EDGE OF DOCK LEVELERS
Owner's Manual

BLUFF MANUFACTURING

Dock Equipment

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SAFETY WARNINGS

Read and understand all safety practices and operating instructions before installing, servicing or operating the Dock Leveler. Failure to do so could result in damage to unit, to property, and personal injury to operator.

- Do not stand between Leveler and trucks backing up to Dock
- Do not operate the Leveler with equipment, material or people on the deck section of the Leveler
- Do not stand or travel across Leveler unless lip is placed securely on truck bed floor
- Never travel on the bumper blocks or over the edges of the Leveler
- Keep clear of Dock Leveler while in operation
- Do not exceed capacity rating
- If Dock Leveler is not operating normally, discontinue use. Request maintenance personnel to inspect and contact your local Bluff dealer if necessary
- Keep clear of all pinch points that could cause injury
- Do not use Leveler if it appears to be damaged or broken
- Damage to Leveler could occur if product is misused or used in an abusive manner
- For additional information or concerns, contact your local Bluff distributor
- Do not use a fork truck or other material handling equipment to lift or lower the ramp

DO NOT INSTALL, OPERATE OR SERVICE PRODUCT WITHOUT READING AND FULLY UNDERSTANDING ALL SAFETY PROCEDURES, WARNINGS, INSTALLATION AND OPERATING INSTRUCTIONS ENCLOSED IN THIS MANUAL.

- Never operate a Dock leveler while a safety device or guard is removed or disconnected.
- Never remove DANGER, WARNING, or CAUTION signs or decals on the equipment unless replacing them.
- Do not use the product until all unauthorized personnel in the area have been warned and have moved outside the operating zone.

- Keep the operating zone free of foreign objects.

CALIFORNIA PROPOSITION 65 WARNING	This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm

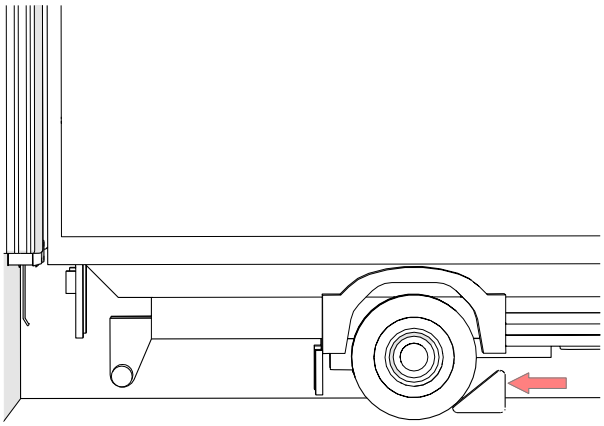
PRECAUTIONS - READ & UNDERSTAND

DANGER

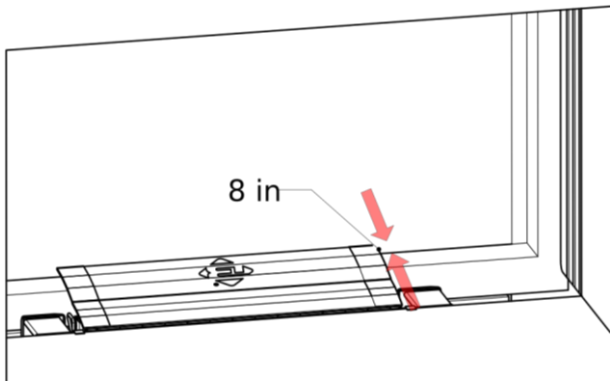
Keep hands and feet clear of pinch points. Avoid putting any part of your body near moving parts.

Edges of board may be sharp

WARNING



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



Make sure lip overlaps onto transport vehicle bed at least 8 in.

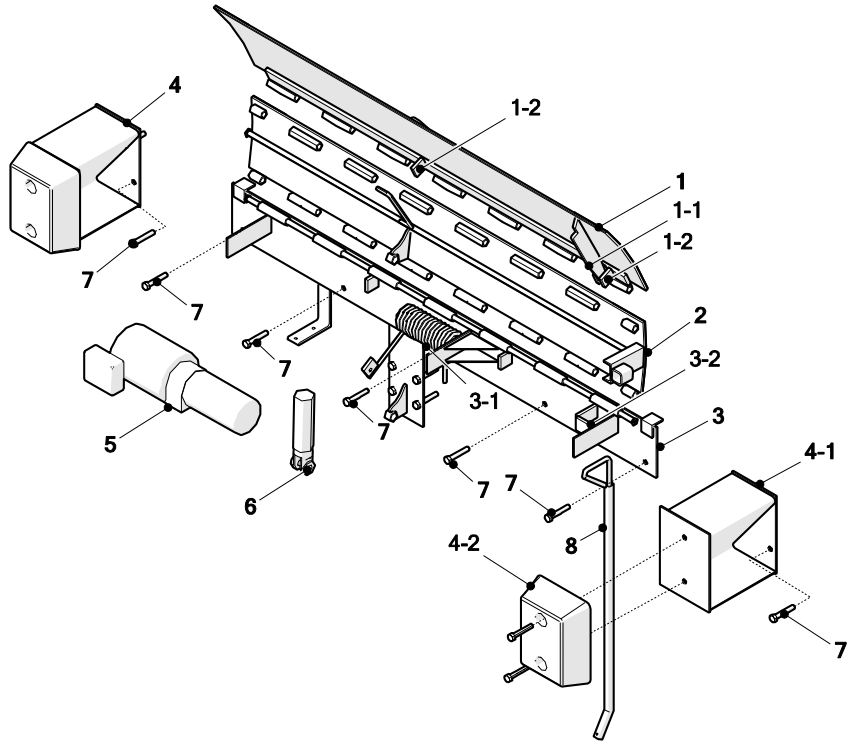
OWNERS RESPONSIBILITY

The owner should recognize the inherent danger of the interface between dock and transport vehicle. The owner should, therefore train and instruct operators, the safe use of the dock plate in accordance with the information provided below.

1. When a transport vehicle is parked at a loading dock, it is important that the vehicle is relatively perpendicular to the dock face and in close contact with at least one of the dock bumpers.
2. Nameplates, cautions, instructions, and posted warnings shall not be obscured from the view of operating or maintenance personnel for whom such warnings are intended.
3. Manufacturer's recommended periodic maintenance and inspection procedures in effect at date of shipment shall be followed, and written records of the performance of these procedures should be kept.
4. Edge of dock leveler that is structurally damaged shall be removed from service, inspected by a manufacturer's authorized representative, and repaired as needed before being placed back in service.
5. Periodic maintenance and adjustment is the sole responsibility of the owner.

NOTE	Failure to properly maintain Edge of dock leveler could result in voided warranty

PARTS LIST

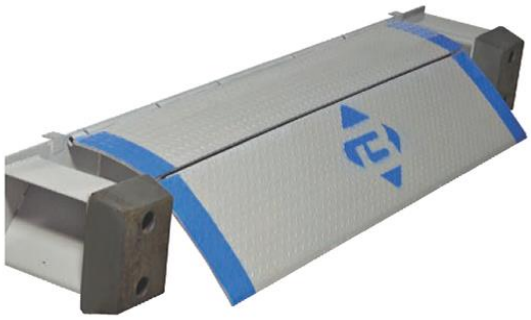


BOM ID	DESCRIPTION	PART NUMBER	QUANTITY
1	Front Lip	EPFL	1
1-1	Latch	EPLATCH	1
1-2		EPEAR	3
2	Center Section	EPCS	1
3	Mount Plate	EPMP	1
3-1		EPSA	1
3-2		EPLATCHCATCH	1
4	Bumper	EPCB10	2
4-1	Bumper Base	EPBUMPBASE	2
4-2		EPRB10	2
5	Motor (if equipped)	EPHYDMTR	1
6	Cylinder	EPHYDCYL	1
7	Wedge Anchors 3/4" – 10 x 4		9
8	Handle	EPHANDLE	1

IMPORTANT	Specify Model Number and Serial Number when ordering parts

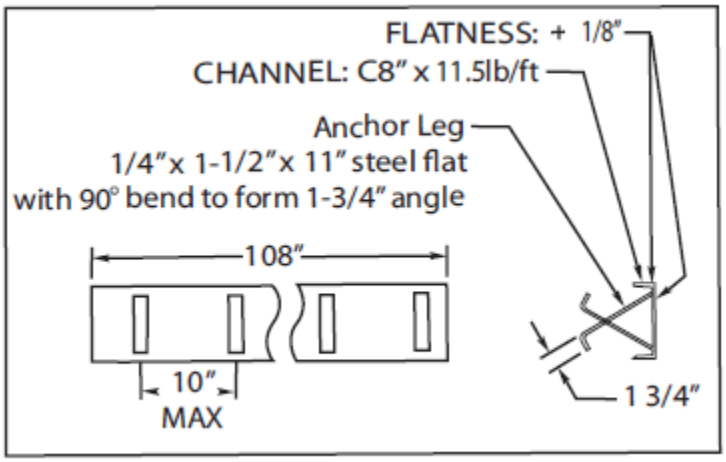
INSTALLATION PROCEDURE: (TYPE I) DOCK EDGE WITH EMBEDDED STEEL CHANNEL

Mechanical Edge of Dock (EP)



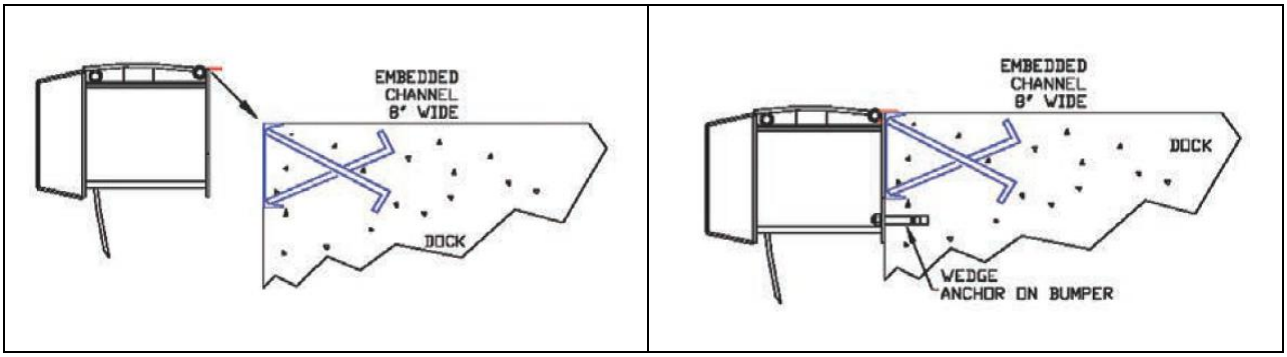
CAUTION	Stand clear of unit when cutting steel banding

- Handle is attached to mount plate for shipping purpose only.
- Check the straightness of embedded channel with a plumb line. If out of alignment shimming may be required. Any out of alignment condition will result in a binding problem.



RECOMMENDED DOCK EDGE STEEL

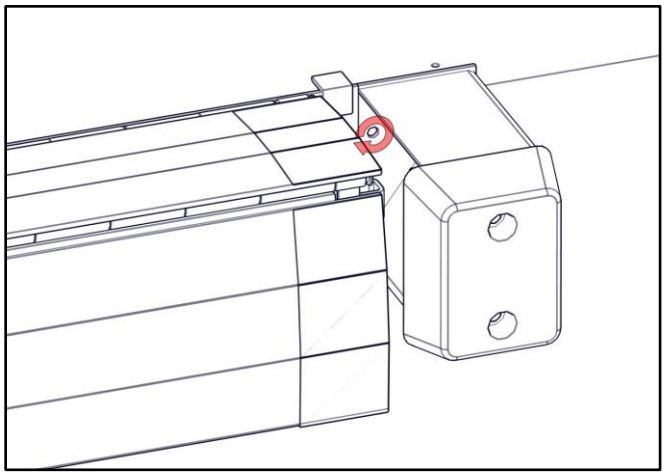
- Clean and prepare dock surface for installation.
- Center the EZ-Pull leveler against the dock with the positioning tabs resting on top of the embedded channel.



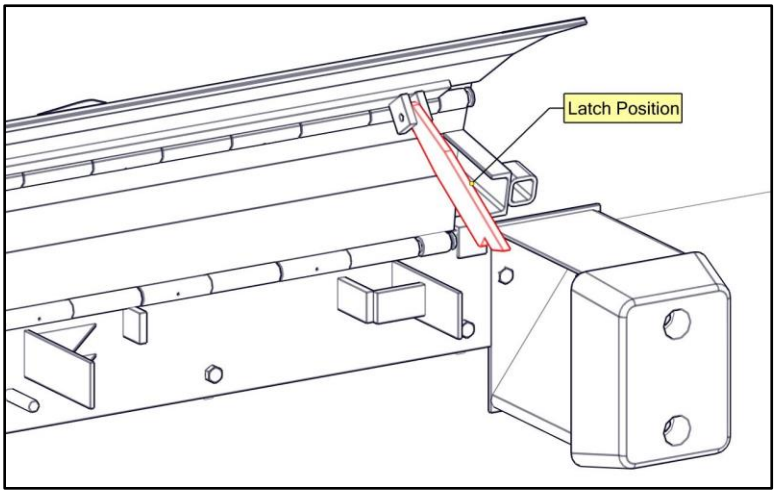
- Tack weld mount plate to embedded channel along top and sides, alternating from right and left of center.
- Shim where necessary to keep leveler straight and plumb.
- Drill 3/4" anchor holes along the mount plate and install 5 each 3/4" x 4 wedge anchors.

NOTE	If equipped with Hydraulic assist, 4 additional anchors must be installed in the lower hydraulic bracket. See Page 17 for hydraulic assist installation instructions.

- Weld out the top of the mount plate from center out to the edges and down the vertical sides.
- Position the bumpers flush with top of mount plate and butted up to the sides of the mount plate.



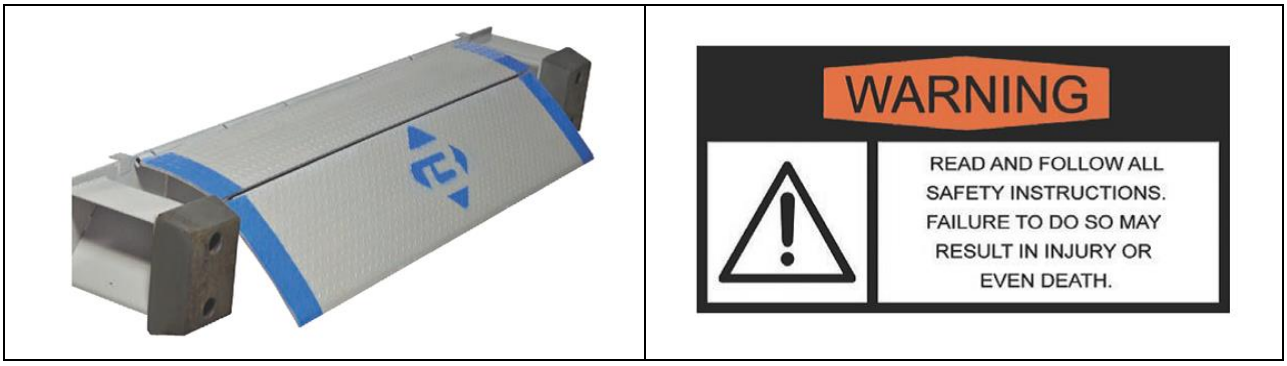
- Mark the bottom hole location of bumper beam, drill an anchor hole and install a ¾" x 4" wedge anchor bolt.
- Re-position the bumper on the dock and weld to embedded channel and secure the bottom of the bumper with an anchor bolt and nut.
- Re-grease the unit as welding may burn out some grease in hinge tubes.
- Re-paint any burned areas. Rustoleum smoke grey (7786) or blue (7727) aerosol.
- The latch is factory installed with notch against mount plate. Latch should swing freely when leveler is in its rest position.



- Remove bolt from bottom of handle and position handle into sleeve with bend facing away from dock face. Re-install bolt and nut into bottom of handle.
- Test unit for correct operation. (See operating instructions for mechanical levelers.)

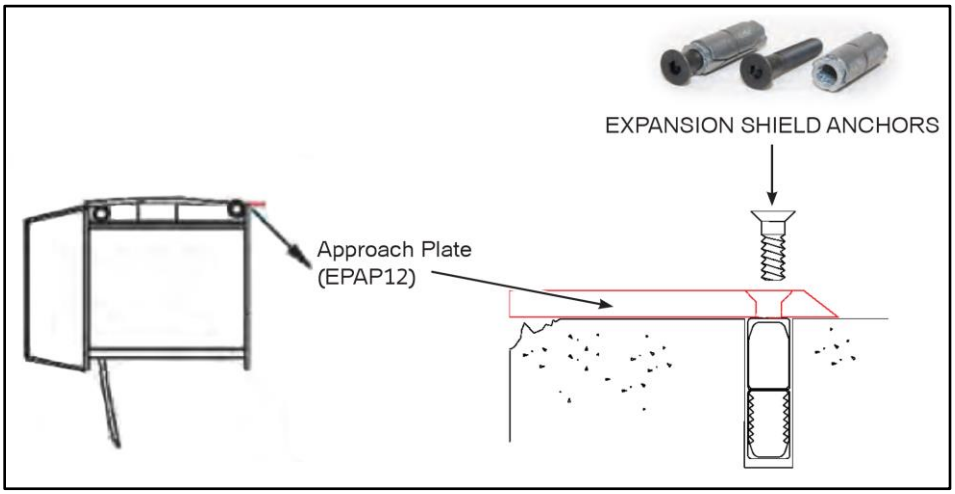
INSTALLATION PROCEDURE: (TYPE II) DOCK EDGE WITHOUT EMBEDDED STEEL CHANNEL

Mechanical Edge of Dock (EP)



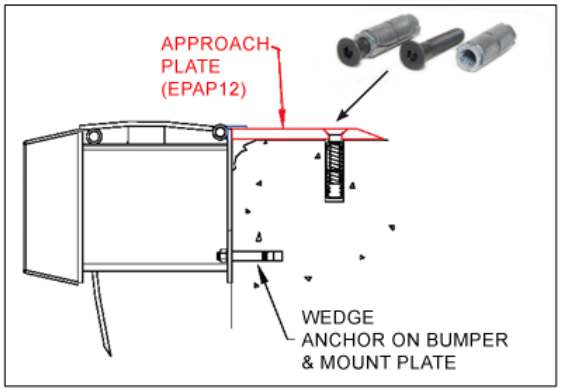
- Docks without embedded steel channel require the installation of an approach plate, such as the Bluff EPAP12 model, in conjunction with a leveler unit.
- Center the beveled approach plate in the desired location flush with the dock face. Cut if required to fit door opening.

An approach plate requires 5 heavy duty expansion shield anchor bolts with ½" flat head socket cap screws such as can be found in Bluff EP Kit 2. Locate the approach plate and drill pilot anchor holes with a 9/16" concrete drill bit. Remove approach plate and drill over pilot holes with a 7/8" concrete bit. Install expansion shield into holes (insert with threads on bottom). Re-position approach plate and anchor.



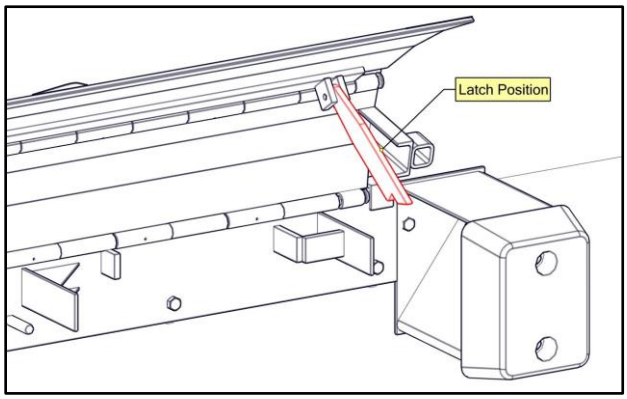
- Center the EZ-Pull leveler against the dock with the positioning tabs resting on top of the approach plate.
- Tack weld mount plate to approach plate along top, alternating from right and left of center.

- Make certain that the leveler is straight and plumb (shim as necessary).
- Drill 3/4" anchor holes along the mount plate and install 5 each ¾"x 4" wedge anchors.



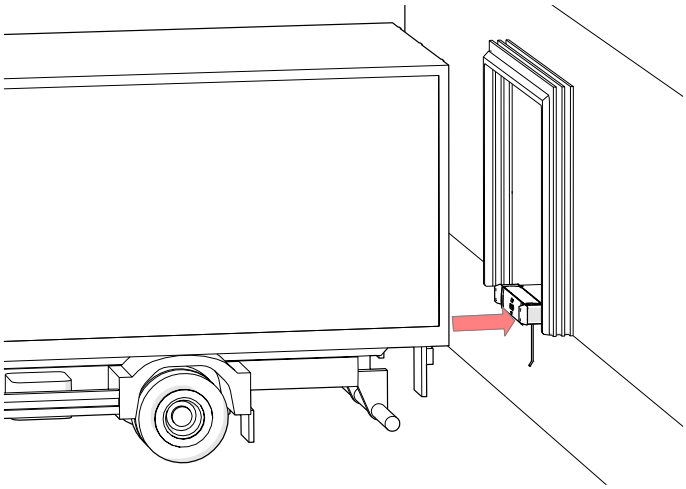
NOTE	If equipped with Hydraulic assist, 4 additional anchors must be installed in the lower hydraulic bracket

- Weld top of mount plate to approach plate with a continuous weld from center out.
- Remove weld slag and re-grease as needed as welding may burn out grease from hinges.
- Re-paint any burned areas. Rustoleum smoke grey (7786) or blue (7727) aerosol.
- The latch is factory installed with notch against mount plate. Latch should swing freely when leveler is in its rest position.

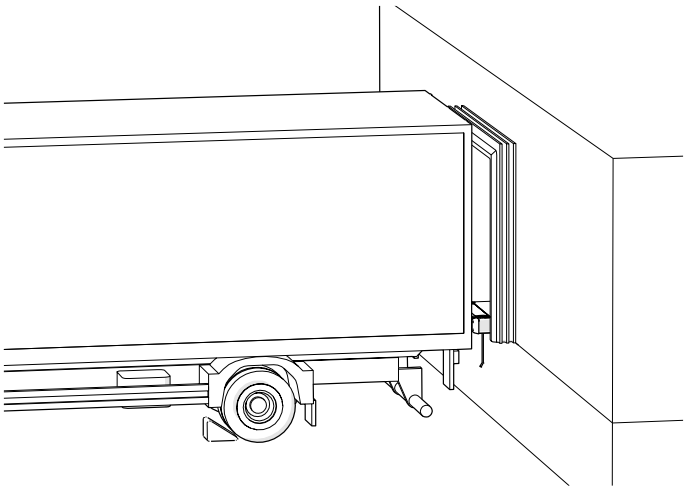


- Remove the bolt from the handle and position it into sleeve tube with bend facing away from dock face. Re-install bolt and nut into bottom of handle.
- Test unit for proper operation. (See operating instructions for mechanical levelers.)

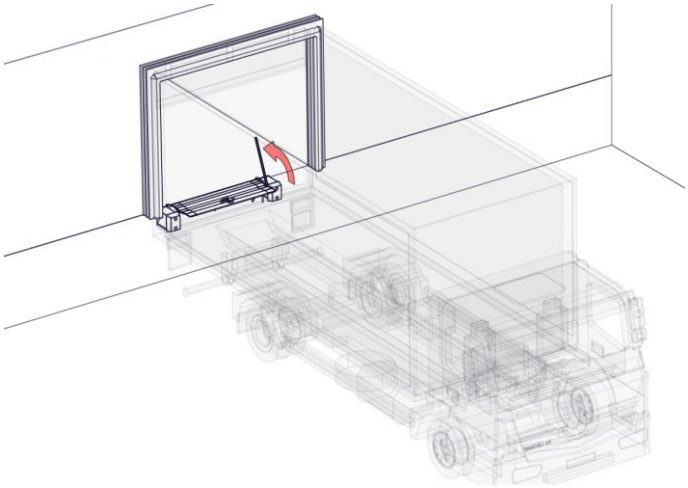
MECHANICAL EDGE-OF-DOCK: OPERATING INSTRUCTION



Step 1: The vehicle driver reverses the vehicle into position firmly against the dock bumpers.



Step 2: The dock operator ensures the vehicle is blocked securely (using either a vehicle restraint and/or wheel chocks) to prevent forward creep or unexpected departure.



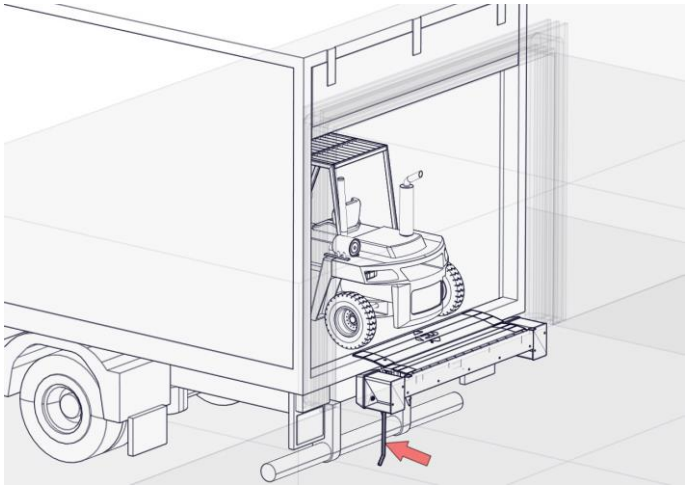
Step 3: Pull the EP handle up until the dead bolt hits the bottom of the 2-inch-square tube sleeve.

Pull the handle back until the latch mechanism falls into catch position.

Push the handle forward to extend the unit outward toward the truck bed.

Continue to push forward until the front lip rests fully on the truck bed.

Return the handle to its rest position while in use.



Step 4: When returning the unit to its stored position, repeat first point of Step 3.

Pull back the handle until the front lip clears the truck floor then allow the weight of the leveler to drop the unit into its rest position.

MAINTENANCE

The Bluff EZ-Pull Leveler will provide years of efficient operation if properly maintained. Preventive maintenance should be performed every six months or as needed for normal usage. For efficient operation and proper maintenance of Levelers used for multiple shifts (above normal usage), maintenance should be performed every 30 days.

- Cleaning: Check hinge tube areas for any debris. Clean hinges with wire brush to remove any foreign objects.
- Grease: The unit should be greased twice a year or as needed–grease zerks are located underneath the deck of the Leveler.
- Structural check: Check unit over for any obvious structural wear. Check hinge tubes for any signs of cracking or wearing.
- Spring assembly: Check spring assembly to assure a proper float in the Leveler deck. Check spring linkage rod for any signs of bending.
- Handle check: Check EZ-Pull handle for any signs of bending or cracking. Improper handle bend may result in unit not latching properly.
- Latch: Check the latch and latch catch for signs of wear on surfaces. Too much wear can decrease height up allowance and may keep latch from disengaging.

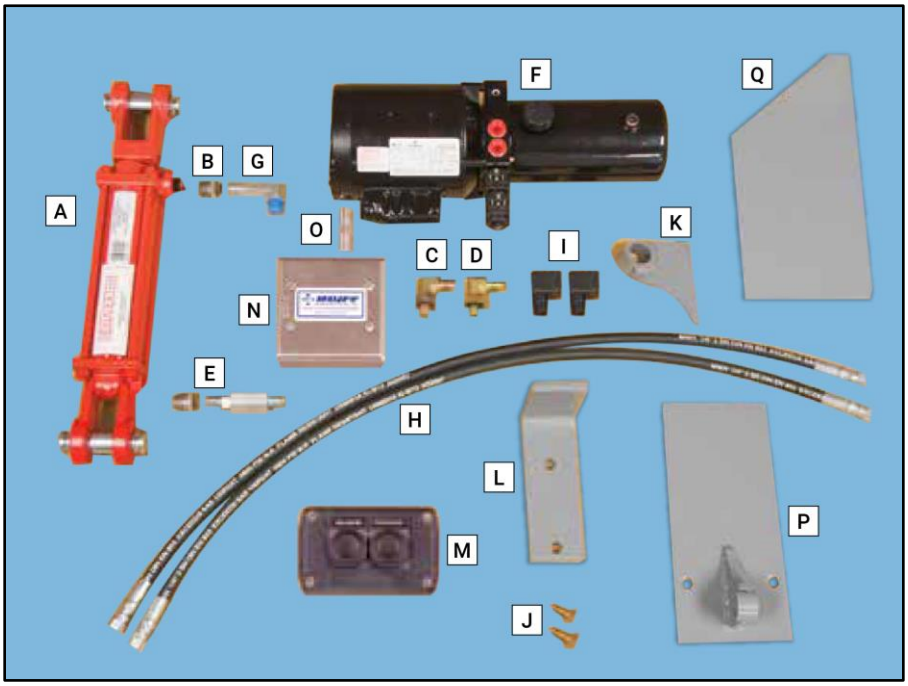
Any damaged parts should be replaced immediately and can be purchased from your local Bluff distributor. Bluff Levelers feature a modular design, allowing for easy replacement

TROUBLESHOOTING

The Bluff EZ-Pull Edge of Dock Leveler is a mechanical device requiring leverage and gravity to operate efficiently.

PROBLEM	CAUSE & SOLUTION
When I raise the dock leveler, the front lip does not extend outward.	• Check to ensure latch is attached to unit. • Check to ensure latch notch is facing the dock. • Check latch assembly for damage or excessive wear.
When I raise the dock leveler, the handle hits the dock surface.	• Check to ensure handle is located correctly in holster. Handle and bend facing away from dock face (toward trailer) when stored in position. • Check handle for damage.
The leveler will not raise enough to allow latch to catch.	• Check for proper tube clearance. Tubes should be 1/8+" higher than dock surface. Deck needs to rotate to approximately the one o'clock position. • Check handle for any damage. • Check hinge tubes for any debris. Wood, nails, etc. can prevent proper rotation.
The leveler is difficult to raise and lower in position.	• Check hinge tubes. Clean any debris or foreign objects from hinges. Use wire brush if necessary. • Check hinge tube lubrication. Grease unit thoroughly.

HYDRAULIC ASSEMBLY PARTS LIST

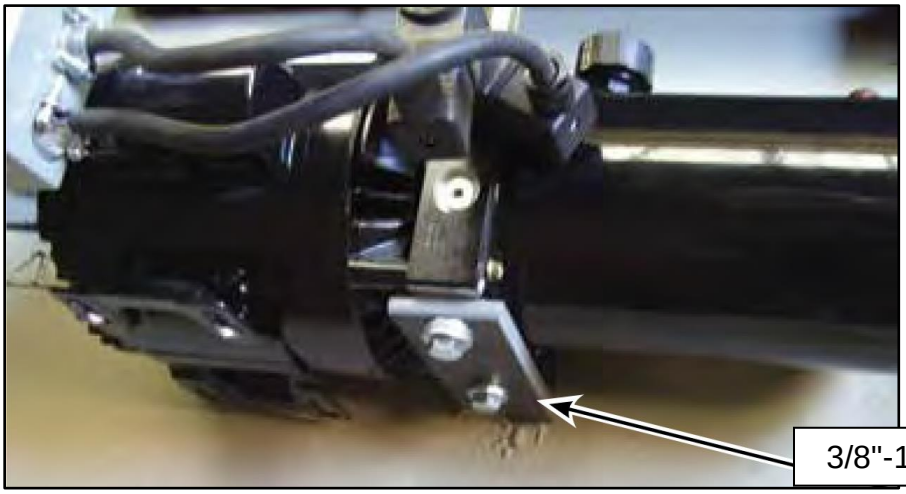


ITEM	QTY	PART#	DESCRIPTION
A	1	MHYDCYLINDER	6" Stroke, Tie Rod Hyd.Cylinder
B	2	Y3414B	Fitting Reducer
C	1	MADAPTER90	90 Deg. Elbow Short
D	1	MADAPTER90XL	90 Deg. Elbow Long
E	1	YFCV	Flow Control Valve
F	1	MPOWERUNIT	AC Hyd-Pwr Unit
G	1	Y90ML	90 Deg. Elbow
H	1	Y30HH	30" Hydraulic Hoses
I	2	EPHYDSOLENOID	Solenoid Connectors
J	2	F3834H	Pump Mount Bolts
K	1	EPHUBKT	EP-Hyd. Upper Bracket
L	1	EPPMBKT	EP Pump Mount Bracket
M	1	MPUSHBUTTON	Wall Mounted Push Button
N	1	M442GANGBOX	Elect. Junction Box
O	1	M123RIGIDNIPPLE	3" Pipe Fitting
P	1	EPHLBKT	EP-Hyd. Lower Bracket
Q	1	EPHDS	EP-Hyd. Deck Stop

COMPLETE HYDRAULIC SET-UP INSTALLATION INSTRUCTIONS FOR FACTORY ISSUED HYDRAULIC UNIT

NOTE	For lo-dock applications call your local Bluff Distributor at 800-433-2212.

- Mount the MPOWERUNIT on the pump mount bracket EPPMBKT.

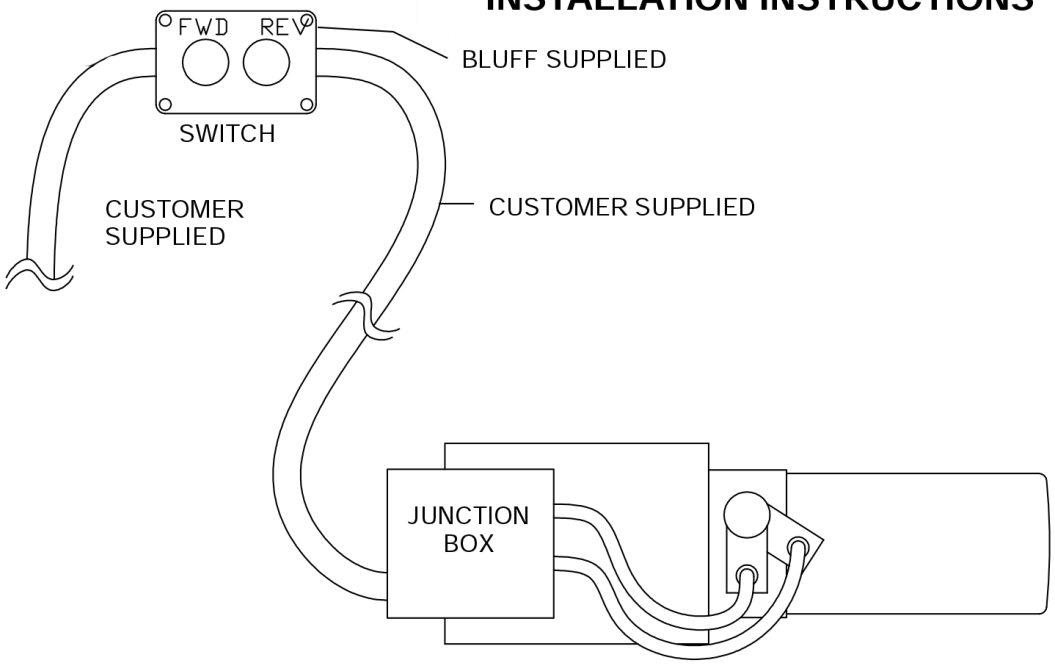


- Mount the MHYDCYLINDER onto the lower bracket EPHLBKT.
- Install and connect hoses as shown below. When connecting the hydraulic hoses to the fitting use Teflon tape.

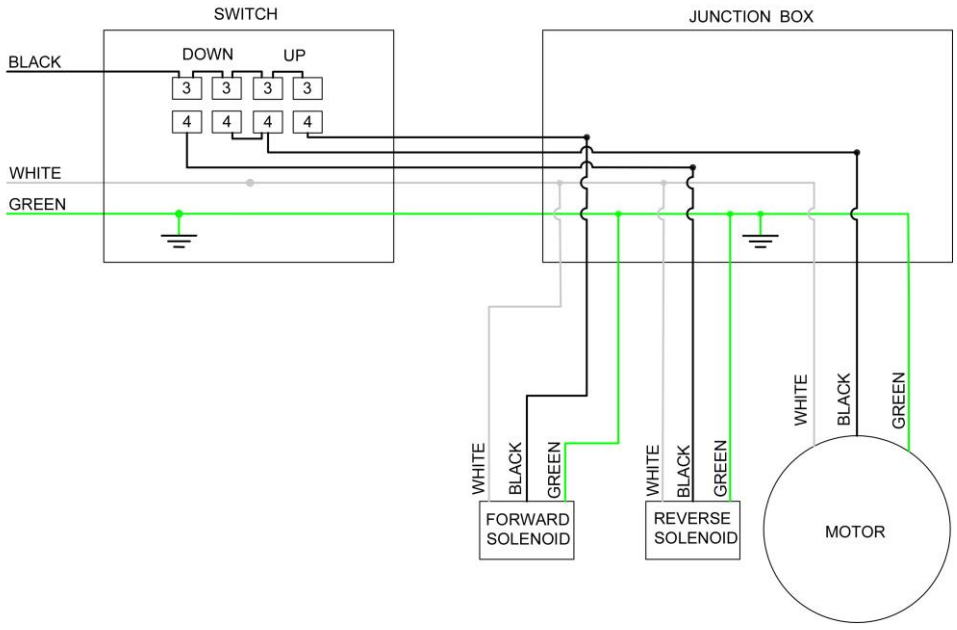
- Mount the switch (MPUSHBUTTON) on the interior of the building wall.

CAUTION	Only qualified personnel should attempt to perform the following wiring instructions.

INSTALLATION INSTRUCTIONS



WIRING SCHEMATIC

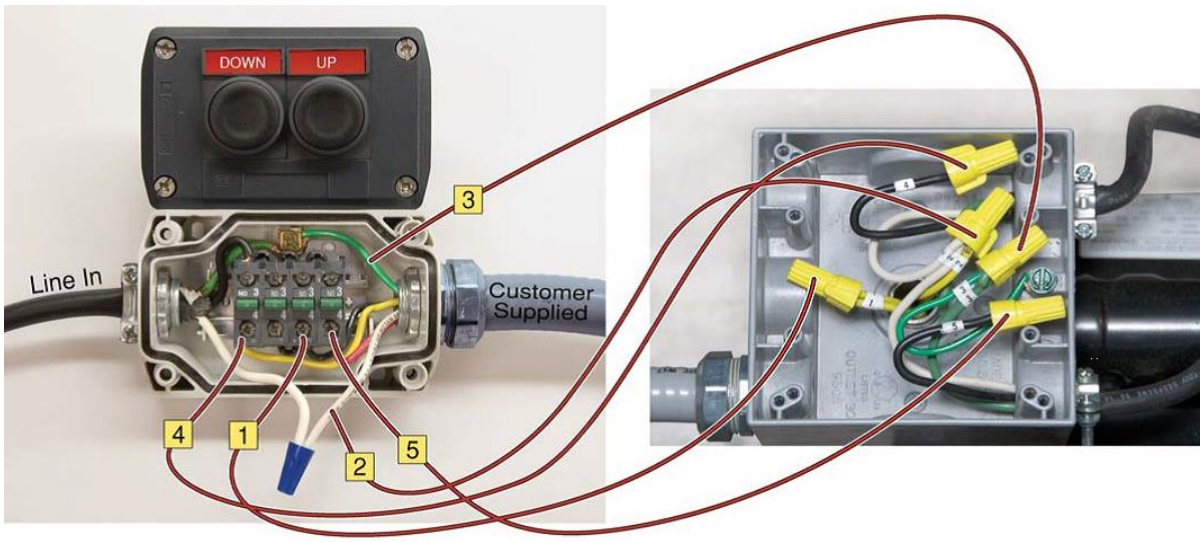


Wiring Instructions

NOTE	All wiring should be done in accordance with local electric codes.

- The unit requires 120 Volt, Single Phase current.
- The photo below shows how to hook the incoming power and the connection to Junction Box on the unit. The Push Button Switch Box and the Junction Box have been pre-wired and all that is needed is the incoming power, and the connection from the Push Button and the Junction Box. The customer supplies the incoming current wires and connection from the Push Button and the Main Junction Box.
- Use #14 stranded wire, with conduit according to your local electric code.

  Be sure and observe all local Electric Codes.



Push Button Box	***Junction Box***

- The direction of travel can be switched by swapping leads 4 and 5, or by swapping the connectors on the valve body.

Important Note

- Items ship without hydraulic fluid. FILL THE RESERVOIR WITH COMMON GRADE HYDRAULIC FLUID. (Common grade fluid is ISO 46). For areas of sub-freezing temperatures, a lighter grade (ISO 32) may be used.
- Power the MPOWERUNIT and jog the motor to test wiring.
- Jog motor to extend the MHYDCYLINDER such to attach to the upper bracket EPHUBKT utilizing the provided pin and keepers.

- Carefully lower the lip to its resting position.
- Press the forward and reverse button to complete a full cycle.
- Refer to the trouble-shooting guide if unit does not function properly.

HYDRAULIC EDGE OF DOCK LEVELERS: OPERATING INSTRUCTIONS

- With truck back into position and trailer door open, depress the reverse button until the latch falls into position. See illustration below.

- Once the latch falls into position, release the reverse button and depress the forward push button.
- The front lip will begin to extend forward, continue to hold the forward button until the front lip rests on the truck floor or the latch kicks off and the front lip lowers onto the truck floor.
- To return the hydraulic leveler to its resting position, for proper storage, depress the reverse button until the front lip clears the truck bed and raises into a vertical position.
- The hydraulic fluid will return to the tank. The deck section will slowly lower to its resting position parallel to the dock face.

NOTE	When Leveler is not in use, keep in lowered, stored position.

TROUBLESHOOTING (FOR HYDRAULIC EDGE OF DOCK UNITS)

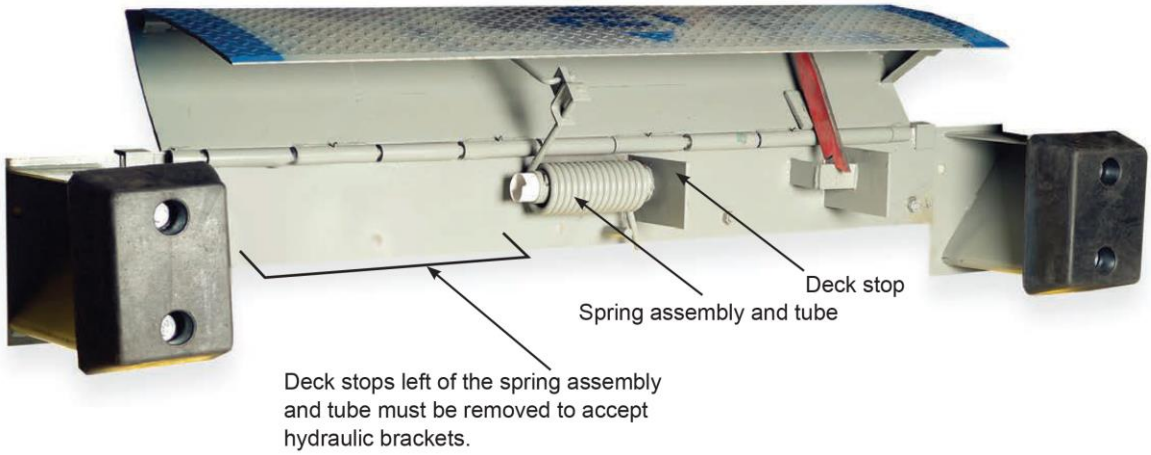
SYMPTOMS	POSSIBLE PROBLEM
Leveler will not pivot	• No grease in hinge and tube joints. • No hydraulic fluid in tank. • Missing or broken component. • Check for obstruction preventing proper operation.
Leveler will not extend forward	• Latch installed incorrectly. (Reverse) Latch did not engage. • Leveler installed below the dock level and the unit not allowed to pivot back enough to for the latch to engage. • No hydraulic fluid in unit, leak in hose. • Broken or missing component
Lip not returning to stored position	• Latch not disengaging. • Insufficient grease in hinges. • Check for debris or obstructions.
Leveler not moving (motor running)	• Check fluid level. • Pushing wrong button. • Faulty hose, damaged value stem. • Wiring wrong, damaged components.
Leveler will not move (motor not running)	• Check wiring, voltage, etc. • Motor damaged. • Bad push button switch. • Power Outage. • Unit cannot be worked manually.

COMPLETE HYDRAULIC SET-UP INSTALLATION INSTRUCTIONS FOR IN-FIELD RETRO-FIT OF EXISTING LEVELER UNIT

Retro-Fit

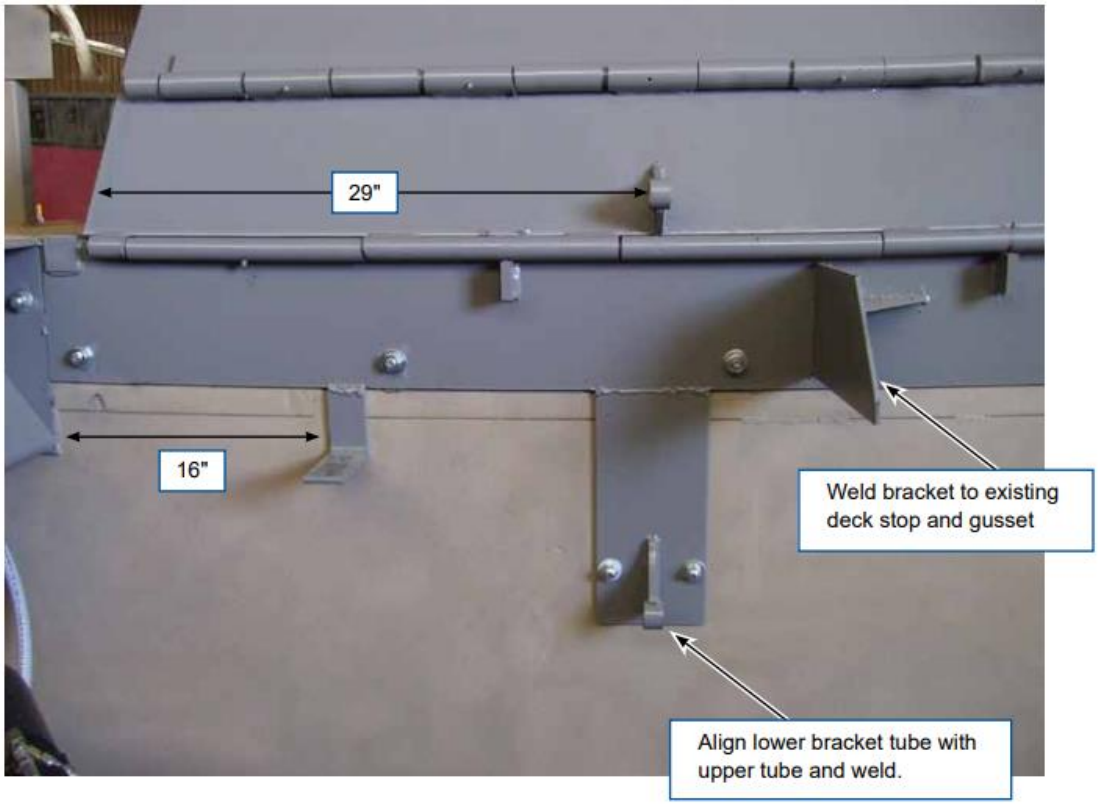
NOTE	The leveler selected for the retro-fit hydraulic package must be in acceptable working condition.

- Lift the front lip of the EZ-Pull leveler to expose the brackets as shown below.
- Remove spring assembly including tube, using cutoff wheel or torch, leaving deck stop and gusset.



COMPLETE HYDRAULIC SET-UP INSTALLATION INSTRUCTIONS FOR IN-FIELD RETRO-FIT OF EXISTING LEVELER UNIT (CONTINUED)

- Clean the surface and weld the brackets as shown below



- Anchor the lower bracket to side of dock.
- To complete the retro-fit follow complete hydraulic setup installation instructions.

BLUFF WARRANTY

Bluff Manufacturing warrants their products to be free from defects in material and workmanship for a period of one year from shipping date to original purchaser. Warranty eligibility requires all products are used and serviced in accordance with the company's recommendations, product selection guides, product manuals and installation instructions.

Bluff Manufacturing's obligation under this warranty shall be limited to the repair, by Bluff Manufacturing or a Bluff Manufacturing authorized technician, or exchange of any part of parts which may prove defective under normal service within the time limitations set forth above, and which our examination shall disclose to our satisfaction to be defective. Bluff Manufacturing requires the purchaser to send date stamped photographs for initial review of warranty claim products.

This limited warranty does not cover any defects, malfunction or failure caused by or resulting from improper or unauthorized service, maintenance, installation repair or use not in conformance or accordance with Bluff Manufacturing's recommendations, product selection guides, product manuals or installation instructions and the intended use and capacities or specifications or from abuse, neglect, accident, weather related issues or any other cause beyond the control of Bluff Manufacturing. This limited warranty is made only to the original purchaser, which shall be deemed to mean that person or organization to which the product is originally shipped or installed.

Bluff Manufacturing does not approve nor authorize any other person or entity to obligate Bluff Manufacturing to any other liability not described herein concerning the sale of its products.

Bluff Manufacturing shall not be liable for any incidental or consequential damages. And liability here under is expressly limited to repair or replacement of any part or parts which may prove defective within the time prescribed hereon.

This warranty is expressly in lieu of all other warranties, expressed or implied, including the warranties of merchantability and fitness for a particular purpose and all other obligations or liabilities on our part.

Warranty is limited to value of components only.

No liability for loss of the use of any equipment and expressly disclaims any liability for incidental or consequential damages.

This warranty will not apply to any product which has been altered, modified, damaged or which has deteriorated due to abuse, neglect, misuse or by accident.

BLUFF RETURNED GOODS AUTHORIZATION (RGA)

Before returning any merchandise for any reason whatsoever, it is necessary to contact Bluff Manufacturing for approval. All requests must be submitted with a date stamped photograph of item to be returned. If approval is given, an RGA number will be given by Bluff Manufacturing. This RGA number must appear on all documents involving the returned goods.

Freight charges on all RGA's must be PREPAID on returns but not warranties.

RGA numbers will not be issued after thirty (30) days from date of shipment, except for warranty items, by Bluff Manufacturing or its designated representative.

A restocking charge of 25% will be made on all merchandise except as allowed under warranty claims.

Returns will not be allowed on any custom, special or worksheet required items and products in non-resalable condition.