

## Tim's RS500 setup Guide

This guide is aimed at someone who has just bought a 500 - congratulations on a good choice if that's you – and needs to know which settings are important, and the get the settings in the right ballpark area. I've tried to run through everything you'll need to know to set the boat up to a reasonably competitive level, and I've included the settings we use in our boat. But I'll qualify it by saying there's no guarantee our boat is set up perfectly! But really the 500 is a fairly simple boat in terms of rig tuning, so don't dwell too much on it all. Just go and enjoy the sailing.

If anyone wants to ask me anything else about setting up you can email me ([tcwilkins@googlemail.com](mailto:tcwilkins@googlemail.com)), or come and have a chat in the dinghy park at an event.

### **PART 1. Set up ashore**

#### **RIG**

**Mast foot** position describes the forwards/backwards position of the mast in the mast foot. By default the mast comes set in the middle of the foot, and this seems to work fine for us so we've never moved it. I don't believe it should need adjusting.

**Rake** describes how far the mast is raked backwards from vertical. It is set and adjusted by a adjusting the shroud pins, and the amount of tension in the forestay. It is a very important setting in terms of setting the power in the rig, and pointing ability, due to altering the overlap between main and jib, changing the jib sheeting angle, and the angle of deflection on the spreaders. If you're trying to copy another boat's set-up, be wary of just putting your shroud pins in the same setting as theirs – there is no guarantee that shrouds are all the same length. Instead measure rake by hoisting a long tape measure up to the top of the mast using the main halyard, and then measuring to the top of the transom (see photo). Anywhere in the range of 6350mm (20'10") to 6430mm (21'1.5") would be ok. The general rule is to rake forward for maximum power and pointing ability in light to medium winds, and further back in heavier winds to de-power and make the boat more willing to plane upwind. We generally use 6430mm, and find this good in light/medium winds, but a bit of a handful when its windier.



*Measuring mast rake.*

**Rig Tension** is set and adjusted by the amount you pull down on the forestay. It doesn't seem to be a crucial setting, as long as its tight enough that the forestay and mast don't sag to leeward when you're going upwind. While you're sailing check whether your leeward shroud is going floppy, and if the forestay is sagging – if so you need more tension. Measure tension using a tension gauge, applying it to the shroud at around shoulder height. Aim for around 300-400lbs of tension. If like me you don't have a gauge, aim for a low pitch twwwwanggg noise when you pluck the shroud! Bear in mind that adjusting the tension will significantly affect the rake, and so can be used to fine tune your rake. Also bear in mind that over time the rope on the forestay purchase system may stretch a bit – at Garda we found our tension was significantly lower after sailing than in the morning when we set up...

**Lowers** are the lower shrouds which attach to the mast at gnaw height. Their purpose is to hold the centre of the mast back to control the amount it can bend when the kicker/gnav is applied. If you leave the lowers slack and allow the mast to bend forwards, it will have the effect of flattening the mainsail – good for de-powering in the windy stuff. However when we've left our lowers slack, we've found it has two nasty effects when its not really windy: one is that you can't get the mainsail leech to close up enough – we pull the kicker on block to block and all it does is bend the mast, not tighten the leech – so we end up losing power and pointing ability. The second problem is a nasty great 'over-bend' crease in the mainsail, which extends from the tack up to the back edge of the main batten. It's not pretty and its slow. Because of these we tend to set our lowers so that there's just no slack when the rig tension is on but the mainsail is not up. You can leave them looser if its very windy, but you may regret it if the wind drops (and if like me you're to disorganised to adjust the rig every time you sail!).

**Spreaders** we've left ours on the 'factory settings' as came on the instructions when the boat was new – see photo. They seem to work fine, and I've not really seen any reason to change them. General rule is longer spreaders for a stiffer rig (more power for the fat boys), and increased deflection (backwards) to induce more mast bend.



*Spreader settings (remember to tape it all up)*

## JIB

**The jib tack** is attached to the bow by a small piece of string. The length of this string will determine how high up the jib is hoisted, and therefore the jib sheeting angle. This is a crucial control, as the jib-sheet fairlead position is not adjustable as in more traditional classes. If you set the tack-line as short as possible (say 2cm) the jib will be low down meaning that the jib sheeting angle will be closer to horizontal, and when you pull the jib sheet it will pull the jib foot tight whilst leaving the leach of the jib (and the slot) relatively open. This is good in very windy conditions to de-power and plane upwind, and in waves/chop where you want to sacrifice some pointing ability for power. If you make the tack-line longer (up to around 8cm), the jib will be higher up and sheeting the jib will pull the leach in closer and close the slot between main and jib. This is good for pointing in light winds/flat water, but there is an increased danger of stalling the flow of air through the rig by oversheeting the jib.

**Halyard.** As the rig tension is held by the wire forestay, there does not need to be a huge amount of tension in the jib halyard. It should be tight enough that there are no horizontal creases in the jib luff, and it doesn't sag to leeward between the attachments to the wire. Pulling the halyard tighter than necessary has the same effect as applying downhaul on a mainsail – it flattens the sail by pulling the fullness forward. This may help de-power a bit when its windy, but it also has the unhelpful effect of increasing the angle of attack of the sail, reducing pointing ability.

## MAIN

**Halyard** – it is imperative the mainsail is pulled all the way to the top, and the halyard is tight and will not stretch. There were some early masts supplied by Selden with very stretchy halyards – if your halyard stretches at all, replace it. Also note that main halyards are the most common gear failure – keep an eye out for wear on the halyard where it attached to the sail and the cleat. Cut a few inches off the top of it every few months to move the wearing point.

**The Mainsheet strop** is the triangle of line which holds the mainsheet turning block at the transom. Its length can be adjusted by threading the rope back through itself. It should be set so that you can sheet the boom to the centreline and 'block-to-block', without pulling the boom downwards more than a few inches. Bear in mind that if you adjust the rake significantly this will affect the boom height.

## KITE

**Pole outhaul rope** it is essential this is set to precisely the correct length, to avoid boat damage. The pole should be able to be pulled out until the part of the pole where the outhaul rope attaches to it is at or just (~1cm) behind the turning block on the bow. At this point the line down the centre of the pole which attaches to the kite tack should be tight, so that the kite tack can be set as close to the pole as possible. Bear in mind the amount of stretch in the ropes under strain when working it all out. Also be careful that the pole outhaul rope is not too long, else when the pole is extended the kite halyard turning block attached to the end of it will move too far back, causing the halyard to saw through the mast foot – expensive!

**Tape** everything around the bow area which may snag the kite as it comes in and out, this make hoists/drops easier and prevent tearing the kite.

## FOILS

**Slot Gasket** is the flap of mylar attached to the bottom of the hull. Make sure it is in good condition – it is likely to need replacing after a few years.

**Centreboard retainer** it is essential that the centreboard stays down all the way, all the time. Having it pop up when flat out with three sails up is a great way to induce a swim! There should be a bit of elastic and clip to hold it down.

**Rudder** likewise needs to be held all the way down. If its even just an inch or so up you'll find it difficult to steer.

## **PART 2. On The Water settings**

### **JIB**

**Upwind sheeting** is very important to getting good speed and pointing ability. Watch for oversheeting which will make the air flow stall. If your boat is stopped, let the jib out a few inches! Generally sheet the jib an inch or so from bar tight, but it'll depend on the conditions, and your set up (especially the jib tack height).

### **MAIN**

**Kicker/Gnav** is the most important control on the mainsail. Upwind you should aim to pull the leach of the sail tight enough that the leach telltales stall around 50% of the time. It requires constant adjustment when sailing in gusty conditions. If its light enough you can just forget the kicker and adjust leach tension using the mainsheet, but as it gets windier you'll have to crank on more and more kicker to get the desired effect. Don't be shy with it when its windy! Downwind you will generally need very little or no kicker on. Having too much kicker on downwind is slow, and it'll also help you to go swimming during windy bear-aways and gybes.

**Downhaul** is a de-powering tool only, so don't touch it until you are overpowered. Do not use it to take creases out of the mainsail – the horizontal creases extending from the luff are your friend, let them be. As you get more and more overpowered, pull it on harder and harder. It'll have the effect of flattening the mainsail and pulling the draft forwards. You might not point so well, but it'll get you planing upwind. Always let it back off to go downwind.

**Outhaul** is not a crucial control (set it and forget it I reckon), but should be fairly tight for upwind: in all conditions I tend to pull it on all the way, then let it off until there aren't creases in the sail along the boom. Because the inboard end is attached to the mast, you'll notice that the outhaul loosens itself when you sheet out. For this reason I don't bother letting it off to go downwind – besides there are enough things to think about at mark roundings anyway. Also because of this automatic loosening, be wary off pulling the outhaul on tight while the boom is out – when you sheet in it will try to pull it even tighter, which may damage the sail tack.

### **KITE**

Pull it up all the way, set it right (let out as far as possible without the luff curling), and enjoy!