

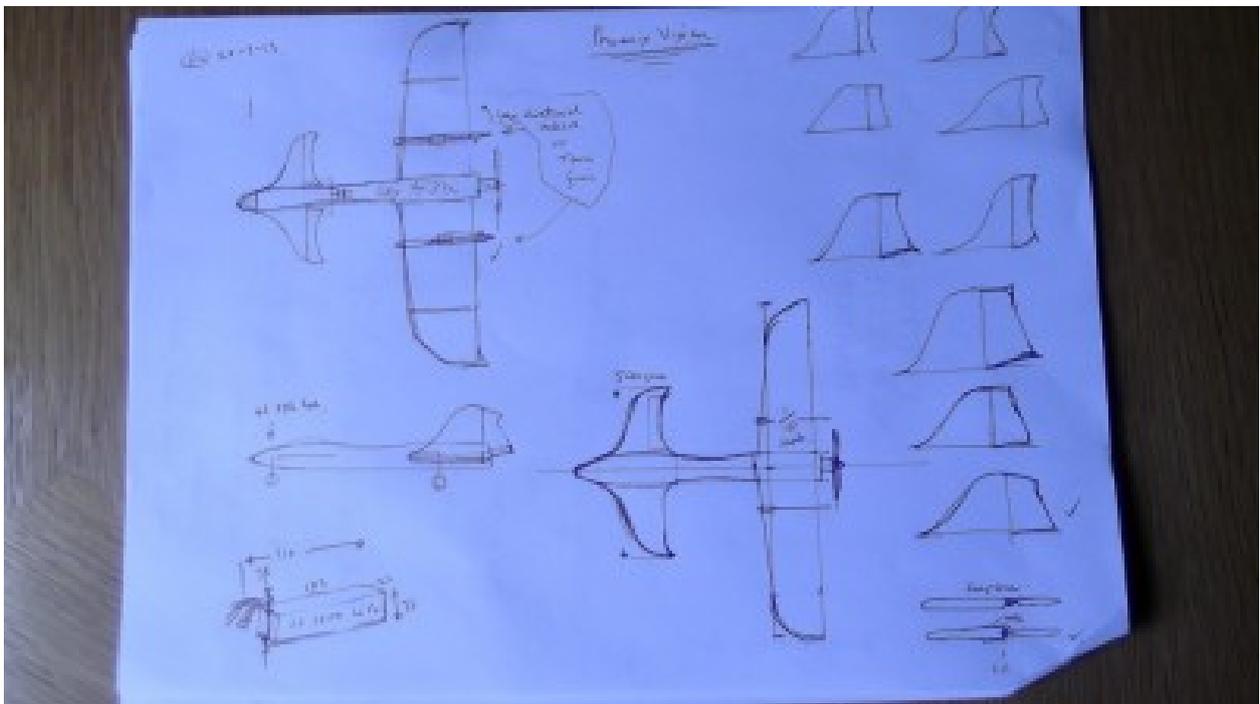
Vixen wings + a little more Foam = Phoenix-VIX

Yes, okay, I admit it. It was Pilot error!

Thanks to the wrong selection on my rates switch, my Vixen Twin Boom ended a Bunt manoeuvre by attempting to fly at a negative altitude. And as a result, she came away with only her wings intact.

Still - a good set of wings is a good set of wings - and now they were looking to find another plane.

Indeed, it didn't take long before those wings started my thoughts off in the direction of another foamy - but this time the wings would be on a canard design - and could I maybe pull off an aerobatic canard design?



Those Important Initial Sketches

So, it was out with the drawing board (not graduated to Computer Aided Design yet), then out with the sheets of foam, sharp knife and some foam safe glue and some wheels - yes, I think this one should have an undercarriage.



New Design Front meets the Old Vixen Twin Boom wings.... that form the Canard's Rear

....and, pretty soon....



.... job done.

Phoenix-VIX just before her First Flight

And so, the time had come for the maiden flight - I was almost relieved it was too windy to sensibly 'maiden'... yes, definitely too windy.... but, as the afternoon moved along the wind dropped - and dropped to a whisper.

Oh !! 'Brown trouser time' was here.

A very pronounced turn to the left when attempting take off lead to 3 or 4 aborts - even with full right

rudder she was still going too much to the left to attempt getting airborne.

Investigation time..... I discovered the left rear wheel of the trike was binding - in effect applying a left side brake. I freed it off a little. Still she's turning left, but not so much and she was now up to flying speed - this was it. I pulled in a little up and she left the ground very eagerly - in a steep nose up attitude!

Were the calculations on C of G right?

Would the very successful flights with a one third sized chuck glider scale up to give the desired outcome?

She climbed very steeply - at about 70 degrees, up to about 100 feet where I levelled her out with quite a bit of down trim.... and that was it !

I was ready for a sudden nose tuck under (canards do that if the C of G is too far back) and ready for a flat, sycamore seed spin - they can do that too. But nothing went wrong - not even when I did a simulated slow speed landing flare out - at 100 feet up. She was rock solid and stable.

So, let's try a loop - yes, fine. And how about a roll - no problem!

The real landing turned out to be very steady and very controlled.

The first 4 flights had shown up a couple of small alterations to the airframe design that would be worth trying and I did a proper fix on that binding wheel.

So, still a little more experimenting to do, but so far looking promising - fingers crossed.



Above: Vixen Twin Boom, in 2012 - the former owner of that pair of wings.

And before that - going back to July 2011 - here's a picture I found of the original Twin Boom owner of them - yes, it's those same pair of wings !! ... they've now been built into 3 planes.



2011 and the original Twin Boom owner of that pair of wings.

The Original Twin Boom (spot the differences), built in March 2011, had 188 flights - until, on 2 June 2012, a mid-air turned it into a load of slowly falling confetti - that is, all except for those rather long lasting, foamy pair of wings.



*Early on the foreplane elevators were extended slightly with pieces of celluloid
... and now the rudders have like-wise been increased in area to give a more positive yaw control.*



Phoenix-VIX at Goosedale after her 15th flight - here with my Canard 1 which has a slightly greater vintage, now being around 37 years old, but still going strong.

I think I can now say that the Phoenix -VIX has proved herself to be a reasonably successful design - being both stable and very aerobatic.

The only redesign I would do, if starting over, is to put the prop at the front rather than the back, because in a 'hammerhead' / stall turns and vertical climbs which slow down to 'stand on it's tail' speed, there is then no airflow and no prop wash over the foreplane elevator - so as the plane comes to that nose up standstill, there is obviously no control available from that surface.

.... and also, if I'm honest, she really could do with treating to a new set of wheels - the hub holes have become worn from their previous use on the Vixen, and so they are a bit wobbly.

But for just a few bits of foam and a bit of experimentation, she's turned out to be a real load of fun.



So, Phoenix-VIX, a bit of experimentation that eventually worked out really well.