

Swim-Lift® Horizon BP 450 and Horizon Long Reach 300



SPECTRUM[®]
Aquatics

A **PLAYCORE** Company

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Swim-Lift® Horizon

You have purchased a Spectrum Products Horizon assisted access lift. Providing the unit is installed correctly and properly maintained, it will furnish you with many years of trouble free use. It is important to read this entire manual prior to assembly or operation.

Model Information:

Model Description	Model Number	Weight Capacity	Setback Range	Maximum water draft*	Padded Headrest and Footrest
Horizon BP 450	2010102	450Lbs	6"-33"	0"-12"	Not Included
Horizon BP 450 Deluxe	2010102-DLX	450Lbs	6"-33"	0"-12"	Included
Horizon Long Reach 300	2030086	300Lbs	6"-40"	0"-14"	Not Included
Horizon Long Reach 300 Deluxe	2030086-DLX	300Lbs	6"-40"	0"-14"	Included

Shipping Information:

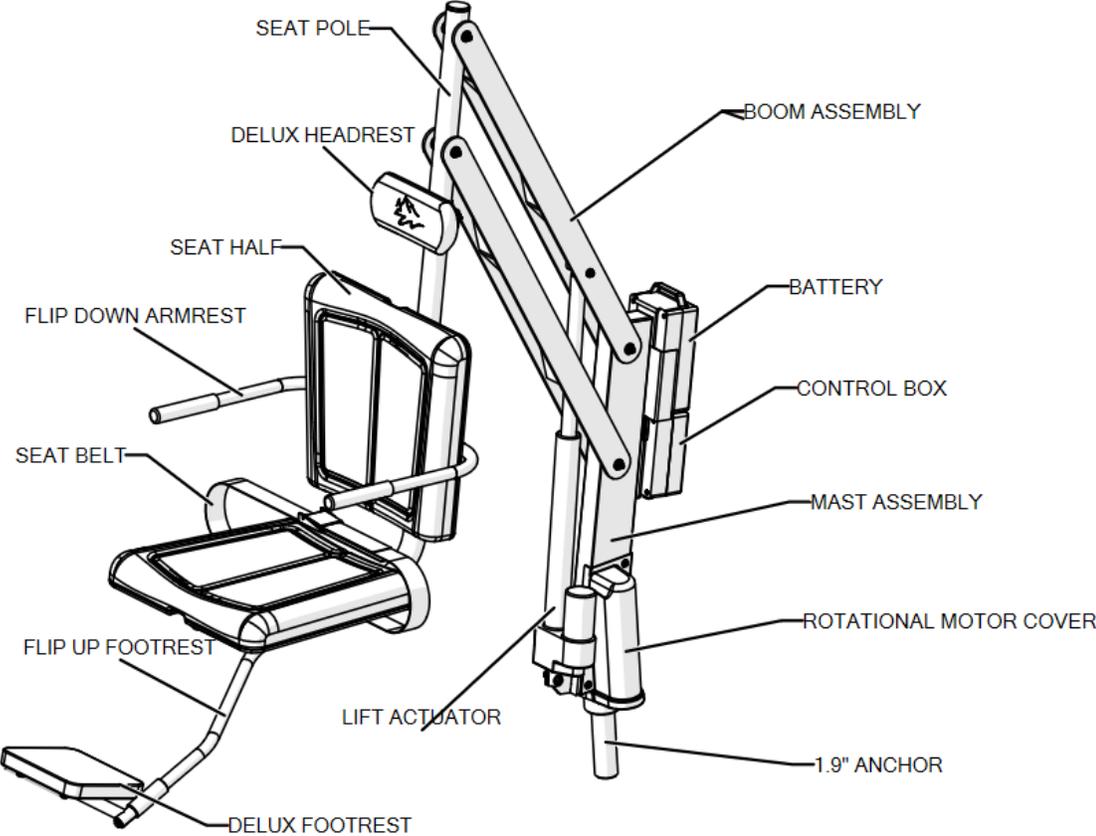
Each lift will arrive partially assembled in one crate. Before accepting the lift from the carrier, inspect for visible damage and match the contents with those listed below. Spectrum is not responsible for lost or damaged freight.

The crate will contain all structural components and hardware. The following is a list of the components included with your shipment from Spectrum. Use Components and Hardware Figure on page 2 as a reference to identify each item listed below:

1	Horizon Mast Assembly	2	Seat Halves
2	Transmitters (not shown)	1	Battery
1	Seat Belt	1	Seat Frame
1	Footrest	2	Flip Down Armrests
1	Charger (not shown)	1	Hardware Pack (not shown)
1	Headrest*		

*Headrest only included on deluxe model

Components and Hardware:



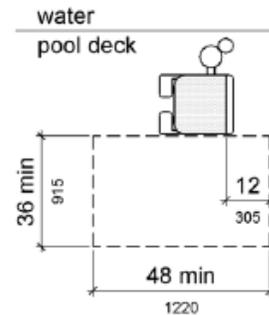
HANDSET, ANCHOR, AND CHARGING ACCESSORIES NOT SHOWN.
SHOWN WITH DELUX HEADREST AND FOOTREST.

INSTALLATION OVERVIEW

Read all instructions before attempting to assemble or install the lift.

Clear Deck Space:

To be compliant with ADA guidelines, the lift must be installed in a location that is clear from obstacles and other hazards. Clear deck space is defined by the figure to the right. This rectangle is 48" long (along the pool wall) and 36" wide.



Pool/Spa Depth:

To comply with ADA guidelines the lift must be installed where the water depth does not exceed 48". If the entire pool is deeper than 48" this requirement does not apply.

Anchor Location/Installation:

The lift anchor centerline must be no less than 6", but no greater than 33" (40" for Long Rach model) from the pool/spa wall (or any feature that sticks out past the pool/spa wall, such as a coping). The lift is installed in a single 1.9" I.D. anchor.

New Construction Anchor Installation

- a. Place the anchor in the desired location following above guidelines.
- b. Locate a bonding source to bond (ground) the anchor. The steel rebar-bonding grid of the pool deck is the best choice for bonding the anchor. Attach a No. 8 solid copper wire (NEC Section 680-22) from the bonding bolt on the base of the anchor to the bonding grid.
- c. Secure anchor in place at the proper height – anchor may be cemented in place. Set the anchor so that the finished top is 1/8" to 1/4" below finished deck level – allowing for anchor cap to be put in place when the lift is not in use.
- d. Use a carpenter's level to level the anchor making sure lower portion of the mast will be vertically straight up and down (perpendicular to the deck) in all directions. It is important that the mast be vertically straight to ensure ease of rotation when the lift is fully loaded.
- e. Place tape over the anchor hole before pouring concrete deck – not allowing concrete to enter anchor opening.
- f. Pour concrete deck and finish.

Allow the concrete to cure for at least 7 days before installing and using the lift.

Existing Facility Anchor Installation

Please contact Spectrum Aquatics to obtain engineered calculations for general installation cases.

- a. From the center of the desired anchor location, using a marking pen or chalk, mark a square of the dimensions provided by Spectrum Aquatics. This is the concrete to be removed to accommodate the installation of the lift's anchor. It is recommended that the anchor be located at least 6" from any expansion joint, crack, drain or similar structure in the concrete deck.
- b. Use a concrete cutting saw; cut the square out of the existing concrete deck. Using a heavy/sledge hammer to break the cut section of concrete – remove the section of concrete from the deck. See Figure 1.

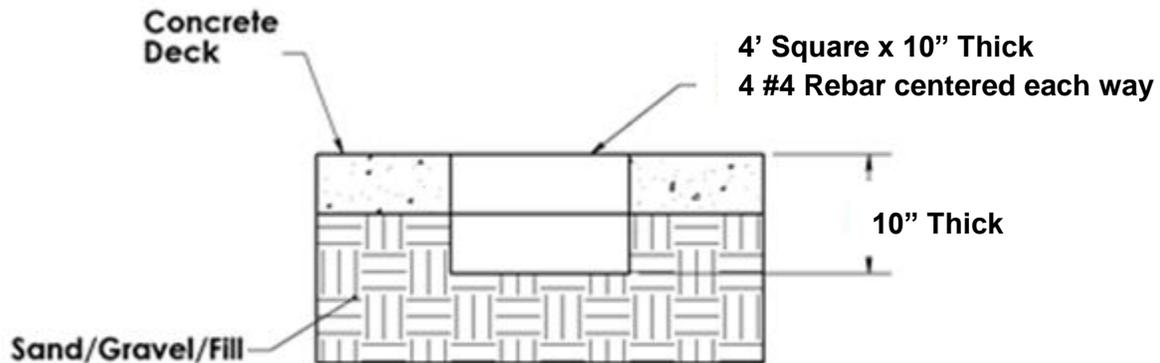


Figure 1

- c. Locate a bonding source to bond (ground) the anchor. The steel rebar-bonding grid of the pool deck is the best choice for bonding the anchor. Attach a No. 8 solid copper wire (NEC Section 680-22) from the bonding bolt on the base of the anchor to the bonding grid.

Note: If the concrete deck is 8" thick or more, an alternative anchor installation method may be used. In lieu of saw cutting the concrete deck, a concrete core drill may be employed to cut a 4" diameter hole at the desired anchor installation location. Epoxy or hydraulic cement may be used to secure the anchor in place. Make sure the anchor is properly bonded.

- d. Place tape over the anchor hole before pouring concrete – not allowing concrete to enter anchor opening.
- e. Fill the hole in the deck around the anchor with nonexpanding concrete. Set the anchor so that the finished top is 1/8" to 1/4" below finished deck level – allowing for anchor cap to be put in place when the lift is not in use.

- f. Use a carpenter's level, to level the anchor making sure the lower portion of the mast will be vertically straight - up and down (perpendicular to the deck) in all directions. It is important that the mast be vertically straight to ensure ease of rotation when the lift is fully loaded.

Allow the concrete to cure for at least 7 days before installing and using the lift.

ASSEMBLY INSTRUCTION

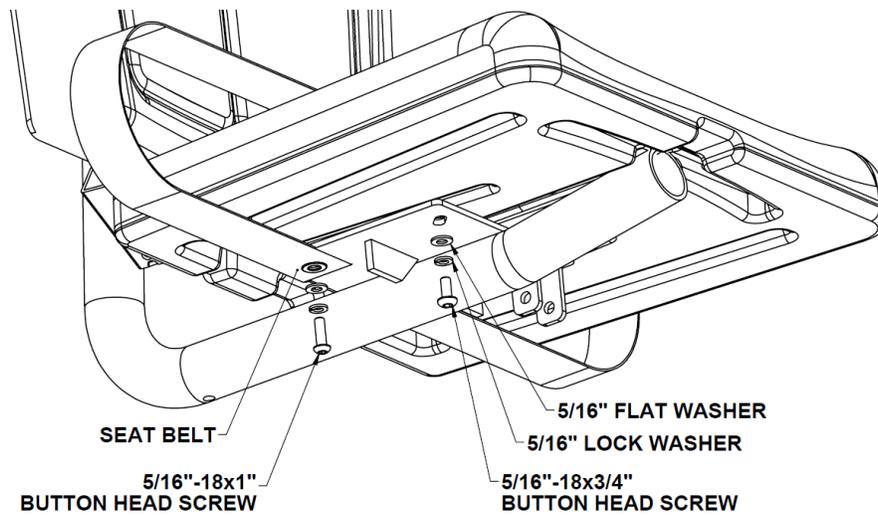
The following tools will be required to complete the assembly of the lift:

- 9/16" ratchet or open-end wrench
- 3/16" socket wrench
- Hammer drill
- 1/2" Diameter masonry drill bit
- A brush or compressed air to remove debris from drilled hole
- Hammer
- Anchor setting tool (supplied)

LIFT ASSEMBLY

NOTE: All steps reference the exploded views on Pages 3 & 4.

- a. Disassemble crate carefully without putting undue stress on the lift. Make sure you have all of the parts shown on page 7 before discarding any crating or packing materials.
- b. Stand the Horizon Assembly up in the anchor that is installed in the pool/spa deck.
- c. Slide the battery down until it mates with the Wireless Receiver and locks into place. When properly installed, the battery will sit flush against the top of the Wireless Receiver. The Control Box battery indicator light should indicate a fully charged battery (green light). If the battery indicator light does not illuminate, ensure that the battery is turned on by pressing the push button on the front of the battery case to the on (in) position. If the battery indicator light shows amber or red, charge battery before moving to the next step.
- d. Test lift operation by pushing the buttons on the transmitter to ensure the lift is operational (refer to Operator's Guide on page 7). Then run the actuator into the fully extended position (lift may already be in this position) by pressing the up button until the actuator stops moving. Leave the lift in this position for the following steps.



Note: When attaching the seat belt use 5/16"-18 x 1" as shown below:

- e. Attach the bottom seat half and the seat belt to the mounting plate of the seat assembly. Seat belt mounts under the seat frame with the two socket screws to the rear of the seat frame. As show Above.

- 2 - 5/16"-18 x 1"
- 2 - 5/16"-18 x 3/4"
- 4 - 5/16" Flat washers
- 4- 5/16" Lock washers

- f. Attach the other seat half to the back-rest mounting plate using:

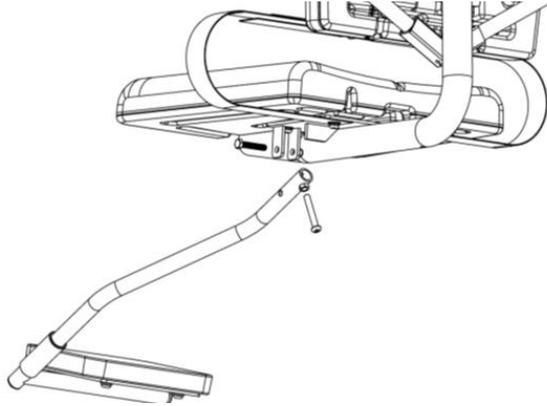
- 4 - 5/16"-18 x 3/4"
- 4 - 5/16" Flat washers
- 4 - 5/16" Lock washers

- g. Attach the footrest to the seat arm assembly using:

- 1 - 3/8" – Hex Bolt 2"
- 1 - 3/8" Flat washers
- 1 - 3/8" Nylock nut
- 1 - 3/8" Button Head Bolt 2 1/2"
- 1 - 3/8" Hex Nut

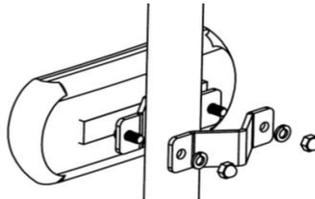
h. Attach the footrest to the seat arm assembly using:

- 1 - 3/8" – Hex bolt 2"
- 1 - 3/8" Flat washers
- 1 - 3/8" Nylock nut
- 1 - 3/8" Button Head Bolt 2 1/2"
- 1 - 3/8" Hex Nut

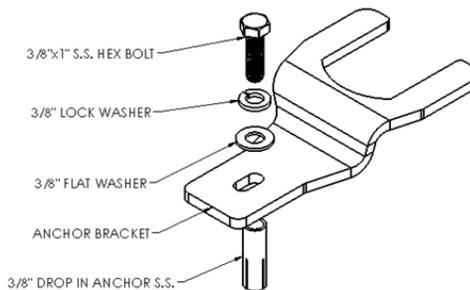


Tighten the bolt until the flat washers are snug, and then back off until the footrest pivots freely. Adjust footrest to desired height by installing and adjusting 3/8" - Button Head Bolt through footrest assembly coupling nut. Use 3/8" Hex Nut to lock position setting.

i. **DELUX MODEL ONLY** Remove hardware on headrest assembly. Fasten to seat pole as shown. Do not tighten hardware. Adjust headrest to desired position. Tighten hardware.



Install lift anchoring bracket



- a. Use the lift to determine the desired anchor position and clearly mark the hole location on the deck. Spectrum recommends installing the anchor perpendicular to the pool wall if possible.
- b. Remove lift from anchor.
- c. Using a 1/2" hammer drill, drill the concrete to a depth of 1 1/2", make sure all debris is removed from the hole.
- d. Set the 3/8" drop in anchor in the cleaned hole from step 3, using the supplied anchor setting tool and a hammer.
- e. Replace the lift in the anchor and place the anchoring bracket into the slots on the lift just below the pivoting joint on the unit.
- f. Line up the anchoring bracket to the 3/8" drop in anchor rotating the lift in the anchor.
- g. Using supplied 3/8" x 1" hex bolt with a 3/8" flat washer and lock washer as shown, lock the anchoring bracket to the deck; do not over tighten the bolt.
- h. *Bonding the drop-in anchor is not required as the metallic contact between the bracket and the lift will provide adequate bonding.
- i. Test the lift for proper operation.

OPERATOR'S GUIDE

Basic Principals of Operation

Lifting (UP)(↑):

Pressing the (↑) button causes the seat to rise. The seat will continue to rise as long as the button is pressed or until the lift reaches its highest extent. Releasing the button at any time during travel will cause the lift to stop.

Lowering (DOWN)(↓):

Pressing the (↓) button causes the seat to lower. The seat will continue to lower as long as the button is pressed or until the lift reaches its lowest extent. Releasing the button at any time during travel will cause the lift to stop.

Rotation (CLOCKWISE)(➡):

Pressing the (➡) button causes the lift to rotate clockwise. The lift will continue to rotate in this direction as long as the button is pressed. Releasing the button at any time during rotation will stop the lift from rotating.

Rotation (COUNTERCLOCKWISE)(⬅):

Pressing the (⬅) button causes the lift to rotate counterclockwise. The lift will continue to rotate in this direction as long as the button is pressed. Releasing the button at any time during rotation will stop the lift from rotating.

***Note: If the lift seat is overloaded, a clutch in the actuator will ratchet. This will be evident by a very noticeable clanking noise and the lift will shake, but not move. After weight is taken off of the seat, the lift will resume normal operation. If this happens check the lift and pivots for structural damage before resuming a safe lifting procedure at or under the working load limit.**

PROGRAMMING A NEW TRANSMITTER TO THE RECEIVER

***Note – The Transmitters are already programmed to the lift; the only time you will have to follow this procedure is if you replace a Transmitter.**

To program a new transmitter to the Horizon, first remove the battery from the Horizon. Then press and hold the up button on the Transmitter to be programmed while replacing the battery on the lift. Continue holding the up button on the Transmitter until the lift clicks once or moves up (the lift is most likely at the top of its range, so you may try either rotation button and watch for lift movement). If the lift does not work with the new transmitter, try the procedure again. If you are not able to program the new Transmitter to your Horizon, please call Spectrum Products Customer Service line at 406-532-6343.

BATTERY CHARGING & INSTALLATION

The battery comes fully charged, but will need charging after the first several hours of use. Charging time is approximately 12 hours for the first few charges, and four hours after the first two full battery cycles. The lift comes with a battery charger for use in dry locations. Charge the battery as follows:

- Plug the battery charger into a standard electrical outlet. The green LED on the charger will illuminate, indicating that the charger is on.
- Plug the charging cable into the charging port on the back of the battery. If the battery is up to the charged voltage, the LED on the charger will stay green. If the charger determines that the battery needs to be charged, the LED on the charger will change to red.
- The red LED will turn green when the battery is fully charged. This charger has internal monitoring circuitry that will not overcharge the battery. If the battery is left on the charger for extended periods of time the charger will go into short charging cycles at intervals to keep the charge level at optimal.

***Charger accepts 110 VAC**

When the battery is fully charged, remove it from the battery charger and install the battery on the lift. The Battery Capacity Indicator on the receiver will show a green LED, indicating that the battery is fully charged and installed properly. When the LED changes to amber the lift is still OK to use. However, when the LED changes to red, or an audible tone is heard during a lift cycle, the battery pack needs to be recharged.

To keep the battery from discharging to the point of causing damage, it is important to charge the battery at least once every three months, even if the battery has not been installed on the lift.

When the lift is not in use, and the battery is installed on the lift, the battery will hold a charge much longer if the push button switch is placed in the off (out) position. This electrically disconnects the battery from the unit, and will allow the battery to go up to three months without a charge cycle. If the switch is left on continuously, the battery may need to be charged weekly.

It is important to note that with this switch in the off (out) position, the battery capacity indicator light on the receiver will be off and the lift will not work.

After initial break-in, the battery should last approximately 90 cycles at the full load rating of the lift before it needs recharging. The battery will need to be replaced after 500 to 800 charge cycles or three to four years if properly maintained (approximately 20,000 lifting cycles).

To activate the Emergency Up/Down rocker switch (located on the left side of the receiver), rock the switch and the lift will move in the direction indicated. These buttons can be used if the transmitter battery dies or in the event of an emergency.

CHANGING A TRANSMITTER BATTERY

To change the transmitter battery, turn the transmitter over and unscrew the four small Phillips head screws. Carefully open the transmitter case and remove the battery. This battery is stocked at most stores where coin batteries are sold, it is a 3V lithium Type 2032. Under normal operating conditions this battery should last at least two years.

Lift Operation

WARNING! Read all operating instructions before operating the lift. Make sure that all individuals using the lift have read the instructions and have been made aware of all safety precautions.

WARNING! Operate the lift exactly as described in the aforementioned instructions. Failure to do so may result in damage to the lift or personal injury.

WARNING! Do not exceed the maximum lifting capacity. This may result in damage to the lift or personal injury.

WARNING! Do not rotate the lift directly into the deck or pool/spa wall. This may result in damage to the lift or personal injury.

DAMAGE! Unless operating in an emergency situation, do not manually rotate the lift as this will cause permanent damage to the rotational components.

Care and Maintenance

The following should be performed periodically to ensure safe and dependable use.

1. Remove any discoloration with a 3M scratch pad (stainless steel components only). Wipe clean with a sponge dampened with Spectra Clean. Repeat these steps several times to passivate the stainless steel. Spectra Clean kits are available from Spectrum (Part Number 202050-00). Do not spray with high-pressure water, only clean with non-chlorinated water.
2. Check all electrical connections – Check any external electrical cables for wear and/or breakage in the outer insulation.
3. Check all mechanical connections – inspect the Nylock nuts on all moving parts and make sure they are snug. Lube all pivot points with light oil (3-1).
4. To maintain the battery properly, the battery must be fully charged at least every three months. If the battery goes for longer than three months without a charge, the battery will have reduced capacity.

Troubleshooting

Problem:	Cause:	Solution:
1. Lift will not operate at all:	Low battery (lift) – Red or amber LED on the receiver	Recharge battery
	Damaged battery (lift) – Red LED on the receiver	Replace battery*
	Dead battery (transmitter)	Replace battery 3V Lithium 2032
	Battery Push button switch in the off (out) position	Depress Push button switch into the on (in) position
2. The seat will not raise or lower. The seat will not rotate.	Low battery (Amber LED on receiver)	Recharge battery
	Battery not installed properly	Reinstall battery
	Receiver malfunction	Replace receiver*
3. The seat's motion isn't smooth or sticks at a certain point during travel.	Excessive wear to bearings	Replace bearings*
	Excessive wear to actuator	Replace actuator*
4. The seat travels much slower than normal.	Low battery	Recharge battery
	Defective or worn-out battery	Replace battery*
5. The lift makes much more noise or unusual noises during operation.	Excessive wear to bearings	Replace bearings*
	Pivot points galling	Oil pivots with light oil (3-1)
6. Battery will not charge:	Bad battery (red LED on charger – not turning orange or green in 4 hours or less)	Replace battery*

* Please contact your local distributor or Spectrum Customer Service to order parts 800.791.8056