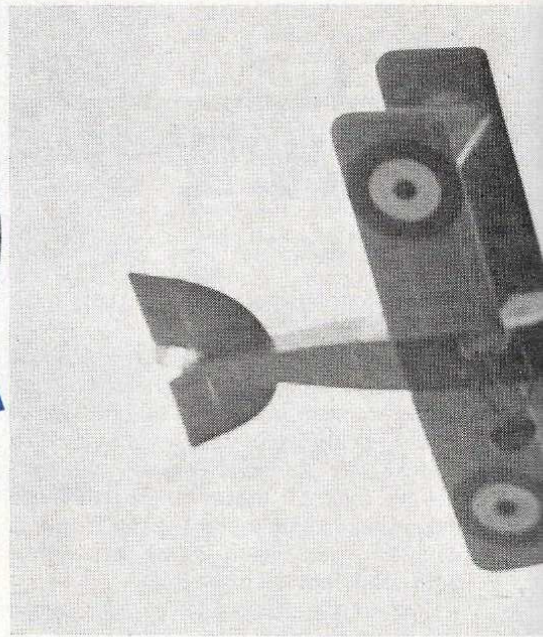


David Boddington's

Sopwith Tabloid



It is over three years now since the plans of my Sopwith Pup were published in the R.C.M. & E. and this has proved to be a popular model with the sports/scale modeller. Because of its pleasant and easy flying characteristics (one modeller I know actually built it as a first R/C model and learnt to fly with it) I decided to follow it up with a similar design—hence the 'Tabloid'.

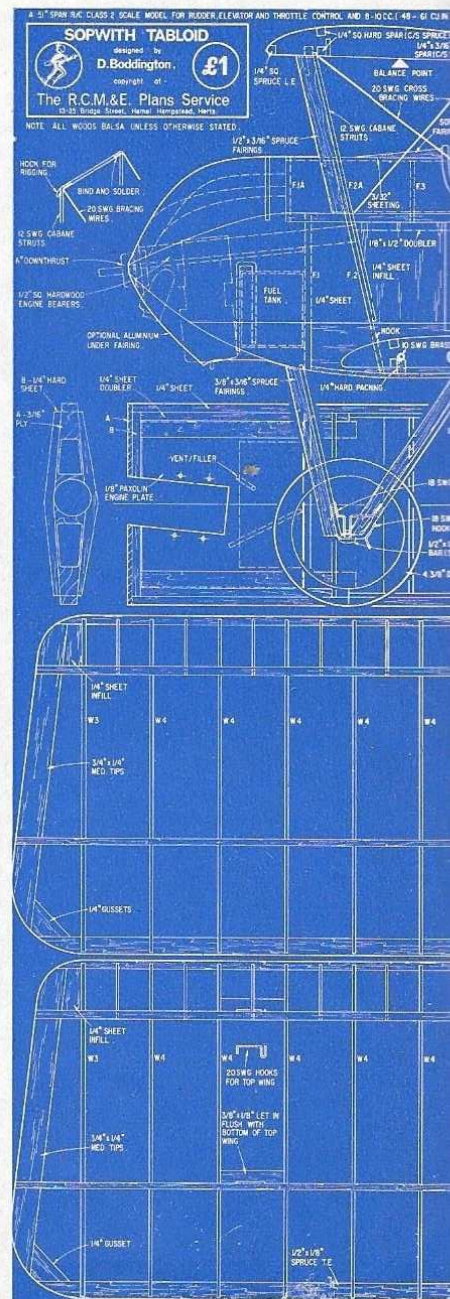
Like its stablemate, the 'Tabloid' is a Class Two scale model as it does not feature a true scale wing section and, with the prototype at least, a lot of detail was omitted. There is no reason, however, why the 'Tabloid' should not be 'worked up' to a top scale model as the basic outlines are correct and the model proven in flying ability.

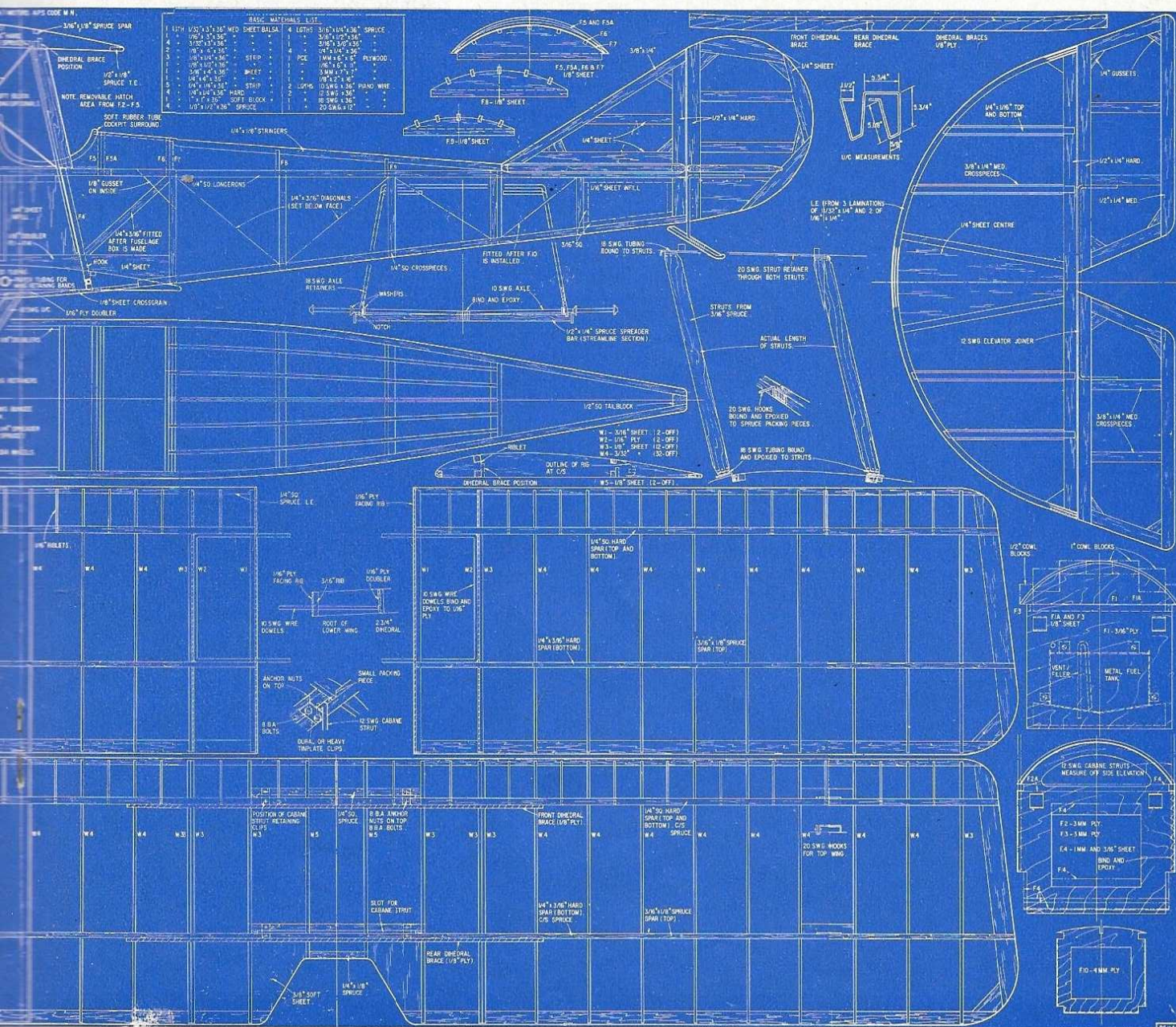
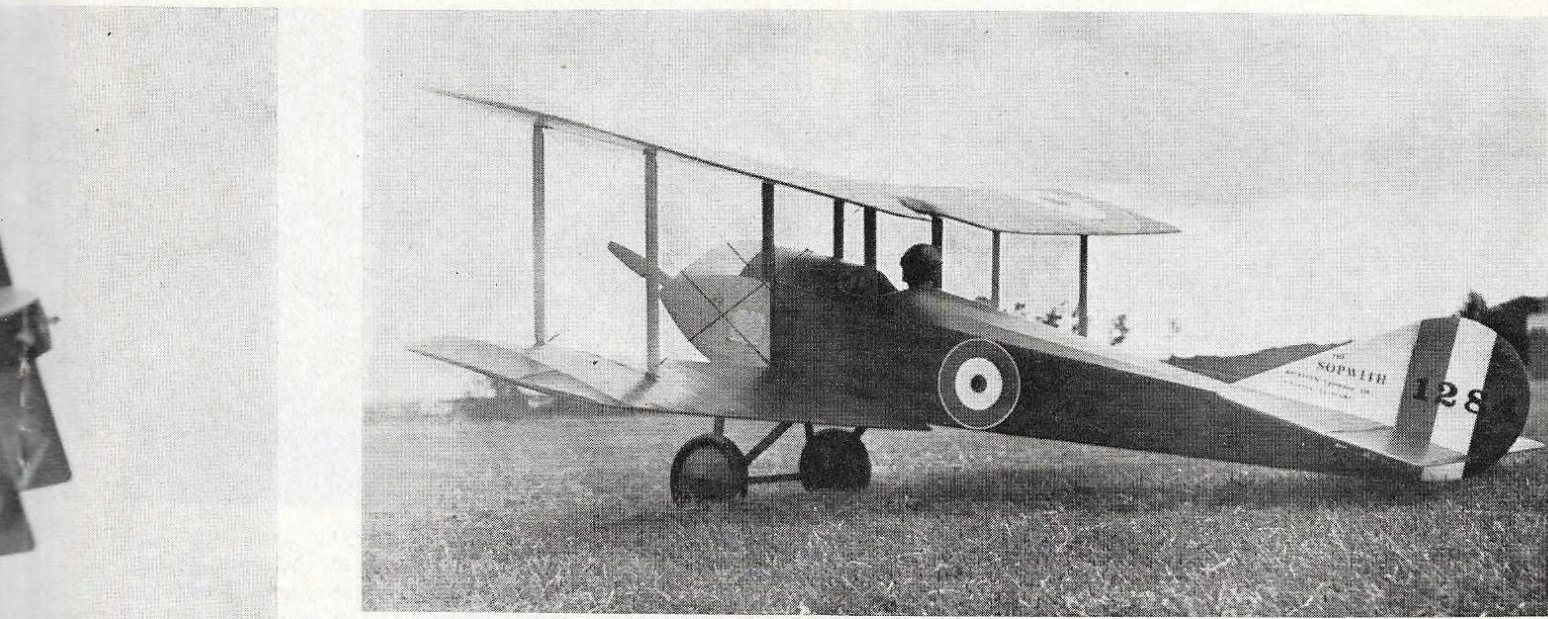
On searching through the reference books and plans for a successor to the 'Pup' my choice was narrowed down to the 'Tabloid' or the 'Martinsyde S1'. The latter aircraft was very similar to the 'Tabloid', an obvious copy, in fact, but what decided me eventually on the Sopwith version was the report that the full-size Martinsyde was inferior in performance and tended to be unstable both fore and aft and laterally. Why the Martinsyde should exhibit these faults and the 'Tabloid', with almost identical layout, be satisfactory in flight I cannot guess, but I thought it would be prudent to opt for the more stable version. The prototype 'Tabloid', built in 1913, was unique in its time for its simplicity and its performance, reaching a speed of 92 m.p.h. and a climb rate of 1,200 feet per minute—very commendable for those days. It also featured wing warping, i.e. no ailerons, which appealed to me from the modelling point of view, and twin skids to the undercarriage, which did not appeal to me as a modeller. Fortunately, later versions of the 'Tabloid' were fitted with simple Vee strut under-

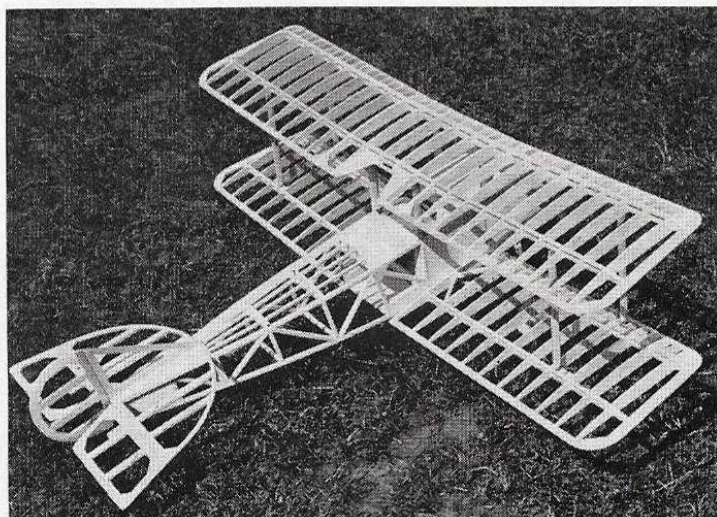
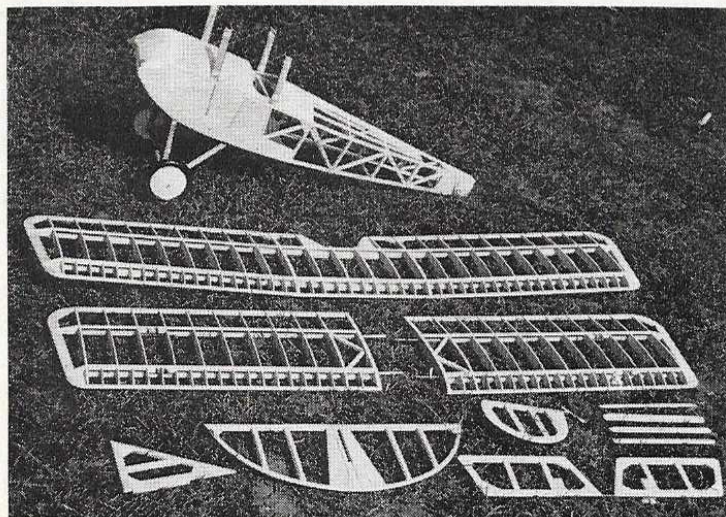
carriages and, to help the modellers who prefer them, ailerons on the top and bottom wings. To further add to the versatility of this little machine the prototype and production versions (known as the *Sopwith Schneider*) were fitted with floats. When a more powerful version of the seaplane was required, with a *Clerget 110 h.p.* rotary engine, the type became known as the 'Baby' and differed from the Schneider in the 'horseshoe' shape cowl and enlarged fin.

At the time of designing this model I was quite actively engaged in floatplane work and it was my intention to fit floats to the 'Tabloid' and try it off water. Regrettably, I have never made time to do this, but the 'Tabloid' is still in one piece and perhaps I shall get around to it one day. The delightfully shaped floats, mahogany veneered, would certainly add to the appearance of the model. Incidentally, anyone contemplating building a seaplane version would be well advised to visit the *Royal Navy Museum* at Yeovilton in Somerset, where they have a beautiful Sopwith Baby replica. This aircraft apart, the museum is well worth a visit by any would-be scale modeller.

The prototype model was fitted with a *Merco 61*, with the intention of fitting floats, but this proved to be more than adequate for normal flying and a 0.45 or 0.49 cu. in. engine would suffice. I hate to see a model of this type tearing around the sky and the 'Tabloid' has a low enough wing loading to fly safely at low speeds. It is *not* the ideal aircraft for flying in windy weather, and, although it will cope with a stiff breeze, it is at its most pleasant in conditions of moderate winds, when flying becomes a sheer joy. I have no doubt that with this model fitted with ailerons, beefed up, and a powerful engine fitted, it would be 'flyable' in a greater range of







weather conditions, but at the expense of overall stability and good 'slow flying' characteristics. You 'pay your money and take your pick', but I would rather forgo the occasional day's flying with the 'Tabloid' in order to thoroughly enjoy it on a suitable day.

Construction

Time, so they say, is money, and this makes the 'Tabloid' a quite expensive model to build. No! You cannot complete this model in a couple of evenings – any more than you can many of the so-called almost-ready-to-fly kits. It needs just a little more patience and man hours than the average sports model and if you are short of either of these ingredients, be warned, do not start building this model. Not that the 'Tabloid' is difficult to build, far from it, and I guarantee that anyone who perseveres and completes the model will not be disappointed or consider it a waste of time. So, if you are looking for an interesting and rewarding subject for the long dark evenings – forget about her and start building the 'Tabloid' instead.

Be careful in selecting your materials, make sure the wing spars are firm, hard and straight. Keep the rear end of the model as light as possible, otherwise you may find yourself having to put a mass

of lead in the nose to obtain the correct balance. I would suggest cutting out *all* of the balsa and plywood parts before commencing assembly, simply because this is one of the least pleasant chores and, once out of the way, then the exciting part commences.

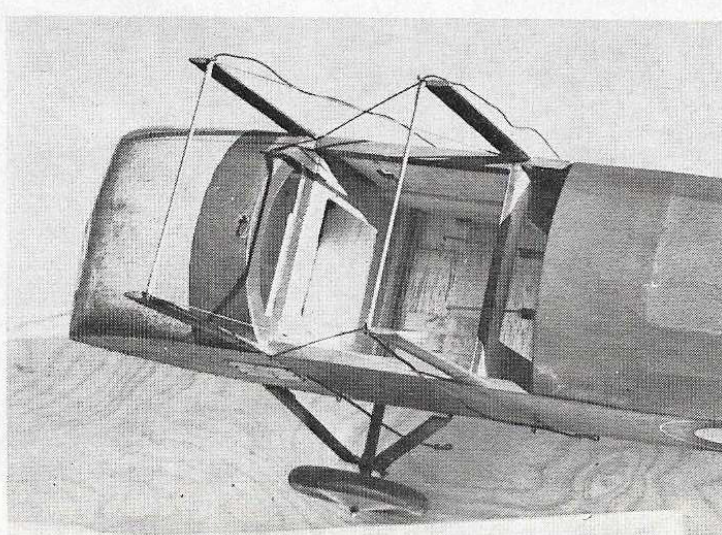
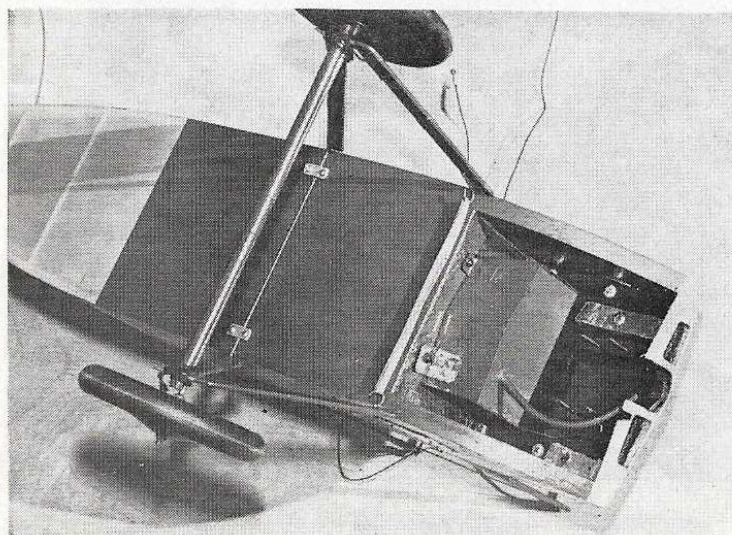
Wire bending of the cabane struts and undercarriage is not complex but must be accurate, if you make a mistake, throw the part away and start again. Approach the bending slowly and systematically, protecting the marks on the piano wire with Sellotape and using a wooden block to bend the wire, firmly held in a well-fixed vice.

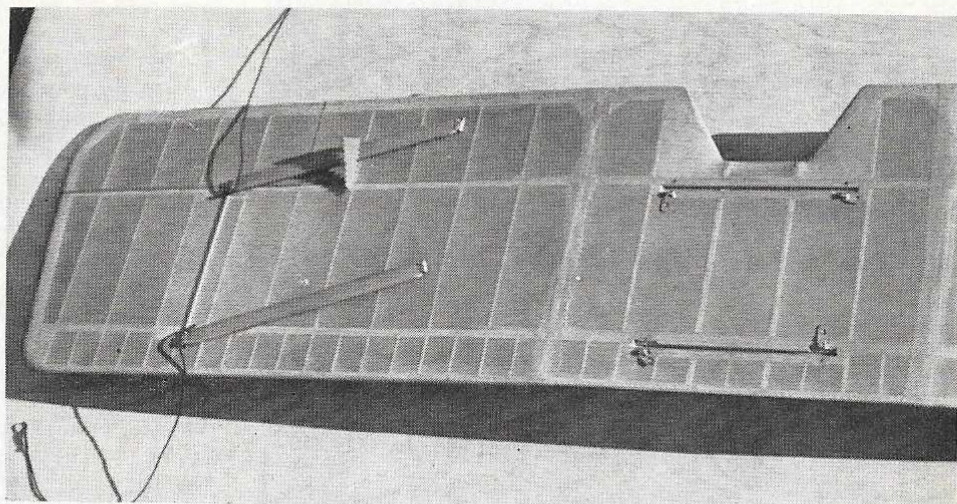
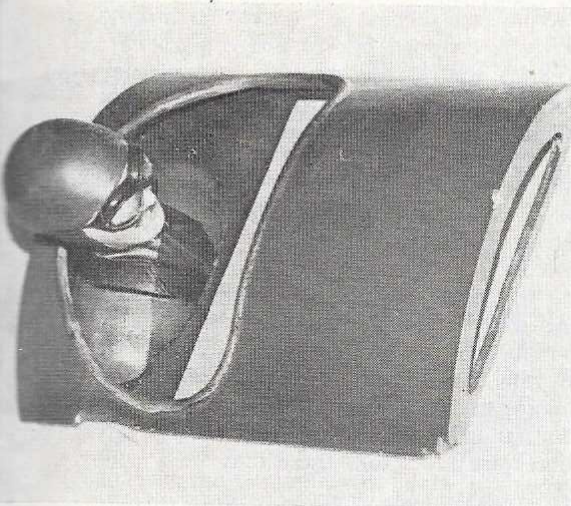
Do avoid the temptation of 'beefing up' the construction. For one thing, it becomes a vicious circle and ends up with a model grossly overweight, almost unflyable and still not strong enough. At that point you will probably write to me to tell me that my design is at fault, as the model does not fly. The construction may look flimsy in its uncovered state, but you should take a look at a full-size aircraft, of similar type, before covering and that *would* terrify you.

Fuselage

Construction of the fuselage follows the basic method of building the two sides over the plan and then forming a box structure. With a very wide fus-

elage, such as this one, it is imperative that the curvature on the sides, as they close together on the stern block, are equal, otherwise the whole of the tail assembly will be misaligned. The cabane struts are bound and epoxied to the Formers F2 and F4 before they are positioned in the fuselage, the cross bracing wires being soldered at their lower points but not at the top. Do not omit those cross bracing wires, as they add considerably to the strength of the cabane assembly. The purpose-made tin plate fuel tank worked very well on the original model and has the advantage of being completely outside of the general fuselage area and with no risk of fuel getting into the radio bay. Note that the tank has only one filler/vent, the system of filling is to invert the model, and the feed pipe then acts as the vent. Fill until fuel is pushed up the feed pipe to the engine carb. When pressure feed is used it is a simple matter to connect a piece of tubing from the pressure take-off point on the engine to the tank filler/vent. The tank is not a stunt tank and the engine will not run with the model continuously in the inverted position, however. The full-size aircraft, equally, did not have this facility. A $\frac{1}{8}$ in. min. paxolin engine is suggested on the plan. It is a fairly large plate and may flex a little if you have an engine





Left: the 'Tabloid' bare airframes. The structure may look complicated, but in fact it's all pretty basic – there's just a bit more of it! Above: cockpit forms convenient hatch. Above right: wing underside showing strut attachments.

with a tendency to vibrate. A thicker paxolin may be used, it just depends whether you view the plate as a break-away mounting to save the engine in a crash, or as a rigid platform to fix the engine to. The amount of sidethrust and downthrust may appear to be excessive, but it is necessary.

Undercarriage springing is by the bungee method, as used on the full-size aircraft, and works very well in practice. The use of hat elastic, rather than rubber band, is preferable as it tends to be less fierce and also lasts longer. The tail-skid also worked well in practice, on grass, but the use of a very small tail-wheel would improve ground handling on paved areas.

Wings

The top wing mounting system used is quite neat and effective but the weekend sports modeller could use a rubber band system if looks are less important than speed of assembly to fly. A couple of 12g piano wire wing rests soldered into the internal corners of the cabane struts, and projecting $\frac{1}{2}$ in. beyond the wing leading and trailing edges, would

accomplish this. Make the ribs, and riblets, by the sandwich method, using Formica or plywood templates. Note the use of some spruce spars and spruce leading and trailing edges, these improve the damage resistance of the wings and assist in reducing the liability to warps. The plug-in bottom wings must have the piano wire wing dowels accurately positioned to correspond with the fuselage tubing and for the correct dihedral angle.

When the three wing sections to the top wing are completed the slots are cut into them for the dihedral braces. I find this an easier method than trying to cut the slots in the ribs before assembly. Make sure all hooks and other attachments are fitted to the wings before covering.

Tail Surfaces

Conventional construction here except for the leading edge of the tailplane, which features a laminated outline using 1/16 in. and 1/32 in. strips of balsa. Form the leading edge by sticking pins at close intervals on the inside line of the leading edge before positioning the first balsa strip. Steaming the balsa is not essential but will help to relieve the stresses in the finished tailplane. Balsa cement is recommended for glueing together the balsa strips, as this

sands better than P.V.A. glues. As previously stated, weight should be kept to a minimum on the tail surfaces, so choose light, firm balsa for these units. Should the model, on completion of construction of framework, look likely to be tail-heavy (allowing for the engine and radio gear) the tail surfaces should be covered in heavyweight tissue instead of nylon.

Rigging

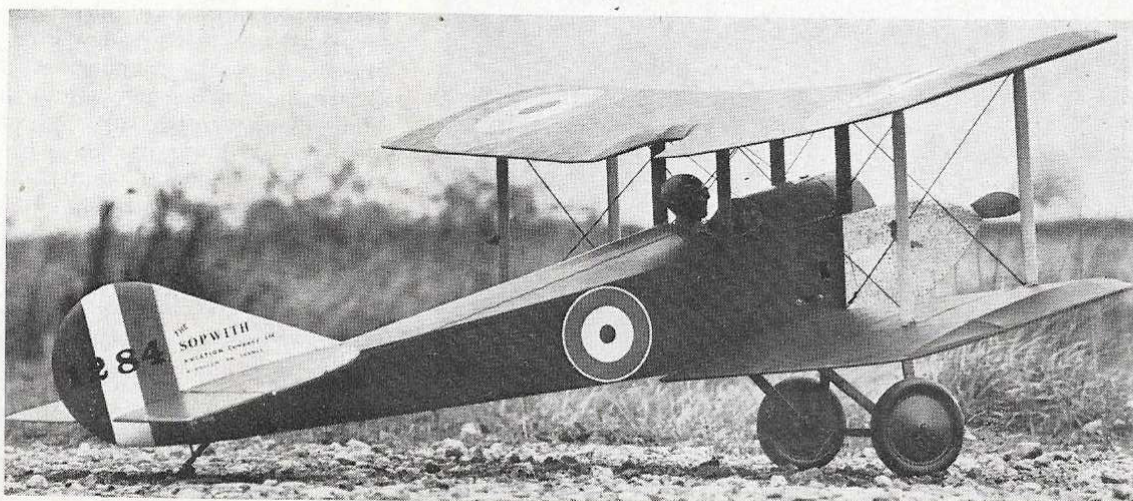
Hat elastic is used for simulating rigging and although this is not actually structural it does help to stiffen the complete structure and certainly adds enormously to the appearance.

Finishing

Either lightweight nylon or heavyweight tissue followed by silk should be used for maximum strength and the amount of coloured paint should be kept to a minimum. There are plenty of alternative colour schemes, with the full-size 'Tabloids' and Schneiders from clear linen finishes to regular khaki painted upper surfaces, roundels, etc. It is much better to dye the nylon to a natural linen colour for under surfaces instead of trying to paint it to represent this finish. I made a mistake with the prototype and dyed the nylon too

(continued on page 49)

Far left: view of fuselage underside showing undercarriage and engine bay. Note metal tank. Left: view of fuselage cockpit area, showing cabane struts and access to radio compartment via removable cockpit hatch, seen above. Right: typical of Sopwith aircraft, the 'Tabloid' displays simple, yet elegant lines.



Sopwith Tabloid

*Continued from
page 39*

yellow, I thought that this would 'tone down' a bit when doped, but it did not, so do a test piece of covering first. For ease of application and lightweight I still prefer to use matt enamels for the khaki paint, followed by two thin coats of polyurethane eggshell clear varnish. The aluminium cowl appearance was achieved by liberal application of silver dope, left to harden, followed by light polishing with Brasso. Engine turning was simulated by using a $\frac{1}{4}$ in. dia. piece

of ink rubber held in a chuck (the end of the ink rubber is fitted into a piece of $\frac{1}{4}$ in. brass tube before being inserted into the chuck).

Radio Installation

There is enough room in the fuselage (over 5 in. internal width) to get in virtually two modern R/C outfits, so there is no excuse for having anything but a neat installation. Keep the receiver and servos and battery as close to former 2 as possible. I used ordinary pushrods connecting to nylon horns on the elevator and rudder for the control system but a closed loop system using the routes of the original control wires and horns can be used.

Flying

The basic rules apply to the 'Tabloid'

as much as to any other model, i.e. the flying surfaces must be free from warps and the balance point must *not* be further aft than shown, a little further forward will not do any harm. Take-offs are not difficult providing one is not tempted to overcorrect with rudder. Hand launches should be achieved by holding the undercarriage spreader bar in the left hand and the rear of the fuselage with the right hand. A *gentle* straight and level push is all that is required for a safe launch. Landings, too, present no special problems with power on or dead stick. In windy weather aim for a 'wheeler' landing, i.e. fly the model on to the ground in the flying attitude, rather than trying to three point it. I hope you will enjoy building and flying the 'Tabloid' as much as I did and look forward to hearing of your experiences with it.