

SUBJECT: BASIC SAIL TRIM

WHILE BEATING AND REACHING:

Sail trim is not complex, although the theory behind it is. Sail trim is a few simple rules applied continuously as the wind shifts in apparent direction and apparent speed.

Look at the tell-tales on the foresail. There should be two pairs; one pair high and the other pair low. Both pairs should be 8-12 inches from the luff. Sometimes the tell-tales will be in a clear window sewn into the sail to help you see both tell-tales. In each pair, one tell-tale is on each side of the sail. Thus, on a tack one tell-tale is inboard (to windward) and one tell-tale is outboard (to leeward). These pairs of tell-tales will tell us how to place the foresail car and trim the foresail sheet. They also help the helm steer the boat properly.

Look at the tell-tales on the mainsail. There should be two pairs; one pair high and the other pair low. Both pairs should be 18-24 inches from the luff. In addition, there should be three or four tell-tales at the leech, often one near each batten.

Here are the rules:

BACKSTAY TENSION:

Take the apparent windspeed in knots, add two, then multiply by one hundred for the pounds per square inch pressure to put on the backstay (for apparent windspeed of 12 knots, 1400 psi).

FORESAIL:

1. Tension the halyard correctly. If the sail luff (leading edge) appears to have a vertical wrinkle (curling like a portion of a vertical tube), ease the halyard just enough to make the wrinkle go away. If the luff appears to show a fan of wrinkles radiating from each hank or the luff midway between adjacent hanks appears to be farther from the forestay than it is at the hanks (giving the luff a scalloped shape between hanks), tension the halyard until the fans and scallops go away. You may have to luff the foresail to make these adjustments. Do not try to tension the halyard when under load; either luff the sail or take tension on the next tack.
2. Trim or ease the foresail sheet until one pair of the tell-tales has both tell-tales streaming back horizontal. If one tell-tale is streaming horizontal and the other is flying up or down, ease or trim the sheet to move the foresail toward the up/ down tell-tale side. Eventually both parts of one pair will be streaming horizontal.
3. Once the sail is properly trimmed for the conditions, have the helm head up slowly to determine which set of tell-tales breaks first; then adjust the jib car appropriately. If both pairs stream horizontal at the same time, the jib car is in the proper position. If the upper pair is the only pair streaming both sides, move the car back (aft). If the lower pair is the only pair streaming both sides, move the car forward. Eventually you will get both pairs streaming both sides until the wind changes. To move the car you may have to luff the foresail or adjust the

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other side and then tack to adjust the first side or tie a temporary sheet to the working foresail sheet and then take the tension off the original sheet while you move the car.

With no vertical wrinkle or fans/ scallops and both pairs of tell-tales streaming horizontal the foresail is correctly trimmed.

MAINSAIL:

1. Tension the halyard to eliminate vertical wrinkles and fans/ scallops the same way you did for the foresail.
2. Trim the outhaul as apparent windspeed rises; ease the outhaul as apparent windspeed falls.
3. Move the main-sheet car on the traveler and ease or trim the main-sheet to get the bottom two or three leech tell-tales streaming straight back from the leech of the sail. If the top tell-tale is curling, ease or trim the vang to let the top of the mainsail move toward the side the tell-tale is curling. If vang ease/ trim is insufficient, try moving the car up/ down while adjusting the main-sheet to put the boom in the original location but changing the angle the sheet pulls on the boom. Flatter angle lets the top of the sail fall to leeward; more vertical angle pulls the top of the mainsail to windward.

Changing the sail shape using the vang or the sheet/ car placement allows the top of the sail to be at a different angle to the boat centerline than the bottom of the sail. As we increase this difference in angle we are increasing twist; as we reduce the difference in angle we are reducing twist.

When all leech tell-tales are streaming back from the leech, the mainsail is correctly trimmed.

THE TWO SAILS WORKING AS A PAIR:

Unfortunately, trimming each sail to its optimum shape does not give the best shape for the sails working as a pair. First trim the foresail; then leave it alone unless the wind speed or direction changes. Then trim the mainsail, then tweak (play around with) the mainsail to see if you can make the boatspeed go higher. If mainsail tell-tales then look wrong but the boatspeed is better, keep the best boatspeed.

RULES OF THUMB FOR THE Navy 44:

If using the number one foresail, start with the mainsail traveler car at the windward edge of the companionway opening. If using the number three foresail, start with the mainsail traveler car at the leeward edge of the companionway opening. If using the number two, put the car somewhere in between. If wind from the foresail is causing a bump in the mainsail near the luff,

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pull the mainsheet traveler car to windward to open the slot between the two sails.

WHILE RUNNING:

1. Place the mainsail boom perpendicular to the direction of the apparent wind. Ease the halyard to eliminate vertical wrinkles. Ease the outhaul.

2a. Sail slightly by-the-lee (apparent wind coming from the same side of the boat as the mainsail boom) with the foresail open to leeward. This is known as wing-and-wing. Or,

2b. Use the spinnaker pole to hold the foresail to windward to sail wing-and-wing.

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