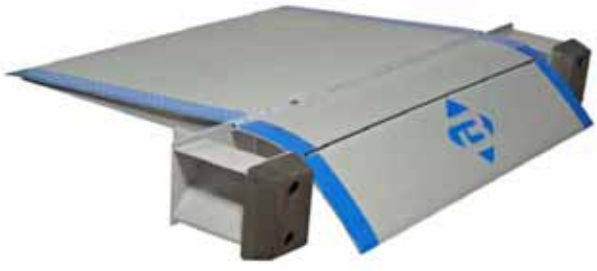
Loading Dock Supply LLC
P.O. Box 15, Ashley
Oh 43003
: 800-741-1258
: 866-709-2802
: Sales@loadingdocksupply.com
: www.Loadingdocksupply.com

MECHANICAL DOCK LEVELER (EP)

LO-DOCK LEVELER (LD)



OWNER'S MANUAL AND INSTALLATION GUIDE

DO NOT INSTALL, OPERATE OR SERVICE PRODUCT WITHOUT HAVING READ AND FULLY UNDERSTAND ALL SAFETY PROCEDURES, WARNINGS, INSTALLATION AND OPERATING INSTRUCTIONS ENCLOSED IN THIS OWNER'S MANUAL.

SAFETY PROCEDURES

READ AND UNDERSTAND ALL SAFETY PRACTICES AND OPERATING INSTRUCTIONS BEFORE INSTALLING, SERVICING OR OPERATING THE DOCK LEVELER. FAILURE COULD RESULT IN DAMAGE TO UNIT, PROPERTY AND PERSONAL INJURY TO OPERATOR.

1. **Do not stand between leveler and trucks backing up to dock.**
2. **Do not operate the leveler with equipment, material or people on the deck section of the leveler.**
3. **Never attempt to work under the dock leveler without properly securing the front and center sections.**
4. **Keep clear of dock leveler while in operation.**
5. **Do not exceed capacity rating.**
6. **If dock leveler is not operating normally do not continue to use, get maintenance personnel to inspect and contact your local Bluff dealer.**
7. **Keep clear of all pinch points that could cause injury.**
8. **Do not use leveler if it appears to be damaged or broken.**
9. **Damage to leveler could occur if product is misused or used in an abusive manor.**
10. **For additional information or concerns contact your local Bluff representative.**

EZ-Pull Edge of Dock Leveler

Engineering Design

The Bluff EZ-Pull dock leveler design offers a tremendous ergonomic solution when compared to other available dock leveler designs. The simple, smooth performance and easy to position design eliminates the lifting and difficult positioning factors associated with posse hook type design.

The advanced designed bluff latch assembly allows the operator to easily position the unit. A pull and push action on the EZ-Pull handle activates the unit, moving the lip forward onto the trailer floor. To store the unit, the above process is reversed or the trailer simply pulls away, allowing the unit to return to automatically restore to it's rest position.

Dock Parameters

The EZ-Pull dock leveler will accommodate a maximum of five (5) inches above the dock and three (3) inches below dock, providing 18.5% grade down and 20% grade up. This is acceptable for most gas or propane powered forklifts but is not suitable for most pallet trucks or many electric forklifts. Additional dock parameters are listed below for optimal product performance.

- Freight trailers range in height from 46 to 56 inches, therefore the EZ-Pull leveler should be mounted at 51 inches above the driveway surface.
- Refrigerated trailers range in height from 50 to 60 inches, therefore the EZ-Pull leveler should be mounted 55 inches above the driveway surface. In addition, this application requires a reefer lip (17" long lip length) to accommodate the offset floor of the trailer.
- Flatbed trailers have a wide range of trailer heights. Dockboards or other equipment may be needed for extreme height variations.
- Containers have variations in both floor and door configurations.
- Captive fleets require mounting midway between lowest and highest trailer, provided a +/-5 inch range is maintained.

Due to limited clearance and gradeability of the equipment of electric and pallet fork lifts the nominal operating range is three (3) inches above and below the dock level.

**Note: When EZ-Pull leveler will not accommodate the trailer heights range at a single dock location mounting separate EZ-Pull levelers at different heights to handle both types correctly. Also, mounting an EZ-Pull leveler with a reefer lip at 55 inches and using wheel risers to raise and lower trailers to the proper heights are some possible solutions.

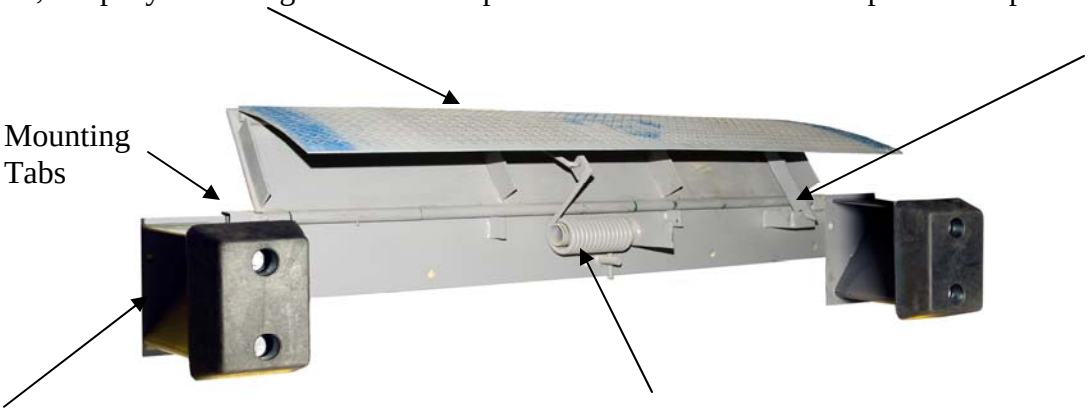
Declining dock driveways require special dock specifications. Call for more information.

Product Specification & Features

The Bluff EZ-Pull dock leveler is designed with a full hinged lip and utilizes torsion spring counterbalance assembly for ease of positioning. Unit conforms to OSHA, US Department of Commerce standard CS-202-55 and ANSI/MH 14.1 performance requirements.

Three piece steel construction.
Lip and ramp are constructed of
50,000 psi yield strength steel thread plate

Mechanical latch
produces lip extension

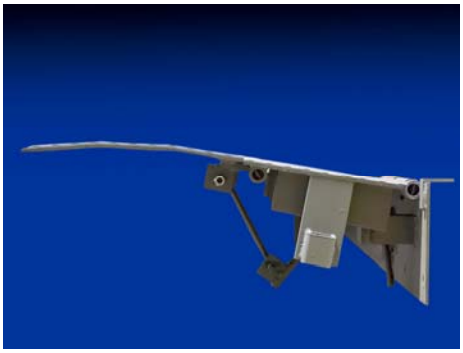


Mounting
Tabs

Z shaped bumper beams
with replaceable rubber bumpers.

Single torsion spring provides
Counterbalance on lip section for
ease of positioning.

- Bluff's EZ-Pull leveler has 5 inch above and below dock surface operating range.



- Lip section tilts up to 1 inch for out of level compensation.
- Unit is also designed to float allowing for vertical corner deflection when the lip is in contact with truck bed.
- Mounting tabs ensure correct height placement on dock surface.

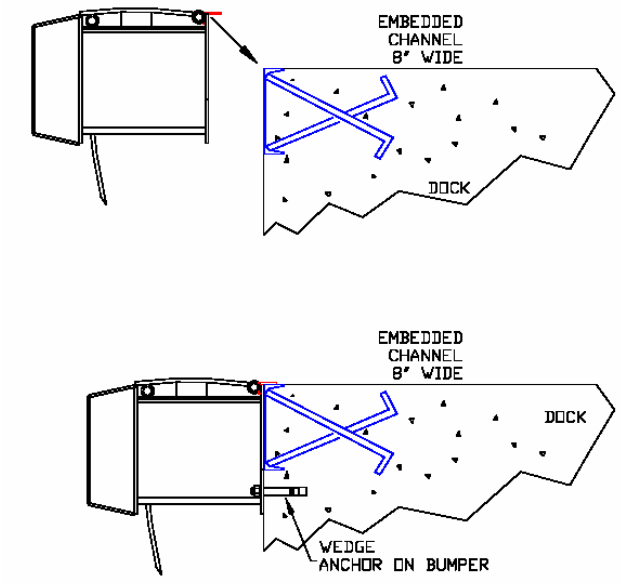
INSTALLATION INSTRUCTIONS

Mechanical Edge of dock

Type1: Dock edge **with** embedded steel channel.

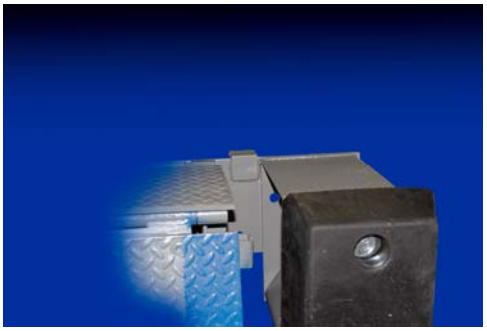
NOTE: REMOVE LATCH AND HANDLE BEFORE BEGINNING THE INSTALLATION
Latch and handle are attached to mount plate for shipping purposes only!

1. Prior to mounting refer, to EZ-Pull dock parameters.
2. Check 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. IMPORTANT: Make certain leveler is straight and plumb.
3. Clean and prepare dock surfaces for installation.
4. Center the EZ-Pull leveler against the dock with the mount tabs resting on top of embedded channel.



5. Tack weld top of mount plate at the center point of leveler.
6. Shim where necessary to keep level straight and plumb.

7. Tack weld mount plate alternating from right and left of center tack point and the vertical sides of the mount plate to the embedded channel.
8. Weld out the top of the mount plate from center out to the edges and down the vertical sides.
9. Position the bumpers flush with top of mount plate and butted up to the sides of the mount plate.

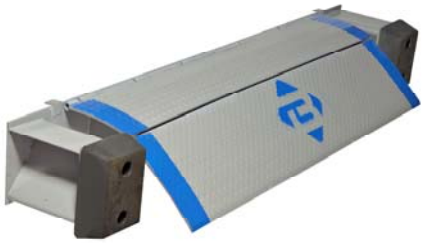


10. Mark the bottom hole location of bumper beam and drill an anchor hole and install a ¾" x 4" wedge anchor bolt.
11. Re-position the bumper on the dock and weld to embedded channel and secure the bottom of the bumper anchor bolt and nut.

12. Re-grease the unit. Welding will burn out some grease in hinge tubes.
13. Re-paint any burned areas.
14. Attached the latch with notch against mount plate. Latch should swing freely when leveler is in its rest position.

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

Mechanical Edge of dock



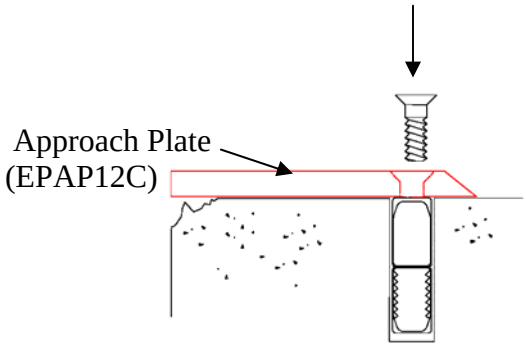
Type 2: Dock edge **without** embedded steel channel.

NOTE: REMOVE LATCH AND HANDLE BEFORE BEGINNING THE INSTALLATION
Latch and handle are attached to mount plate for shipping purposes only!

1. Prior to mounting refer, to EZ-Pull dock parameters.
2. Center the beveled approach plate in the desired location flush with the dock. Cut if required to fit door opening.

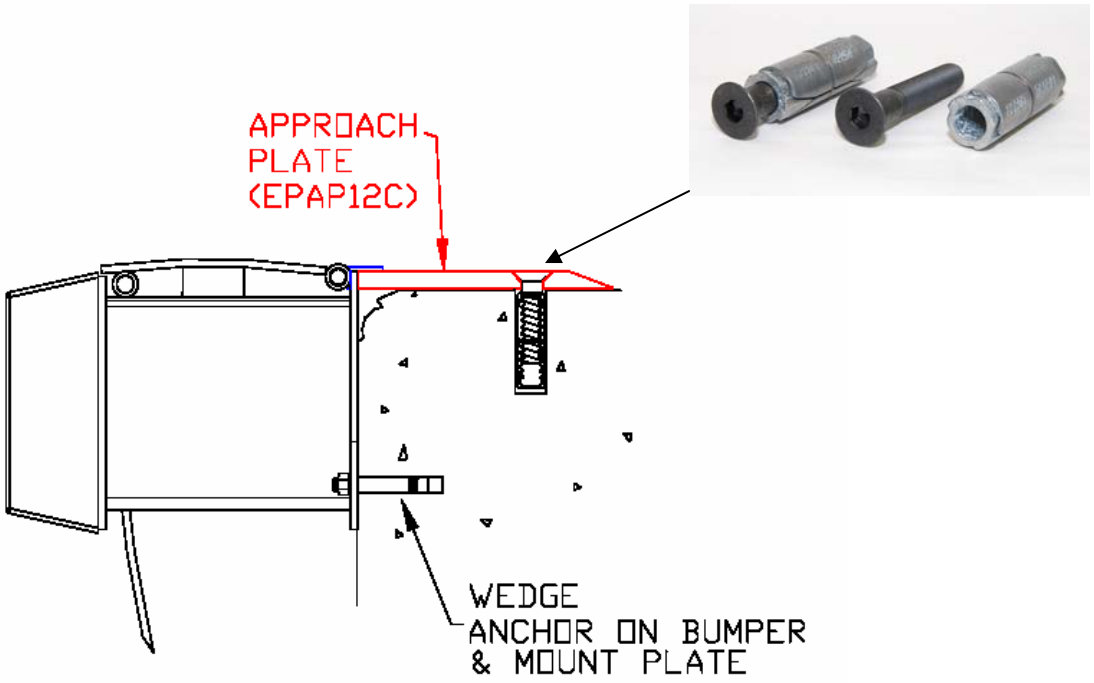
   An approach plate requires 5 heavy duty expansion shield anchor bolts with ½" flat head socket cap screws. Locate the approach plate and drill pilot anchor holes with a 9/16" concrete drill bit. Remove approach plate and drill over pilot holes with a 7/8" concrete bit. Install expansion shield into holes (insert with treads on bottom). Re-position approach plate and anchor.

EXPANSION SHEILD ANCHORS



3. Position the EZ-Pull leveler over the center of the approach plate.

4. Set the EZ-Pull leveler over the top of the approach plate with the mounting tabs for correct height setting.
5. Tack the top of the mount plate at the center to the approach plate.
6. Make certain that the leveler is straight and plumb. (shim is necessary)
7. Drill 7/8" anchor holes along the mount plate and install 5 ¾"x 4" wedge anchors.

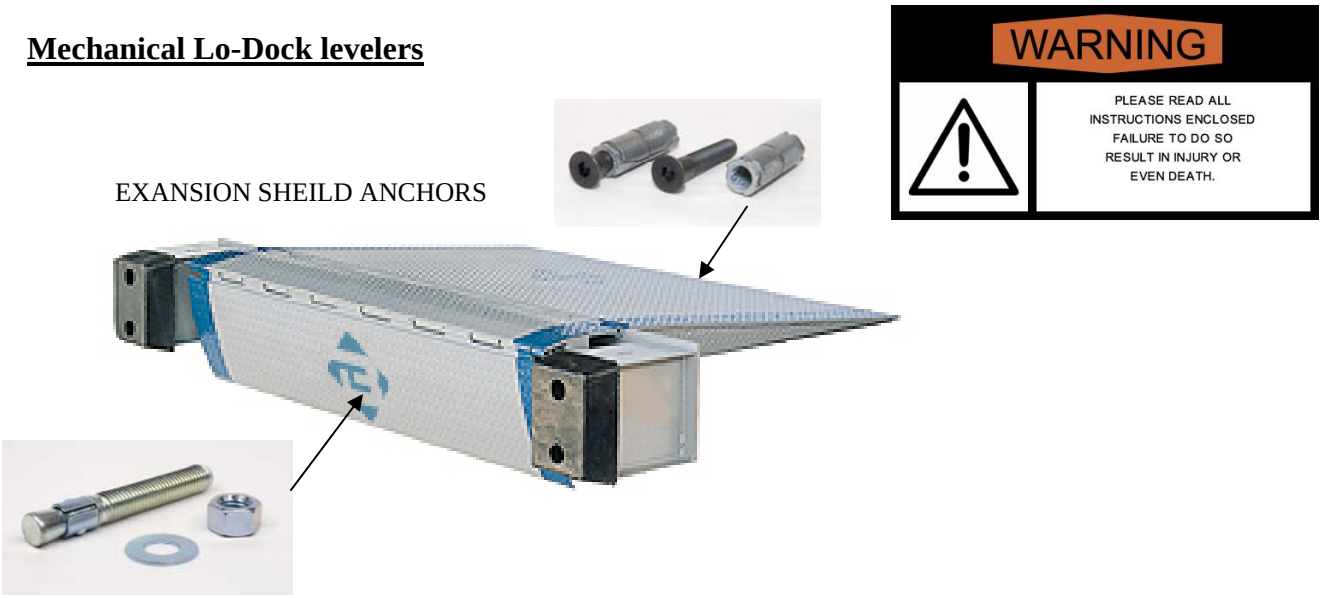


8. Weld top of mount plate to approach plate with a continuous weld from center out.
9. Remove weld slag and re-grease as needed.(welding will burn out grease from hinge)
10. Repaint any burn areas.
11. Attach the latch with notch facing mount plate. Latch should swing freely when leveler is in its rest position.

Catch Position
(Painted red for clarity)

12. Remove the bolt from the handle and position it into sleeve tube with bend facing away from dock face.
13. Test unit for proper operation. (See operating instructions for mechanical levelers)

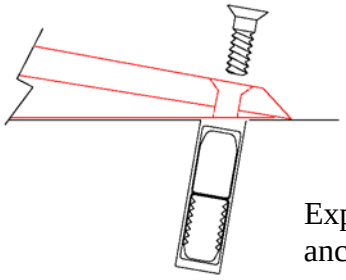
Mechanical Lo-Dock levelers



NOTE: REMOVE LATCH AND HANDLE BEFORE BEGINNING THE INSTALLATION

Latch and handle are attached to mount plate for shipping purposes only!

1. Prior to mounting refer, to EZ-Pull dock parameters.
2. Position Lo-dock leveler into desired location.
3. This unit requires 5 heavy duty expansion anchors and 9 - ¾"x 4" wedge anchors bolts.
4. With Lo-dock in position, drill 9/16" pilot hole over exiting holes on ramp.
5. Move the ramp out of position and drill over pilot holes with 7/8" concrete drill bit.
6. Place expansion shields into holes with treads facing down as shown below.



Expansion shield
anchors installed at an angle.

7. Re-position Lo-dock and anchor with ½" flat head socket cap screws 3-1/2" long.
8. Drill and anchor the front and side gussets of the Lo-dock leveler with ¾"x 4" wedge anchors.
9. Attach the latch with notch facing mount plate. Latch should swing freely when leveler is in its rest position.
10. Remove bolt from handle. Position handle into sleeve tube with bend facing away from dock face.
11. Test unit for correct operation. (See operating instructions for mechanical levelers)

SPECIAL NOTES

For special docks with declining surfaces contact your local Bluff dealer.

OPERATING INSTRUCTIONS

Mechanical Edge of Dock and LO-Dock Levelers

Step 1: Pull the EP handle up until the dead bolt hits the bottom of the 2 inch square tube sleeve.
Step 2: Pull the handle back until the latch mechanism falls into catch position.

Step 1

Step 2

Step 2

Catch Position
(Painted red for clarity)

Step 3: Push the handle forward and the front lip will begin to extend outward toward the truck bed.

Step 3

Step 4: Continue to push forward until the front lip rests fully on the truck bed or the front lip falls onto the bed.

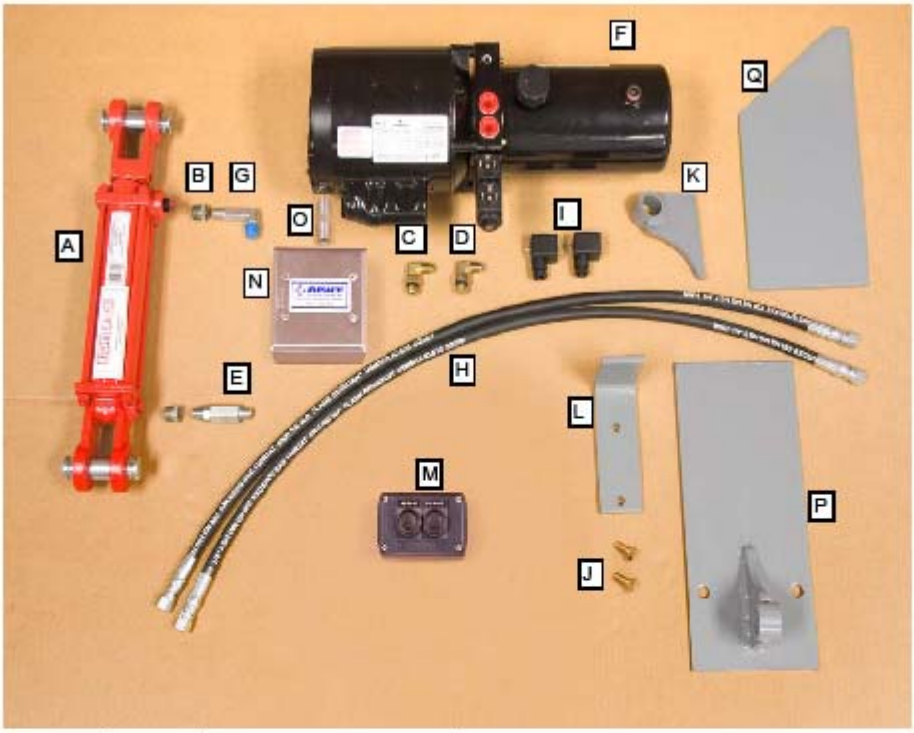
Step 5: Return the handle to its rest position while in use.

Step 6: When returning the unit to its stored position, repeat step 1.

Step 7: Pull back the handle until the front lip clears the truck floor then allow the weight of the leveler to drop into its rest position.

Step 8: Repeat step 5

BLUFF MANUFACTURING,INC.
COMPLETE HYDRAULIC PACKAGE FOR LEVELERS



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	**	SOLENOID CONNECTORS
J	2	F3834H	PUMP MOUNT BOLTS
K	1	EPHUBKT	EP-HYD. UPPER BRACKET
L	1	EPPMBKT	EP PUMP MOUNT BRACKET
M	1	MPUSHBUTTOM	WALL MOUNTED PUSH BUTTON
N	1	M442GANGBOX	ELEC. JUNCTION BOX
O	1	M123RIDGENIPPLE	3" PIPE FITTING
P	1	EPHLBKT	EP-HYD. LOWER BRACKET
Q	1	EPHDS	EP-HYD. DECK STOP

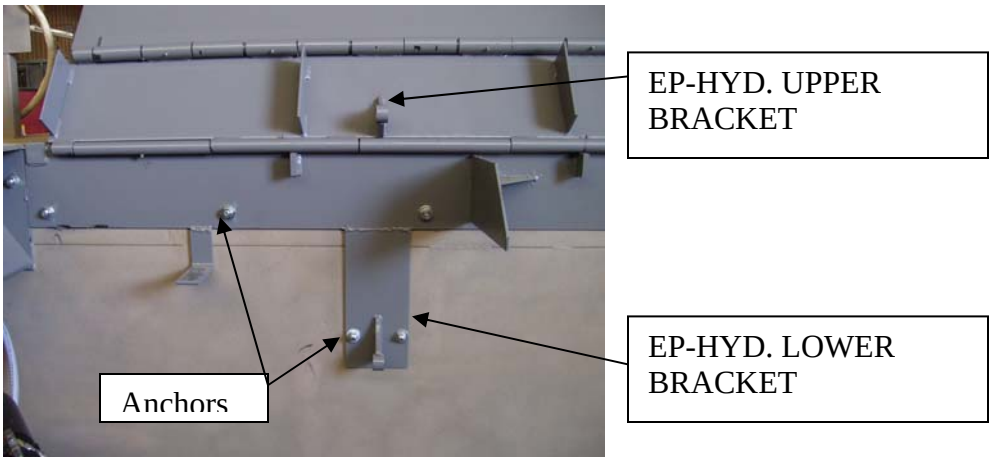
** Included with MPOWERUNIT

COMPLETE HYDRAULIC SET-UP
INSTALLATION INSTRUCTIONS

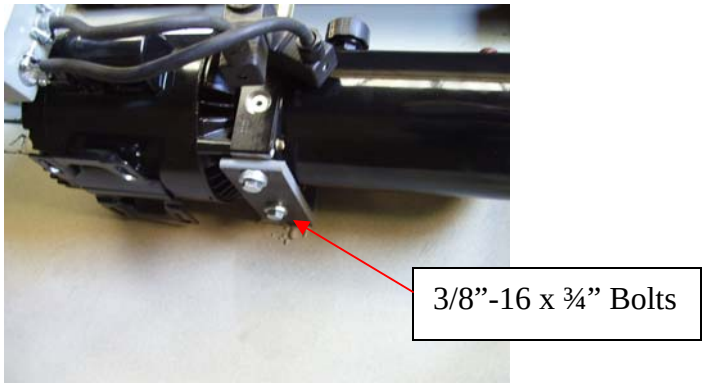
EPHYDRAULIC - OPTION

NOTE: FOR Lo-DOCK APPLICATIONS CALL YOU LOCAL BLUFF DEALER.

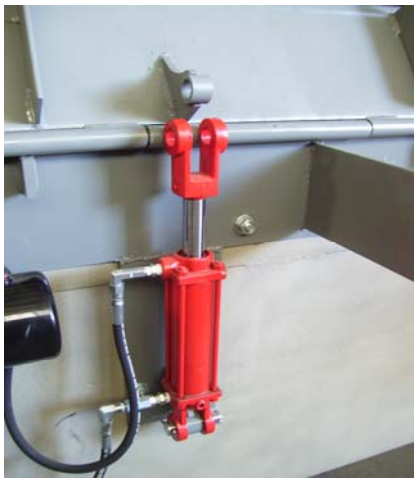
1. Prior to mounting refer, to EZ-Pull dock parameters and mounting instructions for Mechanical Edge of dock levelers for mounting the leveler unit.
2. Lift the lip of the EZ-Pull leveler to expose the brackets as shown below.
3. Anchor the mount plate as shown below.
4. Weld EP-HYD. LOWER BRACKET in-line with the EP-HYD. UPPER BRACKET.



5. Mount the MPOWERUNIT on the EP Pump mount bracket.

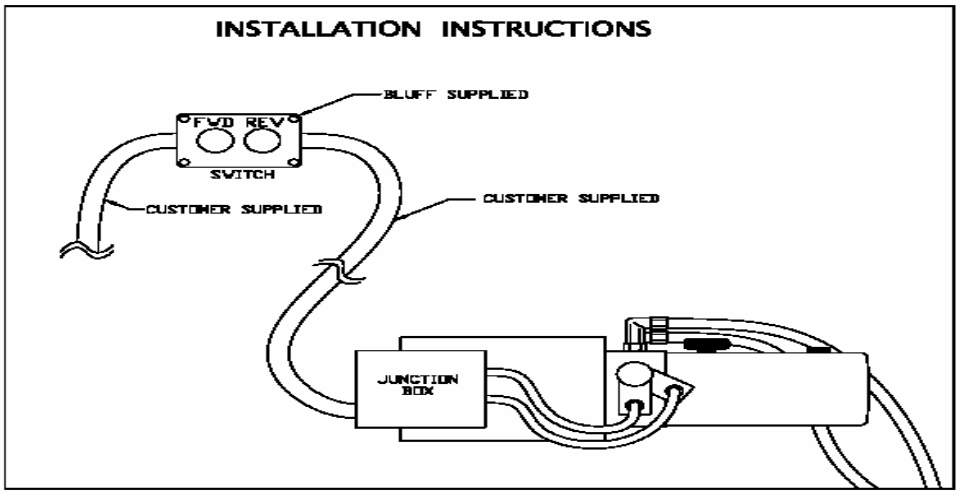


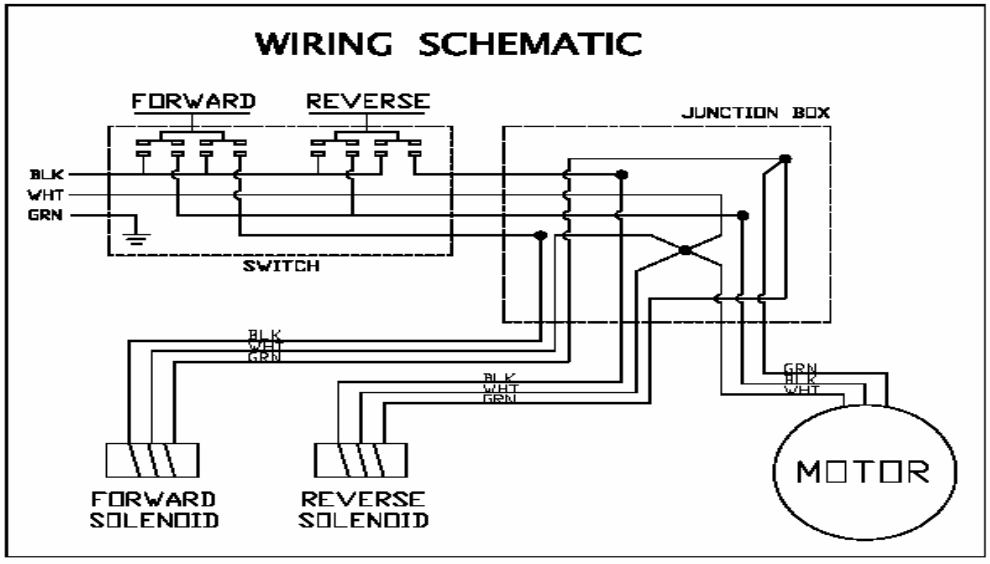
6. Mount the MHYDCYLINDER onto the EP-HYD. Lower bracket.
7. Install and connect hoses as shown below.



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

CAUTION: ONLY QUALIFIED PERSONNEL SHOULD ATTEMPT TO PERFORM ALL THE WIRING INSTRUCTION BELOW.

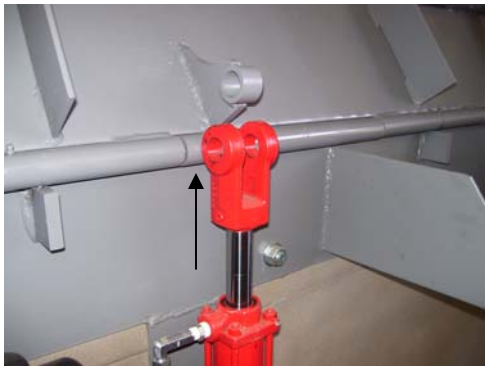




**********IMPORTANT**********

9. FILL THE RESOVIOR WITH COMMON GRADE HYDRAULIC FLUID.

10. Power the MPOWER UNIT and jog the motor to test wiring.
11. Jog motor to extend the MHYDCYLINDER such to attach to the upper bracket.



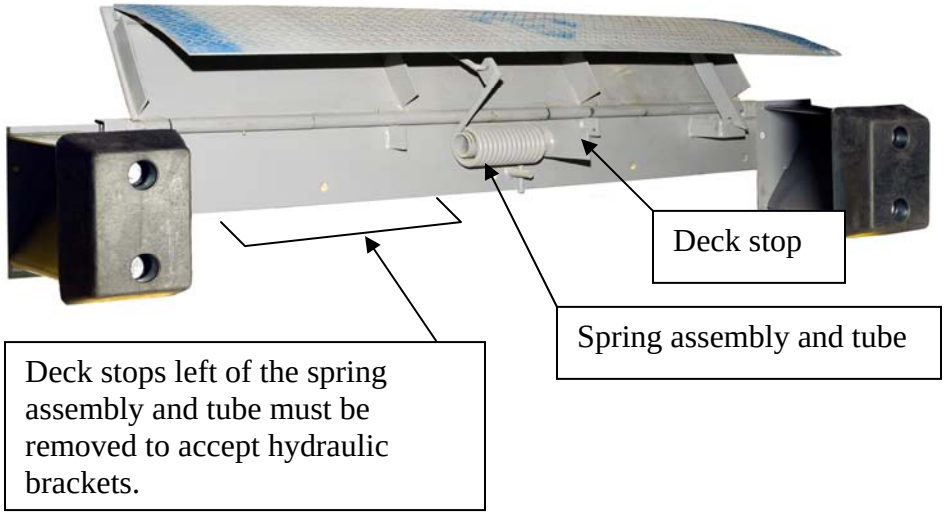
12. Carefully lower the lip to its rest position.
13. Press the forward and reverse button to complete a full cycle.
14. Refer to the trouble-shooting guide if unit does not work.

INSTALLATION INSTRUCTIONS

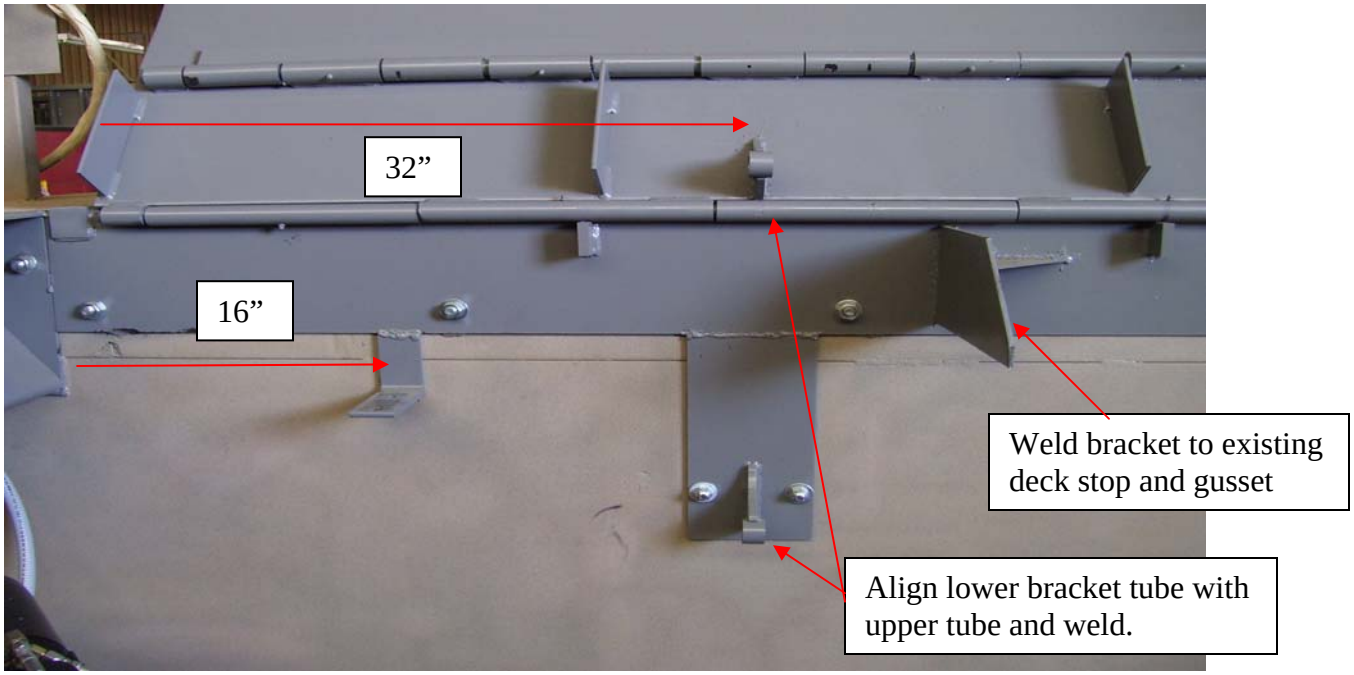
EPHY-RETRO – RETRO FIT OPTION

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

1. Lift the front lip of the EZ-Pull leveler to expose the brackets as shown below.
2. Remove the spring assembly leaving the deck stop and gusset.



3. Clean the surface and weld the brackets as shown below.



4. Anchor the lower bracket to side of dock.

5. To complete the retro-fit kit follow step 5 thru 13 of the complete HYDRAULIC option above.

OPERATING INSTRUCTIONS

Hydraulic Edge of Dock Levelers

Step 1: With truck back into position and trailer door open, depress the reverse button until the latch falls into position. See illustration below

Step 2: Once the latch falls into position, release the reverse button and depress the forward push button.

Step 3: The front lip will begin to extend forward, continue to hold the forward button until the front lip rest on the truck floor or the latch kicks off and the front lip free falls on to the truck floor.

Step 4: To return the hydraulic leveler to its rest position, depress the reverse push button until the front lip clears the truck bed and falls into a vertical position.

Step 5: The reverse button can now be release and the hydraulic fluid will return to the tank and the deck section will slowly lower to its rest position.

TROUBLESHOOTING GUIDE

(For all types of edge of dock units)

Symptom:		**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.