

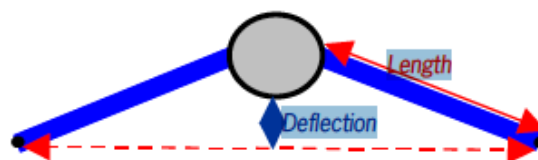
# BOAT SET UP & TUNE

www.sailenterprise.co.uk



A boat, which is set up correctly, will go where you want it to go, be easier to sail and go fast. Here are a few tips that may help. More detailed information is given in the tuning guide on this website. Most sail makers have details of their precise set up recommendations on their websites.

1. Check the rudder is vertical, and tighten the bolt (or fit Formica spacers) if it is a sloppy fit in the rudder head.
2. Is centreboard vertical when fully down? Repair any damaged areas. An epoxy fillet on the leading corner gives a very much more robust surface. Take great care when coming into the shore to prevent the foils and hull grounding.
3. Replace the centreboard gasket if badly worn.
4. Make sure buoyancy bags are puncture free and are each held down by 3 straps. Use stainless steel screws on bag fittings.
5. Make sure the toe straps are secure. I prefer not to attach the helms straps to the centreboard knee as I tend to sit in that region. Mine stretch from an eye in front of the case to the normal fixing point near the transom. Other helms have adopted the same approach (See photographs of cockpits of Hyperactive and Paper Plane at the end of this section).
6. Use vertical jammers on jib (easier to get out when boat is heeling).
7. The inside edge of the jib fairleads should be 59.5cm from the centreline (i.e. 119cm from inside edge to inside edge.)
8. When pulled tight the line of the jib sheet should intersect the luff at its mid point (1918mm from tack)
9. Fix the mainsheet traveller at centre point.
10. Jib and main sheets - I use 8mm diam polyester. I do not like using thinner rope as it is difficult to grip and thicker rope runs less freely.
11. Use a wire halyard for the jib and tension it with a Highfield lever.
12. No need to use wire on main (but with wire you can always guarantee to achieve the same settings). If rope, use non-stretchy type such as Kevlar.
13. Mast set-up – Modern masts are fitted with spreaders which can create and control “mast bend.” The precise settings vary with the sail shape. Each sail maker recommends slightly different settings.



## Spreader settings

The settings given by each manufacturer vary. All quote spreader length, and either deflection or the measurement from the end of one spreader to the other (tip to tip). Spreader length is measured from the side of the mast to the shroud. Spreader deflection is measured from the back of the mast to a straight line between the shrouds where they pass through the spreaders (A jib stick can be used to form the straight line). To obtain the tip to tip distance measure the distance between each shroud at the spreader tip.

Mast	Superspar		
	Length	Deflection	Tip to tip
<a href="#">North Sails</a>	410mm		780mm
<a href="#">McNamara</a>	410mm	177mm	
<a href="#">Pinnell and Bax</a>	410mm	165mm	
<a href="#">Purple</a>	410mm		770mm
<a href="#">Speed Sails</a>	410mm	177mm	

Mast	Proctor		
	Length	Deflection	Tip to tip
<a href="#">North Sails</a>	410mm		760mm
<a href="#">McNamara</a>	410mm	177mm	766mm
<a href="#">Pinnell and Bax</a>	413mm	160mm	
<a href="#">Purple</a>	410mm		770mm
<a href="#">Speed Sails</a>	420mm	171mm	

In general for flatter sails aim for a spreader deflection of 160-165mm and try 170-180mm+ for older or fuller sails.

### **Mast rake and rig tension**

1. There is a lot of mystique about mast rake settings. All you are trying to do is to get the jib and mainsail balanced so that if the boat is flat it goes in a straight line when hit by a gust without having to correct the direction with the rudder.
2. A mast rake of 21' 2" (6452mm) at a rig tension of 400lbs gives the best compromise of upwind and down wind speed. Most top sailors use between 21' 1" and 21' 3".
3. The mast foot should be as far forward as the class rules allow. Measure 2689 mm from the aft face of the transom to the back of the mast.
4. With the jib hoisted and rigging tensioned to 400 lbs, fix a tape measure to the main halyard and hoist it until the tape measures 18'6" (5640mm) at the top of the black band just above the gooseneck. (The top of the tape is now at the bottom of the upper black band). Cleat the halyard and extend the tape back to the back edge of the transom and measure the rake.
5. Measure the rig tension on the shroud with a gauge, and always at the same height. Look after your gauge to maintain its accuracy.
6. For older boats or in light winds have a lower rig tension of 300lbs -350lbs. There will be no loss of speed below a force 4. I know a very successful club sailor whouses 280lbs his 39 year old boat for most conditions.
7. An additional point for people with older masts such as a gold coloured Procter E. The upper pulley on older masts is positioned several inches (4"/10cm) above the top black band (compared to 2"/5cm on newer masts) and this will have a small effect on the mast rake measurement. One way of overcoming this problem is to hoist the tape to the upper black band, and then turn your boat on its side. Get a friend to hold the halyard against the mast 2" above the band and then measure the rake to the back edge of the transom. If you have an old Procter mast, and don't know what style it is the name is usually engraved on the top.

