

Trim Process

After the setting the sails for the current wind conditions (Initial Trim), trimming is a **two stage process**:

- (i) **Maintain Trim**: As the wind increases (decreases) our goal is to simply maintain sail shape by adjusting the various controls
- (ii) **Fine Tuning**: With changing conditions we change the sail shape to suite the new conditions using the same controls

Genoa Trim & Controls

Control	by Adjusting:	Effect
- Draft Position - Draft Depth - Twist - Angle of Attack	-> Halyard -> Backstay -> Sheet lead (and sheet) -> Sheet	More Halyard -> Draft moves forward; Less Halyard -> Draft moves aft More Backstay -> Less Depth; More Backstay -> More Depth Lead forward -> Less Twist; Lead aft -> More Twist Trim Sheet -> Increase Angle of Attack; Ease Sheet -> reduces Angle of Attack

The following is a summary of how each control works and how to use it in different conditions:

Genoa Trim & Controls

Draft Position: Halyard

How does it work: More halyard tension --> draft forward; Less tension --> draft aft

Initial Trim

- Light & moderate winds: Leave a few wrinkles. Easing the halyard will move the draft position aft for better pointing
- Stronger winds: Remove wrinkles. Tensioning the halyard will move the draft position forward

Maintaining Trim

Adjust halyard with changing wind conditions to maintain sail shape:

- (i) more wind -> more halyard tension; (ii) less wind -> less halyard tension

Fine Tuning (adapt to changing conditions)

- Easing halyard will move draft aft, resulting in a flatter entry (small angle of attack) -> better pointing, but more difficult to steer (narrow groove).
- Hardening the halyard will move the draft forward, resulting in a rounder entry (larger angle of attack) -> less pointing, but easier to steer (wider groove): I.e. in waves

Genoa Trim & Controls

Draft Depth: Backstay

How does it work: Adds tension to the forestay. More backstay tension --> less depth; Less tension --> more depth

Initial Trim

- Light winds: Set 500 lbs (approx. 1/4 of max tension)
- Moderate and strong winds: Set 1,000 -2,000 lbs of tension

Maintaining Trim

Adjust backstay tension to maintain sail shape:

- More wind -> more tension & less wind -> less tension

Fine Tuning (adapt to changing conditions)

More sag adds depth & power (i.e. in waves). Less sag creates a flat shape (i.e. for higher pointing in smooth water)

Twist: Sheet leads position & sheet

How does it work: Move leads forward (pull down more on the upper part of the sail -> less twist

Move leads aft (pulling back foot, without trimming the upper part of the sail much) -> more twist

As the sail nears full trim, the sheet increasingly pulls the sail down (not in) and its primary impact is on twist

Initial Trim

Set the leads to obtain a fair curve and even shape from top to bottom. The telltales will break evenly from the top to the bottom (i.e. when pinching the upper telltales will break before the lower telltales. We fine tune from here:

Fine Tuning (adapt to changing conditions)

In overpowering conditions: Move lead aft to flatten the foot of the sail and spill open the top

Waves: Pull lead forward for add extra power: Top is trimmed and the foot will be round

Smooth conditions: Move lead aft allowing the the genoa to be trimmed in closer without clogging up the slot

Genoa Sheet (Power, Depth & Angle of Attack)

Initial Trim

The initial trim will put the leech within a few inches of the middle spreader.

Maintaining Trim

In a lull, or when the boat is slow: Ease the sheet. In a puff, the sheet may have to be eased initially, then trim again.

Fine Tuning

Sheet trim must be checked after every other adjustment or change.

- Tightening of Headstay: Similar to tightening the sheet, except the sail is pulled from the luff rather than the clew. When tightening the head stay, the sheet must be eased to maintain trim
- Adjusting the leads: Moving the lead forward may need a slight ease, moving the lead aft generally requires trim.
- Hardening the sheet will move the draft aft, unless the luff is also hardened (and vice versa).

Main Trim & Controls

Control	by Adjusting:	Effect
- Draft Position	-> Luff Tension/Mast bend	More Tension -> Draft moves forward; Less Tension -> Draft moves aft Bend pushes Draft aft
- Draft Depth	-> Mast Bend/Outhaul	Mast Bend: Middle and upper part of sail/ Outhaul: Lower part of sail More Bend/Outhaul -> Flatter shape
- Twist	-> Mainsheet	Trim Mainsheet-> Less Twist; Ease Mainsheet -> More Twist
- Angle of Attack	-> Traveler/Mainsheet	Traveler UP -> Increase Angle of Attack; Traveler Down -> reduces Angle of Attack

The following is a summary of how each control works and how to use it in different conditions:

Mainsail Trim & Controls
<p>Mainsheet <i>How does it work: Increases leech tension and reduces twist: Ease decreases leech tension and increases twist</i></p> <p>Initial Trim Trim the mainsheet to keep the top batten is parallel to the boom</p> <p>Fine Tuning</p> <ul style="list-style-type: none"> - Keep the upper telltales flowing with the occasional stall - Easing to the point where telltales never stall: Speed may increase without loss of pointing - Trimming to the point of where the telltales stall half the time: Higher pointing, less speed - Hardening the sheet will move the draft aft, unless the luff is also hardened (and vice versa). <p>Light Air -> Over trimming will stall the sail: Trim just short of stall Moderate Air -> Higher Pointing with harder trim: Trim to the point of partial stall. Don't let boat slow down, ease the speed if speed is reduced. Heavy Air -> Over trimming will create excess weather helm. Backwinding of Main is ok.</p>
<p>Boom vang Primarily an off-wind control In light air a tight vang will close the leech, stall flow and wreak havoc on performance</p>
<p>Mast Bend <i>How does it work: Flattens the sail by increasing the distance from luff to leach.</i></p> <p>Use bend to reduce power as the breeze builds as well as for reduced drag and extra speed in smooth water Use less bend for extra power in chop or when sailing downwind</p>

Mainsail Trim & Controls

Outhaul

How does it work: Tensioning the outhaul flattens the lower part of the mainsail

Upwind: Always have outhaul part way on

As the breeze builds from light to moderate: Tension outhaul all the way.

Traveler

Light and moderate air: Keep the boom center (traveler to windward) until overpowered

Heavier air: Lower traveler to control heel and reduce weather helm

Puffy Conditions: Play traveler constantly to control heel and weather helm

At times it may be faster to leave the traveler and play with the mainsheet, adjusting twist, when overpowered

In more waves: Playing the mainsheet is preferred; In smooth water conditions: Playing the traveler is preferred

Luff Tension

How does it work: Adding tension pulls the draft forward. Use halyard first, then cunningham.

Note: The ultimate goal of adjusting the halyard is to put the draft in the right position

Draft positions mainly a “drag control”. It should be just forward to the middle of the sail (40 -45%)

The draft moves aft as we bend the mast and as the wind increases: Add luff tension to compensate and keep the draft in position.