Summit Marine inc **Rev110416**

Instructions for SLIDE CHANNEL Beam to Post Assembly. Units shipped beginning May 2011.

Assembly Instructions – HL Series, 4000# through 8000# units.

Please take a few minutes to familiarize yourself with these instructions and you'll soon be on your way to many years of trouble free mooring.

These instructions are also available on the web in full color at www.summitmarine.com, tab "assm manuals".

Contents:

1. **1 Main Lift Assembly.**
2. **1 Front Beam, 1 Rear Beam, (interchangeable).**
3. **4 Leg pockets, (short- standard / long - canopy)**
4. **4' legs.**
5. **2 Vinyl Bunks.**
6. **1 Poly Pump Box, which contains items 7 through 14:**
7. **1 Hydraulic Pump, manual control, with optional Keyless Remote.**
8. **4 Aluminum Feet.**
9. **2 Front Clamps, 5" x 7".**
10. **2 Rear Clamps, 7" x 8".**
11. **Disregard.**
12. **Bag – Front and Rear Clamp Bracket.**
    a. **16 – 3/8" x 3" screws**
    b. **16 – 3/8" nuts**
13. **Bag – Post to Beam**
    a. **8 – 3/8" x 5/8" screws**
    b. **8 – 3/8" brass square nuts**
    c. **8 – 3/8" washers**
14. **Bag – Foot Pocket.**
    a. **8 – 3/8" x 3.5" screws**
    b. **8 – 3/8" nuts**

Tools Required:

1. **9/16” socket wrench.**
2. **9/16” box wrench.**
3. **(2) large 12” adjustable wrenches.**

Assembly:

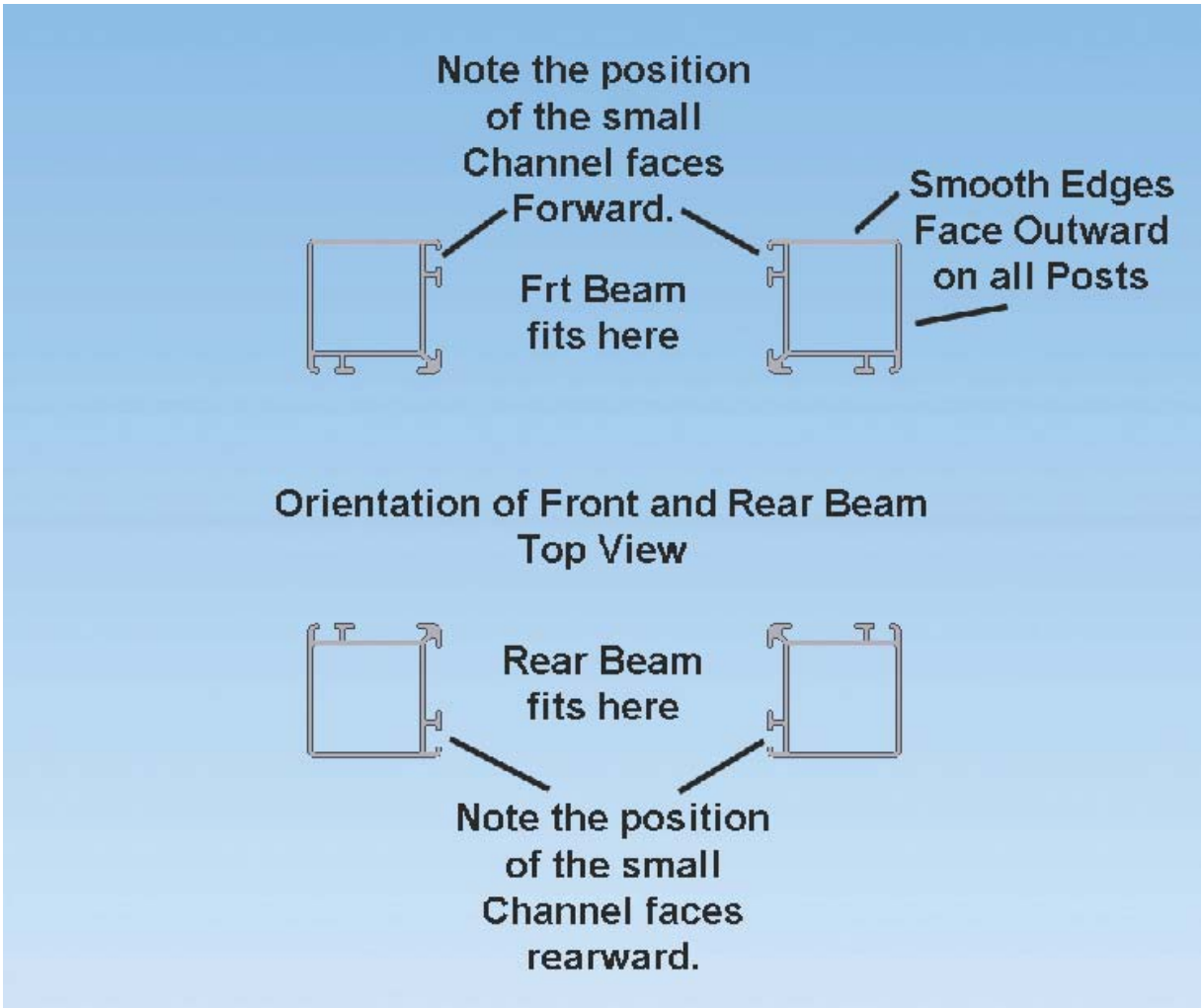
1. **Assemble lift on smooth level surface, free from obstructions. Unpack all components at this time, except for the hydraulic hoses attached to the rear hinge. Leave this item wrapped for now to avoid contaminants from entering the fluid system.**

2. **Assemble Rear Beam: 1 Rear Beam, 2 Rear Clamp Plates, 7” x 8”, (8) screws 3/8 x 3” long and (8) brass nuts. Center Beam, left to right, with Main Lift Assembly. Loosely fasten bolts to aid in centering this beam. Tighten bolts.**

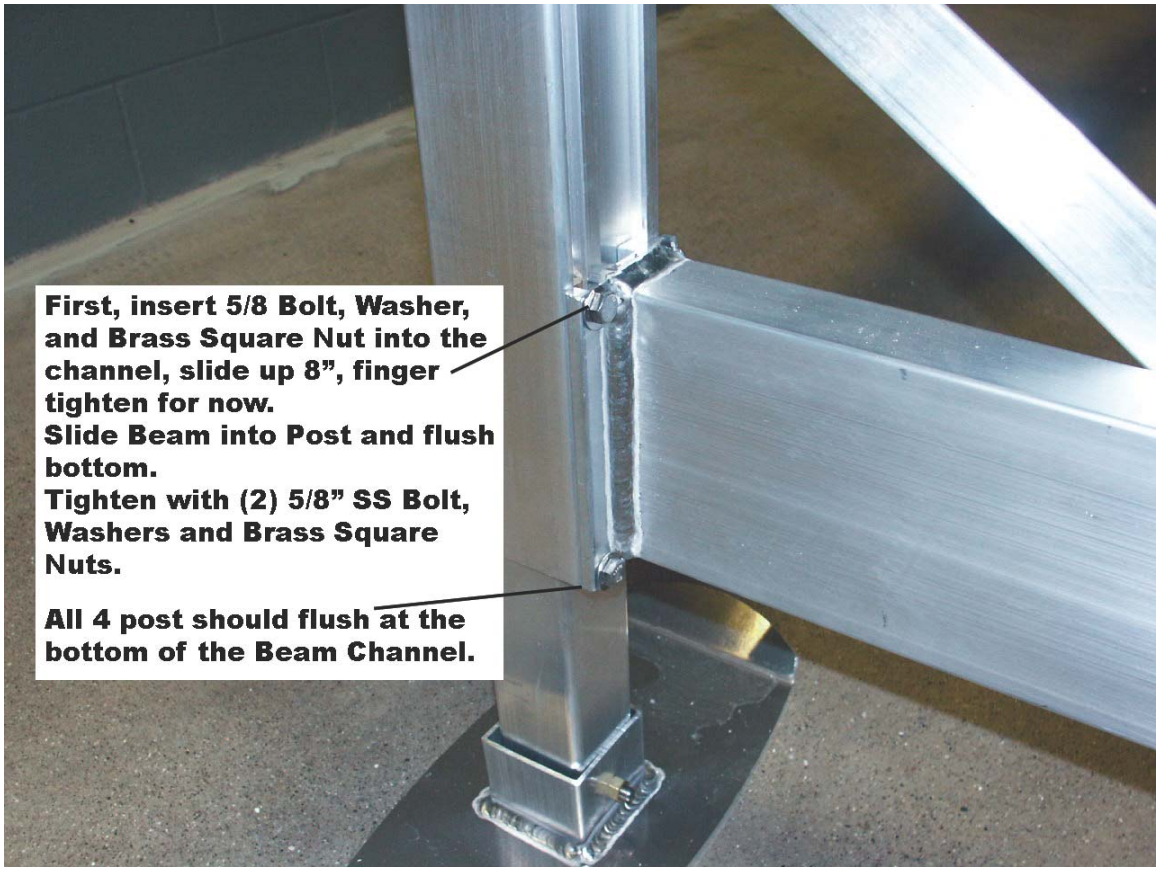
3. **Assemble Front Beam: 1 Front Beam, 2 Front Clamp Plates, 5” x 7”, (8) screws 3/8 x 3” long and (8) brass nuts. Center Beam, left to right, with Main Lift Assembly. Loosely fasten bolts to aid in centering this beam. Tighten bolts.**

4. **Assemble Feet to Leg Pockets: 1 Foot, 1 Leg, (1) screw 3/8 x 3.5" long and (1) brass nut.**

5. **Assemble Post to Beams: Using the following illustration, align the Posts as shown. Proper orientation will result with the smooth side of the Posts facing outward. Note the location of the small channel.**



Using (2) bolts, 3/8 x 5/8" long, (2) washers and (2) brass square nuts per corner, fasten as shown below. Note: Slide (1) bolt, washer and square nut up into the Post first and finger tighten, then slide the Beam on, flush to the bottom. Tighten bolts in the position shown.



6. **Unpack hoses from Rear Hinge. Use caution not to cut into hose wall. Push hoses through Poly Box hole and screw to matching connectors on Pump. IMPORTANT: Full engagement is obtained when outer screw is 1.5 turns PASSED the o-ring on the inner connector. Summarize: Screw hose connector to matching pump connector – screw until connector reaches black o-ring, continue 1.5 turns until o-ring is fully engaged, THEN tighten another 1.5 turns. Wrenches may be required for the final 1.5 to 3 turns as back pressure in the system will keep the internal shut off seal from opening easily.**

Notice the black O-ring. Three more turns to fully engage….

Connector fully engaged.

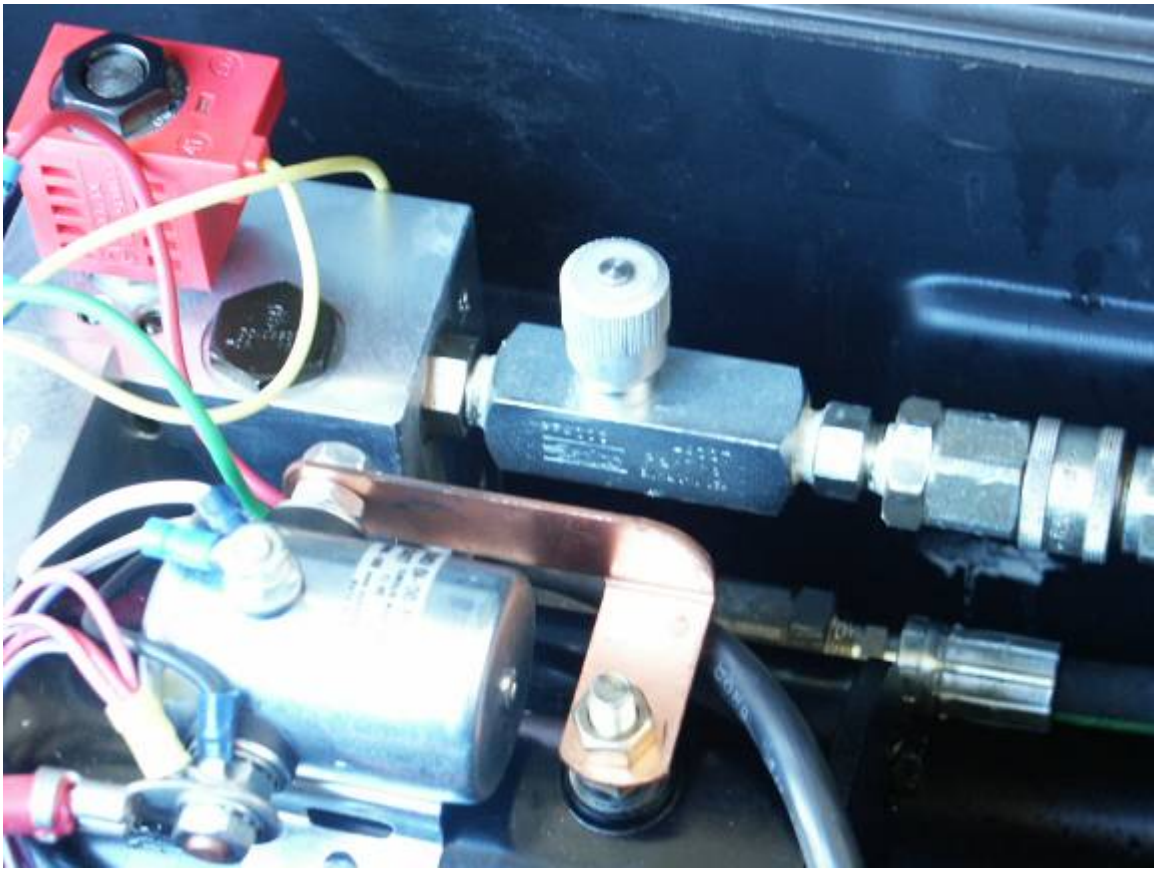
7. **Remove Red shipping plug from rear of reservoir, replace with Black vent plug located at front of reservoir. This will allow air to enter the tank as fluid is pumped into the cylinders.**

8. **Connect 12v battery source. Red lead from pump to positive (+) and Black lead to negative (-). Double check the hose connectors for full engagement (step 6) and press the UP control button. Lift should rise until button is released. Press the DOWN button and conversely the lift will lower.**

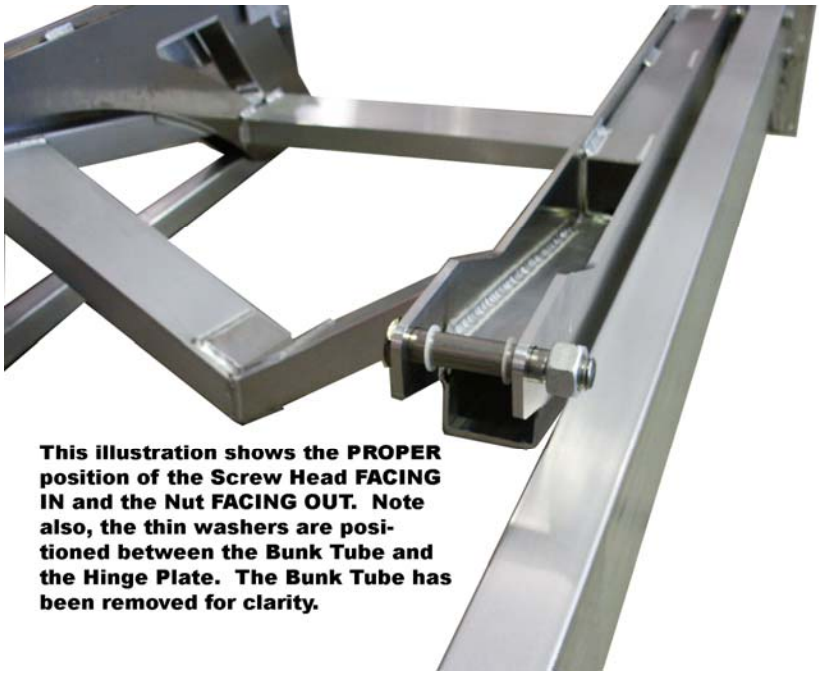
9. **Raise lift all the up and continue to press the up button for an extra 5 seconds to pressurize the lines. CHECK EACH FITTING FOR LEAKS. Sometimes shipping can break a fitting loose. Tighten as necessary. Repeat for the down condition. And tighten any other fittings.**

10. **If lift fails to rise AND lower – recheck connectors - step 6. This will now require wrenches to 'break' the back pressure loose.**

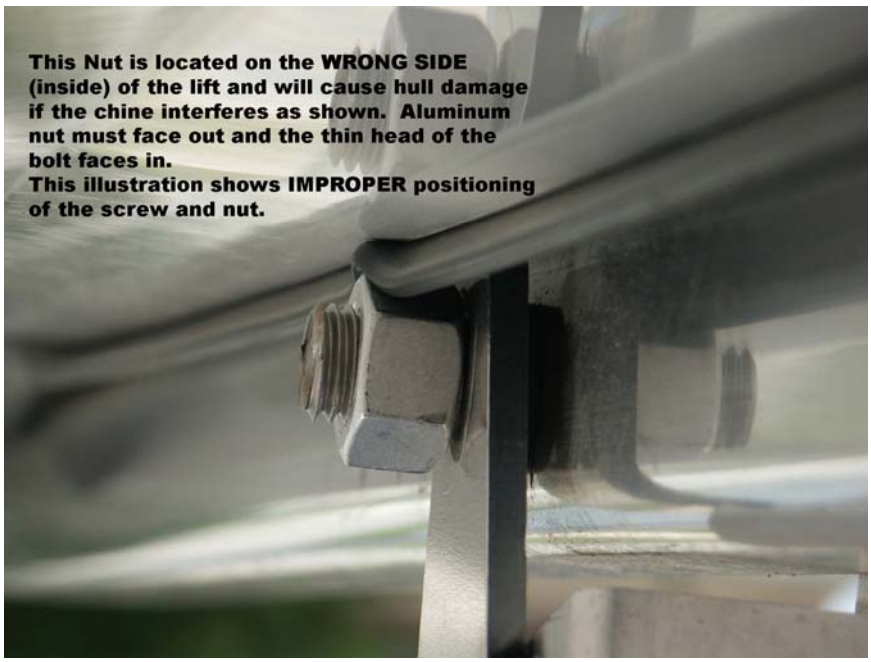
11. If lift rises but will not lower – open Flow Control screw valve on pump adjacent to male screw connector. This valve should be open 1.5 turns for now. Factory preset is 1.5 turns. DO NOT ADJUST ANY OTHER VALVES OR SCREW SETTINGS ON PUMP.



12. **Assemble the Bunks. After the hydraulics function properly and the lift elevates and lowers, raise the hinges to the up most position. Position the bunks with the name plate facing out and slide the 5" screw with the nylon spacers between the Bunk Tube and the Hinge Arm. At this point the threads MUST face out. Assemble the aluminum nut and tighten.**



This illustration shows the PROPER position of the Screw Head FACING IN and the Nut FACING OUT. Note also, the thin washers are positioned between the Bunk Tube and the Hinge Plate. The Bunk Tube has been removed for clarity.



This Nut is located on the WRONG SIDE (inside) of the lift and will cause hull damage if the chine interferes as shown. Aluminum nut must face out and the thin head of the bolt faces in.
This illustration shows IMPROPER positioning of the screw and nut.

This concludes the assembly instructions.

Installation:

Tools required:

1. **12” adjustable wrench.**
2. **Water shoes.**

Instructions:

CHECK FITTINGS FOR ANY LEAKS. Raise lift all the up and continue to press the up button for an extra 5 seconds to pressurize the lines. CHECK EACH FITTING FOR LEAKS. Sometimes shipping can break a fitting loose. Tighten as necessary. Repeat for the down condition. And retighten any other fittings.

IT IS IMPORTANT TO UTILIZE THE OVER-CENTER FEATURE OF THIS LIFT THAT THE BUNKS ARE LEVEL FRONT TO BACK AND LEFT TO RIGHT. WHEN STORING BOAT FOR EXTENDED PERIODS (12 HOURS or LONGER) RAISE BOAT TO FULL UP POSITION. THIS WILL LOCK THE HINGES IN THE RAISED POSITION.

1. **Survey the installation area for rocks, stumps or other obstructions, remove debris or relocate lift site.**

2. **Inspect boat hull for any protrusions, such as turn fins, speedometer pickups, live well inlets, cruise control pickups, etc. Compare location of obstruction with Bunk spacing. Remove or relocate if needed. In some cases, Centering Guides may be all that’s required to position your boat for interference free lifting. Contact your dealer for optional wider hinge assembly if necessary.**

3. **Lift or float unit into position. Rear of lift (stern) is the cylinder end of the lift. DO NOT DRAG. Dragging may cause unnecessary fatigue on Side Beams and Front/Rear Beams weldaments.**

4. **Position lift in (ideally) 42” to 48” of water. If you’re in deeper water, adjust legs until you have apx. 28” of water over the bunks in the low position. Longer leg option will require cross bracing. This will give you 12” of lift out of the water. Keep in mind high and low lake levels.**

5. **Raise bunks until they are even with the water. Adjust legs until all 4 ends of the bunks are level. Retighten legs.**

6. **Inspect the lake bottom areas once again to ensure only the 4 Foot Pads contact the lake bottom. Clear any obstructions and sand away from under beams and rotating hinges.**

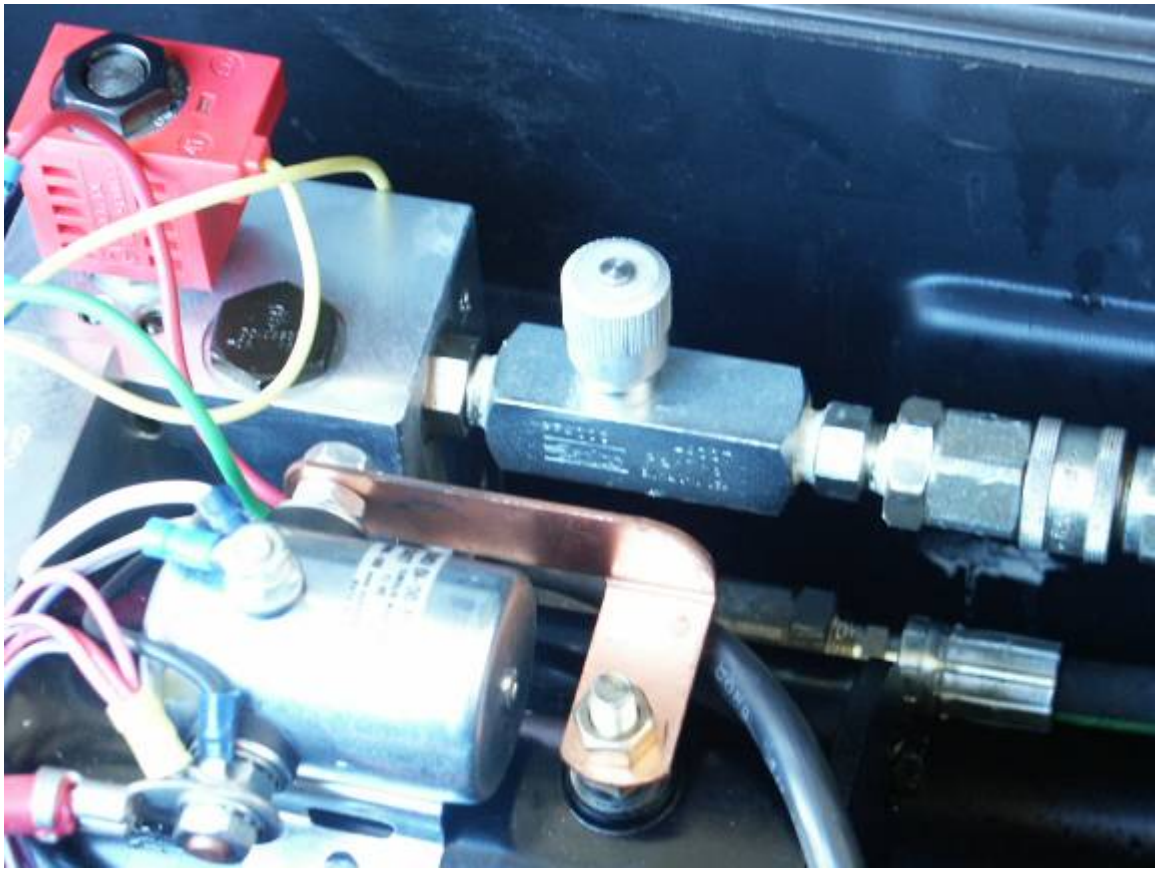
7. **Lower lift to the lowest position.**

8. **Float, (DO NOT DRIVE), your boat on at this time. DO NOT RAISE THE LIFT YET. Check for potential interference.**

9. **Raise the lift until the bunks just contact the hull bottom. STOP. Check for clearance one more time. Should you find any hull/bunk obstructions contact your dealer or Summit Marine Inc. for optional dual/adjustable bunk set up.**

10. **If all is clear between the hull and lift bunks, raise lift 6" more. WAIT. In softer areas lift feet may settle into lake bottom, causing tilt situation. Lower lift, remove boat and repeat step 5 thru 9 until lift is on solid footing. Relocate lift unit or shore up soft areas with sand, gravel or plywood sheets.**
11. **When satisfied with footings, raise lift in 6" increments. STOP, check level and continue. BE PREPARED to lower lift immediately should footings become unstable.**

12. **Adjust Flow Control Valve (located on the pump next to the top screw connector). This valve only controls the 'rate' of decent. Too open and the boat lowers to fast causing stress on the frame during abrupt stops. Too shut, and undue stress on the battery is encountered. Ideally, your boat will lower at the same 'rate' as it rises. This should be about 1.5 turns open (turn clockwise until totally shut – then counter clockwise 1.5 turns). Heavier boats will require this valve closed more, and lighter boats will work better with this valve more open.**



13. **Use caution operating your lift during low battery voltage conditions. Although the safe 12 DC motor can survive lower voltage conditions the starter solenoid for this motor requires the full 12 volts to energize the magnetic switch to 'clamp' the contacts without arcing.**
14. **Remove boat and tighten the Bunk Support screws, (4 places). Check these bolts monthly. Wave action can move these bunks if they are not tight and cause hole wear and potential hull damage. IF THE BOAT IS REMOVED OFF THE LIFT FOR MORE THAN 6 HOURS, RAISE THE BUNKS OUT OF THE WATER TO ELIMINATE THIS EXCESSIVE WEAR CONDITION.**

Operation:

NEVER DRIVE BOAT ONTO LIFT WITHOUT THE BUNKS LOW ENOUGH IN THE WATER TO FLOAT THE BOAT OVER THE BUNKS. FRAME DAMAGE MAY OCCURE.

1. With the bunks low enough in the water, slowly drive the boat until the center of gravity of the boat is at the center of the bunks. To determine the center of gravity contact your dealer for your particular make and model. Once this is determined make a note of where this is, compared to the windshield.
2. Using the remote control button raise the lift until the bunks lift the boat about 1" to stabilize it. Never raise the boat any further with occupants in the boat.
3. Vacate the boat and raise it all the way up to utilize the over center locking feature. Any position lower than fully up will require monitoring to prevent drift down and subsequent boat damage. Never jog or bounce the lift by starting and stopping the pump motor.
4. To lower the boat press the down button and hold until the boat is floating in the water, then lower 1 or 2 more inches for additional clearance. Board the boat once the lift has adequate clearance to the boat. See item #12 above for adjustment of the flow control.

Troubleshooting:

1) **Lift won't elevate:**
   a) **Check battery condition – Even new batteries could be low.**
   b) **Check hose connection, page 6. Partial connection of one hose will cause the hoses to 'jump' when activated.**

2) **Lift will elevate but won't lower:**
   a) **Flow Control Valve may be shut. Open 1.5 turns initially, then open or close to control 'rate' of decent. Refer to step 12, page 11.**

3) **Lift is stuck at the top of its stroke: Unit ran fine until it reached the top.**
   a) **Velocity Fuses may have triggered. This may occur when the lift is raised without a boat on it AND the Flow Control is fully opened. Velocity Fuses are installed in the high pressure side of the cylinders as a safety feature to shut off fluid flow in the event of an open line condition. To reset these fuses:**
      i) **Close the Flow Control Valve to fully shut, (see step 12, page 11).**
      ii) **Press the RAISE button for 3 seconds.**
      iii) **Press the LOWER button, now, slowly open the Flow Control Valve, while continuing to lower the lift. Lift should now lower.**
      iv) **Adjust Flow Control Valve, refer to step 12, page 11.**

4) **Battery life seems to be short:**
   a) **Several factors enter this equation:**
      i) **Boat weight, including fuel, and gear: heavier load = fewer cycles.**
      ii) **Flow Control too closed: Refer to page 8.**
      iii) **Cooler ambient temperatures: fluid is thicker, requiring more amperage.**
      iv) **Battery may not be charging fully due to faulty charger or bad cell in the battery itself. Even new batteries have been found with bad cells.**
   b) **After exploring the above avenues without satisfaction, contact your dealer for an optional Solar Panel to keep battery at its peak condition.**
   c) **Use caution operating your lift during low battery voltage conditions. Although the safe 12 DC motor can survive lower voltage conditions the starter solenoid for this motor requires the full 12 volts to energize the magnetic switch to 'clamp' the contacts without arcing.**
   d) **i. If you use your lift once or twice daily:**
      Single battery - Optima battery is best - they're about $150
      Battery Tender - these are about $75. An automatic charger works fine accept they turn off when the battery charges fully, so you will want to unplug and replug when the battery gets low.
      This system will discharge the fastest (however it will also recharge the fastest).

ii. If you use your lift weekends, say 3 times Saturday, 3 times Sunday.
Dual battery - again the Optima batteries are best.
Battery Tender - these are about $75. One on each battery...
This system will discharge the slowest (however it will also recharge the slowest). It will have the amperage to last through the 6th lift and beyond.

In both cases check the battery level monthly.

Another suggestion is to get the lift in deeper water. In the raised position, if the lift is above the water 12" apx. this will take a lot of strain off the pump and batteries.

5) **Fluid appears to be low:**
   a) **Units are shipped with more of the fluid in the cylinders than the tank. Your lift should arrive with about ½ of the reservoir filled with fluid. As the lift elevates, more fluid is pumped into the tank than the cylinder. Conversely, as lift lowers, more fluid is pumped into the cylinders than the tank. With the lift in the lowest position the reservoir should be half full.**
   b) **Should you have a spill, don't worry, HL series lifts are filled with bio-degradable food grade oil. Wipe up as required and contact your dealer for replacement oil. Shell FM AW32.**

6) **Lift rises a few feet, then stops, motor runs at a higher pitch:**
   a) **Check fluid level in the reservoir, the pump requires some amount of fluid to pump into the cylinders to raise the boat. No damage to the system will occur due to this event. HL series lifts are filled with bio-degradable food grade oil. Contact your dealer for replacement oil. Shell FM AW32.**

7) **Dead battery in remote control. Replace battery with 12V – A23 - L1028.**

Energizer A23BP-2 Special Application Battery.

Other equivalent battery numbers:
A23, GP23A, E23A, K23A, V23GA
A21, MN21, MN23, S21, RVO8, LRV08, MS21
8LR932, 8LR23,8F10R, VR22, 1811A, L1028

Annual Maintenance and Winterization Instructions:

Should you have the good fortune to be in the position to require your lift to be removed from the lake annually, below are a few guidelines to ensure many years of safe, trouble free operation.

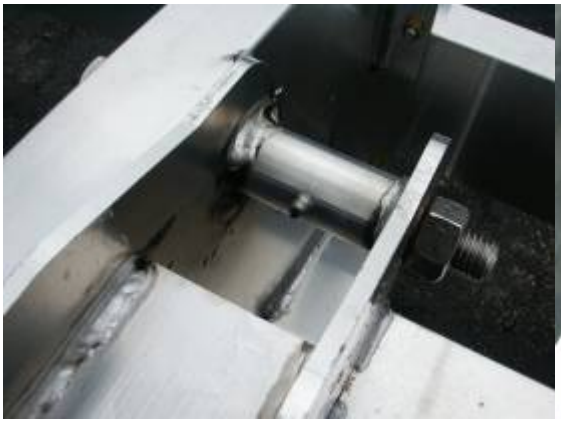
1. **When removing lift from the lake, DO NOT DRAG PADS ON LAKE BOTTOM. Hidden debris can obstruct feet and bend legs. Soft sand and morrow bottoms will restrict forward movement causing stress on frame. Float lift using inner tubes, float drums, or paddle boats using the power of the double acting cylinders to lift feet off the lake bottom. USE CAUTION NOT TO CRUSH FLOATION DEVICES WITH THE POWER OF THE CYLINDERS / OR CAUSE FRAME DAMAGE.**

2. **After the lift is on shore, inspect all hoses for any signs of wear.**

3. **Inspect all bolts and nuts. Tighten if necessary.**

4. **Inspect frame components for excessive wear.**

5. **Grease fittings at hinge pivot points, and cylinder connectors.**



6. **Clean cylinder shafts with steel wool such as a Brillo Pad. Although the shafts are made from Stainless Steel, there is still a chance the lake water could deposit scale and micro-organisms that will abrade the cylinder shafts.**

7. **Store the lift in its upper position after cleaning the shafts. Raise lift to its full upper position, then lower a bit to eliminate the high 'back**

pressure' on the hoses. This will assist in removing the hose connectors.

8. **If you prefer to store the lift in the lower position, simply clean the shafts once again in the spring to remove and scale or sand that may be deposited from the weather. Conversely, if you lower the lift all the way down, press the rise button a bit to eliminate back pressure.**

9. **Remove the hose connectors. Wrap them in bags to eliminate contaminates from entering them. Ensure that rain water cannot enter the bags and freeze – Try bagging connectors then zip tie them facing up to leg post.**

10. **Disconnect battery, check fluid level, and charge before storing.**

11. **Store pump in doors if possible.**

We welcome your questions and comments. If you have further questions or suggestions, please call your dealer or us directly…

Remote Control Reprogramming: BLACK KEY FOBS ONLY:

On the side of the hydraulic pump of remote control units is a black plastic case which houses the remote control receiver. Several wires are attached to this unit along with a 15 amp replaceable fuse, located on the thin red wire. Each receiver is capable of accepting up to (4) key fob transmitters. These remotes are preprogrammed at the factory when ordered with the lift. Single or replacement key fobs will need to be programmed to your receiver.

CAUTION: When connecting the battery, listen for 3 clicks followed by a 4 second delay then 2 more clicks, (total of 7 seconds). This 4 second window is the programming delay. FOR NORMAL OPERATION - DO NOT PRESS ANY BUTTONS ON THE KEY FOBS DURING THIS 7 SECOND SEQUENCE. AFTER THE (2) FINAL CLICKS – NORMAL OPERATION WILL COMMENCE.

If you should happen to loose the program from the remote control follow the following steps:

Single Lift:

1. **Disconnect one battery cable. Have both key fobs ready for programming.**
2. **Reconnect the battery cable.**
3. **Listen for (3) clicks. Start step 4 within 2 seconds.**
4. **Press 'UP' on key fob 1, you'll hear (2) clicks. (Position 1 filled).**
5. **Press 'UP' on key fob 1, you'll hear (2) clicks. (Position 2 filled).**
6. **Press 'UP' on key fob 2, you'll hear (2) clicks. (Position 3 filled).**
7. **Press 'UP' on key fob 2, you'll hear (2) clicks. (Position 4 filled).**
8. **Wait for 5 seconds for final (2) clicks.**
9. **Key fobs will now operate your lift.**

NOTE: You must start step 4 (initial key fob programming) before the 4 second delay expires. Otherwise, repeat at step 1.

Dual Lifts:

1. **Start with battery cables connected.**
2. **Remove both 15 amp fuses from the receivers located on the thin red wire of the wire harness exiting the control box. Have all 4 key fobs ready for programming.**
3. **Connect 1 fuse.**
4. **Listen for (3) clicks. Start step 5 within 2 seconds.**
5. **Press 'UP' on key fob 1, you'll hear (2) clicks. (Position 1 filled).**
6. **Press 'UP' on key fob 1, you'll hear (2) clicks. (Position 2 filled).**

7. **Press ‘UP’ on key fob 2, you’ll hear (2) clicks. (Position 3 filled).**
8. **Press ‘UP’ on key fob 2, you’ll hear (2) clicks. (Position 4 filled).**
9. **Wait for 5 seconds for final (2) clicks.**
10. **These key fobs will now operate lift #1. Set these key fobs aside.**

11. **Remove fuse on control 1 and connect it to control 2.**
12. **Listen for (3) clicks. Start step 13 within 2 seconds.**
13. **Press ‘UP’ on key fob 3, you’ll hear (2) clicks. (Position 1 filled).**
14. **Press ‘UP’ on key fob 3, you’ll hear (2) clicks. (Position 2 filled).**
15. **Press ‘UP’ on key fob 4, you’ll hear (2) clicks. (Position 3 filled).**
16. **Press ‘UP’ on key fob 4, you’ll hear (2) clicks. (Position 4 filled).**
17. **Wait for 5 seconds for final (2) clicks.**
18. **These 2 key fobs will now operate your lift.**

19. **Reconnect the other fuse, and wait 7 seconds for the clicks and ‘time out’ sequence.**

REMEMBER TO WAIT after reconnecting the battery for the 7 second sequence to time out BEFORE operating the key fobs – otherwise the remotes start the program mode. Should this happen follow the steps above to reprogram.

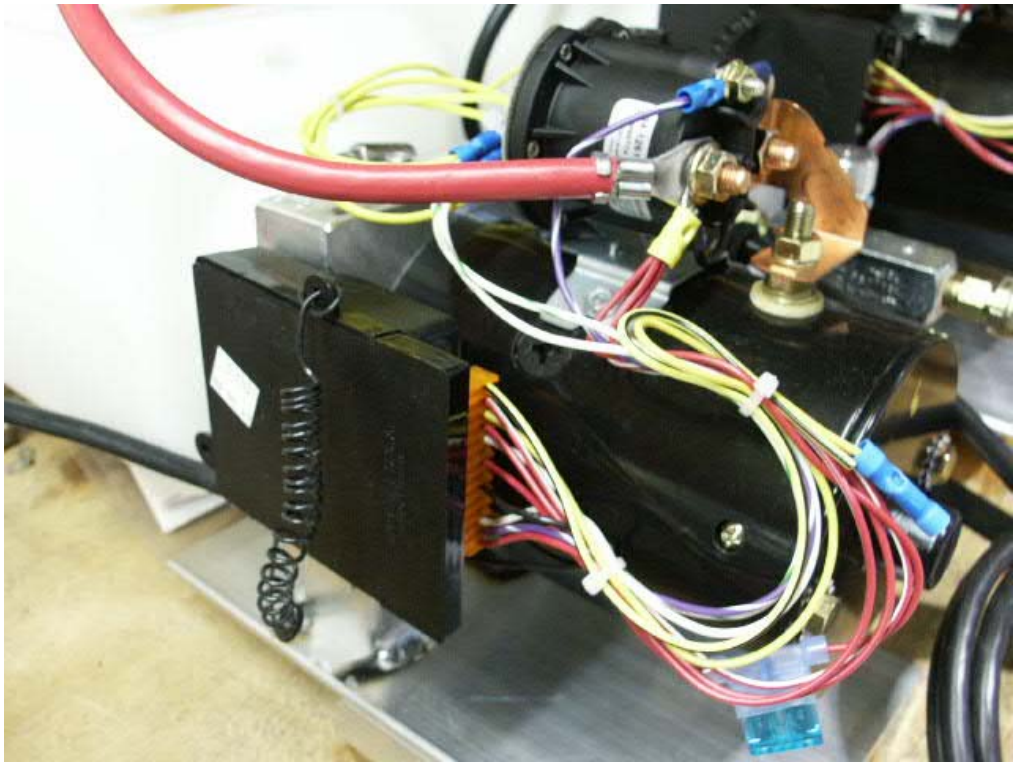
ALSO NOTE: LOW BATTERY CONDITION – You may loose the programming if the lift is operated below sufficient voltage. Should the battery fall below normal voltage, the pump motor will stall and the remote(s) will reset as though the battery cable was just connected. This is evident by the series of clicks that will follow. Pressing the key fobs during this condition will start the programming sequence. Simply charge the battery and test the key fobs operation after full charge is obtained. Follow the instructions above if required to reprogram.

Replace dead battery in remote control with 12V – A23 - L1028.

Energizer A23BP-2 Special Application Battery.

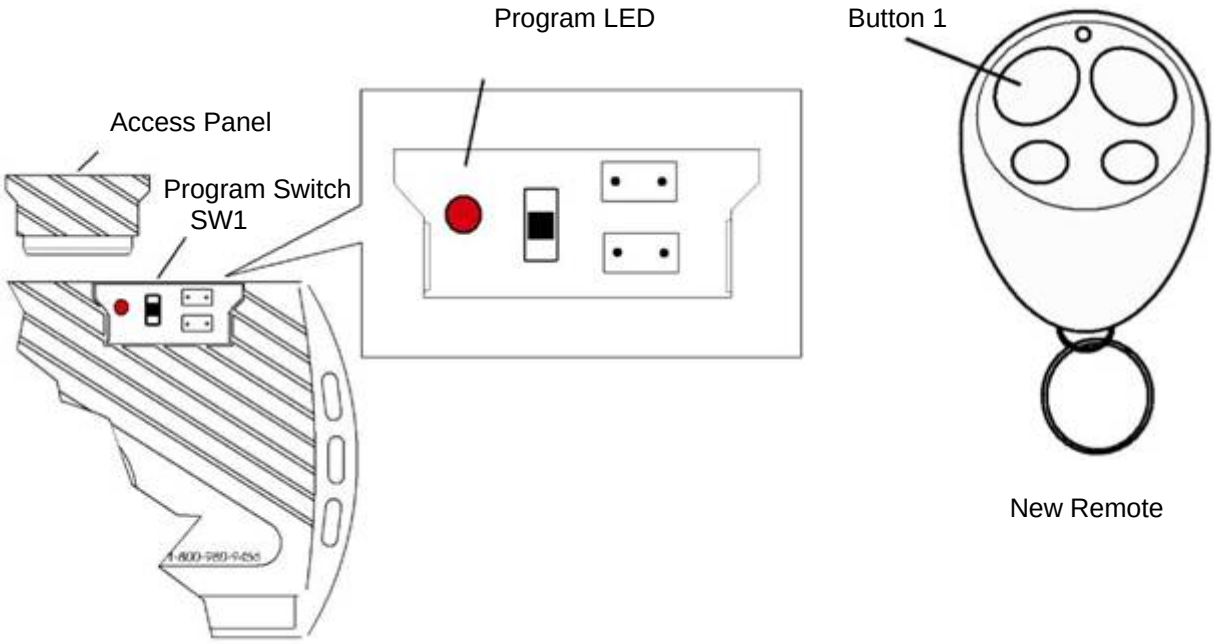
Other equivalent battery numbers:
A23, GP23A, E23A, K23A, V23GA
A21, MN21, MN23, S21, RVO8, LRV08, MS21
8LR932, 8LR23,8F10R, VR22, 1811A, L1028

Remote Control Wiring Diagram: Black Receivers



Remote Control Harness	Switch	Connect to:
1 red with fuse + 3 red w/white stripe	Black	+ terminal on solenoid
Black	-	Ground on pump
Purple w/white stripe	White	Top of solenoid
White w/green stripe	Green	Top yellow relay wire
White w/red stripe	Red	Bottom yellow relay wire
Yellow (optional 11 minute timer)	-	+ terminal of 12v light Connect other end of Light to negative battery

REMOTE PROGRAMMING WHITE RECEIVERS



Locate the program switch under the access panel on the front of the receiver module as show above. Please read through the steps below before you begin. You will have 10 seconds to complete the program sequence once you begin.

1. Push the program switch (sw1) until the red program LED lights solid, then release.
2. Now push button 1on the new remote until the program LED goes out.
3. Push button 1 again on the new remote, the program LED should flash slowly. Release button 1.

Your new remote is now programmed.

note: if the new remote does not work, make sure that the indicator LED on the remote is flashing and that the battery is good, then repeat steps 1 through 3.

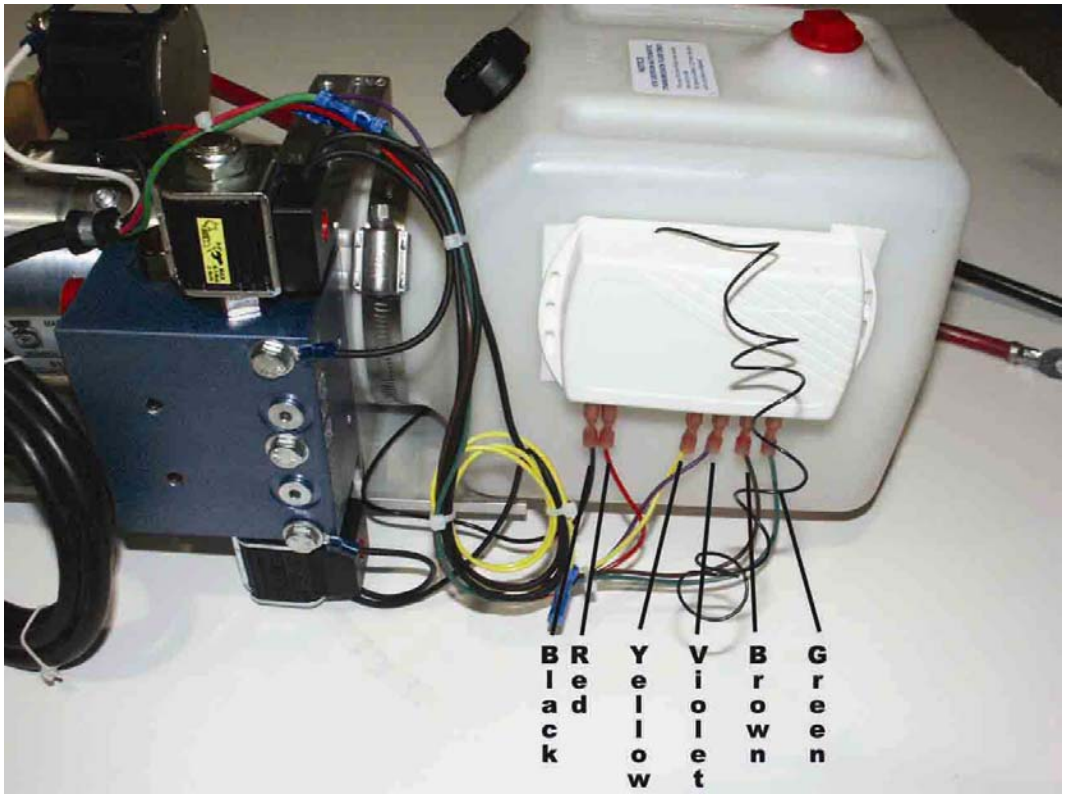
WIRING DIAGRAM WHITE RECEIVERS

See online instructions for color photos:
http://summitmarine.com/HL%20Instruction%20Hydraulic4.pdf
Or: www.summitmarine.com select: Assm Manuals select: Hydraulic Lift

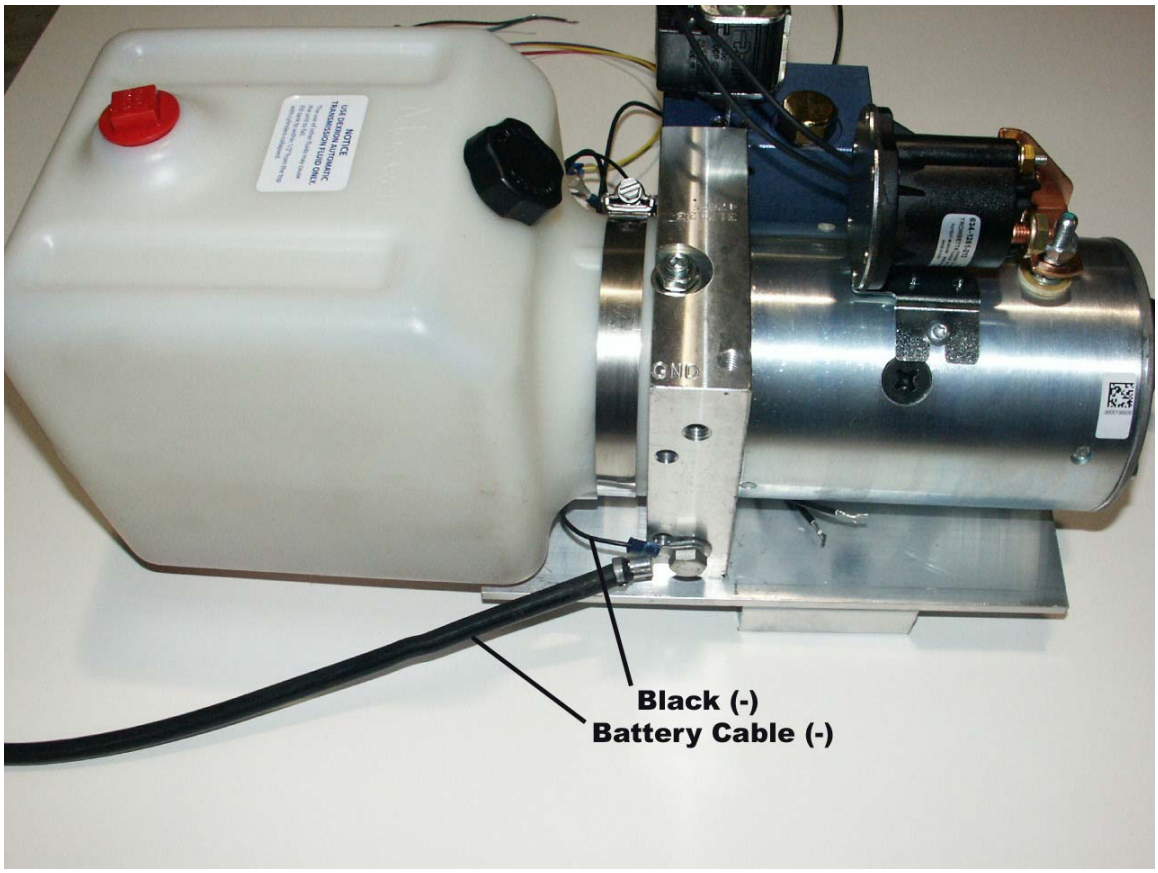
New remote installation:

Package Contains:
Receiver
Transmitters (2)
Double face tape attached to back of receiver
(2) Splice connectors – blue
(5) White wire ties

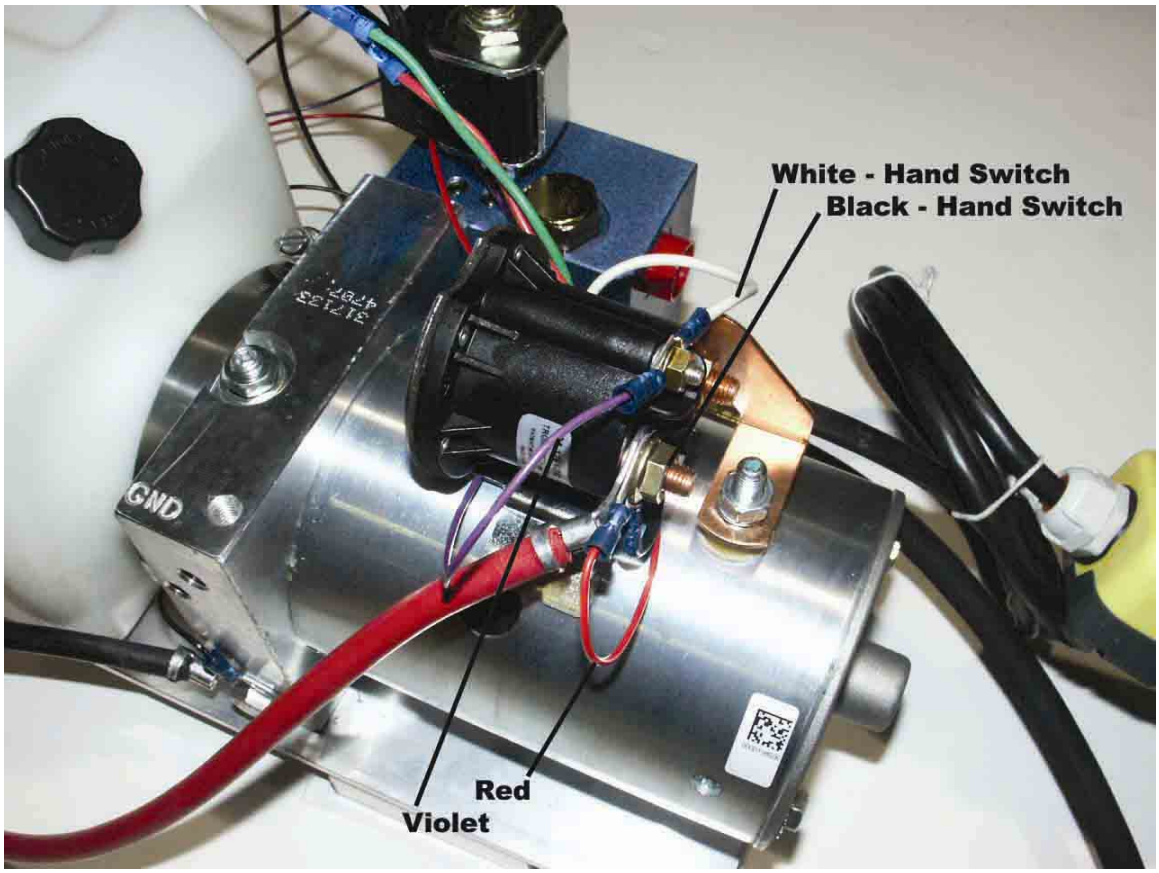
1. Remove any labels located on the side of the tank shown below.
2. Clean area with alcohol and warm with hair dryer on high.
3. Remove backer tape and affix Receiver with the double face tape.



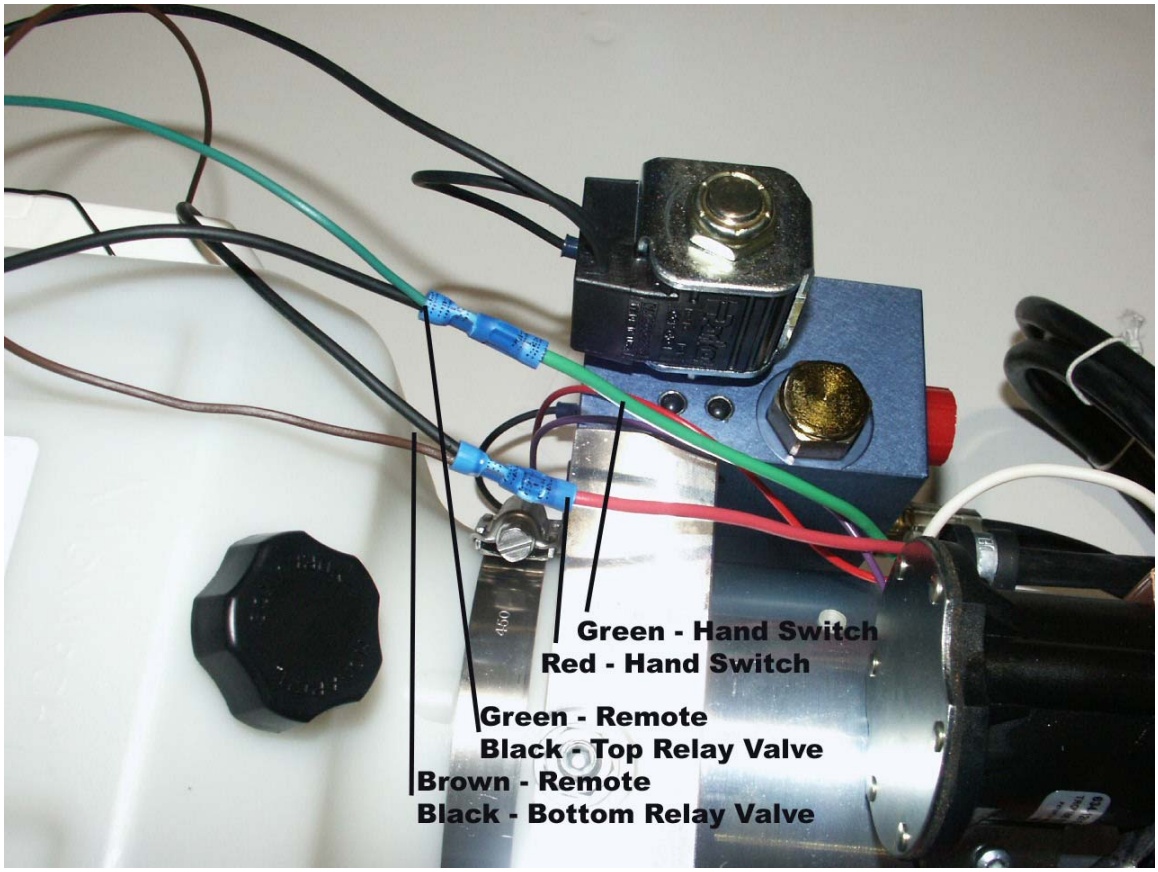
4. Bring the black wire under the tank and attach to the bolt with the Black, negative battery cable.



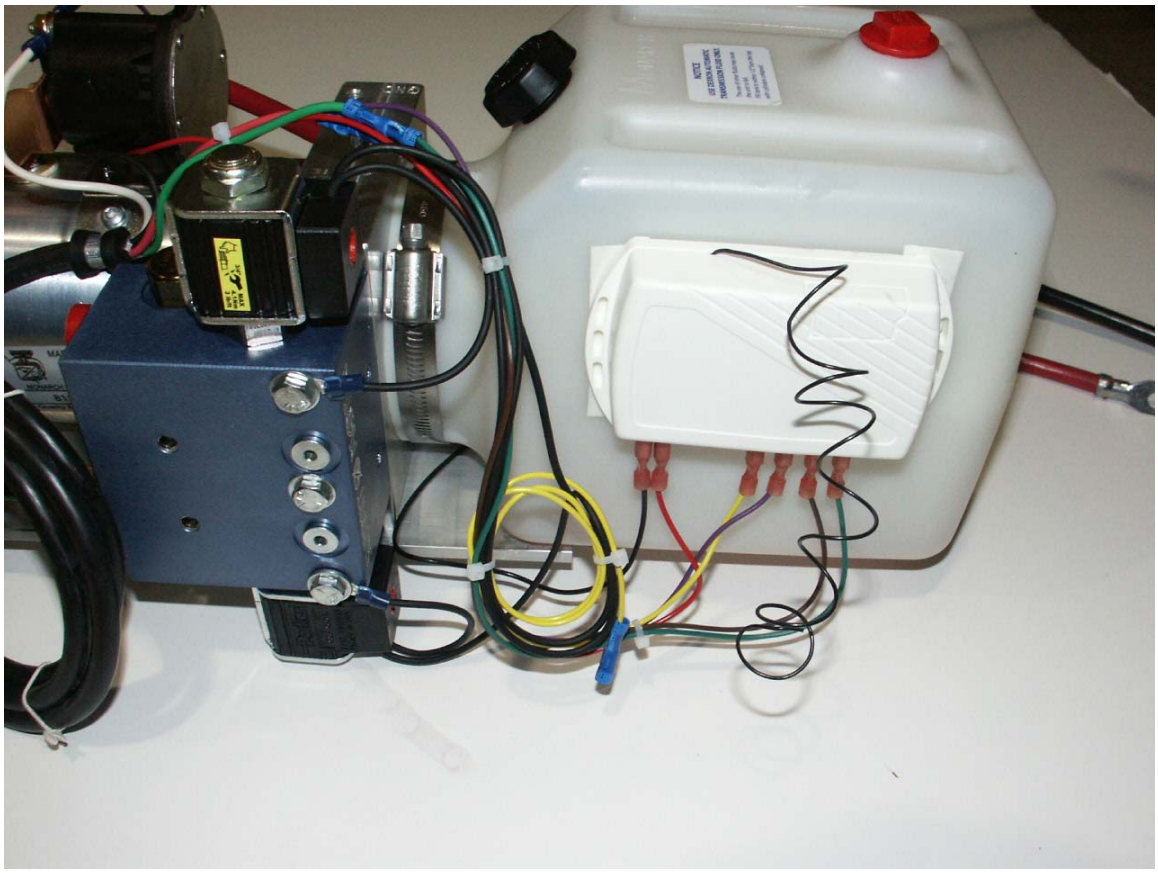
5. Attach the violet wire to the top of the motor starter (the white wire from the yellow switch is connected here.
6. Attach the red wire to the ½" stud that the Red, positive battery cable and the black wire from the yellow switch are attached.



7. Green wire + black wire from top relay valve, splice into green wire from yellow switch. Raise cycle.
8. Brown wire + black wire from bottom relay valve, splice into red wire from yellow switch. Lower cycle.



9. Coil and secure wire using tie cables as shown.



White Receiver	Yellow Switch	Connect to:
Red	Black	Motor Starter Side (+)
Black		Pump Block (-)
Yellow		12 volt light then to (-)
Violet	White	Motor Starter Top
Brown	Red	Bottom Relay Valve
Green	Green	Top Relay Valve