

**BH-2 SERIES**

**HYDRAULIC DOCK LEVELER**

**OWNERS MANUAL**

**INSTALLATION – OPERATION**  
**SERVICE – REPAIR PARTS**



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## SECTION 1

## INSTALLATION INSTRUCTIONS RECEIVING AND HANDLING

### RECEIVING:

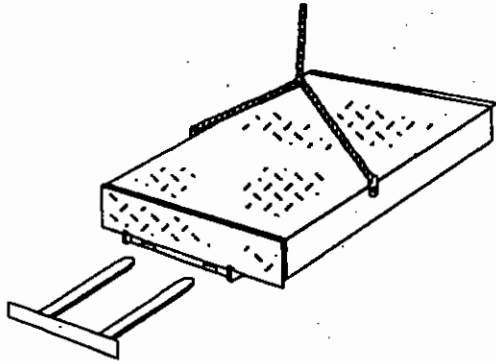
Check for possible damage or missing parts immediately upon receipt of unit. Note any damage on receiving papers.

Prepare any claims against carrier if necessary.

**NOTE: Damage noticed after receipt must be reported to carrier within 15 days.**

Notify \_\_\_\_\_ of any damage or missing parts.

### HANDLING:



Move leveler into position by using:

- chain sling inserted into side plate holes. (See Figure A)
- fork lift, inserted in front base angle (See Figure A)

### NOTE:

Control box, two bumpers, and weather seals, if applicable, are strapped under leveler. Handle with care to avoid damage to these components.

## SECTION 1

## INSTALLATION INSTRUCTIONS INSTALLATION

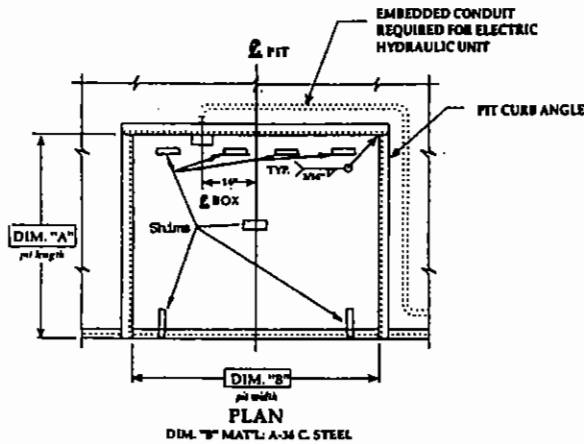
### INSTALLATION: (Consists of 3 phases)

Pit preparation

Leveler Preparation

Leveler Installation

PIT PREPARATION AND ELECTRICAL INSTALLATION:



VARIABLE DIMENSIONS				
MODEL SIZE	"A"	"B"	"C"	"D"
6'W x 6'L	63"	74"	19 1/2"	20"
6'W x 8'L	87"	74"	19 1/2"	20"
6'-6"W x 6'L	63"	80"	19 1/2"	20"
6'-6"W x 8'L	87"	80"	19 1/2"	20"
7'W x 6'L	63"	85"	19 1/2"	20"
7'W x 8'L	87"	85"	19 1/2"	20"

1. Examine pit. Pit walls should be square and plumb. Clean all debris from pit.
2. Measure pit dimensions. (See Figure B for accurate dimensions.)

Verify that pit walls are:

- Square
- Plumb

Place shims in correct locations on pit floor before lowering leveler into place in pit.

[Pit depth at shim locations (minus 19") equals shims thickness.]

NOTE: Shims are to be placed directly under rear frame uprights, under base of cylinder, and under lip keepers. See Figure D, page 1 - 3.

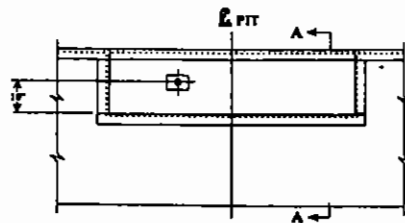
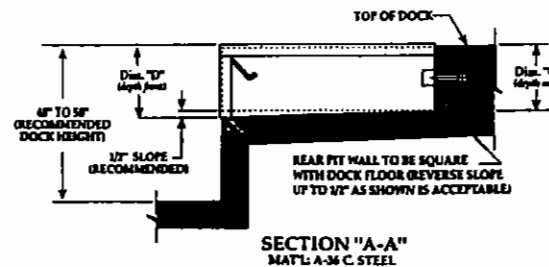


FIGURE B  
DIM. "B" MAT'L: A-36 C. STEEL



SECTION "A-A"  
MAT'L: A-36 C. STEEL

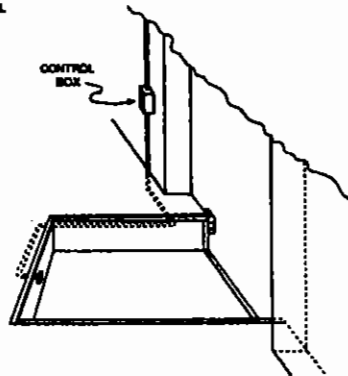


FIGURE C

3. Install control box on wall near pit. (See Figure C)
4. Install wire leads for motor per wiring diagram. (See Troubleshooting section, page 4 - 1)

Wire must be installed through conduit. (Conduit to be supplied by customer.) Additional wire leads may be used to supply temporary power to leveler from control box.

## LEVELER PREPARATION

1. Position leveler directly in front of pit.
2. Cut restraining band on lip.
3. Connect temporary wire leads to proper wire grouping at motor.
4. Check motor operation.
5. Check fluid level in hydraulic reservoir. Check all hydraulic hose connections and fittings.

**NOTE:** Unit may fail to operate correctly at this point if temporary power does not supply adequate voltage. **DO NOT** make adjustments to leveler. Provide proper voltage before attempting to operate leveler. (See Electrical page 3 - 1.)

If unit does not raise when motor activates, rotation may be wrong. Recheck connections per wiring diagram to correct rotation.

Leveler should be in stored (home) position. Fluid should measure 3/4" below neck of plug. If necessary, fill to correct level, using Dextron II transmission fluid.

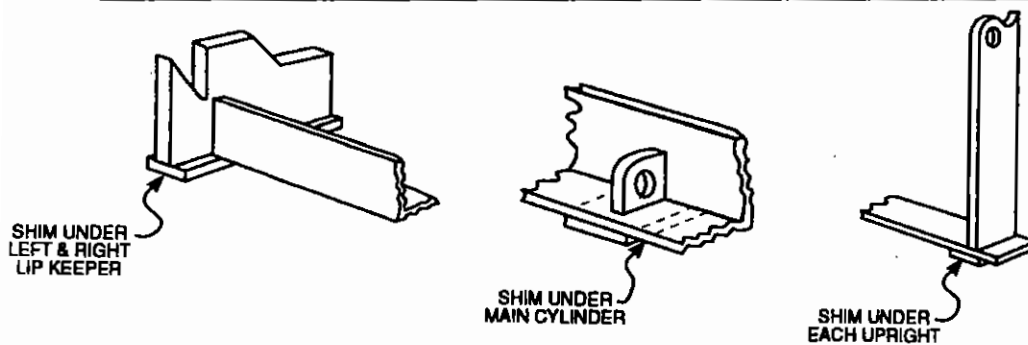


FIGURE D

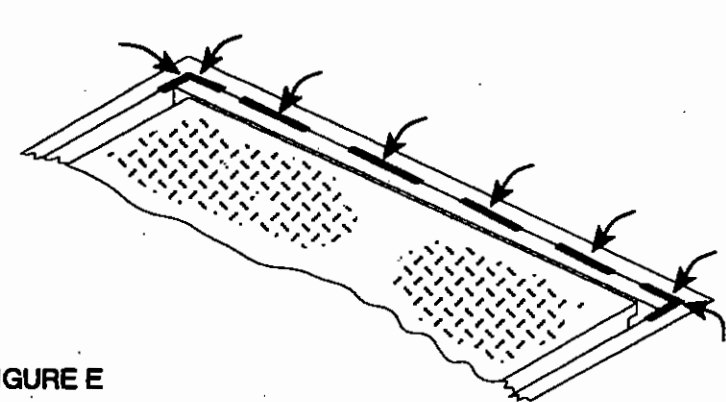


FIGURE E

**20" Lip Keeper Installation Instructions**

Two separate lip keeper angles are provided with every unit that has a 20" lip. These angles are tack welded to the leveler base frame just behind the lip.

Break each one loose and set the leveler into the pit per the installation instructions in the owner's manual.

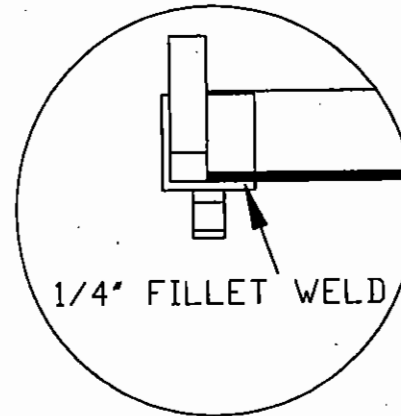
Prior to angle installation or shimming make sure that the unit is snug against the embedded curb angle at the back of the pit.

Place the lip keepers under the front base angle on either side of the unit with the top of the angle protruding out past the base 1/4" in the front and on the left for the left hand keeper and on the right for the right hand keeper. This will facilitate welding.

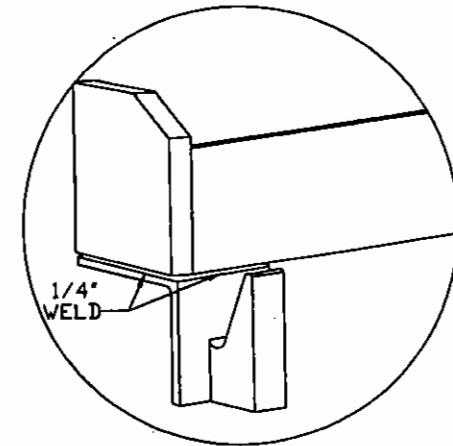
Fully weld the keeper angle to the base angle.

Proceed with shimming per the owner's manual.

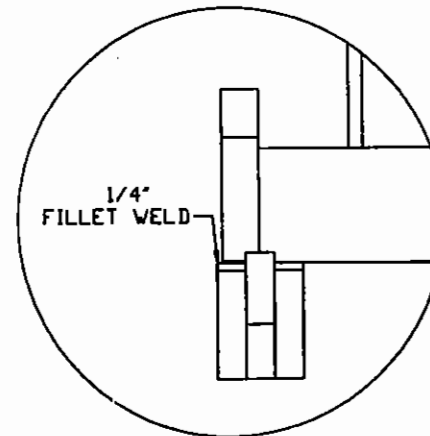
TOP VIEW



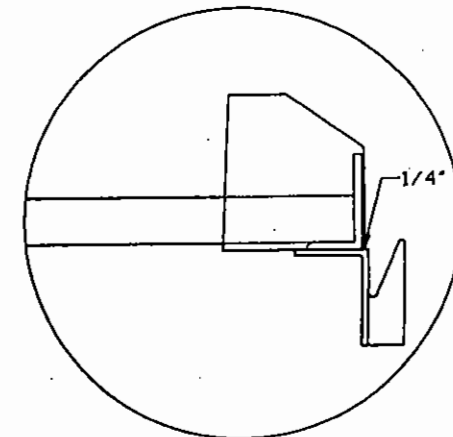
PICTORIAL VIEW



FRONT VIEW



SIDE VIEW



**SECTION 1****INSTALLATION INSTRUCTIONS  
LEVELER INSTALLATION****LEVELER INSTALLATION:**

1. Place leveler into pit opening.

Allow one inch (1") equal clearance between leveler sides and pit walls. Rear frame angle of leveler should be tight against and flush with rear curb angle for proper welding.

2. Recheck shim packs to ensure leveler is at proper height, flush with floor level, front and rear..

Shims must be placed properly under each rear frame upright, and front lip keepers. (See Figure D, Page 1-3, for close up view and Plan View B, Page 1-2, for shim locations.)

Skip weld rear of leveler to curb angle (weld center first then ends) and front shims to leveler and curb angle. (See Figure D, Page 1-3)

3. Bring deck section of leveler to fully raised position.

Use temporary power, or lift slowly with fork lift under lip edge.

4. Place maintenance strut securely under deck.

Remove strut from hanger bracket under right hand center of deck, rotate down to vertical position, and place in cup on frame..

5. Weld all shims securely in place.

Weld shims to leveler frame at proper locations. Front shims under lip keepers must also be welded to front pit curb angle to hold leveler in place.

6. Connect permanent power source to control box on wall.

7. Make permanent electrical hook up to motor.

Leveler should now be ready to operate

**SECTION 1****INSTALLATION INSTRUCTIONS  
LEVELER INSTALLATION****ABOVE DOCK USE:**

8. Close control box and activate leveler until lip fully extends.

9. Store maintenance strut.

10. Allow leveler to descend to below dock position.

11. Raise leveler to stored position

12. Recheck all hydraulic hose connections and fittings.

13. Install bumpers on dock face.

14. Complete weld at rear of leveler.

Two person operation. One person holds pressure on OPERATE button while a second person stores the maintenance strut. Do not hold pressure on OPERATE button for more than 10 seconds.

Release OPERATE button. Leveler will drift down to below dock, and lip will automatically retract.

Push OPERATE button and raise leveler several inches above dock while lip finishes closing. Release OPERATE button and leveler will store in home position with lip in keepers.

Make sure all fittings are snug and no leaks are present.

Flat steel inside edge must be flush with pit side wall and angle side away from pit. Bumpers should be flush with dock floor or 48" off ground. Raised bumpers should be supported to floor from behind. (Instructions are for standard P4H1214F laminated bumper.)

Weld shall cover approximately 50% of the length of the rear angle. Ensure welds are placed directly behind frame uprights: (4 each on 6' wide models, 6 each on 7' wide models) and at ends of angle. (See Figure E, page 1-3)

**SECTION 2****OPERATING INSTRUCTIONS****LIP EXTENDED FOR ABOVE DOCK USE**

1. Press and hold the OPERATE button on the control box.

Release the button when the platform raises and the lip fully extends.

2. The platform will descend with lip extended until lip rests on truck bed.

The leveler allows for up and down movement of truck during loading or unloading.

3. When truck departs, the leveler will descend to below dock and lip will retract automatically.

Lip section closes quietly to pendant position in front of dock.

4. Push OPERATE button to recycle leveler.

Push OPERATE button and raise leveler several inches above dock while lip finishes retracting. Release OPERATE button and leveler will store in home position.

**SECTION 2****OPERATING INSTRUCTIONS****RECYCLE PROCEDURE WITH TRUCK AT DOCK:**

1. Press and hold the OPERATE button.

Hold the button until the platform partially raises and lip is fully withdrawn from truck.

2. Release the OPERATE button.

Leveler will descend to stored, cross traffic position.

**SECTION 2****OPERATING INSTRUCTIONS  
BELOW DOCK OPERATION****LIP EXTENDED ONTO TRUCK FOR UNLOADING BELOW DOCK:**

1. Press and hold the OPERATE button.

Wait until the platform raises and the lip fully extends.

2. Release the OPERATE button

Leveler will settle to truck floor as low as 12" below dock to service very low trucks without recycling.

**SECTION 2****OPERATING INSTRUCTIONS  
AUTOMATIC SAFETY STOP****AUTOMATIC SAFETY STOP**

If lip of leveler should become unsupported while a load of 1,000 pounds or greater is on the platform, the hydraulic system automatically locks the platform in position, supporting the load.

To restore the leveler to normal operation:

1. Remove the load.
2. Press and release the OPERATE button. Leveler should drift downward and recycle.

**HYDRAULIC FLUID CONTENT**

Levelers are shipped filled with Dextron II automatic transmission fluid.

**ELECTRICAL  
Motor:**

1 HP, TEFC No. 56 frame, 15 minute duty cycle

**Control Panel:**

Wall mounted metal box. Meets N.E.M.A. 12, hinged cover for easy access

MOTOR VOLTAGE (AC)	PHASE	AMP DRAW (RUNNING)	POWER (ampere) REQUIREMENT
115	1	15.0	30
230	1	7.2	20
208-220-240	3	3.6	10
440-460-480	3	1.8	10

1 HP, 1 ph motor draws 25 amps to start motor.

To avoid voltage drop, Pioneer recommends #10 wire on short runs and #8 wire on long runs.

Consult code requirements.

**CAUTION: A MOTOR CAN BURN OUT FOR ANY OF THE FOLLOWING REASONS:**

1. Hook up to incorrect line voltage.
2. Single phasing of polyphase motor caused by a blown fuse or loss of one leg of electrical supply.
3. Low voltage to motor due to insufficient line capacity. This is most common with 110V, 1 ph operation.

This equipment is shipped from the factory fully tested and operative.

The majority of operating problems are caused by **IMPROPER VOLTAGE** or **UNNECESSARY ADJUSTMENT BY UNQUALIFIED PERSONNEL!**

To comply with warranty, contact your local representative or call the factory direct if you are experiencing difficulty with the leveler during the warranty period. Do not risk voiding the warranty by tampering with the equipment.

**CAUTION:**

**Always place maintenance strut and disconnect power before climbing under or placing hands under leveler.**

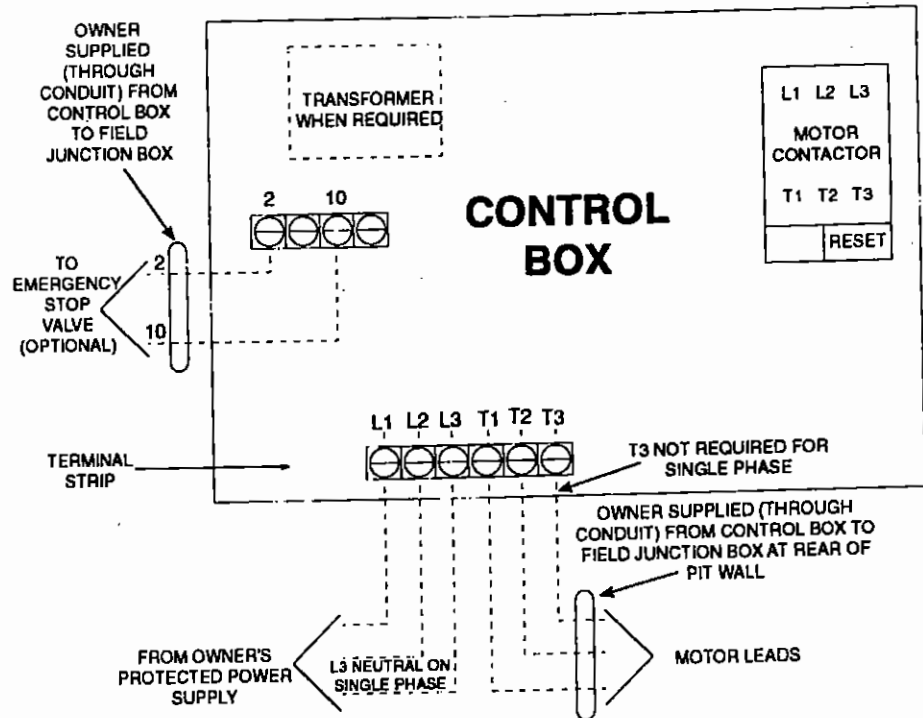


Figure F

<b>SYMPTOM:</b>	<b>PROBABLE CAUSE:</b>	<b>CORRECTION:</b>
<p><b>RAMP WILL NOT RAISE FROM STORED POSITION:</b></p> <p>Motor not running when <b>OPERATE</b> button is pressed</p>	<p>1. Incorrect or disconnected electrical hook-up.</p>	<p>1. Review wiring diagram and check connections.</p>
	<p>2. Blown fuses or open circuit breaker.</p>	<p>2. Replace bad fuses.</p> <p>Reset circuit breakers.</p> <p>Determine and correct other electrical problems.</p>
	<p>3. Loss of line voltage.</p>	<p>3. Check lines and repair if necessary.</p>
	<p>4. Open overload relays on motor starter in control panel.</p>	<p>4. Allow to cool.</p> <p>Push "RESET" button located in control box.</p>
	<p>5. Burned motor.</p>	<p>5. Determine cause of burn-out.</p> <p>Correct problem.</p> <p>Replace motor. (Contact factory.)</p>

# SECTION 4

# TROUBLESHOOTING

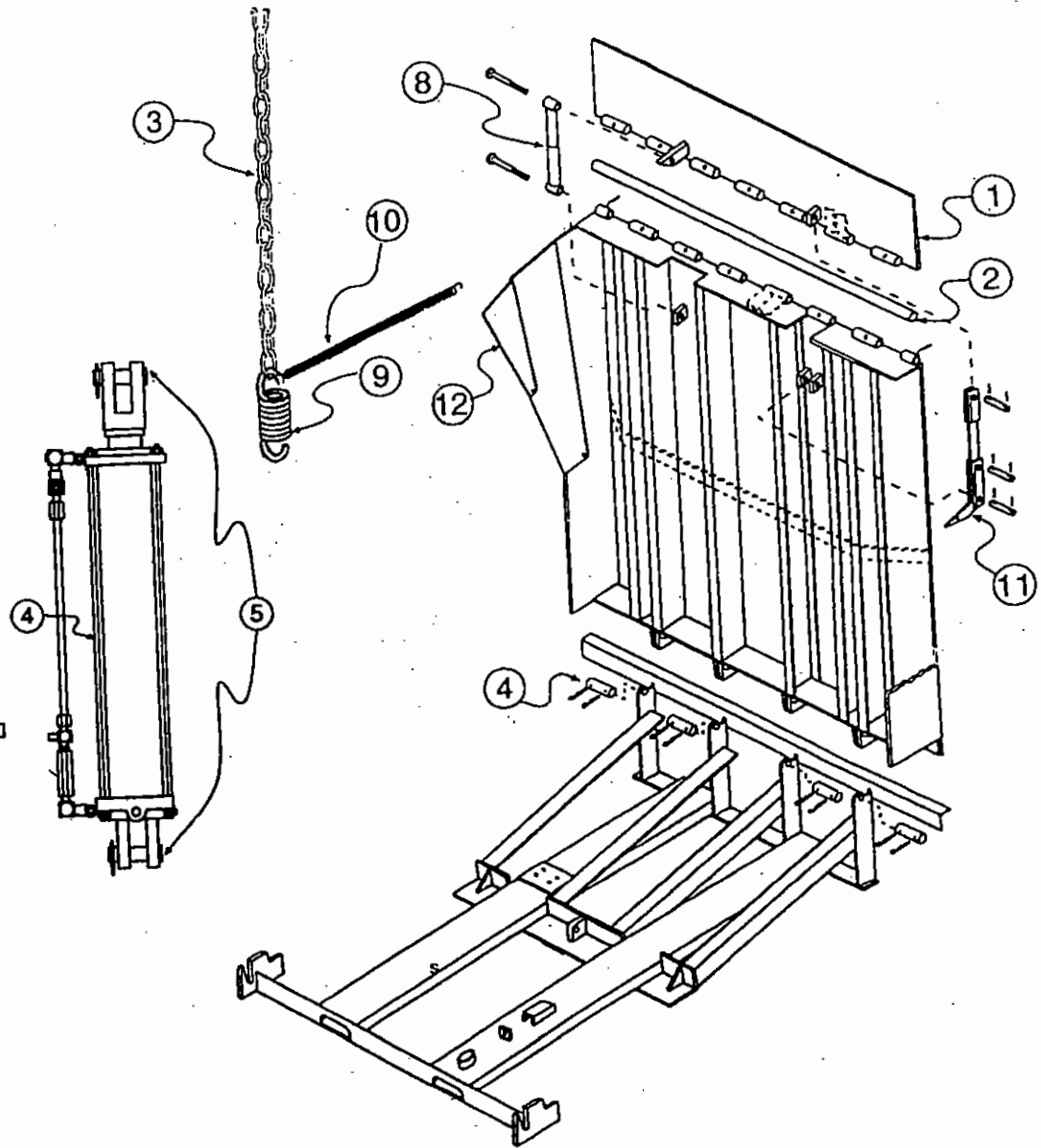
SYMPTOM:	PROBABLE CAUSE:	CORRECTION:
<p><b>RAMP WILL NOT RAISE OR LIP WILL NOT EXTEND FULLY:</b></p> <p>Motor running or humming</p> <p>(1 ph motor)</p>	<p>1. Voltage drop, probably due to insufficient line capacity, resulting in blown fuses, tripped circuit breakers or motor hum.</p>	<p>1. Test voltage at motor starter with motor running. Test for amperage drain. (Low voltage/high amperage indicates inadequate feed line for distance of run.) Replace feed line with adequate wire size.</p>
<p>(3 ph motor)</p>	<p>2. Wrong rotation.</p>	<p>2. Reverse T1 and T3 at terminal strip. (See Figure F, page 4 - 1.)</p>
<p>(3 ph motor)</p>	<p>3. Motor single-phasing.</p>	<p>3. Check for bad fuse or loss of power in one line due to loose connections or tripped breakers or overloads.</p>
<p>(1 ph or 3 ph motor)</p>	<p>4. Load on ramp.</p>	<p>4. Remove the load. Ramp is not designed to lift more than its own weight.</p>
<p>(1 ph or 3 ph motor)</p>	<p>5. Low fluid level.</p>	<p>5. Refill if needed. Check fittings and hoses and tighten if loose.</p>
<p>(1 ph or 3 ph motor)</p>	<p>6. Motor or pump physically damaged.</p>	<p>6. Replace.</p>
<p><b>RAMP WILL NOT AUTOMATICALLY RETURN FROM BELOW DOCK:</b></p>	<p>1. Unit is not designed to automatically return to stored position.</p>	<p>1. Press OPERATE button and raise leveler several inches above dock while lip finishes retracting. Release OPERATE button and leveler will store in home position.</p>

SYMPTOM:	PROBABLE CAUSE:	CORRECTION:
RAMP WILL NOT LOWER AFTER BEING FULLY RAISED:	1. Physical obstruction.	1. Check and remove. (Always use maintenance strut for safety.)
	2. Safety stop in hydraulic fittings has locked up.	2. Push and release the OPERATE button to unlock and allow the unit to descend. If symptom persists, consult factory.
RAMP EXPERIENCES LONG DELAY BEFORE RAISING:	1. Air in hydraulic system.	1. Consult factory.

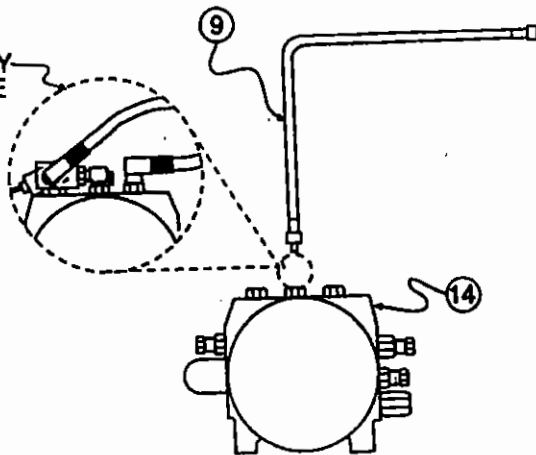
#### SERVICE AND MAINTENANCE

recommends periodic inspection and servicing of the "WP" Hydraulic dock leveler to assure proper operation and maximum life span of the dock leveler. Units should be inspected a minimum of every six months and, if needed, (See "OPERATING INSTRUCTIONS, page 2-1) adjusted and lubricated. Adjustment of Hydraulic valves are considered normal maintenance and are not covered under warranty. Contact your local dealer to secure a complete maintenance plan.

ITEM	DESCRIPTION
1	LIP PLATE ASSEMBLY, 16" (18" & 20" OPTIONAL)
2	HINGE PIN-LIP
3	SNUBBING CHAIN (16"LIP)
4	DECK REAR HINGE KIT
5	DECK CYL. W/ HARNESS, PINS & CLEVIS KEYS
6	PINS & CLEVIS KEYS, DECK CYLINDER
7	HYD. HOSE (PUMP TO DECK CYL.)
8	HYDRA-LIP SHOCK
9	SNUBBER SPRING
10	SNUBBER CHAIN TENSION SPRING
11	LIP THROW OUT ASSEMBLY
12	FULL RANGE TOE GUARDS (SET)
13	MOTOR & PUMP ASSEMBLY 1 HP/1PH MOTOR & PUMP ASSEMBLY 1 HP/3 PH (OPT.)



OPTIONAL  
EMERGENCY  
STOP VALVE



### **5.1 Beacon Industries, Inc. Limited Warranty**

Beacon Industries, Inc. warrants that this BH2 Series Dock Leveler will be free from defects in design, materials and workmanship on all structural parts for a period of exactly two (2) years from date of shipment. All claims for breach of this warranty must be made within thirty (30) days after the defect is or can, with reasonable care, be detected and in no event more than two (2) years after shipment. This warranty is extended to the original purchaser of this product and is non transferable.

Beacon warrants that this BH2 Series Dock Leveler will be free from defects in design, materials and workmanship on all hydraulic parts for a period of exactly two (2) years from date of shipment. All claims for breach of this warranty must be made within thirty (30) days after the defect is or can, with reasonable care, be detected and in no event more than two (2) years after shipment.

Beacon warrants that this BH2 Series Dock Leveler will be free from defects in design, materials and workmanship on all electrical parts for a period of exactly one (1) year from date of shipment. All claims for breach of this warranty must be made within thirty (30) days after the defect is or can, with reasonable care, be detected and in no event more than one (1) year after shipment.

In order to be entitled to the benefits of this warranty, the unit must have been properly installed, maintained, operated within its capacity, and not otherwise abused. Ninety (90) day periodic maintenance and adjustment is the sole responsibility of the owner.

This warranty is Beacon's exclusive expressed warranty.

**Beacon expressly disclaims all implied warranties including the implied warranties of merchantability and fitness.**

In the event of any defects covered by this warranty, Beacon will remedy such defects by repairing or replacing any defective equipment or parts, bearing all of the costs for parts, from Beacon to site. This shall be the exclusive remedy for all claims whether based on contract, negligence, or strict liability. **Beacon shall not, in any event, be liable for any loss of the use of any equipment or incidental or consequential damages of any kind.**

## **5.1 Beacon Industries, Inc. Limited Warranty Cont'd.**

Maintenance and validation by original purchaser is required to keep Warranty in effect. In order to keep this Warranty in effect, the original purchaser must do two things:

First: The original purchaser must have the BH2 Series Dock Leveler maintained and serviced as prescribed in the Owner's Manual.

Second: The original purchaser must present the seller with a maintenance schedule to show that the BH2 Series Dock Leveler has been maintained and serviced in accordance with the Beacon's Owner's Manual. The validated maintenance schedule must be submitted whenever a claim is made under this Warranty.

Items not covered by Warranty. The seller does not cover:

(i) Defects, damage or deterioration due to normal use, wear and tear or exposure; (ii) normal maintenance services; (iii) the replacement of service items, i.e., fluid; (iv) damage or defects due to misuse, water damage, electrical power supply surges, improper installation, alteration, negligence or accident; and (v) damage or defects due to the repair of the BH2 Series Dock Leveler by someone other than an authorized dealer or the installation of parts other than genuine Beacon part.

No other warranties made. This Warranty is in lieu of all other express or implied warranties of The Beacon BH2 Series Dock Leveler, the manufacturer and the selling dealer, including any implied warranty of merchantability or fitness for any particular purpose. Neither Beacon Industries, Inc. assumes, or authorizes any person to assume, on its behalf, any other obligation or liability.

Some states do not allow the exclusion on limitation of implied warranties or liability for incidental or consequential damages, so the above limitations or exclusions may not apply to you.

This Warranty and, any and all claims that may arise shall be construed according to the laws of the State of Missouri, USA.