

My Jasco 100" Sailwing project

by Trevor Boundy December 2018

After by chance seeing Michel de Man's impressive RC, 100", 1940's Jasco Sailwing, designed Frank Ziac, by scratch build by him, see at ---> [RCGroups](#) and a picture of Bob Galaher 100" model.

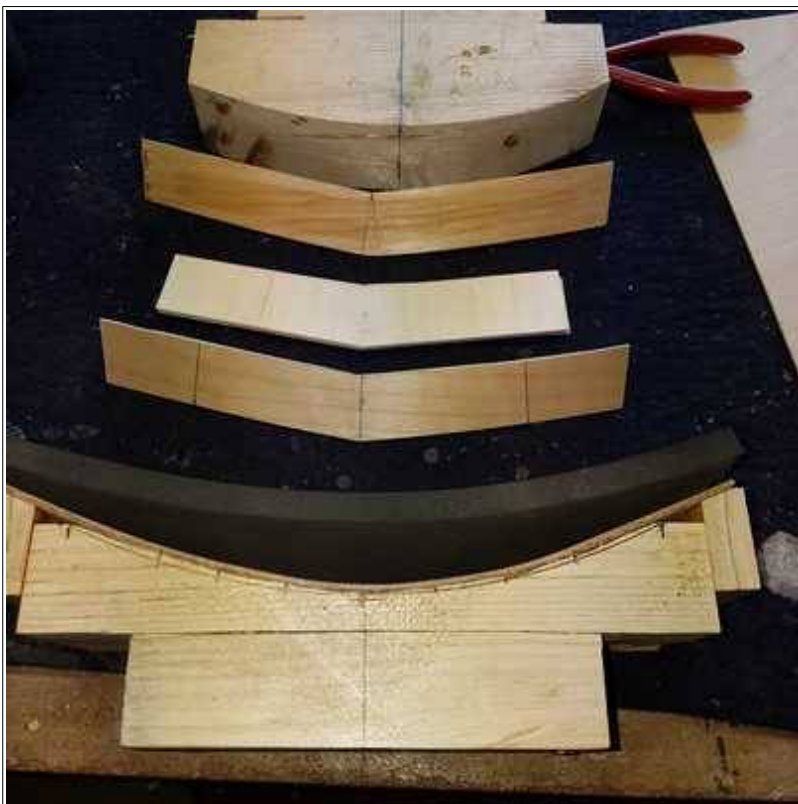
I was attracted to the challenge of building a similar model but with some modifications (my apologies to Mr Ziac), being:-

1. To have a one piece wing.
2. To change the washout outer wing panels to a gradual washout from root to tip making for simplified construction and sparing.

I started with the 50" model plans which are available and scaling up 2 times at the local plan printing shop.

Then making a wing carry through structure for the centre section to link the 4 spars.

The carry through structures were made from a balsa and laminated by thin ply doublers, and clamped together with rubber load spreader.



The ply doublers were extended beyond the balsa center to enable the spars to be inserted and glued in place.



Because the complexity of the build, ie sweptback and dihedral, I decided to set up build tables inclined to to one another, at the dihedral angle, lay the plan down and build on top.

On reflection the carry through structures were a bit of an overkill



Also on reflection I think I would run the TE at the same width right out to the wing tip.

I doubled the ribs at the outer wing Fin fixing point, and inserted and glued the fin between after covering.



I used small servos mounted on their side on a bottom removable panel, with conventional push rods to the elevons.

Tx Mixing was done with FrSky X9D, with switchable weights on the elevators of High Medium and Low.

The servo leads were extended to the centre, with soldered and heat shrunk connections.





Rx and battery access from the top removable central fin, in my case held in place by 2 magnets.



Further notes:-

Because each opening space in the wing panels forms a Rhombus shape, this presented a problem for me in that the covering material when shrunk has a greater tendency to pull out of shape, so I suggest you incorporate some diagonal bracing in the wing panels, this will have the added advantage of stiffing the wings so as to hold the 8 degrees washout in each wing, as mentioned at the beginning of this article.



Extra Notes feb2019

After consideration about the conversion from FF to RC the CG was moved back from the original position of 48mm to 37mm ahead of the trailing edge (at the centre of the wing).

I added some finger holds to the underside centre of wing to aid holding model, for a self winch launch.

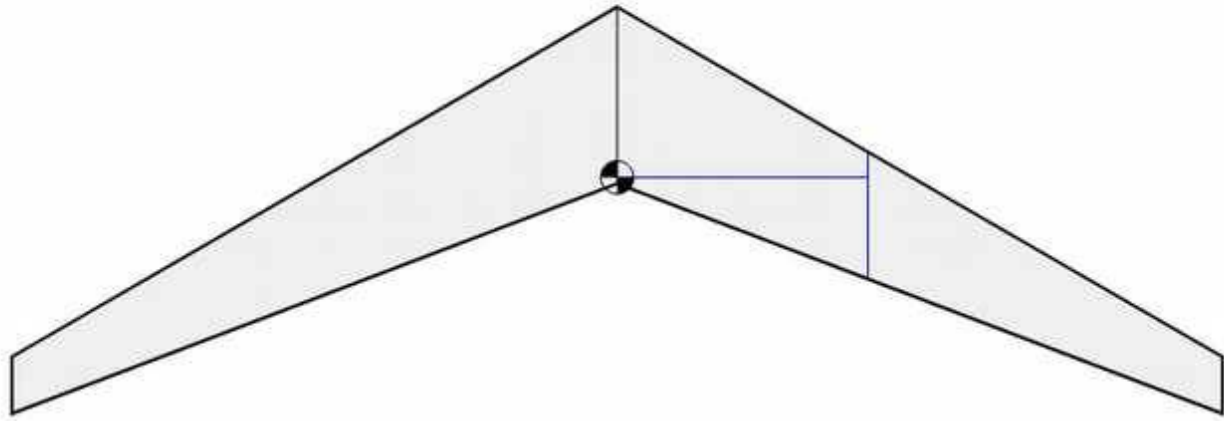


I added some skids to the under side of the wing to protect the servo push rods from being damaged on landing.



Also I think if I ever built again I would extend the 2 fins, on the underneath side to provide that protection.

Flying wing CG calculator



Wing span: 240
Root chord: 35
Tip chord: 11.25
Sweep: 30 as degrees ▾
CG position:
 15% - for beginners/testing new planes
 20% - allround
 25% - for experts
 Other: 22.5 %
Options:
 Show MAC lines
Update

Wing area: 5550
MAC distance: 49.73
MAC length: 25.16
CG distance: 33.74
Image scale: 3.06667 pixels/unit
Deep-link: [This specific wing](#)

Translating the CG to distance in front of the trailing edge

So for 20% CG translating the 30.06 from the leading edge to distance in front of the trailing edge-becomes 1.26 cm in front of trailing edge.

The following are the results (for the root chord of 35cm) and the CG combinations

Cg	15%	20%	25%
Behind LE	32.5	33.7	35.0
Front of TE	2.51cm	1.26cm	0cm