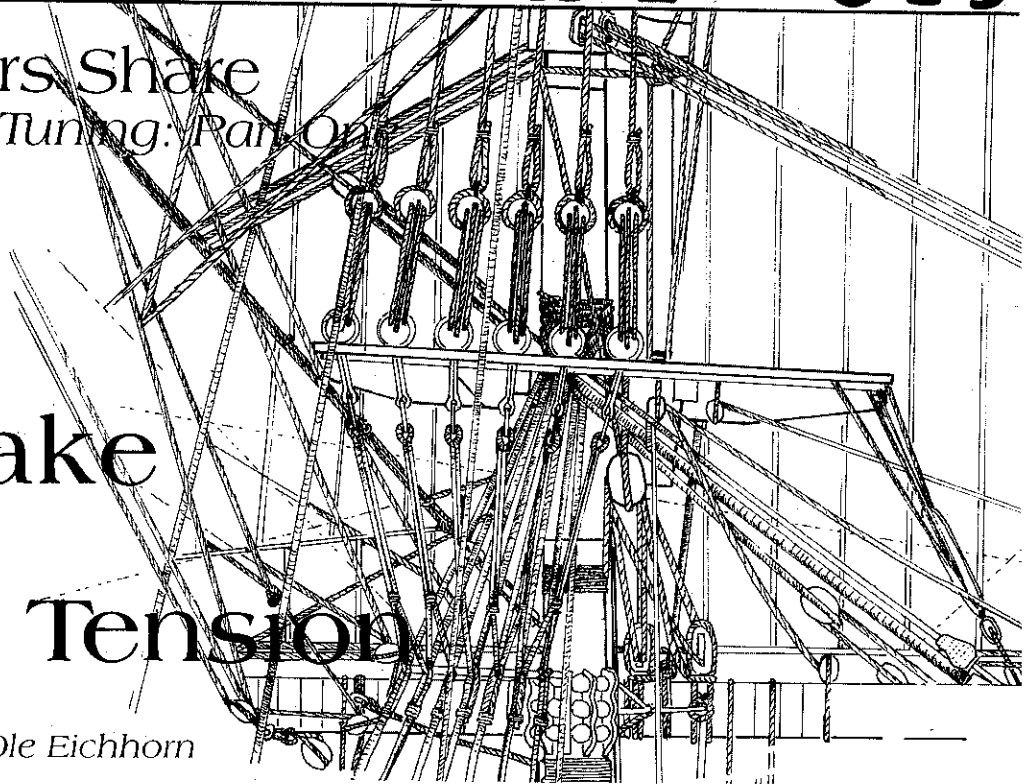


Top Skippers Share
The Secrets of Tuning: Part One

Mast Rake and Shroud Tension

by Tom Linskey and Ole Eichhorn



As promised in our last issue, we are going to open some of the secret doors of tuning by the people who are among the most successful in our class. The first peek into the mysterious world of tuning will be on the subject of mast rake and shroud tension. In order for a boat to sail at maximum efficiency, all forces must be balanced and working together: sails, centerboard, rudder, hull, and crew weight. The mast rake obviously has a role in the overall placement of the center of effort for the sails, and is therefore something to consider. Here now are some ideas which Tom Linskey would like to share with us.

"On a scale of one to ten, I would rate mast rake about three or four. Basically, I use as much rake as possible without putting excessive pressure on the tiller. In light air, this would be about 23'5" or 6" (measure from top of mast to outside edge of the top of transom by attaching a steel tape to the main halyard and locking it off in the full up position). The sails are trimmed full, traveler up, for light air and as the wind increases along with weather helm, you flatten the sails, traveler down, even heel to weather in order to lessen helm pressure. With more wind (trapezing weather), you would then rake the mast forward to, say, 23',7" or 8". Now you would go through the same steps as with the light air setting, starting with full sails and traveler up, you trim out as the wind increases, trying to keep the helm near neutral. Shroud tension, which deter-

mines mast position downwind, should be set so that the mast is vertical in light air (about 24' even), and about one or two inches back (tighter) in heavy air."

Tom felt the most important thing on the boat was crew work, meaning the skipper and crew functioning together. This he rated a 10. Sails would be a seven or eight, centerboard five or six, sail trim and sheeting a seven, rudder four or five.

Next we talked to Ole Eichhorn. "I have to admit I haven't changed the mast rake since the very first experimenting I did with tuning the boat. I found a place that felt good and that's where it's always stayed. It is about 23',7" or 8". Our crew weight is over 300 pounds, so I felt we could carry a fairly vertical mast with long spreaders that are angled back only slightly in order to keep the mast as straight as possible. This gives us a very powerful rig and because of our crew weight we felt this would be best under most conditions since we don't usually have to depower unless the wind gets over 18 or 20.

"As for shroud tension, I like to keep the shrouds as tight as possible. The harder the wind, the tighter the shrouds. It is important, however, to let the mast go near vertical downwind, especially in light air; as the wind increases we would tighten the shroud slightly in order to have better upwind performance. The harder the wind blows, the tighter the shrouds should be."

To summarize, both Tom and Ole felt mast rake was important, but once you found the spot you feel comfortable with, minor adjustments are not necessary. In other words, you do some on-the-water experimenting, and when the boat goes fast set it and concentrate on other things. Tom likes a bit more rake than Ole, especially in light air, but both agreed on shroud tension for downwind performance. One thing to consider before the race would be not only the wind velocity but the course you're sailing. Places like Huntington and Westlake, which are long and narrow, therefore necessitating lots of dead downwind legs, would require a different shroud tension than, say, a place like Marina Del Rey or Alamitos Bay, which have open water with more reaching legs and less downwind legs.

Ole likes a powerful mast but he has the combined crew weight to go with it. Speaking about the crew, Tom's comment about the crew work being the most important thing on the boat might seem somewhat strange for a sailmaker. However, I think you might find most top skippers would agree. Have you ever seen a champion who didn't have a championship quality crew? It's not right that the skipper usually gets all the credit for a win. He is actually only 50 percent of the personnel onboard, and the crew's efforts don't merely add to, but actually multiply, his abilities to sail the boat.

For our next issue, we'll take a closer look at the crew and their roles onboard that championship boat. ✓