THE QUIET ZONE

R/C SCALE ELECTRICS WITH PETER RAKE

FOLLOWING ON FROM LAST MONTH'S THEME, OUR COLUMNIST OFFERS OFFERS ANOTHER DOSE OF DEPRON FOAM, PROFILE SCALE INDOOR FUN WITH THIS SOPWITH TRIPLANE

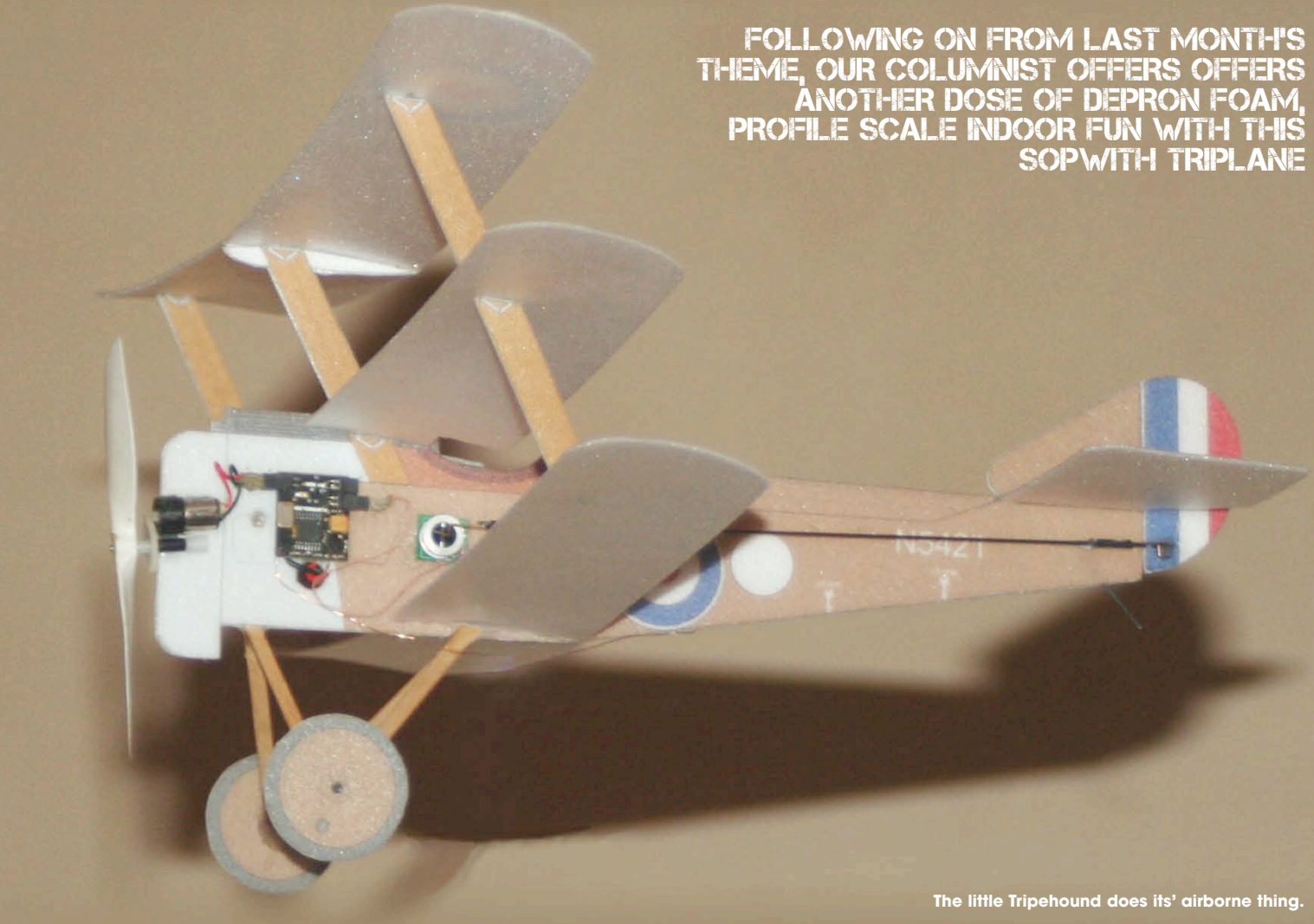
Well, I'm afraid it's that time again - time for another bout of electric flight doings. Here we are, already well into yet another New Year, all the goodies you received from the chap in red are now old hat and you're looking for something new. Well, bear with me and I might just have something to offer.

Since we're also still into deepest, darkest winter and nobody in their right mind wants to stand around in the middle of a field freezing their bits off, how about anotherprofile scale indoor flyer to while away the hours?

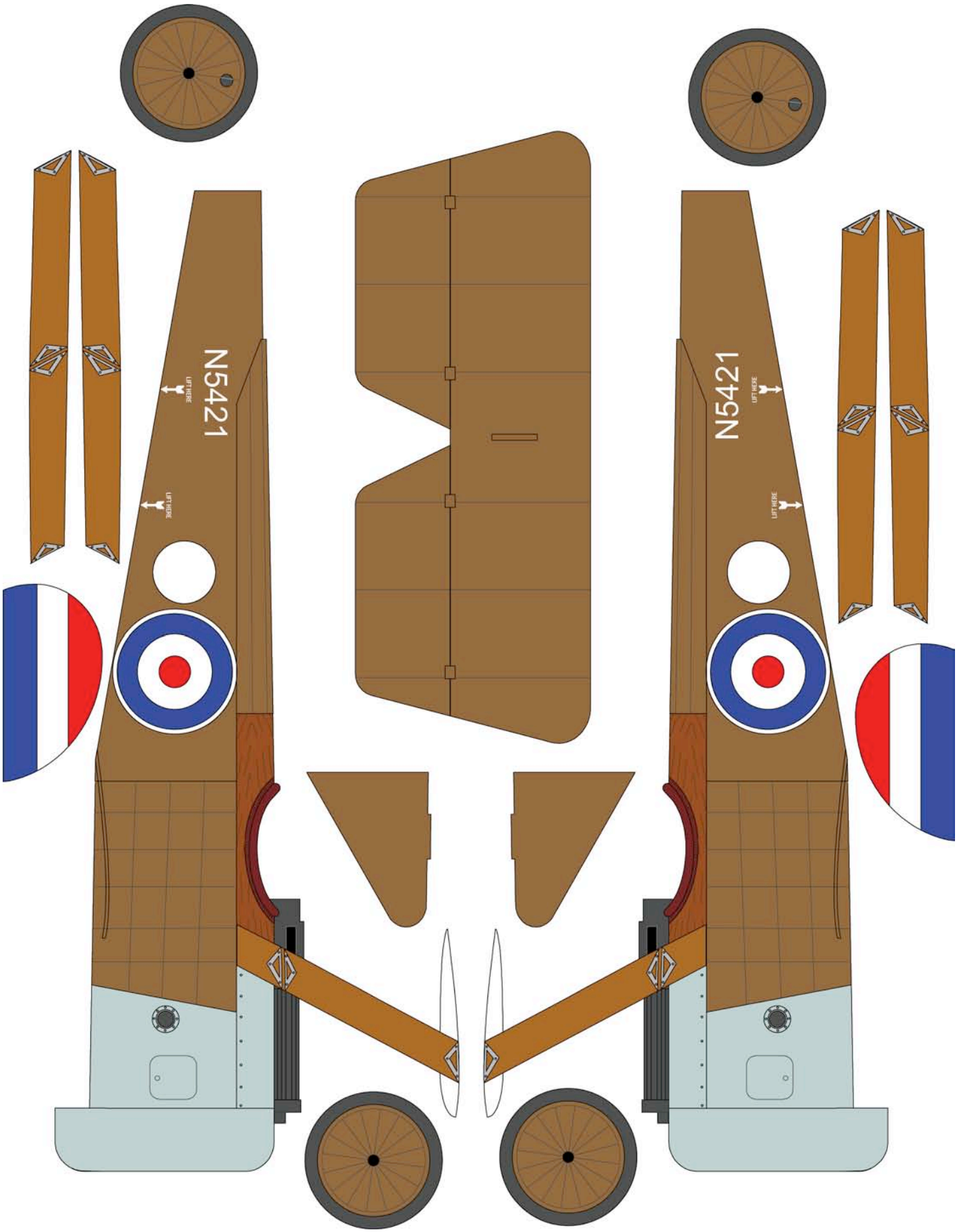
Last month I gave you a rehash of an earlier model but this time, although the techniques are much the same, you get the treat of something completely new. Working on the theory that if one triplane was good, two triplanes had to be better I drew up the graphics for a Sopwith Triplane to use the same type of equipment as the Fokker Dr.1 presented last month. Although construction is very similar to the Fokker, there are some pretty obvious differences. I'll deal with these as I describe the build, but first off, lets take a look at the gear I used.

KITTING OUT A TRIPEHOUND

Although the plan shows the receiver and motor from a *Nano Stik* coupled to a *Plantraco Microact*, I had none of those items available at the time. My printer



The little Tripehound does its' airborne thing.



had just died-the-death and needed replacing, thereby eating up the funds I had intended to use to equip this model. Time to check precisely what equipment I did, in fact, have available.

As luck would have it, there was still one functioning actuator stashed away, a *Micro Invent* item with its plug changed, a three channel *Plantraco* receiver with the battery magnets removed and replaced by a battery lead and a 4 mm motor unit of unknown origin. I have a feeling that it might have come from a *Mini Aviator*, but it could well be one made up from salvaged parts. Whatever, it was the right size, used the right prop and appeared to deliver the required amount of power. The fact that it was even fitted with the correct type of plug was just an added bonus.

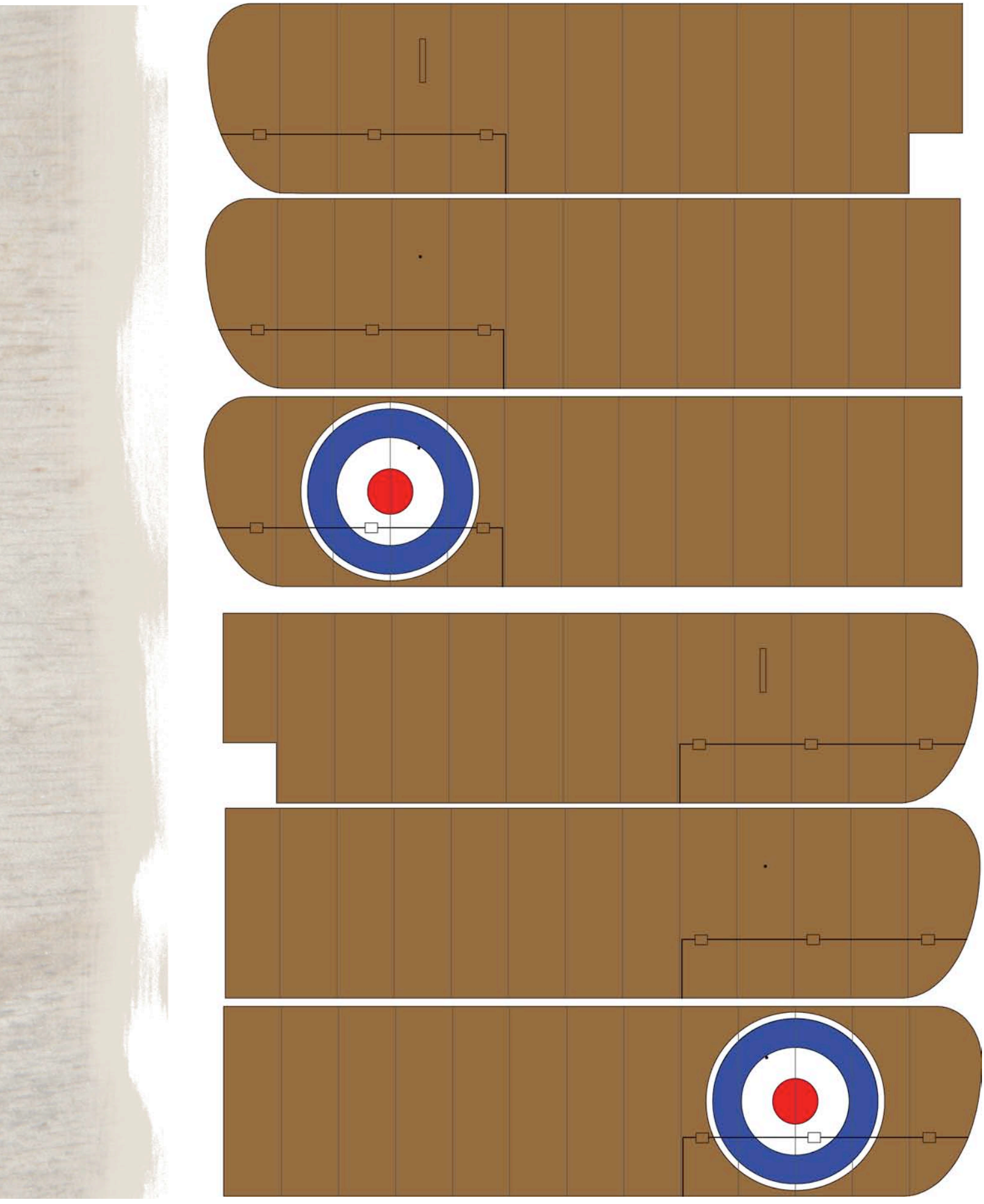
So, as you see, the model isn't restricted to using only the equipment shown on the plan. As long as it isn't hugely different pretty much any radio

gear will do. If you have a *Mini Vapor* brick looking for a home, that too could be used and you get the option of three channel control to boot. As for me, I'm happy enough just using rudder and throttle controls. Keep the gear you fit small and very light and you won't go far wrong. Remember, the aim here is to finish up with a ready-to-fly model that weighs less than half an ounce. My model, complete with battery finished up at just less than 10.5 grams.

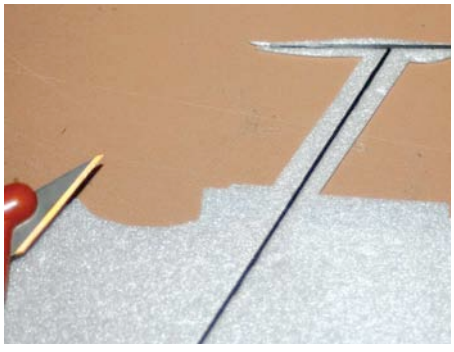
BUILDING A SOPWITH

The first thing to do, once you've printed and cut out all the parts, is to make up a series of sub-assemblies. The most obvious of these is the fuselage and that requires a little preparation before you glue the halves together.

One difference between this model and the Dr.1 is that the top wings mount onto a platform and the logical arrangement is to make that platform part of the centre



I used a steel rule to make a groove for the carbon rod stiffener to fit into before gluing it in place.

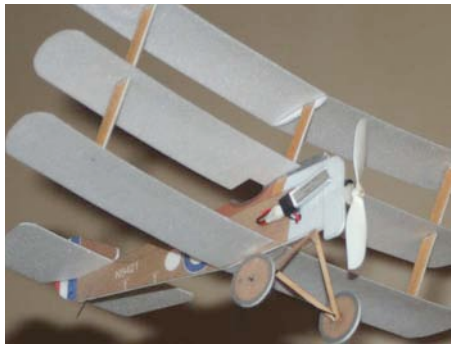


Rods glued in and the two sides are ready to glue together using a very thin coat of RC Modeller's Glue.

Although they're hard to see, there are two narrow strips of Blenderm tape used to hinge the rudder before joining the laminated halves.

Not a lot of camber is required but it does help to stiffen the wing panels and, combined with camber and incidence on all three wings works well.

The printing over a simple hair spray base gives good results on the finished model to give a nicely understated finish.



The model drifts by overhead. That wall is actually at least five feet away so I've no idea why the shadow is so obvious.

section strut. Both the strut and the platform need to be stiffened up a bit before the sides are joined, so each has a length of 0.5 mm carbon rod glued to one side and then the other side is glued in place using *RC Modeller's Glue*. A very thin coat should be smeared all over the second side, the two brought together and adjusted for alignment before being placed on a flat surface and weighted down to dry. Applying some pressure where the carbon rod is trapped between them will bed it slightly into both sides, assisting the gluing process.

A similar process is used to trap 0.5 mm carbon rod between the interplane strut laminations. Here, it's important that both struts end up with the carbon rod in the same relative position or it will complicate accurate wing alignment during the final assembly stage. Note that there is a distinct top and bottom to these struts, so make sure you end up with matched sets. Although only slight, there is a convex curve at the top and concave curve at the bottom. The carbon protrudes at both ends and will plug into the holes in the wing panels as the struts are fitted.

When joining the fin and rudder parts, I like to combine this step with hinging the one to the other. Apply two narrow strips of *Blenderm* tape to one fin half and hinge the matching rudder half. Then it's just a case of gluing the remaining halves in place and weighting it all down while the glue dries.

Now for the technical part; the wings. On this model, only the top wing panels are joined before they are fitted to the fuselage. The centre and lower wing panels are butt glued at the points indicated by the printing. The bottom wing position is clearly shown, while the 'brackets' on the c/s strut determines the position of the centre wing panels.

However, before any of this joining or gluing in place can happen, you need to induce camber into all six panels and sand their roots for the correct dihedral. To induce the camber just draw each panel over the edge of a table until it is curved by the correct amount. Strangely enough, a sharp edge works best, and does less creasing of the lower surface. Just work gently, gradually increasing pressure until the desired curve is achieved.

To sand the wing roots, I find an emery board (I 'borrow' one of the wife's) works best. Pack up the panel to the correct angle, butted against the edge of a board, gently hold down the root making sure you don't alter the camber and run the emery board along the edge of the board, which will help keep it vertical.

When it comes to joining the top wing panels I use *Uhu Por* as adhesive, using it as an 'impact' glue. Thinly coat both wing roots and allow the glue to virtually dry. Then, CAREFULLY bring the two roots together at the correct angle and alignment. I stress carefully because you only get one shot at this, once the two parts touch they are stuck. I usually lay both flat on the board and gradually bring them together. Then it's just a matter of raising one tip until the sanded in joint meets along its' entire length. A little extra pressure to ensure they meet precisely and the job is done. Using the glue this way produces a slightly 'harder' joint than if it is applied and the parts joined immediately. Don't ask me why, that's just the way it works out.

The final sub-assembly involves the undercarriage and this is definitely one of the areas that differs from the Fokker. Whereas on the Dr.1 the u/c was tubular, and is easily represented by carbon rod, the Sopwith u/c was much heavier looking and made from wood. I considered carbon rod, but think what I came up with not only looks better but is easier too.

The main legs are made from narrow strips of 1/32" ply, with a patch of 1/64" ply over the joint as reinforcement. The leg strips were lightly sanded to remove any roughness and then a piece was laid over the full-size drawing on the plan to cut it to size. Cut both front and rear legs as matching pairs and position one set over the drawing. Cut and sand a wider strip of 1/64" ply and glue that in place over the join. Trim the 1/64" ply to match the u/c leg shape and drill the assembly for the axle to fit. The second set is assembled over the first, making sure you don't end up with two right hand sets.

Open up the drilled holes to ovals, slip in a piece of 0.7 mm carbon rod and lightly glue the legs at the correct spacing on the axle. You shouldn't wait for the glue (I used medium CA) to cure fully, just enough so the legs don't slip on the axle. Bring the tops together, checking that it all remains even, and glue them together. Allow this to cure and that's all the sub-assemblies ready. Talent

I can see that it's also about where I run out of space for this month. Next time we'll look at getting the model together, equipping it and how it flies. Possibly with a bonus.

In the meantime, if you'd like pdf files of the printed foam parts, or want to contact me for any other reason, you'll