



<http://www.goachersails.co.uk/gp14.html>

## Settings Tuning Tips

The design of dinghy rigs is always a compromise between optimising genoa and mainsail shape. The importance of the headsail often far outweighs its smaller area. The GP genoa is large in comparison to the main and the design of the rig revolves around it. It is important to harness the subtleties of luff hollow and seam shape to produce a fast sail throughout the wind range.

We produce Genoa variations to suit both GRP and wooden boat using through deck or under deck sheeting.  
We offer a mainsail design to suit Selden and Superspar rigs.

Goacher Sails GP Settings measured on 2008 duffin/through deck sheeting/Selden mast  
Transom to front gate 2888mm  
Transom to aft face of mast at heel 2830mm  
Transom to shroud 2405mm Shroud to shroud 1329mm  
Jib tack pin to shroud 1959mm  
Jib tack to back of tracks 2390mm  
Jib tack to front tracks 2314mm  
Rake 21ft 9.5ins at 29 on Loos professional. Front face of mast to deck 15mm.( Gate removed for measurement)  
Spreaders 380mm from groove /180mm tips to aft face mast.  
Jib tack to deck = 60mm

## **Andy and Ian's GP Tuning Tips**

Mast Foot Position (transom to aft face) 2820mm

Spreader Length 380mm from groove

With the mast down the spreader length easily measured from the mast to the point where the shroud runs through the spreader. Spreader length controls the lateral stability of the mast, and how easily the mast is allowed to bend off, de-powering the rig.

Spreaders 380mm from groove

Spreader Deflection 180mm tips to aft face mast

This is measured by placing a straight edge connecting the shrouds at the spreader tips. The deflection is the shortest distance from the straight edge to the rear face of the mast.

## **Tension**

GPs can take a large amount of tension. Tension stiffens the rig and reduces luff sag in the genoa when sailing. Rig tension is a powerful control and must be measured accurately. I heavily recommend splashing out on a rig tension gauge, preferably a Loos as these are the most reliable and accurate. The important thing with rig tension is consistency, far more than the actual number of it. To this end always use your own tension gauge and don't borrow other people's as gauges vary. The normal amount of tension is 400lbs. On this loos gauge we use 291/3. Mark the height of the wire on the mast, so if you decide to change settings on the water you have a reference point.

**Steve's Note** When conditions get very light and difficult ease the rig to allow luff sag in the genoa which rounds up the entry and makes it much easier to sail. In a GP it pays to maintain tight rig in strong breeze as this hold the genoa flat. The main is designed to flatten off sufficiently even with lots of rig applied.

## **Mast Rake**

Attach a tape to your halyard and pull up to the top black band.

When you are sure that this is correct, walk the tape to your transom and measure to the top of the middle of the transom. Rake measures 21ft 9.5ins at 29 on Loos professional. Mast sits 10mm out of gate at this setting.

## **Chock**

Using a chock to control the amount the mast bends at deck level when sailing is extremely powerful. To which end I recommend using two 5mm thick chocks as apposed to one 10mm chock. This allows us to control the setting more accurately. Placing the chock in front of the mast keeps the mast straight and the main sail deeper. The middle of the mast is pushed aftwards but the tip of the mast is moved forwards which means that the main leach is tightened; this also helps to give us more power.

Most people tend to put the chock in and leave it. A quick guide to know when to take it out is simply: Am I over-powered? Am I easing mainsheet? If so- de-power! Take a chock out.

**Leach Tension** is critical and for the main is controlled either by mainsheet or by kicker. Key thing to think about is: We want to harness as much power as possible by turning the breeze through a large angle but not jeopardise the overall flow over the sail. Use only mainsheet tension to control the leach in less than around 8knts. This is where centre-main sheet users can benefit as are able to control the leach with only a click or two of the ratchet block.

Remember that the mainsheet and kicker have two different effects on the rig. The angle that the mainsheet pulls means that it is effective at closing the leach, the kicker also bends the mast , which then opens the leach. Basically don't use kicker tension until you have to, in order to maintain power in the leach.

With more breeze kicker is needed to maintain the leech telltales stalling less than half the time.

In overpowered conditions the boom end should be set on the quarter with kicker applied as necessary.

## **Jib Cars**

These control the leach tension in the jib. On our Duffin both of the cars are controlled by one piece of rope lead back to the helm near the mainsheet. A key thing to remember however is that although the cars do control leach tension the sheet tension has by far a greater effect on the leach tension. This is why I would also recommend marking up the jib sheets at deck level so that you

know that when you come out of a tack the jib is correct to within about 2mm.

Be careful in windy weather as the cars should only be moved backwards to keep the slot open when the main is being eased over the edge of the transom. It is far faster to de-power the main to get it back in closer to the centre line than to potentially sacrifice pointing by going cars back. So in short, only go cars back when it's very, very booming! Be careful about jib sheet tension.

### **Genoa luff tension**

Goacher sails do not normally sew in the luff wire. This has the benefit of being able to adjust the luff tension and height of the jib. I prefer to use a cleat on the foredeck although a cleat on the sail itself is also useful. More tension de-powers the sail by flattening it and also rounds the luff up to make it easier to sail to in waves. Remember that if you adjust your rig tension the luff sag and therefore entry angle of the jib is affected.

### **Cunningham**

I feel that Cunningham is an under used tool. Goacher sails tend to pull the luff rope in the main sail fractionally tighter than in other sails. This gives us the adjustability as there is always some elasticity in the luff which can be pulled out using the Cunningham. I find this makes it easier to let off going downwind. The Cunningham should be led back to the thwart, for easier access, most likely to be for the crew. Cunningham de-powers, don't be afraid to really grind it on in the wind, although I recommend that it is the first thing that is let off in any lull. Cunningham also bends the mast off and slightly opens the leach, so don't forget to readjust your kicker.

### **Outhaul-Inhaul**

At the tack on the mainsail, you should use either a piece of rope around the mast or as supplied on Goacher sails a mast slider which slots in the track. This is better than using a pin on the boom as can be allowed to ride up when going off-wind. A useful trick for light winds is to let off the outhaul, push the tack up the mast and jam on the outhaul again. This pulls the clew towards the tack which is now higher and takes the pressure of the boom off the leach when there is not enough breeze to keep it open. (Steve's Note- makes your main wear out more quickly though!)