

Trimming a yacht with Hood Battened Sails.

Trimming headsails (or mainsails for that matter) is not simply a matter of shape and pulling the sheet on hard enough for hard conditions. And often there is too much focus of telltales to get the sheeting line at the right angle, people often even using the clew patch to give some guidance.

The result is when you look at the Farr 40s or Sydney 38s, you find they are quite tight on the leach, full in the foot, with all the telltales showing the same angle of attack. However, it is unlikely that this is fast except in light weather as the mainsail has to be reefed up the traveller to avoid the back-winding of the main caused by the headsail. Now that we have headsails with four large battens in them, then hooking the leech of the headsail just makes you go slow.

Trimmers on a big boat have to focus on the instruments and the helm as the helmsman does.

So let's firstly set the headsail. Via Expedition, (a computer program common to most race boats) you should have a printout of halyard tensions, sheeting positions, barber hauler positions and forestay tension, just to start with. Without that you are kidding yourself! Remember every change you make changes the balance of the helm and sometimes it takes the helmsman a while to rebalance. It is best to mark the sheets and adjusters so you have reference points.

The headsail should be flat sheeted on the foot first. That gives you a starting point. Then you should "power" the headsail up by pulling the sheet down (or car forward) the maximum being until the second batten is parallel to the centre line of the boat.

If the draft is too far aft, you can lift the halyard through the tacks, or by the "suck and see" method, that is get the helmsman to slightly luff, ease the sheet, nip the halyard up 3 inches and trim in the sheet again as the helmsman comes down. That should only be done with the minimum of sheet off, probably about six inches.

Once the course sheeting is done, it is then a fine tune. This is where the instruments are essential. Remember, the log doesn't tell lies. If you adjust something, watch what it does to speed and the VMG. It is a fine balance between the two. This is the ultimate test. But in watching the instruments you have to also observe the helmsman's wind apparent angle and true wind angle to make sure the speed alteration is not a result of the helmsman losing rudder balance or steering the boat to a different wind angle.

The factors you should take into account include:

Angle of heel: if the boat is over its maximum optimal heel, your block would be higher (car back) than your woolls would indicate, trying to knock some heel off with twist.

Is the helmsman able to hit his height targets? If not bring the car inboard.

Is the headsail back-winding the main.....send the car out.

If the headsail still back-winding the main, lift the car up (block back) to create more twist.

From then on, it is a matter of second guessing the helmsman.

The headsail trim contributes about 40% of the speed flat line but about 85% of the trim speed. So if you are not hitting targets it is trim. It goes without saying it needs accurate instruments to tell you what is happening.

What are the instruments going to tell you?

The relationship between true and apparent wind direction, wind speed and boat speed with VMG if available are critical and have to be constantly compared to the “polars” and VPP figures. Constantly achieving targets is a must.

Issues that face a trimmer include:

The headsail has to be in sync with the helmsman’s aspirations in respect to his strategic and tactical position, and the numbers. When achieving a line or a mark, you can often send the sheet out and down to accelerate the boat. Or you may need to bring the car up to achieve height.

Other options are:

Wind is fresher, boat leans over, helmsman sails higher but too slow. More twist to stand the boat up, car out.

Boat speed down, vmg down, close the leech, sheet inboard. .

Try to increase the vmg by taking the twist out.

If however boat speed is down but the vmg is higher than targets, then send car out and tell the helmsman to “lean on it”.

Backstay tension should be used to keep the drive forward and to ensure the luff is in its desired shape. Most headsails are cut with about four to six inches of luff round. So sighting the forestay to look how much sag in it, and keeping that sag constant is essential to good headsail trimming.

Halyard should be eased as soon as it can be when turning downwind or off the wind.

Sail should not be allowed to flap more than once during a tack, every flap shortens the life of the sail by months.

If the main is backwinding, you have two options, car out, but be mindful that the boat doesn’t then steer below its height target, or lift the block up to ease out the leech and work with the main trimmer who is keeping the helmsman’s weather helm under control.

Above all, trimming is a fluid motion between the mainsheet hand, the headsail trimmers and the helmsman as every change you make has a reaction that affects everyone else.

Capt D