

BEATING IN HIGH WINDS

- ◀ You MUST have a flat jib, a taut luff and trim it hard.
- ◀ To achieve the above without backstays, you must haul the main boom hard down. The entire mainsail is your backstay.
- ◀ To keep from being overpowered, slide the traveller out to leeward until the mainsail becomes a weather vane.
- ◀ Thus, the mainsail is not flogging and whipping; it is not creating drag or heeling pressure and it is keeping the jibstay from sagging. It is working at batten tips only.

My dacron genoa is about as big as the rules allow, and is cut very low to the deck. We have a plastic window, located about 66 in. abaft the tack and 12 in. off the foot to eliminate the port tack blind spot.

My heavy weather jib (over 15 m.p.h.) is 6-oz. nylon. It has maximum hoist (luff) but is quite short on the foot and hollow in the leech, giving us maximum drive to windward but easy and quick to tack.

On spinnakers, I am not ready to commit myself as yet, but I believe the newer "contour" spinnakers should be considered seriously.

Deck fittings: Jib tracks must allow fairlead positioning to suit your sails. Stock boats usually do not give enough track forward. Shrouds should be four or five inches inboard of the rail and the track for the small jib located two or three inches inboard.

I use and believe in several other minor gadgets. For example, I have a control on the mainsheet traveller to hold the traveller slide amidships in light and medium airs. In a blow, I allow the block to slide six to eight inches to leeward when beating, and all the way out on the reaches.

I have two small snubbing winches to trim the jib, located on

this may be eliminated or reduced by inserting a leech cord or tape. Sometimes the slightest variation in leech tension will stop the trouble. Perhaps you can have the sailmaker cut the leech a bit more hollow. This will also have the effect of reducing the tendency of backwinding the mainsail.

Trimming the jib: In a high wind, you can scarcely trim the jib too flat. It has got to be really in *hard*! Nothing hurts your pointing worse than a loose jib. Tell the crew to ease the jib *only* on threat of actual capsize. You *can* capsize on the jib alone, but only if you are careless.

A cleated jib and a loose main will still pull the boat up into the wind because of the wind pressure against the tips of the mainsail battens. If the wind is variable in strength, a good general rule is to adjust jib sheet tension continuously and smoothly so that the jib just grazes the lee shroud, lightly. The jib should be quite baggy in light airs but as flat as possible in a high wind.

Handling the boat herself may be divided into two categories. The first is straight sailing at top speed on any point in the wind. The second is turning manoeuvres, tacking and jibing, with minimum slow-down and loss of distance.

In straight sailing, she should be sailed at a very slight angle of heel. If mast rake and position are correct and both sails are properly trimmed to the wind, the boat should have zero helm with board full down (going to windward). Slightly more heel and you get a bit of weather helm. Slightly less heel gives lee helm.

Fore and aft trim should be such that the transom does not drag. In choppy seas (on the wind) it will pay for the helmsman to move as far forward as possible and for the crew to move aft next to him, concentrating their weight near the boat's centre of gravity. This will let the boat lift over the waves more easily without plunging and "stopping". Off the wind, crew and helmsman can move aft. You'll have to experiment to find out how much.

In high seas, getting the bow up will avoid veering as she hits the crazy waves. In a smooth sea, it may reduce wetted surface somewhat and get her into a better planing attitude.

When planing or about to plane, extreme alertness to the sheets is demanded. Skipper and crew have to synchronize themselves so as to trim and pay out in unison. Trim as the boat accelerates, ease off as she slows down. The skilful helmsman will "ride" each puff to the utmost and spill the very minimum of wind. However, it is most important to eliminate weather helm, so the lesser of two evils is to spill the main (assuming your boom vang is good and tight) but carry on with the jib, even trimming it, if the boat is still gaining speed.

This is a technique that defies complete description, although many attempts have been made by various experts.

Few people seem to realize the ground that can be lost (or gained) in coming about. Compared to the ideal manoeuvre, most people lose speed (hence straight distance) and usually fall way below course briefly, thus losing as much as a hundred feet dead to windward.

Since you must tack many times in a single race, it is obvious that you stand to lose tremendously in the total if you do not perform this manoeuvre perfectly every time.

We have found that the jib should be released (from winch or cleat) only after it is actually backwinded, whereupon the skipper must give a mighty heave and pay out all possible slack. The crew should not attempt to trim the jib (except for getting in excessive slack) until the sail has swiped itself past the mast. If you trim prematurely, you will invariably cause the flogging line to foul up on something. But the moment she whips clear, spin that sheet in like lightning.

The skipper must not spin the boat on her rudder or she will stop dead. He must sail her round, but not too slowly, either, or too much momentum will be lost. Obviously, you have to pick your moment and do it quick when the waves are high. The other pitfall to watch out for is falling below your new course. If possible, stay a bit high briefly until the jib is trimmed and the crew ready to hike out again.

Helmsman and crew should also synchronize their movements in the boat so that she stays on an even keel while in her turn. Lunging from one side of the boat to the other has the effect of pushing the boat sideways (action and reaction) and in making her roll, both of which retard her turning motion. The entire tacking procedure should be carefully planned in advance, studying every detail, then practiced time-after-time until you are both smooth as clockwork and infallible.

Perhaps it is dangerous to cover superficially such a wide territory in one brief article. Each facet of the above could become the subject of an exhaustive study. But perhaps this can serve as a starting point to get you on the right track, and if it helps at all, it has been worthwhile.

I think beginners tend to place emphasis on the wrong things and "worry" about things that matter little, while being "unaware" of things that count heavily.

tittivating a dutchman

FOR RACING

This piece by HARRY SINDLE gives the American point of view — by courtesy of the F.D. class journal TRAPEZE from Florida.

each side deck close to the cockpit coaming and about a foot forward of the mainsheet thwart. My boom vang is standard but I have substituted $\frac{1}{4}$ in. wire for most of the length to reduce stretch. Similarly, the jib halliard is $\frac{1}{4}$ in. wire. The spinnaker halliard leads aft to the helmsman.

I use diamond-shaped toe straps, fastened to the underside of the mainsheet thwart.

Assuming that your boat and equipment are competitive, it is next most important that they are correctly used. For example, many skippers do not seem to realize the vital necessity of a taut jib luff. That Highfield lever is there so you can readily put some hefty power into tacking her down after the halliard has been locked. The halliard should be hoisted up just enough, by the way, so that you can stretch the jib right down to the deck. Be sure to throw off the forestay, if you set your jib flying. If you use jib hanks, leave the forestay just a bit slack (not much) and you'll see it come tight also when you sheet home hard.

The most important single adjustment in tuning the FD is the location of the jib fairlead. The way to do this is to sit where you can see the whole jib. Let your crew do the hiking, or let him steer while you concentrate on the jib only. Pay no attention to the leech, or the clew or the mitre. Watch only the luff of the sail. As the boat comes slowly into the wind, the curved leading edge should begin to collapse all its entire length simultaneously. If the upper portion of the sail starts to break first, the lead should be moved forward. Vice versa, if it breaks at the bottom.

If you are troubled with a fluttering leech (motorboating),

down centreboard can even cause you to round-up, broach and capsize.

My rudder and tiller are stock but I use a certain amount of "Rube Goldberg" to facilitate quick adjustment of the blade without taking time from sailing the boat.

Most people don't seem to understand the several reasons for adjusting the rudder blade angle and what a valuable asset it can be. Besides wetted surface and friction drag, which may cause some to carry their rudders too high, rudder angle affects your turning radius and tiller effort. Distance between centreboard and rudder governs your turning circle. With the rudder angle up high, your boat is lengthened about 18 ins. and your turning circle is considerably increased. Also, it takes much more *force* to push and pull the tiller. Try putting your rudder straight down and notice how quick and lively she becomes.

Needless to say, you need this quick, effortless response when sailing to windward in a puffy breeze.

Wetted surface is a significant factor largely in drifters. The best compromise then seems to be, to carry the board about three-quarters down in strong winds; about half down in average conditions and all the way up in light airs and dead runs. (Don't forget to "flick" your rudder occasionally if there is much seaweed.)

I also use a tiller-limit line which prevents the rudder from going more than 45 degrees from centre and reduces the danger and consequences of letting go the tiller accidentally.

I use a 5-oz. dacron mainsail with a full length foot zipper. Zipper open, you add a heavy roach in the foot. Zipper closed, you have a flat sail. It goes in or out in seconds while sailing without slowing down. I like it.

In the opinion of *Trapeze's* editor, it is far more important to get a boom of proper stiffness/flexibility for the sail. In fact, get several booms. After I learnt this, I found that some sails set well only with a stiff, plank boom while others need a very flexible boom. If you have a lot of wrinkles running up your sail like corduroy, try a stiffer boom. If your sail hangs limp along the foot, try a more flexible boom.

The top batten must be flexible. Tell the sailmaker to make the pocket about 2 in. longer than the batten, which should be $39\frac{1}{2}$ in. Most battens have to be cut off because the pockets shrink up under leech tension.

THERE has been much written about sailing and racing in general, and even about the FD herself and her unusual traits. In spite of the vast amount of available information, we still see a surprising number of FD's being badly mis-handled. I am going to try and help to correct this situation. Here's how we do it:

In any class, you have to get your boat in shape, have good sails and have a skipper and crew that know how to win. Let's start with the hull.

Weight: Some boats are probably 40-70 lbs. over the legal minimum. If you can't dry her out and get rid of the excess weight permanently, sell her to a non-racer and get a light boat. I feel a difference of 25 lbs. begins to be noticeable, particularly in light airs and in downwind work.

Bottom: Needless to say, the bottom should be smooth. Again, of greatest importance in light airs and downwind. (By "smooth" he means as smooth as a new car, or possibly a satin finish as produced by 300 or finer wet-or-dry sandpaper.)

The rig on the FD is much more critical than the hull as far as tuning is concerned. The mast should be located fairly well aft although I do not carry it as far aft as some, because my shroud chainplates are not as far aft as they might be for proper support. My mast is very light and limber, about 28 $\frac{1}{2}$ lbs. fully rigged. Because of its extreme flexibility, I have installed partners at the deck to stabilize it athwartships and fore and aft. The boom is the stock (round) boom that came with the boat.

My centreboard is the standard stock-boat board with the top corner cut off to clear the boom vang. I believe most people do not carry their board all the way down when beating. If you don't, try it.

The board should be raised halfway, or even more on reaches, to eliminate weather helm. In a hard puff, a full-