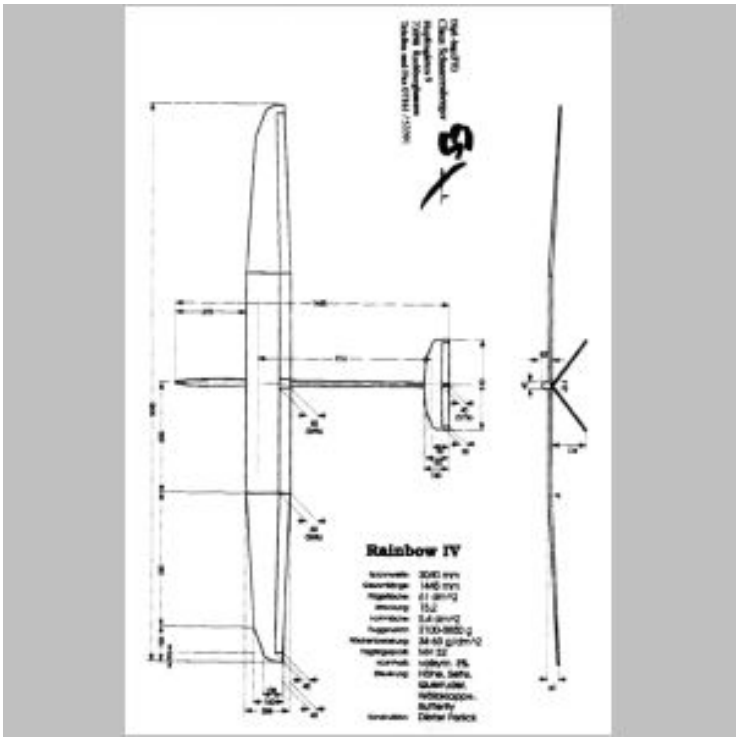
HOMEBREW F3f : by Bill Scott (Part 1)

The basic premise was to build an F3f style model using techniques available to the home builder and readily available materials.

The fuselage was purchased several years ago and is a “Buzzard” by Kevin Beale. It features a slip on nose cone, top mounted bolt on wing and has no tail as standard. The decision was taken to base the design on a current F3f machine and the “Rainbow 4b” by Dieter Perlick, layout was chosen. This is a V tail model of 3.04m span utilising an MH32 airfoil. No tail section is specified, but I decided to use the HN 374S section.



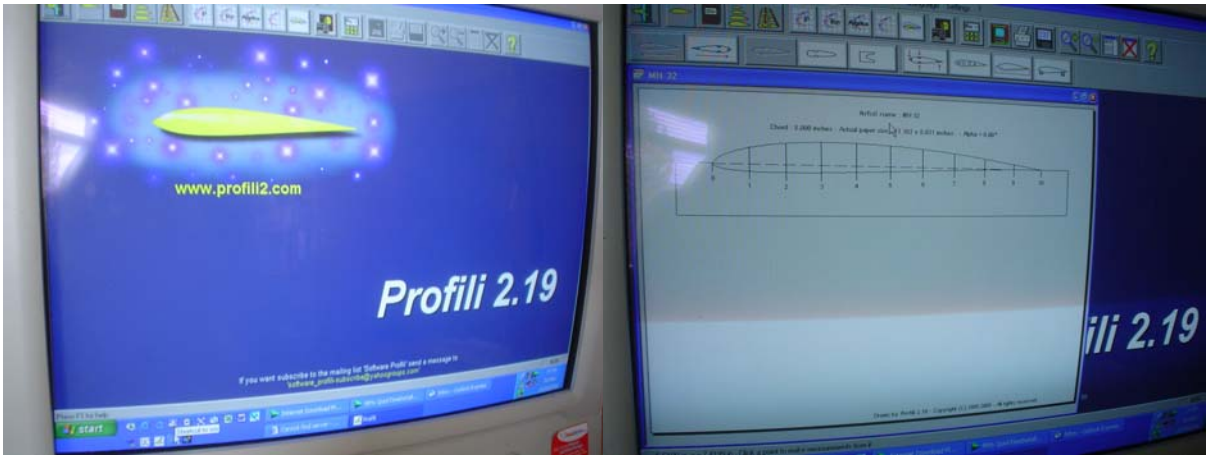
Rainbow IV 3 View.

The wings and tail will be hot wire cut blue foam, with carbon shear webs and spars. Wing will be 3 piece, with a centre section and 2 tip panels. The centre section is constant chord. Both wing and tail will be made as bolt on units to ease transport.

I intend to document as much of the construction as possible and write it up, using as many photo’s as possible.

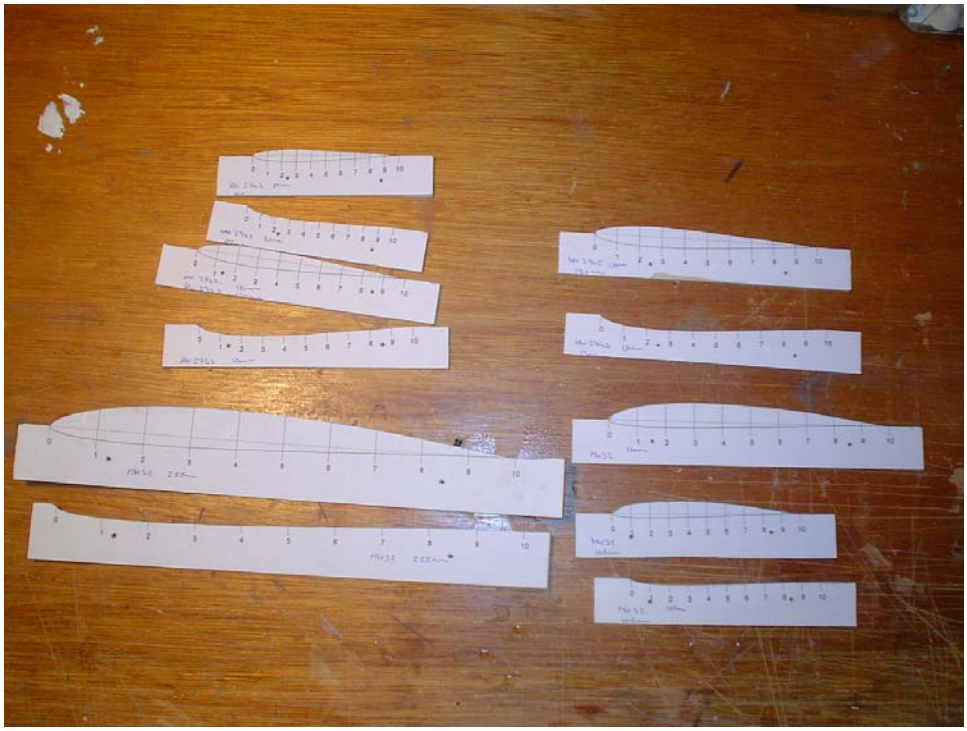
CONSTRUCTION:

The profiles for the templates will be made using profile software, available at www.profili2.com,



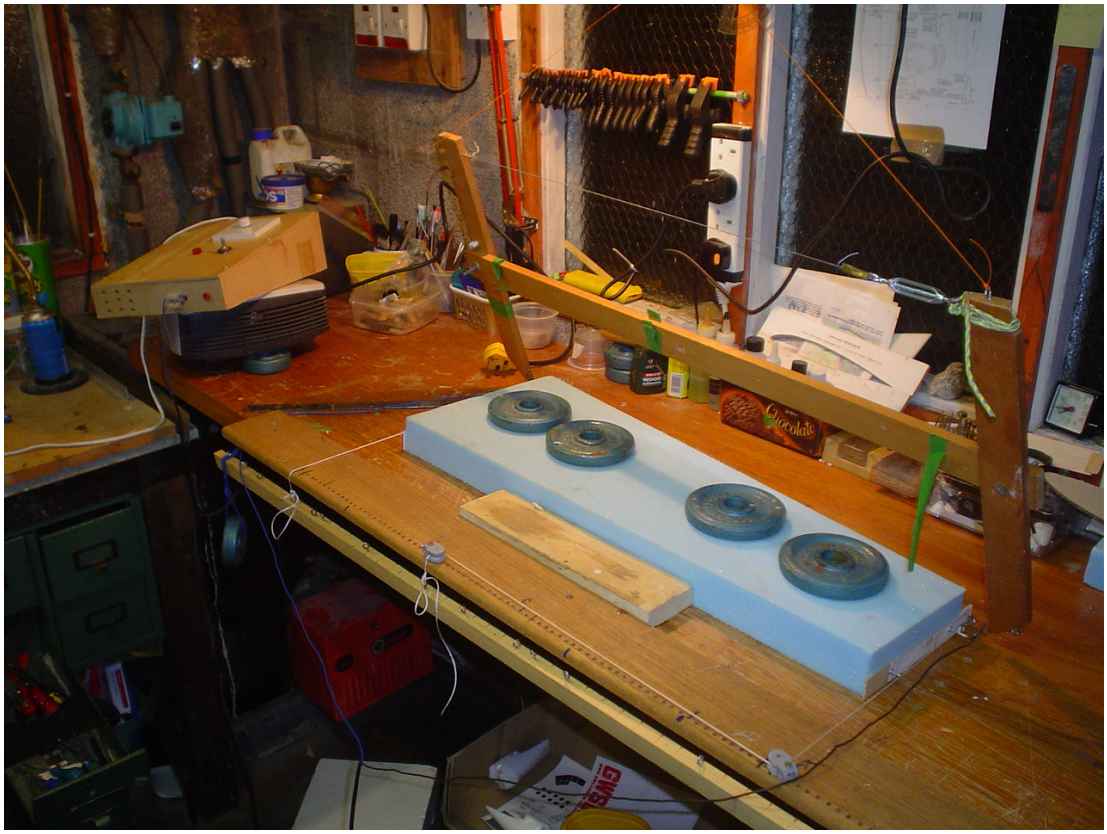
Screenshots of profili programme

The printed foils will be glued to 1/16th ply or formica and shaped. I will be using 2 templates for each end, a top and a bottom foil.



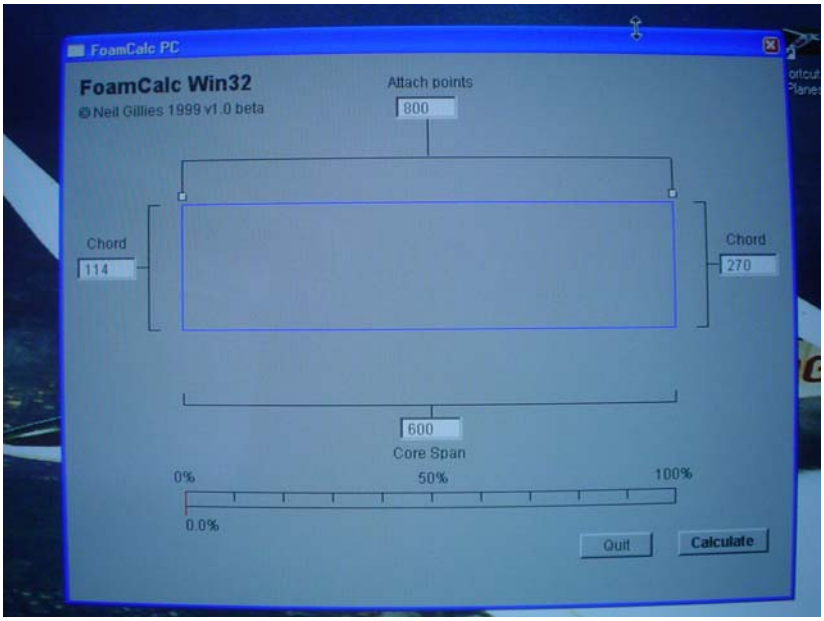
The templates which will be used

The foam cutter is a standard bow with nichrome wire and using my home built transformer. The transformer consists of a 150KVa dimmable halogen light transformer and a dimmer switch. I have 3 lengths of bow, a 12”, 28” and a 40”, all of which will probably be used in this build.



The cutter set up to start cutting panel 1 of the tips.

The tapered cuts are made by using a swing arm cutter and calculating the positions of the cables using foamcalc.exe available at the Seagull Technologies website, http://www.sea-gull.demon.co.uk/Files/FoamCutter/FOAMCALC.ZIP



The 3 panels of the left wing with the groove cut for the carbon tow spar

I intend to vacuum bag the wings. This may seem beyond the home builder, but my pump came from ebay for less than £20 and others bits and pieces came from Tygavac (www.tygavac.co.uk) with glass, carbon etc from Freeflight Model Supplies (http://www.freeflightsupplies.co.uk/) , Fibretech (http://www.fibretechgb.co.uk) and Ebay. I may also have to set up some kind of "hot box", as my garage isn't the warmest in the winter!

The "buzzard" fuz I bought from Kevin Beale at RadioGlide in Redcar 1995!!!

More to come in Part 2