BOAT HOUSE LIFT MANUAL

Boat Lift Distributors

11850 Tanner Rd. Houston, TX 77041

713-461-9443

www.boatliftdistributors.com

BOAT LIFT DISTRIBUTORS

WARRANTY

Warranties apply to all boat lift hoists and hoist components sold by Boat Lift Distributors (BLD):

- Applies ONLY to manufacturer defects and failures due to flaws in design or fabrication.
- Repaired unit, replacement parts, or new unit will be supplied at discretion of BLD.
- Labor, freight, and or shipping not included.

Flat Plate Gear:	**5 Years**
Enclosed Drives:	**2 Years**
Motors:	**1 Year**
Switch & GFCI:	**1 Year**

The following items are not warrantied BUT are regulated by a specific industry standards:

- SLINGS
- CRADLES
- STRUCTURAL STEEL
- STRUCTURAL ALUMINUM
- FASTENERS
- CABLE & RIGGING

WARRANTY VOID

- **Unit must be properly installed, maintained/ greased.**
- **Warranty predicated on equipment being properly inspected and serviced regualarly.**
- **Unit may not be altered from original manufacture design**
- **Warranty applies to ORIGINAL OWNER. Warranty voided if transfer of ownership.**
- **See Waranty for more details**

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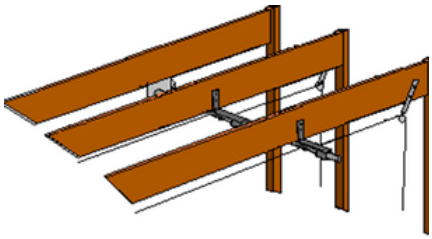
What is a Boat House ?

A boat house is a covered structure designed to keep your boat and/or other watercraft covered and out of the elements. Most boat houses are constructed using wood, although other materials such as steel can also be used. Boat house lifts can be installed in a new or existing boat house structure.

What is a Boat House Lift ?



Typically installation requires a minimum of (4) mounting joists.

- Joist #1 dedicated to the gear & motor (hoist) which turn the pipe.
- Joists #2 & #3 are used to support the pipe and pulleys that the cable runs through as the lift raises and lowers the boat. Joist #4 pipe support
- If you have a larger boat or you just want to add strength to the joists, you can double up the roof joists.
- If using steel I-beams or aluminum joists or I-beams, special brackets are used which clamp to the I-beam and require no drilling.

****CAUTION****

Drilling through the side of an I-beam destroys its structural integrity.

How do I Choose the Correct Weight Capacity for my Boat Lift?

When determining the overall weight of the load a hoist must lift, remember to include the following:

- Dry weight of the boat
- Weight of the fuel
- Motors
- Gear such as coolers, skis, tuna or *wakeboard towers*, etc.

Weights	
Fuel:	1 gal = 6 lbs
Water:	1 gal= 8.4 lbs
Tuna Tower:	400 lbs +/-
Steel Cradle:	10 lbs/ ft
6" I-beams:	12.5 lbs/ ft

****CAUTION****

Always empty your water ballasts before you put the boat on the lift!!

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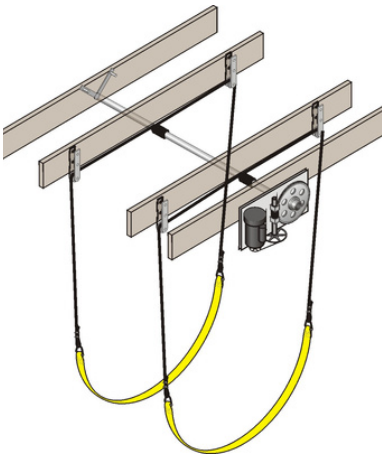
Should I get a Cradle or Sling?

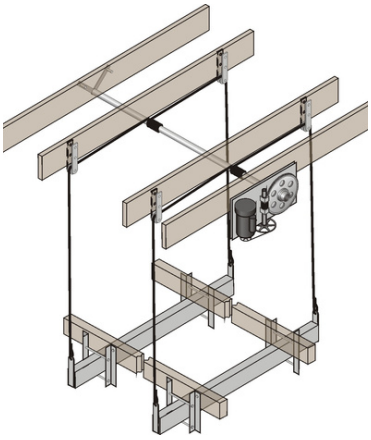
When choosing between a cradle or sling you should consider the following factors such as the location of your lift and the the type of boat you have.



Slings

Slings are straps that wrap around your boat to offer support and distribute the boat's weight while it is lifted.

- Perfect for lifts with shallow water depth.
- When properly fitted and installed, slings are great option for your boat lift.
- Be sure that the cable to slings is as straight as possible all the way to the pear ring of the sling. Any inward pull will cause stress on the lift.
- Not all boats can use slings; be sure to check with your boat manufacturer before making a decision.



Cradle

Cradles are made up of two steel or aluminum I-beams with attaching points on each end for the cables.
It will include bunk brackets for bunk boards that sit atop the cradle for the boat to rest upon.

- Properly installed cradles distribute the weight of the boat evenly as it is lifted above the water, which prevents damage and strain to the hull.
- Cradles can be customized to suit almost any setting – with a few easy modifications, cradle lifts will accommodate watercraft of all sizes, shapes and materials.

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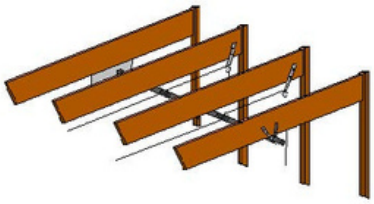
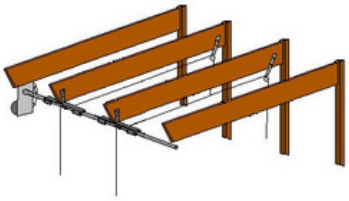
Installation Styles

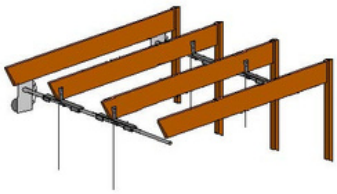
Depending on your application, there are several different ways to set up your boat house lift. The easiest and most common way is to center mount the pipe, however, side mounting the pipe and a dual pipe configuration are also satisfactory.



- **Center Mounted**- A single pipe is mounted in the center running parallel with the boat. Two cables extend across to (4) pulleys and down to the cradle/ sling.



- **Side Mounted-** A single pipe is pushed all the way to one side of the boat house with (2) cables extend across to pulleys on the opposite side , while the cables on the pipe side wrap directly on the pipe.



- **Dual Pipe-** Some boat house lifts will us a (2) pipe configuration with a pipe on each side. This arrangement will require (2) boat hoists (gears) and is used for larger capacity lifts.

Compounding

Compounding is the simplest method to increase the lifting capacity of your boat house lift.

- Compounding uses extra pulleys to lessen the load of winch. It cuts the amount of weight the hoist is lifting in half BUT, it also reduces the speed of the hoist by half.
- Pulleys attach to the sling/ cradle. The cable is then routed back up to the top of the boat house and then tied off with tie off plates (dead man)
- When using compounding to upgrade an existing lift, be sure that your boat house and existing lift components can support the extra load.

CAUTION: Lifting capacity of your boat lift is only as much as the weakest component of your lift

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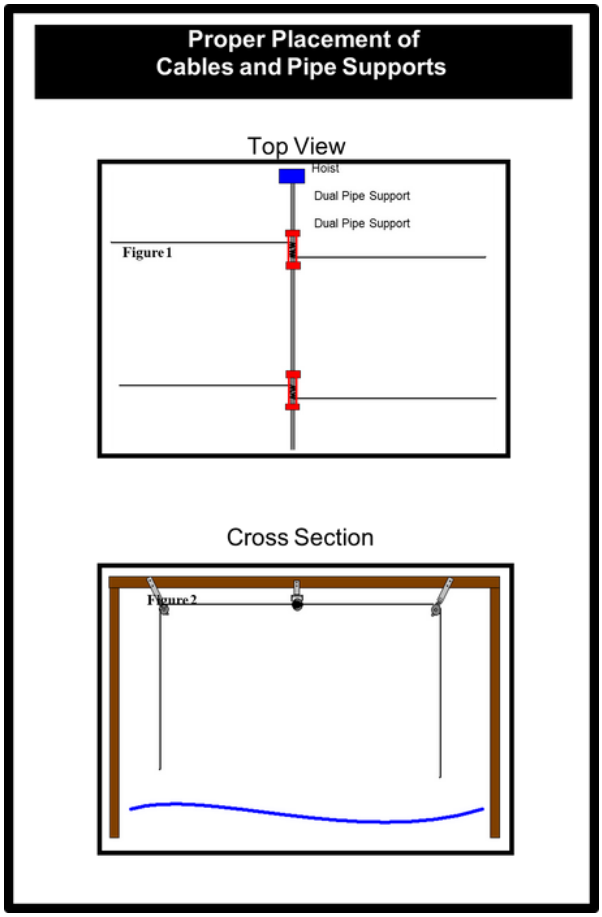
Our standard boat house lift is an overhead lift with a flat plate gear system. This system is the most cost effective method to get your boat up and out of the water. Keep in mind, each structure and installation method is unique to your application and the boat being lifted. The following are common guidelines that all overhead lift systems must follow to properly and safely lift the boat.

- Check the weight of your load versus the lift capacity of the hoist. When calculating the load, don't forget the weight of the boat, fuel, boating gear, cradle, etc.
- Make sure you have enough voltage to lift your boat.
- Never weld a hoist to the structure.
- Mount the hoist at the end of the pipe.
- Only use two bolts to mount the hoist to the joist.
- Always grease the hoist before use and at least twice a year.
- The drive pipe needs to be perpendicular to the hoist and should slide easily within the hoist sleeve.
- Always support the pipe on each side of the lifting point and every ten feet with pipe supports.
- Always use the proper size of 7x19 Aircraft Cable to lift your boat.
- Proper cable attachment to the pipe is important.



- Cables need to be perpendicular to pipe (See Figure 2).
- Make sure cable is winding off opposite sides of the pipe (See Figure 1).
- Make sure cable clamps are attached to the cable correctly with the saddle side of the clamp on the un-cut side of the cable.
- Always hang strap hangers at a 45 degree angle to the boat (See Figure 2).
- Cable winders are optional. They increase the life of the ca-ble, but decrease the lifting capacity of the hoist.
- Permanently mount the switch with the cable coming out the bottom of the switch. This will eliminate water penetration.

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Spacing Cradle/ Sling

The lifting points of the boat should be no further than 9'-10' apart.

- **Stern (Back of Boat)**
  - The back sling/ cradle beam goes towards the rear of the hull. Be sure the motor clears and it is being properly supported
  - The stern is the heaviest part of the boat. It should hang no further than 18-19” from the first lifting point. Too much weight in the stern can cause the the bow of the boat to lift, putting extra weight on the rear cables which could cause the cables to break.
- **Center**
  - Use the center of gravity of the boat to help calculate the position of the front sling/ cradle beam.
- **Bow (Front of Boat)**
  - The front support should be *no more than 12 feet forward on boats under 34 fee*t and *14 feet forward for larger boats up to 39 feet.*
  - The bow of the boat is the lightest part of the boat. It is acceptable for the bow of the boat to not be completed supported by the front support
  - If the sling/ cradle beam is too far forward and the hull is starting to slope up, then re-adjust the position of your supports.

 ****CAUTION**** 

- **DO NOT ALLOW ANYONE** in the boat while raising or lowering the Lift!
- **DO NOT ALLOW ANYONE** between the boat and the dock!
- **DO NOT ALLOW ANYONE** under the boat!

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- **Ride Pipe**
  - *Pipe Specs: Schedule 40 galvanized pipe; ID: 2", OD: 2-3/8", usually found in 20' long pcs.*
  - The pipe goes through the motor & gear/ hoist turns the ride pipe upon which the cable wraps thus lowering and lifting the boat lift.

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⚠ **CAUTION**: Pipe Bowing
  - The pipe acts as a lever as it enters the gear and must be completely straight.
  - If the pipe is bowing or bending in one direction, that means that there is an uneven pull. The pipes deflection will point you to the problem.
  - NEVER weld (2) short pcs of pipe together

- **Motor & Gear/ Hoist**
  - The motor & gear/ boat hoist is the electric drive unit that provides power to the lift by turning the pipe.
  - Available in a flat plate which uses a drive belt and pulleys or a direct drive, which is fully enclosed.
  - Hoist capacities range from 3000-8500 depending on the type of hoist you select.
  - The lifting capacity of the hoist is based upon differences in materials used to manufacture the components, the horse power of the motor, and the gear ratio of the hoist.

⚠ **CAUTION**: Boat Hoists
  - No matter what horse power your motor the gear can only lift the capacity for which it is rated!
  - Flat plate hoists are NOT a load bearing unit!
  - Hoists are not designed and should NEVER lift human beings or animals, nor loads over areas where human beings or animals might be!
  - Never used the boat hoist for any other application other than the one for which it is designed!

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Getting Started

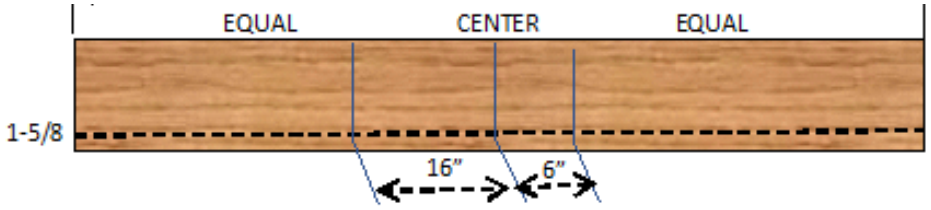
1. Assemble motor and gear unit.

- Attach large pulley to shaft of gear on the gear side of the pulley, using the Allen wrench provided
- Mount the motor to the gear unit using the (4) bolts on the gear unit. DO NOT tighten the nuts.
- Put the belt on the (2) pulleys. Pulleys should be line up
- Tighten the motor mounting nuts when belt has about 1” play when pinched at a point between the pulleys. Adjust as necessary for smooth operation.

2. Mounting Gear Unit

- Mount flat plate to a joist that will not be used to support the pulley mount straps/tie off plates or pipe supports. This will be at the center (or side) of the slip, depending on the configuration of your lift
- A flat-plate hoist can be mounted up and down with the motor at the bottom; however, in some instances the hoist must be mounted horizontal with the pulley facing down. If mounting horizontal, it is important that the back plate does not torque on the beam. This can cause bowing of the back plate and bending of the beam.

- Locate middle of the board- Make sure that board is not bowed or tilted. Draw a line perpendicular to the bottom.
- Draw a horizontal line 1-5/8” from the bottom of the board.
- Mark the horizontal line 16” to the left of the center line, and 6” to the right of the center line.
- Drill ½” or 9/16” diameter holes at the points marked previously



2. Mounting Gear Unit (continued)

- Bolt gear unit to the joist that is not supporting the blocks and strap hangers. The hoist and pipe supports are to be mounted to the center of the slip. Use only (2) holes, not all (4) when mounting hoist to joist.
- Add washers if needed between the gear unit and the board to prevent gears from binding and/or to prevent the steel plate from bending.
- *If Mounting Dual Hoists*- The best way to mount two hoists is to mount them on either side of each other in order to balance and distribute the weight evenly to each hoist.

3. Pipe Supports

- Pipe supports allow you to mount your ride pipe to your preexisting wooden joists.
- Typically a minimum of (4) joists, preferably (5), are needed when installing your boat house lift..
- Recommended Joist spacing is 10'-12' apart
- Types of Pipe Supports
  - V-brackets
  - Dual Pipe Supports
  - Pillow Block Bearings
  - Cages
  - Aluminum Pipe Support
- The kind of pipe support used on a lift depends on the lifting capacity of the boat lift, as well as configuration, among other things.
- *Side Mounting Pipe*- Push pipe all the way over to one side. In this configuration you will need heavier duty pipe supports because instead of going through a pulley, the cable will be wrapping directly on to the pipe, which requires the pipe supports to bear more weight.
  - Up to 6000 lbs - Dual pipe supports are sufficient
  - Over 6000 lbs- Cages are recommended

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3. Install Pipe Supports (continued)

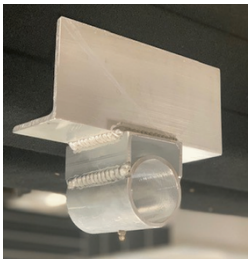
- ***V-Brackets****- are usually used on lifts with a 3000-8000 LB lifting capacity. It is designed to mount on the wooden joists not supporting the blocks or strap hangers.*

  - 3000-4000 lb- the V-bracket is installed on the the pipe opposite of the gear and motor.
  - 6000-8000 lb- the V-bracket should be installed before and after the lifting points.
  - *Installation: I*nstall the V bracket so that the pipe is level and doesn't bind. Add washers if needed between "V" and wood. Pipe should have some play at both ends as well as the gear unit gears.

- ***Dual Pipe Supports***- are typically used for lifts with larger lifting capacities. They are designed to handle the overwhelming stress of heavier overhead lifts. The oversized sleeve reduces friction and ensures better load distribution by keeping the drive pipe from walking up the side of the sleeve.

  - Dual pipe supports come standard on the 8500 LB-12K capacity boat house lift.
  - Installation: Slide the pipe (2) dual pipe supports on to the 2" pipe. Tie a rope on to each end and hoist pipe into position. The pipe should be running parrallel with the boat an pushed over to one side. With pipe hanging by the ropes, line up line up dual pipe supports so they are level and square. Drill holes and bolt to the beam. Make sure the pipe is level and square and can easily turn in the pipe support.

- ***Aluminum Pipe Support***- The Aluminum pipe support is used on Salt Water Kits up to 8000 lbs. Salt Water Lifts over 8000 lbs switch over to Dual Pipe Supports.



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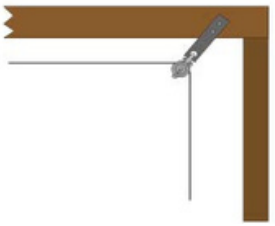
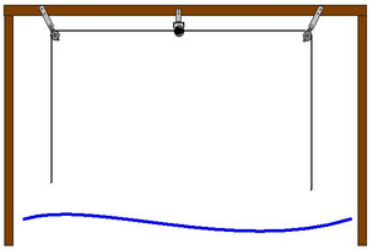
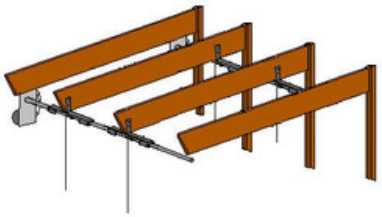
4 A- Upper Pulleys & Mounts



- The pulley mounts need to be mounted on the joist at a 45 degree angle toward the boat. See Figure 2.
- The block hangs at the end of the strap hanger and should be directly above the lift point on the cradle or sling.



- Pulleys must be placed farther apart than the width of your boat. This allows the slings to pull away from the boat when lifting it.
- *Lifting points should not be any more than 9-10' apart.*
- If using a sling kit & boats with a deep "V", make sure the pulleys are mounted 1' – 2' wider than each side of the boat. This ensures the slings are pulling out and away from the hull of the boat.
- *Saltwater Lifts:* The nuts on the lower bolt in the upper pulley should be tightened completely using all available threads. This ensures the sheave does not turn on the threads. There should be no more than 1.5" between the pulley mount straps (?)
- *Side Mounted Pipe*- Front and back Pulleys opposite the pipe are installed per the directions above. On other side , the cable wraps directly on to the pipe. Only (2) upper pulleys and pulley mounts are used in this configuration.



- *Dual Pipes*- No upper pulleys are used. Cable wraps directly on to pipe on both sides.

4 B- Lower Pulleys

- Double Line Pull/ Compounded Lifts also require (4) lower pulleys that attach to the sling or the cradle
- Sling lifts/ Galvanized Cradles- take the bolt out of block pulley and attach to the sling or end plate.
- Aluminum Cradles- will have slide on pulleys that slide on and bolt the aluminum beam

5. Cable Installation

Use one section of cable for the front and one for the back. Drill a hole in the pipe and run the cable through. Cables need to run perendicular to pipe, not at an angle.

- Proper installation of the cable to the pipe is very important. When the pipe is drilled, drill the hole in the pipe for the cable. Make sure the hole is in a perfect line from pulley to pulley. Do not run at an angle.
- The cable runs straight through the pipe as one whole piece. Use (1) piece for the front and (1) piece for the back.
- Cables should be perpendicular to the pipe. This will ensure one cable will wrap to the left of the hole & the other cable will wrap to the right. This will give you opposing forces on the pipe thus creating a non load-bearing pipe.
- Make sure cable does not stack on top of itself. This will decrease the life of your cable by causing it to fray.
- SECURING CABLE: The correct way to attach cable clamps is shown below. The “U” section of the clamp is in contact with the cables “dead end”. REMEMBER: Never saddle a dead

  - Single Line Pulls (3000, 4000, 6500, & 8500- Since these lifts do not use lower pulleys, the cable is tied off at the sling/ cradle
  - Double Line Pull (6000, 8000, 10K & 12K)- Run the cable through the lower pully and back up to the provided **tie off plate**

- **Tie Off Plates**
  - Attach to the top joists of your boat house.
  - Tie off Plates are used to tie off the cable for a compounded lift configuration. Not included in single line lift kits.

6. Finishing Cradle Installation

- Assemble chock brackets: A full set of chock brackets is a quantity of 8 angles and 16 bolts, nuts, & lockwashers. You will have (4) in the front and (4) in the back, positioned to hold the bunk in place on each side.

- *Installation*: Sandwich the cradle beam with (2) of the angles. Place one bolt through the hole over the top of the beam and one bolt through the bottom hole, which will be under the beam. Bolt bunks to brackets.

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Maintenance

Before Every Use:

- Inspect cables for frayed strands.
- Inspect slings/ cradle for any major wear.
- Inspect cable clamps to ensure they are secure.
- Inspect pipe to ensure that it is straight.
- Inspect motor & gear for any obvious trouble spots.
- Inspect electric cable forany expose wires.

Monthly or As Needed:

- Gear unit has (3) grease fittings, (1) between the large gear and the flat plate and (2) on the square blocks. These should be well lubricated.
- The gear itself should also be kept lubricated, the teeth and the edge of the large gear below the teeth
- ****CAUTION****FAILURE TO GREASE THE GEAR WILL CAUSE THE UNIT TO FAIL***
- The greaseable pulleys should be lubricated periodically with 30 weight oil.
- All nuts should be checked periodically for tightness. Check hardware for any rust. If rust is found, scrub the spot and spray cold galvanize in the area. If rust is too severe, replace immediately.
- Be sure that the insects, birds, etc. do not build nests in the motor. Clean any debris from the motor once a month or as needed.
- Be sure to periodically check the belt driving the gear plate. Make sure the belt has at least ½" of play. If belt is too tight or too loose the lift will not operate.
- Cable does not last indefinitely. Cable should be replaced once a year or as needed. Cables should be inspected regularly to be sure there are no broken strands and that it is not rusting. Periodically lubricate cables. **If cable shows wear within a couple of weeks of installation, review installation for any trouble spots.**
- Cable clamp nuts should also be checked regularly for tightness.
- Monitor slings for wear and tear. Keep a look out for any deterioration.

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Lift Operation:

- NEVER OPERATE THE LIFT WITH A PERSON INSIDE THE BOAT!
- Make sure everyone is clear of the lift, not touching any cables, slings, cradle, electric wire, etc.
- Move the Toggle switch into the appropriate position to either raise or lower the boat lift.
- Never leave the toggle switch unattended. ALWAYS REMAIN ATTENTIVE TO THE LIFT!!
- DO NOT lower slings/ cradle to the mud, this will cause the cable to “back lash”.
- Never raise the slings/ cradle all the way to the roof. This will put too much stress on the cable.
- Find the desired position of the boat either up or down and simply return the toggle switch tothe center neutral position.
- Never leave your slings in the water for longer than 24 hours