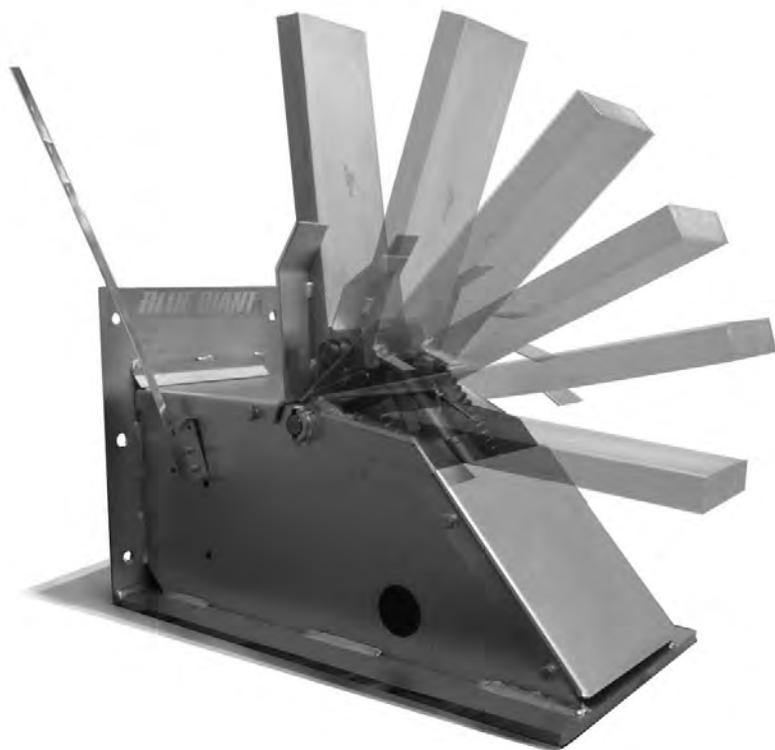


# INSTALLATION & OWNER'S MANUAL



## **⚠ WARNING**

**DO NOT INSTALL, OPERATE OR SERVICE THIS PRODUCT UNLESS YOU HAVE READ AND FULLY UNDERSTAND THE ENTIRE CONTENTS OF THIS MANUAL. FAILURE TO DO SO MAY RESULT IN PROPERTY DAMAGE, BODILY INJURY OR DEATH.**

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**1. ABOUT THE TL85 VEHICLE RESTRAINT with BLUE GENIUS™ CONTROLS**

The Blue Giant **TL85 Vehicle Restraint System** is a non-impact design with a restraining power of 32,000 lbs (14,545 kgs) and vertical ICC bar capture range of 12-26" (305mm to 660mm) above grade. It has a horizontal restraining range of up to 12" (305mm) from the dock face (extension plates are available) and forty-five degree actuated arm lock. Maintenance-free NEMA 4 rated sensors ensure accurate ICC bar detection and indicate when the restraint arm is locked or in the parked position. The TL85 may be wall or ground mounted.

The **Blue Genius™ Gold Series II Touch Control Panel** with advanced microprocessor technology controls the operation of the restraint. Using a combination of red /yellow / green LED control station lights and red / green exterior traffic lights, the Blue Genius™ keeps both the truck driver and dock attendants advised on the safety status of cross-docking travel. Its onboard diagnostics and communications feature a user-friendly, multi-language LCD intelligent text display and keypad with supervisory override support.

**1. 1 OWNER'S PURCHASE RECORD**

OWNER'S PURCHASE RECORD Please record information for future inquiries	
<b>Dealer:</b>	<b>Date in Service:</b>
<b>Serial Number(s):</b>	<b>Number of Units:</b>
	<b>Door # :</b>

The manufacturer offers a full line of dock levelers, dock safety equipment, accessories, ergonomic and scissor lift equipment, and industrial trucks. Concurrent with a continuing product improvement program, specifications are subject to change without notice. Please contact the manufacturer for latest information. Some features illustrated may be optional in certain market areas.

## 2.

## INTRODUCTION

The following is a quick reference to important procedures that must be followed while using the Vehicle Restraint System. It is not intended to cover, or suggest that it does cover, all procedures necessary to ensure safe operation. All operators should be aware of and abide by all workplace safety regulations applicable to the operation of the Vehicle Restraint System. These laws and regulations include but are not limited to:

- The Occupational Safety and Health Act (USA)
- Occupational Safety and Health Acts for Individual States (USA)
- Canadian Material Handling Regulations

For additional information on these regulations as well as industry standards that may apply to this product, please contact:



American National Standards Institute (ANSI)  
1430 Broadway  
New York, NY 10018  
(212) 642-4900



ALSO MEMBERS OF :  
Loading Dock Equipment Manufacturers  
A Product Section of Material Handling Industry of America,  
A Division of Material Handling Industry  
8720 Red Oak Blvd., Suite 201, Charlotte, NC, 28217-3992  
Telephone: (704) 676-1190 Fax: (704) 676-1199

## 2.1

## WARRANTY INFORMATION

Thank you for purchasing Blue Giant products. We appreciate your business, and are confident that our product will serve you for many years to come. In the event that you experience a problem with our product, our Warranty Center is here to support the Blue Giant Product(s) that you have purchased.

To validate warranty on recently purchased equipment, please complete and submit your information with our on-line Warranty Registration at [www.BlueGiant.com](http://www.BlueGiant.com).

For more information about Blue Giant's Warranty Support, please contact your local Blue Giant Equipment dealer, representative or authorized partner near you. You may also visit [www.BlueGiant.com](http://www.BlueGiant.com) or phone 1-905-457-3900.

\* Note that failure to validate warranty at the time of receipt can seriously affect the outcome of any claim.

## 2.2

## EXCLUSION OF LIABILITY

The manufacturer assumes no liability for damage or injury to persons or property which occur as a result of defects or faults in or incorrect use of Vehicle Restraint System. The manufacturer also assumes no liability for lost profits, operating downtimes, or similar indirect losses incurred by the purchaser. Injury to third parties, irrespective of its nature, is not subject to compensation.

The manufacturer reserves the right to make changes at any time to the modules, components, and accessories, concurrent with its continuing product development program. Specifications, operating instructions, and illustrations included in this manual are subject to change without notice. Please contact manufacturer for the latest information.

## 2.3

## MANUFACTURER'S NOTE

The Vehicle Restraint has been carefully inspected and tested at the manufacturer's plant prior to shipment, but should be checked upon receipt for transport damage. Any observed transport damage is to be listed on the signed copy of the freight document. Notify the freight forwarder of any damage WITHIN 48 HOURS.

### 3. OPERATOR'S MANUAL SAFETY MESSAGE COLOR IDENTIFICATION

This manual includes color-coded safety messages that clarify instructions and specify areas where potential hazard exists. To prevent the possibility of equipment damage and serious injury or death, please observe strictly the instructions and warnings contained in the messages. If warning decals become damaged or missing, replace them immediately. Avoid accidents by recognizing dangerous procedures or situations before they occur.

<b>⚠ DANGER</b>	<b>IMPORTANT</b>
Serious injury or death will likely occur if the instructions are not followed.	Procedures marked IMPORTANT must be followed in order to prevent damage to machinery.
<b>⚠ WARNING</b>	<b>⚠ CAUTION</b>
Serious injury or death may occur if the instructions are not followed.	Instructions marked CAUTION concern safe operating procedure. Failure to comply may result in personal injury.

#### 3.1 OPERATIONAL SAFETY WARNINGS

**⚠ DANGER**

- **DO NOT** operate restraint with anyone standing in the path of operation.
- **BEFORE BEGINNING ANY SERVICE PROCEDURES:**
  - Disconnect the power and follow all LOCKOUT / TAGOUT procedures.

<b>⚠ WARNING</b>	<b>IMPORTANT</b>
<ul style="list-style-type: none"> <li>• Keep away from restraint arm when the vehicle restraint is in operation.</li> <li>• Post safety warnings and barricade working area at dock level and at ground level to prevent unauthorized use of the restraint during maintenance/service.</li> <li>• During installation, anchors must be properly torqued to obtain the necessary anchoring strength. <b>DO NOT USE IMPACT DRIVERS.</b></li> <li>• <b>DO NOT</b> drive or walk onto the transport vehicle until it is parked against the dock bumpers and the wheels are chocked, or the vehicle restraint has been fully engaged and the lights have changed to <b>GREEN</b> inside and <b>RED</b> outside.</li> <li>• <b>ALWAYS</b> check the rigging to make sure that it is secure before proceeding to lift the unit. <b>Never stand under any unit being lifted.</b></li> <li>• <b>NEVER</b> remove the wheel chocks until loading/ unloading is finished and the truck driver has been given permission to depart, or the Vehicle Restraint has been released and the lights have changed to <b>RED</b> inside and <b>GREEN</b> outside.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>DO NOT</b> ground welding equipment to any hydraulic cylinder or electrical components.</li> <li>• <b>DO NOT</b> allow the drill to go too deeply when drilling holes in the control box. Damage to the control systems may occur.</li> <li>• <b>NEVER</b> use air to blow debris from control box. Use a vacuum to remove debris from control box.</li> <li>• <b>DO NOT</b> connect green ground lead into control box or junction box until all welding has been completed.</li> <li>• <b>CHECK HYDRAULIC FLUID LEVEL.</b> Deck mounted power unit has been filled with fluid but cylinders, hoses and manifold are shipped dry.</li> <li>• <b>NOTE</b> - check motor rotation. Jog the motor until rotation has been determined. <b>DO NOT</b> allow the motor to run in reverse for more than a couple of seconds, otherwise the power unit may become damaged.</li> <li>• <b>DO NOT</b> force valve adjustment screws against internal stops. Damage will occur to the valve/seat.</li> <li>• If a procedure is not clearly defined in this manual, contact your authorized Service Representative.</li> </ul>

**⚠ CAUTION**

- **ONLY TRAINED PERSONNEL** should operate or service this equipment.
- **DO NOT** operate restraint until freight carrier is parked against the dock bumpers.
- **ALWAYS** return the restraint arm to the proper undeployed position.
- **ALWAYS** conduct routine inspections and maintenance. Failure to conduct could cause personal injury or damage to equipment.

4. LOCKOUT / TAGOUT PROCEDURE and RULES

**⚠ WARNING**

Always lockout and tagout any power source before performing any work on any electrical devices or electrical controls according to OSHA regulations and approved local electrical codes.

In accordance with the rules and regulations of the Occupational Safety and Health Administration (OSHA), all affected employees must be notified that the machine or equipment will be shut down and locked out to perform repair or maintenance work. The work area must be checked to ensure that all personnel have been removed or safely repositioned. The machine or equipment power supply shall be locked in the OFF position or disconnected from the energy source. Blue Giant® strongly recommends that only OSHA-approved lockout devices be utilized.



The energy isolating device must bear a prominent warning tag indicating that work is being done on the equipment and the name of the authorized employee responsible for the lockout. It is mandatory that tagout notices not be susceptible to deterioration or illegibility due to weather conditions or exposure to chemicals and moisture.



## 6. VEHICLE RESTRAINT INSTALLATION INSTRUCTIONS

### **WARNING**

Do not install, operate, or service the TL85 Vehicle Restraint unless trained and authorized to do so. Read all safety information and instructions in this manual.

When restraint is being installed, place adequate barriers to prevent vehicle traffic from entering the work area.

Follow proper lockout / tagout procedures.

#### 6.1 Install Preparations

1. Clean all dirt and debris from the driveway and dock face where the vehicle restraint is to be installed.
2. To ensure maximum strength, the vehicle restraint should be installed on a poured concrete dock face or concrete pad. For cement block construction or a dock face with poor quality concrete, obtain custom lag plates and/or lag anchors from the manufacturer. If an asphalt driveway is broken, cracked, or otherwise damaged (i.e. missing pieces), a 6" deep concrete pad should be poured as a replacement.
3. Using suitable hoisting equipment, position the vehicle restraint square against the dock face, and centered with the door frame.
4. Keep the vehicle restraint base plate at a 90 degree angle to the dock face and place a sufficient thickness of shims (not supplied) between the driveway surface and the base plate's outer edge. Shims must be a minimum 13" x 6" in size and be permanently welded together and to the base-plate.

#### 6.2 Install Mounting

1. With the vehicle restraint properly positioned and using back plates as a template, drill six holes 5/8" in diameter and 6" deep in the dock face concrete. Clean out holes and install anchors and lag bolts (supplied with the restraint) with a torque of 110ft/lbs (149Nm). Optional anchoring to concrete pad rather than wall plate.

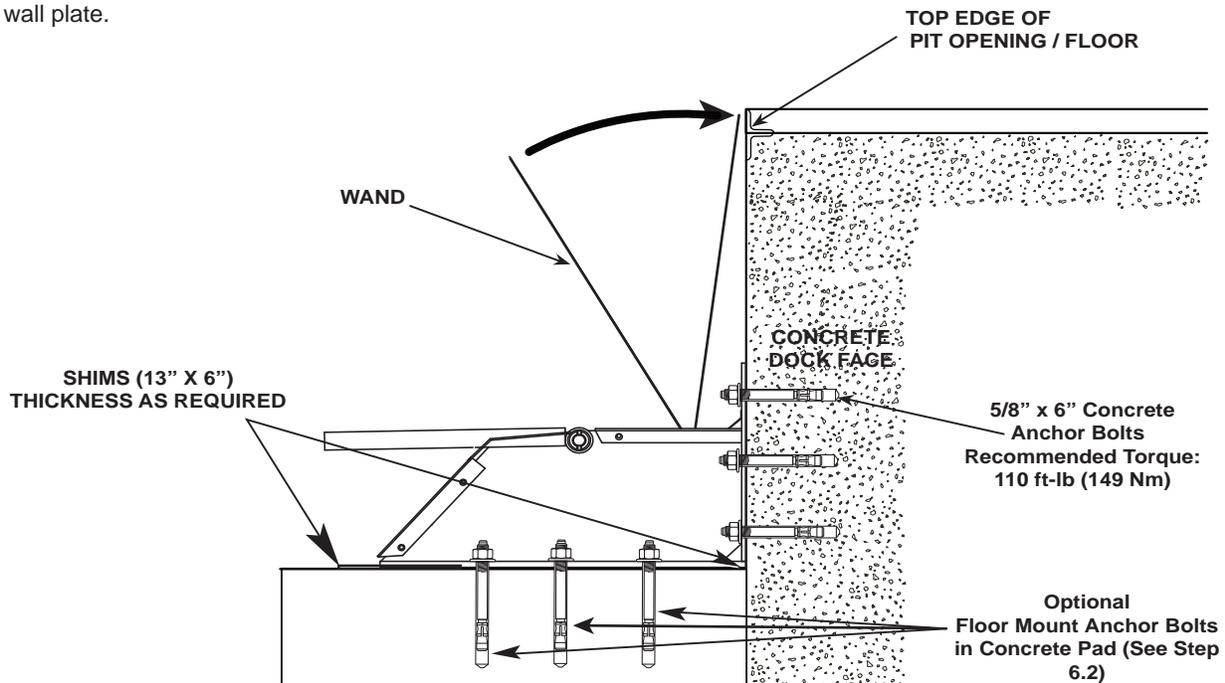
#### 6.3 Electrical and Hydraulic Installation

##### Refer to Section 7: Electrical and Hydraulic Installation

1. Securely mount the exterior traffic lights and signs on the exterior wall adjacent to the doorway at approximately 84" above the driveway.

#### 6.4 Final Inspection and Setup

1. Permanently mount the sensor wand onto the sensor switch with the set screws provided. When at rest, the wand must be in the forward position. Tighten fasteners securely.
2. Rotate the wand (move backward) to make contact with the dock face. Contact point must not be above the top edge of the pit opening and floor. If the contact point is higher, modify the wand.



**ABOVE: WHEN INSTALLING THE RESTRAINT MOUNT TO A CONCRETE DOCK FACE AS SHOWN.**

## 7. ELECTRICAL AND HYDRAULIC INSTALLATION

### WARNING

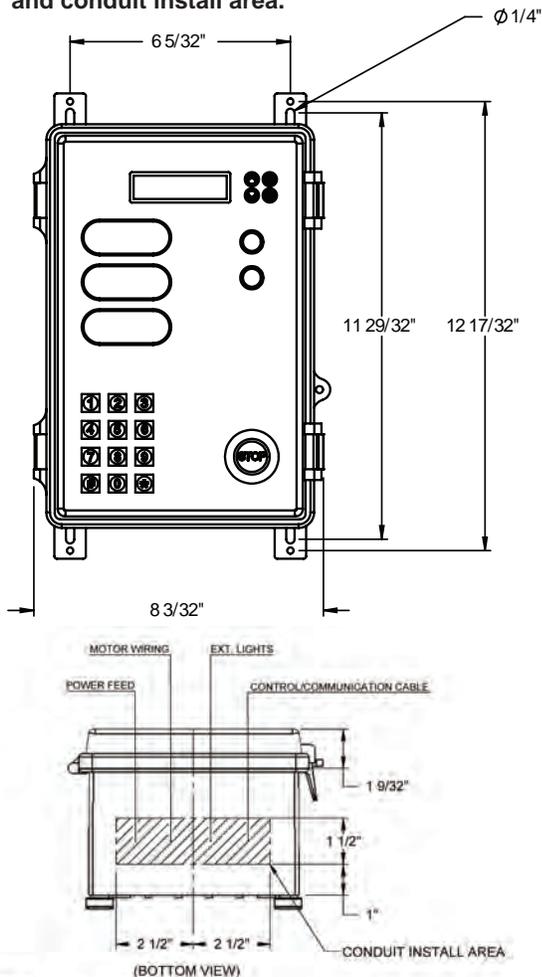
**DO NOT WIRE HIGH AND LOW VOLTAGES IN THE SAME CONDUIT.** High voltage range is 115V and up. Lower voltages include the communication and solenoid wiring as well as the I/O.

During installation, place adequate barriers to prevent vehicle traffic from entering the work area, and follow proper lockout / tagout procedures.

#### 7.1 TL85 and DOCK (both pit mounted)

1. If conduits for the restraint were not poured in with the concrete, install 1/2" dia. conduit for the communication wires from the vehicle restraint, along the dock face, up and through the wall, and up to the control station.
2. Install one 1/2" dia. conduit for the power / motor wiring from the restraint, along the dock face, up and through the wall, and up to the control station.
3. Install one conduit from the control station, through the wall, to the exterior LED traffic lights.
4. Complete the electrical hookup between the vehicle restraint and the control station, and between the exterior traffic lights and control station.

**Figure 1: Blue Genius™ control station dimensions and conduit install area.**



NOTE:  
INSTALL HIGH POWER CONDUIT FROM BOTTOM PANEL

#### 7.2 Final Inspection

1. Ensure that all fasteners have been tightened and locked.
2. Cycle test the vehicle restraint a minimum of 10 times to bleed trapped air back to the reservoir. (This procedure requires the installer to follow the control box menu screen during start-up.)
3. Check hydraulic fluid level in the reservoir. With the restraining arm fully lowered, level should be approximately 1/2" below the top of the reservoir. If required, top up with Valvoline ISO32 or Mobil DTE13 hydraulic fluid.
4. Check all hydraulic connections for leaks and tighten as required.
5. Check that all electrical and hydraulic conduits, hoses, and wires are mechanically protected against damage and are adequately secured.
6. Return all wiring diagrams to the Blue Genius™ control station.
7. Mount warning placard next to the Blue Genius™ control station.
8. Leave these instructions near the vehicle restraint for easy future access.

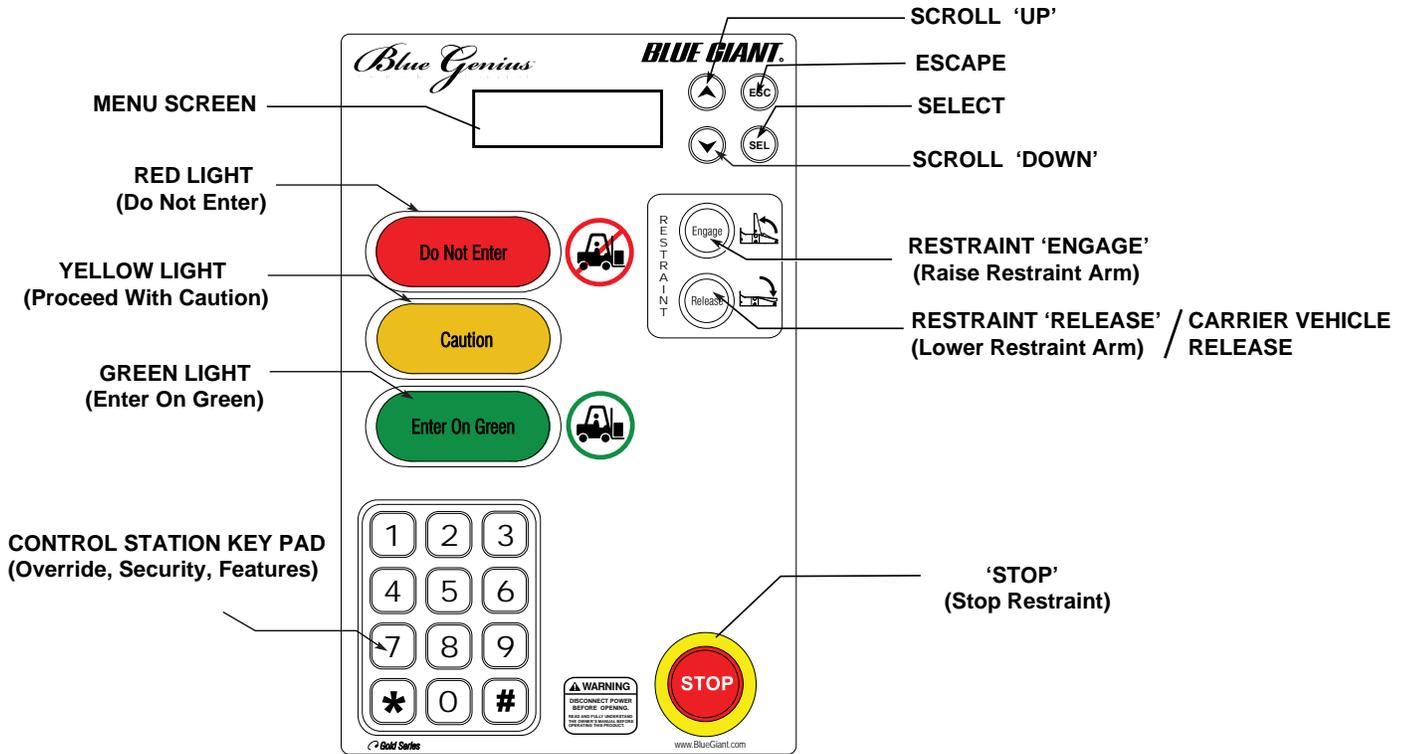
### WARNING

Do not loop the communication cable excessively, or interference may result and create intermittent communication problems. Trim cable to appropriate length during install.

8. CONTROL STATION OPERATION

INDEPENDENT TYPE CONTROL STATION

- Controls Vehicle Restraints Only



# 9. OPERATING INSTRUCTIONS

**⚠ WARNING**

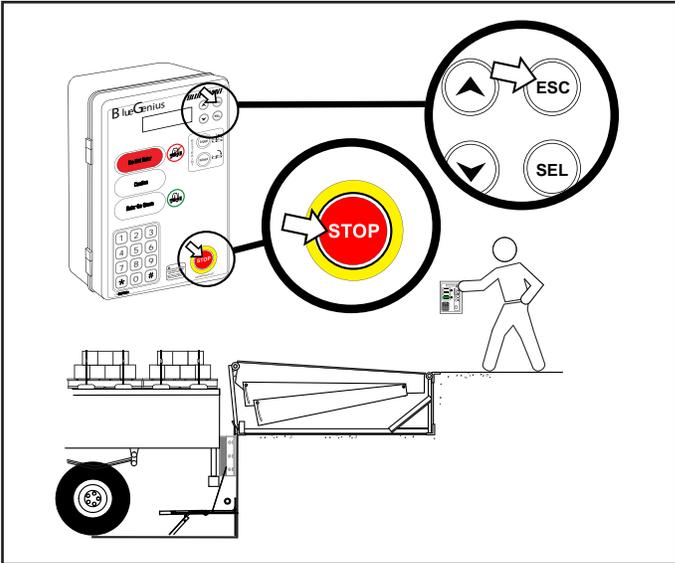
Do not operate this vehicle restraint unless you have been trained and authorized to do so, and have read and understood all of the safety information and instructions contained herein.

Do not operate the restraint until you have checked its condition. Report the need for repairs to your supervisor immediately and do not operate the unit until repairs are made. Neglect may cause a minor repair to become a major service problem and cause the leveler to become unsafe.

Never try to lift or move any part of the vehicle restraint manually.

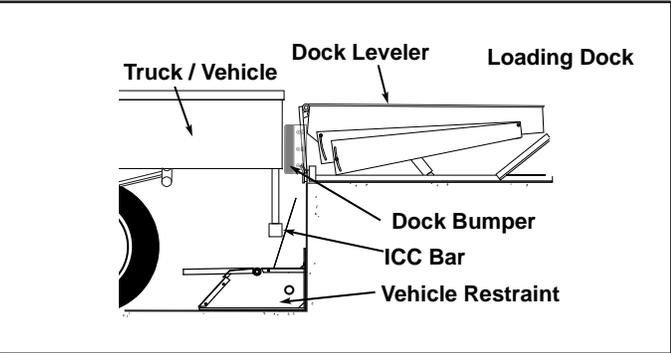
Keep hands and feet clear of the vehicle restraint pinch points at all times.

Freight carrier under ride guards differ in strength, construction, and attachment. It is therefore recommended that users of vehicle restraint devices review the means of attachment to the freight carrier, the overall connection strength, and the need to use wheel chocks in conjunction with the restraining device.



## 9.1 Functional Description

The TL85 Vehicle Restraint is used to restrain a freight carrier at the loading dock. It is a nonimpact design that is both engaged and released by the dock attendant. When engaged, it restrains a vehicle by acting as a barrier to the under ride guard (ICC bar), restricting any forward movement caused by vehicle creep or unscheduled departure. It is hydraulically operated via the Blue Genius™ Control Panel.



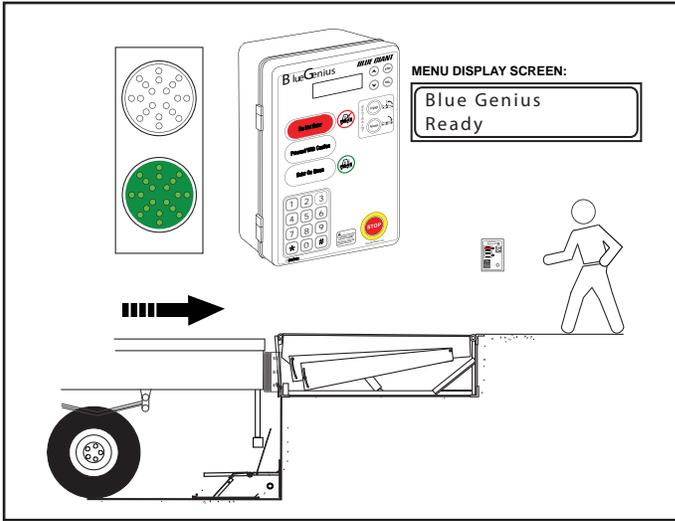
## 9.2 Stop Button Function

The Blue Genius™ Control Panel has a temporary 'STOP' button for situations where the dock leveler might need to be stopped immediately or left in a certain position because of an unexpected interference or a potentially dangerous situation. Touching the 'STOP' button during operation will cause the unit to stop in mid motion.

To exit the 'STOP' mode touch 'ESC'.

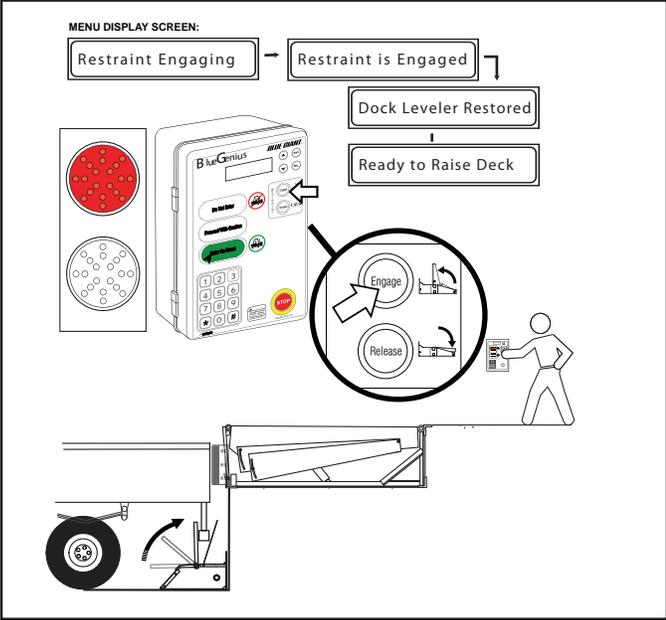
## 9.3 Operating Procedure- Deploying the Restraint Arm

1. The Blue Genius™ Control Panel is powered on and ready for use. The restraint arm is fully lowered. The outside traffic light is GREEN and control station light is RED.
2. The freight carrier reverses firmly into position against the dock bumpers. The vehicle's ICC bar operates the sensor wand on the vehicle restraint. The lights remain GREEN outside and RED inside.



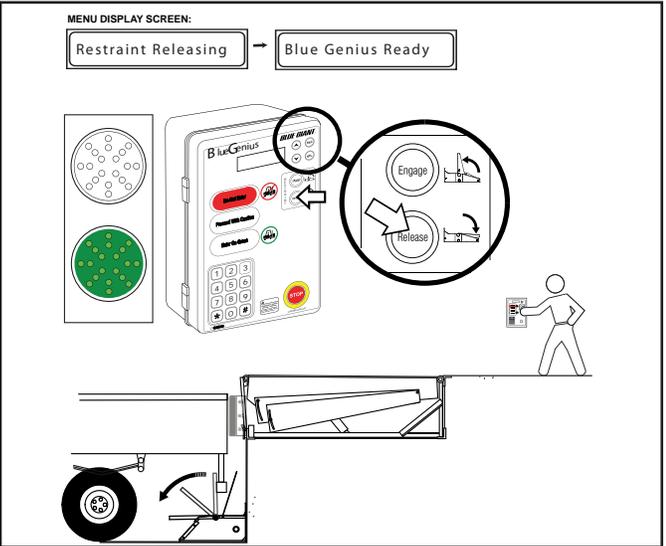
3. Touch the 'Engage' button. The hook will rotate from the home position to secure the ICC bar and the LCD screen will read 'Engaging'. The traffic light will turn RED and the control panel light will remain RED. When the ICC bar is secured, the LCD screen will read 'Restraint is Engaged', followed by 'Dock Leveler Restored' and 'Ready to Raise Deck'. After the deck is deployed onto the truck bed, the control panel light will turn GREEN. NOTE: If the vehicle has no ICC bar and the restraint is interlocked with the dock leveler, please refer to the **Vehicle Restraint Override Procedure (Section 9.5)**.

# 9. OPERATING INSTRUCTIONS



## 9.4 Operating Procedure- Undeploying the Restraint Arm

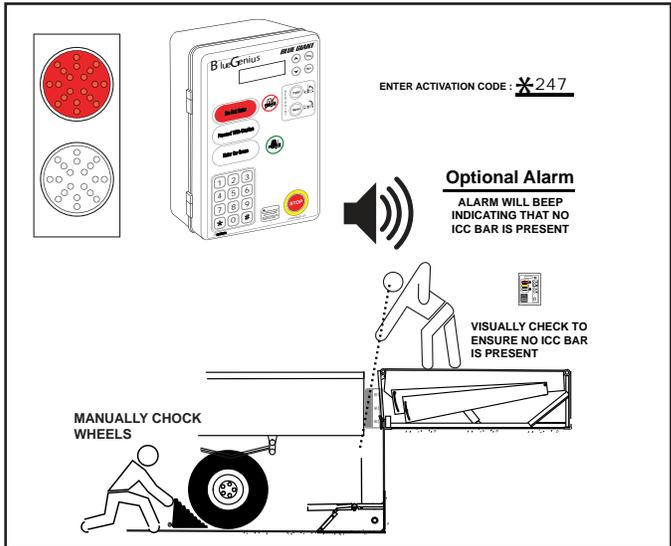
1. After the dock leveler is safely parked, touch the 'Release' button to disengage the vehicle restraint. The control station light will change to RED and the LCD screen will read 'Truck Restraint Releasing'. When the arm reaches the home position, the LCD screen will read 'Blue Genius Ready' and the traffic light will turn GREEN.



**NOTE:** If the restraint arm encounters any obstructions that prevent it from lowering, it will 'pound' down two (2) times to dissolve the blockage. The control panel light will be RED, accompanied by an intermittent alarm. The LCD screen will read 'Arm Blocked- Retrying' followed by 'Restraint Releasing'. After the final unsuccessful attempt, the screen will read 'Restraint Arm Blocked'.

## 9.5 Vehicle Restraint Override Feature: Operate Dock Without Vehicle Restraint

1. If the restraint cannot be engaged, (i.e. because of a broken or damaged ICC bar) chock the vehicle wheels and enter the *Activation Code* \*247 on the control station keypad. The control station light will change from RED to GREEN and the dock leveler will be ready for use. The outside traffic light will turn RED.



2. After loading / unloading is completed, return the dock to the stored position, remove the wheel chocks, and reset the control station by touching the restraint's 'Release' button.

10.

PM CHECK LIST - VEHICLE RESTRAINT

INSTRUCTIONS FOR USE: Indicate "OK for Use" with a check mark (√) in the appropriate box of each inspection point.

- Visually inspect the Vehicle Restraint and take note of obvious damage that may have been caused by operation during the last shift.
- Check that the Operating Hazards Placard is present in correct location and is legible.
- Check that all communication lights are operating correctly.
- Upper Red and Lower Green, Outside and Inside.
- Inspect for damaged or missing parts, rust, corrosion, bent parts, cracks, etc.
- Inspect operating controls to ensure they are not missing, damaged or broken.
- Clean away all foreign material such as parts of broken skids, etc. from area in which the Vehicle Restraint is located.
- Check for missing or damaged dock bumpers mounted on dock face.
- Visually inspect the Vehicle Restraint for signs of structural damage or mechanical malfunction as you operate the Vehicle Restraint throughout the day. Be alert to abnormal sounds or operation.

Explain faults briefly in the space provided below.

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INSPECTED BY: \_\_\_\_\_ DATE: \_\_\_\_\_

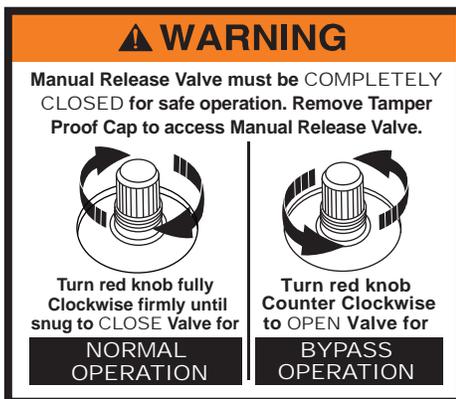
Forward checklist to the person responsible for Vehicle Restraint maintenance.

 <b>WARNING</b>
<p><i>Do not operate and/or service unless you have been trained and authorized to do so.</i></p>

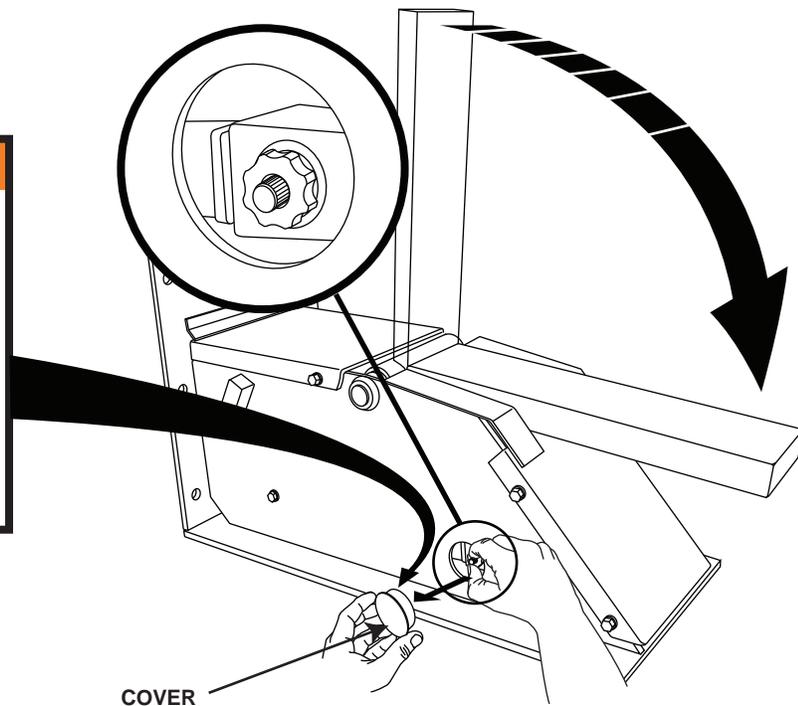
## 11. EMERGENCY VEHICLE RESTRAINT LOWERING PROCEDURE

Should a power failure occur, or the vehicle restraint or control panel malfunction while the restraint arm is in the vertical locked position (preventing a vehicle from departing), the manual release valve can be opened, allowing the arm to return to the stored position.

1. Remove cover from the manual release valve. NOTE: if red stem is visible, cover does not need to be removed.
2. Turn valve stem counter-clockwise to open the manual release valve and release the restraint arm.
3. After the arm is stored, turn the valve stem clockwise until snug. Once valve is closed, normal operation can resume.
4. Replace the cover on the manual release valve.



MANUAL RELEASE VALVE PROCEDURE DECAL LOCATED ON THE INSIDE OF THE PROTECTIVE CAP

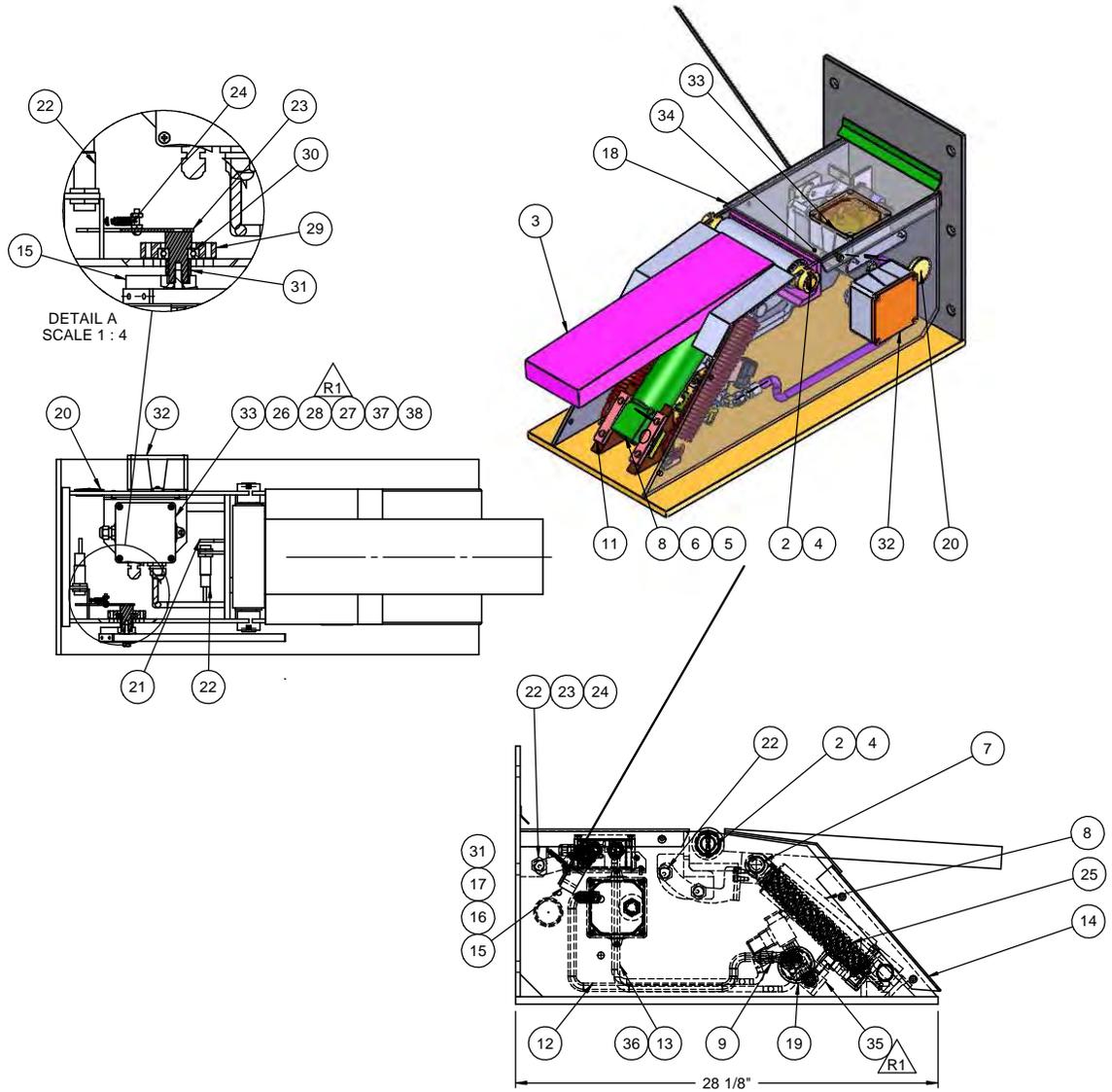


ABOVE: Emergency Lowering Procedure

12. VEHICLE RESTRAINT TROUBLESHOOTING	
<b>⚠ WARNING</b>	<b>Do not attempt to install, make repairs or adjustments. Only a trained and authorized service technician should perform the installation process. Contact your local dealer or distributor for assistance.</b>
PROBLEM	PROBLEM CAUSE
The restraint arm will not raise when the ENGAGE button is touched. The motor runs, and both control panel and outside traffic lights are RED.	<ol style="list-style-type: none"> <li>1. Faulty wiring or connection. Energize solenoid valve open.</li> <li>2. Hydraulic oil fluid levels low or depleted. Check levels.</li> <li>3. Leaking or disconnected hydraulic hose.</li> <li>4. Faulty power pack pump. Replace if necessary.</li> </ol>
The restraint arm will not raise when the ENGAGE button is touched. The motor does not run. Outside traffic light is RED and control panel light does not come on.	<ol style="list-style-type: none"> <li>1. Faulty wiring or connection.</li> <li>2. Faulty motor contactor coil. Replace restraint arm solenoid.</li> </ol>
The restraint arm raises to a fully vertical position and motor runs. Both control panel and outside traffic lights are RED.	<ol style="list-style-type: none"> <li>1. Faulty wiring or connection.</li> <li>2. Pressure relief valve is out of adjustment in the power pack. The valve may be set too high: adjust pressure with 5/16" allen key.</li> <li>3. Faulty power pack pump. Replace if necessary.</li> </ol>
The restraint arm raises, but does not lock in the 90 degree position.	<ol style="list-style-type: none"> <li>1. Faulty wiring or loose connection.</li> <li>2. Faulty locking solenoid. Replace if necessary.</li> </ol>
The restraint arm does not lower when the operator touches the RELEASE button.	<ol style="list-style-type: none"> <li>1. Faulty wiring or connection.</li> <li>2. Power loss. Refer to the Emergency Lower Procedure for the manual release of the locking mechanism.</li> </ol>

13.

TL85 PARTS ILLUSTRATION



Item No.	Qty.	Description	Part No.	Item No.	Qty.	Description	Part No.
1	1	Body Weldment	51-001977	24	1	Extension Spring 0.5" d x 0.034" thick x 1.25" long	017-085
2	1	Hinge Pin	115-099	25	2	Spring Wire 1 5/8" OD. X 1/4" thick	017-034
3	1	Hold Plate Assembly	51-003011	26	3	PG16 Cable Gland	025-174
4	2	Spring Pin	013-011	27	3	PG16 Metal Locknut	025-177
5	4	Bushing	018-017	28	2	PG16 Multi-Hole Seal	025-175
6	1	Cylinder Pin	115-307	29	1	Bearing Square Block	51-002213
7	1	Spring Holder Pin	115-094	30	1	Ball Bearing- R10-2RS-ID 5/8" -OD 1 3/8" 11/32"	018-640
8	1	Cylinder Assembly, 2" dia.	035-662	31	1	Metallic Spacer	51-002306
9	2	Fitting	034-633	32	1	Junction Box 4x4	025-G020-C
10	1	Bar, Wear	252-0019	33	1	Junction Box 4x4	025-G020-N
11	2	Pivot Block Top Plate	113-096	34	1	Junction Box Bracket	51-002204
12	1	Hose Assembly	100-5000-5	35	1	Hydraulic Command Assembly	51-003116
13	1	Cable, 4Wire, 18GA	515-0001	36	1	Cable, 4Wire 18GA	515-0001
14	1	Front Cover	115-100	37	1	PG9 Metal Locknut	025-176
15	1	Wand Mounting Block	51-002317	38	1	PG9 Cable Gland	025-173
16	1	Mounting Flat	116-863	43	1	Zinc Plating Body Weldment (Not Shown)	050-027
17	1	Sensor Wand	116-868	44	62.6	Zinc Plating Misc. Parts (Not Shown)	050-505
18	1	Top Cover	115-103	45	1	Zinc Plating Wand (Not Shown)	050-027-2
19	1	Plug Button 2: dia. x 1/8"	R3-93002				
20	1	Hole Plug 1 1/4" dia.	037-081				
21	1	Angular Position Cam	51-001945				
22	3	Proximity Sensor JB-18-ML-TPNBA	028-200				
23	1	Wand Axle Weldment	51-002052				

14.

TL85 RECOMMENDED SPARE PARTS LIST

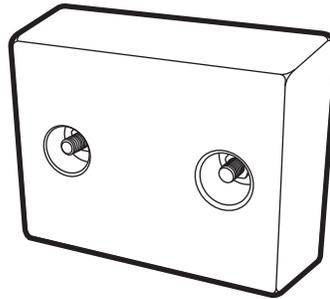
Part #	Description	Qty Req'd	
033-508-24A	VALVE SOLENOID, 24VDC COIL	1	
035-293-A	SWITCH, PRESSURE	1	
028-200	PROXIMITY SENSOR 18MM SHIELDED	3	
116-868	FLAT WAND	1	
51-002317	WAND MOUNTING BLOCK	1	
116-863	MOUNTING BLOCK TOP PLATE	1	
017-085	EXTENSION SPRING (WAND)	1	
51-002052	WAND AXLE WELDMENT	1	
017-034	SPRING	2	
115-094	SPRING HOLDER PIN (TOP) CYLINDER	1	
115-307	CYLINDER PIN (BOTTOM)	1	
113-096-1	PIVOT BLOCK TOP PLATE	2	
HARDWARE REQ'D	035-662	CYLINDER	1
Qty: X 2, Part # 018-017 BUSHING & Qty: X 1, Part # 034-511 ADAPTER 90 DEG			
	035-662-1	SEAL, KIT FOR CYLINDER	1
	780-613	HOSE ASS'Y # 4 HOSE (288")	1
HARDWARE REQ'D	090-909-2880	TUBING (POLYETHYLENE)	1
Qty: X 1, Part # 040-007 MALE ELBOW (BRASS) 90 DEG. FOR TUBING # 090-909-2880			
HARDWARE REQ'D: Qty: X 2, EACH	51-003011	PLATE, HOLD WELDM'T	1
HARDWARE REQ'D	115-099	HINGE PIN	1
Qty: X 2, Part # 013-011 SPRING PIN FOR HINGE PIN # 115-099			
HARDWARE REQ'D	115-103	TOP COVER	1
Qty: X 2, Part # 010-012 CAPSCREW & Qty: X 2, Part # 0012-201 LOCK WASHER			
HARDWARE REQ'D	115-100	FRONT COVER	1
Qty: X 4, Part # 010-012 CAPSCREW & Qty: X 4, Part # 0012-201 LOCK WASHER			
	51-001945	ANGULAR POSITION CAM	1

**15. GENERAL PARTS**

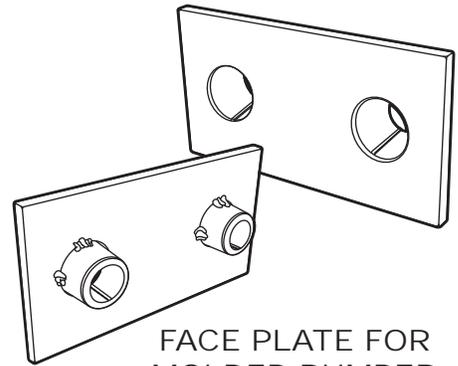
**15.1 MOLDED RUBBER BUMPERS**

**MOLDED RUBBER BUMPERS**

PART ID	DESCRIPTION
DB13	4" x 10" x 13"
DB18	4" x 10" x 18"
DB30	4" x 10" x 30"
DBL18	4" x 18" x 18"



MOLDED RUBBER BUMPER



FACE PLATE FOR MOLDED BUMPER

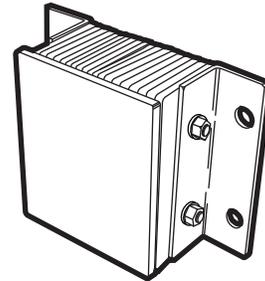
**15.2 FACE PLATES FOR MOLDED RUBBER BUMPERS**

PART ID	DESCRIPTION
DB13FP	4" x 10" x 13"
DB18FP	4" x 10" x 18"

**15.3 LAMINATED BUMPERS**

**LAMINATED BUMPERS**

PART ID	DESCRIPTION
DB411	4.5" x 14" x 10"
DB511	5.5" x 14" x 10"
DB412	4.5" x 14" x 20"
DB512	5.5" x 14" x 20"
DB421	4.5" x 24" x 10"
DB521	5.5" x 24" x 10"
DB431	4.5" x 36" x 10"
DB531	5.5" x 36" x 10"



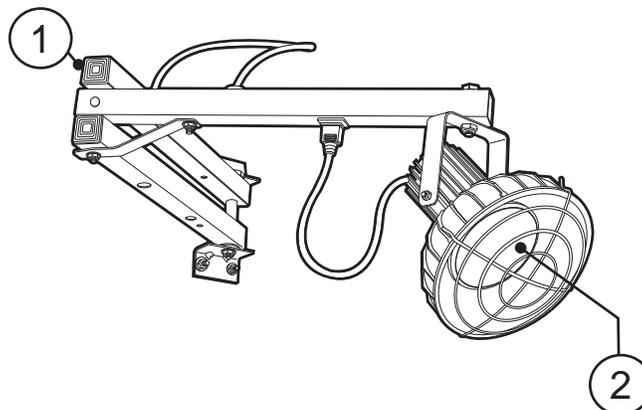
LAMINATED BUMPER WITH FACE PLATE

**15.4 FACE PLATES FOR LAMINATED BUMPERS**

PART ID	DESCRIPTION
DB411FP	4.5" x 14" x 10"
DB511FP	5.5" x 14" x 10"
DB412FP	4.5" x 14" x 20"
DB512FP	5.5" x 14" x 20"

**15.5 FLOOD LIGHT**

ITEM	QTY	PART ID	DESCRIPTION
1	1	LDL-150	LOADING DOCK LIGHT - 150W MAX
2	1	026-725	90W HALOFLOOD BULB - 130V



**16. RECOMMENDED SPARE PARTS- BLUE GENIUS GOLD SERIES II**

**Single Phase:**

Part #	Description	Qty Req'd
026-PB1115	POWER BOARD SUBASSY (1PH 115V 50-60HZ)	1
026-PB1230	POWER BOARD SUBASSY (1PH 230V 50-60HZ)	1

**Three Phase:**

Part #	Description	Qty Req'd
026-PB3230	POWER BOARD SUBASSY (3PH 230V 50-60HZ)	1
026-PB3400	POWER BOARD SUBASSY (3PH 400V 50-60HZ)	1
026-PB3460	POWER BOARD SUBASSY (3PH 460V 50-60HZ)	1
026-PB3575	POWER BOARD SUBASSY (3PH 575V 50-60HZ)	1

**Touch Boards: Screen (S/N Required)**

Requires Software version (Must also purchase the cover & decal)

Part #	Description	Qty Req'd
026-G020	CONTROL/TOUCH BOARD/W LED&LCD MODULES	1
025-G014	TRANSPARENT COVER DOOR	1
	DECAL, PART NO. IS BASED ON S/N	1

Part #	Description	Qty Req'd
026-G025M	REMOTE I/O-A BOARD	1
026-G025-99	REMOTE I/O-B BOARD WITH DOOR CONTROL	1
026-G030	RIBBON CABLE, 16 WIRE /PIN /W CONNECTORS	1

**Fuses:**

Part #	Description	Qty Req'd
026-G100	FUSE, 15A, 250V, TIME DELAY FOR 1PH, 110-130V	5
026-G101	FUSE, 8A, 250V, TIME DELAY FOR 1 PH,208-240V	5
026-G102	FUSE, 0.5A, 208-240V, TIME DELAY FOR 1&3PH	5
026-G103	FUSE, .25A, 250V, TIME DELAY FOR 1PH,208-240V	5
026-G104	FUSE,0.75A, 250V, 10-130V,TIME DELAY FOR 1PH	5
026-G105	FUSE, 500mA, 700V, FAST ACTING FOR 3 PH,380-415V	5
026-G106	FUSE, 400mA, 700V, FAST ACTING FOR 3PH,440-480V	5
026-G107	FUSE,315mA, 700V, FAST ACTING FOR 3PH,575-600V	5
026-G107	FUSE,315mA, 700V,	5

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