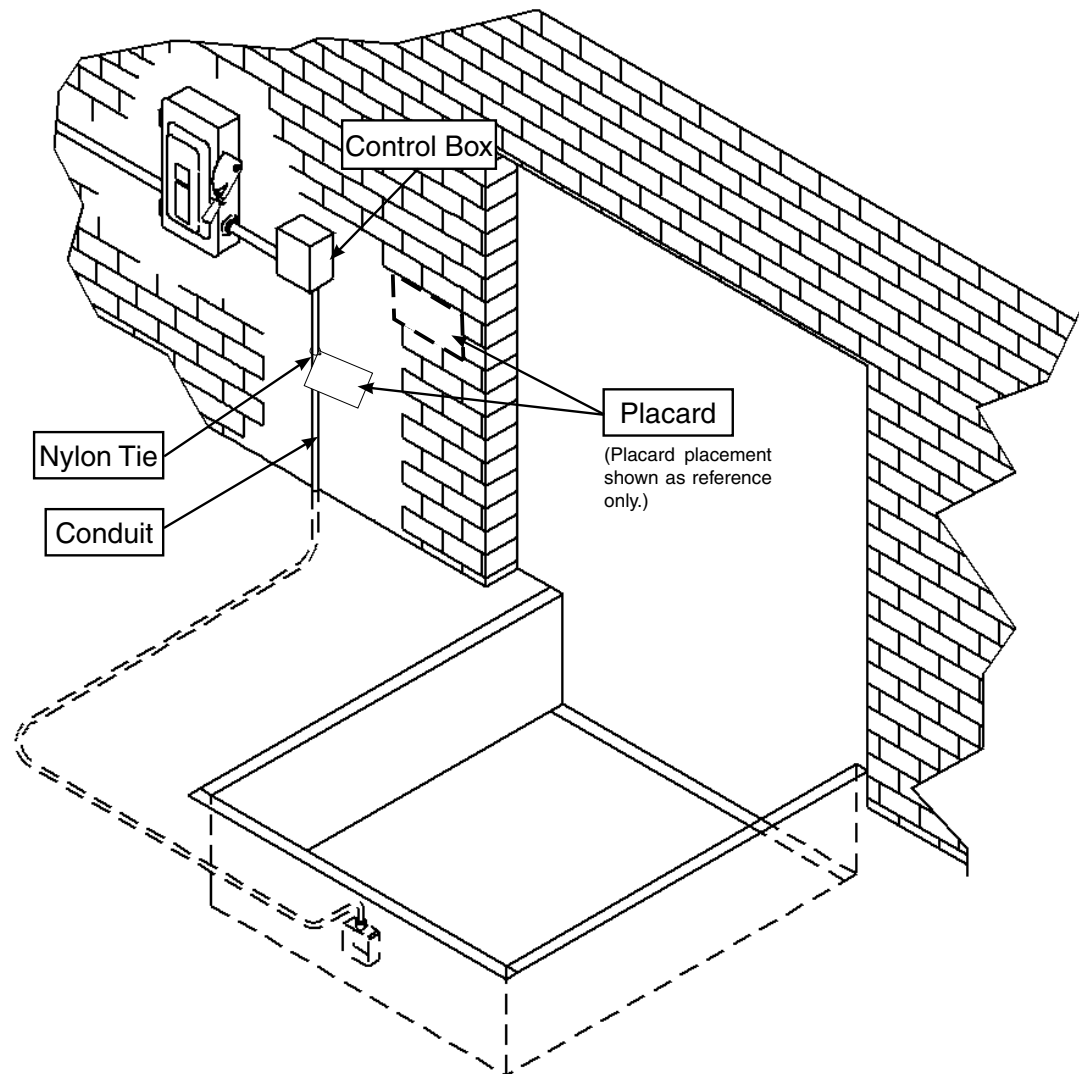
INSTALLATION

Recommended Component Location



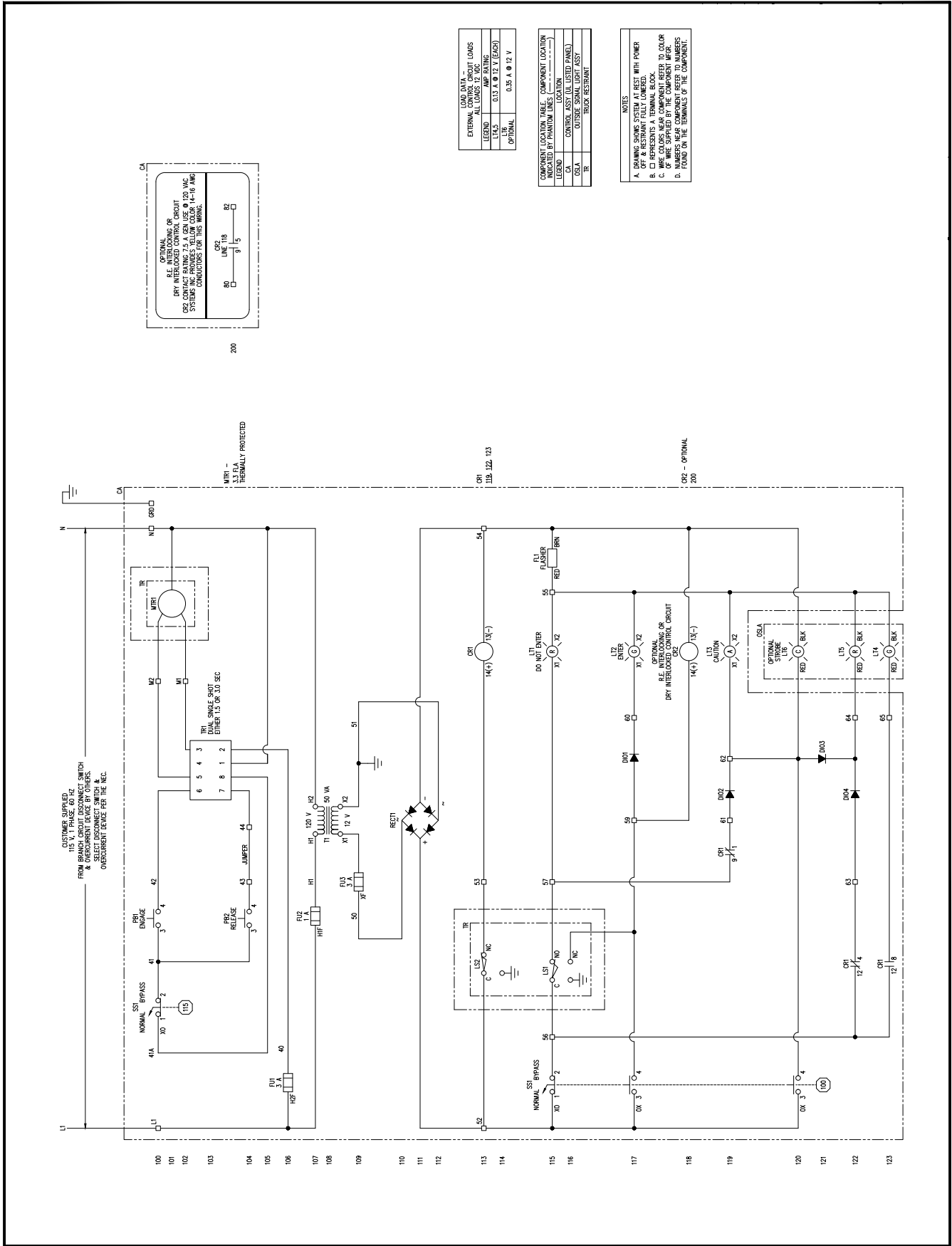
Placard Installation Instructions

- 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 tie. If there is no control box present, mount placard on wall to the immediate left of leveler at eye level.

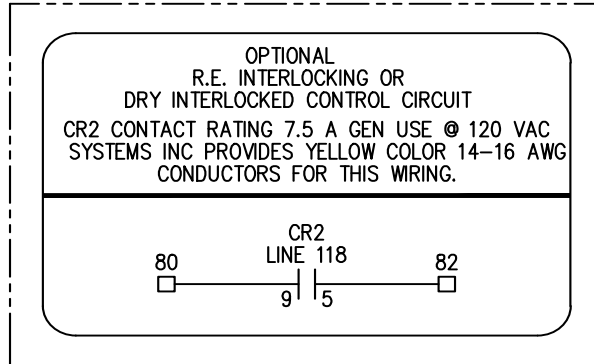


INSTALLATION

3- Light Electrical Schematic



INTERLOCKING LOAD DATA AND NOTES



LOAD DATA – EXTERNAL CONTROL CIRCUIT LOADS ALL LOADS 12 VDC	
LEGEND	AMP RATING
LT4,5	0.13 A @ 12 V (EACH)
LT6 OPTIONAL	0.35 A @ 12 V

COMPONENT LOCATION TABLE. COMPONENT LOCATION INDICATED BY PHANTOM LINES (-----)	
LEGEND	LOCATION
CA	CONTROL ASSY (UL LISTED PANEL)
OSLA	OUTSIDE SIGNAL LIGHT ASSY
TR	TRUCK RESTRAINT

NOTES
A. DRAWING SHOWS SYSTEM AT REST WITH POWER OFF & RESTRAINT FULLY LOWERED.
B. □ REPRESENTS A TERMINAL BLOCK.
C. WIRE COLORS NEAR COMPONENT REFER TO COLOR OF WIRE SUPPLIED BY THE COMPONENT MFG.
D. NUMBERS NEAR COMPONENT REFER TO NUMBERS FOUND ON THE TERMINALS OF THE COMPONENT.

OPERATION

Operating Instructions

DANGER

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

DO NOT move or use the restraint if anyone is near or in front of the restraint.

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 vehicle restraint.

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

Transport vehicle should be parked squarely against both bumpers and the parking brakes set.

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

WARNING

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

Before loading or unloading a vehicle at your loading dock while using a UniLock vehicle restraint, always visually inspect to be sure that the hook securely captures the Rear Impact Guard (RIG). If the hook is still not able to securely capture the RIG, the transport vehicle must be secured by other means.

Area around the RIG should be free of plates, lift gates or other obstructions for the hook to securely capture the RIG.

Always operate the UniLock vehicle restraint from the top of the dock.

Inspect all restraint lights and alarm(if equipped) daily for proper operation.

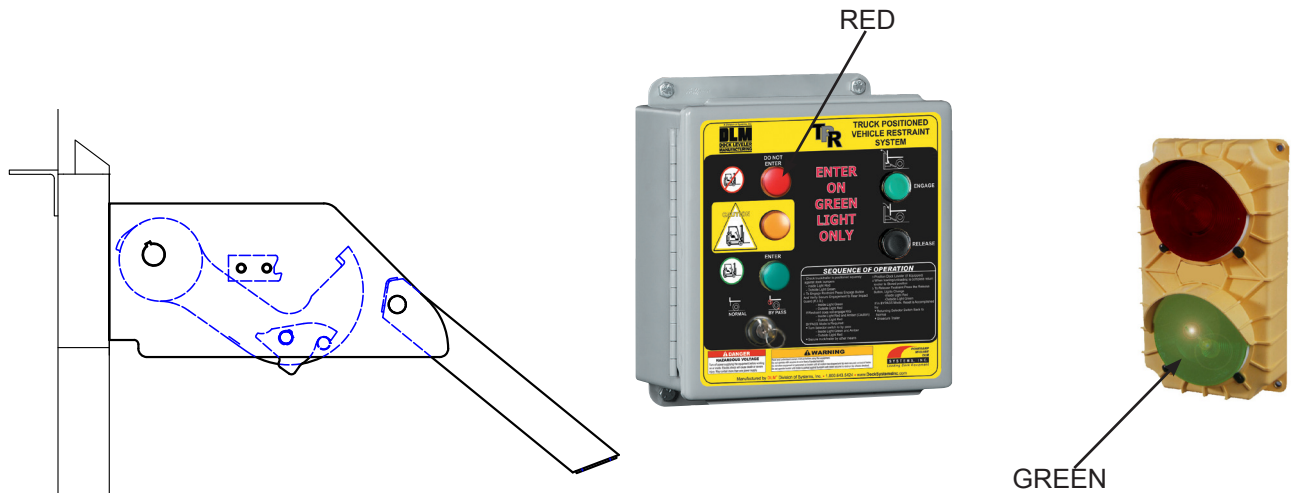
Only authorized personnel who have read and understand the Owner's/User's Manual should operate the UniLock vehicle restraint.

Perform maintenance on restraints in accordance with Maintenance in this manual.

If you have questions, Call your local representative or Systems Inc.

Stored Position / Restraint UNLOCKED (3 Light System)

Hook is in the STORED position. Inside light is flashing RED alerting operator that an unsafe condition exists. Outside light is flashing GREEN alerting transport vehicle driver it is safe to back in.

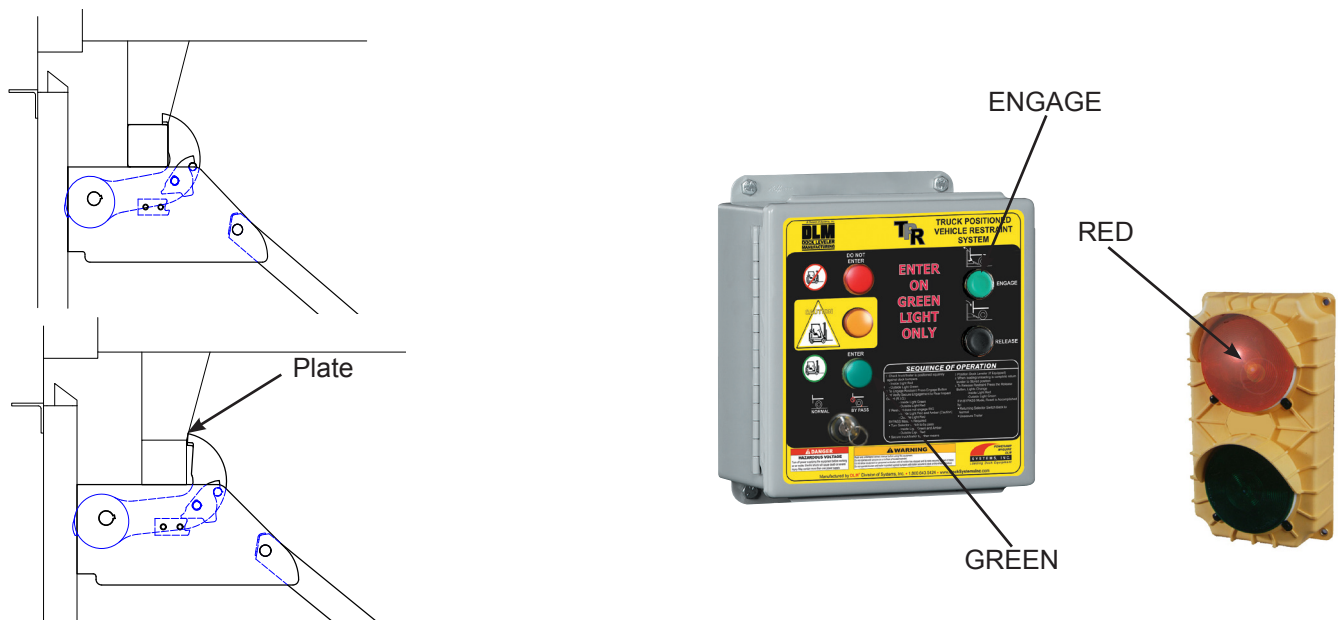


ENGAGE Button Depressed - Restraint ENGAGING / Securely Captured (3 Light System)

Transport vehicle has backed into loading dock and is parked firmly against dock bumpers with the brakes set. Depress the ENGAGE button, hook rotates from stored position to securely capture RIG. Visually inspect to ensure capture. Outside light is flashing RED alerting transport vehicle driver not to move. Inside light flashing GREEN, to alert the operator that it is safe proceed with the loading or unloading operation.

If inside lights are RED and YELLOW, proceed to FAULT instructions.

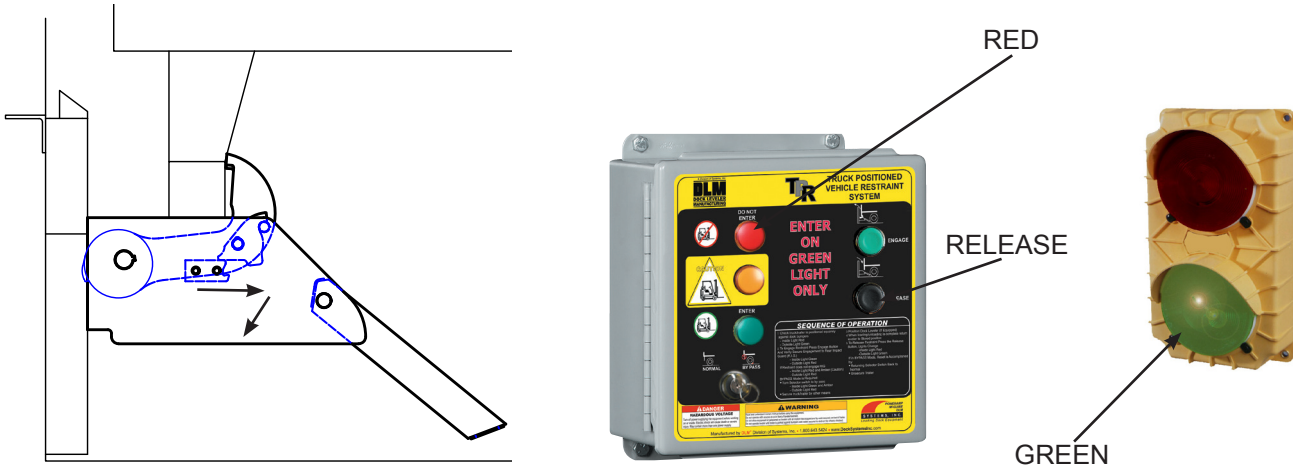
Engaged Position



OPERATION

RELEASE Button Depressed - Restraint DISENGAGING (3 Light System)

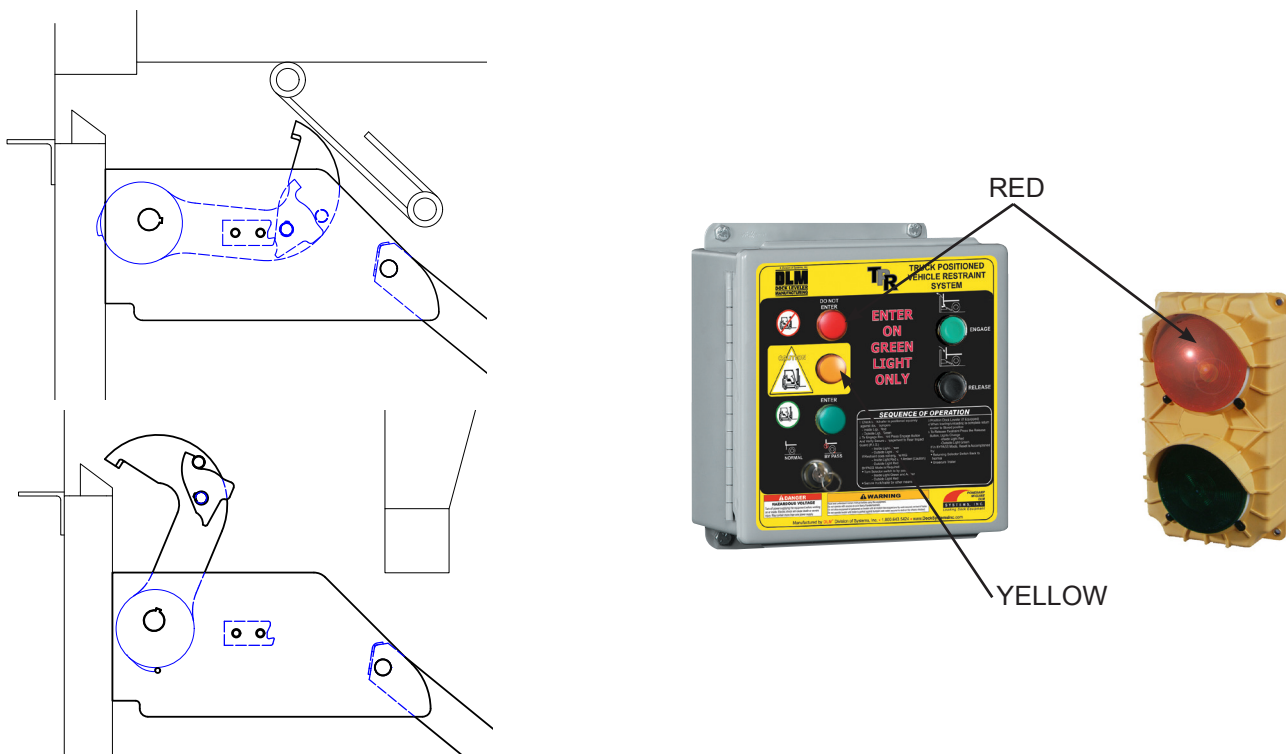
Depress the RELEASE button, hook travels from the securely captured position to the STORED position. Outside light continues flashing RED alerting transport vehicle driver not to move. Inside light continues flashing GREEN. Once the hook is stored the outside light will flash GREEN and inside light will flash RED, alerting the driver it is safe to depart.



FAULT from ENGAGING State (3 Light System)

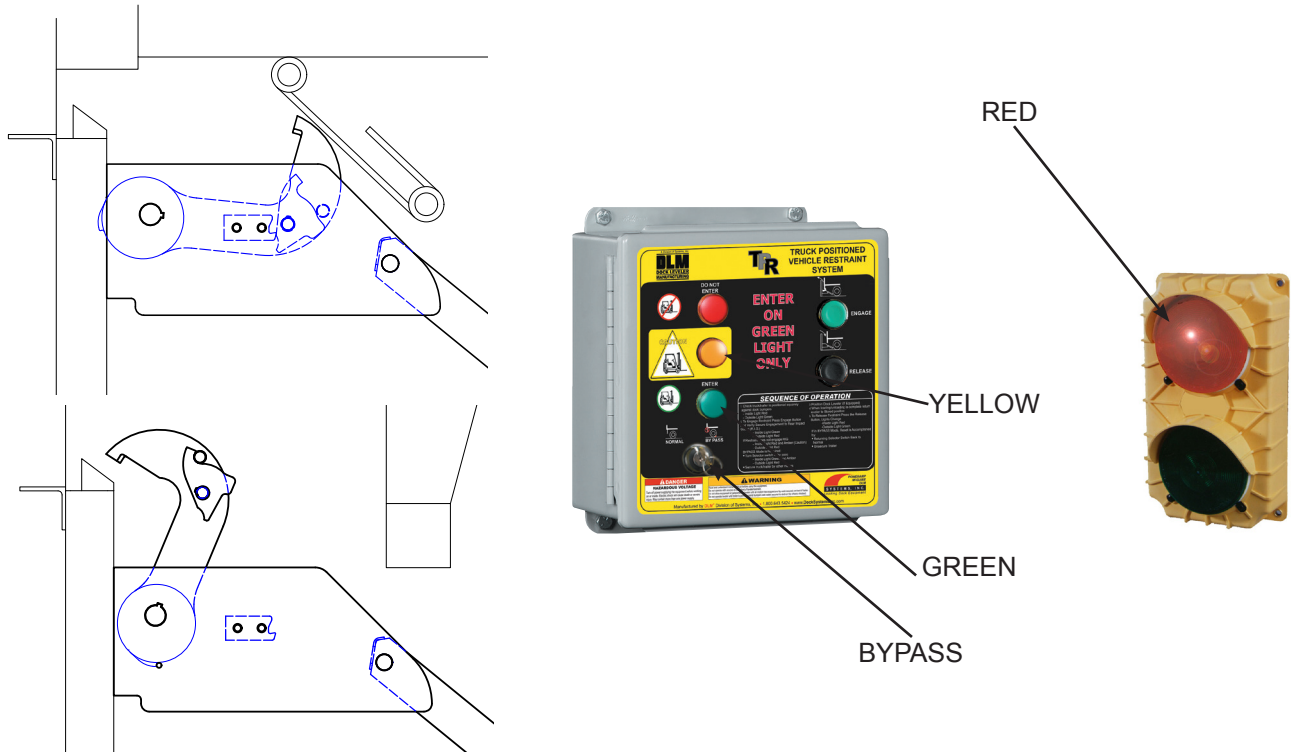
Hook cannot securely capture the RIG. RIGs that are located too far towards the rear axle, bent, obstructed, missing, or the presence of a lift gate are possible scenarios. Inside lights are flashing RED and YELLOW, alerting the operator that the transport vehicle is not locked. Outside light is flashing RED alerting the transport vehicle driver not to move.

If the transport vehicle is parked firmly against the dock bumpers proceed to BYPASS. If not, depress RELEASE to clear the fault and store the hook, have transport vehicle back up and repeat Restraint ENGAGING.



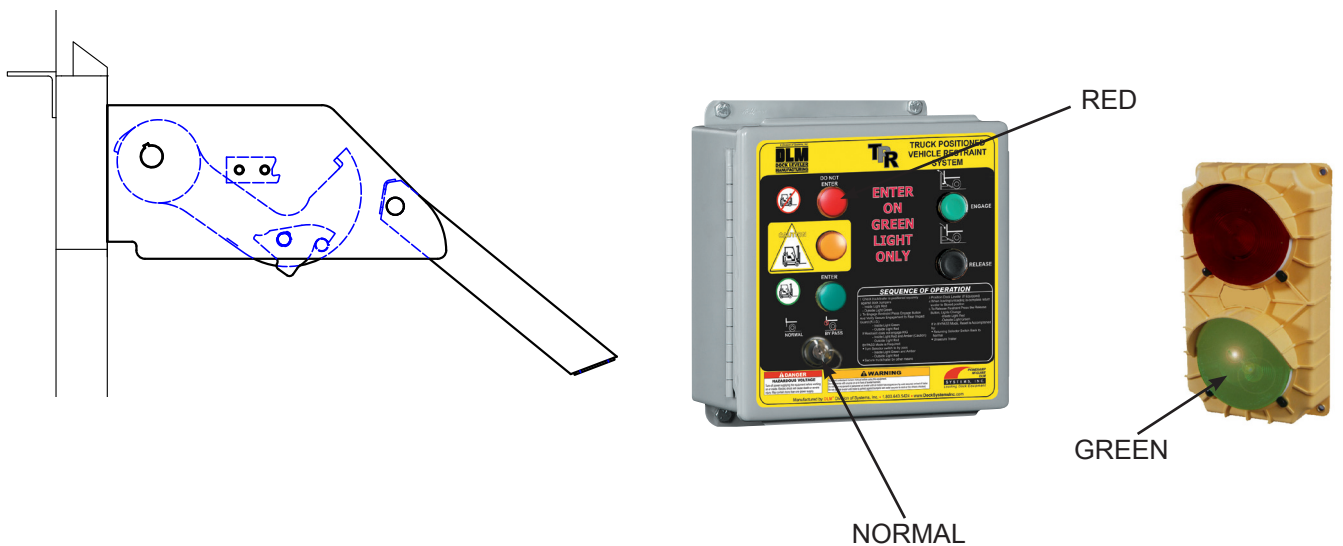
BYPASS from Fault or Stored State (3 Light System)

Hook cannot securely capture the RIG. Secure the transport vehicle using an alternate means (e.g. wheel chocks). Depress the RELEASE button to store the unit OR switch the selector switch from NORMAL to BYPASS. The inside lights are flashing YELLOW and GREEN. Outside light will flash RED. Proceed with caution.



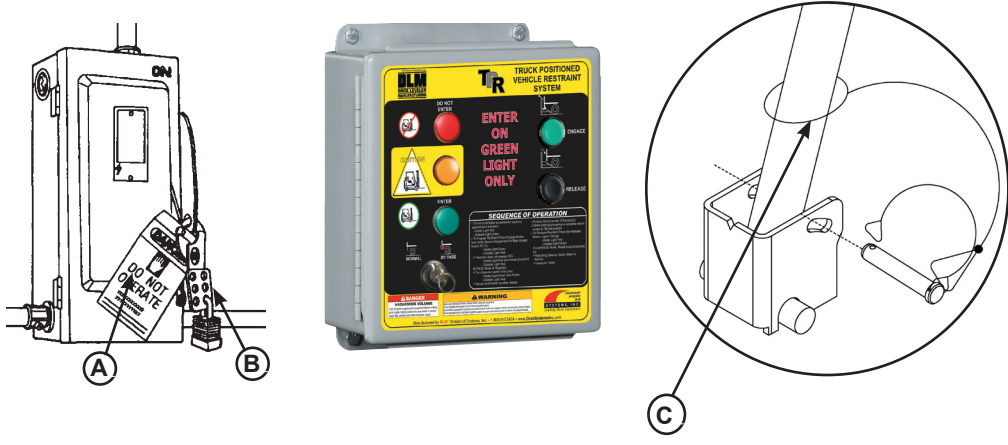
BYPASS to STORED State (3 Light System)

Once loading or unloading is complete, remove the alternate means of securing the transport vehicle. Switch the selector switch to NORMAL. If hook is not in the stored position, depress the RELEASE button, inside light will flash RED. Outside light will flash GREEN, The transport vehicle can now depart.



MAINTENANCE

Service Dock Level/Restraint



⚠ 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

175-0736 Rev A

⚠ WARNING

Safe operation of the UniLock truck restraint requires all lights and the alarm to be working properly. **DO NOT** use UniLock vehicle restraint if parts are broken or missing.

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.

⚠ 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.

NOTE: If a leveler is installed at the UniLock vehicle restraint location, it may be necessary to raise the leveler before performing maintenance. Raise the leveler, insert and secure the maintenance strut (C), and LOCKOUT/TAGOUT* (A, B) the power source.

⚠ CAUTION

Use lifting device (e.g. crane, jack) when lifting carriage (approx. 110 lbs.). Lifting by hand which could cause minor or moderate injury.

⚠ DANGER

Lockout/Tagout power before servicing. Comply with OSHA 1910.147

1751-0857 Rev A

* Refer to OSHA regulation 1910.146. Confine Space
 * Refer to OSHA regulation 1910.147. Lockout/Tagout

MAINTENANCE

Service Restraint

WEEKLY

- Remove debris around UniLock vehicle restraint and in roller track.
- Verify that restraint operates through full range of motion, engages and releases, inside/outside lights and alarm (if equipped) are working.
- Inspect motor cover and spring covers, verify good condition; replace or repair as needed
- Verify carriage assembly is able to move up and down freely with no binding or obstruction.
- Replace damaged or missing light bulbs and lenses.
- Repair, remount, or replace outside/inside signs, labels, decals and placards as required.
- Inspect dock bumpers. Four inches (4") of protection is required. Worn, torn, loose or missing bumpers must be replaced.
- Inspect latch barrier blocks for wear or damage; replace as needed.
- Inspect latch plates and retaining ring on pivot pin for damage or wear.
- Inspect latch plates and verify they rotate without binding or obstructions. **DO NOT lubricate the latch plates.**

QUARTERLY

- Perform all WEEKLY maintenance.
- Grease rollers at fittings located on the top and bottom axle with a synthetic oil-base moly grease with a temperature range of -40° to 170° F.
- Grease hook weldment at the fitting with a synthetic oil-base moly grease with a temperature range of -40° to 170° F.
- Inspect chain tension, 1/8-1/4 inch of play, lube chain.
- Verify brake torque is greater than 42 ft-lbs and less than 58 ft-lbs at the hook shaft, while rotating the hook from ENGAGED (45 deg) to STORED.
- Inspect the hook to shaft for free play, more than 1/4 inch tighten done the set screw to 8 ft-lbs, check again, replace as needed.
- Inspect the outside electrical connections (junction box, conduit, power harness) and outside communication light. Loose or damaged components must be repaired or replaced as needed.
- Check that all concrete anchor bolts are torqued to 60 ft-lbs.
- Inspect all welds for cracks. Repair as needed.
- Remove retaining ring, remove pivot pin and latch plates, clean off dirt debris and other foreign matter from the assembly and mating surfaces. Reinstall parts; verify parts are moving freely without binding or obstruction. DO NOT lubricate.
- Lubricate limit switch mounting bracket between drive sprocket and the cam with synthetic oil-based moly lube with a temperature range of -40 deg to 170 deg F.
- Check motor mounting bolts.
- Perform operational test after all maintenance repairs and adjustments are complete.

ADJUSTMENTS

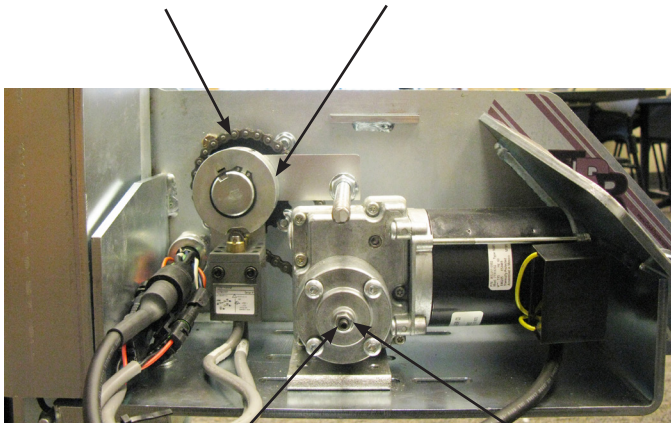
DRIVE CHAIN ADJUSTMENT

Inspect the drive chain periodically for dirt and chain slack. Open the motor enclosure and clean the chain with solvent. After cleaning, spray with a high quality chain spray type lubricant. (specified below)

The drive chain should not have more than 1/4" slack. To tighten chain:

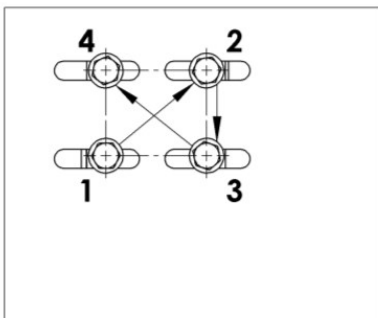
1. Open motor enclosure and loosen the four (4) motor mounting bolts.
2. Pry the motor assembly forward, in the slotted holes, until the chain is tight with proper alignment between sprockets.
3. Hold in this position and tighten the four (4) motor mounting bolts to 8 ft- lbs.

LUBRICATE DRIVE CHAIN AND LIMIT SWITCH MOUNTING BRACKET. USE SPRAY GREASE (ZEP 2000 OR EQUAL)



LOCKNUT

BRAKE ADJUSTER SET SCREW



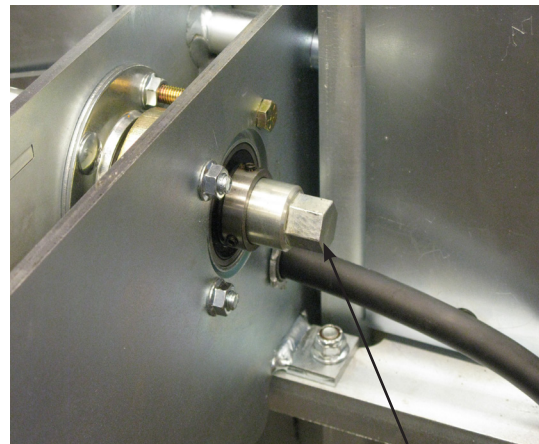
LOOKING AT BOTTOM OF MOTOR MOUNTING PLATE

! WARNING

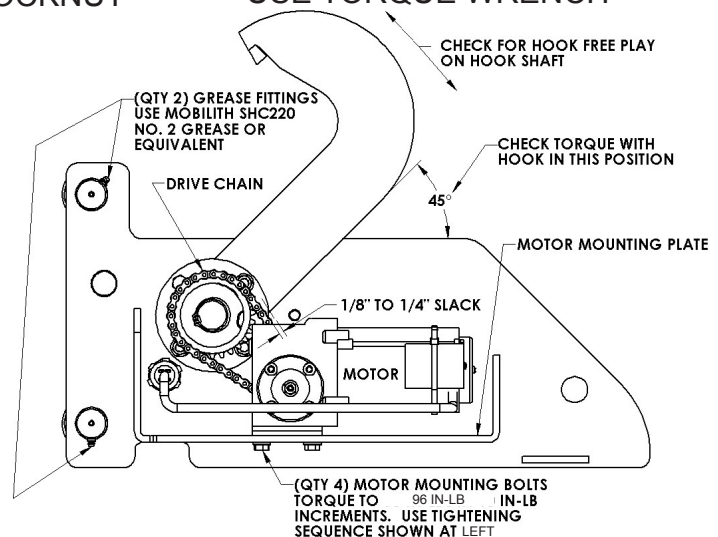
When working with electrical or electronic controls, make sure that the power source has been locked out and tagged according to OSHA regulations and approved local electrical codes.

BRAKE TORQUE ADJUSTMENT

1. Loosen brake adjuster locknut while holding the adjuster screw to prevent inadvertent adjustment.
2. Turn adjuster screw clockwise to increase brake torque as needed.
3. Tighten adjuster locknut while holding the adjuster screw to prevent inadvertent adjustment.
4. Verify brake torque is greater than 42 ft-lbs and less than 58 ft-lbs at the hook shaft, readjust as required.



USE TORQUE WRENCH



TROUBLESHOOTING

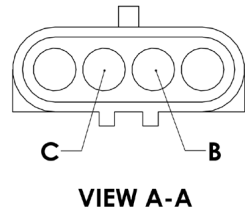
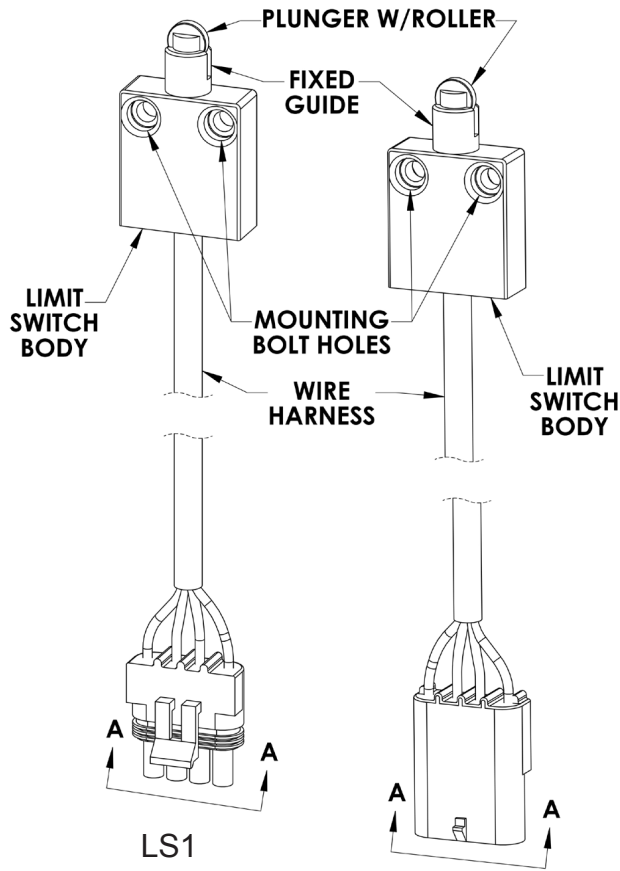
Symptom	Possible Cause	Solution
UniLock vehicle restraint lights do not flash, and the hook does not raise.	Power source malfunction.	Check for blown fuse at branch circuit disconnect.
	Incorrect wiring.	Verify electrical schematics (page 16).
UniLock vehicle restraint lights are flashing, but the hook does not raise or lower to full extent.	Chain is loose or broken.	Adjust or replace as required.
	Low incoming voltage.	Verify incoming power at L1 and L2.
	Drive motor defective.	Check motor, repair or replace.
	Incorrect wiring.	Verify wiring per electrical schematic.
	Incorrect brake torque.	Brake torque should greater than 42 ft-lbs and less then 58 ft-lbs.
	Latch plates stuck on excess debris.	Clean latch plates, clearing out obstructions.
UniLock vehicle restraint is operational, but the hook drops while the transport vehicle is being serviced	Verify brake torque.	If brake torque is less than 42 ft-lbs, or chain is loose or broken, adjust or replace as required.
	Drive motor defective.	Check motor. Repair or replace as required.
	Chain is loose or broken	Adjust chain or repair as needed
UniLock vehicle restraint is operational, but all lights are out.	Faulty LED lights.	Check and replace LED lights as needed.
	Faulty flasher.	Check flasher; if bad replace.
UniLock vehicle restraint lights not working in correct order.	Incorrect wiring.	Verify all field wiring connections are correct (page 16).
	Inside red light does not change.	Defective LS1.
	Outside lights and inside green light do not change.	Defective LS2.
UniLock does not release.	Motor or chain failure.	Inspect motor and chain; repair or replace as required.
UniLock vehicle restraint carriage does not return to full up position.	Broken or weak springs.	Replace all springs.
	Damaged roller track plate.	Verify that the roller track plate is straight and not binding or catching.
	Carriage binding in track.	Clean debris out of roller track and/or verify roller bearings are greased and move freely.

TROUBLESHOOTING

LIMIT SWITCH TEST PROCEDURE

- Set multimeter to Ohms “Continuity Test”.
- Attach multimeter leads to pins “B” and “C” of limit switch connector. You should have:
- Plunger released - no meter reading
- Plunger depressed - a “Full Scale” meter reading

NOTE: The green (ground) wire of the limit switch does not have to be tested. A continuity test lamp may be used instead of a multimeter.



HOOK POSITION	LS1 POSITION	LS2 POSITION	INSIDE LIGHT	OUTSIDE LIGHT	Yellow Light
1. STORED	CLOSED DEPRESSED	OPEN RELEASED	RED	GREEN	OFF
2. NO HOOK (LOWER POS.)	CLOSED DEPRESSED	CLOSED DEPRESSED	RED	RED	ON
3. HOOKED (90°)	OPEN DEPRESSED	CLOSED DEPRESSED	GREEN	RED	OFF
4. NO HOOK (UPPER POS.)	CLOSED DEPRESSED	CLOSED DEPRESSED	RED	RED	ON

Limit Switch wire colors

	A	B	C	D
LS1	RED	BLK	BLU	GRE
LS2	RED	BLK	BLU	GRE

UniLock - 3 LIGHT SEQUENCE OF OPERATION - SWITCHES & LIGHTS

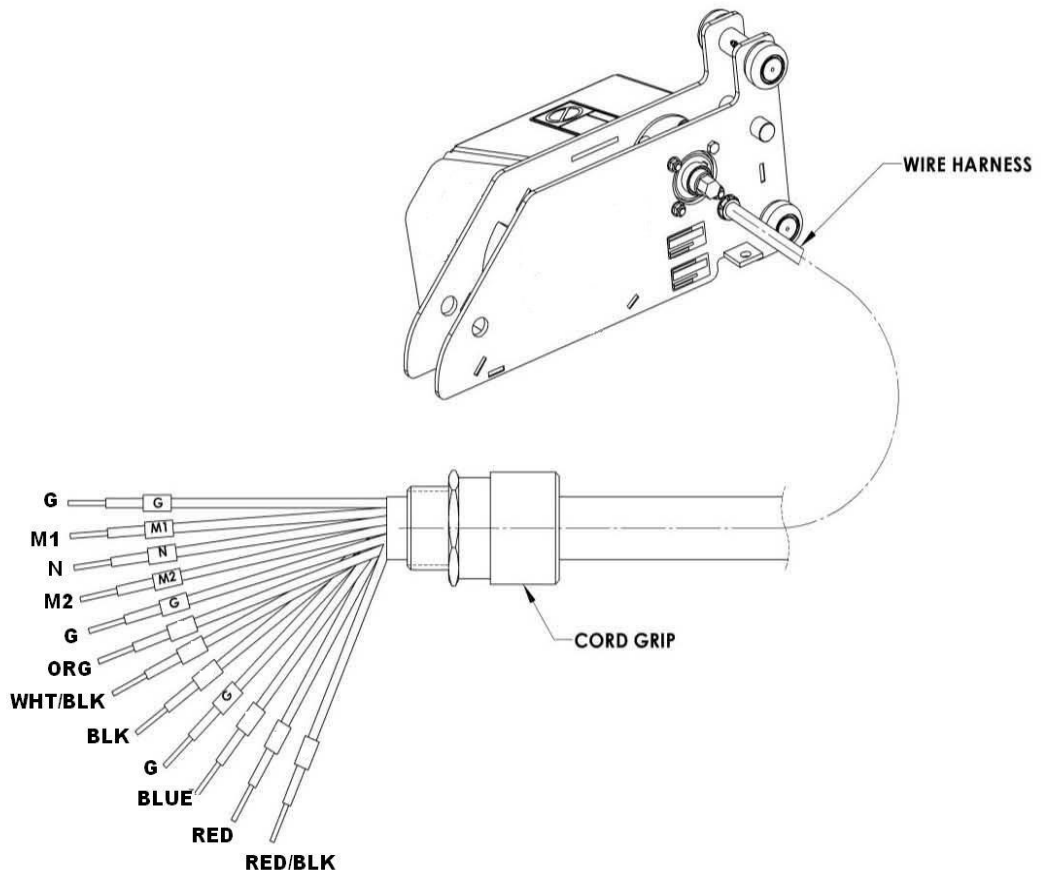
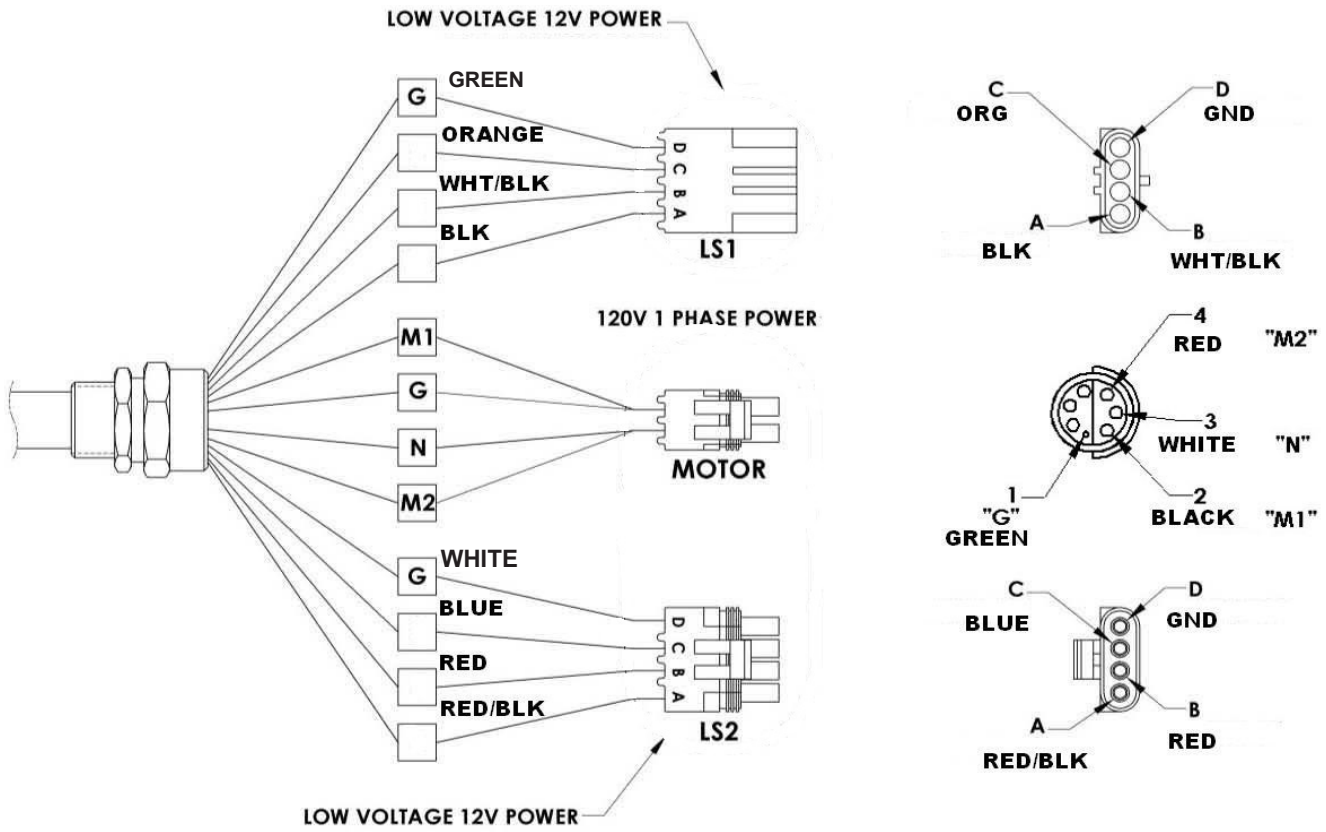
NORMAL				
Position of Restraint	Switches		Lights	
	LS1	LS2	In Light	Out Light
Fully Lowered	Activated	Not Activated	R	G
Not Fully Lowered Not In Working Zone [a]	Activated	Activated	R & A	R
In Working Zone [b]	Not Activated	Activated	G	R
Fully Raised	Activated	Activated	R & A	R

BYPASS				
Position of Restraint	Switches		Lights	
	LS1	LS2	In Light	Out Light
Fully Lowered	Activated	Not Activated	G & A	R
Not Fully Lowered Not In Working Zone [a]	Activated	Activated	G & A	R
In Working Zone [b]	Not Activated	Activated	G & A	R
Fully Raised	Activated	Activated	G & A	R

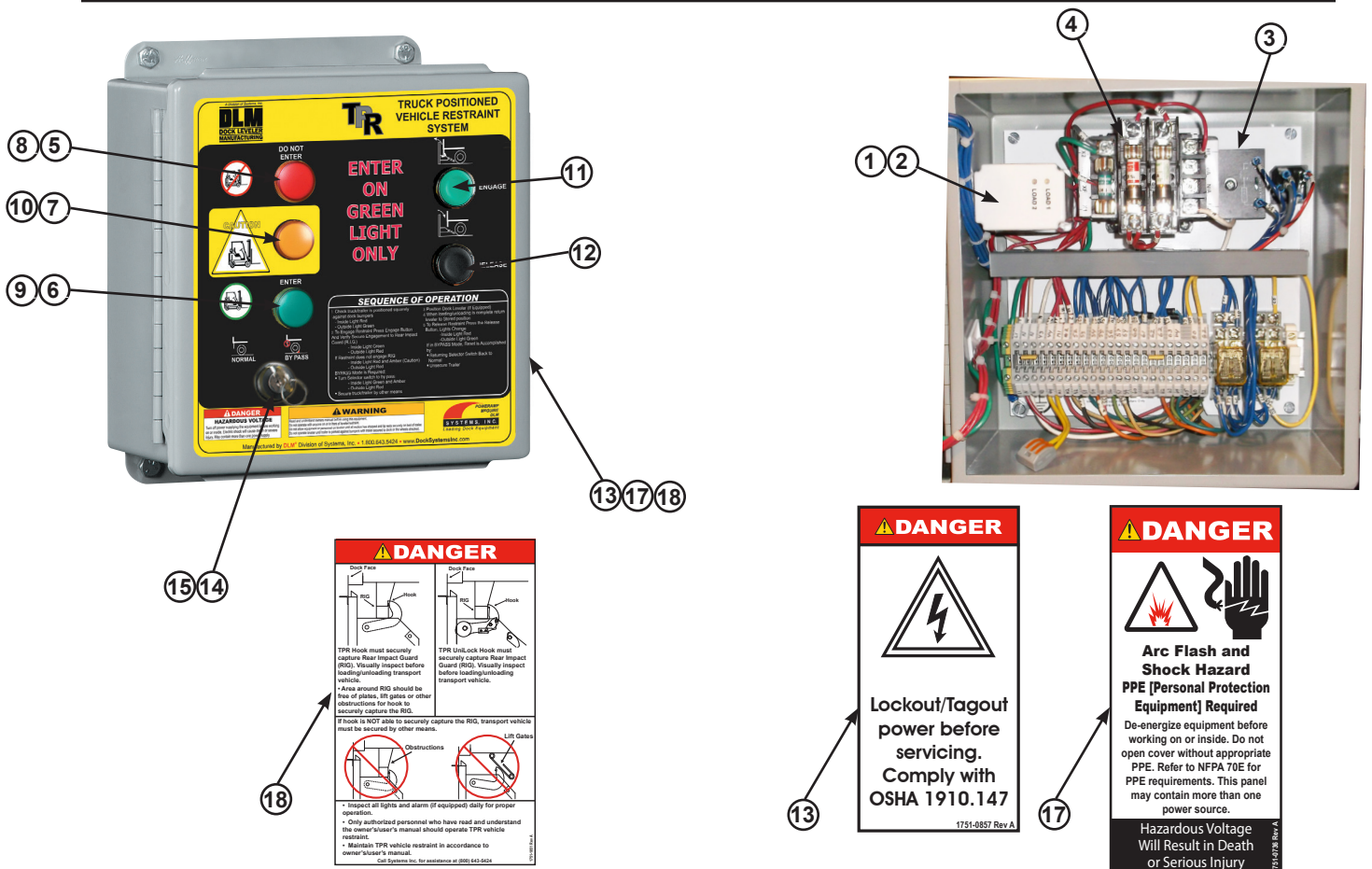
[a] Not Fully Lowered, Not at RIG Bar, and Not Fully Raised.

[b] Not Fully Lowered, Supposingly at RIG Bar, and Not Fully Raised.

HARNES



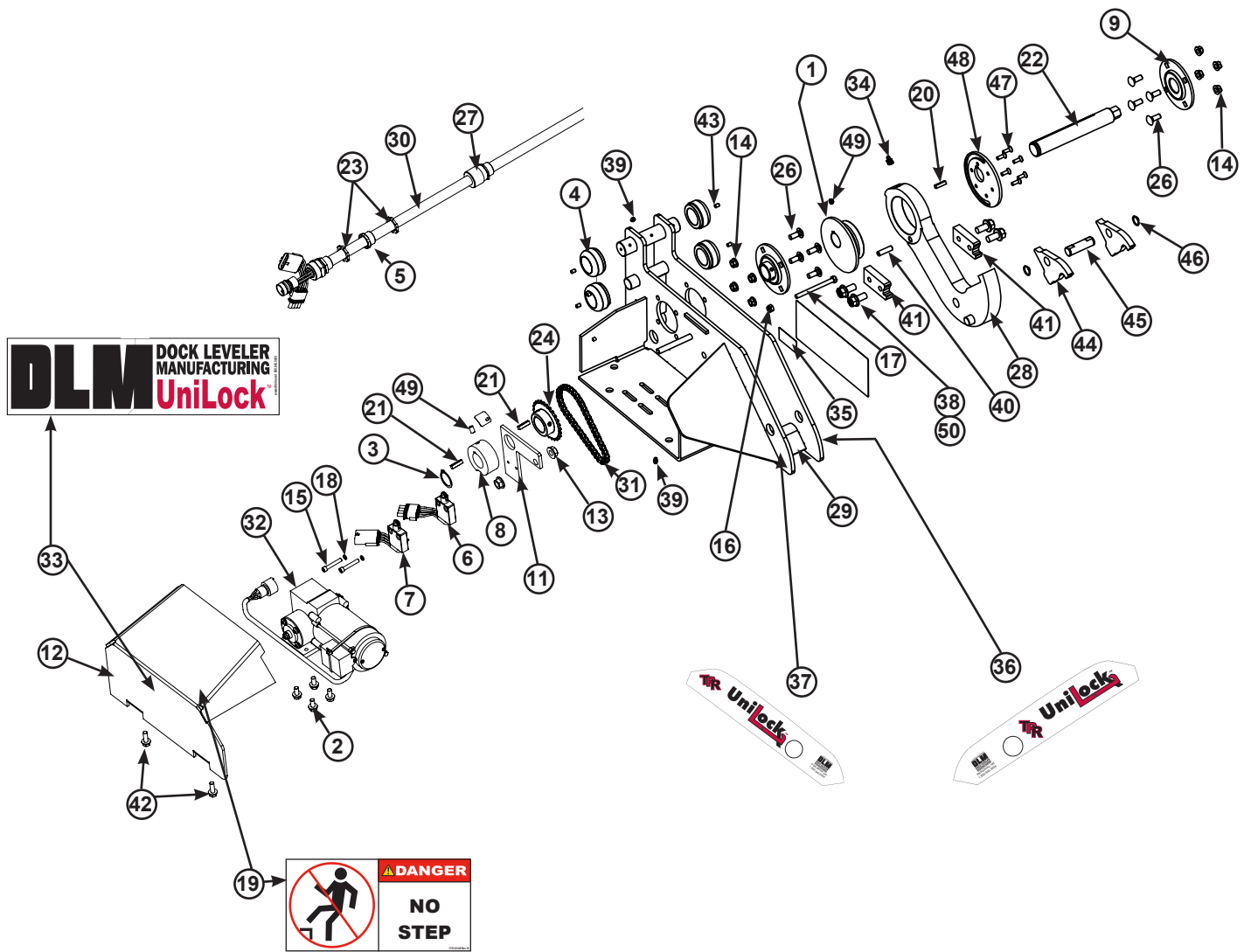
PARTS



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	3051-0209	Timer
2	1	3051-0061	Timer Socket
3	1	7141-0343	Flasher
4	1	1841-0137	Transformer (does not include fuses)
5	1	0961-0544	Red LED Module (12 volt)
6	1	0961-0545	Green LED Module (12 volt)
7	1	0961-0566	Amber LED Module (12 volt)
8	1	0961-0320	Red Lens
9	1	0961-0322	Green Lens
10	1	0961-0321	Amber Lens
11	1	0961-0285	Engage Push Button
12	1	0961-0286	Release Push Button
13	1	1751-0857	Decal, Lock Out Tag Out
14	1	0961-0300	Selector Switch (optional shown)
		0961-0305	Key Switch
15	1	0961-0145	Key (only)
17	1	1751-0736	Decal, Arc Flash
18	1	1751-1051	Decal, Hook Engagement

Click for manuals and videos <http://www.docksystemsinc.com/Parts-Service>

PARTS

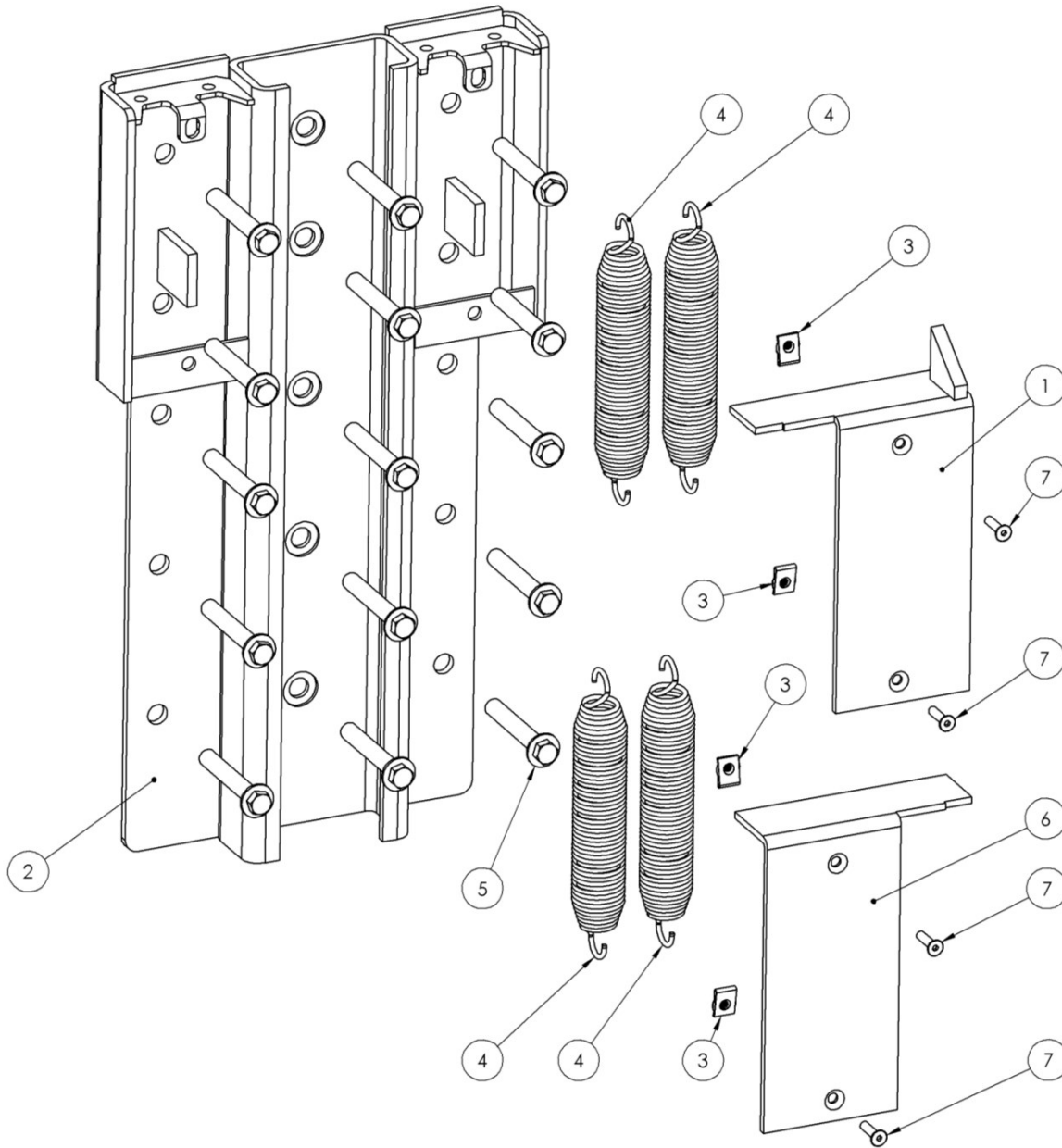


ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	9701-0237	Hook Cam Shaft
2	3	2101-0321	Screw,HHCS,5/16-18 X 5/8"
3	1	9701-0200	Ring, Snap
4	4	9701-0113	Roller Assembly
5	1	9701-0201	3/4" Conduit Nipple
6	1	0961-0570	Limit Switch, LS1
7	1	0961-0571	Limit Switch, LS2
8	1	9701-0247	Cam
9	2	9701-0111	Bearing Assembly

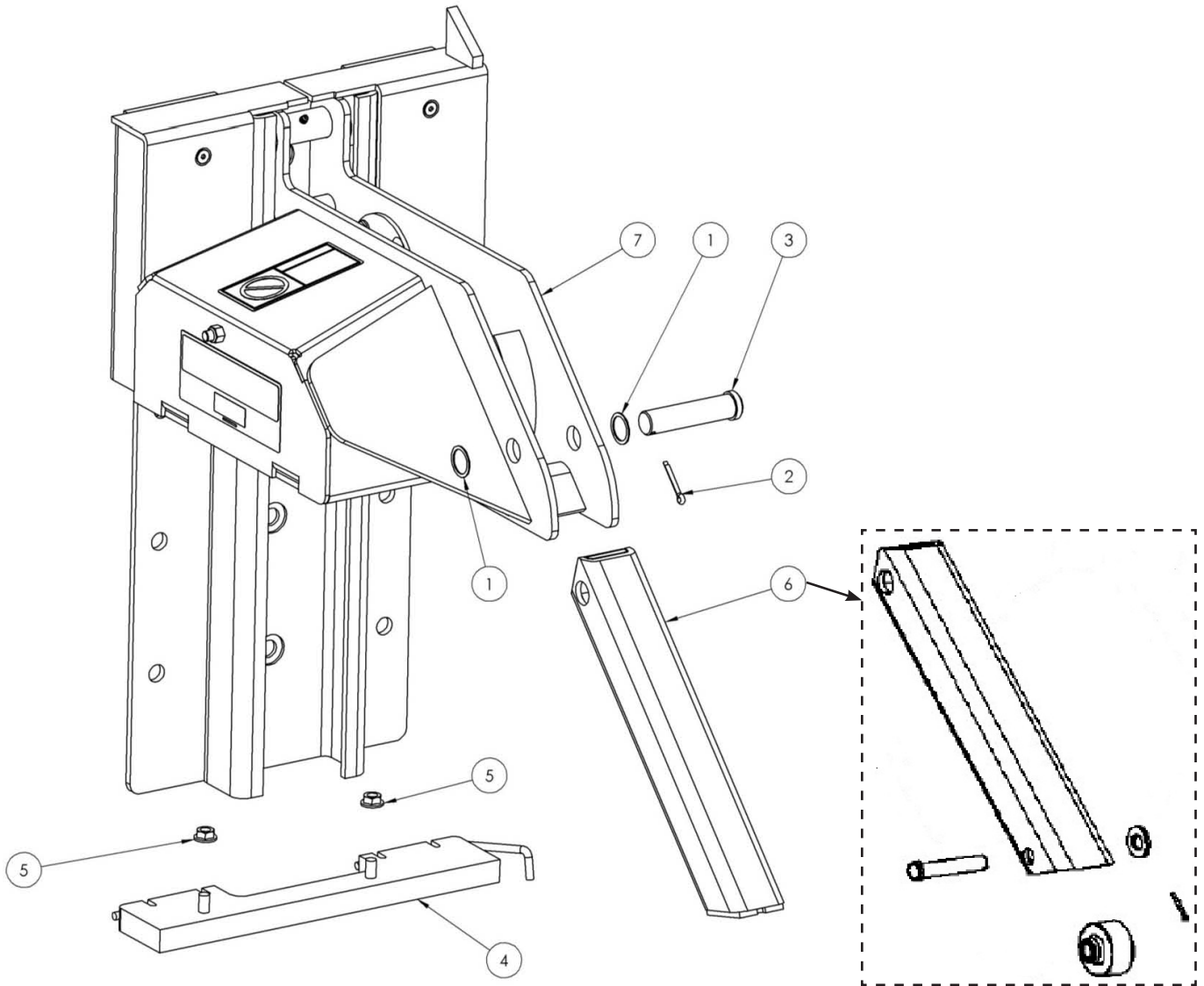
PARTS

ITEM	QTY	PART NUMBER	DESCRIPTION
11	1	9701-0109	Limit Switch Mounting Plate
12	1	9701-0244	Chain Cover
13	2	9701-0203	Lock Nut 7/16"-14 Serrated Flange
14	8	9701-0204	Nut, Lock 3/8"-16 Serrated Flange
15	2	9701-0205	Cap Screw 1/4"-20 x 1-1/2" Socket Head
16	1	2101-0039	Nut, Nylon Lock , 5/16-18 UNC
17	1	2101-0327	Screw, HHCS, 5/16-16 UNC x 3.75 GR5
18	2	2101-0005	Washer, Lock 1/4"
19	1	1751-0149	Decal, No Step
20	1	9701-0207	Key, Hook 1/4" x 1/4" x 1-1/4"
21	2	9701-0208	Key, Sprocket/Cam 1/4" x 1/4" x 1"
22	1	9701-0110	Hook Shaft
23	2	9701-0209	Nut, Lock 3/4" Conduit
24	1	9701-0114	Drive Sprocket,Hook w/Set Screw
26	8	9701-0211	Bolt, Carriage 3/8"-16 x 1"
27	1	9701-0212	Cord Grip
28	1	9703-0022	Hook Weldment, UniLock
29	1	9701-0106	Carriage Weldment
30	1	4301-0008	Wire Harness
31	1	9701-0115	Chain
32	1	3411-0050	Motor Assembly
33	1	1751-1107	Decal, Product
34	1	0521-0201	Fitting, Grease Zerk, 1/8 NPT
35	1	1751-0010	Decal, Serial
36	1	1751-1108	Decal, UniLock Stripe RH
37	1	1751-1109	Decal, UniLock Stripe LH
38	4	2101-0339	Screw,HHCS-1/2-13UNC x 1.00 GR8
39	2	9701-0215	Grease Fitting
40	1	9201-0007	Pin, Dowel, Steel
41	2	9701-0253	Latch Barrier Block
42	2	2101-0010	Bolt, 5/16-18 x 7/8 LG
43	4	2101-0322	Screw,SHSS,1/4-28 UNF x 1/4 Socket Cup
44	2	9701-0248	Latch Plate
45	1	9701-0304	Pin, Pivot with Retaining Ring Groves
46	2	2101-0333	Ring, Retainer 3/4 DIA. External
47	6	2101-0034	Screw, FHCS, 1/4-20 UNC X 3/4
48	1	9701-0238	Hook Cam Cover UniLock
49	2	2101-0033	Screw,SHSS, 1/4-20 UNC X 3/8
50	4	2101-0079	Washer, Flat 1/2"

PARTS



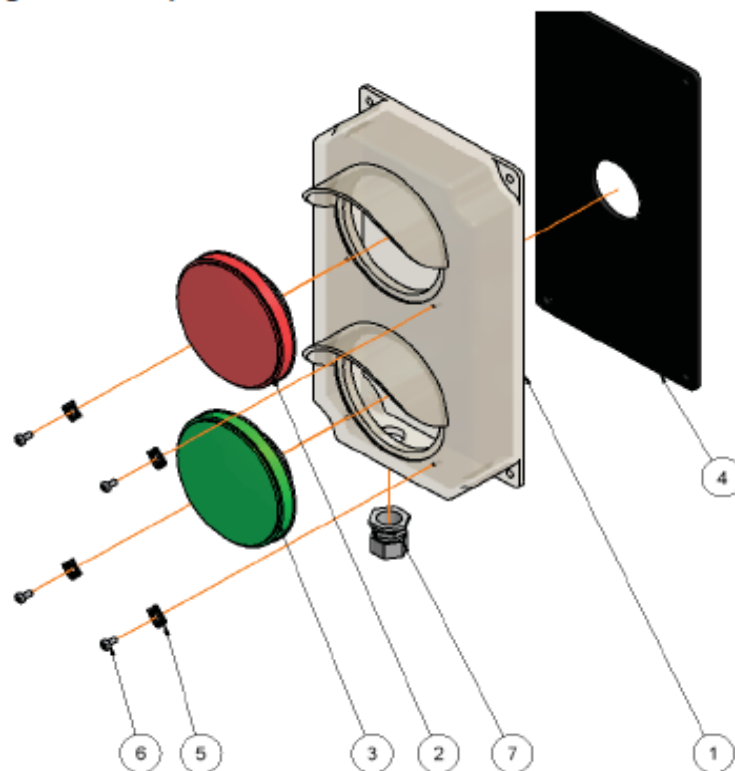
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	9701-0101	Spring Cover Right Hand
2	1	9701-0100	Roller Track
3	4	9701-0216	Nut Cage 5/16"-18
4	4	0941-0016	Extension Spring
5	15	2101-0319	5/8" x 4" Concrete Anchor (Powers #6942 SD or equiv)
6	1	9701-0102	Spring Cover Left Hand
7	4	2101-0069	Screw, Socket 5/16"-18 1-1/4" Flat Head



ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	9701-0217	Washer, Flat 1" x 18 gauge
2	1	9701-0218	Pin, Cotter
3	1	9701-0219	Pin, Slope Extension Pivot
4	1	9701-0105	Spring Mounting Plate Assembly
5	2	9701-0220	Nut, Lock 7/16"-14 Serrated Flange
6	1	9701-0104	Slope Extension
		9701-0246	Slope Extension with Roller (optional)
7	1	9701-0317	Carriage Assembly

PARTS

OSLA (Outside Light Assembly)



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	3055-0011	Complete Housing (Includes Items 2-7)
2	1	3051-0147	Red LED /Lens 12 volt
3	1	3051-0149	Green LED/ Lens 12 volt
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" (Included in Light Package)



DANGER

- Read and follow all instructions, warnings, and maintenance schedules in the manual and on placards.
 - Vehicle restraint operation and servicing is restricted to authorized personnel.
1. Before using the vehicle restraint:
 - Remove any debris, snow, or ice that may obstruct vehicle restraint operation.
 - Alert personnel in the area of potential vehicle restraint operation and ensure area is clear.
 - Operate the vehicle restraint through one complete cycle inspecting it for proper operation and light sequence. Advise maintenance personnel of any damage or improper operation immediately. Remove all malfunctioning or damaged vehicle restraints from service using approved lockout/tagout procedures.
 2. Before attempting to restrain a transport vehicle:
 - Verify that transport vehicle is positioned squarely against dock bumpers.
 - Inspect the transport vehicle's rear impact guard (RIG). Damaged or missing RIGs, lift gates, plates or other obstructions may not allow the vehicle restraint to securely capture the RIG. Wheel chocks must be used whenever the ability for the vehicle restraint to capture the RIG is in question. **(NOTE: The transport vehicle's suspension and load condition will affect trailer height.)**
 3. After activating vehicle restraint:
 - Verify that the transport vehicle's RIG has been restrained successfully. In the event this cannot be determined, use wheel chocks in addition to restraint.
 - If equipped with a light communication system, load and unload on GREEN light only.
 4. Maintenance or service must be performed by authorized personnel only. Follow approved lockout/tagout procedures.

FAILURE TO FOLLOW THESE INSTRUCTIONS WILL RESULT IN DEATH OR OTHER SERIOUS INJURY.



Scan to view our owner's/user's manuals online.
www.DockSystemsInc.com
1.800.643.5424
 Call for additional placards, or manuals, or with questions regarding proper use, maintenance, and repair of dock leveler.

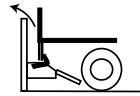


1751-0880 Rev D

OPERATING INSTRUCTIONS

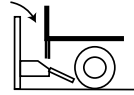
VEHICLE RESTRAINTS

ENGAGE RESTRAINT



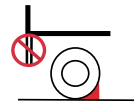
1. Open overhead door and visually check that transport vehicle is positioned squarely against dock bumpers and has a RIG bar. Inside light is RED and outside light is GREEN.
2. Depress the ENGAGE button to activate restraint.
3. Once RIG has been secured, inside light is GREEN and outside light is RED

RELEASE RESTRAINT



1. To release restraint depress the RELEASE button. When safely stored, inside light is RED and outside light is GREEN.

BY-PASS



1. If restraint is unable to secure transport vehicle's RIG, use wheel chocks to secure transport vehicle at the dock.
2. Turn switch to BY-PASS. Inside light is GREEN and outside light is RED.
3. Loading/unloading may proceed with caution.

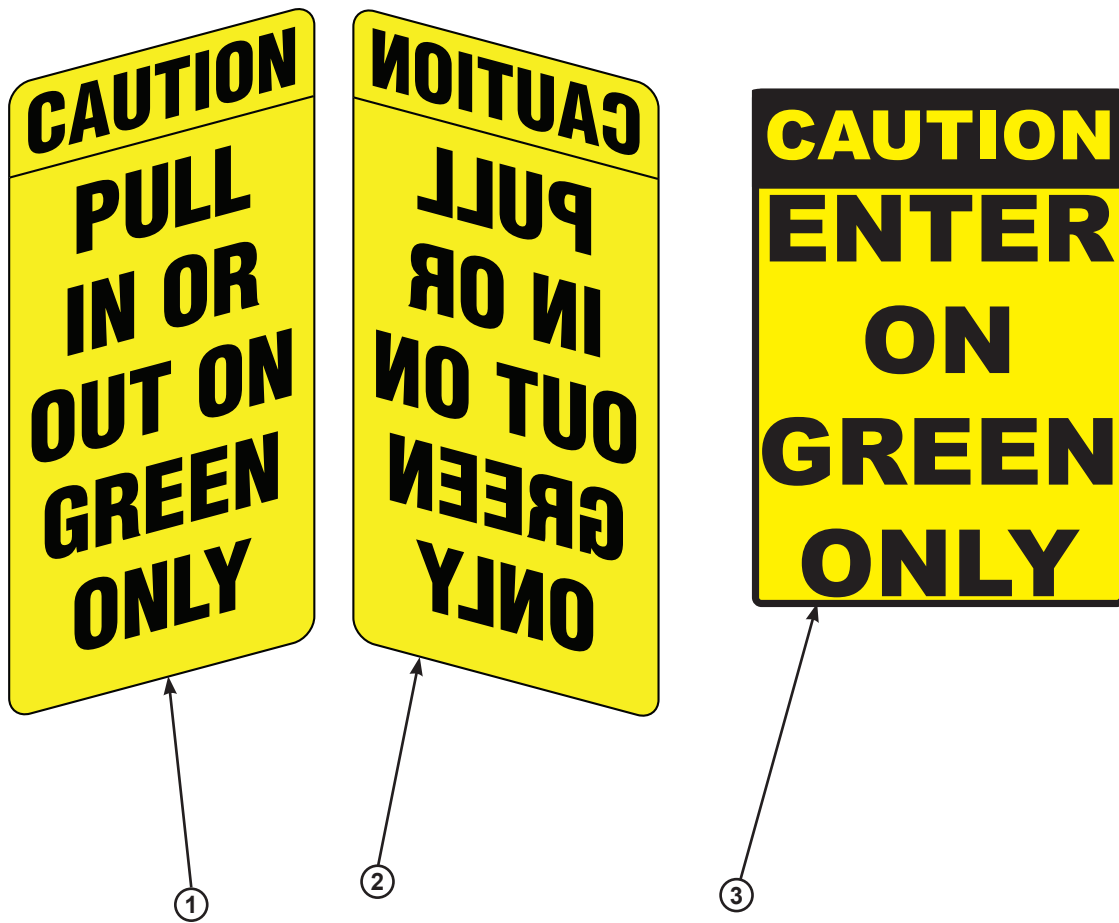
BY-PASS RESET (RETURN TO NORMAL OPERATION)

1. When loading or unloading is completed and wheel chocks are removed. Manual reset of BY-PASS is accomplished by depressing the RELEASE button or turning switch to NORMAL. Lights change to RED inside and GREEN outside.

Use for PowerHook, PowerHold, HoldTite and TPR series

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1751-0880	UniLock Placard

PARTS



ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	1751-0033	Outside Sign
2	1	1751-0034	Outside Sign Mirror Image
3	1	1751-0036	Inside Sign Enter On Green Only

MISCELLANEOUS

Customer Information



Carriage S/N

The model/serial number decal (A) is located on the right side panel of the restraint.

When you receive your DLM product, write down the product 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 vehicle restraint, and the original owner's name. This will help to identify the specific vehicle restraint 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 vehicle restraint 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

Vehicle Restraint Information

Model _____

Serial No. _____

Carriage No. _____

Systems, Inc., Job No. _____

Original Owner Information

Name _____

Address _____

Installer Information

Name _____

Address _____

Date of Installation _____

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 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.