

# VELA

## ONEMETER



**AQUACRAFT**<sup>TM</sup>  
Models

#### **WARNING:**

- ▶ **NEVER** attempt to swim after a stalled R/C boat!
- ▶ Never operate your R/C boat while standing in the water.
- ▶ Never operate your R/C boat in the presence of swimmers.
- ▶ Always use a Personal Flotation Device (PFD) when boarding and operating your retrieval craft, i.e. Jon boat or duck boat. **NOTE:** Because of the sharp running hardware included with this R/C boat, we do not recommend a rubber blow up raft.
- ▶ R/C boat running hardware is very sharp. Be very careful when working on and around the metal parts.
- ▶ AquaCraft products are to be used by ages 14 and over.

[aquacraftmodels.com](http://aquacraftmodels.com)

## INTRODUCTION & DESCRIPTION CHANGES

Thank you for purchasing the AquaCraft™ Vela! We want the time you spend with your new R/C boat to be fun and successful so please fully read the manual. If for any reason you think this R/C model is not for you, return it to your local hobby dealer immediately. Your hobby dealer cannot accept returns on any model after final assembly or after your boat has been operated.

All pictures, descriptions, and specifications found in this instruction manual are subject to change without notice. AquaCraft maintains no responsibility for inadvertent errors in this manual.

## FEATURES & SPECIFICATIONS

### BOAT FEATURES:

- Prepainted lightweight fiberglass hull
- Pre-assembled preprinted sails
- Water-resistant radio hatch
- Modern, 1-meter design
- Tactic™ TTX242 2.4G two-stick surface radio system
- Tactic TSX382 sail winch servo (installed)
- Tactic TSX rudder servo (installed)
- Prefinished wood boat cradle
- Quick and easy final assembly

### BOAT SPECIFICATIONS:

- Boat Specifications:
- Hull Length: 40" [1016mm]
- Beam: 6.5" [165mm]
- Overall Height: 79" [2006mm]
- Weight: 6lbs [2720g]

## ITEMS REQUIRED

- ◆ Eight "AA" batteries
- ◆ #2 Phillips® screwdriver
- ◆ 2.5mm hex wrench
- ◆ Grease (Grimracer cable grease, AQUB9500)

## WARRANTY SERVICE

AquaCraft will warrant your Vela for 90 days after the purchase from defects in materials or workmanship of original manufacture. AquaCraft, at their option, will repair or replace at no charge, the incorrectly made part. This warranty does not cover damage caused by crash, abuse, misuse, alteration or accident. To return your boat for service you will need to provide proof of purchase, i.e., your store receipt or product invoice.

**IN NO EVENT SHALL THE PURCHASER BE ENTITLED TO ANY INCIDENTAL, SPECIAL, INDIRECT OR CONSEQUENTIAL DAMAGES, WHETHER RESULTING FROM THE USE, MISUSE OR INABILITY TO USE THE PRODUCT OR FROM DEFECTS IN THE PRODUCT.**

This warranty gives you specific legal rights and you may also have other rights, which vary from state to state. Outside USA and Canada, contact local importer for warranty information.

Hobby Services

3002 N. Apollo Drive, Suite 1

Champaign, Illinois 61822

Attn: Service Department

Phone: (217) 398-0007 9:00 am - 5:00 pm Central Time M-F

E-mail: [hobbyservices@hobbico.com](mailto:hobbyservices@hobbico.com)

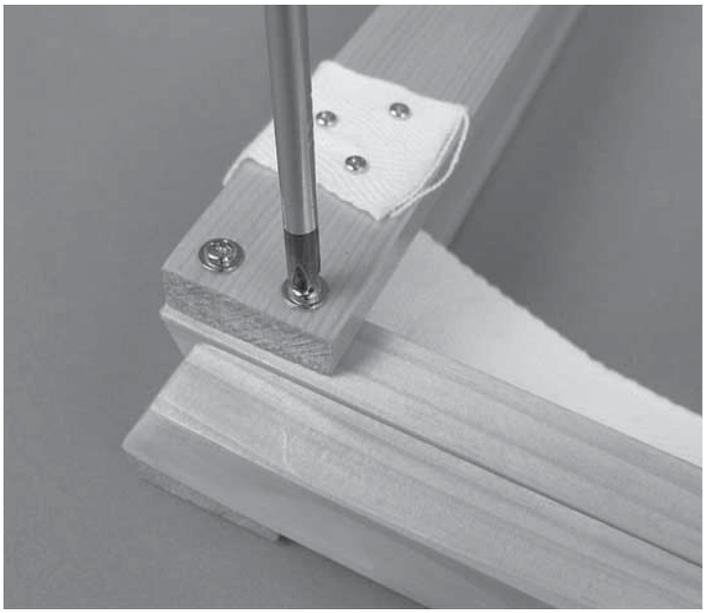
## SAFETY PRECAUTIONS

- ◆ **Never, ever, attempt to swim after a stalled R/C boat. DO NOT get in the water for any reason to retrieve your boat. Your Vela has flotation added to the interior of the hull and will not sink. To aid you in retrieving a stalled R/C boat you can use a fishing reel with a tennis ball tied to the end of the line. Or better yet get yourself a small jon boat so you can row out and pick up your boat. Remember to use a PFD any time you enter your retrieval craft.**
- ◆ AquaCraft products are to be used by ages 14 and over.
- ◆ The speed and mass of this boat can inflict property damage and severe personal injury if a collision occurs. Never run this boat in the presence of swimmers or where the possibility of collision with people or property exists.
- ◆ This boat is controlled by radio signals, which are susceptible to possible interference from electrical noise.
- ◆ If your Vela should happen to lose signal, wind and water currents will slowly carry it to shore. The bad news is that the boat could be carried to the opposite shore. When surveying areas to run your model, keep variables in mind such as wind direction, size of the lake, etc. It is not advisable to run R/C boats on any free-flowing bodies of water such as creeks or rivers.

## ***CRADLE ASSEMBLY***



Begin by removing the sailboat components from the box and assembling the boat stand. You're going to need the cradle to aid in the assembly and rigging of your Vela.



Use a #2 Phillips screwdriver and the M4X16 wood screws to assemble the cradle.



Take note that the support straps go over (not under) the top bars.

## SAILBOAT TERMINOLOGY

**BACKSTAY:** A backstay is the line that runs from the top of the mast to the stern of the boat. Like other stays, it is a strong wire, rod, or line that is used to prevent the mast from being blown over. The backstay is specifically designed to prevent the mast from blowing forward. Backstays sometimes have adjustable tension in order to shape the mast (and consequently the sail) in varying wind conditions.

**BOOM:** A boom is a horizontal spar that is generally attached to the mast at one end, and attached to the aft corner of a sail (the clew) at the other end. The boom is used to hold the sail out in a horizontal direction.

**BOW:** The bow is the front of the boat.

**BOWSIES:** Adjustment blocks located between the tops of the sails and the mast.

**BOWSPRIT:** The bowsprit is a spar that extends forward of the hull of a boat. It can be used for a variety of things, including a more forward point to attach a forestay and/or a sail such as a spinnaker or jib.

**CLEAT:** A cleat is a piece of hardware designed to hold a line. In the most traditional sense, a cleat is a piece of metal or wood that is shaped somewhat like an anvil. A special cleat knot is used to tie a line to these traditional cleats.

**DECK:** The deck of a boat is the horizontal outside surface that one walks upon. When you are outside on a boat, the deck is your floor. When you are in the cabin of a sailboat the deck is usually the ceiling above you.

**FOOT:** The foot of a sail is a reference to the bottom edge of a sail. The forward corner of the foot is the tack, and the aft corner of the foot is the clew.

**FORESTAY:** The stay that runs from the top of a mast to the bow of the boat. As with other stays, a forestay is made from strong wire, rod, or line, and is used to prevent the mast from being blown over. On some sailboats, the forestay attaches to the mast slightly below the very top. If this is the case, the sailboat is considered to have a "fractional rig". A forestay may also be called a headstay.

**HULL:** The main structural outer skin of a boat. Most modern boats have fiberglass hulls.

**JIB:** The sail that goes forward of a mast. The leech of a jib generally does not go any further aft than the position of the mast. If it is larger than that, it is considered a genoa.

**KEEL:** The part of a boat's hull that extends below the waterline, on the boat's centerline, that is used to counterbalance the tendency of wind to blow a sailboat over. A keel generally is shaped something like a fin, so as to cut through the water and prevent sideways motion of the boat. It also will always have weight at its lowest point to prevent the sailboat from tipping over.

**LUFF:** The forward edge of a sail. The luff runs between the head of a sail (at the top of a mast), to the tack of a sail (at the lower forward corner of a sail).

**MAINSAIL:** The sail that is located aft of the mast on a sloop.

**MAST:** The vertical spars on boats. A mast is supported by stays so that it does not blow over from the force of the sails. The purpose of the mast is to provide the basic support for the system of sails. Masts were originally made of wood, then aluminum, and now they are sometimes made of carbon fiber. The weight of a mast is extremely important because it cancels out weight in the keel.

**MASTHEAD:** The top of the mast.

**PORT:** This is the left side of the boat when aboard and facing the front (bow). An easy way to remember this is that port and left both contain four letters.

**RUDDER:** Blade that turns the boat

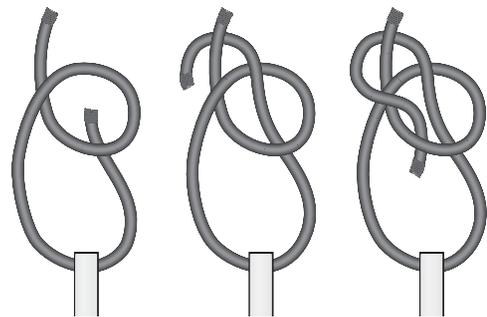
**STARBOARD:** This is the right side of the boat when aboard and facing the front (bow).

**STERN:** The back of a boat.

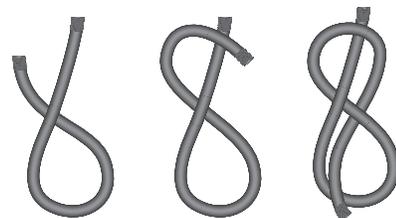
**WEATHER AND LEE HELM:** If the boat tends to turn windward, it's called weather helm. If the boat tends to turn away from the wind, it's called lee helm.

## TYING BASIC KNOTS

### BOWLINE KNOT:

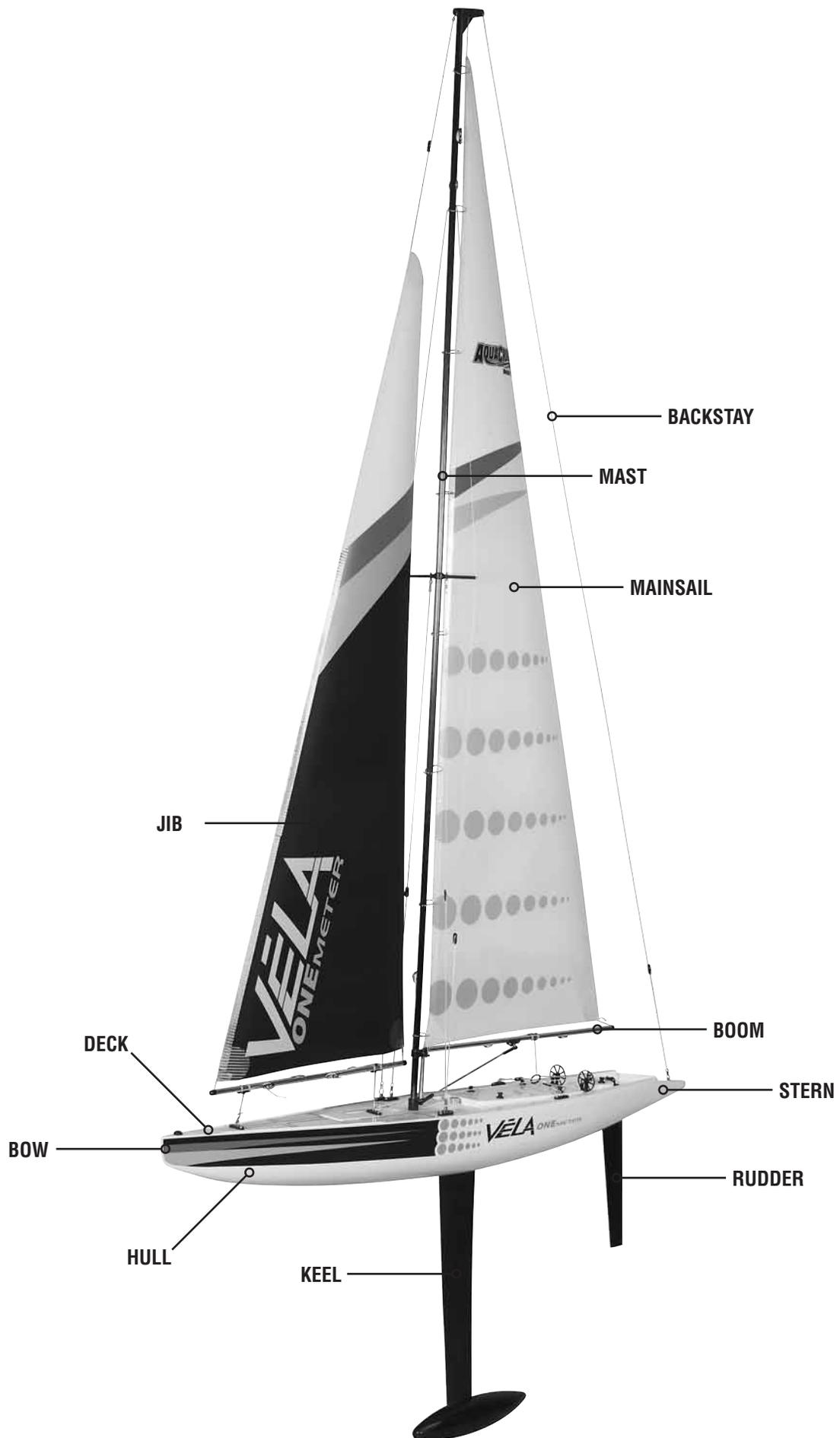


### FIGURE 8 KNOT:



### SQUARE (OR "REEF") KNOT:



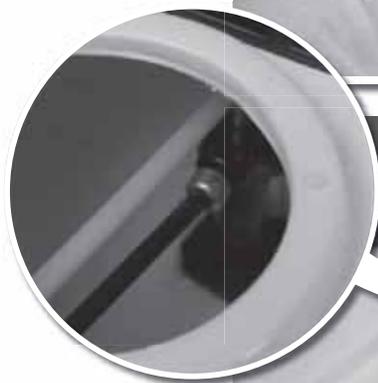
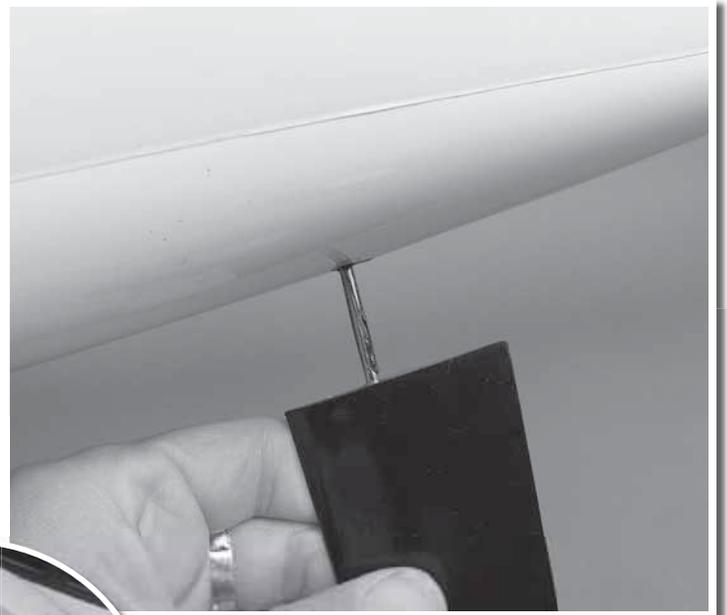


## SAILBOAT ASSEMBLY

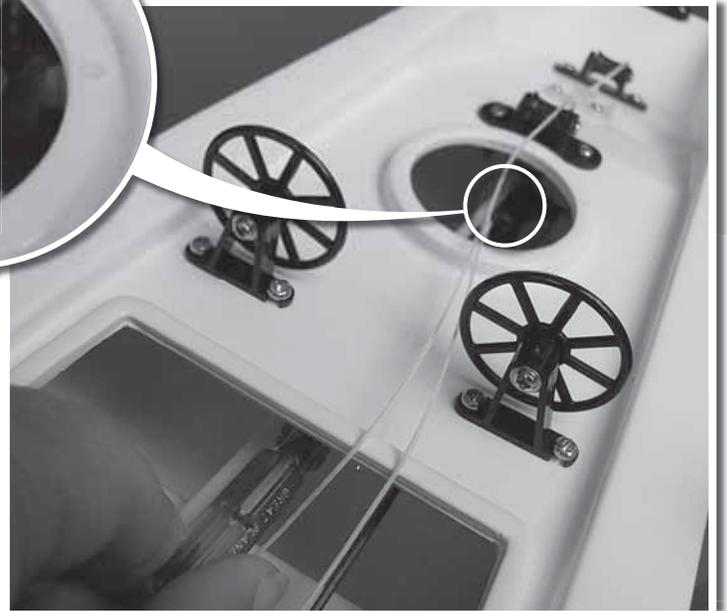
Assemble the rudder, grease and a 2.5mm hex wrench. Remove both hatches from the deck by turning the winch drums 90°.



Very lightly grease the rudder post and slip it up into the rudder stuffing tube located on the bottom of the boat. Align the tiller arm so the rudder post is able to slide through.



Tighten the tiller arm screw using a 2.5 hex wrench. Make sure you align the screw with the flat spot on the rudder post.

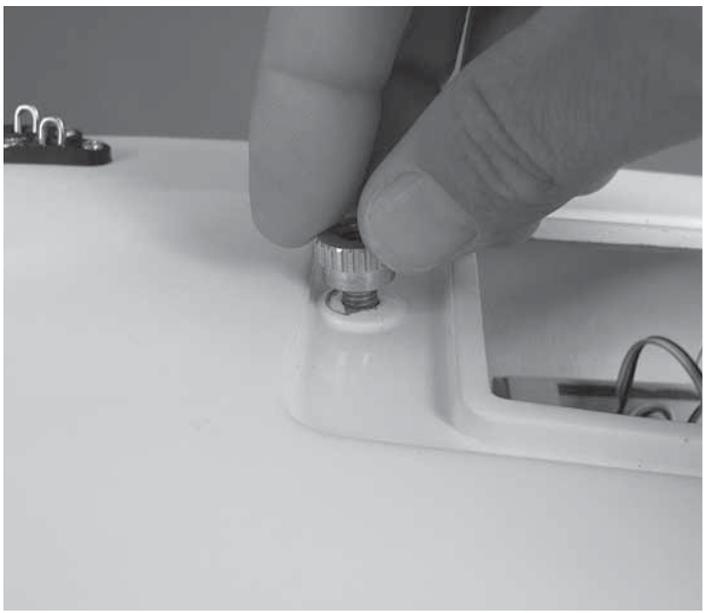




Remove the brass thumb nut from the keel post.



Slip the keel into the hole in the bottom of the hull.



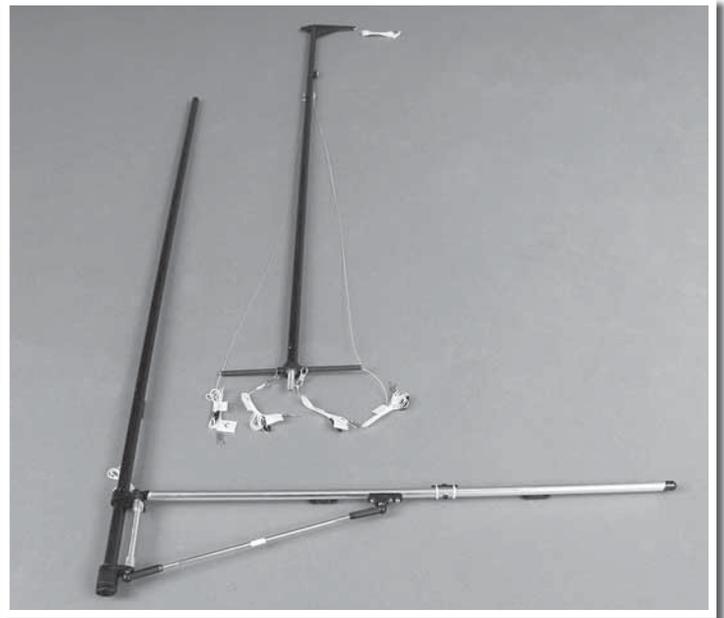
Using the brass thumb nut, tighten the keel in place.

**PERFORMANCE TIP:**

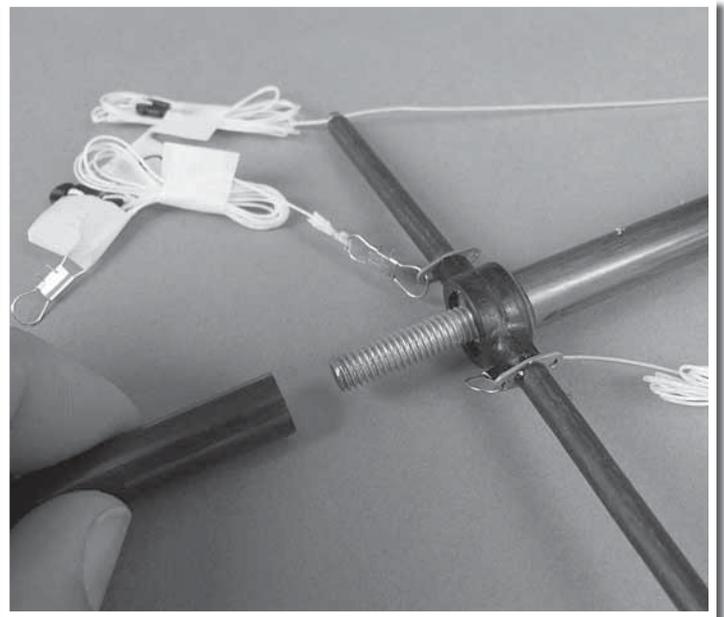
If you are looking for the ultimate in performance and don't foresee the need to remove the keel, you can epoxy the keel into the bottom of the boat as you assemble it. You can then very carefully fill and sand the area the keel around the attachment point to keep drag to a minimum. The same fill-and-sand procedure can be done where the counterweight and keel attach as well as around the screw bosses that hold the counterweight together.

Unroll the sails on your work table. The larger sail is the mainsail and the smaller one is the jib.

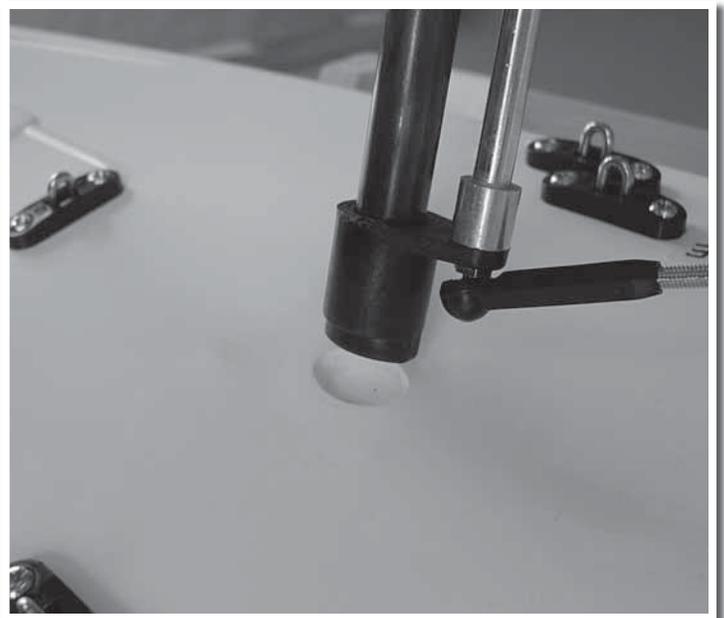
Lay out the mast on your work table. You will notice there are two sections of mast (upper and lower), along with pre-attached and labeled lines.

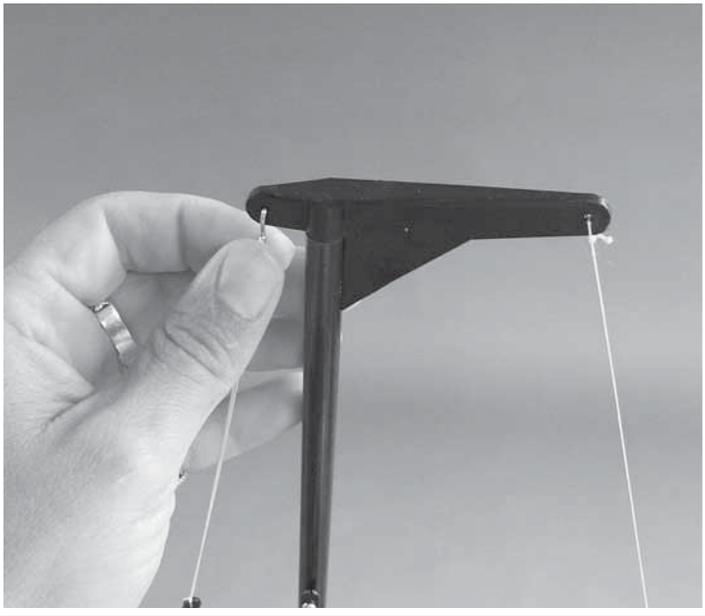


Slip the mast joiner into the lower mast. If you feel you have no need to break down the mast, you can epoxy the halves together; just remember you are not going to be able to take it back apart.

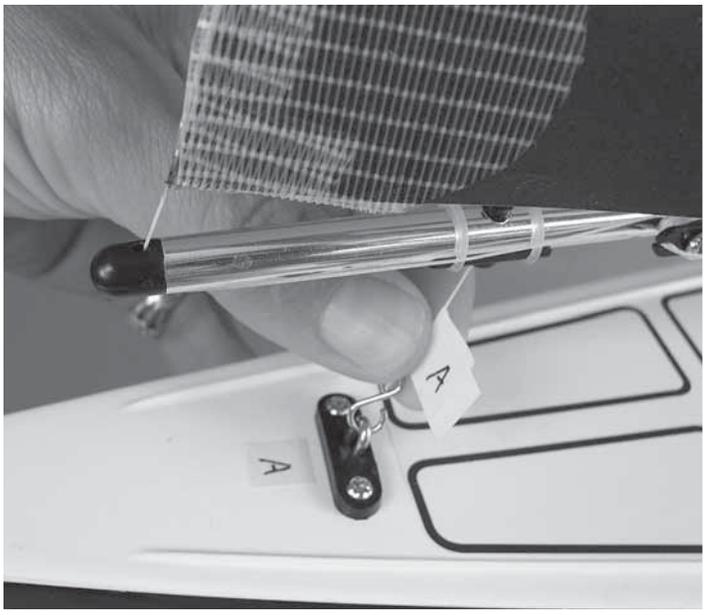


Place the lower mast into the mast pocket on the top deck of the hull. You might want to lean the mast against a wall or have somebody help you stabilize it as you work.

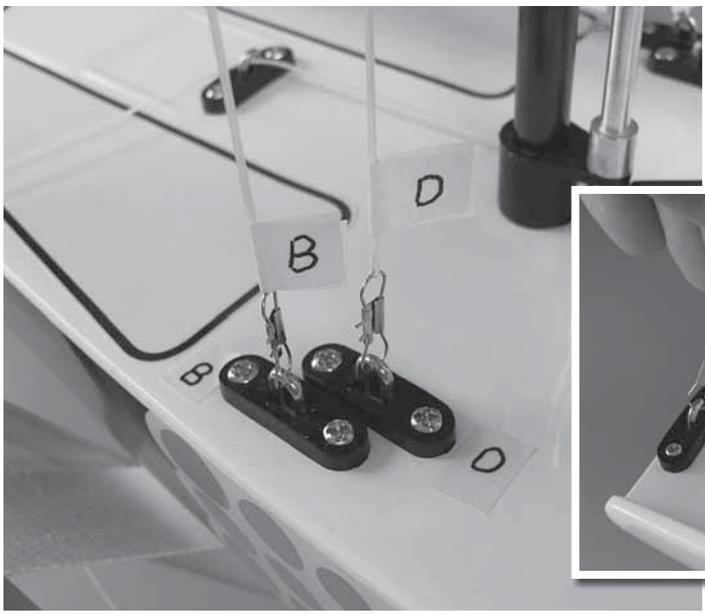




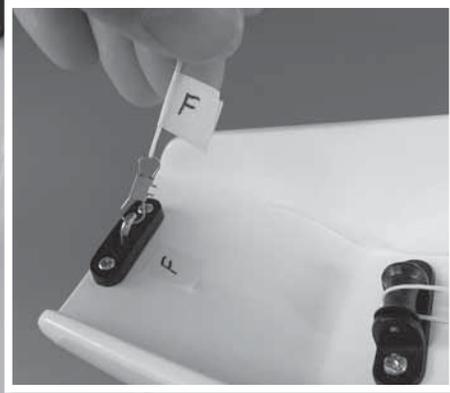
Undo the upper hook line of the jib sail and hook it to front hole of the upper stay.



Attach the lower hook (A) of the jib boom onto the furthest forward attachment point (A).



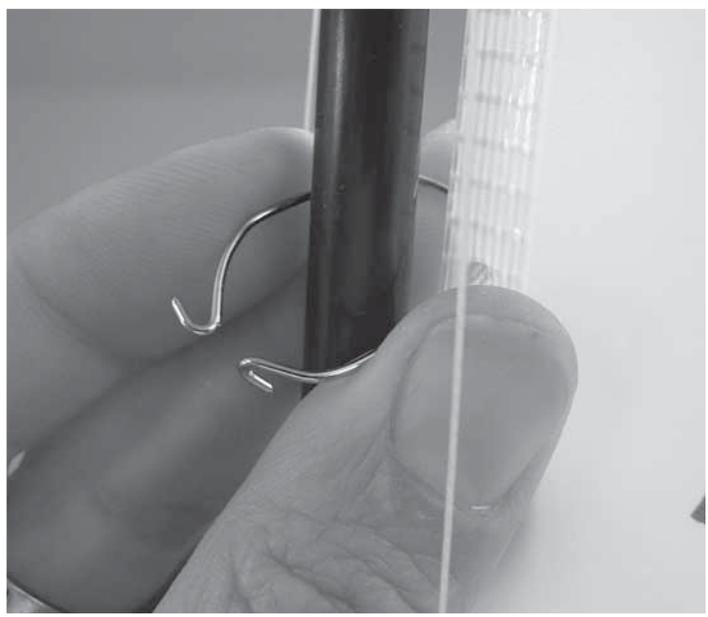
Match the letters and attach the side load strings B, C, D, and E, as well as the backstay line (F). Snug up the blocks to hold the mast upright. It's not necessary to make them tight at this time.



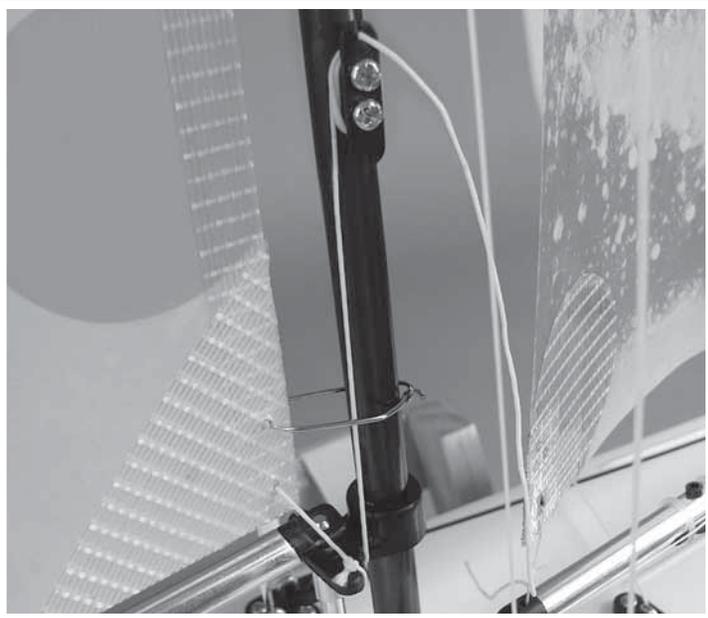
Next, slip the mainsail upper attachment line through the hole near the center of the upper stay. Tie off the line on the open cleat near the top of the mast.

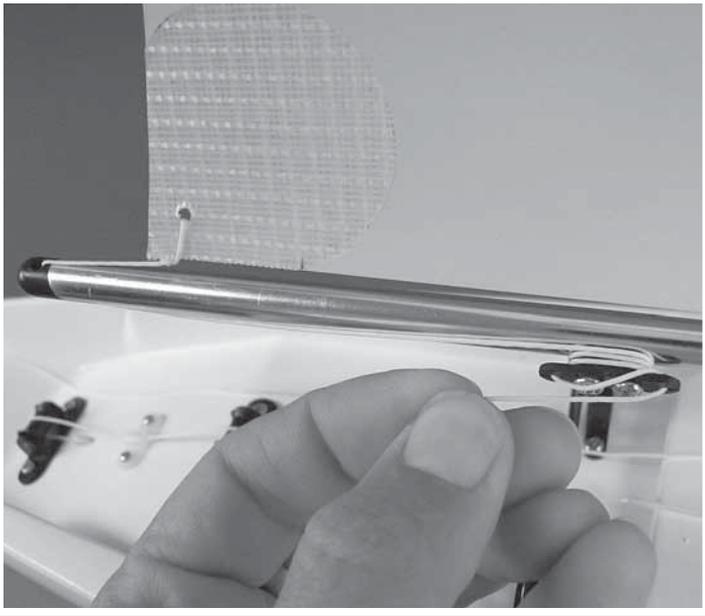


Open the sail clips and clip the sail on to the mast.



Slip the lower mainsail attachment line through the open hole of the boom mast mount. Tie off the line on the open cleat located above the mount.

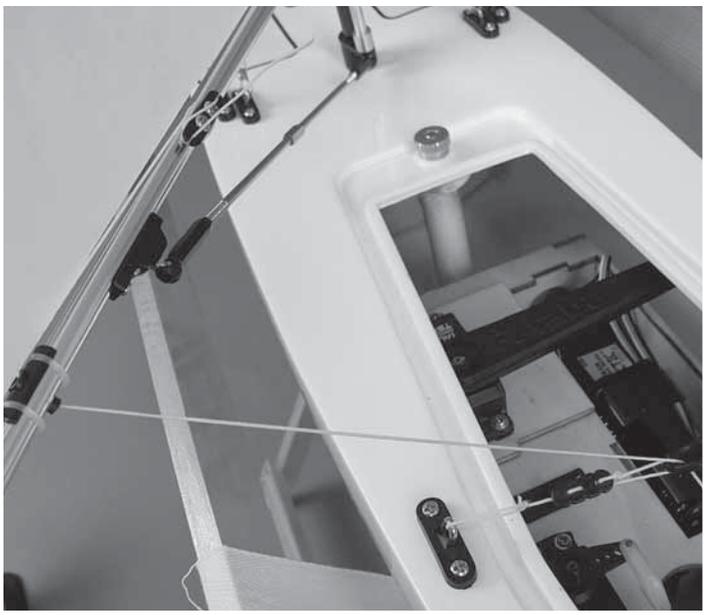




Slip the rear sail line through the back hole of the boom and tie off the line on the open cleat of the boom.



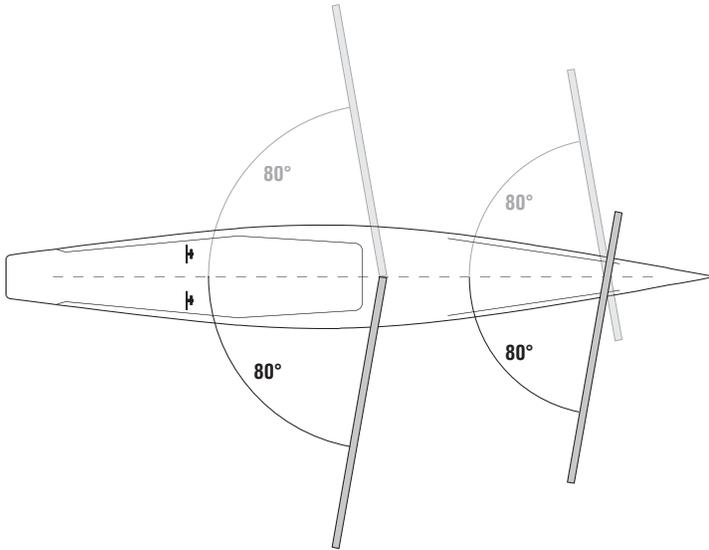
The longer of the winch lines attaches to the jib by slipping the line through the guide on the jib boom and tying off on the forward open cleat.



Attach the last of the winch lines to the mainsail by sliding the line through the mast and tying it off on the open cleat on the main boom.

## SETUP

1. Install the batteries into both the transmitter and receiver battery holder.
2. Place the left transmitter stick in the center position. Turn on the transmitter and then the receiver.
3. The large sail servo arm should center as well as the rudder. Move the left stick to the lowest position for the next step.
4. With the left stick in the lowest position, reposition each sail such that the sails' control lines are tight. The mainsail and jib sail should now be full in and tight.



5. Move the left stick to the full up position. The sails should now open to 80°. It might be necessary to adjust the full tight position again as both of these adjustments are dependent on each other.

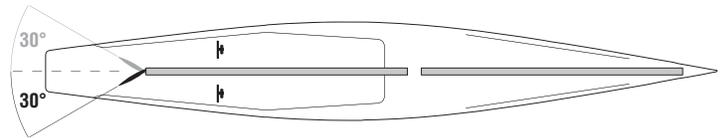
## LAUNCH PROCEDURE

1. Turn "ON" the power to the transmitter and receiver (in that order). Re-install the hatch covers and turn the winch drums to secure the covers.
2. Gently place the boat in water that is at least 20" deep and free of obstacles (weeds, rocks, sticks, ducks, muskrats, etc.). **The mast of the Vela sailboat is NOT A HANDLE. Do not hold the boat by the mast.**
3. When finished running, be sure to turn the power "OFF" to the receiver and transmitter (in that order).
4. When you are through sailing for the day, remove the keel and rudder and allow them to dry.

## OPERATION AND TUNING TIPS

Make sure your mast does not lean to the left or to the right. Adjust the line blocks to adjust this.

For your first runs, make sure the main mast is straight front to back. After you have some time on the boat, you can adjust for weather helm and or lee helm. Adjust (lean) the mast forward to compensate for weather helm. Adjust (lean) the mast rearward to compensate for lee helm. Ultimately you want just a small amount of Weather helm during your run.



Adjust the rudder to provide 30° deflection to the right and left. You can add or remove rudder deflection to your liking, but we have found 30° to be about best.

## SAILING

Unlike propeller-driven boats that you basically point and accelerate, sailboats present an interesting challenge. Sailing requires constant reaction to water movements, wind gusts and direction changes. These reactions then require adjustment of the rudder and sails in order to find the best possible course. In some cases, transmitter adjustments are sufficient. At other times, it will be necessary to make physically adjust the sails via the rigging lines. There is no substitute for actual "on-the-water" experience and after your first couple of outings you may want to re-read this manual to help you to gain a better understanding of the "art" of sailing. While learning to sail, it is a good idea to pick up on as much sailing terminology as possible; this will make it easier to grasp some aspects.

### READING THE WIND

When you get to your favorite pond, take a few moments to observe wind direction, speed, and frequency of gusts and adjust your sailboat's rigging as necessary. What follows are guidelines for tuning your ship's sails and rigging, but with experience you will gain the ability to fine-tune your sails and rigging for optimal performance, regardless of conditions.

◆ **For light wind conditions (1-5 mph):** Use the adjustment blocks (bowsies) located between the tops of the sails and the masthead to tighten the sails so they will respond to the slightest push from the wind.

◆ **For medium wind (6-10 mph):** Loosen the sails slightly in order to find the most efficient combination of sail shape and tension. As a rough guideline, you will want it somewhere in-between the light and high wind set-up.

◆ **For high wind conditions (11-15 mph):** Loosen the jib and mainsail further. They will be better able to handle the high winds and your hull will be less likely to lay over on its side.

## GETTING WHERE YOU NEED TO GO

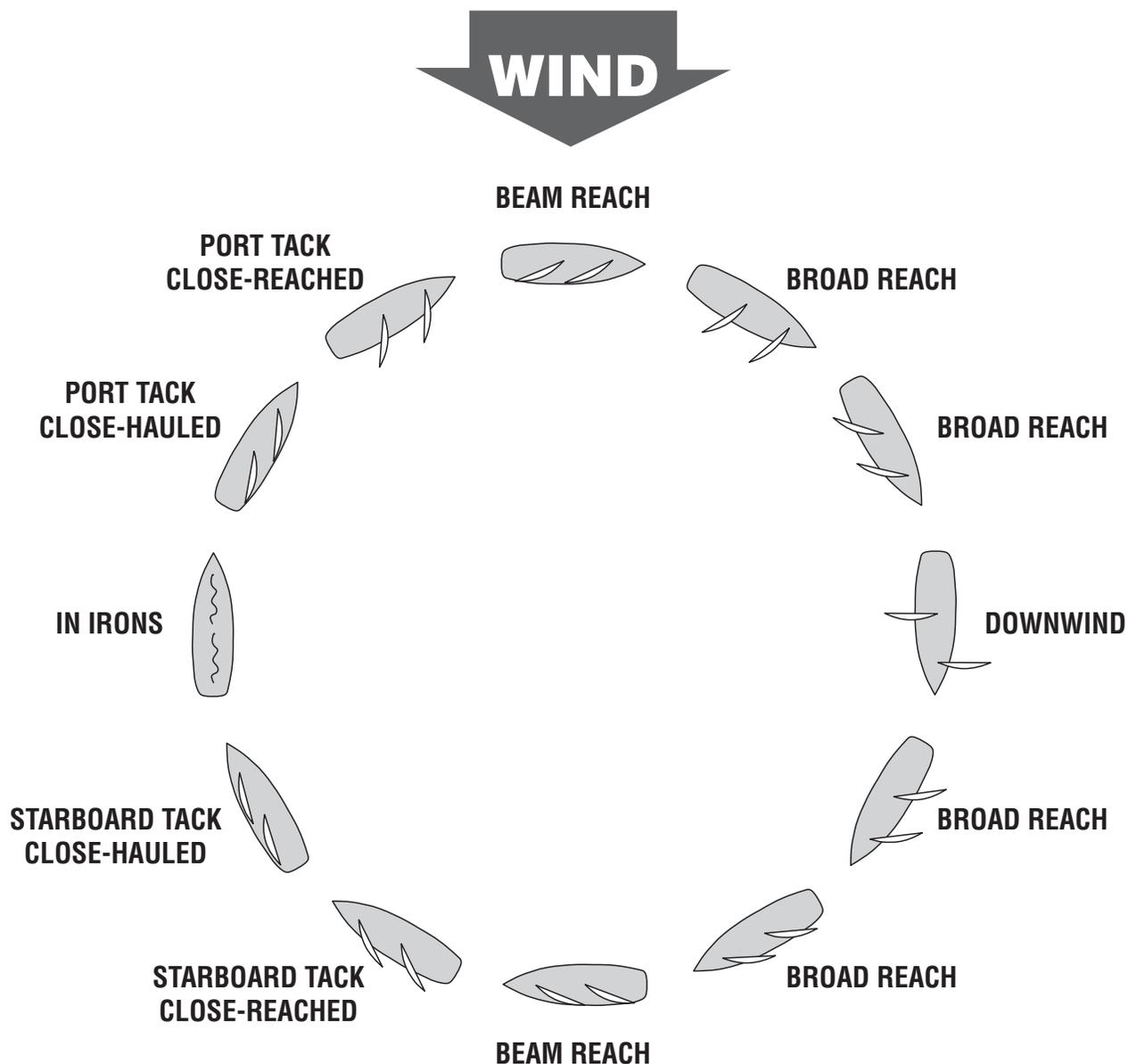
Sailboats can easily sail downwind but sailing against the wind can be quite challenging. In fact, sailboats cannot sail directly into the wind and attempting to do so will leave you “in irons.” Sailboats can sail at up to a 45° angle against the wind. Movement against the wind is known as tacking. Take a moment to study the diagram at right as you read through these definitions.

- ◆ **Downwind:** Sailing with the wind coming from stern (a.k.a. running and sailing free).
- ◆ **In Irons:** A sailboat is said to be “in irons” when the boat stalls with its bow pointed directly into the wind and no wind in the sails. If you find yourself in this position, simply move the rudder stick to either side and hold it until the sails catch some air. You will need to adjust the tension on the sails with the sail control stick to get the boat moving. Release the rudder when the ship reaches the desired heading.
- ◆ **Luffing:** When the sails are unable to fill with wind and begin flapping wildly (like a flag).

◆ **Tacking:** Sailing towards the wind in a series of maneuvers diagonal to the wind source. There are basically two tacking directions. *Starboard tack* occurs when the wind comes from starboard and the sail boom hangs over the port side. *Port tack* is just the opposite, with the wind coming from port with the sail boom hanging over the starboard side.

There are varying degrees of *tack angle* and it is important to learn when each will be useful and how to get your sailboat into position, especially when racing. For instance, when trying to reach a specific position upwind, sailing *close-hauled* may be the most direct route. Sailing *close-reached* allows you to get upwind faster, but is not as direct. In any case, you basically want the sails to be full of air and just on the verge of luffing. Here are some terms that describe different sailing positions in relation to the wind:

- ◆ **Close-Hauled:** Sailing against the wind at (up to) 45° angles.
- ◆ **Close-Reached:** Sailing against the wind at a much shallower angle.
- ◆ **Beam Reach:** Sailing with the boat at about a 90° angle to the wind.
- ◆ **Broad Reach:** Sailing with the wind coming diagonally from behind (a.k.a. *sailing large* or *quartering wind*).



### ***PLEASE READ BEFORE RUNNING THE VELA SAILBOAT:***

- ◆ NEVER attempt to swim after a stalled or stuck boat! Wait patiently for the wind currents to return the boat to shore or use a tennis ball attached to the end of a fishing line to retrieve it.
- ◆ Sailing the Vela in winds over 15 mph is not advised.
- ◆ It is dangerous to operate any R/C vehicle when there is insufficient light.
- ◆ **CAUTION:** Windy conditions cause rough water that will affect the performance of your sailboat and increase the chances of taking on water.
- ◆ Your Vela sailboat may occasionally take on small amounts of water, especially when running in high winds or rough water, or making tight turns. Keep a roll of paper towels handy and dry out the hull interior after every run. Check for leaks if you notice excessive amounts of water in the hull.
- ◆ **IMPORTANT:** If, for whatever reason, your boat takes on a large amount of water causing the electronics to get wet, you must do the following immediately: Remove the radio equipment from the boat. Allow the components to air dry completely before reassembling. Reinstall the components and check for proper operation before running the boat in water.
- ◆ Total run time of the Vela sailboat is approximately 45-60 minutes (assuming you begin with new batteries in the receiver box). When you notice a decrease in power or sluggish response, it means the batteries are nearly drained and it's time to head for shore. As soon as the boat reaches shore, turn off the power to the receiver and transmitter (in that order).

### ***MAINTENANCE***

Make sure you replace low batteries. Leave the hatch covers off overnight to allow any water to evaporate from the inside of the hull. Clean the exterior of the hull with standard household cleaners and check for any loose knots or screws.

### ***NATIONAL ORGANIZATION***

The American Model Yachting Association is a not-for-profit organization dedicated to promoting the designing, building, racing, and preservation of all model sailing yachts, and membership is open to all who are interested in these activities.

**theamya.org**

### ***REPLACEMENT PARTS***

To order replacement parts for the AquaCraft Vela use the stock numbers in the list below. Replacement parts may be purchased from your local hobby shop or by mail order. If you need help locating a dealer, visit [aquacraftmodels.com](http://aquacraftmodels.com) and click on "Where to Buy". If you are missing parts, contact AquaCraft Product Support at:

Phone: 217.398.8970

Fax: 217.398.7721

E-mail: [boatsupport@hobbico.com](mailto:boatsupport@hobbico.com)

AQUB6403	Deck Guides and Rigging Cleats
AQUB6465	Hatch with Latches
AQUB6490	Jib Support with Tie Rod
AQUB7110	Sailboat Stand
AQUB7500	Keel
AQUB7501	Keel and Bulb Thumb Nuts
AQUB7502	Keel Bulb with Weight
AQUB7825	Main Mast with Blocks
AQUB7826	Main and Jib Sail
AQUB7827	Mast Head
AQUB7828	Main and Jib Boom with Blocks
AQUB8660	Rigging Line 12-Meters
AQUB8661	Rigging Line Adjuster Blocks
AQUB8662	Rigging Line Clips
AQUB8750	Rudder
AQUB8751	Rudder Control Arm
AQUB8802	Spreaders
AQUB8820	Sail Clips



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