

4 Sail controls



Apart from the mainsheet and the traveller, three ropes control the shape of the sail. These are the cunningham, the outhaul and the kicking strap (vang).

The sail is cut so that it sets with a curve, or belly. The larger the curve, the more drive the sail has, but the larger the heeling effect. Adjusting the sail controls alters the curve in the

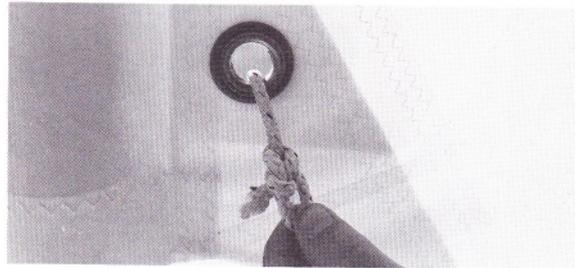
sail. The curve should be larger for reaching and running, smaller for beating and in strong winds.

The kicking strap (vang) pulls down on the boom. This stops the sail twisting, and also bends the mast, flattening the sail. The cunningham and outhaul also flatten the sail when pulled tight.

Cunningham

There are many ways of rigging the cunningham. A simple method giving a 4:1 purchase is shown. Use thin line so the system goes slack when uncleated. Note the ropes all go past the same side of the boom, so the cringle can be pulled right down to the gooseneck when beating in a blow.

But to begin with, tighten the cunningham as much as you can with one hand and leave it set like this while sailing.



1 Tie a bowline as shown.



2 Tie the middle of the rope around the vang swivel.



3 Rig the other end through the bowline.



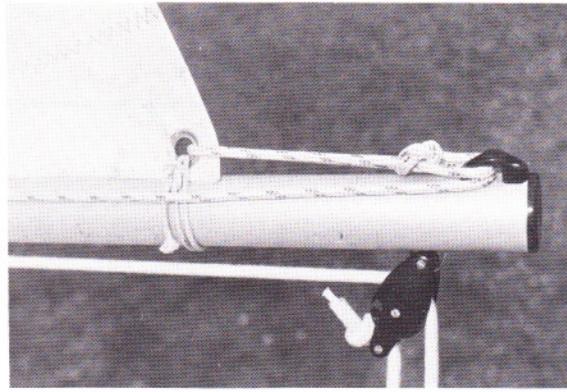
4 Pass it through the fairlead and cleat, and make a handle.

Outhaul

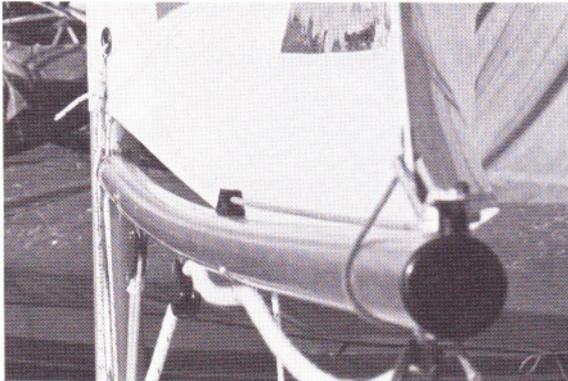
A simple method of rigging the outhaul is shown on the right. This gives a 2:1 purchase.

The outhaul controls the curve in the bottom part of the sail. If it is tight, the sail is flat. If it is loose, a powerful curve forms.

If you are a beginner, you don't need to adjust the outhaul while sailing. A more experienced sailor will tighten it when beating, and loosen it when reaching and running. In strong winds, have the outhaul tighter than in light winds. A loose setting will result in a gap of about 20cm between the middle of the boom and the foot of the sail; in very strong winds, the setting should be tight enough for the foot to just touch the boom with wind in the sail.



Above: Tie the rope to the boom fitting, lead it through the eye and back through the fitting.



Above: With the outhaul loose, there is a 20cm gap between the boom and the foot of the sail.



Above: with a tight outhaul, the foot will just touch the boom with no wind in the sail.



To tighten the outhaul on the beat, cleat the main and pull the outhaul sideways.



Then tension the tail by sliding the knot towards the mast.

Kicking strap (vang)

The kicking strap controls the twist in the back of the sail. It also controls mast bend, and hence the curve of the sail.

A simple way of setting the kicking strap is to tighten the traveller, pull in the mainsheet fully and cleat it. Grab the handle on the kicking strap. Put one foot on the mainsheet, between the forward boom block and the ratchet block. Push hard with your foot, at the same time pulling the kicking strap tight. Finally cleat off the kicking strap. You may now need to let out the mainsheet a bit to help you pick up speed.

Paint three marks on the kicking strap rope to give a visual indication of its tightness. Set up the boat on land and pull in the mainsheet until the back blocks touch. Paint the marks in line across the three parts of the purchase to indicate 'normal' kicking strap tension. If you are a beginner, you can leave the kicking strap in this position while sailing.

In strong winds the kicking strap must be a lot tighter (super-vanging) while in light winds it can be a little looser than the 'normal' setting.

To slacken the rope get a good grip and jerk it out of the cleat. It's a good idea to tie a knot in the line to stop it running out too far.

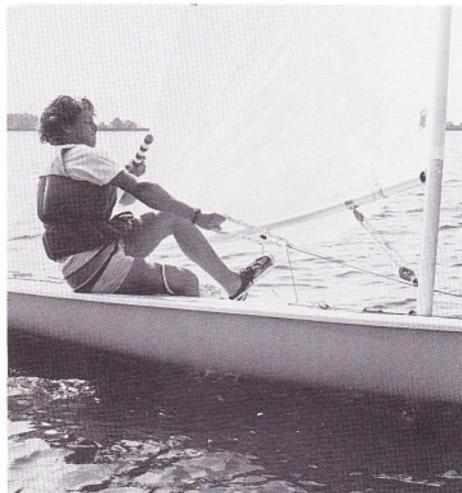
The kicking strap gives the sail power. When you come ashore loosen it as soon as you can to quieten the boat down.



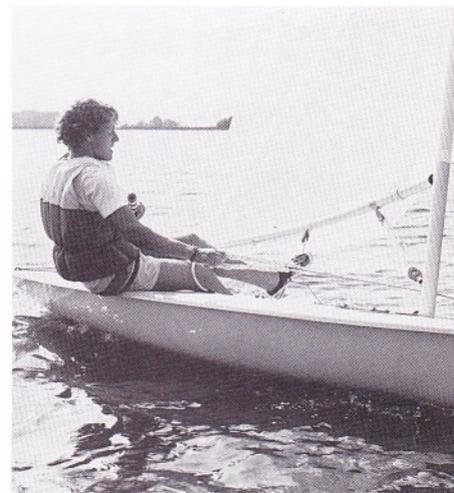
If the kicking strap is too loose the boom will lift, putting too much twist in the sail.



To tighten the kicking strap, pull in the mainsheet and cleat it.



Grab the kicking strap and pull it tight while pushing down on the mainsheet with your foot.



Cleat the kicking strap, hike and go!