

Small Kites - Continued

In the last Kiteflier I suggested two small kites which did not need spars; they used folds in the paper to provide stiffness. Avoiding separate spars makes a kite easier to construct and also helps keep the weight down which helps it fly well. However many interesting kites need spars to hold their shape.

What are the best materials for small spars? Bamboo is traditional and can be split and shaved to less than 1mm. Carbon fibre rod comes down to 0.5mm diameter and is robust. For the smallest kites glass optic fibre (the sort which is 0.25mm diameter measured over the protective plastic coat) is light and easy to handle. Combined with very light sail material such as tissuetex it makes good kites up to about 100mm in size - depending on the particular design. If you cannot get it locally send me a stamped addressed envelope for some (31 Merriefield Avenue, Broadstone, Dorset, BH18 8DA).

Here are designs for two sparred kites which can be made in various sizes depending on the materials available. They are designed to be simple to construct in small sizes. One advantage of small kites is that there is no need to dismantle them for transport or storage, so the spars can be glued on.

Bell Quad Tetrahedral

The drawing shows the sail which is based on 60 degree triangles. Cut along the solid lines and press and fold along the dotted lines. The folded-over strips stiffen the edges. Join the top corners by a spar whose length is equal to the edges of the large triangles. Fix the spar just below the tips. When that glue is dry, glue the tips of the centre triangles to the middle of the spar, bending it down slightly if necessary. Now all that remains is to find the best bridle point. A quarter of the way along the centre fold (half way along the edge of the front small triangles) is about right.

Using optic fibre and tissuetex or space blanket this works well with the main triangles 40 or 60mm.

Microcody

Normal Cody Kites are complicated to construct and very fiddly in small sizes. This design (by Tom Vinken, Netherlands) looks very similar in flight and is much easier to make

The sail is based on squares and cuts in one piece. The drawing shows half. Cut along the solid lines and press along the others. Then fold all the dashed lines one way and all the dot-dash lines the other. The sketch shows the shape to aim at. There are only three spars: one along the centre bottom which holds the three sections together and two diagonal spars in the front section which hold the box in shape and support the front wings.

15-20mm squares work well in tissuetex and optic fibre.

Christmas Kite

With Christmas only eight weeks away, here is a simple sparless Christmas kite consisting of three identical wings joined in the centre. The exact shape of the wings is not critical.

Cut out the two pieces as shown. Fold the bottom (trailing) edges over. Do not glue them. Glue the flap on the single piece to the double one, keeping the dotted lines over each other. Fold at the dotted lines so the three sections make equal angles, taking care not to warp the sails, and attach a bridle. Decorate to taste.

This works well 60mm high in tissue paper and will go smaller in tissuetex.

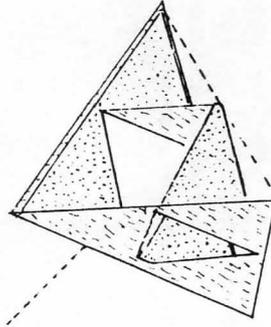
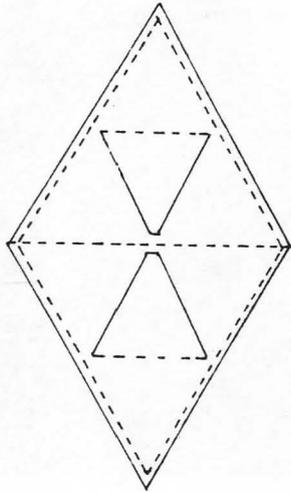
When you have experimented with these designs, make your own. Take any successful kite and try to make it smaller, using the lightest materials you can find. For well supported kites try the thinnest plastic bags from local stores. These come in a range of colours. The thinnest are the same weight as tissuetex, but floppier.

Finally let me emphasize again - small kites must be light to be stable and very small ones must be even lighter.

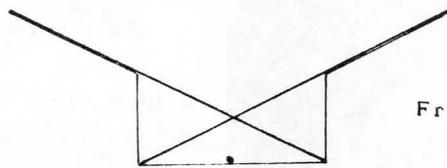
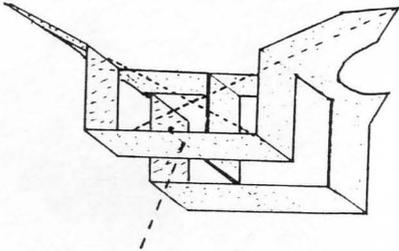
Good flying

Nicolas Wadsworth.

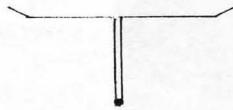
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Bell Quad Tetrahedral



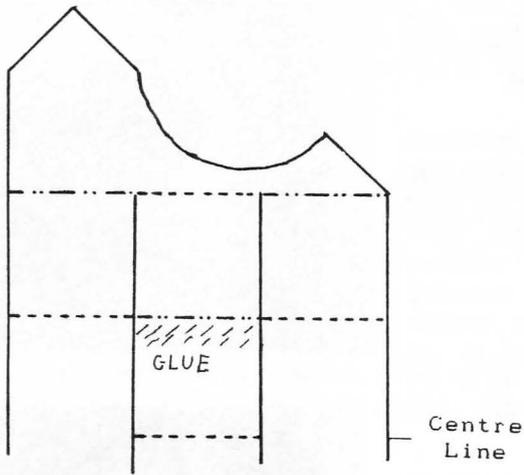
Front Section



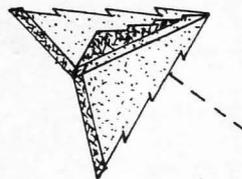
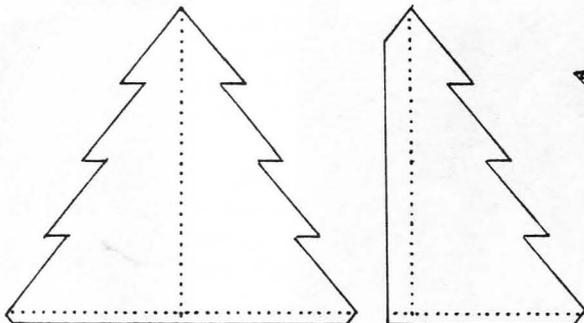
Middle Section



Back Section



MicroCody



Christmas Kite