

HYDRAULIC BOAT LIFTS

Hydraulic Box Instructions

4000 lb Capacity to 12500 lb Capacity



⚠ WARNING - PUT SAFETY FIRST

1. NOT COMPLYING WITH THE PROCEDURES AND PRECAUTIONS OUTLINED IN THIS MANUAL MAY RESULT IN PERSONAL INJURY OR DEATH AND WILL INVALIDATE THE WARRANTY.
2. Before attempting to install or operate this product, study and fully understand the proper operating procedures and safety precautions outlined in this owner's manual.
3. Never exceed the recommended weight capacity of your lift. The lifted weight will include hull, engine, fuel, battery, added accessories or gear, and rain water or any other materials inside of the boat. Weigh your fully loaded boat at a certified scale to be absolutely sure of the total weight.
4. To avoid injury or death do not allow anyone on, in, or under the lift while operating.
5. If you have any questions about assembly, installation, operation or suitability of this product, contact an authorized dealer or ShoreMaster directly.

4k and 6k Single Pump 12V Installation Instructions

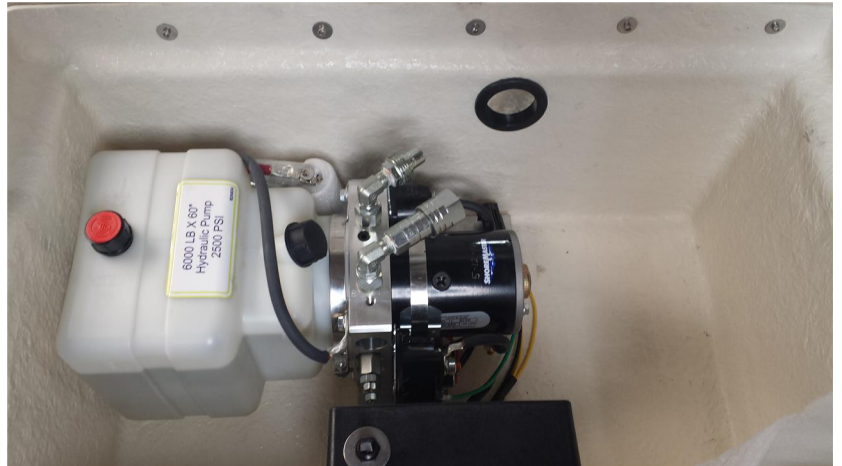
⚠ CAUTION To avoid the risk of electrical shock, always disconnect power to your dock or lift before installing the product. Before connecting power to the unit, be certain that the primary power supply meets all applicable electrical codes. Only use a GFI outlet for powering your product. Periodically verify proper function of the GFI equipment by manually testing the GFI switch. Electrical service should be performed by a qualified electrician only.

STEP 1

Route the hoses to the Power Unit through the hole in the back of the box. Make sure to route them under the lift side to prevent the hoses from getting pinched when the lift is in operation. Secure the hoses to the lift frame using the supplied hose clamps and self-tapping screws and zip ties. Refer to page 5.

STEP 2

Connect hoses to the threaded screw connectors on the top of the power unit. Slide the pump unit to the back of the pump box. Insert the hoses through the hole in the back of the pump box and connect the male and female couplers. Use 3/4" and 1-1/16" open end wrenches to tighten the couplers. You only need to tighten the couplers to a "snug" connection. Do not over-tighten; this may strip the connector fittings.



STEP 3

Be sure the reservoir is filled with clean hydraulic fluid. Always have the lift completely lowered when filling the reservoir. This will prevent overflow of the reservoir during operation.

Note: The power unit is filled with Chevron Clarity ISO 32 hydraulic fluid (meets L-50/LC-50 Standards). If you choose to use another manufacturer's fluid be sure it is equivalent to Chevron Clarity ISO 32 hydraulic fluid.

Note: Do not mix different hydraulic fluids, they may not be compatible.

STEP 4

Make sure all electrical connections are properly made. Slide the pump unit completely to the back of the pump box. Install the battery, connecting the red cable to the positive (+) battery terminal and the black cable to the negative (-) battery terminal.

Note: The 4000 lb and 6000 lb lift uses one 12V pump to supply the rams. The 8000 lb and 10000 lb lift uses one 24V pump to supply the rams. The 12000 lb lift uses one 110V pump with two three port manifolds to supply the rams.



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8k and 10k Single Pump 24V Installation Instruction

Switch the positions of the red tank cap with the black tanks cap for operation. For shipping purposes of fluid spill prevention the caps are send in position shown. They will need to be switched before operating the pump.

Route hoses from rams through hydraulic box. Hook up one set of rams to the male/female connectors on the top of the manifold and one set to the bottom set of male/female connectors on the manifold.

Connect the red(+) cable from the motor solenoid to the positive(+) side of the battery on the left. Connect the black(-) cable from the motor housing to the negative(-) side of the battery on the right. Then connect the smaller red wire from the remote box to the positive(+) side of the battery on the right. Lastly, use the short jumper cable to connect the negative terminal of the battery on the left to the positive terminal of the battery on the right.



Secondary Power Unit (12V two box version)

For use with 8000lb lift, and 10000lb lift. This utilizes two separate power units (Main and Secondary) and two separate pairs of rams in a loop to actuate the lift. The Secondary unit (does not have the black remote box) is controlled by the Main and has a 6ft protected cable which is to connect to the Main Power Unit.

STEP 1

Route the three wire remote cable out of the box of the Secondary and into the hole in the back of the Main and plug together.

STEP 2

Connect each pair of rams. Attach one hose from each Ram Kit to each Power Unit as shown in the diagram.

STEP 3

Connect battery jumper cable. Connect red positive to positive on each battery and connect black negative to negative on each battery. Each pump box requires a battery.

NOTICE DO NOT REVERSE CONNECTION, DOING SO WILL DAMAGE PUMPS.

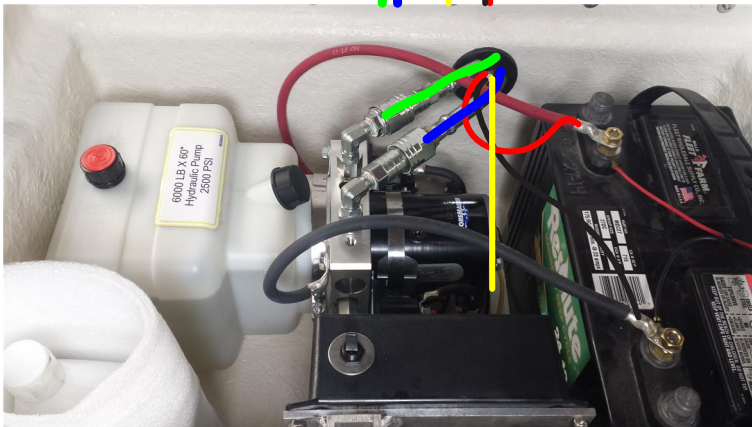
Color Key

Supply = —

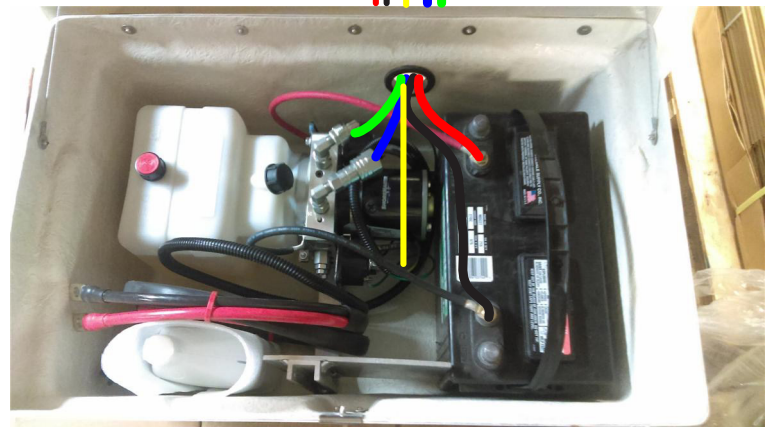
Return = —

Remote Cable = —

Battery Jumper = —



Main Power Unit

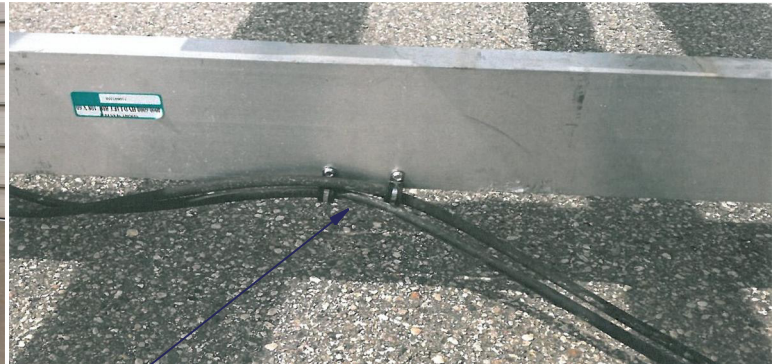


Secondary Power Unit

Note: The 12000 lb hydraulic lift uses a 110V pump with two three port manifolds to supply the hydraulic rams.

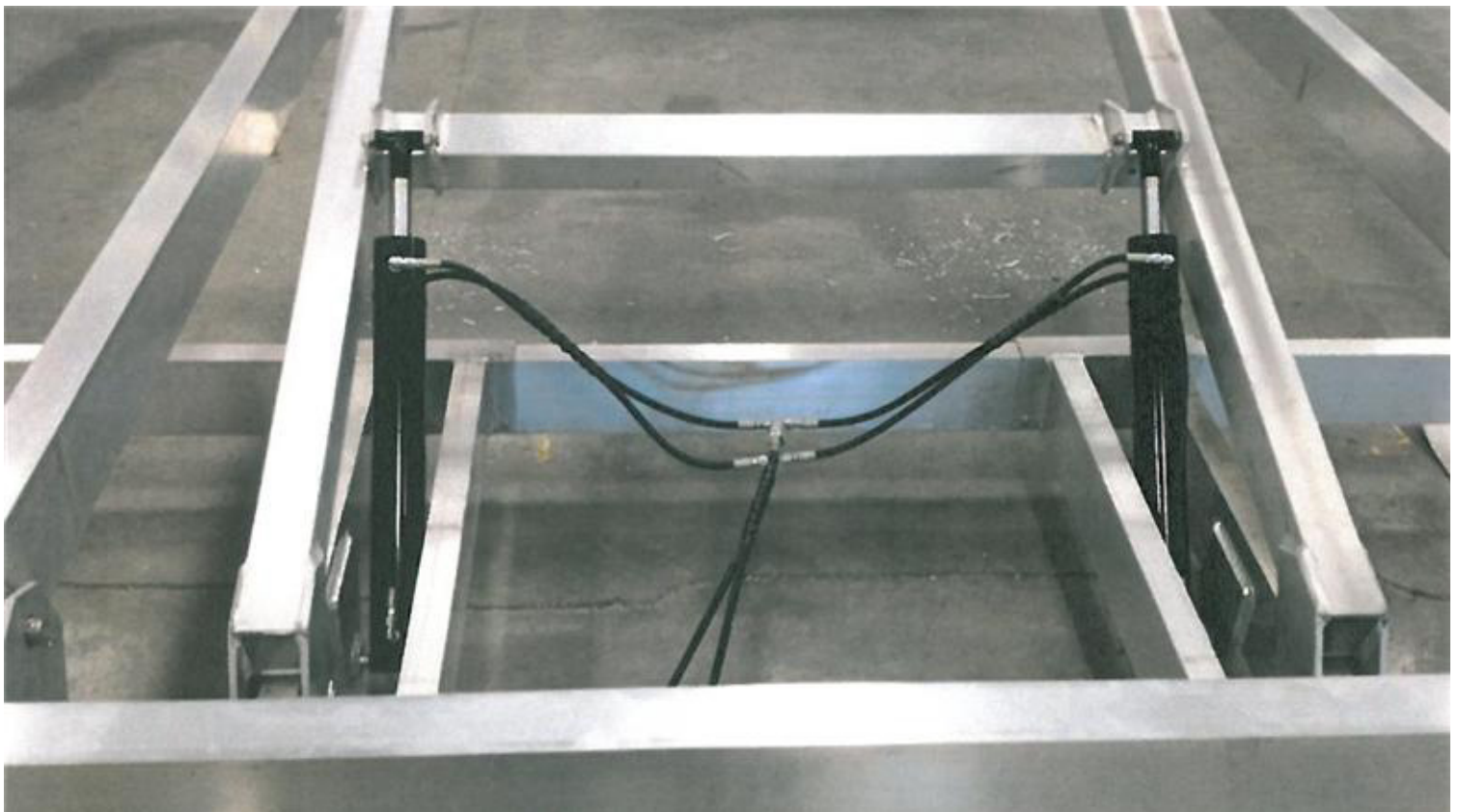
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Attach hydraulic hoses to outside of the lift side beam near the middle. Route hoses under beam. Make sure there is enough slack in hoses so when lift rises hoses do not get stretched.



Attach Here

Do not attach hoses to lift between lift sides or to H-Frame. When lift rises they will get pulled off. Attach to lift sides only.



Hydraulic System Test

Note: See Operating Instruction section to actuate the lift.

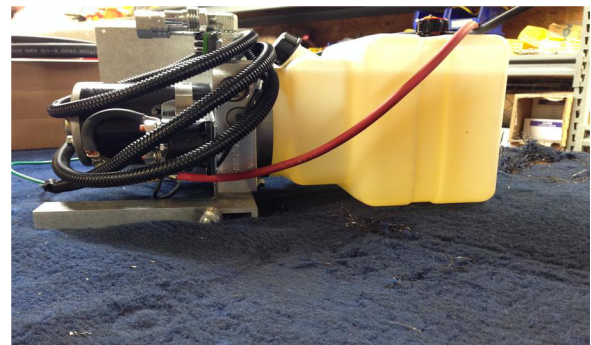
STEP 1

Raise the lift approximately 1/4 of the way and stop. Check all system connections for leaks and check oil level in the reservoir. It will be normal for the fluid level to lower as the lift is raised. Watch the lift closely as it is going up and down to make sure hoses are not getting pinched or binding against the lift.

STEP 2

Now raise the lift to the half-raised position. Again check connections for leaks and the reservoir for fluid level. Continue raising the lift in short increments checking for leaks and fluid level of the reservoir until the lift is fully raised and in the over-center position.

Note: In the fully raised over-center position, the fluid level in the reservoir should be approximately 1/2 full and not less than 1/3 full. Use caution when adding oil to the reservoir if the lift position is other than completely lowered, as this may cause the reservoir to become over full when the lift is completely lowered.



STEP 3

Now operate the lift through three complete raise and lower cycles to bleed any air from the system. The lift should move up and down smoothly. If you experience squeaking or binding, check that all bolts, nuts, pivot pins and cotter pins are installed correctly and are tight and secure.

NOTICE Do not operate hydraulic lift with the remote and manual switch at the same time! If you use an external charger to charge the battery, unhook the pump first, failure to do so could damage remote and plug.

Note: Do not use battery in hydraulics box to jump your boat! If you do, you must unhook battery from pump.

STEP 4

Now that you have made sure your lift is in proper working order you can get it ready to install into the water. Disconnect the hydraulic hoses from the power unit. To keep the hoses clean and to protect them from becoming damaged during installation take the two hydraulic hoses and connect them together.



Ram Fitting Weather Sealing

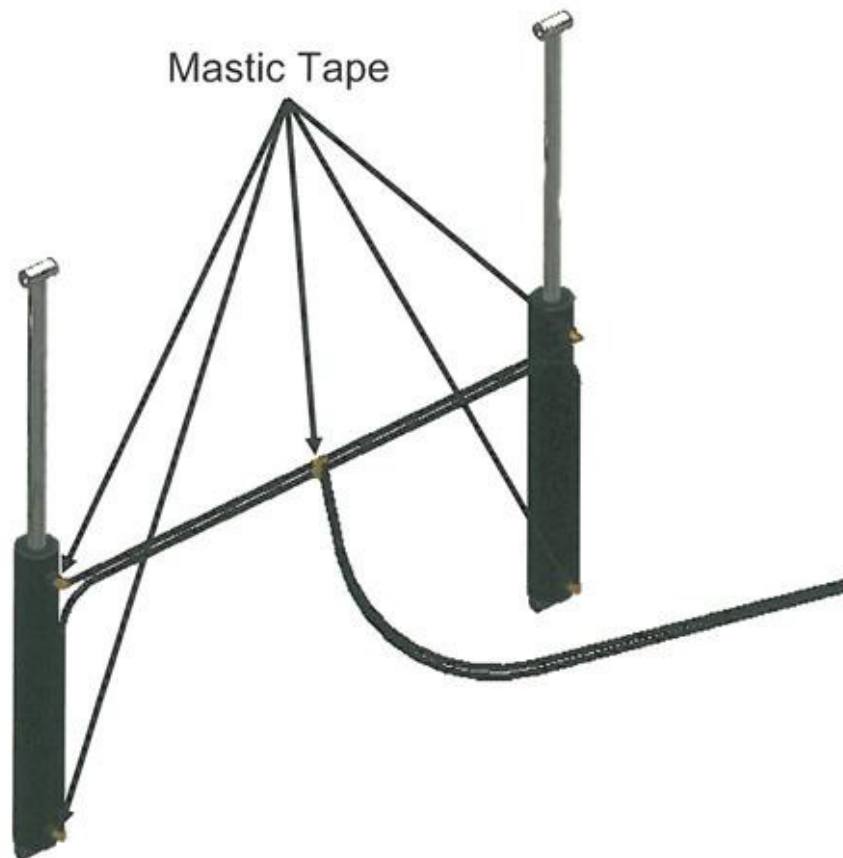
The hydraulic ram fittings do not come weather sealed. This is to allow the fittings to be adjusted and tightened after assembly, to prevent leaks. During shipping and assembly the hose fittings may become loose and cause leaking of hydraulic fluid. After assembly of the lift, the hose fittings must be inspected for tightness and leaks (refer to the previous HYDRAULIC SYSTEM TEST).

After this inspection, Mastic Tape which is provided with the purchase of a lift, must be wrapped tightly around the fitting. The Mastic Tape should be wrapped from the ram to at least 1/2" past the end of the fitting. Stretch the tape as you wrap it around the fitting. Not stretching the tape will not allow it to seal properly.

Note: The Mastic Tape should completely cover the fittings and should not allow any of the metal fittings to be exposed to the water.

Note: Not wrapping the fittings properly with Mastic Tape will cause corrosion and voids the warranty.

The diagram below shows the locations where Mastic Tape should be applied.



Installation

Do not under any circumstances, endanger yourself or risk damage to your lift or boat when installing. Situations will widely vary between installation sites. ShoreMaster recommends that your dealer or other trained boat lift installer train you and perform the initial installation. Wear protective gloves, clothing and eyewear when assembling and installing the lift.

NOTICE Do not assemble, install or use the product if items are missing or damaged.

STEP 1

Measure the water depth of the position you want to locate the lift. Measurements should be taken at both the projected position of the end nearest shore and end furthest from shore.

STEP 2

Before installing, adjust lift legs so the boat can float into position before raising, while still allowing a high enough position so the boat can be fully raised up and out of the water.

STEP 3

Carry, lift, wheel, float or slide the lift into position alongside the dock so that the hydraulic pump and operating controls can easily be set on the dock. Ask your dealer about a wheel caddy unit to allow your lift to be rolled into position.

STEP 4

Ensure that your lift is level. Measure the distance from the top of the cross beam to the water surface. The distance at each of the four corners of the lift should be within two inches of each other. If they are not, adjust the legs accordingly.

Note: If the lift legs will extend 3 feet or more, ShoreMaster recommends deep water braces to stabilize and strengthen the lift. Ask your dealer for more information.

⚠ WARNING The lift must be resting on the water bottom in a level, secure and stable position for safe operation. An unstable lift installation could result in tipping of the lift during operation, causing damage to watercraft and a crushing or pinching injury to the operator or bystanders.

STEP 5

After loading and operating the lift following the operating instructions, remove the boat and recheck that the lift remains level.

⚠ CAUTION When first using the boat lift after installation, the weight of the boat may cause the lift to settle and become unbalanced. To avoid personal injury make sure people are not in the immediate vicinity of the lift until you are certain the lift has stabilized.

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Operating Instructions

Toggle Switch Operation

Inside the lid of the hydraulics box you will find a toggle switch. The toggle switch is located on top of the black remote housing. With this toggle switch, you can raise and lower the boat lift by pressing and holding the switch in the appropriate position, up and down.

⚠ WARNING

To avoid personal injury do not exceed maximum capacity of the lift; overloading may cause mechanical failure and serious personal injury.

Do not allow anyone who is in the water within 6 feet of the lift.

Do not allow anyone on, in or under the lift while operating.

Never go under your boat when it is in the upright position. The lift is not intended as a maintenance platform.

Before allowing anyone to operate the lift, be sure they fully understand the proper operating procedure.

STEP 1

Adjust the height of the lift to eliminate wave action against the boat hull and be sure the cradles or bunks are positioned below the water surface so they will not interfere with the boat floating into position. If the boat does not float into position without contacting the bunks/cradles the lift and/or bunks/cradles needs to be lowered.

Note: Do not power onto the bunks/cradle.

Note: A moving boat as a result of wave action will damage the lift, boat and can take the boat off the lift.

STEP 2

Properly balance and center the boat on the lift prior to raising. The boat should be positioned with the center of gravity near the middle of the lift. For most rear engine mounted boats, this requires you to position the boat mostly forward in the lift.

STEP 3

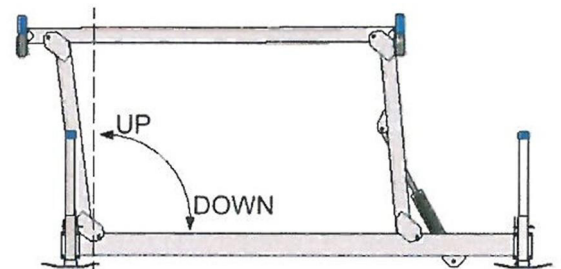
Carefully bring the lift up until the bunks or cradles have secured the boat. Check if the bunks or cradles have automatically positioned themselves to the shape of the hull. If so, continue bringing the boat out of the water until it is about one foot above the surface. Check the stability of the lift, particularly to see that it is fairly level and will not topple over. Continue lifting the boat while paying close attention to the positioning of the lift until it is in the full upright and over-center position.

STEP 4

After loading and operating the lift, remove the boat and recheck that the lift remains level. (See "Installation Instructions"). If the lift is not level, the legs should be adjusted accordingly. The lift levelness should be rechecked two weeks after installation and every 3 months - as needed.

⚠ CAUTION Make sure that swimmers are warned of the lift's location when the boat is not present and the lift is hidden under the water. Raise the lift rack out of the water after departing to allow swimmers to see the location of the lift. When storing your boat, raise the boat lift to the upright and over-center position. The over-center position will help prevent the lift from lowering if you experience a hydraulic leak.

Your lift can be left in any position when the boat is off, although we do recommend leaving the lift in the up position to prevent the bunks from becoming "slimy" and to avoid creating a hidden underwater obstruction.



Storage and Off-Season Suggestions

Be sure to prevent rainwater from accumulating in your boat if you plan to leave it on the lift for a long-term storage. Rainwater accumulating in your bilge can quickly increase your gross weight over the lift capacity.

We recommend disconnecting the hydraulics box and storing it indoors for the winter or if you are not planning on using the lift for prolonged periods. To do this, simply disconnect the hoses from your hydraulics box by using the *quick disconnects* and connect the hoses together. This will ensure that the connecting hardware will remain clean.

⚠ CAUTION Do not disconnect the hoses with the boat on the lift.

Booster-charge your battery using a 10A charger at the beginning and end of the season. A mid-season boost may be required for heavy use. Prior to performing a booster charge, see the Battery Tips section.

If your waterway freezes during the winter, you will need to remove your lift, as it will be damaged by ice flows.

Each spring and fall, inspect nuts and bolts for damage, wear or loose connections. At the same time, inspect the frame and pivot points for unusual wear, damage or bent parts. Tighten, repair or replace parts as needed. ShoreMaster dealers usually offer service visits. Please contact your dealer if you are unable or unwilling to perform maintenance or service to the lift.

Change the Oil every two years. Contact your authorized ShoreMaster Dealer to have this maintenance performed.

Store the lift in the down position over the off-season to protect the hydraulic rams.

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Battery Tips

Recommended Battery

Use a 12V group 27 marine deep-cycle battery with a minimum of 500 CCA (or with a reserve capacity of 160 amp hours). Reserve capacity is the most important feature.

Battery Capacity

The lift should have an energy capacity of approximately 20 full cycles when using a new battery with a reserve capacity of 160AH. However, try not to dip below 50% battery capacity, since the solar panel will have difficulty recovering from such a deep draw.

AC Converter

Separate instructions are included with the Alternating Current (AC) converter. A licensed electrician should install electric power to the dock. A licensed electric contractor must supply maintenance and operating instruction relating to A/C electric current.

Solar Charger

Separate instructions are included with the Solar Panel. The following values are limits on full cycles (down and up) to keep battery capacity at steady state condition. The capacity of the battery will allow for additional cycles for any particular month. Table assumes all-day exposure with typical seasonal weather.

Max. Monthly Full Lifting Cycles (down and up) using a single solar panel (keeping steady state energy level)		
Month	Chicago (a northern cloudy city)	San Diego (a sunny southern city)
Jan	2 cycles	27 cycles
Feb	8	29
March	14	29
April	18	31
May	21	27
June	22	25
July	24	28
Aug	24	31
Sept	19	29
Oct	12	29
Nov	4	28
Dec	1	25

If your solar panel does not keep the battery charged, try any of these options:

- Move your solar panel to an area with less obstructed sunlight.
- Add a second solar panel, or add an A/C charger.
- Booster charge your battery mid-season.

Booster Charge

If the battery requires charging, disconnect the battery terminals before attempting to charge the battery. Similarly, do not use the lift battery to jump your boat without first disconnecting the battery. Unhooking the battery will isolate the remote control receiver from the possibility of receiving excess amperage which could destroy the electronics within the receiver unit and the pump. The charge from the factory installed solar panel or a small trickle charge will not cause a problem. However, if you are in doubt always remove the battery cables from the battery terminals before charging the battery.

Hydraulic Tips

With proper care and maintenance, your Hydraulic System will provide many years of trouble free operation.

Check Oil Level

Oil is a vital part of the hydraulic system. It performs the dual function of lubrication for the pump, valves and cylinders and transmission of power to raise and lower the boat lift.

Keep Power Unit Clean

In the hydraulic system many of the components require very tight tolerance fits for efficient operation. If the tolerances become too great the system will not function at all. As a result it is important to keep the system and oil free of dirt, water, and entrapped air in the oil. These are the major contaminants that have a very adverse effect on the system.

Check Fittings

Since oil cleanliness is very important, extreme care should be exercised whenever you are working on the hydraulic system. A frequent check should be made of the fittings to assure they have not come loose. Loose connections cause leaks but they can also allow dirt, air, and water into the system as well.

Cap Hose Ends

When connecting or disconnecting the quick disconnects, it is very important to keep the coupling ends clean. There are rubber plugs and caps provided with the system to cover the ends when they are not connected.

Filter Oil

When you need to add oil to the reservoir, the preferred method would be to filter the oil through a 25-micron filter just prior to being added to the reservoir. If this is not possible it is strongly recommended to use a funnel with a 200 mesh or finer screen. The funnel should also be free of dust, dirt and water.

Check for Moisture

After the unit has been stored for the winter or the possibility of condensation has occurred, a check of the reservoir should be made to assure the oil is free of water. If you suspect water may have gotten into the oil, it is strongly recommended that the oil be changed.

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Remote Control

Your system is equipped with an electronic remote control receiver box and **two** hand-held remote controls (key fobs). The remotes and receiver box are uniquely programmed to operate as a system. As a result of this unique programming, your remote is the only unit that can communicate with your receiver. This feature provides you the security that only the person possessing the remote can operate your boatlift remotely.

NOTICE Do not operate your lift with the remote and manual switch at the same time.

Remote Control Maintenance

When the battery expires you will need to replace it with one A27 or MN27 battery. The remote is watertight but is **not** intended to be submerged. If the remote does get submerged the best thing to do is replace it.

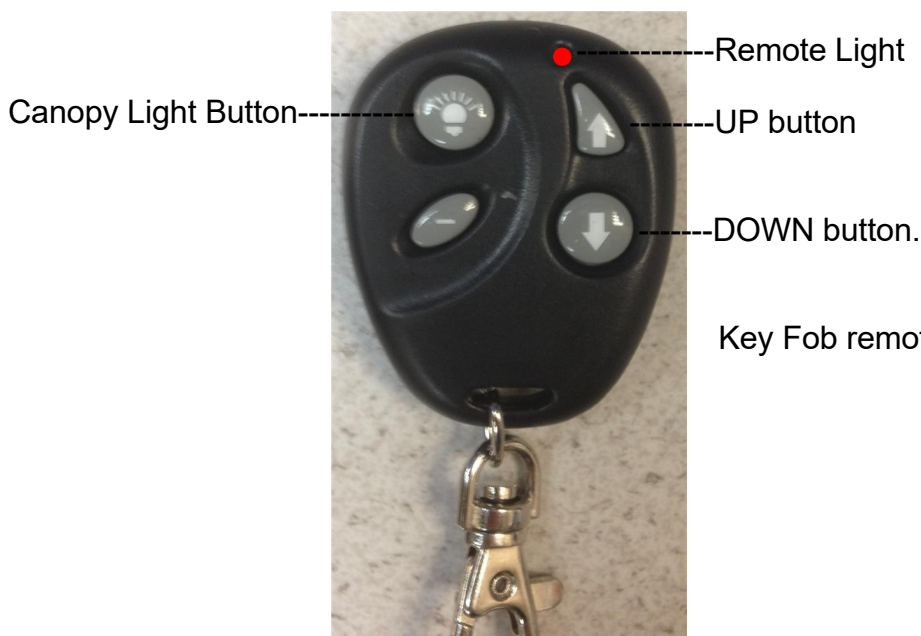
NOTICE If you try to use the remote control after it has been submerged the remote can short out and cause the lift to unexpectedly operate.

It is possible for the transmitter to de-program either due to loss of power (dead battery) or electrical interference. First check to see that it is transmitting. Do this by depressing any button on the remote and watching to see that the red light on the remote lights up. If not, change the battery in the remote and try again. If the LED lights up but the remote control will not operate the lift, you may need to reprogram the remote.

Remote Operation (SEE GUIDE BELOW)

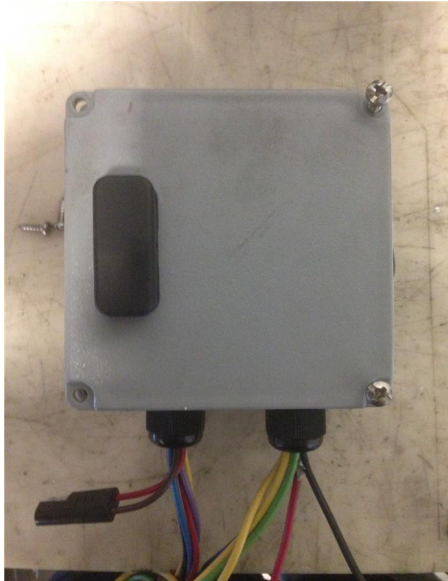
Note: The lift can still be operated with the rocker switch on the control box without remote.

NOTICE Allow motor to stop before reversing directions to avoid damage to pump and electronics.



Key Fob remote part number is **1029488**.

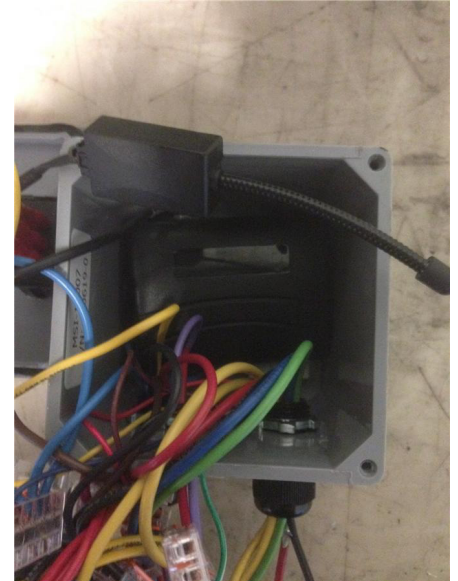
Remote Programming Instructions



Remove the four screws from the control box cover.



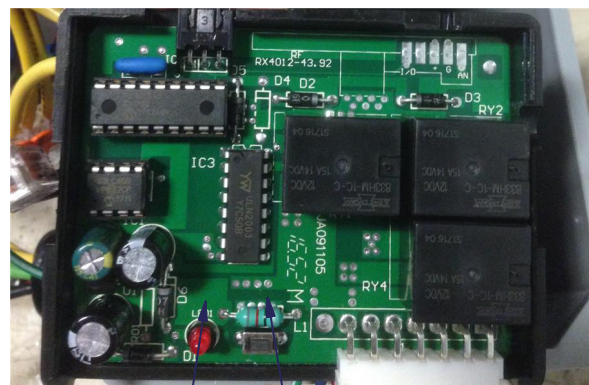
Lift the cover off the control box carefully to avoid disconnecting any wires.



Once the cover is off the box, carefully move the wires out of the way to reveal the antenna and black remote box.

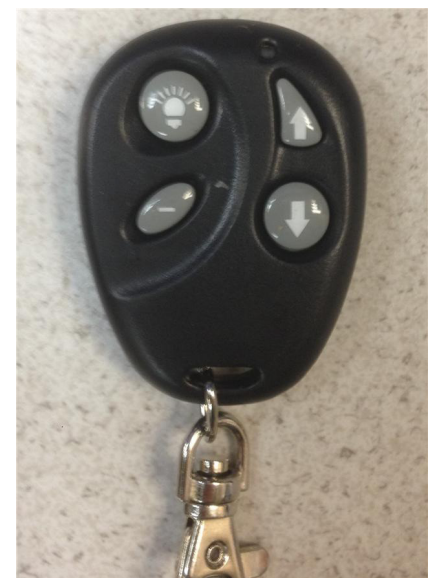


Carefully move the black remote box to an easy to work with position and separate the cover from the black box by gently removing top from bottom.



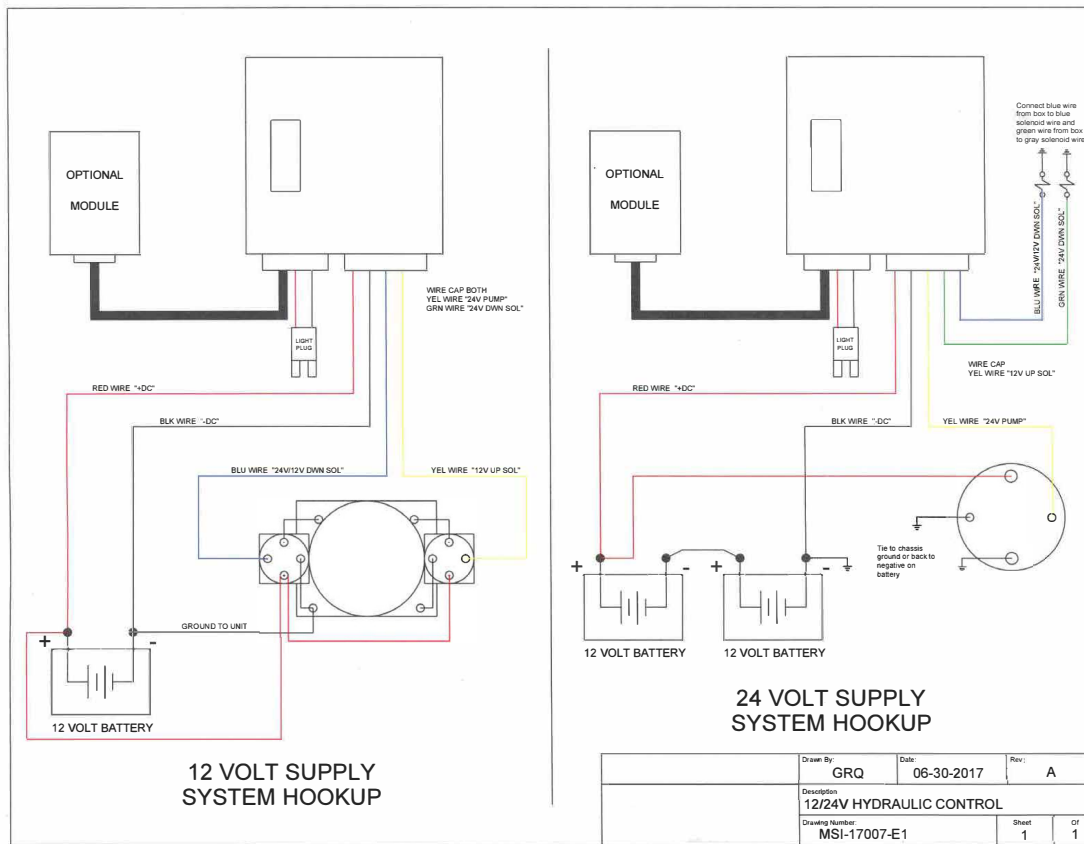
LED LIGHT — BLACK BUTTON

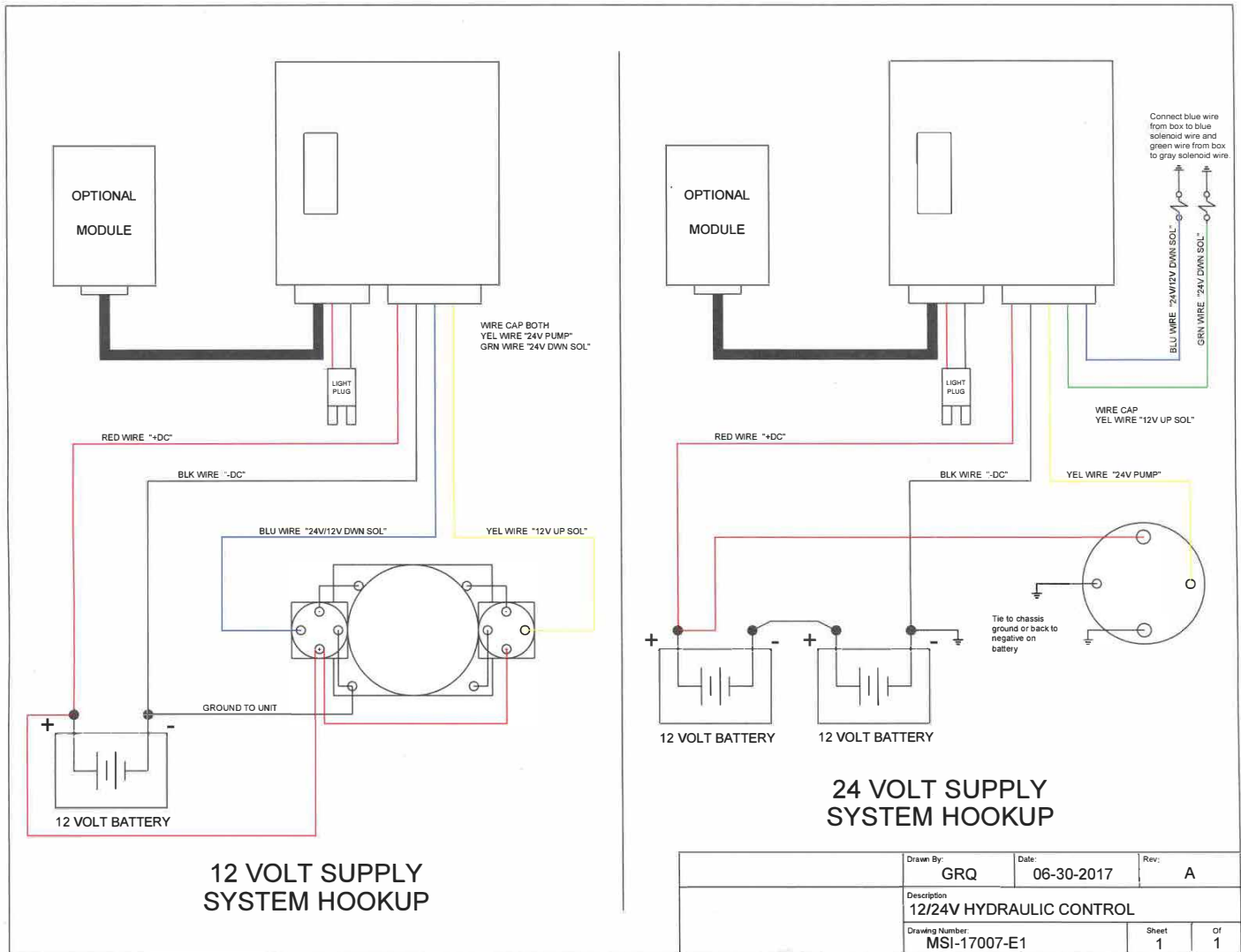
Once the circuit board is visible, you will see a red LED light and a small black button next to it. The button is the programming button. To program a remote to the control box press and hold the small black button until the LED light turns on. Then immediately hit the up button on the remote you want to program. If it is successful, the LED light in the control will flash 1, 2, 3, or 4 times to show how many remotes are programmed to the box. There is a max of four remotes that can be programmed at one time.
NOTE: Once the LED light turns on it is ready to be programmed for five seconds. If a remote button is not pressed within five seconds, the LED light will flash rapidly and turn off.



Upper right button is the "UP" button. Upper left button is for the canopy light. Bottom right button is the "DOWN" button.

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Trouble-Shooting Tips

Lift stops after a split second.

This is a sign of a low battery. If your battery is becoming low, about 11 volts, the remote control will stop functioning. The lift can still be operated using the up/down switch in the hydraulics box. Charge the battery using a 10A charger as soon as possible.

Battery does not keep a charge.

Check the battery fluid levels, age and time of last booster charge. (The battery needs to be booster charged in the beginning and end of the season using a 10A charger.) Verify solar panel or A/C charger is plugged in correctly and attached to the battery. Check the voltage output of the solar panel. Output should be about 1-18 volts when exposed to light. Verify the polarity (i.e. positive/negative) of the solar panel matches the battery's polarity. Verify your solar panel gets an appropriate amount of light and the lift usage is within the monthly seasonal limits. Your solar panel may be mounted up to 50 feet away from the battery if necessary. You may also order a bracket to mount your solar panel on top of your canopy.

Battery Terminal becomes hot.

Verify cable is clean and tight on battery terminal.

Limited range of remote control.

Check battery in key-chain transmitter. Remote control range is 100 to 150 feet. If your range is only limited while in your boat, try holding the transmitter above any obstruction while operating. Proximity to cell phone towers, power lines and other electromagnetic interference can also reduce remote control range.

Remote control not functioning.

The remote control is designed to stop working if the battery drops below 11 volts to alert the user that the battery is getting low. If the lift operates with the up/down switch in the hydraulics box but not the remote, charge the battery using a 10A booster charger.

Trouble Shooting

Problem: Lift will not run.

- Cause:**
1. Not connected to power source.
 2. Wiring and connections corroded, worn, or frayed.
 3. Dead Battery
 4. Battery leads backwards.

- Solution:**
1. Connect to power source.
 2. Repair or replace.
 3. Recharge Battery.
 4. Make sure battery is connected correctly.

Problem: Remote does not work.

- Cause:**
1. Remote may be locked.
 2. Batteries may be dead.
 3. Remote not synced with control unit.

- Solution:**
1. To lock and unlock your remote, press the light bulb and the lock buttons at the same time.
There will be a blue and white button that will flash at the top.
 2. Replace batteries.
 3. See programming instructions.