

# Fighter Kite Design

Martyn Lawrence Fighter Kite - Bristol 1989

This kite was designed by Martyn Lawrence of Merlin Kites and was built in his workshop during the K.S.G.B. Convention at Bristol in 1989.

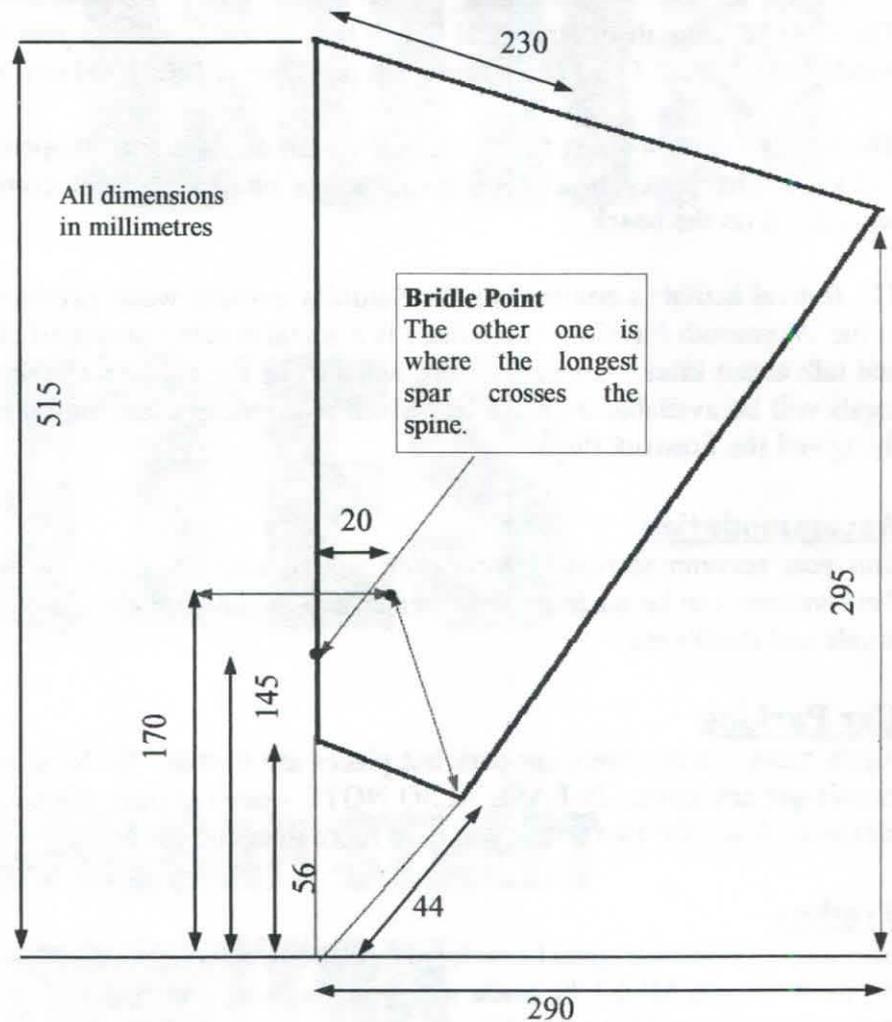
As a complete novice kite maker I made these notes to enable me to rebuild the original or build another one. As it happened I did not start flying fighter kites until this year but I now have a collection of them which I enjoy flying. This particular design is the best one I have used, especially in a reasonable wind, and a few friends have made them from these instructions and flown them successfully.

## Materials required

1. The spine is made from bamboo. The green coloured 18" (457mm) plant or 24" supports found at garden centres are suitable. 453mm required.
2. The spars are made of 2mm glass fibre. One 400mm and one 645mm. Bamboo can be used as an alternative.
3. The 'paper' sail is made from mylar, metallic wrapping paper or from a survival blanket.
4. Stiffeners are made of thin (say 1x2mm) bamboo cut in strips 147mm long.
5. Sellotape. Narrow 127mm (1/2"), wide 19mm (3/4") or 254 (1") and double sided.

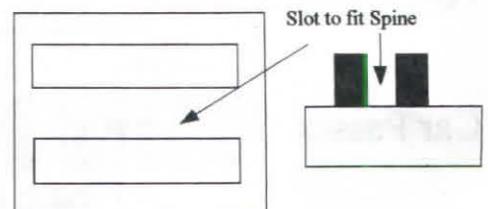
## Building instructions

1. Fold the 'paper' sail materials in half and use the half template as shown in the diagram.
2. Mark through key points and cut out. If you use plain 'paper' now is the time to colour it with your own



3. Tape round the edges using narrow Sellotape. Both sides for metallic wrapping paper as it tends to curl. Lay a straight edge on the sail near the edge to keep the material flat. Don't stretch the tape. Lay edge to edge with no overlap.
4. The spine is made from bamboo and shaved to about 3mm flat with a plane. The bottom should be heavier for a fighter kite - other kites are opposite for stability. Bend the front end of the spine up slightly by rubbing it over a cloth on your knee.
5. Tape reinforcement at bridle points.
6. The spine is stuck down

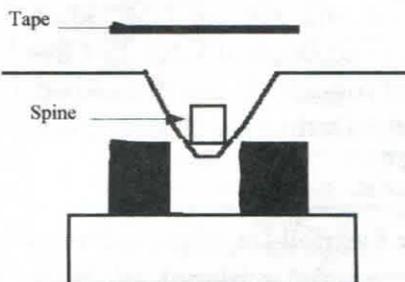
7. using double sided sellotape. The spine must be placed exactly on the centre line of the sail - put marks a couple of mm either side of middle fold to act as a guide.
7. Place the spine down about 6mm from front edge of kite and push down the free end working to the 'tail' end to complete the positioning of the spine.
8. Squeeze down on front side then turn over.
9. Give an extra squeeze for leading and trailing ends of



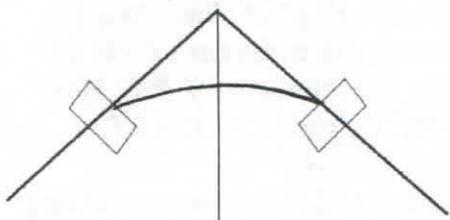
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the spine using a device as shown on previous page.

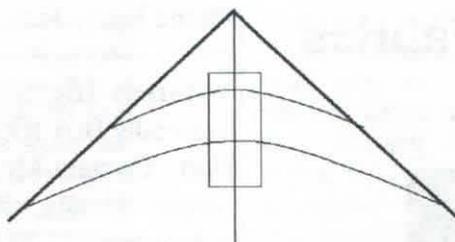
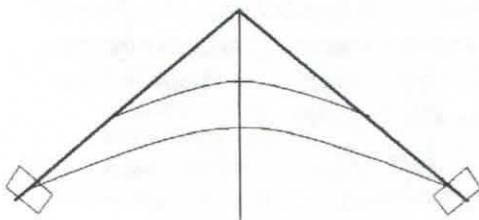
10. Sellotape the first and last third of the spine as shown:-



11. The spars are made of 2mm glass fibre. Note that if bamboo is used instead of glass fibre the ends should be tapered to allow the ends to bend but the centre to remain stiff.
12. Cut a 40mm length of glass fibre and stick the ends to the marked points using wide sellotape. This acts as a stiffener for the main spar.



13. Cut a 645 mm length of glass fibre for the main spar and stick the ends to the corners of the sail using wide sellotape.

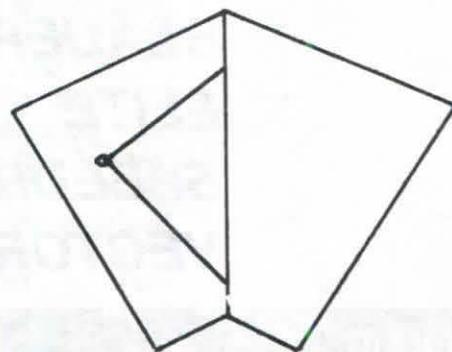


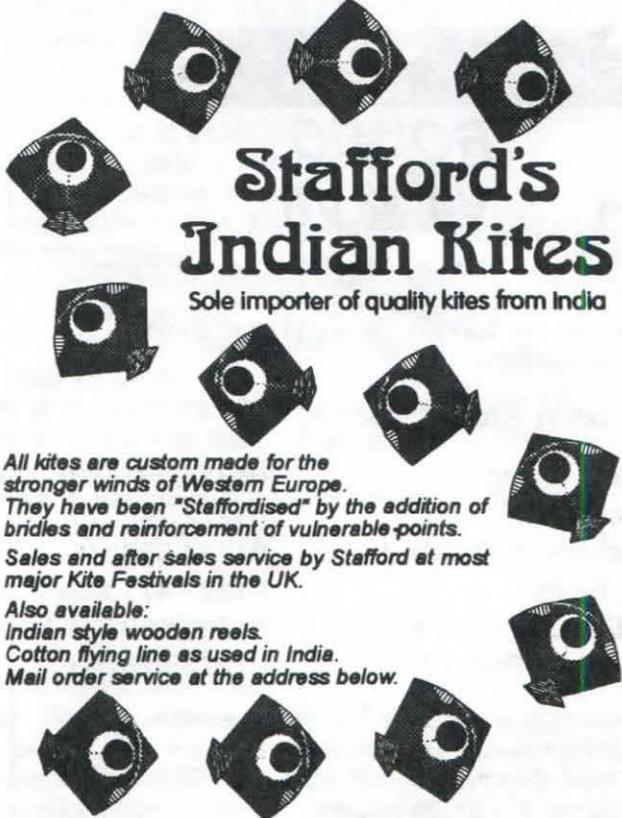
14. Tape spar and reinforcement at the spine.
15. Tape the leading edge with thin sellotape, taping over the glass fibre, creasing in from the front side.
16. Pinch the nose in and sellotape the back.
17. Put another piece on the front for reinforcement.
18. Lay the stiffeners on thin sellotape and put down on kite from rear corner to the marked point. Crease in

from the front edge.

19. The bridle should hang about 400mm above the flattened kite. With the towing point positioned about half-way down the spine.

Neil Little





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