SHORELINE
PILE DRIVING & BOAT LIFTS
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HYDRAULIC POWERED PREMIUM BOAT LIFT SYSTEM

Installer and Owner's Manual Generation #4

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Boat Lift Manual

220VAC Dual 5HP and 12VDC Hydraulic Lift Systems Manual

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Revised: 4/4/2017

Shoreline Pile Driving & Wharf Construction

Safety, Installation, Operation and Maintenance Manual

Congratulations on purchasing your new **Shoreline Pile Driving & Wharf Construction** Premium Hydraulic Boat Lift system! Your new system has a lot of user friendly features that you should get familiar with before attempting to operate the system but first, let's talk about the most important thing, ***SAFETY!*** Read all the safety tips below and then use common sense as well when operating the boat lift system.

SAFETY FIRST

1. ***Read the operation and safety manual completely before attempting to operate this Boat Lift System.***
2. ***Make sure that all possible obstructions are clear of the area.***
3. ***Make sure your boat is not tied with mooring lines that would restrict the motion of the Lift System.***
4. ***Make sure that all persons are clear of the boat before and during lifting or lowering of the boat.***
5. ***Always watch the boat during operation paying close attention to it's position.***
6. ***NEVER operate this boat lift system using the wireless remote control from a distance that does not afford full view of the boat during operation.***
7. ***Stay well clear of the boat during operation.***
8. ***Never operate this lift system while under the influence of alcohol, any mind altering drugs or medication.***

Now that you have read and understand the safety tips above let's talk about the great features of your new **Shoreline Pile Driving & Wharf Construction** Boat Lift System. The next two pages will give you all the information needed to run your new lift safely.

"Dock Mounted Operator Control Box"

"Park Mode" on/off Rocker Switch. Rocker switch

Control Power Fuse with blown fuse indicator light.

"Hold Near Side" or "Hold Far Side" Rocker switch

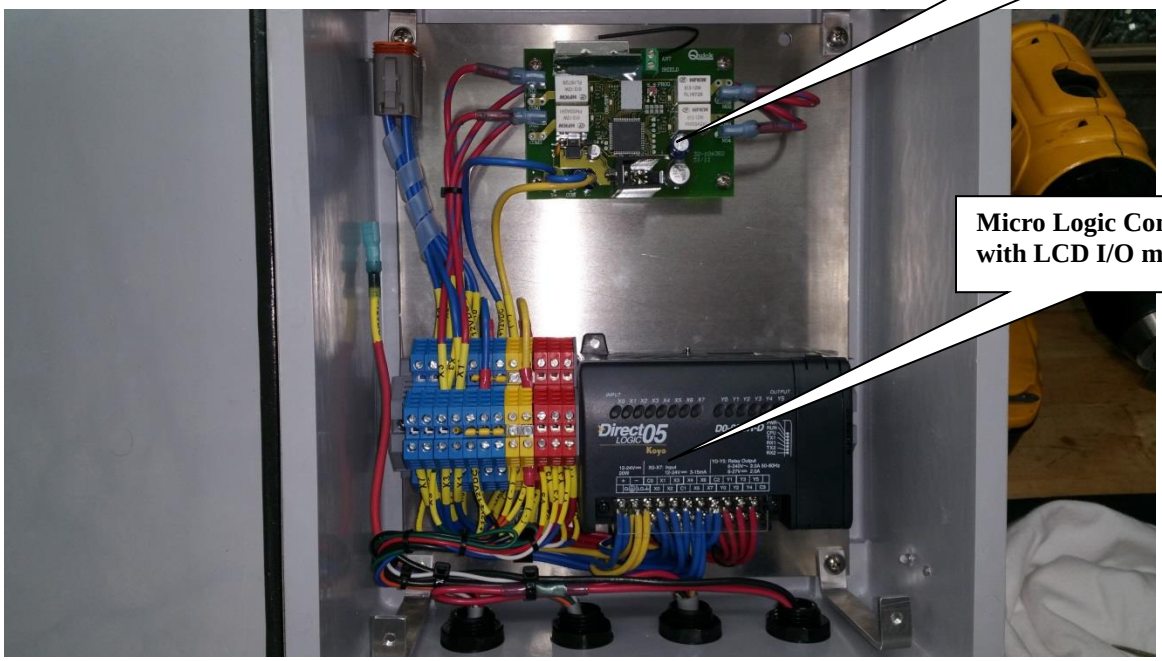
"Both sides at once Up/Stop/Down" Rocker switch

"Up / stop / Down" Rocker Switch : This switch make both sides of the lift raise and lower with one switch.

"Hold Near" Rocker Switch: This Rocker switch makes the side nearest to you to stop while allowing the other side to catch up if the lift is lifting or lowering uneven. As long as you keep the switch depressed, the near side will not move. This switch should be operated simultaneously with the "Up / Stop / Down" Rocker switch above.

"Hold Far" Rocker Switch: This Rocker switch makes the side furthest from you to stop while allowing the other side to catch up if the lift is lifting or lowering uneven. As long as you keep the switch depressed, the far side will not move. This switch should be operated simultaneously with the "Up / Stop / Down" Rocker switch above.

Park Mode "On / Off" Rocker Switch: This feature should always be used and only used when the boat is all the way up in the fully raised position. When the switch is in the "On" position, the control system monitors the boats up position. If the hydraulic cylinders drift down at all, the control system will automatically come on and raise the side of the lift that has drifted down. This feature uses no power to monitor your boat's up position and therefore will not drain your batteries.



Operator Control box internal photograph. All voltages in this enclosure are 24VDC or less for operator safety.

Note: Do not attempt to alter the wiring on this system. Doing so may cause personal injury or death and or possible equipment damage or damage to your boat. Repairs should be directed back to the following company:

Pressure Drop Technology Integration, Inc.
5668 Wellington Dr.
Oldsmar, FL 34685
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+1 (727) 781-1924 Tel.
+1 (813) 286-4778 Fax.
PDTIntegration@ij.net
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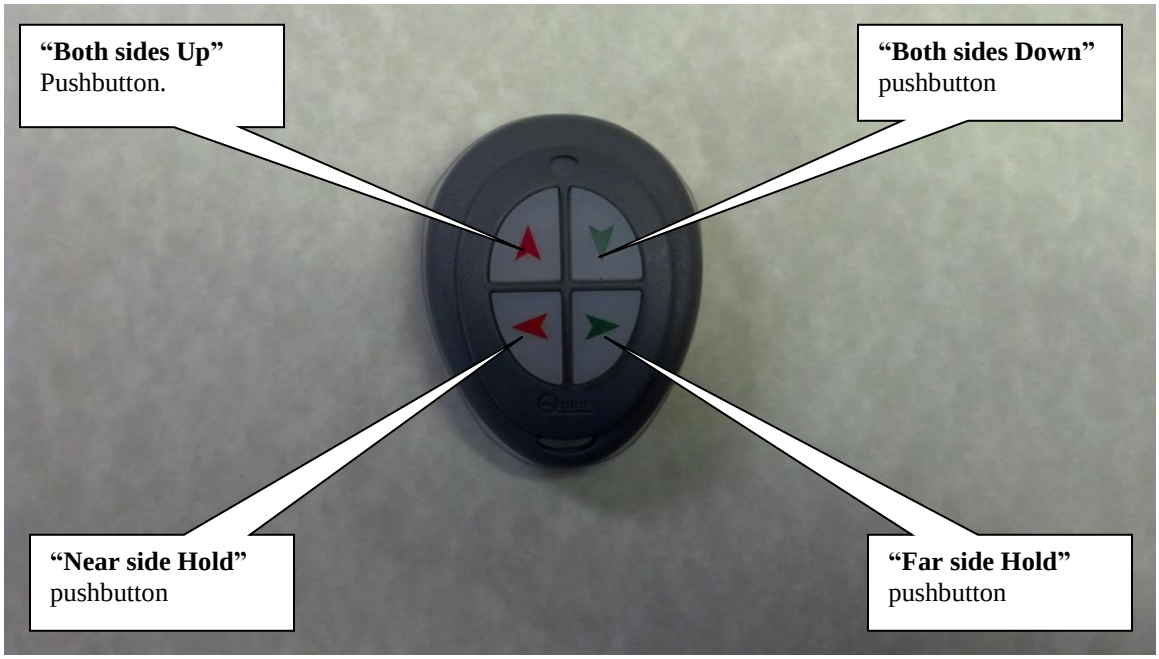
Wireless Control Transmitter

The wireless transmitter makes docking your boat easy. Once the boat is in the proper position you can do the same functions as on the Dock Mounted Operator Control Box above.



See page 7 for detailed re-programming instructions

Caution!!!

1. ***Do not use the wireless remote control when you do not have a complete and clear view of the boat and the Boat Lift System.***
2. ***Always stay within the operating range and do not walk away when the lift is in operation. If the wireless receiver looses part of the signal, one side may stop moving while the other side continues moving.***
3. ***The handheld transmitter is not water proof. It is water resistant. Do not go swimming with it in your pocket or drop it overboard. Use common sense like you would with your keyless entry for your automobile.***

Something's wrong,,, What do I do?

Use this guide to help you trouble shoot your own Boat Lift system without having to pay a technician to tell you something you could already know.

We make a 12VDC system that runs on batteries (shown in Blue) and a 220VAC system (shown in RED) that runs on your house power. Black text applies to both types of systems.

One thing that is very important to understand is that if you have a 12VDC battery operated Lift System, LOW VOLTAGE (<11.0V) can cause the system to do a number of weird things like:

1. Hydraulic units run but Lift does not move.
2. Hydraulic units sound tired.
3. One side moves but the other one does not.
4. Sometimes it works and sometimes it does not.

Always check the battery voltage when the Lift is off and also when the Lift is running. Sometimes a battery may say I'm OK (>11.0V) when it is just sitting there but when it is told to work it's voltage may drop below the 11.0Volts.

Problem	**What to do about it.**
Lift is jerky and stops.	If either side becomes jerky, noisy and then stops moving you may be low on hydraulic oil. Stop immediately and check the oil reservoir level. With the lift all the way down. The level should be about 1/3 full. Start raising the lift and keep an eye on the level. If it drop below 1/3, stop and add about 1 quart of hydraulic fluid. Keep doing this until the lift is completely raised. Once the lift is all the way up, check the level. Top off as necessary to make the reservoir level about 1 inch from the top of the reservoir.
Lift will not work at all	Check to make sure that you have your circuit breaker(s) turned on. (220VAC) Check the voltage on the batteries. (12VDC) Voltage should not be less that 11Volts. Check the 5 amp ATC fuse located behind the operator's panel in the DC Dock mounted control box. If this fuse is blown you can get one at the local auto parts store.

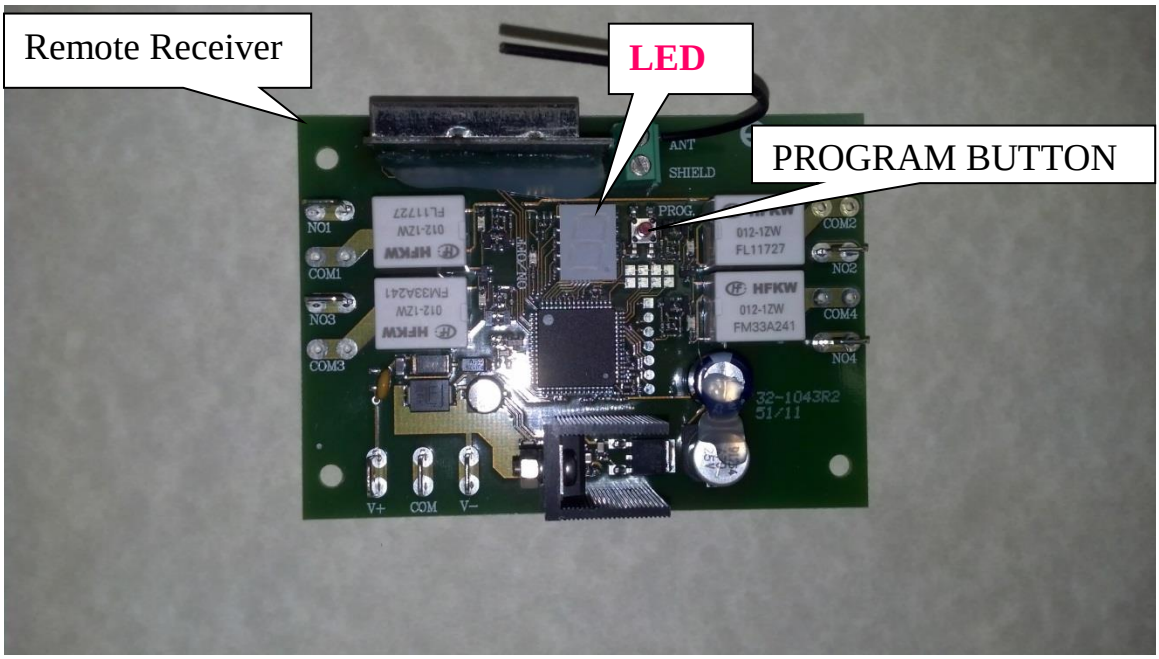
	Check the output from the DC Power Supply located in the AC Motor Control Box. You will need a volt-ohm-meter to do this. If the voltage is less than 22V then it is bad.
Lift drifts down too much.	Check all the hoses and fittings in the hydraulic system for external leaks. Tighten them if you find them. **Never use Teflon Tape on the fittings.** Check the counterbalance valve settings. (This should be done by the trained technician with the boat just out of the water.
Will not lift one side	Check battery voltages. If the pump is running, check the safety relief valve pressure setting. (This should be done by the trained technician.) Should be about 2,500 psig when dead headed. If the pump is running check to make sure that the indicator light on the valve at that hydraulic unit is lighting up when told to move. If it is then order and replace the "UP" valve coil. If the problem persists then replace the entire valve cartridge. This should be done by the trained technician. If the pump is not running check the motor overload located on the back of the AC Motor. If it has tripped reset it. If it continues to trip use an amp-probe and check the current draw. It should not exceed 5 amps above the stated FLA by more that 5 amps. If it is then check the relief valve setting to make sure it is set for 2,500 psig maximum.
Will not lower one side.	Check battery voltage. If the pump is running, check safety relief valve pressure setting. (This should be done by the trained technician.) Should be about 2,500 psig when dead headed. If the pump is running check to make sure that the indicator light on the valve at that hydraulic unit is lighting up when told to move. If it is then order and replace the "DN" valve coil. If the problem persists then replace the entire valve cartridge. This should be done by the trained technician.
Pump will not run.	If the pump is not running check the motor overload located on the back of the AC Motor. If it has tripped reset it. If it continues to trip use an amp-

	probe and check the current draw. It should not exceed 5 amps above the stated FLA by more that 5 amps. If it is then check the relief valve setting to make sure it is set for 2,500 psig maximum.
Circuit breaker keeps tripping.	Check safety relief valve pressure setting. (This should be done by the trained technician.) Should be about 2,500 psig when dead headed. (Dead Headed: Cylinder fully extend or retracted against the stops.)
My wireless transmitter quit.	Replace the batteries and reprogram if needed. See the next page for the detailed procedure.
Other Problems?:	If you experience other problems with the system it will require the assistance of a trained technician. Your entire Lift Hydraulic and control system is designed to be modular. If a major problem occurs with the system we can replace just that particular piece and the system will be up and running in no time. All of the electronic boards are designed to plug in and out using a connector. No real rocket scientist is required.

RADIO REMOTE CONTROL

1. **Shoreline Pile Driving & Wharf Construction** Boat Lifts use a 4-channel radio remote for wireless operation of the lift system. The system consists of a receiver unit, and 4-button transmitter unit. The remote is FCC approved. These transmitters are water resistant and good for a range of up to 50 meters. If you need to have a further distance then an external antennae is available. The range will increase to about 100 Meters. These transmitters should provide years of trouble free service, however, if the transmitters are lost or damaged new ones may be purchased. More than one can be programmed if needed. Replacement batteries are available at your local drug store.

2. The specifications for the Radio Remote unit are:



Programming Instructions

Power must be turned on.

1. Locate the push and release the PROGRAM BUTTON until the letter "P" appears on the LED display.
2. Release the PROGRAM BUTTON and then depress it and hold it in until the letter "P" starts to flash, then release and push and release it again. The letter "P" will stay on.
3. Depress the "All Up" push button on your remote to be programmed. You will see the letter "P" flash rapidly release the remote button. Push the "All Up" button on any other remotes you wish to program at this time.
4. Once you have finished, wait until the Letter "P" stops flashing.
5. Power down the system and then power it up again.
6. Your remotes are now programmed.

Maintenance Schedule

Important

If you ever get water into the hydraulic oil, (indicated by milky looking butterscotch colored oil) you will need to change the hydraulic oil immediately to prevent internal damage to the system. Find out how the water got in and fix it. It is recommended that you get your local distributor to send a technician out to properly remove all the contaminated oil from the system, flush it and replace the oil with new. This is more involved than just an annual oil change.

See the next 3 pages for your maintenance schedule. They are printed on individual pages so that you can make a copy of the appropriate page and take it with you when you perform your maintenance items and check them off.

Annual Maintenance Check List

CAUTION!!

Make sure you have the mechanical safety pins installed before performing any maintenance checks.

- Perform the weekly and monthly check first.
- Change the Hydraulic oil. *(Only if it has been contaminated with water or dirt.)*

1. You will need ***2 gallons of*** ISO or AWG 32,46 or 68 ***hydraulic fluid per hydraulic unit*** and some clean rags if you are messy. ***You have 2 hydraulic units so you will need 4 gallons.*** **Do not use automotive oil! It is not the same thing and could cause major damage.**
2. Make sure you have all of your supplies and tools before you start.
3. Change hydraulic fluid with Lift fully raised, no boat on the lift and with the manual safety pins installed.
4. Remove the filler / breather Dip-Stick (black plastic fill cap). Put it in a safe location so that you don't have to go swimming for it later. Keep it clean.
5. Siphon or pump out the hydraulic fluid into a suitable container for proper disposal at your local auto parts store. They usually have a tank in the back of the store for waste oil. **Never use the hydraulic unit to pump out the oil.**
6. Using a small hand pump or funnel, re-fill the hydraulic oil reservoir to about 1 inch from the top surface of the oil reservoir. **Do not over fill.** Hydraulic oil expands as it heats up and you will end up with a mess on your dock if you overfill the reservoir or fill the reservoir with the lift in the fully down position.
7. Replace the fill cap Dip-Stick.
8. Wipe up any spilled oil and then repeat the process on the other hydraulic unit.
9. Don't forget to remove the mechanical safety pins before you attempt to lower the lift.

Monthly Maintenance Check List

CAUTION!!

Make sure you have the mechanical safety pins installed before performing any maintenance checks.

- Check the visual condition of all of the hydraulic hoses. Replace them with the original equipment if they show signs of leaking or wear. We don't gouge you on replacement parts. We just want you to enjoy your lift system and tell all your friends about us. Just give us a call.

- Take your 9/16" open end wrench and make sure all the hose connections are tight. Remember ***righty-tighty, lefty-loosey.*** The end of the hose is a swivel. The fitting stays still.

- Check all the electrical plug-in connections and make sure they have not come loose. Unlikely but check them anyway.

- Check to make sure that your electrical control boxes are sealing properly and that there are no places that water can get in.

- If you have a DC system check to make sure that your 12Volt batteries are staying fully charged and ready to go. They should be 12Volts but not less than 11 volts. If you use the boat lift a lot during a 24 hour period you should consider having your authorized distributor wire another 12VDC deep draw battery in parallel with your existing batteries. This will allow you to use your lift more often without having problems from low voltage. Battery voltage should be checked when the lift is running.

- Check the condition of the battery cables and terminal connections. Clean as necessary.

Weekly Maintenance Check List

CAUTION!!

Make sure you have the mechanical safety pins installed before performing any maintenance checks.

- Check the battery voltage. Must be at least 11.0Volts when operating.

- Make sure the Lift has not drifted down on one side or the other or both. If it has then make sure you have the "Park Mode" turned on. If the "Park Mode" is on then there is a problem. Lower the Boat back down into the water and call a trained service technician from your local IMM Boat Lift Dealer so that they can diagnose and repair the problem for you.

Installation and Initial Start-Up Guide

The following items are for the Authorized Dealer or their designated agent(s) as a guide to the proper installation and start-up procedures for the Hydraulic and Electrical Controls Systems. This guide will cover the 220VAC and 12VDC Lift Systems.

220 VAC and 12VDC Hydraulic System Installation

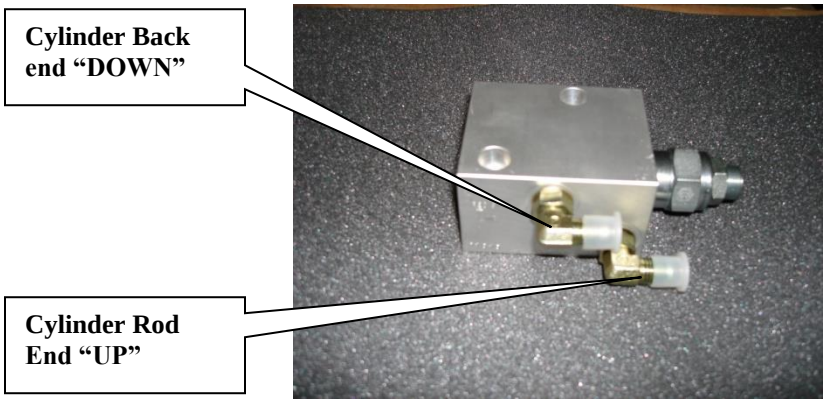
1. Install all of the mechanical portions of the lift system per the manufacturer's Lift's Mechanical Instructions including the mounting of the Hydraulic unit and battery enclosure for the DC System.

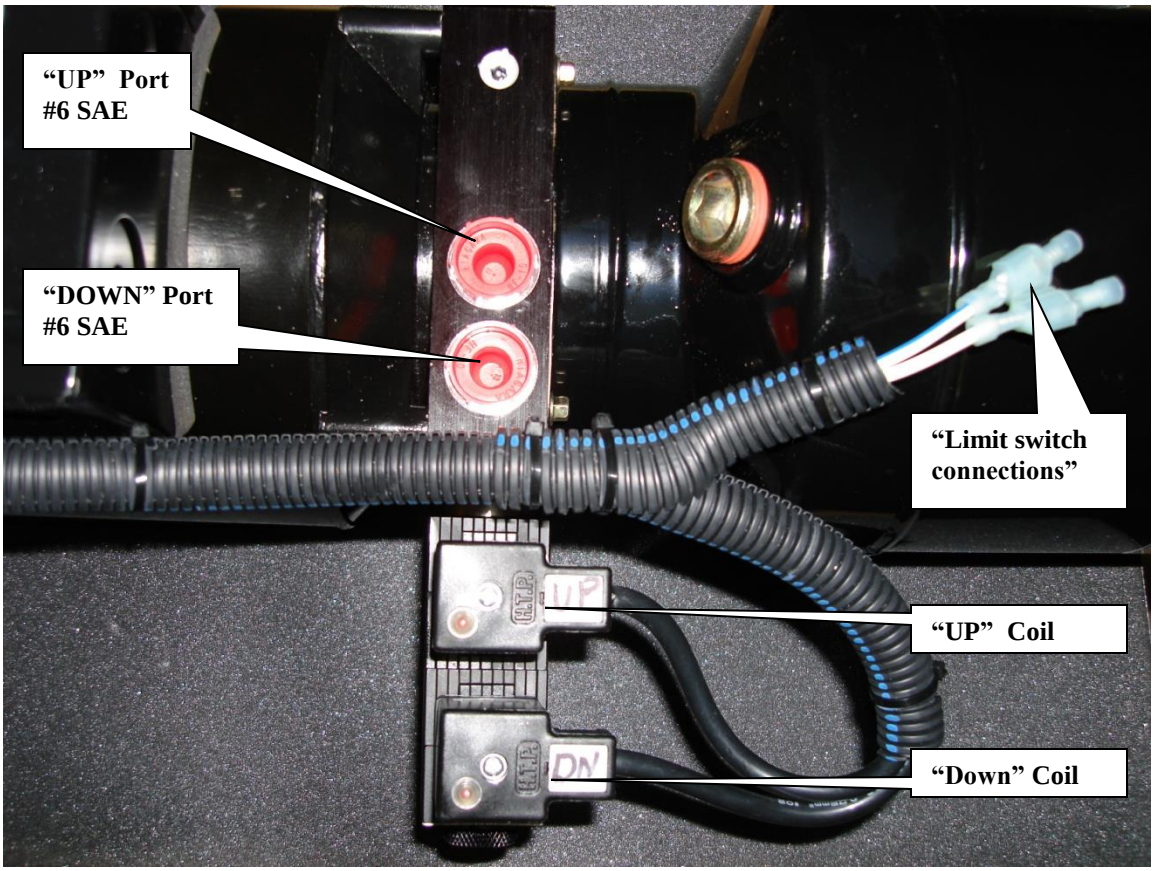
2. Hydraulic System Installation (220VAC & 12VDC)

3. The Lift hydraulic cylinders come pre-filled with hydraulic oil.

4. The Counterbalance (Load Holding valve) comes mounted and connected on the hydraulic lift cylinder but is not set at the correct pressure to hold the load (Boat). Setting the counterbalance valve is part of the initial start-up procedure and must be done properly to insure the safety of the operator and boat. This is done under a controlled condition.

5. There are 2 hydraulic lines coming off of the cylinder. Both lines are 115" overall length and have #4 female JIC 37 degree swivel fittings on the end that connect to the hydraulic power unit. Connect the lines per the photographs below to their proper connection port on the hydraulic unit. Make sure that the hydraulic hoses are not kinked, twisted or pulled tight against any sharp point to prevent premature failure. Tighten them snuggly but do not over-tighten and damage the threads. DO NOT USE TEPHLON TAPE!!!. These connections are designed to seal via a metal to metal surface. With that in mind make sure you do not damage the sealing surfaces on either the male or female fittings or the connections will leak and the fittings will have to be replaced.





6. Fill each hydraulic power unit with Standard ISO or AWG 32,46 or 68 hydraulic fluid. Do not use automobile engine oil. Fill the reservoir up until it is about 1 inch from the top surface. DO NOT OVERFILL!!!. You will make a mess if you do. Hydraulic oil expands when it heats up.

Important Note:

- *The 220VAC system uses 24VDC valve coils located on the Hydraulic unit. The 12VDC system uses 12VDC valve coils.* ***They are not interchangeable.***

Repeat this procedure for the other side cylinder and hydraulic unit.

8. Next, proceed to the Electrical Control System installation.

Electrical Control System Installation

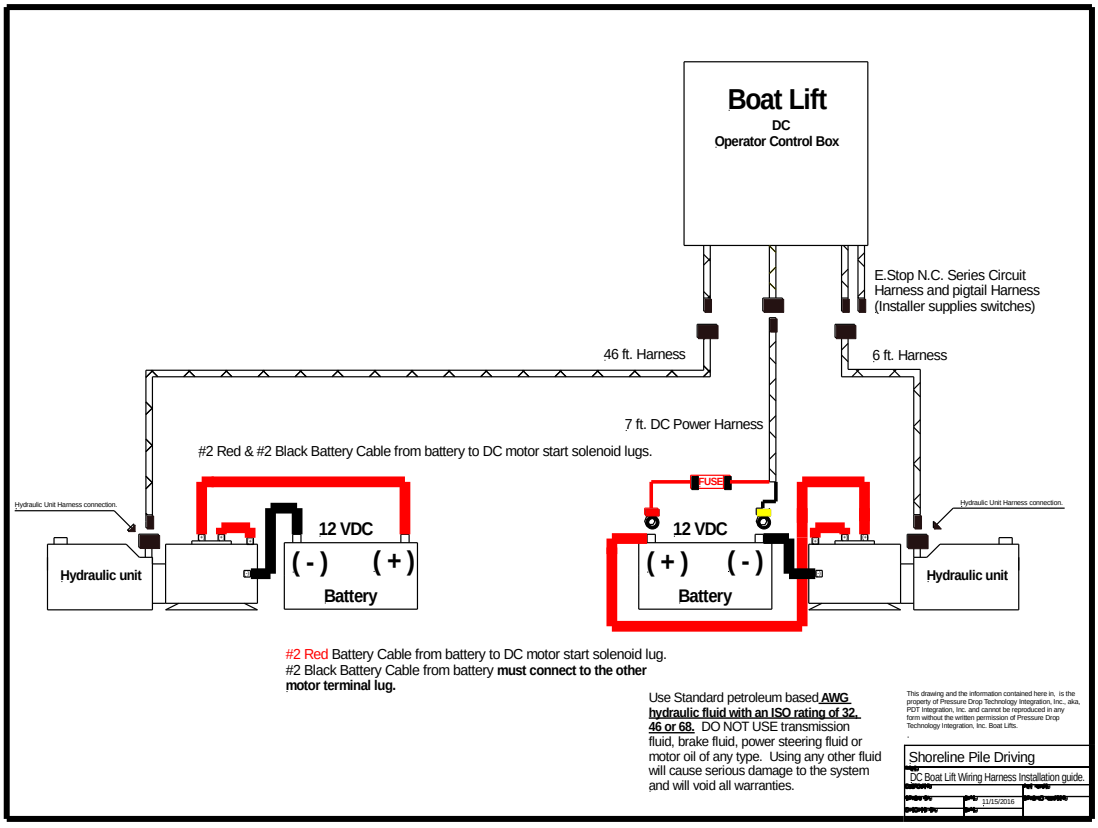
Important Note: *Both the 12VDC and 220VAC control systems use a low control voltage for the operator's safety. This voltage is 12VDC for the 12VDC system and 24VDC for the 220VAC system.*

12VDC Control System Installation Procedure.

1. Put the battery charger on both the new 12 volt batteries. ***<u>They must be fully charged for the Initial Start-up Procedure following installation.</u>***

2. Mount the Operator control box shown below in a suitable location that is easy to reach and allows the operator full easy view of the Boat Lift.

3. Each system comes with a Hook-up drawing diagram. It should be located in the box containing the control system. It is also shown below in a reduced form for your convenience.



4. There is a 6ft. long wiring harness that has connectors on each end. One is a male and one is a female. Connect the 6 ft. harness to the near side hydraulic unit. You will see the mating connector on the power unit. It will only plug in one way. To

not force it. Push the connector all the way in and you will hear the lock click. Now connect the other end of this 6ft. harness to the near side pigtail harness coming out from the bottom of the control box in the same manner.

5. Repeat the process for the other side using the 46ft. control harness. You will have to run this harness through 1.25" conduit. If you get the connector wet rinse it off with fresh water and shake the residual water off before connecting it to the hydraulic unit or operator control box. The connectors are water proof for submersion up to 3ft. in water once connected.

6. Connect the two wires sticking out of the Hydraulic unit harness to the N.C and Common terminal of the Park Limit switch. 14-16 gauge wire is suitable and the mating connectors are already inserted in the Hydraulic unit wiring harness for your use. Strip and Crimp the connectors onto your wires and then reconnect them securely. They are not polarity sensitive. Put the cover back on the limit switch. Repeat this procedure on the other Hydraulic unit harness.

7. Your kit comes with two #2 RED battery cables and two #2 BLACK battery cables. Connect the RED cable to the DC motor relay large Brass lug opposite of the short cable on the opposing lug that connects directly to the electric motor. This is not a body grounded motor much like your automobile starter. Connect the BLACK cable to the black other motor connection stud on the hydraulic unit. Connect the RED Battery cable to the (+ positive) terminal on the battery and the BLACK cable to the (- Negative) terminal on the battery.

8. Repeat the process above on the other side Hydraulic unit.

9. Connect the desired number of Emergency stop Normally closed maintained push buttons around the dock area as needed. The switches must all be wired in a series circuit and end up back at the other wire in the supplied pigtail harness. ***These switches and wires are supplied by the installer.***

10. Connect the DC Power harness which has the red and Black wires sticking out of the end with ring terminals on them, to the near side 12VDC battery. Red is (+ positive) and the Black is (- negative). DO NOT CONNECT THEM TO THE MOTOR CONNECTIONS.

11. Plug in the DC power harness that you installed above into the center pigtail connection on the operator's control box.

12. Install the Solar Battery chargers per their instruction sheet.

13. Your 12VDC Electrical Controls installation is complete. Proceed to the "Initial System Start-up Procedure" on page 20.

220VAC Control System Installation Procedure.

Important Note:

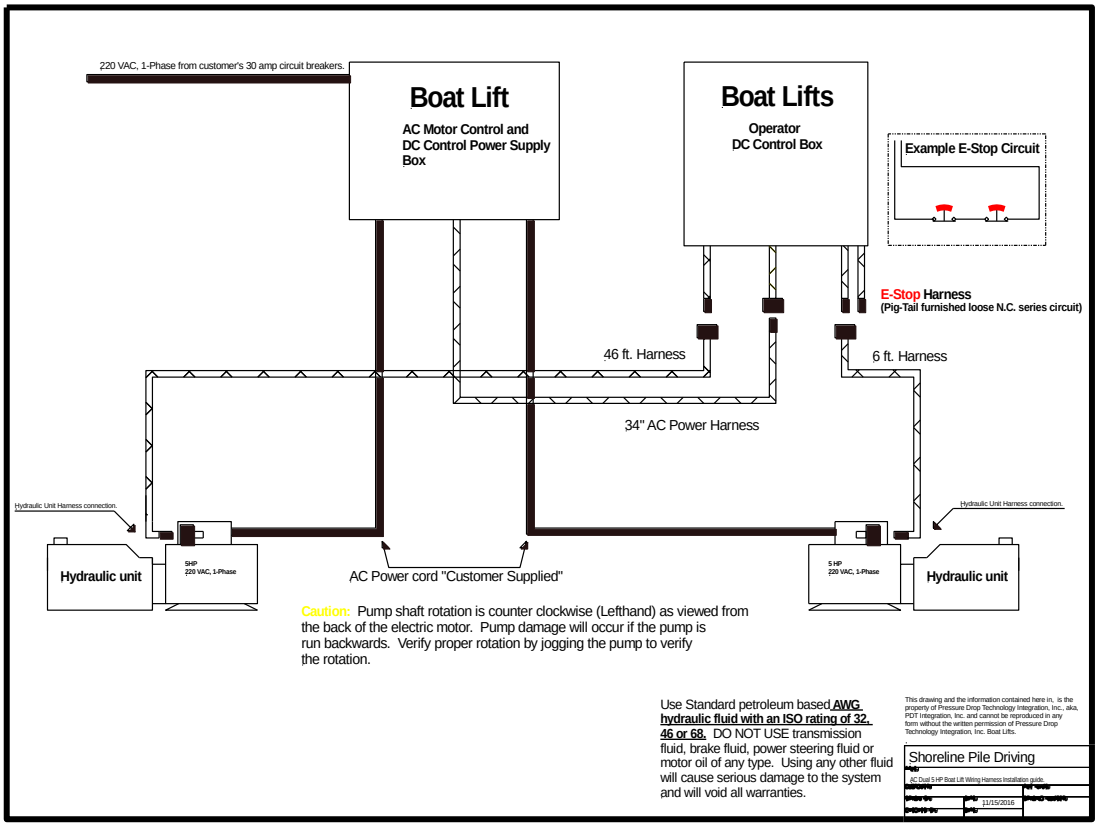
Some people prefer to use two separate circuit breakers. One for each hydraulic unit. If this is the case it is strongly recommended that the two circuit breakers be located in the panel so that they can be physically connected with a tie bar so that if one trips then the other is shut off as well. Refer to the motor name plate current draw, distance of your wire run and wire type to determine the proper wire conductor size to run. If you are using one circuit breaker then remember to double the current draw because you have 2 hydraulic units to power.

1. Mount the Operator Control Box shown below in a suitable location that is easy to reach and allows the operator full easy view of the Boat Lift.

2. Mount the AC Motor Control Box in a suitable location so that it is out of the way, allows for easy access for the incoming AC supply conduit and is also within the reach of the 34" wiring harness which must be connected to the Operator Control Box above.

3. Each system comes with a Hook-up drawing diagram. It should be located in the box containing the control system. It is also shown below in a reduced form for your convenience.

4. Remove the RED plastic plugs from the top of the hydraulic unit. Install the fittings for the hose connections. Do this on both the Near and Far units. Make sure to keep things clean.



5. Connect the 34” harness from the AC Motor Control Box to the center pigtail connection harness on the bottom of the Operator Control Box. It only fits in one way and make sure you hear the lock click when you press them together.

6. There is a 6ft. long wiring harness that has connectors on each end. One is a male and one is a female. Connect the 6 ft. harness to the near side hydraulic unit. You will see the mating connector on the power unit. It will only plug in one way. Do not force it. Push the connector all the way in and you will hear the lock click. Now connect the other end of this 6ft. harness to the near side pigtail harness coming out from the bottom of the control box in the same manner.

7. Repeat the process for the other side using the 46ft. control harness. You will have to run this harness through 1.25” conduit. If you get the connector wet rinse it off with fresh water and shake the residual water off before connecting it to the hydraulic unit or operator control box. The connectors are water proof for submersion up to 3ft. in water once connected. You may elect to pull this harness at the same time you pull the wires for the electric motor in the next couple of steps.

8. Refer to the Hydraulic unit electric motor name plate for the full load amperage draw values and then select the appropriate wire for the conductors between the

AC Motor Control Box and the Hydraulic Unit electric motors. Run the conduit and pull the wires. Once this is done proceed to the next step.

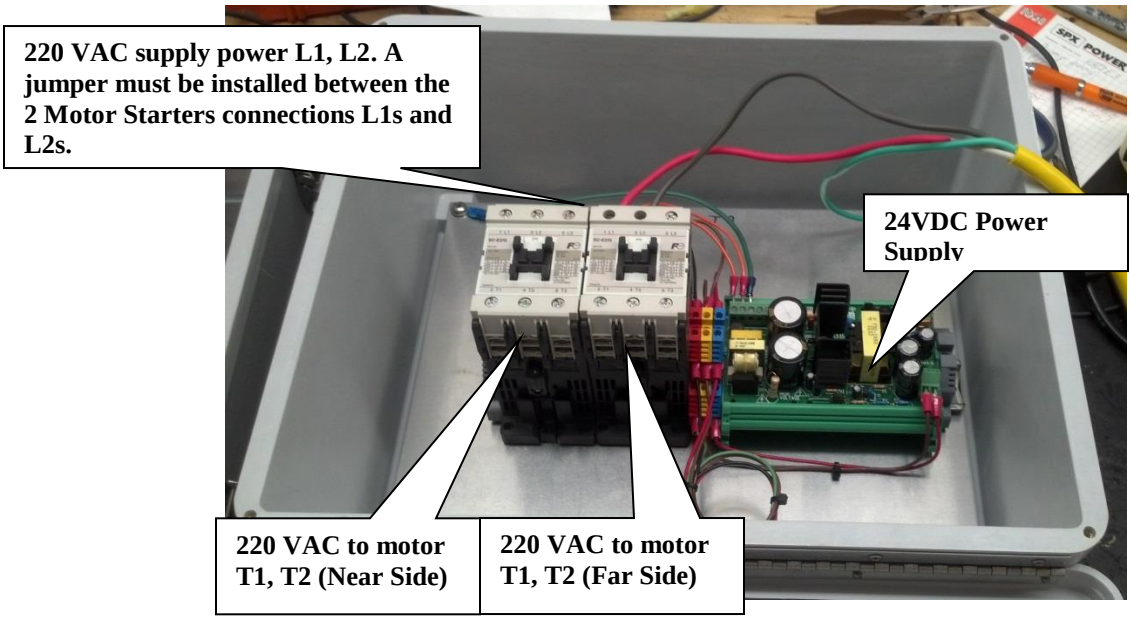
9. Make the electric motor connections. The hydraulic units have already been run and the correction electric motor rotation established. It is CW as viewed from the back of the motor.

10. Install the Motor conduit box cover.

11. Repeat this process for the other Hydraulic power unit.

12. Connect the two wires sticking out of the Hydraulic unit harness to the N.O and Common terminal of the Park Limit switch. 14-16 gauge wire is suitable and the mating connectors are already inserted in the Hydraulic unit wiring harness for your use. Strip and Crimp the connectors onto your wires and then reconnect them securely. They are not polarity sensitive. Put the cover back on the limit switch. Repeat this procedure on the other Hydraulic unit harness.

13. See the photograph below showing the incoming power connections and outgoing motor wire connections. You will need to make two jumper wires to connect the L1 and L2 terminals on the top of the motor contactors. The wires should be at least a #12 AWG wire. The DC Power supply is already wired to L1 and L2 on one of the contactors. Connect as shown.



14. Re-install the AC Motor Control Box cover.

15. The AC Electrical Control system installation is complete. Proceed to the "Initial System Start-up Procedure" on page 21.

Initial System Start-up Procedure

Please take note that on new installations it is not necessary to set the hydraulic safety relief valves. They have been preset at the factory during testing to 2,500 Psig. No further adjustment is necessary.

Things that you will need to perform a proper start-up.

- AC/DC Volt Meter
- 0-3,000 Psi Test Gauge assembly.(Only if the Safety Reliefs have been changed.)
- 11/16" wrench.
- 12” adjustable wrench capable of opening to 1”
- 5/16” and 5/32” Allen wrench
- 2 people including yourself to conduct this procedure.

Important Notes:

The 220VAC and 12VDC systems have very similar start up procedures. When there is a difference it will be noted in the procedure.

Preliminary things that you must do.

- Have the boat that will be going on the lift present and ready to be put on the lift. Do not have the boat on the lift until called for in the procedure. If possible have the boat fully loaded with fuel, water and other supplies to simulate the fully loaded boat weight.

- The Lift comes with the cylinders full of oil and completely retracted or close to it. That means the lift is up.

Setting the Safety Relief Valve

We set the safety relief valves during the system test at the factory. If it becomes necessary to set the safety relief valves in the field follow the steps below.

1. With the Lift in the all the way up position, (see above if in the down position) install the test gauge assembly at the NEAR side hydraulic unit in the hose line that is connected to the rod end of the hydraulic cylinder. Tighten the fittings.

2. Loosen the Safety Relief valve adjustment jam nut located on the side of the NEAR hydraulic unit. This will give you access to the Safety Relief Valve adjustment screw. Do not completely remove this nut. You will now need a 5/32” Allen wrench to turn the adjustment screw.

3. Position your Allen Wrench in the Safety Relief Valve adjustment screw. With the wireless transmitter in your hand, depress the NEAR side "UP" pushbutton. The hydraulic unit will start running. At the same time look at the pressure reading on the test gauge. Screw the Safety Relief Valve adjusting screw in to increase the pressure setting and out to decrease the pressure setting. Adjust the Safety Relief Valve to read 2,500 Psig on the test gauge, but do not remove the Allen Wrench. Release the wireless transmitter push button then remove the Allen Wrench. Tighten the adjustment jam nut. Remove the test gauge and re-connect the hose line and tighten.

4. Repeat the above Safety Relief Valve setting procedure for the Far side hydraulic unit.

5. Operate the lift all the way from fully down to fully up and back down again. Use the "Hold Near" and "Hold Far" push buttons as needed. Leave the lift in the fully down position.

Setting the Counterbalance Valves (Load Holding Valves)

1. With the lift all the way down, properly position the boat over the lift making sure that the load is centered.

2. Hold the "Up/Stop/Down" toggle switch on the Operators panel in the "Up" position. Watch to see that the lift goes up on both sides. Depress the "Hold Near" and "Hold Far" pushbuttons as necessary to level the lift. Once in contact with the boat continue raising the boat until it is just out of the water and stop. If the Lift drifts down on either side lower the boat in the water. Go to the cylinder on the side that is drifting and adjust the counterbalance valve per the next steps.

Note:

The Counterbalance valve has a 5/16" Allen wrench adjustment screw. and a 3/4" jam nut.

To increase the load holding value turn the adjustment stud in(CW)using the 5/16" Allen wrench. To Lower the load holding value turn the adjustment out (CCW). Use a 5/16" Allen wrench. Tighten the jam nut when done.

3. Loosen the jam nut on the adjusting screw. Using your Allen wrench, turn the adjusting screw to raise the load holding value by one full turn. Tighten the jam nut and repeat step #2.

4. Once the boat is out of the water (only about 12"), and it is no longer drifting down, re-adjust the NEAR side counterbalance valve as follows. Loosen the Jam

nut. Slowly turn the adjusting screw to reduce the load holding value until you see the boat start to drift down on that side. Turn the adjusting screw to raise the load holding pressure until the boat stops drifting down. Then turn the adjusting screw another ½ turn to raise the load holding pressure. Tighten down the jam nut while holding the adjusting screw with the Allen wrench so that it does not change.

5. Repeat Step #3 for the FAR side counterbalance valve.

6. Raise the boat all the way up. Depress the "Hold Near" and "Hold Far" pushbuttons as necessary to maintain level on the lift.

7. Once the boat is all the way up, check to make sure the boat is not drifting down on either side. If it is repeat step #3 for the drifting side.

"Park Mode" Set up and Check

1. With the boat all the way up, lower the boat about 6".

2. On the Operator's Control Box, turn the "Park Mode" toggle switch to (ON). The hydraulic lift system should come on automatically and raise the boat up all the way and automatically shut off. If this does not work correctly check to make sure that the limit switch has been wired to the N.C. contacts.

3. If this is a 12VDC battery operated system, put both batteries on a plug-in charger overnight to insure a full charge is present before depending on the Solar trickle charger. Advise the owner not to operate the lift for 24 hours to allow for the batteries to obtain their full charge. This set up procedure that you have just completed uses a lot of the battery's stored energy. Remember, Low voltage (<11Volts) causes weird problems to occur. To properly check the system voltage make sure you take your voltage reading while the Lift is running.

4. If this is a 220VAC boat lift system them the customer is ready to go.

Congratulations!!! You have successfully installed the* Shoreline Pile Driving & Wharf Construction *Premium Hydraulic Boat Lift System.

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Installer and Owner's Manual Generation #4

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