

"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.









TABLE OF CONTENTS

	Page
Safety Information	1
Installation Instructions	2
Shimming Details	3
Electrical Schematic	4
Push Button Wiring Diagram - 1 Phase	5
Trouble Shooting	6
Cylinder Assemble Overhaul	7
Main Cylinder & Lip Cylinder Diagram & Parts List	8
Re-set ting the Hydraulic Valve Block	9
Power Pack Diagram	10
Powerpack Parts List	11
Powerpack Diagram (Motor & Pump)	12
Hydraulic Dock Leveler Parts List	13
Hydraulic Dock Leveler Diagram	14
Maintenance & Lubrication	15
Warranty	16
Manufacture Date:	
M odel:	
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.

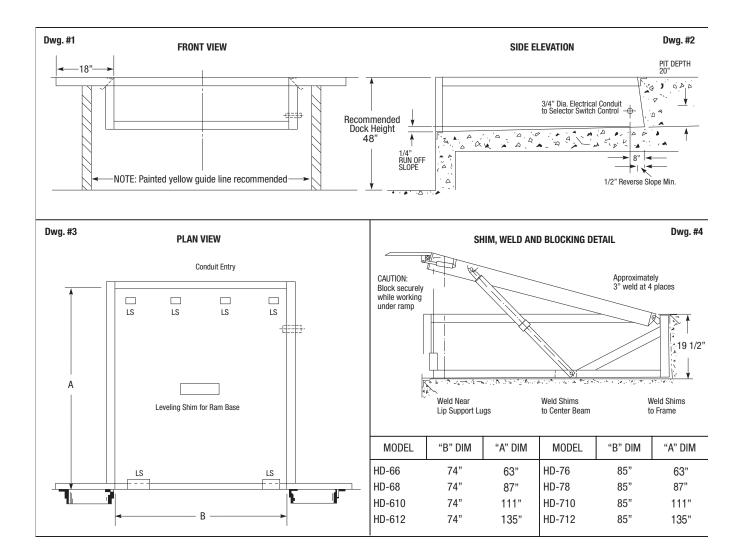
NOTE: WHILE THE DOCK BOARD IS FACTORY ADJUSTED, THEY MAY REQUIRE SLIGHT ADJUSTMENT ON SITE DUE TO THE MOVEMENT IN SHIPPING AND DURING THE INSTALLATION. **THIS IS NOT WARRANTY**.

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

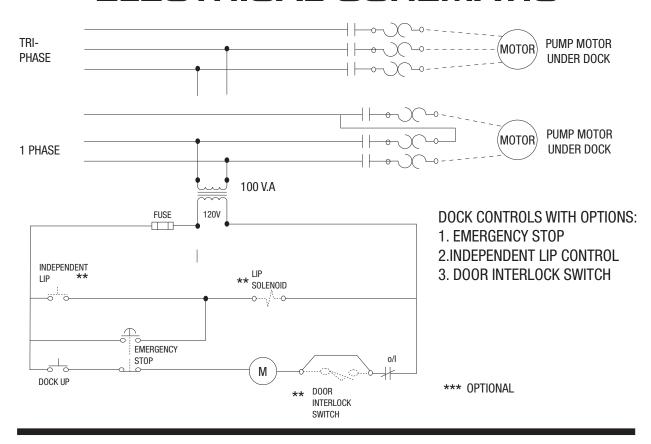
Please state model number of dock board when ordering parts.

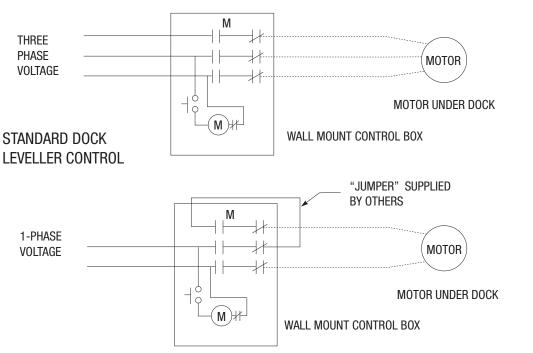


SHIMMING DETAILS



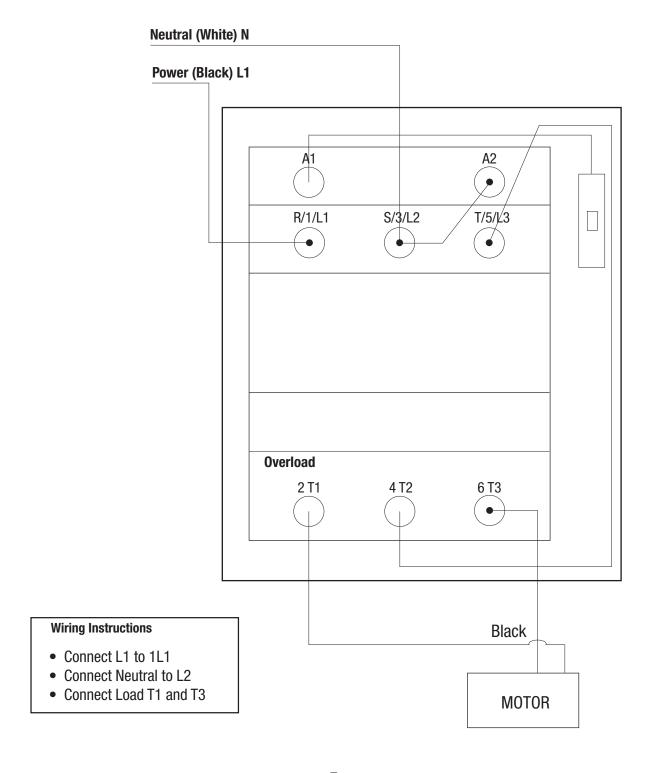
ELECTRICAL SCHEMATIC







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.

PROBLEM	CORRECTIVE ACTION
Board does not operate. (Motor does not operate)	 Check for electrical fault such as blown fuse, loose connections or faulty motor starter. Check for oil leaks and for dirt in system.
2. Board does not operate. (Motor operates)	 Check oil level, it should be within ³/₄ of an inch to the top of the tank. 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.
3. Board does not operate. (Pressure is too low)	Then either the pump is worn out.Shuttle value is not working properly.The electrolyte starter capacitor is worn out.
4. Lip does not extend.	- Lower sequence setting by turning it slightly counter-clockwise.
5. Lip does not close.	- Increase sequencing setting by turning it slightly clockwise.
6. Board does not reset automatically. (If equipped)	- Check timer switch or timer switch adjustment. If it is out of adjustment, adjust to point that allows dock to return to cross traffic.

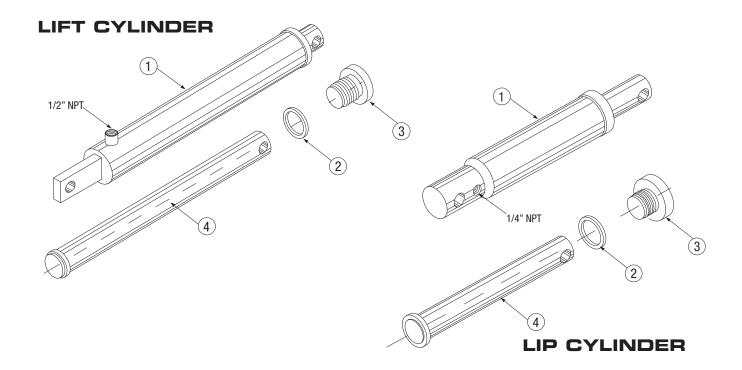


CYLINDER ASSEMBLY OVERHAUL

The cylinder seals generally have a long lift. 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

ltem #	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

ltem #	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)



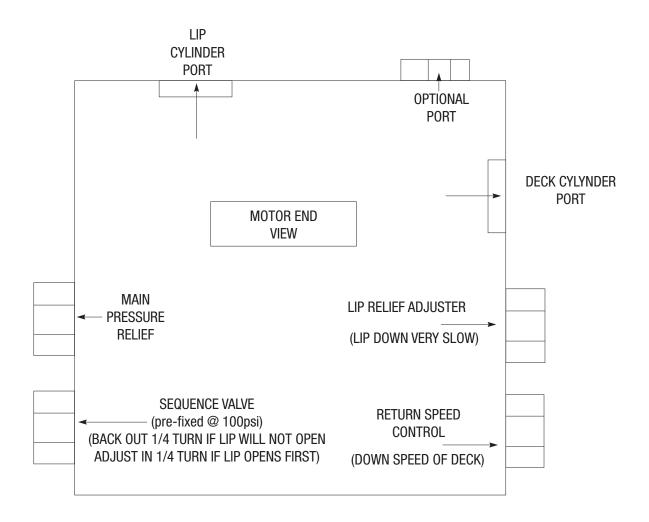
RESETTING THE DOCK LEVELER BLOCK

- 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 ½ 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 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:

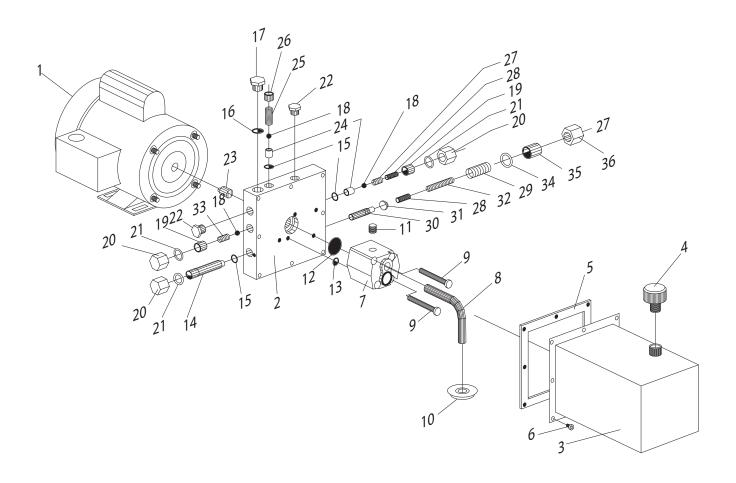
USEABLE SEQUENCE VALVE RANGE: 600-1400 P.S.I.

POWER PACK PARTS LIST

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-MD13600U DY 90500 Breather Cap 5 1 5P-MD52500U DY 90500 Breather Cap 6 8 5P-MD52500U DY 93054 ½ x 10-24 HH C/S 7,12,13 1 5P-MD100U DY 1061102 K1PS 2.5 G. ITL Pump 8 1 5P-MD18000U DY 60306 Intake Tube ¼ 9 2 5P-MD5000U DY 60306 Intake Tube ¼ 9 2 5P-MD5000U DY 60306 Intake Tube ¼ 10 1 5P-MD17000U DY 60100 Strainer Assy 11 1 5P-MD2500U DY 93031-1 3 x 5/16 - 18 Hex Hed Bold 10 1 5P-MD12000U DY 60100 Strainer Assy 11 1 5P-MD2500U DY 930370 ½ Swivel Lock 14 1 5P-MD2500U DY 90370 ½ Swivel Lock 15 16,17,18 2 5P-MD49500U DY 90371 ½ Polytuff 3' Long 20,21 1 5P-MD49600U DY 90371 ½ Polytuff 3' Long 20,21 1 5P-MD49600U DY 90371 ½ Polytuff 3' Long 22,23,24 1 5P-MD49300U DY 90111 110 Volt Coil Delta 22,23,24 1 5P-MD49300U DY 94863 Pipe Plug 3/8 - 27 26 1 No Part # Check Spring 4400 Series 27 2 5P-MD63000U DY 960620 Ext. RV Seat 27 2 5P-MD63000U DY 960620 Ext. RV Seat 29 3 5P-MD63100U DY 960620 Ext. RV Seat 29 3 5P-MD63000U DY 95019 SAE 90 Elbow 32 2 5P-MD63000U DY 95425 Outer RV Spring 33 2 5P-MD63000U DY 960610 R/V Cap Nut 33 2 5P-MD63000U DY 960613 Seq. Cap Nut 34 1 5P-MD20800U DY 960613 Seq. Cap Nut 35 2 5P-MD6300U DY 960613 Seq. Cap Nut 36 1 5P-MD63600U DY 960613 Seq. Cap Nut 37 1 5P-MD63600U DY 960613 Seq. Cap Nut 38 1 5P-MD20900U DY 960613 Seq. Cap Nut 39 1 5P-MD63600U DY 960613 Seq. Cap Nut 39 1 5P-MD63600U DY 960610 Seq. Adj. Screw 40 1 5P-MD63600U DY 960617 Shuttle Button 40 1 5P-MD63600U DY 960617 Shuttle Button 41 1 No Part # Sequence Core Spring 42 1 Sep-MD63600U DY 960617 Shuttle Button 44 1 5P-MD2100U DY 60617 Shuttle Button 45 1 5P-MD2100U DY 60617 Shuttle Button 46 1 5P-MD2500U DY 96062 5/8 0D 'D' Ring	ltem #	Qty	Part #	Description
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 60306 Intake Tube ½ 9 2 5P-MD55000U DY 60306 Intake Tube ½ 9 2 5P-MD55000U DY 60306 Intake Tube ½ 9 2 5P-MD55000U DY 60306 Intake Tube ½ 10 1 5P-MD17000U DY 60100 Strainer Assy 11 1 1 5P-MD58900U DY 90311 Italian Pump Coupling 15,16,17,18 2 5P-MD49500U DY 90370 ½ Swivel Lock 19 1 5P-MD49500U DY 90371 ½ Polytuff 3* Long 20,21 1 5P-MD49500U DY 90111 110 Volt Coil Delta 22,23,24 1 5P-MD49500U DY 90150-1 D.V. Cart N.O. Delta 25 1 5P-MD49500U DY 90150-1 D.V. Cart N.O. Delta 25 1 5P-MD63000U DY 960620 Ext. RV Seat 27 2 5P-MD63000U DY 960620 Ext. RV Seat 29 3 5P-MD6100U DY 90501 SAE 90 Elbow 30, 31 2 5P-MD65000U DY 90501 SAE 90 Elbow 32 2 5P-MD65000U DY 90515 SAE 90 Elbow 33 2 5P-MD66000U DY 95465 Series 34 1 5P-MD62000U DY 95465 Series 35 PAD66200U DY 95465 DE Blow 36 1 5P-MD62000U DY 95465 Series 37 1 5P-MD62000U DY 95465 Series 38 1 5P-MD63000U DY 95465 Deltow 39 2 5P-MD66000U DY 95465 Deltow 39 3 5P-MD66000U DY 95465 Series 30 31 5P-MD66000U DY 95465 Deltow 30 31 5P-MD66000U DY 95465 Deltow 31 5P-MD66000U DY 95465 Series 31 5P-MD66000U DY 95465 Series 32 5P-MD66000U DY 960615 RV Adj. Screw 33 5P-MD66000U DY 95465 Series 34 1 5P-MD6000U DY 960615 Seq. Adj. Screw 35 2 5P-MD66400U DY 960615 Seq. Adj. Screw 36 1 5P-MD64500U DY 960615 Seq. Adj. Screw 37 1 5P-MD64500U DY 960615 Seq. Cap Nut 38 1 5P-MD64500U DY 960615 Seq. Adj. Screw 39 1 5P-MD64500U DY 960615 Seq. Adj. Screw 40 1 5P-MD64500U DY 60610 Series 41 1 Seq. Adj. Screw 42 1 Same as Item # 35 43 1 5P-MD6400U DY 60612 Shuttle Button 44 1 5P-MD6400U DY 60612 Shuttle Button 45 1 5P-MD6400U DY 60612 Shuttle Button 46 1 5P-MD6400U DY 60612 Shuttle Valve Adj. Screw 46 1 5P-MD6400U DY 60612 Shuttle Valve Adj. Screw 46 1 5P-MD6400U DY 96062 5/8 0D 'O' Ring		Gity		·
3 1 5P-MD13600U DY 51001, 1 Gal. Sq. Res. Assembly 4 1 5P-MD49800U DY 90500 Breather Cap 5 1 5P-MD58100U DY 94836-5 SA Gesket Special 6 8 5P-MD52500U DY 93054 ½ x 10-24 HH C/S 7,12,13 1 5P-MD18000U DY 1061102 K1PS 2.5 G. ITL Pump 8 1 5P-MD18000U DY 60306 Intake Tube ½ 9 2 5P-MD55000U DY 93031-1 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-MD68900U DY 90370 ½ Swivel Lock 19 1 5P-MD49500U DY 90371 ½ Polytuff 3* Long 20,21 1 5P-MD49500U DY 90111 110 Volt Coil Delta 22,23,24 1 5P-MD45320U DY 90151 D.V. Cart N.O. Delta 25 1 5P-MD56300U DY 94863 Pipe Plug 3/8 – 27 26 1 No Part # Check Spring 4400 Series 27 2 <				
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-MD18000U DY 1061102 K1PS 2.5 G. ITL Pump 8 1 5P-MD18000U DY 60306 Intake Tube ¼ 9 2 5P-MD55000U DY 60306 Intake Tube ¼ 10 1 5P-MD15000U DY 60100 Strainer Assy 11 1 5P-MD8900U DY 60100 Strainer Assy 11 1 5P-MD2500U DY 60911 Italian Pump Coupling 15,16,17,18 2 5P-MD49500U DY 90370 ½ Swivel Lock 19 1 5P-MD49500U DY 90371 ½ Polytuff 3" Long 20,21 1 5P-MD49500U DY 9011 11 110 Volt Coil Delta 22,23,24 1 5P-MD49500U DY 90371 ½ Polytuff 3" Long 20,21 1 5P-MD49500U DY 90150-1 D.V. Cart N.O. Delta 25 1 5P-MD49500U DY 904863 Pipe Plug 3/8 – 27 2 5P-MD6900U DY 904863 Pipe Plug 3/8 – 27 2 5P-MD6900U DY 95210 Ball Bearing 3/8 28 2 5P-MD21100U DY 60620 Ext. RV Seat 29 3 5P-MD6100U DY 95019 SAE 90 Elbow 32 2 5P-MD65000U DY 95019 SAE 90 Elbow 32 2 5P-MD65000U DY 95019 SAE 90 Elbow 33 2 5P-MD65000U DY 950456 70 Ring 36 1 5P-MD6300U DY 95425 Outer RV Spring 36 1 5P-MD6400U DY 95425 Outer RV Spring 37 1 5P-MD6400U DY 95455 Fiber Washer 40 1 5P-MD67500U DY 94565 Fiber Washer 40 1 5P-MD67500U DY 95631 Seq. Cap Nut 5P-MD67500U DY 95631 Seq. Cap Nut 5P-MD67500U DY 95636 Seq. Cap Nut 5P-MD67500U DY 95636 Fiber Washer 40 1 5P-MD67500U DY 96061 Seq. Adj. Screw 41 1 SP-MD67500U DY 96061 Seq. Adj. Screw 42 1 Seq. Cap Spring 42 1 Sep-MD67500U DY 96061 Seq. Adj. Screw 43 1 5P-MD67500U DY 96061 Seq. Adj. Screw 44 1 SP-MD67500U DY 96061 Seq. Adj. Screw 45 1 5P-MD67100U DY 60617 Shuttle Button 46 1 5P-MD67100U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD67100U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD67100U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD67100U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD67100U DY 60715 Shuttle Valve Adj. Screw 47 5P-MD66400U DY 96062 5/8 0D '0' Ring		-	5P-MD02500U	
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-MD100U 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-MD58900U DY 90370-1 3 x 5/16 − 18 Hex Hed Bold 10 1 5P-MD58900U DY 90371-1 3 x 5/16 − 18 Hex Hed Bold 10 1 5P-MD58900U DY 90370-1 3 x 5/16 − 18 Hex Hed Bold 10 1 5P-MD58900U DY 90371-1 3 x 5/16 − 18 Hex Hed Bold 11 1 5P-MD58900U DY 90371-1 3 x 5/16 − 18 Hex Hed Bold 14 1 5P-MD58900U DY 90371-1 3 x 5/16 − 18 Hex Hed Bold 15,16,17,18 2 5P-MD4890U DY 90371-1 3 x 5/16 − 18 Hex Hed Bold 19 1 5P-MD49500U DY 90371-1 3 x 5/16 − 18 Hex Hed Bold 19 1 5P-MD49500U DY 90371-1 3 x 5/16 − 18 Hex Hed Bold 19 1 5P-MD49500U D			5P-MD13600U	·
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 ⅓ 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 ⅓ - 27 Sock 14 1 5P-MD25500U DY 60911 Italian Pump Coupling 15,16,17,18 2 5P-MD49500U DY 90370 ½ Swivel Lock 19 1 5P-MD49500U DY 90371 ½ Polytuff ¾ Long 20,21 1 5P-MD49300U DY 90111 110 Volt Coil Delta 22,23,24 1 5P-MD49300U DY 90150-1 D.V. Cart N.O. Delta 25 1 5P-MD49300U DY 94863 Pipe Plug ⅓/8 − 27 26 1 No Part ♯ Check Spring 4400 Series 27 2 5P-MD83000U DY 95210 Ball Bearing 3/8 28 2 5P-MD21100U DY 960620 Ext. RV Seat 29 3 5P-MD56100U DY 94050 ½ "0D '0' Ring 30, 31 2 5P-MD56500U DY 960618 FAV Cap Nut 33 2 2 5P-MD56000U DY 960618 FAV Cap Nut 33 2 2 5P-MD56000U DY 960618 FAV Cap Nut 33 2 5P-MD64300U DY 95425 Outer RV Spring 36 1 5P-MD64300U DY 95425 Outer RV Spring 37 1 5P-MD20900U DY 960618 Seq. Cap Nut 38 1 5P-MD20900U DY 960618 Seq. Cap Nut 39 1 5P-MD20900U DY 960619 Seq. Cap Nut 39 1 5P-MD21000U DY 960619			5P-MD49900U	·
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-MD55900U DY 60100 Strainer Assy 11 1 5P-MD58900U DY 90370 ½ Swivel Lock 14 1 5P-MD49800U DY 90370 ½ Swivel Lock 19 1 5P-MD49800U DY 90371 ½ Polytuff 3" Long 20,21 1 5P-MD49800U DY 90111 110 Volt Coil Delta 22,23,24 1 5P-MD49800U DY 90150-1 D.V. Cart N.O. Delta 25 1 5P-MD59000U DY 90450-1 D.V. Cart N.O. Delta 25 1 5P-MD69000U DY 94863 Pipe Plug 3/8 - 27 26 1 No Part # Check Spring 4400 Series 27 2 5P-MD69000U DY 95210 Ball Bearing 3/8 28 2 5P-MD69000U DY 960620 Ext. RV Seat 29 3 5P-MD69000U DY 960610 R/V Cap Nut 33 2 5P-MD690			5P-MD58100U	· · · · · · · · · · · · · · · · · · ·
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-MD55000U DY 60100 Strainer Assy 11 1 5P-MD58900U DY 94862 Pip Plug ¼ - 27 Sock 14 1 5P-MD49500U 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 Vcl Coil Delta 22,23,24 1 5P-MD45320U DY 90150-1 D.V. Cart N.O. Delta 25 1 5P-MD45320U DY 90150-1 D.V. Cart N.O. Delta 25 1 5P-MD45320U 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-MD63000U DY 95019 SAE 90 Elbow 30, 31 2 5P-MD56100U DY 960620 Ext. RV Seat 29 3		8	5P-MD52500U	DY 93054 ½ x 10-24 HH C/S
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 94862 Pip Plug ¼ - 27 Sock 14 1 5P-MD22500U DY 90370 ½ Swivel Lock 19 1 5P-MD49500U DY 90370 ½ Swivel Lock 19 1 5P-MD49500U DY 90371 ½ Polytuff 3" Long 20,21 1 5P-MD43900U DY 90111 110 Volt Coil Delta 22,23,24 1 5P-MD45300U DY 90111 110 Volt Coil Delta 25 1 5P-MD5900U 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 95015 RV Seat 29 3 5P-MD6500U DY 95016 R/V Cap Nut 33 2 5P-MD6500U DY 94054 '0' Ring .66ID .825 Sq. 34 1 5P-MD20500U DY 95420 Inner RV Spring 36 1 5P-MD6400U DY 95420 Inner RV Spring 37 1 5P-MD6400U DY 95425 Outer RV Spring 38 1 5P-MD6400U DY 95465 Fiber Washer 40 1 5P-MD57650U DY 95430 Coil Spring 42 1 Same as Item # 35 43 1 5P-MD20500U DY 95405 Pibuttle Button 44 1 SP-MD21400U DY 60721 Shuttle Button 44 1 SP-MD21500U DY 96071 Shuttle Button 44 1 SP-MD21500U DY 60715 Shuttle Button 44 1 SP-MD21500U DY 60715 Shuttle Button 45 1 5P-MD21500U DY 60715 Shuttle Button 46 1 5P-MD21500U DY 60715 Shuttle Button 47 1 5P-MD21500U DY 60715 Shuttle Button 48 1 5P-MD21500U DY 60715 Shuttle Button 49 1 5P-MD21500U DY 60715 Shuttle Button 40 1 5P-MD21500U DY 60715 Shuttle Button 41 1 SP-MD21500U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD21500U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 60715 Shuttle Valve Adj. Screw	7,12,13	1	5P-MD0100U	DY 1061102 K1PS 2.5 G. ITL Pump
10 1 5P-MD17000U DY 60100 Strainer Assy 11 1 5P-MD58900U DY 94862 Pip Plug 1/4 - 27 Sock 14 1 5P-MD22500U DY 60911 Italian Pump Coupling 15,16,17,18 2 5P-MD49500U DY 90370 1/2 Swivel Lock 19 1 5P-MD49600U DY 90371 1/2 Polytuff 3" Long 20,21 1 5P-MD43900U DY 90111 110 Volt Coil Delta 22,23,24 1 5P-MD43900U DY 90111 110 Volt Coil Delta 22,23,24 1 5P-MD59000U 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 1/2" OD '0' Ring 30, 31 2 5P-MD66500U DY 94054 1'0' Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 960616 R/V Cap Nut 33 2 5P-MD64300U DY 95425 Outer RV Spring 36 1 5P-MD64300U DY 95425 Outer RV Spring 37 1 5P-MD64300U DY 960618 Seq. Cap Nut 38 1 5P-MD20900U DY 960618 Seq. Cap Nut 39 1 5P-MD64500U DY 960618 Seq. Cap Nut 39 1 5P-MD64500U DY 960618 Seq. Cap Nut 39 1 5P-MD60900U DY 960618 Seq. Cap Nut 40 1 5P-MD609000U DY 960618 Seq. Cap Nut 40 1 5P-MD609000 DY 960618	8	1	5P-MD18000U	DY 60306 Intake Tube 1/4
11 1 5P-MD58900U DY 94862 Pip Plug ¼ - 27 Sock 14 1 5P-MD2500U 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-MD43900U DY 90110 1.0 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 96020 Ext. RV Seat 29 3 5P-MD66100U DY 94050 ½" OD 'O' Ring 30, 31 2 5P-MD60500U DY 95019 SAE 90 Elbow 32 2 5P-MD60500U DY 94054 'O' Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 95425 Outer RV Spring 36 1 5P-MD64300U DY 95425 Outer RV Spring 37 1 5P-MD20900U DY 60616 Sq. Adj. Screw 39 1 5P-MD20500U DY 96051 Sq. Cap Nut 38 1 5P-MD20500U DY 95430 Coil Spring 41 1 No Part # Sequence Core Spring 42 1 Sp-MD64500U DY 95430 Coil Spring 41 1 No Part # Sequence Core Spring 42 1 Sp-MD21700U DY 60617 Shuttle Button 44 1 5P-MD21700U DY 60721 Shuttle Button 45 1 5P-MD21400U DY 60721 Shuttle Hallou Screw 46 1 5P-MD25300U DY 60721 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 60721 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 60721 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 60721 Shuttle Valve Adj. Screw	9	2	5P-MD55000U	DY 93301-1 3 x 5/16 – 18 Hex Hed Bold
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-MD49500U 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-MD63100U DY 94050 ½" DD 'O' Ring 30, 31 2 5P-MD60500U DY 94050 ½" DD 'O' Ring 30, 31 2 5P-MD60500U DY 94054 'O' Ring .66ID .825 Sq. 34 1 5P-MD20500U DY 94054 'O' Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 95420 Inner RV Spring 36 1 5P-MD64400U DY 95425 Outer RV Spring 37 1 5P-MD20700U DY 60613 Sq. Cap Nut 38 1 5P-MD20700U DY 60616 Seq. Adj. Screw 39 1 5P-MD20900U DY 95455 Fiber Washer 40 1 5P-MD64500U DY 95450 Coil Spring 41 1 No Part # Sequence Core Spring 42 1 Same as Item # 35 43 1 5P-MD21000U DY 60671 Shuttle Button 44 1 5P-MD21000U DY 60721 Shuttle Valve Adj. Screw 45 1 5P-MD21000U DY 60721 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 60721 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 60715 Shuttle Valve Adj. Screw	10	1	5P-MD17000U	DY 60100 Strainer Assy
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-MD59000U 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" 0D '0' Ring 30, 31 2 5P-MD60500U DY 95019 SAE 90 Elbow 32 2 5P-MD60500U DY 960610 R/V Cap Nut 33 2 5P-MD56200U DY 960610 R/V Cap Nut 33 2 5P-MD60500U DY 960615 RV Adj. Screw 35 2 5P-MD64300U DY 95425 Outer RV Spring 36 1 5P-MD20800U DY 95425 Outer RV Spring 37 1 5P-MD20700U DY 60613 Seq. Cap Nut 38 1 5P-MD20700U DY 60616 Seq. Adj. Screw 39 1 5P-MD20700U DY 95430 Coil Spring 41 1 No Part # Sequence Core Spring 42 1 Same as Item # 35 43 1 5P-MD21700U DY 60617 Shuttle Button 44 1 5P-MD21700U DY 60721 Shuttle Button 44 1 5P-MD21700U DY 60721 Shuttle Button 44 1 5P-MD21700U DY 60721 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 62100 Crossover RV Stop 47 1 5P-MD25300U DY 62100 Crossover RV Stop	11	1	5P-MD58900U	DY 94862 Pip Plug ¼ - 27 Sock
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 5-P-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-MD56000U 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-MD64300U 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-MD56500U 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-MD21700U DY 60617 Shuttle Button 44 1 5P-MD21700U DY 60715 Shuttle Button 44 1 5P-MD21700U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 60715 Shuttle Valve Adj. Screw	14	1	5P-MD22500U	DY 60911 Italian Pump Coupling
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-MD63000U DY 95210 Ball Bearing 3/8 29 3 5P-MD21100U DY 60620 Ext. RV Seat 29 3 5P-MD56100U DY 94050 ½" "O "O" Ring 30, 31 2 5P-MD66100U DY 94050 ½" "O "O" Ring 30, 31 2 5P-MD60500U DY 95019 SAE 90 Elbow 32 2 5P-MD60500U DY 960610 R/V Cap Nut 33 2 5P-MD60500U DY 94054 'O" Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 94054 'O" Ring .66ID .825 Sq. 35 2 5P-MD64300U DY 95425 Outer RV Spring 36 1 5P-MD64400U DY 95425 Outer RV Spring 37 1 5P-MD20900U </td <td>15,16,17,18</td> <td>2</td> <td>5P-MD49500U</td> <td>DY 90370 1/2 Swivel Lock</td>	15,16,17,18	2	5P-MD49500U	DY 90370 1/2 Swivel Lock
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-MD21100U DY 94050 ½" OD '0' Bing 30, 31 2 5P-MD656100U DY 94050 ½" OD '0' Bing 30, 31 2 5P-MD20500U DY 95019 SAE 90 Elbow 32 2 5P-MD20500U DY 960610 R/V Cap Nut 33 2 5P-MD20500U DY 94054 '0' Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 95420 Inner RV Spring 36 1 5P-MD64300U DY 95425 Outer RV Spring 37 1 5P-MD20700U DY 60613 Seq. Cap Nut 38 1 5P-MD20900U DY 60616 Seq. Adj. Screw 40 1 5P-MD564500U	19	1	5P-MD49600U	DY 90371 ½ Polytuff 3" Long
25 1 5-P-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-MD63000U DY 960620 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-MD60500U DY 960610 R/V Cap Nut 33 2 5P-MD20500U DY 94054 'O' Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 960615 RV Adj. Screw 35 2 5P-MD20800U DY 95420 Inner RV Spring 36 1 5P-MD64300U DY 95425 Outer RV Spring 37 1 5P-MD20700U DY 60613 Seq. Cap Nut 38 1 5P-MD20700U DY 60616 Seq. Adj. Screw 39 1 5P-MD57650U DY 94565 Fiber Washer 40 1 5P-MD57650U DY 95430 Coil Spring 41 1 No Part # Sequence Core Spring	20,21	1		DY 90111 110 Volt Coil Delta
25 1 5-P-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-MD63000U DY 960620 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-MD60500U DY 960610 R/V Cap Nut 33 2 5P-MD20500U DY 94054 'O' Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 960615 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-MD20700U 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	22,23,24	1	5P-MD45320U	DY 90150-1 D.V. Cart N.O. Delta
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 '0' 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 '0' 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-MD5650U 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-MD25300U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD56400U DY 94062 5/8 0D '0' Ring	25	1	5-P-MD59000U	DY 94863 Pipe Plug 3/8 – 27
28 2 5P-MD21100U DY 60620 Ext. RV Seat 29 3 5P-MD56100U DY 94050 1/2" OD '0' 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 '0' Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 94054 '0' Ring .66ID .825 Sq. 35 2 5P-MD64300U DY 95015 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 94062 5/8 0D '0' Ring	26	1	No Part #	Check Spring 4400 Series
28 2 5P-MD21100U DY 60620 Ext. RV Seat 29 3 5P-MD56100U DY 94050 ½" 0D '0' 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 '0' Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 60615 RV Adj. Screw 35 2 5P-MD20800U 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-MD27650U DY 94565 Fiber Washer 40 1 5P-MD57650U 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	27	2	5P-MD63000U	DY 95210 Ball Bearing 3/8
29 3 5P-MD56100U DY 94050 ½" 0D '0' 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 '0' Ring .66ID .825 Sq. 34 1 5P-MD20800U DY 95420 Inner RV Spring 35 2 5P-MD64300U DY 95425 Outer 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-MD25300U DY 60715 Shuttle Valve Adj. Screw 46 1 5P-MD25300U DY 94062 5/8 0D '0' Ring	28	2		DY 60620 Ext. RV Seat
32 2 5P-MD20500U DY 60610 R/V Cap Nut	29	3		DY 94050 1/2" OD 'O' Ring
32 2 5P-MD20500U DY 60610 R/V Cap Nut 33 2 5P-MD56200U DY 94054 '0' 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 94062 5/8 0D '0' Ring	30, 31	2	5P-MD60500U	DY 95019 SAE 90 Elbow
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 0D 'O' Ring	32	2		DY 60610 R/V Cap Nut
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 0D '0' Ring	33	2	5P-MD56200U	DY 94054 'O' Ring .66ID .825 Sq.
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 0D '0' Ring	34	1	5P-MD20800U	DY 60615 RV Adj. Screw
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 0D '0' Ring	35	2		·
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 0D '0' Ring	36	1	5P-MD64400U	DY 95425 Outer RV Spring
39	37	1		DY 60613 Seq. Cap Nut
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 0D '0' Ring	38	1	5P-MD20900U	DY 60616 Seq. Adj. Screw
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 0D '0' Ring	39	1		
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 0D '0' Ring	40	1		DY 95430 Coil 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 0D '0' Ring	41	1	No Part #	. 0
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 0D '0' Ring		1		1 0
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 0D '0' Ring		1	5P-MD21000U	
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 0D '0' Ring				
46 1 5P-MD25300U DY 62100 Crossover RV Stop 47 1 5P-MD56400U DY 94062 5/8 0D '0' Ring				
47 1 5P-MD56400U DY 94062 5/8 0D '0' Ring				·
. 5				· · · · · · · · · · · · · · · · · · ·
48 1 1 5P-MD639000 DY 95402 B-641 Spring	48	· 5		DY 95402 B-641 Spring



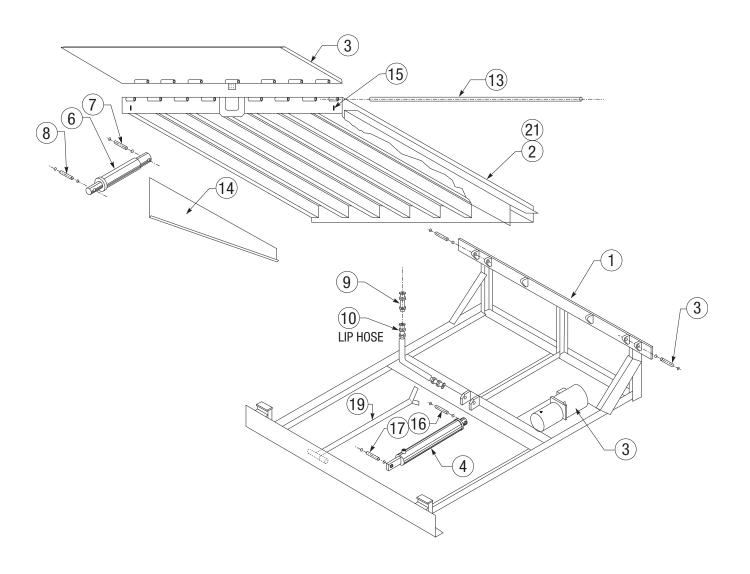
POWER PACK DRAWING (MOTOR & PUMP)



HYDRAULIC DOCK LEVELER PARTS LIST

ltem #	Part #	Description
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 ¾ x 2 ½ (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 DOOK 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 CAFEFULLY 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:

Perma Tech Inc.

363 Hamburg Street | Buffalo, NY 14204 TF: 800.362.7325 | TEL: 716.854.0707 FAX: 716.854.0774 Email: Sales@PermaTechInc.com www.PermaTechInc.com