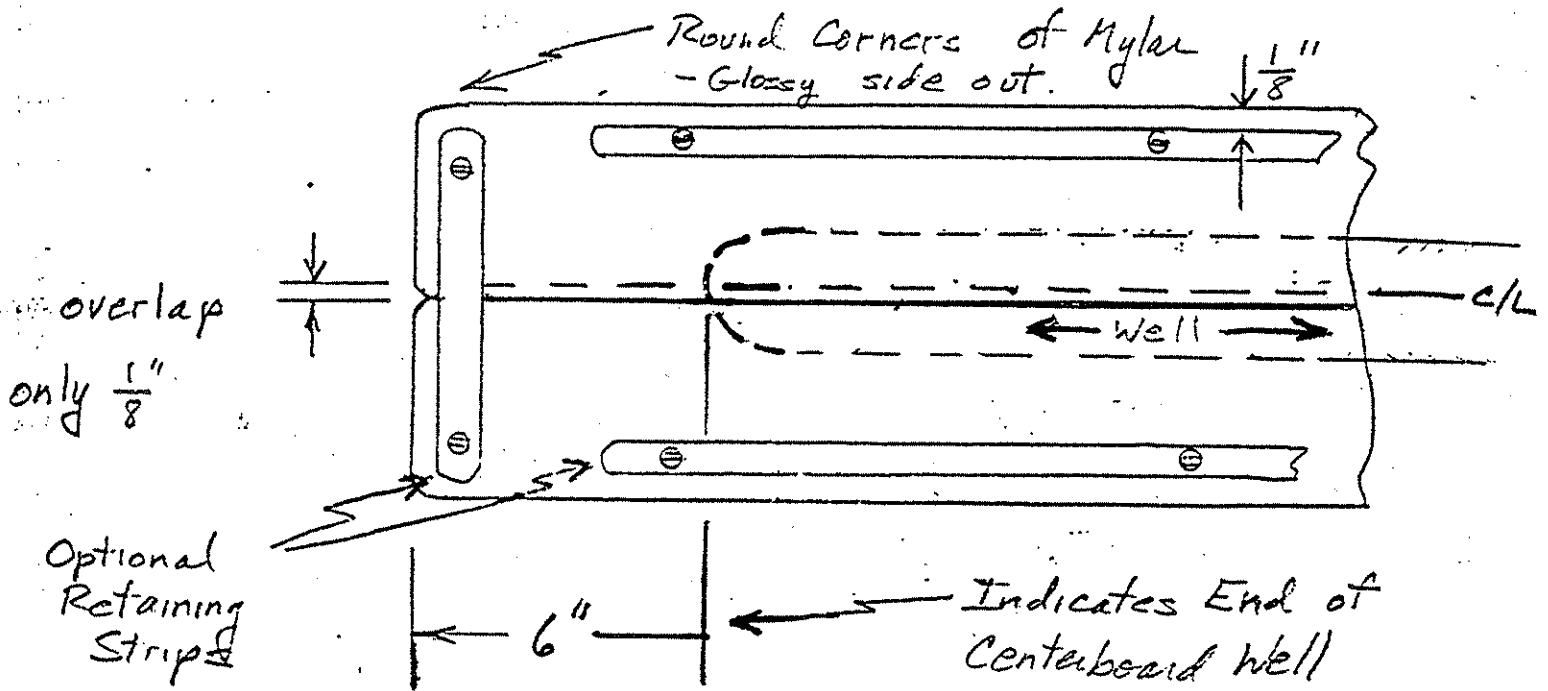


## INSTRUCTIONS FOR INSTALLING RUBBER CENTERBOARD GASKETS

1. With the mast up and the boat resting on grass or sand, pull on a shroud and tip the boat on her side. Tie the end of the mast to a tree or trailer so the wind will not accidentally right the boat. Remove the old gasket.
2. Inspect for holes, cracks or other sources of leaks around the centerboard well. Fill these spots with auto body filler after first exposing clean, dry, virgin fiberglass in order to get a good bond. After the filler has cured, file or sand the filler to match the contour of the original surface.
3. Plan to have the gaskets overlap by only 1/8" as shown in the sketch. Start at the forward end and install one screw through the six foot retainer strip and the underlying gasket. Install a second screw through the two inch end piece and the underlying gasket.
4. To keep the gasket material tight, it is necessary to tension (pull) on the gasket material uniformly as the remaining screws are installed. To do this, clamp the aft end of the gasket material with vise-grip pliers, using a tongue depressor between the gasket and the jaws to protect the material. Tie a line on the end of the pliers and pull (say 16 pounds) to stretch the gasket. Tie-off the end of the line through the scuppers so that the gasket remains under tension.
5. Complete the installation, being certain to check port-starboard alignment as each screw is secured. Install aft end piece and trim gasket as necessary. Repeat procedure for second gasket.
6. If there is binding between the centerboard and gasket, apply silicone spray.

Note: The first (bottom) gasket is located so it's edge is right on the centerline.

The second (top) gasket overlaps the bottom gasket by 1/8".



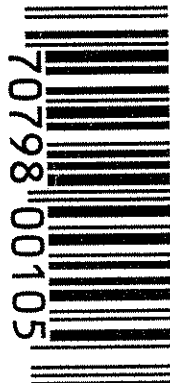
READ →

High strength bonds, no clamps needed. For plastic laminates, metal, wood, leather, linoleum, tile, rubber and fabric.

**DIRECTIONS:** (Use in ventilated area.) Spread cement on both clean, dry surfaces. Let dry until glossy (15 minutes, but not over 2 hours). Align surfaces carefully (adjustment is difficult after contact). Press parts together for instant bond. **Clean up:** Use DAP® Cleaner & Thinner.

**Please Note:** DAP® Contact Cement is not for use on high stress bonds, metals containing copper or some plastics and vinyls.

0



VOC Less  
Water, Less  
Exempt Solvents  
61 - 62% by wt.  
Vapor Pressure  
@ 40°C - 400  
mm Hg  
Weldwood is  
a Registered  
Trademark of  
Champion  
International.  
©1996 DAP Inc.,  
Dayton, Ohio  
45401  
Made and  
Printed in U.S.A.  
41037

3



Weldwood®

Contact  
Cement

Instant, permanent bonds. Water resistant.

**DANGER! EXTREMELY FLAMMABLE,  
LIQUID AND VAPOR. VAPORS HARMFUL,  
HARMFUL OR FATAL IF SWALLOWED.**

Read side panel carefully for extra cautions.

3 FL. OZ. (88.7 ml)

**CAUTION:** CONTAINS PETROLEUM NAPHTHA, HEXANE, TOLUENE AND ACETONE. May cause eye, skin, nose and throat irritation. Intentional misuse by deliberately concentrating and inhaling vapors may be harmful or fatal.

**WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

**PRECAUTIONARY MEASURES FOR USE:** Use in well ventilated area. Vapor may ignite explosively. Keep away from heat, sparks and open flames. Do not smoke.

**FIRST AID:** Remove from skin with nail polish remover. Wash with soap and water. Flood eyes with large quantities of water for 15 minutes. **INHALATION:** Remove to fresh air. Contact a physician. **INGESTION:** DO NOT INDUCE VOMITING. Contact a physician or Regional Poison Control Center immediately.

Ingredients per the New Jersey Right to Know Act: Petroleum Naphtha 64742-89-8, Acetone 67-64-1, Toluene 108-88-3, Hexane 110-54-3 and TSRN 618608-5001P.

**KEEP OUT OF REACH OF CHILDREN.**

## **READ ME FIRST....TWICE**

### **FOLLOW THESE TIPS TO INSTALL MYLAR CENTERBOARD GASKETS**

Install rubber centerboard gaskets with retaining strips rather than mylar gaskets if you drag the boat on the beach.

1. With the mast up and the boat resting on grass or sand, pull on a shroud and tip the boat on her side. This will allow better inspection of the centerboard well compared to turning the boat up-side down. Tie the end of the mast to a tree or trailer so a gust of wind will not accidentally right the boat.

Remove the old gasket. Remove old contact cement from the hull with acetone and a scraper. A cupped-shaped wire brush in a high speed electric drill may also be helpful, but do not use it in conjunction with acetone because of flammability.

2. Inspect for holes, cracks or other sources of leaks in and around the centerboard well, both above and below the waterline. Fill these spots with auto body filler after first exposing clean, dry, virgin fiberglass in order to get a good bond. After filler cures, sand it to match the contour of the surface.
3. To ensure complete coverage, the masking tape should expose a window that is about 1/8-inch wider and longer than the dimensions of the mylar. Locate the first (bottom) gasket so its dacron edge is right on the centerline of the centerboard well. The second (top) gasket overlaps the bottom gasket by 1/8-inch. The cloth side of the gaskets faces the centerboard.
4. Round the corners of the mylar with scissors. With the shiny side of the mylar up, use a pencil to draw a line 1/8-inch from the edge of the dacron facing the centerboard. This will serve as a guide to align the second gasket on top of the first gasket with a uniform 1/8-inch overlap.
5. Only use WELDWOOD WATER RESISTANT CONTACT CEMENT. It is imperative to use a newly opened container of contact cement because it has severely limited shelf life once opened. Most hardware stores offer a 3 fluid ounce bottle for about \$4.

**READ ALL THE DIRECTIONS ON THE LABEL AND FOLLOW THEM**  
**DO NOT USE CONTACT CEMENT AT TEMPERATURES BELOW 65 degrees F.**  
**CONTACT CEMENT WILL NOT ADHERE TO PAINTED SURFACES.**

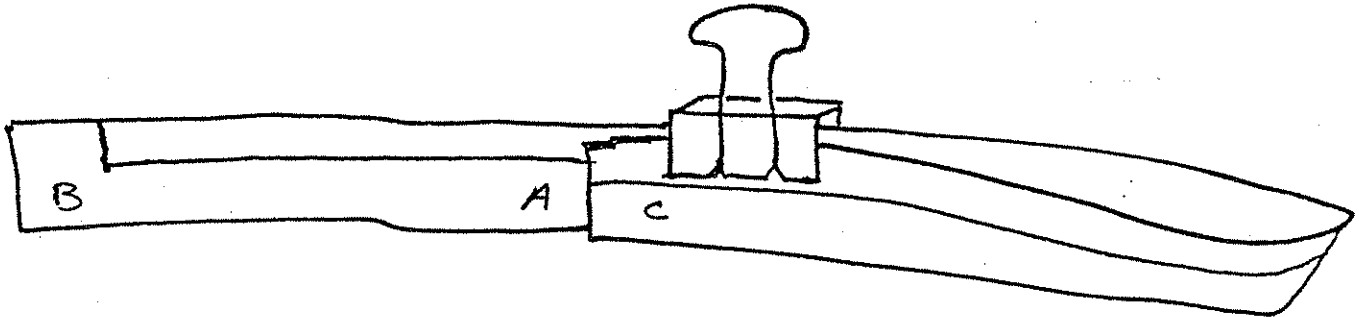
6. Scratch the frosted matted surface of the mylar with **#100 grit** sandpaper. Roughen the corresponding surface of the hull with **#60 grit** sandpaper. Do not miss any spots. After sanding, clean the surfaces of the hull and mylar with acetone. Absolutely do not use paint thinner.

Apply contact cement liberally but not excessively to both the frosted matte surfaces of the mylar and the corresponding surface of the hull. Do not miss covering any spots on either the mylar or the corresponding areas of the hull. Allow to thoroughly dry as prescribed on the label. Drying must take at least 20 minutes.

After the cement has dried as described on the label of the bottle, mate the mylar to the hull as described on the following page.

7. After the cement has appropriately dried on both the hull and the gaskets, prepare to mate the first gasket with the corresponding area outlined by masking tape on the hull.

For convenience in handling and aligning the gasket, shorten the effective length by using a binder clip or paper clips to secure the glossy sides of the mylar together as shown on the figure. Be careful not to allow the cemented areas of the gasket to touch each other or they will bond together permanently.



8. Using two people to hold the gasket, carefully align it with the hull without allowing it to touch the hull. You cannot realigned the surfaces once they touch together.

The procedure that minimizes misalignment at the ends of the gasket is to make the initial contact between the gasket and hull at the center and then work out to the ends. Begin at Point A and to continue to touch the surfaces together in an uninterrupted fashion to Point B.

Then remove the binder clip, align Point C, and touch the gasket to the hull from Point A to Point C in an uninterrupted fashion.

Repeat the procedure with the second gasket, this time aligning the dacron edge of the gasket along the 1/8-inch guideline previously penciled on the first gasket.

Once you mate the surfaces, firmly press them together using a seam roller. Repeat the rolling and pressing process at least three times to remove all air bubbles. Remove masking tape and excess cement without using acetone.

9. For added protection you may secure the leading edge of the gasket with a 2-inch length of retaining strip and two screws as shown on the illustration.

**ALLOW CONTACT CEMENT TO DRY FOR 24 HOURS BEFORE LAUNCHING BOAT.**

These instructions are important. If you follow these instructions, the gaskets should last about four years. If not, the gaskets might last about four hours.

## SEAT FLOATATION REPLACEMENT

White closed-cell Ethafoam is to be secured under the seat. Six pieces 6"x3"x48" are required.

Start by securing one end of the strap to inside the hull using 5-minute epoxy. The key to having the epoxy adhere to the fiberglass is surface preparation. The fiberglass has an invisible coating of wax on the surface and this must be removed. First, thoroughly wipe a 6"x6" area of the fiberglass with acetone. Sand the area with 60-grit sandpaper and then clean with acetone again. Apply epoxy to both strap and fiberglass. Hold the strap in place while the epoxy is curing by pressing with a plastic shield, such as a piece cut from a polyethylene milk container. Use gloves.

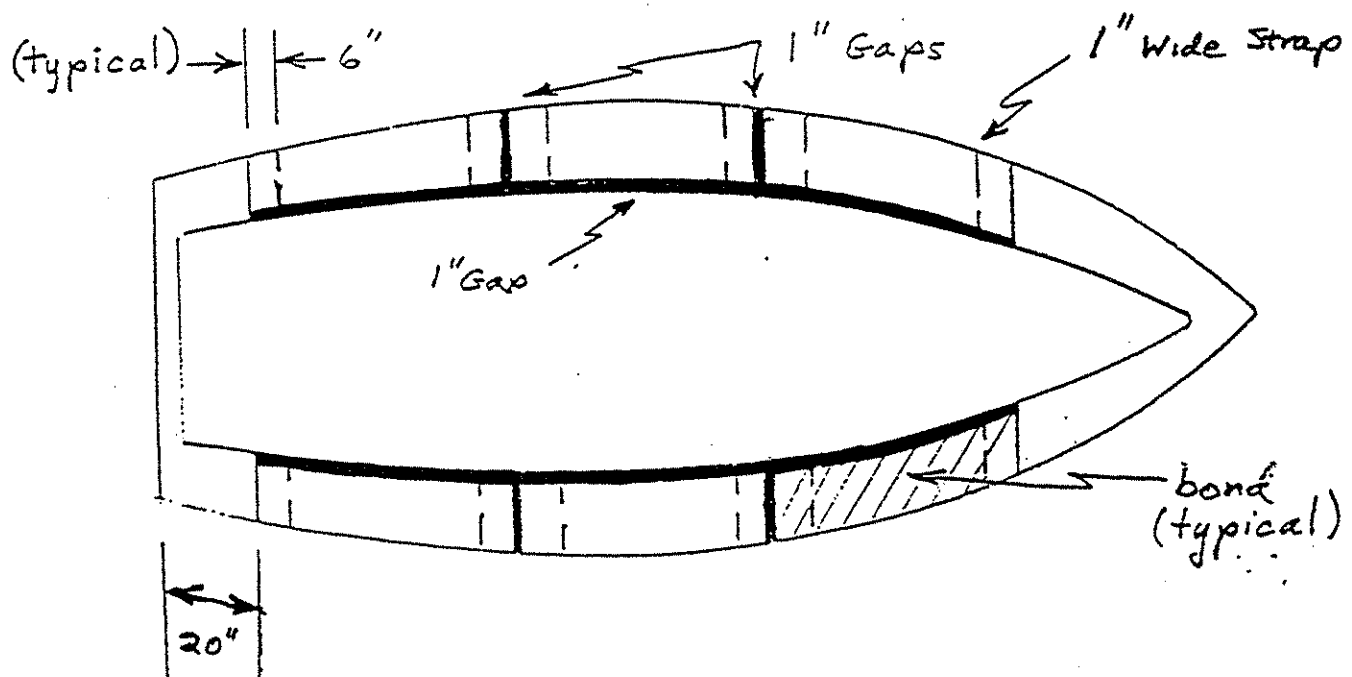
Next, secure the floatation to the underside of the seat using waterproof tub and shower panel adhesive. Sand surfaces to be bonded with 60-grit sand paper, remove debris and clean surfaces with acetone. Apply adhesive in a wavy pattern; use two tubes for entire seat. Prop floatation firmly against seat and allow to dry for 24 hours.

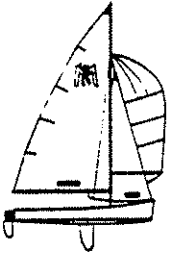
Cut 1/4" deep notch in corners of floatation where strap will interface. Use keyhole or hack saw.

Cut length of strap appropriately in order to remove slack when it is secured. Secure strap to inside of seat with epoxy, preparing surface as described above.

Locate straps 6" from the end of each piece of floatation.

Let me know if you find improvements or problems in the technique.

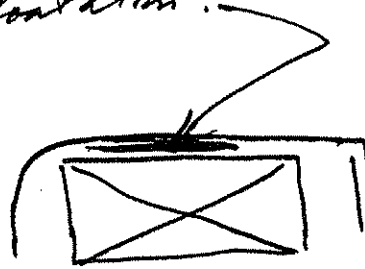




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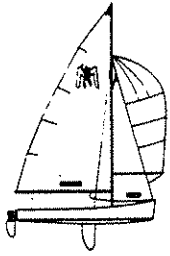
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(301) 881-7411

The tube of adhesive is to use to  
hold up the floatation. Get adhesive  
between seat and floatation.



Prop up for 24 hours → ↑

Heat at  $>65^{\circ}\text{F}$ .



### 1. INSTALL REINFORCING PLATE

- \* Plan so center of plate is about 1" fore or aft of crack.
- \* Start by propping seat up to an appropriate height.
- \* Figure 1 shows suggested layout of plate.
- \* To avoid stress risers, keep all holes at least  $\frac{3}{8}$ " from the edge of the seat.

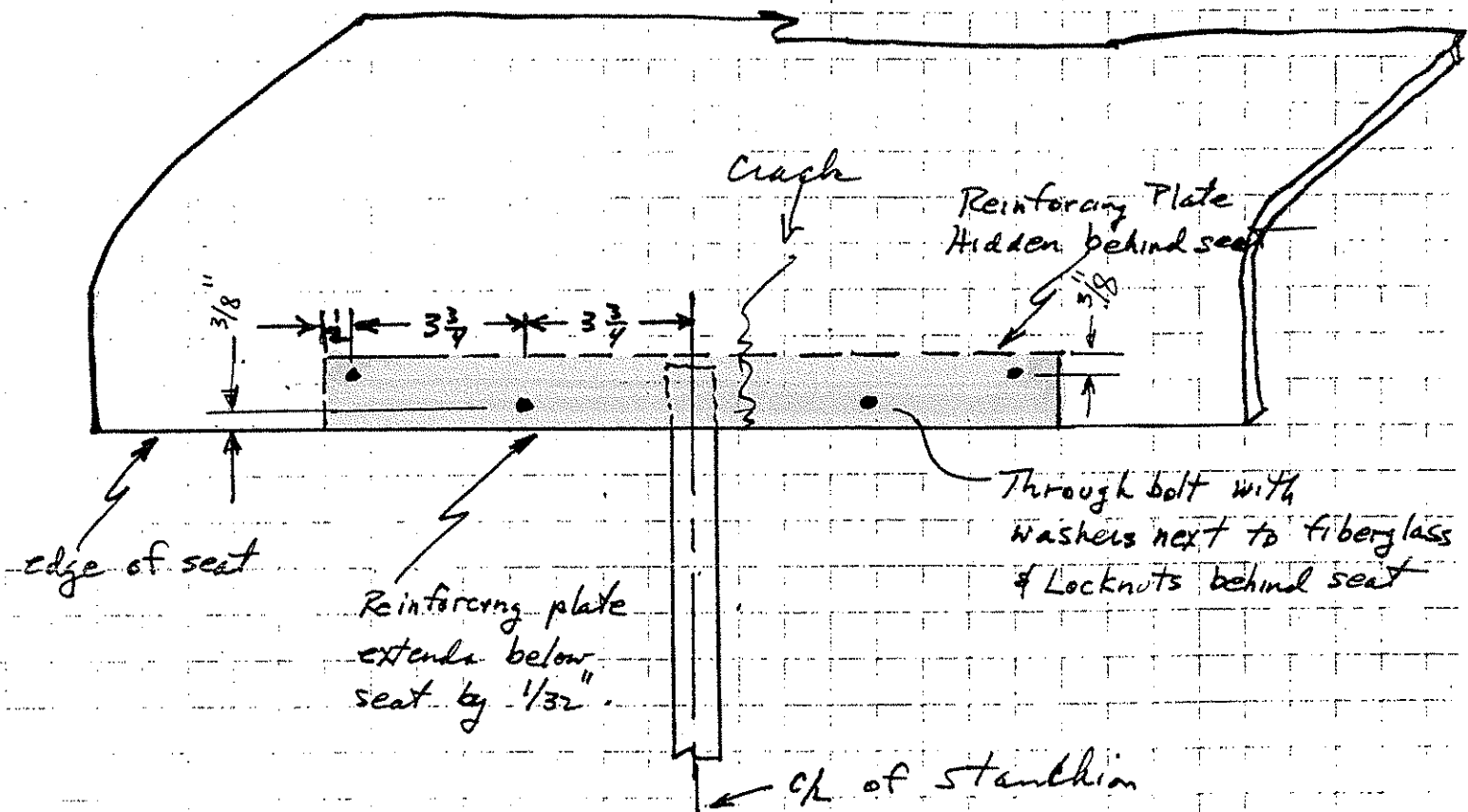
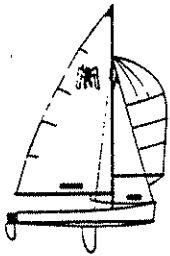


Figure 1 Layout of Reinforcing Plate



## 2. Install Stanchion

- \* Measure stanchion height with base attached temporarily to the bottom of the stanchion.
- \* Cut stanchion so corner does not touch fiberglass as noted in Figure 2. If necessary, round corner as ~~done~~ shown.
- \* Stanchion must extend at least 1-1/4" above the seat edge so that bolt holes can pass through the stanchion.

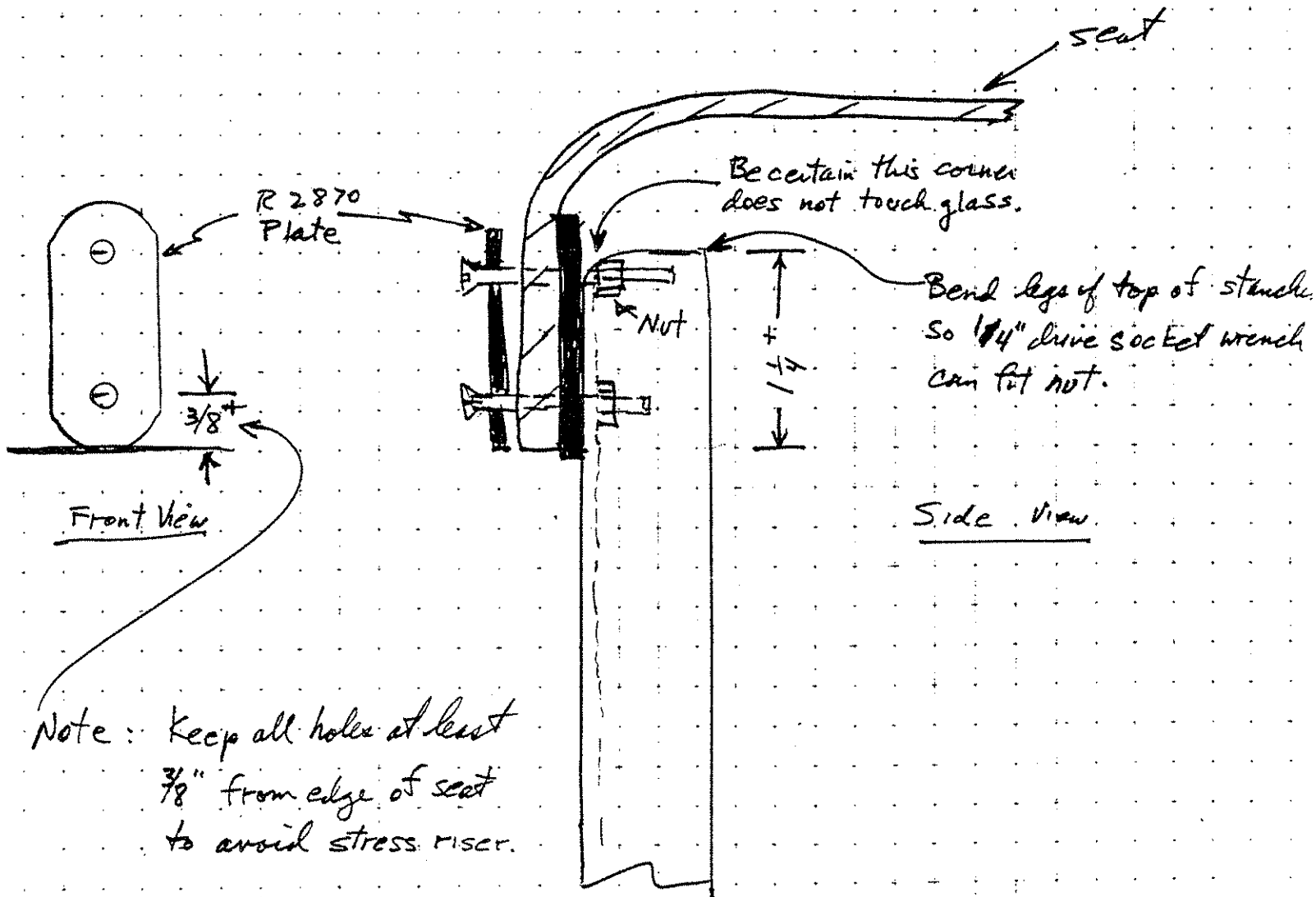


Figure 2 - View of stanchion layout



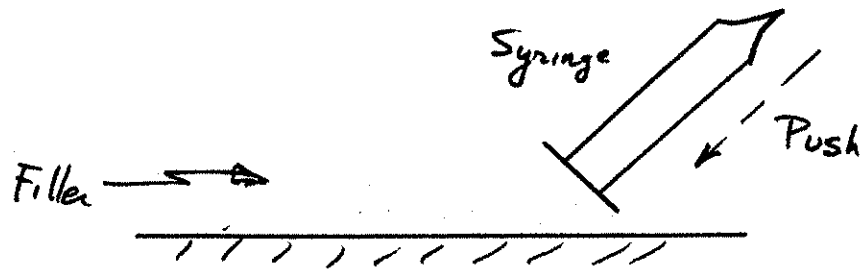


Figure 1 Loading Syringe

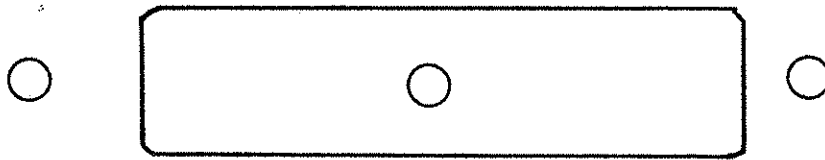


Figure 2 Top View of Mast Step with Holes

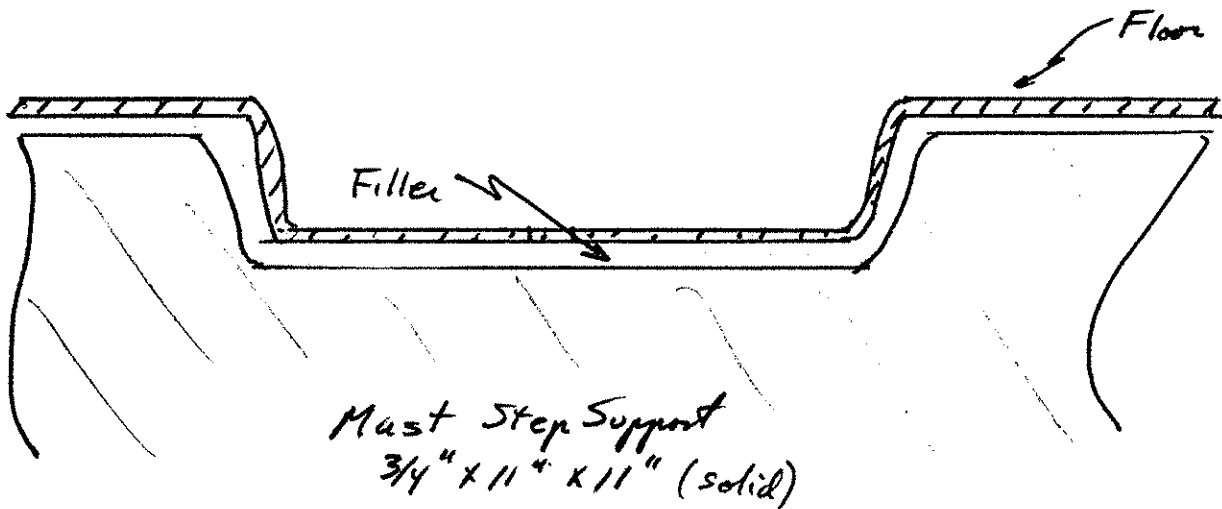


Figure 3 Sectional View of Mast Step

# Floor Assembly

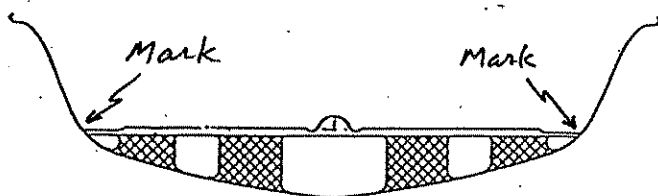
Weight added: 18 pounds of putty.

Putty must weigh 5 lb/gal. Check it. Mix 2 parts Q-Cell with 1 part resin.

These items should be checked prior to completion:

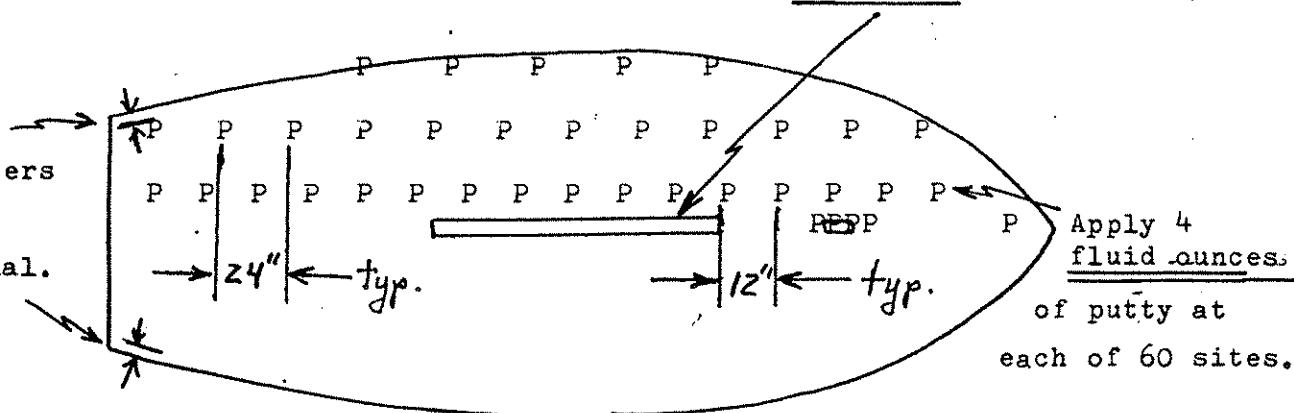
- \* One aluminum plate in hull at transom.
- \* 12 aluminum plates in the floor.
- \* Scupper hole location reinforced.
- \* floatation in subfloor.
- \* Gap between mast support and subfloor closed.

1. Dry fit floor to subfloor. Then, be certain the gap between the edge of the floor and the hull are equal on both sides at the stern. ( See note A below. )
2. Mark the inside of the hull with a line every three feet to indicate the proper final position of the floor. Remove floor.



3. Apply putty on subfloor where it touches the floor (see P below). Use 11 pounds of putty, divided as shown below. Apply  $\frac{1}{2}$  pound (1 pint) of putty to top of mast step support.
4. Apply  $\frac{1}{2}$  pound of putty to mast step in the floor while the floor is up-side down. Then, assemble floor to subfloor, fitting it to the line previously marked on the hull.
5. Weigh-down the floor as indicated.
6. Backfill between the floor and hull with 6 pounds of putty.
7. Use spacer in centerboard well to hold it at  $1\frac{1}{2}$ " width while curing.

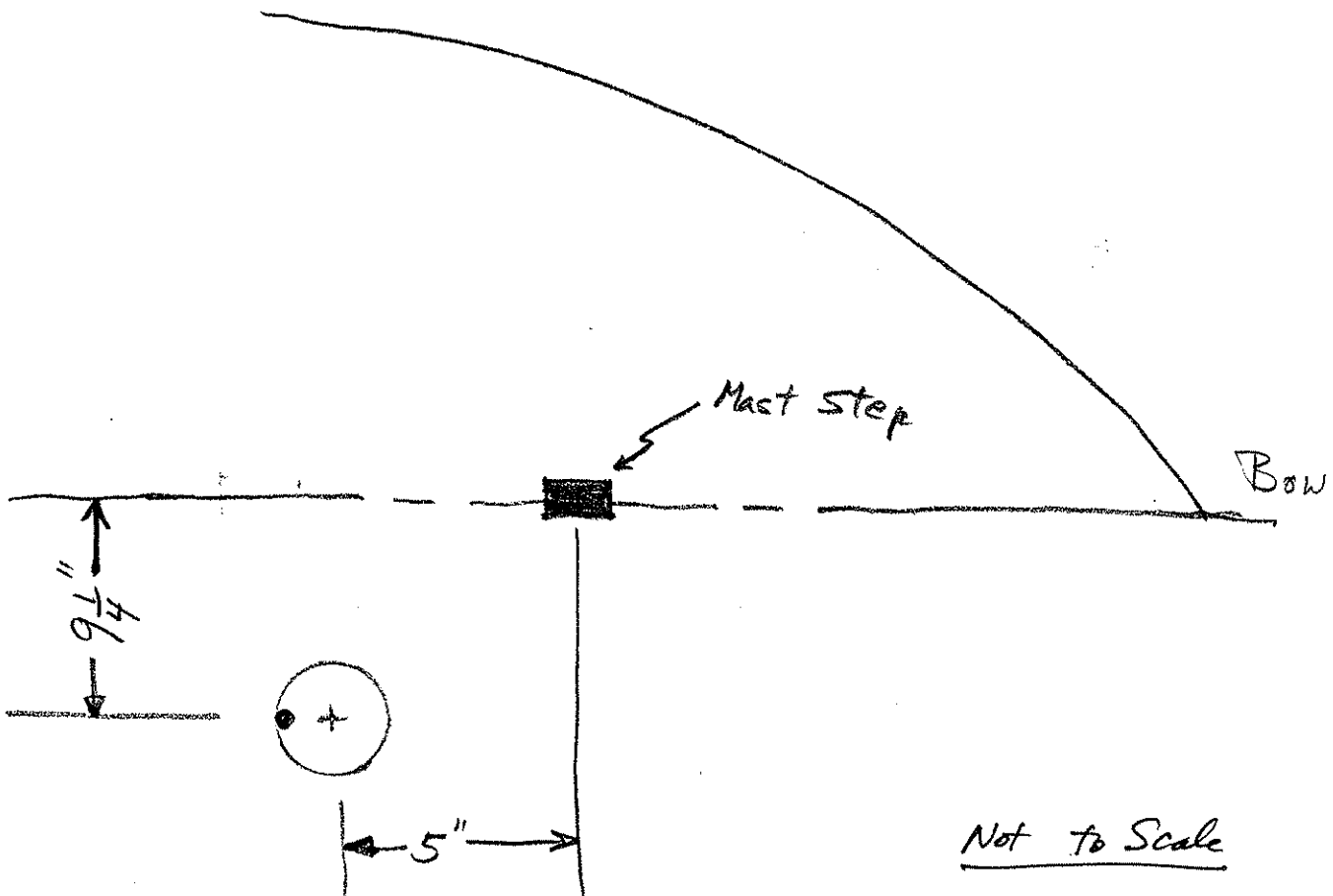
NOTE A:  
Use spacers to hold gaps equal.



## INSTALLATION INSTRUCTIONS

### INSPECTION PORT

1. LOCATE CENTER OF I.P. AS SHOWN ON FIGURE TO MINIMIZE INTERFERENCE WITH SUBFLOOR STRUCTURE. MARK WITH CENTER PUNCH.
2. DRAW CIRCLE OF APPROPRIATE DIAMETER WITH COMPASS.
3. DRILL 3/8" HOLE NEAR INNER EDGE OF CIRCLE; INSERT SABER SAW AND CUT OUT THE FLOOR FOLLOWING THE SCRIBED CIRCLE.
4. EXPOSED FLOTATION IS EASILY CUT WITH KEYHOLE SAW AND THEN REINSERTED EITHER FOR OR AFT OF CAVITY.
5. INSERT ETHAFOAM BULKHEADS IN CAVITY, TRIMMING TO FIT. THESE ARE TO PREVENT SMALL ITEMS FROM INADVERTANTLY SLIPPING INTO THE INNER HULL. USE DUCT TAPE TO SECURE IN PLACE.
6. I.P. SHOULD FIT THE CUTOUT HOLE SNUGGLY BUT WITHOUT INTERFERENCE. TRIM HOLE WITH HALF-ROUND FILE IF NECESSARY.
7. APPLY A SILICONE BASE BATHTUB CAULK TO THE BOTTOM LIP OF THE INSPECTION PORT TO CREATE A SEAL BETWEEN THE FLOOR AND THE I.P.
8. DRILL 7/64" HOLES AND SECURE I.P. WITH THE SCREWS PROVIDED.



## Mast Step Repair

Be certain the hole in your mast step is clean and dry. Catalyze about 60 cc of auto body filler on a flat expendable surface, using about  $\frac{2}{3}$  the amount of catalyst recommended.

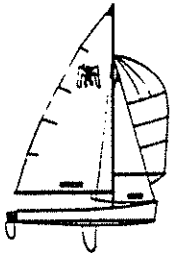
Load the filler in the syringe by removing plunger and forcing filler into the end of the syringe as shown in Figure 1. Clean off excess with tongue depressor. Inject filler into hole. Reload syringe and continue until hole is filled.

Hint: Work fast before filler cures.

After first batch has cured, drill about three  $\frac{1}{4}$ " holes in mast step as shown in Figure 2. These holes should only be about  $\frac{1}{4}$ " deep before you go through the floor and into the hollow space shown in Figure 3.

Hint: Try both 20/10 cc syringes to see which works best. Inject filler into the holes until excess is apparent. Wipe flush with original surface before it cures.

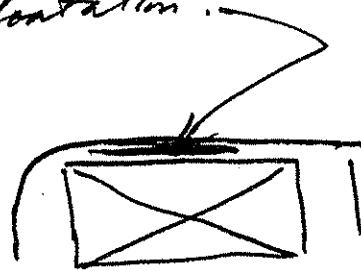
Paint over holes with a brushful of gelcoat (catalyzed but ~~not emulsified~~ with no emulsifier added) when the filler has cured.



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The tube of adhesive is to use to  
hold up the floatation. Get adhesive  
between seat and floatation.



Prop up for 24 hours → ↑

Keep at  $> 65^{\circ}F$ .

## INSTALLATION OF STANDING RIGGING

Check if the holes for spreaders B,C,D are located where indicated on Figure 1 attached. If they are, proceed as described below. If not, send us the measurements and we will try to figure out how to proceed.

If B,C,D are appropriately located, start by drilling 3/16" holes at the center of the flat sides of the mast at sites A and E. **Measure carefully.** Use a centerpunch to locate the holes, drill a pilot hole with a 3/32" bit and then use the 3/16" bit. These holes are located to conform with the length of the wires we have shipped. Through-bolt the small tang end of the Diamond wire at site A, but allow enough slack so it may rotate on bolt until final adjustments have been made.

When installing any wire, be certain it is not twisted on its axis before making the connection. That is, with one end of the wire fixed, extend the bitter end toward its intended connection point and pull with nominal force to determine that the twist induced by the natural lay of the wires has been removed.

Install spreaders B and C with tangs and diamond wires without tension. That is, do not attempt to slip the wires over the ends of the spreaders until both wires are loosely in place. Do not install rivets in spreaders at this time. Install threaded adjusters with nut initially extended close to the forked end. Slip diamond wires over threaded adjusters and tune to about 60-100 Hertz as described in Rigging and Handling Instructions previously sent to you. Tighten nut at site A. See detailed sketches for sites A-E.

Bend eye-end of Rhombus in a vise as described on Sheet E. Through-bolt the Rhombus at site E, but allow enough slack so eye may rotate on bolt. Install spreader D, and then connect the untensioned Rhombus stays to the tang at B. Do not spread cotter pins yet. Install threaded adjusted in spreaders at D. Slip rhombus wires over spreaders C and D and tune to about 20-30 Hertz. Tighten nut at E. Readjust bend in rhombus eye at site E to assure wire is collinear as it enters the swaged eye.

- When satisfied with tuning, spread all cotter pins.
- Rivet Spreaders so they are securely held in mast.
- Squeeze ends of threaded adjusters to capture wires.
- Tape nuts on threaded adjuster so they will not move.
- Tape end of spreader C so wire will be held in place. (Or use cotter pin.)
- Install Shrouds.

10-32  
~~10-32~~ x 3" THROUGH BOLT.  
BEND TANGS SO WIRE IS  
STRAIGHT.

NOTE: 4 TANGS ON TOP  
SPREADER.

XJ-500 SPREADER TIP.  
(SQUEEZE END TO  
CAPTURE WIRE)

SM 9501 TANG

XJ-500 SPREADER TIP.  
(SQUEEZE END TO  
CAPTURE WIRE)

10-24 x 3" THROUGH BOLT  
BEND EYE SO WIRE IS  
STRAIGHT.

Head

25 7/8"

A

SM 615 HOUNDS  
- ONE FOR JIB.  
- ONE FOR FORESTAY.

B

Top Spreader

SM 9501 TANG

SHROUD

C

13'-4"

19'-0"

25'-6"

D

7'-8"

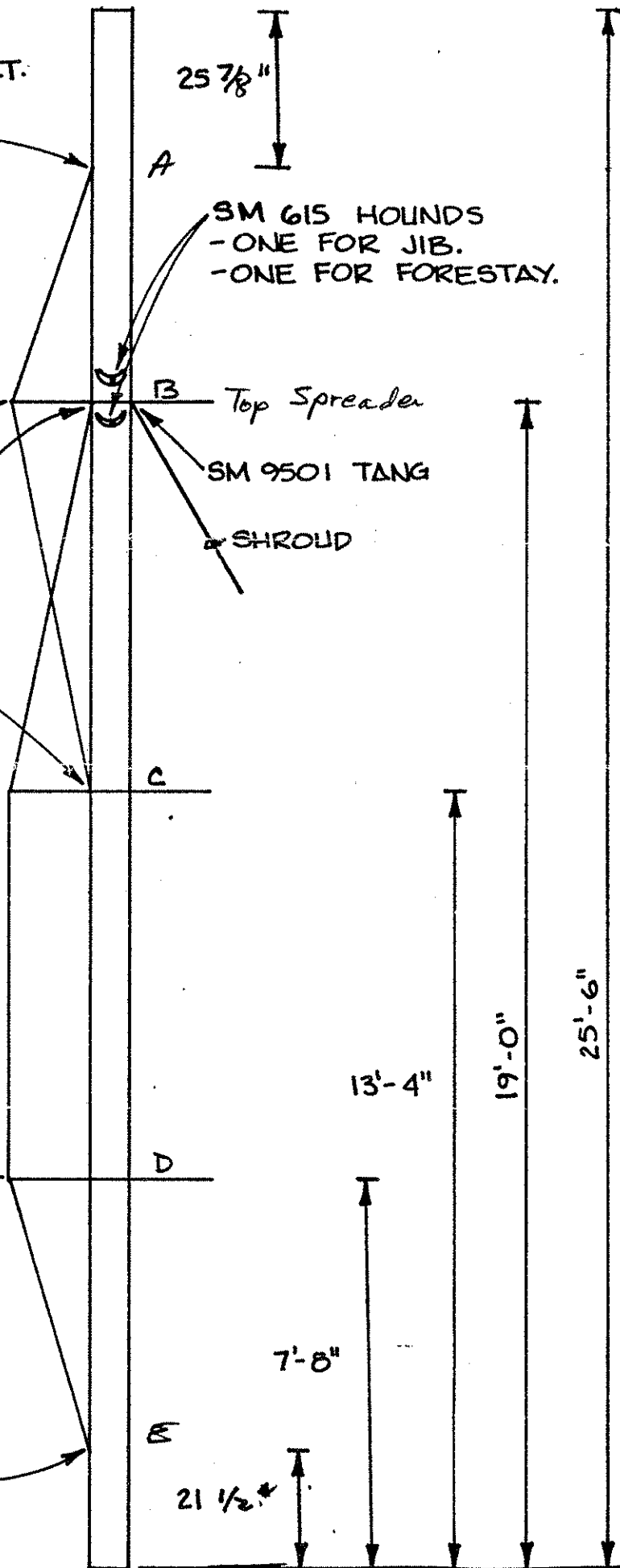
E

21 1/2"

Foot

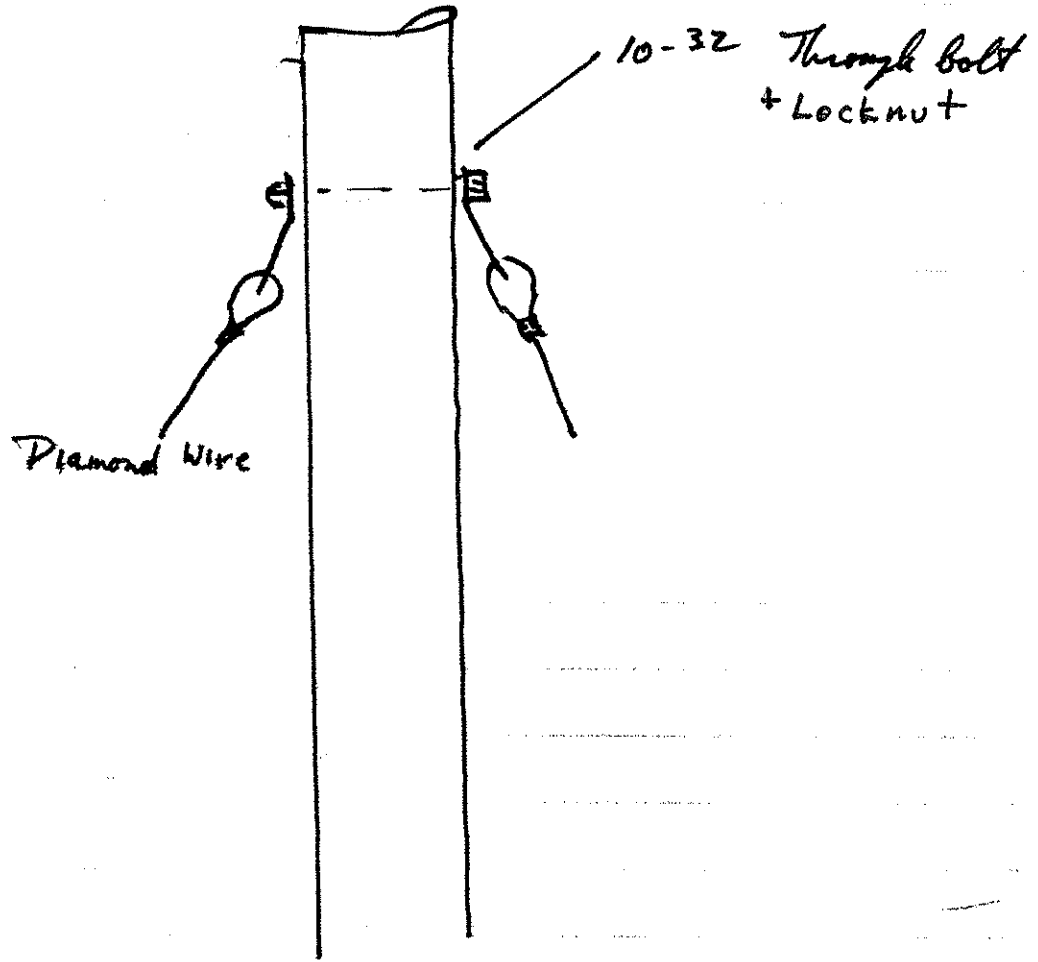
NOT TO SCALE

Figure 1



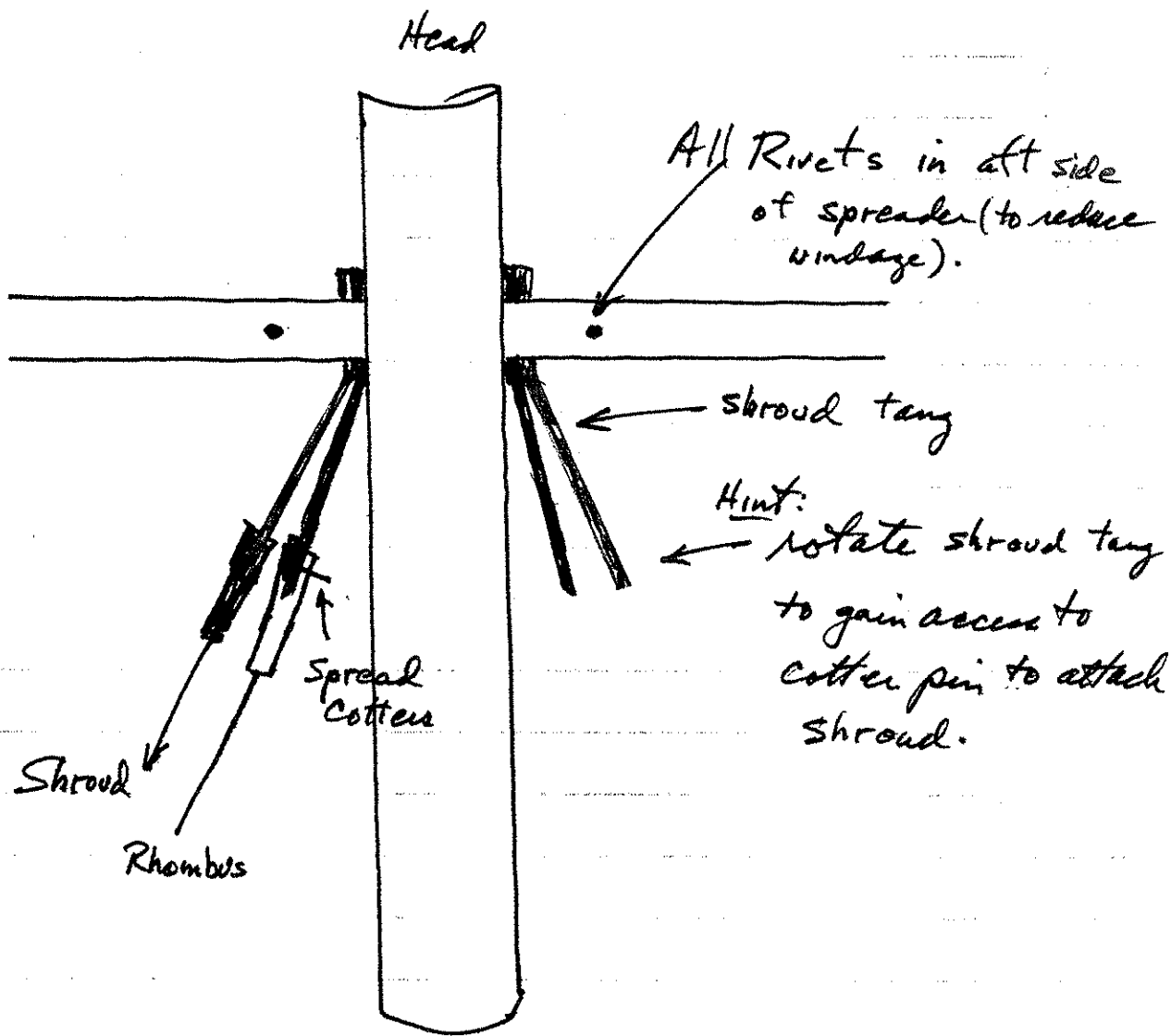
A

Head



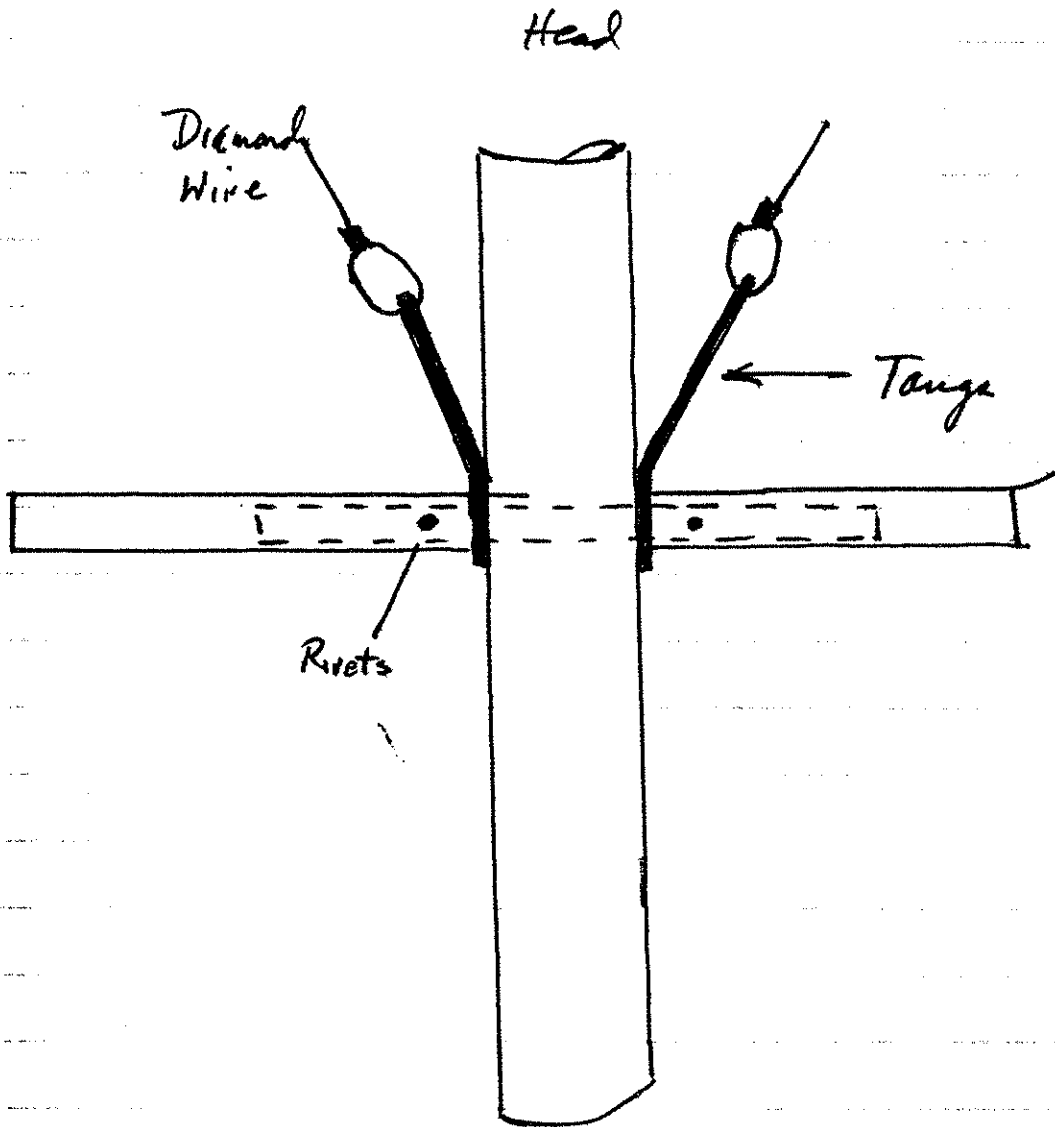


(B)



Be certain tangs are tight against the mast and spreader tight against the tang before installing rivets.

(c)



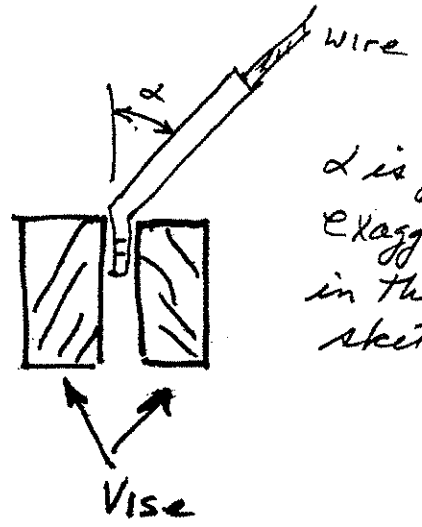
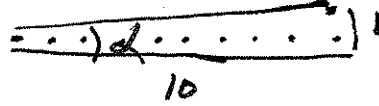
Be certain tange are tight against the mast and spreader is tight against the tang before installing rivets.

(E)

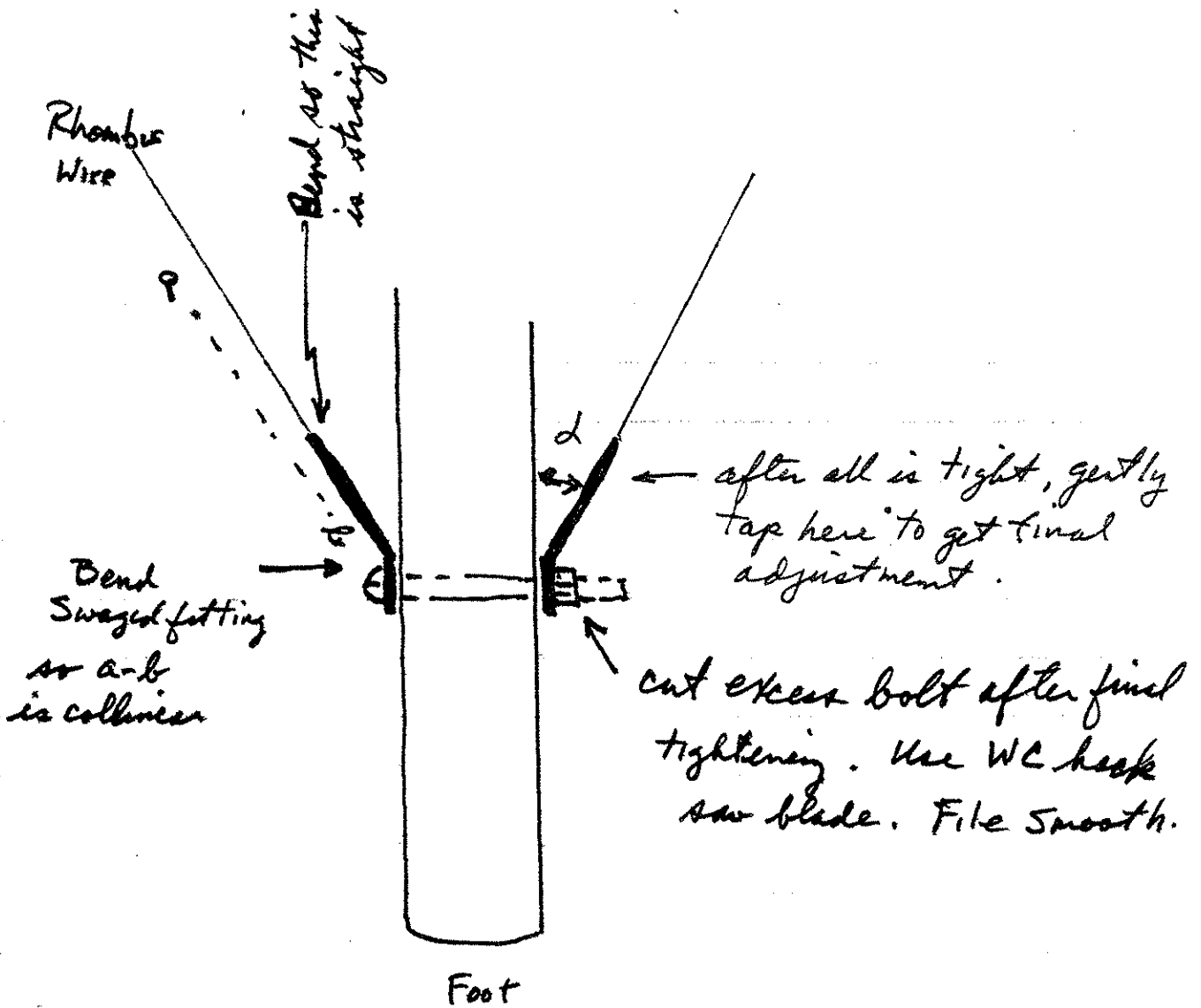
gently bend swaged eye  
so  $\tan \alpha = 0.1$

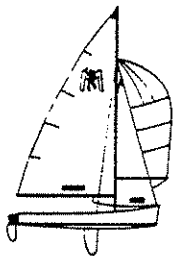
Measure by placing gird  
on paper:

and laying  
bent piece on paper.



$\alpha$  is great.  
& exaggerated  
in this  
sketch.





## INSTRUCTIONS FOR MAST FOOT INSTALLATION

Insert fiberglass mast foot into the aluminum mast tube such that the base of the foot extends about 1/4" out of the aluminum tube. Use care not to push the mast foot too far into the mast tube or it will be difficult to extract. The mast foot should fit into the mast tube without undue interference or friction.

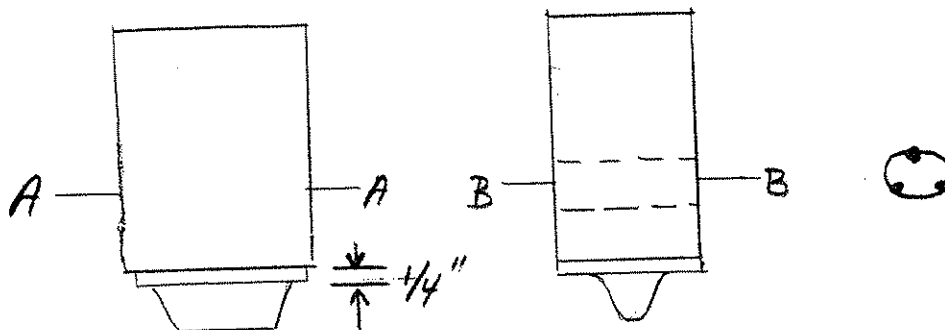
If there is interference, try the following remedies:

- ....Rotate the mast foot 180 degrees relative to the mast tube;
- ....Using a 4" C-clamp, slightly distort the tube as foot is inserted.
- ....Apply force along axis A-A or axis B-B;
- ....Selectively shape the foot along area of interference using sander, file or grinder.

With the mast foot held in position in the mast tube, drill a 1/2" hole for the keeper pin in the mast foot. To assure that this hole will correspond to the preexisting holes near the base of the mast tube, start the drill at the each preexisting hole and drill halfway through the mast foot from each side. Be certain that the each hole is being drilled perpendicularly so the holes will merge with reasonable accuracy.

The end of the keeper pin which is not peened is inserted first. Gently tap keeper pin through the hole until unpeened end extends beyond the surface of the mast tube.

Place the peened end down on a hard, flat surface which will be able to counter a hammer blow. On the unpeened end, locate three points equidistantly located from each other on the flat edge of the pin. Using a hammer and centerpunch, gently mushroom these three points so that the keeper pin cannot freely slide out of position.



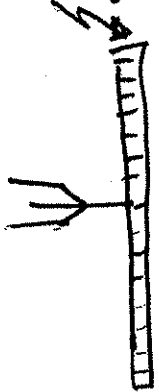
## Blister Repair

Caution: MEK is poisonous and blinding.  
MEK = Methyl ethyl ketone Peroxide

Practice: Start with 10cc of yellow gel in a cup and compare color with your hull. Gradually add measured amount of white, about 1cc at a time until you get a color match, remembering that the gel will cure "a shade" lighter than it looks uncured.

→ Record results. Color matching is toughest part of job. Add a controlled amount of emulsifier to the gel. Mix thoroughly and note consistency or slump. Add just enough to allow you to work on vertical surface without running. Add catalyst (1:100 volumetric) and mix thoroughly. Take some of this patty and fill the sample piece I included. Cover over top with mylar with shiny side against gel. Hold mylar down with masking tape. After curing, see how gel shines! If necessary for shaping use a few swipes of Wet or Dry #240 (always use W&D wet). Then go to 400 and then to 600. Then use buffer and plastic buffing compound at 3500 rpm. Simonize.

Buffing Surface



5" Buffer  
#4

For Real

1. Clean out one blister and try it
2. Repeat, doing three at one time.