Rigging for Performance /Kitewing 2019

4:1 batten tension

4:1 tip wand tension

laced reflex

multi part out haul

4:1 Batten tension ensures a relatively wrinkle free set. It does make a difference. Batten tension also helps to make the sail to frame fit tight. A tight fit is stiffer. Stiff, dimensionaly stable wings are easier to fly. Clean wing surfaces are more likely to be able to fly slow.

I use a 2mm accessory chord tied to the grommet with an overhand knot. There are two ways to rig the purchase. The chord can be rigged through the grommet and around the arrow nock at the end of the batten leaving wraps rigged. Or a loop can be passed through the grommet over the end of the arrow nock. Both ways work fine.

Tension battens to remove wrinkles it is easy and obvious.

Use a small chord lock fror 1/8 inch chord.

4:1 Tip wand tension is the newest revelation. Tip wand purchase is subtle and important. Tip wand tension is required to tension the luff tube of the sail to the front tube of the frame. Tension of the sail engages the battens closer to the front tube and makes the sail to frame fit tight. Tight sails fly easier most of the time.

Tip wand tension can be eased to relax the batten to front tube and sail to frame tension. The trick is get the sail tensioned the way you want it to best match the conditions or velocity. You will have to adjust your outhaul in conjunction with tip tension to get the shape you want.

If the wing feels good, you are the best sensor.

Laced reflex is crucial to performance. What amounts to a vertical stabilzer or reflex in your wing induces your wing to seek positive attack angles. Less reflex is required for flatter foils. More reflex is required for full foils as velocity picks up. Seeking positive attack angles means the wing wants to fly up. As velocity drops in light air a wing which seeks positive angles is easier to fly.

Adjusting reflex changes the difference between the angle of incidence at the center of the wing and the wing tips. I think that enough wash out or the difference of incidence angle keeps the wing stable because the center of the wing stalls befor the wing tips. It may be why adding reflex can help to make the wing stop yawing back and forth.

Adjust reflex so the wing wants to fly up.

Multi part outhauls make tuning the wing easier because multi part purchases adjust with more finesse.

Getting it right is subtle. When the wing feels good it is tuned. Small incrimental changes can have a big affect on what you feel at the Y tubes and boom.

2mm accessory chord works great in the plastic Rohnstan cleats. Multi part purchases take a load off the jam cleats. Perhaps the stock jam cleats will last longer if they are not working so hard.

I use outhaul to flatten the wing. Flatter foils for less drag and less lift at specific velocities. Full foils for more lift with a drag penalty. The more velocity the less foil you need to get the same amount of lift generaterd by a relatively full foil in less velocity.

There are full batten sets available for the 5.5 and the 4.6.

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Dicky Saltonstall

Watch the MOV, KITEWING TUNE UP at vimeo.com https://vimeo.com/manage/314178174

All the wings benefit from multi part purchases.

The new wings including the 6.0 Pro, the 3.0 Sport and the 4.6 come with shock chord, a single line outhaul and a reflex strap which can be rigged X style.

At Kitewing we decided the standard configuration allows for a relatively easy customer upgrade to those who seek it.

We could raise the price of the wings to cover costs for fancy batten tensioners or an improved reflex adjustment system. We would also make the sails heavier.

All the rigging comes with a price. Cold fingers and time spring to mind. Rigging for performance is not for everyone. If you want to get the wing rigged quickly with relative ease in cold temps, stick to the stock set up.

Rigged 4:1 tip wand tensioner

Batten tensioners.

4.6 Laced reflex

Reflex strap rigged X style.