

dolphin sails



Welcome to our series of articles on sail trim and care.

With helpful facts and hints, this series is intended to help you get the best from your boat.

We cover upwind and downwind sail trim, maintenance and care of your sails.



SAIL SETTING



By Matthew Vincent of Dolphin Sails

Welcome to Part 1 of a series of articles designed to help you get the best from your sails.

Issue by issue we will be giving you some handy hints and techniques to assist you in making your boat sail faster, as well as extending the life of your sails. We will also be advising you on the best care for your sails.

PAY ATTENTION TO YOUR TENSIONS

The tensions applied to sails can be critical to your boat performance and sail life. Correct tension on halyards, genoa car position, sheets, out-hauls, battens (fully-battened sails), leach and foot lines and backstay can make a significant difference to both the shape of your sails and the speed of your boat through the water.

In this article we will be looking at the tensions as they apply to your headsail.

HALYARD TENSION

To produce a shape in the sail that permits the boat to be easier to steer and also reduces excessive heel, the halyard needs to be correctly tensioned. The correct tension positions the draft forward of the centre of the sail (See Diagram 1 and Photo 1 and 2)

With an increase in the breeze the sail luff will appear slack. More halyard tension is required to maintain the draft in the correct position. A good rule of thumb is to tension the halyard until the horizontal creases just disappear. However, it is possible to over-tension the halyard. If you see a hard vertical crease running up the luff of the sail, you have created too much tension, and could potentially damage the sail.

Note that the draft in dacron sails tends to move aft more easily than in laminate sails (which stretch less and are inherently more stable). Therefore dacron sails generally require more halyard adjustment than laminate sails.

CAR POSITION

The next control to look at is the headsail car position fore and aft (See Diagram 2 and Photos 2 and 3), often referred to as the sheeting angle. Most headsails come with three vertical sets of tell-tales in the luff. To match the sail with the airflow as closely as possible, each of the tell-tales needs to stream. A good starting point is to position the car so the sheet angle aims about 40-45% up the luff, from the tack. Sail close-hauled and slowly luff the boat. Watch how the tell-tales respond. If all tell-tales lift simultaneously then the car is set correctly. If, however, the top tell-tale lifts first, the car needs adjusting forward.



Photo 1 Example of slack main halyard and very slack genoa halyard

Sheet angle aims at approx. 40-45% up luff

DIAGRAM 2 SHEETING ANGLE

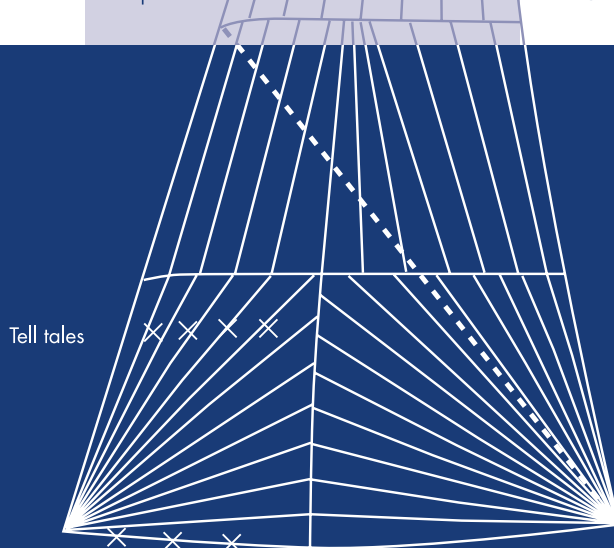


DIAGRAM 1 DRAFT POSITION

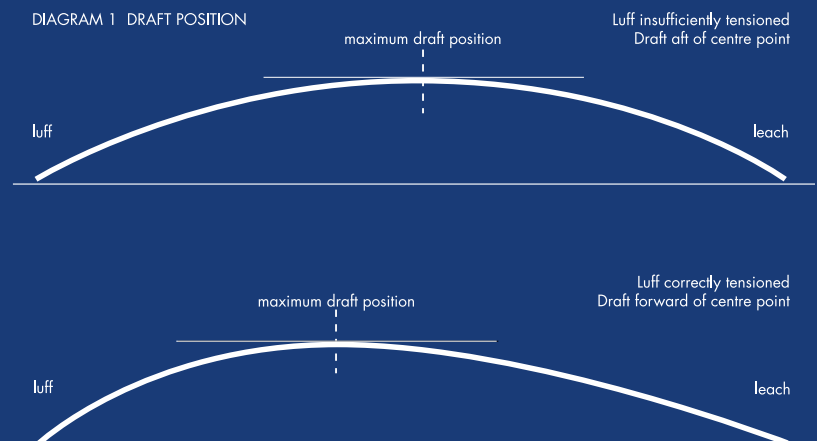




Photo 3 Good illustration of 2 boats on the wind with genoas sheeted in hard, compared to port boat, starboard boat has genoa car a little aft, opening the leach.

FACT BOX

- ▲ Top racing sailors adjust their sails with every change in condition, be that a knot of windspeed or an altered sea state
- ▲ To lengthen the life of your roller headsail always ease halyard tension after your passage
- ▲ When leaving the boat always ensure your sail is tightly rolled and the clew is securely held so the sail can't unravel
- ▲ Regular inspection of all your sails may prevent ongoing damage
- ▲ Annual washing of your sails to remove salt and dirt will increase the life of them
- ▲ Carrying a well chosen and fully stocked repair kit onboard will enable you to make necessary running repairs and could save you expense
- ▲ If in doubt about a repair consult the nearest sailmaker. Repair kits are available from Oyster After Sales or direct from Dolphin

RECOMMENDED READING

Easy Reading: Looking at Sails
- Bruce Banks and Dick Kenny

Medium Reading: The Art and Science of Sailmaking
- Tom Whidden

Reference Book Level: The Aero/Hydrodynamics of Sailing
- Tony Marchjai (pick and choose sections from this book)

This is a series produced for Oyster Marine and reprinted with their kind permission

Likewise, if the bottom telltale shows a tendency to lift before the top one, then the car needs to be adjusted aft.

If the boat becomes over-pressed (too much sail for the given wind conditions), before rolling some headsail away, a good way to maintain balance is to move the car aft a little. This opens the leach and flattens the foot. (See Photos 2 and 3). If an amount of headsail needs to be furled, the car position should be moved forward to compensate. This will maintain a good sheeting angle.

SHEET TENSION

Sheet tension obviously has a major effect on windward ability and performance. Sailing to windward you are looking to achieve the best velocity made good (VMG). Attention to the leach position of the sail, relative to the spreaders via the sheet tension, will pay dividends.

In flat water the best VMG is achieved by setting the leach within a few inches of the spreaders. This gives high pointing ability. In rougher waters easing the sheet to allow the leach to clear the spreader by 1-3 feet, whilst reducing pointing ability, will produce better performance. Similarly, easing the mainsail traveller down a little in these conditions will help your VMG.

LEACH AND FOOT LINES

The leach and foot lines in a sail are intended as anti-fluttering controls. If a sail has a flutter, then tension should be applied to either the leach line or the foot line, in order to calm it. It is necessary to apply only enough tension to stop the movement, so a gentle hand will produce the best result.

A small amount of leach 'hook' could occur as a result of tensioning your leach line. This is preferable to a constant fluttering sail. Applying tension to the leach and foot lines, as necessary, will prevent damage to the sail and prolong its life. Therefore, it is wise to loosen the leach and foot line when the tension is not required.

BACKSTAY

Some boats have easily adjustable backstay tension. Increasing the backstay tension straightens the forestay and enables the boat to point higher. Some sag will always occur so don't expect to achieve a straight forestay. Also take care not to over tension backstay beyond mast manufacturer/riggers recommended limits.

IN THE NEXT OYSTER NEWS WE WILL LOOK AT MAINSAIL TENSIONS/ SETTINGS AND HOW THEY AFFECT BOATSPEED AND HANDLING.

Photo 2 Both halyards nicely tensioned, also shows genoa car slightly back for the bumpy conditions, opening up genoa leach and flattening the foot.

