OWNER'S MANUAL

DOCK LEVELER HYDRAULIC CONVERSION KIT

UNIVERSAL

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 property damage, bodily injury or death.

BLUE GIANT®

EFFECTIVE FROM NOVEMBER 1, 2013

ISSUE DATE: FEBRUARY 13, 2014 REV.0 (PART # 038-703E)

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1.0 ABOUT THE DOCK LEVELER UNIVERSAL HYDRAULIC CONVERSION KIT

The Blue Giant Universal Hydraulic Conversion Kit transforms a mechanical dock leveler into a powerful and high-performance hydraulic system. Deck and lip operation is accomplished quickly and easily using a control station: no more chain-pulling or "walking" down the deck. A hydraulic velocity fuse replaces the mechanical safety legs, adding an extra layer of safety to cargo handling operations. The conversion kit's universal design can be retrofitted on all pit-style dock levelers for increased longevity, greater productivity and reduced maintenance requirements.

1.1 OWNER'S PURCHASE RECORD

OWNER'S PURCHASE RECORD Please record information for future inquiries and to validate warranty. (See Section 2.1 for warranty validation)	
Dealer:	**Date in Service:**
	Number of Units:
Model / **Make:**	**Door #:**
Model / **Make:**	**Door #:**
Model / **Make:**	**Door #:**
Model / **Make:**	**Door #:**
Model / **Make:**	**Door #:**
Model / **Make:**	**Door #:**
Model / **Make:**	**Door #:**
Model / **Make:**	**Door #:**
Model / **Make:**	**Door #:**

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.

2.0 INTRODUCTION

The following is a quick reference to important procedures that must be followed while using the Loading Dock Equipment. 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 Loading Dock. 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)

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

Also a member 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
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 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**.

For more information about Blue Giant Warranty Support, please contact your local Blue Giant Equipment dealer, representative or authorized partner near you. You may also visit www.BlueGiant.com or phone 1.905.457.3900.

DEALER INFORMATION
Name:
Contact:
Telephone:

* **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 the Loading Dock Equipment. 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 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 dock equipment 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.

2.4 OWNER'S RESPONSIBILITY

1. The owner should recognize the inherent danger of the interface between the dock and the freight carrier. The owner should, therefore, train and instruct operators in the safe use of the dock equipment and accessories in accordance with the manufacturer's recommendations.

2. The owner should thoroughly familiarize themselves with the following procedures and specifications, and request immediate replacement of all manufacturer-supplied documents that are missing, damaged, or otherwise illegible. Below is a list of Best Practices for dock equipment usage and maintenance.

    - Commissioning instructions
    - Operating instructions
    - Daily maintenance procedures checklist
    - Inspections procedures
    - Recommended spare parts lists

    Upon receipt of any newly purchased dock equipment, the owner shall verify the presence of owner's manuals, operating placards, and any other documentation necessary for training dock personnel how to use the equipment safely and effectively.

3. All Blue Giant dock equipment should undergo regularly scheduled planned maintenance. Maintenance requirements will vary according to usage frequency and application, so the owner shall consult with their authorized Blue Giant distributor for schedule recommendation. Written records of the performance of these procedures should be kept as per warranty requirements.

4. Dock equipment that is structurally damaged, experiencing performance irregularities, or has been potentially compromised shall be removed from service until a trained and authorized manufacturer's representative can conduct an inspection and perform any necessary repairs.

5. As with any piece of machinery, dock equipment requires routine maintenance, lubrication, and adjustments. Recommended procedures are itemized in the Planned Maintenance Program (PMP) checklist included in installation and technical manuals. It is recommended that for anything other than the basic maintenance procedures outlined in this manual, you contact your local Blue Giant representative.

6. The owner shall ensure that all name plates and safety labels are in place and legible, and that the appropriate manuals are provided to authorized users. Replacement name plates, safety labels, and manuals are available through the Blue Giant Aftermarket Department. See "Decal Identification and Location" section in this manual for more information.

7. The owner or a trained and authorized representative shall verify that all freight carrier brakes have been applied and a vehicle restraint and/or wheel chocks properly engaged before cross-docking procedures begin. For safety reasons trailers must be held securely in place to avoid accidental separation from the loading dock.

8. Unless specifically agreed to in writing by Blue Giant Equipment Corporation at the time of order (and prior to manufacture), all Blue Giant Dock equipment is sold as a complete offering and must not be altered or added to in any manner (which includes configuration and function) without written permission from an authorized manufacturer's representative. These changes shall also satisfy all safety recommendations of the original equipment manufacturer for the particular application of the dock equipment.

9. If, at the request of the owner, Blue Giant does not supply all or some of the dock equipment power unit and/or control panel components, the owner shall assume responsibility for any and all operational and safety issues associated with the resulting configuration.

3.0 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.

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.

NOTICE

Procedures marked important must be followed in order to prevent damage to machinery.

CAUTION

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

3.1 OPERATIONAL SAFETY WARNINGS

DANGER

1. Do not enter the pit area below the dock leveler.
2. BEFORE BEGINNING ANY SERVICE PROCEDURES:
   – Disconnect the power and follow all lockout / tagout procedures.
3. Never operate a broken or damaged dock leveler. Have repairs done immediately by a qualified service technician.
4. Always secure and center loads on the forklifts. Loose or unbalanced loads are dangerous.

WARNING

1. The upper hinge point is a hazardous pinch point. Do not use fingers or hands to remove foreign materials.
2. Post safety warnings and barricade working area at dock level and at ground level to prevent unauthorized use of the leveler during maintenance/service.
3. Never leave the dock leveler unattended in the raised position.
4. Always make sure that the lip is seated inside the night lock after putting the dock in the parked position.
5. Never leave loads sitting on the dock leveler.
6. Do not attempt to raise the dock leveler if someone is standing on it.
7. Do not use the dock leveler if the lip's full width is not fully supported by the vehicle load bed.
8. Do not operate the dock leveler beyond its rated capacity.
9. Do not drive or walk onto the truck until it is parked against the dock bumpers and the wheels are chocked, or the vehicle restraint has been fully engaged.
10. Never attempt to lift or hold the lip out by hand. Serious personal injury could occur.
11. Never remove the wheel chocks until loading/ unloading is finished and the truck driver has been given permission to depart.

NOTICE

1. Do not ground welding equipment to any electrical components.
2. Do not attach welder as ground to leveler platform when welding on base frame assembly. Attach welder ground to base frame assembly only.
3. Do not allow the drill to go too deeply when drilling holes in the control box. Damage to the control systems may occur.
4. Never use air to blow debris from control box. Use a vacuum to remove debris from control box.
5. Do not connect green ground lead into control box until all welding has been completed.
6. Always keep the work area clean and free of litter.
7. Always clean all side openings of dirt and debris.
8. Always clean all dirt and debris from the lip hinge.
9. Always clean up dry and liquid spills immediately after they occur.
10. Always maintain proper lighting in the work area.
11. If a procedure is not clearly defined in this manual, contact your authorized Service Representative.

CAUTION

1. Only trained personnel should operate or service this equipment.
2. Do not operate the dock equipment until the transport vehicle is parked against the dock bumpers.
3. Always park the dock equipment after use.
4. Conduct routine inspections and maintenance. Failure to do so could cause equipment damage and or personal injury.
5. Always call your authorized service representative or manufacturer immediately if a malfunction occurs.

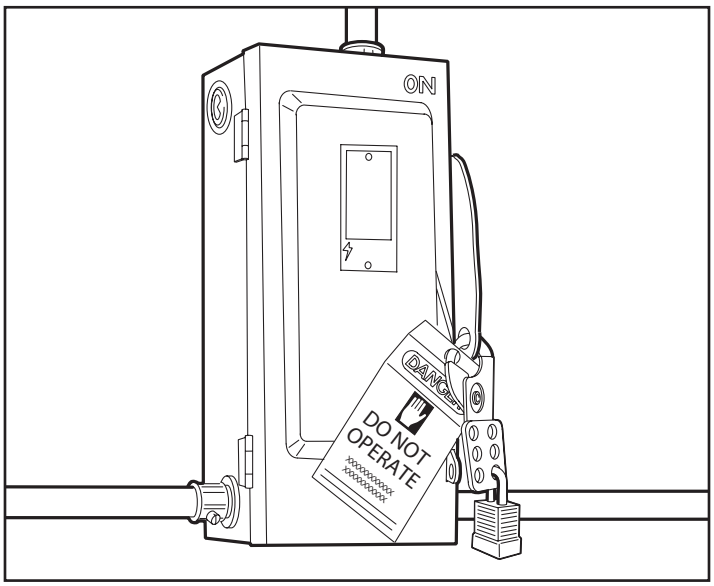
4.0 LOCKOUT / TAGOUT PROCEDURE AND RULES

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 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 not be susceptible to deterioration or illegibility due to weather conditions or exposure to chemicals and 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.



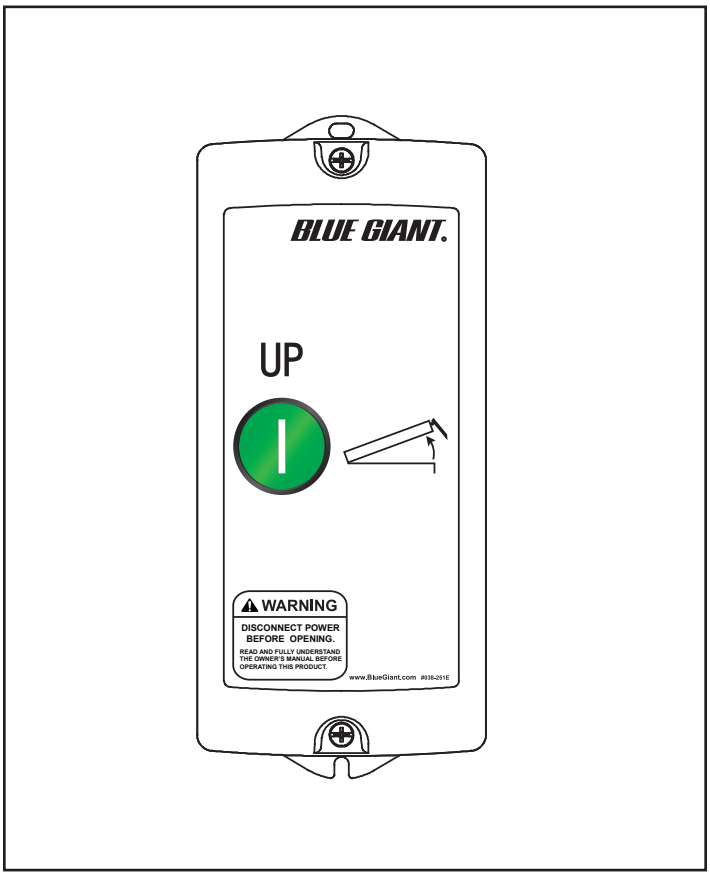
Approved way to lockout / tagout.

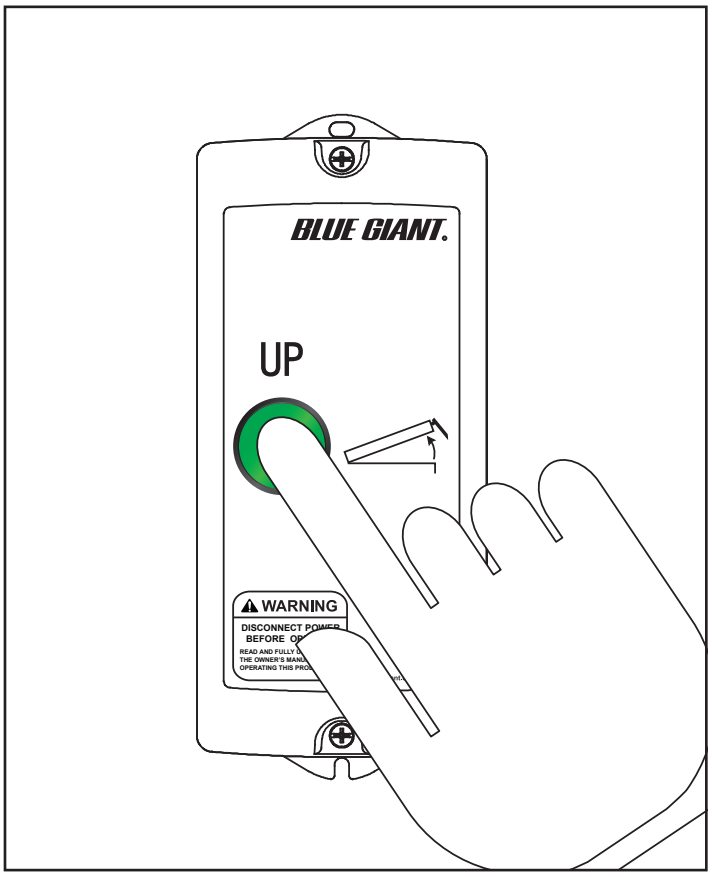
5.0 CONTROL STATION OPERATION

INDEPENDENT TYPE CONTROL STATION
Controls one individual dock leveler only, equipped with a constant-pressure 'UP' button.

5.1 BUTTON FUNCTION

'UP' button activates the dock leveler when pressed and held.





Note: Contactors come standard with control box.

CAUTION

For safety reasons, the operator's view of the moving dock leveler must not be obstructed at any time.

Potential obstructions include but are not limited to the dock wall, curtains, and stacked cargo. Ensure that the operator's field of vision is clear throughout the dock leveler operating cycle.

6.0 MAINTENANCE STAND SET-UP

DANGER

Never work in the path of the dock leveler platform without engaging the maintenance stand. If the device cannot be engaged successfully, contact your authorized service representative or the manufacturer.

WARNING

Post safety warnings and barricade work area at dock level and at ground level to prevent unauthorized use of the dock leveler during maintenance/service.

Most Dock Levelers are equipped with a maintenance strut during manufacture, to assist a service technician in the

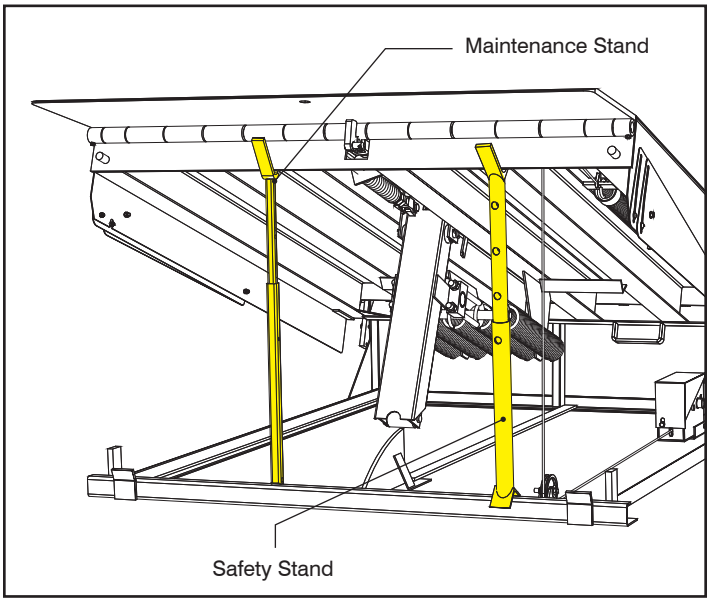
WARNING

Do not attempt to apply the maintenance stand until the deck and lip are both fully deployed.

CAUTION

Use of a secondary safety stand (Blue Giant Part # 796-710) in conjunction with the maintenance stand is strongly recommended.

Most Dock Levelers are equipped with a maintenance strut during manufacture, to assist a service technician in the placing of a safety stand under the dock leveler deck. If the unit being converted to hydraulic operation has a damaged or missing maintenance strut or has never had one, consider installing one as a part of the hydraulic conversion. For details of a Maintenance Strut Kit that is available from Blue Giant as part number 200-5001.



Engaged Maintenance Stand (part # 200-5001) and Safety Stand (part # 796-710).

7.0 MAINTENANCE

WARNING

Do not operate and/or service this dock leveler until you have read and understood all of the safety information and instructions contained herein and on the dock leveler.

Do not work under or around dock leveler without first placing adequate barriers to positively prevent vehicle traffic from entering the work area.

Follow proper lock-out/tag-out procedures.

Keep hands and feet clear of dock leveler pinch points and wear appropriate safety attire - glasses, gloves and work boots.

The maintenance strut must be in place before commencing maintenance procedures.

7.1 PLANNED MAINTENANCE

In addition to the daily operator inspection, the manufacturer recommends (and local government regulations may require) that a planned maintenance (PM) and safety inspection program be performed by a trained and authorized service technician on a regular basis to maintain the equipment is in safe operating condition. The PM will provide an opportunity to make a thorough inspection of the safety and operating condition of the dock leveler. Necessary adjustments and repairs can be done during the PM, 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, lubrication, and minor adjustments are outlined in this manual. An authorized dealer or distributor is prepared to assist with a planned maintenance program by offering trained service personnel with expertise in dock leveler maintenance requirements.

7.2 OPERATOR DAILY INSPECTION

The dock leveler should always be examined by the operator prior to any use to verify that it is safe to operate.

The manufacturer recommends making multiple photocopies of the Operator's Daily Checklist. The operator should fill out this form to keep a daily record of operation and maintenance issues.

7.3 ROUTINE SERVICING AND MAINTENANCE

Regular maintenance and care of the dock leveler is very important for cost and operation efficiency and more importantly; operator safety. A faulty dock leveler is a potential source of danger to the operator, and to other personnel working near it. As with all quality equipment, keep the dock leveler in good operating condition by following the recommended schedule of maintenance.

Failure to properly maintain or operate the dock leveler within its rated capacity can void the manufacturer warranty.

7.4 PLANNED MAINTENANCE INTERVALS

Arrange for a qualified dock leveler repair technician to perform regularly scheduled planned maintenance on your dock leveler every 3 months for single shift operations or monthly for multi-shift operations. Call your authorized manufacturer/ dealer for further details.

7.6 MAINTENANCE SEQUENCE

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

8.0 PLANNED MAINTENANCE (PM) CHECK LIST – HYDRAULIC DOCK LEVELER

INSTRUCTIONS FOR USE: Photocopy this page and indicate "OK for USE" with a check mark ✔ in the appropriate box of each point.

EVERY DAY:

- ☐ Clean deck and lip hinges
- ☐ Clean debris
- ☐ Check equipment's full operating cycle for irregularities
- ☐ Check control station for damage or operational irregularities
- ☐ Check dock bumpers for damage or instability
- ☐ Check warning labels (caution, danger) for legibility and replace if required
- ☐ Check operations placard for legibility and replace if required

EVERY 30 DAYS:

- ☐ Check wiring for loose connection or damage
- ☐ Clean pit
- ☐ Check dock leveler welds for erosion or damage
- ☐ Check clevis pins for erosion or damage
- ☐ Check maintenance strut to confirm that it is in good working order
- ☐ Clean deck cylinder and check for damage
- ☐ Check serial plate for legibility or damage and replace if required
- ☐ Check (optional) solenoid control station for proper operation
- ☐ Check deck cylinder and adjust if necessary
- ☐ Check lip cylinder and adjust if necessary
- ☐ Check lip sensor (optional) for proper operation and adjust if necessary
- ☐ Lubricate deck hinge
- ☐ Lubricate lip hinge

EXPLAIN FAULTS BRIEFLY IN THE SPACE PROVIDED BELOW:

_____

_____

_____

INSPECTED BY: _____ DATE: _____

DANGER

When repairing or conducting maintenance procedures on electrical components, perform lockout / tagout steps according to OSHA regulations and approved electrical codes.

DANGER

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.

9.0 OPERATING INSTRUCTIONS

⚠ WARNING

Do not operate this leveler 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 dock leveler beyond its rated capacity.

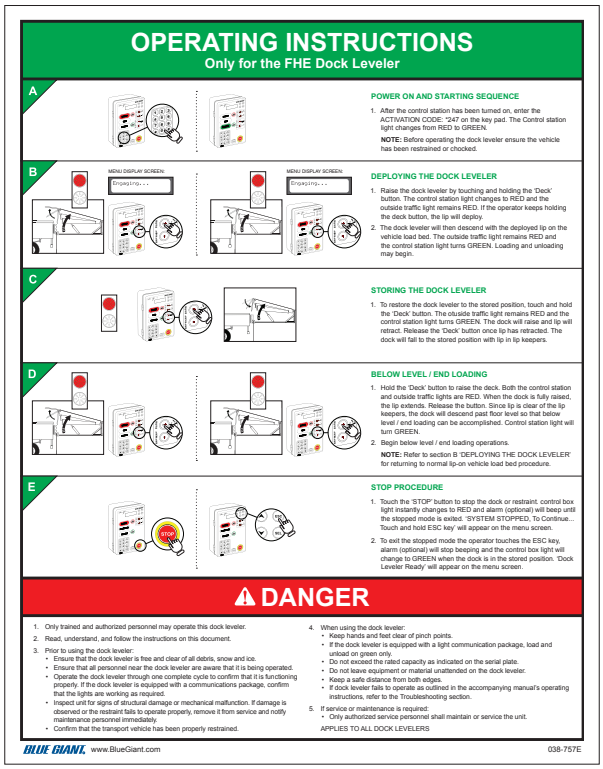
Do not operate this leveler until you have checked its condition. Report the need for repairs to your supervisor immediately and do not operate the unit until repairs are made. Neglect may cause a minor repair to become a major service problem and cause the leveler to become unsafe.

Never try to lift or move any part of the dock leveler manually.

Do not drive on the leveler unless the lip is securely on the truck bed and has a minimum of 4" (102mm) overlap on its surface.

Do not exceed 4 mph when driving over the dock leveler.

Do not drive over edges of the leveler and / or dock bumper blocks (bumpers blocks are not structural).



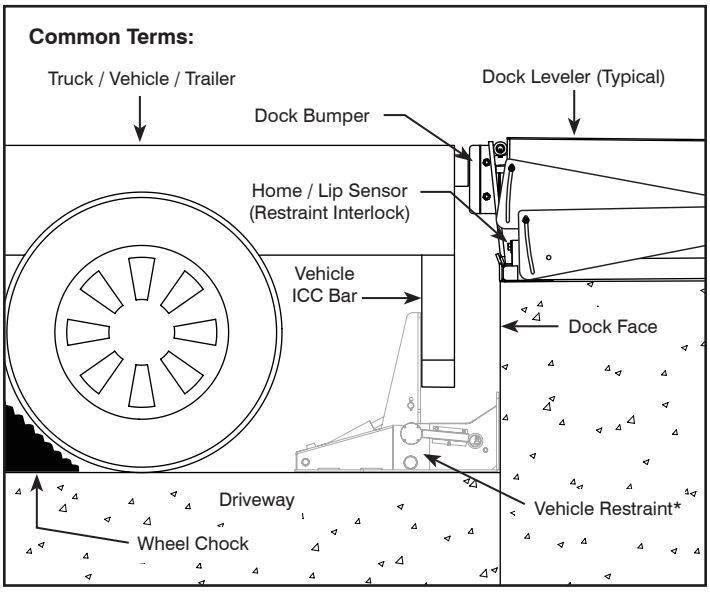
Dock leveler operation placard—part # 038-757E.

9.1 FUNCTIONAL DESCRIPTION

The hydraulic dock leveler serves as a bridge between a loading dock floor and a truck bed. The leveler's upper deck plate, complete with a hinged, vertically hanging lip, is in a shallow pit at the edge of the dock, flush with the dock's edge and the floor surface.

After the door has been opened, the rear of a transport vehicle is parked and restrained in place against the outer wall of the loading dock, in working alignment with the dock leveler. To activate the dock leveler, press the 'UP' button on the control station. The deck and lip will raise, with the lip's leading edge swinging out horizontally once the deck has reached the fully raised position.

After the lip extends, release the push button. The deck and lip will lower onto the truck bed, creating a solid bridge for loading and unloading. Once all work is completed, return the leveler to its original stored position.



* For Reference

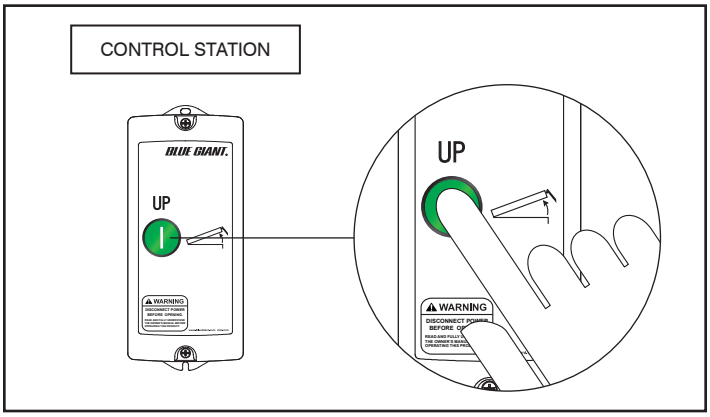
STANDARD OPERATION PROCEDURES

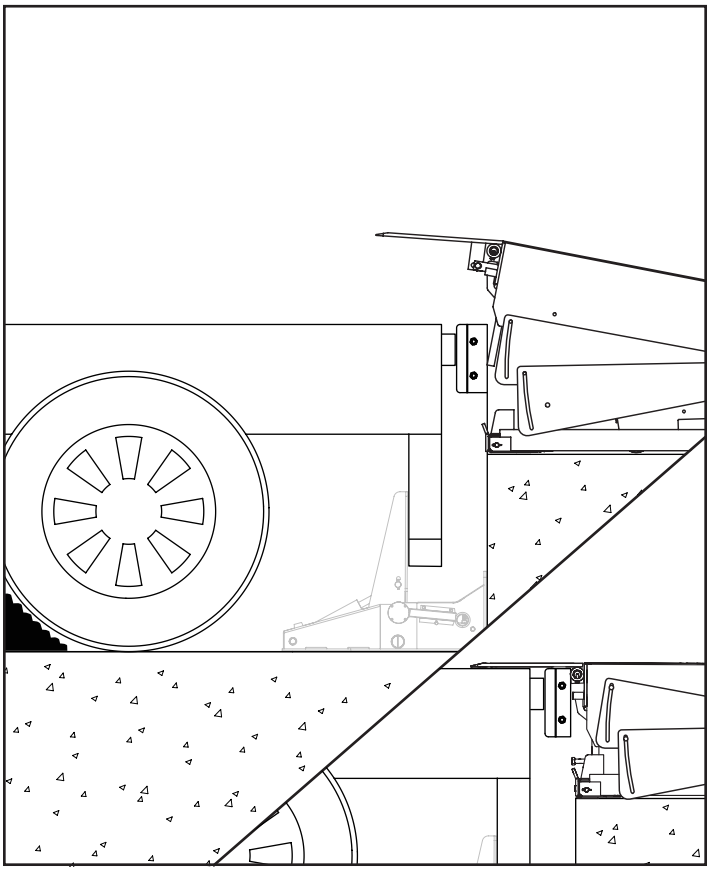
9.2 DEPLOYING THE DOCK LEVELER

1. Raise the dock leveler by pushing the 'UP' button. If the button is still being pressed while the dock is in its fully raised position, the lip will then deploy.

2. The dock leveler will then descend with the deployed lip on the vehicle load bed. When the dock has fully deployed on the load bed, loading and unloading may commence.

3. After ensuring that there is a minimum overlap of 4" (102mm) between the dock leveler lip and the truck bed, begin loading or unloading.



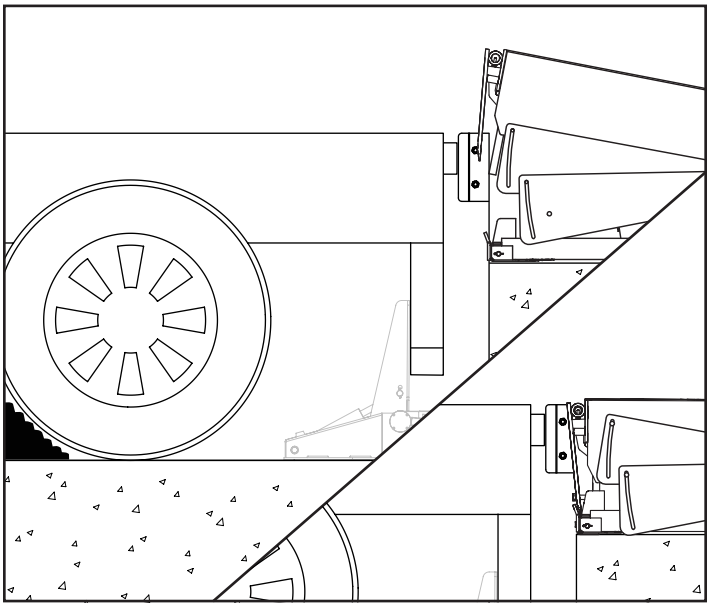


9.3 STORING THE DOCK LEVELER

1. To store the dock leveler, press the 'UP' button. The dock will raise and the lip will retract.

2. When the lip has fully retracted, release the button. The dock will resume the stored position with the lip in the night lock.

3. Disengage the vehicle restraint (if applicable) and / or remove the wheel chocks, allowing the truck to depart.



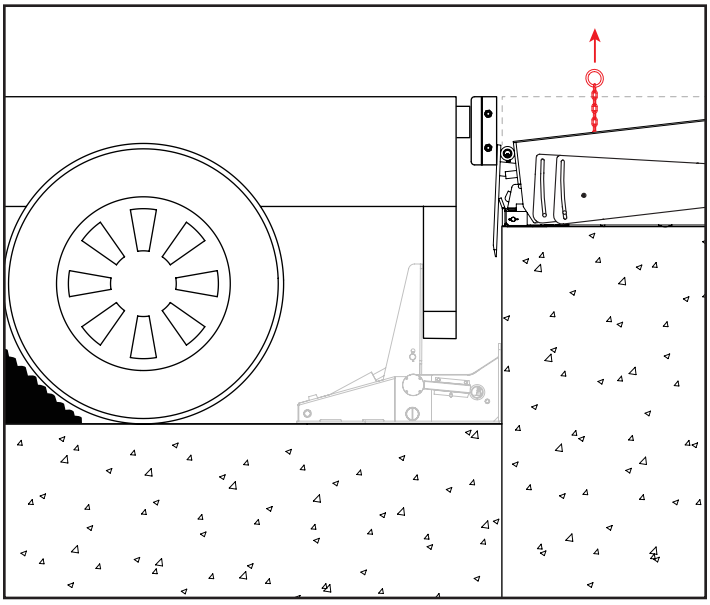
9.4 BELOW LEVEL / END LOADING

1. After the truck has been chocked and / or restrained in place, hold the control station's 'UP' button until the lip clears the night lock by about 6-10 inches.

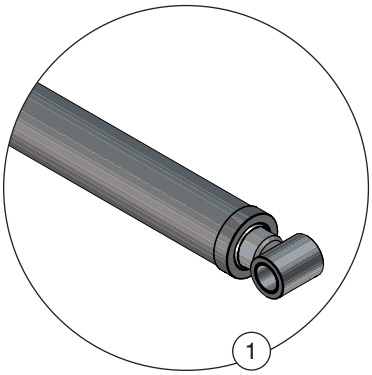
2. Then release. While the deck is lowering, pull the fall-safe disengaging chain on the deck to partially extend the lip and to lower to the below level position, with the lip hanging between the dock face and the truck bed.

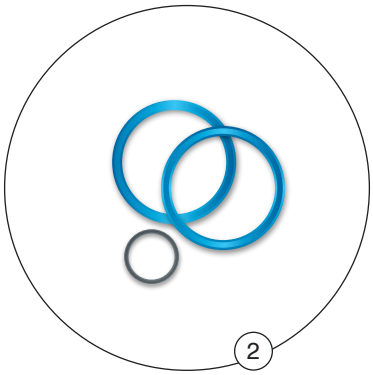
3. When below level / end loading is complete, resume normal leveler operation by pressing and holding the 'UP' button until the deck is raised and the lip is fully extended.

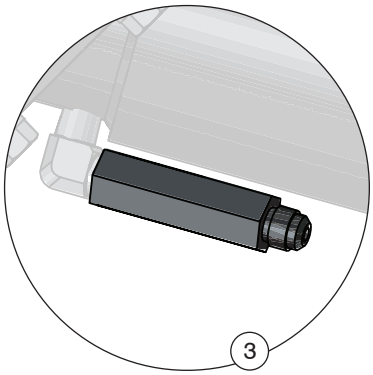
   Release the button and allow the deck to lower onto the truck bed. If end loading was the last operation, press and hold the 'UP' button until the lip clears the night lock and then release. The deck will fall back into the stored position.

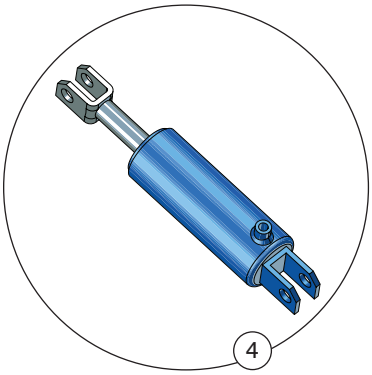


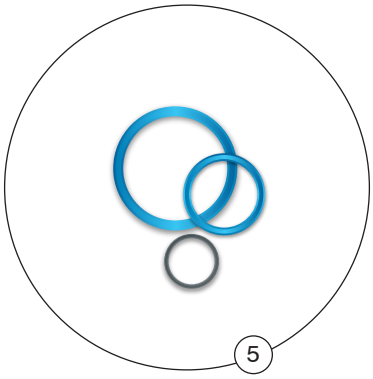
10.0 RECOMMENDED SPARE PARTS

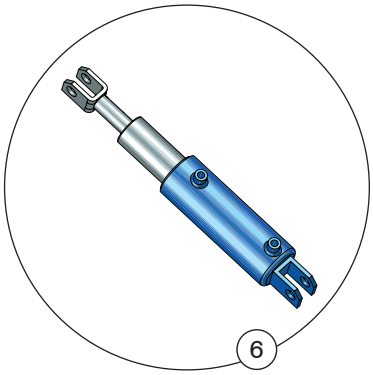


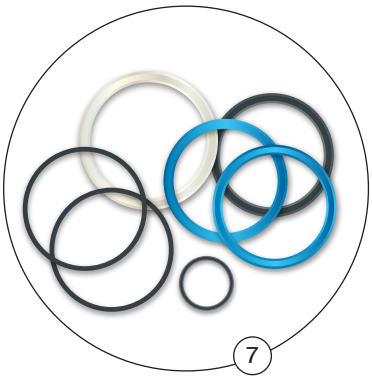












RSP FOR HYDRAULIC DOCK LEVELER

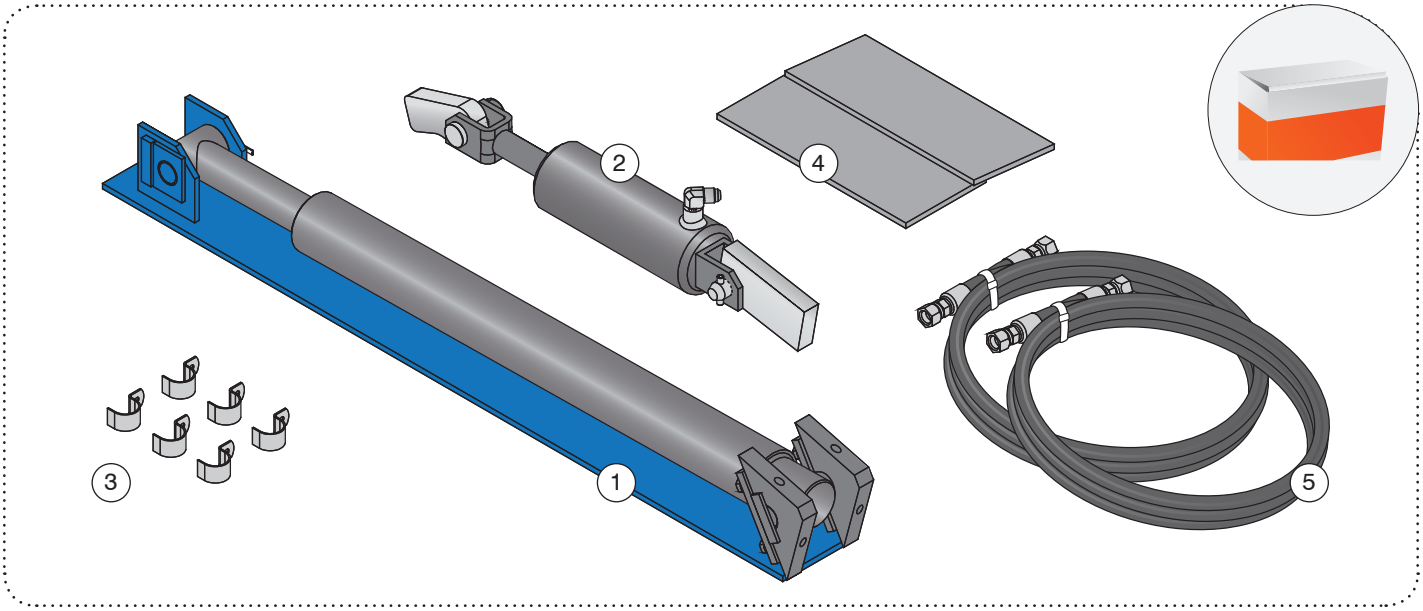
ITEM NO.	DOCK SIZE	PART NO.	DESCRIPTION	QTY REQ'D
1	6' and 8'	788-635-1	2" Diameter Cylinder Assembly, Deck	1
	10' and 12'	788-655		
2	6' and 8'	036-205	Seal Kit	1
	10' and 12'	788-655-2	Seal Kit	
3	All	033-661	Velocity Fuse	1
4	All	788-599-1	Cylinder Assembly, Lip	1
5		036-204	Seal Kit	1

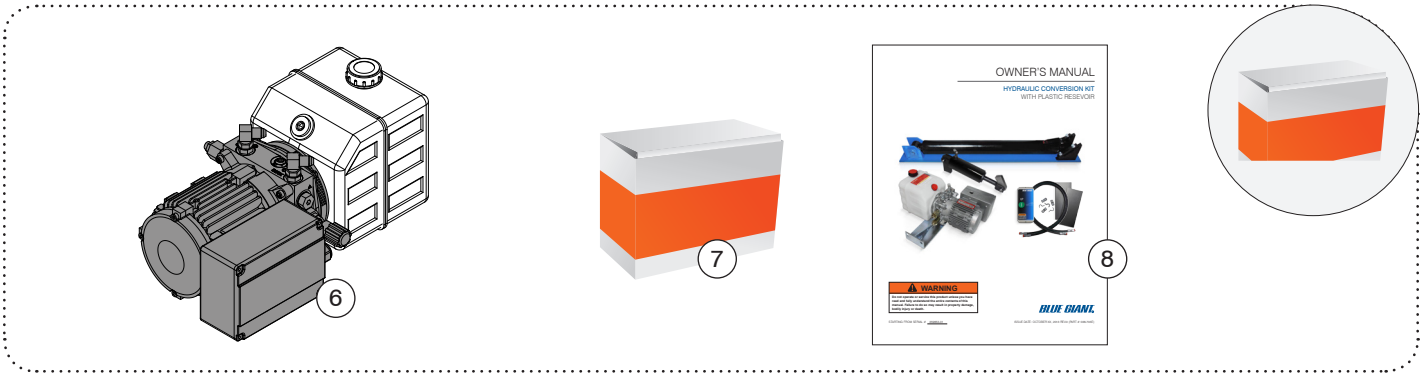
RSP FOR HYDRAULIC DOCK LEVELER

ITEM NO.	DOCK SIZE	PART NO.	DESCRIPTION	QTY REQ'D
6	All	211-7002	Cylinder Assembly, Double Acting	1
7	All	211-7002-1	Seal Kit	1

11.0 EQUIPMENT COMPONENT ILLUSTRATIONS

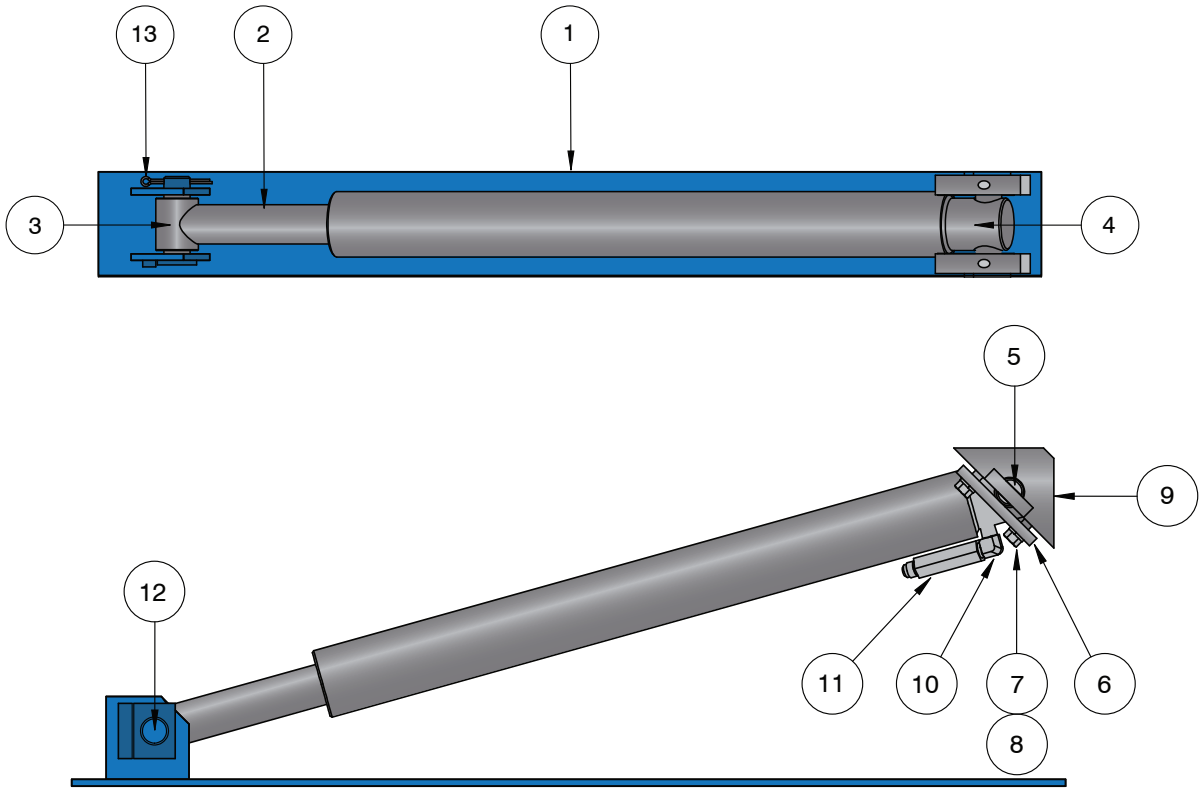
11.1 COMPONENTS AS SHIPPED CHECK LIST





✓	ITEM	QTY	PART #		DESCRIPTION	APPROX. WEIGHT	
	1	1	21-011819		Deck Cylinder		
	2	1	709-5001		Lip Cylinder		
	3	6	035-205		Clamps		
	4	2	109-917		Support Plates		
	5	2	788-332-37		Deck and Lip Hose		
	6	1	—		Powerpack		
	7	1	027-006-L	F	Control Assembly SP1 110–130V Single Phase	1 lb	0.45 kg
				S			
			027-007-L	F	Control Assembly SP1 208–240V Single Phase	1 lb	0.45 kg
				S			
	8	1	038-703E		Owner's Manual	—	—

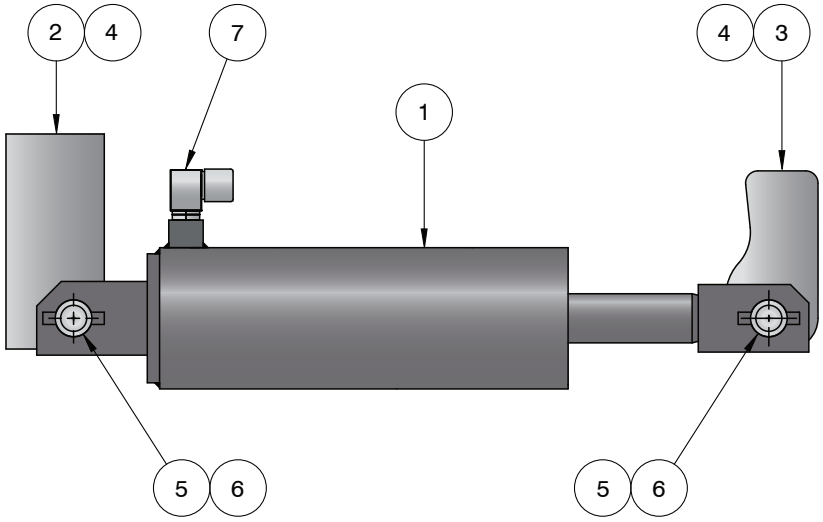
11.2 CYLINDER AND BRACKET ASSEMBLY



CYLINDER AND BRACKET ASSEMBLY DRAWING			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	21-011812	Bracket Assembly
2	1	788-635-1	2" Cylinder Assembly (for 6' & 8' Long Dock Levelers)
		788-655	2.5" Cylinder Assembly (for 10' & 12' Long Dock Levelers)
3	1	018-018	Bushing 1" x 1 1/8" x 1 1/2"
4	2	018-017	Bushing 1" x 1 1/8" x 1"
5	1	113-202	Cylinder Pin 1" x 3 5/8"

CYLINDER AND BRACKET ASSEMBLY DRAWING			
ITEM	QTY.	PART NO.	DESCRIPTION
6	2	113-096	Pivot Block Top Plate
7	4	010-039	3/8-16 x 1" HHCS
8	4	012-201	3/8" Lock Washer
9	2	21-009365	Cylinder Pivot Block
10	1	034-515	Elbowed Fitting 4 MP - 4 MP - 90
11	1	033-661	Velocity Fuse 5 GPM
12	1	21-011828	Pivot Pin 1" x 3 3/16"
13	1	013-026	Cotter Pin 3/16" x 2 1/4"

11.3 LIP CYLINDER ASSEMBLY

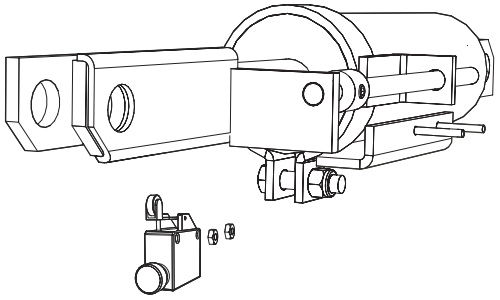


LIP CYLINDER ASSEMBLY			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	788-599-1	Lip Cylinder
2	1	109-918	Rear Lug
3	1	109-074	Lip Lug
4	2	018-001	Bushing 3/4" x 3/4" x 7/8"

LIP CYLINDER ASSEMBLY			
ITEM	QTY.	PART NO.	DESCRIPTION
5	2	107-196	Clevis Pin 3/4" x 2/8"
6	2	013-010	Spring Pin 1/4" x 1 - 1/4"
7	1	034-601	Elbow Fitting 6MJIC - 4MP - 90

11.4 OPTIONAL LIP CYLINDER ASSEMBLY – AUTO RETURN

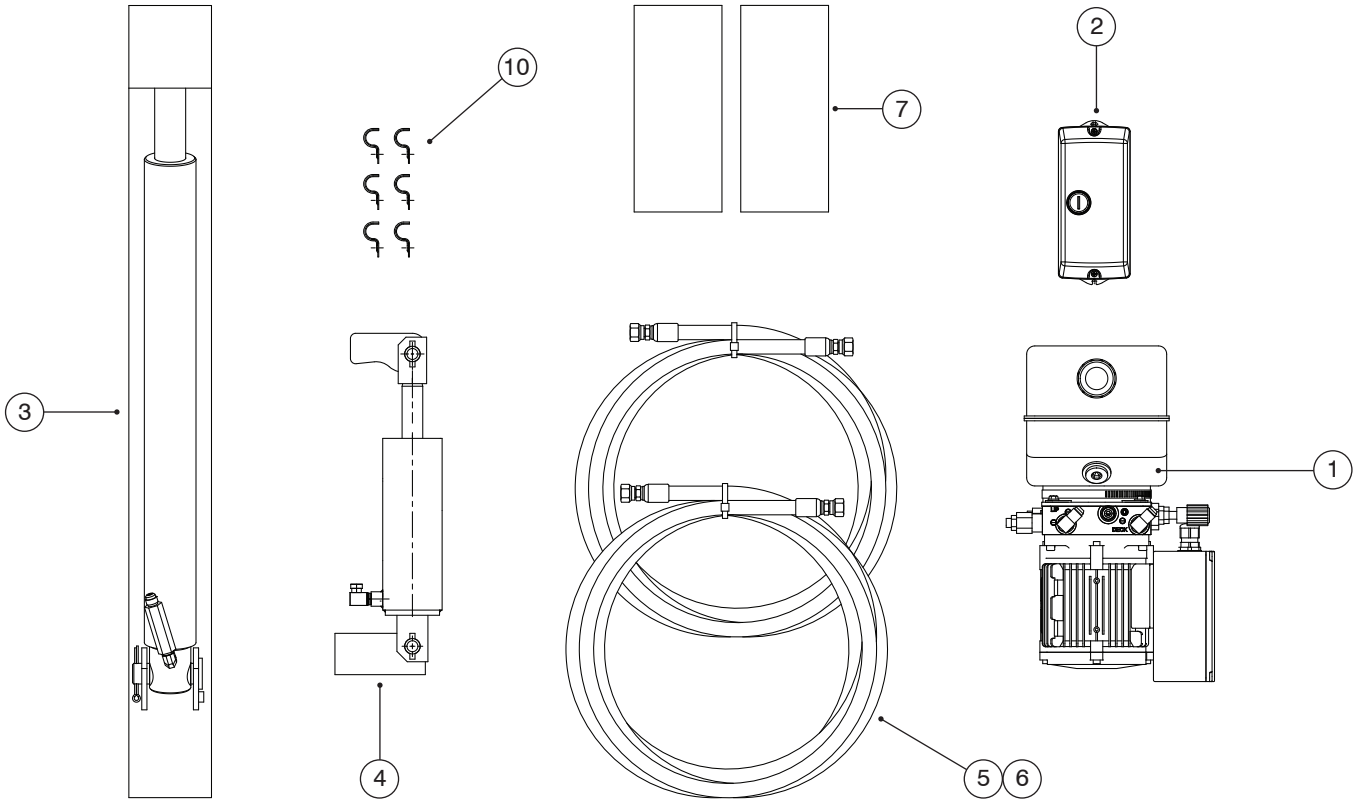
OPTIONAL LIP CYLINDER ASSEMBLY – AUTO-RETURN			
ITEM	QTY.	PART NO.	DESCRIPTION
A	–	213-5027	Lip Cylinder Assembly - Auto Return (16" & 18" Lip)
B	–	213-5027-1	Lip Cylinder Assembly - Auto Return (20" Lip)
A	1	788-599-1	Lip Cylinder Single Acting
B	1	211-7002	Lip Cylinder Double Acting
2	1	788-345	Rod Assembly Bracket
3	1	788-346	Cylinder Bracket
4	1	113-300	Slide Switch Activator Auto Return
5	2	011-515	Nut, Hex #8 - 32 Machine Screw
6	1	010-040	Capscrew, Hex Hd. 3/8 - 16 x 1 - 1/2"
7	1	011-552	Nut, Hex 3/8 - 16 Nylon Insert
8	1	014-001	Setscrew, Socket Hd Cp 1/4 - 20 x 1/4"
9	1	025-601	Switch, Micro - Auto Return



11.5 MECHANICAL ASSEMBLY

FULLY HYDRAULIC CONVERSION KIT DRAWING			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	See Chart 1	1 HP Power Pack
2	1	See Chart 1	Motor Starter
3	1	21-011819	Cylinder & Bracket Assembly
4	1	709-5001	Lip Cylinder Assembly (6' & 8' Long Dock)
		709-5000-1	Lip Cylinder Assembly (10' & 12' Long Dock)
5	1	788-332-37	Hose, #6 High Pressure to Lip Cyl. (102" Long) (6' & 8' Long Dock Self-Contained PP)
		788-621	Hose, #6 High Pressure to Lip Cyl. (84" Long) (10' & 12' Long Dock Self-Contained PP)
		788-332-2	Hose, #6 High Pressure to Lip Cyl. (318" Long) (6' & 8' Long Dock Remote PP)
		788-332-6	Hose, #6 High Pressure to Lip Cyl. (366" Long) (10' & 12' Long Dock Remote PP)

FULLY HYDRAULIC CONVERSION KIT DRAWING			
ITEM	QTY.	PART NO.	DESCRIPTION
6	1	788-332-37	Hose, #6 High Pressure to Deck Cyl. (64" Long) (6' & 8' Long Dock Self-Contained Power Pack)
		788-621	Hose, #6 High Pressure to Deck Cyl. (132" Long) (10' & 12' Long Dock Self-Contained Power Pack)
		788-332-1	Hose, #6 High Pressure to Deck Cyl. (300" Long) (6' & 8' Long Dock Remote Power Pack)
		788-332-5	Hose, #6 High Pressure to Deck Cyl. (348" Long) (10' & 12' Long Dock Remote Power Pack)
7	2	109-917	Flat Plate
8	2	103-601	Plate Arm
9	6	035-221	1/2" EMT Hole Strap
10	6	035-205	Clamp



11.5 MECHANICAL ASSEMBLY

PARTS LAYOUT DIAGRAM & PARTS LIST

Complete Hydraulic Conversion Kits for 6' and 8' Long Dock Levelers up to 50,000 lbs. Capacity
Complete Kit Includes : 1 HP Power Pack, Motor Starter, Deck and Lip Cylinder, Hoses and Hardware

PART NO.	DESCRIPTION
709-5016	115/1/60 Hz Power Pack & Motor Starter (#033-403-1K & 027-006-L) Deck & Lip Cylinder, Hoses & Hardware
709-5016-1	208/1/60 Hz Power Pack & Motor Starter (#033-403-1K & 027-007-L) Deck & Lip Cylinder, Hoses & Hardware
709-5016-1	230/1/60 Hz Power Pack & Motor Starter (#033-403-1K & 027-007-L) Deck & Lip Cylinder, Hoses & Hardware
709-5016-2	208/3/60 Hz Power Pack & Motor Starter (#033-404-1K & 027-008-L) Deck & Lip Cylinder, Hoses & Hardware
709-5016-2	230/3/60 Hz Power Pack & Motor Starter (#033-404-1K & 027-008-L) Deck & Lip Cylinder, Hoses & Hardware
709-5016-3	460/3/60 Hz Power Pack & Motor Starter (#033-404-1K & 027-005-L) Deck & Lip Cylinder, Hoses & Hardware
709-5016-4	575/3/60 Hz Power Pack & Motor Starter (#033-405-1K & 027-009-L) Deck & Lip Cylinder, Hoses & Hardware

Coversion Kit for Self-Contained Power Pack Common Components

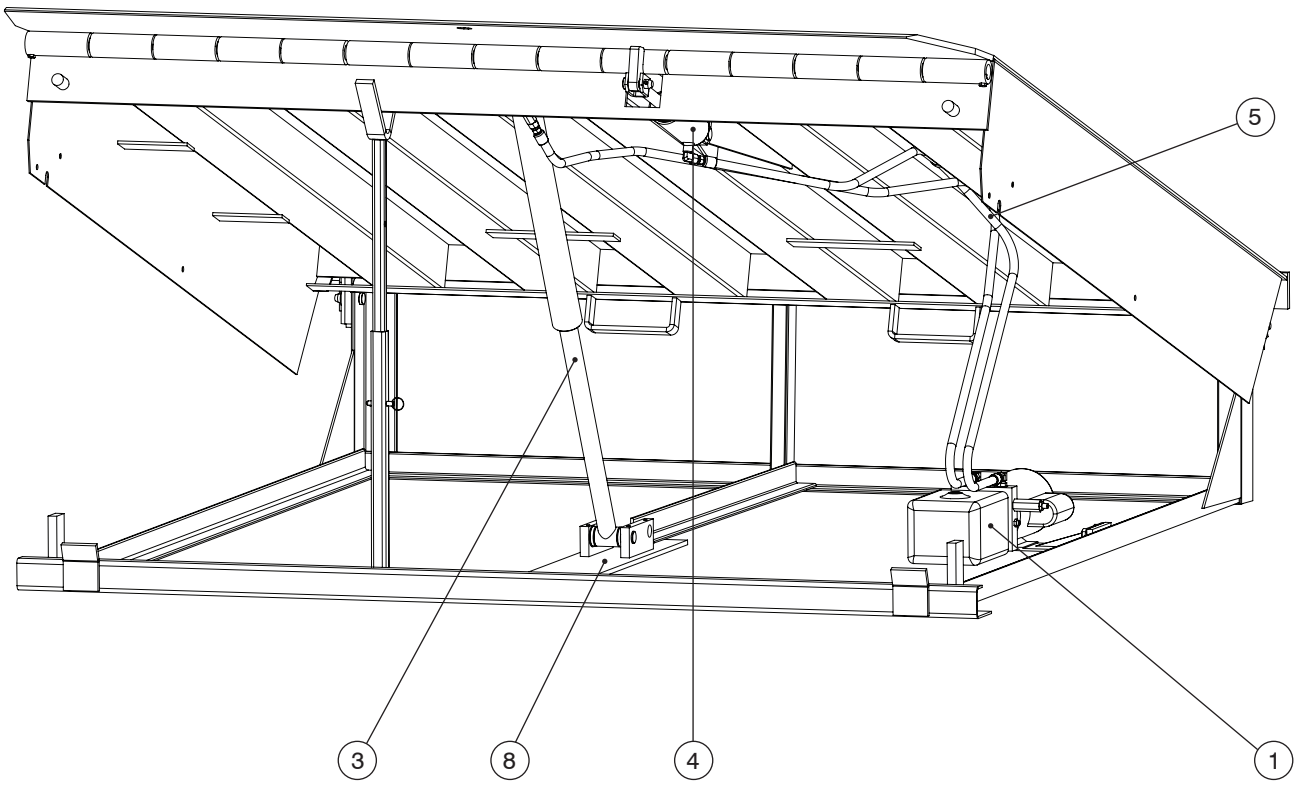
PART NO.	DESCRIPTION
709-5013	6' & 8' Long Docks Common Components
709-5013-1	10' & 12' Long Docks Common Components

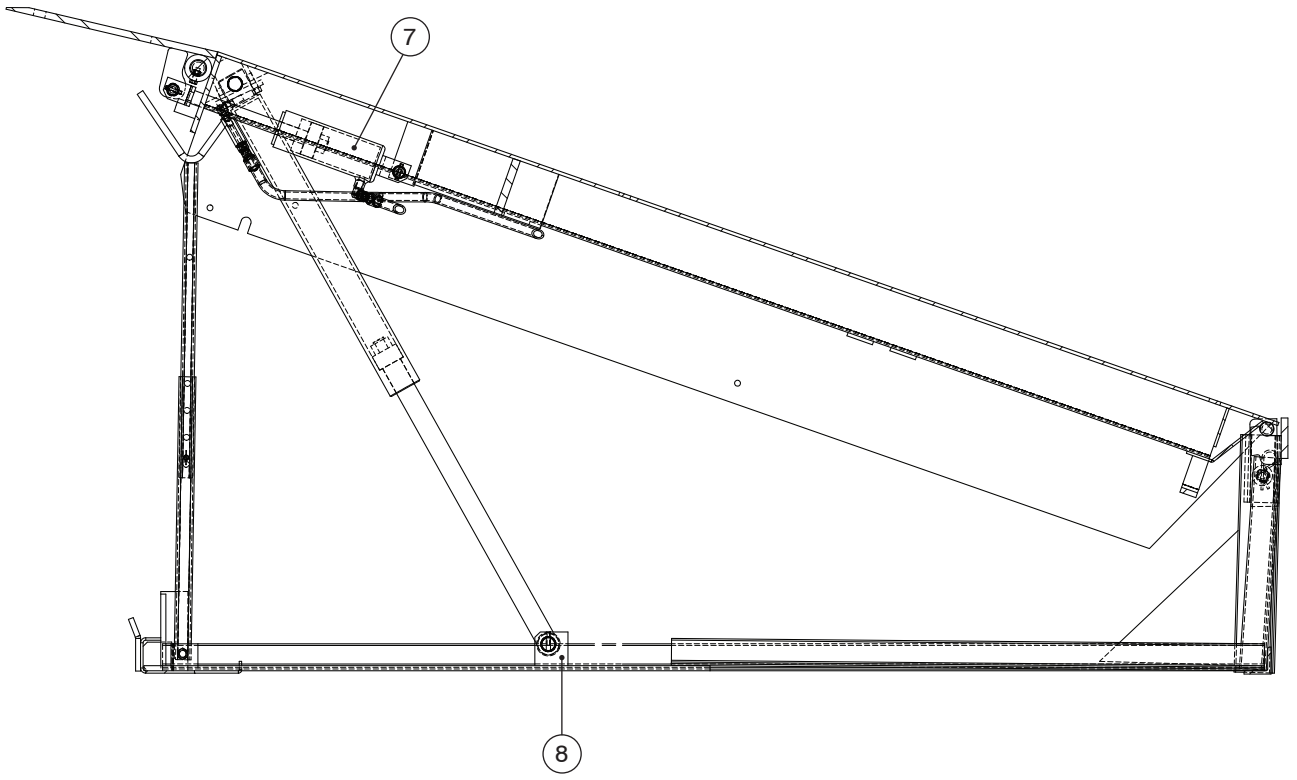
11.5 MECHANICAL ASSEMBLY–HYDRAULIC DOCK LEVELER

ITEM	QTY.	PART NO.	DESCRIPTION
1	1	033-403-1 K	115/1/60 Power Pack
		033-403-1 K	208/1/60 Power Pack
		033-403-1 K	230/1/60 Power Pack
		033-404-1 K	208/3/60 Power Pack
		033-404-1 K	230/3/60 Power Pack
		033-404-1 K	415/3/50 Power Pack
		033-404-1 K	460/3/60 Power Pack
		033-405-1 K	575/3/60 Power Pack
2	1	027-006	115/1/60 Motor Starter
		027-007	208/1/60 Motor Starter
		027-007	230/1/60 Motor Starter
		027-008	208/3/60 Motor Starter
		027-008	230/3/60 Motor Starter
		027-168	415/3/50 Motor Starter
		027-005	460/3/60 Motor Starter
		027-009	575/3/60 Motor Starter
3	1	709-5000	Cylinder Bracket Assembly (6' & 8' Long Dock)
		709-5000-1	Cylinder Bracket Assembly (10' & 12' Long Dock)
4	1	709-5001	Lip Cylinder Assembly

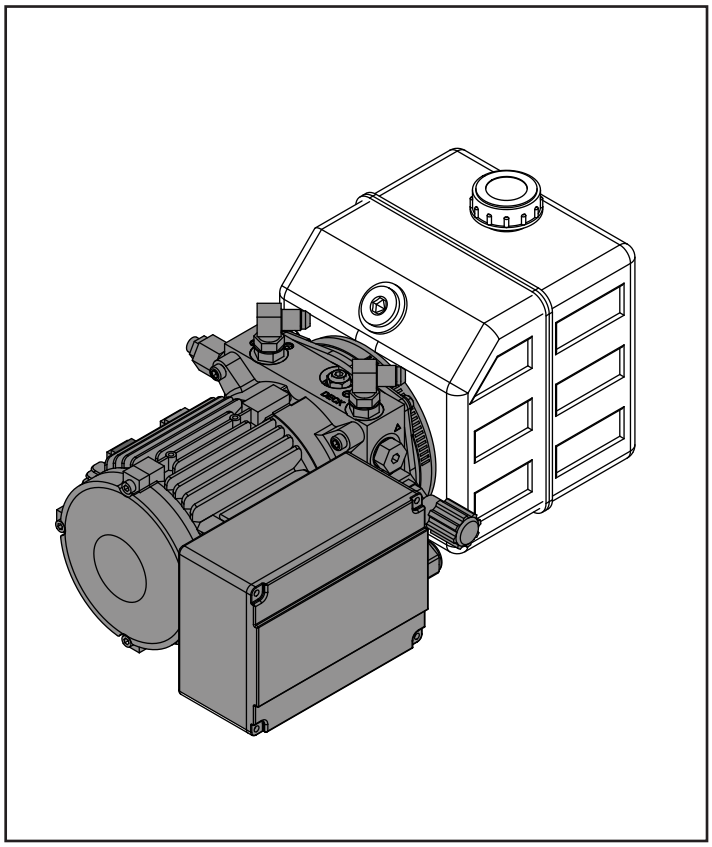
ITEM	QTY.	PART NO.	DESCRIPTION
5	1	788-332-37	Hose, #6 High Pressure to Lip Cyl. (64" Long) (6' & 8' Long Dock Self-Contained PP)
		788-334	Hose, #6 High Pressure to Lip Cyl. (150" Long) (10' & 12' Long Dock Self-Contained PP)
		788-332-2	Hose, #6 High Pressure to Lip Cyl. (318" Long) (6' & 8' Long Dock Remote PP)
		788-332-6	Hose, #6 High Pressure to Lip Cyl. (366" Long) (10' & 12' Long Dock Remote PP)
6	2	522-002	Ties, NT - 1400 HD Wire (not shown for shipping only)
7	2	109-917	Flat
8	2	103-601	Plate
9	6	035-221	1/2 EMP Hole Strap
10	6	035-205	Clamp
11	1	788-332-37	Hose, #6 High Pressure to Deck Cyl. (64" Long) (6' & 8' Long Dock Self-Contained PP)
		788-331	Hose, #6 High Pressure to Deck Cyl. (132" Long) (10' & 12' Long Dock Self-Contained PP)
		788-332-1	Hose, #6 High Pressure to Deck Cyl. (300" Long) (6' & 8' Long Dock Remote PP)
		788-332-5	Hose, #6 High Pressure to Deck Cyl. (148" Long) (10' & 12' Long Dock Remote PP)

11.5 MECHANICAL ASSEMBLY HYDRAULIC DOCK LEVELER





11.6 POWERPACK



Item 1

Item 2

11.6.1 POWER PACK VALVE ADJUSTMENT ILLUSTRATION

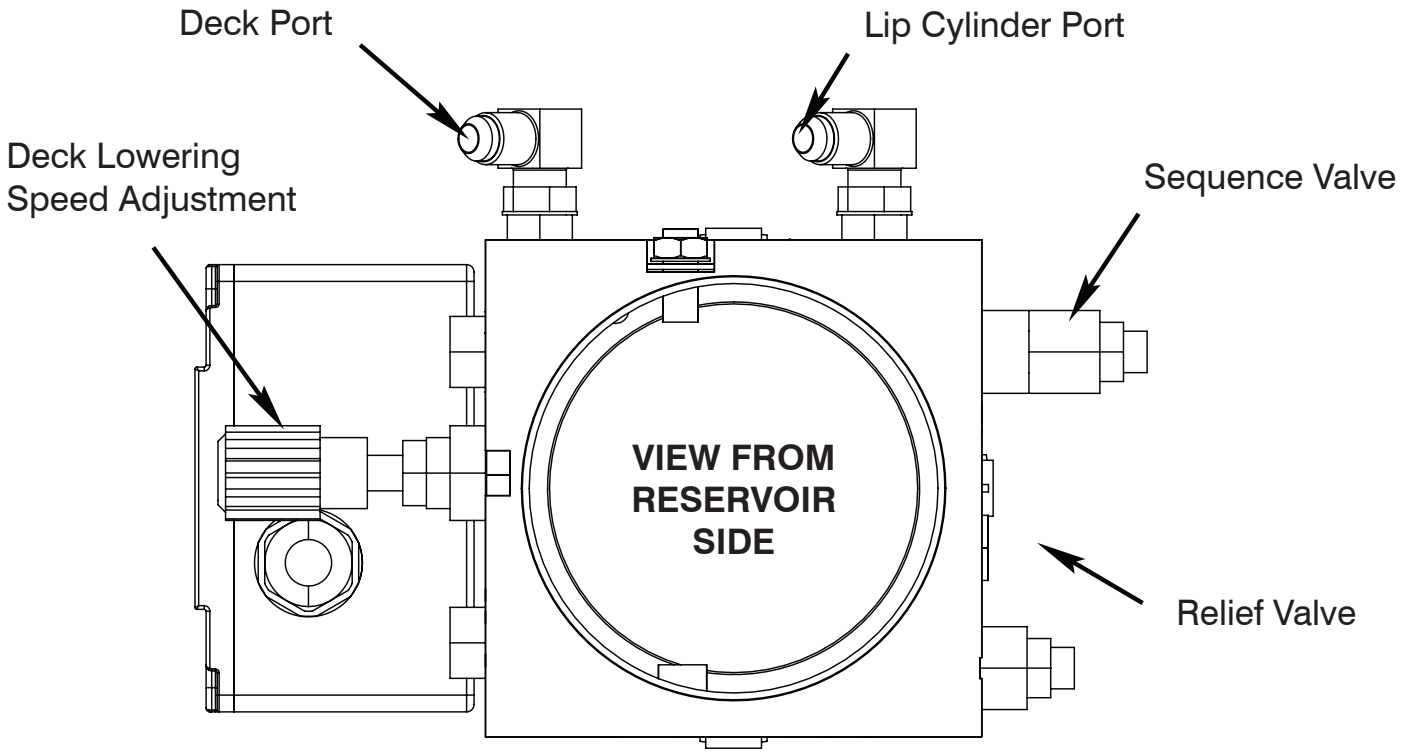
All power units are factory tested and pre-set to the following specifications. All adjustable valves (3) are pre-adjusted and locked by a hexagonal nut. Main system relief also comes with sealing washing. Should readjustments be necessary please follow the procedures as instructed below.

1. **Pressure Relief Valve (7):** Loosen locking hex nut. Turn allen screw clockwise until deck begins to lift and continue half a turn clockwise and retighten lock nut while holding the allen screw adjustment in place.

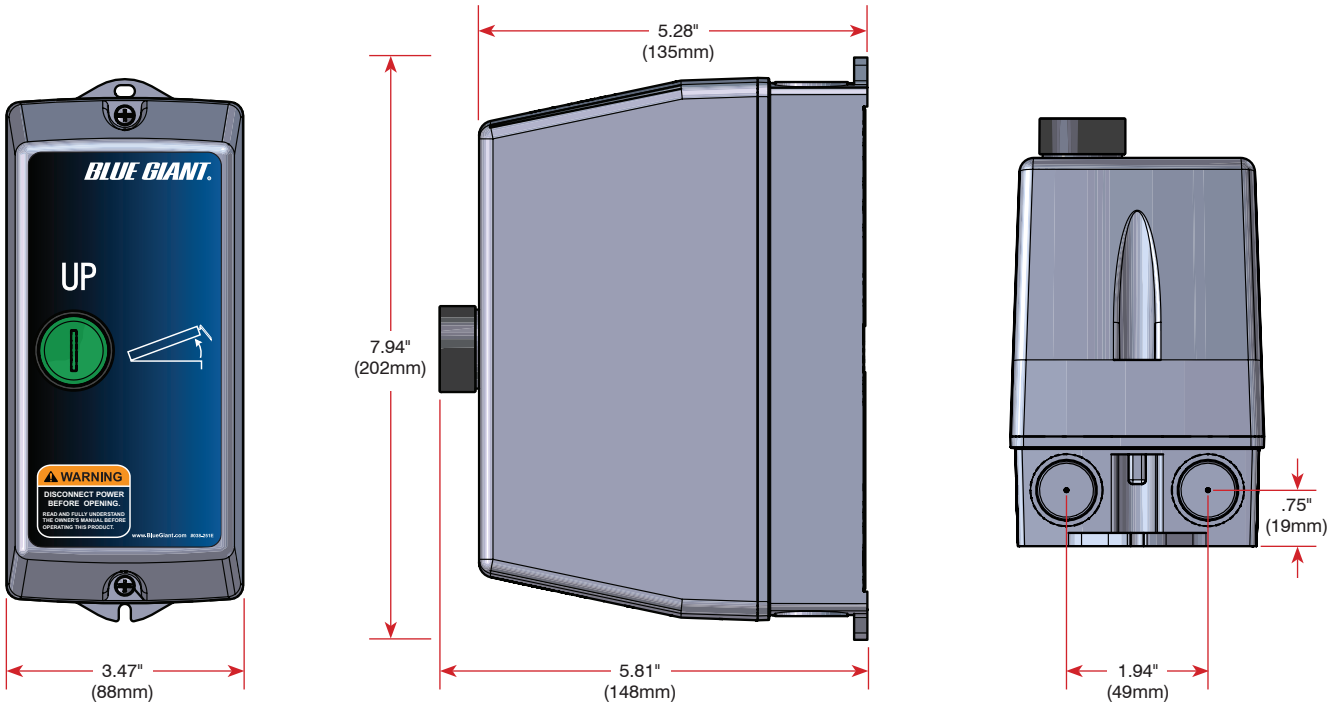
2. **Sequence Valve (6):** Loosen locking hex nut. Turn allen screw counter-clockwise until deck begins to lift and continue 1/8 a turn counter-clockwise and retighten lock nut while holding the allen screw adjustment in place.

3. **Lowering Speed (Deck):** Needle valve (1) loosen locking hex nut. Turn knob clockwise to slow down deck lowering speed. Turn knob counter-clockwise to increase deck lowering speed. Retighten lock nut while holding the knob adjustment in place.

The power unit it now set-up to suit your model dock. If the unit does not perform properly at these settings, locate the specific fault description that suits your operating problem in the following trouble shooting information. Re-adjust only the specific valve mentioned and adjust only as instructed in the trouble shooting information.



11.7 CONTROLS



Front View | Side View | Bottom View

COMPLETE CONTROL STATION SINGLE PUSH BUTTON SP1					
ITEM	SINGLE PHASE				
	QTY	PART NO.	DESCRIPTION	VOLTAGE RANGE	
1	1	027-006-L	115V / 1PH / 50-60 Hz	110 - 130V	
	1	027-007-L	230V / 1PH / 50-60Hz	208 - 240V	
	THREE PHASE				
	1	027-008-L	208V / 3PH / 50-60Hz	208 - 240V	
	1	027-168-L	415V / 3PH / 50-60Hz	380 - 415V	
	1	027-005-L	460V / 3PH / 50-60Hz	440 - 460V	
	1	027-009-L	575V / 3PH / 50-60Hz	575 - 600V	

Decal included (part # 038-251E)

COMPLETE CONTROL STATION SINGLE PUSH BUTTON SP1 WITH OVERLOAD				
ITEM	SINGLE PHASE			
	QTY	PART NO.	DESCRIPTION	VOLTAGE RANGE
1	1	027-006-LO	115V / 1PH / 50-60 Hz	110 - 130V
	1	027-007-LO	230V / 1PH / 50-60Hz	208 - 240V
	THREE PHASE			
	1	027-008-LO	208V / 3PH / 50-60Hz	208 - 240V
	1	027-168-LO	415V / 3PH / 50-60Hz	380 - 415V
	1	027-005-LO	460V / 3PH / 50-60Hz	440 - 460V
	1	027-009-LO	575V / 3PH / 50-60Hz	575 - 600V

Decal included (part # 038-251E)

12.0 HYDRAULIC DOCK LEVELER TROUBLESHOOTING

WARNING

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.

PROBLEM	PROBLEM CAUSE
Deck will not rise when the push button is operated. Motor does start and run.	1. Foreign material may be lodged between side of deck and pit wall. Remove and discard 2. Damaged or missing bumpers are allowing the truck to contact and hold the lip. Move truck as required and replace the bumpers. 3. Equipment or goods are parked on dock leveler deck. Remove. 4. Low hydraulic oil fluid in power unit, possibly due to damaged hose or other oil leak. Repair and refill with approved hydraulic oil as required. 5. Incorrect motor rotation (three phase power supply only). Qualified personnel can correct by interchanging any two motor leads. 6. Incorrect motor rotation (single phase power supply only). Check the motor name plate or rotation tag for instructions on reversing rotation. 7. Relief valve is bypassing. Reset relief valve.
Deck will not begin to rise immediately when motor begins to run. Usually occurs only after the deck cylinder hose has been replaced with a new hose that was not pre-filled with oil. (**Note:** this is for deck cylinders that are not inverted: hydraulic hose fitting is located at the base plate and not at the headboard. Cylinders that are inverted will self-bleed.)	Air is trapped in the deck lifting cylinder. Bleed as follows: **METHOD #1** 1. Operate dock leveler and place in fully below level position. 2. Allow to rest in below level place for 60 – 90 seconds, and repeat as required until deck begins to raise immediately and the motor starts to run. **METHOD #2** 1. Raise the dock and let it rest on the maintenance stand. Remove and invert cylinder and then collapse the ram fully. Power up to extend the ram, and then reinstall.
Deck will not rise when push button is operated. Motor does not attempt to run and no sound is heard from motor / power pack and control station.	1. Interlock devices not operating properly (i.e. overhead door interlock or vehicle restraint). Open overhead door or repair sensor. Engage vehicle restraint or chock wheels and key switch bypass. 2. No power supply to control station. Breaker may have tripped, the fuse may have blown, or the disconnect switch may be open. 3. Thermal overload tripped open. Reset by pushing the reset button on the control station. If trip-off recurs, repair motor circuit as required. 4. Faulty control station component – fuse, push button, contactor, transformer. Repairs may be required. 5. Single phase condition on a three phase system.

12.0 HYDRAULIC DOCK LEVELER TROUBLESHOOTING CON'T.

WARNING

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.

PROBLEM	PROBLEM CAUSE
Deck will not rise when push button is operated. Motor attempts to run, but power supply breaker switch trips to the off position, turning the power off before the motor reaches full running speed.	1. Not normally a fault in the controls or power unit. 2. This condition is more prevalent with a 115/1/60 power supply. 3. Power supply circuit is overloaded by other equipment or components being used on a branch circuit controlled by the same breaker switch. 4. To permanently correct the problem, the power supply line circuit must be upgraded to meet the requirements of the power unit. 5. A temporary measure to allow use of the dock leveler is to purposely misadjust the pressure relief valve to allow a minimal bypass of oil at motor startup, causing a reduction of amperage draw. Turn the relief valve, adjusting screw counter-clockwise 1/16 turn, and test operate. Repeat as required until a setting is found that will allow the motor to start and deck and lip to raise and extend fully. Readjust to normal settings after line voltage problem has been corrected. Failure to readjust to normal setting will result in unnecessary, frequent, service call backs. 6. Power pack is faulty. Replace.
Deck raises slower than normal. Fluid level in reservoir is normal.	1. Deck or damaged skirts dragging on side of pit. Repair as required. **Note:** 1 - Hydraulic oil must be replaced if contaminated by foreign material. 2 - Count and record turns when removing or replacing adjustable parts. 2. Pressure relief bypassing • Foreign material may be lodged between the ball and seat. Change oil. Flush by raising deck and lip to maximum height and continue to run motor for 30 seconds maximum. • Remove relief valve (7), disassemble and clean thoroughly, and change oil. After replacing the valve, adjust to original setting and test operate. • Ball seat is damaged and must be re-seated. Remove relief valve, disassemble, and clean thoroughly. Using a brass punch, firmly hit the ball onto its seat and re-clean. Then change the oil, replace valve, adjust to original setting, and test operate. 3. Pilot Operated to close Check Valve (9) will not close. • Foreign material in hydraulic fluid causing check valve seat to be held open. Remove SAE plug and remove zero profile valve assembly from cavity. Clean all parts thoroughly. Clean the bore thoroughly, change oil, and replace all components. Adjust to original settings and test operate. 4. Faulty power pack. Replace

12.0 HYDRAULIC DOCK LEVELER TROUBLESHOOTING CON'T.

WARNING

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.

PROBLEM	PROBLEM CAUSE
Deck rises partially and stops. Motor continues to run and power unit makes more noise than normal.	1. Oil level in reservoir is low. • Add appropriate hydraulic oil to the reservoir. • Locate oil leak and repair as required. Park the dock leveler and top up the oil reservoir. The oil should be 1" (25mm) below the top of the reservoir while he dock is parked.
Lip extends before deck is fully raised.	1. Sequence valve operating pressure setting too low. • Adjust to operate at higher pressure. • Turn adjusting screw clockwise in 1/2 turn increments until the lip does not extend until after deck has reached fully raised height. **Note:** Lip must extend with no hesitation after the deck has reached its fully raised height.
Lip will not remain extended. Lowers as deck is floating down.	1. Sequence valve shuttle sticking. • Foreign material in hydraulic fluid is causing sequence spool to stick in bore. Remove sequence valve cartridge (6) from manifold cavity, clean all components thoroughly, and change the oil. Then replace all components, adjust to original settings, and test operate. (The sequence valve cartridge (6) should not be disassembled.)
Lip remains extended after deck has lowered to bottom of pit. (Lip will not auto-return.)	1. A valve adjustment will not correct this problem. The lip lowers by gravity only and must pivot freely on hinge. • Thoroughly clean and lubricate hinge. • Disconnect lip cylinder and move lip by hand through full arc to 'feel' if it pivots freely. Lip may have been bent by truck backing into it. Replace or repair as required. Extend and retract lip cylinder by hand. Cylinder rod may be bent and binding because of worn hinge pin. 2. Inspect for pinched hose restricting oil flow. 3. Pilot-operated check valves (8 and 9) are sticking due to contamination. Remove, inspect, test, and clean as required.
Lip does not lower when deck is rising, or does not lower with smooth motion.	4. Sequence valve cartridge (6) operating pressure set too low. • Adjust to operate at higher pressure. • Turn adjusting screw clockwise in 1/4 turn increments until lip lowers smoothly as deck is rising. 5. Lip must lower by gravity: check for bent or damaged lip, and then thoroughly clean and lubricate.

12.0 HYDRAULIC DOCK LEVELER TROUBLESHOOTING CON'T.

WARNING

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.

PROBLEM	PROBLEM CAUSE
Deck rises fully. Lip does not extend.	1. Sequence valve operating pressure is set too high. • Adjust to operate at lower pressure. • Turn adjusting screw counter-clockwise out 1/4 turn increments until lip will extend with no hesitation after the deck has reached its fully raised height. 2. Check oil level in reservoir. • Power unit sound will be louder than normal if oil level is low. • Top-up oil tank with appropriate hydraulic oil if required. See the maintenance section for recommended oil.
Lip does not extend fully. Oil in reservoir is not low.	1. Lip plate may be bent, causing hinge to bind. Repair and lubricate as required. 2. Foreign material may be lodged in the lip hinge area. Clean thoroughly as required. 3. Relief valve is bypassing. • In some instances slight mechanical imperfections can be overcome by increasing the hydraulic pressure. • Turn Relief Valve adjusting screw clockwise until it bottoms out and then back off 1/8 turn. **Note:** Repair is not completed until mechanical damage is corrected.
Lip lowers slowly in normal temperatures and very slowly in extremely cold weather. Deck lowering speed is correct.	1. A valve adjustment will not correct this problem. Opening the needle valve will cause the deck to lower too quickly, which will in turn cause the fall-safe velocity fuse to lock. The lip lowers by gravity and must pivot freely on its full length hinge. • Thoroughly clean and lubricate the lip hinge. • Inspect the cylinder hose to confirm that it is not pinched, restricting movement. • Hose should not be over 18 feet long. Shorten hose and if possible widen it to correct flow restrictions. 2. Use special low temperature hydraulic fluid and change seasonally. See the maintenance section for recommended low temperature oil. • If problem is extreme, modify to the power-down hydraulic lip system. A double acting cylinder forces the lip to lower as the deck rises.

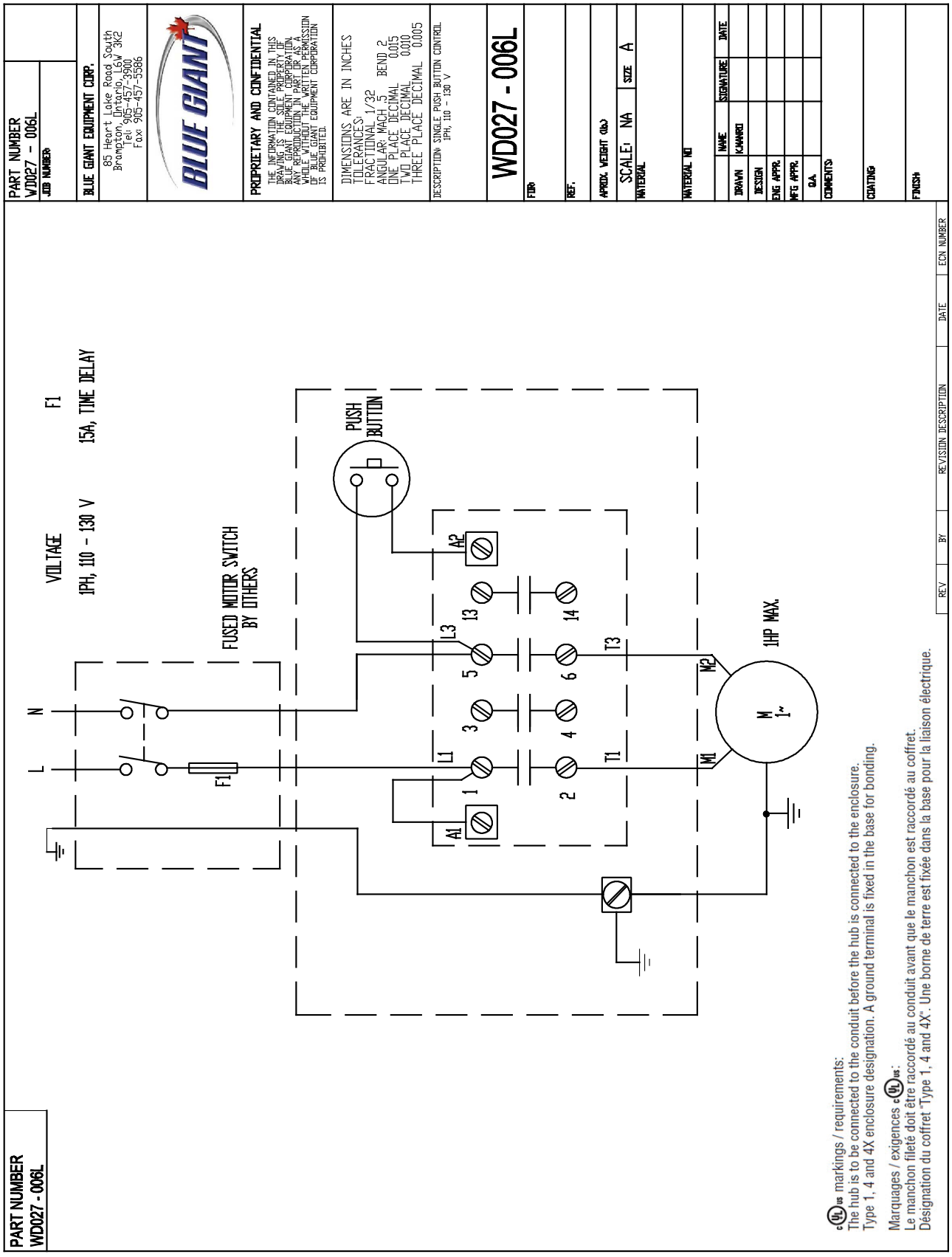
12.0 HYDRAULIC DOCK LEVELER TROUBLESHOOTING CON'T.

WARNING

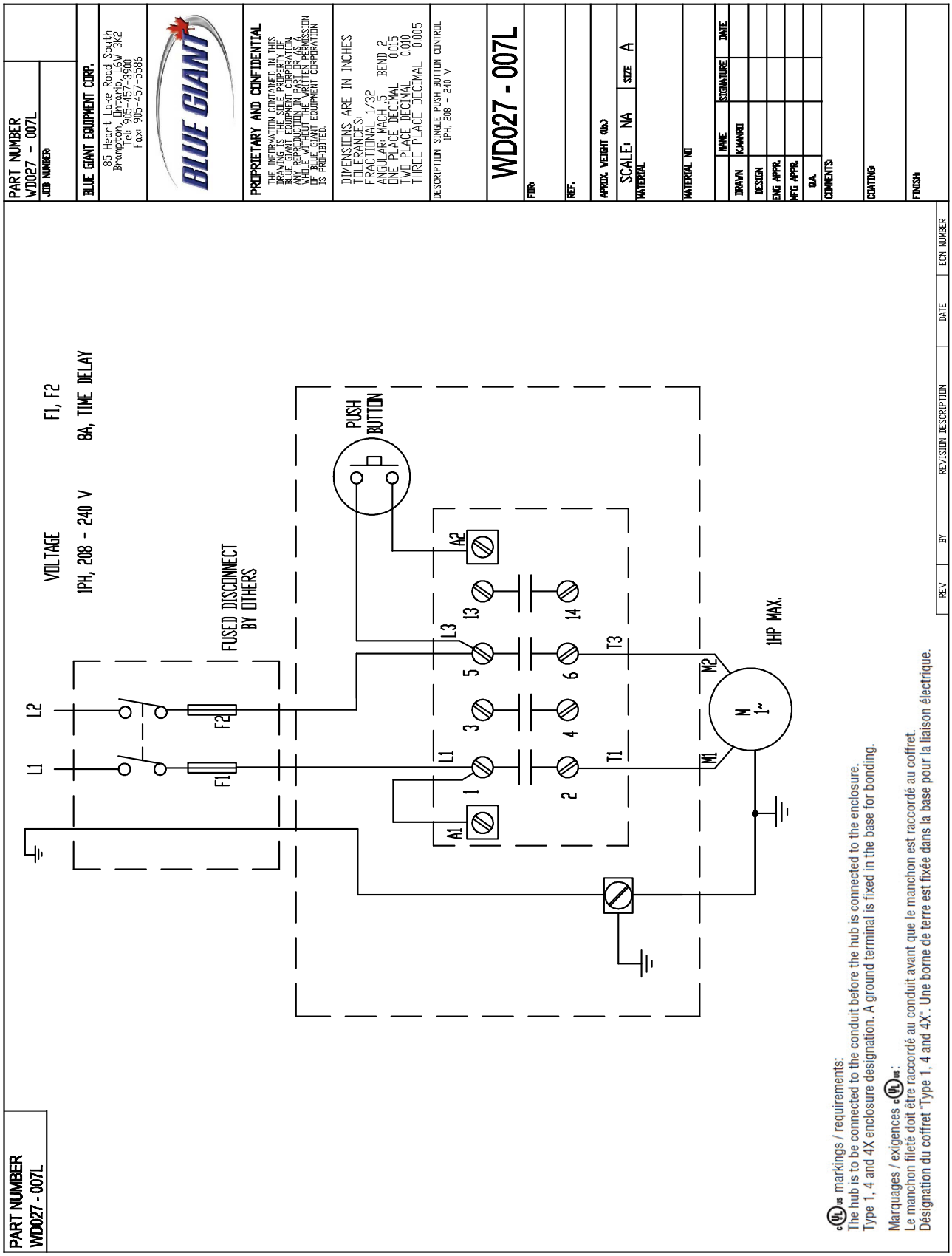
Do not attempt to install, make repairs or adjustments. Only a trained and authorized service technician should perform the installation process. Contact your local dealer or distributor for assistance.

PROBLEM	PROBLEM CAUSE
Deck lowering speed is too slow or too fast.	1. Lowering speed adjustment required. To increase lowering speed: • Turn lowering speed adjusting needle valve counterclockwise in 1/8 turn increments to a setting that causes the deck to lower from fully raised with lip extended to fully lowered below level with lip extended in 7 seconds maximum. Note: Fall-safe velocity fuse will lock closed if lowering speed is too fast, and deck will not lower. 2. To decrease lowering speed: • Turn lowering speed adjusting Needle Valve clockwise in 1/8 turn increments until desired lowering speed is reached. Note: Slightly slower than normal lowering speed will not adversely affect the dock leveler systems.
Deck will not lower from the fully raised position with extended lip. Lip does lower.	1. The fall-safe velocity fuse located at the bottom of the deck cylinder is in the locked-closed position. • Deck lowering speed is set too fast. Turn lowering speed adjustment NEEDLE VALVE clockwise in 1/8 turn increments until the travel time is 7 seconds maximum from fully raised to fully lowered positions. • Air is trapped in the deck cylinder and hose. Bleed system as instructed by operating deck to fully below level and allow sitting for 60 – 90 second intervals. Repeat as required. **Note:** To open a locked velocity fuse, remove deck weight from the cylinder by lifting with a fork truck or other means if cylinder is fully extended. Jog the up button if cylinder is not extended. Repairs are needed before up jog is performed. Example: leaking hydraulic hose.

13.0.1 SP1 WIRING DIAGRAM—110–130V SINGLE PHASE



13.0.2 SP1 WIRING DIAGRAM—208–240V SINGLE PHASE



14.0 ALTERNATIVE CONTROL STATION OPTIONS

Control station upgrades are available for enhanced equipment operation.

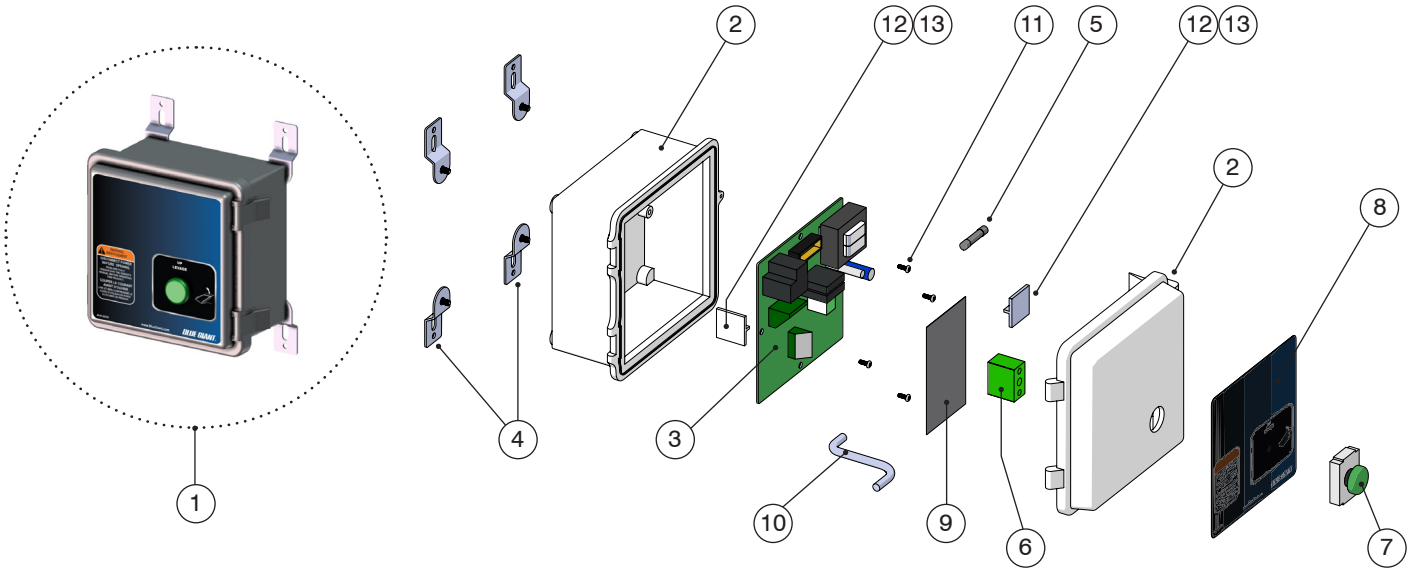
The SP2 controls an independent dock leveler via a constant pressure "I" (UP) button and has a running timer that shuts down the motor after a specific interval to prevent excessive motor activity. Overhead door interlock provision terminals protect door from incorrect leveler sequence.

The Blue Genius™ Gold Series I is a microprocessor-based control station with a touch-sensitive 'Deck' button and numeric keypad. The LED menu screen relays real-time prompts and commands for operating and troubleshooting. For added safety, the Blue Genius™ is available with an optional interior and exterior light communication package, overhead door interlock and expansion capability for future vehicle restraint and overhead door buttons.

SP2 Control

Blue Genius™ Gold Series I

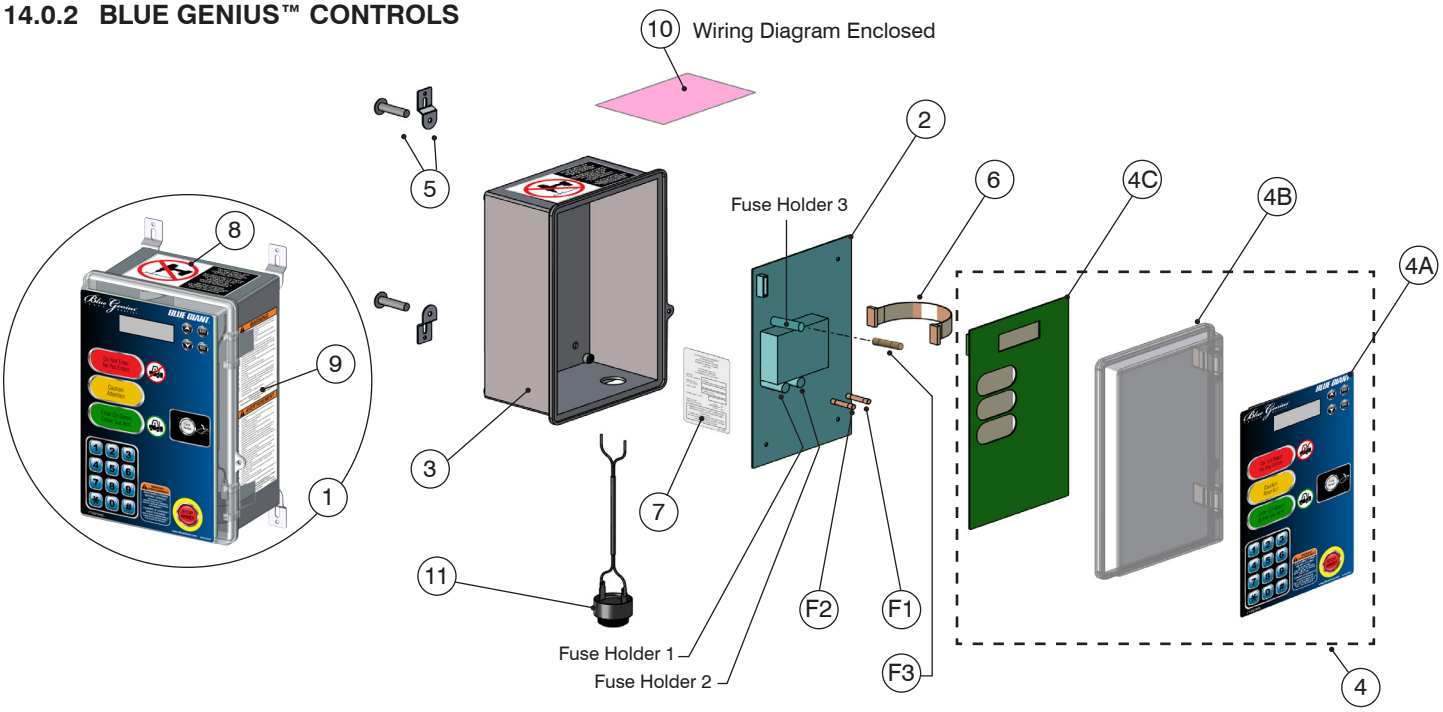
14.0.1 SP2 CONTROLS



ITEM	QTY.	PART NO.		DESCRIPTION
1	1	SP2S1115	F	SP2 Control Assembly 115V Single Phase
			S	
		SP2S1230	F	SP2 Control Assembly 230V Single Phase
			S	
2	1	025-G023-4M		Control Box Enclosure
3	1	026-G054-M		Power Circuit Board - SP2, 1PH STD
4	4	025-G010-1		Mounting Tabs w/Screws
5	1	026-G121		Fuse F.A. 100mA, 250V 5 x 20mm
6	1	026-G202		Button Contact Block N/O

ITEM	QTY.	PART NO.	DESCRIPTION
7	1	028-573	Green Push Button w/Mounting Collar
8	1	038-266EF	Decal, English / French
		038-266ES	Decal, English / Spanish
9	1	038-284EF	Decal, Serial Plate / French
		038-284ES	Decal, Serial Plate / Spanish
10	1	026-G035	3 Wire Cable
11	4	010-216	Screw, M4 x 8 Pan Phil
12	2	025-062	Cable Tie Mount
13	2	522-008	Ties, Wire YS-98C

14.0.2 BLUE GENIUS™ CONTROLS



COMPLETE CONTROL STATION ASSEMBLY - ITEM 1 (Example BGGE01115F)							
ITEM	SINGLE PHASE						
	◊	FUSE	QTY	PART NO.	DESCRIPTION	ASSY PART #	*
2	F1	E	1	026-PB1115	Power Board Sub-Assembly † (115V / 1PH / 50-60Hz)	BGGE01115	F
	F2	A	1				S
	F1	C	1	026-PB1230	Power Board Sub-Assembly † (1PH 230V 50-60Hz)	BGGE01230	F
	F2		1				S
3			1	025-G010-M	Control Box Enclosure (Includes 4B)		
4			1	Consult Factory	Control Box Lid (4B) with Decal (4A) and Control / Board (4C) (Serial # Required)		
4A			1	038-259EF	Button Decal, English / French		
				038-259ES	Button Decal, English / Spanish		
4B			1	025-G014-M	Cover Only		
4C			1	026-G020	Blue Genius™ Control / Touch Board		
5			1	025-G010-1	Mounting Tabs with Hardware (1 pkg of 4)		

† Includes Fuses

◊ Location on Power Board

ITEM	QTY	PART NO.	DESCRIPTION
6	1	026-G030	Ribbon Cable
7	1	038-284EF	Decal, Serial Plate English / French
		038-284ES	Decal, Serial Plate English / Spanish
8	1	038-283ESF	Decal, Do Not Drill
9	1	038-853EF	Warning Decal, English / French
		038-853ES	Warning Decal, English / Spanish
10	1	026-615-1	Anti-Static Poly Bag (Wiring Diagram Enclosed - Serial # required)
11	1	026-G028	Audible Speaker
F3	1	026-037-1	Fuse, 2.5A, 700V, Fast-Blow 1/4" Glass

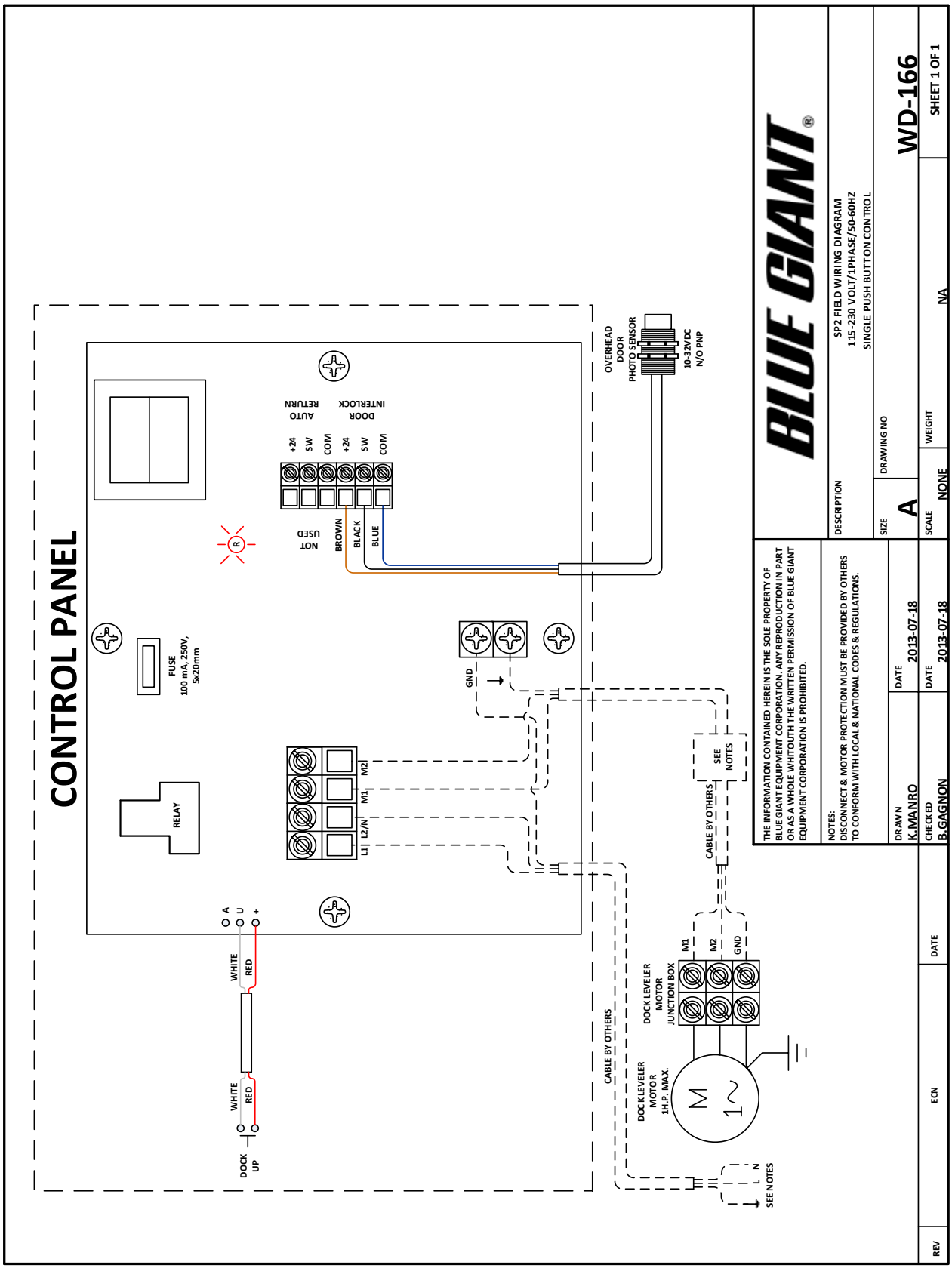
AS PER VOLTAGE - SEE ITEM 1			
ITEM	QTY	PART NO.	DESCRIPTION
A	1	026-G100	Fuse, 15A, 250V, Time Delay for 1PH, 110-130V
C	1	026-G102	Fuse, 0.5A, 250V, Time Delay for 1PH, 208-240V
E	1	026-G104	Fuse, 0.75A, 250V, 10-130V, Time Delay for 1PH

* Language on decal: F = English / French S = English / Spanish

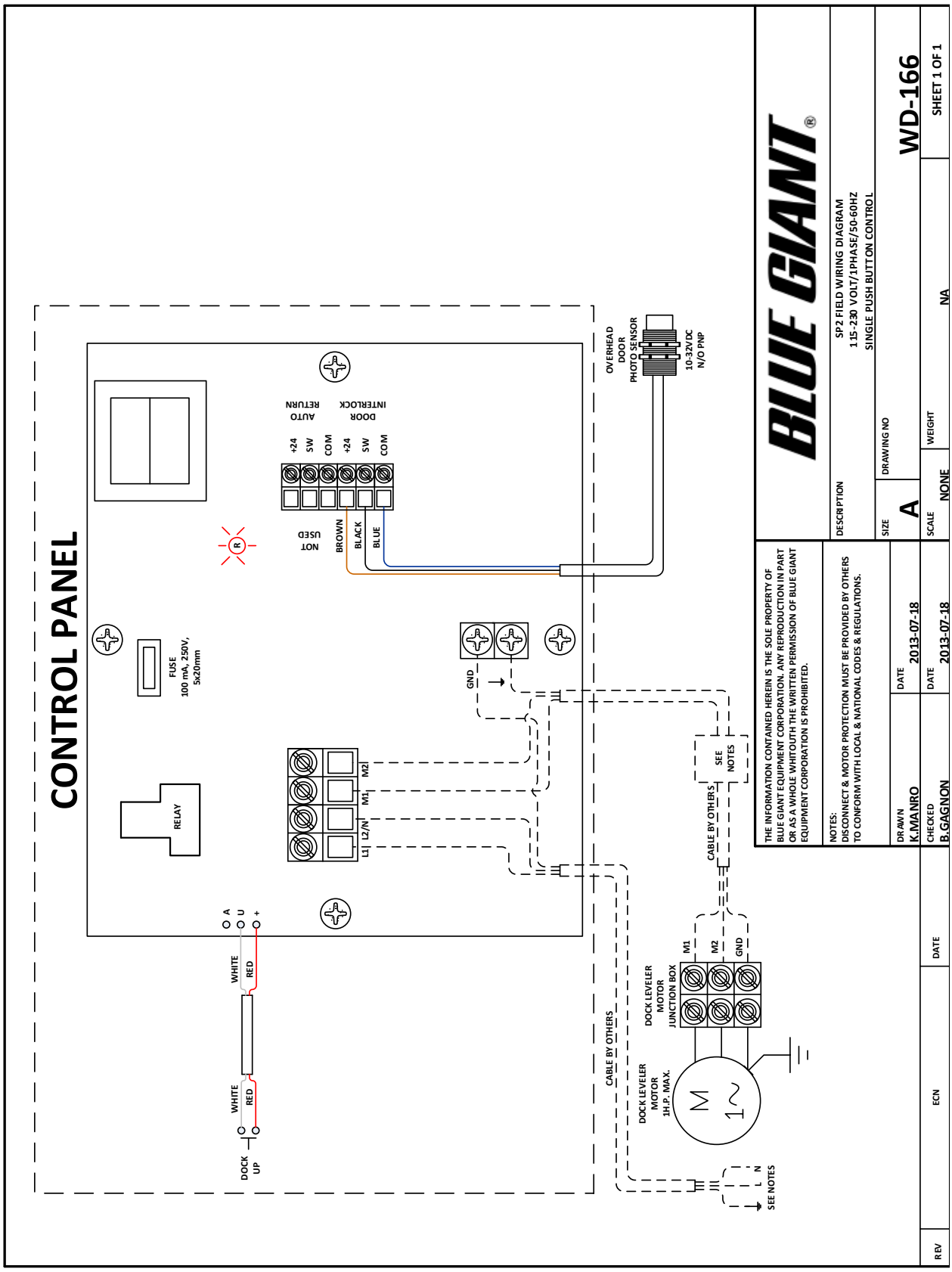
14.0.3 BLUE GENIUS™ CONTROLS WIRING DIAGRAMS

QTY	WD #	DESCRIPTION	MODEL	NOTE	
1	WD-110	115V / 1PH / 50-60Hz	Blue Genius™ Single Push Button	Wiring diagram enclosed with control only (Refer to item # 10 in Sec. 15.0.2)	
1	WD-106	230V / 1PH / 50-60Hz	Blue Genius™ Single Push Button		
1	WD-161	115V / 1PH / 50-60Hz	Blue Genius™ Single Push Button w/ Advanced Light Communication	Wiring diagram enclosed with control & included in manual	Refer to Sec. 15.0.6
1	WD-216	230V / 1PH / 50-60Hz	Blue Genius™ Single Push Button w/ Advanced Light Communication		Refer to Sec. 15.0.7

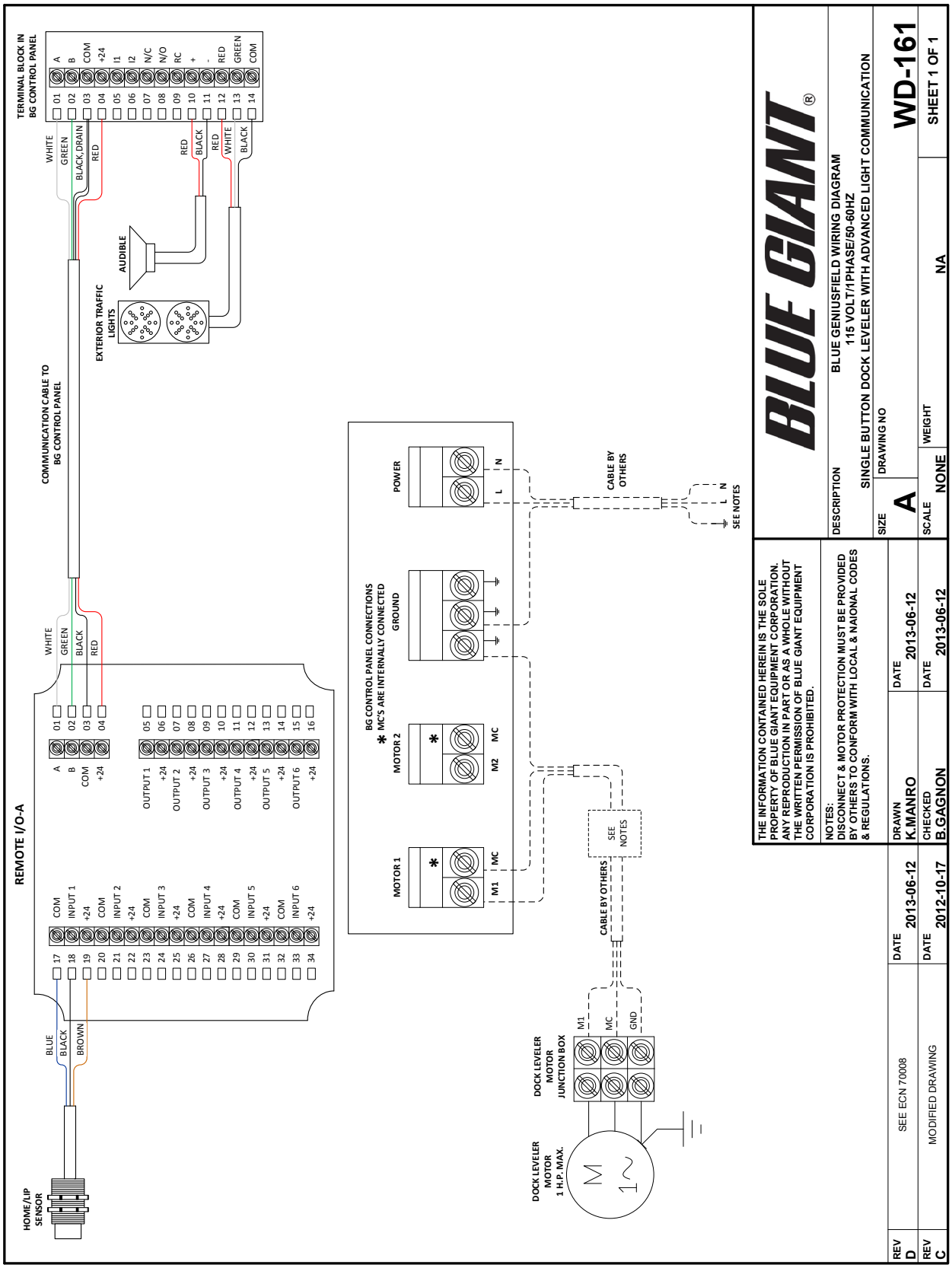
14.0.4 SP2 WIRING DIAGRAM—115V SINGLE PHASE



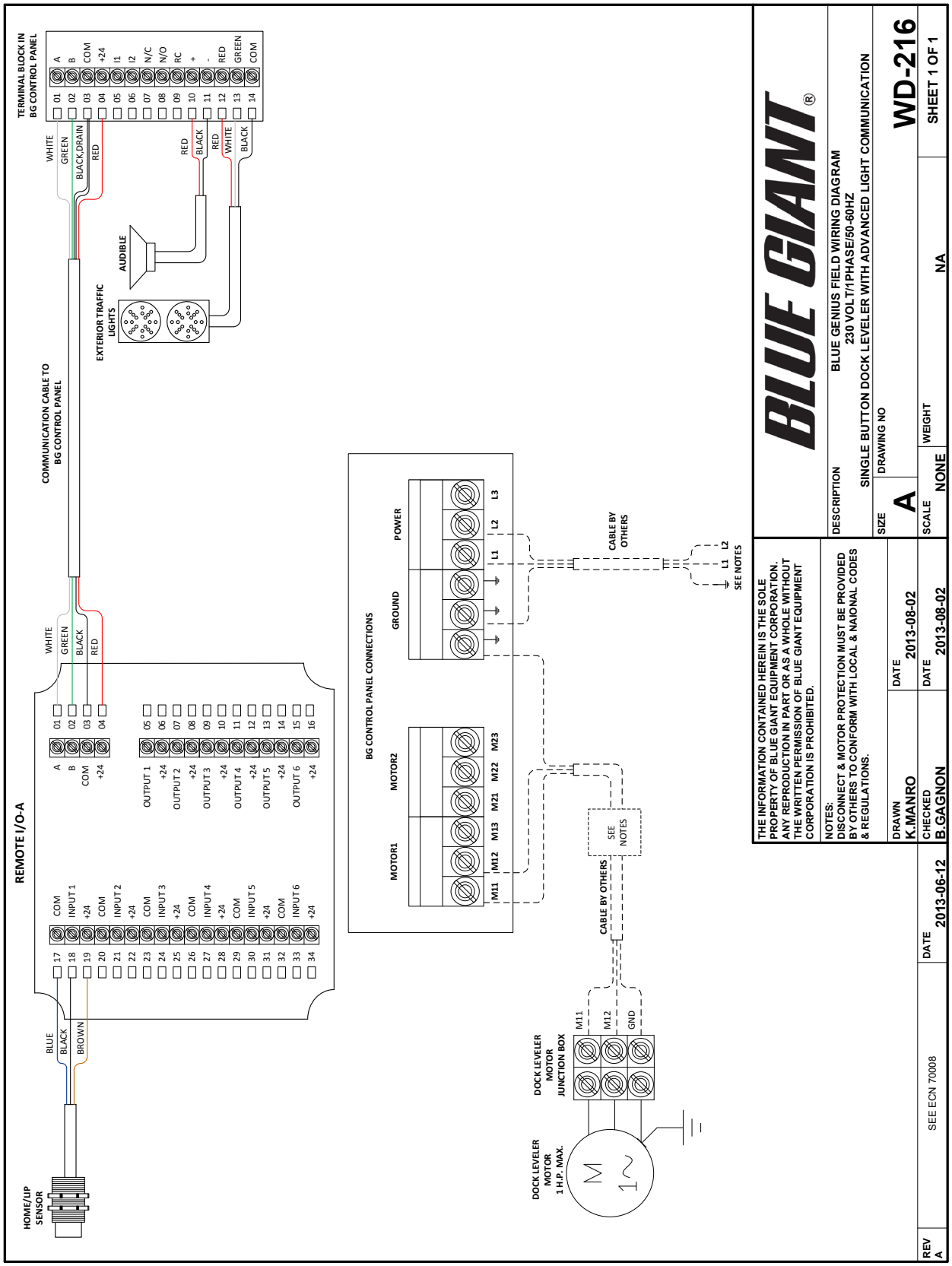
14.0.5 SP2 WIRING DIAGRAM—230V SINGLE PHASE



14.0.6 BLUE GENIUS™ GOLD WIRING DIAGRAM—115V SINGLE PHASE

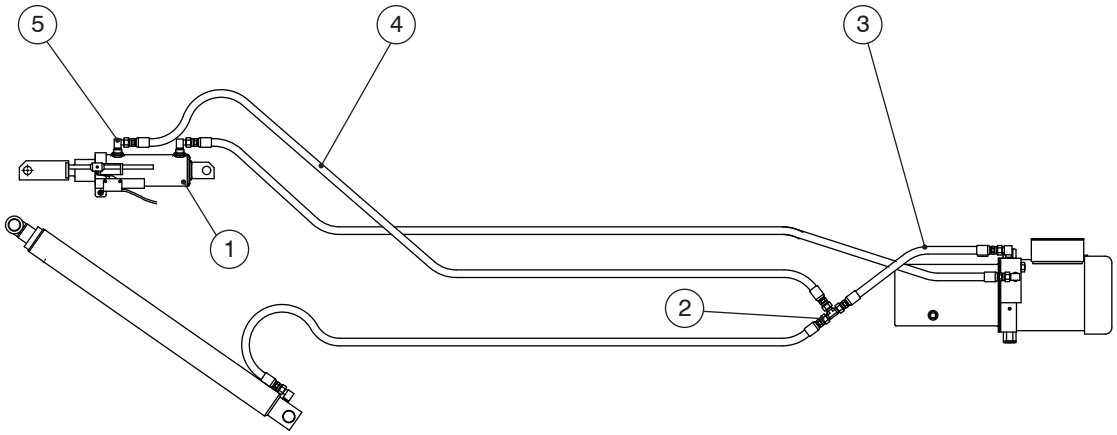


14.0.7 BLUE GENIUS™ GOLD WIRING DIAGRAM—230V SINGLE PHASE



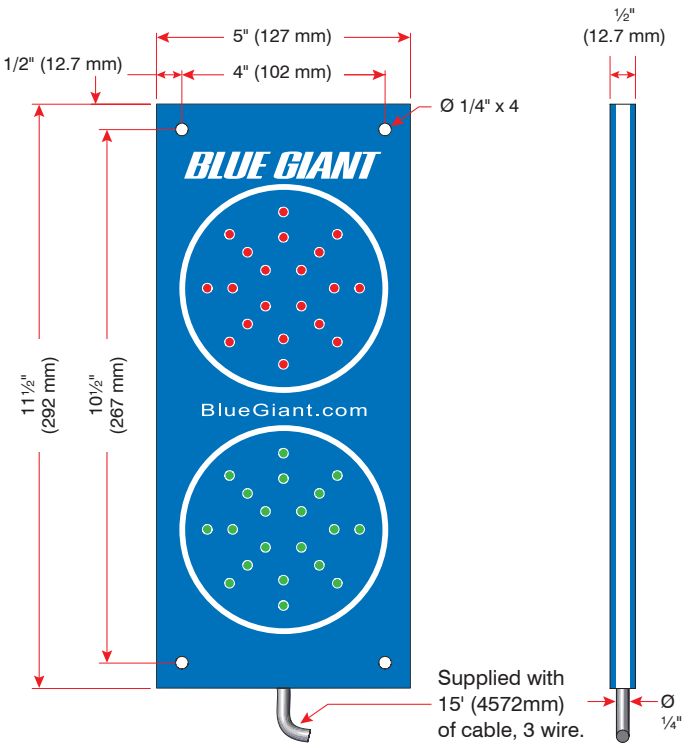
15.0 DOUBLE-ACTING LIP CYLINDER CONVERSION KIT (OPTIONAL)

DOUBLE-ACTING LIP CYLINDER CONVERSION KIT (OPTIONAL) #783-305-2			
ITEM	QTY.	PART NO.	DESCRIPTION
1	1	211-7002B	2 1/2" Dia. Double-Acting Cylinder Assembly
2	1	034-551	Fitting
3	1	300-5000-7	Hose #6 12" Lg
4	1	300-5000-25	Hose #6 72" Lg
5	1	034-601	Adapter 90 DEG



16.0 OPTIONAL EXTERIOR TRAFFIC LIGHT / MIRROR IMAGE SIGN

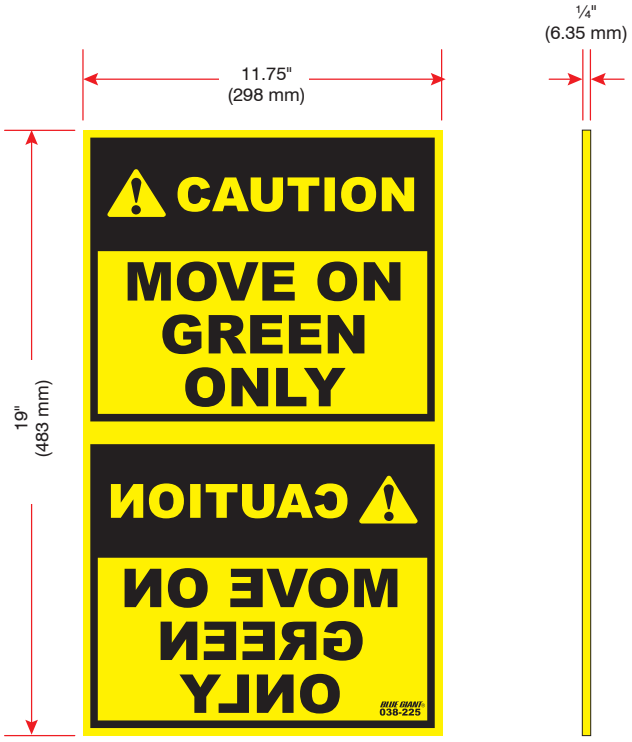
Slim-build LED traffic lights and mirror image drive warning sign improve loading dock safety.



Exterior driver traffic light, part # 032-461.

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

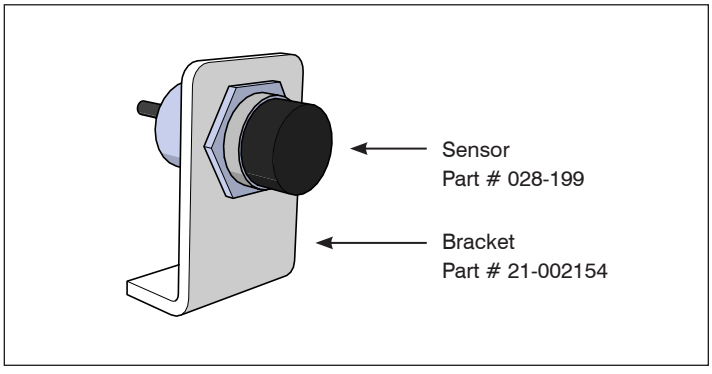
OPTIONAL: Yellow housing light, part #_____.



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

16.2 OPTIONAL DOCK INTERLOCK SENSOR

- Ties sequence of restraint to dock leveler operation
- Loading dock safety is improved with accurate operation sequence
- Interior traffic light and restraint release operation relies on interlock capability
- Mounted at parked position of any leveler



Dock interlock sensor (home/lip sensor), part # 26-011290.

NOTES

NOTES

BLUE GIANT®
BLUE GIANT EQUIPMENT CORPORATION

Corporate 410 Admiral Blvd.
Mississauga, ON, Canada L5T 2N6
t 905.457.3900 **f** 905.457.2313

USA 6350 Burnt Poplar Road
Greensboro, NC 27409
www.bluegiant.com

If calling within North America: **t** 1.800.872.2583 **f** 1.888.378.5781