

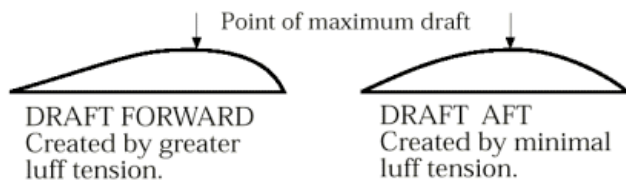
UK-Halsey's Encyclopedia of Sails -- Genoa Trim

[Chapter 1](#)
[Chapter 2](#)
[Chapter 3](#)
[Chapter 4](#)
[Chapter 5](#)
[Main Sail Trim](#)
[Genoa Trim](#)
[Sailing to Telltales](#)
[Chapter 6](#)
[Chapter 7](#)
[Chapter 8](#)
[Chapter 9](#)
[Chapter 10](#)

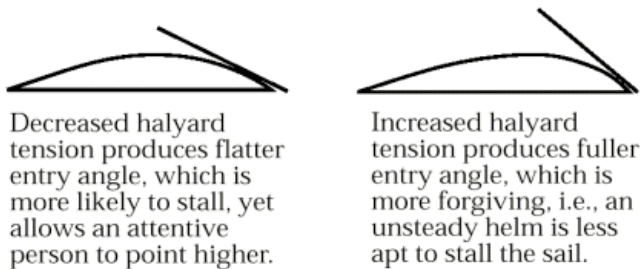
The major characteristics of genoa, or jib shape, are the amount and location of draft, and the angle of entry. The shape of the jib is controlled by the fore and aft location of the jib leads, luff tension, sheet tension and headstay tension.

LUFF TENSION: Tension on the leading edge of the sail is controlled by jib halyard and by jib Cunningham. The principal effect of luff tension is to position draft in the sail. Increased luff tension moves draft forward. Decreased luff tension moves draft aft.

HALYARD'S EFFECT ON DRAFT LOCATION



HALYARD'S EFFECT ON ENTRY ANGLE



LEAD POSITION: Most boats have provisions for moving the jib sheet lead block fore and aft. The position of the lead controls the tension on the leech and the foot, as well as the draft location in the upper and lower portions of the sail:

Jib lead aft moves the draft in the top of the sail forward and moves the draft in the bottom of the sail aft. With the lead aft, the leech is loose and foot is tight.

Jib lead forward moves the draft in the top of the sail aft and moves the draft in the bottom of the sail forward. The leech is tight and the foot is loose.

The correct jib lead position distributes draft evenly in the sail and the tension on the leech and foot are relatively equal.

Jib leads can be located by observing which portion of the sail begins to luff first.

- Luffing in the upper portion means that the lead should be moved forward.
- Luffing in the lower portion requires the lead point to be moved aft.

SHEET TENSION: Along with controlling the angle to the wind (trim), the jib sheet controls the amount of draft and twist in the jib. A tight jib sheet will remove draft from the sail; easing the sheet will add draft to the sail.

HEADSTAY TENSION: The straightness of the headstay is controlled by tension on the backstay on a masthead rig or by running backstays on a fractionally rigged boat. The looser the headstay, the more the middle of the stay sags to leeward and astern. Increased tension reduces the draft of the genoa and flattens the entry angle. Decreased tension increases the draft and creates a rounder entry.

JIB SHAPE: Variations in wind velocity, wind angle, and sea conditions make adjustments in jib shape desirable. The following adjustments can be made to adapt to changing conditions.

CHANGING WIND VELOCITY: Decreased velocity requires more draft in the sail. A fuller sail creates more power. As the wind increases, you flatten the sail. To help understand this, think of an airplane; to create lift at slow speeds, a pilot lowers the flaps, which creates more draft in the wing. Once up to speed, the flaps come up and the wing gets flatter. Increased velocity calls for decreased draft.

Another adjustment you have to make as the wind increases is increased amounts of halyard tension. As the wind blows harder, the draft of the sail gets pushed aft. By increasing halyard tension, you return the draft back toward the middle or forward third of the sail where it belongs. Some boats can move the draft forward with a jib Cunningham.

CHANGING WIND DIRECTION: When the wind goes forward so that you are sailing on a beat or a close reach, less draft and a flatter entry angle are required for pointing ability. When the wind goes aft, additional draft and rounder entry are required for added power.

CHANGING SEA CONDITIONS: Rough sea conditions make a slightly fuller sail with a rounder entry angle desirable. In smooth seas you trade power for pointing by flattening the entry angle.

Modern, easily driven boats can trade speed for pointing especially if they have a tendency to be overpowered in heavy air. This means setting the boat up with less draft and a flatter entry angle. A flat entry angle lets you point higher, but the sail stalls out easier. To power up the sails in light winds or in choppy seas, tighten the jib halyard to move the draft of the jib forward, which also increases the entry angle. A rounder entry angle will also make it easier for a less-than-attentive helmsman to keep the boat going fast since the sail will not stall as easily.

Even on top racing boats, when a new person takes the helm, they usually ask for more halyard tension, which produces a rounder entry angle, to make it easier to keep the boat sailing in the groove. After they get the feel of the boat in the current conditions, then they ease the halyard slightly for higher pointing.

SHEETING THE SAIL

Once the shape is set, the sail can be trimmed to the desired

angle to the wind. Two controls are available: jib sheet lead position and jib sheet tension. Jib sheet tensioning will be covered in the following section on using telltales.

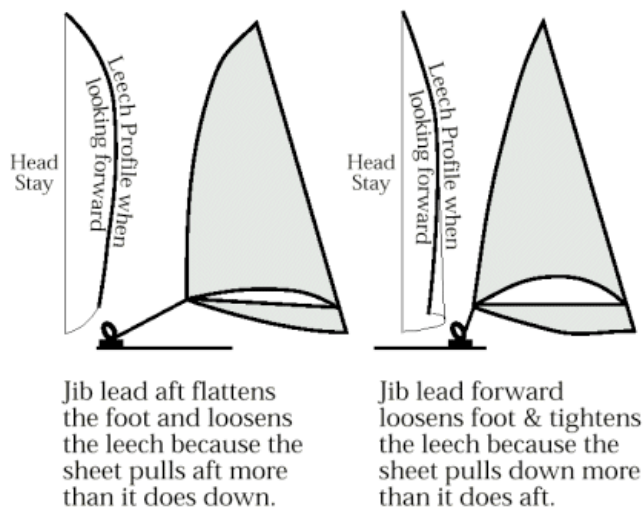
On many older boats, the only jib or genoa sheeting point available is a lead block on the toe rail. While some cruising sailors may be content with this As the wind velocity increases when beating and the boat starts to heel too much, the lead should be moved progressively aft on the inboard track to reduce heeling. Heeling is reduced by moving the lead aft because the top of the genoa is allowed to twist off and luff. The top of the sail luffs because the jib sheet is pulling the sail back more than it is pulling it down. (See diagram below.) Pulling the lead aft also flattens the lower section of the sail. Flatter sails produce less heeling moment.

As the wind velocity decreases, moving the lead forward adds draft to the sail, which makes it more powerful.

In wavy conditions on a beat, move the lead outboard to a block on the toe rail to increase drive at the expense of pointing. The boat needs power to get through the waves.

After a while, you will find an average point on the track where you will keep the lead for each genoa in your inventory. Mark these positions so that you can quickly set the lead. Any adjustments you make from the average position will then be fine tuning. The most common ways of marking lead positions are with stick-on numbers or a magic marker. Place the number "1" where the No. 1 genoa sheets to, and a number "2" and number "3" where they sheet to if you have those sails.

Cruising sailors with roller/reefing genoas need two marks on the track; one mark aft for when the genoa is rolled out all the way, and one mark forward for where the lead should be when the sail is reefed to the reef point on the foot (which all UK Passagemaker genoas have).



As the wind angle frees up from a reach to a run, move the lead outboard and forward to a block on the toe rail, assuming there are attachment points on your rail for this. The lead moves outboard to open up the slot between the jib and the main, and the lead goes forward to counteract the tendency of the sail to twist. With the jib shaped to the conditions, and the lead located in the best position, the sheet is trimmed to control the sail's angle to the wind. When sailing to windward, the spreaders provide a good reference point. Experimenting with a sensitive speedometer or with another boat will show how close the sail

can be trimmed in given conditions.

When sailing off the wind, set a course, then ease the jib to the point of luffing, or until the inside telltales stop streaming aft. Then trim slightly. If the leads have been set for windward sailing, they will have to be moved forward to counteract the tendency of the sail to twist.

[Top](#) | [Chapter 4](#) | [Encyclopedia](#) |

Copyright © 2005 UK-Halsey

[Contact Us](#) | [Subscribe / Unsubscribe](#)

[Our Partners](#)



[Home](#) | [UK-Halsey Worldwide Lofts](#) | [Sails](#) | [UK-Halsey Learning Center](#) | [UK-Halsey Newsletters](#) | [UK-Halsey Store](#) | [Contact Us](#) | [Subscribe/Unsubscribe](#) | [Our Partners](#)

[How to Buy Sail](#) - [UK-Halsey Price Quote](#) - [News](#) - [Racing Rules Of Sailing](#) - [Rules Quiz](#) - [Downloads](#) - [IRC Time Calculator](#) - [UK-Halsey Hunter Support](#)

Copyright © 2008 UK-Halsey [Sails](#)