RhinoHoist L-Arm Lift Instruction Manual



Models

Part Number	Model Number	Slip Width	Capacity	Tank	Firstmate
1023930**	RH2040-10P	9'-6"-11'	2000lb-4000lb	Black	Manual
1023931**	RH2040-10P	9'-6"-11'	2000lb-4000lb	Black	Remote
1023922	RH2040-10	9'-11'	2000lb-4000lb	Black	Manual
1023923	RH2040-10	9'-11'	2000lb-4000lb	Black	Remote
1023924	RH2040-12	11'-13'	2000lb-4000lb	Black	Manual
1023925	RH2040-12	11'-13'	2000lb-4000lb	Black	Remote
1023933**	RH4068-10P	9'-6"-11'	4000lb-6800lb	Black	Manual
1023932**	RH4068-10P	9'-6"-11'	4000lb-6800lb	Black	Remote
1023934	RH4068-10	9'-6"-11'	4000lb-6800lb	Black	Manual
1023935	RH4068-10	9'-6"-11'	4000lb-6800lb	Black	Remote
1023936	RH4068-12	11'-13'	4000lb-6800lb	Black	Manual
1023937	RH4068-12	11'-13'	4000lb-6800lb	Black	Remote
1023926	RH4068-14	13-15'	4000lb-6800lb	Black	Manual
1023927	RH4068-14	13-15'	4000lb-6800lb	Black	Remote
1023928	RH4068-16	15'-17'	4000lb-6800lb	Black	Manual
1023929	RH4068-16	15'-17'	4000lb-6800lb	Black	Remote

Note: ** Denotes Pontoon lifts with pitman arms without pad so they can be inverted to fit within slip.



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RhinoHoist L-Arm Lift Parts List

Note: Pontoon lifts in 10' slips use 85-1/2" center channels.

			Parts List
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2/3	1020913	Lift Tank Frame Roto 12FT RhinoHoist
2	2	1008905	Channel Center 4.0 x 6ft (10ft wide lift)
2	2	1021202	Channel Center 4.0 x 85-1/2" (10ft Pontoon Lift)
2	2	1008906	Channel Center 4.0 x 8ft (12ft wide lift)
2	2	1008907	Channel Center 4.0 x 10ft (14ft wide lift)
2	2	1008908	Channel Center 4.0 x 12ft (16ft wide lift)
3	2	1009107	Torsion Bar 8.5FT HD (10ft wide lift)
3	2	1009109	Torsion Bar 10.5FT HD (12ft wide lift)
3	2	1009111	Torsion Bar 12.5FT HD (14ft wide lift)
3	2	1009113	Torsion Bar 14.5FT HD (16ft wide lift)
4	2	1008955	Pitman with Pad 112.0
5	2	1009062	L Arm HD Left 2.5
6	2	1009064	L Arm HD Right 2.5
7	2	1020926	L-Arm Tube Stretcher-A
8	2	1020927	L-Arm Tube Stretcher - B
9	3	1020855	Galva-Foam Air Tank 12.5' Black
10	8	1008791	Torsion Bar Clamp Formed
11	8	1009421	Bushing L Arm Ring Sq Hole - Molded Half
12	4	1008858	Stop Kit L Arm Ring 1.5
13	1	1020914/1020915	Hardware Box 4000lb / 6800lb L-Arm RhinoHoist
14	1		FirstMate Control Unit Manual or Remote
15		1009402	Control Unit Hose
16	8	1008937	Dock Bracket Bolt 5/8 x 21
17	2	1008931	Dock Bracket Standard Right
18	2	1008933	Dock Bracket Standard Left
19	4	1009084	Dock Bracket Guard
20	2	1009090	L-Arm Chain 5ft x 5/16

H	Hardware Box Parts List / P/N: 1020914 - 4000lb / 1020915 - 6800lb		
ITEM	QTY	PART NUMBER	DESCRIPTION
1	4	1008858	Stop Kit L-Arm Ring 1.5
2	8	1008940	Dock Bracket Clip
3	1/2	1009412	Control Unit Plastic Tee 1.0
4	2/3	1009511	Tank Roto Cap 4.0
5	8	1009421	L-Arm Ring Square Hole Plasitc Bushing
6	6/10	1009399	Control Unit Hose Clamp #20
7	1	1009008	Hardware Bag 7
8	1	1009009	Hardware Bag 8
9	1	1009016	Hardware Bag 15
10	1	1009002	Hardware Bag 1 (4000lb)
11	1	1009035	Hardware Bag 41 (4000lb)
12	2	1009004	Hardware Bag 3 (6800lb)
13	1	1009041	Hardware Bag 48
14	1	1009043	Hardware Bag 50
15	1	1009047	Hardware Bag 54
16	1	1009006	Hardware Bag 5
17	1	1020990	Hardware Bag 55 (4000lb)
18	1	1020991	Hardware Bag 56 (6800lb)
19	2	1009032	Hardware Bag 37
20	1	1009033	Hardware Bag 38
21	4	1011798	Screw 12-14 x 1.0

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Preparation

Assembly Site: For assembly find a flat, level surface. A flat-bed trailer works the best or another trailer with planks to make a flat surface. A trailer works the best since this allows you to haul the lift to your site or a boat landing for launching. You can also assemble the lift on the ground but you will need a fork lift or crane to set the lift on a trailer.

Tools:

- * 1/2" Drive Rachet
- * Electric or Cordless Drill
- * Saw for cutting whaler board
- * Set of Drill Bits (inch)
- * Deep Well Socket Set (inch)
- * Open Ended or Combination Wrench Set (inch)
- * Set of Screw Drivers
- * Hammer
- * Utility Knife
- * Measuring Tape
- * Pen or Pencil

Verify:

*Make sure that you have all needed parts, check parts against parts list and get familiar with all the parts.

* Make sure boat weight (including gas and all equipment) is within the weight capacity of lift.

Dock Inspection:

* Inspect dock frame to make sure frame will be strong enough to support the lift. Consult with local dealer if not sure.

* Make sure dock slip is at least 9' wide to allow room for the lift, 9'-6" for Pontoon lifts.

* Make sure water depth is at least 4', more water depth may be needed depending on bunk set-up.

* Make sure there are no obstructions underwater or above the lift which the lift or boat could interfere.

* Make sure you have sufficient eletrical supply to power the lift, if unsure consult licensed electrician.

L-Arm Lift Frame



L-Arm Lift Tank Frame



Step 1: Layout air tanks according to lift size as shown.

Make sure exhaust holes are facing to the rear of the lift and hose hook-up is facing front of lift (as shown).





Step 3: Align tanks as shown. Attach center channel to tank frames using 1/2 x 1-1/2 hex flange bolts and nuts (4 per frame). Hardware found in hardware bags: 1, 41 and 3. Note: Make sure to have six and a half holes showing on each outside frame (as shown in detail - A). Except for when making lift fit narrower or wider slips, then the outside tanks will need to be moved inward or outward. At least half of the tank frame angle mut be attached to the center channel.



Detail - A



Step 4: Attach L-Arm tube stretchers to tank frame. Attach to tank frame angle using $1/2 \times$ 1-1/2 hex flange bolts and nuts (from hardware bags 1, 41 and 3) and attach to tank frame tube with $1/2 \times 3-1/2$ hex flange bolts and nuts (hardware bag 5).

Note: Make sure to position L-Arm tube stretchers A and B correctly with the angle mounted to the inside of the tank frame (as shown).



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DETAIL C

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DETAIL D

	Parts List				
ITEM	QTY	PART NUMBER	DESCRIPTION		
1	3	1020913	Lift Tank Frame Roto 12FT RhinoHoist		
2	2		Center Channel 4.0		
3	2	1020926	L-Arm Tube Stretcher-A		
4	2	1020927	L-Arm Tube Stretcher - B		
5	3	1020855	Galva-Foam Air Tank 12.5' Black		
6	8	1011592	Hex Head Cap Screw 1/2 x 1.5		
7	4	1011602	Hex Flange Bolt 1/2 x 3-1/2		
8	12	1011755	Hex Flange Nut 1/2		

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1009062

1020926

1020927

1020855

1008858

L Arm HD Right 2.5

L-Arm Tube Stretcher-A

L-Arm Tube Stretcher - B

Stop Kit L Arm Ring 1.5

Galva-Foam Air Tank 12.5' Black

1 2

3

4

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Assembly Instructions:

Step 5: Slide L-arms through tube stretchers (as shown). Next slide stop kit ring onto L-arms (as shown). Slide torsion bar into L-arms.

Note: For pontoon lifts in a 10ft slip the L-arms will have to be inverted so the pitman arms will point downward so they do not interfere with the pontoon. This means the left and right L-arms will have to be switched (as shown to left).

Note: If you are in a 14' or 16' slip you can offset the lift to one side of the slip or the other to make it easier to get into the boat. To do this use the L-Arm ring that does not have the angle welded to it and attach it directly to the channel on the side opposite the offset (as shown on page 13).

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Step 6: Slide L-arm ring square hole bushings around L-arms and slide into ring on tube stretchers. Secure in plate with stop kit L-arm rings by threading $1/2 \times 1-1/2$ hex head flange bolts (hardware bag 48) into ring and tighten against L-arm (as shown in detail - A).

Step 7: Measure the distance from the outside of the L-arms and set this distance to 3" less than

your slip width, make sure L-arms are centered on tube stretchers. Attach torsion bar clamps to L-arms and torsion bar using $5/8 \times 2-1/2$ " hex head flange bolts, lock washers and nuts (hardware bag 38). (as shown in 4 places)

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3"Less than Slip Width

		\bigcirc				
	Parts List					
ITEM	QTY	PART NUMBER	DESCRIPTION			
1	2	1009109	Torsion Bar 10.5FT HD			
2	2	1009064	L Arm HD Left 2.5			
3	2	1009062	L Arm HD Right 2.5			
4	2	1020926	L-Arm Tube Stretcher-A			
5	2	1020927	L-Arm Tube Stretcher - B			
6	8	1008791	Torsion Bar Clamp Formed			
7	4	1008858	Stop Kit L Arm Ring 1.5			
8	32	1011637	Washer Lock 5/8 Dorkin			
9	32	1011618	Hex Head Cap Screw 5/8 x 2-1/2			
10	32	1011763	Nut 5/8 Flange Dorkin			
11	8	1011592	Hex Head Cap Screw 1/2 x 1.5			
12	8	1009421	L-Arm Ring Square Hole Busing			

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DETAIL A

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Step 8: Attach pitman's to L-arms using 5/8 x 3-1/2" hex head flange bolts and flange nuts (hardware bag 54).

Note: Make sure pads on pitman's face to the inside of the lift. (as shown)

Note: If you have a pontoon lift in a 10' slip the L-arms and pitman's will be inverted and the pitman's will not have a carpeted pad.

Note: You may need to spread tabs on L-arms apart so pitman will fit between the tabs.





Assembly Instructions: 14' and wider lifts require torsion bar stiffener attachment.

Step 9: For 14' and wider lifts install the torsion bar stiffeners. Clamp the torsion bar stiffener to the torsion bar using the torsion bar stiffener clamp 5.0 with $\frac{5}{8} \times 2 \cdot \frac{1}{2}$ " hex head flange bolts, lock washers and flange nuts from hardware bag 13.

Note: Quantity of torsion bar stiffener clamps vary depending on lift width (8 for 14' wide and 12 for 16' wide lifts)



Step 10: Attach bunks to lift according to bunk installation intructions.

Step 11: Cut hose so you can connect tanks together according to hose schematic on following page for your set-up. Attach hoses to tanks according to hose schematic. Slide hose onto hose hook-up on tank and secure hoses to tanks with #20 hose clamps (P/N:1009399), torque clamps to 10 ft/lbs. Use pipe Tee (P/N:1009412) to connect hoses together use #20 hose clamps to secure.

Note: Do not cut the long hoses, keep the hoses looped together so the tanks will remain air sealed for transportation. Hoses will be cut on final installation after lift has been attached to dock.

Step 12: Plug the exhaust holes in the air tanks if you have to transport a long distance, use tank roto cap 4.0 (1009511). Press cap into exhaust hole in bottom of each tank.

Note: Tie a rope around an L-arm and pitman so the L-arms do not pivot down during transport to dock.







Tank Roto Cap 4.0-



1020930 - 14' V-Hull Bunk Kit (L-Arm Lift) 1020933 - 16' V-Hull Bunk Kit (Front Mount Lift)

Assembly Instructions: 14' and 16' V-Hull Bunk Kits

Attach bunks to lift center channels. Before attaching bunks determine where the bunk risers need to be positioned by measuring your boat hull or boat trailer bunks. Attach bunk risers to the center channels on the lift using two 1/2 x 3 flange hex bolts and flange nuts found in hardware bag # 19. Make sure to position bunk risers so bunks will be in your desired position. Attach the bunk riser extension angles to the bunk risers using two 1/2 x 1-1/2 flange hex bolts and flange nuts found in hardware bag # 41. Note: Make sure to attach the bunk riser clip angle to the inside so you can attach the diagonal support angle later. Attach bunks to bunk riser or bunk riser extension angle using 1/2 x 5 flange hex bolts and flange nuts found in hardware bag # 12. Make sure to position the full length angle on the bunks to the inside, this will keep the bunks from tipping the wrong direction. Next attach the diagonal support angle to the bunk using a 1/2 x 5 flange hex bolt and flange nut. Attach the other end of the diagonal support angle to the bunk riser clip angle using a 1/2 x 1-1/2 flange hex bolt and flange nut. If bunk riser clip angle is not already attached, attach it to the bunk riser

using a 1/2 x 1-1/2 flange hex bolt and flange nut.

Note: If you are attaching pontoon or tri-toon bunks please refer to their instructions for installation.

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**Lift removed for clarity.

	Parts List		
ITEM	QTY	PART NUMBER	DESCRIPTION
1	2	1008867	Bunk 14FT (L-Arm Lift)
2	2	1008869	Bunk 16FT (Front Mount Lift)
3	2	1008887	Bunk Riser Plate HD 3.0 Left
4	2	1008885	Bunk Riser Plate HD 3.0 Right
5	4	1008893	Bunk Riser Angle 12.0 HD
6	4	1008898	Bunk Brace Clip
7	4	1008897	Bunk Brace 37.5
8	8	1011608	Hex Bolt Flange 1/2 x 5
9	28	1011755	Hex Flange Nut 1/2
10	12	1011592	Hex Head Cap Screw 1/2 x 1.5
11	8	1011598	Bolt Hex Flange 1/2 x 3
12	2		Lift Center Channel

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Part Number: 1020931 / 1020932 Bunks 14ft Pontoon / TriToon Instructions





Note: Hardware quantity will vary based on pontoon or tri-toon configuration. Pontoon version does not come with center bunks.

Note: Make sure to measure pontoon to determine how to position width of bunks.

	Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	2		Lift Center Channel	
2	6	1008892	HD Double Pontoon Bunk Riser	
3	6	1008867	Bunk 14FT	
4	24	1011755	Hex Flange Nut 1/2	
5	12	1011608	Hex Bolt Flange 1/2 x 5	
6	12	1011598	Hex Bolt Flange 1/2 x 3	

Step 1: Assemble L-Arm Lift according to L-Arm Lift installation instructions.
Step 2: Attach HD pontoon risers to center channels with 1/2 x 3 hex flange bolts and nuts.
Step 3: Attach bunks to HD pontoon risers with 1/2 x 5 flange hex bolts and flange nuts.

Part # 1021422 RhinoHoist L-Arm Lift Guide-On Instructions (Pair)



Note: Depending on where you attach the guide-on base you may need to remove nuts and or bolts for the tube stretchers and re-attach through the guide-on base. Guide on base should be positioned so you have 1"-2" of clearance between your boat and the guide-on PVC pipe. The guide-ons can be attached to the front and back of the lift. Cut PVC to desired length, make sure PVC will not interfere with any part of the lift and will not hit any overhead objects.

Step 1: Attach guide-on base to cross channel or tank frame angle using two $1/2 \times 1-1/2$ hex flange bolts and flange nuts.

Step 2: Drill a 7/16" hole 1-1/2" up from the bottom of the PVC pipe.

Step 3: Slide 3" SCH 40 PVC pipe onto guide-on base and secure with 3/8 x 4 hex bolt and nylock nut.

	Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	2	1021424	Guide-On Base - RhinoHoist L-Arm Lift	
2	2		3" Sch 40 PVC Pipe x 10' (Sold Separate)	
	1	1021423	Hardware Bag #60 - Guide-On RhinoHoist L-Arm Lift	
3	4	1011755	Hex Flange Nut 1/2	
4	4	1011592	Hex Head Cap Screw 1/2 x 1.5	
5	2	1011573	Bolt Hex 3/8 x 4.0	
6	2	1011715	Nut Nyloc 3/8	

Drill 7/16" Hole

Part # 1021418 RhinoHoist L-Arm Guard Instructions



Step1: Attach bumper to bumper angle using $3/8 \times 2$ hex flange head bolts and flange nuts. **Step 2:** Determine how you want to position the bumper on the dock bracket and attach the mounting angles to the bumper angle in desired position using $1/2 \times 1-1/2$ hex flange bolts and flange nuts. Make sure bumper angle will be positioned in front of L-arm to avoid interference.

Step 3: Attach bumper mounting angles to dock bracket in desired position using $1/2 \times 1-1/2$ hex flange bolts and flange nuts.

	Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	2		Dock Bracket (sold separate)	
2	2	1021420	L-Arm Guard Mounting Angle	
3	1	1021421	L-Arm Guard Bumper Angle	
4	1	1004261	Roto Bumper Plain Black	
	1	1021419	Hardware Bag #59	
			RhinoHoist L-Arm Guard	
5	3	1011752	Hex Flange Nut 3/8 Galv	
6	3	1011569	Hex Flange Bolt 3/8 x 2	
7	4	1011755	Hex Flange Nut 1/2	
8	4	1011592	Hex Head Cap Screw 1/2 x 1.5	

Step 1: Mark locations for dock brackets on dock and cut whaler boards if needed. Be sure to attach whaler board to dock if needed. To mark locations measure back from the front of your slip back the length of your boat to the back of your transom and make a mark on each side of your slip. From this mark measure forward 90" and make a mark, from this mark measure forward 4" and back 6" and make marks. You should have a space 10" wide. From the center mark measure forward 110" and make another mark and measure forward 4" and back 6" and make marks, this will be the space for the front dock brackets. Once you have your marks layed out make sure there are not major obstructions in your dock frame for attaching your dock brackets. If there are move everything back so you are sure to have enough room for your boat do not move it forward. Once you are sure of your location for your dock brackets can be attached directly to the dock frame.



Step 2: Assemble dock brackets. Insert $5/8 \times 21$ bolts through top of dock bracket and thread a 5/8 nut (found in bag 37) onto $5/8 \times 21$ bolt and through a dock bracket clip then insert through bottom portion of dock bracket and thread another 5/8 nut onto $5/8 \times 21$ bolt. Assemble so brackets on dock bracket are spaced apart about the height of your dock.

Step 3: Attach dock brackets to dock frame. Dock brackets should be attached directly to the metal structure of the dock, the top portion of the bracket can be attached either above or below the decking just make sure it can be attached to the metal structure of the dock. Set the dock bracket into position, the bottom portion of the dock bracket should be under the bottom metal structure of your dock and if you have a truss dock the dock bracket clip can be inserted over the angle and held in place by tightening the 5/8" nut above it. If you do not have a truss dock or if the dock clip will not work the bottom portion of the dock bracket needs to be attached to the metal structure of the dock bracket needs to be attached to the metal structure of the dock bracket needs to be attached to the metal structure of the dock with 3/8" hardware, 3/8" x 1" carriage bolts lock washer and nuts are supplied for this in hardware bag 8.

Note: Leave bolts loose for now until final positioning of lift.

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20r3 (4)	DETAIL A

Parts List			
ITEM	QTY	PART NUMBER	DESCRIPTION
1			Dock
2	2	1008931	Dock Bracket Standard Right
3	2	1008933	Dock Bracket Standard Left
4	16	1011761	Nut Hex 5/8
5	8	1008967	Dock Bracket Bolt 5/8 x 21.0
6	8	1008940	Dock Bracket Clip
7	8	1011752	Hex Nut 3/8
8	8	1011634	Lock Washer 3/8
9	8	1011826	Washer Flat 3/8
10	8	1011547	Carriage Bolt 3/8 x 1.0

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Step 4: Float lift into slip. Attach L-arms to dock brackets about 8"-10" above water, make sure all L-arms are at the same height above the water. Attach L-arms to dock brackets using 5/8 x 4-1/2 hex flange bolts, 5/8 fender washers (one behind head of bolt and one between L-arm and dock bracket), lock washer and nylock nut.

Step 5: Tighten all dock bracket hardware and re-attach dock bumper.

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DETAIL B

Parts List				
ITEM	QTY	PART NUMBER	DESCRIPTION	
1			Dock	
2	2	1008931	Dock Bracket Standard Right	
3	2	1008933	Dock Bracket Standard Left	
4	2	1009064	L Arm HD Left 2.5	
5	2	1009062	L Arm HD Right 2.5	
6	8	1011835	Washer Fender 5/8 x 2.0 Galv	
7	4	1011762	Nut 5/8 Nylock	
8	4	1011637	Washer Lock 5/8 Dorkin	
9	4	1011622	Hex Head Cap Screw 5/8 x 4.5	

Step 6: Attach Arm Gaurd to dock bracket. Thread 1/2 hex nuts all the way onto arm guard. Next insert arm gaurd into holes on dock bracket and secure to dock bracket with 1/2 hex nuts. (Do this for all dock brackets)



Parts List				
ITEM	QTY	PART NUMBER	DESCRIPTION	
1	2	1008931	Dock Bracket Standard Right	
2	2	1008933	Dock Bracket Standard left	
3	16	1011755	Hex Flange Nut 1/2	
4	4	1009084	Dock Bracket Guard	

DETAIL C

Step 7: Determine the location for your control unit. This should be close to your electrical outlet. **Note:** You will need a 20 AMP outlet to run the blower. Make sure to use the GFCI. If unsure about your electrical supply check with a certified electrician.

Make sure you have adequate length of hose to attach to control unit. Once you have your control unit in place remove the control unit cover by removing the screws on the bottom sides and pulling the cover off. Next attach the control unit to your dock using the #12-14 x 1 screws. Next attach hoses to control unit. Depending on your control unit and size of lift will determine how many hose connections you will have. Connect hoses to the control unit by sliding the hose onto the tapered fitting on the bottom of the control unit. Before sliding hose onto tapered fitting be sure to slide a #20 hose clamp onto the hose first. Once the hose is fully on the tapered fitting secure the hose by tightening the #20 hose clamp. Repeat procedure for all hoses. Cut two 1'-2' pieces of hose for the exhaust hoses, install the exhaust hoses by attaching to exhuast fitting (as shown to right).

Finally slide control unit cover back onto frame and secure with provided screws.

Step 8: Attach stop chains to the lift. Attach chain to the hole that is in the gusset plate on the L-arm using a 3/8 x 1.5 hex bolt and nut (as shown). Next attach the other end of the stop chain to the dock. The chain can be wrapped around a metal structure of the dock and bolted back to itself or you can drill a hole in a metal portion of your dock and secure the chain by bolting it to the dock either way you choose use the 3/8 x 2 hex bolt and nut to secure chain.

Note: Make sure to attach chains to both sides of the lift to the rear L-arms. Also chains must be the same length on each side.

Important: The length of the chain is detemined by the lift and bunk setup. When the lift is in the down position the chains should be tight. If not this means the lift is resting on the L-arms against the pitman arms which will cause damage to the lift. The lift should be just low enough so the bunks are below the water and boat can easily float on and off of the lift.



 $\stackrel{ackslash}{=}$ Attach Exhaust Hose Attach Tank Hose



DETAIL D

Step 9: Check to make sure all hardware has been tigntened to correct torque listings.

Step 10: Test lift operation. Use remote if equipped or turn handles on control unit to the DOWN positions. You should hear or see air exhausting out of the exhuast hoses on the control unit. Lift should lower evenly. Watch to make sure when lift is in the DOWN postion it is resting on the chains not the L-arms, adjust if needed. Float boat over lift so transom of boat is even with the back of the bunks. Raise lift by turning the handles to UP postion and turn on the blower. Watch to make sure lift is coming up level. If lift is not coming up level reposition boat to better distribute the weight. Raise lift until you see bubble coming out of the exhaust holes in all tanks, then turn the handles to the HOLD postion and turn off the blower. With boat in raised position you can loosely tie a rope from the bow of the boat to the dock. Inspect the boat on the bunks to make sure bunks are positioned properly. Refer to FirstMate Instructions for further details



Torque specifications:

Torque bolts to specifications listed in table, do not overtighten.

Torque Specifications		
Bolt Size	Foot Pounds of Torque	
1/4-20	5 ft/lbs	
3/8-16	18 ft/lbs	
1/2-13	39 ft/lbs	
5/8-11	83 ft/lbs	

Control Unit Specifications: Refer to FirstMate Control Unit literature.



Firstmate® User's Guide

Standard Remote System

December, 2012



Firstmate, Inc. – 130 Century Commerce Loop, Labadie MO 63055 Phone: 636-239-9707 Fax: 636-239-9708 www.aqualogicmarine.com

Warning

No user serviceable parts are located inside your **Firstmate**[®] unit. In stallation and service should be performed by a qualified installer only.

To avoid the risk of electric shock, always disconnect power to your dock before installing the Firstmate[®] or any of it's components.

Use only cordless tools for installation. Failure to follow these instructions may result in injury or death.

Always securely tie off your ve ssel to y our dock, Fi rstmate, Inc. assumes no lia bility for damages resulting from the user's failure to securely restrain their vessel.

Never use your remote control without being present at the lift. If your lift is not raising or lowering in a level position, stop the lift and correct the problem.

Stay clear of the lift while it is in operation.

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User's Guide

1.0 Before you begin:

- 1.1 Read all warnings prior to using your **Firstmate**[®] lift controller.
- 1.2 Read this entire manual before using your unit.
- 1.3 Verify that the boat is on the lift and in the raised position.

2.0 Using the Keyfob or local on the box:

- 2.1 To prevent the accidental activation of a button on the keyfob, you must press and hold down the b uttons for ap proximately on e se cond for the **Firstmate®** to acc ept the command.
- 2.2 The keyfob buttons correspond to the following functions:



- "UP" = **UP** switch
- "DN" = DOWN switch
- Note: The "BD" button on the keyfob is inactive with the **Firstmate**[®].
- 2.3 **To raise the lift**, p ress the "UP" button on the keyfob or the UP p osition of the local switch. The valve will turn to the up position, the strobe and blower will turn on.
- 2.4 **To stop raising the lift**, press the "UP" or "DN" button on the keyfob or press the UP or Down button on the local switch. The valve will return to the hold position, the strobe and blower will turn off.
- 2.5 **To lower the lift**, press the "DN" button on the keyfob or the DOWN position of the local switch. The valve will turn to the down position and the strobe will turn on.
- 2.6 **To stop lowering the lift,** press the "UP" or "DN" b utton on keyfob or press the UP or DOWN position of the I ocal switch. The valve will return to the hold position and the strobe will turn off.

3.0 Usin g your **Firstmate**[®].

- 3.1 Read all warnings prior to operating your **FIRSTMATE**[®].
- 3.2 Always secure your boat to your dock when not in use, Firstmate, Inc. assumes no liability for resulting damage.
- 3.3 Any time the lift is in operation; the strobe light will turn on.
- 3.4 Pressing any switch while the lift is in operation, either on the keyfob or the control box, will stop the lift.

4.0 Using the Manual Override:



4.1 The manual override handle(s) may be used to raise or lower the lift. Turn to the desired function (handle will be dif ficult turn ~t his is normal). When the l ift has reached the desired level, turn the handle to t he HOLD position. ** Never unplug the Firstmate [®] without the handle pointing to HOLD. When the valve(s) are left open in t he UP or DOWN position, they will leak off & drop the lift.

Warranty Statement:

Thank you for purchasing your **Firstmate**[®] system.

Your system is covered by a two-year Parts and Labor warranty ** as follows:

The warranty p eriod starts on the date of the sale. In the case of equipment installed b y an authorized commercial contractor, the warranty begins on the date of site acceptance.

This warranty is provided for the sole benefit of the original consumer and is not transferable.

This warranty is applicable for product purcha sed and use d in the fifty states of the USA and the District of Columbia only. It is not applicable in the possessions or territories of the USA or in any other country.

This is the only express warranty, which Firstmate, Inc. makes in connection with the **Firstmate**[®] system, and it's accessories. An y implied warranty applicable to this product including the warranty of mer chantability is limited to the duration of the express warranty.

Firstmate, Inc. excludes and shall not be liable in any event for incidental or consequential damages. Some states do not allo w limitations on ho w long an implied warranty may last. Therefore, these limitations and exclusions may not apply to you.

This warranty gives you specific legal rights. You may also have other rights, which vary, from state to state. In the event any of the provisions of this warranty are bound by statute or by applicable administrative or judicial entities to be unenforceable, all remaining provisions shall remain in full force.

Owner's Responsibilities:

- 1. Please read the Owner's Manual completely. The information provided in the manual covers installation, operation, safety precaution and, where applicable, routine maintenance.
- 2. Should warranty service be re quired you will need to be able to produce reasonable pro of of purchase. Please save your sales receipt or other similar document. In the case of contractor installed equipment, a photocopy of the site acceptance document would be considered acceptable.
- 3. Notify Firstmate, Inc. of any alleged defect promptly upon discovery.
- 4. Return the product to an authorized dealer, service center or to F irstmate, Inc.. All shipments must be PREPAID. No Collect shipments will be accepted. Products repaired under warranty by Firstmate, Inc. or designated service center will be returned to the sender PREPAID.
- 5. Product returne d for service (i n or out of warranty) MUST h ave a Return Authorization that may b e obtained from Firstmate, Inc..
- 6. At Firstmate, Inc.'s sole discretion, warranted materials may be repaired or replaced.

Exclusions:

- 1. Product sold by retailers or contractors NOT authorized by Firstmate, Inc. and product whose trademark, name or identification numbers have been altered or removed are not covered by this warranty.
- 2. Product not specifically marketed for installation in areas exposed to the elements (sun, wind, rain, etc.) is not covered for defects that are attributable to this type of installation.
- 3. Product failures that are the re sult of abnormal strain, neg ligence, misuse, improper installation or operation, or fa ilure to foll ow instructions contained in the owner's man ual. Abuse, mod ification, or accidental dam age is not covered by this warranty, nor is damage resulting from floods, lighting, earthquakes, hail, etc.
- 4. RFI/EMI (interfe rence/noise) ca used by impro per ground ing or the improper use of either certified or uncertified equipment is not covered by this warranty.
- 5. Product that has been, or has attempted to ha ve been, repaired by anyone other than Aqualogic Marin e or a party authorized by Firstmate, Inc.

** The General Ground Fault Interupter (GFCI) comes standard on our product for liability purposes. It is not an integral part of the Firstmate[®] system. Therefore, **the GFCI only carries a 60-day warranty.**

Firstmate, Inc. – 130 Century Commerce Loop, Labadie MO 63055 Phone: 636-239-9707 Fax: 636-239-9708 www.aqualogicmarine.com

Firstmate Standard Remote Installation



Plug one end of 14' cable into the "IN" Command Signal on the valve driver assembly



Plug other end of 14' cable into the "Control Output" on the Remote Receiver. If mounting Receiver on a dock post, be sure to mount with Antenna pointing down. Receiver should be mounted out of direct weather either under roof on dock; or attached inside on Firstmate frame.



Registration and Warranty Statement

August, 2009

Manual L-Port System

Firstmate, Inc. – 130 Century Commerce Loop - Labadie - Missouri - 63055 Phone: 636-239-9707 Fax: 636-239-9708 www.aqualogicmarine.com

Warranty Statement:

Thank you for purchasing your **Firstmate™** system. Your system is covered by a two-year Parts and Lab or warranty** as follows:

The warranty p eriod starts on the date of the sale. In the case of equipment installed b y an authorized commercial contractor, the warranty begins on the date of site acceptance.

This warranty is provided for the sole benefit of the original consumer and is not transferable.

This warranty is applicable for product purcha sed and use d in the fifty states of the USA and the District of Columbia only. It is not applicable in the possessions or territories of the USA or in any other country.

This is the only express warranty, which Aqualogic Marine makes in connection with the **Firstmate**[™] system, and it's accessories. An y implied warranty applicable to this product including the warranty of merchantability is limited to the duration of the express warranty.

Firstmate, Inc. excludes and shall not be liable in any event for incidental or consequential damages. Some states do not allo w limitations on ho w long an implied warranty may last. Therefore, these limitations and exclusions may not apply to you.

This warranty gives you specific legal rights. You may also have other rights, which vary, from state to state. In the event any of the provisions of this warranty are bound by statute or by applicable administrative or judicial entities to be unenforceable, all remaining provisions shall remain in full force.

Owner's Responsibilities:

- 1. Should warranty service be re quired you will need to be able to produce reasonable pro of of purchase. Please save your sales receipt or other similar document. In the case of contractor installed equipment, a photocopy of the site acceptance document would be considered acceptable.
- 2. Notify Firstmate, Inc. of any alleged defect promptly upon discovery.
- 3. Return the prod uct to an authorized dealer, service center or to F irstmate, Inc. All shipments must be PREPAID. No Collect shipments will be accepted. Products repaired under warranty by Firstmate, Inc. or designated service center will be returned to the sender PREPAID.
- 4. Product returne d for service (i n or out of warranty) MUST h ave a Return Authorization that may be obtained from Firstmate, Inc..
- 5. At Firstmate Inc.'s sole discretion, warranted materials may be repaired or replaced.

Exclusions:

- 1. Product sold by retailers or contractors NOT authorized by Firstmate, Inc. and product whose trademark, name or identification numbers have been altered or removed are not covered by this warranty.
- 2. Product not specifically marketed for installation in areas exposed to the elements (sun, wind, rain, etc.) is not covered for defects that are attributable to this type of installation.
- 3. Product failures that are the re sult of abnormal strain, neg ligence, misuse, improper installation or operation, or fa ilure to foll ow instructions contained in the owner's man ual. Abuse, mod ification, or accidental dam age is not covered by this warranty, nor is damage resulting from floods, lighting, earthquakes, hail, etc.
- 4. RFI/EMI (interfe rence/noise) ca used by impro per ground ing or the improper use of either certified or uncertified equipment is not covered by this warranty.
- 5. Product that has been, or has attempted to have been, repaired by anyone other than Firstmate, Inc.or a party authorized by Firstmate.

** The General Ground Fault Interupter (GFCI) comes standard on our product for liability purposes. It is not an integral part of the Firstmate system. Therefore, **the GFCI only carries a 60-day warranty.**

Trouble Shooting:

	-
Issue:	Contol unit does not work.
Cause:	GFCI circuit tripped.
	Blower motor malfunctioning.
	No power.
Resolution:	Reset GFCI.
	Fix or replace blower motor.
	Make sure power is on.
Issue:	Lift will not fully lift boat out of water.
	Boat is not level.
Cause:	Boat positioned too far forward or back, or there could be a kink in a hose
	Boat to large for lift.
Resolution:	Move boat forward or back on lift, straighten hoses to remove kink
	Get a larger lift.
Issue:	Lift slowly lowers over time.
Cause:	Valve not completly closed.
	Leak in hose.
	Leak in tank.
	Leak in control unit.
Resolution:	Make sure valves are completly closed.
	Use a soap and water mixture to apply to connections to find leak, replace hose or tighten clamps depending on cause.
	Use a soap and water mixture to find leak on tank, repair tank by heating a putty knife or screw driver with a torch and try to seal hole. If hole is too large to repair you can get a repair kit with more polyethylene to use to patch hole. If you can't patch hole replace tank.
	Use a soap and water mixture to apply to connections to find leak, tighten fittings or repair leak.

If you have other questions about your lift please contact your closest dealer.



RHINOHOIST LIMITED WARRANTY

	#VSHOREMASTER	
Product	Warranty Period	
RhinoHoist	Parts Only	
Floating Boat Lifts	Lifetime warranty - Rotationally molded polyethylene tank (RESIDENTIAL USE*)	
	8-year warranty - Rotationally molded polyethylene tank (COMMERCIAL USE**)	
	5-year warranty - Galvanized steel structural components	
	1-year warranty – Bushings, hardware ,carpet, wood, and chain	
Items not listed	1 –year warranty	
	Labor for repair or replacement of Warranty Parts	
	5-year warranty - Rotationally molded polyethylene tank (RESIDENTIAL OR COMMERCIAL USE)	
	5-year warranty - Galvanized steel structural components	
	1-year warranty – Bushings, hardware, , carpet, wood, and chain	
Items not listed	1-year labor	
Items not listed		
Firstmate	Firstmate manufacturers Warranty Wherein that warranty will apply	
Lift Controller	See Firstmate warranty for complete details	
	2-year warranty - Control units	
	2-year labor -Send in	
Ground Fault	60-days warranty	
Interrupter (GFCI)		
	Firstmate, Inc 506 – D Terry Lane Washington, Missouri 63090	
	Phone 636-229-9707 Fax 636-239-9708 www.aqualogicmarine.com	
Saltwater Use	Warranty Period	
Tanks	8 Years	
Lift Structure	3 Years on galvanized steel structural components	
	1 Year Bushings hardware, remote, GFI, carpet, wood, and chain	
Control Units &	1 Year control unit electronics	
Valves	1 Year- Valve	
	Saltwater Use Labor for repair or replacement of Warranty Parts	
	1 Year labor on all	
* "Residential Use" m	neans use exclusively by an individual private consumer and only for the consumer's personal, family or	

* "Residential Use" means use exclusively by an individual private consumer and only for the consumer's personal, family or household purposes.

** "Commercial Use" means use of the product for any non-residential purposes, including, but not limited to, use for commercial gain. In the event that the product is used for a mixed Residential Use and Commercial Use, the limited warranty for Commercial Use shall apply.

*** In the event that any product is used in brackish or saltwater, the limited warranty for Saltwater Use, shall take priority over the limited warranty for Residential Use or Commercial Use. Also, if the product is used in brackish or saltwater, the product must have sacrificial anodes or "zincs" attached to it. The sacrificial anodes or "zincs" require maintenance and regular inspection in order to prevent electrolysis from damaging the lift metals. Failure to attach and maintain the sacrificial anodes or "zincs" constitutes "abuse" as used herein.

ShoreMaster, LLC. ("ShoreMaster") warrants to the <u>original Purchaser</u> that its products and parts are free from defects in materials and workmanship as stated in this Limited Warranty during the Parts Warranty Period as identified herein. The Parts Warranty Period begins on the date of purchase as shown on its receipt or invoice. This Limited Warranty is not transferrable or assignable.

If you discover within the Parts Warranty Period a defect in material or workmanship, you must promptly notify your local ShoreMaster dealer or distributor of any claim under this Limited Warranty. Any claim must be in writing with proof of purchase and provided to your local ShoreMaster dealer or distributor within fifteen (15) days of the discovery of the defect.

This Limited Warranty is for repair or replacement of parts or products only. Except for the period of time identified in the product's or part's corresponding Labor Provided Period, which begins when the Parts Warranty Period commences, this Limited Warranty does not include labor or costs associated with installation or on-site work. ShoreMaster will provide freight from ShoreMaster's facility to the local ShoreMaster dealer or distributor on the next truck or container that is sent to the local ShoreMaster dealer or distributor to the product's location. If you request expedited freight or shipping, you are solely responsible for all related costs. AFTER RECEIVING NOTIFICATION OF THE DEFECT, SHOREMASTER WILL, AT ITS DISCRETION, REPAIR, REPLACE OR, IF SHOREMASTER DETERMINES IN ITS SOLE DISCRETION THAT REPAIR OR REPLACEMENT IS NOT FEASIBLE, REFUND THE PURCHASE PRICE ON THE PRODUCT OR PART FOUND ON EXAMINATION BY SHOREMASTER TO BE DEFECTIVE UNDER NORMAL USE AND SERVICE.

THIS LIMITED WARRANTY IS YOUR EXCLUSIVE WARRANTY AND REPLACES ALL OTHER WARRANTIES OR CONDITIONS, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OR CONDITIONS OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. Some states, provinces or jurisdictions do not allow the exclusion of express or implied warranties, so the above exclusion may not apply to you. In that event, such warranties apply only to the extent required by law and are limited in duration to five (5) years. No warranties apply after that period. Some states, provinces or jurisdictions do not allow limitations on how long an implied warranty lasts, so the above duration may not apply to you.

IN ORDER TO ALLOW SHOREMASTER AN OPPORTUNITY TO ASSESS THE CONDITION OF THE PART OR PRODUCT FOR WHICH A WARRANTY CLAIM IS MADE, YOU SHALL PROVIDE REASONABLE ACCESS TO THE PART OR PRODUCT TO SHOREMASTER AND/OR ITS AGENTS, WHICH INCLUDES SHOREMASTER DEALERS OR DISTRIBUTORS. TO FACILITATE THE PROMPT ASSESSMENT OF YOUR WARRANTY CLAIM, SHOREMASTER MAY, FROM TIME TO TIME, REQUIRE THAT YOU PROVIDE ADDITIONAL DOCUMENTATION, PHOTOGRAPHS AND OTHER INFORMATION. FAILURE TO PROVIDE THE FOREGOING WITHIN A REASONABLE TIME FROM THE DATE OF REQUEST BY SHOREMASTER WILL INVALIDATE YOUR LIMITED WARRANTY.

Routine maintenance and checking for loose connections or damaged parts must be performed on a monthly basis. ShoreMaster shall not warranty and cover damage caused by circumstances outside the reasonable control of ShoreMaster, including but not limited to, improper use, misuse, abuse, improper installation, overloading, accident, neglect or harmful alteration or repairs made by others, damage by snow or ice, electrolysis, corrosion, natural expansion or contraction of parts or products caused by weather conditions, severe weather conditions, terrorism or acts of God. **IF YOU ATTEMPT TO REPAIR OR REPLACE PARTS OR PRODUCTS WITHOUT THE AUTHORIZED WRITTEN CONSENT OF SHOREMASTER OR USE ANY UNAUTHORIZED METHODOLOGY OF REPAIR OR IF YOU ALTER, MODIFY OR CHANGE THE PARTS OR PRODUCTS YOU WILL VOID THIS LIMITED WARRANTY.**

When the Limited Warranty service involves the replacement of a product or part, the replaced product or part becomes ShoreMaster's property and the replacement product or part becomes your property. The replacement product or part may not be new but will be in good working order and at least functionally equivalent to the original product or part. At ShoreMaster's request you are responsible for returning the replaced product or part to the local ShoreMaster dealer or distributor. The replacement product or part shall be warranted for the balance of the Parts Warranty Period remaining on the original product or part.

IN NO EVENT SHALL SHOREMASTER, ITS SUBSIDIARIES, PARENT, SUPPLIERS, DEALERS, DISTRIBUTORS, RESELLERS OR SERVICE PROVIDERS BE LIABLE FOR: (i) THIRD PARTY CLAIMS AGAINST YOU FOR DAMAGES; OR (ii) SPECIAL, INCIDENTAL, INDIRECT OR CONSEQUENTIAL DAMAGES, INCLUDING LOST PROFITS, BUSINESS REVENUE, GOODWILL OR ANTICIPATED SAVINGS. THESE EXCLUSIONS APPLY EVEN IF SHOREMASTER HAS BEEN ADVISED OF THE POSSIBILITY OF THESE DAMAGES AND EVEN IF ANY REMEDY FAILS OF ITS ESSENTIAL PURPOSE. AS SOME STATES, PROVINCES OR JURISDICTIONS DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU. SUBJECT TO THIS PARAGRAPH, ANY CLAIM FOR DAMAGES FOR BREACH OF WARRANTY SHALL BE LIMITED TO THE PURCHASE PRICE OF THE PRODUCT.

NOTHING IN THIS LIMITED WARRANTY AFFECTS STATUTORY RIGHTS THAT CANNOT BE WAIVED OR LIMITED BY THIS LIMITED WARRANTY.