OWNER'S INSTRUCTIONS
VENTURE CATAMARAN

TOOLS NEEDED

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

UNPACKING THE BOAT

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

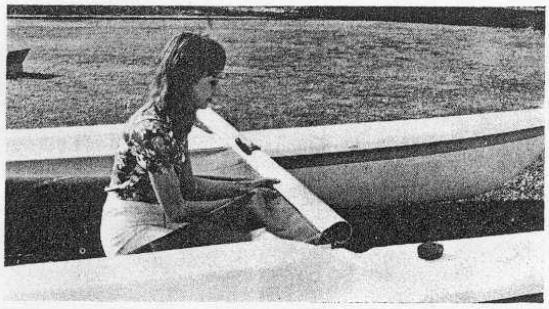
Box 1
- Mast - top section
- Rear cross tube
- Tillers (2)
- Battens (7)
- Rig box (rudder & trampoline)

Box 2
- Mast - lower section
- Boom
- Front cross tube
- Tiller cross tube
- Luff spar
- Rig box (sails & hardware)

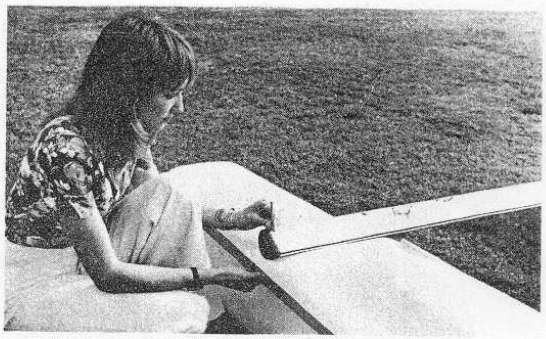
ASSEMBLY OF TRAMPOLINE AND CROSS TUBES

Slide the trampoline side ropes (the longest of the two roped sides) into the aluminum rail on each hull. The shorter side goes toward the front of the boat. Make sure the best side of the trampoline is up.

Slip the forward trampoline ropes into the front cross tube. Make sure the mast hinge is up.

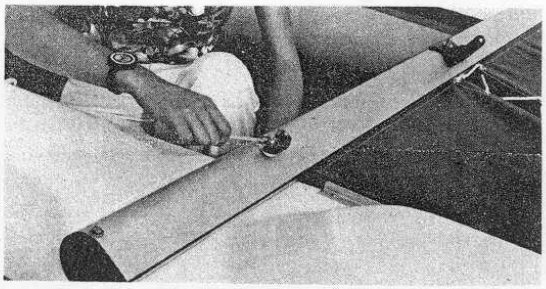


Bolt the forward and rear cross tubes to the hulls using 8 each ¼" x 4" bolts and lock nuts.



A curved stainless steel plate must be between each nut and the fiberglass hull. A ¼" washer goes between the head of the bolt and the aluminum tube. Make sure the outboard bolts pass through the cross tube end caps.

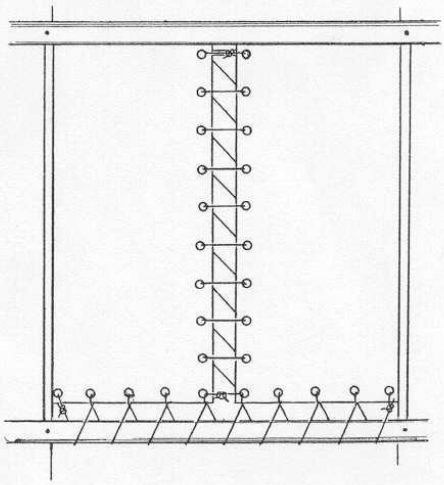
Install the genoa furling cleat on the forward cross tube as shown in the photograph. Mount the cleat on the same bolt that holds the tube to the hull. The jaws should open toward the rear of the boat.



Tighten the nuts tight, but not so tight that they compress the cross tubes.

LACING THE TRAMPOLINE

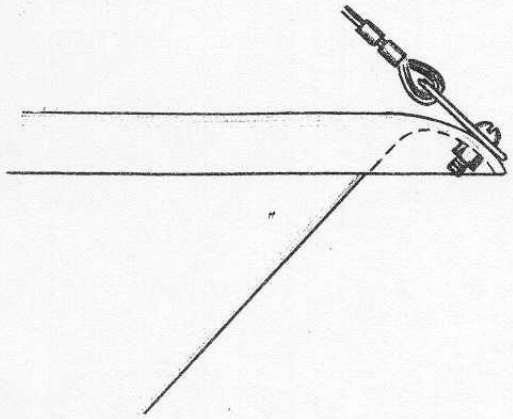
Start at the front, and lace the 3/16 x 13' line loosely, zig zagging toward the rear. Lace the 3/16" x 20' line across the back, loosely.



Tighten the rear lacing, then the center lacing, and secure the ends as shown.

FORESTAY BRIDLE

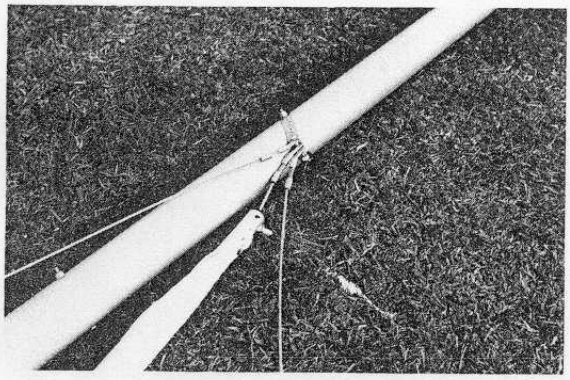
Install the 2 forestay bridles (3' 7 3/8") to the nose of each hull as shown, using 3/8 x 1" round head bolts and lock nuts.



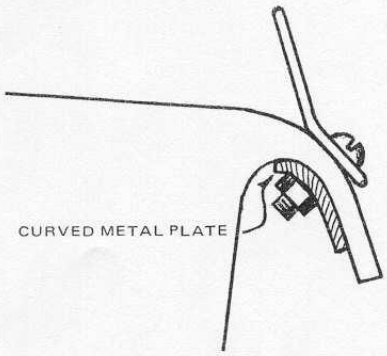
RIGGING THE MAST

Slide the 2 mast sections together. The telescoping section should be waxed thoroughly prior to assembly.

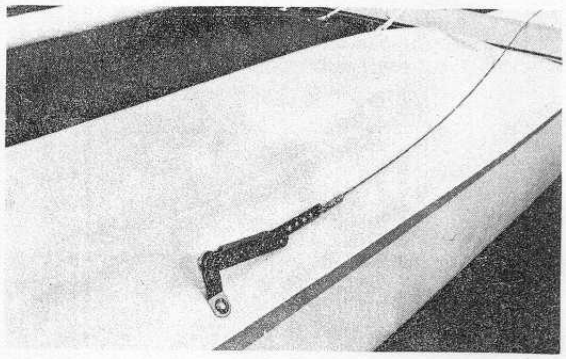
Install the forestay (15' 6½") and the two wire shrouds (16' 8¼") to the mast straps. Use a ¼" x 1½" bolt and lock nut. The wire forestay mounts between the two shrouds. Make sure the nut is on tight.



Bolt the chainplates to the hull, using a 3/8" x 1" round head bolt and lock nut, with a curved metal plate between the nut and the underside of the hull rail.



With the mast laying on the trampoline, and the base pointing forward, bolt the stay adjusters to the chainplates and the shrouds to the stay adjusters, using ¼" x 13/16" hex head bolts and lock nuts.



Run the 5/16" rope halyard (54') thru the block at the masthead. Tie the ends to the cleat at the base of the mast.

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 right flotation chamber.

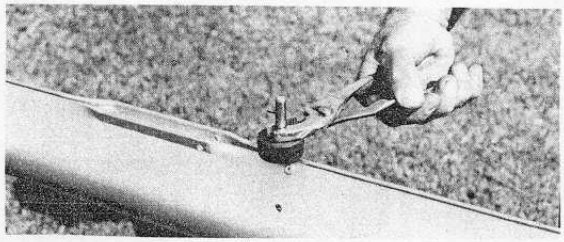
We seal the ends of the mast with urethane foam. However, leaks might develop. Before each sailing, the owner should hold the mast under water and watch for bubbles. If bubbles appear, dry the area that leaks and apply a liberal coat of silicon rubber sealer.

Retest to make sure the leak is stopped.

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

GOOSENECK ASSEMBLY

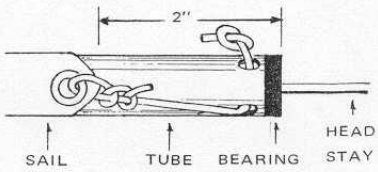
Slide two 1½" rubber washers over the gooseneck pin and screw the pin firmly into the threaded tube in the mast. Make sure the 1/8" retaining pin points straight up when the gooseneck pin is snug.



SETTING THE JIB

Slide the 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.

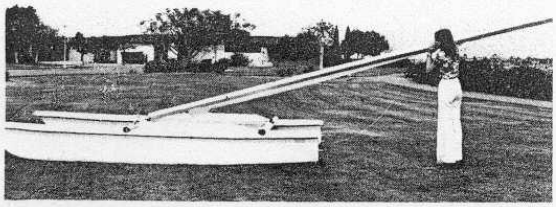
Tie a knot in the end of the 18" jib halyard tie and pass the line through the hole in the top of the jib furling tube and tie as shown.



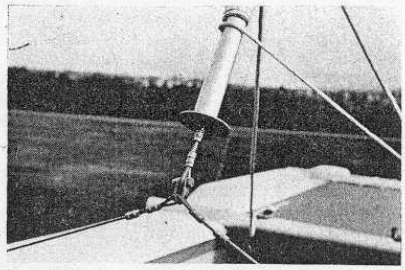
RAISING THE MAST

Install 3/8" × 5½" bolt through the hinge and mast as shown. Secure the bolt with a ¼" nut.

Raise the mast by walking forward and up onto the trampoline. The job is made easier if a second person stands at the front of the boat and pulls on the headstay. Make sure the hole in the mast base drops over the vertical hinge pin.

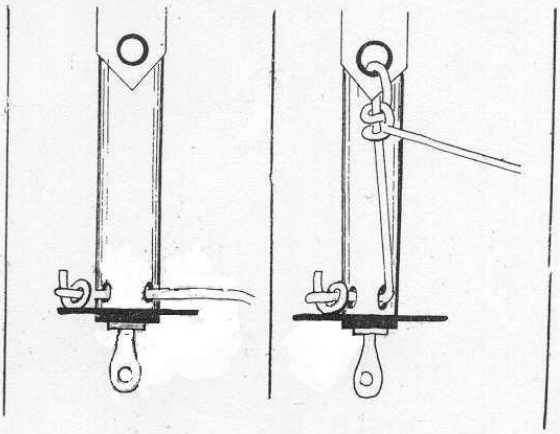


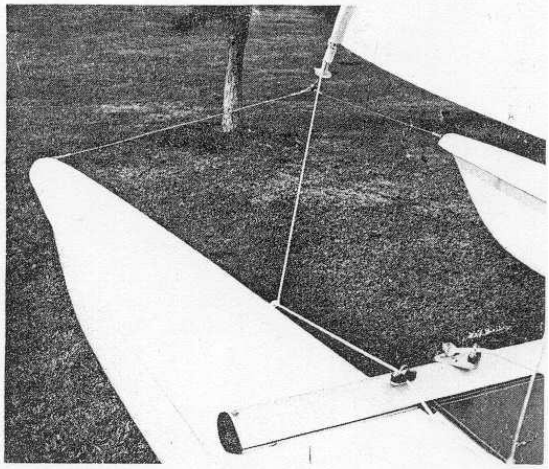
Connect the forestay to the bridles as shown. Use a ¼" x 13/16" bolt and locknut. Make sure the nut is on tight. Remove the horizontal mast hinge bolt so the mast is free to pivot from side to side. The hinge will limit the rotation of the mast.



FURLING LINE

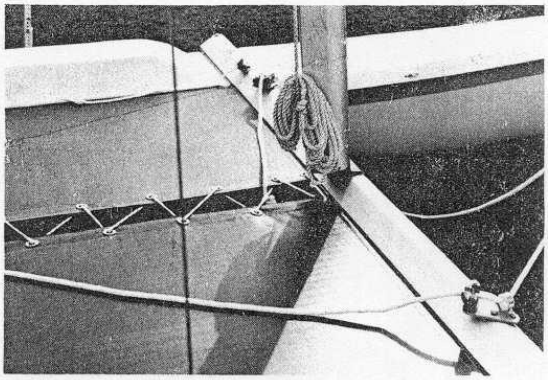
Thread the 3/16" furling line (13') as shown. Be sure to stretch the leading edge of the jib tight.





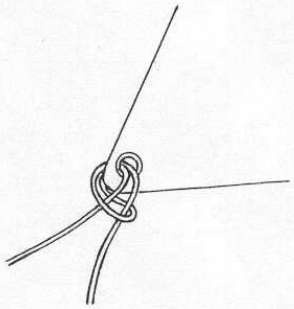
JIB SHEET FAIRLEADS

The jib sheet fairleads bolt to the forward cross tube, as shown, with ¼ x 4" hex head bolts and lock nuts.



JIB SHEETS

Tie the 5/16" x 15' jib sheet to the jib as follows:



The sheets 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.

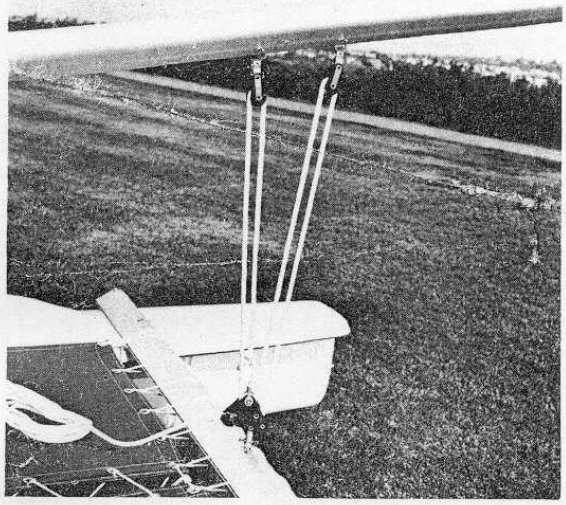
Periodically inspect all wire rigging for broken strands or wear. Watch for wear at the point where the bearing at the upper end of the furling tube rides on the wire headstay. If wear or broken strands are observed, the wire should be replaced.

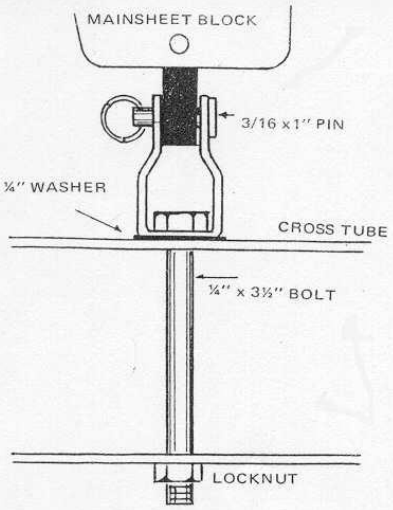
INSTALLING BOOM

To install the boom on the gooseneck, hold the boom with the **slot** up and slip the notch in the boom end casting over the small retaining pin, and rotate the boom so the **slot** points downward.

MAINSHEET ASSEMBLY

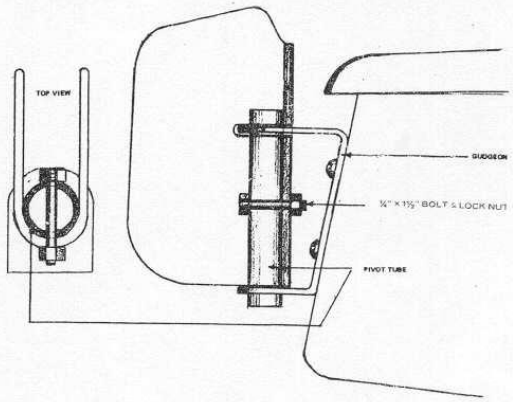
The upper mainsheet blocks are attached to the boom with 3/16 x 1½ pins and retaining rings. The lower mainsheet block is assembled as shown in the drawing. The ¼ x 3½" bolt should be loose enough to allow the block to pivot.



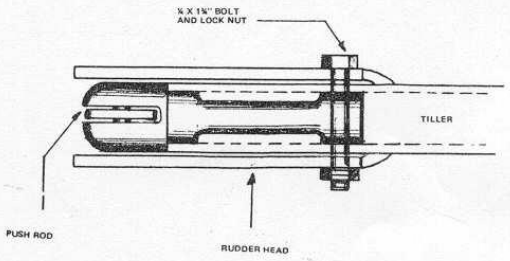


RUDDERS AND TILLERS

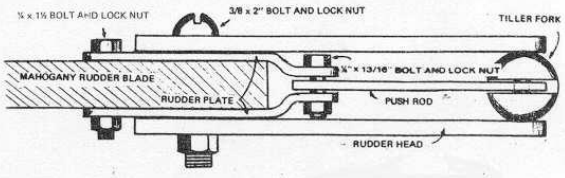
Attach the 6" long 1" diameter stainless rudder pivot tube to the rudder head and gudgeon as shown below.



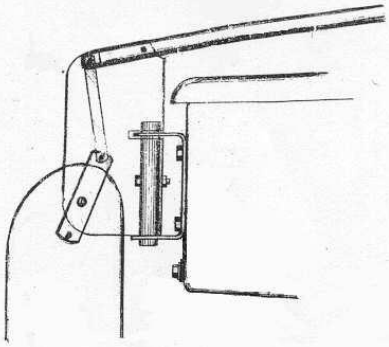
Attach the 4¼" x ¾" rudder pushrod to the tiller fork with a ¼" x 1" pin and insert the tiller fork into the tiller. Attach the tiller to the rudder as shown below.



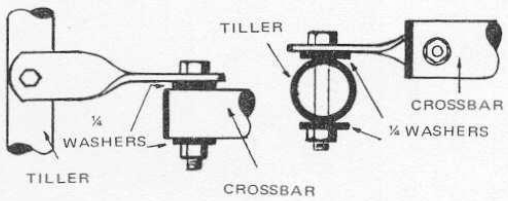
Bolt the mahogany rudder blade to the rudder head as shown below.



When completed, the rudder assembly should look like this.



Bolt the tiller cross bar to the tillers, using the twisted cross bar pivots and ¼" x 1½" hex bolts, ¼" washers and lock nuts.



To raise each rudder blade, lift the end of the tiller.

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.

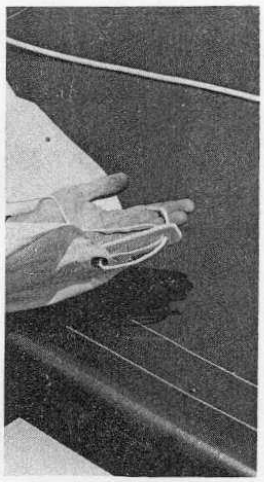
All rudder linkage bolts should be loose enough for easy operation, but tight enough to prevent excessive play. Do not tighten the bolts so tight that the tubes are damaged.

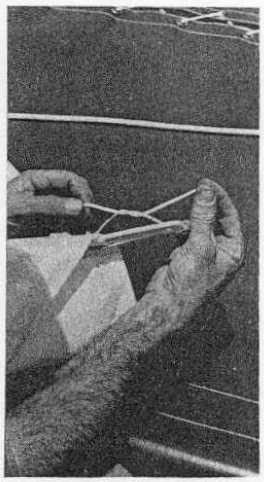
When pushing the boat backwards, into the water, make sure the rudders are fully up so they don't dig into the ground. Don't allow waves to rush against the back of the boat and push the rudders violently from side to side.

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.

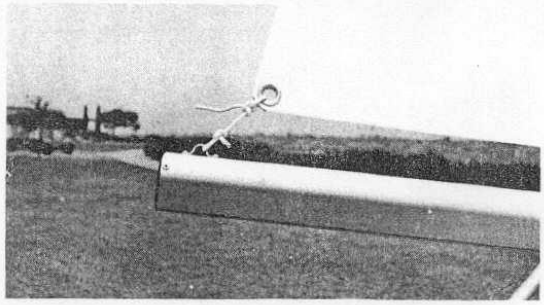
Pull downward on the other end of the halyard to hoist the sail, carefully feeding the rope leading edge of the sail into the spread portion of the mast slot. When the sail is almost all the way up, secure the grommet in the lower forward corner of the sail to the hole in the mast, just above the gooseneck, with the 3/16" x 1½" pin and retaining ring.

Continue hoisting until there is at least 40 lbs. of tension on the halyard. The halyard should be really tight! Secure the halyard to the mast cleat, coil the loose halyard and the mast.

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.

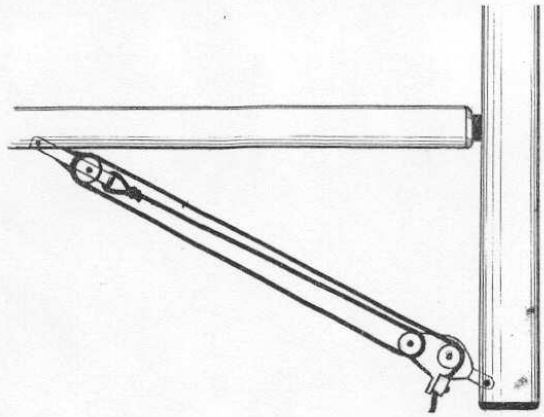


ADJUST SHROUDS AND WIRE FORESTAY

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 with 3/16" x 1½" pins and retainer rings.



DRAIN PLUGS

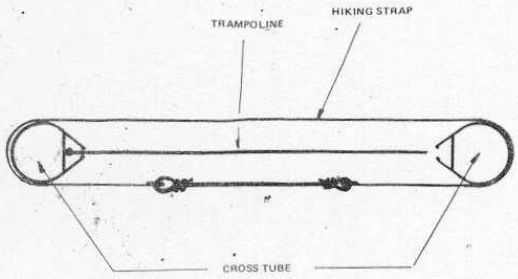
The Venture Cat must not be sailed without having the 2 hull drain bolts (below the gudgeons) screwed in tight, with a rubber washer between the bolt head and the transom. Screw the bolts in tight enough to prevent leakage, but loose enough to prevent damage to the rubber washers. It is a good idea to periodically check the hulls for accumulated water.

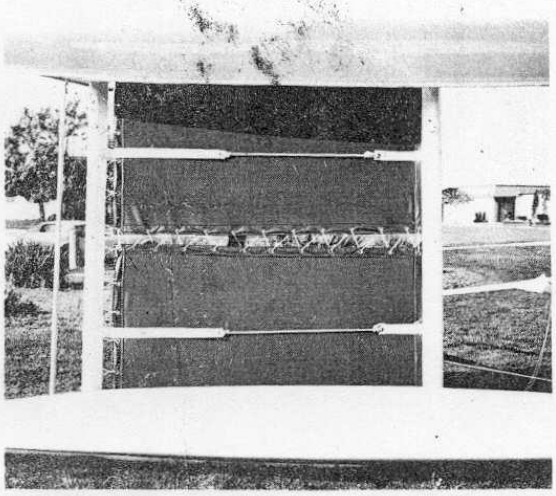
HIKING STRAPS

Hiking straps are installed as shown below.

Tie the ends of the straps securely with 5/16" x 4' line.

Stretch the hiking staps tight and use knots that will not slip loose. Remember, if the straps come loose while you are hiking out, you will end up in the water.





TIPS ON SAILING

Make sure the rudders are all the way down when sailing.

Keep the boat level. Keep the crew weight well forward in light wind and well aft in heavy wind. The blue cove strip should be parallel to the water at all times.

Catamarans tack more slowly than monohull boats, but here are a few techniques to make tacking easier.

- Before tacking, pull in the mainsheet and sail close into the wind. (Don't try to tack from a reach or with the mainsheet let out)
- Keep the boat moving well and gradually turn the rudders. A sharp turn with the rudders will act as a brake.
- When the jib is luffing completely, turn the rudders a bit more and start around. Leave the jib on the original side until the nose comes around and the mainsail fills on the opposite side. Then release the jib and pull it in on the other side. Let the mainsheet out about 1 foot, and you will be on your way.

If the boat capsizes, get a life preserver under the mast head to keep the boat from turning over completely. Release the mainsheet and jib sheet. Tie a line from the upper chainplate and let if fall over the keel of the upper hull. Stand on the lower hull, hold on to the rope and lean back as far as possible to counterbalance the weight of the rigging. If the crew is light, it may be necessary to remove the mainsail and/or add another person on the end of the line to bring the boat back on its feet. Hang on to the boat to make sure that it doesn't sail off without you.

To prevent capsize, make sure that the mainsheet is not tangled, and that it can be easily released.

To stop the boat, let go of the main and jib sheets and point the boat into the wind. The boat will stop and begin to drift slowly backwards. To get started again, point the forward ends of the tillers in the direction you want to go. When the stern swings around, pull in the sails and start sailing.

Keep your halyard tight. We use rope halyards because they are far less likely to pound all of the anodize protection off of the mast. The halyard may stretch a bit and should be checked occasionally to keep the sail tight and smooth.

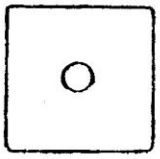
CATAMARAN OWNER'S INSTRUCTIONS - CHANGE NUMBER 1

Cross Tube Reinforcement Plates

Four cross tube reinforcement plates are included in your rig box. The installation of these plates is not covered in the basic instructions, but their use is described below.

The plate looks like this

Side view



Top view

A plate goes under the head of each of the four inboard cross tube bolts, (between the top of the cross tube and the head of the bolt).

Plate

The plate spreads the load of the bolt head in order to prevent denting the cross tube. No plate is necessary on the outboard end of each tube, because the end cap provides adequate reinforcement for the tube. A washer should be used under the head of the bolts at the outboard end of the tubes, but no washers are required under the heads where the reinforcing plates are used.

Cross Tube Bolts

The instructions call for use of ¼" x 4½" bolts (8) to join the cross tubes to the hulls. The rig box provides 7 ea ¼" x 4" bolts and 1 ea ¼" x 4½" bolt. The 4½" bolt is used at the inboard hole on the port side of the foreward cross tube (this is the bolt that carries the jib furling cleat). The 4" bolts are used in place of the 4½" bolts at all other attachment points.

Checking for Leaks;

It is a good idea to periodically check each hull for leaks. Potential sources for leaks are as follows:

1. Loose gudgeon bolts
2. Loose drain plugs
3. Small gaps that may appear in the bond line between the hull and the deck
4. Loose cross tube or forestay bridle bolts
5. The cover over the storage compartment. Leakage here may result from a worn "O" ring seal (which should be replaced), lack of sealant or deterioration of sealant between the ring and the deck, or in the small hole through each of the rivets that hold the fitting to the deck.

Leaks found in any of the above areas may be stopped with an application of G.E. silicone sealant. To re-seal any hardware that has been removed (such as gudgeon or cross tube bolts), coat the inside of the hole in the fiberglass and the threads of the bolt with a liberal coat of sealant and re-assemble before the sealant has a chance to set. If small leaks are found in the deck to hull joint, work as much sealant as possible into the void, and allow the sealant to cure thoroughly.