INTERNATIONAL DESIGN AND TECHNICAL OFFICE

Headsail Tuning Guide for the Beneteau 473

Late Model Version with 3Reefing Marks

23 July, 2003

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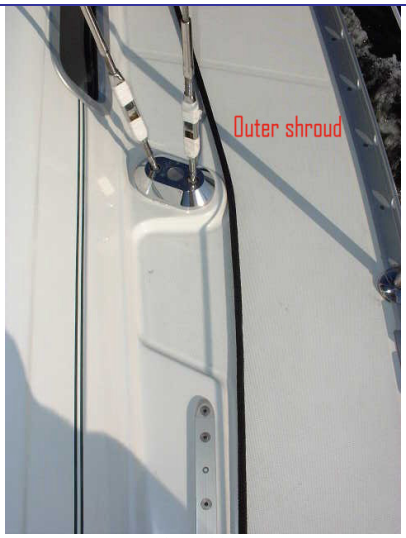
The Beneteau Oceanis 473 built in the USA and supplied with Neil Pryde Sails is equipped with a 140% headsail. The following features are built into this headsail:

1. The genoa size is optimized to sheet correctly to the factory track through out its reefable range.
2. The sails are equipped with the Neil Pryde Multi-Track Foam Luff System™, which allows for smooth and correctly shaped sails when reefed. *(See the Technical brief for details on this system)*
3. The sails are equipped with 'buffer' patches at both head and tack that are designed to distribute the loads on the sail when reefed.
4. The buffer patch at the tack is marked with two reefing bands that provide a visual cue for pre-setting the genoa lead positions.
5. The plan form of the genoa is such, that when correctly sheeted, the upper leech falls inside and forward of the upper spreader tip. This keeps the leech of the sail closer to centerline producing a powerful, better pointing sail.



Shroud base


Car and track illustrating the marking system


473 car location at 'standard' position

You will find that once the initial settings are made to the genoa lead or car position (which is critical to good performance) that the cars will not require much movement fore and aft for different conditions.

The basic guide below will help you achieve proper upwind sailing genoa trim.

There are several points to consider:

1. We used the inner shroud where it intersects the deck as our 'zero' point in measuring the car location aft along the track.
2. The front of the car has a lever 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 not any load on the jib sheet or car when making adjustments. Lift the pin and slide the car forward or aft. Note: this lever and pin should always face forward, never aft.
3. There are evenly spaced holes on the genoa track (fore and aft) that the adjustment pin of the car will lock into place.
4. Be prepared to mark the car location with permanent marker, tape or adhesive marks.

Marking the Lead Position:

When measuring out the lead positions (as described below) we suggest that you mark the track at the forward edge of the genoa car. You can do this with permanent marker, tape or some sort of self-adhesive 'dots'. These locations on the track will coincide with the reefing marks at the tack of the genoa and will take the guesswork out of setting the leads when reefing. The lazy genoa cars can quickly and easily be moved forward to a marked location and then during a slow tack, reef the headsail to the mark at the tack and you are off and sailing.

LEAD POSTION:

Full Size:

When your genoa is completely unfurled for sailing, the forward edge of the genoa car should be 10'-0" / 3048mm aft of the inner shroud base. This will be your 'all-purpose' lead position.

The following will be appropriate for wind strengths of 7-12 knots true wind.

1. In fewer than 7 knots of true wind move the lead position forward one hole; this will make the genoa more powerful for light air sailing.
2. In more than 14 knots of wind, you may move the lead aft one hole or begin to consider reefing the headsail.
3. The genoa should be sheeted so that there is sufficient tension on the sail to bring the leech to between 4"-8" / 100-200mm from the tip of the lower spreader and "inside" of the upper spreader. The sail should be between 5"-10" / 125-250mm outside the shroud base.
4. You can use your fist as a visual guide it sheeting the leech close to the shrouds; one fist width at shroud base and lower spreader in 10 knots and under, 2 fists in over 10 knots.
5. In very light air, you might find that the upper leech contacts the shroud about half way between the two. If this is the case you need to ease the sheet to free up the leech.

Leech trim, closed hauled and with full size sail

First Reef Mark:

With the genoa furled to the first 'reefing' mark just aft of the tack of the sail, the lead car should be moved forward until it is 8'-5" / 2565mm aft of the inner shroud base.

Sail reefed to first mark

Second Reef Mark:

With the genoa furled to the second 'reefing' mark just aft of the first mark, the lead car should be moved forward until it is 7'-8" / 2337mm aft of the inner shroud base. The leech will have moved forward of the lower spreader at this setting, so the sheet tension should be adequate to keep the leech of the sail so that it appears even of the shroud. This will be more difficult to visualize as the leech will be well forward of the spreader.

As you might have noticed, the movement forward of the cars aren't equal distances. This is because as you furl the sail the clew moves forward and ***also higher up,*** which offsets the movement forward.

Car location with sail reefed to the first tack mark

Car location when reefed to second mark

Notes:

Generally, sail trim is a bit science, a bit feel and a bit common sense. As a basic rule, we like to say *that if it looks right, it probably is* and as these sails are fine tuned to the boats you should be able to achieve proper trim using this guide.
Occasionally, you find that the leech flutters a bit. If this happens, the sheet tension is probably not tight enough (you need to winch the sail in a bit tighter). Assuming you have the leads in the right location as outlined above and the sail still has a bit of flutter, you should adjust the leechline to keep the leech from fluttering.
The first photo shows the leechline pocket opened up 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 nucleating 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

Leechline, cleat and 'tail' pocket

A genoa completely unfurled and trimmed up for sailing upwind in about 8 knots of breeze. You can see that it is just inside the upper spreader and a few inches off the lower spreader.