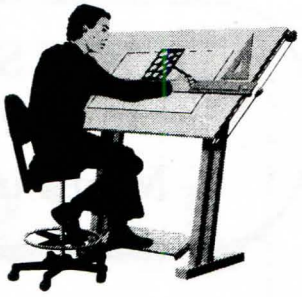
Mi-Delt

by Fred Broadhead



Spars. Spine 48" x 6mm Carbon Fibre Tube
Cross Spar 6mm Carbon Fibre Tube
Leading Edge Spars - 53" x 6mm Carbon Fibre Tube or 6mm Dowel Rod
Keel Leading Edge - 19" x 6mm Dowel Rod

My idea behind this kite is for a delta that will fly in very light winds and also be adjustable to cope with stiffer breezes and act as a sky anchor for line banners and washing.

First adjustment comes from the keel which has a spar in its leading edge, and has two tow points positioned at 37% and 50% of its spine length back from kite nose, these being about the maximum settings a delta will fly on, 37% being nose down and 50% nose up. Obviously fitting on a bridle, as shown from these points will allow the kites attitude to be adjusted anywhere between the two tow points, or flown direct from either.

Second adjustment comes from the cross spar where length or adjustment can make a large difference as to how well a delta flies. Put simply the more the cross spar stretches the kite between its attachment points the flatter the kite will be and therefore give greater lift at the slight expense of stability. Conversely the slacker the kite between the cross spar attachment points the less is its lift but the better its stability, just like any kite. For the cross spar adjustment I have used a beaded line attachment between the cross spar and the leading edges, although other methods can be used such as having several loops of line of different sizes attached to the leading edges. There is a ratio that's useful in working out cross spar lengths and it goes 10% to 15%. If you hang a delta upside down by its keel point and measure the distance the cross spar at its centre hangs below the spine, and then divide that measurement by how far the leading edge cross spar attachment is from the nose of the kite and multiply by 100 you have the percentage. For example if the cross spar is 10cm from the spine and the leading edge attachment points are 100cms from the nose then the ratio is 10%. 10% is pretty tight, in fact on any delta if you have to flex the cross spar a bit to fit it into its fixing points that's about 10%, 15% is very slack although adjustment between the two is only a fairly small variation of the cross spar's effective length.

So why bother. Well, with the towing line on the keel point (50%) and the sail stretched tight (10%) my kite is in the same light wind bracket as my Ripstop Desperato and that 's not bad for any delta and this is a 90Deg nose delta. In a stiff breeze by slackening the sail on the cross spar and moving the tow point forward, it copes just as well and this kite for its size is very lightly sparred, at the moment I've only got 1/4" dowel in the leading edges. What this means also is that it can be trimmed to pull well in light winds and carry banners, and then trimmed to get rid of too much pull and save the kite and its spars in strong winds. It is also interesting just playing around with the settings and watch the difference to how the kite flies.

*** MKF members might like to make the kite as per the club logo shown in the Dec' 97 issue of MKF News. I have and with a white background, red tip and deep blue 'M' it looks as sharp as a razor. ***

The macho minded might prefer to increase all sizes by 50% and have a good club kite, but that's another story. In that case I would suggest all spars are 8mm Carbon Fibre or 9mm or 10mm Dowel Rod.

Finally before the eagle-eyed rush into stating that the cross spars on Delta's should be the next size up from the other spars, sorry chaps it's not always true. I do have a restraint loop between the spine and the cross spar to give it support. Still doubtful, have a word with my mate Dan Leigh and remind him of my little green Classic Delta, it surprised him. To me kiting is the ultimate in suck it and see.

Good luck. Fred Broadhead