NEILPRYDE SAILS

INTERNATIONAL DESIGN AND TECHNICAL OFFICE

Sail Trimming Guide for the Beneteau Oceanis 38

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HEADSAIL OVERVIEW:

The Oceanis 38 built in the USA and supplied with Neil Pryde Sails is equipped with a 105% overlapping headsail that is 353sf / 32.8m2 in area and is fitted to the Facnor LS165 furling unit. The sail is built using Challenge Sailcloth 7.38 dacron.
The following features are built into this headsail:

- The genoa sheets in front of the spreaders and shrouds for optimal sheeting angle and upwind performance
- The size is optimized to sheet correctly to the factory track when fully deployed *and* when reefed.
- Reef 'buffer' patches are fitted at both head and tack, which are designed to distribute the loads on the sail when reefed.
- Reefing marks located on the starboard side of the tack buffer patch provide a visual mark for setting up pre-determined reefing locations. These are located 600mm/2ft and 1200mm /4ft aft of the tack.
- All seams double stitched in V-92 thread in a'3-step' stitch and in contrasting color to help identify damage thread.
- A telltale 'window' at the leading edge of the sail located about 14% of the luff length above the tack of the sail and is designed to allow the helmsperson to easily see the wind flowing around the leading edge of the sail when sailing close-hauled. The tell-tales are red and green, so that one can quickly identify the leeward and weather telltales.
- A draft stripe for quick sail shape/depth reference.
- A Furling cover in white, sewn to the **starboard** side of the leech and foot designed to cover the sail when furled, protecting it from U.V. damage. It is important to remember that the furler and sail should rotate counter clockwise when furling in order for the cover to be on the outside/starboard side of the sail; protecting the sail.

Set Up Considerations:

- All measurements are taken from the forward end of the genoa track to the *aft* end of the genoa car.
- On standard boats the forward end of the car has a button that is lifted up to disengage the pin that holds the car in place. When moving the car, always move the 'lazy' sheet, so that there is no load on the jib sheet or car when making adjustments. Lift the pin and slide the car forward or aft.
- (In the pictures we have provided here notice that the boat was outfitted with an adjustable genoa car system, so there is *not* a locking pin on the car)
- There are evenly spaced holes on the genoa track fore and aft and on 4"/100mm centers. The adjustment pin of the car will lock into these holes.

Measure car location from forward end of genoa track. (note custom adjustable lead system)

Stock Genoa Car Pin release located at front of car

Why Mark The Lead Position:

Once the initial trim settings are made to the genoa lead (car) position (which is critical to good performance) the cars will not require much movement fore and aft for different conditions. However, as one reefs the headsail to the furling marks on the sail, the sail moves forward as it gets smaller and the clew elevates slightly as a result of the furling process. This changing dynamic requires that the genoa lead position be adjusted to ensure proper trim when sailing with the reefed sail.

By marking the location of the cars so that they coincide with the reefing marks at the tack of the genoa you will take the guesswork out of setting the leads when reefing. The lazy genoa car can quickly and easily be moved forward to the pre-marked location and then during a slow tack the genoa can be reefed to the coinciding mark at the tack. The sail trim will be properly set on the new tack. When measuring the lead positions (as described below) you need to mark the track at the aft edge of the genoa car. You can do this with permanent marker, tape or some sort of self-adhesive 'dots'. The marks should be on the deck as track mounted tape/marks can be rubbed off by the car.

MARKING THE LEAD POSTION:

Full Size:

When your genoa is completely unfurled for sailing, the *aft* edge of the genoa car should be 39.5 / 1001mm from the front of the genoa track. This will be your 'all-purpose' lead position. See picture to right.

- This will be appropriate for wind strengths of 7-12 knots true wind.
- Sailing in less than 7 knots of true wind move the lead position forward one hole or 4"/100mm making the genoa more powerful for these conditions.
- In more than 12 knots of wind, you may move the lead aft one hole 4"/100mm from the all-purpose setting (de-powering the sail slightly) or you might at his time, consider reefing the headsail.
- The genoa should be sheeted so that there is sufficient tension on the sail to bring the leech almost to midway at the lower spreader. Note that in very light air, you can sail with the leech further outboard or more 'open' which will help keep the slow moving air attached to the sail and working for you. Do this by easing the sheet slightly.

Back of car at 39.5" for full size genoa

First Reef Mark:

Move the lazy genoa car forward so that the aft face of the car is 28"/720mm aft of the front of the track. Do a slow tack and furl the genoa so that the first reefing mark is just visible as shown at right and then sheet in the genoa to the new position. Move the new lazy car forward to same point. Both sides are now set.

Genoa furled to first tack reefing mark

Second Reef Mark:

Move the lazy genoa car forward so that the aft face of the car is 20"/520mm aft of the front of the track. Do a slow tack and furl the genoa so that the second reefing mark is just visible and then sheet in the genoa to the new position. Move the new lazy car forward to same point. Both sides are now set.

Conditions that require this reef will be quite windy and depending on your comfort level may be put in place anywhere from 20 knots on up. This position will keep the foot of the sail quite tight, flattening the shape for good breezy air performance.

Car location when reefed to the first mark.

Genoa Notes:

Generally, sail trim is a bit of science, a bit of feel and a bit common sense. As a basic rule, we like to say *that if it looks right, it probably is.* Your Neil Pryde sails are designed, tuned, and tested for each specific model and as such, you will be able to achieve proper trim using this guide.

Occasionally, you might find that the leech flutters a bit. If this happens, it's usually that the sheet tension is not tight enough (you need to winch the sail in a bit tighter). However, if the boat becomes over-powered (heeling excessively), you should consider reefing the sail at this time. Assuming you have the leads in the right location and the sheet tension is correct, but the sail still has a bit of flutter, you should adjust the leechline to keep the leech from fluttering.

Genoa trimmed up properly with one reef.

The following photo shows the leechline pocket opened to reveal the leechline, snubbing eyes, cleat and the 'tail' pocket. The snubbing eyes help to take the load from the line making cleating and un-cleating an easy task. The 'tail pocket is on the inside of the leechline cover and you can put the excess leechline tail into this pocket before closing the cover. To adjust, take up the
line by pulling downward just above the eyelets, taking up the slack in the line just below the cleat. Pull the line until the flutter stops. Cleat the line and insert the tail into the pocket and close the flap.

Genoa Leechline, cleat and 'tail' pocket

Mainsail Overview:

The Neil Pryde Sails Furling Mainsail is 270sqft/25.1m2 and built with Challenge 8.18oz Dacron and fitted to a Z-Spar in-mast furling system.
The following features are built into this Mainsail:

- Reef 'buffer' patches are fitted at both head and tack, which are designed to distribute the loads on the sail when reefed.
- Reefing marks located on the starboard side of the tack buffer patch provide a visual mark for setting up pre-determined reefing locations. These are located 250mm/10" , 500mm /20" and 1000mm/39.5"aft of the tack.
- Stainless steel clew furling block.
- Leechline led forward to adjustment point 1.7m/66" aft of the tack and is configured with an automatic line retractor system
- All seams double stitched in V-92 thread in a '3-step' stitch and in contrasting color to help identify damage thread.
- A draft stripe for quick sail shape/depth reference.
- A reefing sticker at clew to indicate when the sail is furled completely and just the U.V. cover remains on the outside.

Reefing Notes:

Reefing the mainsail, headsail or both in combination allows the skipper to keep the trim of the boat in a more upright mode. This is a safer, more comfortable and faster way to sail in strong breezes. In addition, reefing the sails importantly affects the balance of the boat and can increase or decrease the amount of weather helm that develops at the wheel. The timing and sequence of reefing is up to the skipper of the boat to consider and will vary from skipper to skipper, as some conditions or ones preference in how the boat is sailed in reefing conditions are variable. With this in mind, the following points are general observations.

1. The 'balance' of helm is regulated through mast rake, fore and aft. This will be preset during the initial commissioning.
    a. More mast rake aft will move the sailplan center-of-effort aft, in effect putting more loads on the sails aft of the keel. This will 'pivot' the boat around the keel, bringing the bow into the wind; which is weather helm.
    b. Mast rake forward and the opposite is true, the balance moves forward and the boat will gain neutral or lee helm.
2. Weather helm is desirable in all sailing yachts. It keeps the bow into the wind while sailing upwind and improves your VMG to weather.
    a. In 10 to 12 knots of wind with the sails fully deployed we expect to have the helm just slightly above neutral or with a small amount of weather helm. This means in releasing the wheel, the boat will (depending on wind, sea conditions and boat trim) slowly come into the wind.
3. As you reef the sails, you are also going to affect the balance or center of effort on the sailplan.
    a. Reefing the genoa will reduce the area of this sail and in turn moves the center of effort aft, increasing weather helm.
    b. Reefing the mainsail first, will move the center of effort forward and decrease the weather helm.

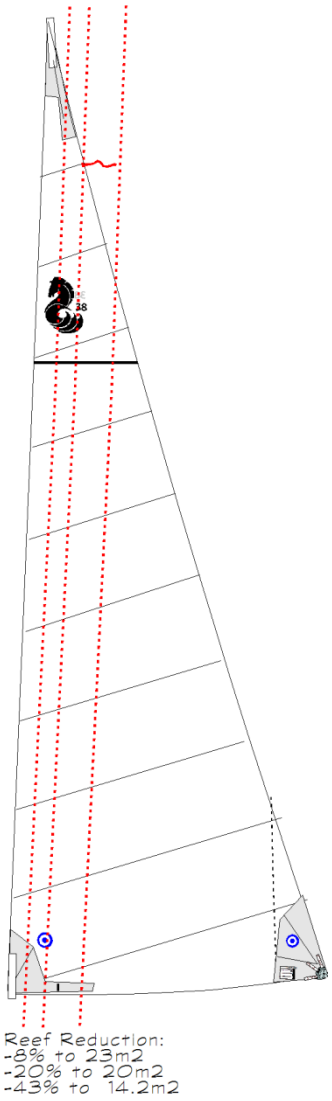
Sailing the Oceanis 38 we have found that it is a very balanced boat and as such you can reef the mainsail or jib first and the balance will be fine. Reef the main and/or the jib to the first mark as you approach 15 knots true wind. This will make for comfortable sailing and reefed to this location will ensure a balanced helm as the breeze initially builds.
In more than 15 knots true wind, you will need both the mainsail and genoa reefed to the first reef mark and though you may be

somewhat underpowered initially, as sailors we find it safer to assume the wind will continue to build at this stage and it is always more prudent to reef earlier than later. Should the wind decrease, increasing the sail area is easily accomplished by deploying the sails so they can be full sized again.
Assuming the breeze continues to build into the twenties we then reef the jib to its second reef mark, followed by the second reef in the mainsail. This will establish good helm balance and also decrease the total net area, making the boat more upright and comfortable.

Mainsail Note:

Furling mainsails offer the user infinite reefing positions as compared to fixed reefing points found on the classic mainsail. Our reef marks are approximate guides…you may find you need more or less area reduction depending on wind density, all-up weight of your boat or other parameters that can affect how the boat feels and sails when reefed. Experiment!

For the technically inclined; the area reductions of the mainsail are listed in the drawing here:



MAINSAIL TRIM:

The following points on mainsail trim apply both to the Furling and Classic mainsail, as the concepts are the same.
The Oceanis 38 has a bridge mainsheet system in place that does away with the clutter of the mainsail traveler system in favor of the triangulated mainsheet system that is on the bridge.
This system requires owners to trim the mainsails quite a bit differently than boats with traveler and requires a small bit of overview:

With a traditional traveler/mainsheet system, the mainsheet is used to coarsely bring the boom near centerline and then to apply tension to the leech of the mainsail. The traveler is used to fine tune the sailing angle of the mainsail…to accommodate for changes in sailing angle or to depower slightly in increased winds.

The triangulated mainsail sheet system also brings the boom to centerline, and applies tension to the leech of the mainsail…but only when sailing close-hauled. As soon as the mainsheet is eased to adjust the sailing angle of the boom (as if you were using the traveler) the leech tension also slackens and the sail loses proper trim.

To compensate for this, the boom vang (or kicker) becomes a <u>much</u> more important part of your mainsail trim by keeping constant tension on the leech of the sail throughout the range of motion of the boom, regardless of mainsail tension.

Upwind

1. Upwind in up to about 8 knots true wind the boom can be brought up as close to centerline as possible which puts the leech of the sail in a powerful upwind mode.
2. The outhaul should be eased 2” / 50mm - 3”/75mm at the stopper, easing the foot of the mainsail away from the boom about 8”/200mm – 10”-240mm.
3. Mainsheet sheet tension should be tight enough to have the uppermost tell tail on the leech streaming aft about 50% of the time in the 7-12 true wind range. *(For those with furling mainsails the action of furling and unfurling the sail can play havoc with keeping the telltales on the sail and you may need to replace them from time to time.)*
   Trim the mainsheet until the tell tail stalls to leeward

Mainsail outhaul eased for light air upwind trim

and then ease it just a bit to get it streaming. A common mistake is to be over trimmed at the top tell tail!

4. In 8-12 knots the outhaul should be brought in ½ of light air setting.
5. **With the mainsheet tension set, the boom-vang should be tensioned until it is quite tight…right at the point that it starts apply more leech tension then you have with just the mainsheet. With this set, you can now ease the mainsheet to adjust for sailing angle or wind strength AND have the proper leech tension via the boom vang.
6. In over 12 knots, the upper tell tail should be flowing almost all the time.
7. As the wind builds above the 12-knot range you will need to de-power the boat to keep her on her lines and to reduce weather helm. Start by getting the outhaul all the way on (ease the mainsheet to reduce the load the sail while pulling the outhaul on) and then bring the mainsheet back in at 3" /76mm increments until the boat balances. By letting the boom out you are changing the angle of the main relative to the angle of the apparent wind and this reduces the forces on the sail, relieving loads, helm and heel. If the leech starts to flap or vibrate this is an indication that you should tighten the boom vang and increase the leech load. And if the mainsail is out far enough that the mainsail starts to backwind, this means it is time to consider reefing the mainsail.

Downwind

1. With the boom-vang set as outlined above the mainsail will have close to the right trim for downwind sailing.
2. As soon as the sails are eased and you are sailing lower downwind angles (even as little as 3^0) ease the mainsheet to allow the boom to travel out in 3" increments until the boat balances and drives well.
3. Bearing off 12^0 and deeper keeping easing the mainsheet until all your telltales will be flowing aft. The leech tension should correct assuming the boom-vang was tightened as above.
4. With a battened mainsail (Classic), one normally keeps the top batten parallel to the boom while off the wind. Achieve this with the boom vang keeping the leech adjusted and the telltales flowing aft. Obviously, without the battens (furling mainsails) you will need to eyeball it. If the top batten or sail is falling off to leeward from this position, tighten the vang to bring it back in line with the boom.
   With the leech trimmed this way, both tell tails should fly aft 95% of the time.

SAIL CARE:

Both mainsails and headsails will get dirty with time and use. A primary source is air pollution which deposits filth on the standing rigging. The sails in turn will pick this up when they come in contact with shrouds, mast and spreaders. This obviously affects the headsail to a greater degree as it is dragged across the rigging with each tack and gybe. We recommend a yearly cleaning either on your own or through a commercial sail cleaner or sail loft. Your local Neil Pryde Sails Agent can help you in this regard.

Roller Furling Mainsails are equipped with a small label on the starboard clew of the sail. This is designed as a 'marker' that will indicate when the mainsail is furled inside the mast far enough so that the U.V. cover on both sides of the sail will protect the sail. It is imperative that the sail be furled so that the label is clearly inside the mast, thus protecting the sailcloth from harmful U.V. If you do not take care in this regard, your sail will be weakend and may be permantly damaged in a short amount of time. Make sure this furling label is inside the mast when furled!

Furling Label on starboard side of mainsail clew patch

Mainsail with label and sail exposed; INCORRECTLY furled

Mainsail with label furled inside mast and sail furled correctly.

And a generous ‘thank you’ to Ted for letting us aboard his beautiful B-38, *JACK*.