



Installation Manual

For

Alumavator and Platinum

10 and 23 Degree

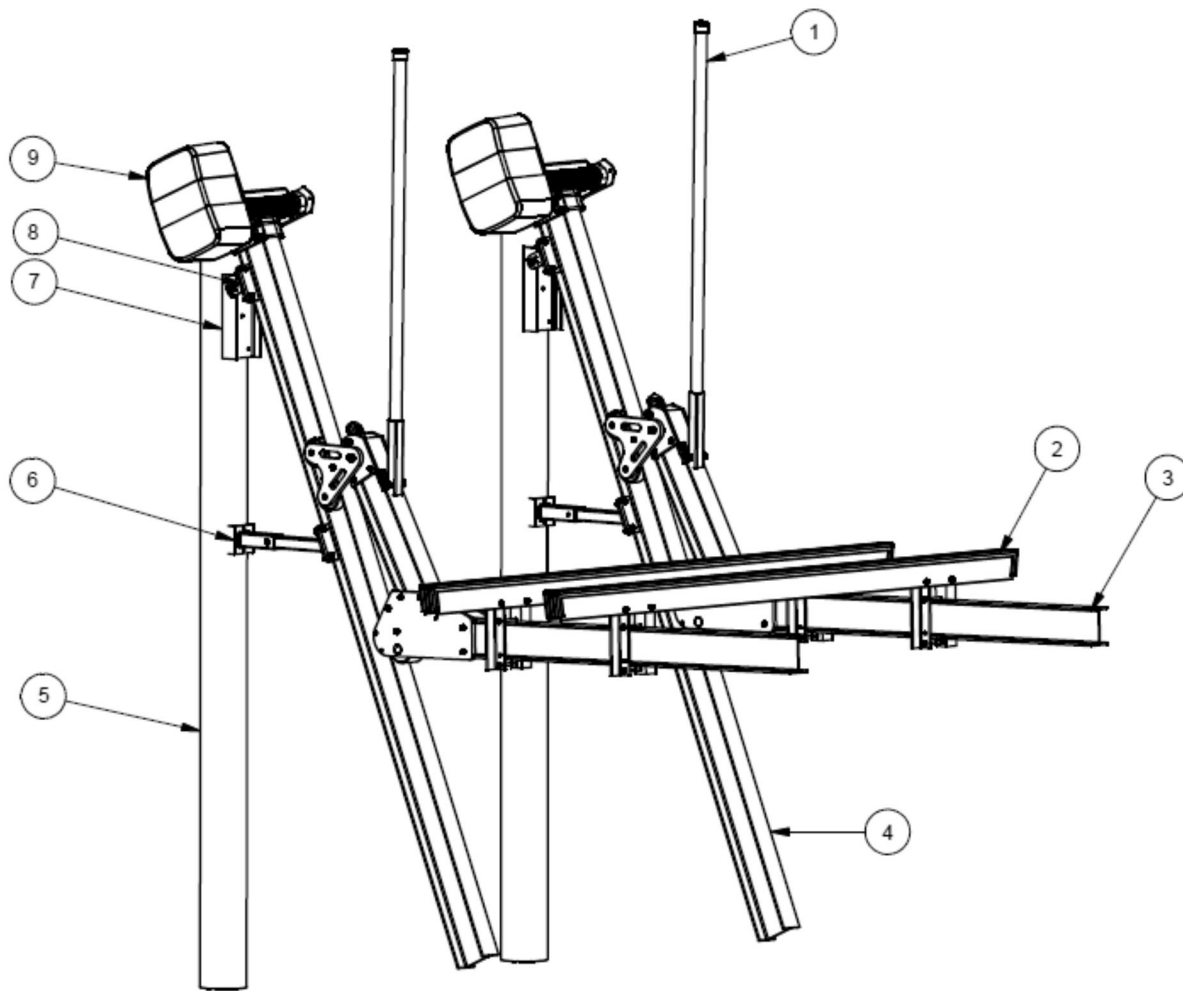
Elevator Boat Lifts



# Safety Precautions



1. Your boat lift is a heavy duty piece of equipment. It is important that all persons that may operate this unit have read and understood the owner's manual. Given the inherent dangers of heavy machinery, your boat lift deserves respect, and good judgment is required in its operation. Before allowing others to operate the unit be certain that they understand the proper operating procedures. Do not allow children to operate the lift.
2. This product is for lifting unoccupied boats. Do not ride in your boat or on the lift during operation. Always attend the controls when operating the lift, and watch carefully to have others stand clear. Keep hands, feet, and clothing away from all moving parts.
3. Your lift is operated by electricity, therefore, additional care must be taken. It must be wired by a licensed electrician, and it must be installed with an approved ground fault interruption device. If you observe severed or damaged wiring, it must be repaired immediately by an electrician. When properly installed and maintained, electrical devices such as this lift are completely safe. However, any electrical device used in and around a water environment must be treated with great respect to prevent accidental electrocution. All electrical maintenance and service to this lift must be done by a licensed electrician.
4. While operating your lift, routinely look at all cables for fraying, damaged ends, or loose strands. A damaged cable must be replaced immediately. Make sure that all pulleys are turning properly. Routinely look over cables to make sure that they are winding properly. Look for signs of extreme wear and unusual corrosion, as well as, exposed or damaged electrical wires. If you find any of the above, have the problem repaired immediately.
5. Do not work on your boat or lift while the boat is hoisted. When working on your lift, keep your hands, feet, and clothing away from all moving parts. Exercise great care if chains or gearing are exposed. Never work underneath a raised lift, and do not walk or stand on a raised lift. Always disconnect electrical power when working on any part of the lift.
6. Be careful not to exceed the rated capacity of the lift. To determine the total weight of your equipment to be lifted, study the boat manufacturer's literature to determine its weight. Be sure to add enough extra weight to compensate for your added accessories, including water and fuel. Gasoline weighs about 6 lbs. per gallon and water weighs about 8 lbs. per gallon.
7. If you plan to leave your lifted boat unattended for several weeks, it is important that you remove the drain plug in the boat to prevent it from filling with rain water. Accumulated rain, snow or other water in your boat can rapidly become heavy enough to exceed the capacity of a lift, causing personal injury or damage to the boat and lift.



## **Parts List**

- |   |   |
|---|---|
| 1. Guide Post Assembly                                | 13. Bolt HXHD $\frac{3}{4}$ " x 10" UNC   |
| 2. Bunk and Cover Assembly                            | 14. Washer, Flat $\frac{3}{4}$ "          |
| 3. Elevator Arm                                       | 15. Nylock Nut, $\frac{3}{4}$ " UNC       |
| 4. I-Beam Track                                       | 16. Bolt HXHD $\frac{3}{8}$ " x 4" UNC    |
| 5. Piling   | 17. Washer, Flat $\frac{3}{8}$ "          |
| 6. Telescopic Brace                                   | 18. Nylock Nut, $\frac{3}{8}$ " UNC       |
| 7. Pile Mount Bracket                                 | 19. Telescopic Mount, Inside Tube         |
| 8. Track Mount and Track Clamp                        | 20. Bolt HXHD $\frac{1}{2}$ "-13 x 4" UNC |
| 9. Powerhead  | 21. Nut, HXHD $\frac{1}{2}$ "-13 UNC      |
| 10. Bolt HXHD $\frac{1}{2}$ " x 2 $\frac{1}{2}$ " UNC |   |
| 11. Washer, Flat $\frac{1}{2}$ "                      |   |
| 12. Nylock Nut, $\frac{1}{2}$ " UNC                   |   |

## ***Introduction***

Welcome, and congratulations on your purchase of an Imm Quality Boat Lift! At Imm Quality Boat Lifts, we take pride in making the most advanced, most durable, easy to use and low maintenance boat lifts on the market today. The installation of this lift is simplified by its' lightweight aluminum construction and by extensive factory assembly. Only Imm Quality takes the extra time to pre-wind the cable on the winders, pre-assemble the drives, motors, covers and powerhead components, and pre-assemble the carriage including bunk brackets and guide post assembly. We do all this as an added service to make life easier for our valuable customers. In the following pages, we will take you step-by-step through the entire installation process. We urge you to read this manual before attempting installation. If you have any questions, please contact us at 1-800-545-5603 and ask for technical support.

## ***Before you begin...***

Our elevator lifts can be mounted to wood pilings, concrete pilings, concrete docks or seawalls. The pilings, docks or seawalls are the foundation of the boat lift and must be able to carry the combined load of the lift and the fully loaded boat. Local and National building code and common practice varies from area to area. Consult with our technical service department or your local marine contractor for appropriate guidelines. It is the contractor's / installer's responsibility to determine and construct suitable support structure and bracing for our elevator lifts.

## Elevator Lift Electrical Requirements

Having the proper electrical service to the boat lift is critical to the performance of the lift. Inadequate electrical service could result in damage to the motor and / or the lift controls. When at all possible, the boat lift should have dedicated electrical service to prevent circuit overloading and to minimize interference by other devices on the circuit. Consult the following chart as minimum guidelines for properly sized circuit breaker and wire size based on horsepower and number of motors.

**Minimum Breaker and 75C Copper Wire Size (AWG) for Single-Phase A.C. Motors**

# and Motor H.P.	Amps to run		Breaker Size		50 Feet		100 feet		200 feet		300 feet		400 feet	
	115V	230V	115V	230V	115V	230V	115V	230V	115V	230V	115V	230V	115V	230V
(2) 3/4 H.P.	23	12	30 A	15 A	#8	#14	#6	#12	#3	#8	#2	#6	#1	#6
(2) 1 H. P.	----	14	----	20 A	----	#14	----	#10	----	#8	----	#6	----	#4
(2) 1 1/2 H.P.	----	18	----	25 A	----	#12	----	#10	----	#6	----	#4	----	#4

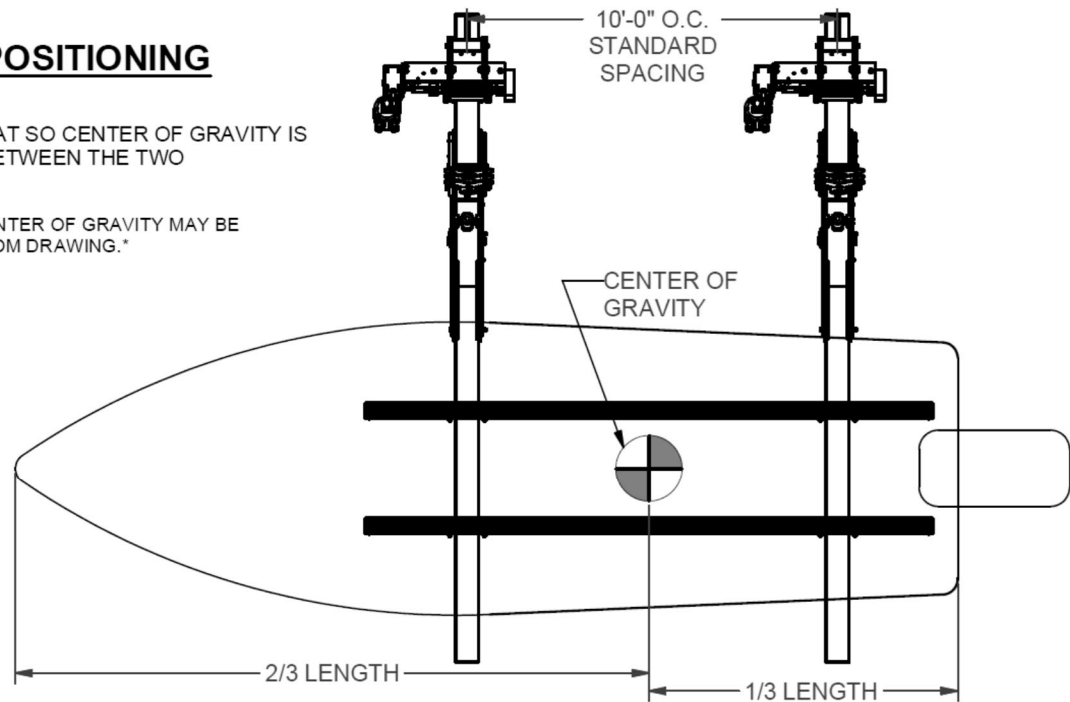
### Important Notes:

- Please use current motor label to confirm specifications in above chart.
- For Aluminum wire, increase by 1 wire size, minimum.
- The appropriate instructions and wiring diagrams are enclosed in the control box.
- The wiring recommendations and diagrams referred to are not meant to supersede any national or local codes.
- Read all instructions and wiring diagrams before connecting or changing wires.
- Imm Quality Boat Lifts recommends that all electrical work be performed by a licensed electrical contractor.
- Wiring procedures other than those presented by Imm Quality Boat Lifts will void the product warranty.
- **A FOUR POLE DISCONNECT OR EQUIVALENT CONTROL BOX MUST BE INSTALLED.** An electrochemical reaction known as electrolysis can cause premature degradation of metal components including but not limited to I-beam tracks and carriage. The lifts electrical supply (including ground and neutral legs) should be mechanically disconnected from the power source when not in use.
- **WIRED ZINCS MUST BE CONNECTED TO THE LIFT AND ALWAYS BE SUSPENDED UNDERWATER.** We recommend wrapping the wire of the zinc around a mounting bolt (between washer and mounting surface) on the telescopic track mount on each track. Two zincs are provided with the lift. Zincs must be checked periodically and replaced as necessary.

## **BOAT POSITIONING**

POSITION BOAT SO CENTER OF GRAVITY IS CENTERED BETWEEN THE TWO CARRIAGES.

\*NOTE: THE CENTER OF GRAVITY MAY BE DIFFERENT FROM DRAWING.\*

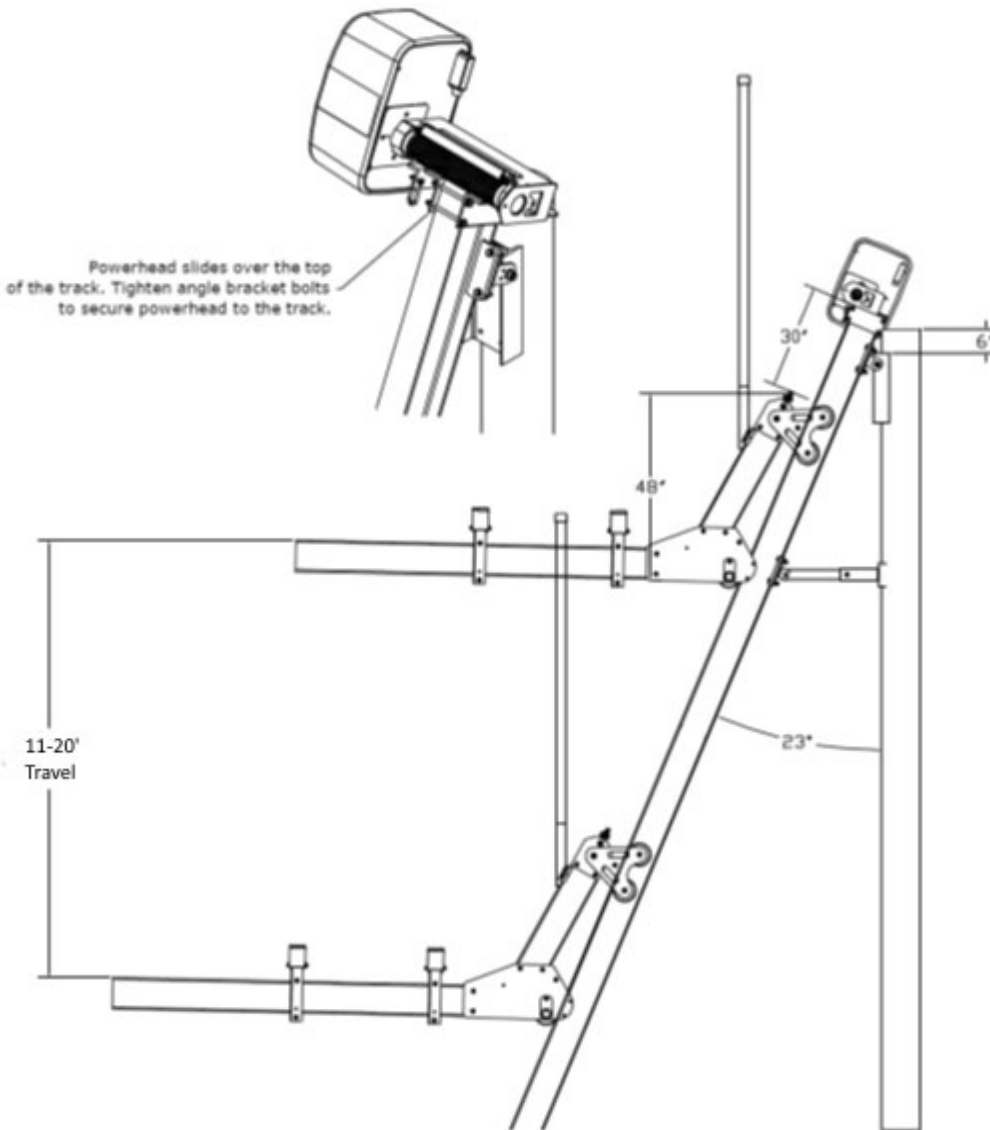


## **General Installation Notes:**

Standard piling spacing ranges from 9' to 11' depending on lift capacity, boat and local conditions. Consult the lift specification sheet to see our recommendation based on the capacity of the lift. Ultimately, it is the contractor's / installer's responsibility to determine and set the spacing and height of the piling. To get the keel of the boat to align with the deck height, the track must be at least 52" for the 4,500, 60" for the 8,000 and 10,000 and 64" above the deck for the 13,000 pound and larger capacity lifts (measured vertically from deck to highest point of the track).

Standard travel is 12' on the 4,500, 8,000, and 10,000 pound capacity elevator lifts and 11' on the 13,500, 16,000 and 20,000 pound capacity elevator lifts. Standard track length is 25' for all capacities. Note: Water depth and bottom conditions may require the use of longer tracks.

## Track Install Considerations



### **Carriage Height:**

	<u>10°</u>	<u>23°</u>
4.5K	48"	44"
8, 10K	54"	50"
13, 16K	67"	64"
20K		70"

### **Powerhead Requires:**

5" of track for mounting  
on 4.5, 8 and 10K lifts.  
6" of track for mounting  
on 13, 16 and 20K lifts.

### **Piling Mount:**

Top of mounting bracket  
must be 6" below top of  
pile.

**Note:** If distance from  
refusal to piling mount is  
more than 15', track  
bracing is required. See  
installation instructions  
provided with braces.

## Lift Specifications

Standard Travel: 12' for 4.5, 8 and 10K capacities  
11' for 13.5, 16 and 20K capacities  
Extended Travel: 15' for 10K, and 16' for 20K capacities  
20' for 4.5, 8, 13.5 and 16K capacities

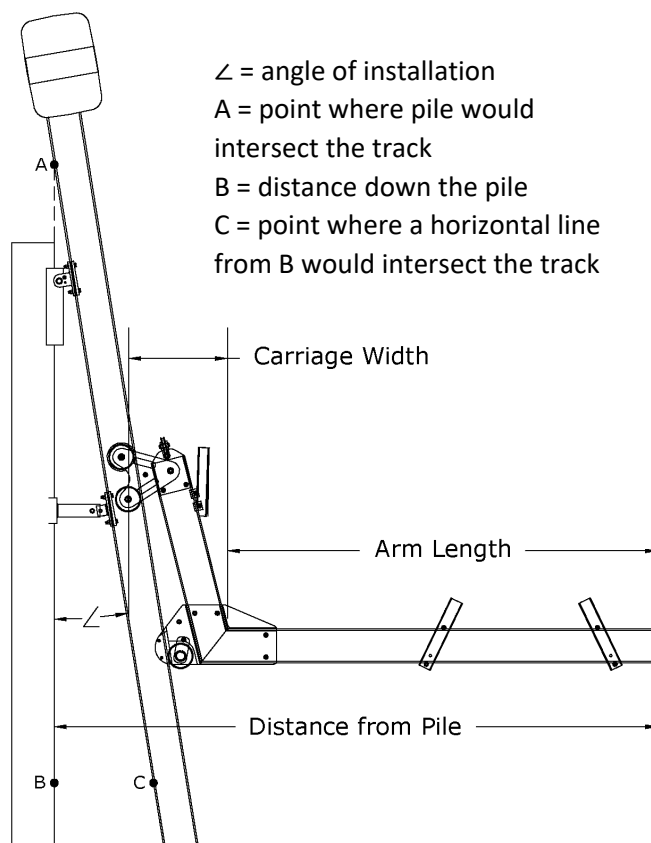
Max Raised Position: 30" from top of the track (to allow for powerhead and mount)

Track Angle: 10 or 23 degrees

Standard Track Length: 25'

## Will it Fit?

There are two important measurements to consider when determining the proper size of elevator lift for your boat and installation location: the carriage arm length and the distance from the end of the carriage arm to the pile. The distance from pile measurement is often important to know for permitting, where local ordinance may restrict the distance your boat lift structure protrudes into the channel. The carriage arm length is important to know when deciding if your boat will fit comfortably on the lift. Please consult the following table and formula while you are planning your installation. Custom built elevator lifts are available to accommodate any size or shape of boat.



Having your track installed at an angle slightly complicates the distance from pile measurement because the farther down the pile you take your measurement, the track will be farther out from the pile.

You can easily calculate the distance the track is away from the pile using the following equation:

$$B \leftrightarrow C = \tan (\angle) * A \leftrightarrow B$$

For example, if you have installed your track at  $23^\circ$  and want to measure the distance the track is away from the pile ( $B \leftrightarrow C$ ) at 120" below point A ( $A \leftrightarrow B$ ), the calculation would be:

$$B \leftrightarrow C = \tan (23) * 120$$

$$\text{Therefore, } B \leftrightarrow C = 51''$$

On the following page we have provided a table showing carriage measurements for our standard elevator lift capacities that were built to be installed at either  $10^\circ$  or  $23^\circ$ . To determine the distance from the pile, you simply add the distance the track is away from the pile ( $B \leftrightarrow C$ ) to the carriage width and arm length, both of which can be found in the following table.



### Table of Carriage Measurements

	Lift Capacity	Arm Length	Carriage Width	Max Beam of Boat*
10°	4,500	86.5"	17"	114"
	8,000 & 10,000	100.75"	23.25"	126"
	13,500 & 16,000	108"	27.25	138"
	20,000	132"	33.75"	150"
23°	4,500	86.5"	18.5"	120"
	8,000 & 10,000	102"	25.75"	132"
	13,500 & 16,000	108"	29.25"	144"
	20,000	132"	35.25"	156"

\*Max Beam measurement for a lift loaded to full capacity

### Distance From Pile = B ↔ C + Arm Length + Carriage Width

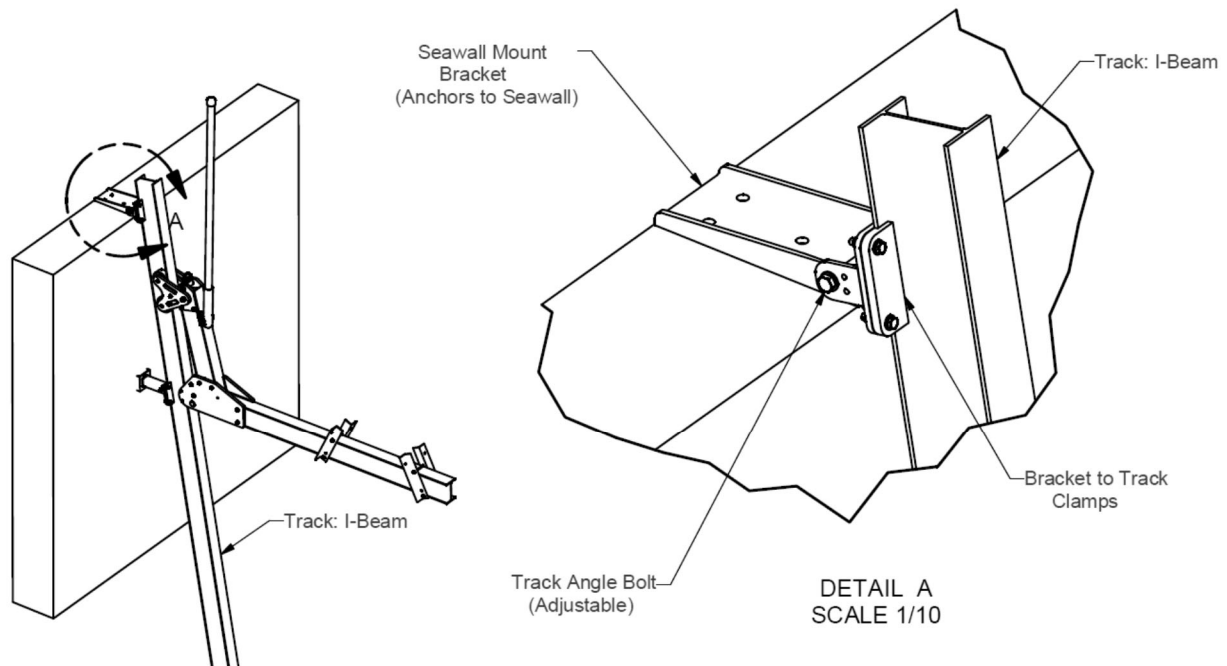
For example, if you have a 16,000 lbs. capacity elevator lift and you have installed your track at 23° and want to measure the distance from the pile at 120" below point A (A ↔ B), the calculation would be:

Distance From Pile = B ↔ C + Arm Length + Carriage Width

Distance From Pile = 51 + 108 + 29.25

Distance From Pile = 188.25"

## Seawall Mount Installation



- 1) The positioning of the seawall mount bracket on the seawall cap is ultimately up to the installer / contractor. The seawall mount bracket base can be flush with the seawall cap with angled track installations. Vertical track installations require the edge of the seawall mount bracket to protrude at least 1" into the slip area to accommodate the track clamp bolts. For all installations, make sure the track will clear the seawall cap before anchoring the mounting bracket.
- 2) The seawall mount bracket has three holes for anchoring to the seawall cap. The holes are 7/8" diameter. The type of anchoring hardware and their suitability is left up to the installer / contractor to determine and supply.

## **Pile Mount Installation**

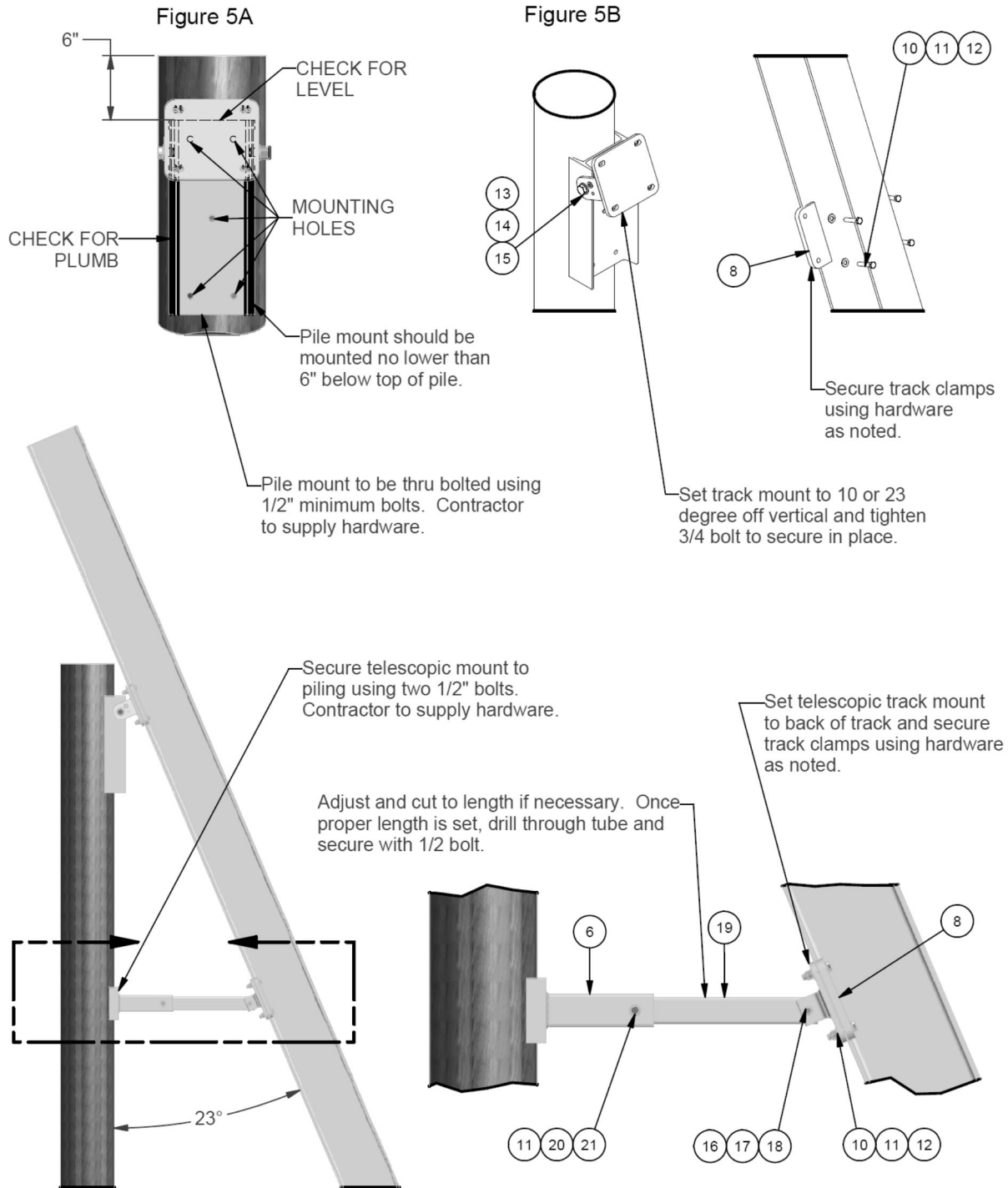
***\*\* Please refer to figures on page 12 for installing the piling mount assemblies. \*\****

- The top of the pile mount bracket should be 6" from the top of the piling. The pile mount bracket must be level and plumb. (Figure 5A)
- The pile mount bracket should be attached to the pile using five ½" diameter carriage bolts or threaded rod (Contractor Supplied). The use of lag screws will void the warranty. Install bolts thru piling and secure using backing washers and nuts (Contractor Supplied).
- (Figure 5B) Using a level and an angle finder, set the track mount bracket to the install angle (either 10 or 23 degrees off vertical) and tighten the ¾" bolt (parts 13, 14 and 15).

## **Track Installation**

***\*\* Please refer to figures on page 12 for installing the tracks. \*\****

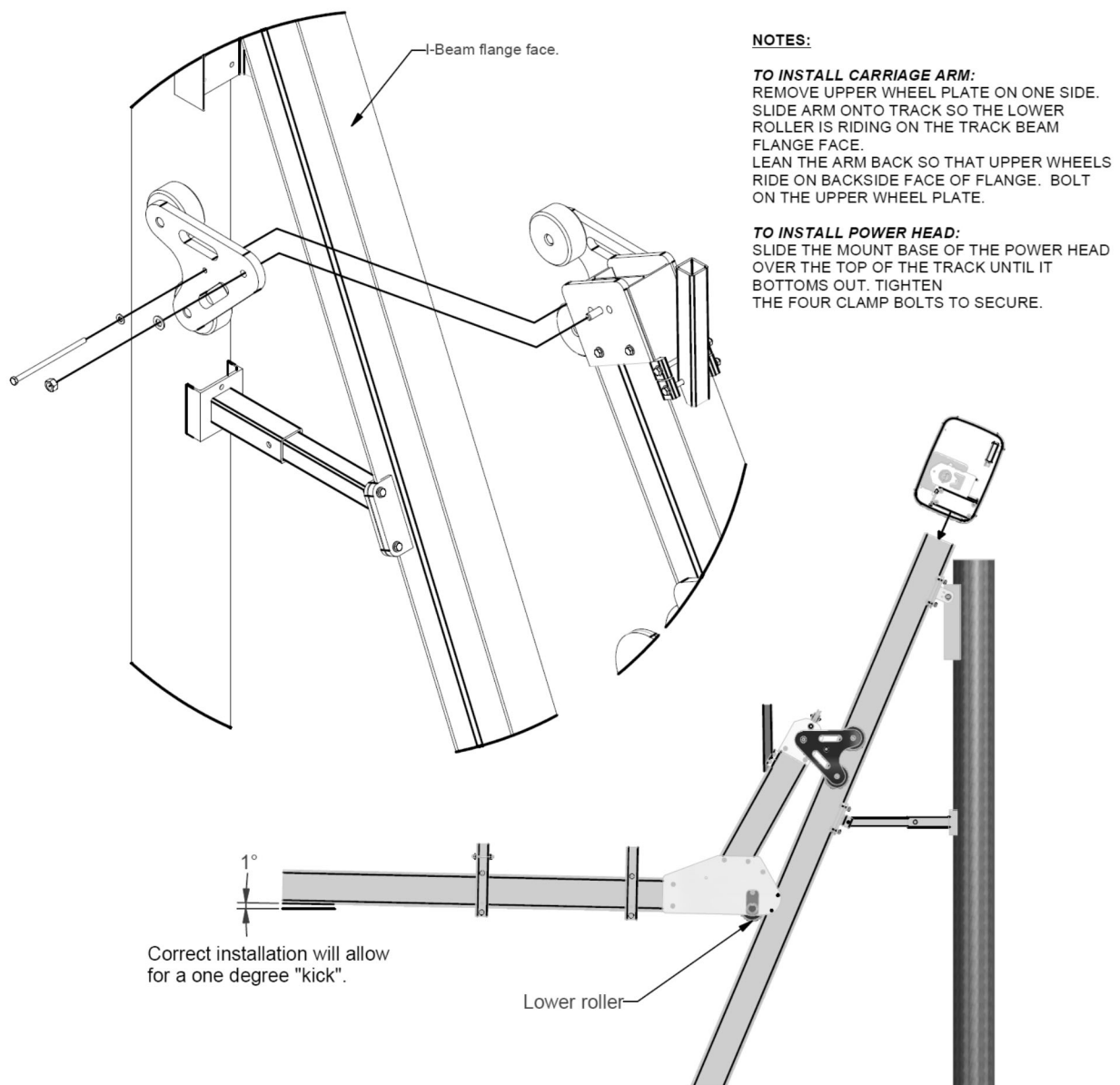
- (Figure 5B) Using the track mount clamps (part 8) with ½" x 2 ½" bolts and hardware (parts 10, 11 and 12), loosely bolt track to piling or seawall mount. Verify correct alignment of track and drive track to refusal (the point at which 10 impacts of a track driver does not move the track farther than ¼"). The bracket face may be used as a guide while driving the track, but the contractor must frequently verify the alignment during the installation process.
- Once track is set in place, check for correct alignment one more time. Tighten all bolts on the clamps to secure the track.
- Repeat the above steps for the second track and mount assembly. Take special care to ensure that the second track is both plumb and parallel with the first track. To accomplish this, make sure the angle of installation is the same for both tracks and that the distance between the two tracks is equal at both the top and bottom of the tracks.
- (Figure 6) Install the telescopic track brace (part 6) to the piling or seawall. Measure the distance from the end of the brace to the track on a horizontal plane. If needed, cut the opposing telescopic mount inside tube (part 19) so that it will slide into the mounted end and engage at least 2" beyond the connecting hole. Once proper length is set, drill through tube and secure with ½" bolt and hardware (parts 11, 20 and 21).
- Secure the telescopic arm bracket to the track with track mount clamps and hardware (parts 8, 10, 11, 12, 16, 17 and 18). Remember to wrap the wire of the zincs around the mounting bolts between the washer and track clamp.
- The distance between the piling mount and the telescopic mount should be at least 30". The brace should be mounted as close to the high water line as possible without being mounted in the water.



**Figure 6**

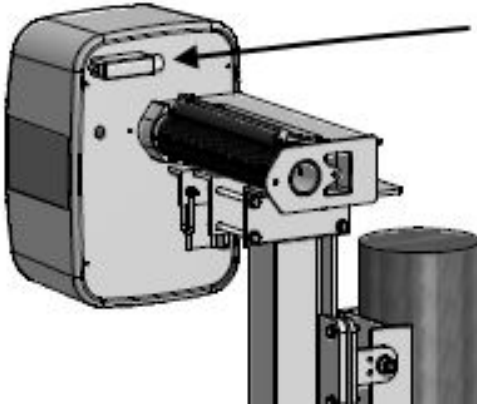
## Installing Carriage Arms and Power Head

- Remove the upper wheel plate from one side of the carriage.
- Position carriage so that lower wheel rides on the flange face of the I-beam track that is closest to the slip area.
- Lean the carriage arm back so that the upper wheels engage and ride on the opposite face of the I-beam track.
- Re-install the upper wheel plate and tighten all hardware.
- To install Power Head, simply slide the mount base over the top of the track and lower until it bottoms out. Tighten the four clamp bolts to secure.



## Electrical: Motor Wiring for Elevator Lifts

The powerhead cover **does not** need to be removed to wire the motor to a control box. All motor wire leads have been routed to a conduit box located on the back plate of the powerhead enclosure. To connect to the Bonita, Gem or Tigershark control boxes, simply connect the motor wire leads to the appropriate wires in the control box according to the diagrams below.



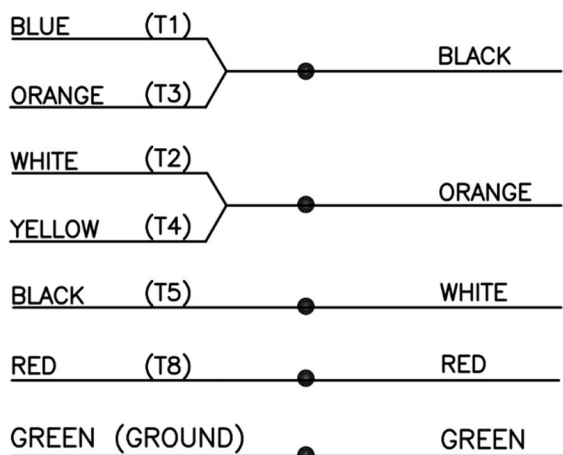
All motor wires are located inside this conduit box.

**\*\*Note:** Imm Quality Boat Lifts recommends that the electrical hookup be performed by a licensed electrician and conforms to all national and local electrical code. The appropriate wiring diagram and further instructions are enclosed by the OEM in the control box. Please read all instructions and wiring diagrams before connecting or changing any wires.\*\*

### 115 V

#### MOTOR

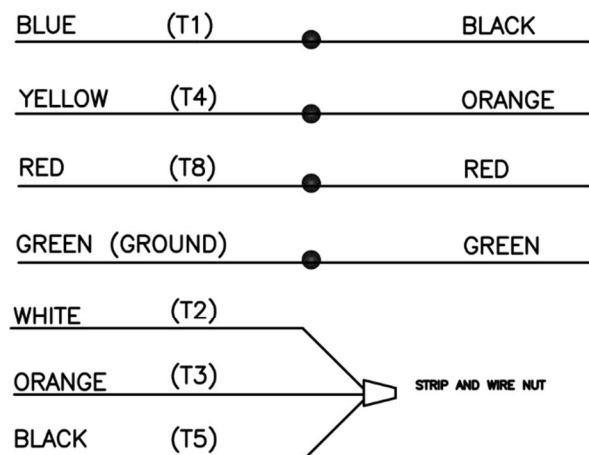
#### CONTROL



### 230 V

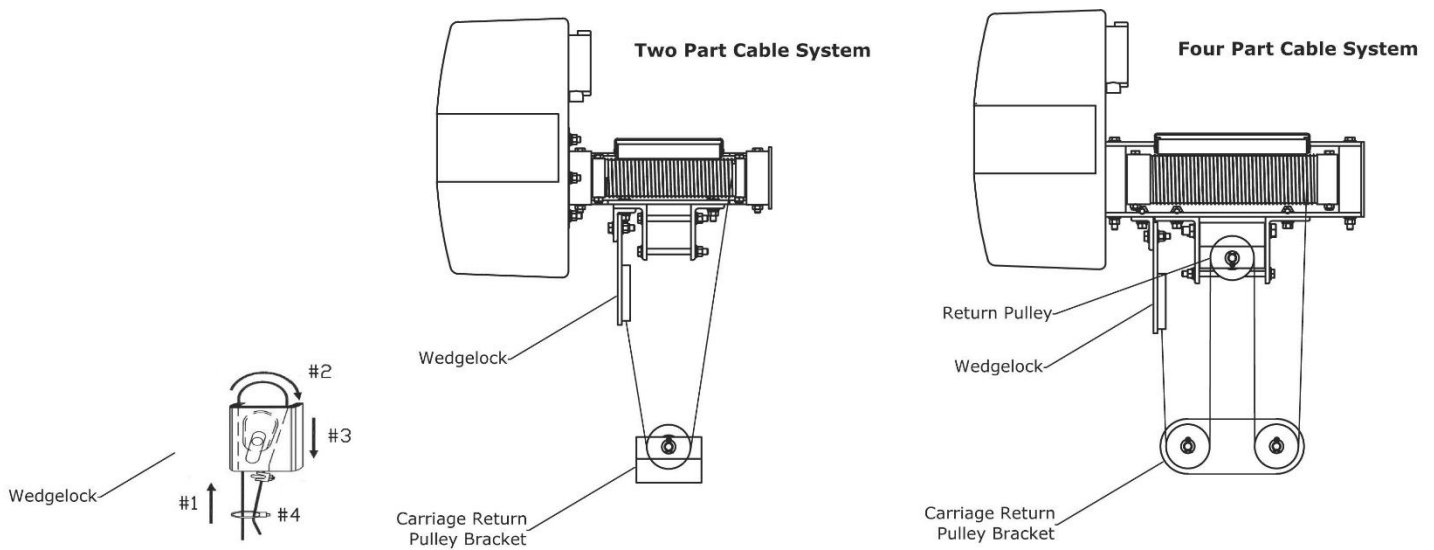
#### MOTOR

#### CONTROL



\* TO REVERSE MOTOR DIRECTION FOR EITHER VOLTAGE INTERCHANGE BLACK (T5) AND RED (T8)

## Installing Cable



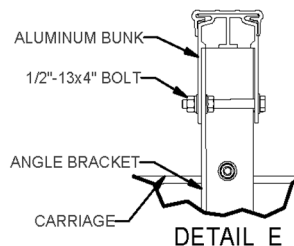
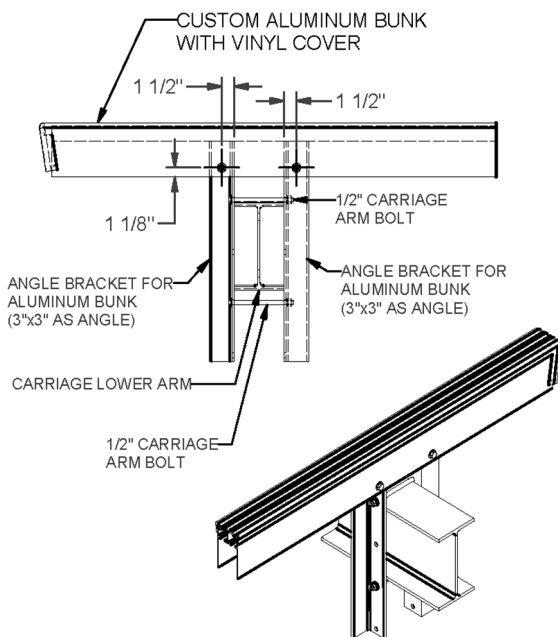
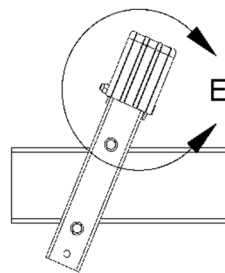
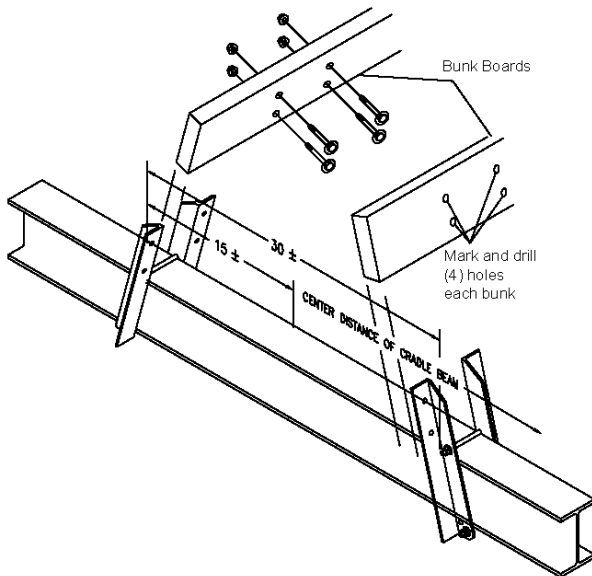
The 4,500-10,000 lb. capacity lifts have two part cable systems. The 13,000 lb. and higher capacity lifts have four part cable systems. To facilitate installation, the cable comes pre-wound on the winder. With winder full of cable, route the remaining cable as shown in the figures above.

- 1) Route the cable through the pulley (s) and up to the wedge lock.
- 2) Feed the cable up and through the lock (#1), loop around the wedge (#2) and pull the cable down through the lock (#3). Leave about 12" of free cable tail.
- 3) Make sure there are no loops, kinks or twists in the cable.
- 4) Repeat steps 1 and 2 for the second power head.
- 5) Level both carriage arms by adjusting cable length using wedge lock. Adjustments are made by loosening the wedge and pushing or pulling the cable through.
- 6) Set the maximum desired upper height of the carriage arms by adjusting the cable length using wedge lock. Carriage arms are often made level with the deck.
- 7) Fasten clamp to cable tail. DO NOT clamp tail and load cable together. Zip tie free cable tail to load able. Trim excess cable leaving a minimum of 6" of free cable.

## Bunk Board and Guide Post Installation

### WOODEN BUNKS

- The bunk brackets have been pre-installed on the carriage I-beams. The brackets may be repositioned by loosening the nuts at the bracket and sliding along the beam.
- Center the bunk boards on the carriage arms.
- Make sure the bunk boards are flush to the carriage arms and the bunk brackets.
- Mark, then drill (8)  $\frac{1}{2}$ " diameter holes for mounting the bunk boards to the bunk brackets.
- Attach the bunk boards with the supplied stainless steel bolts and hardware.



### ALUMINUM BUNKS

- The bunk brackets may be installed vertically or at an angle of 20°.
- Tighten bolts to clamp brackets to carriage arm.
- To attach aluminum bunks, first slide them over the top of the brackets.
- Refer to figure for location of holes. Mark, then drill holes through bunks to match existing holes in the angle brackets.
- Attach with  $\frac{1}{2}$ "-13 x 4" bolts with hex nut inside and flanged nut on the outside

### GUIDE POST ASSEMBLY

- The guide post brackets come pre-installed on the carriage arms. The brackets may be repositioned by loosening the nuts on the clamps and sliding along the carriage I-beam.
- Install guide post pipe insert into the brackets and slide PVC protective sleeve over the pipe.
- With boat positioned on the lift, make final adjustments to the fit of the guide posts and then tighten bracket hardware.



## Imm Quality Boat Lifts Contact Information

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