

Demelza



I've always had a soft spot for bi-planes, so much so that in the two years I was tinkering about with L'il Joanna (R.M. 269) she nearly grew a top wing several times.

My requirements for a quick build precluded lots of strutter, so some serious doodling set in. Somewhere in the process the wing stagger got itself reversed and the cabin fuselage sort of followed on. MK1 took a couple of months longer than usual due to moving house (Scotland to Cornwall) but was soon airborne quite happily, to my surprise. Demelza MK 2, presented here acquired a stretched fuselage with the same wings and tail to steady up the pitch response. The lightweight MK 1 flew quite well on an OS15, Demelza 2 started with an HB25 which was a bit excessive. Now she does very well on a stock OS20. The back stagger certainly makes her stand out from the herd, and if appearance isn't enough her performance will certainly shine.

Interested? Good, kick the cat off your building board, let's go make balsa dust!

Wooden Bits

About now the designer says something on the lines of "Cut out a complete kit of parts" for reasons known to himself. If you feel guilty about not doing this, don't worry! I often don't finish the plan before the test flight, let alone make kits. So let's start with the flying bits.

For .15 to .25 engines and four function radio, this distinctive sport bi-plane was designed by DERECK WOODWARD.

The ribs can be cut from a single ply template. The short, flat wings are nearly identical with the ailerons cut from the lower after shaping. The brave may care to try all four, I meant to but chickened out — two is fast enough.

Spars are webbed up to the strut boxes for a little stiffening. The ply reinforcement for the u/c is probably easier to add after covering, especially if one is using film.

Tail feathers are light and adequately strong, this model is not prone to tail heaviness.

One fuselage problem with a cabin biplane is with two wing seats, one gets two big holes rather than the usual one. This leaves only the sides to hold the ends apart, so I lashed out on ply doublers, for once.

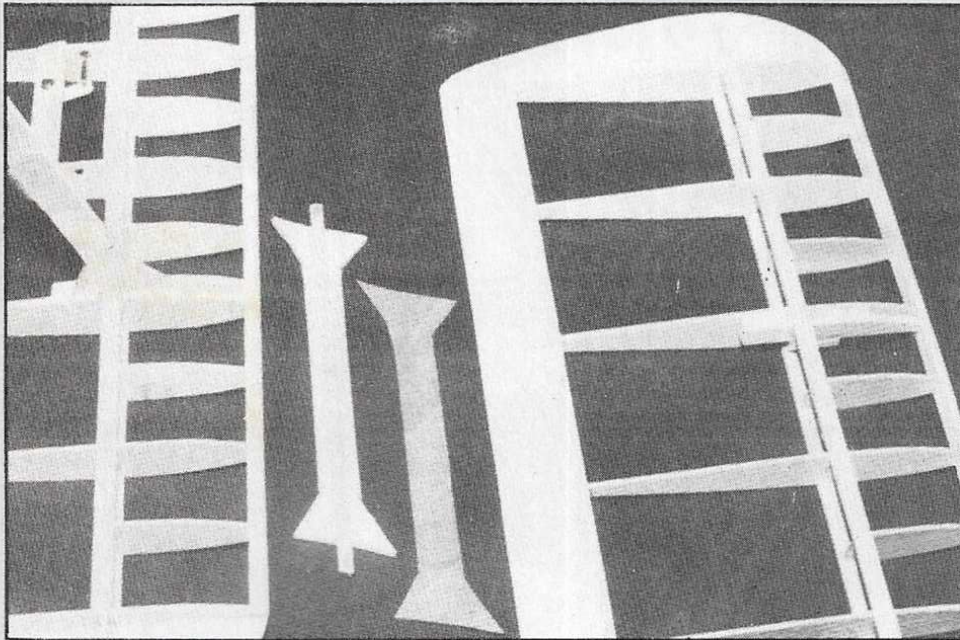
The tank goes in through F2 so plan ahead for plumbing and don't end up trying to fit fuel tubes "in the dark".

Struts are best built to suit the fully rigged model. The spruce centre is the

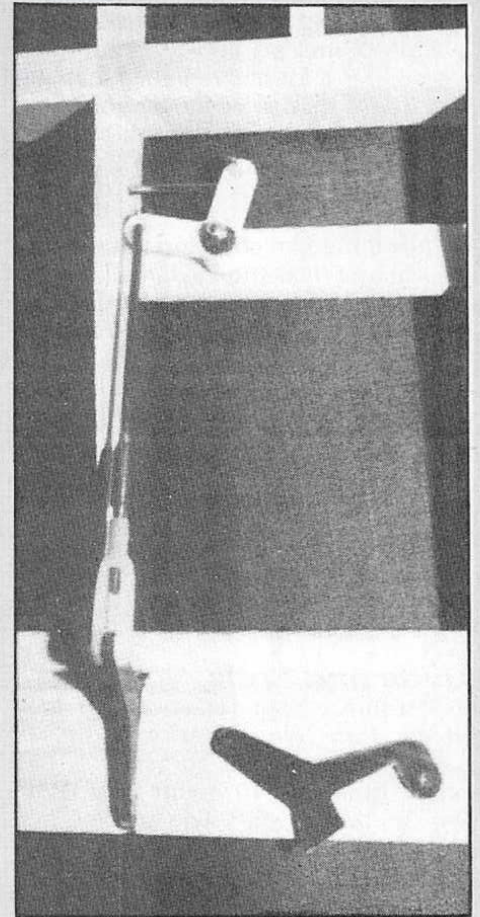
main strength with balsa and light ply for shape. Note the short ends to locate into the strut boxes. These hold the struts, but will allow them to leave graciously in the event of an unusual arrival.

Slight back-stagger on this biplane (the top wing being positioned slightly aft of vertically above the lower) gives this uncomplicated design an attractive appearance.

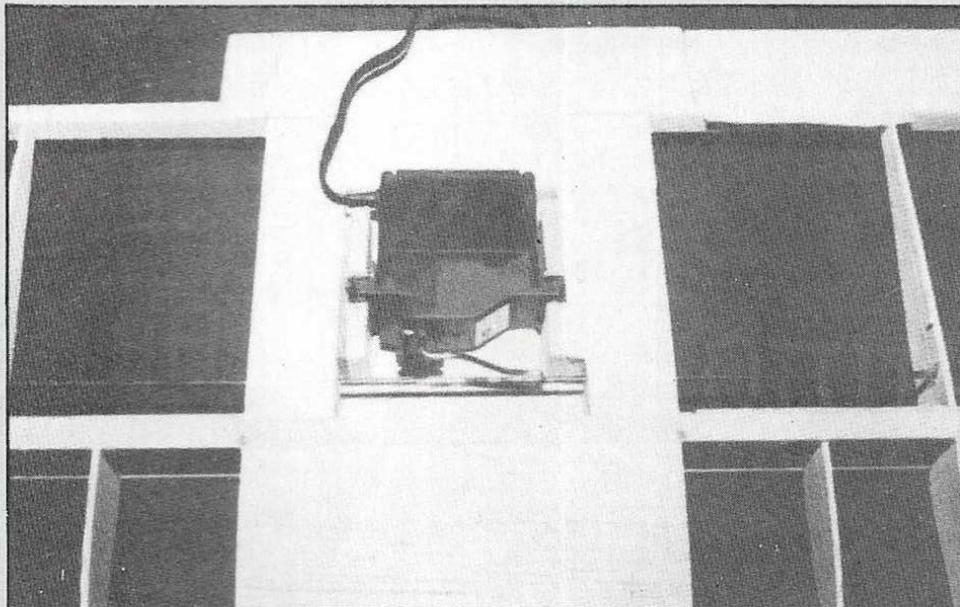




Plug in interplane struts are formed from hardwood with balsa and ply fairings. These are push fits into boxes built into the wing structure.

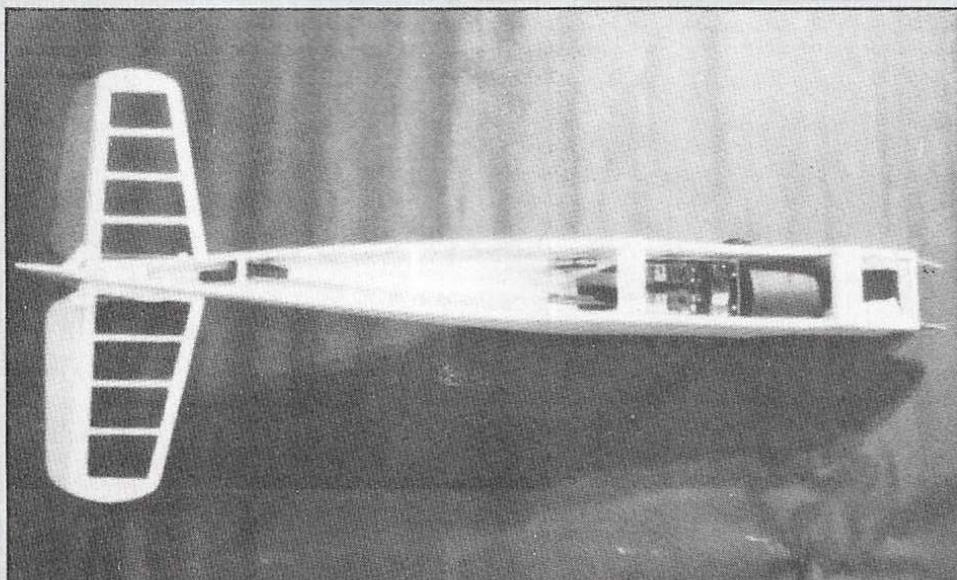
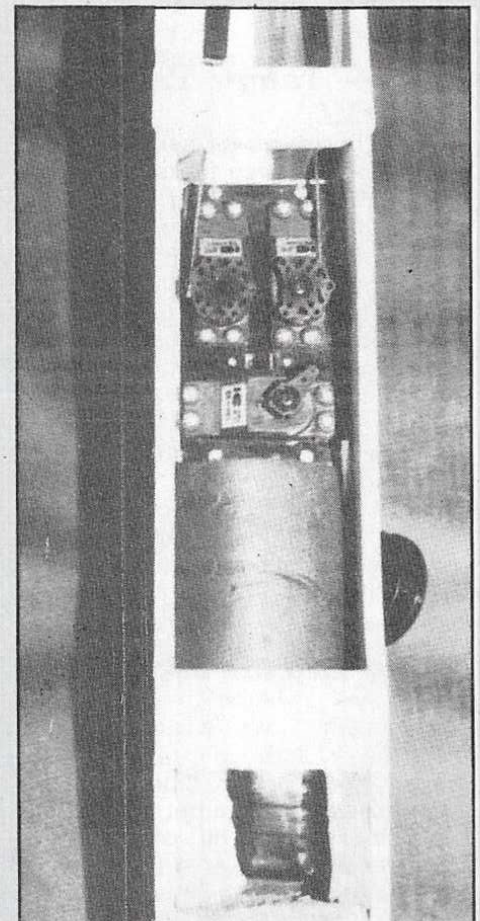


Aileron bellcrank is mounted on a ply plate between the ribs.



Aileron servo in the lower wing drives the ailerons via bellcrank linkages. Control runs to the tail surfaces are installed before the fuselage is fully sheeted.

Close up of the servo installation — somewhat 'cosy' with standard servos but still practical.



Hiding your Handiwork

Both Demelza 1 and 2 were film covered, more for convenience than any other reason. Use whatever you fancy, but keep it light, bright and cheerful. My "registration" was also from film (it was my first design done in Cornwall!)

I used the film covering to hinge the ailerons, which though small proved adequately powerful. If you use conventional hinges, please keep the gap to a minimum.

Power and Guidance

Before starting, make sure where gear, tank and motor will go, so all line up. You don't do this hobby to go fiddling with radio and motors in the middle of a field.

Odds and Ends

The sturdy 10 gauge undercarriage I made from two pieces with the 18 gauge tension bars across the tops and a good old 10 gauge axle. With the 3in. Veron old style wheels and Dereck's favourite bent bit of wire at the tail Demelza handles my grass field easily.

I rounded off the front to a spinner for a change.

Whatever finish you've used, seal well against fuel seepage.

Quick last chance check. Controls full and free? Motor idle and full power O.K.? C.G. set right? Naturally — a hot rod flyer like you, of course it's on line.

Golf — Tango Yankee — Take Off.

On flight one go for height to check her out — no fancy tricks just now. I flew both prototypes of Demelza in stiff winds — never was very patient. You'll find her very clean and hard to slow up, for a tubby little bipe! Roll rate is snappy and axial, also that rudder is powerful. With that side area knife edge is pretty easy, in fact she'll climb on her side with a lot of top rudder.

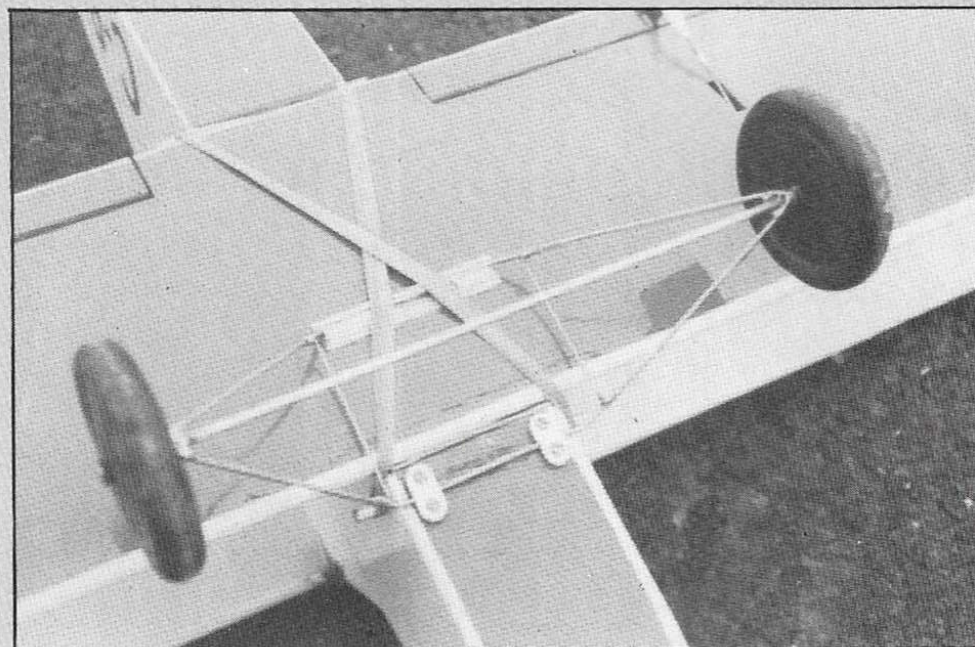
A new "Party Piece" is to overshoot, pull a big half loop, fly a "downwind" leg inverted, chop the throttle and pull through a half loop to land! Takes some working at but it's a lively way to finish a flight.

Flying into the Setting Sun

Full size aviation now has the "Spam — Can", we've countered with the low wing aerobatic ship. You need to read the kit box to know it's name. Demelza was an attempt to combine simplicity with a bit of individual character and she has succeeded, for me. I hope she can give you the kicks I've had from mine, so go to it.



'It will fit in the car fully rigged!' By the look of it, a Cortina Estate could carry a whole squadron.



The undercarriage, which swings forward to release the lower wing, is held in place by the lower wing elastic bands.

