

The Leading Edge

By Hal Smith

This is the second in a series of articles on basic racing techniques, "How to Begin Sailboat Racing for Fun and Personal Growth", by Hal Smith, a past Catalina 22 National Champion. The first article discussed the principle of sailing in clear air. The second principle is boatspeed:

Boatspeed is a function of one of two conditions: one, your speed through the water, or two, your speed relative to other boats. The first condition is the subject of this discussion. The second involves varying wind and current conditions and course strategy in addition to your speed through the water. These latter elements will be discussed in a later article.

As you can guess from the above comment, straight-forward boatspeed is not adequate by itself to win races. It is, however, vital to have competitive boatspeed in order to stay with the fleet and hold your position in close encounters with other boats. Knowing you have good boatspeed is also a confidence-builder and makes racing more fun and successful.

Boatspeed, as limited to this discussion, is a combination of sails (power), bottom condition (drag), rig tune (efficiency of power), sail controls (refinement of power), and experience in your boat (knowledge of above). It is a simple combination of maximum effective horsepower overcoming resistance.

Sails are obviously the engine and are often the first things discussed under the topic of boatspeed. Some sailmakers have had conspicuous success with their designs in the Catalina 22 fleet (as occurs in other fleets). Only the very experienced sailors should venture away

from the tried-and-proven sailmakers. Experimentation here is very expensive and usually not productive. A good 5-6 ounce dacron cross-cut mainsail with a shelf foot, combined with a 1.7-3.8 ounce, mylar combination, radial-cut 150% genoa, is currently the best combination of technology and cost. The weight range of the cloth should vary, as your average wind conditions vary.

It is imperative that the bottom of the boat be clean and smooth. The surface should have the equivalent of 400 grit sandpaper (wet) finish. This includes the rudder and keel. The keel should be faired to a medium thickness (nothing radical) with a blunt forward edge and a squared aft edge.

The mast should be raked slightly forward, because of the C-22's tendency to have weather helm. Some prebend in the mast is good if done sparingly. This is true for today's generation of mainsails, which are cut a little flatter than 5-10 years ago. The headstay tension needs to match the sag designed into the genoa. Experience and your sailmaker's advice will help you determine what is proper here. Whereas, the stays can be very tight, the headstay is usually best somewhat less than banjo-tight.

An adjustable backstay is essential for sailing to weather in changing wind conditions. Adding tension depowers

the mainsail in increasing winds and flattens the forward section of the genoa. Simultaneous with this, you must add cunningham tension to the mainsail and halyard tension to the genoa to move the draft forward (draft moves aft as the wind increases). Use of the traveler, pulled to weather, allows the mainsail to twist off and not stall in light to medium winds. In stiffer breezes, it is best to sheet in hard to a centered, slightly lowered traveler once you have flattened the mainsail as described above. Also increase the outhaul tension. Use of inboard tracks for the genoa can be useful when powering through chop.

Experience in your boat is as important as all the above points. Note-taking will improve the quality of the experience and increase the learning curve. The C-22 can heel 20 degrees without serious loss of speed, and you will have to sail many hours to develop the technique necessary to keep the boat balanced under that condition. Light-air sailing requires loose trim and patience. In all cases, there should be a minimum of rudder movement, because it adds drag. This includes excessive rudder pressure to counter weather helm.

It is not possible to give you specific trim information in this article, but rather to direct your attention to the basic adjustments. There really are no big secrets (maybe a few personal ones) that you will not best learn through experience. In order to take the next step and learn how much trim, or tune, or shaping is best, sail with your best competitor, either on his boat, or even better, on yours.

This element of racing is more physical skill and equipment than it is academic. Even so, there are some excellent weekend seminars, like the North U. Fast Course, which can be very helpful.

After you have acquired good sails, cleaned the boat bottom, tuned the rig, and installed the basic adjustment gear, go sailing. Your biggest improvements in boatspeed can come from the experience you gain. That sounds like my kind of cure for what ails you...and have fun.

NEXT ISSUE: Upwind Sailing—to the Weather Mark.

Questions? Write Hal Smith, 101 Deerwood, Easley, SC 29640.