



**Perma Tech, Inc.**

*"Your Single Source for ALL Your Loading Dock Needs"*

# PermaDOCK-HD



Hydraulic Dock Leveler

OWNER'S MANUAL

**IMPORTANT TO CHECK SHIPPING CONTAINERS BEFORE RELEASING CARRIER.  
NOTIFY CARRIER IMMEDIATELY UPON DISCOVERING ANY CONCEALED DAMAGE.**

**WARNING :** Do not install this product unless you have read and understand the warnings and installation instructions contained in the manual.



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Manufacture Date: \_\_\_\_\_

Model: \_\_\_\_\_

Serial #: \_\_\_\_\_

## **SAFETY INFORMATION**

### **WARNING**

Failure to read and understand the entire contents of this manual may result in damage to the equipment, bodily injury and/or death. Never install, maintain or operate this equipment under the influence of drugs or alcohol.

### **INSTALLATION**

- Personnel installing this equipment must be fully qualified and experienced in safe working procedures.
- All lifting and slinging devices must be in good working order and used in the correct manner.
- All electrical work must be done by a qualified electrician and must meet all applicable local codes.
- Concrete must be in good condition with no cracks in pit or around the dock leveler.

### **MAINTENANCE**

1. Lock out power.
2. Never go beneath the dock leveler unless the dock is barricaded in front of the dock leveler on the loading dock floor and driveway.
3. Never go beneath the dock leveler unless the maintenance strut is in position.
4. When replacing parts use only genuine PermaDOCK Levelers parts.
5. Do not alter the equipment.

### **OPERATION**

**NOTE:** ALWAYS RESTRAIN THE TRUCK/TRAILER BEING LOADED/UNLOADED, I.E. BY USE OF WHEEL CHOCKS OR A TRUCK RESTRAINT DEVICE.

1. Keep clear of the equipment's operating path when positioning or storing the dock leveler.
2. Keep the dock leveler deck and lip free from debris, oil and grease.
3. Do not wear loose clothing or jewelry while operating this equipment.
4. Keep hands, limbs and loose hair clear of equipment during positioning or storing of the dock leveler.
5. Do not walk out onto the dock leveler lip unless properly supported by the floor of a truck or trailer.
6. If the fall-safe condition occurs, always have the dock inspected by your PermaDOCK Levelers representative before continuing use.

## **HYDRAULIC DOCK BOARD INSTALLATION INSTRUCTIONS**

Prior to installation, check pit for correct depth and squareness of pit across corners. If pit is not correct in size and squareness, make corrections before installation dock board.

### **IMPORTANT**

**Do not break bands on dock board until called for in Step 4**, otherwise damage may occur which will not be covered by the warranty.

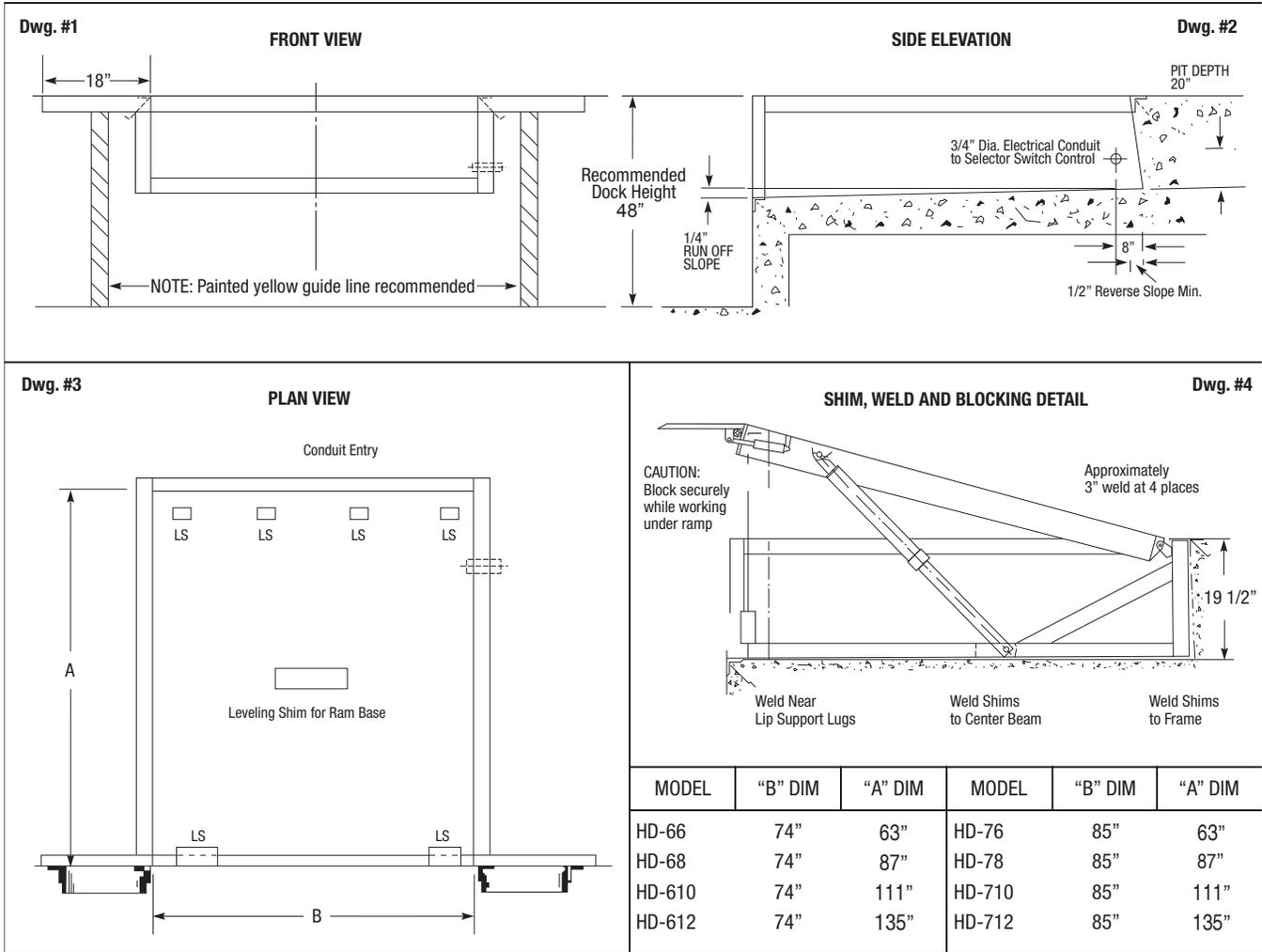
1. Place board in pit by means of crane or forklift, level back end of board with rear pit angle, weld angles as shown on Drawing. (see page 3)
2. Shim front end of board so top deck of board is level with the rear angle.
3. Weld front base and shims to front curb angle.
4. With the board welded in the pit, remove bands; elevate deck via crane or forklift with a chain sling under lip.
5. Block the board securely in the up position before working underneath the dock board.
6. Shim under back frame of the board and under the ram angle as shown on drawing. Weld shims to the angles
7. Read operating instructions then complete electrical connection to the power pack. Operate the board several times, pausing between operation to expel the air system.

**NOTE:** WHILE THE DOCK BOARD IS FACTORY ADJUSTED, THEY MAY REQUIRE SLIGHT ADJUSTMENT ON SITE DUE TO THE MOVEMENT IN SHIPPING AND DURING THE INSTALLATION. **THIS IS NOT WARRANTY.**

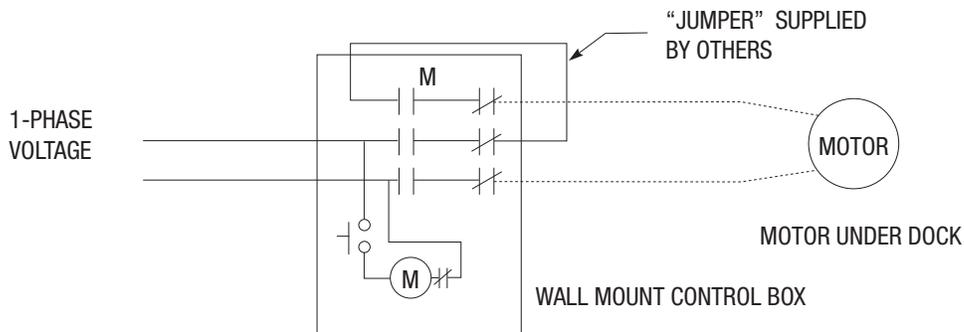
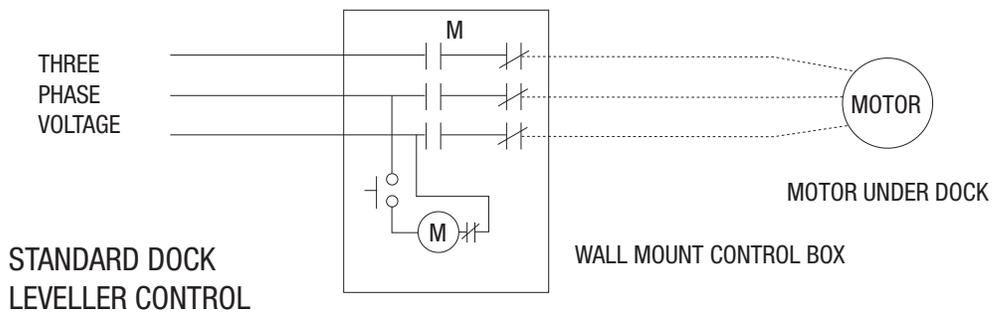
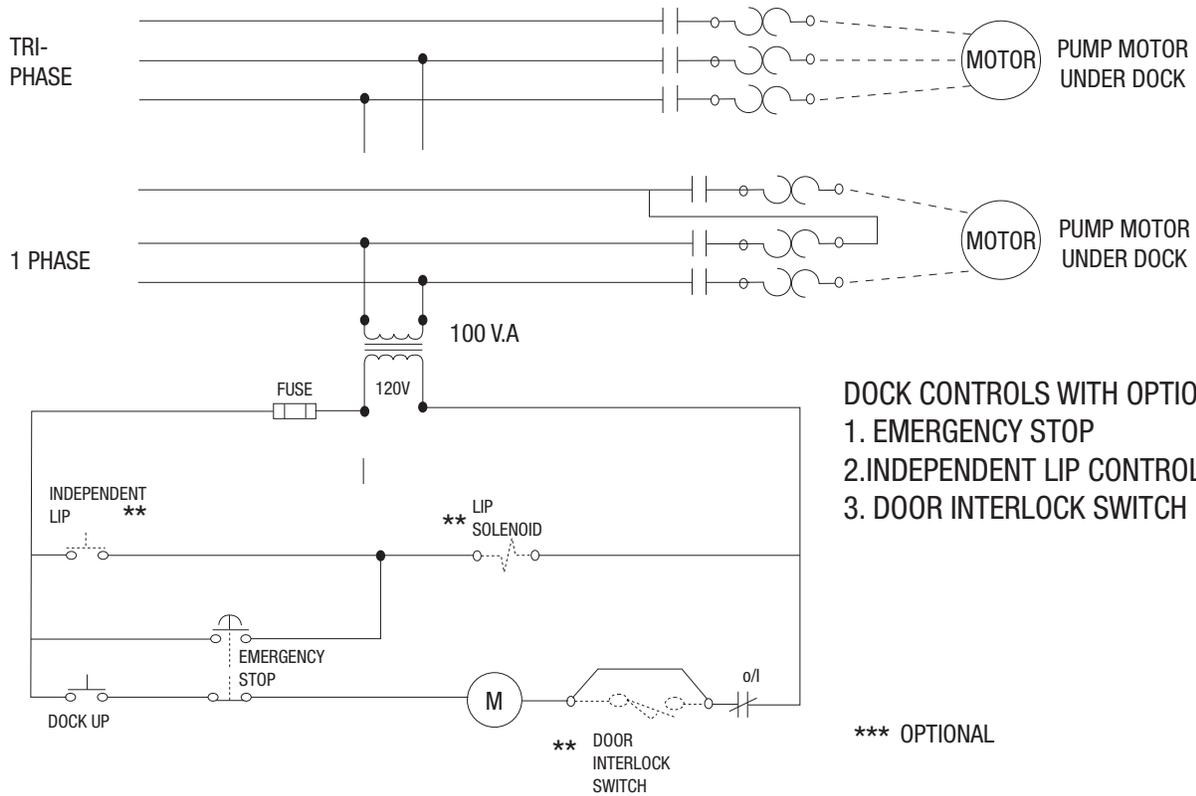
**We reserve the right to change specifications and/or design without notice or obligation.**

Please state model number of dock board when ordering parts.

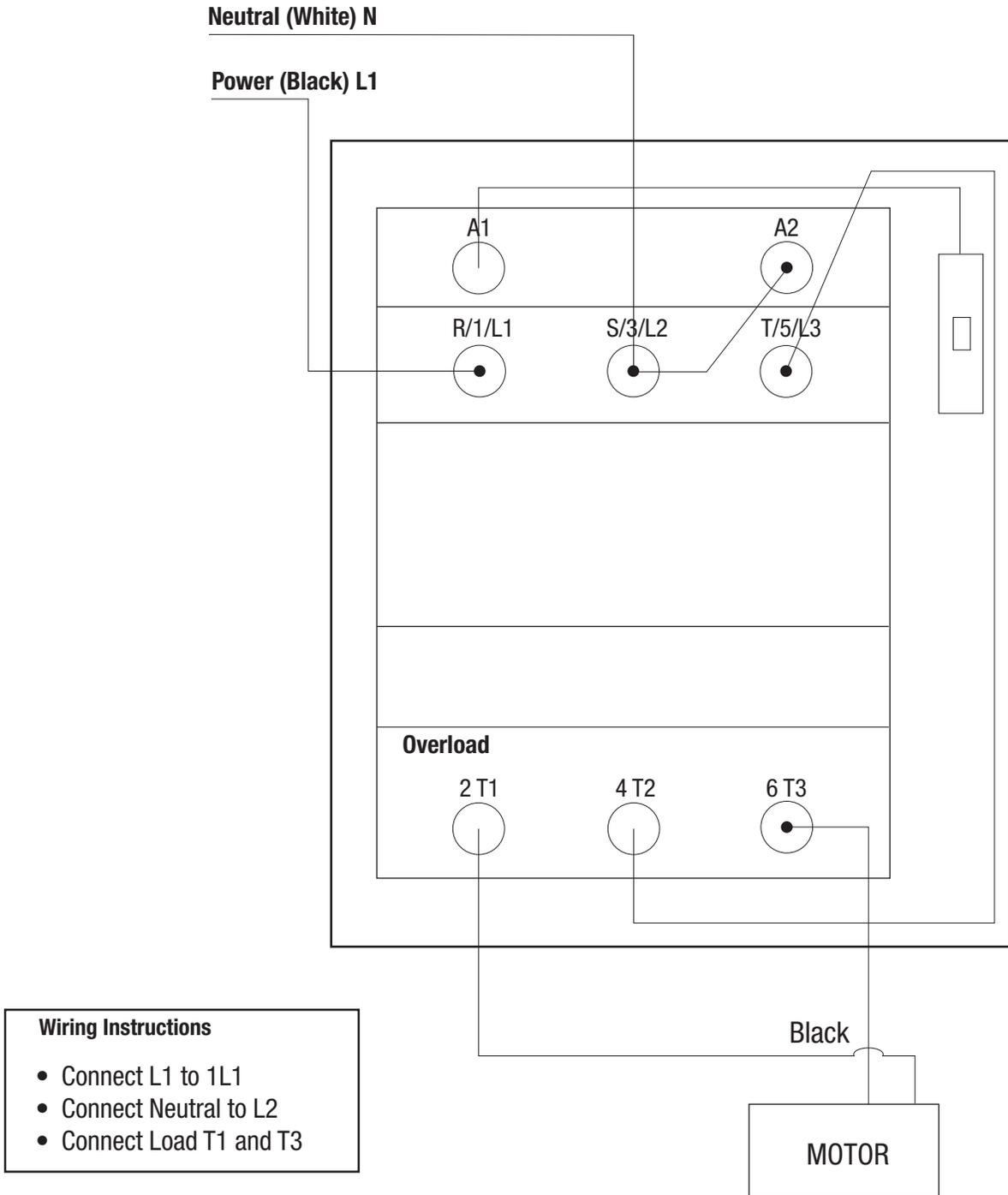
## SHIMMING DETAILS



## ELECTRICAL SCHEMATIC



## PUSH BUTTON WIRING DIAGRAM - 1 PHASE



## TROUBLE SHOOTING

### CAUTION

Prior to checking, make sure to block with safety strut in “up” position then disconnect electrical power.

### NOTE

To elevate deck for servicing, when dock leveler is inoperable, elevate deck using a forklift truck with a chain sling under lip, or with hydraulic jack.

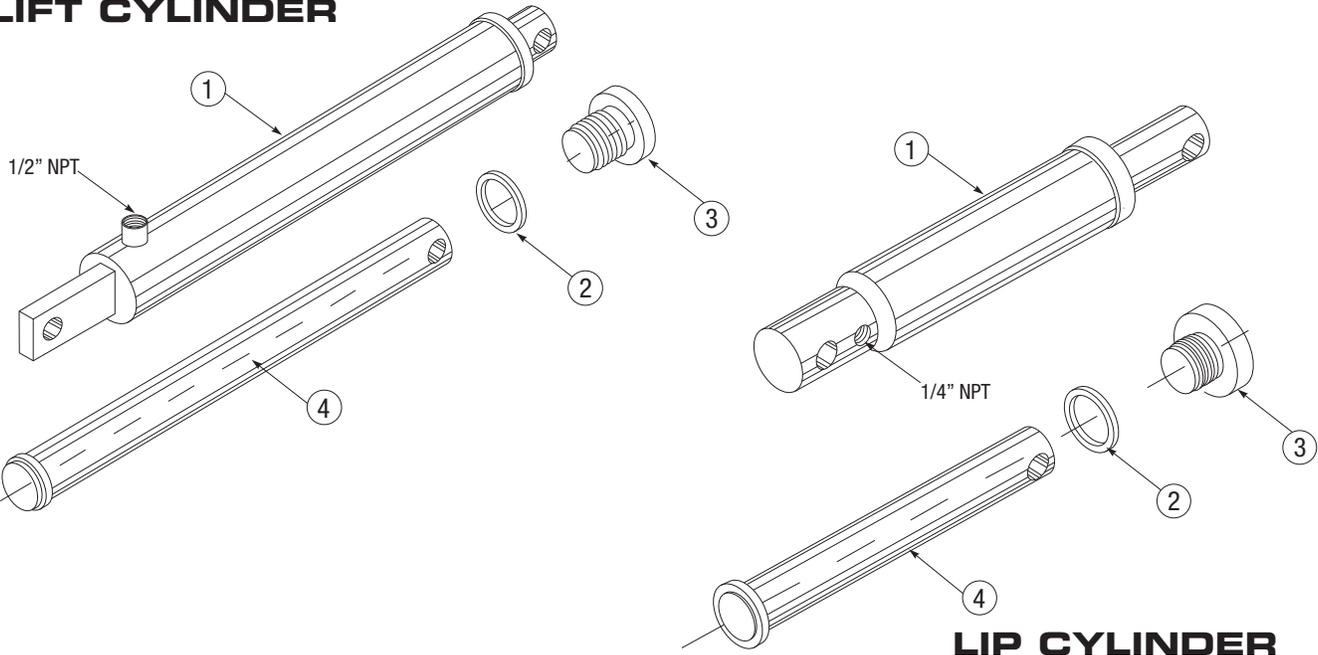
<b>PROBLEM</b>	<b>CORRECTIVE ACTION</b>
1. Board does not operate. (Motor does not operate)	<ul style="list-style-type: none"> <li>- Check for electrical fault such as blown fuse, loose connections or faulty motor starter.</li> <li>- Check for oil leaks and for dirt in system.</li> </ul>
2. Board does not operate. (Motor operates)	<ul style="list-style-type: none"> <li>- Check oil level, it should be within <math>\frac{3}{4}</math> of an inch to the top of the tank.</li> <li>- Check pump by removing hydraulic hose from outlet. If the oil spurts out of fitting when the pump is operated, then check to see if proper pressure is developed by connecting a pressure gauge.</li> </ul>
3. Board does not operate. (Pressure is too low)	<ul style="list-style-type: none"> <li>- Then either the pump is worn out.</li> <li>- Shuttle valve is not working properly.</li> <li>- The electrolyte starter capacitor is worn out.</li> </ul>
4. Lip does not extend.	<ul style="list-style-type: none"> <li>- Lower sequence setting by turning it slightly counter-clockwise.</li> </ul>
5. Lip does not close.	<ul style="list-style-type: none"> <li>- Increase sequencing setting by turning it slightly clockwise.</li> </ul>
6. Board does not reset automatically. (If equipped)	<ul style="list-style-type: none"> <li>- Check timer switch or timer switch adjustment. If it is out of adjustment, adjust to point that allows dock to return to cross traffic.</li> </ul>

## **CYLINDER ASSEMBLY OVERHAUL**

The cylinder seals generally have a long life. However, due to an adverse or an extremely dusty environment, premature failure of the seals can occur. The problem will always manifest itself by the leakage of oil out of the arm.

### **SEALS CAN BE REPLACED USING THE FOLLOWING PROCEDURE.**

1. Raise dock leveler to a comfortable working height and block at centre of front plate.
2. Remove cylinder from dock leveler and disassemble.
3. Remove worn seals from cylinder.
4. Make certain all parts are clean.
5. Install new seals.
6. Apply a small amount of hydraulic fluid to piston and insert into the cylinder.
7. Disconnect hydraulic line, to allow air to escape.
8. Reinstall all cylinder and hydraulic lines. Raise the dock leveler off the block.

**LIFT CYLINDER**

**LIFT CYLINDER**

Item #	Part #	Description
1	5P-CK-001	Cylinder Tube, Docks 6' & 8' Long
1A	5P-CK-002	Cylinder Tube, Docks 10' & 12' Long
2	5P-CK-003	Seal Ring
3	5P-CK-004	Cylinder Head
4	5P-CK-005	Cylinder Piston (Only) Docks 6' & 8' Long
4A	5-PCK-006	Cylinder Piston (Only) Docks 10' & 12' Long

**LIP CYLINDER**

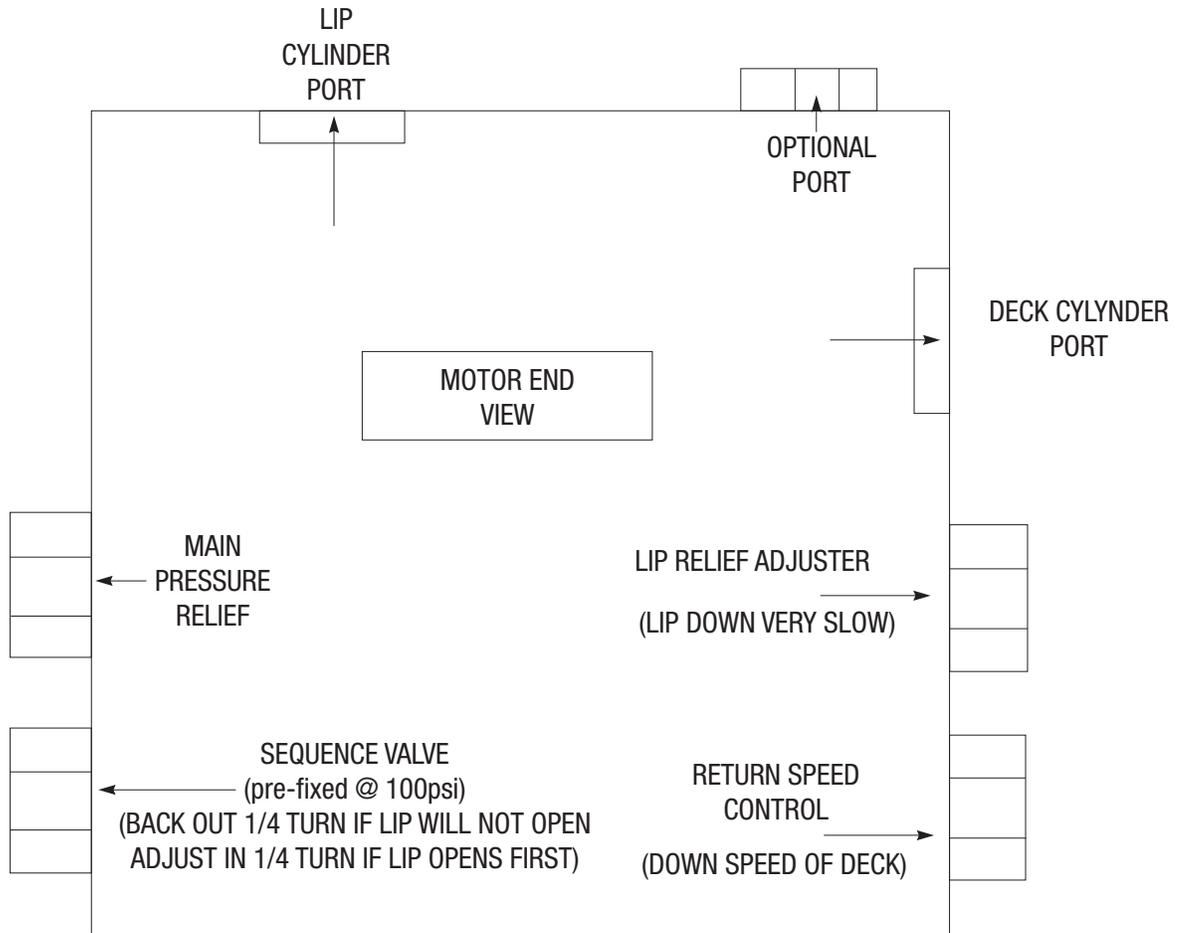
Item #	Part #	Description
1	5P-CK-007	Cylinder Tube 10" (Specify)
2	5P-CK-008	Seal Ring
3	5P-CK-009	Cylinder Head
4	5P-CK-010	Chrome Cylinder Piston 10" Long (Specify)

## RESETTING THE DOCK LEVELER BLOCK

1. Adjust **Lip Relief** so that lip lowers very slowly.
2. Adjust **Flow Control** so that dock leveler lowers at equal to or slower than lifting speed.
3. If lip should open before dock leveler begins to lift from the below cross traffic position, turn **Lip Sequence Valve** in  $\frac{1}{4}$  turn increments clockwise until lip no longer opens at this point.
4. Raise dock to full lift position. If lip fails to open then lip sequence valve has been adjusted in too far. Adjust counter clockwise in  $\frac{1}{8}$  turn increment until lip extends. Tighten lock nut on sequence valve.
5. If the dock leveler has the optional **Lip Solenoid Interrupt**, operation is the same except by energizing this valve the lip will extend without having to raise dock to maximum height.

**NOTE:** OIL MUST BE CHANGED AT LEAST ONCE PER YEAR FOR BEST PERFORMANCE.

## POWER PACK DIAGRAM



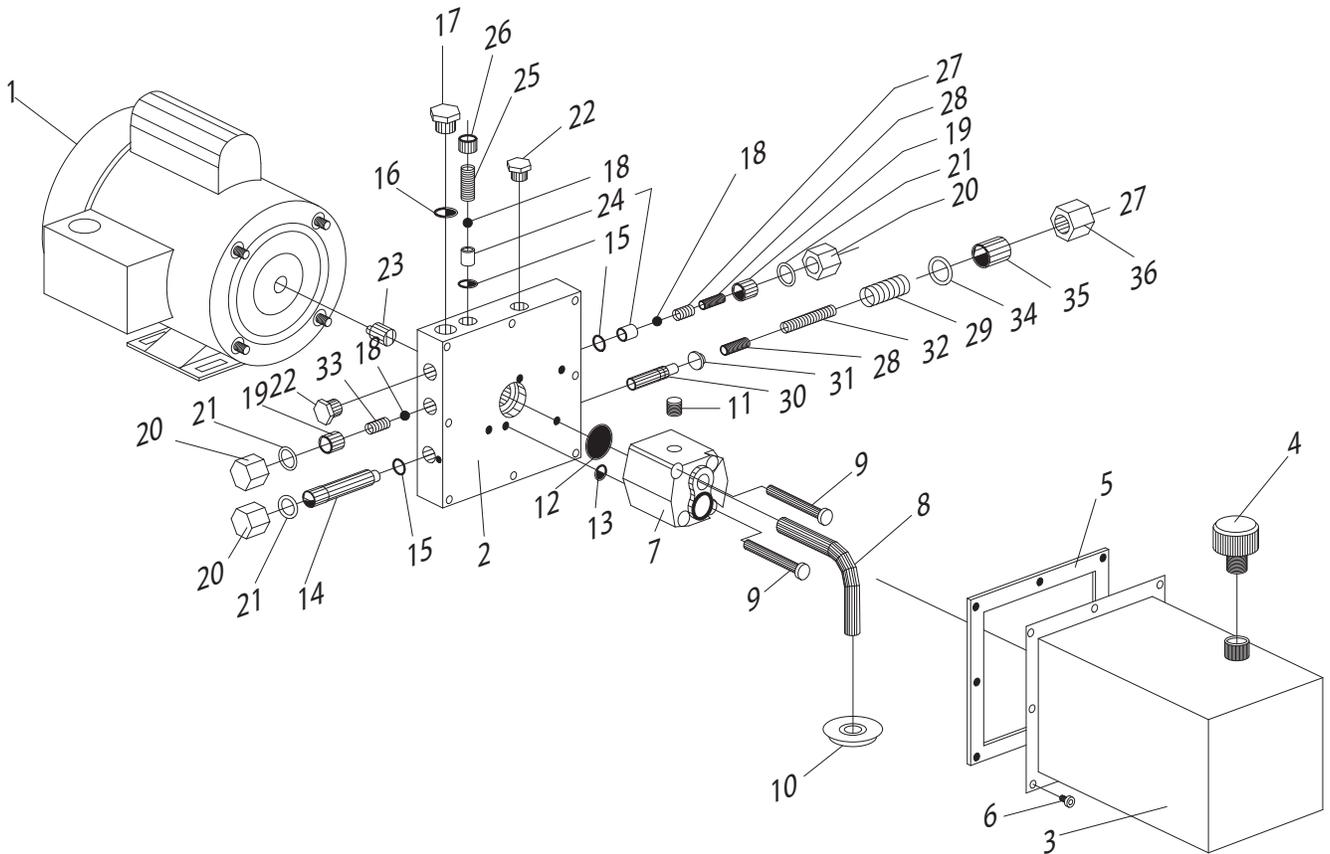
**NOTE:**

USEABLE SEQUENCE VALVE  
 RANGE: 600-1400 P.S.I.

## POWER PACK PARTS LIST

Item #	Qty	Part #	Description
1	1	5P-MD10500U	Motor 1 HP, 56TS, 115/1/60 TEFC
2	1	5P-MD02500U	DY 12130, Center Cast 4400 Series
3	1	5P-MD13600U	DY 51001, 1 Gal. Sq. Res. Assembly
4	1	5P-MD49900U	DY 90500 Breather Cap
5	1	5P-MD58100U	DY 94836-5 SA Gasket Special
6	8	5P-MD52500U	DY 93054 ½ x 10-24 HH C/S
7,12,13	1	5P-MD0100U	DY 1061102 K1PS 2.5 G. ITL Pump
8	1	5P-MD18000U	DY 60306 Intake Tube ¼
9	2	5P-MD55000U	DY 93301-1 3 x 5/16 - 18 Hex Hed Bold
10	1	5P-MD17000U	DY 60100 Strainer Assy
11	1	5P-MD58900U	DY 94862 Pip Plug ¼ - 27 Sock
14	1	5P-MD22500U	DY 60911 Italian Pump Coupling
15,16,17,18	2	5P-MD49500U	DY 90370 ½ Swivel Lock
19	1	5P-MD49600U	DY 90371 ½ Polytuff 3" Long
20,21	1	5P-MD43900U	DY 90111 110 Volt Coil Delta
22,23,24	1	5P-MD45320U	DY 90150-1 D.V. Cart N.O. Delta
25	1	5P-MD59000U	DY 94863 Pipe Plug 3/8 - 27
26	1	No Part #	Check Spring 4400 Series
27	2	5P-MD63000U	DY 95210 Ball Bearing 3/8
28	2	5P-MD21100U	DY 60620 Ext. RV Seat
29	3	5P-MD56100U	DY 94050 ½" OD 'O' Ring
30, 31	2	5P-MD60500U	DY 95019 SAE 90 Elbow
32	2	5P-MD20500U	DY 60610 R/V Cap Nut
33	2	5P-MD56200U	DY 94054 'O' Ring .66ID .825 Sq.
34	1	5P-MD20800U	DY 60615 RV Adj. Screw
35	2	5P-MD64300U	DY 95420 Inner RV Spring
36	1	5P-MD64400U	DY 95425 Outer RV Spring
37	1	5P-MD20700U	DY 60613 Seq. Cap Nut
38	1	5P-MD20900U	DY 60616 Seq. Adj. Screw
39	1	5P-MD57650U	DY 94565 Fiber Washer
40	1	5P-MD64500U	DY 95430 Coil Spring
41	1	No Part #	Sequence Core Spring
42	1		Same as Item # 35
43	1	5P-MD21000U	DY 60617 Shuttle Button
44	1	5P-MD21700U	DY 60721 Shuttle 4400 Series
45	1	5P-MD21400U	DY 60715 Shuttle Valve Adj. Screw
46	1	5P-MD25300U	DY 62100 Crossover RV Stop
47	1	5P-MD56400U	DY 94062 5/8 OD 'O' Ring
48	1	5P-MD63900U	DY 95402 B-641 Spring

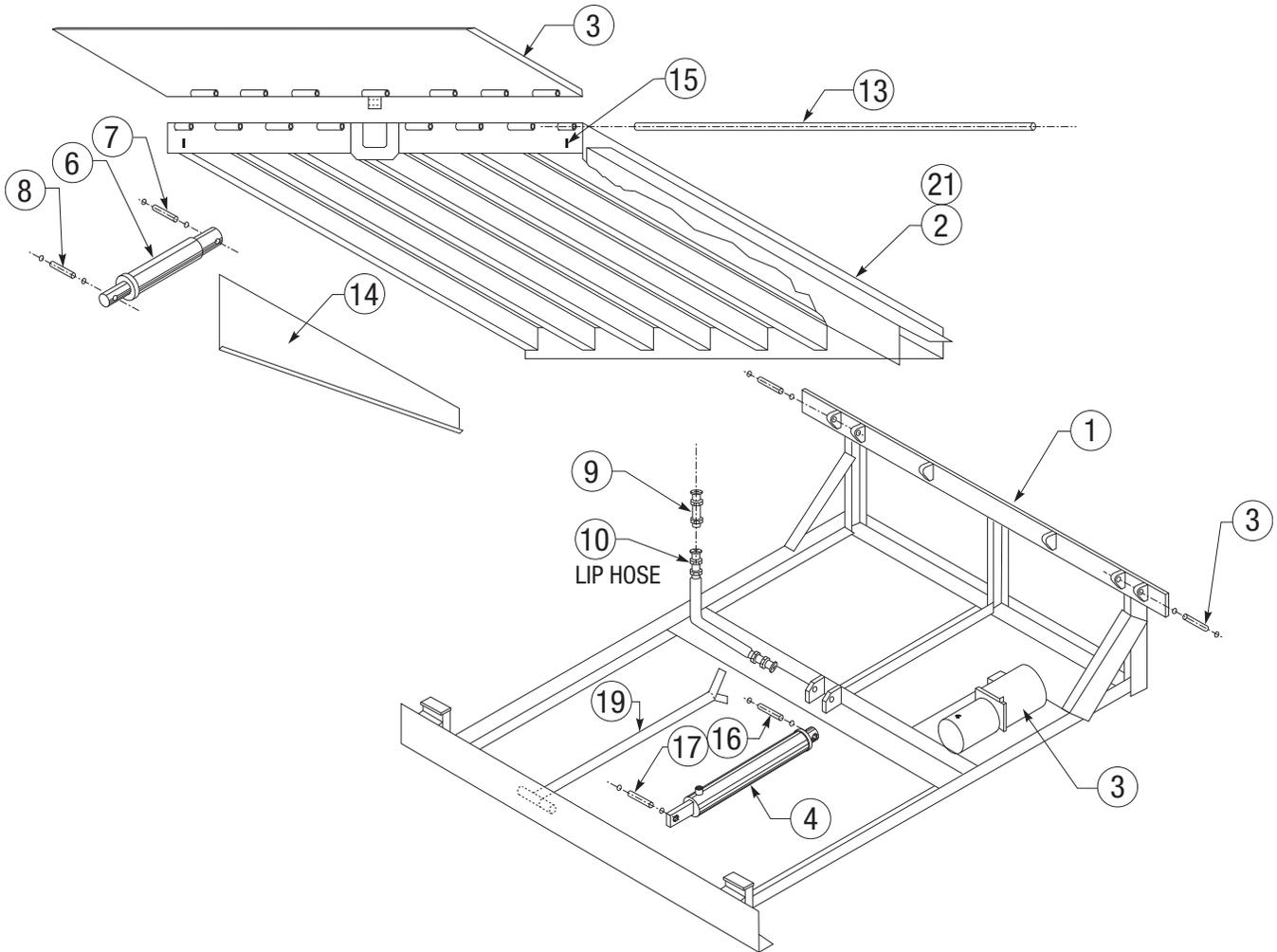
# POWER PACK DRAWING (MOTOR & PUMP)



## HYDRAULIC DOCK LEVELER PARTS LIST

<b>Item #</b>	<b>Part #</b>	<b>Description</b>
1	5P-HD001	Complete Base Frame
2	5P-HD002	Complete Deck Assembly
3	5P-HD003	Lip with Lip Hinge Tubes
4	5P-HD004	Main Cylinder
5	5P-HD005	Hydraulic Powerpack(Standard Unit 120 Volt, 1 Phase)
6	5P-HD006	Lip Cylinder
7	5P-HD007	Cylinder Pin $\frac{3}{4}$ x 2 $\frac{1}{2}$ (Lip End)
8	5P-HD008	Cylinder Pin (Deck End)
9	5P-HD009	Hydraulic Velocity Fuse
10	5P-HD010	Main Hose Assembly
11	5P-HD011	Lip Hose Assembly
12	5P-HD012	Pin and Lock Rings (Rear)
13	5P-HD013	Lip Hinge Pin
14	5P-HD014	Telescopic Toe Guards
15	5P-HD015	Split Pin
16	5P-HD016	Lower Main Pin
17	5P-HD017	Upper Main Pin
18	5P-HD018	Weather Seals (Aluminum & Vinyl)
19	5P-HD019	Safety Maintenance Strut

# HYDRAULIC DOCK LEVELER



## **MAINTENANCE**

**NOTE:** WITH ADEQUATE MAINTENANCE, YOUR HYDRAULIC DOCK LEVELER SHOULD GIVE YOU MANY YEARS OF TROUBLE-FREE OPERATION.

### **LUBRICATION**

Lubricate the following dock leveler parts every three months.  
Use the grease or oil specified for each part.

LIGHT OIL:           a) Lip hinge tubes.  
                          b) Cylinder pivot points.

GREASE:             a) Rear hinge pins.

HYDRAULIC OIL:   a) Hydraulic pump reservoir  
                          - Change hydraulic oil in pump reservoir every twelve months with  
                          low temperature oil #HV122 (Petro Canada).

# WARRANTY

## IMPORTANT

PLEASE READ CAREFULLY TO INSURE THAT YOU DO NOT VOID YOUR WARRANTY.

### **Perma Tech Inc. Levelers - STANDARD WARRANTY**

This warranty provides the owner with coverage for a one (1) year period based on normal eight (8) hour working day consisting of the following conditions:

- A) One year structural steel warranty for the base frame, main steel deck and steel hinged lip
- B) One year hydraulic warranty for power pack pump, main cylinder (ram & casing).
- C) One year (365 days) warranty for electrical components, electric motor and controls by respective manufactures, also complete lip-lifting mechanics, lip assist assembly, hinged lip tubing, main hinged lip bar, lip crown, main deck rear hinge lugs and pins, toe guards, hydraulic hose with fittings, hydraulic cylinder seals.

**Perma Tech Dock Levelers** has manufactured their equipment with the best of material and workmanship and should any defect develop or become evident during the guaranteed periods stated above, we shall repair or replace same upon notice and inspection by our authorized dealer.

#### **WARRANTY CLAIRIFICATION:**

- 1) Lip crown that has been decreased below the standard to meet the customer's requirement due to material handling equipment under clearance, which can effect the main hinged lip tubing, main hinged lip bar, front plate and capacity. The hinged lip crown established to satisfy the customer's requirements must be maintained but never exceed 80 degrees when open from the pendant position.
- 2) Weatherseals mounted on sides of unit or on curb, angles are susceptible to damage by various means which is not part of this warranty.
- 3) This warranty does not apply in respect to damage to any product or accessory or attachment thereof, caused by overloading or other misuse, neglect or accident, nor does this warranty apply to any product, or accessory or attachment thereof, which have been repaired or altered by other than the seller or it's authorized representative in any way, which in transit is not applicable to warranty as stated above.
- 4) This warranty will only be valid if the original supplier has received full payment for the equipment and services rendered and a preventive maintenance program established within ninety (90) days from date of installation.

#### **WARRANTY RE: Longer operating hours**

Customer's operating with a double shift up to sixteen (16) hours per day will reduce the complete warranty by half.

DISTRIBUTED BY:

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