Hydraulic Loading Leveler BH5 Series

OWNERS MANUAL

INSTALLATION – OPERATION SERVICE – REPAIR PARTS



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A WARNING

- **Before doing any electrical work, make certain the power is disconnected and the the leveler is properly tagged or locked out.
- **All electrical work must be done by a qualified technician and must meet all applicable codes.
- **If it is necessary to make troubleshooting checks inside the control panel with the power on, USE EXTREME CAUTION.
- **Do Not place fingers or uninsulated tools inside the control box. Touching wires or other parts inside the control box could cause electrical shock, serious injury and/or death.

SECTION 1

BH5 & BH2 SERIES

INSTALLATION INSTRUCTIONS RECEIVING AND HANDLING

RECEIVING:



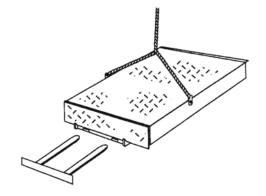
Before installing the dock leveler, read and follow the safety procedures and the operating instructions. Failure to follow the safety procedures could result in serious injury and/or death.

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

Prepare any claims against carrier if necessary.

Notify BEACON of any damage or missing parts.

HANDLING:



Move leveler into position by using:

- chain sling inserted into side plate holes. (See Figure A) or
- 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.

(Figure A)

SECTION 1 BH5 & BH2 SERIES

INSTALLATION INSTRUCTIONS INSTALLATION

INSTALLATION: (Consists of 3 phases)

Pit preparation

Leveler Preparation

Leveler Installation



Caution:

Before you start to install the leveler, use proper safety signs and barriers to separate the work area from the remainder of the dock.



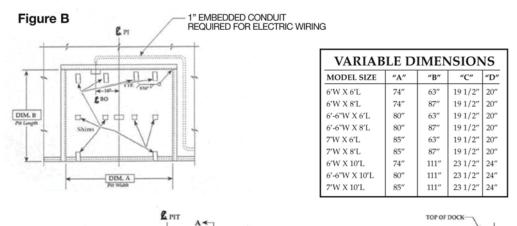
Never allow anyone to stand on or near dock leveler when it is being lifted or placed into the pit. Failure to follow this warning can allow the dock leveler to fall, tip, or swing into people, resulting in serious injury and/or death.

SECTION 1 BH5 & BH2 SERIES

INSTALLATION INSTRUCTIONS PIT PREPARATION

PIT PREPARATION AND ELECTRICAL INSTALLATION:

FRONT ELEVATION



48" TO 50" (RECOMMENDED DOCK HEIGHT)

1/2" SLOPE -



Before welding the rear frame, cover the rear weather seal with a piece of sheet metal to prevent setting fire to the weather seals. Failure to do so may result in property damage.

- Examine pit. Pit walls should be square and plumb. Clean all debris from pit. The floor at the rear and both sides should be level.
- Measure pit dimensions. (See Figure B for accurate dimensions.)

Verify that pit walls are:

- Square
- Plumb

Dim. "C"

REAR PIT WALL TO BE SQUARE
WITH THE DOCK FLOOR (REVERSE SLOPE
UP TO 1/2" AS SHOWN IS ACCEPTABLE)

SECTION "A-A"

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

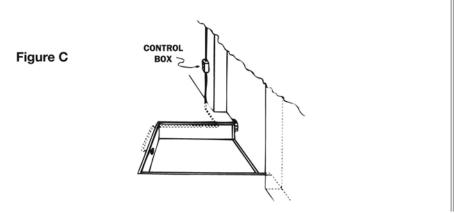
[Pit depth at shim locations (minus 19" or minus 23" on 10 ft. units) equals shims thickness.]

NOTE: Shims are to be placed directly under rear frame uprights, under base of cylinder, under base frame support struts, and under lip keepers, See Figure B, page 3 & Figure D, page 5.

- 3. Install control box on wall near pit. (See Figure C)
- Install wire leads for motor (and proximity sensors on the BH5 series) per wiring diagram. (See pages 18 -24)

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. Wires for motor must be long enough to reach mid section of leveler while in front of opening. this extra may be cut back and discarded after installation. (It is not necessary to hook up proximity sensors for this test.)

3



LEVELER PREPARATION



WARNING

Fully support the lip, while working under the leveler. The lip plate could fall causing serious injury and/or death.

WARNING

Inadequate lifting equipment or practices can cause a load to fall unexpectedly. Make sure the lifting equipment is in good condition. Never allow anyone to stand on or near the dock leveler when it is lifted or placed into the pit. Stand clear of the dock leveler when it is placed into the pit. Failure to follow this warning can cause serious injury and/or death, if the dock leveler tips, swings or falls.

CAUTION

Route temporary power cord clear of edges and resting sufaces so that it is not damaged during lifting and placement.

- Position leveler directly in front of pit.
- 2. Cut restraining band on lip.
- Connect temporary wire leads to proper wire grouping at motor.

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 16 & 17)

SECTION 1	BH5 & BH2 SERIES	INSTALLATION INSTRUCTIONS RECEIVING AND HANDLING

LEVELER PREPARATION

4. Check motor operation.

connections and fittings.

FIGURE D

Check fluid level in hydraulic reservoir. Check all hydraulic hose

With leveler in raised position and maintenance structure.

EACH UPRIGHT

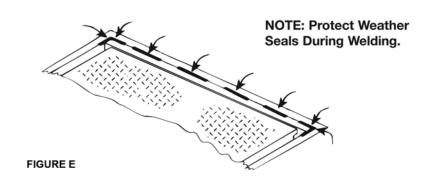
SHIM UNDER
LEFT & RIGHT
LIP KEEPER
SHIM UNDER
SHIM UNDER
SHIM UNDER

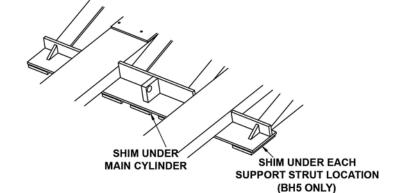
MAIN CYLINDER

With leveler in raised position and maintenance strut engaged reservoir should be half full. If necessary, fill to correct level, using aircraft hydraulic fluid

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

NOTE: Do not attempt to adjust valves until contacting an autho-





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.

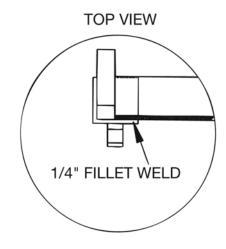
Break each one loose and set the leveler into the pit per the installation instructions in the owner's manual.

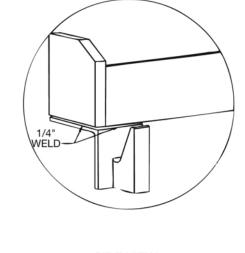
Prior to angle installation or shimming make sure that the unit is snug against the embedded curb angle at the back of the pit.

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.

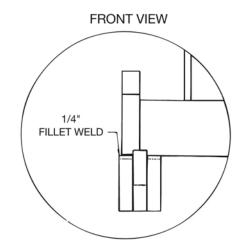
Fully weld the keeper angle to the base angle.

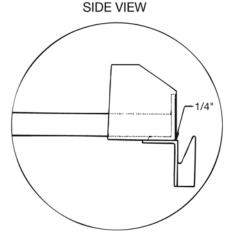
Proceed with shimming per the owner's manual.





PICTORIAL VIEW





BH5 & BH2 SERIES

INSTALLATION INSTRUCTIONS LEVELER INSTALLATION

LEVELER INSTALLATION:



WARNING

DO NOT work under the dock leveler, ramp, or lip unless the maintenance strut is in place.



WARNING

WARNING

Keep fingers, hands, and head away from the lip when it is released. Fingers, hands, or head could be struck by or caught between the lip and other parts of the dock leveler causing serious injury and/or death.

Improper installation of this equipment or installation into aged or unsound concrete could result in serious injury and/or death.

CAUTION

Welding with the dock leveler's power connected can damage electrical components. If the dock leveler has previously been electrically connected, turn off power to control box and unplug all dock leveler electrical cords from receptacles in the rear pit wall before welding. Ground welder to dock leveler. Failure to do so can result in product damage.

Be certain that the rear hinge assembly is held tightly against the rear pit curb angle before welding.

- 1. Place leveler into pit opening.
- 2. Recheck shim packs to ensure leveler is at proper height, flush with floor level, front and rear.

CAUTION

If front and rear pit curb angles are not parallel DO NOT attempt to shim dock leveler supports to match pit angles. The front supports and rear frame angle must be parallel for proper operation of the dock leveler. Add or subtract shims as required.

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.

Shims must be placed properly under each rear frame upright, under the main cylinder, under the rear frame support struts (BH5 Only) and front lip keepers. (See Figure D, page 5 for close up view and Figure B, page 3 for approximate 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 E, Page 5.) Protect rear weather seals from weld spatter if applicable.

SECTION 1 BH5 & BH2 SERIES	INSTALLATION INSTRUCTIONS LEVELER INSTALLATION
LEVELER INSTALLATION:	
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.	(BH5 Only) Remove strut from hanger bracket under right hand center of deck, rotate down to vertical position, and place in cup on frame.
	BH2 - Maintenance strut is taped to the base frame for shipping. Remove the tape, place the bottom of strut into the cup on the base frame and the top into the cup welded to the bottom side of the lip.
5. Weld all shims securely in place.	
6. Connect permanent power source to control box on wall.	
7. Make permanent electrical hook up to motor.	
(BH5 Only) 8. Connect two (2) proximity switches through conduit to wall mounted control box. (See electrical diagram, Figure C page 3.)	Leveler should now be ready to operate

MARNING

Hydraulic pressure must be maintained on the ramp to hold it in the raised position until the maintenance strut is in place. DO NOT WORK UNDER THE DOCK LEVELER RAMP OR LIP UNLESS MAINTENANCE STRUT IS SECURED.



Keep hands, fingers and head away from the lip when the raise button is released. The lip and dock leveler are free to move downward when hydraulic pressure is removed from cylinders.

SE	BH5 & BH2 SERIES	INSTALLATION INSTRUCTIONS LEVELER INSTALLATION
ABO 9.	VE DOCK USE: Close control box and activate leveler until lip fully extends.	(BH5 Only) Be sure selector switch on control box is set to Normal mode.
10.	Store maintenance strut.	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.
11.	BH5 Allow leveler to complete cycle, descending to stored position.	Release OPERATE button. Leveler will drift down to below dock, automatically restart, rise several inches above dock while lip is closing, then turn off and store in home position.
11.A	BH5 Operate leveler through each of its complete cycles to check for proper operation. (See pages 11 - 14, Normal, and Below Dock Operation.)	Cycles include ABOVE DOCK cycle, and BELOW DOCK cycle.
12.	BH2 Allow leveler to descend to below dock position.	Release OPERATE button. Leveler will drift down to below dock.
12.A	BH2 Raise leveler to stored position	Push OPERATE button and raise leveler above dock until lip closes. Release OPERATE button and leveler will store in home position with lip in keepers.
13.	Recheck all hydraulic hose connections and fittings.	Make sure all fittings are snug and no leaks are present.
14.	Install bumpers on dock face.	Securely bolt bumpers to dock face as close to pit opening as possible. Bumpers should be flush with dock floor or 48" off ground. Raised bumpers should be supported to floor from behind.
15.	Complete weld at rear of leveler.	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 5) (Protect weather seals during welding).

CAUTION: Contact your BEACON representative or the factory if a malfunction occurs which is not understood. DO NOT attempt to correct situation without proper information and understanding, as this may damage components and void the warranty.

BH5 & BH2 SERIES

INSTALLATION INSTRUCTIONS NORMAL OPERATING PROCEDURE



WARNING

ALWAYS secure the vehicle with a vehicle restraint and wheel chocks before operating the dock leveler.

- * DO NOT operate leveler with anyone standing on or in front of leveler.
- * DO NOT lift the leveler by hand.
- * ALWAYS keep fingers, hands, feet, and head clear of all moving parts.



WARNING

If the lip does not fully extend, do not lift by hand. Restore leveler to dock level and try again. If lip still does not fully extend, the dock leveler requires maintenance or adjustment. Notify your supervisor. DO NOT use the leveler until it has been repaired. Failure to do so could result in serious injury and/or death.



WARNING

If the lip does not fall to the stored position, the dock leveler requires maintenance or adjustment. Notify you supervisor. DO NOT use dock leveler until it has been repaired. Failure to do so could result in serious injury and/or death.



WARNING

ALWAYS be certain that the truck wheels are chocked, and that the truck is locked in place by a truck restraining device and the brakes set before loading or unloading. Visually inspect vehicle restraint to make sure it is properly engaged. Trucks pulling away unexpectedly can cause uncontrolled drop of the dock leveler, which can result in serious injury and/or death.



WARNING

Visually check that the lip is supported by the truck bed or the ramp is supported by both front lip keepers before driving or walking on the ramp.

ALWAYS return the dock leveler to its dock level (stored) position before allowing the truck to leave the dock. If the truck pulls away before the dock leveler is stored, the lip will fall to its pendant position and may not be supported by the lip keepers. In addition, failure to properly store the dock leveler may leave the leveler in a position below the level of the dock floor. These conditions may result in unexpected drop of personnel or material handling equipment and result in serious injury and/or death.

SECTION 2 BH5 SERIES	OPERATING INSTRUCTIONS NORMAL RECYCLE PROCEDURE
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 with-drawn from truck.
2. Release the Operate button.	Leveler will descend to stored, cross traffic position.

SECTION 2 BH5 SERIES	OPERATING INSTRUCTIONS BELOW DOCK OPERATION
LIP EXTENDED ONTO TRUCK FOR UNLOADING BELOW DOCK:	
1. Turn selector switch to Normal mode.	
2. Press and hold the Operate button.	Wait until the platform raises and the lip fully extends. With optional Lip Out button, simply allow leveler to rise above floor of truck, then also press Lip Out button. Deck will stop and lip will extend.
3. Release the Operate button (and optional Lip Out button.)	
Turn the selector switch from Normal to Below Dock mode while leveler is descending.	Leveler will settle to truck floor as low as 12" below dock to service very low trucks without recycling.



ALWAYS secure the truck with a vehicle restraint or wheel chocks before operating the dock leveler. DO NOT operate dock leveler with anyone standing on or in front of leveler. DO NOT drive on dock leveler or lip until it is fully extended and supported by the truck bed. ALWAYS keep hands and feet clear of all moving parts. ALWAYS store the leveler to its safe dock level position after servicing the truck.

SECTION 2 OPERATING INSTRUCTIONS BH5 SERIES BELOW DOCK OPERATION (CONTINUED) LIP RETRACTED FOR END LOADS BELOW DOCK: Turn selector button to Below Dock mode. 2. Press and hold the Operate button. Hold the button until the platform raises and the lip partially extends. DECK PLATE-PLATE The motor will automatically shut off when the lip is out of range of the lip tab proximity sensor. (See illustration G, opposite.) The leveler will descend to its fully lowered position with the lip between truck and dock face. Note: The leveler will not automatically recycle in this position. (See recycle LIP PROXIMITY SENSOR procedure.) Caution: Be sure to maintain clearance between proximity sensor and sensor FIGURE G SENSOR TAB tab as specified in Figure G. Failure to do so could result in damage to the sensor. Keep sensor tab clear of dirt, trash, and debris.

SECTION 2 BH5 SERIES	OPERATING INSTRUCTIONS BELOW DOCK RECYCLE PROCEDURE
FOR PLACING LIP ON TRUCK TO CONTINUE LOADING OR UNLOADING	
Turn selector switch to Normal mode.	Leveler will automatically begin to recycle to stored position.
2. As leveler begins to rise, press and hold the Operate button.	Allow the platform to raise and lip to fully extend, then release Operate button.
	Leveler will descend until lip rests on truck floor. When truck departs the unit will automatically recycle.

B110 021(120	ELOW DOCK RECYCLE PROCEDURE (CONTINUED)
RETURN LEVELER TO STORED POSITION FROM BELOW DOCK:	
1. Turn selector mode to Normal mode.	Leveler will automatically return to stored, cross traffic position.
	Do not push Operate button.
RECYCLE PROCEDURE FROM BELOW DOCK:	(Unit does not recycle from this (dead) position when truck departs.) If hit while extended, the lip will yield to impact.
Turn selector switch to Normal mode.	Leveler will now return to its stored, cross traffic position automatically, before or after truck departs.

OPERATING INSTRUCTIONS

SECTION 2 BH5 SERIES	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:	 Remove the load. Press and release the Operate button. Leveler should drift downward and recycle.



SECTION 2

BH5 SFRIFS

ALWAYS secure the truck with a vehicle restraint or wheel chocks before operating the dock leveler. DO NOT operate dock leveler with anyone standing on or in front of leveler. DO NOT drive on dock leveler or lip until it is fully extended and supported by the truck bed. ALWAYS keep hands and feet clear of all moving parts. ALWAYS store the leveler to its safe dock level position after servicing the truck.

SECTION 2 BH2 SERIES	OPERATING INSTRUCTIONS
RECYCLE PROCEDURE WITH TRUCK AT DOCK:	
1. Press and hold the OPERATE button. (or turn & hold the switch)	Hold the button until the platform reaches maximum height and lip fully retracts.
2. Release the Operate button.	Leveler will descend to stored, cross traffic position.

SECTION 2 BH2 SERIES	OPERATING INSTRUCTIONS BELOW DOCK OPERATION
LIP EXTENDED FOR UNLOADING BELOW DOCK:	
Press and hold the OPERATE button.	Wait until the platform raises and the lip begins to extend.
2. Release the Operate button.	Leveler will settle between dock floor and truck.

SECTION 2 BH2 SERIES	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:	 Remove the load. Press the Operate button until lip fully retracts. Immediately upon full retraction release operate button prior to lip re-extension.



Caution: ALWAYS SECURE LEVELER WITH LIP IN KEEPERS TO INSURE SAFE CROSS TRAFFIC USE.

BH5 & BH2 SERIES	MAJOR COMPONENTS
HYDRAULIC FLUID CONTENT	Levelers are shipped filled with aircraft hydraulic fluid.
ELECTRICAL Motor: (Both)	1 HP, 15 minute duty cycle
Control Panel: (BH5 Series)	Wall mounted metal box (12" x 10" x 5 1/4"), Meets N.E.M.A. 4 & 12, hinged cover for easy access.
Proximity Sensor Controls: (BH5 Series Only)	Automatic Recycle Function, Below Dock Lip Control, 2 each Model 3010A-A312ACI
Control Box: (BH2 Series)	Wall mounted rotary box (115 volt/single phase only) standard. Meets N.E.M.A. 4X. Circuit protection provided by others.
Optional Control Box (BH2 Series) (required for 3 phase or 230 volt 1 phase):	Wall mounted polymer box, with exterior reset button. Meets N.E.M.A. 4X.

V	MOTOR OLTAGE (AC)	PHASE	AMP DRAW (RUNNING)	POWER (amperage) REQUIREMENT
	115	1	15.0	30
	230	1	7.2	20
2	08-220-240	3	3.6	10
4	40-460-480	3	1.8	10

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

To avoid voltage drop, BEACON recommends #10 wire on short runs and #8 wire on long runs. See page 17.

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 the most common with 110V, 1 ph operation.

Choose the Right Gauge Wire

The correct wire gauge (size) for your project is based on the amperage, or power, required and the distance the wire travels. The chart below helps you determine what gauge wire you need. Remember, the smaller the number, the larger the wire. For example, a 6-gauge wire is larger than an 8-gauge wire.

	GUAGE GUIDE FOR MAXIMUM ALLOWABLE WIRE LENGTH, 2% NOMINAL VOLTAGE DROP								
					COPPER CO	NDUCTOR:	S		
AMPS	WATTS	UP TO 50'	UP TO 100'	UP TO 150'	UP TO 200'	UP TO 250'	UP TO 300'	UP TO 400'	UP TO 500'
15	1800	14 Gauge	12 Gauge	10 Gauge	6 Gauge	6 Gauge	6 Gauge	4 Gauge	4 Gauge
20	2400	12 Gauge	10 Gauge	8 Gauge	6 Gauge	6 Gauge	4 Gauge	4 Gauge	2 Gauge
30	3000	10 Gauge	8 Gauge	6 Gauge	6 Gauge	4 Gauge	4 Gauge	2 Gauge	2 Gauge
40	4800	8 Gauge	6 Gauge	4 Gauge	4 Gauge	2 Gauge	2 Gauge	1 Gauge	7 1/0 Gauge
50	6000	6 Gauge	6 Gauge	4 Gauge	4 Gauge	2 Gauge	1 Gauge	7 1/0 Gauge	2/0 Gauge

This information is provided as a general guideline only. For safe wiring practices consult the National Electric Code, local building codes and regulations, and your local building inspector. Always remember that installation of electrical wire can be hazardous and, if done improperly, can result in personal injury or property damage.

Canadian codes differ from the above charts. Check your provincial codes before completing your project

SECTION 3 BH2 SERIES MAJOR COMPONENTS

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

The majority of operating problems are caused by IMPROPER VOLTAGE or UNNECESSARY ADJUST-MENT BY UNQUALIFIED PERSONNEL!

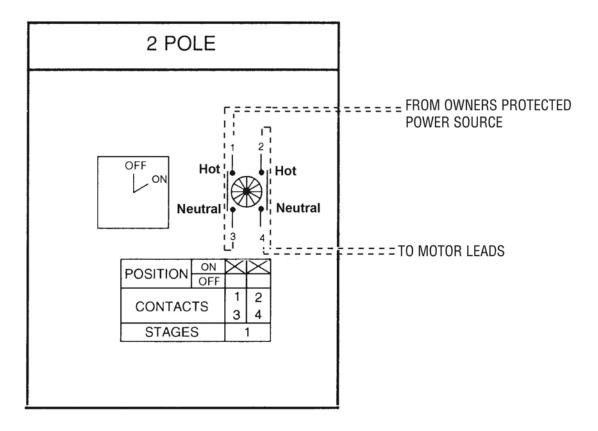
To comply with warranty, contact your local Pioneer representative or call the factory direct if you are experiencing difficulty with the leveler during the warranty period. DO NOT RISK VOIDINGTHEWARRANTY BYTAMPERINGWITHTHE EQUIPMENT.

THIS STATEMENT IS VALID FOR BOTH EHP AND HP UNITS.

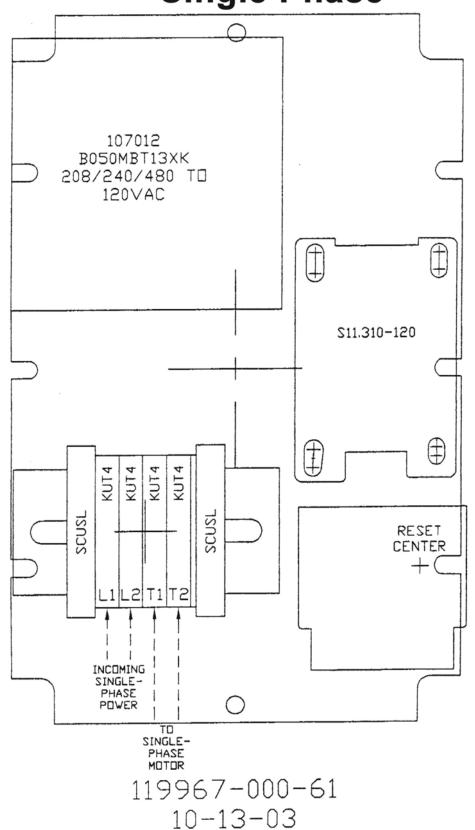
CAUTION:

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

BH2 Series Control Box

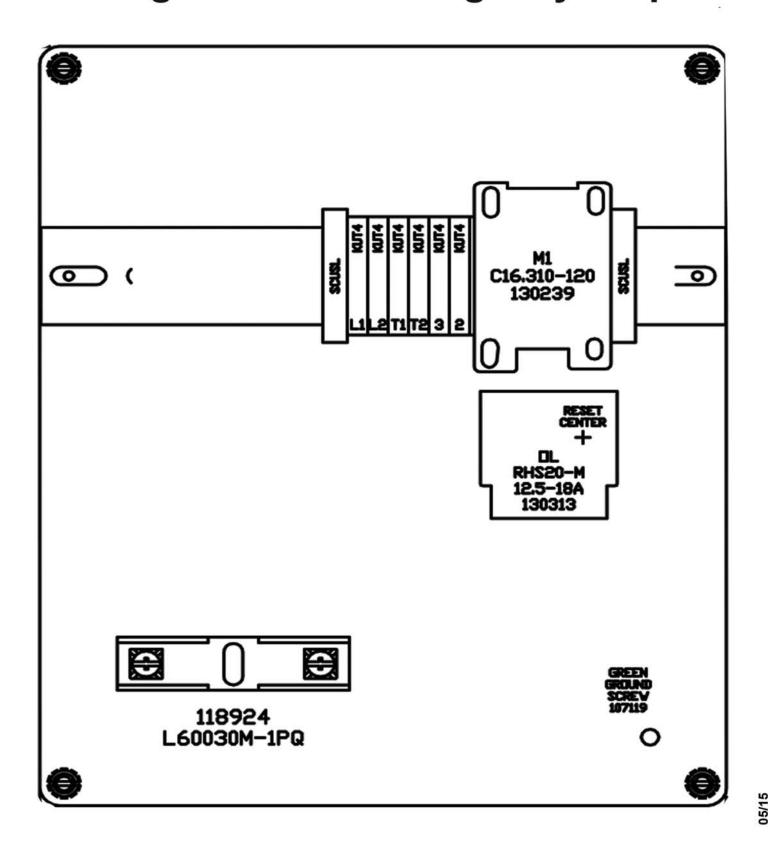


BH2 Series - 208 / 240 Single Phase

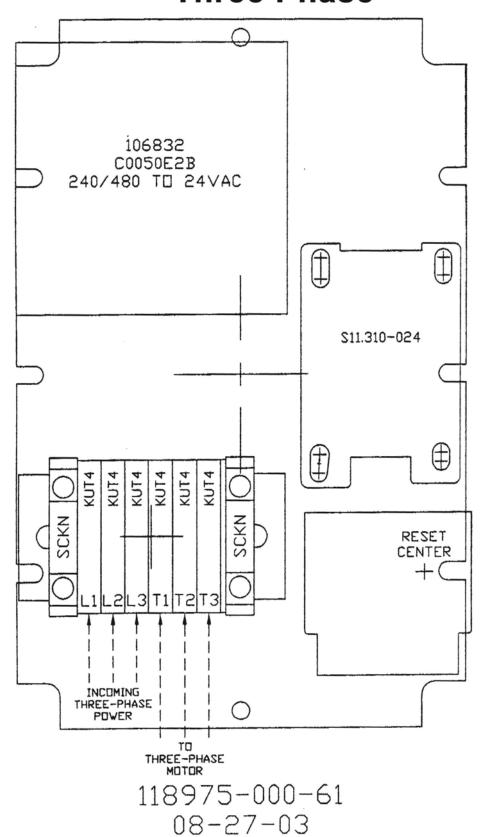


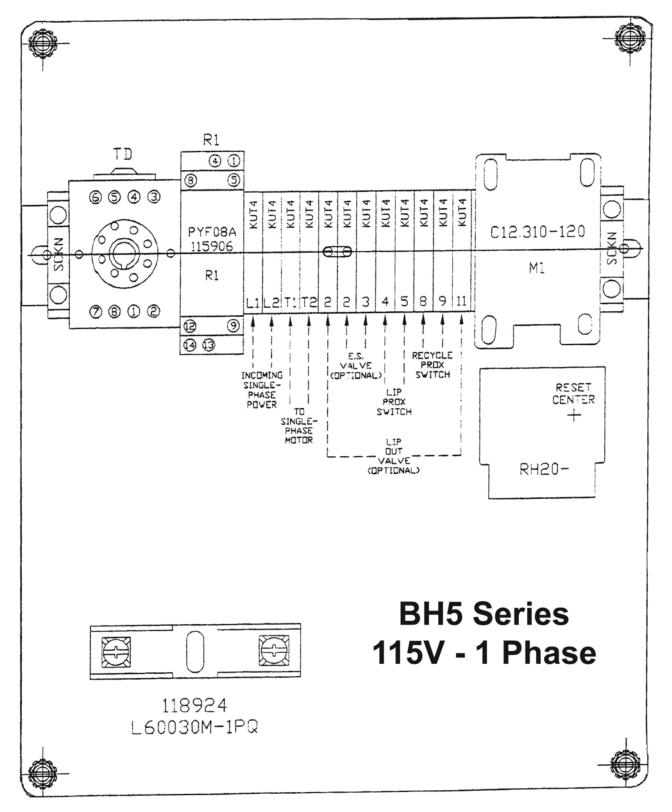
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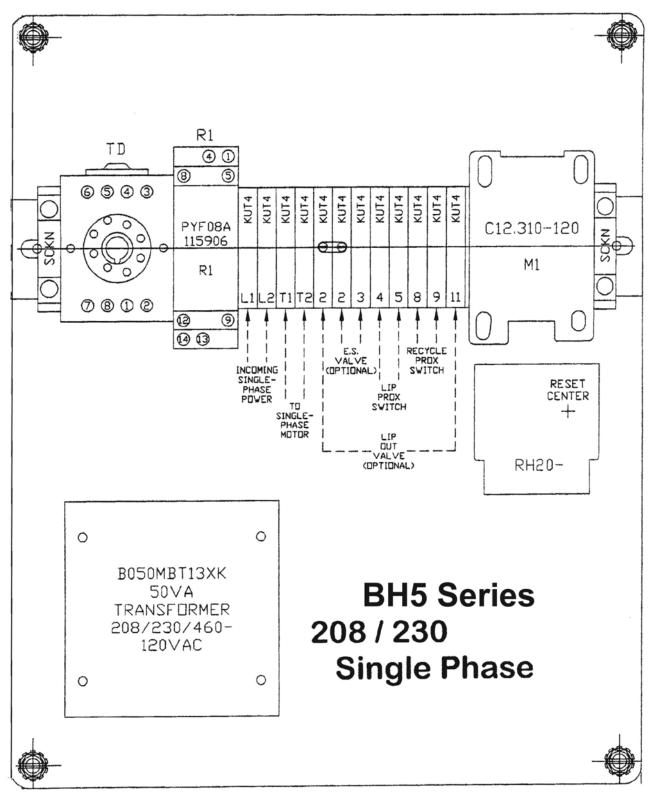
BH2 Series - 208 / 240 Single Phase - Emergency Stop

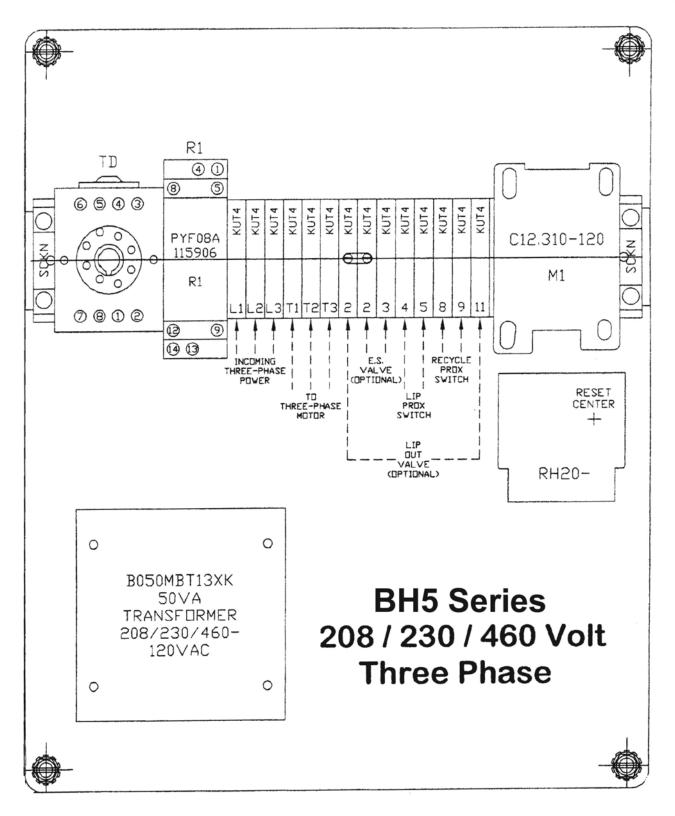


BH2 Series - 208 / 240 / 480 Volt Three Phase









BH5 & BH2 SERIES



Read and follow the safety procedures in this manual before doing any service or repair to the dock leveler. ALWAYS SECURE LEVELER WITH MAINTENANCE STRUT BEFORE CLIMBING INTO THE DOCK LEVELER PIT OR DOING ANY MAINTENANCE OR REPAIR UNDER THE DOCK LEVELER. Failure to do so could result in serious injury and/or death.

SYMPTOM:	PROBABLE CAUSE:	CORRECTION:
RAMP WILL NOT RAISE FROM STORED POSITION:	Incorrect or disconnected electrical hook-up.	Review wiring diagram and check connections.
Motor not running in Normal mode when Operate button is pressed.		
	Blown fuses or open circuit breaker.	Replace bad fuses.
		Reset circuit breakers.
		Determine and correct other electrical problems.
	3. Loss of line voltage.	Check lines and repair or replace if necessary.
	Open overload relays on motor starter in control panel.	4. Allow to cool.
	(BH2 Series on optional control box only)	Push "RESET" button located in control box.
	5. Burned motor.	5. Determine cause of burn-out.
		Correct problem.
		Replace motor. (Contact factory.)

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SYMPTOM:	PROBABLE CAUSE:	CORRECTION:
RAMP WILL NOT RAISE FROM STORED POSITION: Motor not running in Below Dock mode when Operate button is pressed.	Lip proximity switch out of adjust- ment. (BH5 Series Only)	1.To Check proximity adjustment: Place selector switch in Normal mode. Press and hold Operate button until unit is fully raised. Place maintenance strut. Push and release Operate button in short repetions until lip closes. Refer to Figure G, Proximity sensor gap specification, page 13. Caution: Be sure to maintain clearance between proximity sensor and sensor tab as specified in Figure G. Failure to do so could result in damage to the sensor. Keep sensor tab clear of dirt, trash, and debris.
	Lip proximity switch has loose wire. (BH5 Series Only)	Reconnect wire, if loose. Check junction box under leveler and terminal strip in control box.

^{*}Hydraulic valve adjustments are normal maintenance and are not covered under warranty.

SYMPTOM:	PROBABLE CAUSE:	CORRECTION:
RAMP WILL NOT RAISE OR LIP WILL NOT EXTEND FULLY: Motor running or humming in normal mode (1 ph motor)	Voltage drop, probably due to insufficient line capacity, resulting in blown fuses, tripped circuit breakers or motor hum.	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.
(1 ph motor) (3 ph motor)	Wrong rotation. Wrong rotation.	See wiring instructions on motor Reverse T1 and T3 at terminal strip. (See Figure H, page 20)
(3 ph motor)	3. Motor single-phasing.	Check for bad fuse or loss of power in one line due to loose connections or tripped breakers or overloads.
(1 ph or 3 ph motor)	4. Load on ramp.	Remove the load. Ramp is not designed to lift more than its own weight.
(1 ph or 3 ph motor)	5. Low fluid.	Refill if needed. Check fittings and hoses and tighten if loose.
(1 ph or 3 ph motor)	Motor or pump physically dam- aged.	6. Replace.
RAMP WILL NOT AUTOMATICALLY RETURN FROM BELOW DOCK: (BH5 Series Only)	Unit is not designed to automatically return when selector is in Below Dock mode.	Return switch to Normal position. Unit will now automatically recycle and store at floor level.

SYMPTOM:	PROBABLE CAUSE:	CORRECTION:
RAMP WILL NOT LOWER AFTER BEING FULLY RAISED:	Physical obstruction.	Check and remove. (Always use maintenance strut for safety.)
	Safety stop in hydraulic fittings has locked up.	 Push and release the Operate button to unlock and allow the unit to descend. If symptom persists, consult factory.
LIP SAGS WHILE UNIT IS DESCENDING TO TRUCK: OR RAMP EXPERIENCES LONG DELAY BEFORE RAISING:	Air in hydraulic system.	While unit is descending with lip extended, switch selector to Below Dock mode. when unit has reached bottom, push lip down. Now lift and drop the lip four times. Check lip sag by operating in Normal mode. If sag persists, consult factory.
RAMP WILL NOT RETURN AUTOMATICALLY WHEN TRUCK DEPARTS Motor not running, in Normal mode	Recycle proximity switch out of adjustment or has loose wire.	1. To store unit: Push and hold the Operate button until the lip closes and deck raises approx. 5" above floor. Release button. Unit will store. To check adjustment, raise unit in Normal mode until lip extends. As unit is descending, switch to Below Dock mode. Unit will fully descend with lip extended. Refer to Figure F, proximity sensor adjustment, page 11, or reconnect wire, if loose. Caution: Be sure to maintain clearance between proximity sensor and sensor tab as specified in Figure F. Failure to do so could result in damage.
Motor humming in Normal mode	Timer relay set too low. Insufficient line voltage.	the sensor. Keep sensor tab clear of dirt, trash, and debris. 2. Turn dial clockwise and test. 3. See symptom 1 at top of page 27. (Motor running or humming in Normal mode.)

SECTION 4 BH2 SERIES TROUBLESHOOTING

SYMPTOM:	PROBABLE CAUSE:	CORRECTION:
RAMP WILL NOT LOWER AFTER BEING FULLY RAISED:	Physical obstruction.	Check and remove. (Always use maintenance strut for safety.)
	Safety stop in hydraulic fittings has locked up.	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.	Consult factory.
RAMP WILL NOT AUTOMATICALLY RETURN FROM BELOW DOCK:	Unit is not designed to automatically return to stored position.	Press Operate button and raise leveler until lip fully retracts. Release Operate button and leveler will store in home position.

BH5 & BH2 SERIES

CAUTION:

Contact your BEACON representative or the factory if a malfunction occurs which is not understood. DO NOT attempt to correct the situation without proper information and understanding as this may damage components and void the warranty.

AWARNING

BEFORE SERVICING THE DOCK LEVELER, READ AND FOLLOW ALL SAFETY PROCEDURES IN THIS MANUAL. FAILURE TO DO SO COULD RESULT IN SERIOUS INJURY AND/OR DEATH.

AWARNING

BEFORE SERVICING THE DOCK LEVELER, ALWAYS POSITION TRAFFIC CONES OR A BARRICADE BEHIND THE DOCK LEVELER. ALSO POSITION CONES OR BARRICADES IN FRONT OF THE LEVELER TO WARN AGAINST VEHICLE TRAFFIC.

- * ALWAYS NOTIFY A FOREMAN OR SUPERVISOR THAT YOU ARE WORKING UNDER THE EQUIPMENT.
- * ALWAYS MAKE SURE THAT THE MAINTENANCE STRUT IS IN POSITION BEFORE WORKING UNDER THE LEVELER.
- * ALWAYS MAKE SURE THAT THE OVERHEAD DOOR IS SECURELY HELD IN THE RAISED POSITION.

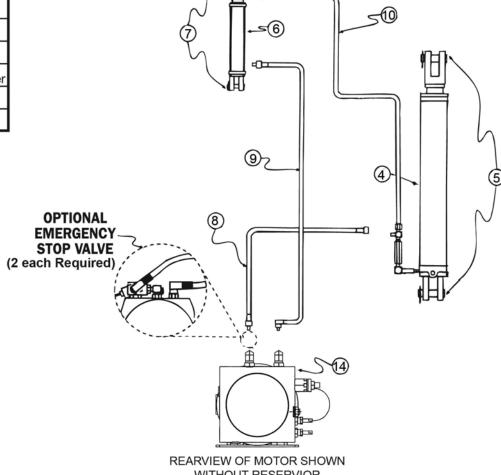
SERVICE AND MAINTENANCE

BEACON recommends periodic inspection and servicing of the "BH5" AND OR THE "BH2" 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, page11) adjusted and lubricated. Adjustment of Hydraulic valves are considered normal maintenance and are not covered under warranty. Contact your local BEACON dealer to secure a complete maintenance plan.

SECTION 4 TROUBLESHOOTING BH2 SERIES

ITEM	DESCRIPTION
4	Deck Cylinder with Velocity Fuse
5	Pins & Clevis Keys, Deck Cylinder
14	Motor & Pump Assembly 1 HP/1PH
	Motor & Pump Assembly 1 HP/3 PH (OPT.)
8	Hydraulic Hose (Pump to Deck Cylinder)
9	Hose Assembly, Pump to Lip Cylinder
10	Hose Assembly, Deck Cylinder to Lip Cylinder
6	Lip Cylinder
7	Pins & Clevis Keys, Lip Cylinder

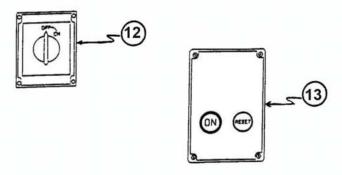
BH2 Series Hydraulic System

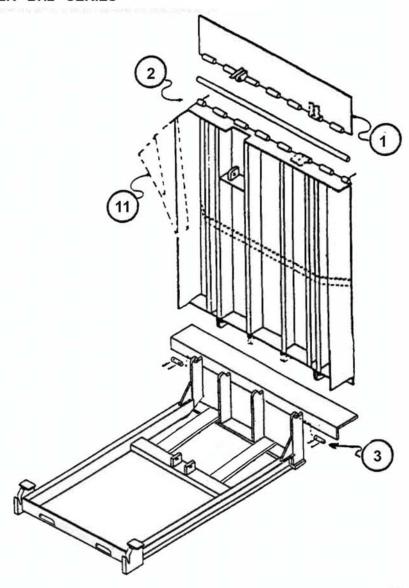


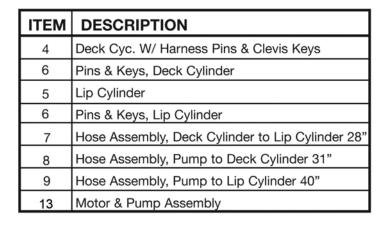
WITHOUT RESERVIOR

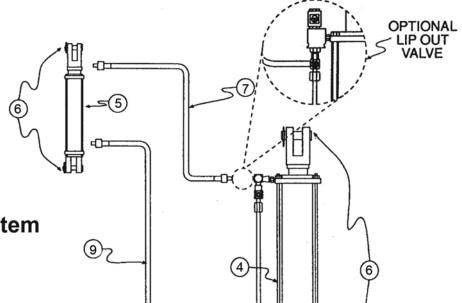
BEACON DOCK LEVELER "BH2" SERIES

ITEM NO.	DESCRIPTION
1	LIP PLATE ASSY, 16"
2	LIP HINGE PIN
11	FULL RANGE TOE GUARDS
3	DECK REAR HINGE KIT
12	115 VOLT SINGLE PHASE CONTROL BOX
13	208 VOLT 1 PHASE & ALL 3 PHASE CONTROL BOX









BH5 Series Hydraulic System

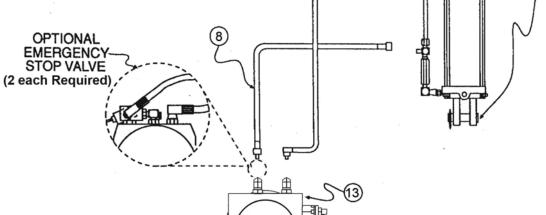


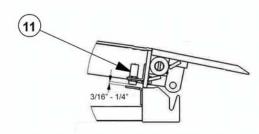
FIGURE J

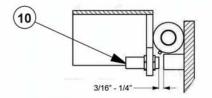
REARVIEW OF MOTOR SHOWN WITHOUT RESERVIOR

SECTION 4 TROUBLESHOOTING **BH5 SERIES**

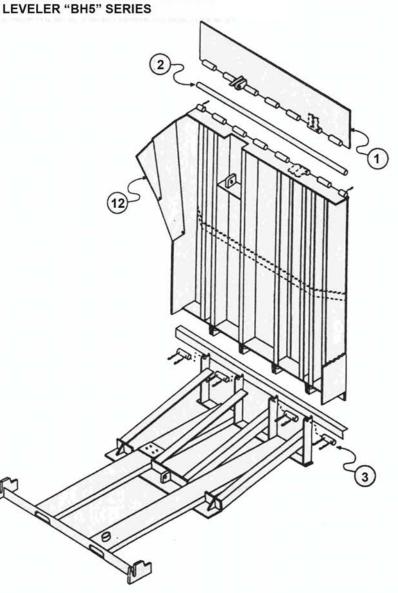
BEACON DOCK LEVELER "BH5" SERIES

ITEM NO.	DESCRIPTION
1	LIP PLATE ASSY, 16"
2	LIP HINGE PIN
12	FULL RANGE TOE GUARDS
3	DECK REAR HINGE KIT
11	PROXIMITY SENSOR, DECK RECYCLE
10	PROXIMITY SENSOR, LIP











Beacon Industries, Inc. 12300 Old Tesson Rd. St. Louis, MO 63128

Ph: 314-487-7600 Fax: 314-487-0100

5.1 Beacon Industries, Inc. Limited Warranty

Beacon Industries, Inc. warrants that this BH5 Series Dock Leveler will be free from defects in design, materials and workmanship on all structural parts for a period of exactly five (5) 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 five (5) years after shipment. This warranty is extended to the original purchaser of this product and is non transferable.

Beacon warrants that this BH5 Series Dock Leveler will be free from defects in design, materials and workmanship on all hydraulic parts for a period of exactly five (5) 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 three (3) years after shipment.

Beacon warrants that this BH5 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.



St. Louis, MO 63128

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 BH5 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 BH5 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) shipping (vi) damage or defects due to the repair of the BH5 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 BH5 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.

Form: BH5-W5

Publish Date: 01/17/13