



Genoa Trim -- How to optimize power and pointing

Use these rules of thumb for genoa trim as a starting point, then experiment with small changes to see what works best for your boat.

Wind ranges

Be sure to follow the recommended wind range for your genoa. Using the sail in too strong a wind will not only slow the boat, but also could damage or stretch the sail. If you are unsure what the wind range is for a particular sail, contact your Ullman loft. Sheet tension The most important variable is sheet tension. You should develop a relationship between spreader tip and the sail. Choppier water and/or lighter air need more leech twist, so the sheet should be eased slightly. In flatter water, less twist will help pointing ability provided the boat has enough power. A careful eye on the knotmeter or other boats around you will help you determine how tight to sheet. You may also put a telltale on the upper leech to check for stalling. If it doesn't flow, ease the sheet. After tacking, the sheet should be trimmed short of full tension until the boat is up to full speed. In puffy wind, a trimmer should stand by the sheet to adjust it as the wind changes. Also, some communication between the helmsman and the trimmer will help them get the most out of the boat.

Genoa lead

The genoa lead controls fullness in the bottom third of the sail. It can be thought of as an outhaul for the genoa. The more power needed for choppy water or lighter air, the further forward the lead should be. To set the furthest forward lead, head the boat up and watch to see where the luff backwinds first. It should backwind evenly. The foot should be full and lay almost on the lifeline. This is your powered up setting. As the wind increases, the lead should be moved aft to flatten the foot and depower the top of the sail by allowing it to backwind first. The fore and aft movement can be as much as a foot on a #1 genoa. At the top of its range, the genoa should be trimmed with the foot flat against the shrouds. In choppy water, the lead should be further forward for a given wind strength.

In and out placement of the lead is adjusted less often. Track placement determines the innermost lead. Most modern racing boats sheet the #1 genoas at 10 degrees off center in light-moderate air. To extend the upper range of your heavy #1, you can sheet further outboard by using a short sheet run to a second track or the toe rail. #2 genoas are limited by the shrouds and their shorter LP to about 13 degrees off center. But a #3 genoa that can trim in front of the spreaders can be lead as close as 9 degrees in flat water to allow very high pointing. Fore and aft lead movement is more critical and the range is smaller - 3 to 4 inches. Any time you are reaching, the lead should go outboard. When the apparent wind moves aft of about 35 degrees, the lead should go to the rail and further forward. Again, the rule of thumb is to keep the luff backwinding evenly.

Headstay sag

While the lead controls the fullness in the bottom of the genoa, headstay sag controls fullness in the middle and top. More sag adds fullness, moves the draft forward slightly, and makes the entry rounder. Whenever your boat needs more power, some headstay sag can be beneficial. This occurs typically with the light #1 up. But if you get caught with a sail in wind below its range, sag will help power it up. Be careful not to use so much sag that the headstay bounces in choppy water. As the wind increases, nearing the upper range of your genoa, you should remove as much sag as possible to flatten the sail. How you do this depends on your type of rig. If you have a masthead rig, backstay tension controls sag. But remember that overbending the mast can contribute to sag. This may happen if you have a flexible mast and don't use enough running backstay. In general, the backstay should be well eased in light air (as low as 500 lbs.) and tensioned as wind increases. The maximum backstay tension varies from boat to boat. On a typical 40 footer, it can be as high as 5000 lbs. A typical 30 footer would use about 3000 lbs. On a fractional rig, running backstay controls sag and this adjustment becomes critical, especially in puffy wind. Small changes in runner tension greatly affect headstay sag, so you should have a crew member assigned to this job. As wind drops, the runner should be eased and taken up as wind increases.

Halyard tension

Halyard tension controls fore and aft position of the maximum fullness of the draft. The draft should be about 40% aft of the luff. In underpowered conditions (usually with the light or all purpose #1), a good rule of thumb is to leave some small horizontal wrinkles at the luff. As the boat gets powered up (10-12 mph apparent wind) you should barely remove the wrinkles. In stronger breeze with the heavy #1, #2, or #3, key on the draft position. More halyard tension holds the draft forward and makes the head slightly fuller. Choppy water requires the draft to be further forward and the entry rounder. This makes the boat easier to steer. In flatter water, the entry can be finer and the draft allowed to slide aft to improve pointing. Always be careful of using too much halyard, especially in puffy wind. Too much luff tension is slower in light air than vice versa.