

STANDING RIGGING

"They also serve who only stand and wait"

by Clark Chapin

The standing rigging of your boat consists of the three stays. (See Figure 1) Most sailors give little thought to your standing rigging and it costs them in two ways: speed and breakdowns. Spring is a good time to review the standing rigging and make certain that it's prepared for a summer of sailing.

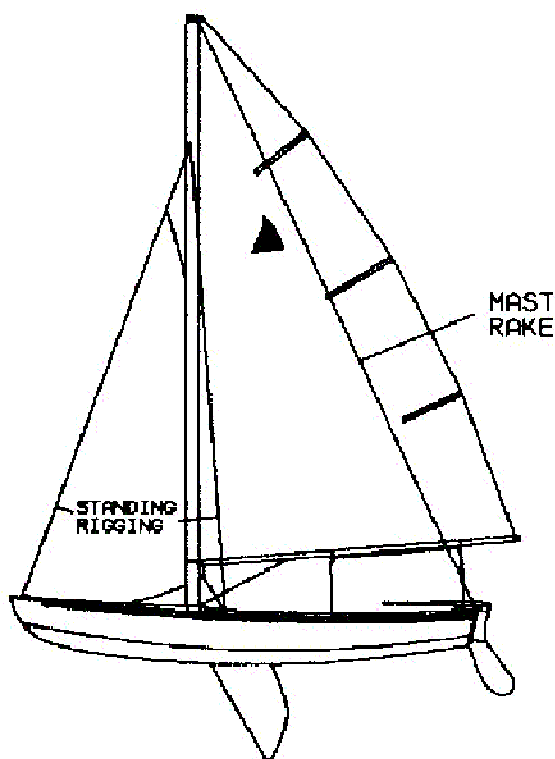


Figure 1

Let's start with the mast down and the stays disconnected from the boat and eliminate the breakdowns. Remember, in order to finish first, first you have to finish. A failure of the sidestays will not only bring your race to a crashing halt, but also may damage other hardware on the boat or injure you or your crew. Although it is possible to keep a mast upright by using the spinnaker halyard as a stay, it's hard to do and usually the first warning is when the mast goes crashing over the side.

At that point, it's too late to do anything about it. Inspect your stays at the beginning of each sailing season and again before any major regatta, like the Nationals. Run your fingers gently along the length of the stay and be alert for broken strands, particularly at the fittings at each end, especially at the top. Although the mast will stay up with one or two broken strands, this is a message from God: "FIX ME!!!" You can check out the cable near the bottom fitting as often as you like, but the tops are pretty inaccessible when the mast is up, so check them while you can.

While the mast is down, let's add adjusters to the side and forestays if you don't already have them. Let's add an adjuster lever to the forestay as well. You can't tune something that isn't adjustable. You will need to have your stays shortened to make up for the added length of the adjusters. The clevis pins should be secured with "curly cue" type retainers rather than cotter pins since they have fewer sharp ends to snag spinnakers and are more easily adjustable and reusable. These rings are often called "O-No rings." Why?

Because if you find one lying loose in the bottom of the boat, you pick it up and say, "Oh-No! Where did this come from?" In the vacant positions in the adjusters, place another clevis and ring, just in case you ever need a spare. Now finish the whole installation off by taking a cheap vinyl bicycle handlebar grip, slitting the hole in the end so that the sidestay tang can fit through, and placing it over the adjuster to protect the Oh-No rings from getting snagged on the spinnaker (Figure 2).

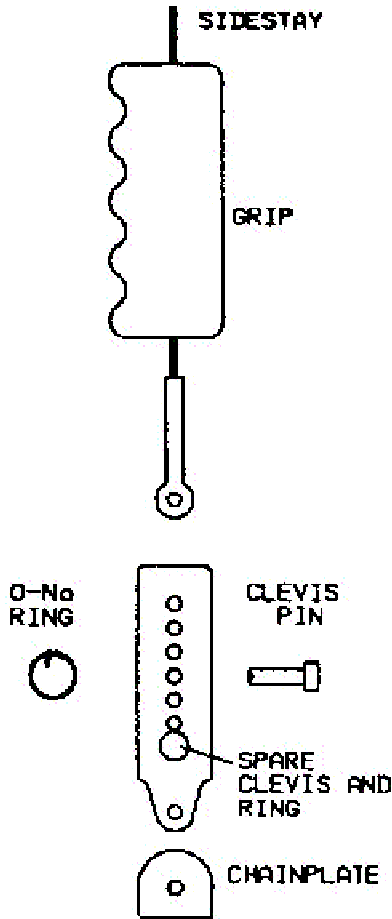


Figure 2

The next step is to determine if your centerboard bolt is where it's supposed to be. Most boats are close to the specified distance of 2.5 inches forward of Station 8. Where is Station 8? If you've got one of the standard decks (molded-in seats that don't go all the way to the stern) then Station 8 is right at the front edge of the cockpit. If you've got one of the other decks, you'll have to measure from the base of the transom. You should get about 116 inches. If your board is not in the standard location, don't worry right now.

One more item about preventing breakdowns: While we're checking the centerboard bolt location, let's crawl a bit further forward and check the centerboard cable itself. If you can feel "fishhooks" on the cable, it's time to replace it. Be especially attentive right where the cable exits the board, the maximum stresses are here when the board is full down and the cable must change direction abruptly. Those of us with the old cable drum may also want to upgrade to the block and tackle system attached to the bow eye. This keeps the cable straighter and seems to take shocks better. Customflex can supply you with all the parts you need.

Now let's make certain that the sidestays are the same length. You'd be surprised how many people will get into a lengthy tuning program, start changing things left and right, and then forget to change one of the sidestays. The only foolproof way to compare the

length of the stays is with the mast lying down and the stays disconnected from the chainplates. Now that the stays are the same length and we've got adjusters all around, you can put the mast back up.

The third step is to be certain that your mast step is in the full forward position. Nothing takes weather helm out of an Interlake like moving the mast forward. Measure from the imaginary intersection of the hull and deck (Figure 3) to the front edge of the mast (not the mast step). You should get just slightly more than 76 inches. If it's anymore than 76", move the step, but be certain to fill and seal the old holes in the deck to prevent water from entering.

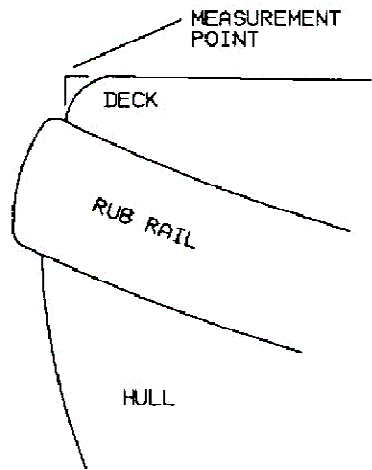


Figure 3

What have we done so far? We know that:

1. There are no loose strands on any of the stays.
2. The base of the mast is at the full forward position.
3. The sidestays are of equal length, adjustable, and protected from accidental snags.
4. The forestay can be adjusted for tension.
5. The centerboard bolt is located where it's supposed to be and the centerboard cable is free of broken strands.

Now we know where the base of the mast is and that it's straight from side to side. Two more items are needed: mast rake and rig tension. The most common way to measure mast rake is the method contained in the Fisher (now North) Sails Tuning Guide. Connect one end of a fifty foot tape measure to the main halyard and hoist it to its fully raised position. Now lay the tape on the center of the transom at the intersection of the hull and deck. This measurement is your mast rake.

The rig tension specified in the North Sails Tuning Guide calls for enough tension that slack appears in the leeward shroud when going upwind in 8-10 mph of wind. A Loos Tension Gage is available from Loos and Company, 14 Cable Road, Pomfret, CT 06258, (203)928-7981 (note: 1990 vintage address and phone #. Also available from many sail makers) and allows you to measure your tension directly. We find that between 220 and 240 pounds of tension gives the same result as called for in the Tuning Guide.

The North Sails Tuning Guide states that the mast rake should be 25' 5" or 7690 mm for those who work best in metric units. This gives best performance in winds above 10-12mph, but gives a neutral or lee helm in light air conditions. If you're going to use one setting all the time, 25' 5" is a good setting to use. Personally, I like how the helm feels in light air with the mast raked back two full notches on the sidestays. This gives us a mast rake reading of about 24' 10". For light to moderately light air (5-8 mph) we advance the mast one notch which gives a reading of about 25' 1". In anything over about 8 mph, we advance the mast another notch to use the 25' 5" that North recommends. After each change in the sidestays, we must adjust the length of the forestay to get back to the 220-240 pounds of tension. On our boat, we must move about 2 holes in the forestay

adjuster for each hole in the sidestay adjusters. Just remember to move both sidestays at each change so you don't cock the mast to one side or the other. In addition, when the mast is raked aft, the traveller must be shortened so that when the boom is centered, you can still put the necessary tension on the mainsail leech. With practice, we can change the whole rig (three stays plus traveller) in under five minutes.

When the mast has been raked aft, the jib fairleads must be moved forward in order to keep the optimum tension along the luff of the jib. One or two inches is usually sufficient. Adjustment of the standing rigging is the place to start to search for speed. You can get all of this done with the boat on its hoist or trailer before you start messing around with jib fairleads and other running rigging. Inspection of the stays and shrouds will also prevent nasty dismastings.

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