

The Forgotten Control

A few of you guys may have been on one of my training sessions with the class, and so will have heard a bit of this story before, but I bet for a lot of you sailors this might come as a bit of an awakening.

We all want to get the most out of our boat, whether you are racing or just cruising, finding an extra gear for a bit more speed is always the aim. During my training sessions we often run through boat set up, and I tend to break things down in terms of 'permanent-ness', Hull alignment at one end of the scale (not very adjustable) and mainsheet tension at the other end of the scale (very dynamic and adjustable). But somewhere in the middle of the range is the control most people don't really consider..... Batten tension!

The first thing I should mention on the subject is that the sails are all cut with a specific shape, and so when playing with batten tension you are either promoting that shape (creating depth) or demoting it (flattening). So lets start by having a think about that.

Looking at upwind performance where sail shape has its biggest effect, in the crudest sense we can say,

A deep sail can generate lots of power, but also creates more drag, this means it is a shape that has good initial acceleration but a limited top speed. So when accelerating is a focus (lighter winds or big chop/waves) a deeper sail will have an advantage.

A flat sail produces far less drag, and so is capable of achieving much higher speeds, however it lacks the grunt to get the boat going in the first place if the wind is light.

As ever with sailing there are some caveats, and of course everyone sails the boat differently, but it is worth mentioning that having a very deep sail in very light winds can 'hook' the leach and cause the sail to stall, so just bare that in mind!

Having established how sail shape effects the performance of the boat, we can use the batten tension to help push the sail in the direction you are trying to achieve. Pushing the battens in tighter when trying to create a deeper more powerful sail, and not pushing them in so tight if you want a flatter 'higher top speed' sail. Here are a few top tips to help when tensioning the battens,

- Always take the tension off after sailing – Firstly, this will make your sail shape last longer - often you see on old sails where the tension has been left on, the leach will flutter. This is because the sail will have stretched along the batten pocket and so produces slack points in between. Secondly, by untying the battens each day it forces you to re-tie them next time you sail and so you will actively think about how much tension you are applying and set up the sail more appropriately for the conditions.
- Vertical creases are bad – You will know if you haven't put in enough tension, because you will start to see lots of small vertical creases along the batten pocket. Just taking the creases out is your starting point for tension.
- Tension top to bottom – I'm sure you will have all realised that the top battens are much harder to create shape in due to them being much shorter. Because of that

you will end up pulling the top ties much harder than the bottom ones where it is easy to create shape over a longer batten. When tensioning the battens I tend to work from the top down knowing that, as I move down the sail, I won't need to pull the ties as hard.

- Tensioning method – I know some of you guys use the adjustable batten ends which most definitely make the batten tying process more efficient, however for those on the original style, there is a little technique you can use to produce the tension required. As you can see in the photo use a hard surface to pull the end of the batten (against the traveller track is perfect) and tie the first half of your reef knot before pulling. Apply the tension in the batten and pull the first half of the reef knot tight to secure in that tension. Tie the second half of the reef knot to lock it off and tuck the tails back inside the batten pocket to tidy them up.



Using this method you will be able to even make the top battens pop from side to side for those days you want a really 'grunty' sail!

- Calibrate – It's really hard to consistently reference how tight you are pulling the batten ties, until now you have probably will have measured it on how much your thumbs hurt as you pull! I would suggest marking your batten where the leach of the sail sits on it. That won't always be the right place to put it, but it at least gives you a reference for where you are so you can play with it and find what works and then repeat it!

As I said at the start, batten tension is just a small part of boat set up, however I think it's often overlooked. Batten tension needs to work with all the other controls to fully get the most out of your boat, but as you progress in your sailing it's these small changes that will begin to make the difference in your performance.

As ever Windsport is here for parts and advise on all things Dart 18 and Sprint 15, so give us a shout if you think we can help.

Cheers,

Tom