Ensign Articles

Ensign Class Association

CONTENTS

DIGGIN' INTO TUNING

Those of us interested in improving our racing skills can find everything amply covered in the nautical literature except detailed information on tuning, specific to the Pearson Ensign.

Tuning our boat is a tricky business, part science, part intuition and part luck. Despite the latest 'go-fast' sails and gadgets, poor tuning can have us tail-ending the fleet, cussing the sailmaker or (usually) the poor innocent crew unfairly. Before we try to make some order out of chaos, and here we walk where angels fear to tread, a word or two about 'first principles.'

1. DO NOT pull the life out of the sail by heaving mightily on halyards, sheets, downhaul, outhaul, etc. just because it's time to adjust something. You have to develop an eye for the proper sail shape for the conditions (wind and sea) at hand, and by minor adjustments of the various strings, perhaps as little as ¼-½ inch, achieve the desired shape and draft position. As a matter of fact, you may find the setting best with everything slack, depending on the cut and condition of YOUR sails. Don't let a few wrinkles along the main's luff or from the genoa hanks faze you! They don't HAVE to be pulled out because the books say so as long as the shape is right and the speed is good. (Our knotmeter gave us this message and North found it out independently - if you have this problem with this year's genoas, they will re-sew the luff rope with more tension ((for free)) if you send it in.) The point is, you have to believe in your observations and try variations - don't let anyone 'bull' you.

2. Everyone knows that we want a bent mast upwind (except in the lightest breezes) and a straight mast downwind, but this is impossible with our rig since we are not allowed to adjust the backstay during a race. Thus, depending on the backstay tension we choose, we will be fast either upwind or down, but not both. The best that we can hope for is to luck onto a magic shroud balance which will allow a bent mast to straighten some on the downwind leg as the backstay stretches. Additionally, we are not always (if ever) going to guessing the weather on any given afternoon and setting up the backstay accordingly; what's worse, we all know how much the wind can vary in the course of a race, and we are stuck with the setting we started with. As a result, at least in this department, we are back to 'guessmanship' and just plain luck!

3. The chief factor in tuning the Pearson Ensign is that the mast must bend evenly from top to bottom. The question is, how much should it bend? The first requirement is that it bend enough to free the leech in a medium breeze (8-10 knots) and remove excessive draft from a very full sail. It follows that the amount of mast bend will be in proportion to the cut of the mainsail. We must assume, again, that you have a suit of good sails and that the luff of your mainsail has been designed and cut to fit an even mast bend, a smooth forward curve, even from truck to heel, irrespective of degree. We all are familiar with the general principle that the mast must be bent more as the wind strengthens; conversely, in light air, the backstay must be relaxed much more than you think - approximately 80% - in order to straighten the mast.

Before attempting to tune your Ensign, study the dimensions of your particular boat and check them against the diagram (PEARSON P-309, 11/21/62) on the following page.

1. Is the mast step located where it should be?

   Distance from the center of the forward bolt to the step leading into the cabin (fiberglass portion).....36"

   Distance from the center of the forward bolt to the head riser.....4½"

   Distance from the center of the forward bolt to the bunk riser.....19½"

   Distance between the mast step bolts, center to center.....7½"

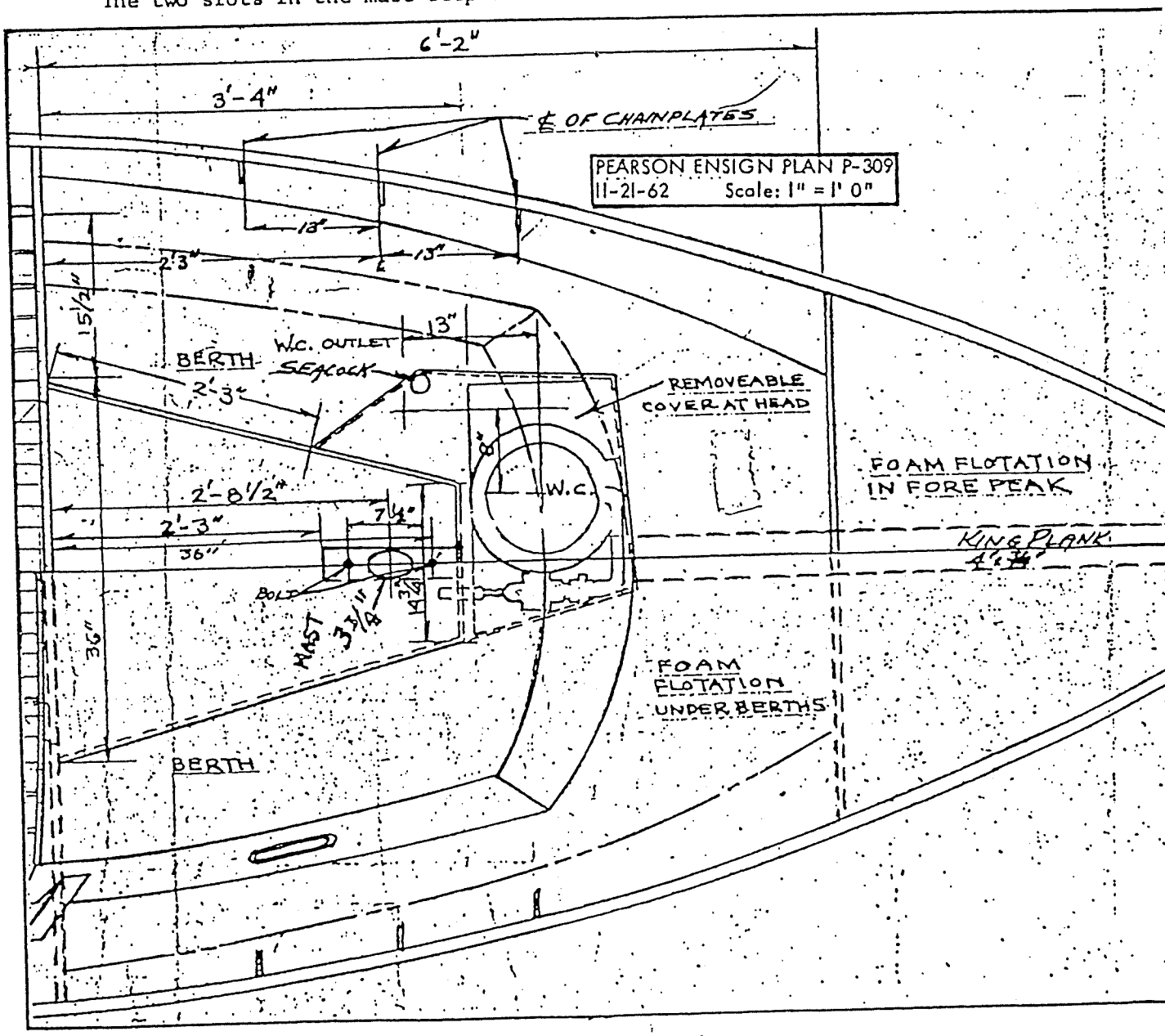
2. Is the mast partner in normal position, and is it of standard size?

   Distance from the fiberglass over the doors to the after edge of partner...30"

   To the forward edge of the partner.....34½"
   (A reasonable range, 4-1/4" - 4-3/4", is under study by Bob Curtis and a ruling will be forthcoming)

   The partner width is hard to ascertain from the drawing since what we see may be the mast; mine is.....2-9/16"

   The two slots in the mast step slide measure.....2-½"



If your boat conforms to these measurements, you are ready to begin tuning:

AT THE DOCKSIDE:

1. Place a level on the cabin sole, fore and aft, and when you are sure that the boat is level, drop a plumb bob from the after edge of the partner to the mast step, and mark that spot. The after edge of the MAST should be located about 1" aft of this mark. (If this can be done on land, it is easier.)

2. Take up your upper lateral shrouds finger tight and even. (If the mast is centered, the same length of main halyard will touch corresponding points of the deck on each side of the mast.)

3. Tighten the backstay until the mast truck is directly over the heel. The mast wants to be against the aft partner at the dockside.

4. Next, tighten the jibstay and then the forward lowers in order to achieve a forward mast curve which is even from top to bottom. (You can eyeball this by placing the main halyard shackle against the mainsail mast groove as low as possible, noting the space between the wire halyard and the mast.)

5. Take up the upper lateral shrouds quite tight and evenly. (An easy way to record and vary shroud settings, bypassing differences inherent in turnbuckles, is to measure up from the deck to the clevis pin at the lower end of a shroud with a stiff ruler, on a line through the turnbuckle's lower clevis pin. (This is much simpler than trying to count threads.) CAUTION! Since the deck slopes, always measure either fore or aft of the turnbuckle, but be consistent! Once all the shrouds are in balance, even if they vary a little bit from side to side, any adjustments will require adding or subtracting equal amounts on both sides.)

6. The rear lowers may be tightened just enough to eliminate play, but they must not alter or (when sailing upwind) restrict the forward bend of the mast.

UNDERWAY:

Now let's bend on the sails and go for a spin in an 8-10 knot breeze!

1. If you can't trim the boom almost to the centerline and still maintain a free leech, tighten the backstay until you can.

2. Recheck the forward lowers first and then, if necessary, the jibstay, to maintain the even curve.

3. The upper lateral shrouds should have no slack on the leeward side while close-hauled in light to light-medium air; some slack should appear as it breezes up.

4. Any slack in the after lowers should be eliminated short of altering mast bend on a beat. When 'just right', they will serve to straighten the mast some on a run as the backstay stretches.

With luck, your helm may be perfect (the tiller will be within 4" to weather of the midline.) If the tiller is amidships or to leeward despite the main sheeted in hard, the entire sail-plan should be shifted aft by raking the mast. This is accomplished by easing the jibstay and taking up proportionately on the backstay. This might require readjustment of the lateral shrouds as well. If, on the other hand, the tiller is too far to weather, do the reverse, a little at a time.

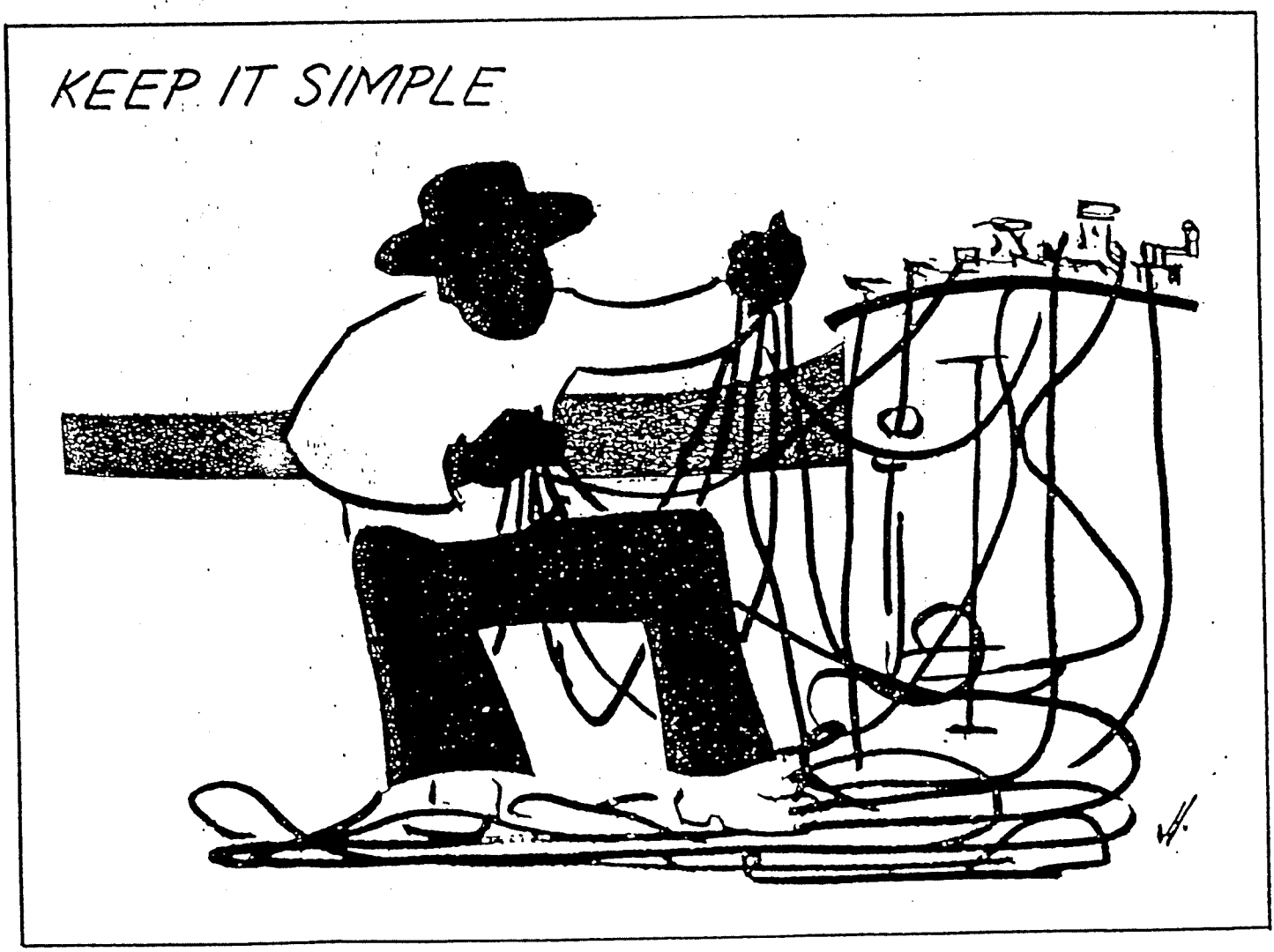
Now, having found the best settings for a medium breeze AND RECORDED THEM, when it comes to very light air or drifters, ease off the backstay as much as 6-8 inches or more in order to straighten the mast and create a fuller sail. In heavy air, increase the backstay tension sufficient to flatten the sail and free the leech. It helps to keep a log of your various best settings for different conditions so that, after some experimentation, you will know exactly how to set up for the conditions at hand.

Art Ellis, who sailed with Bob Jones to the 1974 National Championship and spent a lot of time sailing the Ensign and designing sails for it, was kind enough to lend his advice in preparing this prescription. His articles on the subject are available from North Sails for the asking.

You may not agree with the above prescription or have some further tips to offer; either way, let us hear from you.

By Harry Perlberg

(Ed. note: Harry is eager to receive "photos and/or clearly-labeled sketches (photos best) of gadget systems and designs for submission to Land's End for their next catalog. (!) Wherever possible, parts should be identified as to make, size, and if possible, number. For Harry's address, see frontispiece.)



ELECTRIFYING DIGGINS

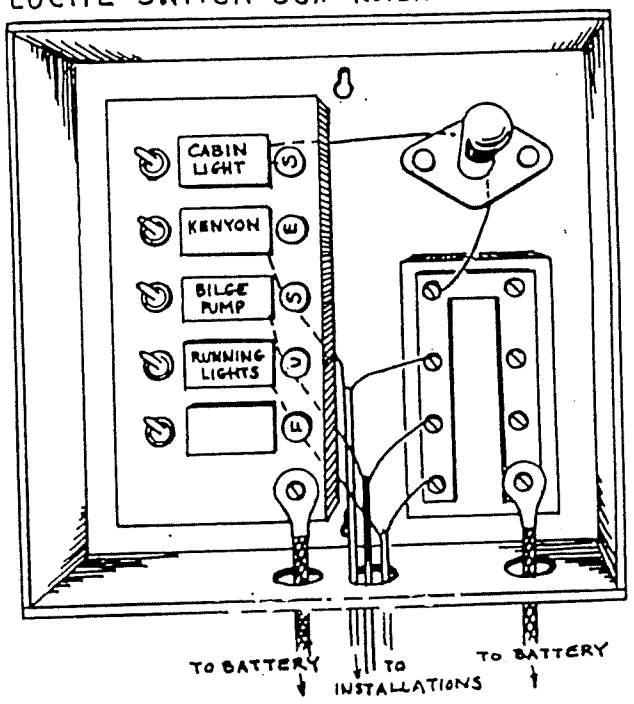
The idea of electrifying the Ensign came as the result of several happenings: heads were removed, requiring replacement ballast; knotmeters (most) required a battery; electric bilge pumps have come into vogue; and some avid skippers, still not exhausted by a day of racing, like to toddle around at night and need running lights.

It so happens that the Sears' (perhaps other's as well) snowmobile battery, wet, weighs exactly 20 pounds, satisfying the ballast requirement if the head is removed. There is a small plastic battery case (requiring a ½" bit of styrofoam as filler) with a plastic strap and screw-down brackets to hold the battery. We percussed the cabin sole just aft of the mast step and cut out a rectangular hole (mind the cross braces, son!) and sank the case in it up to the box's shoulder projection, attached the strap brackets on either side, and there's your fixed ballast, according to the rules!

There is a 5-gang switch panel with a fuse for each switch, available everywhere. We built this into a lucite box which you can design. Quarter-inch lucite forms the back and four walls, 1/8", the front (which has to be cut out to accommodate the panel). Once the size of the pieces is decided upon, just clamp the bits together and run some acetone where the pieces butt, and after 10 minutes it is joined solid---simple. Best to screw on the front piece so you can get at the works if you have to. A small nail with the head cut off, heated, serves as a drill bit, a little smaller than the brass screws to be used.

A small terminal block, also generally available, with 8 pairs of screws is acetone-fixed to the inside back of the lucite box. Two large holes are bored in the bottom (narrow) wall to permit the heavy No. 8 wires (with heavy soldered-on terminal lugs) to pass from the battery, one to the terminal block and one to the panel, in the box. A third hole is bored as the exit passage for the small wires leading to pump, lights, etc. We also bored two key-hole slots in the back of the box, one above the other on centerline, the larger part of keyhole downward, to accommodate two round-head screws placed in the starboard inside cabin bulkhead. The box hangs very nicely and is stable and dry.

LUCITE SWITCH BOX (COVER REMOVED)



A long piece of No. 14 wire runs from the box through the cabin bulkhead at a level with the lower outboard edge of the cockpit coaming and runs all the way back to the bulkhead retaining the flotation aft. Here you solder-splice another piece of No. 14 wire about a foot from the end. One pair deadends at a small toggle switch mounted on the bulkhead, the other runs to a toggle mounted under the thwartship fiberglass seat extension throu

which the rudder post passes. From this second switch, wire runs down into the bilge to connect to your small electric submersible pump (presently Peters and Russell and Rule seem to be producing the best). Connecting the first switch to the stern light is a fishing job with coat hanger, string and a good supply of expletives. Start at a hole bored in the afterdeck just alongside the backstay chainplate projection, push straightened coathanger wire along undersurface of deck and laterally and sooner or later you'll make it to the lateral margin of the after bulkhead (you may be lucky and find a space between it and the hull), tie a string to the wire, withdraw it and you have something with which to pull the wire from the first toggle switch to the stern light. The idea of the split wire and two switches is to allow the option of turning on either pump, sternlight or both from only one connection to the control panel.

The port and starboard lights should be mounted low near the deck on the cabin walls immediately forward of where the coaming ends (they'll show under the genoa). These are solder-connected to each other and thence by a common wire to the control panel. Household wire will do here as well as for your knotmeter which will probably be mounted close by.

If you are still with it, you might like to mount a small hooded light (they look something like the type you poke in a cigarette lighter only with a base for two small bolts) on the control panel to light up the switch panel at night and to provide a nice cabin light when the hood is lifted off.

The plastic tubing for the pump should be clear plastic so you can see, if and when, where it is stopped up. Half-inch inside diameter should fit the pumps (try it first!) and this will usually be 3/4" outside diameter. Start at the lowermost, central part of the transom where the curve makes a slight 'V' and percuss from the edge upwards until it sounds hollow. Take courage and bore a 3/4" hole. You might have to widen it to accommodate the plastic tube, but it should admit a broomstick or mop handle. Poke the stick forcibly forward, keeping the point as low as possible, along the inside of the hull and eventually you will come out through a limberhole at the bottom of the bulkhead just aft of the rudder post. Attach a string to the stick, withdraw it to the outside, attach it to the tubing and sweat the tubing through the hull and flotation into the cockpit. Bore another 3/4" hole through the aftermost portion of one of the floorboards, angling the hole in a forward direction to limit the kink in the tubing at this point. Continue the tubing to the pump and you're all set. No, not quite! In order to prevent an airlock in the tubing, lead it almost straight up from the pump to undersurface of floorboards and tie it so with a bit of marlin. To keep a running sea from entering the tubing, insert a t[illegible]r washer about an inch in from the tubing's exit, pop in a plastic ball from a Sunfish self-bailer, and finally, put a large cotter pin through the very end of the tubing to retain the ball. That's it! Good luck!

Harry Perlberg, Jr., M. D.
Secretary

ELECTRIFY THEM IN TEXAS !

attend

THE ENSIGN NATIONALS

in

HOUSTON

August 17th - 20th

SOME SHARP MANEUVERING

Equipping the Ensign with special running rigging to be able to make racing maneuvers can be fun. As equipped from the factory, the Ensign cannot be maneuvered quickly enough for race competition. With the addition of the equipment described below, and Ensign's skipper and crew eliminate most of the impediments to sharp, quick and efficient racing maneuvers.

CAMCLEATS FOR GENOA SHEETS. (Figure No. 1) A simple 2" x 4" piece of hardwood is fastened to the inside of the cockpit coaming with a standard camcleat mounted on top. The position and angle to the camcleat is critical so that the genoa sheet won't pull out the top and yet the sheet can be released quickly by the crew while hiked out on the other side. Because the genoa winches are always wrapped clockwise, the port tail comes into the cockpit on the forward side of the drum and the starboard tail on the stern side. Also, the port-side drum takes a half-turn more and the tail is, therefore, slightly higher. The camcleat should be mounted approximately one or two rope diameters below the straight pull of the genoa sheet with three full wraps on the winch. It should be at a 10-20° angle so the force on the sheet won't pull it out of the top of the camcleat. In this way the sheet can be snapped quickly out of the camcleat by a crew member from the hiked position on the opposite side of the boat.

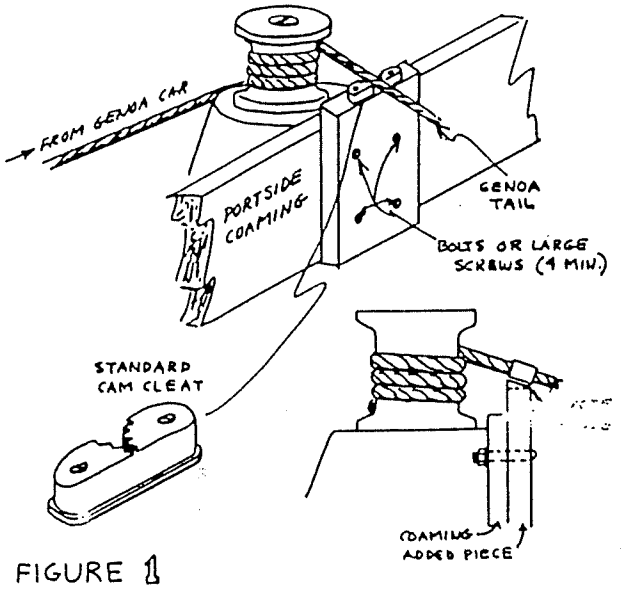


FIGURE 1

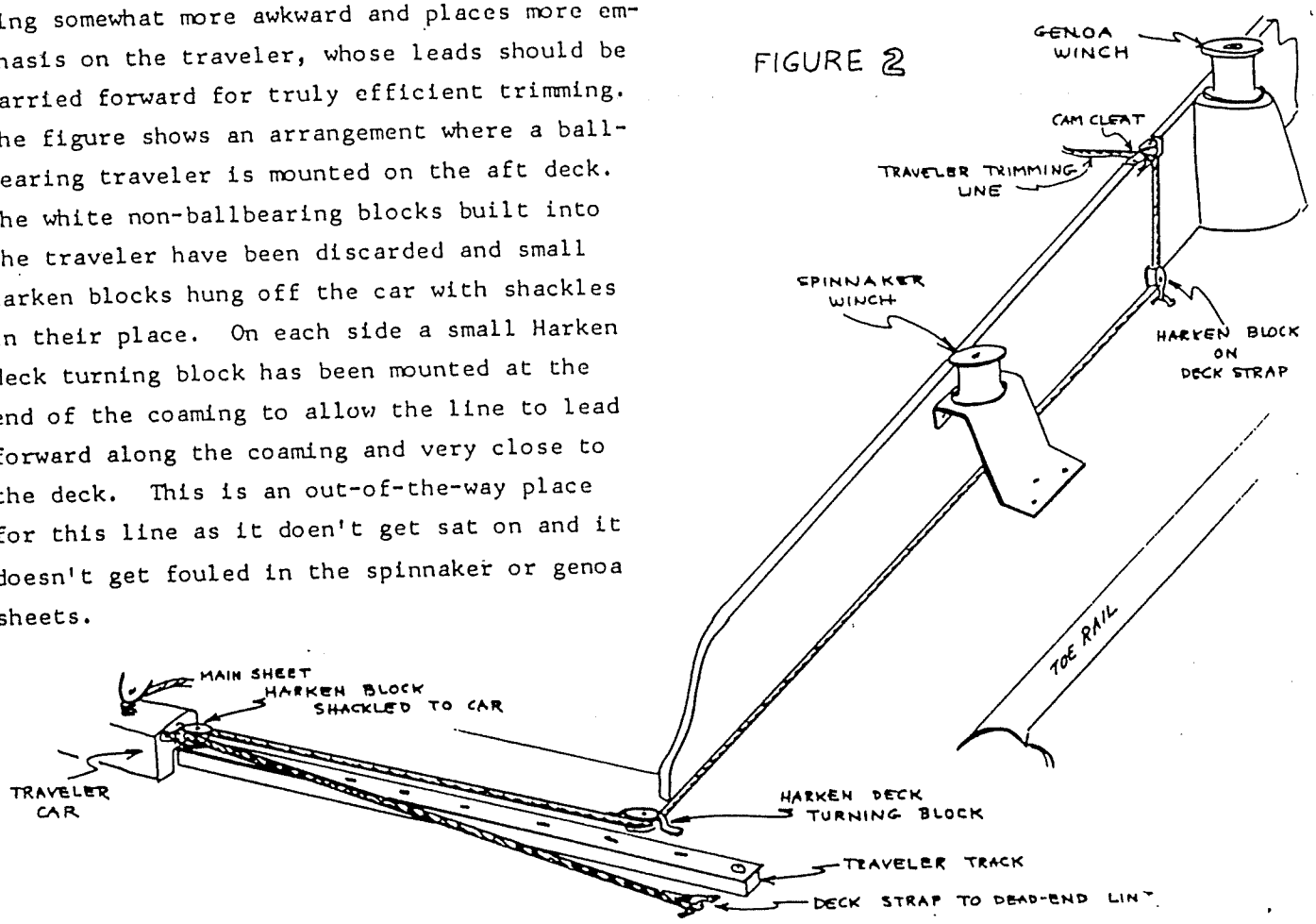
This installation interrupts the both cockpit backrest the coaming normally provides, as it turns out, but the bump easily allows one person to sit forward and doesn't interfere with those sitting aft of the winch position.

The real advantage of the camcleat installation is that the genoa sheet can be trimmed very quickly on tacks, usually without the need to insert the winchhandle. If the crew and skipper work together to perfect their timing, the crew can put two wraps on the winch and trim the sail flat against the spreader before the genoa fills with air to put too much force on the sheet for it to be trimmed without cranking. If the timing is not exact or the wind is blowing too hard and the genoa ends up being too far off the spreader, it is very easy for one crew member to insert the winchhandle and crank with one hand while tailing the sheet through the clamcleat with the other hand. If the sheet slips on the drum, a third or even fourth wrap around the drum is recommended. With one hand pressing the existing turns firmly against the winch drum so they don't slide backwards when the tail is released, the required additional turns can be laid on and the sheet recammed with the other hand. Then the winchhandle can be inserted and the last few inches trimmed in while the sheet is tailed through the cam. A camcleat with interlocking teeth is best in this

application because the pull is not always perpendicular to the coaming.

MAIN SHEET TRAVELER LEADS FORWARD. (Figure No. 2) One of the nice one-design features of the Ensign is the requirement that the main sheet be trimmed aft and not lead forward to mess up the cockpit. This does make main sheet trimming somewhat more awkward and places more emphasis on the traveler, whose leads should be carried forward for truly efficient trimming. The figure shows an arrangement where a ballbearing traveler is mounted on the aft deck. The white non-ballbearing blocks built into the traveler have been discarded and small Harken blocks hung off the car with shackles in their place. On each side a small Harken deck turning block has been mounted at the end of the coaming to allow the line to lead forward along the coaming and very close to the deck. This is an out-of-the-way place for this line as it doen't get sat on and it doesn't get fouled in the spinnaker or genoa sheets.

FIGURE 2



The line can be led as far forward as required, depending upon who is going to tend it. Our crew member who hikes out with the genoa winch between his legs tends our traveler, so the line is led to a Harken block attached to a deck strap about 8" aft of the genoa winch. It is then led up to a small cutout in the coaming where a camcleat is mounted. With heavy air and the crew hiked out, the traveler line can be freed and trimmed by a crew in his full hiked position. It is somewhat awkward to re-cleat the line as it is not pulled through the camcleat as it is being trimmed, but on light days when the crew is on the low side and it is necessary to pull the traveler to weather, this arrangement allows trimming through the clamcleat. While tacking in light air it is advisable for one crew member to release the old traveler line while another crew member trims the new one, if the traveler is going to be trimmed to weather on each tack.

SPINNAKER TRIMMING WINCHES. (Figure No. 3) A lot of Ensign sailors lead their spinnaker sheet and guy forward to their large genoa winches to assist in trimming. We have added a second pair of winches approximately 18 inches aft of the genoa winches for the sole purpose of trimming the spinnaker sheet and guy. The winch is mounted on a special 3/8"-thick aluminum place as shown. The plate was made up at a local boat works that has a press break for bending plates.

It attaches to the coaming with three bolts and through the deck with three bolts. The camcleat through which the sheet and/or guy are tailed can be mounted as above for the genoa sheets, or by juggling the height of the winch and lowering it a bit (compared to the genoa winch) a small cutout in the coaming may be made, in which a camcleat is mounted as for the traveler leads.

Ours is done like the genny cams and I wonder if lowering the spinnaker winches won't lead to some knuckles well-bashed when laying fast turns on the winch.

With separate winches for the genoa and spinnaker, it is much easier to fly both the genoa and spinnaker simultaneously. It is also a better arrangement for rounding the leeward mark because the genoa can be raised and camcleated in a closehauled position on its own winch while the spinnaker is still being flown on its own winch.

BERT FOSTER
No. 1250, Fleet 20

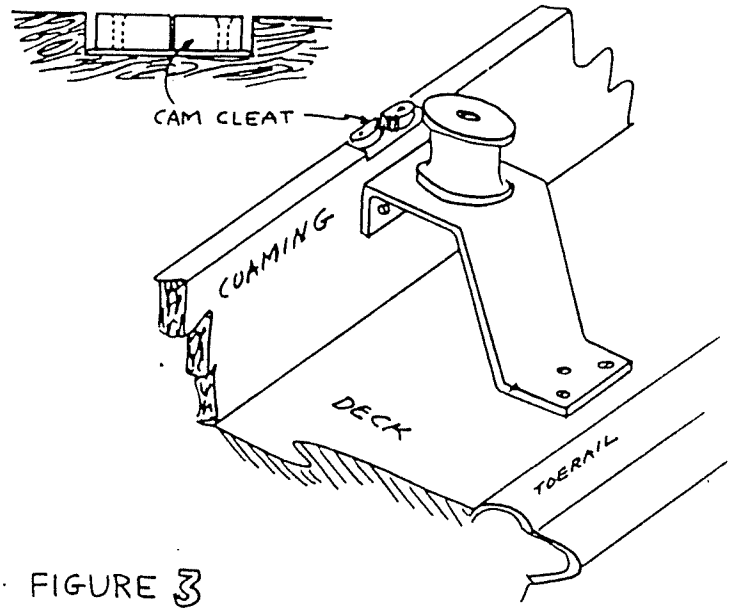
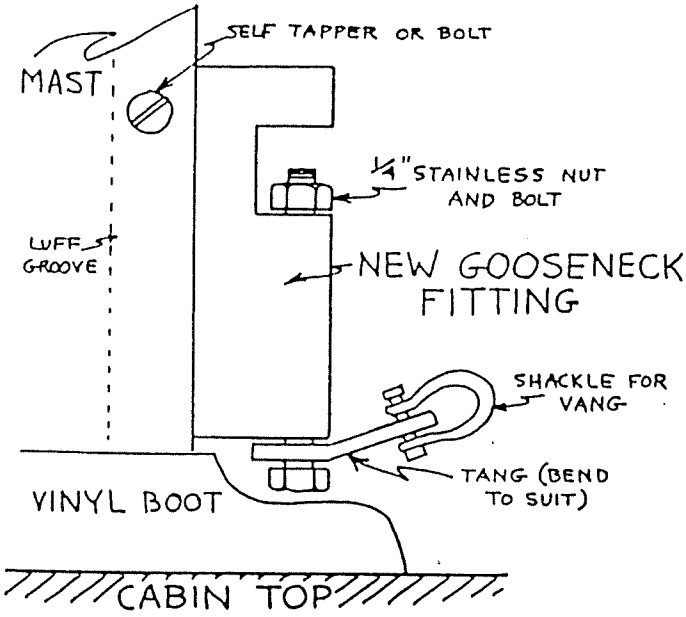


FIGURE 3

VANG VARIATION

4

Few Ensigns have found the ultimate solution to the vang pivot problem; that is, a satisfactory method of attaching the forward or hull end of the vang. The problem is that if you select a location on the centerline of the cabin top, it will necessarily be some distance aft of the pivot point of the gooseneck. The result is that in medium or light air a tight vang will tend to restrict the outward swing of the boom. A location on the mast is somewhat better, but it is either higher, which renders the vang less effective, or the actual pivot point again winds up aft of the gooseneck pivot. I've found that when the boom does not swing out to 90° or more to the apparent wind, downwind speed is reduced.



Here's how I solved the problem: I ordered from the Pearson factory a new gooseneck slide. This is the piece that slides in the luff groove of the mast--you don't need the rest of the assembly. Use a 1/4" stainless bolt, not the one that comes, or used to come, with it, to attach a small stainless tang as shown. Drop this assembly into the luff groove on the mast as far down as it will go and secure it with one or two small stainless self-tappers, and there you are! Your new vang pivot lines up exactly with the gooseneck pivot and the boom will swing freely no matter how light the air or tight the vang.

JIM ROBINSON
No. 231, Fleet 3

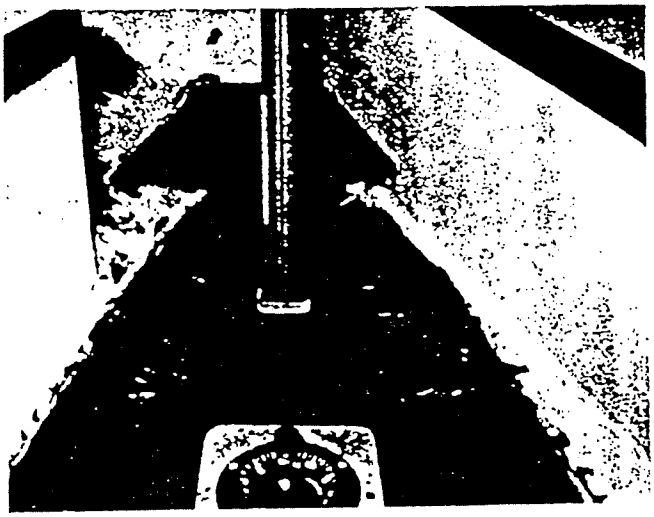
A MASTERLY SOLUTION

Notice any water collecting at the mast step by the base plate? Or the cabin sole sagging near the step? Or cracks in the glass covering the cabin sole? If you have any of these, chances are that you'll soon notice a definite slack in your mast shrouds. Or perhaps you've already pondered why in the past couple of years you seem to have to take up a few more threads on each turnbuckle.

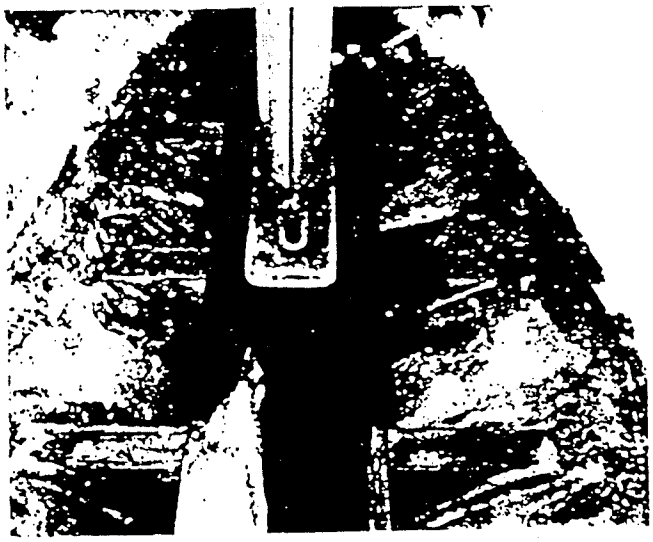
In Ensign Fleet 2 we have had three mast step failures in the past two years. Mine was the first to go. About two years ago we noticed cracks in the fiberglass covering the cabin sole. We repaired, or rather thought we had repaired the problem, by cutting the area out from under the mast step plate. We found that the cabin sole had been installed almost 2" above the mast step supports. We checked the supports for rot, found none, and just built up on top of these original frames, replaced the decking we had cut out, re-fiberglassed the area and went on our merry way. This past Thanksgiving regatta, "Paper Boy" again blew the mast step. This time we were sailing upwind in 15-18 knots, and only the turning blocks of the mast saved my first place and my new mast.

In repairing the first failure we had forgotten to check just how well the frames were fitted to the hull. This time we decided to pull up the cabin sole and get a really good look at the area beneath. We were shocked! Three 3/4" plywood frames, less than 2-1/2" deep, were all that supported the mast step. These frames were still sound (NOT ROTTEN) but very poorly fitted and fastened to the curve of the Ensign's hull. Only about 1" of each frame supported any weight. All were cracked by the weight we put on them in our first attempt to fix the mast step. We rebuilt.

Or rather, we OVERbuilt. Using 2" x 6" mahogany as frames. I put in 5 and suggest that 4 will do the job.



Looking forward from cabin entrance. King Plank and new frames exposed. Frame 1 forward, frame 4 barely visible behind compass.

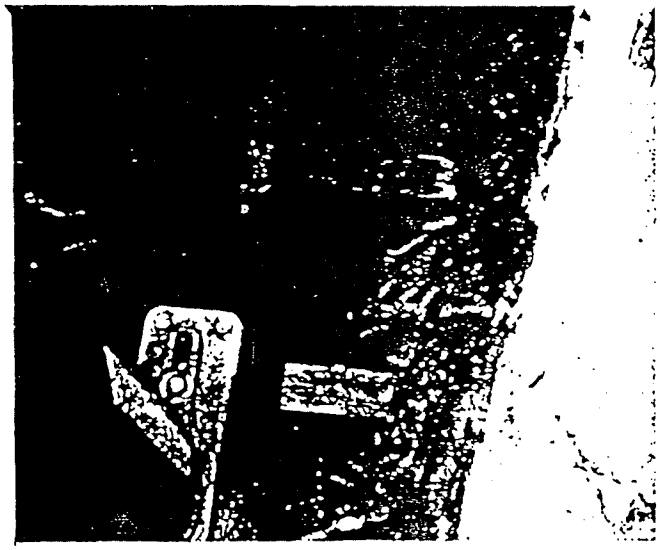


Close-up, same angle, frames 1, 2 and 3. Would consider placing them closer together (maximum 6" apart).

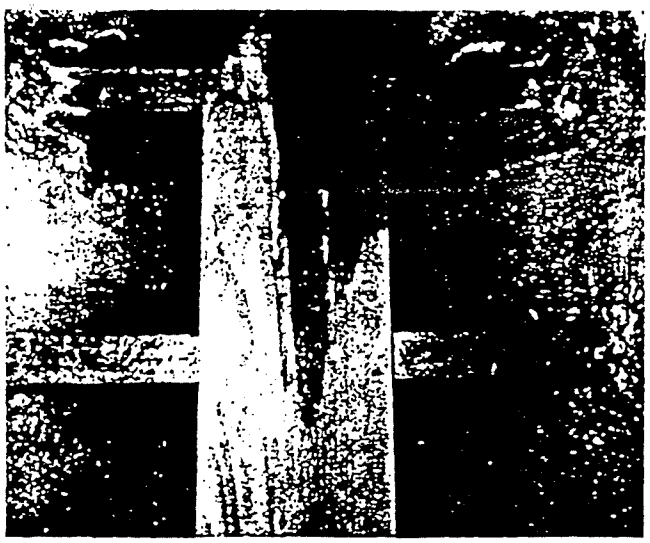
All frames are fully fitted to the hull curve. Each frame is placed so that hull to wood contact is complete. We coated the frames with resin prior to fiberglassing them in place. On top of the frames we placed a 2" x 4" piece of teak to serve as a King Plank. We then notched the mahogany and the teak so that the King Plank would set into the notches in the frames and used 3" No. 10 brass wood screws to hold it all together.

Measurements were taken <u>prior</u> to removing the mast step plate to insure that we put it all back together as close as possible to the original. We felt that the cabin sole was okay at the entrance, and established that measurement by removing the trim from the bunks and dropping a line from the top of the bunks. The height of the sole under the mast was another story!

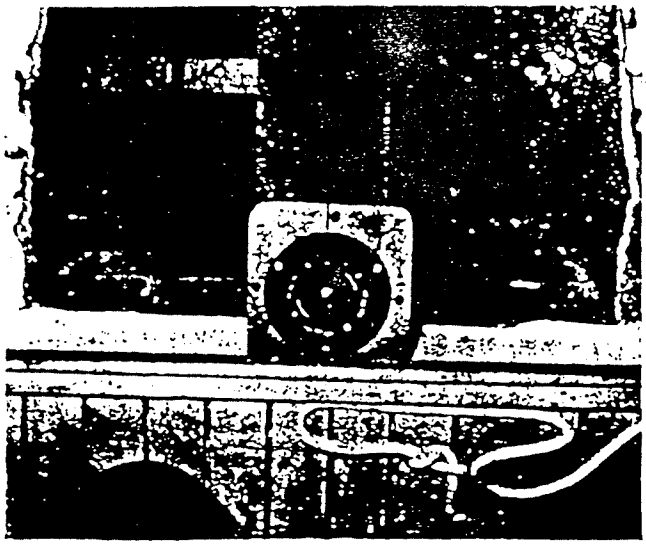
We knew that the cabin sole had lowered at that point and that we could <u>not</u> rely on any measurement taken there.



Downward view, from portside, just forward of mast showing full complete fit of frames to hull shape.



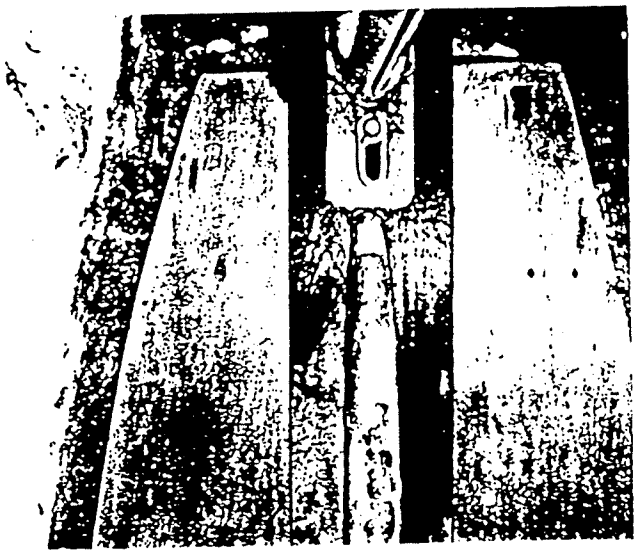
Frames 3 and 4. Would consider omitting 4, at bottom of picture.



Frames 4 and 5. Frame 5, bottom of picture, necessary to support floorboards. Frame 4, top of picture, can be omitted.

So we pirated measurements from several other Ensigns in our fleet: height of cheek blocks above the mast collars; cabin top to cabin sole, to mast plate etc. We finally used the stub of a mast with the cheek blocks and collar in place to establish the measurement for the deck level under the mast step plate. Plans, which we didn't have, call for the mast plate to be 3'0-1/2" below the deck

partner. Ours is less than 1/8" off, which is about the best you can hope for, and our mast plate is exactly 2'2" from the entrance bulkhead to the aft end of the plate.



View showing removable floorboards. "Thing" on King Plank is lead weight in liew of head.

I hope that you never have to go through what we did, but if you do, maybe this will make the job easier for you.

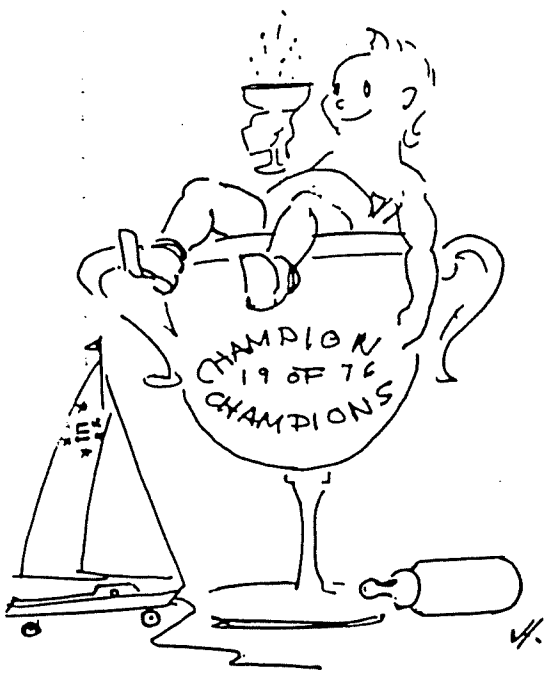
RUT DELGADO
No. 639, Fleet 2

THOMPSON

NOW

SUPERCHAMP

Most of us having read of it in The ENSIGN YEARBOOK, SAIL, SAILING, SOUNDINGS, YACHT RACING, YACHTING, GULF YACHTING, and/or many other publications, perhaps even including the Congressional Record, there is no longer any great news to the fact that Clark Thompson, Jr., our present National Champion, is also the first and current CHAMPION OF CHAMPIONS, the new titled acquired in Pensacola, Florida, March 7-10. Again, and yet again, CONGRATULATIONS!!!



A WELL DESERVED SWITCH

6

The Commodore Comments . . .

Mast Stiffening Kit & "New" Mast

Perhaps the item of greatest concern for the Class is the mast stiffening kit and the new mast. On March 17th Rollin Whyte and I met with the Pearson management. They were most cooperative and wish to see that the problem is solved.

Firstly, they made a commitment to have a mast stiffening kit available by May 1. Their plans were to test the kit in Houston in March. I asked Rutledge Delgado to observe these trials and his comments are included in this newsletter.

In contrast to the simple intermediate shroud that was presented to the Governing Board in December and the Annual Meeting at Mystic, the Pearson engineers, on the basis of calculations made in March, have proposed a much more complicated system.

They have proposed a short intermediate shroud that attaches to the mast 7 feet above the spreaders and is joined to the upper shroud about 2 in. below the spreader. This requires several modifications of your present rig.

1. Drilling a hole in the mast 7 feet above the spreader.
2. Slipping 2 micropress collars onto the upper shroud. This will require cutting off the swegged fitting at the top of the shroud; reswegging after the micropress is applied and "lengthening" the upper shroud with a sleeve; and
3. Deepening the groove at the tip of the spreader so it can accommodate 2 wires.

Dean Snider and Rutledge Delgado were sent the kit. They felt the spreader tip was not strong enough to withstand a deeper groove. In short, they felt the kit was too complicated and burdensome, and therefore, they have not tested the "kit" as yet.

We will remain in contact with Pearson and try to resolve the tip problem. Their goal still remains to have a functional kit available by May 1. Unfortunately, it probably will not be tested on the water as of that date.

As for a new mast, Pearson felt that they wanted more time to select the proper mast extrusion, and therefore, I do not believe they will have the "new" mast available until the Fall.

The Pearson management expressed a very friendly attitude toward the Class. They stated that they will make available one of their sales people during our nationals so that if spare parts are needed, parts will be available. In case you have not used their service, they carry a rather complete inventory of almost every part of the Ensign. They are currently fabricating 30 Ensigns and all are sold. It is Pearson's policy not to manufacture any Ensign on speculation.

As you know, Ensign has opened a Houston plant and may manufacture Ensigns there. If they do, this should lower the price in the Gulf area and perhaps we will see some growth in this area.

Rollin and I had a tour of their plant. If you know of anyone buying a new Ensign, instruct them how to rig it so they can place the spinnaker blocks, lights, etc. before the deck is fastened down. Also if you can suggest any innovations, let the Governing Board know and if the changes appear to be acceptable to the Class we can pass them on to Pearson.

Charles P. Shoemaker

Ensign Cruising

by James Sammons

Many, if not most, Ensign owners reasoned while debating the purchase of their boat: "And besides, we can go for weekend cruises too." But after a few cramped, poorly equipped overnights, the bluewater urge faded.

Ensign cruising need not turn out this way. For example, **Pee Wee Farm** (1482) illustrates what can be done if you have a bad case of small boat cruising-itis. The port bunk has been completely altered to provide a kneeling galley (compensating foam has been packed under the coamings) while a dropleaf on the starboard bunk makes up into a double berth. **Farm** is a familiar sight along the Massachusetts and Rhode Island shores as my wife and I have lived aboard and cruised her before for the past three summers.

As you know, Ensigns are fast. But unless you have cruised with passages in excess of fifteen miles, you are probably not aware of just how fast. We have a standing bet in the month of August: "First to Cuttyhunk, (from Newport) all comers, boat for boat!" Given light August airs so that the greater hull speed of larger boats isn't a factor, and no short chop, we usually win hands down. Last year we sailed from Newport to the Cape Cod Canal averaging six knots. Fifty miles in eight hours! That night we were the smallest boat in the anchorage.

In coming issues of The Ensign this column will be devoted to Ensign cruising. Most of you would be unwilling to make such extensive cabin modifications as I have, so I will be offering suggestions usually involving simple carry-aboard additions which will bring you increased comfort and pleasure. Tips will include: how to triple storage space, how to cook and keep cold things cold, how to carry water and wash up without a fuss, how to fit a dropleaf for a double bunk and more. An I hope that anyone with a story or a suggestion about Ensign cruising will share it with the rest of us by sending it along to me.

271 Hamilton-Allenton Road
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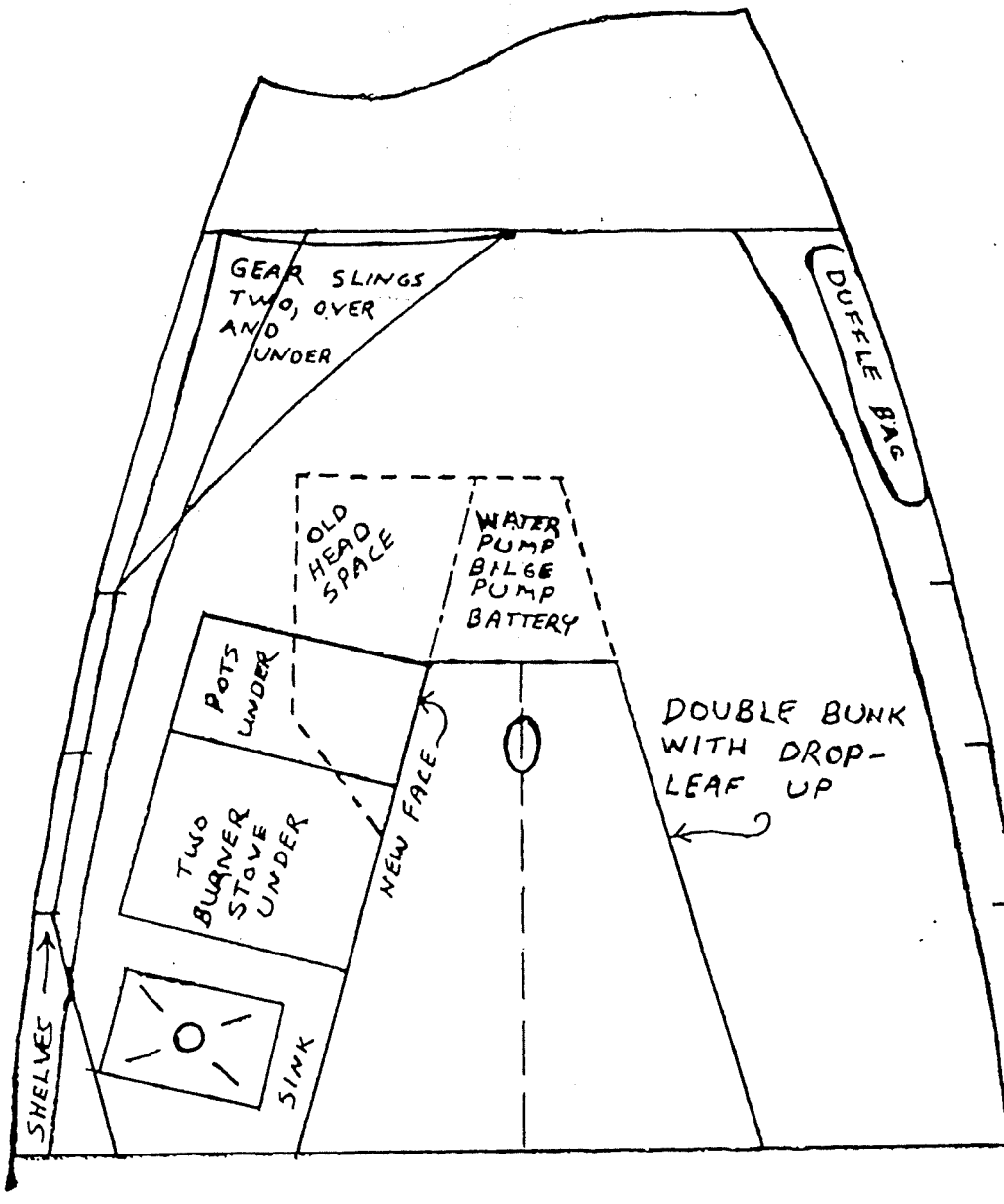


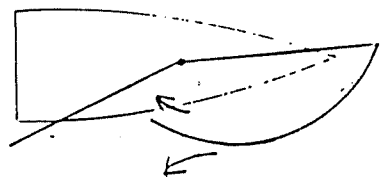
PEE WEE FARM -- 1482

Spinnaker Trim: Making the All-Purpose Spinnaker Work for You

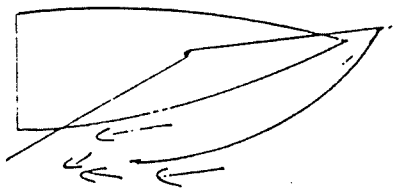
Most of us have one "varsity" spinnaker that we count on to do the job in all conditions. The best spinnaker to have is a flatter one with large, projected area that is capable of reaching very well. This spinnaker can be made to run quite well also. A spinnaker that is full will perform very well on a broad reach or run where this deeper chord depth performs best, but will never be a good reaching spinnaker.

This is why: The best possible spinnaker shape on a beam reach is a flat chord similar to a genoa because a long chord run is desired and a large curve in the chord will cause separation at the aft end of the chord as well as excess heel as air does not flow freely off the aft leech.

DIAGRAM 1



Too Full - flow separation and excess heel.



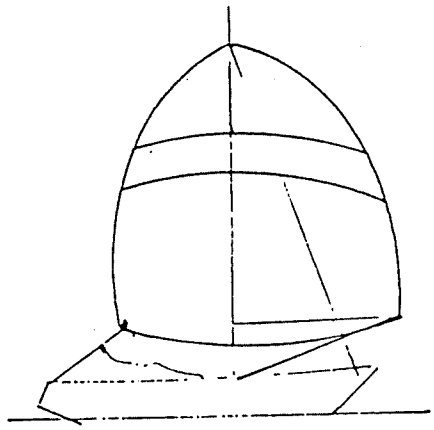
Flat Reaching sail

The flatter spinnaker flows more parallel to the mainsail developing a better slot and it doesn't cut back into the main, putting on the brakes! This more projected spinnaker is capable of reaching higher and faster, with less heel, thus increasing the wind range in which it is effective. It is important that this spinnaker be shaped properly so that it still maintains forgiving shoulders that allow you to save the spinnaker when the shoulder curls. If it collapses too fast then you will have to oversheet too often, and will lose too much when it does collapse. Don't worry if the head folds together in the center slightly on a beam reach, this actually helps flatten the chord depth and opens the aft leech.

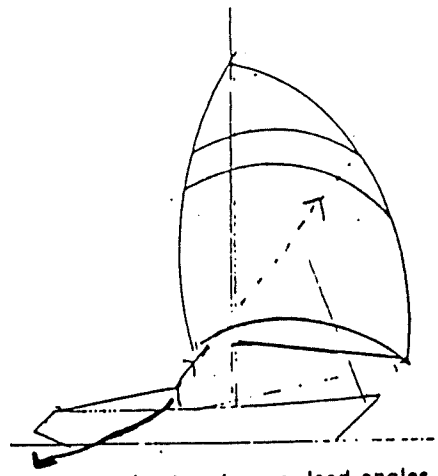
As the wind moves aft, this projected area shape will maintain its superiority until about 120° apparrent. Then there are several adjustments you can make to change the shape for better broad reaching performance.

1. POLE HEIGHT: First lower the pole as the spinnaker loses its tendency to lift. This downward tension on the luff actually has the effect of increasing the chord depth by tightening this edge, bringing it further aft than the middle of the spinnaker. It also firms up the leech which makes the shoulder less wishy-washy and easier to fly.
2. SPINNAKER LEAD: Of course on a beam reach you should have your lead all the way aft in order to stretch the spinnaker flat, but as the pole comes aft, this same lead is no longer appropriate because the clew will move forward on the leeward side.

DIAGRAM 2



Beam Reach - lead all the way aft, tweaker eased.

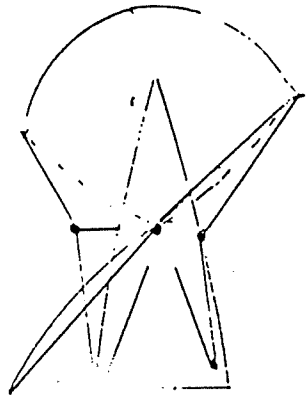


Broad Reach - tweaker on, lead angles up toward shoulder leeward. Leach closes and sail becomes deeper.

This aft lead gives a very horizontal angle to the spinnaker sheet that is appropriate for a high aspect sail. If the lead were moved forward, the angle of the sheet would be more vertical and aimed at the shoulder of the spinnaker where the sail tends to collapse. This forward lead uses a lot less trimming to save the spinnaker while the aft lead merely makes the foot tight around the headstay.

This adjustment of the spinnaker lead can be done with a barber haul system called "tweakers" or "twing lines". These developed in the Soling Class which had three different size spinnakers and recognized that the same aft lead could not be right for both the maxi spinnaker and the little "Reacher".

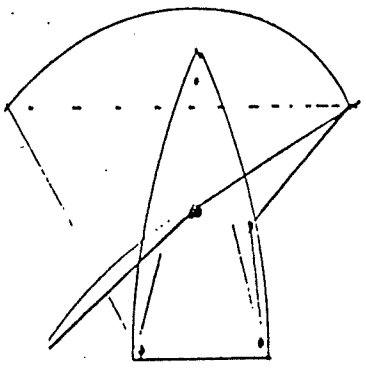
DIAGRAM 3



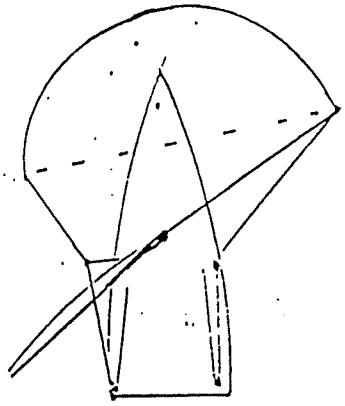
Tweaker on leeward side makes spinnaker deeper windward side holds guy down.

It was like having working jib lead to a #1 genoa. By bending the spinnaker sheet down at the widest part of the boat it could adjust the lead of the sail much the same as sliding the lead forward. Tweakers are merely a piece of line lead out of the hull at the beam rail with a bullet block on its end that the sheet passes through. The inboard end passes through the cam action box for adjustment. People have since found them useful for jibes because they keep the spinnaker from rising and oscillating during the jibe as well as putting the new guy within the reach of the foredeck man, also for take-downs they keep the spinnaker under the blanket of the mainsail and allow safe removal of the pole going into the take-down. But most importantly, they add camber to your

DIAGRAM 4



Tweaker off - leeward clew blows forward and to leeward decreasing chord depth.



Tweaker on - less projected area but deeper chord depth.

flattish spinnaker because they move the clews together for a deeper shape and exert that downward tension on the edges of the sail that makes the middle relatively deeper.

3. POLE FORWARD AND AFT: By easing the pole forward a few inches in lighter broad reaching conditions, you can make the sail fuller though you trade away some exposure and projected area. But this will allow you to ease the sheet a little more and remove some of the fullness of the shoulders. A spinnaker can be overplayed in light, lumpy conditions giving this inch or two forward seems to let the spinnaker steady down as well as achieve a deeper shape.

When preventing the spinnaker from collapsing in light broad reaching air, often times the pole should be eased instead of the sheet tightened, so the spinnaker doesn't get overstrapped too close to the boat, (especially if the genoa is up) In these conditions, an alert three man crew will work the topping lift almost as much as the sheet.

Remember: Always be in a position to appreciate the total shape of the spinnaker, instead of just trimming the shoulder. Think about the total shape of the sail and the changing conditions. When on a beam reach, keep checking to make sure that the leech does not cup into the mainsail.

ARTICLE WRITTEN BY

Ken Cormier, Vice President of Horizon Sails, is from Marblehead, and has an extensive background in both sailing and sailmaking. He has previously been in charge of production at both Dyson and Murphy & Nye Sailmakers. Ken's racing background includes a Soling North American Championship and major victories in 110's, E 22's, 5-0-5's and dinghies. He has recently been involved in successful campaigns on Tempests and Ensigns and on Country Woman, Kindred Spirit, Agnes and other offshore boats.

Doctor's Diggin's: An Oldie but Goodie

Harry Perlberg

The idea of electrifying the Ensign came as the result of several happenings: heads were removed, requiring replacement ballast; knotmeters (most) required a battery; electric bilge pumps have come into vogue; and some avid skippers, still not exhausted by a day of racing, like to toddle around at night and need running lights.

It so happens that the Sears' (perhaps other's as well) snowmobile battery, wet, weighs exactly 20 pounds, satisfying the ballast requirement if the head is removed. There is a small plastic battery case (requiring a ¼" bit of styrofoam as filler) with a plastic strap and screw-down brackets to hold the battery. We percussed the cabin sole just aft of the mast step and cut out a rectangular hole (mind the cross braces, son!) and sank the case in it up to the box's shoulder projection, attached the strap brackets on either side, and there's your fixed ballast, according to the rules!

There is a 5-gang switch panel with a fuse for each switch, available everywhere. We built this into a lucite box which you can design. Quarter-inch lucite forms the back and four walls, ", the front (which has to be cut out to acommodate the panel). Once the size of the pieces is decided upon, just clamp the bits together and run some acetone where the pieces butt, and after 10 minutes it is joined solid—simple. Best to screw on the front piece so you can get at the works if you have to. A small nail with the head cut off, heated, serves as a drill bit, a little smaller than the brass screws to be used.

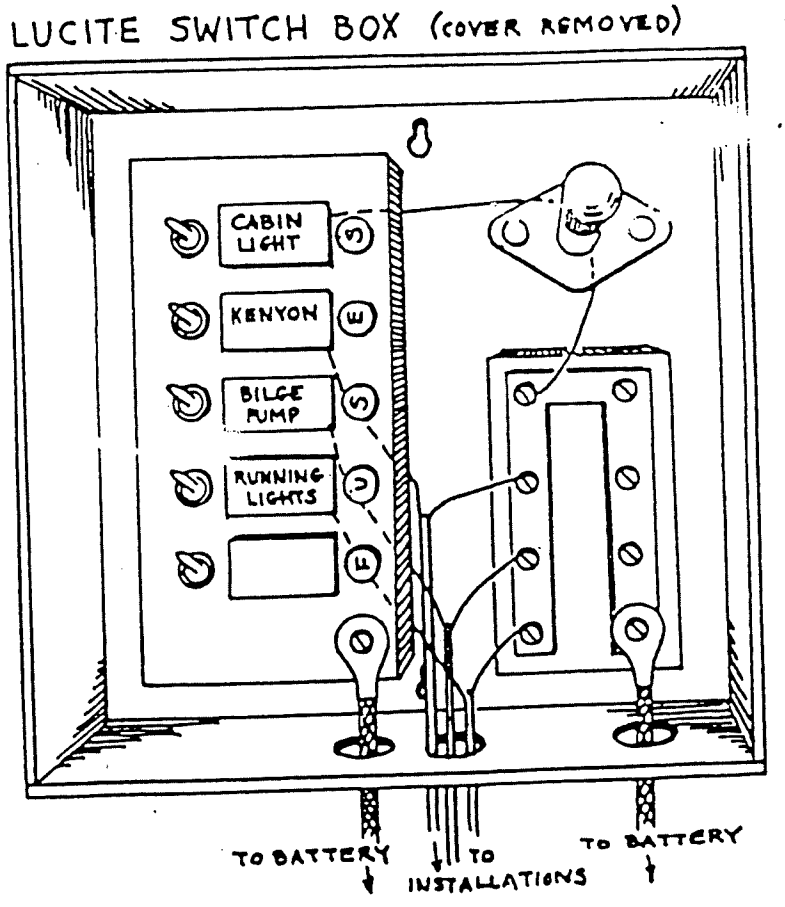
A small terminal block, also generally available, with 8 pairs of screws is acetone-fixed to the inside back of the lucite box. Two large holes are bored in the bottom (narrow) wall to permit the heavy No. 8 wires (with heavy soldered-on terminal lugs) to pass from the battery, one to the terminal block and one to the panel, in the box. A third hole is bored as the exit passage for the small wires leading to pump, lights, etc. We also bored two key-hole slots in the back of the box, one above the other on centerline, the larger part of keyhole downward, to accommodate two round-head screws placed in the starboard inside cabin bulkhead. The box hangs very nicely and is stable and dry.

A long piece of No. 14 wire runs from the box through the cabin bulkhead at a level with the lower outboard edge of the cockpit coaming and runs all the way back to the bulkhead retaining the flotation aft. Here you solder-splice another piece of No. 14 wire about a foot from the end. One pair deadends at a small toggle switch mounted on the bulkhead, the other runs to a toggle mounted under the thwartship fiberglass seat extension through which the rudder post passes. From this second switch, wire runs down into the bilge to connect to your small electric submersible pump (presently Peters and Russell and Rule seem to be producing the best). Connecting the first switch to the stern light is a fishing job with coat hanger, string and a good supply of expletives. Start at a hole bored in the afterdeck just alongside the backstay chainplate projection, push straightened coat-hanger wire along undersurface of deck and laterally and sooner or later you'll make it to the lateral margin of the after bulkhead (you may be lucky and find a space between it and the hull), tie a string to the wire, withdraw it and you have something with which to pull the wire from the first toggle switch to the stern light. The idea of the split wire and two switches is to allow the option of turning on either pump, sternlight or both from only one connection to the control panel.

The port and starboard lights should be mounted low near the deck on the cabin walls immediately forward of where the coaming ends (they'll show under the genoa). These are solder-connected to each other and thence by a common wire to the control panel. Household wire will do here as well as for your knotmeter which will probably be mounted close by.

If you are still with it, you might like to mount a small hooded light (they

(Continued on page 7)



Doctor's Diggin's

(Continued from page 6)

look something like the type you poke in a cigarette lighter only with a base for two small bolts) on the control panel to light up the switch panel at night and to provide a nice cabin light when the hood is lifted off.

The plastic tubing for the pump should be clear plastic so you can see, if and when, where it is stopped up. Half-inch inside diameter should fit the pumps (try it first!) and this will usually be ¾" outside diameter. Start at the lowermost, central part of the transom where the curve makes a slight 'V' and percuss from the edge upwards until it sounds hollow. Take courage and bore a ¾" hole. You might have to widen it to accommodate the plastic tube, but it should admit a broomstick or mop handle. Poke the stick forcibly forward, keeping the point as low as possible, along the inside of the hull and eventually you will come out through a limberhole at the bottom of the bulkhead just aft of the rudder post. Attach a string to the stick, withdraw it to the outside, attach it to the tubing and sweat the tubing through the hull and flotation into the cockpit. Bore another ¾" hole through the aftermost portion of one of the floorboards, angling the hole in a forward direction to limit the kink in the tubing at this point. Continue the tubing to the pump and you're all set. No, not quite! In order to prevent an airlock in the tubing, lead it almost straight up from the pump to undersurface of floorboards and tie it so with a bit of marlin. To keep a running sea from entering the tubing, insert a thin rubber washer about an inch in from the tubing's exit, pop in a plastic ball from a Sunfish self-bailer, and finally, put a large cotter pin through the very end of the tubing to retain the ball. That's it! Good luck!

"Taken from the Fleet 4, Narragansett, R.I. Newsletter."

Some Tips On... Bottom Painting

If you use a vinyl bottom paint, you might want to try this method to put a mirror-like finish on your Ensign.

Start out by sanding the existing finish with either a 180 or 220 grit sandpaper. Once the hull is sanded, wipe it down with laquer thinner. Next, glaze any holes or scratches with a material that is compatible with the paint you'll be using.

Now the real fun begins. Either spray on one coat or brush on two or three coats of paint. Make sure you have enough paint on so when you start sanding you won't lose the antifouling properties of the newly applied. You're now ready for the tough job — wet sanding.

Start with 220 grit wet-and-dry sandpaper and rub until your arms fall off. Some skippers like to wrap the sandpaper around a block of polyurethane foam, but I haven't had much success using the block. By adding some liquid dish detergent to a bucket of warm water, you can keep the paper from clogging. The warm water feels a lot better than cold water once it starts running down your arms and chest too.

Once you have finished doing the bottom with the 220 grit, return to where you started and repeat the process with 360 grit, again using the dishwater to help clean the grit. By this time you've either developed a good case of bursitis or one of the strongest tiller arms in the fleet. You're not done yet, however. You need to go over the bottom once more, this time using either 500 or 600 grit wet-and-dry sandpaper. You can tell when you've got the job completed by checking to see that the water doesn't bead or streak but instead flows off the bottom in sheets. This is known as "wetting out." Once the bottom dries, you should be able to get a good reflection off the hull and it will feel like a piece of fine furniture.

If you are wondering how this effects the antifouling property of the paint, you can use this as a gauge. My boat goes in the water on April 15th and comes out around the first of December. We picked up only a few barnacles but no more than the preceding year when the bottom wasn't wet sanded. We keep "White Lightning" in the Barrington River where there's always a current so that probably helps the bottom stay cleaner than some of the bays and coves where others keep their boats.

If you decide to try this method, let me know how it works. Maybe you know of a few pointers that can help the rest of us along. Happy sanding.

And once you are in the water . . .

Setting Up the Rig

To achieve a fair bend in the mast it is necessary in most boats to move the mast step all the way aft. If there is any play in the partners, where the mast goes through the cabin deck, the mast should be blocked so that it is pushed in the most forward position. Next, tighten the upper shrouds until they are fairly tight. With the backstay released, tighten the forestay until the mast has a fore and aft bend of about 3". The backstay can now be firmed up as much as possible without bending the mast any more than 3". The lowers should be firmed up to hold the middle of the mast in position. This will keep the middle of the mast in line athwartships and stop the mast from sagging to leeward and closing slot.

Now you are ready to go sailing and check the helm balance. Sailing upwind in a moderate breeze there should be a bit of weather helm. If you have leeward helm, ease the forestay and tighten the backstay the same amount. Too much weather helm calls for the reverse process.

Reprinted from North Sails' Ensign Tuning Guide.

Mid-Boom Sheeting

The method of sheeting the mainsail from the middle of the boom has been around for a long time in various classes. The proposal for its acceptance by the Ensign Class has been presented over the past three years by two of our fleets. The reason that it has not been approved is possibly that our members do not completely understand its application and use.

I hope in this article to shed some light on mid-boom sheeting so that you and your crew can enjoy your Ensign more fully. When you get right down to the basics, that's what it's all about. Let's enjoy racing, crewing or pleasure sailing to the maximum.

The Ensigns of Fleet #63 have used mid-boom sheeting for the past three years. Once that it was tried by our skippers, it was readily accepted as a meaningful improvement in the comfort and convenience of handling the boat. Our intention was not to "jazz up" our boats, beat the rule or make them Solings. On the contrary, we are interested in making it more pleasant to sail.

The local conditions of Barnegat Bay and Toms River with its gusty, shifting winds were the precipitating factor in changing over to mid-boom sheeting. In heavy or moderate winds that are constantly oscillating and changing velocity, the mainsheet can be adjusted with ease by anyone from either a hiking or leeward position. The major reason for its acceptance is that it puts the mainsheet in a much more convenient location where it can be trimmed by the crew or helmsman. For the reason of safety alone, the change is worthwhile. Anyone can quickly tend the sheet in wild knockdown conditions.

The mid-boom sheeting disposes of anyone sitting aft of the helmsman. All your attention can be focused forward. The trim of the boat is improved with the crew weight forward. Using the old system, on several occasions, I have caught the trimmers leg painfully between the tiller and seat. On quick tacks I am sure you have done the same if they slip or do not move quickly enough. Now no one has to jump over the tiller while tacking.

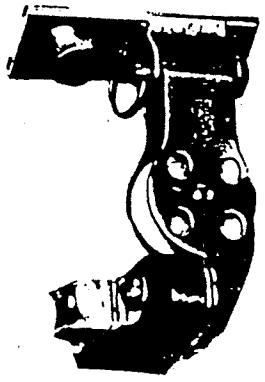
The problem of the mainsheet fouling is practically eliminated with this system. The mainsheet has an awful tendency to get caught between the aft end of the cockpit and the tiller head fitting using the old method. Also, the blocks stand up better with less chafe to woodwork and deck when sailing in slatting conditions.

Your concentration is not wiped out with the mainsheet chaffing across your hands if the trimmer sets forward of you and hikes as often happens using the old method. If you tend the main as helmsman, you do not have to sail cross-handed. Whether on a beat, reach or run, the crew and sheets are now in front of you and in plain view where you can concentrate and moniter all the infinite changes in trim that are necessary to win.

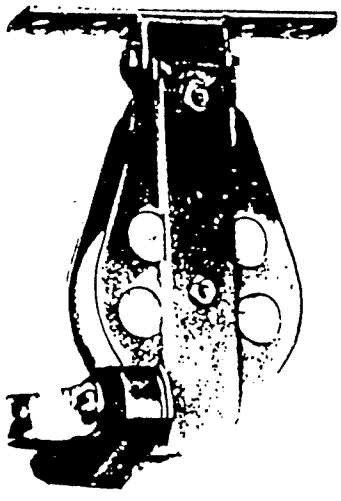
The change over from the original to midboom sheeting is simple and relatively inexpensive. The original blocks can be used with a little rearranging. You probably will not need a new sheet either. If your old main sheet was long enough you should be able to use it. Your traveler adjusting method can be kept the same since this is not affected.

To make the change you will have to purchase a block that will be placed on the boom. There are three types available from Schaefer Marine Hardware. The block can either be fastened directly to the boom or placed on a track secured to the boom.

MID-BOOM BLOCKS



SCHAEFER-7047



SCHAEFER-7049
(With track fitting-SK2471)

There is a smaller one inch block (SCH-7047; cost: about $22.00) and a larger two inch block (SK-2471; cost: about $31.00) that slides on a 7/8" stainless steel track (cost: about $7.50 per foot). A two inch block (SCH-7049; cost: about $31.00) is also available for a fixed location. This block is fastened with four ¼ x 20 x ¾ stainless round head bolts to the boom. The two larger blocks are the same with the exception of the sliding base. The fixed base model #7049 is standard. We had Schaefer make up several with the 7/8" track base (SK-2471) for our local fleet.

Since we were not absolutely certain of the location of the block on the boom, the sliding block on the track helped us to find the best position under use. I personally prefer the block on the track since I can adjust it for varying crews and conditions. Only 18 inches of track are necessary at the most. The ideal location of the block is about 50 inches measured from the after end of the boom. You may wish to vary this according to your reach, seating position or crew that will tend the main. The track method does facilitate refining the location and lead of the sheet under use. Should the helmsman desire to trim the main under certain conditions, it can be adjusted further aft on the boom track.

The blocking system from boom to traveler is set up in the same 3 to 1 ratio. Reverse the blocks that you now use. Attach the fiddle block to the boom and the single block with becket to the traveler car. Lead the main sheet through the blocks forward to the mid-boom block and you are ready to start. If you are now using a fiddle block with a cam cleat attached, this same block can be used in the new system. Either remove the cam cleat portion of the block or face it aft so that it is out of function. It beats buying a new block while you are in the trial stages.

Mid-boom sheeting does not bend the boom, require mid-cockpit travelers, cockpit deck blocks or cleats. It is a clean, safe and inexpensive system.

Talk to your fleet and give it a thorough and fair trial. You will enjoy sailing your Ensign much more.

Drew F. Seibert
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Toms River, NJ 08753
Fleet 63

Installing Thru-the-Deck Spinnaker Sheets

Since Clark Thompson's fine article appeared in the Ensign Yearbook of 1977 there has been a great deal of interest shown in installing spinnaker sheet and guy lines thru the deck. Many of the boats sailing in the 1977 Nationals in Newport also had variations of this "refinement." Those of you who are contemplating this installation may find this description useful.

The modification is really quite simple. Basically, all you need is a drill, a sabre saw, and a blank check. Figure on spending about $90.00 and about three hours time. I've included a list of equipment that you need to complete the job. You may decide to substitute some equipment or to change the installation, however.

You'll notice that most of the equipment I've listed is from Harken. This is because Harken blocks don't turn on pins but rotate instead on a circle of nylon ball bearings. This results in very low friction sheeting; something to be concerned about in light air. The Hexarachet blocks have a tremendous holding power under load — 17.1. Thus, you have excellent holding power on your spinnaker sheet without having to resort to your genoa winches or investing in another set of winches for your spinnaker sheet and guy.

Another advantage of this system is that it keeps your boat from looking cluttered. (Who wants to day sail in a boat with winch pedestals and other bumps and humps tacked to the combing and sticking you in the back or other unmentionable places?)

When actually making the installation, the first thing you'll need to do is mark the turning block template on the aft deck. You may as well leave the external spinnaker turning blocks on — they can be used for light air sheets. If you're careful, you can mount the new thru-the-deck blocks close to the raised section of the deck and still not interfere with your light-air sheeting angles.

Once the template is drawn on the deck, take a ¼" drill and bore a hole in each corner of the section to be cut out. Then take your sabre saw and cut the rectangular-shaped piece.. After running the spinnaker sheet thru the cover of the block as well as the block itself, drop the fitting in the hole. (Make sure you have at least 50' of sheet.) If it fits, take a straightened coat hanger and pull the sheet tail forward from under the deck and combing. Once this is done, drill the mounting holes for the fitting and fasten with the self-tapping sheet metal screws.

The Hexarachet blocks should now be mounted under the combing and against the cabin bulkhead. Install them in the upper-most portion of the bulkhead right where the fiberglass meets the mahogany or teak. Mark the four holes, drill, install the pedestal base with two-inch bolts and you're all set.

Now take the Schaefer cam cleat and mount inside the fiberglass lip that surrounds the cuddy. To correctly position the cleats, pull the sheet from the Hexarachet across the cabin doors to about waist height. By looking toward the Hexarachet, you'll be able to locate where the cleat should be mounted. By reversing the bolts on the cam cleat, the only outward signs of the cleat installation will be the two bolt heads visable when looking forward directly above the seats.

You're fifty percent finished at this point. Repeat the process on the opposite side and you're done.

There are many variations that you might think of when installing your set-up. Some skippers like to mount the cam cleats on the bulkhead. Others prefer to forego the cleats altogether. If you want to install your light-air sheets this way, you could use smaller hardware throughout and eliminate the expensive Hexarachets. Whatever choice you make, I think you'll be happy with this system.

Good luck.

Equipment Needed:

Harken Thru Deck Dingy Block (H046) 2 @ $8.85

Harken Ball and Socket Swivel Base (HO10) 2 @ 2.75.

Harken Swivel Post Block Spring 2 @ .40.

Harken Hexarachet with Post and Shackle Attachment (H009) 2 @ 21.00.

Schaefer Cam Cleat (SH 70-31) 2 @ 6.70.

10 x 1 Stainless Steel Metal Screws 8 @ .19.

10 x 2 Flat Head Stainless Steel Bolts, Washers, and Nuts 8 @ .19.

Credit: Bob Rude
Ensign Fleet 4 Newsletter
Narragansett Bay, R.I.

Bulkhead Inspection; Good Reading

The following two articles have been provided to us by Bob Rude of Narragansett Bay via the Fleet 4 Ensign Newsletter.

Bulkhead Inspection

If you own an older Ensign, there is a possibility that you may have water in the forward floatation compartment. There are several symptoms that may be a tipoff to unwanted water.

The first indication may be a bow-low condition when setting on your mooring. Our boat had all the signs of a water-logged forward compartment so I tapped a ½" hole in the forward bulkhead just above the seat platform. You can imagine the surprise when a geyser appeared immediately after punching through the plywood.

A second indication that you have taken on some water is to look for condensation just below the waterline, near the bow, once you have hauled the boat. On a humid day you will be able to spot beads of water on the outside of the hull.

The first technique we tried to drain the water out was to insert a long siphon hose (clear plastic tubing) into the ½" hole and then drain the accumulated water into the bilge. This was quite effective — most of the water was drained and a small cork was used to plug the hole.

Once we pulled the boat for the winter lay-up, however, we noticed the familiar moisture build-up on the outside of the hull. Finally, we bought a six-inch plastic inspection port and installed it in the forward bulkhead. The large diameter allows you to unscrew it and sponge out any water that might leak in around deck fittings — and it does leak in — after plowing through heavy seas.

An added surprise might be in store for you too. I found some bolts, screws, and washers at the base of the compartment. Others have found paper bags, fiberglass cloth, and other odds and ends.

Don't be afraid to cut away some of the floatation so you'll be able to fit your arm in to the bottom of the compartment. Sponging this area out will help resist rot and will allow you to check any waterproofing you may have decided to do around the steamhead fittings or deck hardware.

Good Reading

Are you one of those people who are hard to buy Christmas gifts for? If so, here is a list of books that will warm your heart and make for good fireside reading. By penciling in some obvious comments in the margins of this Newsletter and leaving it in a conspicuious place, you may find one or more of these gems in your Christmas stocking.

1. **The Best of Sail Trim** (Sail Books, Inc., 38 Commercial Wharf; Boston, Ma.)

   Fifty-four analytical pieces by sailors and sail makers. The articles are broken down into eight categories: On the Main, Genoas & Jibs, The Spinnaker, Wind and Sails, Wherewithal, Changing Sails, The Sail Locker, and Theory. Especially good with a glass of sherry before bedtime.

2. **Sail Power** by Wallace Ross (Alfred A. Knopf, NY, 1975)

   Another book on sails and sail trim. Over 500 pages describing everything you will ever want to know about sails. This book is especially good in the spots where Ross describes what to adjust and when to do it. His "Who Does What" chapter will help you assign duties to your crew members, too. This is manhattan or martini reading. Do your reading first — drink later.

3. **Tactics and Strategy in Yacht Racing** by Joachim Schult (Dodd, Mead & Comp, NY, 1970)

   This is a strategy book broken down into nine sections: The Overall Tactical Plan, The Start, The Windward Leg, Wind Abeam, Before the Wind, Rounding Marks, The Finish, Team Racing Tactics, Tactics and Racing Rules. I call this an after-the-fact book because it's one of those books that you run to as soon as you return from a full day's racing to find out what you should have done in situation "X". Lots of diagrams of "right" and "wrong" choices in various situations. Since you've been drinking beer on the boat, you may as well open another and see if you and Schult agree on your tactical decisions.

4. **The Tactics of Small Boat Racing** by Stuart Walker. (W.W. Norton & Comp., Inc., NY, 1966)

   A "must" book. Well written by one of the more knowledgeable sailors. If you enjoy mixing psychology and yacht racing, you'll love Walker's style. His chapters are short and to the point. Ancedotes are interspersed throughout the book. Here's one:

   > After the race was over I could catch all the boats that had passed me during the race, but unfortunately they didn't give any trophies for getting back to the Yacht Club first.

   Gin and tonic fare.

5. **Advanced Racing Tactics** by Stuart Walker. (W.W. Norton & Com., Inc., 1976)

   Four hundred pages of pleasure. If you ever remember all of the information in this book you'll automatically be awarded first place in a regatta. This is definitely a sippin' book. Jack Daniels, Wild Turkey, or Chivas Regal are good partners for digesting this wealth of knowledge.

Wally Jansen on Sail Trim

(Old Greenwich, Ct.)
Ensign #643, Salty Dog

We all know that the power or drive of Ensign sails is in the Genoa — most skippers learn this early on and continuously tend the jib resulting in a reasonably good job. Less attention is paid to the main by the average crew, resulting in the loss of that extra push that will close (extend?) the 50 to 100 yard gap. Perhaps you might like to go through the following steps and then fly the sail as described as follows:

1. Start with the sailmaker. Unless your sail is new this year, invest in a phone call and the parcel post to return the sail to the original sailmaker. Only he can look at the shape and (a) confirm or (b) modify the contours to the desired shape or (c) issue a "gee, the sail is so blown out —". If the sail is over four years old, don't bother the poor fellow — start talking with the wife about your "psychic needs".
2. Mark everything so that it is clear where lines and sails have been set — especially for the following week when you will be able to go back to the same setting. Using the purchased numbered tape or plain white boat tape and a magic marker, put numbers along the mast and a mark on the Cunningham line so that you can see its tension. Using the newer sails, the boom will have to be pinned so that it won't drop below the lower black band position. The same type of markings should be placed on one or both sides of the boom at the outhaul, the traveler positions must also be marked and I would suggest numbers about four inches apart starting at the center line and going outboard on both sides. Travelers must be adjustable to windward. If you don't have this, or a "Windex" at the top of the mast, you're (1) not serious or (2) you like being in the back of the fleet.
3. Use tapered plastic battens. Have a light flexible batten for the top pocket on light days and use two battens there on windy days. (The thick end goes out — mark with arrows so the crew "can't" mess it up.)
4. Use bright covered (red) yarn for telltales on the sail itself; One 8" long at each batten. The hole for the yarn is made in the double cloth area just below each pocket (which you have marked 1, 2, 3 and 4, of course). The hole is made by using a hot small nail to pierce (and seal) the fabric — thread the yarn through against a knot. A telltale at the numbers 60% back from the mast is also helpful, but most of the time difficult to "read".
5. Pick a light day, four to five knots of wind and adjust your sail while going upwind, this should be done during a practise session when you have lots of time to make adjustments. Setting the mast up is a whole subject in itself — for this discussion, try to be sure it doesn't flop around or fall off to leeward at the top. Mast bend (aft) is good for a tight headstay and bad for a typical mainsail. Essentially, you want enough bend to give you a smooth sail shape without any stress wrinkles at the head, tack, or the clew. I once had a main that needed an absolutely straight mast and another that needed a minimum of 4" of luff round.

   This exercise may take you a full morning or an afternoon to get; adjusting the mast, then tightening and loosening the outhaul and the Cunningham — but get it right. After the mast position has been determined, using the above criteria, use toggles and set the backstay turnbuckle at its most extended position. This is the leach closed, light day, position. All other positions for the turnbuckle (tighter) are for heavier weather. Now mark the established position that you have for the outhaul and the Cunningham with an "L". These are now your established positions for light weather. Next, pull the outhaul all the way out and mark the position "H" for heavy. The same for the Cunningham, pull it down tight — estimate a 30 lb. pressure — don't put your foot into it. The backstay doesn't need to be marked — just remember to adjust it tighter for the heavy and loose for the light.
6. Next mark a point half-way between each of the "H" and "L" marks and letter it "M" for medium (wind velocity). You now have an "L" for light wind velocity 0 to 5mph, "M" for medium 5 to 10 mph (white caps begin) and "H" for 10 to 15 mph. Above 15mph, take the sail off and use your five year old "cruising" sail — it won't make a lot of difference except to your newer sail which will be fresh and rested for next week's race.

Adjusting the Sail Shape

The above procedure tends to eliminate the infinite number of variables in the placement of the sail on the rigging. Once you and your crew know you have a reasonable setting, you can settle down to sailing the race and adjusting the sail contour for the conditions that will allow the boat to effectively use the drive developed. This is done by adjusting the boom position and using the mainsheet and the Traveler to get the telltales to "fly" (no wiggles).

You will probably see a variety of boom positions in your fleet. If you have to copy someone, get behind one of the top sailors who uses the identical (make and model) sail you do and copy his style. If he isn't readily available, you might wish to try our system.

Wind	L (light)	M (medium)	H (heavy)
Boom Position	3" leeward	On Center Line	3" leeward
Traveler Position	12" leeward	8" windward	On Center Line

Reviewing the above, you can see that you get quite a bit of twist in the sail in light conditions and the traveler is set in a constant position during the heavy stuff so you won't have to mess with it.

Again, during your practise session, start using the above recommended settings and when going upwind, stand behind the backstay looking forward and up the leach of the sail. By holding the boom in your hand, you can adjust its height and inward or outward travel by hand. By watching the telltales and getting them to stand out straight, you can achieve a rather optimum position of the sail for that particular wind condition and heading. I recognize that this is a tough assignment, but work on it with your crew member assigned to the mainsail and you should be able to find the optium position and — Eureka! that's it!!

Remember that at all times your main is the balance of the boat. Any continuing adjustments while on the wind drastically affect the feel of the helm, as well as the angle of heel. (You, of course, know to sail the boat at 10° of heel, by the way —)

Now that the sail is properly set on the boat and trimmed, you must also try to visualize that the mainsail acts just like a big airplane rudder. If the boom is set off to leeward, it causes the boat to be "aimed" to leeward and vice versa. This drastically affects the boat's ability to point. In puffy weather, ease the sheet and let the wind pressure off the top of the sail and control the heel. When dipping the stern of a passing boat, always ease the main and let the Genoa assist the rudder to swing the bow to leeward.

When sailing off the wind, the outhaul and the Cunningham are eased and the Vang (except in very light conditions) set tight. Play the mainsheet in and out to "fly" the telltales while the helmsman keeps the boat on course. Hold the boom by hand when passing through sloppy wave conditions.

In years past, our fleet always had many

(Continued on page 6)

discussions over the number of crew to carry. This went on with me until I heard Bruce Kirby talk about the Quarter-Ton worlds. I had, at that time, the opportunity to ask him how many total crew these 2500 lbs. to 3500 lbs. boats carried and the answer was (4) four. "Why?" I asked and he said that the moveable ballast was good and the fourth pair of hands very helpful when you needed them.

So you might like to try our fourth person approach which, I don't believe, will be affected in any way by the ruling that allows mid-boom sheeting. This person's job is:

1. Tend the mainsheet.
2. Adjust the Traveler.
3. Watch the telltales on the main and the masthead fly.
4. Hold the boom out when sailing downwind.
5. Watch competitive situation, and
6. Watch out for port tackers (starboard also).

Use the slab reefing ? — not in my book, as I've never seen a race won by anyone using it. Honk in on the backstay and "rag" the main until it flops if you have to for control of heel and drive on with the jib — keep the boat upright.

I once bought a new sail from a well-known sailmaker. When I had picked up the sail, I asked him how to set it. His advice was "just get next to the hottest boat in your fleet (we've had three national champions) and adjust the sail until you are going faster — and leave it that way".

With this in mind, it is my hope that this article will be of some value. And lastly, fellow sailors — remember, that all the sail trim and all the go-fasts won't do any good unless you point the boat in the right direction.

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Committee to Solve the "Noodle" Mast Problem

Introductory Comments of the Mast Committee Chairman, Paul D. Risher.

Andy Acton, Joe Cotter, Sid Speed, and I form this committee. The complementary skills and overall effectiveness of this committee are so striking that I am compelled to comment on them. Joe Cotter is a professional naval architect and a graduate of the New York State Maritime Academy. He has spent hours and hours on this project and co-opted numerous additional hours from his colleagues to study every nuance of this problem, analyzing many aspects by computer. Andy Acton has translated the theoretical to the practical, portrayed the work graphically, and did the initial computations showing the problems in an engineering perspective. Sid Speed has been the hardware and metallurgical expert, often helping us know and better understand the materials we were dealing with. I have tried to keep us roughly on schedule. Net, net, net I think we understand the problem better than it has been understood before, and the competence of this team has been the enabling factor.

The report that follows has the triple purpose of explaining the problem in terms slightly oversimplified, describing the proposed solutions, and making you aware of the project status.

REPORT

What is a "noodle" mast? — a mast that bends excessively in the athwartship direction, not one that bends in the fore and aft direction nor necessarily one that breaks. The mast is supposed to bend in the fore and aft direction, and there is no hard evidence that the noodle problem is often related to the incidental breaking that sometimes occurs in hard racing - the break usually relating to shroud or spreader fitting failure.

What causes the mast to bend? — essentially the bend is caused by compression loading from the fore stay, back stay, shrouds, and halyard tension. In other words, the mast buckles slightly.

What properties of the mast resist the bending? — moment of inertia of the cross section (which will be explained), the modulus of elasticity of the material (which will also be explained), and the length of the section under compression make the critical differences.

- The moment of inertia is a function of the cross sectional shape. An example is an I beam, whose flanges provide stiffness.
- The modulus of elasticity is a fixed property of the material. For aluminum in all heat treat and strength categories, the value is 10×10^6 psi. For steel, the value is 30×10^6 psi. Thus steel is 3 times as stiff as aluminum.

There's more than one design formula that can be used to design masts, but for purposes of this review, we will use a common, somewhat empirical formula that incorporates the above criteria as follows:

$$\text{Required I} = \frac{CPL^2}{10^6}$$

Where

C = Constant relating to number of spreaders, mast step, upper or lower section, and the mast material.

P = Compression load on the mast at 30 degrees heel, which can be computed several ways, but in our case we have used a computer program and the design parameters for the hull

L = Length of mast between supports

O.K. What happens when we plug values for the Ensign mast into the above formula? P from Joe Cotter's computer analysis is 3200* pounds. L for the lower section is 144". C for the lower section is 0.94. L for the upper section is 154". C for the upper section is 1.52. Therefore, Required I in the lower section is 0.62, and Required I in the upper section is 1.15. The moment of inertia (I) for the Ensign mast, which is essentially a 2.5" x 4" oval with a 0.100" wall, is 0.8 in the athwartships direction, which is all that concerns us here. Voila, the mast is satisfactory in the lower section but below the required I in the upper section. Thus, we have a noodle mast under heavy loads.

(Continued on page 2)

*Approximate value for purposes of this review. Joe's continuing work sharpens these numbers.

Status Report . . .

(Continued from page 1)

How do we solve the problem? First of all, the solution should meet certain criteria to the extent possible. The solution should be simple, inexpensive, and have little effect on our one design integrity. And we think there are solutions that meet these criteria. At the time of the Annual Meeting, we had 4 possible solutions to be used in a summer testing program. But before beginning the testing, we rejected all but one solution because it offered the highest success probability. But for edification purposes, the solutions in mind at the time of and presented to the Annual Meeting were as follows along with the reasons for rejection.

1. Use a halyard lock on the main. Admittedly, this may only have a small beneficial effect, but perhaps worth a try. Rejected, why waste time on a solution that may not work?
2. Use a halyard hook on the genoa as well as the main. This would require a jib cunningham in order to change the luff tension. Rejected for the same reasons as 1.
3. Move the spreaders up 2 feet. This makes the Required I in the lower section 0.85, and the Required I in the upper section 0.82. Our available I in the present mast is 0.80, perhaps close enough to work. This solution requires using new lower shrouds and would leave a potential weak spot in the mast at the old spreader location, thus this solution was rejected.
4. Install an intermediate stay running from the spreader tips to a tang at the mid-point of the upper section. Calculations show this increasing stiffness by at least 30 percent. Hardware necessary for such an intermediate to be determined by the Mast Committee. And this solution was chosen for testing.

By the way, just simply increasing the wall thickness of the extrusion, which has often been suggested, has sufficient problems to make it intolerable; it adds only a small increase to the moment of inertia, destroys the one design integrity of the class because the change cannot be seen, adds more than 2 pounds of weight aloft, and is apt to be expensive for several reasons.

At the Annual Meeting, the Governing Committee gave approval for 5 boats to be used in a summer testing program, the boats chosen to be coordinated by the Mast Committee. These boats would be exempt from class rules preventing rig modifications for the 1980 season, but the only modifications permitted would be those specified by the Mast Committee.

The five boat owners who have agreed to participate in the program of installing an intermediate stay are: Charles Shoemaker, No. 1082, Flt. 5; Bob Sligh, No. 1272, Flt. 50; Nancy Gibson, No. 660, Flt. 34; Joe Cotter, No. 795, Flt. 1; Dean Snider, No. 517, Flt. 58. At the time of this writing, hardware has been specified, and installation instructions have been provided to the five boat owners. By the time of the next issue of the Ensign, results will be in and hopefully the noodle mast problems will be known henceforth as having been corrected by the erect stiffened beam solution.

Respectfully submitted,
Mast Committee
Andy Acton, Joe Cotter
Paul Risher, Sid Speed

Cruising in the Ensign

by Eleanor Harris

We have had our Ensign for 13 years, and have raced it hard every summer. But we are now beginning to feel like we have a "double-duty" sailboat, because in the last 3 years we have done more and more cruising on it. "Cruise in an Ensign? Impossible!" you might say. But we have proved that with some moderate expense and a little ingenuity, two adults (or four teen-aers, my 15 year old son claims) can comfortably spend several days on our 22½ foot boat.

Spending the night on the Ensign has become truly luxurious since our clever sailmaker designed and built us a sectional cockpit tent. Once we have moored the boat and assembled the tent, we have standing headroom in the cockpit and are protected from wind, rain, bugs, etc. The roof of the tent is rectangular, held in place on the boom by three battens, and tied to the shrouds. Since the side sections zip on individually and have small vinyl windows, we can have as much or as little light and air as we want. On hot, sunny days when we are anchored or motoring, the top can be used alone as a sunshade.

Other cruising aids we have devised by trial and error. We have a little two-burner Coleman camp stove that uses a propane gas cylinder. It is quick to set up, easy to clean, and stores neatly. We keep meals on board pretty simple, but it does nicely for bacon and eggs, soup, coffee, and heating up canned food. We quickly learned that you can't have too much fresh water, and our two collapsible 5-gallon water jugs from Sears can be stowed in a small space when empty. Our advice for a trip of several days is: take the absolute minimum of food that has to be kept cold, and buy food in small, serving-size containers to avoid left-overs. Sleeping bags are great because it gets cold out on the water at night, even in the summer, and they can be quickly rolled up in the morning.

Good planning is important for a trip that is longer than just overnight. On a long cruise we are dependent on shore-side facilities, which means we must be able to reach our destination and a good motor is essential. We have discovered that a little advance scouting by car really pays off. We can locate restaurants, motels, and shops within walking distance of docking facilities. For a trip broken up into segments, it is good to be able to walk to a train station, or to know a place to pre-position a car.

So good luck and good cruising! Perhaps we'll see you in one of the harbors of Long Island Sound, or up one of the rivers!

A Hudson River Cruise

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Last August we fulfilled a long-standing dream. We went from our home port of Greenwich, Ct. up the Hudson River to Catskill, N.Y. in our Ensign. It was a round trip of about 240 miles, and took 8½ days, with two days off in the middle. We planned it carefully. We had timed it so that the tides were just right for sailing through Hell Gate into New York Harbor. We had excellent charts of the Hudson River, (obtainable from New York State) and we made reservations in advance at the marinas where we stopped.

The first day we left Greenwich Cove at noon, reached Hell Gate by 4:30, and were anchored by 7 P.M. in New York Harbor in a safe and peaceful mooring on the New Jersey side of Ellis Island. The National Park Service rangers would not let us go ashore on the island. Nevertheless we spent a memorable evening with the panorama of lower Manhattan spread out before us. The skycrapers, boats, bridges, and airplanes filled land, sea and sky in an incredible complexity of light and movement.

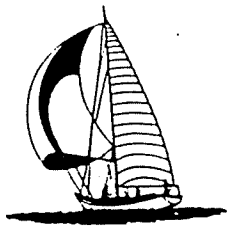
The wind was behind us the next morning as we headed up the river, and we were in Yonkers in time for lunch at a dockside restaurant. Then the wind changed, and it was a splashy windward sail across the Tappan Zee to the Shattemuc Yacht Club in Ossining, New York, a very hospitable spot where we left our boat the second night.

The third day was the most beautiful, sailing through the "Hudson Highlands" where the mountains come straight down to the water's edge, and the river is deep right up to the shore. West Point and Stony Point Battlefield are on the west shore, the lovely river towns of Garrison and Cold Spring on the east, and there is lots to see. Railroad tracks run down both sides of the river, and we could wave to the locomotive engineers and track workers as we glided by. We reached the Norrie Yacht Basin in the Norrie State Park, just above Hyde Park, just about dark.

The last day's trip to Catskill required the most navigation. The river is shallow in places up there and it was often necessary to stay in the shipping channel. We stopped for lunch in Kingston and arrived at the Catskill Marina by 6, within walking distance of a motel and excellent restaurants. Again we were impressed by the convenience of the facilities and the friendliness of the people.

After 2 days off we started home. The last day was a real marathon sail from Ossining, around the Battery, through Hell Gate and all the way home—about 60 miles, we estimated. However as we entered Long Island Sound a fresh breeze sprang up, so we launched our spinnaker and had a fast sail home—a fabulous finish to an unforgettable trip!

by Eleanor Harris



EDITOR'S NOTE: We are grateful to Ellie Harris for the two-part article about hers and Don's boat #94 Dulcinea. Part I tells how it is rigged (We will try to get a picture for a futur edition). Part II tells of a successfu Hudson river cruise.

REPLACING YOUR ENSIGN RUDDER by Bob Rude / Fleet 4-Narragansett Bay

Can you imagine the surprise of hauling your Ensign in the fall only to find that two-thirds of your rudder is missing? That's exactly what happened to me when #162 - White Lightning was hauled last fall. I had noticed that the boat had an unusually light helm on my last fall sail but I attributed that to the zephyr-like breeze. Thank goodness we weren't sailing in a gale.

Mike Ford, Customer Service Representative from Pearson was most helpful in the rudder replacement operation. Living only a few miles from the plant also has its advantages. A call to Mike resulted in some good instructions in how to remove the old rudder and shaft. Actually, it's quite easy once you know how to go about it. Here's what I would recommend.

First, remove the tiller and the mount from the shaft cap. This only entails the removal of one bolt. Next, remove the cap from the rudder shaft. There is a notched keyway in the shaft so you have to carefully pry the cap straight up. Taking a large screwdriver and prying open the flange on the cap may help. As long as you're at it you may as well take the flange that is placed around the shaft off too. You can take all of this hardware to a metal plater and have the whole works rechromed for about $25.00.

Now you are ready to start working below the boat. Take a metal chisel and chip away the epoxy that encases the rudder shaft shoe. The epoxy should chip away quite easily and before long, the entire bronze shoe will be visable. There are four bronze rods that hold the shoe in place (see Figure 1). The four rods are located on the top and forward sections of the shoe. Three are on top and one forward. Take a metal chisel and hammer and cut the hammered-over heads off each rod. Then take a flat-headed punch and drive each rod through the hull. Once the four rods have been removed you can tap the shoe off the hull. You will need to follow a similiar procedure with the strap that holds the upper rudder shaft in position. There are two bronze rods holding the strap in place. Cut the heads off each and drive them through the hull. The rudder shaft is now ready to be dropped down through the hull. My shaft needed a lot of twisting before it finally came out. To make sure I was making progress, I scribed a line on the shaft to have a reference point. I also shot some teflon lubricant down the shaft to ease the operation. It should be pointed out that unless your cradle is high enough off the ground, you may need to dig a small hole so there is ample room for the shaft to drop.

Drilling of holes for the long bronze bolts used to hold the rudder together is critical. If you only need a new rudder, make sure you drill those holes straight or you'll end up with a rudder off-center.

By now you're probably wondering what this whole works costs. You may find that you need just a new rudder blade (approx. $95.00 from Pearson) or the whole thing including shaft and blade ($226.00). Add to these the strap ($9.00), pin ($6.00) and some bronze rod for pinning ($6.00).

When you get your new rudder, you may want to shape it. As it comes from the factory, it's primed but not faired. According to Ensign Class Association Rules, some fairing is permitted. I used a belt sander and finished the job with a finishing sander. Be sure to read the rules regarding the amount of fairing permitted.

The replacement job is quite easy. Just put all the pieces back together in reverse order from taking them apart. One thing you will need to remember is to hammer over the heads of the bronze and copper rods that hold the shoe and strap in place. Make sure they are flattened out enough so they won't protrude higher than the fairing epoxy. You'll want to epoxy the shoe in place and fair it into the hull. Now prime the rudder with a thinned out bottom paint and you're all set to go back into the water. Smooth sailing.

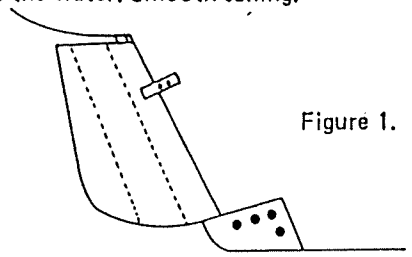


Figure 1.

18

ENSIGN BOAT & SAIL TUNING INSTRUCTIONS

18.5

In order to get your boat to perform to its maximum in a regatta, it is necessary to find the best way to trim the sails in a wide range of wind conditions. Along with this sail trim is the need to have the rig set for its maximum in these same wind conditions. If you can get both the rig and sails to work in sync, 90% of your problems are taken care of. We at Shore sails feel that there are three adjustments which will take care of these problems. These adjustments are: jib sheet tension, main sheet tension, and backstay adjustment.

If you read this carefully and understand what we are trying to say, a minimum amount of time will be spent trying to figure if something is wrong with your sails and a maximum time can be spent sailing the boat.

Jib Trim:

In most winds, jib sheet tension should allow the sail to just touch the spreader most of the time. In lighter air, the jib should be almost six inches off the spreader to allow a freer flow over the sail, preventing the stall. In heavy air and flat water, the jib should just touch the spreader. As chop builds, the tension should be eased to a maximum of five inches from the spreader. This will compensate for the backwinding problem typical of Ensign mains and allow the flow of air to accelerate through the slot. In this heavy wind and chop combination, pointing should not be affected. If it is, you have eased off too much. The bottom of the jib should vary from four inches off the turnbuckles in moderate air to six to eight inches ...see page 4...

...from page 3... backwind from the jib as the slot is open at its greatest depth. Shore genoas are specially cut with this in mind, carrying the draft evenly all the way to the bottom of the sail, as compared to others which cup in at the bottom and touch the turnbuckles.

Main trim:

The mains should almost always set with the top batten parallel to the boom. This is easily checked by sighting up the sail from beneath the boom. In light air and in heavy air with chop, the leech must be more open. This will allow the flow of air to leave the sail smoothly, instead of stalling in a cupped leech.

The traveler should remain in the middle of the boat most of the time. In lighter wind, the traveler should be set to windward enough that the boom is in the centerline but there is little sheet tension, allowing the leech to adequately twist off. Besides preventing the sail from stalling, this will aid in opening the slot, a necessity in light air. In heavy air, the traveller should go no more than five inches to leeward, allowing it to hit the breeze at the same angle as the jib but ...continued on page 5...

not going so far as to create bad backwinding.

Backstay adjustment:

The backstay should be carefully tuned according to wind strength and wave conditions. In flat water, a small amount of backstay (two inches, mast bend) will sufficiently flatten the sail so as to reduce backwinding, but not so much that it completely depowers the sail. This should also aid in pointing ability. In chop, the backstay should be completely off to allow power enough in the main to punch through the water. You shouldn't need to tighten it until the boat begins to feel overpowererd. Gradually tighten the backstay until you feel under control, but do not exceed six inches mast bend. This will not only flatten the main, but it will tighten the forestay, which will aid in flattening the jib.

If you have decided not to put in an adjustable backstay, then you should be able to get some kind of average from these figures. If it looks light, set the backstay with just enough tension to keep it from whipping. This should cover most breezes up to twelve knots. At this point, you probably would want about two to four inches of bend up to twenty knots, and six inches in anything over that.

These general guidelines should help you in almost all conditions in your Ensign. However, if you feel the boat is not right, another problem may be the mast ... *see page 6* ...

... from page 5 ... tune. Make sure the mast is absolutely vertical. If there is any weather or lee helm, move the step of the mast back or forward to accommodate. To make sure the mast is not cocked to either side, bring the main halyard down to the rail, and make sure it touches in the same place on either side. Make sure each shroud is as tight as its corresponding shroud. The forward lowers should be fairly tight, to create an even curve going up the mast. The after lowers should be a little looser to allow the middle of the mast to bow forward when backstay tension is put on.

Here is a general guide for sail trim for maximum performance.

Wind Velocity					
0/3	4/7	8/12	13/18	19/25	25+
Jib Sheet Tension					
6"/8"	2"	½"	½"	4"	5"
(jib from spreader)					
6"/8"	5"	4"	4"	5"	6"/8"
(jib from turnbuckle)					

The luff of both jib and main (through halyard on jib, cunningham on main) should always be so that the cloth is almost smooth.

Main Sheet Tension
Upper batten paralle to boom except in very heavy or light conditions. View from below boom.

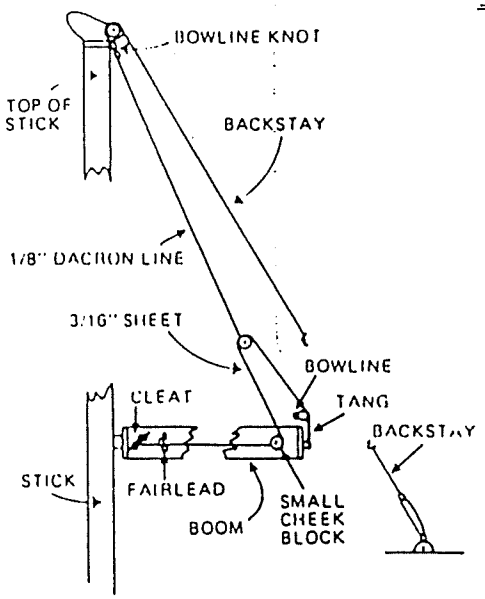
Backstay					
0"	0"	2"	4"	6"	6"
		(mast bend)			

A CURE FOR "BOOM-ITIS"

(This is an article about an inexpensive way to add to the comfort and safety of an Ensign that may save you at least a few moments of exasperation, and at times, may afford a real sense of relief.)

by Bob Lindsay

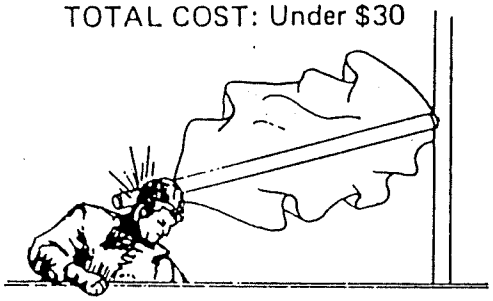
The operation of attaching the tang at the aft end of the boom to the pigtail that is standard equipment on the backstay of your Ensign takes on a degree of difficulty proportional to the speed of the wind. When you must reef downwind the difficulty may grow exponentially... and the cure is as simple as the drawing shown below.



MATERIALS NEEDED:

- 25 feet of 1/8" Dacron line
- 1 each: small cleat, fair lead
- 2 small blocks
- 3/16" sheet, the length of the boom plus 5 feet

TOTAL COST: Under $30



If you can accomplish the bowline at the top of the mast (preferably before you launch in the spring) and another bowline at the small cheek block (B) you can cure boom-itis on your boat once and for all. The raising of the boom, whether for reefing during heavy weather, for stowing at the end of the day, or for partying in the cockpit, is all done in the cockpit, just in front of the cuddy.

There were several topping lifts with just this configuration that we noticed at the 1982 National Regatta.

Write and tell us how it works on your Ensign.

TIPS ON PREPARING FOR TRAILER TRAVEL

What are some of the important factors you should consider in choosing a trailer? Tandem vs. single axle, electric vs hydraulic brakes, construction, capacity and wheel size are important considerations.

A tandem-axle trailer offers a degree more stability on the road and is less sensitive to the positioning of the boat. A single-axle trailer with the boat properly located in respect to the position of the boat's center of weight to the trailer axle will generally be less expensive and should trail as well. Most of our Ensign owners have opted for single-axle trailers.

Brakes are commonly available either in electric or hydraulic surge. The surge brakes are entirely contained within the trailer and operate with any car. Surge brakes are thus more convenient. Electric brakes require a brake control in the car. The main advantage of

... continued on page 3

... continued from page 2

electric brakes is that in addition to operating in conjunction with the car brakes they allow the operator to put on the trailer brakes alone by the use of the hand lever. This allows the car to continue as the trailer is slowed providing a decided safety advantage in helping damp out trailer sway.

Trailers track better if they have large wheels (14"-15") and as wide a track (8') as practical. A low center of weight for the load, a strong frame and good tongue weight are important.

Drop axles and a drop frame help keep the weight low. At least 80% of the boat weight should be on the keel support.

Location of the axle determines tongue weight and contributes significantly to sway. (If your axle is bolted rather than welded on, be sure it is always tight.)

One more important point, your trailer's tracking will reflect the condition of the towing vehicle. A weak rear end will almost assure you of trailer sway. Also be sure your hitch is proper (Class III) and securely fastened.

One should blow out all leaves and debris from the car radiator... radiator cleaning is strongly recommended as it improves cooling 10-20%.

You cannot spot a flat tire by eye on a tandem wheel trailer, as the other tire carries the load. You must kick and check the pressure at each gas stop....I have no idea what happens when a single-axle trailer gets a flat.

Take a straight ladder and attach to trailer for easy

... continued on page 6

NOTES ON ENSIGN TRAILER

Main Frame - I began by precutting the cross pieces with a Milwaukee Portaband saw and then laying the six pieces of 4" channel out on a flat floor. After squaring everything up I tack welded the main frame together. Incidently, I mitered the back corners. Then I finish welded the cross pieces. Next, I cut wedge shaped pieces out of the flanges on the side pieces so they could be bent. The lenght and angle in front will take some trimming and fitting to assure a proper fit to the hitch. After the fitting is done, the pieces can be welded together in front. NOTE: the hitch height is 19" which is perfect for a step bumper hitch on a pick-up. For other heights, some improvisation is called for. I bolted my hitch on. Then I installed the corner gussets and the angles off the centerline to hold the 2x10 the keel sits on.

Uprights - We put the main frame on sawhorses and installed the bracing under the bends. Next, we cut the angles on the uprights and attached them. After attaching the uprights, the diagonal braces were installed.

Adjustment Devices - The 2" square tubes, bottom plates and 3/4" threaded rods were assembled. Remember a hole for drainage. Next we calculated where the holes in the angles should be and drilled them. (The above steps, I had done for me.) Slipping the 2½" tube on, we clamped and welded them on to the uprights, put the holes in the angles over the threaded rod, and welded them on.

The angles to attach the 2x6 pads were drilled as was the 2" square tube to suit. The assembly was attached to the hull pads with carriage bolts.

Axles - I used house trailer axles and springs, shortened to fit by cutting a section out of the center. They were attached to the main frame with " "'s made up of 3"x3/16" flatbar which were drilled for the carrying bolts.

Accessories - I haven't installed fenders or lights yet. I will probably fabricate the former.

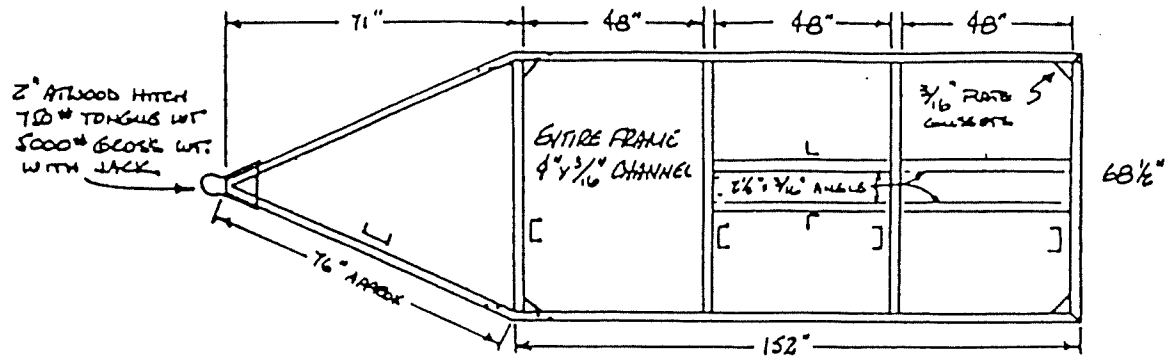
Summary - The boat seems secure and well balanced on the trailer, which is basically a copy of one Bill LaBarge made. I have not installed anything to restrain the boat from going forward in case of accident, and haven't seen anything that looks good yet. I just tie lines from the bow cleat to the trailer near the axles.

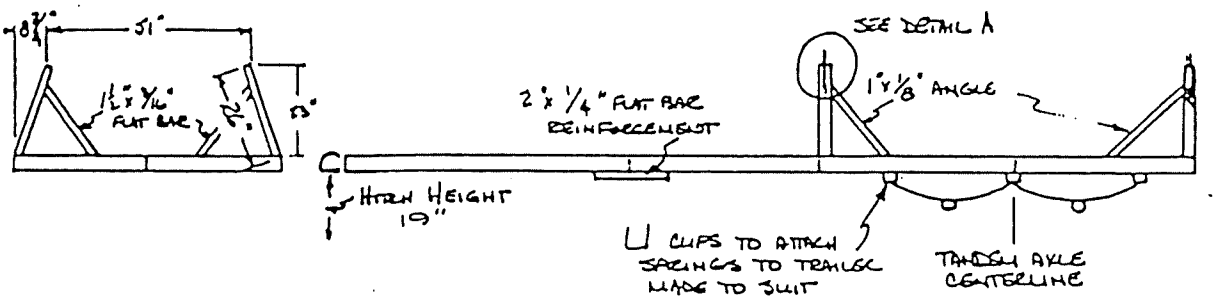
I think the trailer can be built for about $600 and perhaps made for someone for $900.

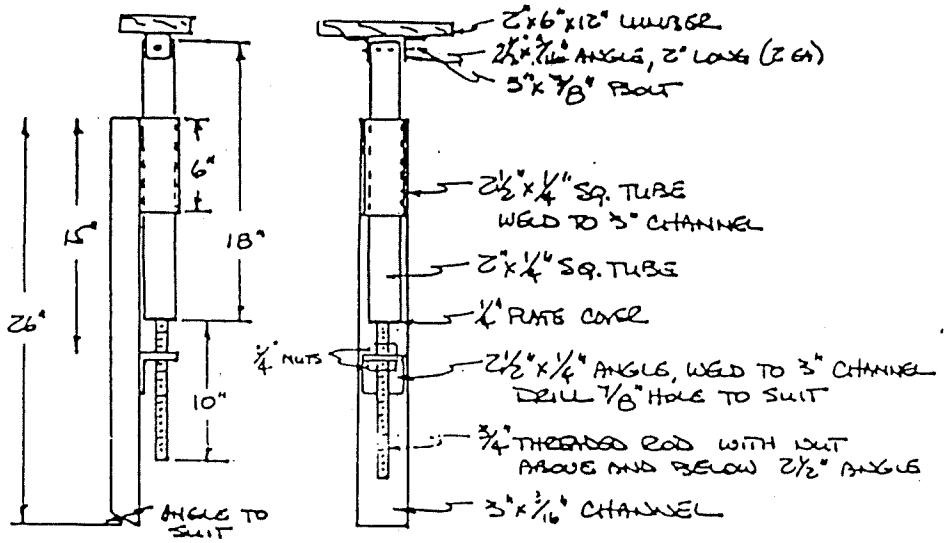
BY DAVE HIGLEY

(See next page for diagrams)

ENSIGN TRAILER







ADJUSTABLE UPRIGHT
DETAIL
(4 REQ'D)

— DETAIL A —

MATERIAL LIST

2 pcs	4"x3/16"x20'	channel	main frame
4	4"x3/16"x6'	channel	main frame
4	3"x3/16"x27"	channel	upright braces
2	6"x6"x3/16"	plate	main frame gussets
4	2"x2"x¼"	plate	adjusting jacks
4	1"x1/8"x24"	angle	upright bracing
4	2½"x3/16"x52"	angle	main frame keel support
4	2½"x¼"x2½"	angle	adjusting jack
8	2½"x3/16"x2"	angle	hull pad attachment
4	2"x1/4"x18"	square tube	adjustment jack
4	2½"x¼"x6"	square tube	adjustment jack
2	2"x¼"x18"	flat bar	main frame brace under bend
4	1½"x3/16"x24"	flat bar	upright bracing
4	3"x3/16"x10"	flat bar	clips to attach springs
4	3/4"x10"	threaded rod	adjusting jack
8	3/4" nuts		for above
1 set	Tandem axles and springs		
1	2x10"x12'	lumber	keel carrier
4	2x6"x12"	lumber	hull pads

22

USING A SPEEDOMETER ON YOUR ENSIGN

by Ted Jayne, Fleet 43

Hey, what's happenin' man? How come he's got better boat speed than we do? What are we doing wrong?

This viewpoint is usually shared by all boats in the fleet-- all except the guy in the lead. The truth is: none of us knows all about getting the full performance all of the time out of our boats. But, were getting better. As a one design fleet the Ensigns are being sa led faster now than they were five years ago. The United States Yacht Racing Union maintains racing information for the "Portsmouth Yardstick" handicapping system that compares all sail oats in racing and the Ensign has been getting faster; we are learning more about operating our boats.

Racing involves many things in add tion to boat speed, such as strategy and tactics, but boat performance and handling are very important. We are a tight design class and even our slowest boat can win when well sailed. The best way to find out more about sailing faster is to get out and race with the fleet. The exper ence is fun and necessary - and educational. Watch what the faster boats are doing to get boat speed. Ask them for help (after the race) if you can't see what to adjust.

Another way to learn more is to sail parallel with another Ensign while one of you adjusts sails or heel angle or fore and aft balance while the other boat holds things constant until it's his turn to try adjustments while you are being the trial horse.

A third important way is to use your speedometer while you make adjustments in heading and trim amd balance. You can do this while racing or any time you are sailing and you don't need cooperation from another boat. There is a knack in using the speedometer: make changes big enough to see the speedometer change with what you do. Even if you don't have a super sensitive speedometer you can still find most effects of adjustments. Waves and changing wind produce large changes in boat speed and tend to obscure boat and sail adjustments. The speedometer signals that what your looking for must be big enough for you to sort out from background wind and wave effects (noise to the signals youwant). Exaggerate the boats adjustments until you see the speedometer response clearly. As you begin to follow the signals you're interested in, you will find that less and less exaggeration is needed to pick out your signal. Repeat the exaggerations whenever there is any question of seeing the proper signal clearly.

If your speedometer has an average time adjustment you can try it at various settings to make your signal easiest to see. The lag time in the readings can sometimes be so long that you get bored waiting to see a change response. After you get used to following changes you will likely set the speedometer for the fastest response and mentally discount wave and other disturbances. Follow the trends.

A good adjustment to try first (and it's one which serves many purposes everytime you sail) is to sail the boat closehauled as you would on a beat at what you think gives best up-wind speed and then slowly point the boat still higher into the wind. Do it slowly enough to see the speedometer respond and become fairly steady before pointing still higher. This procedure will give you a feeling for boat performance in the critical range from "footing fast" to "pinching too tight", which is crucial to racing upwind. It is performance that is strongly effected by wind and water conditions somewhat differently every time you sail. In this case you are looking for lack of speed change or the amount of reduction in speed as you point higher; advantageous adjustments are not all accompanied by a speedometer reading increases.

If you keep notes on the speedometer readings and on your compass headings, you can make a graph to see the quantitative effect of your headings on your upwind performance. A good way to make the graph is like the illustration here. It is usually called a "polar performance plot" and is used for all angles of sailing. (Strictly speaking, sailing courses are usually plotted; here the compass headings are fine.) The boat headings are represented as angles, clockwise for port tack, counter-clockwise for starboard, from the true wind direction (coming from the top of the graph.) In your tests, you need to find the true wind direction by pointing directly into the wind and taking a compass reading. Then when you plot your graph, you can just take the differance angle of your boat heading from the true wind heading to get the angle for the graph. The boat speed readings are plotted as distances from the center origin of the heading angles. The center represents zero speed. The scale for speed is arbitrarily chosen to fit the size of the piece of paper you are drawing it on. You might want to use half an inch equals one knot if you are using 8½ X 11" paper. Thus, if you're plotting a speed reading of 2.5 knots, you measure 1¼ inches out from origin on the particular heading angle and make a point mark.

Start out by making a table of values for your headings and speeds when you sail your boat. Add a column for the angle from the true wind - you have to figure this out from your compass headings. Then plot the graph points and connect them with a smooth line. This smooth line, an envelope for the points, lets you find the best heading and speed for upwind sailing for your set of wind and wave conditions. This illustration by the heading line drawn in full in the diagram, i.e., where the envelope extends furthest in the upwind direction.

If you plot this only once for yourself you will have a new view of how your boat performs that you cannot get by sailing experience alone, even though you understand the ideas involved. If you plot two or three more graphs for different sailing conditions you will:

1. See how conditions effect the best upwind angles
2. Use the graphs as a basis for systematic improvements in trim and balance and in heading angles
3. Find that wind shifts are easier to spot
4. Find that the graphs are so easy to make and to add to that you can quickly sketch them in while sailing
5. Find that the graphs help for all angles of sailing and are especially useful for downwind performance too.

Speedometer calibrations are not crucial; you're looking for ideas, not absolute accuracy in measurements. Published polars plotted with course angles sailed are close enough to compare with your heading angles plots for most purposes. Heading angles differ by 3 or 4 degrees at most if you have your boat moving well when you take readings.

To delve into the polar performance graph ideas further you might browse in either "Sailing Theory and Practice" or "Aero-Hydrodynamices of Sailing" both books by C.A. Marchaj, published by Dodd, Mead & Co., N.Y. Someone in your fleet or the library may have these 'bibles' of sailing information.

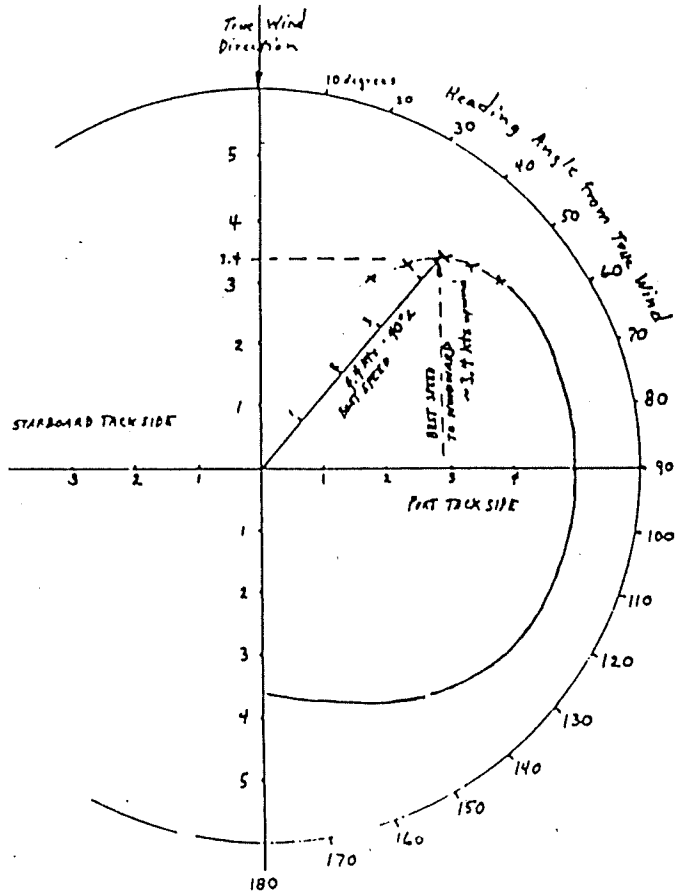
ENSIGN 1219

WIND · 295° ~ 7 knots, steady

WATER · very small waves

TABLE

BOAT SPEED	COMPASS	Heading from Wind
0	295°	0 = true wind
4.6	345	50 degrees
4.5	340	45
4.4	335	40
4.0	330	35
3.5	325	30



"MAN OVERBOARD"

23

My wife and I arrived at Fowey, England the last week f March last year. Jane had found the village many years go and introduced me to it. So now we were back for week's stay in a house we had managed to rent from a riend of a friend. We had dragged a special bag through taly and across England that was filled with foulweather ear and very warm clothing in the hope we could find a oat to sail in the English Chanel.

Fowey is a small village on the South coast of Cornwall n England. It is exactly one hundred miles from the French oast and has been the scene of privateers and smugglers for ver seventeen hundred years. We had planned to find a boat, lmost any boat, that we could sail for a day or two during ur visit.

The Royal Fowey Yacht Club welcomed us and signed us o a week's guest membership. People couldn't have been icer; but with all of our efforts, and their's, we learned hat there were no boats to be found because it was too early n the season. So we did the next best thing and, as it urned out, to be the very best thing. We signed on for a ay with Michael Norris and his Fowey Cruising School.

The Fowey Cruising School teaches people, mostly ouples, what they need to know about cruising in the very ean English Chanel and the waters of nearby Europe. There ere too many things to mention here that were being well aught but the most important thing we learned was Mike's an Overboard Drill.

The drill is unlike anything I have learned before. And t works. First the drill was outlined to the six paying ests on the thirty foot sloop that day. We then proceeded o leave Fowey harbor and go a mile or so into the sea. inds were about Force seven and seas were running eight feet. he seas resembled a Long Island Sound chop only bigger, much igger.

During that day, while doing many other things that cruisers need to know and to do, we drilled a dozen times in the Man Overboard Drill. Mike would suddenly pitch a pennant-topped Dan Bouy overboard and holler "Man Overboard Whoever had the helm at that moment would proceed to execut the drill. Each time we did it we were back to the bouy quickly and each time we pulled the bouy from the water.

The instructions for the drill go like this:

On the call "Man Overboard" the helmsman:

1. Lets go Lifebouy, horseshoe, ring or other floatati
2. Lets go the Dan Bouy or other marker such as a floa strobe.
3. Turns to the nearest reach. If on a reach, hold it
4. Count five (5) seconds.
5. Tack (Come about) leaving the JIB ABACK. (We call i "Heaving-to").
6. Sail on the mainsail to the person in the water. Sa so as to have them to leeward, away from the weathe side of the boat.
7. Point up (Stop) and assist the person in the water coming aboard.

Mike points out that you may not be able to pull the p from the water every time or during the short period the he is unattended and the boat remains pointed into the wind an not moving. But, he says, "Ignor the look on his face as y pass him and repeat the process". I suppose you might also tell the poor soul that you are going around again.

I believe the reason this drill works is based partly upon the fact that when you backwind the Mainsail with the you have an easy sailboat to handle, no jib to tack. Also, a novice sailer or terrified and anxious wife can remember the simple directions. Further, the leeward drift of the b because of the slow headway helps bring the boat to where y want to be.

There must be many of us that sail as couples and the thought cannot be ignored that if one went over, what would the other do? So this drill is something that bears more that rote learning but should be practiced. In a recent article in NEW YORKER William F. Buckley, Jr. Mentions the loss of a man some years ago off his boat in the Hudson River when the turnaround time was only fifty-five seconds. The moral is, I expect: "Hope for the best, prepare of the worst".

Anyway, with all of the above, HAPPY SAILING!

Sy Spangler
Ensign 1497

24

ABOUT THAT ADJUSTABLE BACKSTAY?

Dear Ensign Class Assoc. Members:

A growing number of skippers have requested that the Assoc. permit the installation of an adjustable backstay device to replace the factory turnbuckle or the "Johnson-type" turnbuckle which has a folding handle. As you might imagine, there are strong arguments for and against an adjustable backstay cite the following reasons for installation:

1. The Johnson turnbuckle threads frequently strip.
2. The "stick in the factory turnbuckle" is asthetically unpleasing and it can rip a spinnaker that isn't doused
3. In high seas, it is dangerous to have a crewmember sitting on the aft deck letting off backstay tension.
4. Having a crewmember on the aftdeck is slow since the stern drags in the water.
5. Having a boat with adjustable devices such as backstays attracts young sailors into ranks. Such a rule change would send a 'signal' to sailors that we intend to keep up with the times.
6. Many skippers feel that a 'complete sailor' should have a number of 'strings' to pull to increase boat speed to the boat's full potential.

There are also a number of logical arguments against such an installation. Some of the most frequently mentioned are:

1. If kept lubricated, the Johnson turnbuckle will not fail.
2. The present rules allow for changing backstay tension during a race. Any changes from the existing rules would result in individuals continually readjusting backstay tension. At its extreme, some crew would be tensioning backstay riding up a wave and easing it on while coming off the wave.
3. Approving such an installation might discourage all but the most serious racer from competing in events.
4. Few skippers continually readjust backstay tension with the presently approved system so there is no need to add another adjustment on the boat.
5. The adjustable backstay arrandement would require an investment of between $100.00 - $300.00.

As you can see, there are strong cases to be made both for and against such an installation. The designers and engineers at Pearson Yachts, however, feel that the past history of the "noodle mast," when coupled with the potential for bending the mast extensively, may result in an increase in mast failures. Unlike many of the newer mast sections that include a tapered top-section, swept-back spreaders, and the like, the Ensign is configured with a relatively "old-fashioned" mast and spreader arrangement. As one engineer explained it, putting excessive bend in the Ensign rig pulls the upper shrouds and spreaders out of column thereby increasing the noodle-effect. Obviously, as the wind increases, skippers tend to flatten their sails more by increasing mast bend. If done to an extreme, mast failure could result. It is for this reason that I am recommending to the Governing Committee that an adjustable backstay installation other than that alraedy permitted by the Rules NOT be allowed.

I know many skippers, including myself, had hoped that an adjustable block and tackle arrangement be permitted for backstay adjustment. In fact, a proposed set of plans had been given to approximately a dozen skippers for their comments and suggestions. These plans were the result of meetings with an independant spar manufacturer. After the input from the Pearson representative, however, it became increasingly clear that an adjustable backstay arrangement could lead to a new spar, which in turn, could lead to new sails to compensate for the now changed headstay luff sag. In short, riggers, spar manufacturers, and sail makers would benefit from the rule change. Ensign skippers would end up paying an excessive amount for only a small change in boat performance. It is for this reason that I am not recommending a rule change permitting the adjustable backstay device.

I want to assure the class that considerable time and effort has gone into the exploration of the mast adjustment issue. But without the support of Pearson Yachts, the backstay change is risky at best.

Sincerely,

Robert T. Rude
Vice Commodore - Rules and Regattas

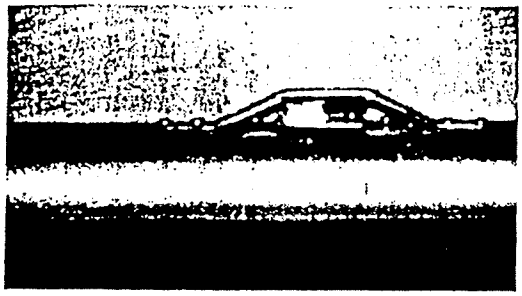
SAVE YOUR MAST... AND SOMEONE ELSES!!!

by Ted Seymour - Secretary
Bob Rude - Vice Commodore of Rules and Regattas

It had been said that a sailboat is a fiberglass hole in the water into which one continuously pours money. A suit of Ensign sails, for example, will set a boat owner back about $1500.00. A new outboard can easily top the $600.00 figure. It's no wonder that even the most compulsive sailors frequently abhor keeping records of their sailing expenses. Here's a very inexpensive "refinement," however, that costs but a few dollars and may save you and a friend hundreds of dollars. It's a simple guide to prevent a boom from becoming entangled with someone elses standing rigging.

How often have you been in a close-quarters situation rounding a mark...perhaps easing the mainsheet at the weather mark or been gybing at the wind mark...to find a competitor within spitting distance of your boat? Frequently such close maneuvering inadvertently results in the boom of one boat hitting the rig of the other. (We've seen Ensign skippers sailing through a mooring area and have their booms catch the rigging of a moored boat!) Having a cleat or a turning block for a jiffy reefing at the end of your boom could mean disaster for the other person's boat. These fixtures have a nasty habit of getting hung up on the other boat and given sufficient force, can bring either boats rig to its knees.

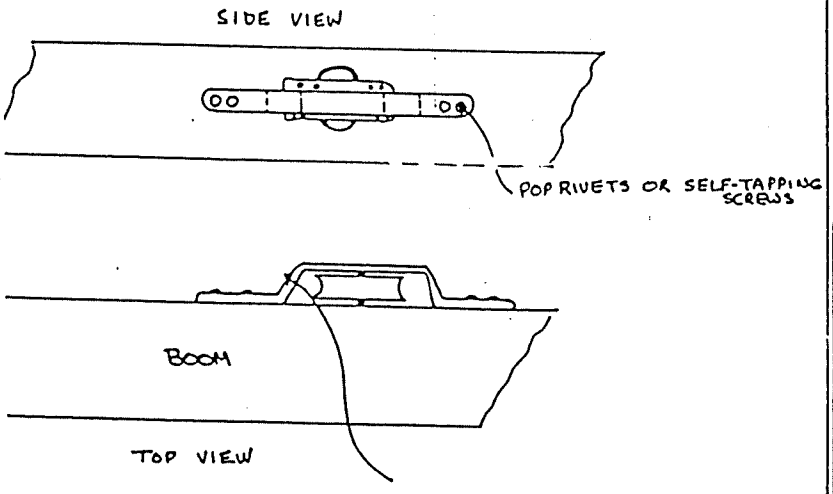
A simple solution to this problem is to affix a stainless steel strap over the attached fitting (note photo). By using a couple of self-tapping screws, the whole affair can be attached in a few minutes and can save you many agonizing hours or days of waiting for a new mast, filing an insurance claim, etc.



For those whose Scottish blood runs thick, here's an even less expensive alternative. Find a piece of packing styrofoam and shape it to fit over the fitting on the boom. Tape the entire affair over the fitting with some of that wonderful duct tape you always have aboard.

Whichever alternative you select, this is a simple modification that permits a misguided boom to slide easily off the rigging of another boat, and when you think of it, doesn't it make more sense to spend a couple of dollars for preventive purposes than it does to be caught on the race course trying to untangle two toppled masts???

Smooth Sailing



WINTER BOAT PROJECT: THE CAMPBELL MOTOR MOUNT

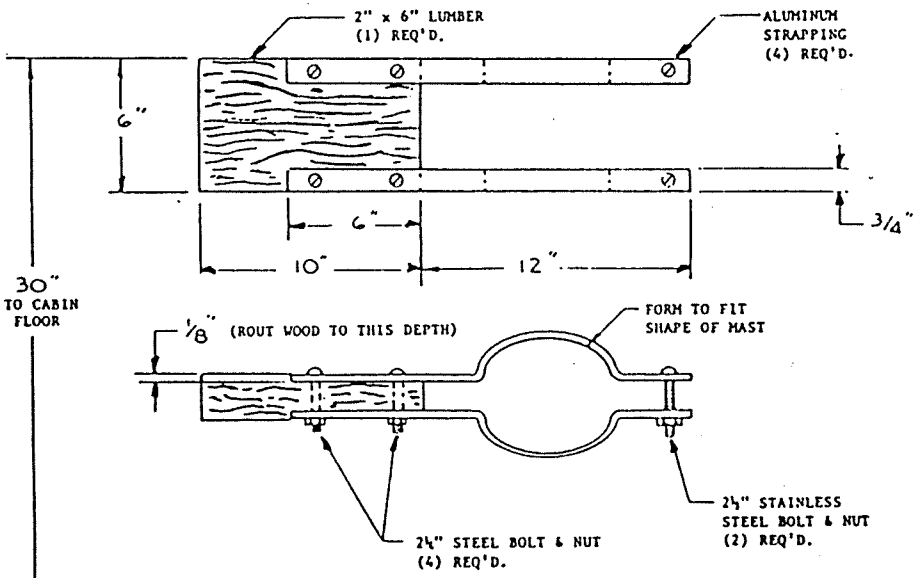
Most Ensign sailors have never heard of Bill Campbell. Bill was an avid Ensign supporter who used to sail with long-time Ensigneer Alden Walls. Those of you who attended the 1983 Ensign Nationals held in Bristol, RI probably remember the handsome direction signs placed along the route to the Bristol Yacht Club. The signs were products of Bill's handiwork. Bill passed away shortly after the Nationals, but one of his designs still lives on . . .the Campbell Motor Mount.

Engine storage inside the cabin of an Ensign has long been a problem. Some skippers store the engine on the floor. (If you've ever been vacationing during a deluge, you've probably returned to find your engine covered with water.) Some store their kickers on the berths. (In a rolling sea on the mooring, the motor can shift and drop to the cabin floor.) Wherever you store your outboard, you should never have the head lower than the drive unit. Doing so allows water to enter the head and eventually may cause the pistons and cylinder walls to be ruined. ENTER THE CAMPBELL MOTOR MOUNT.

Bill's design is intended to clamp to the mast, 30" from the floor of the cabin. If you own a Johnson or Evinrude 4 HP or smaller engine, you're in luck. These engines will stand up perfectly inside the cabin, out of the way of almost everything. A 6 HP engine is just too big to store upright.

To start with, you'll need to cut a piece of 2 x 6 to a length of 10". Pressure-treated wood is great for this application -- no painting needed. Next, rout out two grooves on each side of the piece. The grooves should be 1/8" deep, 3/4" wide, and 6" long.

Attach four pieces of 1/8" x 3/4" x 10-12" aluminum strapping to the routed sections of the mount. Through-drill this assembly and affix with 2" s.s. bolts.



This next step may take some ingenuity. You'll want to bend the four straps to wrap around the mast. A vise-grip, hammer or mallet (and some patience) should do the trick. Once the unit is bent to conform to the mast, you'll need to drill out the end of the straps so 2-1/2" bolts can be used to tighten the affair onto the mast.

Finally, you'll need to adjust the height of the mount to conform to your motor. Set it so the base of the motor just touches the cabin floor. Now, tighten the forward-most nuts and bolts so the mount is securely fastened to the mast. That's all there is to it.

Bill no longer may be here with us, but his spirit certainly lives on. Thanks, Bill. We're thinking of you.

ANOTHER IDEA FOR MAINSHEET TRIMMING

At the February 8 ECA Annual Meeting I made a proposal that would allow the mainsheet to be lead from the boom to a turning (ratchet) block attached to the cockpit floor, like the trim on so many other one-design class boats.

My reason for proposing this rule change of Part 2, Paragraph 7a. Mainsheet - Ruling 1979, second paragraph, is that in heavy air when heeled over it is very difficult to release the sheet if it's cleated in the jaws of the mid-boom fitting. Also, trying to tend the mainsheet in heavy air with the sheet not cleated on the boom is tiring because the rule states that the sheet shall not "be . . . cleated to . . . the deck." In addition, trimming the sheet from the mid-boom tends to pull the boom to weather and the trimmer off the rail and into the cockpit.

Allowing the sheet to go from the boom to a turning/ratchet block on the cockpit floor, and then to one's hand or a cam cleat on the cockpit coaming will:

- Create a better sail shape,
- Make the boat safer from excess heeling caused by a difficult-to-tend main, and
- Make the boat easier to sail in heavy air because the main can now be more easily fine-tuned by the skipper or crew.

I would suggest that if this idea has any merit those fleets that are interested experiment with the arrangement over the summer and provide me with your conclusions in the fall. In the meantime, please write or phone if you have any thoughts or ideas.

-- Robert C. Warner, Vice Commodore
Rules and Regattas

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SPRINGTIME BOAT PROJECT: AN AWNING FOR DULCINEA

We have raced and cruised our Ensign for quite awhile and have a cockpit tent which covers the cockpit and provides full standing head room while at anchor. The top to this tent forms and awning which can be used on those hot (or rainy) days while waiting for the wind at the start of a race. We also use the awning while sailing under jib or spinnaker alone.

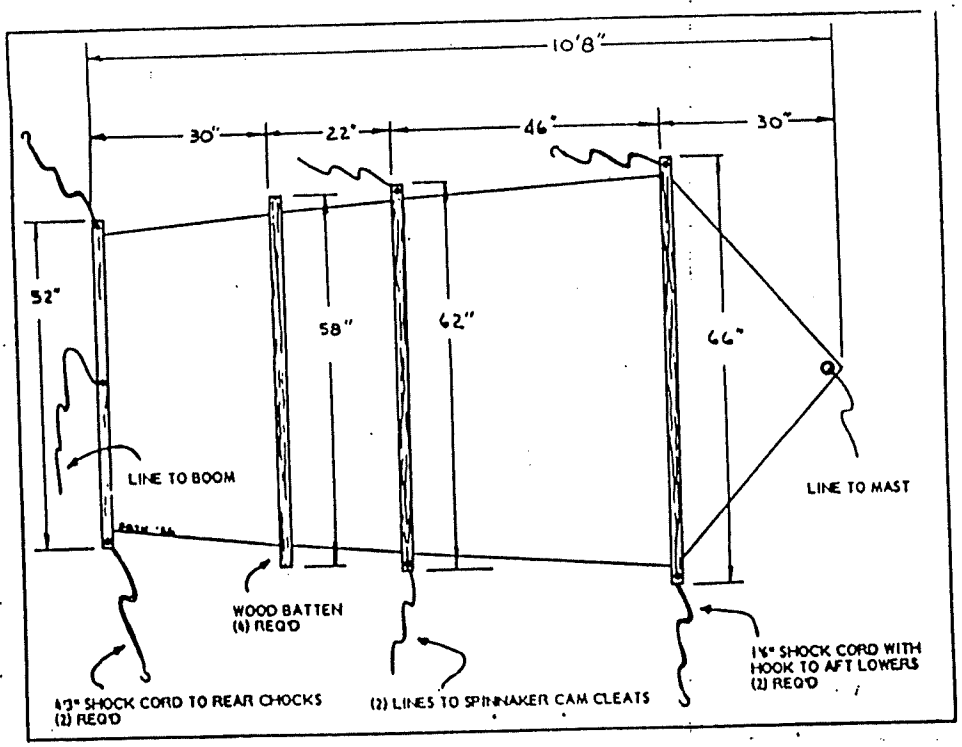
The awning is quick to either install or remove. When stored it forms a cylinder about 5-1/2' long and 6" in diameter which stores on a cabin seat or on a cockpit shelf. To install it, we just tie the front end to the mast, clip the forward shock cords to the aft lowers, and unroll it on top of the boom. We fasten the two lines from the second batten to our spinnaker cam cleats. These lines keep the center of the awning from flying up in the wind. Finally we tie the rear line around the back of the boom and hook the two stern shock cords down to the rear chocks. The combination of the lines, shock cords and battens keep the awning under tension and looking sharp.

None of the dimensions are critical. The only thing to consider is to locate the first batten above some sort of device which can be used to anchor the two lines from coming down from the awning. We used our spinnaker cam cleats but you might want to use something else. Perhaps you would want to lead the line through the jib block fitting and secure it in you jib cam clears or whatever. The point is that the lines should lead directly down from the batten so just locate the batten above the fitting you are going to use.

All the battens are just pieces of wood about 5" longer than the width of the awning at their location. The material is green canvas but anything would do -- even a used sail.

The awning has really made the boat more comfortable for us. It is great in the shade!

- Don Harris



THOUGHTS ON THE ENSIGN

In the spring of 1966 my father took delivery on an Ensign, hull number 976, in City Island, New York and my brothers and I helped him sail it to its new home in Manhasset Bay. That first season we daysailed and even did a few weekend cruises on Long Island Sound. We raced occasionally, but did not have a spinnaker or a jib halyard winch. At that time, gear such as hiking straps or adjustable back stays were illegal in the class.

The next year we equipped the boat with the Pearson spinnaker package and had a spinnaker built by Hild Sails to complement the standard Ratsey & Lapthorn sails which came with the boat. In a typically obliging Ensign Class way, my father was invited to crew with the then fleet champion to learn about how the spinnaker gear was rigged and how it was best flown on an Ensign.

At that time the Ensign was a new boat with fleets growing up all over. The 1000th Ensign was displayed at the New York Boat Show. One design sailing was extremely popular with starts every Saturday and Sunday afternoon in Manhasset Bay for a range of boats from fast Raven's, FD's and Resolutes to little Blue Jays and Sunfish. The Ensign fleet was big, but the boat was not considered to be fast. We constantly feuded with the Rhodes 19's over who should start first. Inevitably, the leaders from one fleet would tangle with the stragglers from the other.

People sailing faster, more athletic boats called the Ensign the "N-Thing" or an "old man's boat." They preferred the high speed acrobatics of the trapeze on a Tempest or a screaming plane on a Thistle. The Ensign was never designed to be compared with these higher performance boats. It was built to be a comfortable daysailer with strict one design rules to ensure fair and enjoyable racing around the bouys. The Ensign looked and sailed like a smaller version of the then common CCA Rule cruising boats.

During the 25 years since the Ensign was designed, there have been radical changes and developments in sailboat design and construction. More recently, one design sailing has seen some decline in popularity. Through all this, the Ensign Class Association has adopted some changes to the boat for safety and performance reasons. Most importantly, the class remains strong and the boats are actively raced in many fleets around the country.

One of the reasons for the strength of the Ensign Class has been its strict one design rules. Hulls from the first year of production still compete on an even basis with he newest boats. While numerous changes have been permitted to the running and standing rigging, no single change has made unaltered boats obsolete. The stability and evolution of the rules has kept active fleet members interested in the boat and new Ensign owners can immediately test their sailing ability in nearly identical boats.

Those of us who have been sailing Ensigns for a long time need to reflect on the reasons why we enjoy the boat so much. We know better how to trim the boat to make it perform, yet we still seek ways to get a bit more speed out of that 25 year old design. We need to temper our desire to make the Ensign into a faster boat, while remembering our responsibility to attract and keep other members to our class and fleets.

The evolution and development of high performance one design and cruiser/racers has taught us now to make a sail plan or weight of the Ensign would surely make for a faster boat. New sail cloth materials would also have some effect. However, what is it we are after when sailing an Ensign? If it is the thrill of speed which comes from a high performance sailboat, I suggest you buy a Soling, Etchell's 22, Fireball or maybe a sailboard. If you want to race against the latest IOR boats on a handicap basis, I suggest you buy a Quarter Tonner which is designed and equipped for such racing. An Ensign will never be a high performance sailboat and we should not try to make it into one. Regardless of what we do to the sails, rigging or equipment, we will still be sailing on a very trditional, full keel hull design. The latest developments in sails and rigging will never change that. And, to change the hull, you destroy the strength of the one design fleet.

To me, Ensign sailing is extremely challenging. Each hull is essentially identical. There are some minor differences in rigging and we each have our preference for sails, but they are always the same size. The challenge then is how do you as skipper or crew manipulate the available adjustments to get the most speed out of the boat. It all comes down to the skills you have in tuning and trimming your boat to make your hull move through the water faster than the other guy's. There are no handicaps, corrected times or obsolete boats. We are all out there testing our ability to get a bit more speed out of a 25 year old hull design within the self-developed and self-imposed "handicaps" of the Ensign Class Rules. The winner of an Ensign race is a winner because he and his crew made their boat sail arond the race course the fastest. Nobody is out of the race before it begins because he does not have the latest sails, spars or a hull from some special mold. No single change, and possibly not even the totality of changes made to the Ensign Class Rules since they were first written has obsoleted any boats. That makes the Ensign a pleasure to race and it attracts new people to the fleets. If TYCHE, hull number 976, were still around to be sailing today, I am confident that it would be as competitive as any other Ensign.

Let's continue to find ways to make the Ensign sail faster. We need to do this

to be progressive and to keep interest in the boat and its fleets. However, let's evaluate changes in light of the limitations of the hull design and the best interests of maintaining and building an active one design class association. Changes should be considered carefully so that we do not compromise our strict one design status, obsolete some boats and alienate the members who make us such a strong and active one design class. Remember, the Ensign was first introduced as the Electra Daysailer; let's keep it as fund daysailer and racer.

Nick Lubar, Flt 43

30 30 B/H

SOFT DECKS

Last Spring, while I was walking along the deck of my 1964 Ensign, I felt a little sponginess. Further research revealed a rotted balsa core, fortunately the damage was confined to a relatively small area. Not being a structural problem at the time, I raced throughout the year and added the project to my off-season to do list.

Like everything else with boats, the sooner you fix the problem the less expensive it will be and the less work it will take.

The Ensign deck was designed with a balsa core approximately 1/2" in thickness, sandwiched between two thin pieces of fiberglass. This design has proven to be very good over the years, but eventually the years take their toll. The rotting of decks seems prevalent in the South, possibly because we typically leave our boats in the water year-round and the boats never get a chance to thoroughly dry out. Our rainfall levels and humidity also tend to compound the problem. Once a rotted deck is identified (annual inspection is sufficient) I would recommend the following procedures:

•Preferably, get the boat out of the weather (this is a good winter time project).

•Drill a few small 1/4" holes up from the bottom of the deck (inside the boat) into the core, but not through the top piece of fiberglass. This procedure allows the deck to dry.

•Next, using a jig saw, cut out the bottom piece of fiberglass, again being careful not to cut through the top piece of fiberglass.

•Using a pick or any other sharp object, clean out the rotted piece of core, again allowing time to dry, a couple of days is usually sufficient.

•Cut a piece of balsa to fit into the cavity. I recommend using balsa because it does provide some flex as opposed to marine plywood, which tends to make the deck rock solid. You might want to consult your local boat yard.

•Next, I placed marine-tex or comparable material on top of the balsa and all around it, placing it up into the cavity and brace it in place from below, allowing 48 hours drying time.

•Then I go back in, glass the whole area completely. Later I follow-up by painting.

My experience was a good one because these jobs are relatively quick and painless (cost), even if you have a boatyard do the work. It is certainly a more pleasant experience than attempting a bottom job, deck painting or mast replacement all of which I've had to do this past year (watch out Sea III).

Finally, since I do not profess to be a nautical engineer nor a boatyard specialist, there may be a better solution to your specific problem. Therefore, I encourage you to consult with a specialist, but don't be scared away from doing this project yourself. If you get nothing out of this article other than a friendly reminder to inspect your deck, I feel it was worthwhile.

I'll be glad to answer any questions, phone (W) 713-751-6232.

—JEFFREY A. DEUTSCH, 517

BLADE JIB AMENDMENT TO BE PROPOSED AT 1990 ANNUAL MEETING

At its August 13th meeting in Newport, the Governing Committee approved a proposed Blade Jib Amendment to Part 2 of the Rules to be voted on by the ECA membership at the 1990 Annual Meeting in New Orleans. The vote was based on the fairly extensive testing experience and comments by Ensign sailors discussed below.

The blade is not intended to replace any sails in the Ensign inventory, but it will probably, if approved, gradually become strongly preferred over the No. 2 Genoa by most Ensign sailors and leave the working jib for use only in extremely severe conditions.

The blade jib completely fills the foretriangle, and it sheets inside the shrouds to the forward end of the cabin top. It is a significantly larger sail than the working jib and much more powerful, yet it does not present the handling and visibility hassles of the genoas. These qualities make it a tremendous improvement over the working jib for day sailing. Virtually everybody who has tried experimental versions of the blade has been enthusiastic about its value in all but light air.

This new jib proposal stems from an intensive development effort led by ***ROY KRAUS*** of Fleet 63 in Barnegat Bay and conducted under the guidance of ECA Vice Commodore ***DICK TORPEY.*** In the fall of 1988, a first test sail was tried out at Fleet 63. The results were reported at the 1989 Annual Meeting last January at the Riverside Yacht Club. That test sail was then sent to both Fleet 2 in Houston and Fleet 18 in New Orleans for further testing during the winter.

During the spring, Fleet 63 developed a modification of the first sail, designated *MARK II.* The Class ordered two of these sails and had them circulated through all five regions. By August they had been used and/or seen, and commented on, by Ensign sailors from Fleets 2 and 30 in Texas, Fleets 29, 43 and 49 on Lake Erie, Fleet 23 on Lake Canandaigua, Fleets 7, 14, 32 and 34 in Long Island and Fishers Island Sounds, Fleets 4 and 5 in Narragansett Bay, Fleet 3 in Hingham Bay and Fleet 64 on Lake Winnipesaukee. In addition, ***MARK FISHER,*** of Fleet 4, developed and tested a blade, forwarding his results to Vice Commodore ***TORPEY.***

Meanwhile, the Barnegat Bay Fleet 63 sailors became so enthusiastic over the blade that a dozen skippers ordered them, knowing they were taking a risk in that the blade was not an officially approved sail.

In terms of boat speed, the blade has proved to be clearly superior to the No. 1 Genoa in winds beyond the 12-14 knot range. As might be expected, it is clearly inferior to the No. 1 Genoa in the lower wind ranges, particularly in sloppy seas.

The following is the tentative language of the proposed amendment. It is tentative because Vice Commodore ***TORPEY*** and his colleagues may want to make slight refinements in some of the numbers. The finally approved version, to be submitted to ECA members for a vote (in person or by proxy at the 1990 Annual Meeting), will be published in the December issue of the ***ENSIGN.***

BLADE JIB

1. All blade jibs shall be fitted with snap hooks all of which, when the sail is set, must be attached to the jib stay.
2. Blade jibs shall be made of dacron, a minimum of 5 ounces per running yard, 28 1/2" wide.
3. The use of up to four battens, equally spaced, and of a maximum 12" in length each, in the leech of the sail is optional.
4. The leech and foot of the sail shall be a fair curve. Clew and/or head boards are prohibited.
5. The size of each blade jib shall be governed by the following:

   Luff ——————————————————24' 5"
   Foot ——————————————————7' 6"
   Leech ————————————————— 22' 8 1/2"
   Mid-girth half luff, half leech ——————— 3' 11"
   Foot round ——————————————————9"

   A minus tolerance of 3" on all measurements is allowed.

In addition, an amendment will be proposed to Rule 2-7, Running Rigging, to add the following:

> Blade jib leads blocks shall be confined to the cabin top. The tracks for these blocks shall not exceed 16" in length. The center of each track (length and width) must be 14" from the boat centerline, measured at a point 7'6" aft of the foremost stemhead fitting hole. Each track must be aligned to point toward this same stemhead fitting hole.

As with the blade jib specifications, this language is tentative, subject to minor refinement between now and December when the official language will be proposed.

TIPS FOR BUILDING A FLEET

Building a fleet or maintaining an already healthy one is a constant when supporting and expanding a one design class. Watching the numbers of boats you are racing against or cruising with is as important as watching out to see what the other guy is doing when out racing.

Listed below are some "getting started" points that can be noted for fleets that are trying to increase their numbers as well as for larger fleets that want to keep their numbers healthy.

1. *MAKE A 100% COMMITMENT OF EFFORT TO INCREASE THE FLEET'S NUMBERS.* Spend time at fleet meetings discussing the potential or existing problem of losing boats. Recognize the importance of losing boats and identify the reason, when possible, for the loss.

2. *SET GOALS AND DEVISE A PLAN OF ACTION.* The plan of action will vary from fleet to fleet depending upon the goals set. Formulate actual ideas with fleet members on how to keep present numbers healthy or how to increase numbers as one of the steps in the plan of action. Set the atmosphere for months to come with your plans so everyone in the fleet understands what is his or her part and what is expected.

3. *MODIFY RACING AND SOCIAL EVENTS.* This point is geared for the underdeveloped fleets when still trying to get everyone out. Possible ideas here include a sometimes not so full racing schedule. A not so full race schedule is sometimes better than a summer packed with races but without full participation from fleet members. Increasing the number of throw outs will help those who can't make all the races but will be encouraging as they will remain competitive in overall race standings. If the fleet has cruising sailors as well as racers, plan races that end with a picnic lunch or other group gathering to unify the fleet. Use of spinnakers or jibs only can always help in getting new people out.

4. *GET AS MANY BOATS AS POSSIBLE TO THE STARTING LINE* for fleets predominantly interested in racing. This ingredient sums everything up and is a most important ingredient. Ideas in this area sometimes require the most generous and sportsmanlike conduct. When there is a boat with a more experienced crew, share or swap a crew member with a less experienced boat. Brand new skippers appreciate this. Lending a crew member or sharing a piece of equipment to someone who may not be able to race otherwise can make a difference. Make room for people left on the dock. Never accept the excuse, "Go ahead, I've got some things I want to do to the boat". Offer to help transport a boat to the racing side during the week prior to races or regattas for someone who can't make the trip otherwise. For racing fleets just beginning, bend club rules sometimes to let a non-member race with you in certain races or expand certain races to include another club fleet or charge (say $10.00) more per season for non-members.

5. *DEVISE A "BOAT FOR SALE" NETWORK* This will help keep boats in the fleet and bring new boats into it. We all talk about a boat that comes up for sale or one we saw in the newspaper but most of the time that is where it ends. Try to encourage sellers to utilize the fleet to find a buyer or to find a boat for a buyer. Twelve people, for instance, are always more resourceful than one. This idea can also be expanded to include available dockage and equipment, such as trailers. Include Association enthusiasm and support with the sale of the boat.

The above points are starters in keeping your fleet healthy or increasing the fleet numbers. There are many more ideas that I am sure you can examine and implement into your plan of action. Time and effort in setting goals, devising a plan and putting it into action will no doubt be rewarded by additional fleet members and, with all fleets participating, a strong one design class.

Good luck and good sailing.

—ZEKE DURICA

DON'T LOSE YOUR MAST OR BOAT

I own Ensign #385 which was built in 1963, 27 years ago. Until a few years ago I had been plagued with water leaking into the cabin and soaking everything that I kept on the cabin bunks. I finally traced the problem to the points where the chain plates passed through the deck to hold the shrouds. When in the process of investigating this situation I noticed that the **BRONZE BOLTS** that fastened the chain plates were badly corroded. I replaced the bronze bolts with **STAINLESS STEEL BOLTS** and incidently I stopped the leaks with silicone sealant.

However, I then realized that I could not change the bolts for the back stay chain plate without additional work. I could reach one side of the plate through about a six inch diameter access port which I had installed to attach an outboard motor bracket to the stern. I had to install a similar access port on the other side of the stern deck so I could reach both sides of the bolts with wrenches.

In the process of changing the bolts on the back stay chain plate I realized that there was a great deal of empty space under the aft deck which was not filled with polyurethane foam. I had heard of a case where an Ensign had sunk because it did not have enough flotation so I decided to tackle that problem too. Using the two access ports I put several cubic feet of foam into the stern space. This led me to check the cabin bunks and space forward of the forward bulkhead. I did this by installing three more access ports. Once again I found a great deal of empty space. All together I estimate that I added about 12 cubic feet of foam.

To complete this project I really should see if the boat will float if it is swamped, but I haven't gone to the trouble to do this yet. However, my Ensign now has at least as much foam as any other Ensign and I suspect my Ensign would not sink. The author would be interested to hear from others on this question of flotation.

—GEORGE P. BATES
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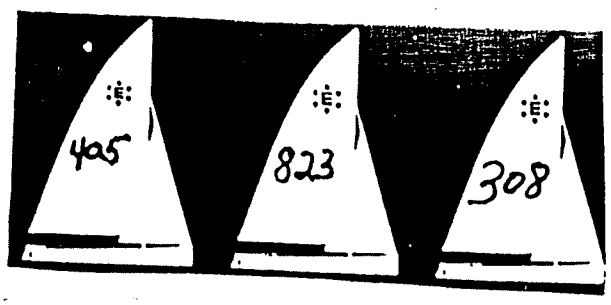

BOTTOM SANDING TIPS

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Oh happy day! Oh joy! It's time to renew the anti-fouling paint on the bottom of your boat again. If you haven't already done it for this year, here is a method that will substantially reduce several things: time spent, dirty water dripping off your elbows, tired arms, and maybe a few ?!@$%&*!? words.

Instead of holding wet or dry sandpaper in your hand, attach it to the business end of a sponge mop or a wax applicator. I know that the drywall sanding paddle is in common use, but this device is made primarily for sanding *FLAT* surfaces. The advantage of using a sponge behind the sandpaper is that it will follow the *CURVED* bottom of your boat a lot better.

You will need a device where the sponge is readily detachable from the handle. Several are available, but if I were to get one today, it would be a "Quickie Waxer" from QFC for $5.85. The sponge is thinner than the top (this is good) and also larger, so you get more grit on the boat with each stroke.

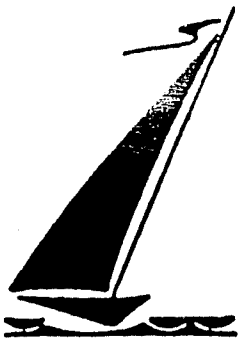
To use this method, remove the sponge, wrap a piece of sandpaper all the way around it, and reattach it to the handle. Dip the whole thing in a bucket of water to thoroughly wet the sponge, and go to it. (If you use a sponge mop, it's best to slice about half of the thickness off the sponge. Do this before using, while it's still dry).

This method allows you to stand clear of that icky, dirty cold water. Also, you'll use *BOTH* arms, and stand in a more natural position. If you can recruit a helper to handle the hose and keep everything wet (except you, of course!) it will make this yearly chore so easy, you'll think you've died and gone to heaven!

As in all sanding and refinishing, a good rule to remember is: "Take off as much as you're going to put on." So use 100 or 200 grit for the first time around, then switch to a finer grit.

—KEN NIELSEN, as published in Seattle Thunderbird News

(Bottom Sanding Tips by Ken Nielsen has been reproduced from Volume II No. 2: Summer 1990, SNAX, the Sailing Newsletter Article eXchange, Page 18. Ed.)



WINTER STORAGE HINTS

am frequently asked for advice on how to store a boat for the winter. I have a number of general rules that I follow when storing a boat. The key thing to keep in the back of your mind is that your boat is an investment that requires a certain amount of tender loving care. As you get your boat ready for winter, make a detailed work list of all the little jobs that need to be done, many of which can be finished over the winter. Now is the time to discover that you have a major problem that requires a builder's expertise. The plus side of doing all this work is that your boat will thank you by staying healthy longer.

Remove all sheets and control lines. Inspect splices and points of charge, replace suspect lines now while it is fresh in your mind. Give them a fresh water rinse and lay them out to dry. Coil them up, making sure to label the control lines, particularly if yours are all white. The lines should be stored in a box in the basement. Wash the boat down inside and out with soap and water, and rinse well. This includes all the blocks and hardware, especially the mast and boom. Check all halyards to make sure the sheaves are turning freely and there are no broken strands. You cannot use enough fresh water. If you have a wood boat and are going to paint the inside in the spring, then scrape the boat and vacuum it out in the fall. You will find that the loose paint can trap water, especially in the hard to reach areas like gussets. Remove all the loose debris and trash from the boat. You would be surprised at the number of 210's that I see in the spring with last year's beverage cans still kicking around the bilge along with leaves, wrappers and old charts. Clean the woodwork. If you have varnished seats and floorboards, they make a good winter project that will be finished by the spring. Wax the topsides. This last item is a bit of a nuisance, but worth doing, particularly in a wood boat. Remove the foam and store it elsewhere. This allows the ends to breathe and get plenty of fresh air.

Dry the boat before you cover it. Nothing rots a wood boat faster than standing water under the cover. The cover acts to turn the boat into a greenhouse, conditions under which the dreaded rot thrives. I drill a drain hole in my own boat. In a glass boat, the bottom is solid glass in the area around the keel and it is easy to thread a 1/2" hole and use a bolt with an O-ring under the head as a drain plug. On a wood boat a carriage bolt with a wing nut on the inside works great. I use a small amount of five-minute epoxy to seal the edges of the hole in either case. If you are going to store your boat for a long time and it will be outdoors, I would put in a couple of large (1") drain holes; they are easy to patch later and will ensure that a single small hole does not get clogged.

Storage and Support: Make sure that the boat is level side to side on the trailer and that the drain holes are at the lowest point in the bottom. The mast should be properly supported if it is going to be used as a lodge pole for the cover and should be high enough to make sure that there is no possibility that the cover can fill up with water over the cockpit. I like to leave the ends of the cover open slightly in order to let fresh air in to the boat during the winter. This is easy to do if the mast is used since it is 2' longer than the boat. The trailer can be blocked up so that the tires are not taking the load all winter; just make sure that the ground is firm under the blocks. The keel should be properly supported when the boat is stored. Typically the keel should support at least around 2/3 of the total weight of the boat.

—JIM GRETSKY, as published in 210 Newsletter

(Winter Storage Hints by Jim Gretsky has been reprinted from Volume II No. 2: Summer 1990. SNAX, the Sailing Newsletter Article eXchange, Page 19. Ed.)

TIPS FOR ENSIGN SAILORS

Use a grease pencil to write compass headings on your deck or on a clear piece of plastic mounted on the deck.

Put numbered reference scales along the outhaul, jib tracks, trailer, for duplications of trailer settings.

Place telltales about 6" aft of jib luff. Keep them away from all seams. To get rid of static electricity, *spray yarn telltales with lubricant.*

Mount control cleats so lines are easy to adjust from hiked position. Keep cams free of dirt and salt. Don't leave lines in them when storing the boat.

After WD40, use a loose tension gauge to measure and duplicate precise shroud tension.

•Tie off the aft end (tail) of spinnaker halyard so it won't be able to wrap itself into a knot.

•Use a shockcord to hold up hiking straps in normal hiking position. Check strap attachment points for chafe every day.

•In windy conditions, use a stitch or two to keep each batten in its pocket. Carry a spare batten in each size just in case.

•Cut all line tails as short as possible to reduce weight and minimize tangles.

•Keep 2 top battens on board: a soft one for light air and a stiffer one for a breeze.

•Tape a diagram of code flats in cockpit for easy reference (board for wind, line and course). You can get this from the rule book and cover it with plastic.

•Add a short, blunt "Bowsprit" to keep spinnaker sheets from going under the boat (wire hanger).

•Don't Hit Anybody!

•Wet-sand entire bottom (and topsides if you dare) with 1200 grit paper on a block.

•Put a bold reference mark on spinnaker halyard so you know when it's all the way up (also 6" down).

•Put marks on spinnaker sheets so crew instantly knows where to cleat sheet and guy on sets and jibes.

•List crew duties at all points of sail.

•Install ball bearing traveler mount level on long teals block.

•Larger winches better than snubbing one cam with boat.

•Through deck spinnaker sheeting best through deck at stern ead forward to ratchet blocks at bulk heads.

Continued on Page 9...

(Tips for Ensign Sailors

Continued from Page 2...)

•Strong boom vang is a must!

•4 or 6 to one outhaul is important.

•Replace jib and main wire halyards with 1/8" wire.

•In flat water tack in a smooth, slow curve.

•On jib tracks have holes drilled on top of bolts for additional lead positions.

•If longer head or back stays are needed, add toggles.

•Use cotter pins, not rings.

•Copy from the leaders!

•He wins who makes the least mistakes.

•The more you practice, the luckier you'll get.

•Don't be afraid to slow down, don't just let main out, push it out -- you'll need 100% harkin blocks for this.

•Oil turnbuckles with 3 and 1, WD40, not oil.

•Rig twine lines for spinnaker sheets.

•If in doubt, let it out!

•Do your job, the crew will do theirs.

•Lifejacket under foul weather gear.

•Sails are the motor, make sure they are up to date and maintained.

•You are here to race; make sure you, the boat and crew are ready, no his boat is better, his sails are newer.

(Parts of this article were reprinted from the May 1989 issue of Sailing World magazine, article titled: "Boat Preparation, Gaining an Edge" as written by David Dellenbaugh. Ed.)

HAVE YOU PAID YO
THIS IS YOUR LAST CHANCE TO REC

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23772 Amesbury Dr

GOOSENECK EXTENSION

I wonder if some people don't know what to do when their Ensign mast slot gets worn, or their boom gooseneck jumps out on a jibe, or they find the right place for main luff tension leaves the gooseneck right in the middle of the slot. I solved the problem 20 years ago and I'll let you in on the plan that I kept locked away in my safety deposit box during the Cold War. Following is the secret document:

GOOSENECK EXTENSION

NOTES:

1. Extension may be placed above or below the slide. Although older Ensigns such as mine have a low mast slot I found that extending the bottom of the slide works fine.

2. Length of the extension is governed by the longest slotted head screw normally available. Socket head or round head screws would also be suitable. If 3" screws are not readily available, use 2-1/2". Make extension 1/2" to 3/8" shorter than screw.

3. Extension can be a piece of 1/2" round aluminum rod drilled to clear the screw used, or suitable tubing squared on each end.

4. It is important to accurately drill and tap the gooseneck. Use a center finder to mark the center of the round part of the slide. Center punch on mark and drill using a drill press and drill press vise. Remove the drill and use the drill chuck to start the tap in line with the hole just drilled.

5. If the work is done accurately, the slide and extension assembly will move freely once inserted in the mast slot. Mast slot wear will be eliminated, the boom will never jump out unexpectedly, and you will wonder why you didn't do this job when you first noted a problem.

— ROBERT S. STOOPS #405, SECRETARY

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ENSIGN MAST REPLACEMENT

Arrangements have been made with Cape Cod Shipbuilding Co., Narrows Rd., Box 152, Wareham, MA 02571 (508-295-3550) to supply our replacement spars. The costs, as specified by Cape Cod Shipbuilding, are as follows:

1. No 3 extrusion @ $13/ft x 32' anadized	$416.00	
2. No. 3 extrusion with tangs spreaders and all hardware (see #3)	$861.00	
3. Approximate additional cost of wire Stays and shrouds. 1 x 19 wire. 5/32" dia.	$450.00	
4. Johnson turnbuckles (swaged to wire)	$36.80 ea.	Note: These turnbuckles are not the same 5/16 chrome-plated bronze original equipment)
5. Mr. E.L. Goodwin will quote on standard stays and turnbuckles		
6. Packaging charge	$55.00	

Your contact at Cape Cod Shipbuilding is E.L. Goodwin, a friendly gentleman, who will gladly tell you plenty of sailing tales covering some 75 years, including about 18 Bermuda Cup races.

Terms: 1/3 down, balance due before delivery.

Dr. Doug Wood
ECA Secretary

REBIRTH OF #5

Do you still love your Ensign even though she's getting a little rough around the edges? Take heart. There is hope for your and everyone's beloved Ensigns.

Over the past three years I have restored three Ensigns, putting them in near or better than new, condition. It makes economic sense, because it is cheaper to restore an old Ensign, than to buy a newly manufactured one. One reason this is so is that the hull, being solid glass as opposed to a cored or sandwich construction, is nearly indestructible. This leaves the deck and the woodwork as the prime concerns.

My most recent project was the total restoration of Ensign ***#5 SPUN SUGAR***. The boat was purchased new by the late ***RUFUS G. (BUD) SMITH***, who was her only owner until ***TOM GARRETT*** and I bought her two years ago. ***SPUN SUGAR*** was, according to ***BUD***, the first Ensign to ever be launched and raced. Thus she is part of Ensign history.

Fortunately, ***SPUN SUGAR*** was in better condition than most Ensigns on which I have worked, but it needed a lot of TLC. Without getting too technical, a brief account of how we went about restoring ***SPUN SUGAR*** follows. By way of preface, let me say that the primary motivation for this restoration and the attendant trip to the 1991 Nationals, was the wish to compete for the "Most Beautiful Ensign" Award.

To begin, we spent a year sailing the boat deciding what hardware we wanted and where it should be mounted. After many experiments with different mounting spots, and many modifications, we decided that the "simple is best" approach would be ours. (Although some who have seen the boat might disagree with what we call "simple").

Next we surveyed deck, bulkheads, woodwork and hull for an assessment of what needed fixing. Then we created the plan of what we wanted the final outcome to be — how the boat would look when we were finished. I had already painted several Ensigns, and we felt, since this boat was really more like family, we wanted something rather special. Taking a cue from her name, we decided on a ***pink pearl finish***.

Any paint job is ***only*** as good as the ***preparation***. With this in mind, all the old paint on the entire boat was removed. Then the fairing of the hull began, which was accomplished using an eight inch Duel Action Air sander to find all the high and low spots. Then eight coats of Algrip 545 primer were applied, sanding smooth between every other coat. The deck was prepared in the same manner, including removing all the old non-skid pattern. Next came the top coats. These consisted of four coats of Interlux's new Interspray 800, Snow White. The boat top and the name were put on with SEM Fluorescent, Hotter Than Pink, mixed with clear. To achieve the pearl finish, six coats of Algrip High Solids Clear with PPG Pearl were sprayed over the surface.

The non-skid area of the deck had been masked off, and was now sprayed with Algrip non-skid material added to the final coat of clear to achieve an even non-skid finish.

The interior is another story. One can spend an eternity on an interior. Stripping the old paint is the difficult part, as there is absolutely no way to escape the mess and dust. After all the old paint was removed, all the bunks chain plate knees, and bulkheads were thoroughly checked for rot. The entire interior was then sealed with West System Epoxy and 410 Filler. The paint was sprayed thick in order to cover in fewer coats.

The teak woodwork was entirely replaced, obviously, one of the most expensive components of the project.

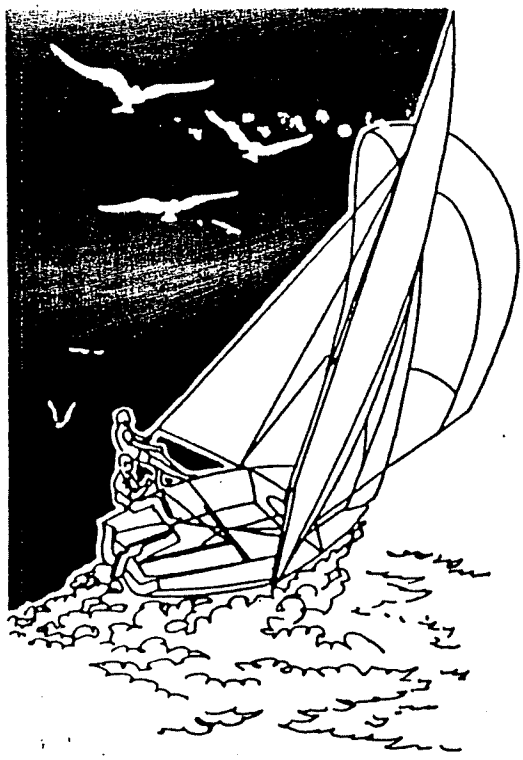
The floor timbers were high grade fir and were set in place using West System Epoxy and High Density Compound. The floorboards were cut from rough teak lumber and sanded smooth. All the teak was then coated with two coats of West System Epoxy and 207 Special Hardener, then finished off with two to four coats of Algrip High Solids Clear, giving the wood a mirror-like finish.

While it certainly can be argued that I probably "got carried away" on ***SPUN SUGAR***, most Ensigns can be restored to like-new condition for around $10,000, depending largely on how much hardware is replaced. This is still about half the estimated cost for a ***new Ensign***.

Anyone who would like more details on this project, or anyone who knows the whereabouts of a dead or dying Ensign which might be purchasable for restoration, please contact:

MICHAEL LITTLE
1028 N. Country Club
Shoreacres, Texas 77571
(713)471-3814

—MIKE LITTLE
SPUN SUGAR
ENSIGN #5



TUNING THE ENSIGN---THE STANDING RIGGING---GEORGE K. BRAZILL, JR.

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The proper tuning of the Ensign rig although not complex is nevertheless important. There is probably no one best approach to the problem, but here is one which has been found effective.

Start with all of the rigging slack and adjust the mast step to hold the mast perpendicular. (Be sure the spreaders have been cut to minimum length) Set up the upper shrouds fairly tight and the lowers fairly slack with the mast straight laterally. Now set up on the headstay and backstay until the headstay is quite tight and there is a decided hook aft, of the mast above the headstay tang. It may now be necessary to adjust the lower shrouds to get equal fore and aft tension as the hook often will induce a slight curve down the mast. (Under sail this curve will increase as the wind increases unless it is restricted by the lower shrouds) This is the starting point from which you work under sail.

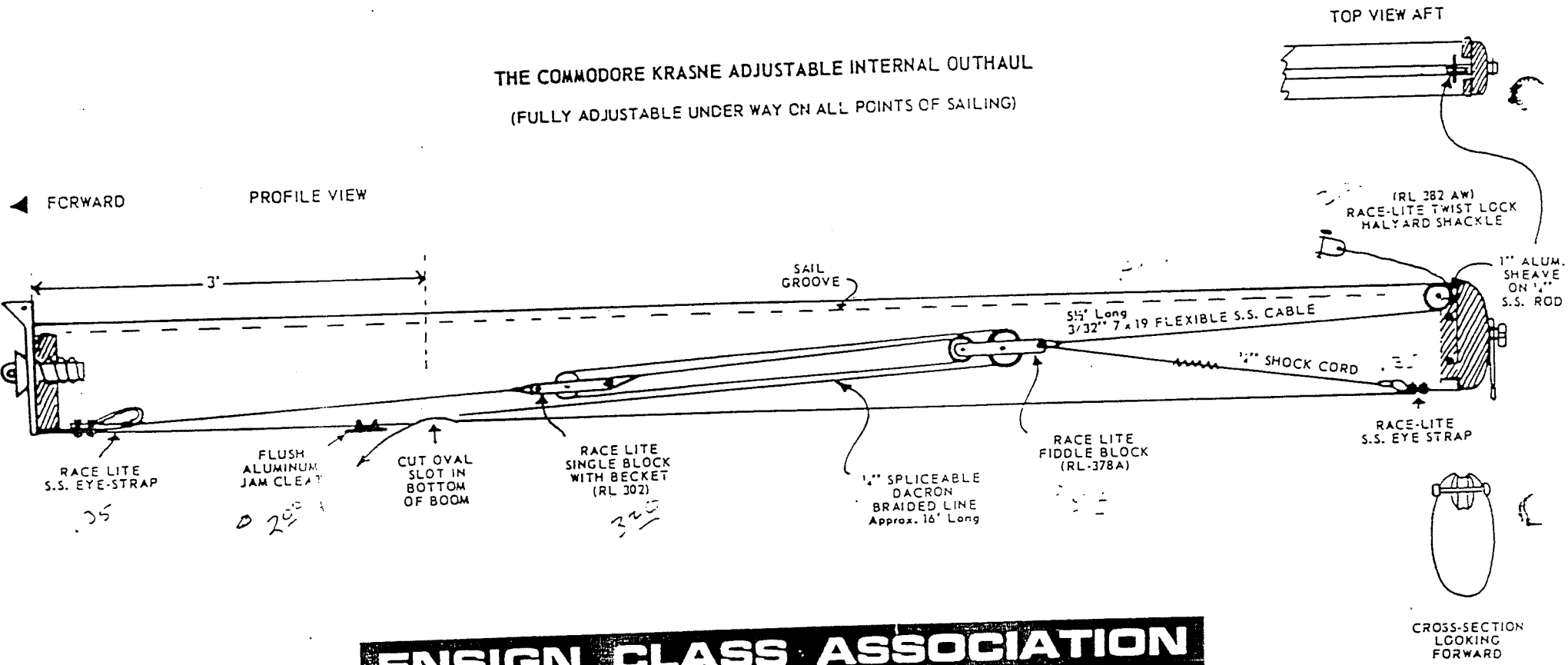
In a moderate breeze while sailing close hauled adjust the shrouds until the mast stands straight on both tacks. (Sight up the mast while someone else sails the boat) Finally, adjust the rig to achieve the helm or balance that you prefer. Many sailors like a slight weather helm. Since the helm is effected by the sail trim, sail selection and crew placement be sure these are in order first. Move the rig forward or aft by means of adjustments on the headstay and backstay. Changes in the fore and aft position of the mast will require readjustment of the shrouds as well. If much forward or aft movement is needed it may be best to move the mast step as well - which seems to be where we were when we started.

Departures from the "standard tuning" have included slacking the backstay in light air, tightening it in heavy air, easing the shrouds so that the mast lays off a bit, curving the mast by means of the lower shrouds to alter the draught of the mainsail, tightening the jib halyard tighter than the headstay and moving the headstay to the middle hole in the stemhead fitting. With the standing rigging in order, the shape of the sails is further controlled by means of the halyards, down haul(s), sheets, vang, traveller, outhaul and perhaps a leech line.

Continuing adjustment and trial of the standing and running rigging is the only means of achieving the maximum performance possible from your sails.

THE COMMODORE KRASNE ADJUSTABLE INTERNAL OUTHAUL

(FULLY ADJUSTABLE UNDER WAY ON ALL POINTS OF SAILING)



ENSIGN CLASS ASSOCIATION