



BH-USA

EVERYTHING FOR YOUR DOCK & PIER

PILE MOUNT EQUIPMENT GUIDE

11/2022

THIS GUIDE IS INTENDED FOR THE END USER.

Rvsd. 6-2020



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Attention:

If you are wiring a switch or motor to an exiting switch or motor and using the 2020 wiring guide, you will have to rewire the existing equipment to match the 2020 wiring guide in order for the new items to work.

BOTH THE MOTOR AND THE SWITCH NEED TO BE REWIRED TO MATCH THE 2020 BH-USA EQUIPMENT GUIDE

BH-USA assumes no responsibility or liability for installations and/or improper use of the equipment. This guide is intended to be used as a reference and general guideline only. **BH-USA** is not responsible for the design, construction or Installation of docks, piers or lifts.

Thank you for purchasing a Boat Hoist USA all Aluminum Boat Lift! Boat Hoist USA stands committed to insuring that you are happy and satisfied with your Lift. Please take a moment to re- view this guide and make yourself familiar with the parts and pieces of your Boat Hoist USA all Aluminum Boat Lift. If you need further help with installations or have any concerns you may reach us at 800-259-8715 Monday – Friday 8:00am- 5:00pm Ct. You can also visit our product support center at www.bh-usa.com and submit questions that will be answered in detail.

Aluminum Lift Check List:

Please check items delivered and report any missing items immediately to Boat Hoist USA. This MUST be done within 2 weeks of delivery to insure proper claim filing.

QUICK CHECK

- 2** Completely assembled Aluminum Top Beams with drive pipe and cable winders inside. (these will have Boat Hoist USA on the side of each one)
- 2** Aluminum I-Beams with end brackets bolted to beam.
- 2** Boxes marked Motor/ 3/4 hp for 6K and 1 hp for 8 K, 9K & 12K
- 2** Boxes marked 40:75 or 40:90 A-Drives
- 1** Box marked Cradle Hardware
- 1** Box Marked Lift Hardware & Cable
- 4** PVC with caps for Guide Posts
- 1** Box Marked Guide Post stanchions/ Hardware

Operation and Maintenance Instructions

The lift motor switches function in three positions: levers up to raise the lift, levers down to lower the lift and levers in the middle to stop the lift. When changing direction of the lift motor switches, always return the switch to the off (level) position until the motor has stopped moving. Failure to do so could result in the motor traveling in the same direction and fouling/breaking the cables.

Lowering the boat

- ✓ While standing on the dock, turn the lift motors on (levers to down position), and lower the cradle to a position where the cradle and boat have made contact with the water.
- ✓ Turn the lift off—(to off position)
- ✓ At this point your boat should NOT be floating, but is being held along the dock and resting solidly in the cradle.
- ✓ Prepare the boat for departing (cover removal, lowering the out drive/motor. Boarding and seating of guests)

Departing

When completely ready to depart, the operator can again turn the lift motors on while in the boat, allowing the cradle to lower until the boat floats freely. Turn the lift motors off. **Avoid allowing the lift to come in contact with the bottoms as this will foul the lifting cables.**

Returning

- ✓ Drive slowly to the dock and maneuver the boat to a position above the lifting cradle, make sure the boat is positioned properly both fore and aft and side to side.
- ✓ Turn the lift motors on allowing the lifting cradle to come in contact with the bottom and stabilize the boat.
- ✓ Turn the lift motors off
- ✓ Prepare the boat for storage (allow passengers to disembark, remove gear from the boat, etc.) The lift operator should also exit the boat at this point.

Storing

- ✓ When the boat is completely ready for storing, first make sure the boat is positioned properly on the lift.
- ✓ From the dock, turn the lift motors on (levers to the up position) and raise the boat to the proper storage position
- ✓ Turn the lift motors off
- ✓ Turn the electrical power to the lift off

Lift Maintenance

- ▶ Approximately every six months, the bearings and pulleys should be greased with marine grade grease.
- ▶ Visually inspect the lifting cables regularly for any broken strands (cable fray) If cable fray is noticed, notify your dealer. Spray cables with lubricant periodically.
- ▶ Visually inspect all working parts for signs of excessive wear.
- ▶ Spray all motor parts with a corrosion preventative lubricant at least twice a year.
- ▶ Adjustments by personnel other than an authorized dealer will void the warranty and may result in serious damage and/or personal injury.
- ▶ To keep your Boat Hoist USA lift operating at peak performance, minimizing service calls, we recommend that you operate your lift occasionally during the off-season or extended periods of no boating activity. Simply run the lift for approximately one minute in each direction. This will keep the motor contacts and brushes clean and all pulleys and bearings evenly lubricated.

Rinsing

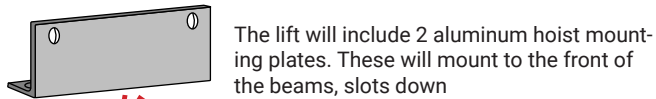
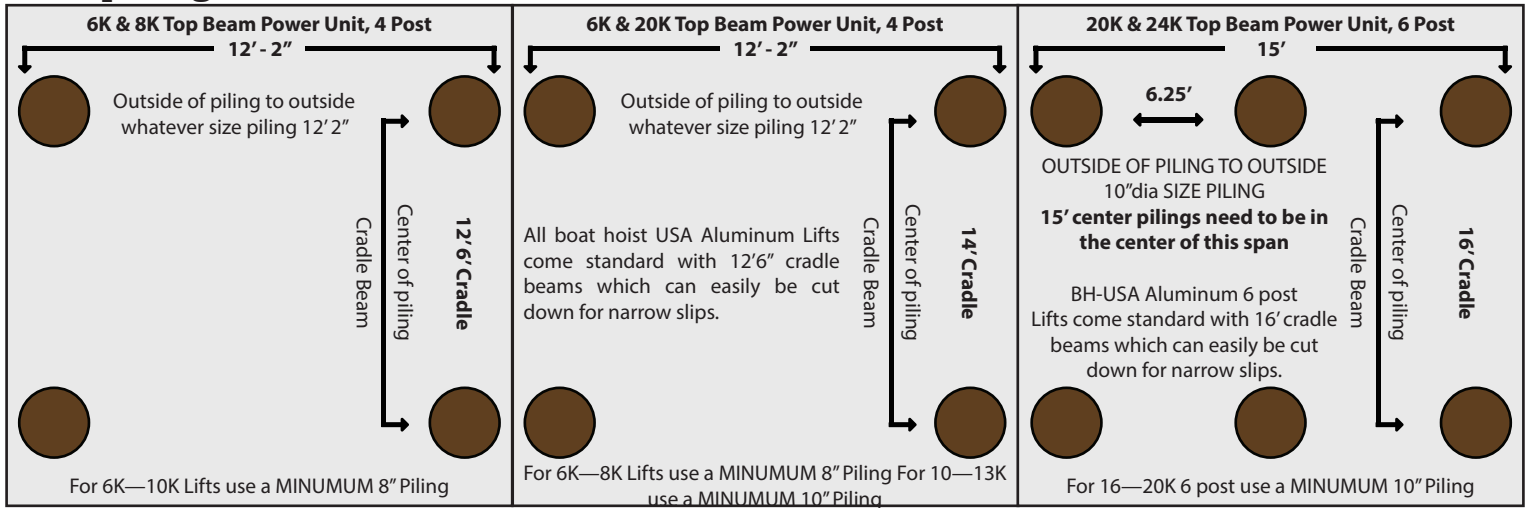
Whenever possible, raise your lift out of the water. Leaving the lift sub- merged for prolonged periods of time accelerates deterioration caused by salt-corrosion and electrolysis. Rinsing your lift regularly with fresh water will keep the lift looking new for years, and keep the lift functioning like new also.

Top Beam Installation

Cable winders

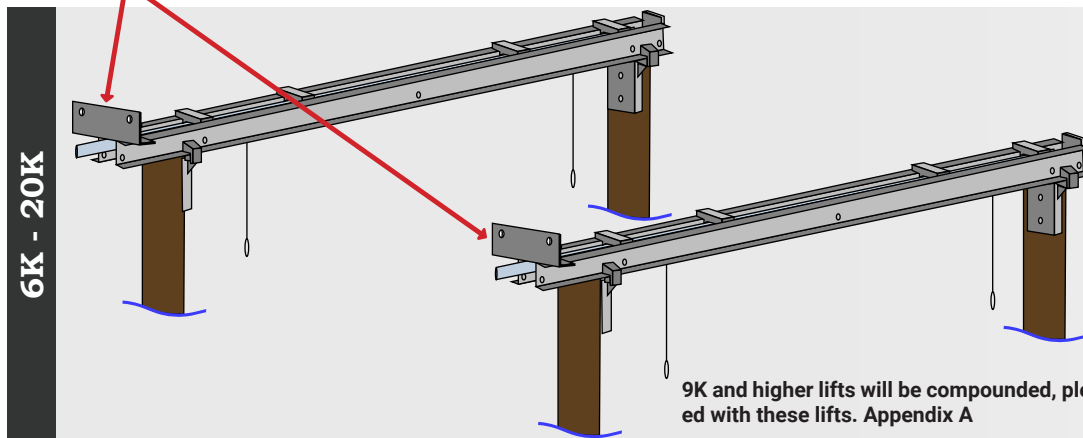
Your lift will have pre-installed cable winders, note that for shipping purposes these cable winders are not bolted to the pipe. Your hardware pack will include these stainless steel bolts. The stainless steel drive pipe will have pre-drilled holes that should line up. These holes might not line up depending on the installation and in rare cases you might have to drill a hole. The cable winders will have three holes, two smaller ones on each end and a large hole on the end closest to the front. The large hole is where you insert the end of the cable and the smaller holes are for securing the winder to the pipe. We do not recommend doing this until you have already attached the cable because the bolts will get in your way.

Pile Spacing



LEVEL YOUR TOP BEAMS!

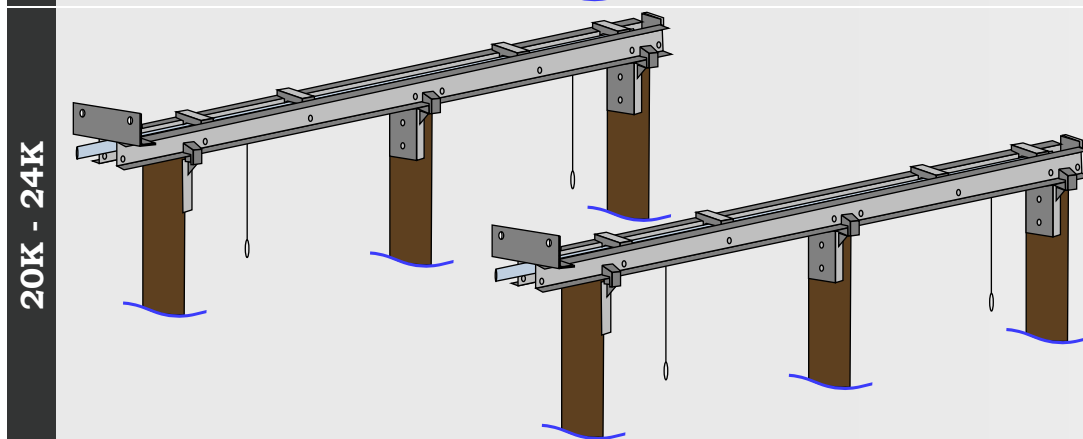
Un-Level top beams could cause the hoists to scream and lift to bind



Your lift will include 4 aluminum pile mount brackets. These are to be mounted on the inside of the pilings.

Installers Tip:
We find it easier to place the top beams on top of the pilings then mount the brackets, that way we know they will be level!

9K and higher lifts will be compounded, please see the compounding guide sheet included with these lifts. Appendix A



Your lift will include 6 aluminum pile mount brackets. These are to be mounted on the inside of the pilings.

Installers Tip:
We find it easier to place the top beams on top of the pilings then mount the brackets, that way we know they will be level!

Attaching the cables to the pipe

6K - 8K lifts come with 15' swaged cable. 9K - 24K lifts come with 33' pre-cut cable. The hardware kit will also contain 4 x 3/16 stainless steel cable clamps. We recommend sticking the non-loop side of the cable into the pipe through the large hole in the cable winder and feeding it out the end of the pipe. Place 1 cable clamp on the end and pull back through until the cable clamp stops the cable from pulling out of the pipe. Be careful to place each cable clamp at the same place on each end to help the cable remain level. It is also a good idea to measure the cables once they are installed before hanging the cradle as adjustment will be MUCH easier.

Installers Tip

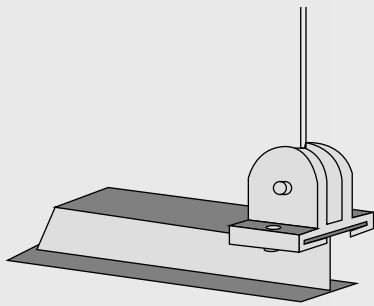
We recommend not attaching the power heads to the top beams until after the top beams are completely installed and the cable is installed. This will make it easier to move or turn the pipe for adjustment.

Aluminum Cradle Installation

ATTACHING THE CRADLE BEAMS TO THE CABLE

Boat Hoist USA no-weld aluminum Cradles have I-Beam clamps bolted to the ends of each cradle. These can easily be removed so the I beam can be cut to size then re-bolted. For 6K and 8K lifts the I-Beam clamps will not include a sheave, larger lifts include sheaves for compounding.

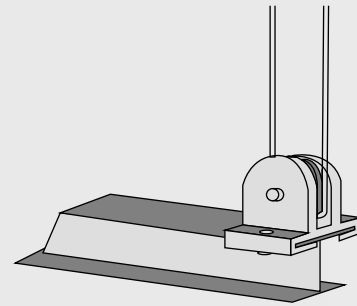
6K & 8K Aluminum Lifts



6K and 8K Aluminum Lifts are straight line lifts meaning the cable will end at the cradle beam and not double back to the top-beam. The I-Beam clamp includes a stainless

steel bolt. Remove this bolt and re-insert it through the pre-swagged loop at the end of the included cable

9K & Larger Aluminum Lifts

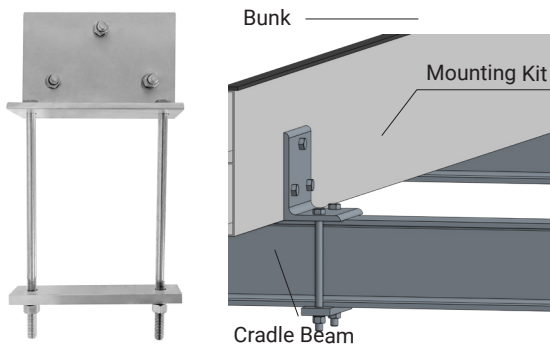


10K and larger lifts are compounded or double lined lifts. The I-Beam clamps will include a sheave for compounding, simply run the included cable around the sheave and

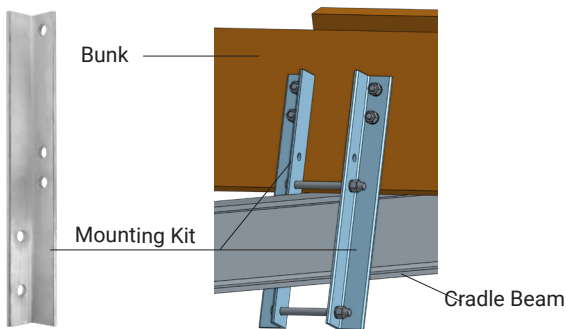
the dead end lock located inside the top beam. See Compounding guide

Attaching Bunks to the Cradle Beams

* Dead end compounding on the top beams...see appendix A



Aluminum bunks are mounted to the I-Beams using 4 pc of 6" x 4" uneven leg angle, each pc will have three holes punched in them. Set the bunk in the desired location flat on the beam. Drill through the bunk and through bolt using all three holes. Next attach the bunks to the cradle using the long SS bolts and the flat back up plate.



Wood bunks are mounted to the beams using 8 Pc of long angle (length of angle depends on Lift) each angle will be a set (right and left) Wood bunks need to be angled into the boat for strength. Boat Hoist USA does not supply the wood for the bunks but recommends using a hard, treated lumber at least 10" and 12' long.

When lifting your boat on a cradle it is important that no more than 18–20" of the rear of the boat is hanging past the I-Beam. The rear of the boat has the largest percentage of weight, if too much weight is leveraged off the end the lift could possibly fail. The boat must also be centered on the cradle to insure proper weight distribution to the cables.

1. These instructions have been printed assuming that your pilings have been set to the specifications of the size boat lift that you are installing
2. After the beams have been set, attach the pile brackets down, so they attach along the outside or inside faces of the piles. Brackets are adjustable along the beams. This will allow a lot more tolerance in the placing of the piles.
3. Fasten the beams to the piles, use bolts or lags. If the fasteners are Galvanized, use S.S. Washers under the heads as insulators.
4. Insert the cables into the shafts, and push cable out the nearest end. Cable clamps are provided to act as stops at the end of the cable. These should be a minimum of 4" from the end. It is VERY important that all 4 cables front and rear are the same. You may want to make the two front cables a little shorter to raise the front of the boat for drainage. Pull cable back into shaft until clamp contacts the back of the entry hole.
5. Attach the power units per the diagram on the previous page.
6. To position and install the cradle beams, it is highly advisable to nail a temporary 2 x 4 or 2 x 6 (running fore and aft at around dock height) to the boat side of your lift piles. These will support the cradles and also carry scaffold to the outside beam. Attach the loops of the cable to the end of the i-beams using the bolt on the inside of the I-Beam clamp housing. Make sure the cable is inside the housing and not outside.
7. Winding the lift takes two people. Each person should hold one cable firmly pulling down against the winder. Then the person closest to the drive unit starts it, the winder will begin to turn. Be sure the large gear is turning counterclockwise (facing the drive unit) if it is not, allow the motor to stop, and have your electrician reverse the switch. It is very difficult to get a perfect wrap on the first revolution of the winder, but by the third, the cable should be following the grooves on the winder. Remember it is necessary to maintain tension on the cables until they have wound up sufficiently to lift the end of the cradle. This will apply tension and keep the cables from unspooling. After performing this operation on one beam repeat on the second.
8. The installations of the bunk boards are next, please refer to the diagram depending if you are installing wood bunk boards or aluminum bunks.
9. After the boat has been loaded it is important to check the tension on the four cables. This is done by squeezing the cable horizontally with your hand with the boat on the lift. There should be what feels like equal tension on all the cables. If this is not the case lower the boat and move forward or back about one foot, and raise it again. Check the tension again. Repeat this operation until it feels right. In many cases of boats with large engines it will not be possible to get the cable tension exactly the same. Get it as close as possible.
10. Measure beam of boat and install guides accordingly. Now, load the boat on the lift. After the boat has been loaded, check the tension on the cables.
11. Maintaining the Lift:
 - A. Cables should be inspected for any chaffing or fraying and the cable company recommends that your cables should be changed every 2 years upon inspection.
 - B. After using the lift, always rinse it off with fresh water.
 - C. There are four grease zerts on the top of each top beam located on each bearing. These bearings should be greased three times a year (minimum)

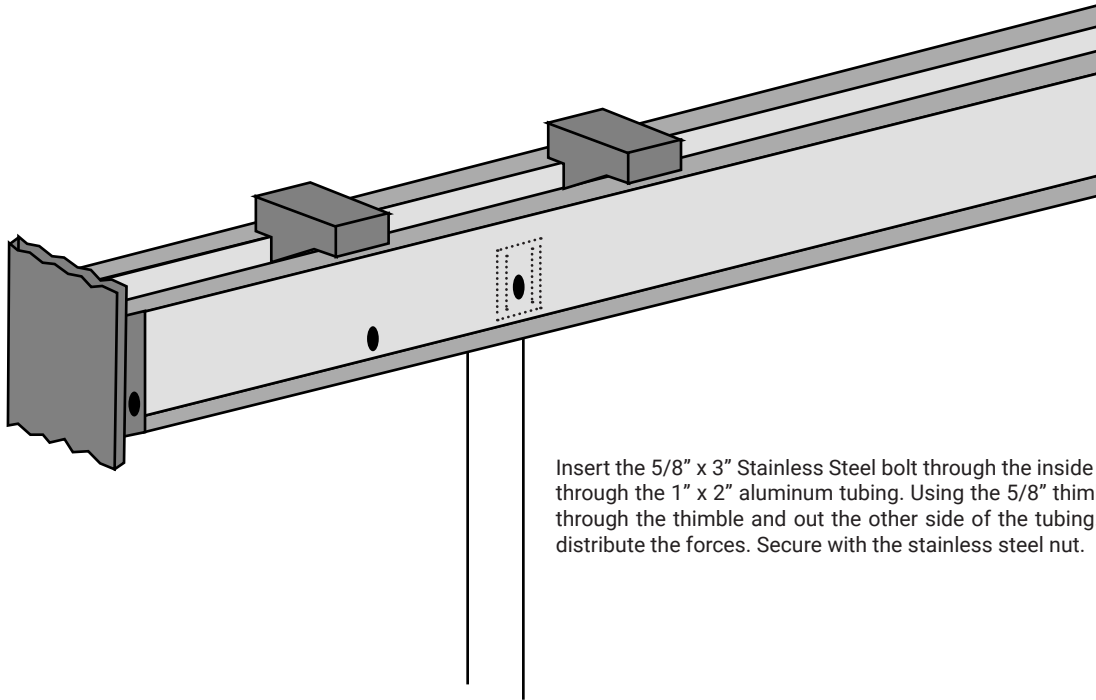
CHECK THE RATING OF YOUR LIFT!

This can be found on the rating labels on the lift. If the rating is un-readable, contact Boat Hoist USA with one of the four serial numbers on this sticker. Your lift has been designed to lift a maximum of this rating. This includes the weight of the boat, motor, fuel/water, and any gear stored on the boat.

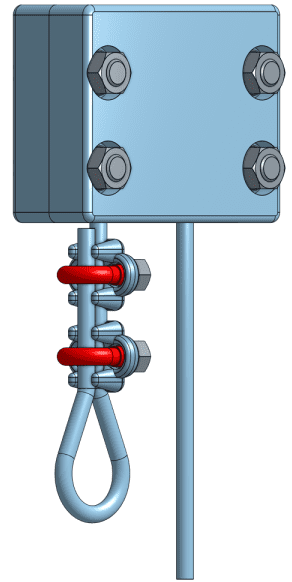
This lift is not designed to lift humans. **ONLY** allow passengers to board and leave while the lift is in the down position and the boat is in contact with the water. **NEVER** leave the lift unattended while it is in operation. Lifting above the recommended height could strain or cause the cables to break. **NEVER** operate the lift motor switches when any part of your body is in direct contact with the water. **ALWAYS** disconnect the power source when leaving the boat in the stored position. **ALWAYS** disconnect the power source when swimmers are in the vicinity of the lift. Instruct swimmers **NOT** to play under or close to the lift.

Appendix A 10K, 13K, 16K, 20K Lifts Compounding Guide

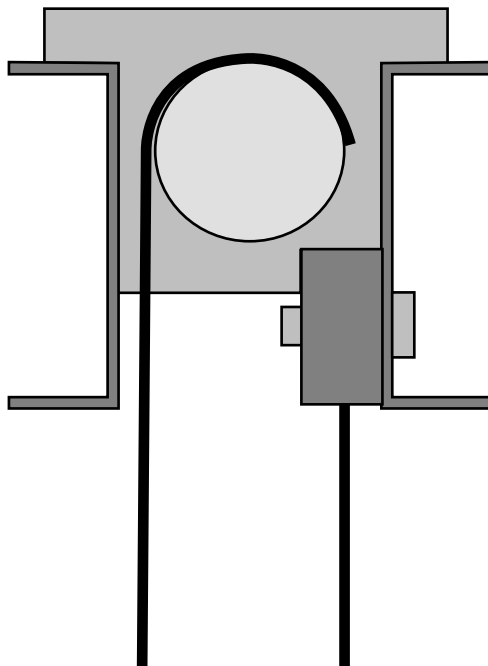
Boat Hoist USA Lifts are compounded on the 10K and above. The lifts will be supplied with 33ft of cable and clamps. The cable will not be swagged. The lifts will include dead-end cable brackets (2" x 1" aluminum tubing)



Insert the 5/8" x 3" Stainless Steel bolt through the inside channel in hole center with cable winder then through the 1" x 2" aluminum tubing. Using the 5/8" thimble, make a loop with the cable, slide the bolt through the thimble and out the other side of the tubing. Make sure you use the flat-washers to help distribute the forces. Secure with the stainless steel nut.



Cross Section

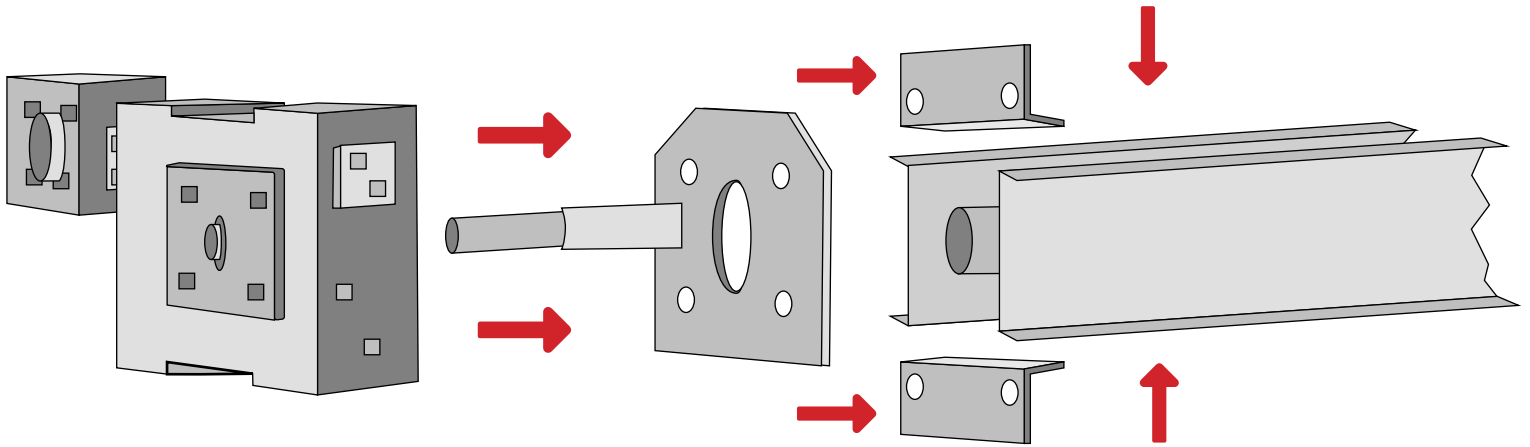


When compounding make sure that the start of the cable wraps on the outside of the lift and the compounding bracket is bolted to the inside beam. This will insure that the dead-end bracket will not interfere with the winding of the cable on the drive pipe.

Appendix B 6K - 20K

Use this guide if you have chosen to use a worm gear reducer also known as a belt-less drive instead of the flat-plate hoist.

The worm gear reducer is mounted to the top beam using two pc of angle and one flat stock with a hole pattern designed to mount to the two angle. The worm gear reducers then bolt directly to this pattern and a drive shaft fits inside the reducer and the drive pipe.



Drive Pipe Position

The drive pipe will need to be "pushed" back into the top beam to be used with a worm gear reducer. Boat Hoist USA does make every effort to drill holes that should line up. Please understand that you may or may not need to re-drill holes or widen holes in the case that they do not line up with the cable winders and insertion holes.

Electric Motor Position

Electric motor position of the Worm Gear Reducer. Boat Hoist USA supplies the worm gear reducers with the motor sticking straight out. This can be changed on site by draining the gear oil, unbolting the motor reducer box and rotating it. We do not recommend doing this, as it can damage the seal if you are not careful.

Worm Gear Reducer Maintenance

Contrary to some marketing miss-guidance worm gear reducer DO require maintenance. All worm gear reducers are subject to rust around the drive pipe sleeves and motor connections. You will need to apply rust prevention annually. Gear box oil will also eventually need to be changed.

Worm Gear Reducer Warning

Boat Hoist USA does not recommend choosing a worm gear reducer over a flat-plate hoist. Boat Hoist USA recognizes that in certain installation situations that require top beams to rest close to the docks (low profile lifts) that a worm gear reducer will allow the mounting of the top beam closer to the dock. In any case, it needs to be understood that a worm gear reducer is not a Boat Hoist and has not been designed specifically for the boat hoist industry like a Flat-Plate Hoist has. The gear ratios of a flat plate hoist allow a much greater lifting capacity and safety factor over a worm gear reducer. Worm gear reducers are in no way an up-grade to a flat-plate hoist and not manufactured by Boat Hoist USA or covered under any Boat Hoist USA warranties. Boat Hoist USA will assume no liability for a worm gear reducer if it fails or "back spins" and will only recommend replacing these with a flat-plate hoist.

Gear Box Warranties

Boat Hoist USA supplies worm gear reducers that are manufactured by reputable companies such as Electra Gear and Motoverio. These companies guarantee that their gear boxes will not fail if properly used. All warranty issues with gear boxes must be claimed with the actual manufacturer. The worm gear reducers are not covered under Boat Hoist USA's warranty and boat hoist USA will only recommend replacing the worm gear reducer with a flat-plate hoist if problems occur. Boat Hoist USA assumes no liability associated with a worm gear reducer.

Appendix B 6K - 20K

Specifications: 6000 lb through 20,000 lb Aluminum Boat Lift

Capacity	6,000 lb	8,000 lb	9,000 lb	12,000 lb	16,000 lb	20,000 lb
"A" Beam Length	12' - 6"	12' - 6"	12' - 6"	12' - 6"	12' 6" - 15'	15'
Stainless Steel Drive Pipe	Schedule 40	Schedule 40	Schedule 40	Schedule 40	Schedule 40	Schedule 40
Driveshaft O.D. x I.D.	1.9 x 1.5	1.9 x 1.5	1.9 x 1.5	1.9 x 1.5	1.9 x 1.5	1.9 x 1.5
Cable dia. Work Load	.250"	.250"	.313"	.313"	.313"	.313"
Cable make	Stainless 7x 19	Stainless 7x 19	Stainless 7x 19	Stainless 7x 19	Stainless 7x 19	Stainless 7x 19
Cable Length	15'	15'	33'	33'	33'	33'
Cable Configuration	1 Part	1 Part	2 Part	2 Part	2 Part	2 Part
"CS" Channel Section Pipe	5" @ 2.212 # per	5" @ 2.212 # per	6" @ 2.834 # per	7" @ 4.715 # per	7" @ 4.715 # per	7" @ 4.715 # per
I Beam Section	6 x 4 @ 4.03 # per	6 x 4 @ 4.70 # per	8 x 5 @ 6.307 # per	8 x 5 @ 7.023 # per	10 x 6 @ 8.646 # per	10 x 6 @ 8.646 # per
I Beam Length	12'6"	12'6"	12'6"	12'6"	14'	14'
Drive HP	2 @ 3/4 hp	2 @ 1hp	2 @ 3/4hp	2 @ 1 hp	2 @ 1 hp	2 @ 1.5 hp
Min. Piling Size	8" dia	8" dia	10" dia	10" dia	10" dia	10" dia

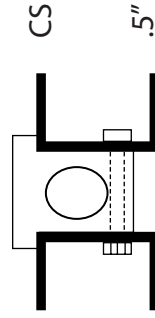
Driveshaft bearings: Bronze

All Fastener: Stainless Steel

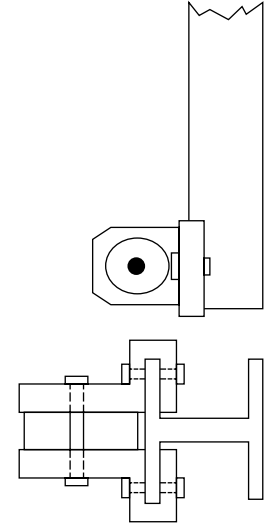
All Structure: 6061-T6 Aluminum

All Cables: Stainless Steel

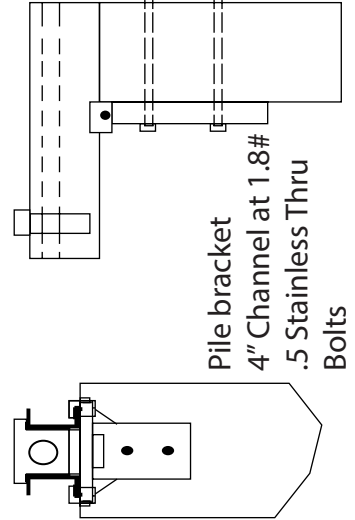
All Sheaves: Machined 6061-T6 Round bar with bronze bushing



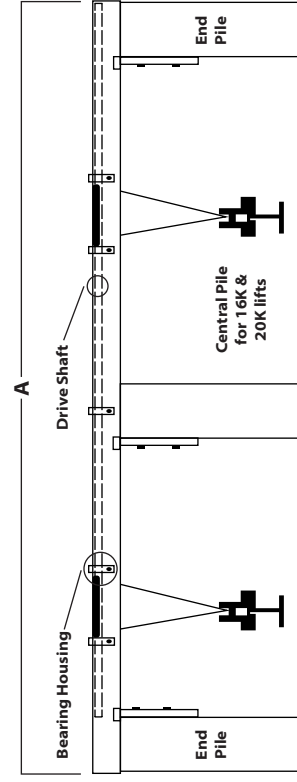
Typ. Bearing Housing Cross Section



Typical Cradle end detail



Pile bracket
4" Channel at 1.8"
.5 Stainless Thru
Bolts

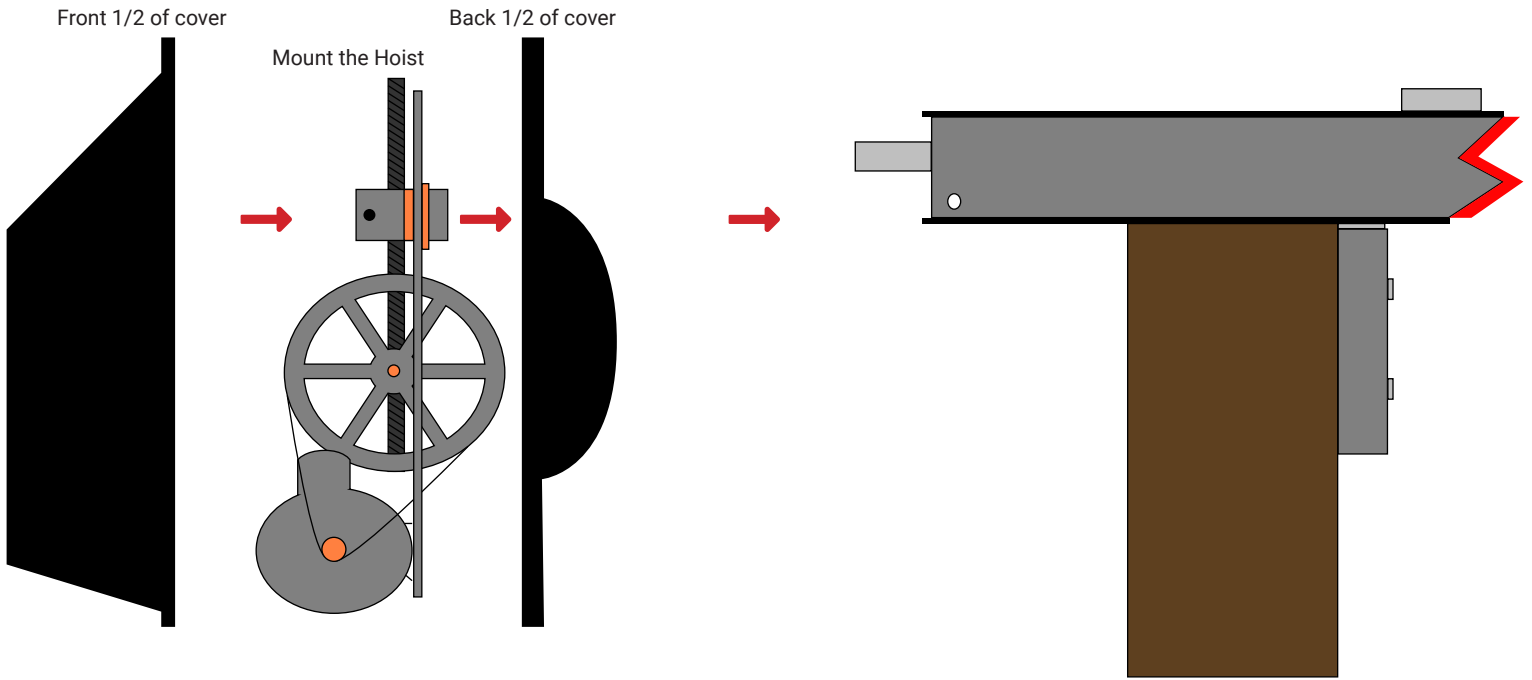


Deluxe Salt Water Series Aluminum Boat Lifts MFG USA
(Texas)



Power Head Installation Mounting the Flat-Plate Hoists to the top beams

* To mount a gear box or belt-less drive instead of an Flat-Plate hoist see appendix B *



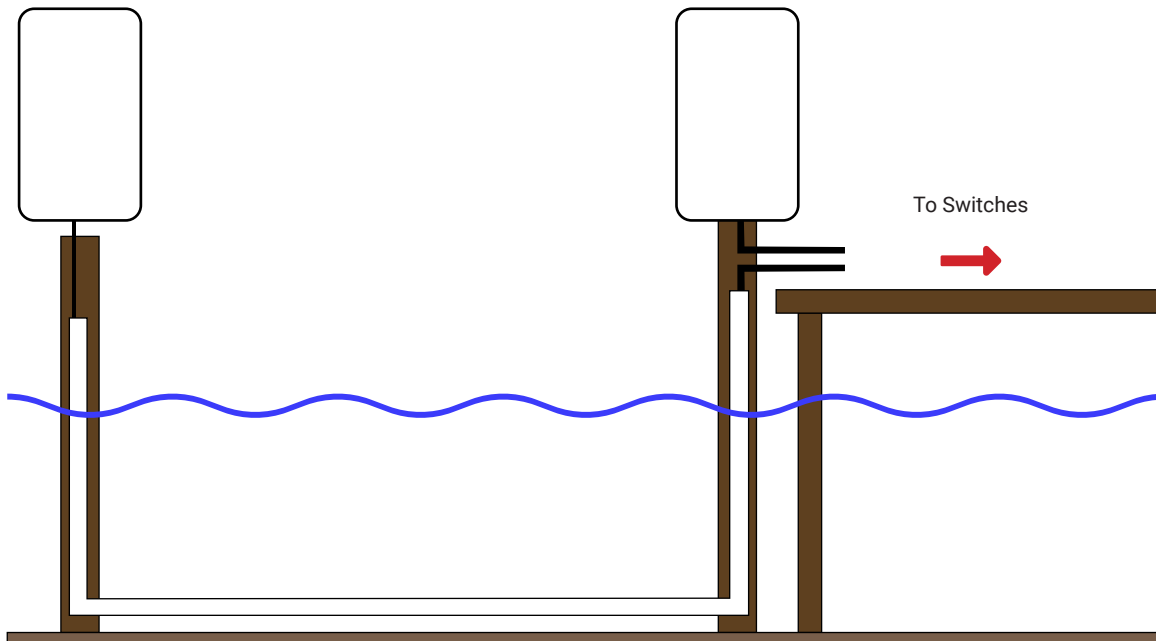
Installers Tip

It is important that you secure the bottom half of the back cover to the plate using bolts. This will insure that the cover will snap into place. You will also need to notch the cover where you would like the control cable to come out, we suggest the bottom.

Boat Hoist USA lifts are supplied with two electric motors, one motor will be wired with 16' control and the other with 45' control. Mount the motor with the longer lead on the pole furthest from the dock and run the 14/5 control wire through PVC to the other side of the slip, this will require you to remove the switch. Follow the equipment guide supplied with the motor for re-wire.

USE BOTH SWITCHES!

Always use both drum switches side by side. Do not attempt to wire both motors into one drum switch. You motors will get out of sync and you will have no way of adjusting. The optional GEM remote allows one switch with a leveling options



About Your Warranty

The Flat-Plate hoists and Electric motors are covered under a different warranty than the lift. Be sure to fill out the motor warranty card and the Gear-Plate warranty card available in the equipment guides supplied with those units. Please review the equipment guides for the hoists and the motors concerning their maintenance and or any issues.

Be sure to check the wire chart in the motor equipment guide to be sure you have the right gauge wire to supply power to thee lift.

Galvanized 6 K & 8 K 4 Post Lift

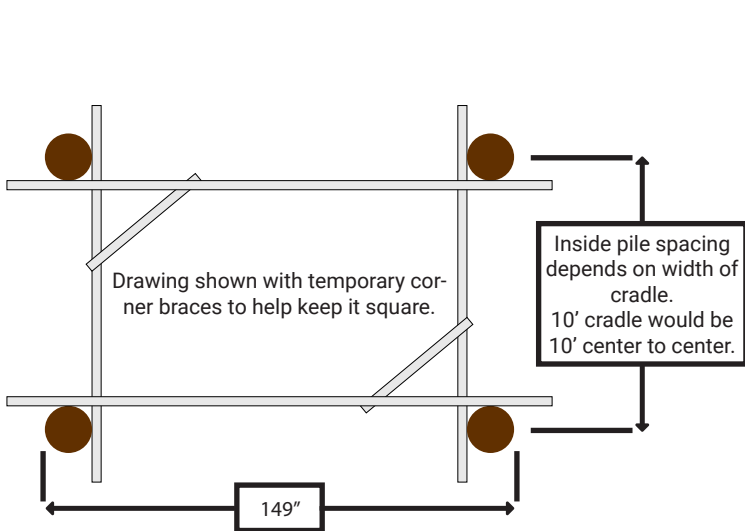
6000 & 8000 lb Lifts

Includes all components except the galvanized bolts, nuts and washers to attach the lift to the boards for the bunks and already existing pilings.

Electrical Requirements:

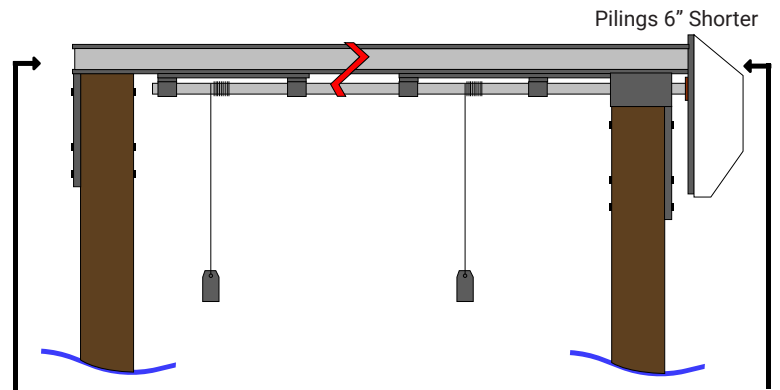
6K = Two 3/4hp motors at 22 amps minimum, # 10 wire*

8K = Two 1hp motors at 26 amps minimum, # 8 wire*

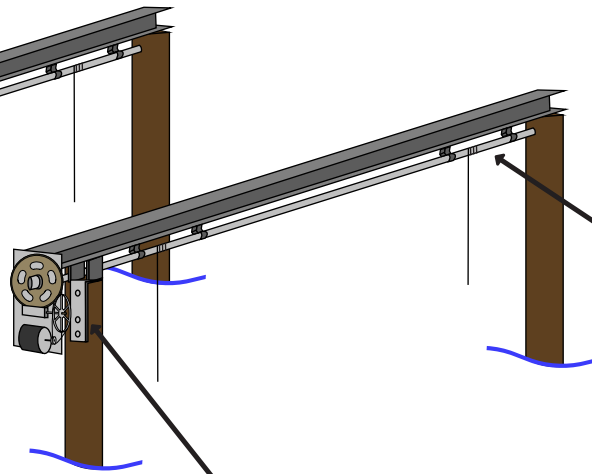


The BH-USA hoists are secured to the top beam with 1/2" x 1 1/2" bolts (Included). Mount the back cover between the gear plate and top beam first, then align the hole in the drive pipe with the hole in the large gear sleeve. Insert the gear sleeve bolt and "snap" the front cover to the back cover.

One hoist is wired with extra cable so you can mount both standard switches side by side. Don not attempt to wire both hoists to one drum switch. We recommend installing the GR2 GEM Remote (Part # 400013). The GR2 is designed to operate 1-2 motors at the same time and is designed for this type of boat lift.



8" pilings need to be installed with sufficient seabed penetration to support the weight of the boat. Pilings must be square and level to each other. The two drive end pilings (the pilings where the hoists are mounted) should be 6" shorter than the 2 other pilings. ANY movement of the pilings after installation will adversely effect lift operation and safety.



All 4 cable pieces must be equal in length. When attaching the cable to the pipe, insert the unfinished end of the cable into the hole of the drive pipe. Feed it through the pipe shaft and out the end of the pipe. Attach the 1/4" cable clamp to the cable and pull the cable back through. Make sure the clamp is tight inside the drive pipe.

Be sure to install the cable to wrap around the drive pipe an initial three wraps to support the load. Do not let the 1/4" cable clamp support the load.

Secure the top beams to the pilings using lag or through bolts.

NOTE: Attachment bolts to piling are not provided.

* Wire size depends on length of wire from main power to lift. Refer to the wire chart on page 8 of the BH-USA Equipment Guide. The Equipment Guide can be found in Resources center on our website: WWW.BH-USA.COM

Galvanized 10 K & 12 K 4 Post Lifts

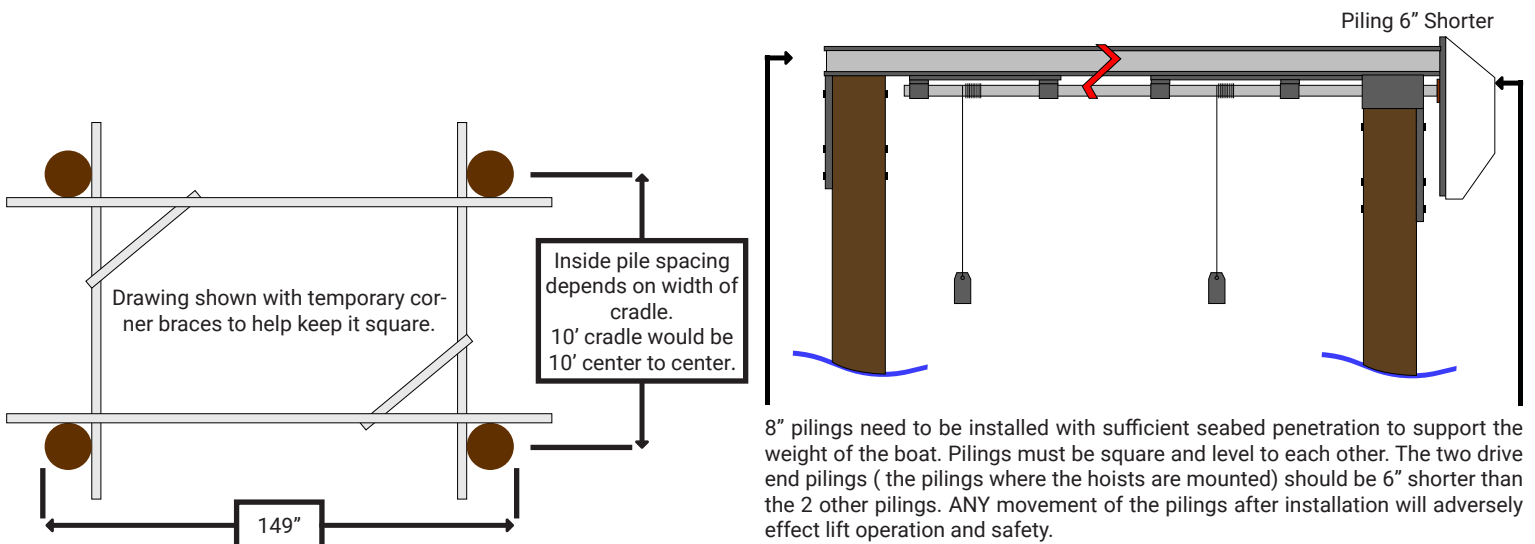
10000 & 12000 lb Lifts

Includes all components except the galvanized bolts, nuts and washers to attach the lift to the boards for the bunks and already existing pilings.

Electrical Requirements:

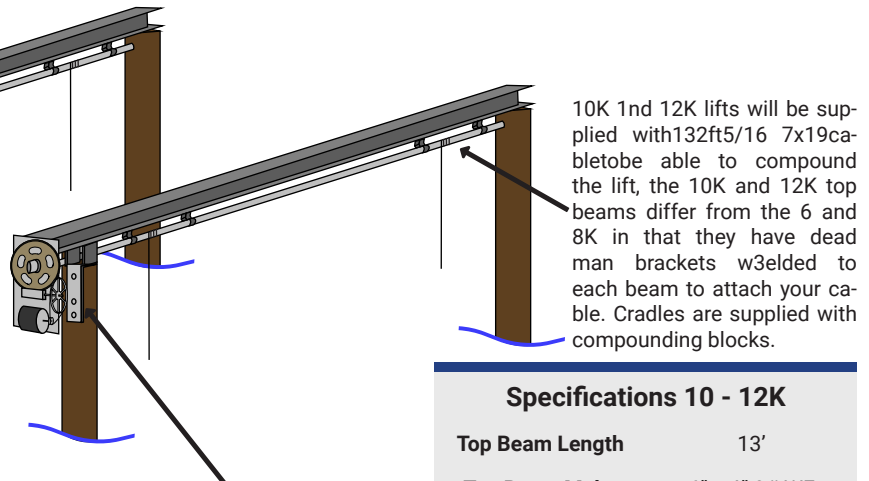
10K = Two 3/4hp motors at 22 amps minimum, # 10 wire*

12K = Two 1hp motors at 26 amps minimum, # 8 wire*



The BH-USA hoists are secured to the top beam with 1/2" x 1 1/2" bolts (Included). Mount the back cover between the gear plate and top-beam first, then align the hole in the drive pipe with the hole in the large gear sleeve. Insert the gear sleeve bolt and "snap" the front cover to the

One hoist is wired with extra cable so you can mount both standard switches side by side. Don not attempt to wire both hoists to one drum switch. We recommend installing the GR2 GEM Remote (Part # 400013). The GR2 is designed to operate 1-2 motors at the same time and is designed for this type of boat lift.



NOTE: Attachment bolts to piling are not provided.

Specifications 10 - 12K	
Top Beam Length	13'
Top Beam Make	6" x 4" 9# WF
Drive Pipe	2" ID sch 40
Cable dia/length	33' / .313
Bottom Beam Make	6" 12.5#
Bottom Beam Length	10ft*

* Wire size depends on length of wire from main power to lift. Refer to the wire chart on page 8 of the Boat Hoist USA Equipment Guide. The Equipment Guide can be found in Product Support Center on our website: WWW.BH-USA.COM.

* 10ft wide cradle is standard, we can accommodate special requests.

Diagrams are NOT to scale

