

TRIBEWTFoam board model design by Alistair Potter ©2014

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NOTE: design is for 5mm foam board. For other foam boards adjust slots,tabs etc. when cutting. Layout is for an A1 sheet size. All dimensions are in millimetres.

If you use these plans, please consider donating a payment to the author. Payments through PAYPAL to alipotter@blueyonder.co.uk.

Wingspan - 760mm / 30 inches  
Length (excluding prop) - 635mm / 25 inches  
AUW with a 1000mah 3S Lipo - 665g/ 23.5 ozs

(Imperial sizes are approximate.)  
The plane shown is flying with an Emax CF2822 1200Kv outrunner motor with an 8 x 4 prop. The motor is rated for 16Amps but the max current draw for this setup is just under 10 Amps. However, the plane will happily ground take-off and fly with an 8A Blue Wonder or equivalent motor.

This plane uses design elements from the Flite Test Baby Blender, and you can refer to the Flite Test build guide for most of the basic techniques, but there are some significant variations. The wing is built to the Baby Blender profile, but dihedral has been added and the wingspan extended to increase lift. The basic foam board wingspan is 700mm, with 30mm shaped polystyrene foam extensions on the wing tips to bring it up to 760mm.

These polystyrene wing tips have been very successful; adding

length, absorbing knocks, and giving a more adaptable profile on the wing tip. And, they are replaceable. When I built the original Tribewt I only had one sheet of A1 foam board. The only way to get all the parts from the sheet was to start with a shorter wing.

Use as dense a polystyrene foam as you can find - this is harder and has smaller 'bubbles' of foam, making it much easier to shape..

If you don't like using polystyrene the plane could easily be built with a 700mm wingspan, or if you don't mind using more than one sheet you can add the extra length in foam board. You might even take the wing out to the full width of the A1 sheet (840mm / 33 inches) for a potentially slower flying plane (depending on your battery load).

For information on shaping the wings, creating the dihedral and other variations, consult my article "Build a Tribewt" on the Flite Test website.

With my 1000mah battery I manage flights of just under 7 minutes but the foam board I use is significantly heavier than Dollar Tree or similar foam boards, so a build in lighter board will have potentially longer flight times and be able to carry larger capacity batteries. I do tend to build heavier, more durable planes, so even a careful build in one of the heavier foam boards is very likely to be lighter than mine.

The plans are *repeated* over three sheets; page 2 has all the components in place, but in order to squeeze everything on I use the edge of the foam board as the edge of some components. This 'economy' layout will only work with a true A1 sheet of foam board.

Pages 3 & 4 show all the same parts again, but spread about, and

includes an alternative full-length two-piece dihedral spar.

Page 4 also has the templates for the turtle decks and windscreen, and bending guides for the simple landing gear. This fits exactly the same as the Baby Blender Mk2.

Like the Baby Blender this plane uses a single servo for both ailerons. This servo sits right on the plane's centre line and is a little vulnerable for belly landing, so if you decide to fly without landing gear I suggest you put some sort of foam wedge in front of the servo to protect it from scrapes and knocks.

My simple tail steering is shown on the Flite Test website.

The ailerons could run the full width of the wing but I felt this was asking a lot of the single servo and the paper hinges.

The nose detail is shaped polystyrene foam. After gluing an oversize piece in place use sharp knives to pare down the basic profile and fine sandpaper to finish. A couple of coats of dilute PVA will strengthen the foam and also allow it to be painted without 'melting'.

I've also supplied an outline for a nose 'blank' which could be stuck on as a single layer of foam board or sandwiched up and shaped - or even omitted for an even simpler build.

Start slightly nose heavy with a CG 50mm from the leading edge (about 25%).

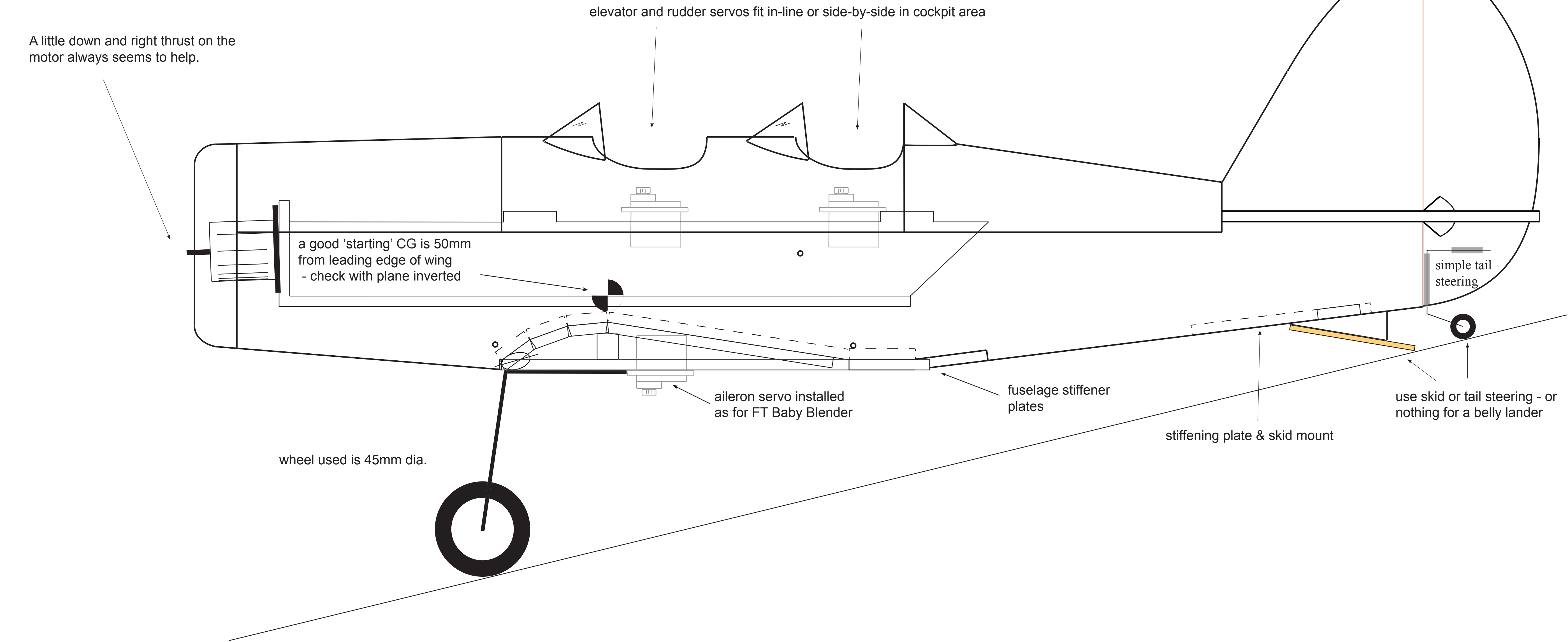
Throws;

low rates; 15° elevator & ailerons, 25° rudder.

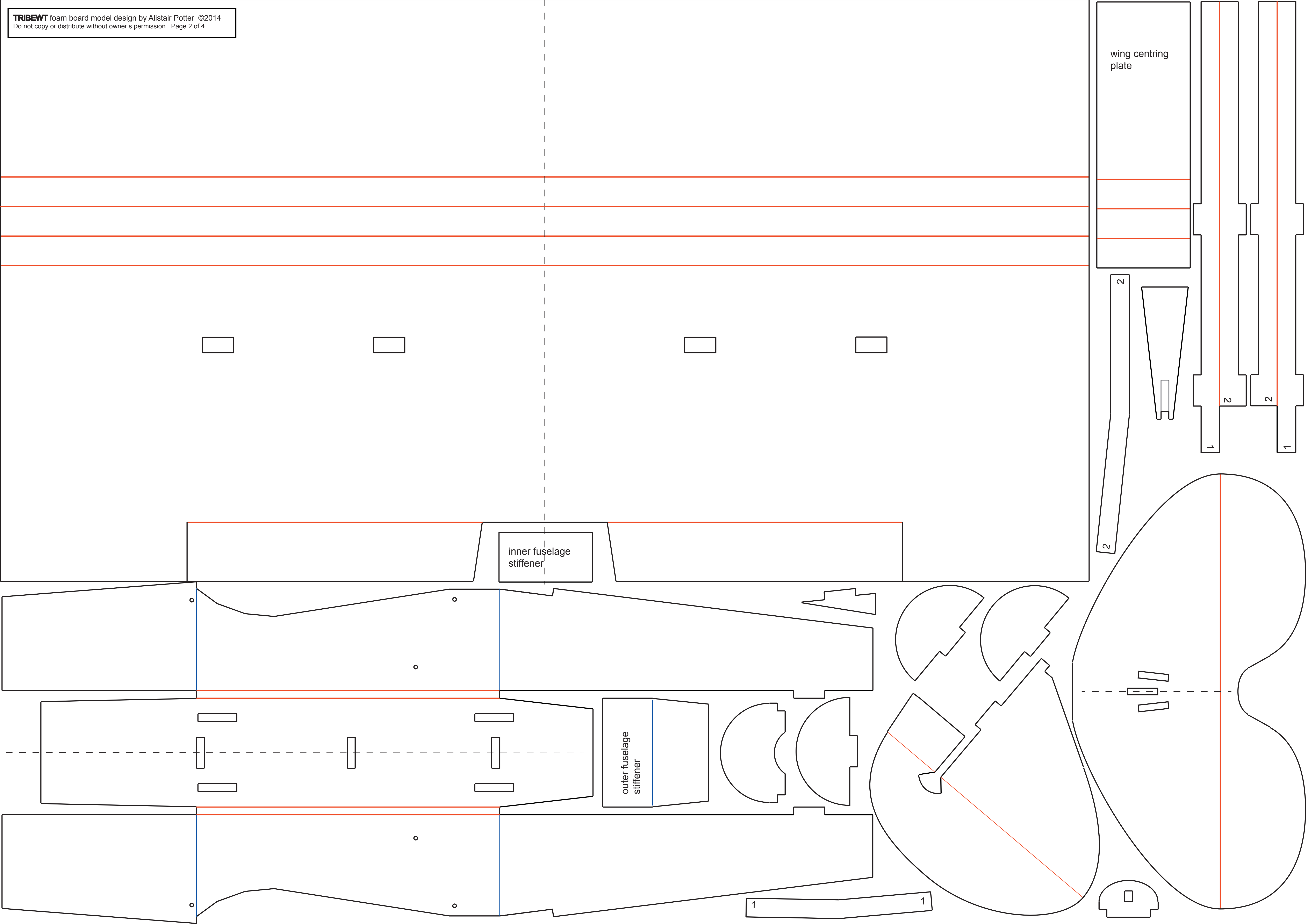
Warning! You will need more elevator throw than this for inverted flight.

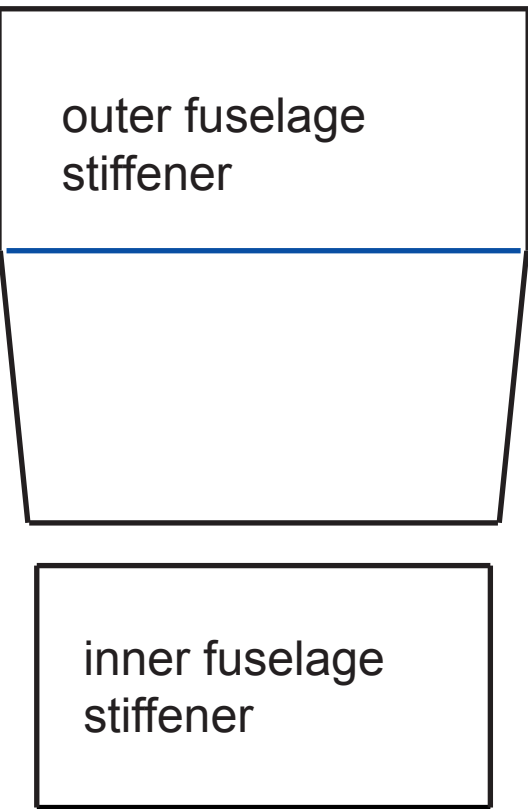
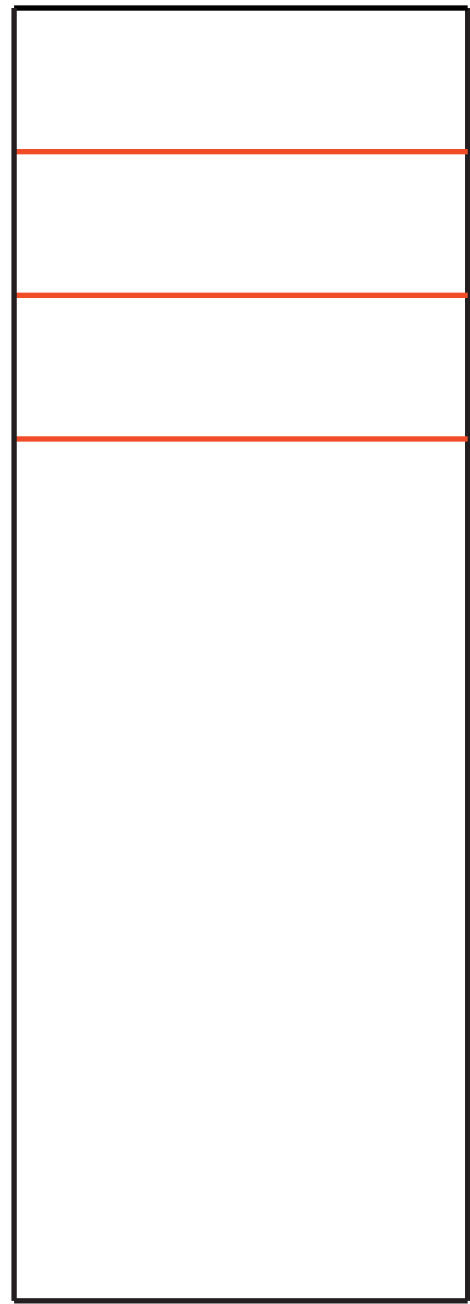
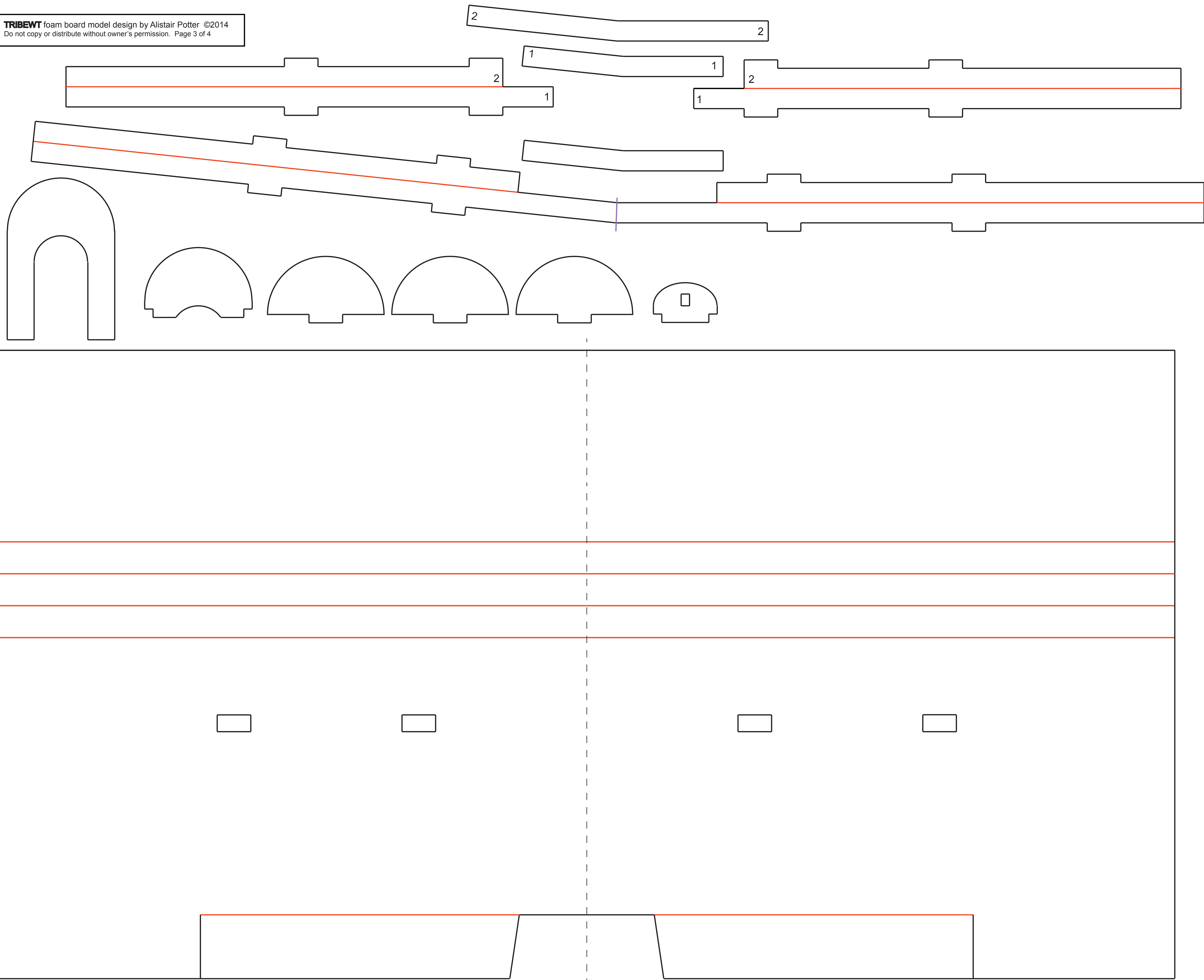


blue - crease  
red - score cut  
black - full cut

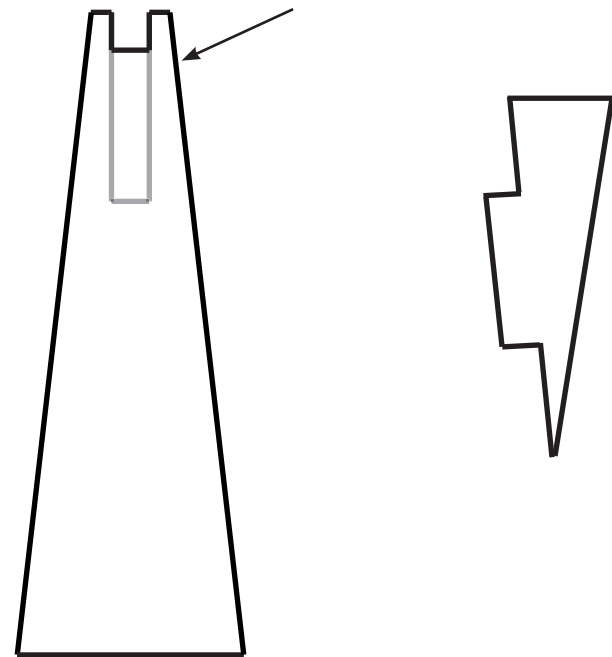


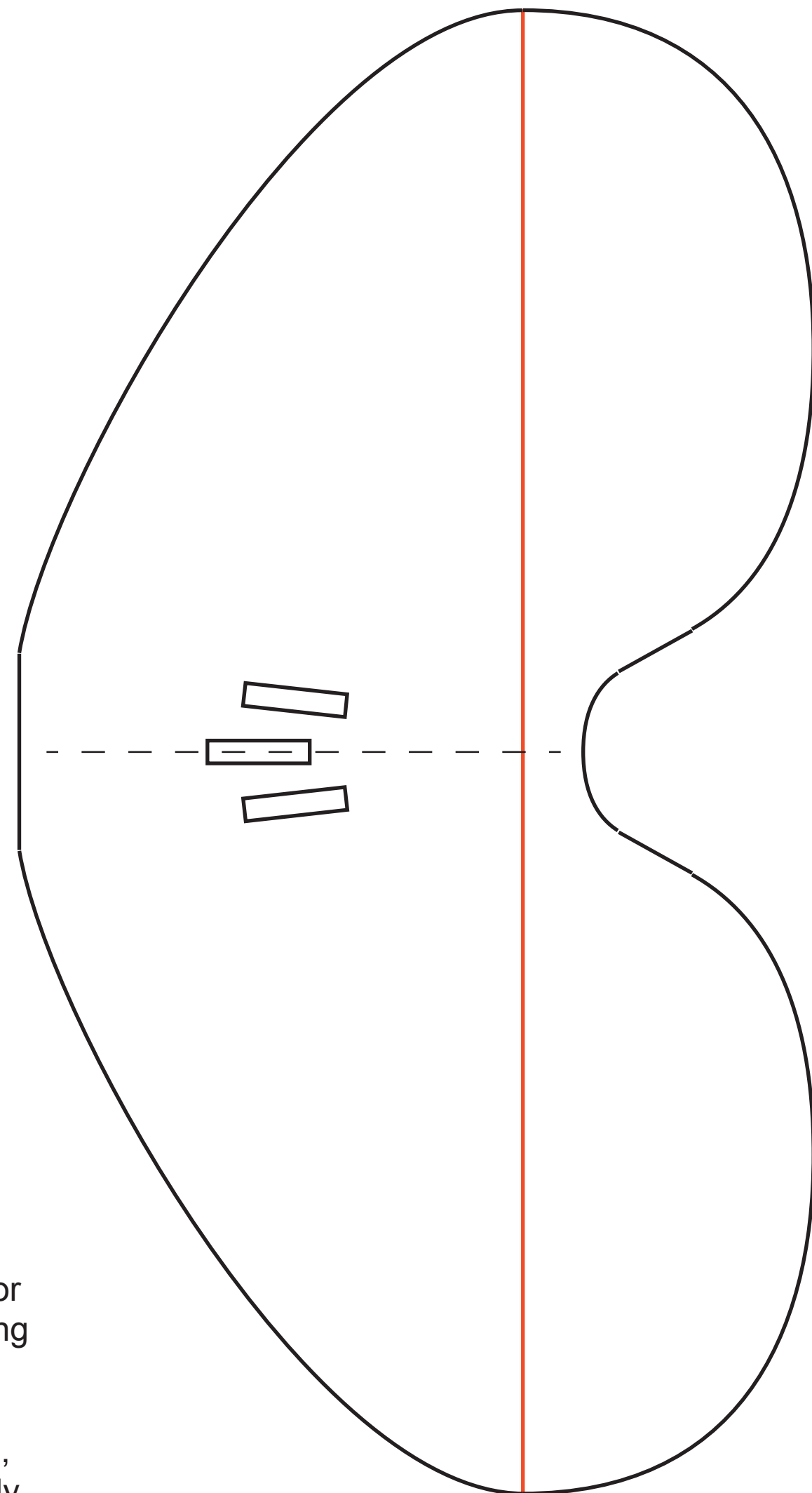
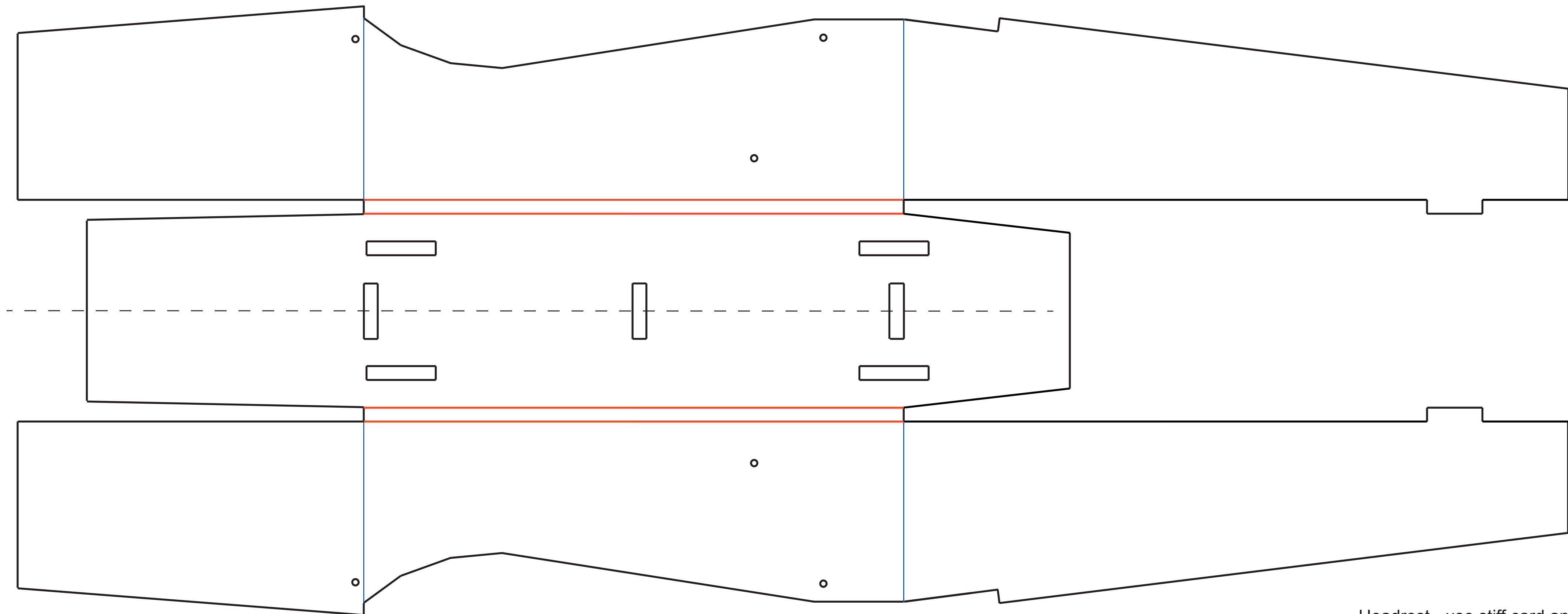




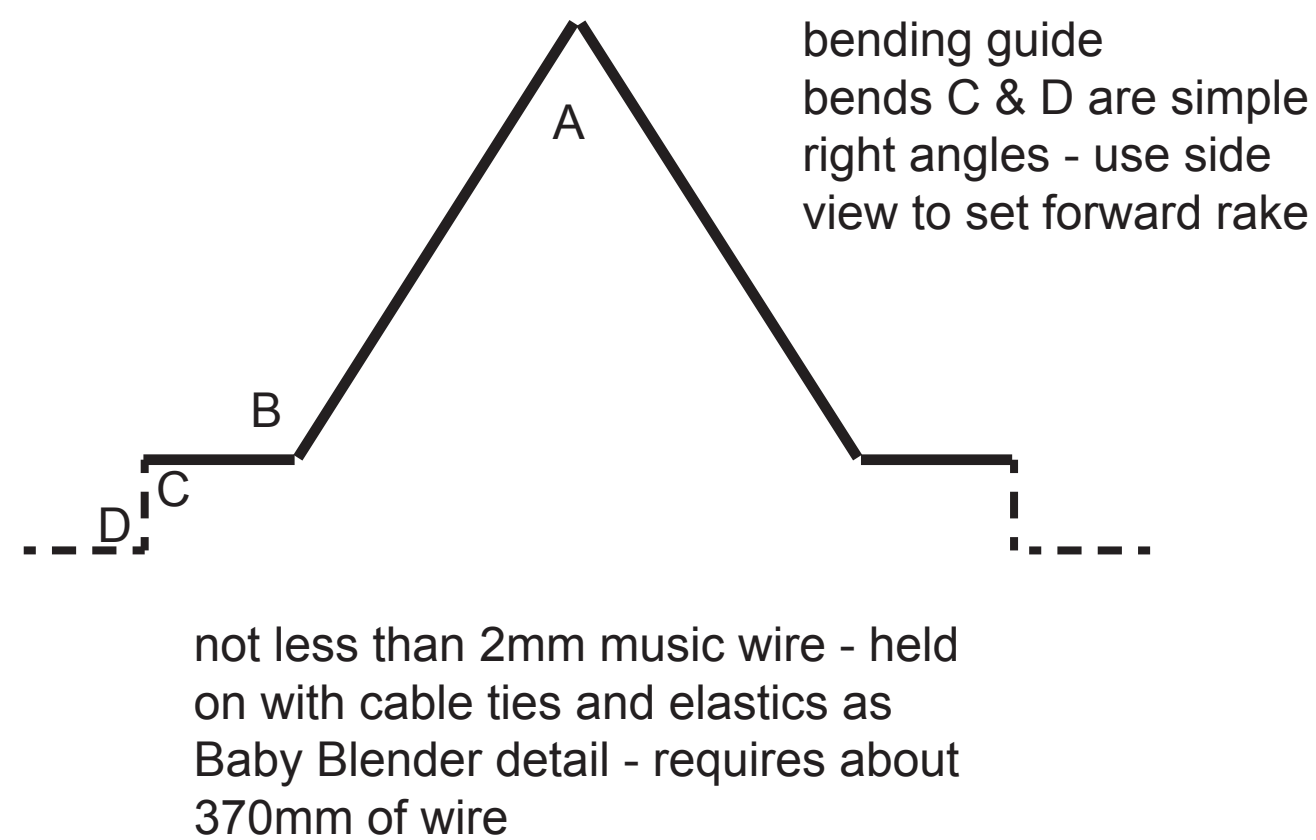
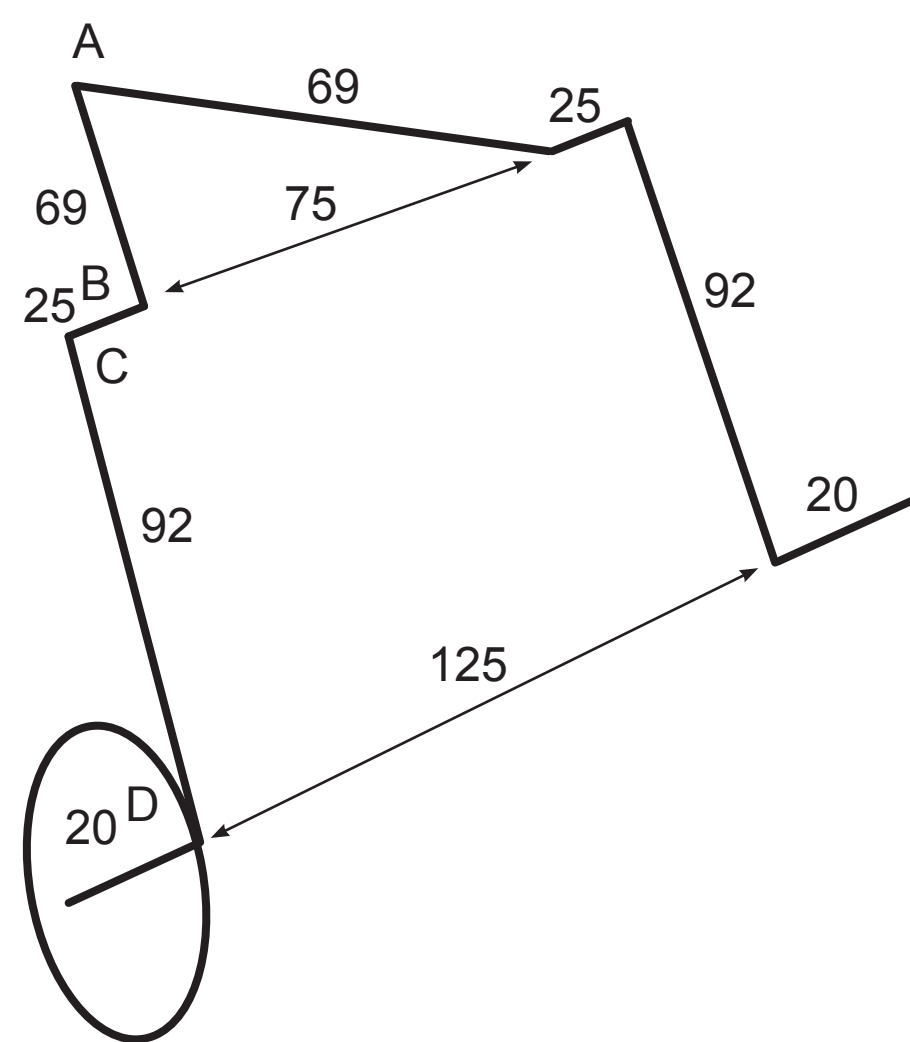


increase slot to 25mm  
if you use the tail skid



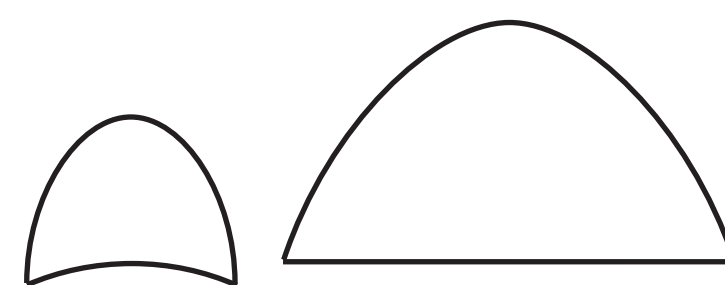


## UNDERCARRIAGE

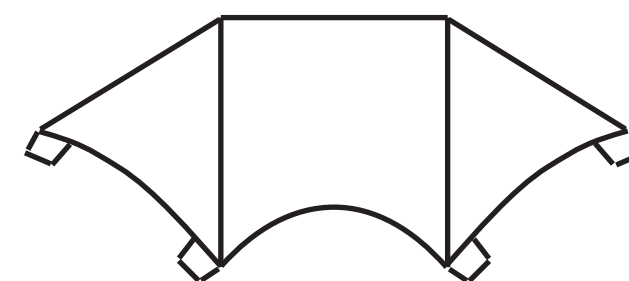


View from side showing forward rake of landing gear - this is not critical though a little more forward rake will reduce the tendency to nose-over on landing or 'trip' and nose-plant during take-off. Applying firm 'up-elevator' in the early part of the taxi also helps with the latter problem by keeping the tail firmly on the ground - but remember to ease-off and flatten the elevator as the plane picks-up speed.

Headrest - use stiff card and butt join with thick CA or similar bridging glue. Upright is correct but rear fairing will need trimming to fit. Test fit on fuselage before assembling to find out how to shape and trim back section around upright. My plane has two headrests, but I've decided to change this detail as typically only one was fitted to the rear to allow a better forward view for the rear pilot/instructor.



Windscreens - use clear packaging plastic. Fold corner 'frames' and test fit to find a good position for the tabs. Cut tab slits in turtle deck and glue with CA



## TURTLE DECK TEMPLATES

