HydroHoist Marine Group

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CUSTOMER SERVICE
HYDROHOIST MARINE GROUP
915 WEST BLUE STARR DRIVE
CLAREMORE, OK USA 74017
PHONE 918-341-6811
OFFICE HOURS M-F 8AM TO 5PM CST

HydroHoist Marine Group

Safety Notice

TO ENSURE CONSUMER SAFETY, HYDROHOIST MARINE GROUP HAS INSTALLED IN THE CONTROL UNIT’S ELECTRICAL SYSTEM AN AC GROUND FAULT CIRCUIT INTERRUPTER (GFCI) DEVICE WHICH IS TO BE USED IN SERIES WITH THE USER’S PRIMARY AC POWER SOURCE. THE GFCI IS AN INTEGRAL PART OF THE HYDROHOIST BOAT LIFT AND IS DESIGNED TO OFFER A LIMITED MEASURE OF PROTECTION TO THE USER AGAINST HAZARDOUS ELECTRICAL CONDITIONS OR SHOCKS SHOULD THEY OCCUR.

THE USER SHOULD BE AWARE OF THE FOLLOWING WARNING:

WARNING!

IF USER DISABLES THE CONTROL UNIT’S GROUND FAULT CIRCUIT INTERRUPTER (GFCI) DEVICE, HE IS IN DIRECT CONFLICT WITH THE RECOMMENDATIONS OF THE UNITED STATES GOVERNMENT CONSUMER PRODUCTS SAFETY COMMISSION. DISABLING THE GFCI COULD RESULT IN SEVERE ELECTRICAL SHOCK OR DEATH.

BEFORE CONNECTING AC POWER TO THE CONTROL UNIT, BE CERTAIN THAT THE PRIMARY AC POWER SUPPLY MEETS ALL APPLICABLE ELECTRICAL CODES.

ANY INQUIRIES CONCERNING THE GROUND FAULT CIRCUIT INTERRUPTER (GFCI) DEVICE SHOULD BE REFERRED TO:

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# Parts List

**Model:** UL2 SHALLOW WATER  
**Publication:** 2/07/18

## Parts List Shallow Water

<table>
<thead>
<tr>
<th>REF.</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>6000</th>
<th>7500</th>
<th>9000-3T</th>
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</thead>
<tbody>
<tr>
<td>1</td>
<td>SW-5003</td>
<td>TANK ASSY - MAIN TANK UL2</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>1</td>
<td>SW-5007</td>
<td>(OPTION) TANK ASSY - MAIN TANK UL2 - BLACK</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>2</td>
<td>SW-5004</td>
<td>TANK ASSY - AUX. TANK UL2</td>
<td>-</td>
<td>1</td>
<td>-</td>
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<tr>
<td>2</td>
<td>SW-5008</td>
<td>(OPTION) TANK ASSY - AUX. TANK UL2 - BLACK</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td>3</td>
<td>SW-4001</td>
<td>TANK BRACKET - UPPER - SHALLOW WATER UL2</td>
<td>4</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>4</td>
<td>SW-4002</td>
<td>TANK BRACKET - UPPER - AUX. UL2</td>
<td>-</td>
<td>2</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>4210001</td>
<td>BRACKET - SIDE PLASTIC UL2</td>
<td>8</td>
<td>12</td>
<td>12</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>END CHANNEL - SEE TABLE A FOR PART # AND QTY.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>3056000</td>
<td>KEEL SPANNER - SEE TABLE A FOR QTY'S.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>4520502</td>
<td>SIDE STIFFENER - 8800 UL1 UL2 145-1/4 in.</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>9</td>
<td>4055500</td>
<td>ARM - 4 ft. L &amp; ULTRA - RH - 2 DOT</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>10</td>
<td>4055600</td>
<td>ARM - 4 ft. L &amp; ULTRA - LH - 1 DOT</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>2916730</td>
<td>BUSHING - 5 in. SQ-HOLE - NO FLANGE</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>TORSION BAR - SEE TABLE A FOR PART # AND QTY.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13</td>
<td></td>
<td>TORQUE MANAGER - SEE TABLE A</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>5057402</td>
<td>PITMAN - COVERED 8800 137-1/2 in.</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>15</td>
<td>4031000</td>
<td>COLUMN - HULL SUPPORT 3 &amp; 4 in. CHANNEL W/DOT</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>4031100</td>
<td>COLUMN - HULL SUPPORT 3 &amp; 4 in. CHANNEL NO/DOT</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>4032100</td>
<td>(OPTION) BRACKET-POTOON PAD (Qty. Pontoon/Tri-toon)</td>
<td>4/6</td>
<td>4/6</td>
<td>4/6</td>
</tr>
<tr>
<td>18</td>
<td>5025600</td>
<td>PAD - HULL SUPPORT 14 ft. (Qty. V-Hull/Pontoon/Tri-toon)</td>
<td>2/4/6</td>
<td>2/4/6</td>
<td>2/4/6</td>
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<tr>
<td>19</td>
<td>3031700</td>
<td>BRACE - HULL SUPPORT 25-3/4 in.</td>
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<td>2</td>
<td>2</td>
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<tr>
<td>20</td>
<td>5049000</td>
<td>DOCK BRACKET - HEAVY DUTY CAST</td>
<td>4</td>
<td>4</td>
<td>4</td>
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<tr>
<td>21</td>
<td>DA-0500</td>
<td>HYDROGUARD 2- BLUE</td>
<td>4</td>
<td>4</td>
<td>4</td>
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<tr>
<td>21</td>
<td>DA-0501</td>
<td>(OPTION) HYDROGUARD 2- BLACK</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>22</td>
<td>5072650</td>
<td>HOSE - ASSY (TEE-HOSE) 1-1/4 in.</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>3072511</td>
<td>HOSE - RUBBER 1-1/4 in. ID X 10 ft. - CUT</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>22</td>
<td>3072515</td>
<td>HOSE-RUBBER 1-1/4 in. ID X 40 ft.-CUT (W/2-VALVE)</td>
<td>1/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>3072510</td>
<td>HOSE - RUBBER 1-1/4 in. ID X 75 ft. - CUT (W/3-VALVE)</td>
<td>1/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>G4-1100</td>
<td>CONTROL - ASSY 1V1M - GEN4 - FOR 1-1/4 in. HOSE</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>23</td>
<td>G4-2100</td>
<td>CONTROL - ASSY 2V1M - GEN4 (OPTION ON 6000)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>4220600</td>
<td>(OPTION) CONTROL - ASSY 1V-1M - GEN2 - REMOTE</td>
<td>1/1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>4221600</td>
<td>(OPTION) CONTROL - 1V-1M - GEN2 - PUSH BUTTON</td>
<td>1/1</td>
<td></td>
<td></td>
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<tr>
<td>23</td>
<td>4220780</td>
<td>(OPTION) CONTROL - 3V-2M UL2 - FOR 1-1/4 in. HOSE</td>
<td>1/1</td>
<td></td>
<td></td>
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## Hardware Kits

<table>
<thead>
<tr>
<th>REF.</th>
<th>PART #</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>24</td>
<td>6988001</td>
<td>KIT BAG - 88 UL2 W/ SINGLE PC. BRKTS.</td>
</tr>
<tr>
<td>24</td>
<td>6966300</td>
<td>KIT BOX - 663T/7500LW - UL2</td>
</tr>
<tr>
<td>24</td>
<td>SW-6001</td>
<td>KIT BOX - 8800 4T SHALLOW WATER</td>
</tr>
<tr>
<td>25</td>
<td>6917000</td>
<td>KIT BOX-DK BRKT-LO</td>
</tr>
</tbody>
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### TABLE A

<table>
<thead>
<tr>
<th>REF.</th>
<th>PART #</th>
<th>DESCRIPTION</th>
<th>SLIP WIDTH</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>6</td>
<td>4211200</td>
<td>END CHANNEL - 4 in. X 7 ft. 11 in.</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>4211300</td>
<td>END CHANNEL - 4 in. X 9 ft. 11 in.</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>4210900</td>
<td>END CHANNEL - 4 in. X 3 ft. 11 in.</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>4211400</td>
<td>END CHANNEL - 4 in. X 11 ft. 11 in.</td>
<td>2</td>
</tr>
<tr>
<td>6</td>
<td>4211000</td>
<td>END CHANNEL - 4 in. X 5 ft. 11 in.</td>
<td>2</td>
</tr>
<tr>
<td>7</td>
<td>3056000</td>
<td>KEEL SPANNER - 3 in. X 37-1/2 in.</td>
<td>-</td>
</tr>
<tr>
<td>12</td>
<td>3050720</td>
<td>TORSION BAR—INTERNAL 2X2X1/4 in. X 10 ft.</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>3050730</td>
<td>TORSION BAR - INTERNAL 2X2X1/4 in. X 7 ft. 11 in.</td>
<td>2</td>
</tr>
<tr>
<td>12</td>
<td>3065050</td>
<td>TORSION BAR - <em>BTO</em> EXTERNAL 3X3X3/16 X 9 ft. 2 in.</td>
<td>-</td>
</tr>
<tr>
<td>13</td>
<td>3050000</td>
<td>TORQUE MANAGER - SINGLE</td>
<td>8</td>
</tr>
<tr>
<td>13</td>
<td>3050051</td>
<td>TORQUE MANAGER - BIG L - CAST</td>
<td>8</td>
</tr>
</tbody>
</table>

**Tools Required:**
- 1/2” Drive Ratchet (w/ 9” handle for leverage)
- Electric Drill
- 3/4” Deep Well Socket
- 9/16” Deep Well Socket
- (2) 15/16” Open-end or Combination Wrenches
- 3/4” Open-end or Combination Wrench
- 9/16 Open-end or Combination Wrench
- Level
- 5/16” Nut Runner or medium blade Slotted Screwdriver
- Medium Phillips Screwdriver
- Drift Pin or other hole aligning tool
- Large Hammer (3 or 4 lb. shop hammer is best)
- Knife or tool for cutting 1” rubber hose
- Measuring Tape
- 3/4” Ratcheting Open-end Wrench

**Symbols and Conventions:**

All references to the LEFT or RIGHT are considered to be facing forward, as if driving a boat into the slip. Left is Port side, Right is Starboard side.

Parts are occasionally described as LEFT or RIGHT to identify their opposing construction, not location on the hoist.

All numbers in brackets [ ] after part names refer to the item numbers on the assembly illustrations within the manual.

*Italics* are used in the parts list to refer to Optional components and may not be included with all lifts.
Preparation

VERIFY:
The Boat Stall or Mooring Location.
If the hoist is being installed in a commercial marina or multi-slip boat dock, confirm the correct mooring location for hoist and boat.
The boat specifications.
- Make __________________________
- Model __________________________
- Length _____________
- Beam ______________
- Dry Weight of boat ________ lbs.
- Fuel: ____ gal. @ 6.5 lbs./gal. = ______ lbs.
- Water: ___ gal. @ 8.3 lbs./gal. = ______ lbs.
- Gear estimated @ 10% of boat’s dry weight ______ lbs.
- Other equipment or weight ________ lbs.
TOTAL LIFTING WEIGHT _____________ LBS.

INSPECT:
The boat slip, dock or seawall to which the hoist will be installed.
The structure should be of good, sturdy construction capable of maintaining a secure mooring for the hoist.
The Dock Brackets, which will be mounted on the dock to provide hoist mooring, have a minimum gripping distance of 4 inches and a maximum gripping distance of 19 inches.
Confirm that there is sufficient dock structure for the Dock Brackets.
The UL2 Shallow Water Lift requires a minimum water depth of 22” + Hull draft. Confirm that there is sufficient water depth at all times of the year (provided the hull pads are set such that the keel of the boat will clear the frame structure by approx. 1 in.).
Check for underwater obstructions, such as structural braces, cables, rocks, or sunken objects which will interfere with the hoist’s operation.
Check for overhead obstructions and confirm that sufficient clearance exists for the lifting of the boat.
Confirm that electrical supply is available and sufficient for hoist operation. The control unit requires 115V and 13 amps.
Confirm that sufficient dock space is available for mooring the hoist and boat.

CONFIRM THE BOAT HULL CONFIGURATION - Boats with a stepped hull design, or with through-the-hull apparatus, may require special positioning or alteration to the Hull Support Pads. Contact HydroHoist Engineering Department if proper hull support is in question.

ASSEMBLY PLATFORM:
Assembly should be done on a flat level surface.
A flat-bed trailer is preferred, but a boat trailer with planks across the frame will work, provided the assembly surface is flat and level.
Assembly Instructions

ASSEMBLY PREFACE:

The assembly instructions presented within this section represent the steps for assembling the UltraLift™ 2 Series Shallow Water HydroHoist Boat Lift. It is recommended that before assembling the components, you read and understand each procedural step to become familiar with how all parts are assembled. All installs are custom to the slip and boat, adjustments may be necessary for a proper installation. Lift position in the slip, tank/hull pad/v pad positions, and guide rope placement for the lift are dictated by the boat specs and dock construction. These may differ from suggested settings for proper lift operation and balance. It is the responsibility of the installer to confirm that the lift is setup and functioning properly based on guidelines provided during the Authorized HydroHoist Installer and certification process.

TIGHTENING OF FASTENERS:

In the assembly procedures, **DO NOT TIGHTEN** fasteners until directed to do so. Insert bolts with appropriate washers, lock washers and nuts, but, unless otherwise instructed, leave the fasteners loose to allow movement of the parts for adjustment during assembly. Tighten all bolts at finish of assembly - proper torque specifications for bolts are listed below:

<table>
<thead>
<tr>
<th>BOLT SIZE</th>
<th>FOOT POUNDS OF TORQUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4-20</td>
<td>5 FT. LBS.</td>
</tr>
<tr>
<td>5/16-18</td>
<td>11 FT. LBS.</td>
</tr>
<tr>
<td>3/8-16</td>
<td>18 FT. LBS.</td>
</tr>
<tr>
<td>7/16-14</td>
<td>28 FT. LBS.</td>
</tr>
<tr>
<td>1/2-13</td>
<td>39 FT. LBS.</td>
</tr>
<tr>
<td>9/16-12</td>
<td>51 FT. LBS.</td>
</tr>
<tr>
<td>5/8-11</td>
<td>83 FT. LBS.</td>
</tr>
</tbody>
</table>
STEP 1: TANK BRACKET ASSEMBLY

1) Snap the UL2 side brackets [5] onto tank [1 or 2]
2) Center the Tank Tube within the tank recess (Main Tanks only, Auxiliary Tanks do not have tank tubes)
3) Place the Tank Bracket [3 OR 4] on top of the side bracket and attach with the supplied fasteners. Leave fasteners loose until the side stiffeners[8] are installed (Step 3).

PARTS (6000 / 7500 / 9000)

<table>
<thead>
<tr>
<th>Part Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>[1] Tank Assy. - Main Tank</td>
<td>2 / 2 / 3</td>
</tr>
<tr>
<td>[3] Tank Bracket - Upper Aux.</td>
<td>0 / 2 / 0</td>
</tr>
</tbody>
</table>

HARDWARE (Per Plastic Bracket)

<table>
<thead>
<tr>
<th>Hardware Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. 1/2” x 2 1/2” Hex Head Bolt</td>
<td>2</td>
</tr>
<tr>
<td>B. Washer - Flat 1/2” Galv.</td>
<td>2</td>
</tr>
<tr>
<td>C. Washer - Single Piece UL2 Bracket</td>
<td>2</td>
</tr>
<tr>
<td>D. Plate UL2 Side Bracket</td>
<td>1</td>
</tr>
<tr>
<td>E. Washer - Lock 1/2” Galv.</td>
<td>2</td>
</tr>
<tr>
<td>F. Nut - Hex 1/2”- 13 Galv.</td>
<td>2</td>
</tr>
</tbody>
</table>

STEP 2: END CHANNEL / KEEL SPANNER ASSEMBLY

Cross channel assembly should measure 24” ± 1” less than the slip width.

PARTS

<table>
<thead>
<tr>
<th>End Channel</th>
</tr>
</thead>
<tbody>
<tr>
<td>[6]</td>
</tr>
</tbody>
</table>

PARTS (Per Tank Bracket)

<table>
<thead>
<tr>
<th>Hardware Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. 1/2” x 1 1/2” Hex Head Bolt</td>
<td>2</td>
</tr>
<tr>
<td>B. Washer - Lock 1/2” Galv.</td>
<td>2</td>
</tr>
<tr>
<td>C. Nut—Hex 1/2”-13 Galv.</td>
<td>2</td>
</tr>
</tbody>
</table>

(Per Keel Spanner in addition to shared Tank Bracket Hardware)

<table>
<thead>
<tr>
<th>Hardware Description</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. 1/2” x 1 1/2” Hex Head Bolt</td>
<td>1</td>
</tr>
<tr>
<td>B. Washer - Lock 1/2” Galv.</td>
<td>1</td>
</tr>
</tbody>
</table>

1) Attach End Channels [6] to Tank Brackets [3/4] with the End Channel Flanges facing to the center of lift as shown. If a “Backer Channel” is used, do not install it until the hull support columns are added. It will install in the center of the “Cross Channel”. Notes: 1) All bolt heads should be facing the center of the lift; 2) If installing with the pitmans down: the tanks need to be inside the side stiffeners.

2) If Required: Install Keel Spanners [7] (see Table A to determine if used) to Tank Brackets [3/4] and Cross Channel [6] with the Keel Spanner Channel Flanges facing to center of the lift as shown. Overall width of the Channel assembly should be 24 inches (± 1”) less than the width of the boat slip.
STEP 3: Side Stiffener

1. Install Side Stiffeners [8] (with the bearing cage/ring up) to each side of the lift between the Front & Rear End channels [6] or Keel Spanners [7] if used. Use flat washers over slotted holes.

2. Measure the distance from the outside edge of both side stiffeners at the front and rear of the lift to make sure they both are the same width. This measurement should be 24 inches narrower than the slip width (± 1”).

3. Tighten Tank Band Hardware & Install Self Drilling screws to secure tank tubes. (Use inside holes on tank bracket)

STEP 4: Stabilizer Arms


2. Insert each Stabilizer Arm [9/10] through the Bearing Cage (Ring) of the Side Stiffener [8].

The Stabilizer Arms can be installed on either side of the lift as shown in this illustration. This allows for the accommodation of several installation variations.

Stabilizer Arms [10/11] may be assembled in FOUR POSITIONS:

- **P-1** Arms FORWARD - Pitmans BOATSIDE - Most common installation.
- **P-2** Arms FORWARD - Pitmans TANKSIDE - For installations where the boat beam is greater than the slip width less 24", or when decking or walkways are installed on the lift frame.
- **P-3** Arms REARWARD - Pitmans BOATSIDE - Lift will swing forward (toward front of slip). For installations where slip length requires maximum inclusion of tanks inside slip, and/or to provide minimum distance between dock header and boat stern for stern loading boats.
- **P-4** Arms REARWARD - Pitmans TANKSIDE - Same as P-3 where the boat beam is greater than the slip width less 24", or when decking or walkways are installed on the lift frame.
STEP 5: Torsion Bars

1. Slide each Torsion Bar [12] inside the Torsion Leg of each Stabilizer Arm [9/10] (If using External Torsion bars see additional info), making sure that it is centered between each Leg. Tip: Mark the Center of both the Torsion Bar (Example: 5' on a 10' Bar), and the End Channel, and align the marks.

2. Temporarily secure the Rear* Stabilizer Arms in a raised position by raising one rear Stabilizer Arm to horizontal. Use a chain/rope, form a loop around the Side Stiffener [8] and the end of the Arm.

3. Repeat on opposite side Rear Arm, making the two Arms parallel to each other. This is a temporary attachment, used to assist in further assembly and to transport the lift to the boat dock - Although it is temporary, it must be secure enough to prevent the arms from lowering accidentally.

*Chain Front Stabilizer Arms if installed REARWARD.

Notes:
For External Torsion bars, or if there is something that prevents the torsion bar from sliding in from the end, you can install the arms on one side. Then insert the Torsion tube, and install the arms on the opposite side. Push the torsion tube into the Torsion leg of the arm as you slide the bushing into the bearing ring.

External Torsion Bars (3 inch square tubing) install over the Torsion Leg.

STEP 6: Pitman Assembly

This step to be repeated, one end at a time for each pitman.

The Pitman cover OVERHANGS one side of the pitman - THIS OVERHANG SHOULD BE INSTALLED TOWARD THE CENTER OF THE LIFT.

1. Insert Poly Bushing and Stainless Steel Bushing into the Bushing Sleeve at the end of the Pitman [14].

2. Place Pitman [14], with Bushings inserted, into clevis of Stabilizer Arms [9/10] rotate Stabilizer Arm into position if necessary to align parts.

3. Connect assembly with the bolt inserted from the inboard side using the provided Grade 8 fasteners.

4. Tighten to 83 ft.-lbs. of torque.

PARTS (per lift)
[12] Torsion Bar 2

PARTS (per lift)
[14] Pitman - Covered 137.5° 2

HARDWARE (per lift)
A. Bushing—7/8” OD X 0.12 Wall X 2 1/16” Long 4
B. Bushing - Polyethylene - Arm Pivot 4
C. Bolt - Hex Head - 5/8-11 x 3 3/4 grade 8 (yellow) 4
D. Washer - Flat - 5/8” grade 8 - plated (yellow) 4
E. Washer - Lock - 5/8” grade 8 - plated (yellow) 4
F. Nut - Nylock - 5/8-11 grade 8 (yellow) 4
**STEP 7: Hull Pads**

- **Column**: Hull Support 3" & 4" Channel with Dot 2 / 0 / 0
- **Column**: Hull Support 3" & 4" Channel without Dot 2 / 0 / 0
- **Bracket**: Pontoon Pad 0 / 4 / 6
- **Pad**: Hull Support 14' 2 / 4 / 6
- **Brace**: Hull Support 25 3/4" 2 / 0 / 0

**HARDWARE (Per Item)**

- **Column**:
  - 1/2"-13 X 1-1/2" Bolt Galv. 2
  - Washer - Flat 1/2" Galv. 2
  - Washer - Lock 1/2" Galv. 2
  - Nut - Hex - 1/2-13 Galv. 2

- **Pad**:
  - 1/2"-13 X 5" Bolt Galv. 3
  - Washer - Lock 1/2" Galv. 2
  - Nut - Hex - 1/2-13 Galv. 2

- **Brace**:
  - 1/2"-13 X 1-1/2" Bolt Galv. 1 (At Hull Support)
  - Washer - Lock 1/2" Galv. 2
  - Nut - Hex - 1/2-13 Galv. 2
  - 1/2"-13 X 5" Bolt Galv. 1 (At Hull Pad)

**NOTES:**

- The parts installed in this step MUST be positioned to best fit the hull of the boat when it is lifted.
- Accurate measurements of the hull prior to assembly and close attention to these steps may prevent having to reposition the parts over the water.
- If the boat is unable to be measured prior to assembly:
  - **V-Hull** - Position the Rear Hull Support Columns 36” to 42” apart, and the Front Columns 3” narrower.
  - **Pontoon/Tri-toon** - Typical Pontoon spacing is between 70” and 77” between centers.

It is the installer's responsibility to confirm the Hull Pads are positioned properly for the specific boat that is to be lifted. If for ANY reason this can not be done it should be noted and a follow-up scheduled.

1. Attach two Hull Support Columns [15 & 16 or 17] to the front End Channel [6]. Attach the columns as shown. Columns 15 and 16 can also be rotated 90° counter-clockwise to what is shown (long leg vertical) when additional height is needed. *(if mounted vertically they will be on the opposite side of the lift than shown in the illustrations. Diagonal brace to the outside)*.

2. Attach Hull Support Pads [18] to the tops of the front and rear Hull Support Columns. The pad’s long full length angle member should be located INBOARD. Its weight helps keep the pad tilted properly.


4. Tighten the 5” Hull Support Pad bolts enough to flatten the lock washers. **DO NOT over tighten or tighten any other bolts at this time.**

*(OPTION): 3031520 - PONTOON RISER Used on "V-TOON" Tri-toons with Offset Pontoon Heights 4 Required to raise the Outside Pontoon pads*
STEP 8: Leveling the Lift  VERY IMPORTANT

1. Check the build surface level across the width and length of the build platform and note the level. If using a phone app. level, you can note the angle, if using a traditional bubble level, note the bubble location. This can be done by sight or measurement but is less accurate than a phone app. giving an exact degree or angle.

2. Check the level front to back by placing a level on top of each side stiffener. Compare the values to the build surface level. If using measurements, take a measure from the bottom of each frame corner to the build surface.

3. Check side to side level by placing a level on top of each main Cross channel (the longest channel). Compare the values to the build surface. If using the measurement method step 2 satisfies the measurement needs.

4. If any of the corners are low, shim them until the lift is level. Also visually check for any twist in the frame system.

5. Measure from corner to corner across the diagonal of the lift to be sure the frame is square. The two measurements should be the same within 1/2 an inch.

6. With the lift LEVEL, Tighten all remaining 1/2” bolts to 39 ft.-l.bs. of torque, Tighten all 5/8” bolts to 83 ft.-lbs. of torque.

STEP 9: Torsion Bar Clamps

1. Push all four Stabilizer Arms [9 &10] fully against the Bushing Retainer Ring so that there is no clearance between the back of the Bushing Ring, Bushing, and Clover Washer. IMPORTANT: All four stabilizer arms MUST be parallel with each other to insure level operation.

2. Assemble two halves of Torque Manager [13] at each end of each Stabilizer Arm Torsion Tube, placing 1/2 of the Torque Manager over the Stabilizer Arm Torsion Tube and 1/2 over the Torsion Bar [12] as illustrated.

3. With the Stabilizer Arms parallel to each other, TIGHTEN THE TORQUE MANAGER BOLTS TO 39 FT.-LBS. TORQUE (From the center 4 bolts out alternating between flanges to create uniform clamping)

<table>
<thead>
<tr>
<th>PARTS (per arm)</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>[13] Torque Manager</td>
<td>2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>HARDWARE (per arm)</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Bolt - 1/2” x 2” Galvanized</td>
<td>8</td>
</tr>
<tr>
<td>B. Washer - Lock - 1/2” Galv.</td>
<td>8</td>
</tr>
<tr>
<td>C. Nut - Hex - 1/2-13 Galv.</td>
<td>8</td>
</tr>
</tbody>
</table>

Positioning the Torque Manager as shown will make the tightening of the hardware easier to accomplish.
STEP 10: Hose Assembly

1. Attach hoses to tanks and Control Unit [23] using the provided hose clamps. (The figures shown are for installing the default control systems for the lift. 1 Valve one motor for 2 and 3 tank systems, and a 2V1M for the 4 tank unit)

STEP 11: Final Steps

1. Using a Ratchet Puller ("Come-A-Long") connected near the ends of the front Stabilizer Arms [9 &10], pull the front Stabilizer Arms inboard approximately three inches total. **NOTE:** Attach the hooks of the Come-A-Long near the end of the Arm, but **NOT** through the mounting hole at the Arm's end. When assembling the hoist, the Arms are slightly WIDER than the Dock Bracket attachment points. The purpose of pulling the Arms inboard, is to allow the Arm ends to fit between the Dock Brackets.

2. Repeat Step 1 above with the rear Stabilizer Arms. **NOTE:** The cable of the Come-A-Long should extend under the Side Stiffener.

3. Secure the Control Unit [23] to the Hull Support Pads and make sure all Valves are closed in the Dry-Dock position.

4. Attach a towing line to the rear End Channel. **Tank Plugs are recommended for all tows.** (Tank Plug Part No. 2905406). One per tank to be placed in the exhaust hole on the bottom of the tank before launching the lift.

5. Float the lift, and slowly tow the hoist to its mooring location.
**STEP 12: Positioning the Lift**

1. Pull the boat into the slip so that the bow can be easily reached from the front of the slip, and allow at least 12 inches of space at the dock level between the dock and the boat in the event the boat may need to be later moved in final positioning.

2. With the boat in the desired location, place a mark on the dock where the boat’s transom is positioned. **Note:** Do not include extensions to the hull such as swim platforms; the transom mark should reflect the location of the end of the bottom of the hull.

3. Remove the boat and pull the hoist into the slip.

4. Position the hoist alongside the dock and align the rear end of the Hull Support Pads with the transom mark on the dock.

5. With the hoist held stationary at this position, place marks on the dock at the location of the Stabilizer Arm attachment points.

**STEP 13: Dock Bracket Attachment**

1. Attach Dock Brackets [20] with the holes of the Vertical Angles aligned with the marks on the dock. **Note:** Grip Tabs must be installed to reduce inboard movement of the Lower Dock Bracket Angle. If Grip Tabs are not applicable, it will be necessary to (later) through-bolt the Dock Bracket to the dock structure to eliminate inboard movement. **Tighten to 39 ft. lbs. of torque.**

2. Tighten the 20” Dock Bracket Bolts just enough that the Dock Brackets will stay in position - **do not fully tighten at this time, further horizontal adjustment may be needed later.**

**PARTS (per lift)**

- [20] Dock Bracket—Heavy Duty Cast: 4

**HARDWARE (per bracket)**

- A. Carriage Bolt - 1/2" -13 x 1" Short Neck: 2
- B. Nut - Hex - 1/2-13 Galv.: 2
STEP 14: Lift and Dock Bracket Attachment

1. Float hoist into position with the arms lined up with the Dock Brackets.
2. Loosen front "come-a-long" only enough to allow the front Stabilizer Arms to touch the Vertical Angles of the Dock Brackets.
3. Select Pivot Bolt height: The optimum Pivot Bolt location is any point between the Upper and Lower Dock Bracket Angle. At no time should the Pivot Bolt be located below the Lower Dock Bracket Angle by a distance greater than the distance between the Upper and Lower Dock Bracket Angles. See Illustration.
4. Insert Urethane & Stainless Steel Pivot Bushings into the Pivot End of one front Stabilizer Arm.
5. Attach the Stabilizer Arm to Vertical Angle of Dock Bracket - it may be necessary to push down or lift up on the Arm to access the selected pivot location. TIGHTEN TO 83 FT-LBS.
6. Measure the distance from the PIVOT BOLT to the WATER - This distance is needed to locate the other 3 pivots - ALL pivot bolts must be an EQUAL DISTANCE ABOVE THE WATER. DO NOT assume the dock is level with the water and count the holes to mount the lift! Use a tape measure and measure the actual distance from the water.
7. Repeat Steps 4 thru 5 with the opposite front Stabilizer Arm. (DO NOT loosen or remove come-a-longs at this time).
8. Ensure the lift is square in the slip by measuring the distance between the right and left rear Stabilizer Arm and the Vertical Angle of its Dock Bracket. If the distances are not equal, move ONE of the front dock brackets forward or backward until the distances are equal.
9. Repeat Step 2 for the rear Stabilizer Arms.
10. Repeat Steps 4 thru 5 for the rear arms. (DO NOT loosen or remove come-a-longs at this time).

NOTE - It may be necessary to stand on the rear of the hoist with the Control Unit Valve open (Launch) until hoist lowers enough to connect the rear Arms at the selected pivot locations. CAUTION - Maintain at least 3" of tank above the water, and be sure to close the valve(s) when position is achieved. Failure to do so may result in sinking the lift if not properly attached to the dock at this point.

11. Make sure there are no gaps between the Dock Brackets [20] and the dock structure, they must be firmly against each other.

12. TIGHTEN the 20" Dock Bracket Bolts to 35 ft.-lbs. of torque.
13. With the Come-a-longs still attached, ANCHOR the top Dock Bracket Angles to the dock to prevent inboard movement. This can be done with screws installed directly into the dock’s decking material. If the decking material is not capable of securing the lift properly you must use thru bolts to secure the Dock Bracket Angles to the dock.
14. Remove the Come-a-longs. As they are released, the Arms must exert additional "out-pressure" on the Dock Brackets. If there is no out-pressure, double check original slip measurements and hoist assembly width. Additional out-pressure may be gained by loosening the Torsion Bar Clamps and Side Stiffeners and forcing the Side Stiffeners out. If more than two inches of adjustment is necessary, the hoist must be rebuilt by changing the End Channel and Keel Spanners.
15. If Grip Tabs were not used, ANCHOR the bottom Dock Bracket Angles to the dock by thru-bolting the Angles to the dock. Fasteners: Installer's option, depending on dock construction material.

PARTS (per lift):
[20] Dock Bracket—Heavy Duty Cast

HARDWARE (per arm):
A. Grade 8 - 5/8" x 3-1/2 bolt
B. Washer - Flat 5/8" Grade 8 (yellow)
C. Washer - Lock 5/8 Grade 8 (yellow)
D. Nut - 5/8—11 Nylock (yellow)
**STEP 15: Adjustments and HydroGuard Install**

**Adjustments:**

1. **Check all Dock Bracket bolts for proper torque.**
2. **Check all Other bolts for proper torque.**
3. Attach the Control Unit to the dock in the desired location and connect the power cord to proper power source.
4. Test the motor switch to ensure operation.
5. Remove Tank Plugs.
6. Lower the hoist according to the OPERATING INSTRUCTIONS (inside Control Unit).
7. Raise the hoist until the frame (End Channels and Side Stiffeners) is just above the water. The frame should be equal height (within 1 inch) above the water at all four corners - if not, measure from the Pivot Bolts to the waterline. *Note: If all Pivot Bolts are correct, and the hoist is still uneven, See Trouble Shooting.*
8. Attach HydroGuard [21] to the Dock Bracket Vertical Angle in the 3rd hole above the arm bolt, or the 7th hole below the arm bolt, depending on the location on the angle. **Tighten to 20 ft. lbs.**

**STEP 16: Lifting the Boat**

Lower the lift by Rotating the Control Unit Valve(s) to the up/down position (Power Switch in the OFF position) (manual) or by pressing the down button.

Pull the boat over the hoist and align the boat's transom with the mark on the dock (From Step 12). *This will properly position the transom just above the end of the Hull Support Pads as the lift rises.*

Hold the boat in position at the transom mark and center it side to side over the hoist.

Rotate the Control Unit Valve(s) to the up/down position and turn the Power Switch to the ON position (manual) or press the up button.

Continue holding the boat in position until the lift makes contact with boat. *Note: It may be necessary to reset the GFCI switch to activate the Switch.*

Allow the lift to lift boat and observe the lifting operation -

- **STOP LIFTING** if boat is off center side-to-side or fore-to-aft. Lower hoist and reposition boat.
- **STOP LIFTING** if Dock Bracket movement is observed. Lower hoist and secure Dock Brackets.
- **STOP LIFTING** if lift is not rising level. Lower hoist and reposition boat.

Stop Lifting as soon as the frame is out of the water but not fully lifted (switch the power off, and return the handle to the stop position for manual controls or press stop).

Check the distance from the waterline to each corner of the hoist - **each corner should be an equal distance (within 1-2 inches) above the waterline.**

- If the hoist is out of level in excess of 2 inches front to rear, or the dock fingers appear to be loaded excessively, lower hoist and reposition boat toward the high end of the hoist.
- If the hoist is out of level in excess of 1 inch side to side the boat may be loaded off center or the Torsion Bar Clamps may not be tight.

Continue lifting the boat until air bubbles appear from all tanks. (See Step 4)

Stop the Lift (See Step 7). The hoist and boat should now be fully lifted.
STEP 17: Inspect Lift and Boat Fit

1. Check Hull Support Pad locations for proper fit to boat hull - the boat should be centered side to side with the Pads contacting the hull between the chines and the rear of the Pads should extend to include the engine compartment. **Note: it is acceptable for the Hull Pads to cross the chines at the bow, but not acceptable from mid-ship to stern.**

2. Check Hull Pad Assembly for proper height and fit to hull.

3. Check Dock Brackets for secure hold.

4. Check all components for correct operation. **NOTE:** It is the responsibility of the installer to verify that the lift is properly adjusted and set up for proper operation.

STEP 18: Guide Ropes

1. **With hoist, Hull Support Pads, and boat correct** lower hoist until boat is almost free floating and place Control Unit Valve(s) in the closed position.

2. Tie a small loop (about 6 inches in diameter) in one end of each Guide Rope and place the loops over the REAR cleats of the boat.

3. Tie the Ropes (tight, no slack) to a roof support post forward of the front Dock Brackets and 6 to 7 feet **above** the deck of the dock.

**NOTE:** If no overhead structure is available, the forward end of the Guide Ropes may be tied to the FRONT End Channel (only) of the hoist. **DO NOT attach Ropes to any other structure or component of the hoist.***

STEP 19: Final Inspection and Wrap Up

1. Operate the hoist again - **Down (launch) then Up (lift)** - checking for proper positioning of the boat and Hull Support Pads, and for proper operation of the lift.

2. Secure a bow line to the boat and to the boat dock.

3. Confirm that the Operating Instructions are in the Control Unit.

4. Unplug the power cord and stow it in a secure position.

5. Complete the Warranty information and apply the adhesive Serial Number Tag to the Top Plate of the Control Unit.

6. Close and secure the Control Unit Lid.

7. Instruct the boat owner in the proper operating procedures of the hoist.
## Trouble Shooting

<table>
<thead>
<tr>
<th>CONDITION</th>
<th>CAUSE</th>
<th>CORRECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoist will not completely lift boat from water or stern remains lower</td>
<td>Water or equipment in boat creating additional weight</td>
<td>Remove water or equipment</td>
</tr>
<tr>
<td></td>
<td>Boat weight exceeds lifting capacity of hoist</td>
<td>Install correct size hoist to accommodate the boat’s true weight</td>
</tr>
<tr>
<td>Hoist tips to side when lifting or launching</td>
<td>Restricted air flow to one of the lifting tanks</td>
<td>Remove kinks or water-lock from hoses</td>
</tr>
<tr>
<td></td>
<td>Hoses not of equal length</td>
<td>Correct hose length</td>
</tr>
<tr>
<td></td>
<td>Hoist is not square, frame is twisted</td>
<td>Loosen Tank Brackets, Torque managers, and level the lift</td>
</tr>
<tr>
<td>Hoist leans to one side</td>
<td>Torsion Bar not properly adjusted</td>
<td>Loosen Torsion Bar Clamps, level hoist</td>
</tr>
<tr>
<td></td>
<td>Pivot Bolts not equal height above waterline</td>
<td>Correct height of Pivot Bolts</td>
</tr>
<tr>
<td>Hoist leaks down on one side</td>
<td>Leak in valve, tank, or hose</td>
<td>Locate leak and repair</td>
</tr>
<tr>
<td>Control Unit Blower not working</td>
<td>GFCI circuit open</td>
<td>Reset GFCI switch</td>
</tr>
<tr>
<td></td>
<td>Switch or Blower Motor malfunctioning</td>
<td>Replace Switch or Blower Motor</td>
</tr>
<tr>
<td></td>
<td>Power service to dock not on</td>
<td>Turn on service to dock</td>
</tr>
<tr>
<td>Air Trapped in Tanks</td>
<td>Front of hoist below water, rear of hoist above water</td>
<td>Manually Exhaust Air from the tanks</td>
</tr>
</tbody>
</table>

### To Manually Exhaust Air from Tanks:

1. Insert tube into tank at back where the air bubbles out.
2. Purge the tube of water by blowing into it then the trapped air can exhaust.
3. Alternate from one tank to the other until the lift has submerged.