WARRIOR

AS the mist was lifting slowly over the airfield and the tip of a golden sun appeared above the distant hills, our intrepid hero Snoopy O'Dideswell (B.F.C.) strapped himself into his 'Warrior' ready for the famed dawn patrol. His insatiable appetite for danger could only be satisfied by yet another aerial combat with his dreaded adversaries from the other side of no-man's land. Would today see another cross added to the eighteen already painted on the side of his faithful steed? Or would today see his young and virile life brought to a sticky end by a deadly stream of bullets from some unseen foe?

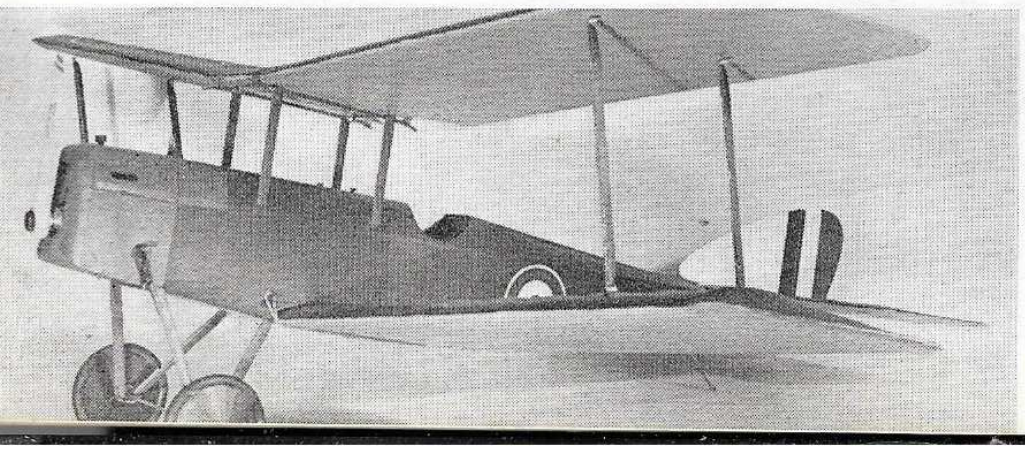
Three miles on the other side of the line another lone flyer groped his way to his machine in the chill air. As he strapped on his helmet he cursed himself for over indulging at the mess party the previous night. His eyeballs felt hot and raw and his heels ached from saluting too many of the fair damsels always present at such functions. He knew that only supreme concentration and fitness were enough to keep one alive in the missions he had to undertake. The blood red biplane was ready for him with the engine warmed up and ticking over, the guns aligned and his favourite mascot, a silk stocking, tied to the cabane strut. The redoubtable Von Roulton (Cross, Cross & Bar) was about to strike terror into the hearts of allied pilots once again.

The sky was empty that morning but inexorably, as if intended by fate, the two biplanes continued on their converging course. Fortunately for O'Dideswell he had the advantage over Von Roulton of both height and the sun at the back of him and he it was that spotted his enemy first. The bracing wires sang loud in protest at the extra strain of his headlong diving approach. Because of that sixth sense pilots of Von Roulton's experience had developed (always with an eye to the rear) he scanned the sky behind him just in time to see the olive drab Allied demon. He swung his 'Red Knight' into a tight turn and heard bullets ripping through the rear of his fuselage. His reactions had been too slow and he was lucky to have nothing worse than a tracer singed posterior. Quickly he followed his attacker but O'Dideswell was already pulling up into a loop to get onto the tail of the hated red biplane once again. Round and round went the two 'planes in an ever tightening turn losing height as they circled. Gradually the continuous 'G' being pulled in the turn started to affect Von Roulton. His vision started to dim (it never was much brighter) and then a complete blackout—O'Dideswell watched, as the Red Knight flicked into a spin and followed it down to the sickening end. Von Roulton had flown his last mission.....

"What happened Dave?" "Oh I think I must have had the escapement lock on". "Are you sure? It looked to me as if you were having a bit of a dream and held the signal on"....

The Warrior and the Red Knight

To the Scale purist these designs will probably appear to be an easy way of producing a model that looks *something* like the real thing, but does not entail the hard work associated with true scale models. That is *just* what they are! They were designed with ease of construction and good flight characteristics in mind but to retain a semi scale W.W.1. appearance. Having built a number of scale models of this vintage, with varying degrees of success, I have tried, in these models, to eliminate all the usual problems i.e. wing fixings, difficult undercarriage positions etc. The models are very stable in flight and



Left: dressed in R.F.C. markings the Warrior prepares for the dawn patrol. 42 in. span machine takes 1.5 c.c. motors and any of the popular single channel systems.

and R RED KNIGHT

apologies to z and his of a thousand feats.

TAKE ADVANTAGE OF THE NEW SINGLE CHANNEL SUPERHET RECEIVERS AND BUILD THESE W.W.1 STYLE BI-PLANES FOR R/C COMBAT

By

David Boddington

suitable for single channel escapement operation although pulse rudder gives smoother turns.

Construction

Familiarize yourself with the drawing and ensure that all stages of the construction of the aircraft are thoroughly understood. Cut out all sheet parts before commencing construction as this will save time at a later stage. P.V.A. glue is recommended for all the construction with the exception of engine bearer joints to the plywood formers, where Araldite should be used. The constructional design of this model is amply strong, and, therefore light grades of balsa wood can be used except in the maximum stressed areas. This will help to keep the completed weight to a minimum, care should also be taken in selecting wood of equal quality where paired, i.e. fuselage sides.

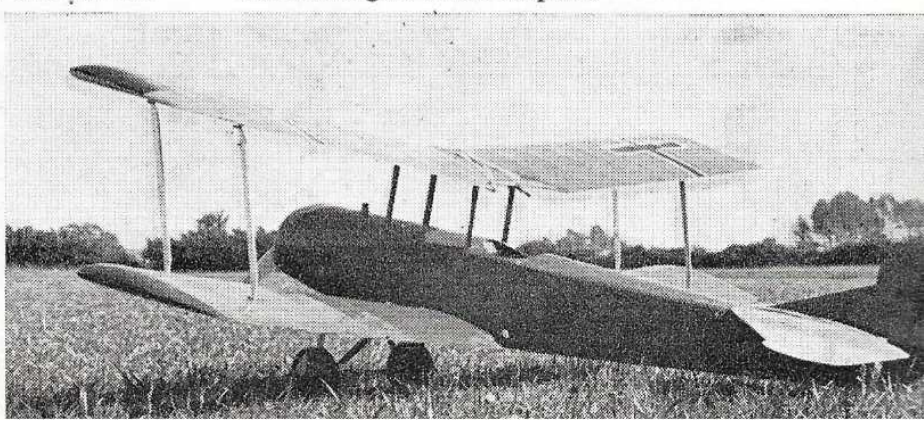
Fuselage

1. Build the two basic side frames, one over the other separated by waxed paper, from $\frac{3}{16}$ in. sq. and $\frac{3}{16}$ in., $\times \frac{3}{16}$ in. sheet balsa, omitting the vertical member adjacent to the rear cabane strut.
2. Remove the frames when set and glue $\frac{1}{4}$ in. sheet balsa nose doublers into position followed by $\frac{3}{8}$ in. hardwood engine bearers ready drilled to receive the engine plate. Add formers F.2 to F.5 ensuring that all formers are square, followed by formers F.1, F3A, F1A and F2A lightly cement tacked into position.
3. Draw together the rear ends of the frames and glue, adding the remaining cross-pieces and former F.6 and F.6A together with the top longerons. F.6 has the tailskid bound to it before fitting.
4. Carefully drill the top longerons to receive the cabane struts and bind and Araldite these into position as shown.
5. Fill in three fuselage bays with $\frac{1}{8}$ in. cross and vertical grain balsa flush with the outside of the frames and glue into position the $\frac{1}{8}$ in. ply under carriage reinforcement. Fix fuel tank into position.
6. Complete the fuselage framework with top and bottom $\frac{1}{8}$ in. and $\frac{3}{16}$ in. balsa and ply sheeting, top nose cowling, $\frac{3}{16}$ in. balsa fill-in sheeting at rear and nose block of the Red Knight.
7. Cut, bend and solder the undercarriage as shown on the drawing, remembering to position the 14 g. tubing before commencing bending. Bind this tubing to F.3B and glue into position in the fuselage and add spruce fairings.
8. Glue and bind spruce fairings to cabane struts. Sandpaper the whole of the fuselage thoroughly, apply coats of sanding sealer, sanding between coats until a perfectly smooth finish is obtained.

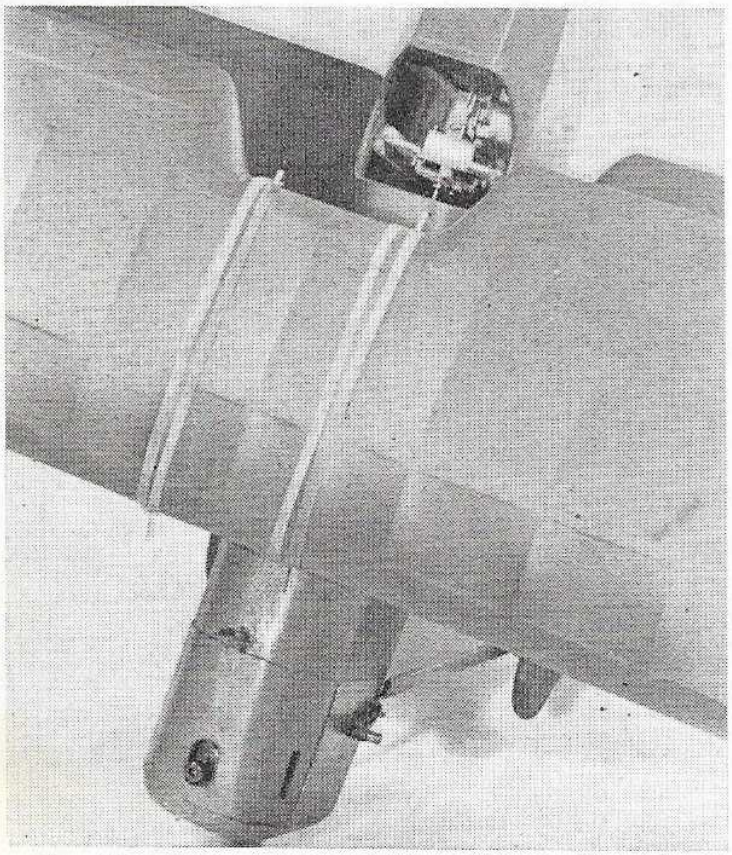
Wings

Wings are constructed in three sections, the two outer panels and the centre section. Start with the outer panels as follows. Upper and lower wings are identical except for tips on Red Knight.

1. Pin down a piece of $\frac{3}{4}$ in. x $\frac{1}{4}$ in. trailing edge and the lower front and rear $\frac{3}{16}$ in. sq. spars.
2. Glue $\frac{1}{16}$ in. and $\frac{3}{32}$ in. wing ribs in position checking that all are vertical with the exception of the root rib which is angled to the template.



Right: "Somewhere in France" the Red Knight lurks at readiness, awaiting action. Thick wing section provides slow and forgiving flight characteristics.



Left: close-up of the nose section of Warrior, showing escapement installation in the cockpit well, easily accessible for servicing.

3. Glue the top spar, and $\frac{1}{2}$ in. x $\frac{1}{2}$ in. leading edge in position. When dry remove from plan.
4. Add the $\frac{1}{4}$ in. soft sheet wing tips and inner bays and $\frac{1}{8}$ in. webbing to the top of the tips.
5. Construct the second outer panel in a similar manner.
6. Build the centre section over the plan, noting that the centre ribs are from $\frac{1}{8}$ in. and that the ribs are cut shorter than outer panels.
7. Cut slots in wing ribs to receive the dihedral braces noting that they are sufficiently high to allow the cabane struts to house into the underside of the upper wing. Glue all three sections together, pinning down the centre section and propping up the wing tips of the outer panels to $1\frac{7}{8}$ in. under the last rib. When completely set remove and add the dihedral braces.
8. Sand and prepare for covering as before. Trailing edges may be scalloped on Red Knight if desired.
9. Add the strut hooks as shown on the drawing.
10. Construct the wing struts from 20 g. wire and spruce or 18 g. Aluminium sheet to the sizes shown.

Tailplane and fin

1. Construct the tailplane basic frame from $\frac{3}{16}$ in. x $\frac{3}{8}$ in. leading edge and $\frac{3}{16}$ in. x $\frac{1}{2}$ in. trailing edge and tips. Add $\frac{1}{8}$ in. sq. top and bottom to the rib positions and sand both sides to a symmetrical aerofoil section.
2. The fin is of straightforward sheet construction and sand slightly to a tapering T.E. and rounded L.E. section.

Covering and finish

The model should be covered in lightweight nylon for maximum strength although heavyweight tissue is satisfactory. Pin down all flying surfaces when doping to prevent warps. Colour dope or enamel should be kept to a minimum as this represents wasted weight but the model should be thoroughly fuel proofed to avoid seepage of fuel into the structure, particularly beneath the engine. Eggshell polyurethane clear varnish gives an excellent fuel proof scale finish.

Radio Installation

Due to the variety of radio control equipment presently available no specific instructions are given for installation, but the use of DEACs are strongly recommended.

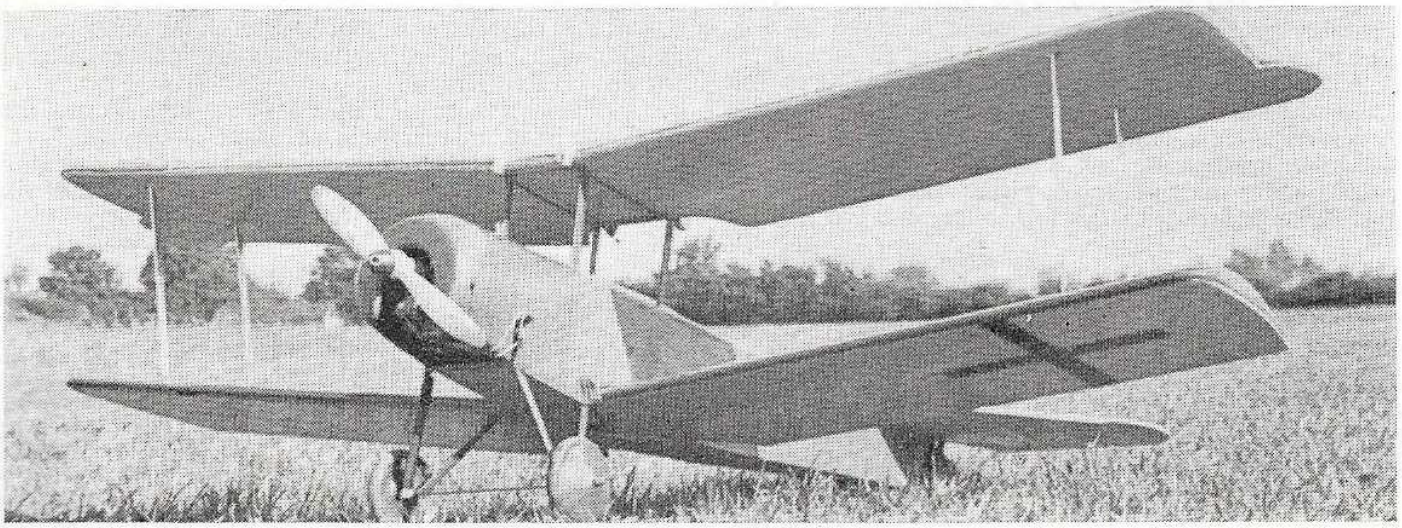
Test flying

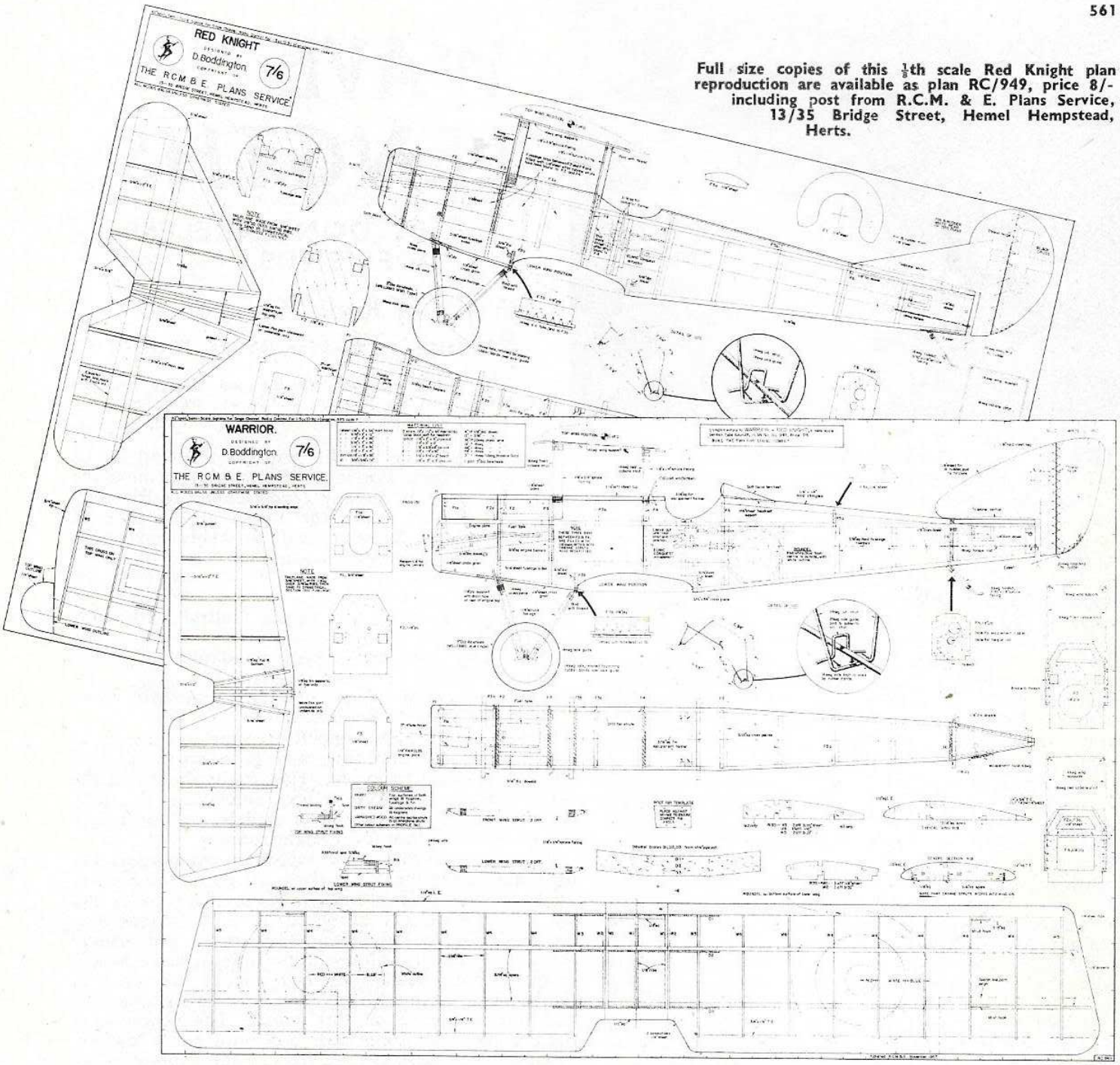
Once the engine and radio equipment has been installed and everything tested and operating 100 per cent. it is time to consider flying.

Providing the C.G. position is as shown, there are no warps and the incidences are as shown, there should be little to worry about. There should be no need to test glide, have the engine running at least at three-quarter power and launch straight and smooth, rudder movement should be restricted to the minimum setting. Trim out turning tendencies on the glide with rudder and turn under power with engine side thrust. Adjust elevator trim with $\frac{1}{32}$in. packing according to wind conditions and penetration required.

You will find that the Warrior is a stable and easy aeroplane to fly. Once you have fully trimmed the aircraft add such features as machine guns, pilot, windscreen and shirring elastic rigging; all these items add tremendously to the flying realism of this 'old timer'.

One last word, if you are a novice and this is your first model, do not be ashamed of asking a more experienced modeller to test fly for you, it's cheaper that way.





Full size copies of this $\frac{1}{8}$th scale Red Knight plan reproduction are available as plan RC/949, price 8/- including post from R.C.M. & E. Plans Service, 13/35 Bridge Street, Hemel Hempstead, Herts.

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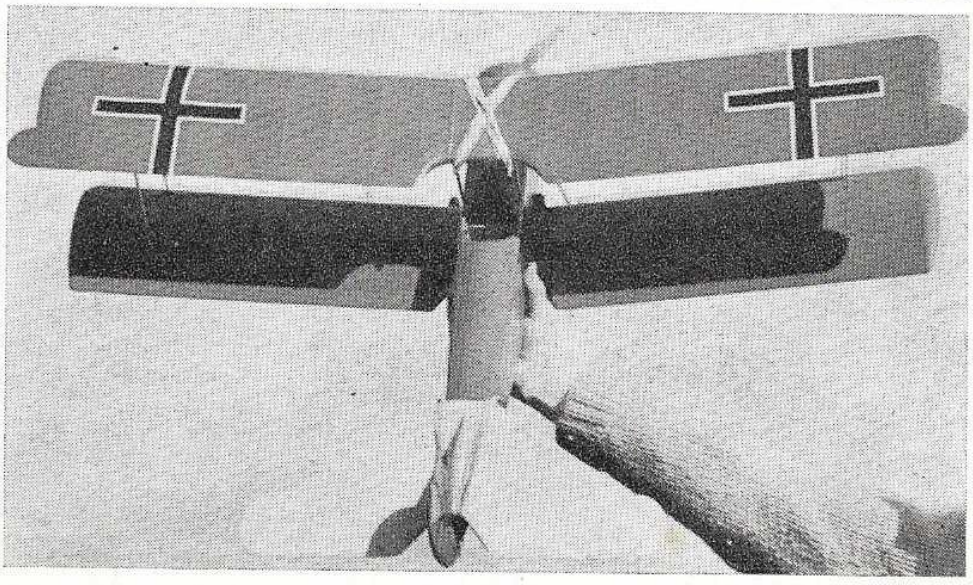

Left: despite biplane layout, the Red Knight is a simple model to build. Why not build one and challenge your friends to an aerial duel at the next club flying session. Its a good excuse to go superhet. Right: Snoopy's eye view of the Red Knight as he comes in for the kill.