

INSTALLATION & TECHNICAL MANUAL

BLUE GIANT INTERLOCK CHOCK™



ACTUAL PRODUCT MAY NOT APPEAR EXACTLY AS SHOWN

WARNING

Do not 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 bodily injury or death.

BLUE GIANT®

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1.0 GENERAL SITE CHECKLIST FOR INTERLOCK CHOCK

Use this chart to prepare the site for installation.

		Yes	No	Comments
1	Review site conditions. Have you completed and reviewed site survey report?	<input type="checkbox"/>	<input type="checkbox"/>	
2	Is the electrical power present to hook up to? i.e. on inside wall near control install location	<input type="checkbox"/>	<input type="checkbox"/>	
3	If required, was the conduit(s) installed and properly positioned?	<input type="checkbox"/>	<input type="checkbox"/>	
4	Did you check to see if the proper voltage is supplied?	<input type="checkbox"/>	<input type="checkbox"/>	
5	When unpacking, were all the parts included? See "8.1 COMPONENTS AS SHIPPED CHECKLIST" on page 16.	<input type="checkbox"/>	<input type="checkbox"/>	
6	Do you have all the tools needed to complete the job? This includes ladder(s), safety equipment and personal safety devices. See "6.0 TOOLS REQUIRED FOR INSTALLATION" on page 13.	<input type="checkbox"/>	<input type="checkbox"/>	
7	Do you have the anchors for the (optional) exterior driver traffic light, warning sign and control box? Supplied by: You, contractor, or installer	<input type="checkbox"/>	<input type="checkbox"/>	
8	Have you read this installation manual and fully understood it?	<input type="checkbox"/>	<input type="checkbox"/>	
9	Do you have the Blue Giant technical support number? 1.800.872.2583. Before calling, make sure to have serial # of equipment.	<input type="checkbox"/>	<input type="checkbox"/>	
10	Do you know what an ESD " <i>Electrostatic Sensitive Device</i> " is and how to handle? See "4.1 ELECTROSTATIC SENSITIVE DEVICE PROTECTION POLICY" on page 11.	<input type="checkbox"/>	<input type="checkbox"/>	

2.0 INTRODUCTION

The following is a quick reference to important procedures that must be followed while using the Interlock Chock. 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 Interlock Chock. These laws and regulations include but are not limited to:

- The Occupational Safety and Health Act
- Canada Occupational Health and Safety Regulations
- Occupational Safety and Health Acts for Individual States (USA), Provinces, or Territories.

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
Telephone: 212.642.4900
www.ansi.org



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
www.mhi.org/lodem



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 Customer Support Team 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.

For more information about Blue Giant Warranty Support, please contact your Blue Giant Dealer. You may also visit www.BlueGiant.com or phone 1.905.457.3900.

NOTE: All products must be registered to qualify for warranty.

DEALER INFORMATION

Name:

Contact:

Telephone:

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 the Interlock Chock. The manufacturer 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 improvements and 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 Interlock Chock has been carefully inspected and tested at the manufacturer's plant prior to shipment, but **MUST be checked** upon receipt for transport damage. Any observed transport damage is to be listed on the signed copy of the freight document.

There are many configurations or custom designs whose specifications may not be fully reflected in this manual. Contact your Blue Giant Dealer to obtain the General Arrangement drawing for application specific designs.

Notify the freight forwarder, Blue Giant, and the dealer of any damage WITHIN 24 HOURS.

2.4 INSTALLER'S GUIDELINES

Please read all instructions carefully before installing this Blue Giant dock product. It is the installer's responsibility to comply with the following:

- The installation of Blue Giant dock products should comply with all applicable local or national building codes and regulations, including any that may supersede this manual.
- Site surveys and other applicable install-related documentation must be properly and accurately completed prior to installation. Failure to comply with this requirement may result in an improper install and possible voiding of the warranty.

Only Blue Giant-supplied or approved parts must be used. Any unauthorized parts substitution may void the warranty. Always lock out and tag out any power source before performing any electrical work, in accordance with OSHA regulations and approved electrical codes. The installer is responsible for reading, understanding, and complying with all personal protective equipment (PPE) policies in effect.

3.0 SAFETY MESSAGE COLOR IDENTIFICATION

This manual includes color-coded safety messages that clarify instructions and specify areas where potential hazard exists. To reduce the possibility of equipment damage and serious injury or death, please follow the instructions and understand the 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.

 DANGER
Serious injury or death will likely occur if the instructions are not followed.


 WARNING
Serious injury or death may occur if the instructions are not followed.


 CAUTION
Instructions marked caution concern safe operating procedure. Failure to comply may result in personal injury.

NOTICE
Procedures marked notice must be followed in order to reduce damage to machinery.

3.1 OPERATIONAL SAFETY WARNINGS

These are safety warnings that may be part of a procedure or hardware warning decal.

 DANGER
<ul style="list-style-type: none"> • BEFORE BEGINNING ANY SERVICE PROCEDURES: <ul style="list-style-type: none"> – Disconnect the power and follow all lockout / tagout procedures, as per OSHA requirements. Refer to wiring diagrams. • Installation must be performed only by trained and authorized personnel. • Prior to installation, place adequate barriers to prevent vehicle traffic from entering the work area. • During installation, anchors must be properly torqued to achieve the necessary anchoring strength. DO NOT USE IMPACT DRIVERS. • Any electrical work must be performed by qualified personnel only. • Do not remove the wheel chocks until loading /unloading is finished and the truck is cleared for departure and the lights have changed to RED inside and GREEN outside.

 WARNING
<ul style="list-style-type: none"> • Do not ground welding equipment to any electrical components. • Do not allow the drill to go too deeply into the control box, as damage may occur to the control systems. • Never use air to blow debris from the control box. Use a vacuum to perform any necessary cleaning. • Do not connect green ground lead into control box or junction box until all welding has been completed. • Improper adjustments may cause operational problems with equipment.

 CAUTION
<ul style="list-style-type: none"> • Only trained personnel should operate or service this equipment. • Do not operate the Interlock Chock until the transport vehicle is parked against the dock bumpers. • Always park the Interlock Chock after use. • Conduct routine inspections and maintenance. Failure to do so could cause equipment damage and or personal injury. • Always call your authorized service representative or manufacturer immediately if a malfunction occurs.

NOTICE

- Do not ground welding equipment to any electrical components.
- Do not allow the drill to go too deeply when drilling holes in the control box. Damage to the control systems may occur.
- Never use air to blow debris from control box. Use a vacuum to remove debris from control box.
- Do not connect green ground lead into control box until all welding has been completed.
- Always keep the work area clean and free of litter.
- Always clean all side openings of dirt and debris.
- Always clean up dry and liquid spills immediately after they occur.
- Always maintain proper lighting in the work area.
- If a procedure is not clearly defined in this manual, contact your Blue Giant Dealer.

4.0 LOCKOUT / TAGOUT PROCEDURE AND RULES

In accordance with the rules and regulations of the Occupational Safety and Health Administration (OSHA) and/or local jurisdiction, 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 verify 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.

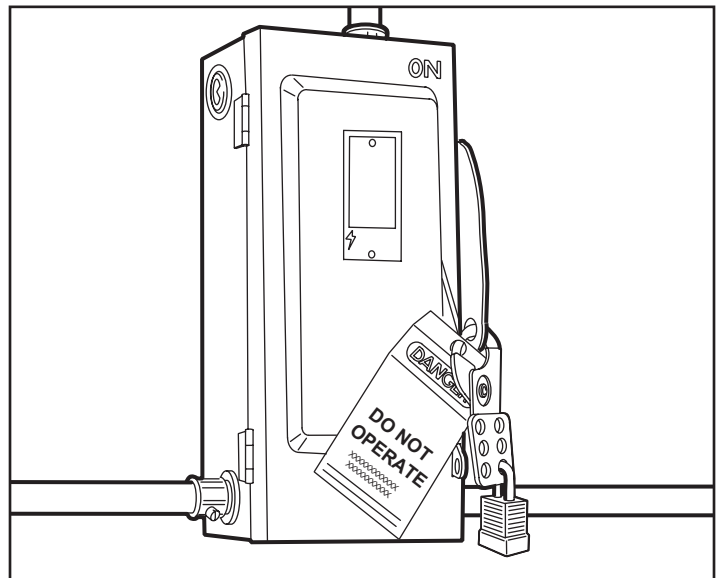
Blue Giant strongly recommends that only OSHA-approved and/or local jurisdiction lockout devices and procedures be utilized.

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 shall **NOT** be susceptible to deterioration or illegibility due to weather conditions, exposure to chemicals and/or moisture.

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. Refer to wiring diagrams.



An example of lockout / tagout. Verify and comply with local codes/ regulatory requirements.

4.1 ELECTROSTATIC SENSITIVE DEVICE PROTECTION POLICY

This policy applies to static sensitive electronic products primarily printed circuit boards (PCBs) and sensors. Switches, relay, lamps and wire are not sensitive and do not apply.

If welding near ESD components, correctly protect and ground all necessary equipment.



1. Prior to handling PCBs, wear a static grounding wrist strap and clip it to an electrical ground. The metal plate on the inside of the wristband must be in contact with the wearers skin.
2. PCBs should never be handed to other personnel or set down anywhere.
3. Place PCBs in black ESD shielding bags for return or storage. Only one PCB or sensor should be placed in a static bag. Attach paperwork and other items to the outside with adhesive pouches or elastic bands.
4. The control boxes protect the PCBs inside from static, and should not be used to store manuals or other accessories.

5.0 INSTALLATION LAYOUT

The facility environment will dictate the type of pit or on level ground layout. These illustrations are generic in layout. Refer to building drawings for installation specifics.

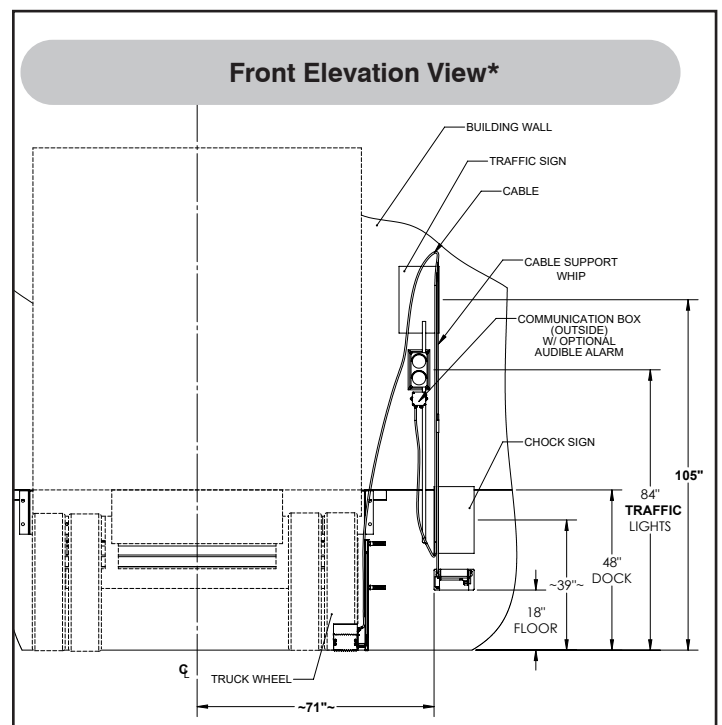
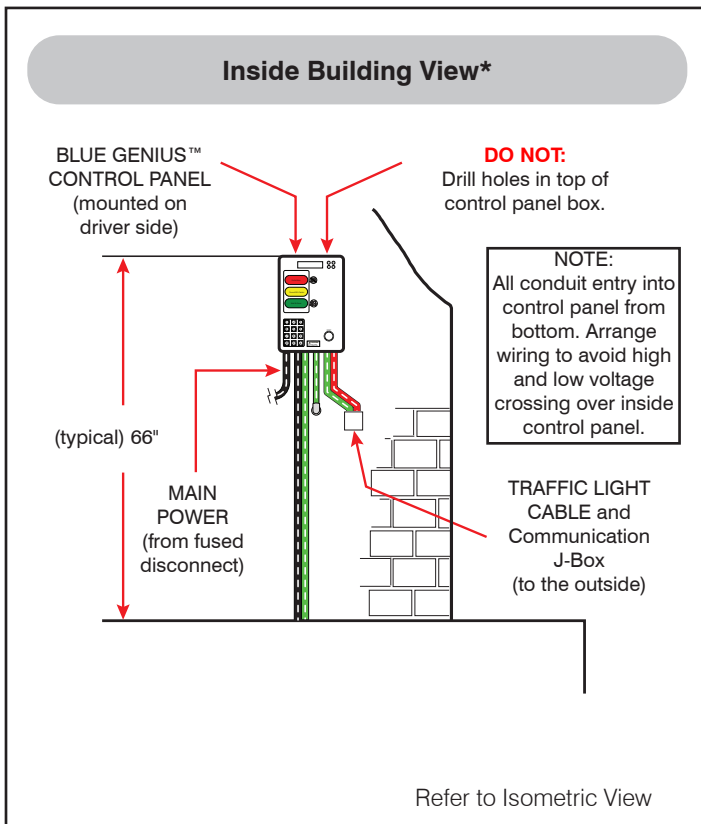
NOTE: Blue Genius Control Panel installation may vary.

The distances given work for either right or left hand drive truck arrangements.

NOTE: Always measure on the driver's side of dock. Left hand drive side shown.

ELECTRICAL REQUIREMENTS

- Mount control panel to wall, traffic light and driver warning sign
- Fused disconnect provided by others and wiring by others
- Install wiring from control panel to power supply/fused disconnect
- Install wiring from control panel box to communication J-Box

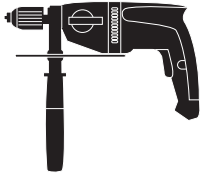


* Drawings not to scale

- COMMUNICATION CABLES
- CONTROL CABLES, LOW VOLTAGE
- POWER/MOTOR WIRING, HIGH VOLTAGE

6.0 TOOLS REQUIRED FOR INSTALLATION

These tools are required for the complete and safe installation of the Interlock Chock. Not all are applicable for every installation.



Hammer Drill



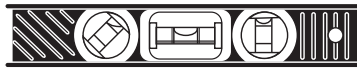
Tape Measure



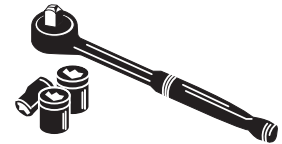
Crowbar 3'-5'



5/8 in. and 1/4 in. Concrete Bit Carbide



2' / 4' Level



Socket Set 3/8 in. to 1 in.



Chip Hammer



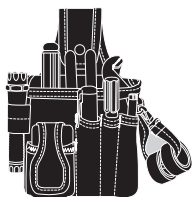
Ball Peen Hammer



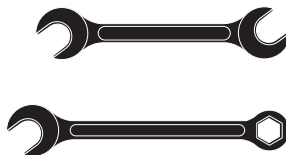
Small Flat Screwdriver
(flat tip to be suitable for 0.150 slot)



Large 1/8 in. x 3/8 in. Screwdriver



Electrician's Tools



Combination wrench set 3/8 in. to 1 in.



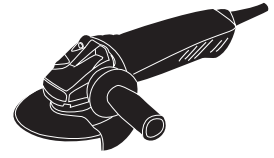
Sledge Hammer 10 lbs



Drill/Screwdriver



Nut Driver Drill Bit 5/16 in.



Grinder with Zip Blades As Well



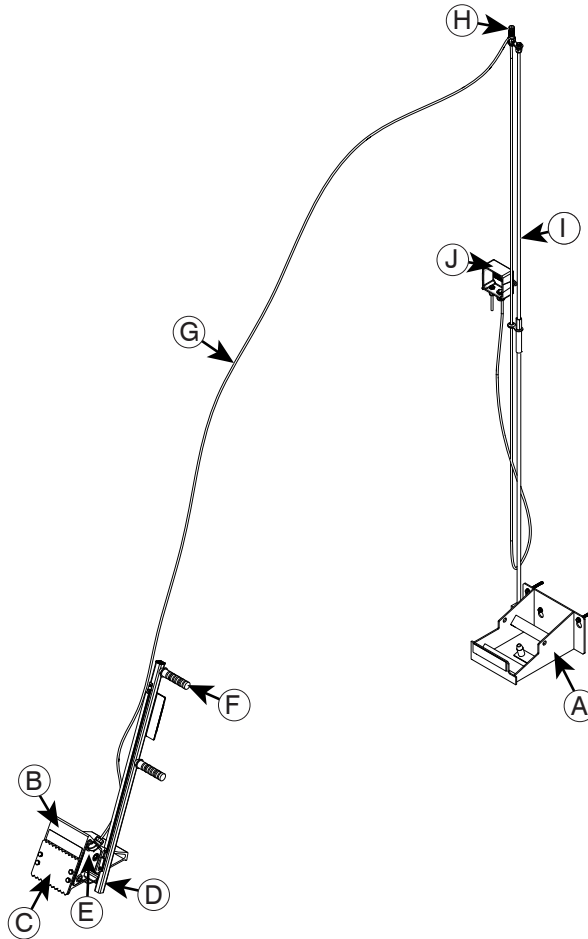
Hole Clearing Blow Pump Tool

7.0 GENERAL DESCRIPTION

See below for names of components. These names will be used throughout the manual and are valid for either right or left hand drive truck versions.

⚠ WARNING

- Do not install, operate, or service this product unless you have read and followed the safety practices, warnings, and installation instructions contained in this manual and owner’s manual. Failure to do so could result in death or serious injury.
- Place barricades around the pit on the dock floor and driveway while installing, maintaining, or repairing Interlock Chock.
- Improper installation of anchoring devices or installation into aged or unsound concrete could result in death or serious injury.
- Failure to follow this warning can allow the Interlock Chock to fall, tip, or swing into people which could result in death or serious injury.



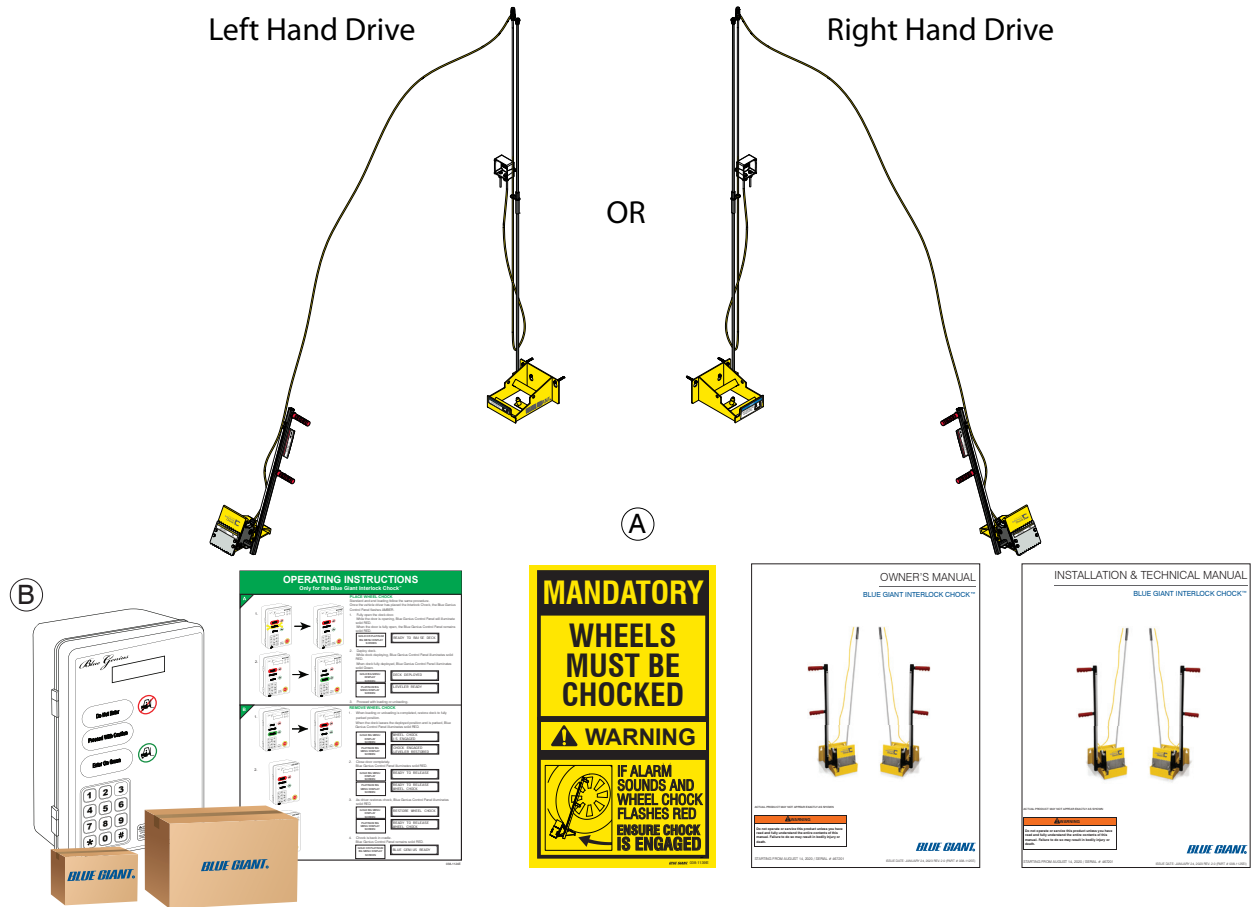
ITEM	DESCRIPTION
A	Cradle
B	Chock
C	Toothed Flange
D	Handle
E	I/O Module
F	Grips
G	Cable
H	Flex Strain Relief Connector
I	Whip
J	Junction Box

8.0 EQUIPMENT COMPONENT ILLUSTRATIONS

This section displays the various hardware components.

8.1 COMPONENTS AS SHIPPED CHECKLIST

This section displays the shipped hardware components. It is valid for either right or left hand drive versions.

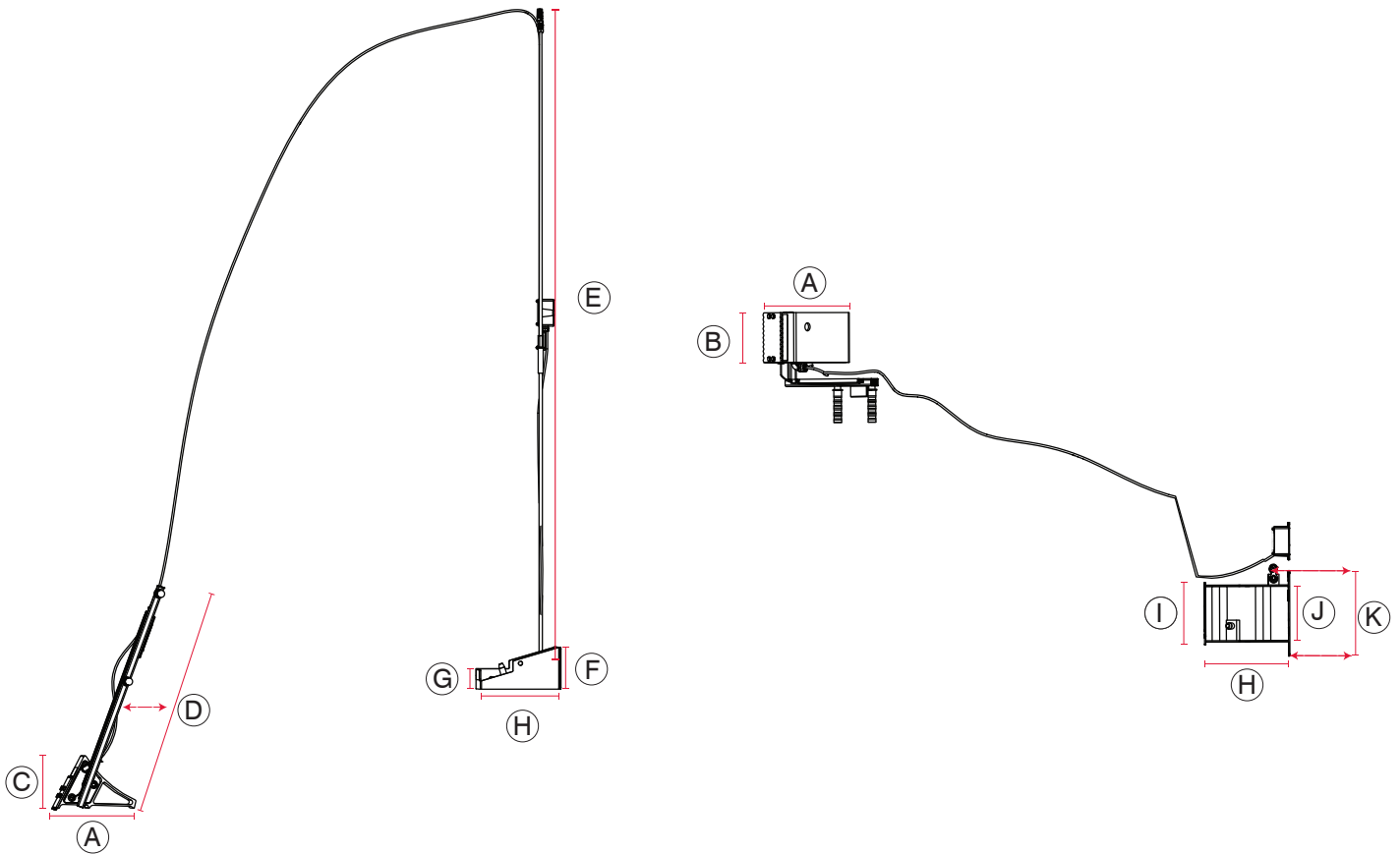


Item B - CONTROL AND COMPONENTS INCLUDED:

✓	QTY.	PART NO.	DESCRIPTION	APPROX. WEIGHT	
	1	—	Complete Control Assembly	6.2 lb	2.81 kg
	2	028-201	Door Sensors	—	—
	1	25008304	Lip Sensor	—	—
	1	038-1124E	Interlock Chock Interior Operating Instructions Placard	—	—
	1	038-1139	E F Interlock Chock Exterior Operating Instructions Placard	—	—
	1	038-1125EI	Installation Manual	—	—
	1	038-1125E	Owner's Manual	—	—
	1	038-1125EPL	Interlock Chock Parts List	—	—
	1	032-806	Exterior Traffic Light	1.3 lb	0.6 kg
	1	038-225	E F S Exterior Driver Warning Sign	0.7 lb	0.32 kg

9.0 GENERAL DIMENSIONS

This section describes the length and height of the Interlock Chock components. Measurements are the same for either right or left hand drive truck versions.



ITEM	DESCRIPTION
A	11 3/4in. (298 mm)
B	7in. (178 mm)
C	7 7/8in. (200 mm)
D	33 9/32in (845 mm)
E	100 3/4in. (2559 mm)
F	6 1/4in. (159 mm)
G	1 13/16in. (46 mm)
H	12in. (305 mm)
I	8 3/4in. (222 mm)
J	7 13/16in. (198 mm)
K	12in. (305 mm)

Contact your Blue Giant Dealer, if you have questions.

10.0 INSTALLATION GUIDELINES



- Use caution when lifting or moving the Interlock Chock, the cable, and the mounting equipment.

This section describes environmental requirements before hardware installation can happen.

1. Prior to installation, clean the pit or pad thoroughly and verify that all dimensions are in accordance with manufacturer specifications.

10.1 ELECTRIC POWER SUPPLY AND WIRING

If site conditions call for a different wiring installation method, please contact your Blue Giant Dealer before proceeding.



- 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.

10.2 ANCHOR THE JUNCTION BOX

Attach the junction box below the Traffic Light.

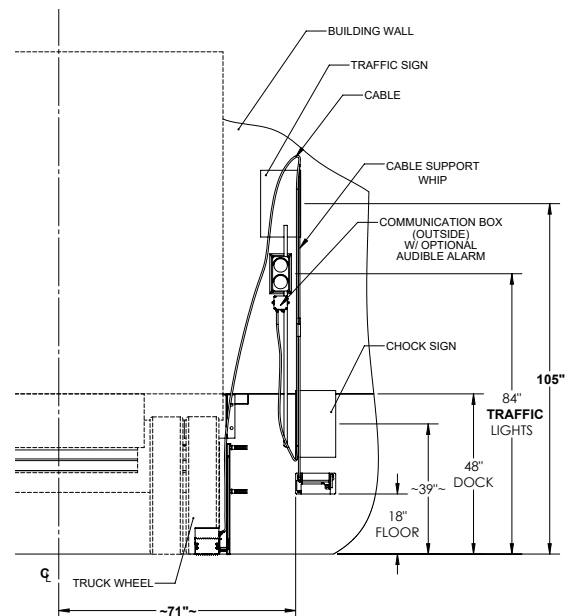
1. Install the remote input / output junction box on the outside wall located near or under the traffic lights.
2. The wire / cable going between the communication junction box and the control station must be run in such a manner that no extra / looped wire is left over.

10.3 ANCHOR THE CRADLE

Anchor the Interlock Chock cradle to the exterior wall. The distances and instructions work for either right or left hand drive truck arrangements..

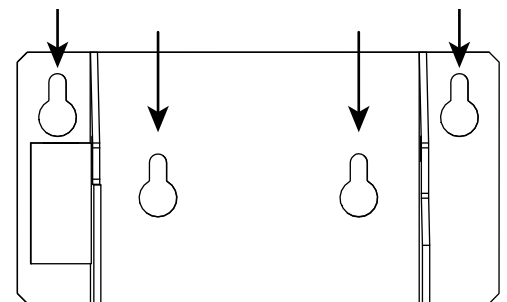
NOTE: Always measure on the driver's side of dock. Left hand drive side shown.

1. Measure from centerline of dock approximately 71 in. (1.80 M) to be under the outside traffic light then 18 in. (457 mm) off of the grade.



2. Hold the cradle at this location then mark the cradle anchor holes on the wall.

NOTE: Left hand drive model shown.

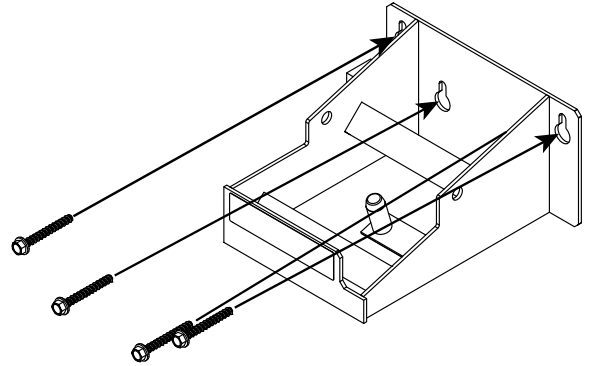


3. Drill four (4) anchor holes for 3/8in. x 3in. tapscrews then clean out dust from the holes.

NOTE: Tap screws not provided by installer.

4. Start anchoring the tapscrews but leave one (1) in. still sticking out of the wall.

NOTE: Left hand drive model shown.



5. Hang cradle on the four tapscrews then fully tighten tapscrews.

10.4 ASSEMBLE CABLE SUPPORT WHIP AND ANCHOR TO HOME BASE

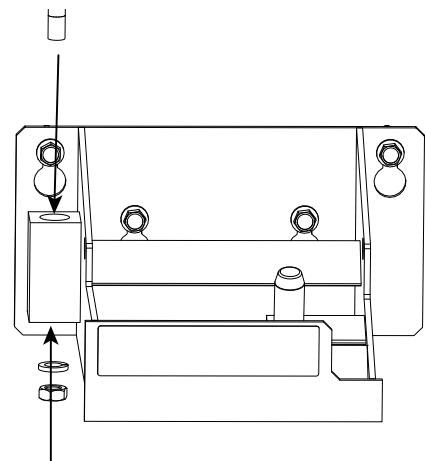
Assemble the cable support whip. These instructions work for either right or left hand drive truck arrangements.

1. Connect the top and bottom sections of the cable support whip.



2. Use the nut and washer to attach the bottom of the cable support whip to the cradle.

NOTE: Left hand drive model shown.



3. Place the Interlock Chock in the mounted cradle.

10.5 WIRE CABLE TO JUNCTION BOX

Connect the Interlock Chock to the communication junction box.

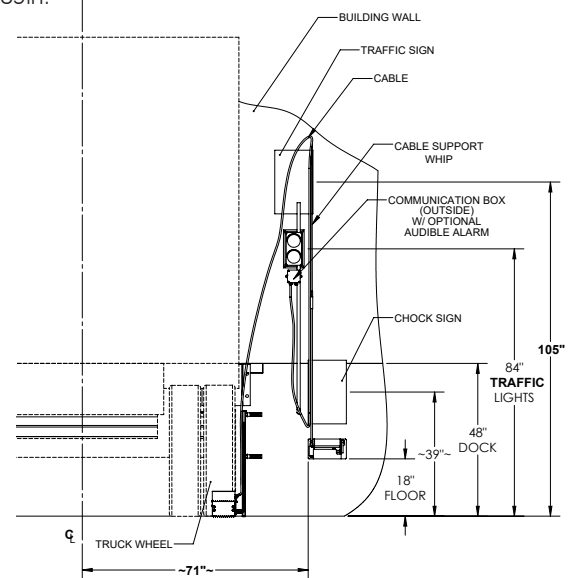
1. From the lower cable clip of the whip, run the cable to communication junction box.
2. Feed cable end through junction box and anchor cable using the junction box screwdown.
3. Attach wires to correct terminals on the COM module.
4. Attach wires from the Blue Genius Control Panel.
5. Attach cover to the junction box.

10.6 MOUNT THE EXTERIOR OPERATING INSTRUCTION PLACARD

This procedure describes mounting the exterior operating placard. The distances given work for either right or left hand drive truck arrangements.

NOTE: Always measure on the driver's side of dock. Left hand drive side shown.

1. Centered over the Interlock Chock cradle, measure to a height approximately 39in. (991 mm) above the grade and mark it.



2. Verify that this placard is visible from the grade height.
3. At this height, mount the exterior placard so that the mark is at the vertical middle of the placard.

10.7 MOUNT THE INTERIOR OPERATING INSTRUCTION PLACARD

This procedure describes mounting the interior dock operator placard.

1. Mount the Interior Operating Placard at a convenient height beside the Blue Genius Control Panel.
2. Verify that this placard is visible by any dock operator.

10.8 DOOR SENSOR INSTALLATION

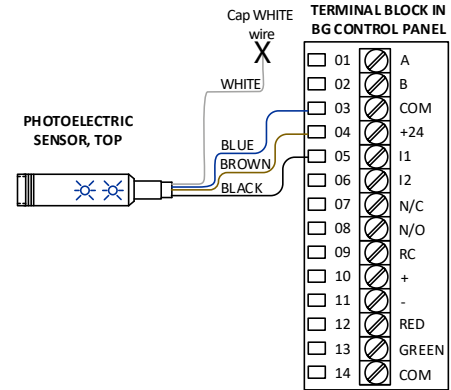
This procedure describes the hardware installation of the two door sensors.

NOTE: Mounting bracket(s) supplied by others.

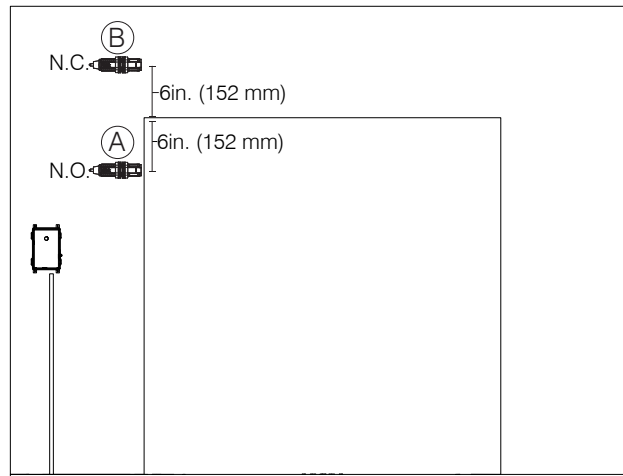
NOTE: Illustration not to scale.

1. Lock out and tag out the electrical power to the control panel and dock position.
2. Wire the photoelectric sensor as displayed in the wiring diagram and the table.

Colored Wire	Symbols	Terminal Number	Terminal Name
Blue	-(M)	#3	Common
Brown	+(L+)	#4	+24 VDC
Black	Q — NO	#5	Input1
White	~Q — NC	Unused (Cap wire)	Unused (Cap wire)

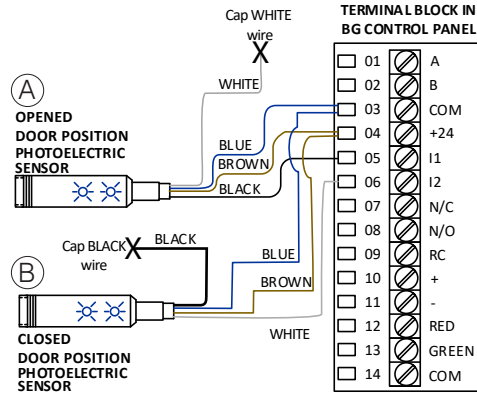


3. At callout A (I_1), measure a distance of 6 in. (152 mm) below the top of the door with an unobstructed view of the door path.



4. Verify that the I_2 sensor will have an unobstructed view of the door edge.
5. At callout B (I_2), measure a distance of 6 in. (152 mm) above the top of the door.
6. Verify that the sensor will have an unobstructed view of the door edge, when door is opened.
7. Anchor the I_1 sensor to the wall.
8. Wire sensor to control panel and adjust the detection range until each sensor gives a solid signal (without Yellow LED flickering).

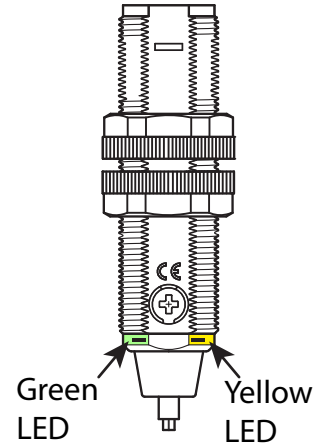
NOTE: Keep 12 inch (304mm) gap between A (I_1) and B(I_2)



OPENED I ₁ - Sensor Setup at A			CLOSED I ₂ - Sensor Setup at B		
Wire Color	Function	Terminal Number	Wire Color	Function	Terminal Number
Blue	COM	#3	Blue	COM	#3
Brown	+24 V	#4	Brown	+24 V	#4
Black	I ₁ (N.O.)	#5	White	I ₂ (N.C.)	#6

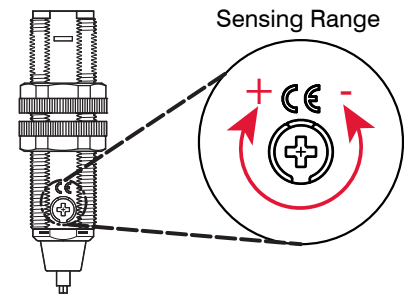
9. Remove lock out and tag out to test installation.
10. Verify on the photoelectric sensor body that the green and yellow LEDs illuminate.
If not, diagnose the electrical connections. If it is still not working then replace the photoelectric sensor.

LED COLOR	DESCRIPTION
Green LED	24VDC
Yellow LED	Sensor Detected
Flashing Yellow LED	Sensor Uncertain



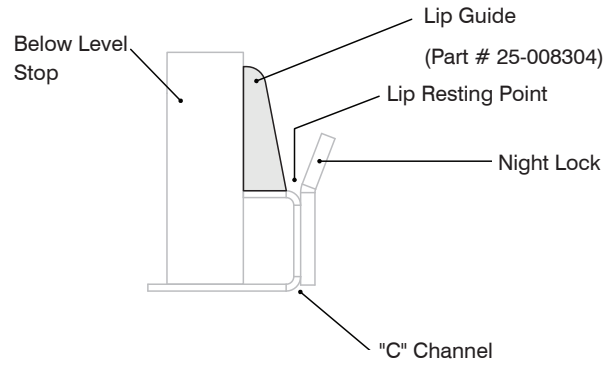
11. Fully test all dock components to verify that the control panel properly operates.
If the photoelectric sensor detects properly then this procedure is done. Proceed to complete any remaining work.
12. If installation is not functioning, adjust the photoelectric sensor detection range using the threaded screw until the control panel detects properly for that sensor position.

Turn '+'	Increases sensing range
Turn '-'	Reduces sensing range
Typical Distance from face of sensor is one (1) inch (25mm) to three (3) inches (76mm).	

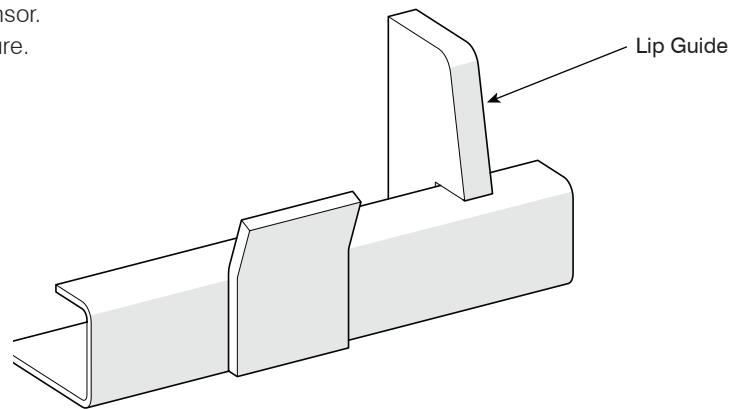


10.9 MOUNT LIP GUIDE

If the dock leveler lip plate does not park correctly, a lip guide gusset (Blue Giant part # 25-008304) must be installed to facilitate proper parking. The purpose of the guide is to properly position the new lip sensor. This illustrates a typical guide placement, which applies to typical dock models. The guide should be mounted near the new sensor bracket to ensure that the dock interlock sensor's range is not altered or otherwise affected.



1. To set up the guide, position the lip within the lip resting area so that it is tight against the night locks and resting on the "C" channel.
2. Verify that the guide is positioned close to the dock interlock sensor.
If the lip moved to the night lock, perform the following procedure.

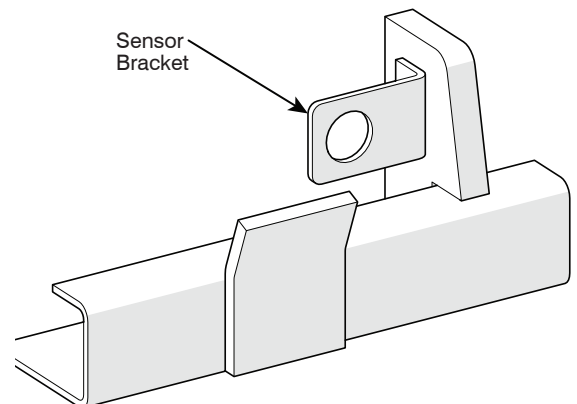


- a. Operate the dock until the deck is raised and put it on the safety stand.
- b. Using a "C" clamp, clamp the new guide gusset to the below level stop.
- c. Verify that the guide should be at the bottom, approximately 3/8in. (10 mm) away from the night locks.
4. Lower the deck until the lip hits the newly installed lip guide gusset and slides into the proper position. (The lip should fit snugly between the gusset and the night lock.) If the fit is too loose or too tight, readjust the gusset accordingly and test again.
5. When satisfied with a successful test, weld lip guide gusset into place.

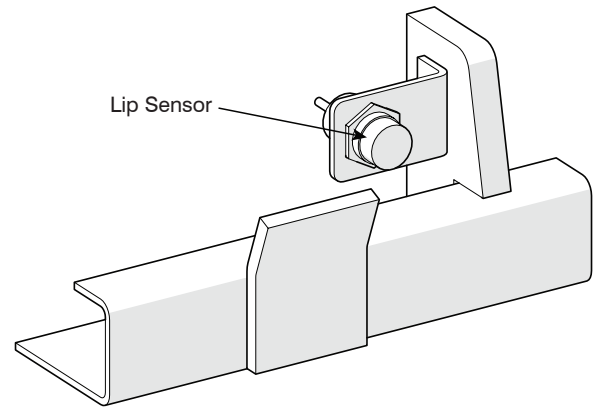
10.10 NEW SENSOR BRACKET INSTALLATION

Mounting the sensor bracket to the dock leveler.

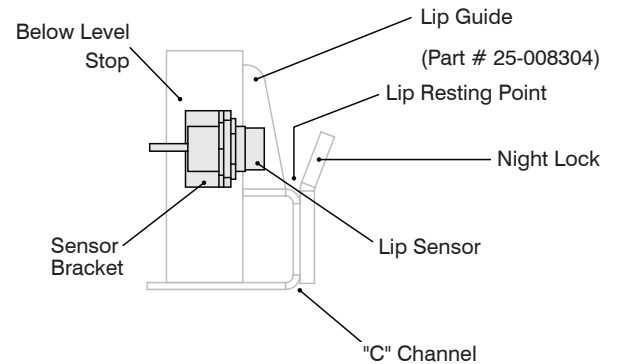
1. Mount the sensor bracket with a "C" clamp.



2. Positioning the bracket, the sensor should be inserted halfway inside the bracket hole. This will allow for easy adjustment of the sensor either closer or further to the back of the lip.



3. With the sensor in place, test the unit. Verify that there is a minimum clearance of ¼in. (6 mm) between the front face of the sensor and the back of the lip plate.
4. Remove sensor then weld the sensor bracket to the support.
5. Clean up the entire work area and apply touch-up paint to all welds, scratches and burns.



10.11 SENSOR RANGE ADJUSTMENT

The range adjustment fine tunes where the control panel detects the dock leveler lip in the rest position.

Sensor adjustment range is ¼in. (6 mm) to ½in. (13 mm) and is set by adjusting the sensor nuts.

11.0 CONTROL PANEL INSTALLATION

This section describes the Control Panel in general. For specifics, refer to any necessary drawings for electrical hook up and/or physical mounting requirements.

Verify that the control panel power rating is compatible with that of the facility electric power supply. All wiring inside the control panel must be neatly laid out for ease of maintenance, avoid crossovers and untidy wiring patterns. All wiring must be completed in accordance with national and local codes.

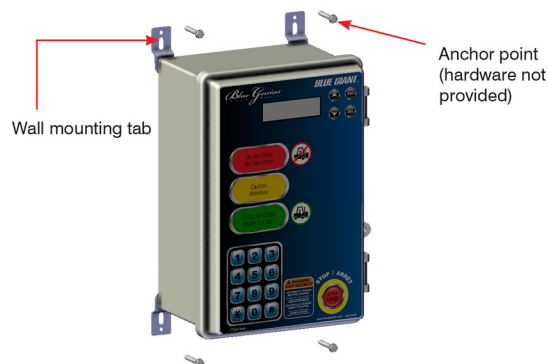
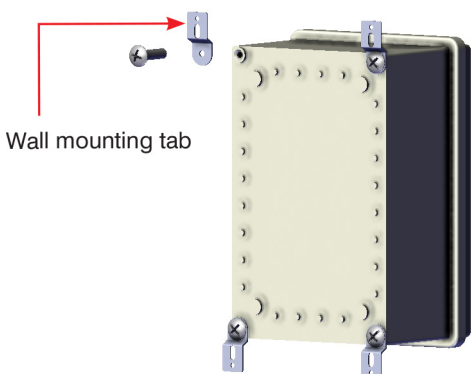
1. Connect any push button controls.
2. Run power from the fused disconnect to the control panel then to the Powerpack.
3. Complete the electrical hook-up between components.

If site conditions call for a different wiring installation method, please your Blue Giant Dealer before proceeding.

NOTICE

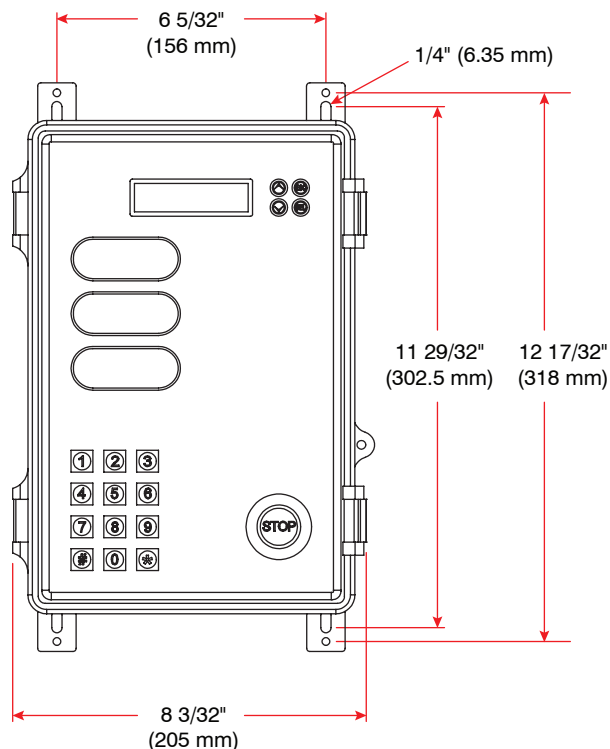
The use of ESD protocol is now needed when handling any controls mentioned hereafter.

1. Remove the Blue Genius™ control panel from the shipping panel.
2. Install the wall-mounting tabs on the back of the control panel. The mounting brackets must be installed to suit site / wall conditions.



3. Measure the proposed wall height of the control panel. A recommended height of 66in. (1676 mm), from the typical top of enclosure, allows the operator to easily read the LCD display. Mount the control panel on a flat surface. If the wall is uneven, shim to suit. When determining where to position the control panel, please ensure that the bottom of the panel is accessible. All conduit entry points must be drilled into the bottom.

NOTE: Do not drill through control panel panel itself, especially the underside of the control panel.



4. Verify that the control panel power rating is compatible with that of the power supply. All wiring inside the control panel must be neatly laid out; avoid crossovers and untidy, excessive wiring patterns. All wiring must be completed in accordance with national and local codes.

Use # 12 gauge stranded wire for motor and power leads only. A local disconnect means is required. Entry points at the bottom of the control panel shall correspond to (left to right) (as required):

- Power
- Motor 1 (if needed)
- Motor 2 (if needed)
- Outside lights / door interlock
- Communication

If site conditions call for a different wiring installation method, please consult factory before proceeding.

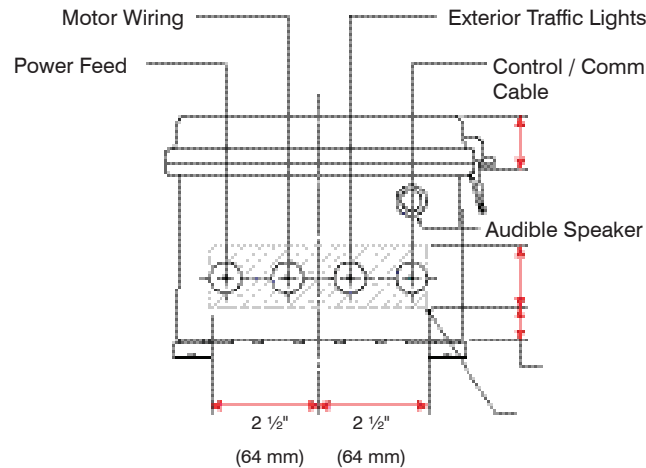
12.0 CONDUIT INSTALLATION

This section describes the installation of the conduit to the Blue Genius Control Panel.

⚠ WARNING

All electrical work must be performed by qualified personnel. Do not loop the communication cable excessively, or electrical noise interference may result and create intermittent communication problems. Trim cable(s) to appropriate length during installation. **DO NOT WIRE HIGH AND LOW VOLTAGES IN THE SAME CONDUIT.** High voltage range is 115V and up. Lower voltages include the communication wiring and 24 VAC devices. Prior to installation, place adequate barriers to prevent vehicle traffic from entering the work area, and follow proper lockout / tagout procedures.

1. Run ½in. (13 mm)* conduit from the control station to the Remote I/O junction box for the Exterior Traffic Lights and the Interlock Chock Communication junction box.



NOTE: Install high power conduit from the bottom of the control panel. Do not ty-wrap low voltage cable(s) to the outside of high voltage conduit(s). Maintain a minimal 1in. (25mm) separation between the two.

12.1 REMOTE I/O JUNCTION BOX INSTALLATION

This section describes the installation of the Remote I/O

⚠ WARNING

All electrical work must be performed by qualified personnel. Do not loop the communication cable excessively, or electrical noise interference may result and create intermittent communication problems. Trim cable(s) to appropriate length during installation. **DO NOT WIRE HIGH AND LOW VOLTAGES IN THE SAME CONDUIT.** High voltage range is 115V and up. Lower voltages include the communication wiring and 24 VAC devices. Prior to installation, place adequate barriers to prevent vehicle traffic from entering the work area, and follow proper lockout / tagout procedures.

1. Run ½in. (13 mm) conduit from the control station to the interior remote I/O junction box.
2. See "5.0 INSTALLATION LAYOUT" on page 12 for specific dimensions and the "17.0 WIRING DIAGRAMS" on page 40 for wiring requirements.
3. Install the restraint junction box (j-box) in a suitable location below the Blue Genius Control Panel.

12.2 EXTERIOR COMMUNICATION JUNCTION BOX INSTALLATION

This section describes the installation of the exterior Communication Junction Box.

⚠ WARNING

All electrical work must be performed by qualified personnel. Do not loop the communication cable excessively, or electrical noise interference may result and create intermittent communication problems. Trim cable(s) to appropriate length during installation. **DO NOT WIRE HIGH AND LOW VOLTAGES IN THE SAME CONDUIT.** High voltage range is 115V and up. Lower voltages include the communication wiring and 24 VAC devices. Prior to installation, place adequate barriers to prevent vehicle traffic from entering the work area, and follow proper lockout / tagout procedures.

1. Anchor the exterior Communication junction box on the outside wall below the Exterior Traffic Lights
2. See “5.0 INSTALLATION LAYOUT” on page 12 for specific dimensions and the “17.0 WIRING DIAGRAMS” on page 40 for wiring requirements.

12.3 ELECTRICAL WIRING INSTALLATION

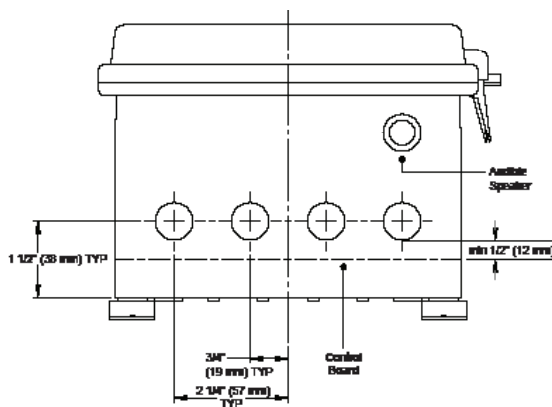
This section describes a general electrical wiring installation. “17.0 WIRING DIAGRAMS” on page 40 for specific wiring requirements.

This procedure has general notes for the electrician / installer.

1. Run communication wire in separate raceways back to the Blue Genius™ control station, following the control station installation guidelines.
2. Communication lines not routed in the raceways must never be tie-wrapped to high-voltage conduits: a minimum separation of 1in. (25 mm) is required (if this procedure is not followed, there can be intermittent communication related issues).
3. Ensure that the drain wire is connected to Terminal #3 inside the Blue Genius™ control station, in addition to the black wire from the remote I/O Terminal #3.

NOTE: The drain wire is connected in the Blue Genius™ control station and cut off inside the remote I/O box.

4. Ensure that all wires in screw-down terminal connections are inserted and tightened in place. If stranded wire is used, ensure that no loose strands remain.
5. Wiring should be neatly performed: excessive and untidy arrangements can cause noise interference.
6. The configuration (viewed from left to right on the bottom of the Blue Genius™ control station) must be:
 - Power Feed
 - Motor Wiring
 - Exterior Traffic Lights
 - Control / Communication Cable
 DO NOT deviate from this order.
7. When drilling holes in the bottom of the Blue Genius™ control panel box, ensure that the outside edge of each hole is at least ½in. (13mm) from the power board.



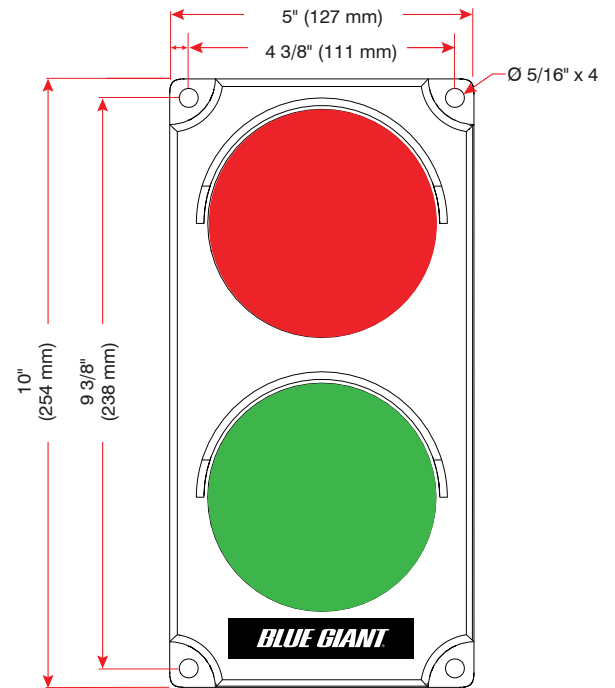
8. Run the communication cable from the remote I/O j-box, terminal 1, 2, 3 and 4 to the terminals 1, 2, 3 and 4 of the Blue Genius™ control strip making sure only the drain wire is connected to terminal 3 of the Blue Genius™ strip and is not connected inside the remote I/O box (cut drain wire at cable sheath and tape close). Keep this cable to the right hand side of the Blue Genius™ control panel and make sure there is no loops left inside the Blue Genius™ control panel.

9. Run the cable for the exterior traffic lights to terminals 12, 13 and 14 making sure the black (COM) wire is connected to terminal 14, terminal 12 for the red light and terminal 13 for the green light. See “17.0 WIRING DIAGRAMS” on page 40 for further information on wiring.
10. If any optional equipment is added (such as overhead door interlock), ensure that all 24VDC devices are entering the Blue Genius™ control panel on the right-hand side. To prevent noise interference, keep low voltage away from high voltage within the Blue Genius™ control panel. See “17.0 WIRING DIAGRAMS” on page 40 for further information on wiring.

13.0 EXTERIOR DRIVER TRAFFIC LIGHT INSTALLATION

This procedure describes the wall mounting of the exterior traffic light

1. Mount the exterior traffic light approximately 84in. - 96in. (2134 - 2438mm) above the driveway surface on the required side of the loading bay entrance and easily viewed in the driver's rear view side mirror.



2. Ensure that the traffic light is both square and level.
3. Add shims to the back if needed. Do not over-tighten the fasteners.
4. Drill the hole for the cable.
Ensure that the hole is thoroughly deburred (cleaned out) so that accidental damage does not occur when the cable is pulled through during and after installation.

NOTE: Mount to a flat surface. DO NOT deform light housing with irregular wall surface.

13.1 EXTERIOR DRIVER WARNING SIGN INSTALLATION

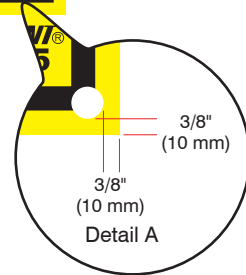
This procedure describes the mounting of the exterior warning sign for drivers.

NOTE: When fastening the sign to the wall, do not warp or twist the sign while tightening the anchors. (Use shim washer if needed.)
Do not over-tighten fastenings, as damage to the sign may occur.

1. Position the driver warning sign near or below the exterior traffic light and verify that the sign is easily viewed by drivers. As the sign comes without mounting holes, drill a minimum of four holes, no less than 3/8in. (10mm) (see detail), from the sign's edge. Ensure that the mounting holes exceed the width of the anchor device shaft for expansion reasons (i.e. for a 1/4in. anchor use a 5/16in. hole).
2. Verify that the sign is level, and centered beneath/near the traffic light.



Exterior driver warning sign, part # 038-225
(French 038-225F / Spanish 038-225S / Portuguese 038-225P)



13.2 EXTERIOR OPERATING INSTRUCTION PLACARD INSTALLATION

This procedure describes the mounting of the Exterior Operation Placard (part # 038-1139E/F) for outside dock workers or drivers.

NOTE: When fastening the sign to the wall, do not warp or twist the sign while tightening the anchors. (Use shim washer if needed.)
Do not over-tighten fastenings, as damage to the sign may occur.

1. Position the exterior operating instruction placard above the exterior chock cradle and verify that the sign is easily viewed by external dock workers and drivers.
As the sign comes without mounting holes, drill a minimum of four holes, no less than 3/8in. (10mm), from the sign's edge. Ensure that the mounting holes exceed the width of the anchor device shaft for expansion reasons (i.e. for a 1/4in. anchor use a 5/16in. hole).
2. Verify that the sign is level and centered beneath the traffic light.



13.3 INTERIOR OPERATING INSTRUCTION PLACARD INSTALLATION

This procedure describes the mounting of the interior operating instruction placard for outside dock workers or drivers.

NOTE: When fastening the sign to the wall, do not warp or twist the sign while tightening the anchors. (Use shim washer if needed.) Do not over-tighten fastenings, as damage to the sign may occur.

1. Position the exterior operating instruction placard near the Blue Genius Control Panel and verify that the sign is easily viewed by the inside dock operators.
As the sign comes without mounting holes, drill a minimum of four holes, no less than 3/8in. (10mm), from the sign's edge. Ensure that the mounting holes exceed the width of the anchor device shaft for expansion reasons (i.e. for a 1/4in. anchor use a 5/16in. hole).
2. Verify that the sign is level and visible near the Blue Genius Control Panel.

OPERATING INSTRUCTIONS

Only for the Blue Giant Interlock Chock™

A

PLACE WHEEL CHOCK
Standard and end loading follow the same procedure. Once the vehicle driver has placed the Interlock Chock, the Blue Genius Control Panel flashes AMBER.

1. Fully open the dock door.
While the door is opening, Blue Genius Control Panel will illuminate solid RED.
When the door is fully open, the Blue Genius Control Panel remains solid RED.

GOLD OR PLATINUM BG MENU DISPLAY SCREEN	READY TO RAISE DECK
---	---------------------

2. Deploy dock.
While dock deploying, Blue Genius Control Panel illuminates solid RED.
When dock fully deployed, Blue Genius Control Panel illuminates solid Green.

GOLD BG MENU DISPLAY SCREEN	DECK DEPLOYED
PLATINUM BG MENU DISPLAY SCREEN	LEVELER READY

3. Proceed with loading or unloading.

B

REMOVE WHEEL CHOCK

1. When loading or unloading is completed, restore dock to fully parked position.
When the dock leaves the deployed position and is parked, Blue Genius Control Panel illuminates solid RED.

GOLD BG MENU DISPLAY SCREEN	WHEEL CHOCK IS ENGAGED
PLATINUM BG MENU DISPLAY SCREEN	CHOCK ENGAGED LEVELER RESTORED

2. Close door completely.
Blue Genius Control Panel illuminates solid RED.

GOLD BG MENU DISPLAY SCREEN	READY TO RELEASE
PLATINUM BG MENU DISPLAY SCREEN	READY TO RELEASE WHEEL CHOCK

3. As driver restores chock, Blue Genius Control Panel illuminates solid RED.

GOLD BG MENU DISPLAY SCREEN	RESTORE WHEEL CHOCK
PLATINUM BG MENU DISPLAY SCREEN	READY TO RELEASE WHEEL CHOCK

4. Chock is back in cradle.
Blue Genius Control Panel remains solid RED.

GOLD OR PLATINUM BG MENU DISPLAY SCREEN	BLUE GENIUS READY
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BLUE GIANT www.bluegiant.com
038-1124E

14.0 PRE-COMMISSIONING INSPECTION CHECKLIST

Before using the Interlock Chock, complete the pre-commissioning inspection checklist.

 **DANGER**

- When repairing or conducting maintenance procedures on electrical components, perform lockout / tagout steps according to OSHA regulations and approved electrical codes.
- Prior to installation, place adequate barriers to prevent unauthorized personnel and vehicle traffic from entering the work area.

 **WARNING**

- All repairs and maintenance work are to be conducted by trained and authorized personnel **ONLY**.

INSPECTED BY: _____ **DATE:** _____
SERIAL #: _____ **DOOR #:** _____

Forward this checklist to the person responsible for dock equipment maintenance.

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

BEFORE POWERING ON THE UNIT:	AFTER POWERING ON THE UNIT
<input type="checkbox"/> Are the junction boxes properly wired and closed?	<input type="checkbox"/> If equipped, are the keyed lock and/or E-Stop on the push button controls in good working order
<input type="checkbox"/> Is the wiring diagram inside the control panel?	
<input type="checkbox"/> Is the control panel wiring positioned away from sources of physical damage?	
<input type="checkbox"/> Press each button on the control panel to ensure they return to home position and that there is no damage to the cord or body of the control panel	
<input type="checkbox"/> If unit equipped with lip(s), are they stored in the home position, secured by personnel restraint chains?	
<input type="checkbox"/> Are all safety decals in place?	
<input type="checkbox"/> Are the Owner's Manual and Operation Placard located near the control panel?	

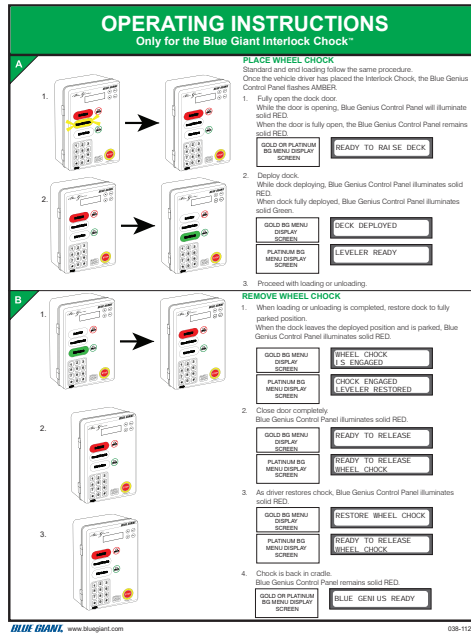
Explain faults briefly in the space provided below:

PHOTOCOPY THIS CHECKLIST AND FILL OUT REGULARLY FOR YOUR RECORDS.

14.1 COMMISSIONING AND START-UP PROCEDURES

This procedure describes the process to start the hardware for the first time.

1. Consult the Pre-Commissioning Inspection Checklist. See “14.0 PRE-COMMISSIONING INSPECTION CHECKLIST” on page 34 for inspection criteria.
2. Check that all electrical conduits, hoses, and cables are mechanically protected against damage and are adequately secured.
3. Return all wiring diagrams to the inside of the control box.
4. Verify that the Operation Placard (part # 038-1124E) is mounted next to the Blue Genius Control Panel. See “13.3 INTERIOR OPERATING INSTRUCTION PLACARD INSTALLATION” on page 33.



5. Verify that the Exterior Operation Placard (part # 038-1139E/F) under the external traffic lights. See “13.2 EXTERIOR OPERATING INSTRUCTION PLACARD INSTALLATION” on page 32.



6. Clean up the entire work area and apply touch-up paint to all welds, scratches and burns.
7. Verify that no debris or personnel are in the operating path of the Interlock Chock .
8. Check the Interlock Chock for proper and safe operation.
9. Test-operate the unit through several full cycles of operation. Refer to the Owner's Manual (038-1125E). If problems are noted, see "16.0 TROUBLESHOOTING" on page 39.
10. Store this Installation Manual in a secure place for easy access.

15.0 MAINTENANCE

Develop a planned or scheduled maintenance plan to keep the Interlock Chock in good operating order.

WARNING

- Do not attempt to install, make repairs, or adjustments. Only a trained and authorized service technician should perform the installation process, make repairs, or make adjustments. Contact your Blue Giant Dealer for assistance.
- Do not service this equipment until you have read and understood all of the safety information and instructions contained herein. Failure to adhere to recommended safety practices in this manual and on the Interlock Chock warning labels could result in death or serious injury.
- Do not conduct maintenance or repairs until adequate barriers have been placed to keep warehouse and vehicle traffic away from the work area.
- Before doing any electrical work, verify that the power is disconnected and properly tagged or locked out.

15.1 PLANNED MAINTENANCE PROGRAM (PMP)

In addition to the Daily Maintenance Procedures (DMP), the manufacturer recommends (and local government regulations may require) that a Planned Maintenance Program (PMP) and safety inspection program be performed by a trained and authorized service technician on a regular basis to ensure the equipment is in safe operating condition. The PMP will provide an opportunity to make a thorough inspection of the safety and operating condition of the Interlock Chock. Necessary adjustments and repairs can be done during the PMP, which will increase the life of components and reduce unscheduled downtime.

Recommended procedures for a periodic planned maintenance program that covers inspections, operational checks, cleaning, and minor adjustments are outlined in the Owner's Manual for this product. Contact your Blue Giant Dealer regarding for assistance with a planned maintenance program by offering trained service personnel with expertise in Interlock Chock maintenance requirements.

15.2 OPERATOR DAILY INSPECTION

The Interlock Chock shall always be examined by the operator **PRIOR TO ANY USE** to verify that it is safe to operate.

The manufacturer recommends scanning to storage or making multiple photocopies of the DMP Checklist. The operator should fill out this form to keep a daily record of operation and maintenance issues. See "15.6 DAILY MAINTENANCE PROCEDURES (DMP) CHECKLIST" on page 38.

15.3 ROUTINE SERVICING AND MAINTENANCE

Regular maintenance and care of the Interlock Chock is very important for operator safety, operation efficiency, and cost. A faulty Interlock Chock is a potential source of danger to the operator, and to other personnel working near it. As with all quality equipment, keep the Interlock Chock in good operating condition by following the recommended schedule of maintenance. Failure to properly maintain or operate the Interlock Chock can void the manufacturer warranty.

15.4 PLANNED MAINTENANCE PROGRAM INTERVALS

Arrange for a qualified Interlock Chock repair technician to perform regularly scheduled planned maintenance on your Interlock Chock every three months for single shift operations or monthly for multi-shift operations. please contact your Blue Giant Dealer for further details.

15.5 MAINTENANCE SEQUENCE

Follow this procedure for maintenance of the Interlock Chock .

1. Cleaning, including in pit area.
2. Visual inspection of all components.
3. Test operate all functions.
4. Adjustments, if required (by a trained service technician only).
5. If installed, check for missing or damaged dock bumpers.
6. Record inspection details and findings for owners' files.

15.6 DAILY MAINTENANCE PROCEDURES (DMP) CHECKLIST

Use checklist to aid the daily maintenance inspection. Photocopy or scan to storage then print from stored copy as needed.

⚠ DANGER

- When repairing or conducting maintenance procedures on electrical components, perform lockout / tagout steps according to OSHA regulations and approved electrical codes.
- Prior to inspection, place adequate barriers to reduce unauthorized personnel and vehicle traffic from entering the work area.

⚠ CAUTION

- All repairs and maintenance work are to be conducted by trained and authorized personnel ONLY.

INSPECTED BY: _____ **DATE:** _____

SERIAL #: _____ **DOOR #:** _____

Forward this checklist to the person responsible for Interlock Chock maintenance. See "Owner's Purchase Record" for Date in Service.

INSTRUCTIONS: Indicate "OK for USE" with a check mark ✓ in the appropriate box of each inspection point. Indicate "NOT OK for USE" with an x in the appropriate box of each inspection point.

EVERY DAY (MAY BE PERFORMED BY OWNER OR ATTENDANT):

- Remove any debris that may have accumulated around the Interlock Chock .
- Verify complication-free operation of the Interlock Chock , and the interior / exterior lights system (if installed).
- Verify that outside and inside signage is present and legible (if equipped).
- Remove any potential trip hazards from around the Interlock Chock .
- Verify that dock bumpers/risers/extensions are in working condition (if equipped).
- Check curb angles for irregularities (e.g. concrete cracks).
- Verify that the overhead door is functioning correctly (if equipped).
- Verify that instructional caution and danger labels are present and legible on the product. Replace if necessary.
- Verify that a second standard vehicle wheel chock is present and in working condition (if equipped).
- Verify complication free operation of the equipment through a complete cycle (refer to Operation Placard).
- _____
- _____

SCAN TO STORAGE OR PHOTOCOPY THIS CHECKLIST AND FILL OUT REGULARLY FOR YOUR RECORDS.

Explain faults briefly in the space provided below:

16.0 TROUBLESHOOTING

Use this section to help diagnose issues if the Interlock Chock is not operating as specified.

 **DANGER**

- Failure to properly secure the Interlock Chock deck prior to working underneath it may result in bodily injury, or death.

 **WARNING**

- Do not attempt to install, make repairs, or adjustments. Only a trained and authorized service technician should perform the installation process, make repairs, or make adjustments. Contact your Blue Giant Dealer for assistance.
- Do not service this equipment until you have read and understood all of the safety information and instructions contained herein. Failure to adhere to recommended safety practices in this manual and on the equipment warning labels could result in death or serious injury.
- Do not conduct maintenance or repairs until adequate barriers have been placed to keep warehouse and vehicle traffic away from the work area.
- Before doing any electrical work, verify that the power is disconnected and properly tagged or locked out, in accordance with OSHA regulations and approved electrical codes.

The following description of operating principles is intended as a guide when trouble shooting and making adjustments or repairs. If no fault can be found and equipment fails to operate properly, contact your Blue Giant Dealer.

PROBLEM	PROBLEM CAUSED
Wrong voltage	Check line voltage to nameplate voltage.
Motor connected to high voltage connection on lower voltage feed.	Check motor connection to nameplate.
Control fuse blown.	Replace.
Interlock devices issues.	Check all switches.
Shipping bolts not removed.	Remove and inspect unit.
Hydraulic hose pinched.	Check hose.
Wheel chock works but LED lights are not lit. LCD display is working.	Power source for lights is damaged. Replace control board.
Exterior traffic lights are dim, displaying incorrectly (wrong color) or malfunctioning (only one light works).	Check wiring to lights. Ensure that the red outside light is connected to terminal # 12 on the control strip label 1 to 14 and that the green light is connected to terminal #13 and the COM of the lights are connected to terminal #14. Lights COM wire is terminated in wng terminal (other than #14).

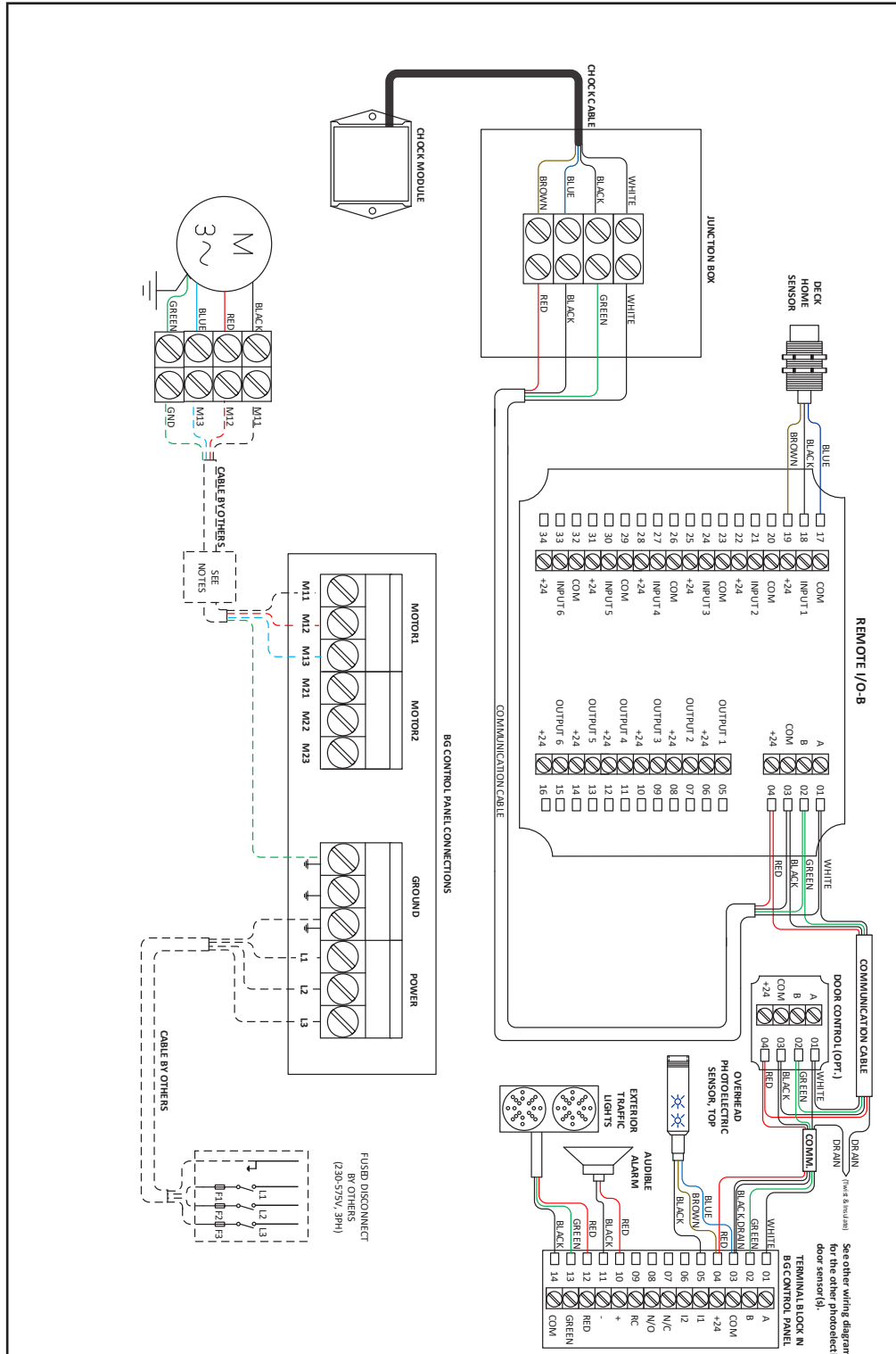
17.0 WIRING DIAGRAMS

NOTICE

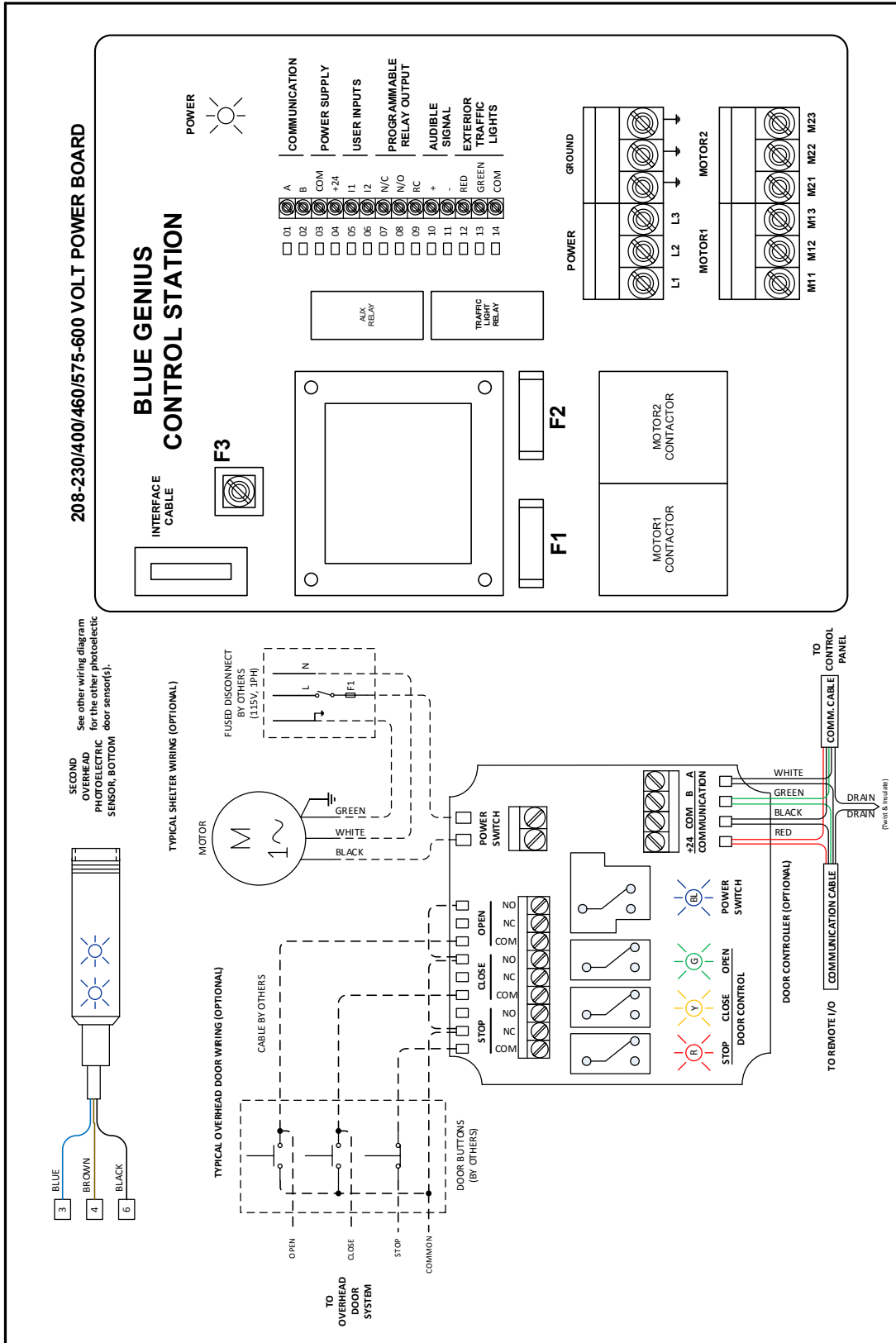
The following wiring diagrams are sample configurations only. Wiring diagrams specific to your needs will be provided inside the control panel and/or as part of your submittal package.

17.1 BLUE GENIUS GOLD

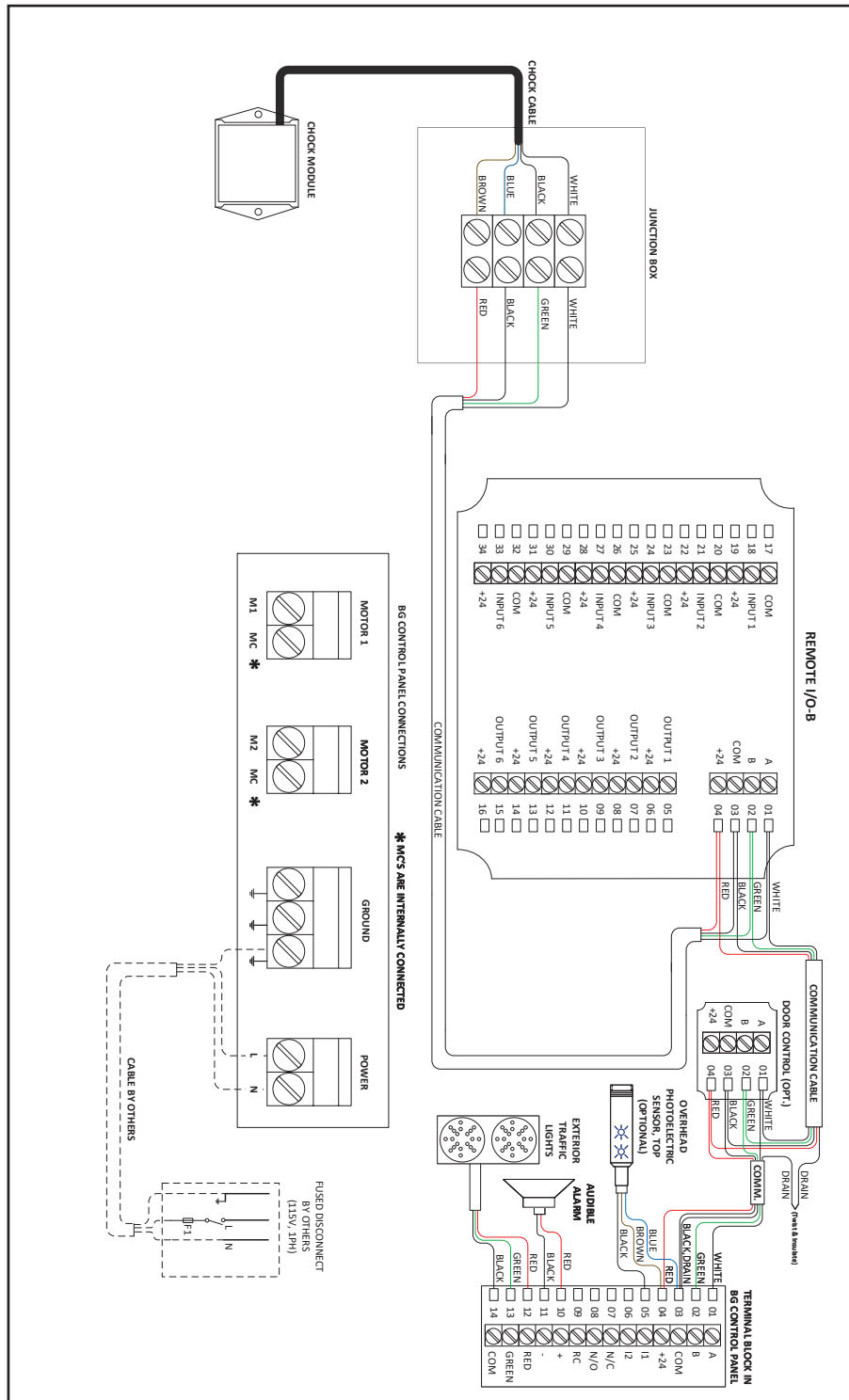
NOTE: Refer to both wiring diagrams for the two door sensor wiring arrangements.



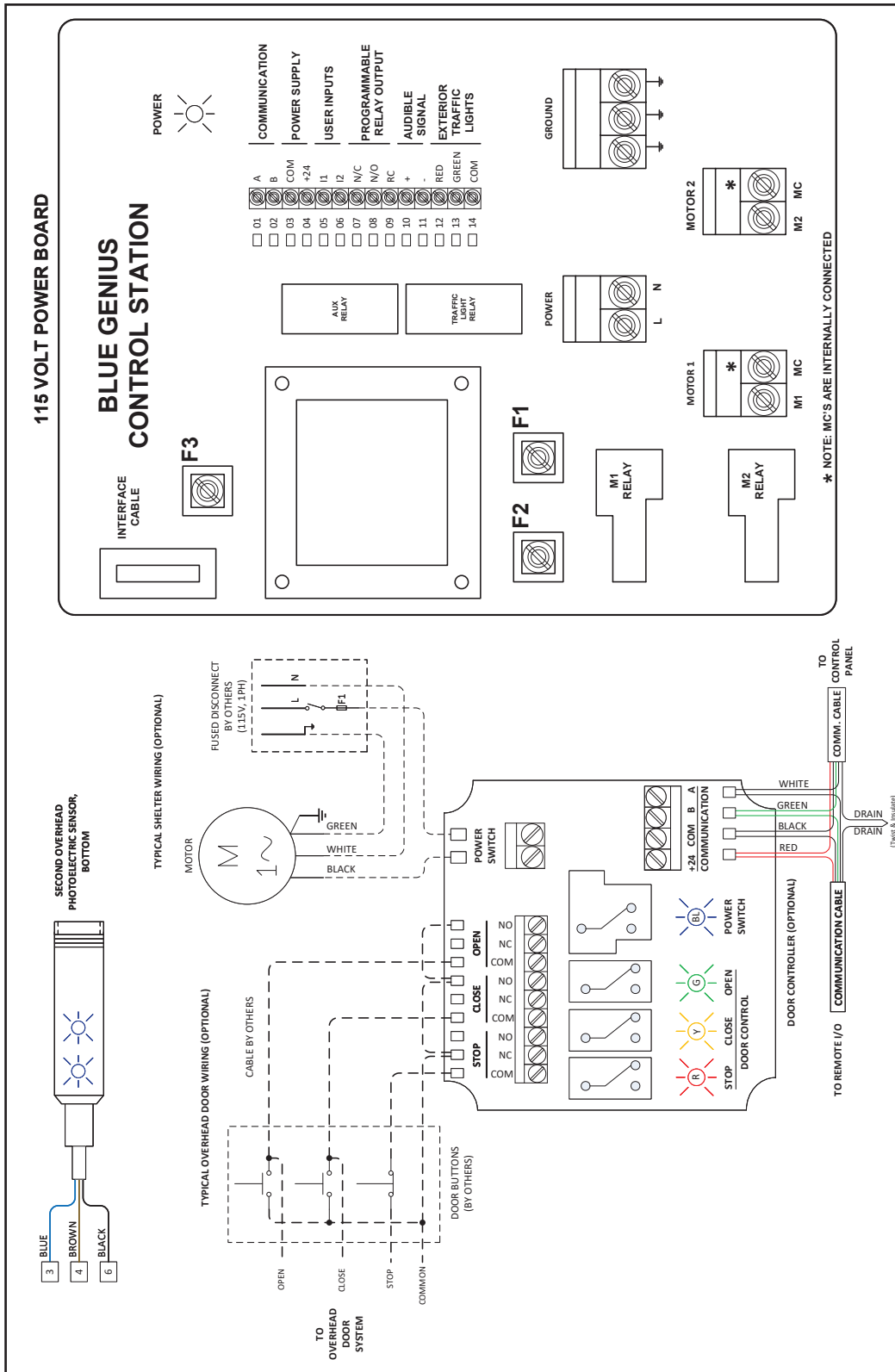
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