SAILING THE LIGHTNING IN LIGHT AIR

By Herm Nickles

Skippers, I have been asked by the Editors of the year book to give my thoughts on sailing in light air. So, here goes.

First, you need the proper equipment, such as a light boat, not over approximately 735 pounds and a suit of medium draft sails. I believe that these sails can be used in all airs, if the boat is properly tuned. This can be done by adjusting the clue outhaul, the boom downhaul, and the backstay.

With my present sails that were ordered as medium cut, I carry about a 4" bow in the spar when the backstay is very tight. As you know this tends to flatten the sail. Now, if before the race, it looks as though it is going to be a light air race, (3-5 miles per hr.), I loosen the backstay which tends to straighten the spar and put more pocket in the sail. Also, when I put my sails on, I pull the outhaul and the downhaul out to the maximum, so I loosen them both about an inch or two.

I use one of the new double downhaul jibs and to adjust this for light air you loosen the second downhaul and now we are ready for the gun.

After you get a good start (everybody knows how to do this), then the work begins. I believe in light air a boat must be sailed well heeled about 15°, (or more in a real drifter). Now in light air you can't point as close as in medium or heavy air, and, by this, I mean about at least 2 or 3 degrees less. Do not strap the main and jib in. Go a little farther but faster.

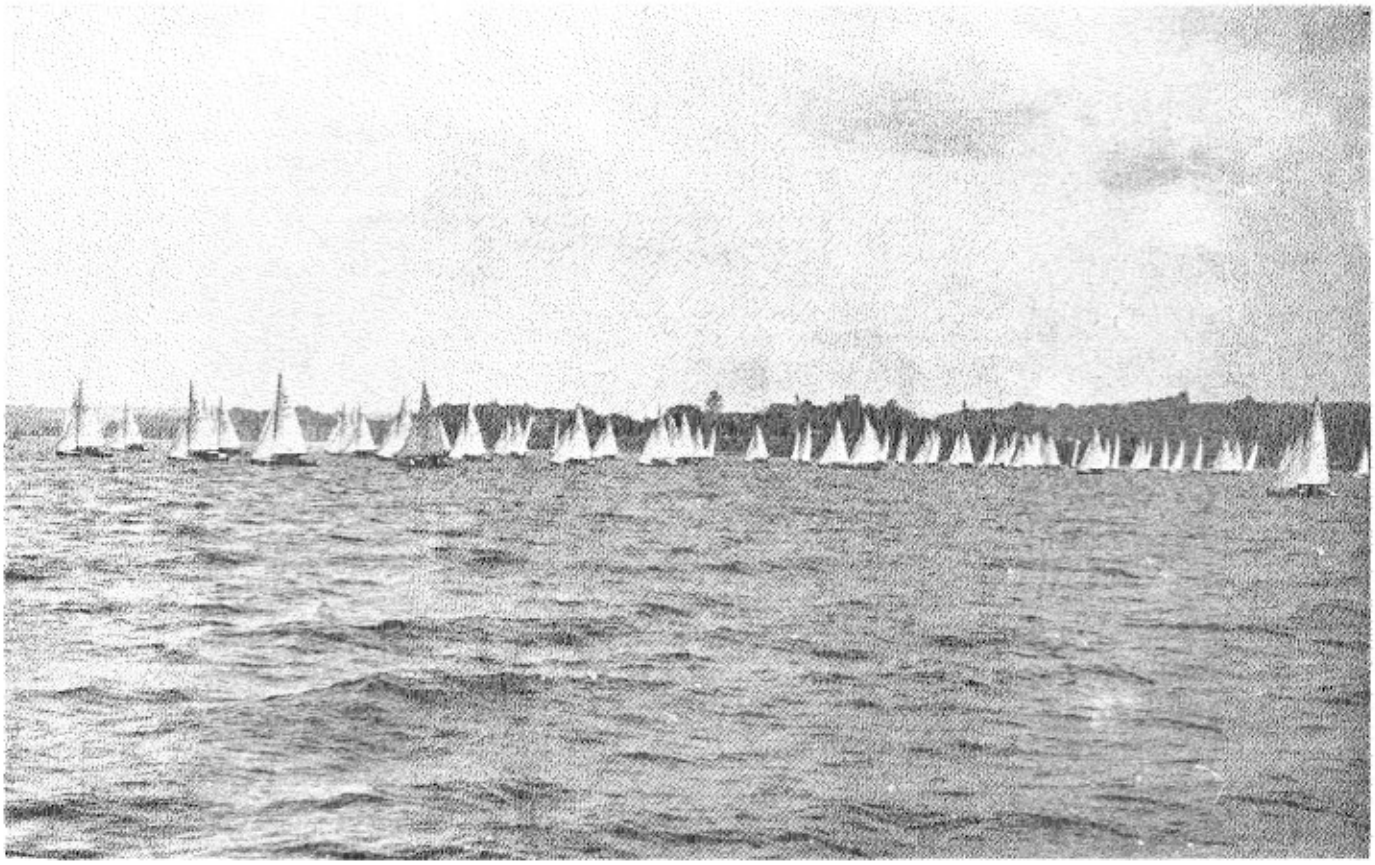
It is very essential to have a good wind indicator. I believe the best ones are on top of the spar where they are free of interference from the sails. This must be watched constantly as the air is nearly always shifty in the light going. The boat should be tuned so as to have a slight weather helm when sailing with about a 15 to 20 degree heel. Be sure that you don't have a lee helm.

Do not hold the tiller tight as you cannot get the feel of the boat. Try to keep the pocket of the sail just breathing. I always carry a full board in light air. It is very important to keep looking ahead to see what the future may bring forth. Don't sail into that hole just because Joe Blow did.

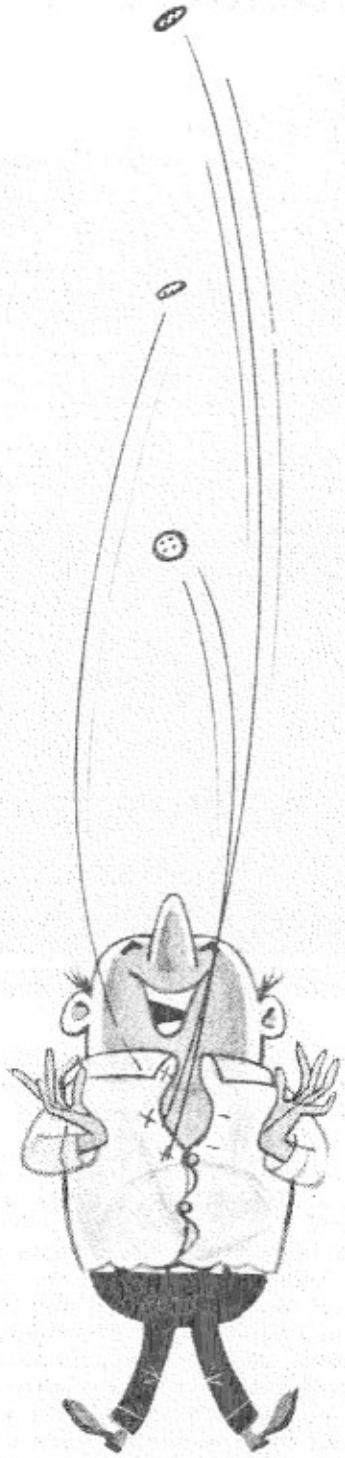
Now, we played it smart and got to the weather mark ahead of the pack! And, now, up goes the trouble shooter. This colorful rag can make or break us. So, we play it smart and keep it on a slight reach so Tom, Bob, Carl, and Al can't cover us. You will find it much easier to keep the spinnaker full in real light going if you keep on a slight reach. Head down on the puffs and up when it dies. Also, a slight heel will help fill it, but not as much as on the weather leg. I think watching the wind indicator is more important on this leg than on the weather leg.

I believe the weight of the crew is not too essential, but they shouldn't move around like a couple of elephants —that's the skippers privilege! Now, in addition to these things, I suggest that you carry a rabbit's foot, a horse shoe, and a few lucky coins, and with a little luck, may we both finish up front.

Herm Nickels



The river was hardly wide enough at Quantico in 1961



We're Busting Our Buttons over the NEW NICKELS & HOLMAN LIGHTNINGS

They are lofted and built with the Skipper in mind

fast! *beautiful!*
light! *rugged!*

1962 models from $1,950.00
kits from $1,065.00

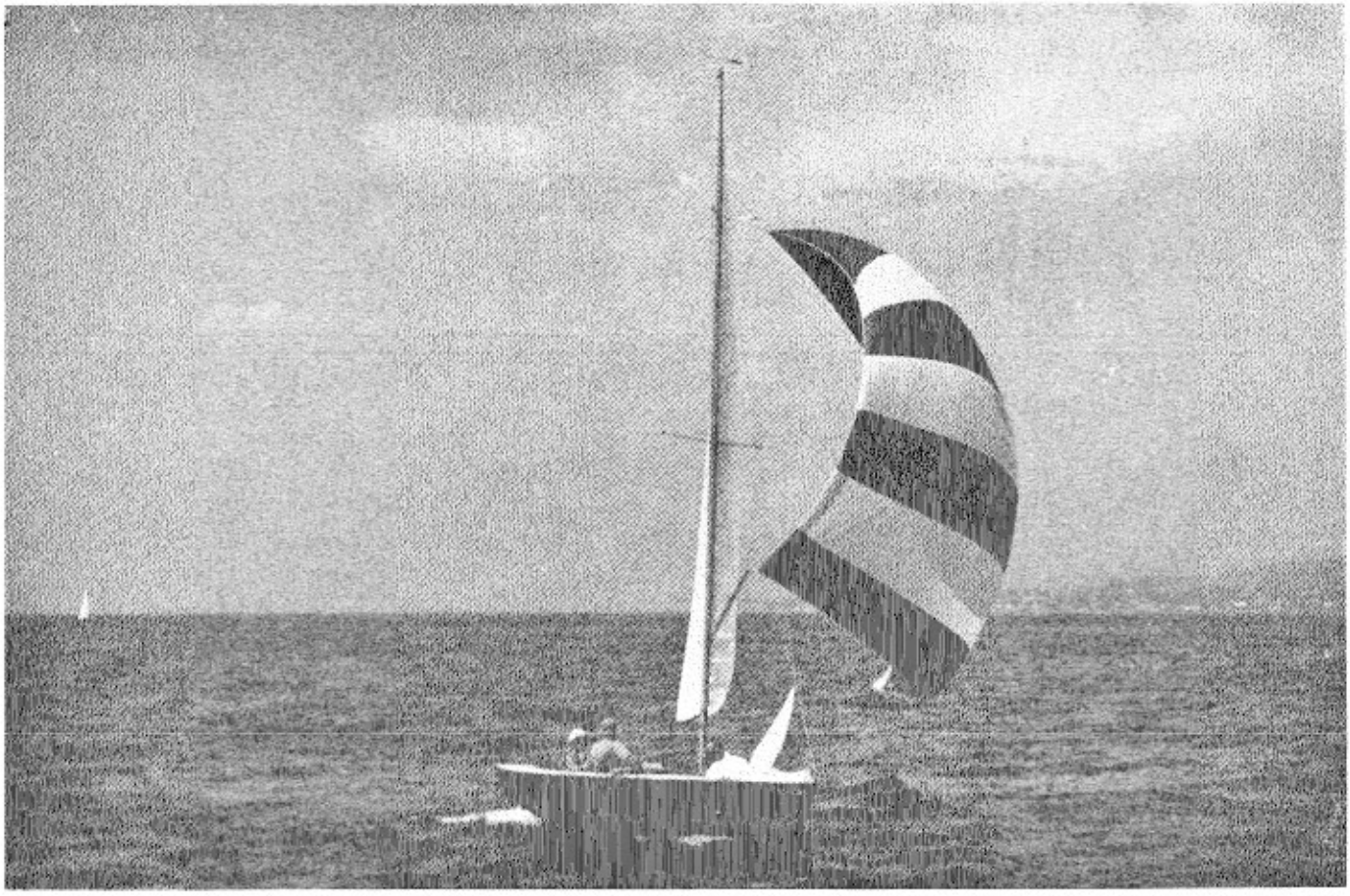
Write for details:

NICKELS & HOLMAN

Phone: MAin 9-2198

2426 S. LONG LAKE RD. FENTON, MICHIGAN

SAILING THE LIGHTNING IN MODERATE AIR



Pre-race tuning by Carl Eichenlaub, Jr.

By Carl M. Eichenlaub, Jr.

Trying to write an article on moderate air sailing is about like a high school boy telling a truck driver how to drive. However, I am sure the high school boy would relish the idea so likewise I will give my views, however controversial they may be.

San Diego, California, where I have sailed for 20 years, is noted for its moderate air so all of the boats from this area are rigged for this condition. Let's start with rigging:

I have found that a jib lead position of about 12° seems to work out best. That is, it will allow the main and jib to work together without backwinding too much or without being out so far that the boat will not point. Next, I believe that the main sheet, in moderate air, should be attached by a bridle rather than the Crosby rig. Lastly, the boat should be equipped with a good sliding plunger-type gooseneck, loose luff jib and outhaul.

When sailing to weather with the boat thusly rigged I proceed as follows: I hold the main sheet in my hand and hike out hard to weather on the straps. The main-sheet-man merely goes along as ballast and hikes as I need him. The jib man hikes (to keep me dry) and operates the jib. In lighter air, I alone hike, and the jib man crouches inside to reduce windage. The reason for this, having the operator hike and hold the main sheet, is so that he can 1. watch the waves coming at the bow, 2. watch the jib and weather tell-tale, and 3. operate the sheet in and out as he feels the boat either starve or increase speed.

The advantage of having a bridle under these moderate conditions then becomes obvious because if the sheet is constantly being adjusted it must come back to the same place without the crew leaping over like a young hippo and giving it a yank. Another advantage of the skipper doing the lion's share of the hiking is that, who can tell better when an ounce or 2 extra is needed? I think, however, watching the waves, tell-tales and jib from the weather side is a big advantage as I have always had trouble sailing a boat from the leeward side like a locomotive engineer with one hand on the main sheet like a whistle cord and sticking her nose into every wave the wrong way.

After we are rolling along in this correct fashion it is time to take a gander at the sails and see that everything is right. I generally have the crew loosen the loose luff of the jib all the way then pull it down till it looks smooth. With the sliding gooseneck on the main the same thing may be accomplished. This is the adjustment on the main luff and jib luff are similar and must be adjusted in a like manner and frequently to produce the correct results.

The correct results I believe can be obtained by just

enough downward pressure to reduce wrinkles but not too tight so as to draw the two sails into a tight bunch against the luff wire on mast. I generally sail with the outhaul farther in than most people (looser on the foot) but I am sure this is personal preference.

The loose outhaul generally causes a tighter leech so the jumpers have to be eased more.

Before the 10 minute gun we take a look at the draft in the main and see if it is too deep for the weather conditions. If it is we remove a block from in front of the mast, and if we decide we need more draft we block in front of the mast. This mast blocking at the deck affects the sail and the tune more than any other adjustment but unfortunately our class rules prohibit moving the mast or blocks while racing so guess rightly the first time.

The jib, particularly the leech, next plays a very vital role in the boat's performance. This, however, assuming the sail is right in the first place, may be changed drastically by moving the fore and aft jib leads. I move these leads for one purpose; to make the leech look correct in relation to the back side of the main and not get the jib luffing continuously up and down the forestay. I firmly believe the critical thing on the jib is the leech and this can best be adjusted with these leads.

Now that the boat has had its sails set correctly, mast bent smoothly and crew working in the approved positions with the operator peering around the weather side of the boat we are ready to proceed against all comers to weather. Unfortunately there are reaching and running portions of the course. These legs are necessary in order to start the weather legs again, and the best thing about them is that our designers, Sparkman and Stephans, gave us a spinnaker to get this part over with as soon as possible.

My best advice here is to get the man that sits in the middle of the boat and does nothing to weather well trained so he can fly the kite under all conditions and to the best advantage, then everybody else delegate their authority to this man so he feels responsible for your off-wind performance. If this prima-donna feels important enough and if you know some of the elementary off-wind procedures such as: 1—have gear that works, 2—know how to heel the boat and distribute weight to reduce the helm, 3—know how high to pull the board, 4—let up on gooseneck and outhaul and v ang down, then I am sure that you will be able to start your weather legs sooner.

I am convinced that to get the most out of a Lightning a certain amount of minimum gear must be provided that did not originally appear on the plans. The use of most of the items that I have mentioned can be applied to all weather conditions. Naturally, there are many more gadgets that I either am not familiar with or have not described but I believe that at least for moderate air a boat sailed and rigged as I have described will be hard to beat.

SUPPORT OUR ADVERTISERS

Heavy Air Sailing or Let's Separate The Men From The Boys

By Robert Lippincott

Wouldn't it be wonderful if the ability to sail in heavy weather would do this. I would hate to Indian wrestle a lot of light air sailors that I know.

Sailing in a breeze, to me, is a wonderful thrill and a satisfying experience. It is the most rewarding thing that I do, partly due to my inability to sail in light air and partly because the element of chance is less a factor than in a drifter or, prone to shift lighter winds.

Now, let's prepare to sail a heavy air race in a Lightning.

The rigging should be checked for possible failures in the making, such as a badly kinked wire or stranded wire. All clevis pins should be checked and taped, halyards, both wire and rope, checked; also the action of the halyard shackles so that they can not rattle open. Be sure the bailing equipment is in working order.

Next let's tune the boat. Always keep in mind that the heavier the air the less draft you need in your sails, so put on your flat suit or prepare to decrease the draft in the main by some other means. The tension of the jumper stays can be adjusted so that when the main sheet pulls down on the boom the top of the mast will be pulled back thus putting a bend in the mast which will reduce the draft in the sail on the wind. When off the wind the bend will automatically come out. To help with this bend the lower shrouds may be fairly slack and the uppers slackened a little. I like a considerable rake in the mast particularly in heavy air. Twenty inches would be a good start although the latest trend is to go much further.

It's time to start the race! Never get far from the line after the ten minute gun. Always be close enough to hear the five minute gun, in order to check your watches accuracy and the committee's. Keep your boat dry by reaching and using the bailer taking it easy so as not to take on water and tire the crew. Determine what will be the first spinnaker leg and make preparations. Determine where on the line you want to start, based on wind direction and location of the first mark. Make sure that you get on the line at the start and try to have room to weather to maneuver but, more important, try to have room to leeward so that you can get the boat moving without being pinched off from underneath. It is dangerous to crowd around the weather end of the line.

Now let's get to the first mark first. Always sail your boat as high as possible without stalling, particularly in smooth water. When there is a sea running keep your boat driving by bearing off slightly just before the seas hit you. This must be done with the utmost care so as not to work to leeward. In a breeze the boat is more efficient when sailed on its feet. She will point higher, the sail and centerboard will be more efficient and the boat will move just as fast if handled properly. You should hike until you almost drag in the water. It should be remembered that live, movable ballast (the crew) can make the difference between success and failure. The real art of heavy air sailing can be summed up in the skill that is executed in trying to get the best combination of footing and pointing. No amount of studying can tell you how high to point; this must come from experience and varies with the sailing conditions. Remember that every time you tack you lose a certain amount of speed so tack only when there is a reason. The reasons may be to get out of a current, avoid hitting a boat, to keep from getting too close to the lay line, to approach the mark on starboard tack, or to take advantage of a wind shift. Never overstand a mark, particularly in the beginning of the weather leg. It wastes distance and prevents you from taking advantage of a lift. The exception to this rule occurs when there is a traffic jam close to a mark. If you don't overstand the other boats may cause you to fall below the mark. It seldom pays to crowd a mark in heavy air. The risk is too great as the sea may throw you against the mark, or visa versa. Foresee this possibility before you reach the mark.

Now you are around the mark and have to determine your course to the next mark. It will be a reach you will probably not be able to fly your spinnaker. Get your boat planning as soon as possible by bearing off in the puffs or when you are just over the crests of the waves. This takes a lot of practice. You will find that you will be able to maintain a plane longer if you trim the sheets when your forward speed makes the apparent wind come forward. If the wind over powers you momentarily, slack sheets until you are again master of your boat. Never let the boat heel any more than necessary. Generally speaking, your course should be a straight line to the next mark unless you are trying to pass someone to weather or to leeward. You will not need all of your centerboard so experiment with it. Remember if you are not sure that you have an overlap in time it pays to play safe at the mark.

You have now rounded the second mark and will have a chance to use your spinnaker if you were not able to get the wind aft of beam on the last leg. You will probably be forced off a straight line course in order to keep your air free. Do not go off any further than you have to. Always remember that the shortest distance between two points is a straight line. The practice of tacking downwind is highly controversial but should not be ignored particularly when the wind is veering. If the boat can be made to plane by heading up when it can not plane on a dead run by all means head up. This can happen with a certain wind velocity.

Always be careful of the starboard tack boat especially when approaching the finish line. A forced jibe at the wrong time can be disastrous. If your course has been down the middle you should end up close to the finish marker on your weather side as if you were going to round it by tacking. This will give you the advantage of having sailed closer to the wind on the final run for the line.

If and when you have carried out the foregoing suggestions properly and have received the finish gun don't bother buying a size larger hat, for you will probably fall on your head the next race and will need your old hat.

An Evening with the Chief Measurer

When Barney and Marb, your yearbook editors, asked me to write an article for the 1962 Yearbook, I was at a loss for words. In 1961, Jim Carson left no stone unturned in describing the Chief Measurer's job, his responsibilities, and how they are accomplished. For the serious minded sailor who wants to be assured that our one-design-ness is properly organized, read Jim's article. For a look at the human side, read mine.

It's 7:00 p.m., Herman and his harem have just finished dinner. While Mother pours the coffee, Dad takes a look at the headlines then reaches for the mail. "Holy Smokes", he mutters, doesn't that mailman ever let up. Three new certificates from Margaret and two returned with corrections. That's not too bad but, "oh, that stack of letters." Better get an early start tonight or we'll never get to bed.

What's this? An air mail special delivery from overseas —must be pretty important. Yep, it is. There's a championship regatta next weekend and someone needs approval of his certificate in a hurry. He'll be OK unless there's something which needs remeasuring—let's have a look. Great Ceaser's Ghost! Boat built **1960**. Boat measured **July, 1960**. Certificate signed and filed **November, 1961**. It's times like this we wonder why we should hurry —oh well, we'll try. Those big denomination foreign stamps look pretty fancy—better save them for when the "small fry" start a stamp collection.

"Hey Reds, better get started on the dishes and the kid's reading, writing, and arithmetic. There's plenty of typing for tonight. (Poor kid—she married me "for better or for worse" but how could she know it would be this much worse). I'm off to our "office" to get started on a few routine jobs.

Here's an easy one—someone wants information on a tilting rudder (for local races only, of course). Good "ole" Jim Carson—one of his sketches on this is in the "technical advice file." Just write a cover letter, photocopy Jim's sketch, and mail. Here's another easy one—a skipper is putting on a new bottom and wonders if he can use plywood—bet I've answered this one a dozen times in 3 months. (Sure it's OK if it is the same thickness as lumber but almost impossible to put on because of the compound curves aft).

This one made me smile! Here's a guy who can tell Herm Nickel's #7207 is illegal just by looking at the picture on the front of the 1960 yearbook. "Look how straight the chine line is", he says. Guess he doesn't realize that he's looking at the bottom paint carried up a couple of inches on the side planks in the middle of the boat. We frequently have to defend against the trained eye that studied two boats side by side at a mooring but now we even have to explain photographs. With such "eagle eyes" in the class, I sometimes wonder why we even bother to measure lightnings.

Here is a tough one. A vice president claims you can't build a mast to plans and have the top portion meet specifications. He sure sounds like he knows what he's talking about—guess I'd better lay it out full scale on the "drawing board" (the bedroom floor) and see what goes. Later—Guess what? He's right. Better get off an "In Turn" letter to Bud Olsen and Al Bethel to see if we all agree to correct the specifications.

Oh my, what in the world will I do with this one. Someone wants to know where to paint on the waterline for his boat. The technical advice file says use a transit or mark off the shadow of a string held in front of a strong light. There ought to be an easier way. While the "Assistant to the Chief Measurer" is typing, I'll go out back and measure up Sugar 'N Spice. (Don't you all worry about the neighbors. When they see me fussing around my boat with a flashlight on a cold December night, they don't think I'm crazy—they know it!)

"Come on 'Reds' let's get started." Now I'm not good at dictation, and Carlyns secretarial efforts were five children ago, but we manage. Along about 11:00 it's quite obvious that "the little woman" is getting weary. She reads back a letter that doesn't sound even close to what I dictated. She's had it for today so we close up shop and hit the hay.

We're glad you could spend an evening with us. Come back tomorrow and we'll do it again. On second thought, you'd better not—tomorrow is Friday and we take time off to bowl.

Thanks, Herm! He works harder than anyone in the Lightning Class—The Editors.

"SECRETS FROM THE CHAMP"—TOM ALLEN
The fruits of Tom's labor "Atom II"

SECRETS FROM THE CHAMP

By Tom Allen

The year 1961 was a history making year for the Lightning Class Association. It was also an important year for me. I was very fortunate to win both the North American and World Championship of the Lightning Class. This Honor has brought me many letters from North America, South America, and Europe, for all the congratulations, many thanks. At the same time I have received many requests for information about my boat, the sails I used, how I tune for various weather conditions and many more. In this article I shall attempt to answer some of the questions that have been asked.

Everything has a start. Atom II had been in my mind for a long time. In February of 1960, Construction finally began. With tolerances published, I thought, possibly, a faster boat could be built still within the limits. Also, it appeared to me that the boat could be made stronger, more rigid at the points of most stress, particularly under the mast and along the centerboard trunk. To do this, I built the center bottom frames oversize, secured the half ribs to the centerboard trunk, and put a wide cap on top of the centerboard box.

To design the hull shape, I incorporated my few basic ideas into a full size drawing. This was done to maintain a fair curve. I feel a boat that fairs properly is most important. Because of this, I was unable to go to the extremes that I had intended. When designing my boat, I was often confronted with this problem, to what extremes to go! I could see it would be a preplexing question so I made an early decision, "to go for broke" in hope the boat would be outstanding instead of poor or average.

To those of you who have asked (or might ask) if you should build your own boat, I can only answer yes if you are willing to spend double or triple the time you originally anticipated. And are willing to gamble on your design. You might also tell your family and friends "goodby" for awhile, that or take a couple of years to build it.

Among other things, I wanted a choice spar. Flexible fore and aft for the fuller sails used today. I didn't know anyone making what I had in mind, so Bob Bleasby of Toronto was kind enough to make me one in his basement. It was made from four full length pieces of sitka spruce and weighed 18½ pounds bare. With my mast I am able to use a very full sail. It can be flattened sufficiently for a 15-20 MPH winds. For wind above this I would use a flatter sail. In California I used the same main and jib in all the races, and in Milford I used two mains and one jib for the series.

Once the boat is built, you have to rig, tune, and race it. In a race, I like to sail with a very slight helm or none at all. The boat should be sailed as straight up and down as possible. (With two exceptions, very light wind and/or waves, then the boat should be heeled more.) To sail with this helm and level, I would tune the boat the following way:

1. While at the mooring, crew in normal position and mainsail rigged for racing, rake the spar until the boom is level with the water. I do this so the air in the lower section of the sail will flow off the leech instead of across the boom. This would happen if the boom were elevated.
2. Go sailing; see what the helm is with the board all the way down and the boat almost level. Now move the spar fore or aft until there is only a very slight weather helm. Be sure you maintain the same rake.
3. Now adjust the jumpers, lower shrouds, and deck wedges so the mast is bent or straight to suit your sail, so the depth of draft diminishes gradually towards the top. I prefer to have the jumpers somewhat loose so that the upper portion of the sail can be flattened for heavy weather.
4. Trim the sail and adjust the location of the jib leads: fore and aft, so the whole luff of the sail luffs at the same time: abeam, so the leach, and battens are in a plane parallel with the centerline of the boat. If this is not possible, the leech of the sail must be too tight or loose and should be adjusted. Look up the leeward side of the main; adjust sail, clew tack, mainsheet so battens are parallel to centerline. If the battens still hook toward the center of the boat, the leech should be eased. If they fall off, try pulling the mainsheet tighter and/or push the boom to leeward. If this does not work the leech should be tightened.
5. Now sail the boat paying particular attention to the helm. The centerboard should be all the way down. The crew should sit so the bow is just out of the water with the boat heeled very little. If the leeward half of the bottom of the bottom is parallel to the surface of the water, this should be about right. Having done all these things, if you do not have the same helm as achieved in step two, move the whole spar fore or aft to correct the helm. Do not change the rake.

After all this rigmarole, the boat should be faster. If not please forget where you read these ideas.

The boat was finished about July 1st. We tried to get in as much sailing as possible in a relatively short time. It is a good idea to get the feel of your own boat, sort of get to know its idiosyncrasies.

Since the season was short for us, we only went to a few regattas. The most important two, by far, were the North American in San Diego, California and the World in Milford, Connecticut. To go to these races and do a little sightseeing, we drove approximately 8,000 miles. My car almost didn't make it and my wife lost 8 pounds driving home from California (I flew) with the boat.

In California it was such a pleasure to meet all the wonderful people from the West Coast. And to experience some of that California sunshine we always read so much about. In Connecticut it was an honor to meet the Lightning sailors from other countries. If I only learned one thing at this regatta, it was that we may have a majority of the boats but they have their share of excellent sailors!

Now that the 1961 season is over, it is my pleasure to invite you to the Buffalo Canoe Club for the North American Championship. It is only fair to warn you that I will be trying to retain the title as hard as you will be trying to take it away. Please come to Buffalo, we promise you good racing and a good time.

FOXES FABULOUS FACT FINDER

By Marbury B. Fox, Jr.

Many people have inquired about a gadget I have mounted on the floor boards of Tally Ho, just aft of the center board trunk. This year's Co-editor, Barney Mead, was one and he thought others might be interested in hearing about it. Since Barney is one of my toughest local competitors and has long since wormed the purpose and function of the gadget from me I agreed to give it a try. So here goes on what I call Foxes Fabulous Fact Finder.

The Fact Finder can be mounted on the floor boards just aft of the center board trunk, on a clip board, the spray rails or any place that is convenient for the person who will operate it. Each Skipper will have to determine who will operate the Fact Finder and where its location will serve him to the best advantage. The purpose of the Fact Finder is to show at a glance the wind direction in relation to all legs of the race course and the starting line. With this information before you at all times it makes planning and changing your tactics during the race relatively simple. Answers to questions such as, which end of the line is favored? Which way is the wind swinging? Should I fly the spinnaker? Should I jibe? Is this a good tack or how has the wind shift affected the other legs of the course are answered. It has been said, "One picture is worth 10,000 words", and the Fact Finder will give you a constant picture of the race course as the race progresses.

To begin your burn or draw three parallel wind lines about seven inches long and 1¼ inches apart on your mounting board or floor boards. Then you fix a clear plastic compass rose to the center of the middle wind line so it can be turned. After this you burn or draw in the port and starboard tack lines. See Figure #1.

I have used 45° off the wind line in my diagrams as the average most boats can make. However, you should experiment to determine exactly how close your boat can sail to the wind on each tack and use the actual degrees rather than the 45° used in the diagrams. The reason for having the tack lines accurate is to show you the wind direction while you are beating and what your heading will be when you go about. For an example say your boat does make 45° to the wind and you are on a starboard tack with a compass reading of 315° as shown in Figure #1. By turning the compass rose until the starboard tack line points to 315° the Fact Finder shows the wind direction to be 360° and your port tack heading would be 45°.

So far everything has been relatively basic but you have this information without the fear of making a mistake in addition or subtraction during the excitement of a race. Now, let's get down to the meat of the Fact Finder and plot an actual race. To do this you need a short straight edge and a soft glass marking pencil for drawing lines on the plastic compass rose. You also need to know the compass headings to the marks of the course. There will be some race circulars that will give you this information but if they don't, you'll have to get out on the course early and find the headings for yourself. This is really the best method because you get the actual headings by your compass. Now look at Figure #2 which illustrates a typical race course as shown or described by a race circular. I have drawn the starting line on this illustration to help show how it is transferred to the Fact Finder.

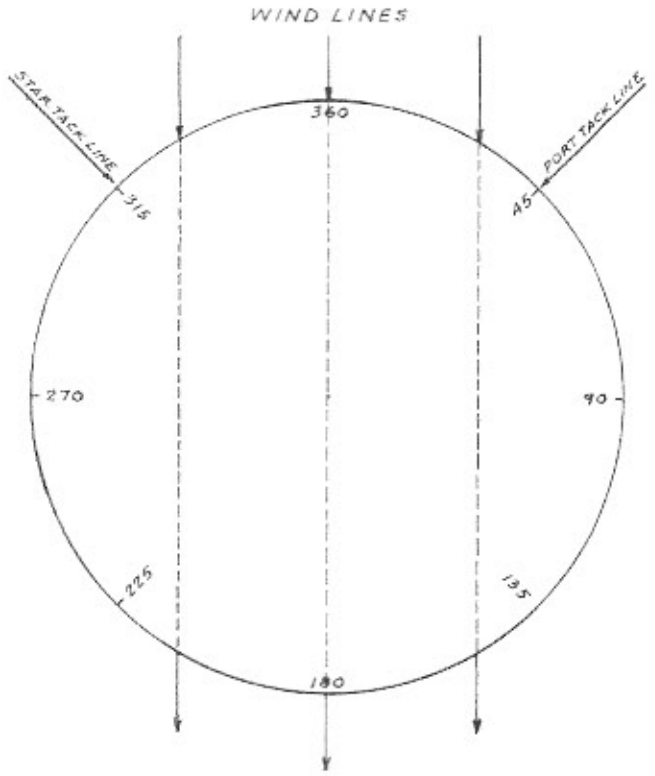


FIGURE NO. 1

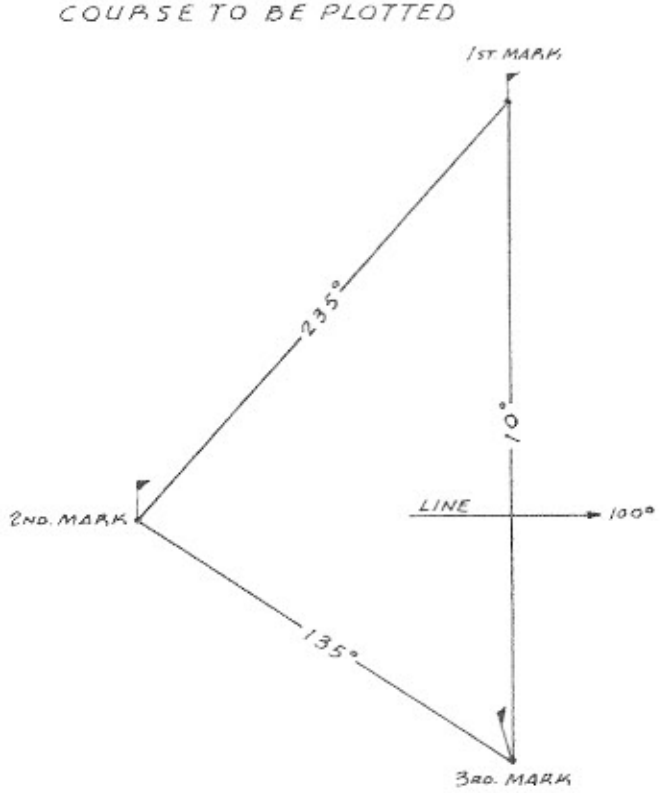


FIGURE NO. 2

Now that you have the headings for the course as shown in Figure #2 you are ready to transfer the course to the Fact Finder. The only trick is to remember to begin each leg from the center of the compass rose and extend it out to the proper heading. See Figure #3.

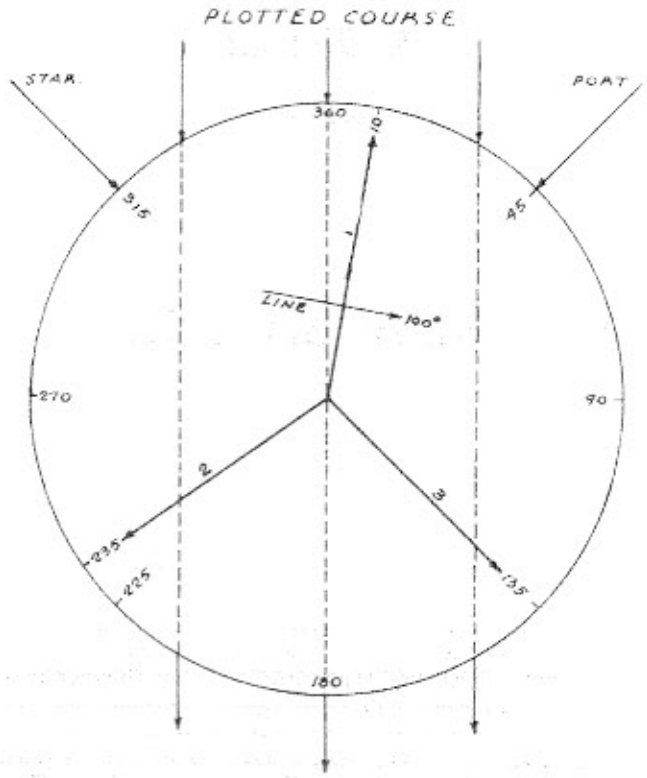


FIGURE NO. 3

You can see that I have numbered each leg to avoid confusion. The starting line has been projected from the center of the rose up the first leg to give a clearer perspective of the line in relation to the first leg of the course. The starting line is plotted by simply running the line to get a compass reading. Once you have the starting line plotted on your Fact Finder you can leave this area of mad mayhem and always know which end is favored by setting the compass rose to the wind direction. Notice the two outside wind lines are visible through the clear plastic rose showing the wind direction for the second and third legs. Assuming the wind is from 360°, the leeward end of the starting line is favored because the race committee squared the line with the first mark instead of the wind and the port tack will be the major tack to the first mark. The second leg will be a starboard spinnaker reach and the third leg will require a spinnaker jibe. You can also see at a glance that any starboard tack heading higher than 315° or port tack heading lower than 45° is giving you a lift. This can be very important under varying or oscillating wind conditions to determine if you are on the right tack. There is nothing worse than being out of phase with the wind on the weather leg so you should mark the original wind direction on the compass rose at the beginning of the race so you can always tell which way the wind is swinging.

Now, using the same course set up in Figure #3 let's assume there is a wind shift to the east and the wind is now from 45° just before you reach the first mark. This is readily shown by turning the rose to match your respective tack line with your compass heading. As you turn the rose to the new wind direction the Fact Finder immediately shows how the new wind direction affects the other legs of the course. See Figure #4.

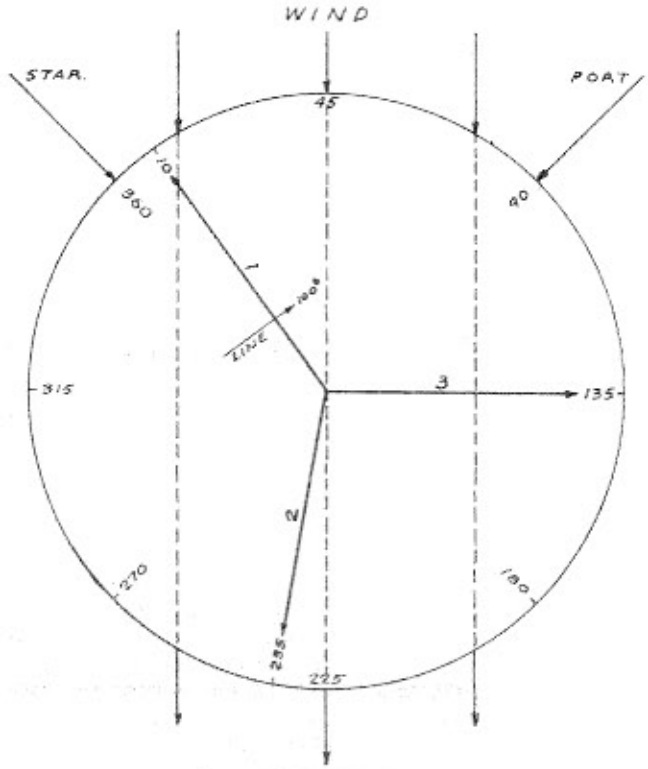


FIGURE NO. 4

The new wind has made the second leg a dead run which might call for some down wind tacking. If the wind had gone any farther it would have become a port tack spinnaker leg. The third leg has become a port tack reach, which will not carry a spinnaker. You must remember that your apparent wind will be ahead of the true wind and especially so on a fast reach. In this particular situation I would take my spinnaker down to weather at the end of the second leg so it would be ready to pop in case the wind should go back. If the finish line is in the middle of the first leg or has been moved to the first mark you can readily see that the starboard tack is 10° off the lay line. This is by far the most important leg in any close race and your Fact Finder will really pay off if you have been paying attention to the wind changes. A short port tack would definitely pay off if the wind continues to swing. You would not only clear your wind if behind, but be on the inside of the lift giving you a tremendous advantage. However, if the wind is varying and has not gone beyond 45° during the entire race and chances are it will go back to 360° get on the starboard tack, which will put you on top of a header.

To digress for a moment I would like to relate a story on Bill Cox, whom I consider one of the best students of varying winds in the business. After one of the National races in Buffalo, New York I over-heard someone ask Bill why he started at the leeward end of the line when he knew the windward end was favored? Bill replied without batting an eye, "Sure the windward end was favored at the start but anyone timing the wind

oscillations knew the leeward end would be favored 30 seconds after the start which would put the leeward starting boats on top of the fleet." If my memory serves me right Bill won this particular race.

I have a few words of caution for anyone who is thinking of installing a Fact Finder in their boat. Don't become so fascinated with the thing that you forget to sail your boat. Also, when you are jockeying around the starting line before the race plotting the course, alert your crew to be on the lookout for other boats to avoid collisions.

Well, that is the story of my Fact Finder—I think it's Fabulous!!

Send In Your Fleet & District Report Early!

OBSERVATIONS FROM A NEW SAILOR

By Jimmy Burke

"Burkes against the sea" is a battle which has been going on for a long time. For years it was a fairly harmless activity—reading magazines and looking at boats whenever winds brought the scent of a waterfront our way. This went on until January, 1960, when, standing on the jetty at Newport, California, someone said, "Let's get a boat." This in turn led to a bridge party in Virginia, where Mrs. Gilbert said, "My son has a boat for sale", and later, Doc Gilbert saying, "Major, do you want to sell your boat?" All this ended with our becoming owners of the Bonnie Lass, Lightning 1440.

In the Spring of 1960 we fitted, painted, and became familiar with, a Lightning. I learned a lot about Lightnings before I had ever sailed one. Starting with an older boat has much to be said for it. In fitting out, I leaned heavily on the counsel of the friendly members of Fleet 50, who didn't seem to mind answering endless questions. While working on the boat, my friend, Tommy Jackson, came by to help, and said, "A sail boat! Now what do you want **that** for?" He didn't know it then, but he was "hooked", too.

We wet-sailed our boat, and I am glad now that we did, for this enabled me to go sailing whenever the mood struck me. During the summer months, Tommy and I just about lived in that old boat. Sometimes we would sail until 9 P.M. In this first year, we raced locally on the Potomac River here. The only major regatta in which I sailed was the President's Cup, and as usual, I came in 'way down at the bottom of the list.

Sailing an old heavy Lightning has much to be said for it. In order to even stay in sight of the rest of the fleet, I had to "sail the pants off" that old boat. The more mistakes I made, the farther back I got! Once in a while I would beat a boat or two, and that seemed to make it all worth while.

In December, 1960, we ordered a new boat. We received delivery in April, 1961. Many people have asked me what makes that boat go so fast in light air. Well, I attribute the speed to the boat itself, and to the sails. My sails are cut for airs not over fifteen knots.

What did I do to create such a beast in light air? When I received the boat, I put it together and went out to sail our Spring series. In the first race I came in second. That convinced me, so I haven't changed a thing since. I check the boat occasionally to make sure she is still tuned the way she was when I got her, with the mast raked and a hook in the top—handy for fishing when one capsizes!

I have found that it is essential to know every inch of your boat like the back of your hand. The reason for this is that when you are sailing with an inexperienced crew, you can take one quick glance around the boat and make sure they have the chute hooked up right, the jib set right, etc. I feel that I have been very fortunate in that I have had some excellent crew members. Without their advice and hard work I couldn't have done nearly so well. Among these hardy souls were Tommy Jackson, who is now my regular jib man, Bob Theobald, Dave VanArsdale, Joel Epstine, my main man, and my fiancee, Eva Berthold.

Learn to **feel** your boat and get to know when she is moving. Let her talk to you through the tiller; she will let you know when you are doing something wrong. I know a Lightning isn't the easiest boat to feel, but you **can** feel it. If your boat isn't moving, change it. Try it with the change in tune for several races before you arrive at any conclusions as to performance. When you change the tune of your boat, do it radically. This way, there will either be a marked improvement, or you won't go at all. If you go slower, change the mast in the other direction.

Lady Luck plays an important part in successful racing. Without her help once in a while, even expert sailors would be lost. She takes the form of a puff of wind just when you need it, a good starting position, a lucky set of the spinnaker, etc. It is she who sometimes gets you 'round the mark in good shape. This is why I believe that, for a good fast race, a Lightning skipper needs practice, experience, a good boat and sails, an alert crew, absolute familiarity with his boat, and — Lots of Luck!

EDITORS NOTE:

Jim Burke of Fleet 50 has become a threat to the top sailors of the Dixie District in only two years and we feel that his observations should help the new sailors who are just starting to race.

GO FAST GADGETS

By Stu Anderson

Each skipper has his own favorite way of solving his rigging problems. Here is how a couple of Glockenspeil's problems are solved with readily available inexpensive materials.

POLE TOPPING LIFT

Spinnaker pole topping lift. Made from 1/16 stainless wire, starts with a snap on the end of the wire to the pole up and through a small sheave on the mast then down the front edge of mast and through a ¼ inch stainless tube which is put through the mast six inches below deck level. Wire goes through tube to a simple winch which is a ⅜" brass or stainless bolt about 5" long which is mounted through the supports for the front edge of the trunk. Wire is fastened to the bolt by a small screw taped into center of bolt. The winch is turned by a handle similar to those used on thistles with a socket to fit the head of the bolt welded to handle. On the opposite end of the bolt drill a piece of hard fibre so that it is a binding fit and takes a little effort to turn the bolt. This acts as a friction lock and will keep the topping lift in any position you put it. With this type lift your wife or daughter can easily adjust the topping lift quickly even on the windiest reaches.

If you do not use a shock cord to hold down the snap end put a piece of tape on the wire that just bumps into the sheave at the highest position so that you won't lose the end from reach if you accidentally let it go.

STU HAUL

The next gadget for lack of a better name has been called a Stu Haul by my Lake Erie competitors—it has been the subject of much discussion—I believe rigged in the following manner it will not be criticized.

On a few occasions we race in winds strong enough so that to keep the boat upright the main is continually shaking and sailing only on the battens. Under these conditions especially if your crew is light we feel if we can hold main boom over the leeward corner of the transom and down hard we can hold down the boat and get a little more effort from the main.

The Stu Hall is rigged as follows, a second main sheet block on the boom is added one foot behind the forward mainsheet block. An open snatch block is put on the main sheet between these blocks and a double ended 5/16" dacron line attached about 10' long on each end. Each of these lines then lead to a small sheave mounted amidships on a side frame at seat height.

We would normally start the race with this rig not in use then rig it after the start by putting the snatch block in position on main sheet and pulling on the leeward line about six inches and cleating on a cam cleat on top of centerboard trunk, this then has main out over leeward corner and pulled down hard with the main sheet. Under some conditions you will be able to cleat main and hold boat upright and have a flatter looking main than by using only the vang. To come about you must release this rig and then retrim it by on the new leeward sheet on the next tack.

Usually under these extreme windy conditions we are not tacking too often, just trying to stay upright and take as few tacks as possible. This rig is used very seldom, but we have observed many times when a light crew is making a good showing in a regatta until an extremely windy race and then are unable to hold the boat down going to windward, try this and it might just make enough difference to get by.

BOOM OUTHAUL

1/16" stainless cable dead end starts on port side extreme outer end of boom, forward around front of the outhaul fitting through a tube bent in a U shape and welded to front edge of outhaul, then lead aft to another U shaped stainless ¼ tube bent around and fastened in outboard end of the top side of the boom then forward to a similar bolt as the winch for the topping lift so that we have a ⅜" bolt mounted vertically 6" aft of the goose neck fitting with the head protruding just below the bottom edge of boom to accept handle for turning (same handle as for topping lift and jib down haul). The top of bolt is put in hole in flat top section of boom and the bottom of bolt is fastened to lower side of boom by a snug fitting fibre block acting as a friction lock.

SPINNAKER SHEETS

¼" led through a pulley in the aft corner of the deck pulleys can be home made or inexpensive through deck pulleys purchased. Line is then led forward to a pulley mounted on a frame amidship about 4" below deck level making sure line runs clear from after pulley and doesn't bind on frames or deck supports.

Line is now in good position directly across from spinnaker handler, a cam action cleat mounted upside down under the deck at the inside edge is handy. Be sure pulley and cleat are mounted correctly so that the sheet cannot be accidentally engaged in cam. This cleat is used most often in jibing on a windy day by pulling spinnaker guy tight under the deck and cleating then releasing the guy from the hook and cam at the shrouds as you are about to begin your jibing maneuvers.

This through deck arrangement leaves the deck free of fittings for more comfortable hiking.

BOOM VANG

The drum winch is an 8" wood drum with a ⅜" O.D. brass pipe axle, bearings are triangular stainless plates one screwed on each side of mast step. The lanyard from the drum goes to a cam mounted upside down on the pin rail at deck level. The cable from the axle goes through a stainless tube strapped to the mast at deck level and from there to the boom 3½' aft of the gooseneck. It is retracted by shock cord on the boom.

This is a simple strong trouble free vang. Because the pivot point is fastened to the mast it stays in the same relative position under the pivot point of the boom allowing the mast to be moved forward or aft at deck level and the boom will swing or gibe freely with the vang on tight.

Sometimes when you start a race with a Crosby main sheet rig and want to change over to a bridle it is inconvenient during the race, we do two things under these conditions. If the wind drops to about five m.p.h. and we want the main to stay nearer the center line of the boat which it doesn't do with a Crosby rig unless pulled pretty hard. We lead the section of line crossing deck from its normal location to under the drawer which is pulled partly out from its position in center of after deck, this gives a lot of friction to the main sheet and it will stay in the center or wherever you want it with less down pressure to allow your main to take a fuller shape, if you don't have a drawer put the line around a screw mounted under the aft deck. If the wind gets still lighter we pull ten feet of slack between after deck blocks and cleat the bitter end at the mainsheet cleat and trim main from through the windward after deck block freehand, this allows you to trim main to any position with as little down pressure as possible.