

More Than Meat... The Fine Art of Crewing

There is more to being good crew than jumping when screamed at. There is even more than knowing how to get sails up and down, and the boat tacked and jibed. The key to moving beyond the crew as “automaton” stage, is the recognition of three concepts: the impact of weight and placement on speed, understanding priorities, and developing initiative.

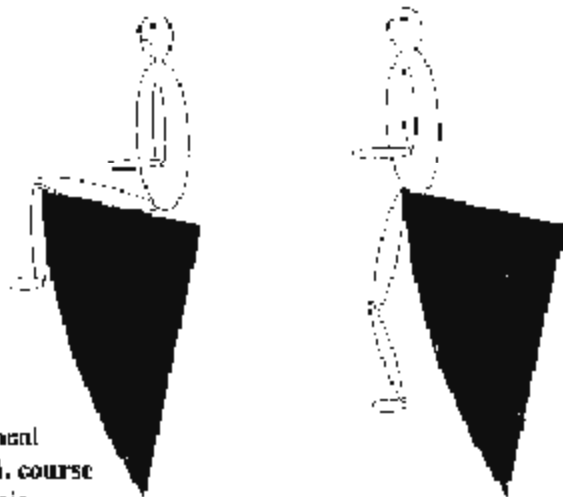
What Weight Means

First, where you are on the boat, is a huge component of boat speed on every point of sail. Consider this: an increase of 1% in boat speed, from 6.0 to 6.1 knots, would equal two minutes over the course of a normal two hour race, 2 minutes 24 seconds at 5 knots. Moving a single body of average weight to the rail, when sailing with the keel loaded, (wind forward of 120 degrees apparent), increases boat speed on your average racer/cruiser 30-40 footer .1 of a knot. Get the picture? In other words, if each crew member always has their weight in the right place, you could be as much as ten minutes faster over the course of a two hour race. If six crew members simply hike properly, which means moving outboard six inches, the boat will go .1 of a knot faster upwind. Remember, sailing is a sport; no pain, no gain.

Hiking Power

- 1) Bring a full crew.
- 2) Hike like you mean it.

A small improvement adds up to many seconds per mile, as illustrated in the chart below. (1% improvement can mean 1 min over a 10 mile course at six knots)



Where Should I Be?	1% Improvement			2% Improvement	
	Alt:	Knots	Sec./mi. 10mi. course	Sec./mi. 10mi. course	Sec./mi. 10mi. course
6 kts.	6.06	5.9	1.0 min.	11.3	2.0 min.
5 kts.	5.05	7.1	1.2 min.	14.1	2.4 min.
4 kts.	4.04	8.9	1.5 min.	17.6	2.9 min.

The magic spot varies, depending on wind velocity, boat speed, sea state, and the need of the helmsperson. It also reflects the design characteristics of the boat. Most racer/cruisers ride high in the bow, low in the stern, so they always need the weight well forward, (though never forward of the shrouds). This means stay out of the cockpit! It is convenient to think in terms of a diagonal line running from the leeward shrouds, to the weather rail at the back end of the cabin top. In light air, weight should be forward and to leeward. As the breeze builds, weight should shift aft and to weather. Upwind, the crew should react automatically to puffs and lulls, and the needs of the helmsperson for more or less heel. Create heel in light spots, out of tacks, or in waves.

Help the Helmsperson

The steering groove is wider, and the boat has more “feel” when it heels over. The driver should communicate need for heel to the crew. The driver should attempt to sail the boat flat, or with as little heel as they can stand and still keep the boat in the groove. Once you get the boat going, move weight up. Speed first, then weight up. The boat will get a mushy, almost slow feeling just as it really gets hooked up. As the driver starts to lose it and slow down, (or if a set of waves or a light spot is coming), they should ask for more heel. The crew should anticipate and try to feel the boat. A well-trained crew will react to changes in velocity or boat speed automatically; moving forward and to leeward as the breeze dies or the boat slows and back up to weather when the boat heels over in a puff, or the driver gets it dialed up.

Downwind, keep the weight well forward. Heel slightly to leeward in the light spots, and heel slightly to weather (5 to 8 degrees), when the boat is going well. In heavy air, the weight can slide aft somewhat, but there is no need to get carried away with this. The bow is plenty full enough to keep the boat from turning into a submarine on most racer/cruisers.

This part is painful, but in light, sloppy conditions, upwind and down, it is faster to have the majority of the crew below, with their weight forward and to leeward. The crap shoot nature of light air sailboat races, actually makes this a good deal. Who wants to watch anyway? Besides, it is much more comfortable, and you can have lunch.

Movement Kills Speed!

While you need to get your responsibilities taken care of, remember that every time your weight is out of place, you are slowing the boat down. Think through your tasks so that you can accomplish them with the minimum amount of movement and wasted motion. Many times a job can be done from the rail. For example, in breezy conditions, the pit person doesn't have to move into the companionway, but can tail halyards and topping lift from the weather rail.

Above all, movement kills speed. If you can get your job done and then freeze in the right spot for the conditions, you will help make the boat go fast. In a perfect world, the crew would be frozen in proper position, explode in one burst of concentrated action to perform the required evolution (set, jibe, douse, etc), and then immediately settle down and freeze. It is essential to settle the boat down after any evolution.

Priorities, Priorities...

Which leads us to the next important concept: priorities. The more you race, the more you will realize which things have to happen, and which can wait. As you set the spinnaker, for example, is it really important to ease the outhaul, cunningham, and backstay, right now? The answer is no. All that is critical is to get the spinnaker up. the jib 1/2 way down so the spinnaker fills, and the mainsail and spinnaker trimmed properly. It will be better for boat speed to freeze, and attend to the small details of sail trim later, once the boat has settled down.

Remember this principle after every mark rounding. At the leeward mark, do not detach the spinnaker gear from the spinnaker or do any clean-up other than what is absolutely necessary. Ask the tactician before the rounding if you will need to tack immediately. Hit the rail and tidy up later. Speed first, then go for the good housekeeping seal of approval. There will be appropriate times to flake halyards, pack spinnakers, move gear, etc

Have A Plan

There are four basic evolutions in sailboat racing: tacks, sets, jibes, and douses. Create a plan for your boat. Define the responsibilities of each position for every evolution. You can work out the details in practice. There is no perfect scheme. Just as great golfers are able to achieve the same results with different swing mechanics, you can get the mechanics of boat handling accomplished with a variety of different plans. Whatever works on your boat, with your crew, is right. No matter what scheme you come up with, the lesson is to have the plan outlined, so that every member of the crew understands his or her responsibilities. When new crew come on board for a race, you can easily plug them in, and define their tasks. Call me if you need a sample plan.

Taking the Initiative

Finally, if you want to graduate from automatron to rock star status, you have to learn to take initiative. When you get to the boat, you know that all the gear needs to be led and the sails checked and packed. Do it without being told. When you get out to the race course, make sure your skipper fills you in on the details (listen up skippers). Know what the course is and when you start. Have your skipper sail the course in miniature so you can get a sense of the wind angles and velocity for each leg. This will enable you to anticipate the need for spinnaker gear position. Set up all spinnaker gear before the start.

Think for yourself. As the weather mark approaches, you know how much time you need to get the spinnaker hooked up. Pick the right moment, dive down below and get it before you are yelled at. Stay in the game. React to puffs and lulls and changes in boat speed with the proper weight shift. Keep an eye out for the next mark. The tactician will always appreciate this information. Let the back of the boat, (often referred to as fantasy land), know about major changes up the course: breeze velocity, other boats who are all of a sudden doing something differently, etc. Make sure your information is precise, and be sure not to get everybody talking at once. Too much information is just as bad as too little. You don't need a continuous play by play.

Remember to remind your skipper that good crew is not found, good crew is made. Make sure you sail with someone who appreciates desire, and is willing to train. Good skippers have a knack for getting the most out of every person on the boat, and for making everyone feel like they are part of the game. They ask opinions about trim, speed, and tactical situations, (even if they end up ignoring them!) They are careful to make sure the whole crew knows how the course is setup, and what the tactical plan is. It is this spirit and attitude the creates a sense of responsibility and encourages crew members to take the initiative.

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