

ASSEMBLY INSTRUCTIONS VENTURE CATAMARAN

TOOLS NEEDED

screwdriver
7/16 wrench (2)
9/16 wrench (2)

2 CRESCENT
WRENCHES

UNPACKING THE BOAT

When you receive your catamaran, you should have the following separate items:

- 1 left hull, with boom and front cross tube attached
- 1 right hull, with rear cross tube attached
- 1 mast
- 1 rigging box

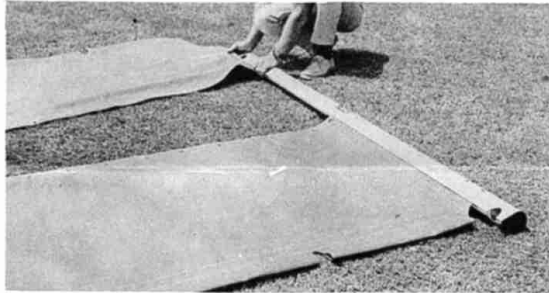
After untaping the boom and cross tubes from the hulls, unscrew the sheet metal screw at the rear end of the boom, remove the end cap, slide the battens and tiller crossbar out of the boom, and re-install the end cap and screw.

Unscrew the sheet metal screws on the end of the rear cross tube, remove the end cap, slide the tillers out of the cross tube, and re-install the end cap and screw.

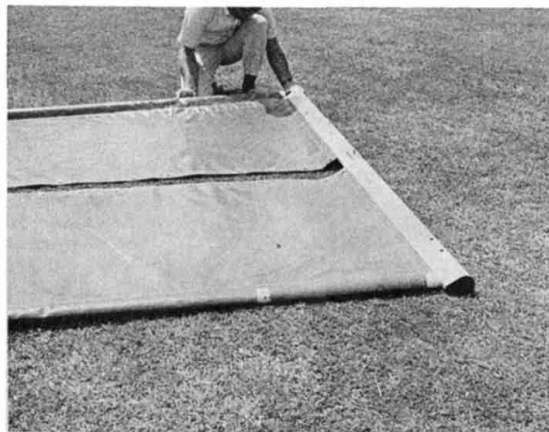
Unscrew the sheet metal screws that hold the mast base casting to the mast. Remove the jib furling tube, side rails and headstay cross tube from the mast.

ASSEMBLY OF CROSS TUBES AND TRAMPOLINE

Slide the rope leading edge of the trampoline halves into the mast cross tube. Make sure that the seamed side of the trampolines are down.

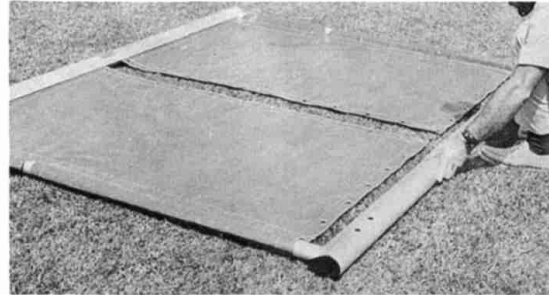


Slide the 2" side rails into the pockets of the trampoline.



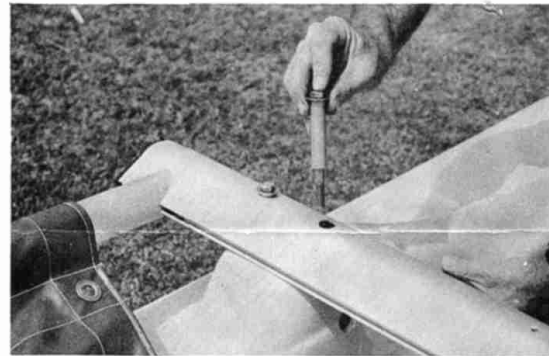
Note the position of the 1/4" chainplate holes in the side rails and the position of the trampoline cut outs. Push the side rails forward into the 2" holes in the mast cross tube.

Insert the other end of the 2" side rails into the 2" holes in the rear cross tube. Be sure the 5/8" holes are on top, and the 3/8" holes are on the bottom.

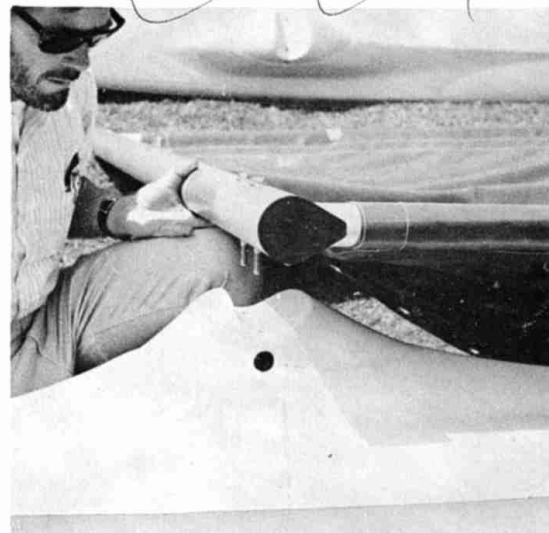


Bolt the trampoline frame to the hull pylons with 3/8" x 4 1/2" bolts. Make sure the mast pivot pin on the mast cross tube is pointed upward. A 3/8" washer should be under the head of each bolt, and a 2 3/4" long tube spacer should be slipped over each bolt before inserting the bolt into the cross tube.

Waxing the bolts will make assembly much easier.

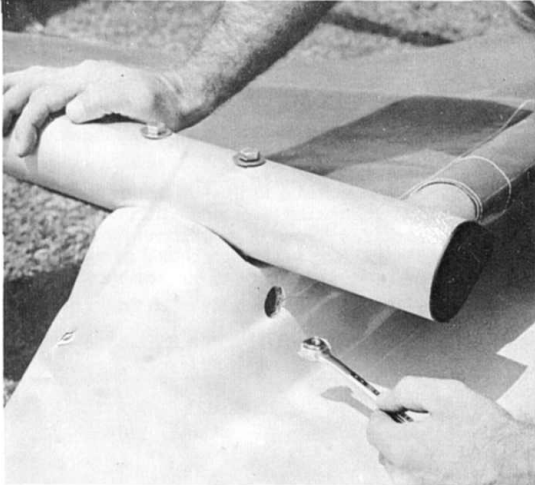


Press the bolts into the holes in the saddles in the decks.



Apply a blob of sealant around the holes in the decks to prevent leaks. Make sure the proper hull is on the proper side. When assembled, the pylons should be the inboard side of the deck, and the flat side of the hulls should be on the outboard side. If you encounter too tight a fit when pressing the bolts into the decks, it's OK to slightly ream out the holes in the decks to allow comfortable clearance.

Install 3/8" lock nuts on the 8 pylon bolts. Hold each nut in the taped end of a 9/16" box wrench.

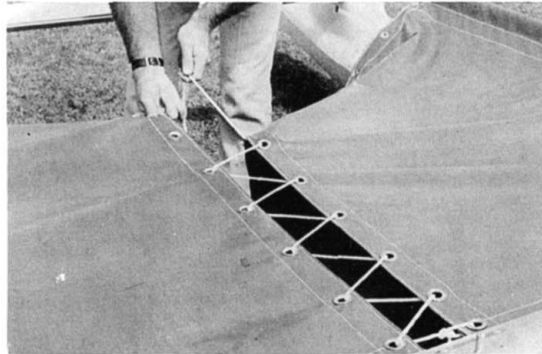


Start the nut on the threads and tighten the nut by turning the bolt head clockwise. Tighten these bolts tight.

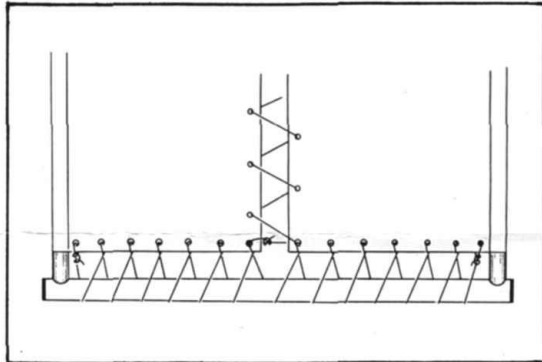


LACING THE TRAMPOLINE

Start at the front and lace the 3/16 x 13" line loosely, zig zagging toward the rear.



Lace the 3/16" x 22' line across the back, loosely, as shown below. Note the overlapped line behind each grommet.

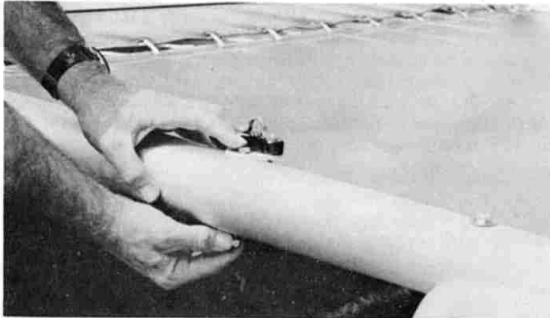


Before final tightening, make sure the 1/4" chainplate holes in the side rails are parallel to the ground and centered in the cut outs in the trampoline.

Tighten the rear lacing, then the center lacing and tie off,

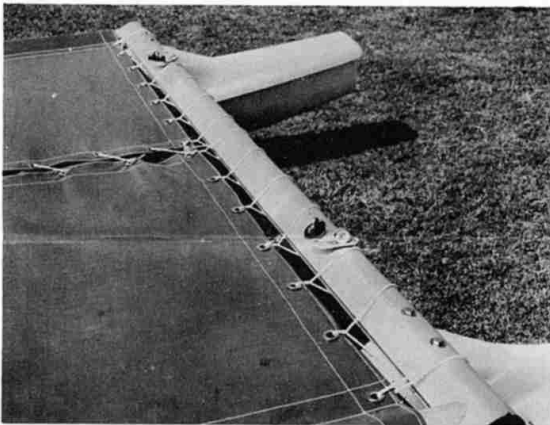
FURLING LINE CAM CLEAT (for boats with jibs)

Install the furling line cam cleat on the mast cross tube with a $\frac{1}{4}$ " x $3\frac{1}{2}$ " hex head bolt and lock nut. Don't tighten it up too tight and damage the tube. The jaws should open toward the rear of the boat.



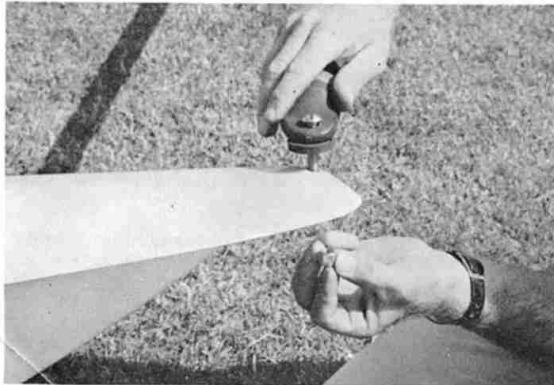
JIB SHEET EYES AND JAWS (for boats with jibs)

The jib sheet eyes are installed in the outboard $\frac{1}{4}$ " holes in the rear cross tube with $\frac{1}{4}$ " x 4" hex head bolts and lock nuts.

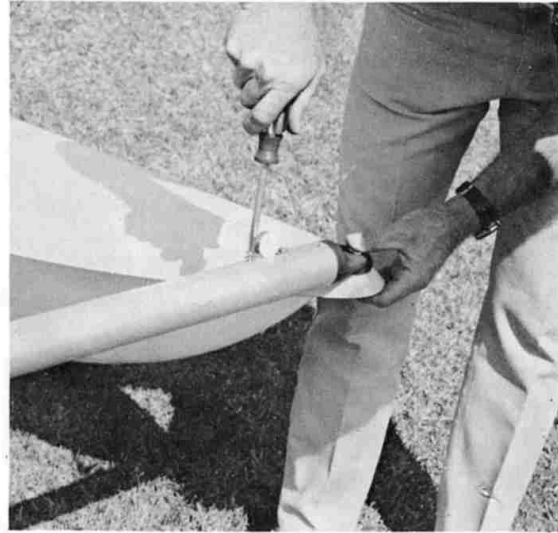


INSTALLING THE HEADSTAY CROSS TUBE (for boats with jibs)

Install the headstay cross tube, using $\frac{3}{8}$ " x 2" round head bolts. Be sure that a $1\frac{1}{2}$ " rubber washer goes between the casting at each end of the tube and the hull. Install a $\frac{3}{8}$ locknut on each bolt and run the nuts down, but not quite tight. (The cross bar should allow some up and down movement of the individual hulls.)



Using $\frac{3}{16}$ " x $\frac{1}{2}$ " sheet metal screws, install the reefing eye on the headstay cross tube. Note that the eye is on top of the tube and on the port (left) side of the boat.



SEALING THE MAST

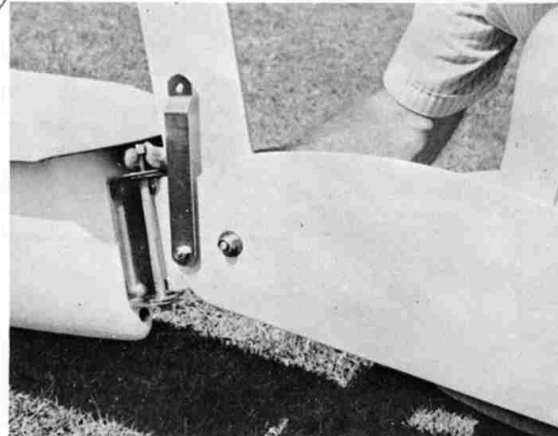
In the event of a capsize, the boat will be extremely hard to right if water gets inside the mast. All openings in the mast must be sealed to form a water tight flotation chamber. At the factory, we seal the mast head cap and the rivet holes for the shroud attachment straps. Since we ship parts inside the mast, the owner will have to seal the mast base after these parts are removed from the mast. Using the silicon rubber sealant provided with the boat, liberally coat the portion of the mast base that slides in the mast. Slide the mast base in the mast and re-install the screws. Wipe excess sealant into the gap between the mast and mast base, and build up a barrier of sealant around each screw.

After sealing the base, and at frequent intervals, the owner should inspect the seals to see if the mast is water tight. Prior to stepping the mast, hold the mast under water and watch for bubbles. If bubbles appear, dry the area that leaks and apply a liberal coat of silicon rubber sealer.

To periodically check to see if water is in the mast, raise one end at a time and listen for sloshing.

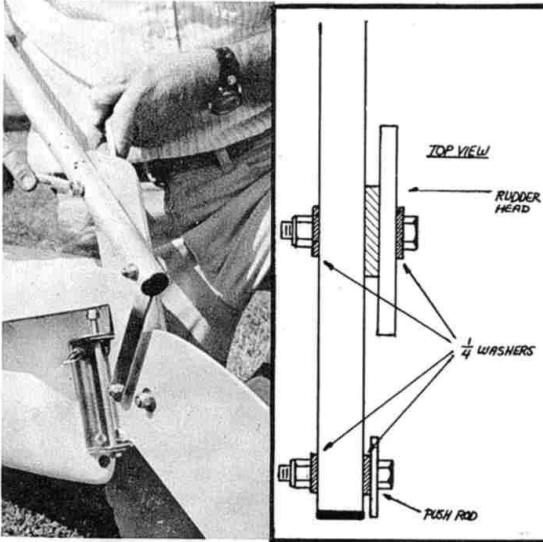
RUDDERS AND TILLERS

Rudders are installed on the transoms using $\frac{1}{4}$ " x 6" bolts and lock nuts. Make sure the rudder bolts are on the inboard side of the rudder head.

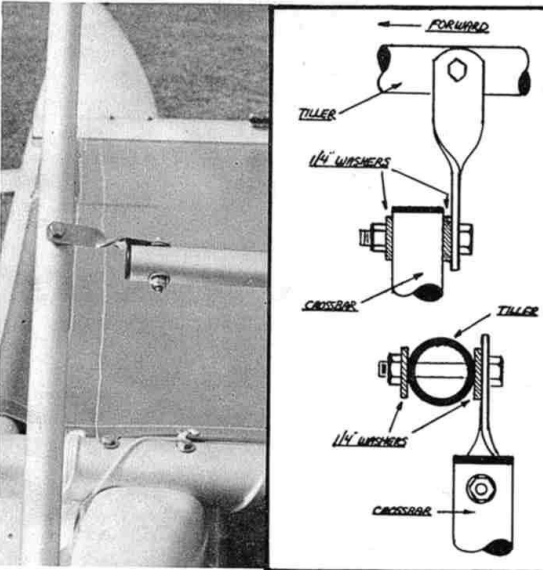


Bolt the tillers to the inboard sides of the rudder heads with $\frac{1}{4}$ " x $1\frac{1}{4}$ " bolts and locknuts. Be sure to put a $1\frac{1}{2}$ " white plastic washer between the rudder head and the tiller. Put a $\frac{1}{4}$ " stainless washer under the bolt head and under the nut.

Bolt the free end of the rudder push rods to the outboard side of the tillers with $\frac{1}{4}$ " x $1\frac{1}{4}$ " hex bolts and locknuts. Put the nut on the inboard side and be sure a $\frac{1}{4}$ " stainless washer is between the nut and the tiller.



Bolt the tiller cross bar to the tillers, using the twisted cross bar pivots and $\frac{1}{4}$ " x $1\frac{1}{4}$ " hex bolts, $\frac{1}{4}$ " washers and lock nuts.



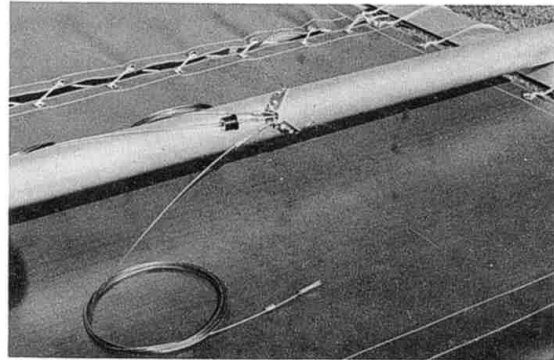
The $3/8$ rudder pivot bolt that attaches the rudder blade to the rudder head should be tight enough to keep the rudder blade down at high speed, but loose enough to allow the blade to be moved up and down by raising and lowering the forward end of the tiller.

All rudder linkage bolts should be loose enough for easy operation, but tight enough to prevent excessive play. Do not tighten the bolts so tight that the tubes are damaged.

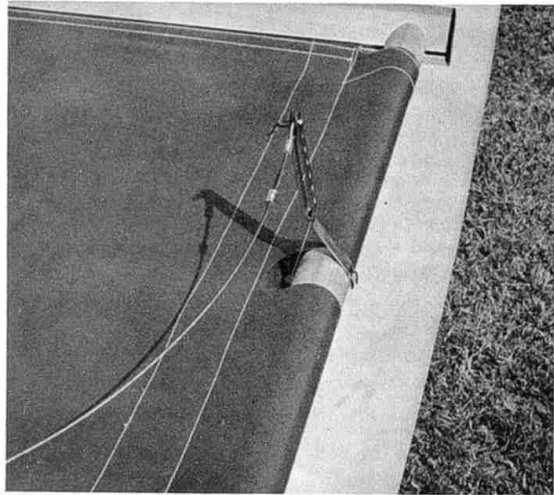
When pushing the boat backwards, into the water, make sure the rudders are fully up so they don't dig into the ground. Don't allow waves to rush against the back of the boat and push the rudders violently from side to side.

RIGGING THE MAST (for cats with jibs)

Install the wire headstay ($14'10\frac{1}{2}$ ") and two wire shrouds ($14'1\frac{1}{2}$ ") to the mast straps, using a $\frac{1}{4}$ " x $1\frac{1}{2}$ " bolt and lock nut. The wire headstay mounts between the two shrouds.



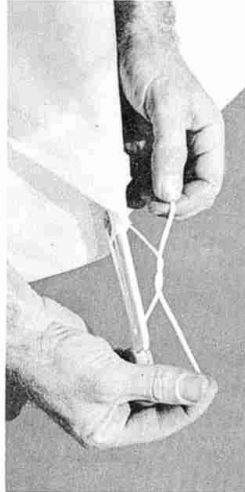
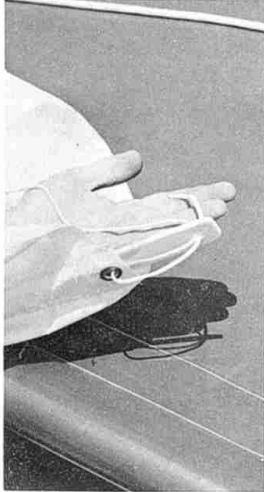
With the mast laying on the trampoline, with the base pointing forward, connect the shroud adjusters to the side rails with $\frac{1}{4}$ " x $2\frac{1}{2}$ " bolts and locknuts (with the nuts on the inboard side) and connect the shrouds to the top hole of the shroud adjusters with $3/16$ " pins and retainer rings.



Run the $42' 5/16$ rope halyard thru the block at the mast head. Tie the ends to the halyard cleat near the base of the mast.

INSTALL SAIL BATTENS

Slide each batten into its appropriate pocket. Make sure the end of the batten is inserted into the plastic pocket near the leading edge of the sail. Lace and tie the batten line as shown. Be sure that the line pushed the batten firmly into its pocket. Use a square knot to complete the tie.

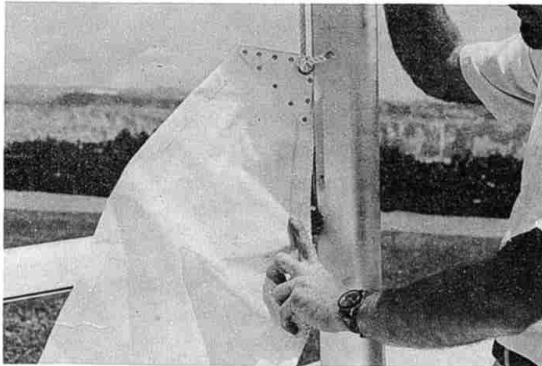


When removing the sail, leave the battens in and roll the sail around the battens.

HOIST THE MAINSAIL

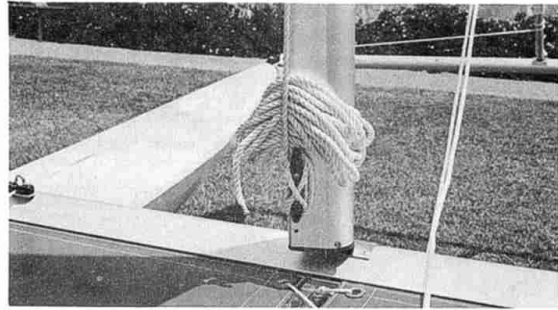
To make hoisting easier, and to prolong the life of the sail, rub parafin wax on the portion of the sail that slides into the mast slot.

Pass the end of the halyard through the head of the sail and tie a figure 8 knot. Be sure to use the end of the halyard that comes off the rear side of the masthead pulley.



Pull downward on the other end of the halyard to hoist the sail, carefully feeding the rope leading edge of the sail into the spread portion of the mast slot. When the sail is almost all the way up, secure the grommet in the lower forward corner of the sail to the hole in the mast, just above the gooseneck, with the 3/16" x 1 1/2" pin and retaining ring.

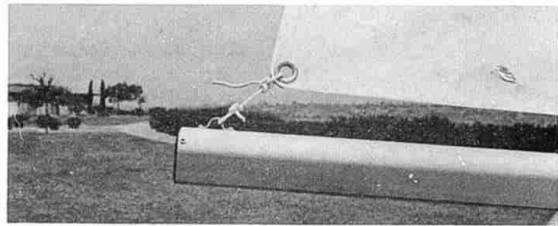
Continue hoisting until there is about 40 lbs. of tension on the halyard. Secure the halyard to the mast cleat, coil the loose end of the halyard and push the coil between the tight halyard and the mast.



Decrease halyard tension for heavy winds, and increase tension for light winds.

SAIL OUTHAUL

Tie the rear sail grommet to the eye on the end of the boom with a 3/16 x 18" line.



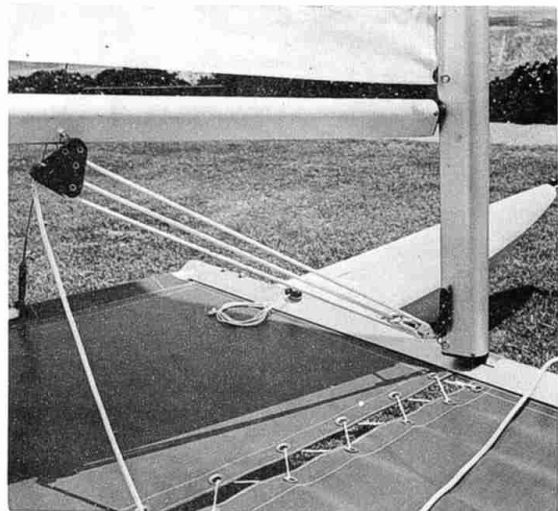
For normal sailing, leave about 3" between the eye on the boom and the aft corner of the sail. For light winds, loosen the sail a bit. For heavy winds, pull the sail reasonably flat.

ADJUST SHROUDS AND WIRE HEADSTAY

The shrouds should be reasonably snug but not piano wire tight. (No matter how tight you get them, the downwind shroud will usually be quite loose when sailing.) When looking aft down the centerline of the boat, the mast should be vertical. It should also rake slightly aft.

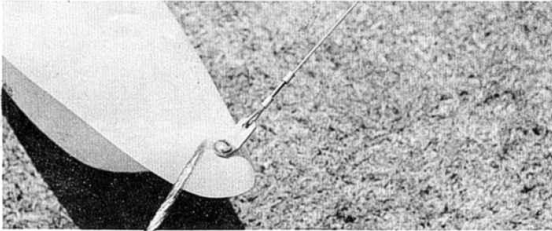
BOOM VANG

The boom vang holds the boom down to minimize twist in the mainsail. It is more effective than a moving traveler since it maintains constant downward pressure on the boom no matter where the boom is positioned. The blocks are pinned to the mast and boom with 3/16" x 1 1/2" pins and retaining rings.

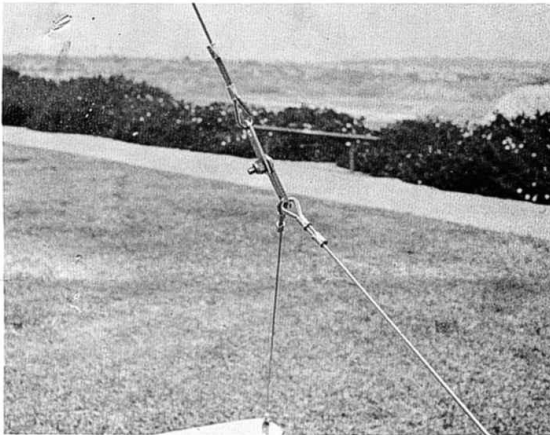


WIRE HEADSTAY FOR THE STANDARD CAT

If your cat is not equipped with a jib, you will have a wire bridle and headstay in place of the jib cross bar and furling mechanism. The upper end of the standard headstay connects to the mast in the same manner as the jib headstay. Bolt the stainless strap (connected to each end of the bridle) to the hole in the nose of each hull with a 3/8" x 2" round head bolt and lock nut.



Connect the headstay to the bridle with a 1/4" x 1/2" bolt and lock nut as shown.

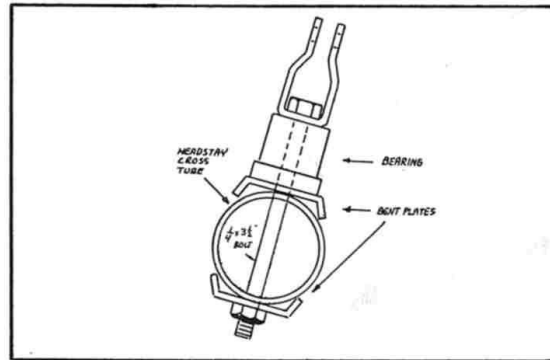
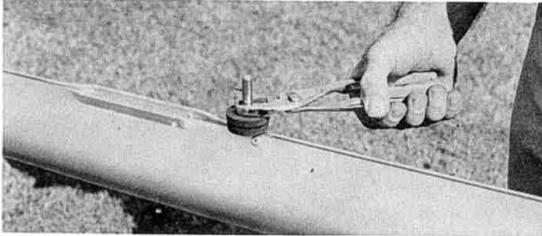


DRAIN PLUGS AND DECK PLUGS

The Venture Cat must not be sailed without having the 8 rubber deck plugs and 2 hull drain plugs firmly in place. If the plugs are loose, the boat's wake may pull the plugs out and allow water into the hulls. It's a good idea to periodically check the hulls for accumulated water.

GOOSENECK ASSEMBLY

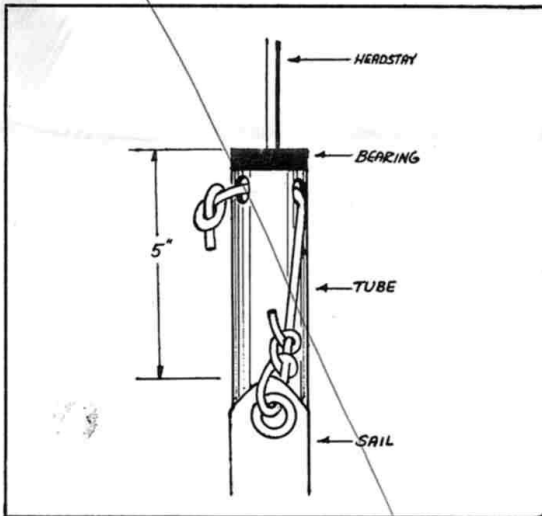
Slide two 1½" rubber washers over the gooseneck pin and screw the pin firmly into the threaded tube in the mast. Make sure the 1/8" retaining pin points straight up when the gooseneck pin is snug.



SETTING THE JIB

Slide the 13' jib furling tube into the pocket in the leading edge of the jib and roll the jib around the tube. Slide the jib furling tube over the wire headstay, and push the black plastic top bearing (permanently attached to the headstay) into the upper end of the jib furling tube. Make sure the holes in the end of the tube line up with the hole in the plastic bearing.

Tie a knot in the end of the 18" jib halyard tie and pass the line through the hole in the top of the jib furling tube and tie off the end of the line to the jib as shown below. Allow 5" between the end of the tube and the top of the sail.



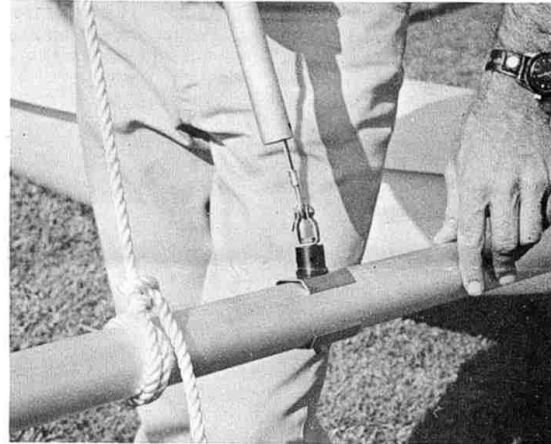
Pass a spare length of 5/16 line (the end of the sheet will do) through the eye at the bottom end of the wire headstay to temporarily keep the jib furling tube from sliding off the wire headstay as the mast is being raised.

Stand on the trampoline and raise the mast to an upright position, with the base sitting on the ground just ahead of the mast cross tube. Lift the mast and place the hole in the base over pivot pin at the center of the mast cross tube. Tie the halyard to the headstay cross tube to temporarily keep the mast from falling to the rear.

Assemble the jib furling bearing to the center of the headstay cross tube.

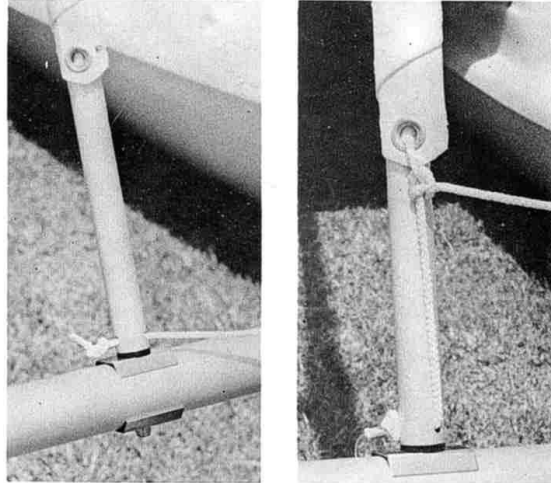
Tighten the ¼" bolt so that the black plastic bearing will turn freely but with minimum up and down movement.

Push the jib furling tube up the wire headstay, remove the temporary line from the lower headstay eye and connect the headstay to the jib furling bearing with a 3/16" x ½" pin. Be sure the retainer ring is firmly in place on the pin.

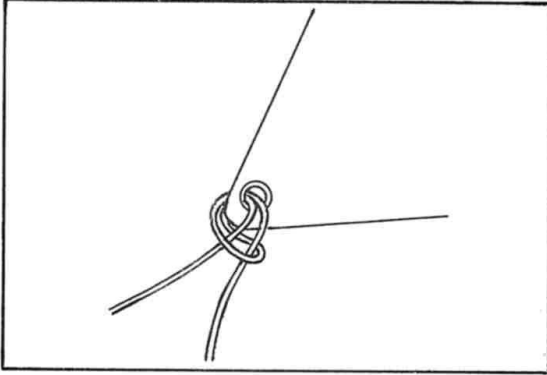


Slide the jib furling tube down over the black bearing, making sure the holes in the jib furling tube line up with the hole through the bearing.

Thread the 3/16" x 17' furling line as shown below. Be sure to stretch the leading edge of the jib tight.



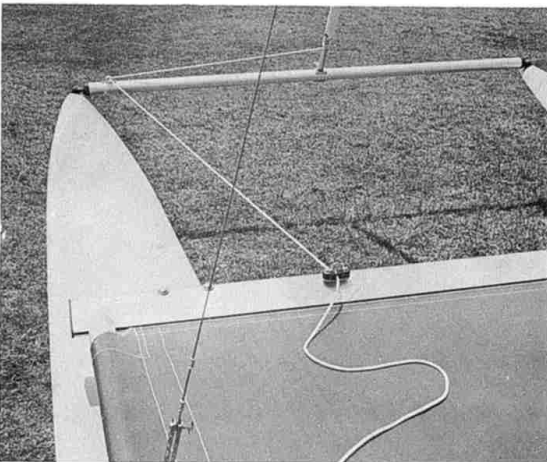
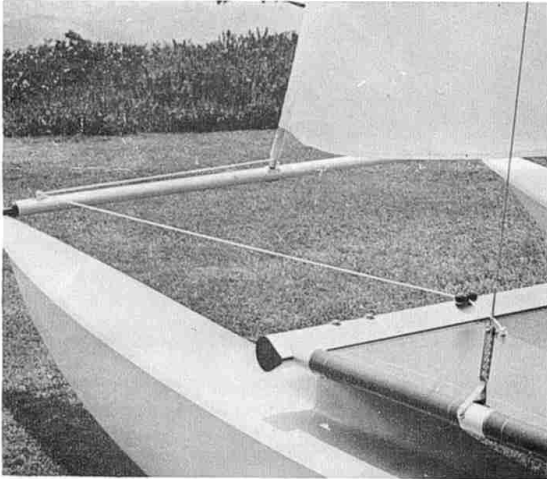
Tie the 5/16" x 29' jib sheet to the jib as follows:



JIB SHEETS

The sheets pass inside the wire shrouds, and pass from the outside of the jib eyes toward the centerline of the boat.

When the trailing edge of the jib is pulled to the rear, with the jib sheet, the jib will unroll from the furling tube, and the furling line will roll up on the tube. A slight pressure on the furling line will assure that the furling line wraps properly on the furling tube.



To reduce the area of the jib, simply pull on the furling line. The furling line will rotate the tube and roll the jib onto the tube. If the line has been installed properly, there will be 2 wraps of line on the tube when the sail is fully furled. A moderate pressure on the jib sheet will assure that the jib rolls tightly on the jib furling tube. Experience will dictate how much of the jib should be rolled on the furling tube for each wind velocity.

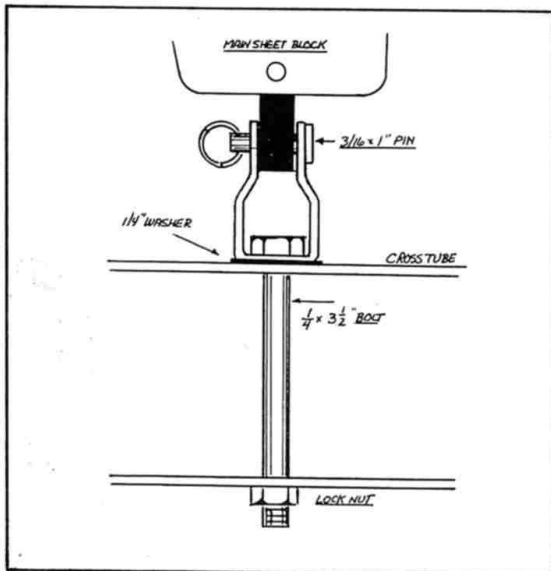
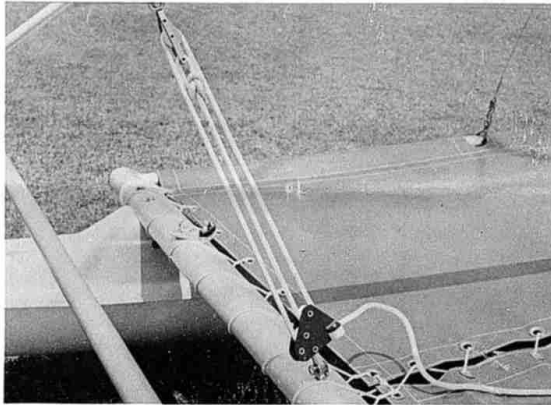
Periodically inspect all wire rigging for broken strands or wear. Watch for wear at the point where the bearing at the upper end of the furling tube rides on the wire headstay. If wear or broken strands are observed, the wire should be replaced.

INSTALLING BOOM

To install the boom on the gooseneck, hold the boom with the slot up and step the notch in the boom end casting over the small retaining pin, and rotate the boom so the slot points downward. (The end of the 3/8" gooseneck pin will contact the inside of the boom to control the rotation of the mast.)

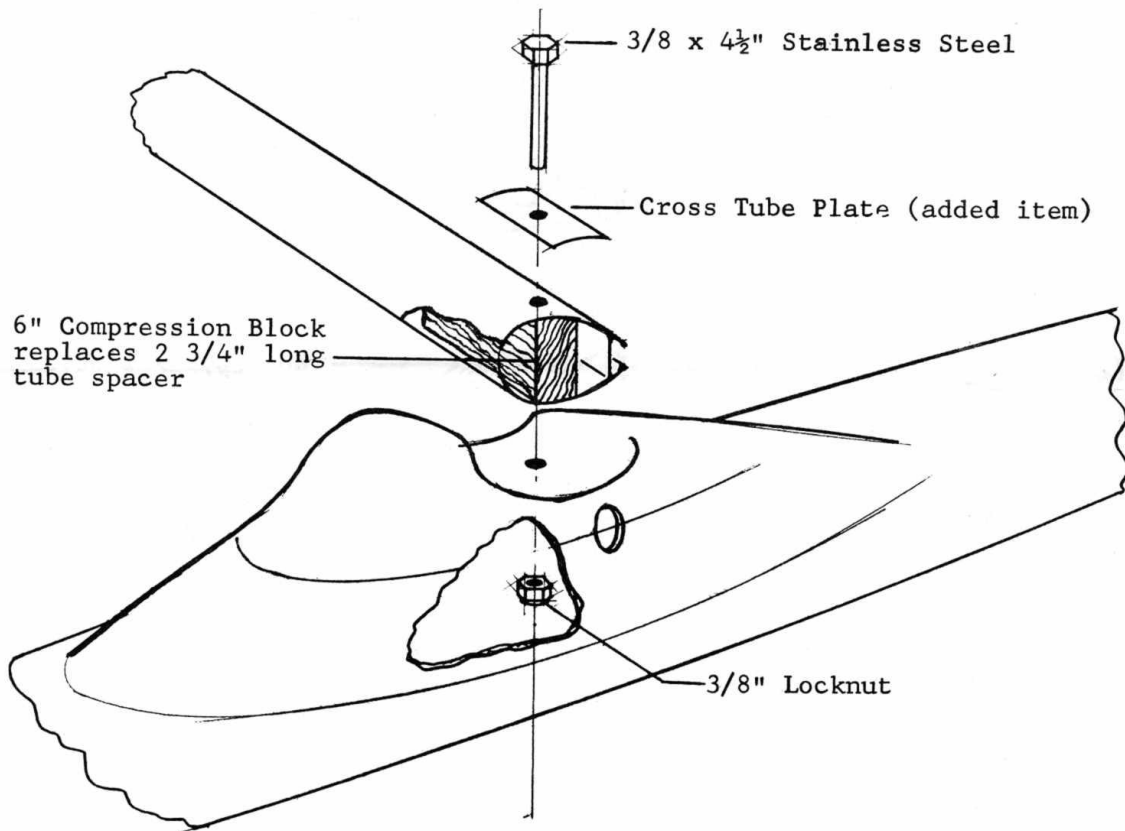
MAINSHEET ASSEMBLY

The upper mainsheet block is attached to the rear 3/16" hole in the boom with a 3/16" x 1 1/2" pin and retaining ring. The lower mainsheet block is assembled as shown in the drawings.



ASSEMBLY INSTRUCTIONS - VENTURE CATAMARAN

The instruction book calls for two mounting bolts and metal spacers on each end of the cross tubes. In order to simplify assembly without jeopardizing strength we are now using one bolt with a load distributing plate and a wood compression block. This new system, incorporated in your boat and all Venture Cats after Number 1222, is described below.

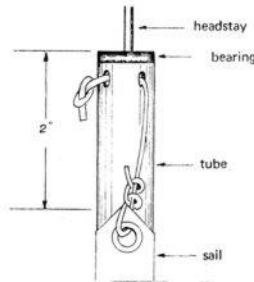


REVISIONS TO CATAMARAN INSTRUCTIONS

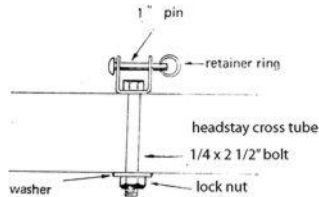
We have recently modified the roller reefing system for easier operation. The section titled Setting the Jib should be disregarded, and the following instructions should be used.

Slide the 13' jib furling tube into the pocket in the leading edge of the jib and roll the jib tightly around the tube. Slide the two black plastic bearings (secured to the wire headstay) into the ends of the jib furling tube. Make sure the holes in the tube line up with the holes in the bearings.

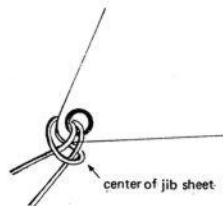
Tie a knot in the end of the 18" jib halyard tie and pass the line through the hole in the top of the jib furling tube and tie as shown below.



Assemble the headstay shackle to the center of the headstay cross tube as shown below.



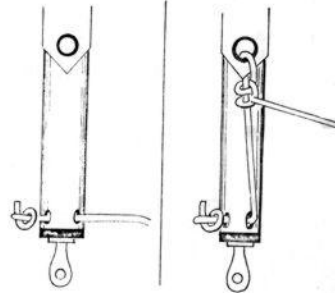
Tie the 5/16 x 29' jib sheet to the jib as follows:



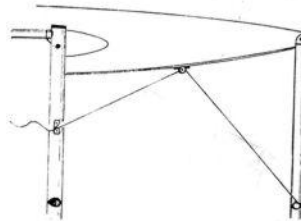
Stand on the trampoline and raise the mast to an upright position, with the bottom of the mast sitting on the ground just ahead of the mast cross tube. Lift the mast straight up and place the hole in the base of the mast over the pivot pin at the center of the mast cross tube.

Connect the end of the wire headstay to the headstay shackle. Make sure the retainer ring is securely attached to the 1" pin.

Thread the 3/16 x 17' furling line as shown below - be sure to stretch the leading edge of the jib tight.



The furling line is threaded as shown below.



When the trailing edge of the jib is pulled to the rear with the jib sheet, the jib will unroll from the furling tube, and the furling line will roll up on the tube. Slight pressure must be maintained on the furling line when furling and unfurling to assure that the line wraps properly on the furling tube. The eye on the hull is turned 90° to the direction of the line to provide a slight drag on the line. (Note that the eye is no longer on the headstay cross tube, but on the hull flange.)