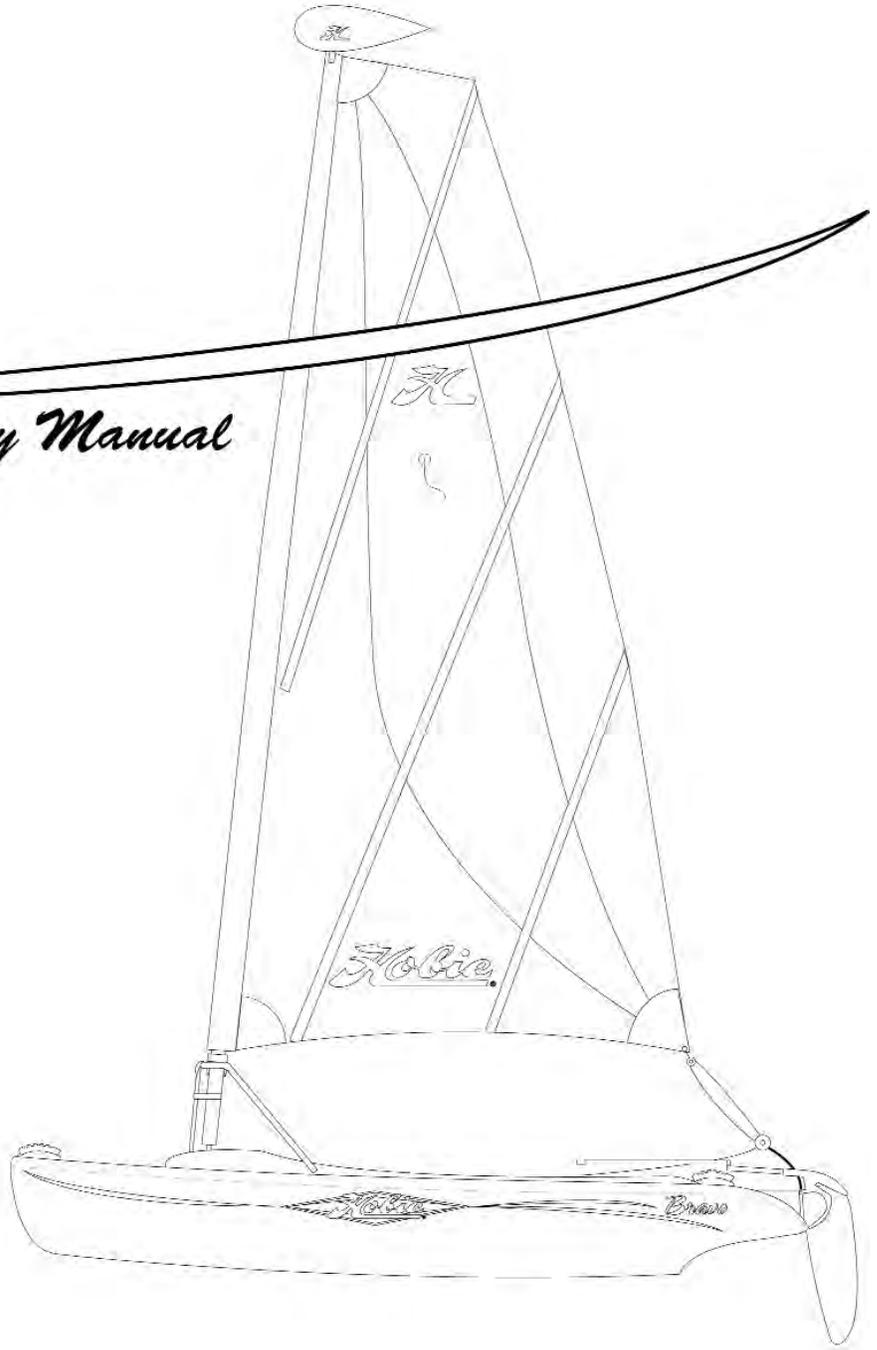


Bravo
Assembly Manual





WELCOME TO THE HOBIE WAY OF LIFE

Congratulations on the purchase of your new HOBIE Bravo and welcome to the HOBIE sailing family. The HOBIE Bravo cannot be outgrown (how do you outgrow fun?) and will provide years of enjoyment for everyone, from children through senior citizens. A single adult can sail it at top performance - and a pair can cruise in comfort.

We offer this manual as a guide to increased safety and enjoyment of your new boat. The purpose of this publication is to provide easy, simple, accurate instructions on how to get your Hobie Bravo ready for the water and use it safely. Please read them carefully and familiarize yourself with your boat and all her parts.

Whether you are a new sailor or a veteran of many years, we recommend that you read this manual thoroughly before your first sail and TRY IT OUR WAY FIRST! If you are new to sailing, this manual alone is not intended to teach you how to sail. There are many excellent books, videos and courses on the safe handling of small sailboats. We suggest you contact your local sailboat dealer, college or Coast Guard Auxiliary for recommendations.

Watch for overhead wires whenever you are rigging, launching, sailing or trailering with the mast up. In Hobie's commitment to safety on the water, your Hobie Bravo is equipped with a non-conductive composite mast tip. Although it is safer than a full aluminum mast, it doesn't provide 100% protection against electrical contact. CONTACT OF THE MAST WITH POWER LINES COULD BE FATAL! Be certain that the rigging area and the area that you will be sailing in are free of overhead power lines. Report any such power lines to your local power authority and sail elsewhere.

We take pride in presenting the Hobie Bravo to you and hope that you'll take as much pride in owning her.

Fair winds and good sailing!

Hobie

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HOBIE Bravo

ASSEMBLY MANUAL

This assembly manual takes you step-by-step through the set-up and sailing of your new HOBIE Bravo, and will help you understand each part in detail.



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Hobie Bravo Terminology

MAST FLOAT

The mast float serves as flotation for the boat if it tips on its side and helps to prevent turtling. Turtling is when a sailboat turns completely over and is upside down.

SAIL

The sail is a "square-top" design, utilizing the latest technology in sail design.

MAST

The mast is a two piece, long vertical tube designed for easy trailering and storage. The upper mast section features The Hobie Comptip™, a non-conductive piece designed to maximize safety on the water.

BATTENS

Battens are long thin pieces of fiberglass rod. These rods give the sail stiffness and help maintain sail shape. The unique angles of the Hobie Bravo battens allow the sail to roller furl easily.

TELL TAILS

Tell tails help to determine the trim of the sail. They will tell you whether you need to sheet your sail in or out.

DOWNHAUL

The downhaul is a line at the base of the sail that is used to tighten the sail on the mast.

MAINSHEET SYSTEM

The mainsheet is designed with the novice user in mind. The pulley system allows the sailor to let the sail loose quickly to easily reduce speed.

A-FRAME

The A-Frame provides a structurally secure base for attaching the mast, eliminating the need for side stays.

ROLLER FURLER

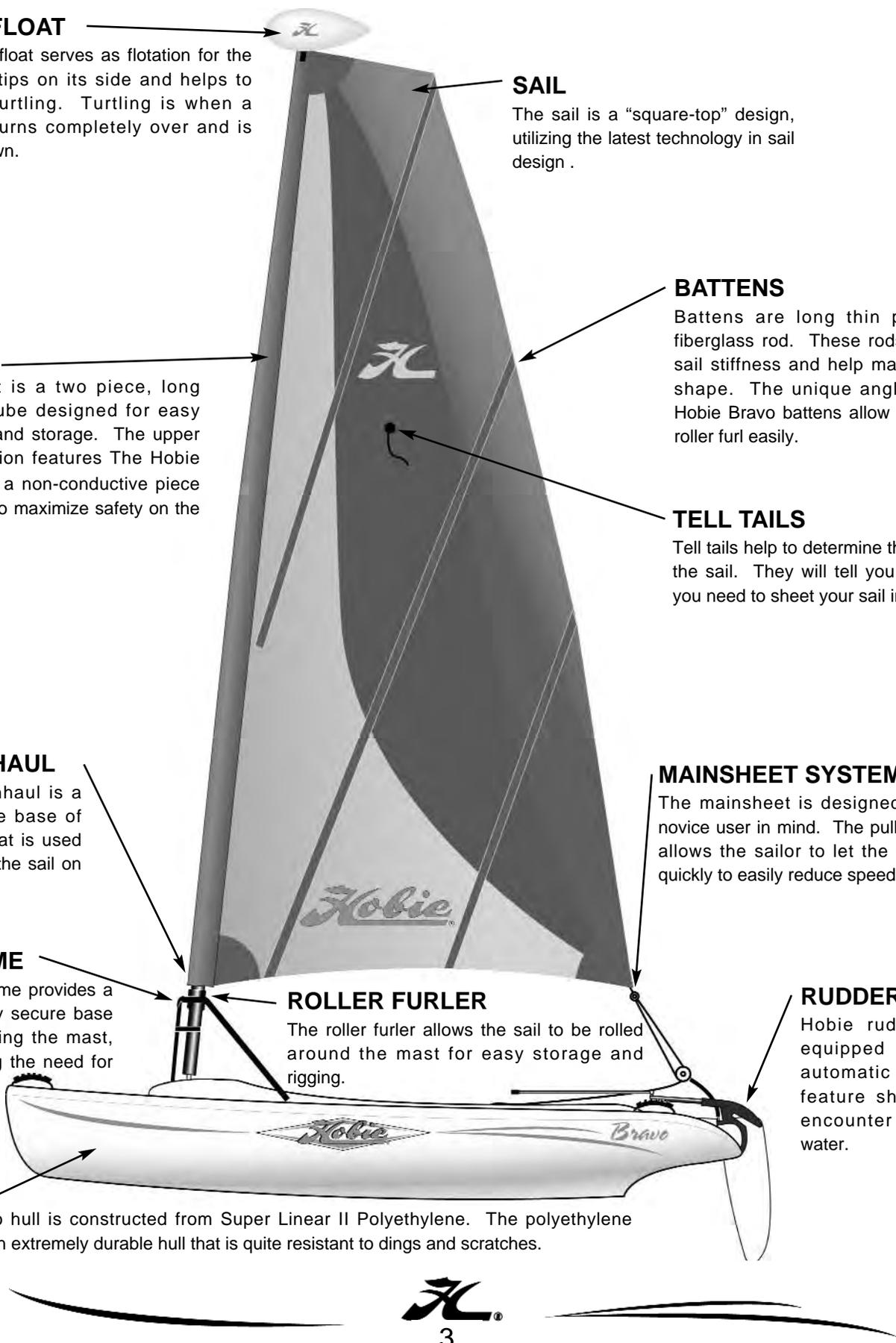
The roller furler allows the sail to be rolled around the mast for easy storage and rigging.

RUDDER

Hobie rudders are equipped with an automatic kick-up feature should you encounter shallow water.

HULL

The Bravo hull is constructed from Super Linear II Polyethylene. The polyethylene provides an extremely durable hull that is quite resistant to dings and scratches.

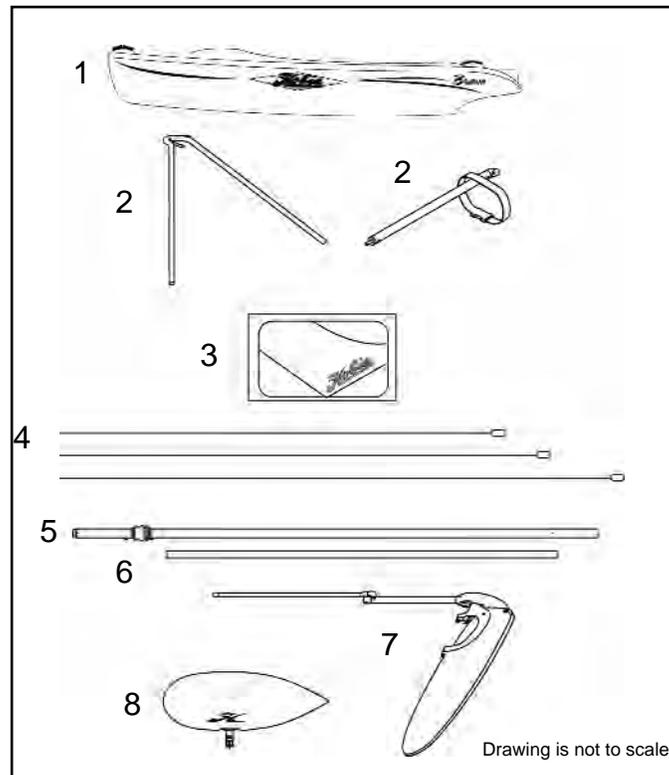


List of Parts

When opening your new Hobie Bravo, make sure to check that all of the parts are present and that the boat is in good order. Find a good clean spot, lay out all of your components and run through the checklist.

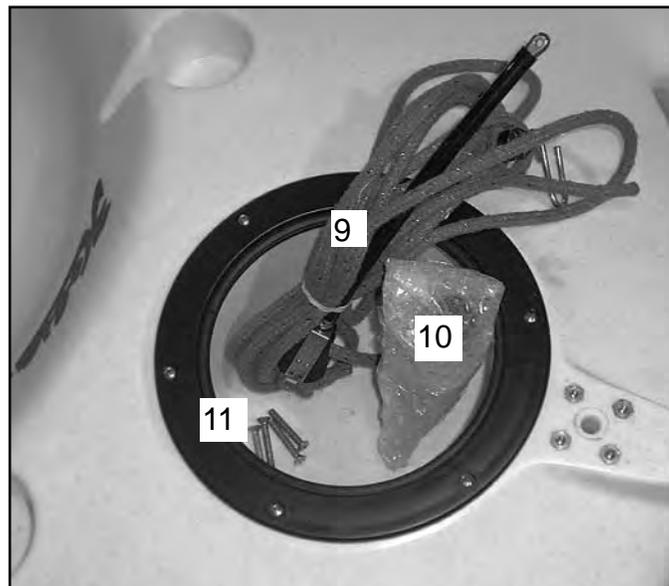
Large Parts

1. (1) Hobie Bravo hull
2. (1) A-Frame w/Vertical support
3. (1) Sail
4. (3) Battens
5. (1) Lower Mast Assembly
6. (1) Upper Mast Assembly
7. (1) Rudder w/Tiller Extension
8. (1) Mast Float



Small Parts

9. (1) Main Sheet System
10. (1) Mast Ball w/Hardware
11. (1) Bag of A-frame Hardware



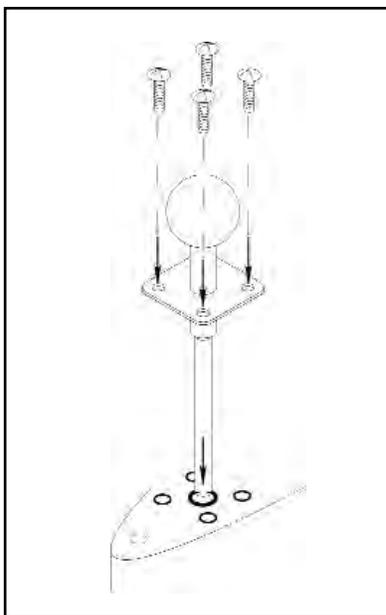
Assembly Instructions

The Hobie Bravo was designed to minimize not only the amount of rigging time, but also the complexity of initial assembly. Note that all of the small hardware components are located inside the front hatch. Follow these few basic instructions and you are ready to rig.

Note: Your dealer may have already performed much of the assembly detailed below.

1. Mast Ball Installation

1. Remove packaging from the mast ball.
2. Insert end of mast ball and start to screw into the hull. As the threads go deeper in the hull, it will become difficult to turn further. Gripping a pair of pliers around the post will help complete the installation. Continue to screw in the post until the plate is flush against the hull and screw holes are aligned.
3. Open the package of screws that were attached to the mast ball.
4. Insert and tighten screws into each of the holes in the plate.



2. A-Frame Assembly.

1. Separate the A-Frame and vertical support tube from each other.
2. Insert the bottom screw of the vertical support into the threaded insert in front of the mast ball. Once completely screwed in, be sure that the connector at the top of the tube faces toward the back of the boat (the half-round in the connector faces toward the back). If the connector doesn't face the proper direction, either tighten or loosen it to adjust to the proper position.



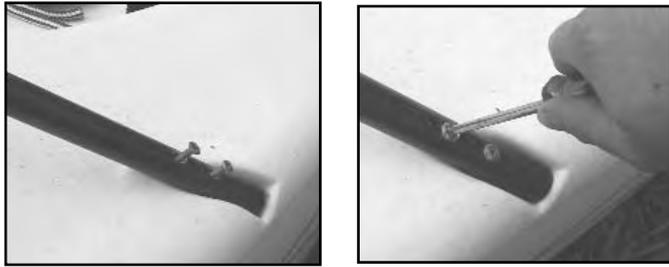
4. Place the arms of the A-Frame into each of the designated slots in the hull.



3. Loosely connect the tip of the A-Frame to the connector on the vertical tube. This will help hold the end up while you align the other holes.



5. Install the screws into each of the A-Frame legs. Before tightening down, we recommend that you *start to thread* each screw with a hand screwdriver. This helps in aligning the holes properly, and will prevent cross-threading of the screws. Once all the screws have been started, tighten each one down with a screwdriver.



6. Tighten the screw that attaches to the vertical support.



3. Righting Line Installation.

1. Coming up through the front scupper holes, you will find the installed righting line. Untie the two ends of the line from each other. Be sure to hang onto the line when untying them so that they don't fall back through the scupper holes.



Tip: When tying one of the lines off, put a knot at the end of the other line to prevent it from falling through the scupper hole.



2. Use a slip knot and tie each of the ends to the base of the A-Frame. The left line goes to the left side of the A-Frame and the right line goes to the right side of the A-Frame.



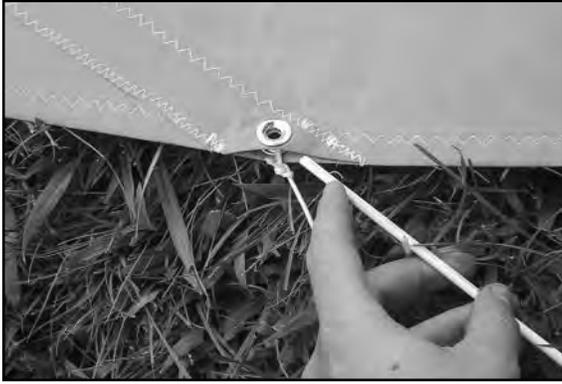
4. Sail Assembly

1. Find a large clean area where you can lay the sail flat.

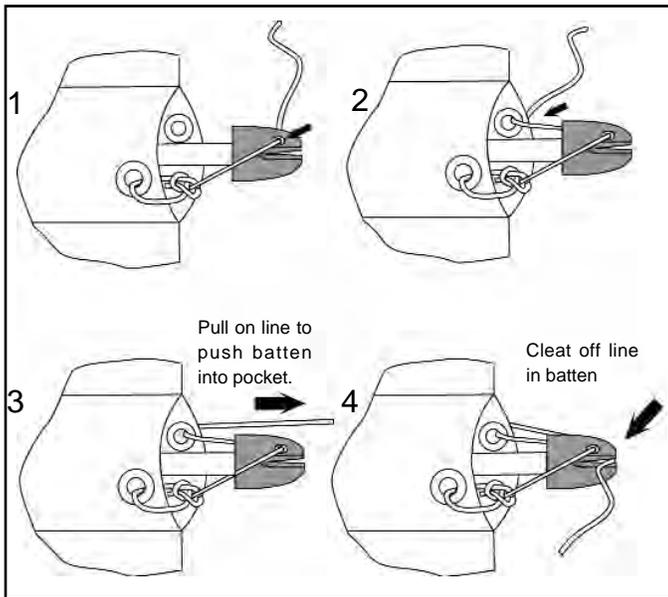


2. The battens for the sail are the long white rods that are attached to the mast. Lay them next to each other to help identify where they go. The longest batten goes in the middle, the shortest at the bottom, and the middle sized batten at the top of the sail.

3. Carefully slide each of the battens into their proper sleeve all the way to the end.



4. Once the battens are fully installed, use the diagrams below to guide the lacing of the battens to the sail. When tying in the battens, it is important to use the line to push the batten into the pocket. Tension each batten so that it is well seated and removes any wrinkles in the batten pocket.



5. Tie a small figure 8 knot in the end of the line to prevent the batten from falling from the sail if the line comes out of the cleat.

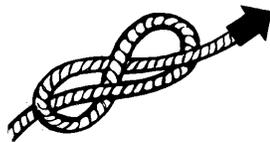
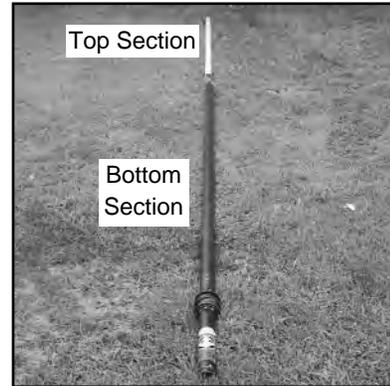


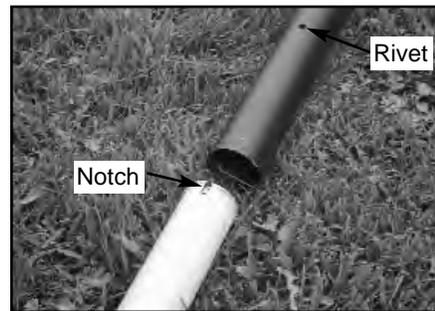
Figure 8 Knot

5. Mast Assembly

1. Place the top and bottom sections of the mast end-to-end.



2. Insert the upper section of the mast into the lower section. The end of the upper section to be inserted has two strips of clear tape and a notch on the bottom. To make sure the comptip is completely engaged, rotate the comptip while pressing the into the extrusion until the rivet drops into the notch. .



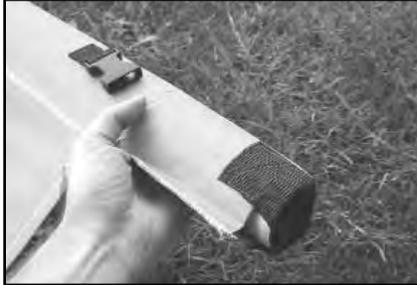
6. Mast and Sail Assembly

1. Position the sail so that the bottom of the sail is at the top of the mast.



2. Insert the top of the mast into the sleeve at the foot of the sail.

3. Gently slide the remainder of the mast into the sail sleeve until the top of the mast pushes firmly into the strap at the top of the sleeve. While putting the mast into the sail be sure that the webbing at the top is in the saddle and the forward edge of the sail is aligned with the forward side of the comtip (note: the notch is located on the forward side of the comtip)



4. Now that the sail is on the mast, you are ready to put downhaul tension on the sail.

5. Rotate the mast so that the knob just above the bearing lines up with the small loop and line at the base of the sail.

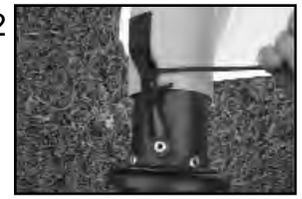


6. (1) Wrap the line around the post, (2) back through the loop, (3) around the post again, (4) pull tight and fasten in the cleat at the base of the sail sleeve. The goal here is to put tension on the sail to pull all the wrinkles out of the sail sleeve.

NOTE: Before applying downhaul on the sail, be sure that there are no twists in the sail sleeve. Once the tension is applied, the sail top will not rotate relative to the bottom.



1



2



3



4

7. Once the downhaul is attached, the mast is no longer free to spin within the sleeve, which allows the sail to be rolled around the mast.

TIP: The downhaul tension may have to be adjusted from time to time. When the downhaul tension is lost, the sail sleeve could start to twist on the mast. If this happens, unhook the downhaul and rotate the mast to straighten the sail sleeve on the mast. Once straight, put downhaul tension back on the sail.

8. Pick up the bottom end of the mast, leaving the top end resting on the ground, or held by another person.



9. With the sail in the same orientation as shown in these diagrams, rotate the mast counterclockwise.

10. The sail will start to roll around the mast. Continue to roll the sail until it is completely around the mast.





11. After the sail has been rolled onto the mast, it will still be a little loose. Give the loose end a pull to snug up the sail.

12. Take the blue line that runs through the grommet in the sail and pull the knot through the plastic hook.



7. Mast Float Assembly

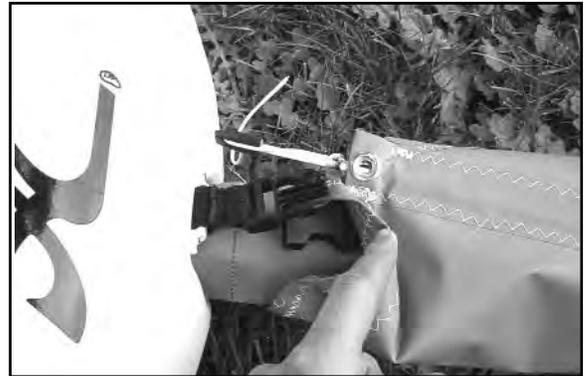
1. Notice that there is about 8" of extra sail and mast extending above the actual sail. This is designated for the mast float.



2. Before placing the float on the mast, you want to be sure that it is oriented in the correct direction. You will notice that on one side of the sleeve there is white stitching holding the sleeve together. The slimmer side of the float is to point toward the white stitching.



3. Slide the float onto the mast and clip the mast float to the sail.



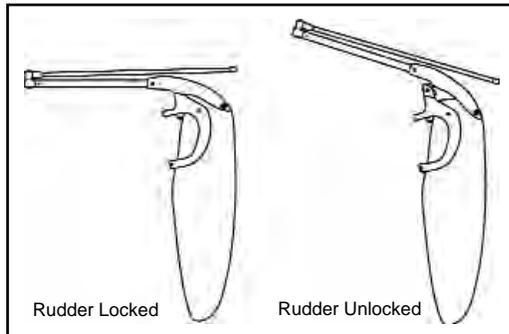
TIP: If you are trailering the Hobie Bravo long distances, it is a good idea to unclip and remove the mast float from the sail.



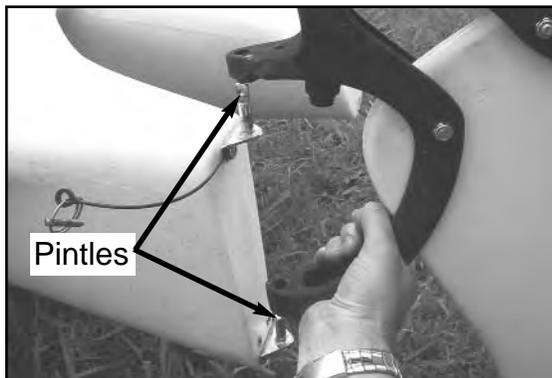
Sail your Hobie Bravo in 3 Steps...

Step 1. Attach your Rudder

1. It is much easier to attach the rudder when the handle is unlocked. If locked, brace the rudder blade between your feet and pull up on the handle. It may help to bump the bottom of the handle with the palm of your hand.



2. Align the holes of the lower rudder section over the top of the pintles.



3. Once they are aligned, lower the rudder down so that the pintles are fully inserted. If it is difficult to slide down, pivot the rudder back and forth while pushing it down.



Step 2. Raising the Mast

!CAUTION!

WATCH FOR OVERHEAD POWER LINES. NEVER RIG, TRAILER, OR SAIL THE BOAT NEAR OVERHEAD POWER LINES. MAST CONTACT WITH A POWER LINE COULD BE FATAL!

NOTE: Before attempting to raise the mast, be sure that you can lift it comfortably. Ask for help if you think you need it.

1. Pick up the mast and rest the base of the mast on the mast stepper ball.



2. Once it is sitting securely on the ball, raise the mast to your shoulder.



3. When you are ready, you may start to raise the mast. **Check overhead again for any power lines that could make contact with the mast.**

When raising the mast, apply constant forward pressure on the mast ball so that it doesn't pop off. As you raise it, you will walk forward and move your hands down the mast.



4. Continue to push the mast up until the collar interlocks with the A-Frame.



5. When the mast is all the way up, it will require very little strength to hold it up. Use one arm to hold the mast up to the A-Frame while swinging the gate with your free hand over the mast bearing.



6. Hand turn the knob on the A-Frame to thread the bolt into the gate. **Be sure that the bolt successfully enters the gate and is fully threaded in.** Hand tighten all the way in.



7. Wrap the strap around the mast and clip the two ends together.



8. Unwrap the furling line from the A-Frame. Take the end with the loop sewn into it and place the loop around the knob underneath the mast collar.



STEP 3. Installing the Mainsheet

1. Install the end of the mainsheet system through the hole on the top of the rudder, and place the end around the tip of the upper rudder pintle.



2. Once the holes line up, insert the quick pin through the holes.



Note: The quick pin not only holds the mainsheet on, but also prevents the rudder from falling off in the event of a capsized.



3. Place the hook on the mainsheet line through the grommet on the sail.



About your Mainsheet Block

The mainsheet block provided with your Hobie Bravo allows you to cleat the mainsheet for more comfortable cruising. To cleat off the line, simply pull the mainsheet into the spring-loaded cleat.

To uncleat the line, a flick of the wrist with the line in hand can usually pop it out of the cleat.



The red switch on the side of the mainsheet block controls the pulley wheel. Having the switch pointing up prevents the pulley from rolling backwards. This will help you hold onto the line if it is not cleated.



With the switch in the down position, the pulley is free to spin in both directions. This allows the mainsheet to be released quicker. **We recommend that the switch be in the down position for beginners.**



To adjust the angle of the cleat, unscrew the three screws on the side of the block, pull the screws out, and adjust the angle of the cleat. Once in the desired position, install the screws and tighten back up.



Sailing your Hobie Bravo:

See what everyone is cheering about!

Unfurling/Furling the Sail

The sail furling system of your Hobie Bravo makes rolling up your sail a snap. Before you can unfurl the sail, it is important that you have the furling line running through the padeye on the A-Frame to the knob on the mast (see Stepping the Mast).

In order for the furling mechanism to work properly, the sail must be rolled up on the mast when raised. With the sail rolled and mainsheet attached, remove the blue sail-holder line from the plastic hook and pull on the mainsheet line. You will see that the furling line has been wound around the mast. If the mast doesn't seem to be unrolling, check to see that the furling line hasn't been stopped in the cleat on the A-Frame or been caught somewhere on the boat.

To furl the sail, be sure that the mainsheet is free from any obstructions. Grab the furling line and pull through the padeye. This will cause the mast to rotate with the sail around it. Once the sail is fully furled, cleat the furling line in the cleat on the A-Frame.

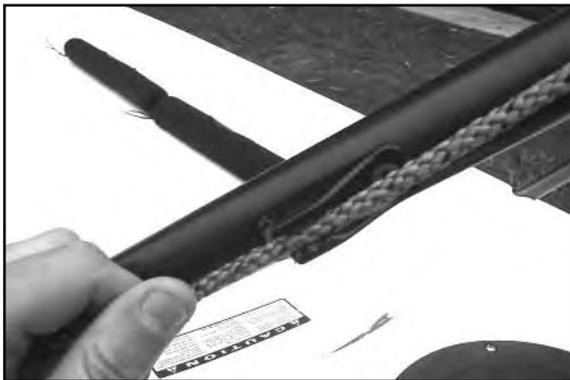
Sometimes when furling, the sail won't wrap completely around itself. This will be fine if you are beaching for a short time. But, if it is over a long period of time or for transport, unhook the mainsheet and wrap the sail around itself. Run the knot of the blue rope at the base of the sail through the plastic hook.



We recommend furling up the sail whenever the boat is not in use. This will help prolong the life of the sail.

Hiking Straps

One of the great things about the Hobie Bravo is that for a small boat, it can be sailed at amazing speeds with a little practice. The hiking straps will help you to achieve speeds that will provide endless excitement. When sailing in high winds, the boat starts to heel away from the wind. In order to prevent the boat from tipping over, you must shift your weight over the side as much as possible. Slide your feet under the straps that run through the boat's scuppers to help you hold yourself on the boat as you lean out over the edge. This is not only functional, but also very exciting.



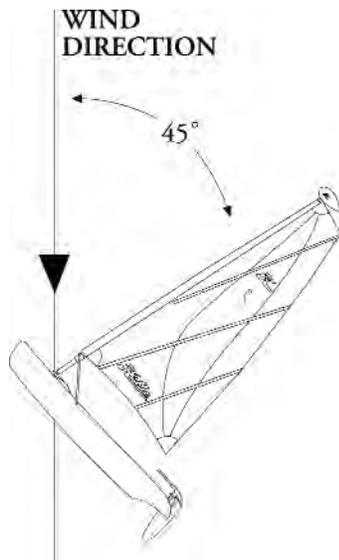
Righting the Boat

In the event that the boat tips over, you will need to “right” it. Follow the simple instructions below to see how it is properly and safely done. We strongly recommend that you practice this in shallow water to prepare yourself. It is best to understand how to do this because it can be more difficult in deeper water if you don’t know what to expect.

1. Always be aware that when the boat tips over, it could start to drift away from you. **STAY WITH THE BOAT AT ALL TIMES!**



2. Orient the boat so that the wind is coming to a 45 degree angle to the mast (see diagram to the right). Doing this will allow the wind to help lift the boat out of the water.



3. Climb on the hull closest to the water and stand up on it.



It is actually possible to right the boat without the righting line system. Grab hold of the hull or hiking straps and lean away from the boat to pull the sail out of the water.

4. **Using the righting line system.** A righting line system has been installed to help with bringing the boat up. The righting line will give the sailor more leverage and power to lift the sailboat out of the water.

5. Reach over the top of the hull to get to the line that you tied to the A-Frame. Grab hold of the line and pull on it. The Bungee® on the bottom will stretch and give you more rope.



6. Once you have pulled most of the rope through, hold onto the end and lean as far away from the boat as possible without touching the water.



8. As the boat comes up, slide into the water and grab the hull coming over your head. **Don't let the hull hit your head.** Control the speed of the hull coming down. If it were to come up quickly, the momentum of the mast would throw it over to the other side.



Note: How far you have to lean largely depends on your weight. It's a good idea to practice this procedure to get a feel for how much "lean" you need to lift the mast and sail out of the water.

7. As the boat starts to come up, you will be able to start to reduce your amount of lean. Go down to your knees while pulling back either on the righting line or hiking straps



9. **Once the boat is upright, be sure to hang on to the boat. After the sail is back up, the boat could sail away from you.** If the wind is strong, it may be necessary to hold the boat down to prevent it from re-capsizing.



10. Grab hold of one of the hiking straps to help pull yourself back on the boat.



It is always recommended that you check the boat and rigging for damage once you get to shore.



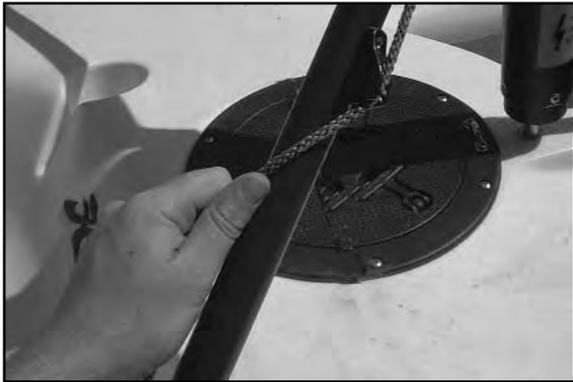
Reefing the Sail

Reefing the sail is typically done during high wind conditions, docking, and beaching. Reduction of sail size helps with control, reducing sail luffing, speed, and chance of tipping over.

To reef the sail, pull in on the furling line until you have re-gained comfortable control of the sail. Remember to place the furling line in the cleat on the A-Frame, or the sail will unroll whenever you pull in on the mainsheet.



Shown here are examples of two different reefed positions. Keep in mind that the higher the wind, the more the sail should be reefed. Also, for best performance, adjust the reefing position so that the mast float faces forward.



To get the sail back to its original size, uncleat the furling line and pull in on the mainsheet to unroll the sail.

Installing the Boom (optional)

The Hobie Bravo was designed for sailing without a boom, but one can be used if desired. A boom will get more performance out of the sail during high wind conditions. Attaching the boom is simple.

1. Notice the groove above where the A-Frame sits in the mast bearing. This is the location for the boom.



2. Align the boom clip to the groove and give a strong push forward. The clip will flex slightly and snap around the bearing.



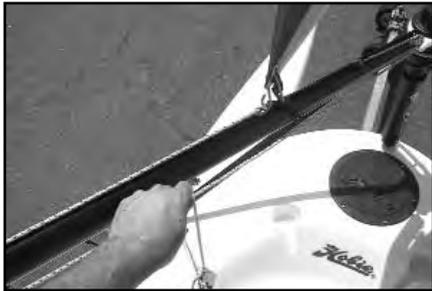
3. If your sail is hooked to the mainsheet, unhook it from the grommet in the sail.



4. The hook on the boom is placed in a track. This allows the hook to be moved for furling and outhaul adjustments. Attach the hook to the grommet of the sail.



5. The line that runs the length of the boom is called the outhaul. It controls the location of the clew of the sail. By pulling on the outhaul line, it will move the clew of the sail out on the boom away from the mast.



To unfurl the sail, uncleat the mast furling line from the A-Frame and pull the outhaul to move the sail out on the boom. Once at the desired location, cleat the outhaul line at the cleat on the bottom of the boom.



To furl the sail, uncleat the outhaul line and pull in on the mast furling line. Note that as you pull in, the boom is going to rise upward.

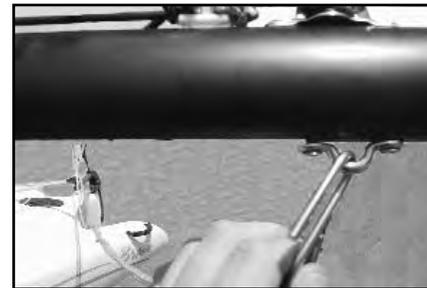
6. Snap the boom vang clip to the padeye in front of the forward storage hatch.



The boom vang helps to control the amount of upward lift on the boom. Simply pull down on the line and cleat in the boom vang cleat when the boom is at the desired level.



7. Attach the mainsheet hook to the padeye at the bottom rear of the boom.



8. Now you're ready to sail at the Hobie Bravo's top performance. **Always be aware of the boom's location. It will be swinging over your head during tacking and jibing. Watch your head!**

Sailing Basics

BALANCING THE BOAT

When sailing, sit on the upwind side of the boat (wind on your back) just in front of the tiller, facing the sail. As the boat begins to heel over with wind in the sails, balance your weight further outboard. Tuck one of your feet under the hiking straps to help your balance. Use your hand that is forward to hold and control the mainsheet. Your aft hand is used to steer the rudder.

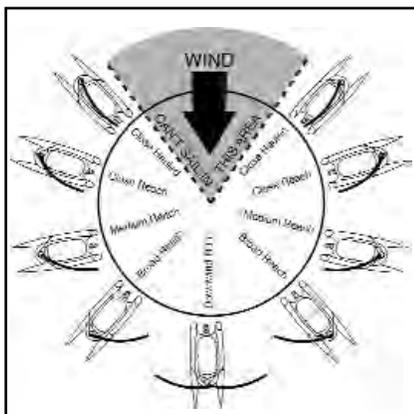
STEERING

Steer the boat by pushing the tiller away from you to turn towards the wind. Pull the tiller toward you to turn away from the wind. It is important to keep the tiller movements to a minimum to prevent over-steering. This will help keep the boat moving in a straight line as you pay attention to other watercraft and sail adjustments.

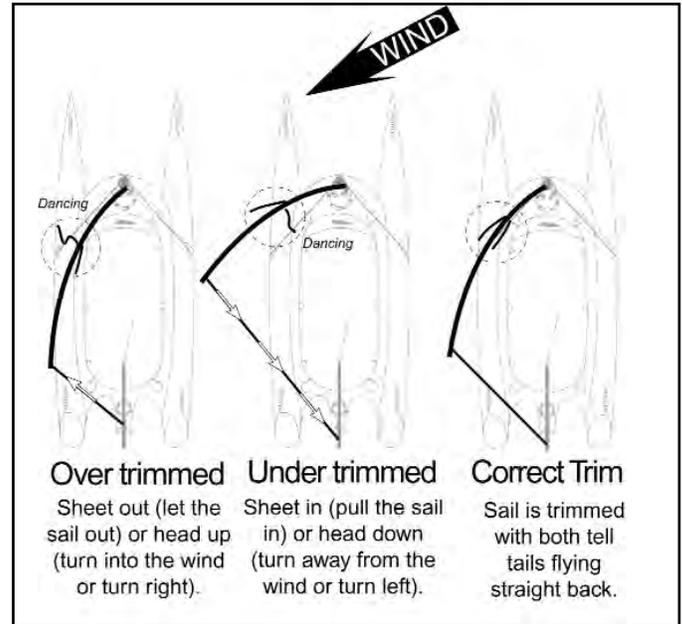
SAIL POWER

Face the sail in order to pay close attention to the trim or adjustment of the sail. When the front of the sail just behind the mast luffs, or flutters, in the breeze, you lose power. To start moving, pull the sail in just enough to stop the sail from luffing.

Refer to the sail trim diagram below for approximate sail settings for the different points of sail or directions you will be sailing. Note the "can't sail zone". You cannot sail in this direction as the sail will luff constantly when pointed into the wind. If you get stuck "in irons" (stopped pointed into the wind) you will need to reverse the rudder and push the sail forward to back-wind it. This will back the boat up. Reverse the rudder and let the sail out until the boat is positioned more across the wind (close reach). Then you can correctly trim the sail and start moving forward.



There are short ribbons (tell tails) hanging on either side of the sail. Follow the diagram of sail and course adjustments above using the tell tails to get the most performance out of the sail for all angles of sailing. The tell tails react to air flowing over the sail and will help you see if the sail is pulled in too tight or not enough. If you pull the sail too tight you will stall the sail power. Ease the sail out until it luffs, then pull it in just a little until it stops luffing. You will adjust the trim whenever the wind changes direction or when you change course.

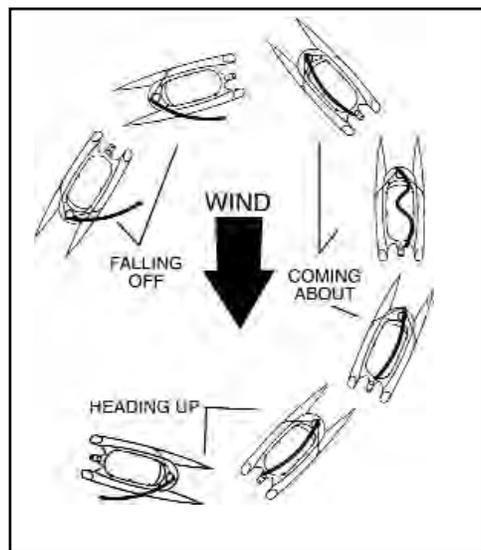


TURNING

To tack or turn the boat into and across the wind to the opposite direction (also known as "coming about"), follow the points of the sail guide illustration and take the boat to the close hauled point of sail. This is when you are nearly 35 degrees from sailing straight into the wind. With the boat moving forward and not stalling, push the tiller away from you slowly. When the boat is pointing straight into the wind the boat will become level. Ease the mainsheet trim out just a little. At this time move your body to the other side of the boat, switch hands with the tiller and mainsheet and begin to bring the rudder back to straight. As the boat comes across the wind and falls off onto the opposite, close hauled point of sail, bring the tiller all the way back to the straight position and pull the mainsail back in for the proper sail trim. If you stall pointing into the wind and you cannot steer the boat, refer back to the sail power description concerning getting stuck in irons.

When sailing downwind, turning the boat from one point of sail across to the other is called a jibe. The jibe is completed by turning away from the wind (in sailing terms, "falling off") to the opposite point of sail rather than into the wind as when tacking. Care must be taken when attempting a jibe as the boat will be at full power and you cannot easily de-power it without turning back into the wind. Also, be aware that the boat will be less stable in this maneuver as the sail will now have to swing completely across from fully out on one side of the boat to fully out on the other side.

To start a jibe, turn the boat away from the wind and let the sail out slowly. Keep the turn going at a steady rate and begin pulling the sail back in as the boat nears the straight downwind direction. This will help prevent the sail from slamming all the way across when the sail fills from the opposite side. Duck below the sail to avoid getting hit as the wind fills the sail from the opposite side and swings across the boat. Attempt to control the speed of the sail while it crosses the deck by maintaining some tension on the mainsheet. Then ease the mainsheet out quickly as the boat turns past the downwind direction onto the new point of sail. Trim the sail correctly for the desired point of sail.



LAUNCHING THE BOAT

Launching the boat is easiest when the boat can be pointed into the wind to keep it de-powered and floated into deep enough water to lower the rudder. It is possible to launch in shallow water with the rudder

partly up. Try not to steer with too much force on the rudder until you lock it in the down position. Keep the sail loose and trimmed out completely until you can power up and steer away from any obstacle. Trim the sail in quickly to get the boat moving forward and steer away from the wind slightly to prevent stalling into the wind.

When launching from a beach where the wind is blowing from the beach toward the water, you simply keep the boat pointed into the wind. Drift backwards with the rudder in the "up" position and your weight toward the front of the boat. Stay forward as the boat drifts into deeper water. You can hold the sail out to catch wind backwards to increase reverse speed. Then move to the rear and lower the rudder. Be aware of the intended direction you wish to sail when lowering the rudder and steer the boat as the rudder drops into the water. Steer the boat while going backwards so the bow turns away from the wind and toward the direction you wish to sail. As the sail begins to fill with wind, the boat will slow then begin to move forward. Trim in the sail and off you go.

DOCKING

Docking the Hobie Bravo properly will prevent damage. Always dock and rig on the leeward side of a dock (the side the wind reaches last). Come in slowly and always be aware of the wind direction so you can properly de-power the boat when needed. The stronger the wind the more difficult the docking will be. Until you feel confident, you may want to practice with a friend who will remain on the dock and help slow you down if necessary. Partial furling of the sail will also help.

BEACH LANDINGS

Landing on a beach is simple. The idea is to reach the beach in the point of sail nearest straight into the wind as possible. This will assure that you can properly de-power the sail once beached.

Approaching a beach when the wind is blowing from the beach out toward the water will require some planning so that you maintain power. Turn into shore just before the hull or rudder touches bottom. Plan so that the final tack toward your intended destination is the tack that is nearest to straight into the wind. Get a little closer to the beach than you need on the previous tack to account for wind shifts in direction and speed. This will give you a little room for error. This will allow you to point a little further away from the wind after the tack to gain speed before heading up into the beach to de-power at the last moment.

When approaching a beach when the wind is blowing onshore, sail in toward the beach from either side of the landing spot. Sail in just short of touching the bottom with the rudder. Allow some distance to turn the boat out toward the water and into the wind just out from the landing spot. Turn sharply to head into the wind and stall the boat. Raise the rudder and drift back onto the beach.

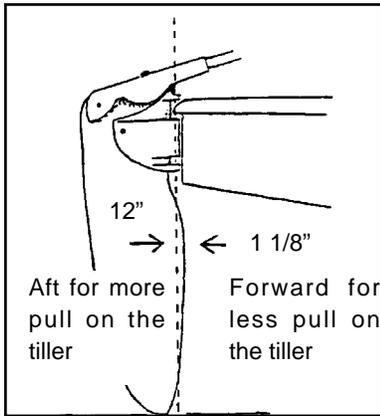
Always keep the boat pointed into the wind while beached and keep the sail furled.

RUDDER TUNING

You may adjust the rake of your rudder blade on your Hobie Bravo. The amount of rake in a rudder blade affects the "feel" at the tiller. Basically, more forward blade rake neutralizes the pull on the tiller and less forward rake increases the pull on the tiller. Tuning blades for a comfortable feel is a matter of individual preference but a close to neutral "feel" generally provides the best steering. The following sketches are of a Hobie 16 rudder assembly, but the adjustments are the same.

1) The first step in making any rudder rake adjustment is to determine the existing rake. This is done with the rudder assembly hanging on the boat's transom, blade down and locked.

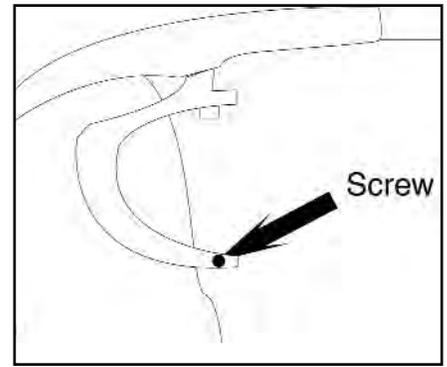
Using a straight edge or snap line, extend the centerline of the rudder pivot pins down, across the leading edge of the blade and draw a pencil line along that length. Measure the distance from the pencil line to the most forward spot 12" down the blade from the bottom of the casting.



Rudder blade rake is pre-set at the factory to 1-1/8". This amount will be best for the average sailor and is a good starting point from which to begin any adjustments.

2) To make any adjustment to the rake, unlock the tiller arm from the rudder housing and leave it unlocked.

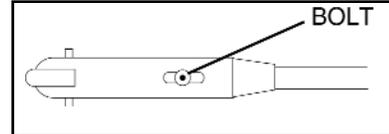
3) If you wish to increase the amount of forward rake in the rudder blade, turn the rake adjusting screw counterclockwise using a 3/16" Allen wrench.



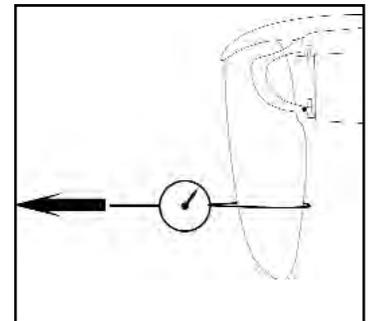
Determine the increase in the rake by extending a new line from the centerline of the pivot pins. Re-measure the distance from the pencil line to the leading edge. Continue to adjust and measure until you have the desired amount of forward rake.

4) If you wish to decrease the amount of forward rake turn the adjusting screw clockwise using a 3/16" Allen wrench. Check the decrease in the rake by the procedure in step 3 above .

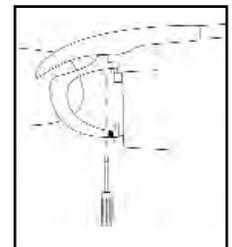
5) Next, while holding the rudder forward against the lower casting, carefully latch the tiller arm down onto the rudder housing. Loosen the adjusting screw on top of the tiller arm about 3/4 turn. Slide the adjusting screw forward (toward bow of boat) until it stops, then re-tighten. See sketch below.



6) Hobie Cat rudder blades are pre-set to break away from the locked down position at 17-26 pounds by testing with a line around the rudder blade seven inches above the lowest tip of the blade. Once the rake is changed, the breakaway tension should be rechecked.



The tension may be adjusted by turning the 3/4" internal screw in the housing. The screw tensions an internal spring. Turn it clockwise to increase and counterclockwise to decrease the tension.



TRAILERING

LOADING YOUR TRAILER

The weight of the boat, equipment and additional gear should never exceed the trailer manufacturer's rated weight capacity. Proper distribution of the load is of vital importance. Too much weight on the hitch will cause "tail dragging" of the towing vehicle, impairing steering and raising headlights into the eyes of oncoming traffic. Too little or negative weight on the hitch, and the trailer will sway or "fishtail". The solution to proper distribution is often adjusting movable gear. A more permanent solution is to shift the axle position before taking your boat to water the very first time.

TOWING

Extra caution is necessary when towing any trailer. The heavier the rig, the more time required to accelerate, pass, and stop. For this reason, the maximum speed for vehicles with trailers is less than vehicles without a trailer in most states. A long rig requires a larger turning radius. Curbs and obstructions should be given wide clearance. Most boats on trailers obstruct the rear view of the driver. When this happens, an additional rear view mirror on the right side of the towing vehicle is required by law.

When trailering, you should be familiar with traffic and highway laws relating to the towing of trailers. Obstacles should be given plenty of room when you are passing them. Tie down straps or lashings should be of sufficient size and diameter and the boat should be secured to the trailer at all four corners.

The mast support on a trailer is subject to a lot of side-to-side motion and consequently may fatigue where it is in contact with the trailer. All this can be reduced by tying a line from each bow to the mast support. This will stiffen up the rig and prolong the life of the trailer.

LAUNCHING AND RETRIEVING

Prepare your boat for launching at the top of the ramp or parking facility. Remove all tie-down straps, check drain plugs and fasten the bowline. Do not release the winch line until the boat is in the water. Back the trailer to the left if possible; backing left gives better launching visibility. Avoid dunking wheel bearings wherever possible. Never leave the towing vehicle unattended on the ramp with only the parking brake set. If the vehicle

must be left while on the ramp, set the transmission in "park" or first gear, in addition to setting the parking brake. In retrieving your boat, make sure that the boat is properly placed on the trailer. Pull the trailer up steadily to prevent spinning the wheels.

MAINTENANCE

Lights: Most state laws require two red taillights on the rear that may be combined with the stop and turn signals. Vehicles over 80 inches in width require clearance lights. If lights are dunked, waterproof light fixtures should be used. If water is allowed to enter, the lamp may crack and short out the entire system. Water also promotes contact corrosion. Always carry spare lamps. The wire coupling to the towing vehicle should be high enough to stay dry. Never rely on the trailer hitch for ground connection. Four-pole connectors should be used. **The mast should not extend over three feet behind the rear light assembly.**

Wheels: Tires should ALWAYS be inflated to the manufacturer's recommended pressure. Always carry a spare wheel and a jack that fit the boat trailer. If wheel bearings are always dunked, waterproof bearings and caps should be considered. If water is allowed into the hub, lubricating grease will float away and bearings will burn out or seize, causing damage and a safety hazard. Waterproofed bearings should be inspected prior to each boating season, others more often. Special care should be given when traveling on unimproved roadways with small diameter wheels.

If a spare wheel is not available, a spare wheel bearing set should be taken on long trips in case the grease seal has been broken.

FRAME AND ROLLERS

Rust should not be allowed to accumulate. Remove rust and repaint with anti-rust paint. Some trailers offer galvanized coating to prevent rust. Rollers should roll freely and should not have cracks, breaks or flat spots.

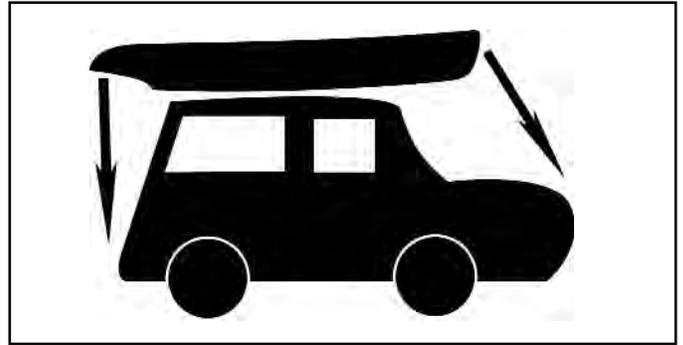
TOWING VEHICLE

Most vehicles are limited in towing capacity. Towing heavy loads places extra demands on the engine, transmission, brakes and other systems vital to the vehicle. Towing "packages" are available through most auto dealers and should be considered for heavy boats.



Caution
Boat and mast should be securely attached to the trailer with adequate tie-down straps. Failure to do so could cause serious injury and extensive damage.

6. In addition to other tie downs, always tie the front and back of the Bravo to the front and back bumper of your car (see diagram below).



Important Car Topping Cautions

Caution is required when car-topping the Hobie Bravo or any object on top of a car. Common sense must be followed to ensure that the roof rack being used will handle the weight of the boat. Roof rack manufacturer's weight limitations and tie down guidelines must be strictly followed. If in doubt, the best course of action is to trailer the boat. The following are important rules to follow.

1. Roof racks that come as standard equipment on cars are not designed to handle heavy loads. Choose an accessory roof rack with weight ratings that will handle the Hobie Bravo or parts. If in doubt, check with the manufacturer.
2. Make sure the roof rack manufacturer's weight limitations are followed.
3. Carefully follow the roof rack manufacturer's directions for attaching the rack to your car.
4. Always securely tie all parts carried on the rack to the roof rack.
5. Always use a good quality line of at least 1/4" diameter for tie-downs. Avoid using polypropylene line as it does not hold knots well.

7. Drivers should use extra caution due to the higher profile of the vehicle and additional windage, especially when related to side winds.

8. Always stop and check the tie-downs shortly after beginning any trip and check often on long trips. Check for lines that may become loose or worn.

Not all racks are designed to carry a load the size of the Bravo. Some racks require carrying only a portion of the boat parts on the roof and the remaining parts in the trunk.

Weight

Bravo Hull.....	152 lbs
Mast w/Bob.....	22 lbs
Rudder Assy.....	11.5 lbs
Sail w/Battens.....	6 lbs

**Important
Hull Storage**

The Bravo hull should not be stored or transported on its side. Side load in combination with warm weather or direct sun exposure could result in hull deformation.

CAUTION/SAFETY TIPS

- **Watch for overhead power lines.** Never rig, trailer or sail the boat near overhead power lines. Contact with a power line could be fatal.
- **Know your limitations.** Do not try to do more than you can. Do not take the Hobie Bravo out in the surf or head out in the ocean unless you are an extremely experienced sailor.
- **Wear a life jacket.** Wearing life vests while sailing should be considered mandatory on any small boat. Wearing a life vest is a smart thing to do and could save your life or the life of your passengers.
- **Stay with your boat at all times.** A sailboat could sail away by itself if a person were to fall overboard. The best advice to a sailor is to **stay with the boat.**
- **Adhere to car roof rack manufacturer's weight limitations and tie down suggestions when car topping the Hobie Bravo.** The weight of the Bravo hull is 152 lbs.
- **When trailering the Hobie Bravo, be sure to securely tie the boat and loose parts to the trailer.** Stop and check tie downs often.
- **Hobie Cat does not recommend leaving the Hobie Bravo in the water on a mooring, and doing so will invalidate the warranty.** Accelerated wear to the boat and rigging will occur. Damage to the hull material is possible. If you choose to moor your boat, inspect rigging often.
- **Do not store or transport your Hobie Bravo on its side.** This could result in hull deformations. Always be sure to open the drain plugs to allow for internal hull pressure changes when the boat is out of the water.



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