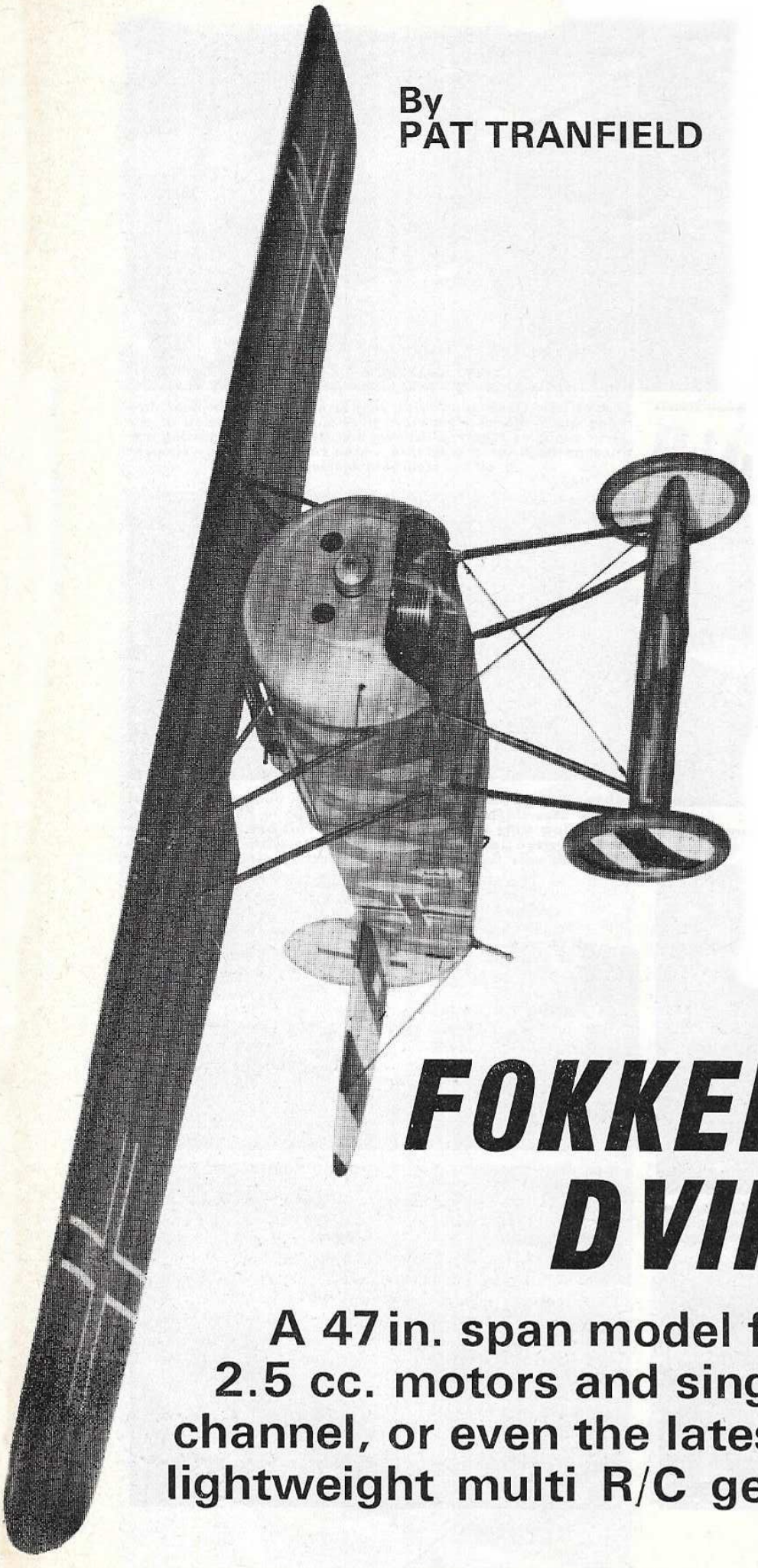

Fok.E.V.159

By
PAT TRANFIELD



FOKKER DVIII

A 47 in. span model for 2.5 cc. motors and single channel, or even the latest, lightweight multi R/C gear

IF you are looking for an extra stable, steady flying, first scale model, don't read any further. But if you are the type of scale modeller who likes a challenge, this is just the project for you.

At first glance the layout of the Fokker DVIII appears to be ideal for stability purposes. The parasol wing, large tail area and general appearance look perfect. On showing the hefty airframe whilst under construction to my friends at the flying field, the tiny wing area, lack of dihedral and washout, led to a few 'Tut-tut's' and remarks of 'You'll be lucky'.

As I value the opinion of these experienced fliers, I went home wondering whether I had bitten off more than I could fly. True, the wing loading was about a pound and a half to the square foot. But these disadvantages added spice to the project and all the more excitement as the test

flight day approached. When the model was finally finished and fitted with a brand new *P.A.W.* 2.49, the day of reckoning had arrived. With stuttering voice I gave my pal Colin the O.K. to hand launch the model. It started off in a steady climb, but then slid over to the left and hit the ground with a resounding crash.

Amazingly there was not much damage. Obviously the three degrees of side thrust were not going to be enough. Gradually during the following test flights I ended up with six degrees. Then came the reward for all the doubts and anxious moments of the past months. After the launch a steady climb, turning only slightly to the left in a wide circuit. Round she came at about 30 feet with her ugly snub nose turning into wind. It was then that I realised what we scale fiends see in this branch of the hobby. Makebelieve, whether we are man enough to admit it or not is something that stays. Nine or ninety, the child in man prevails. There she was, Germany's answer to the *Camels* and *S.E.5* returning to base after a successful test flight with that Ace of Aces Oberleutnant von Tranhofen at the controls; reward enough.

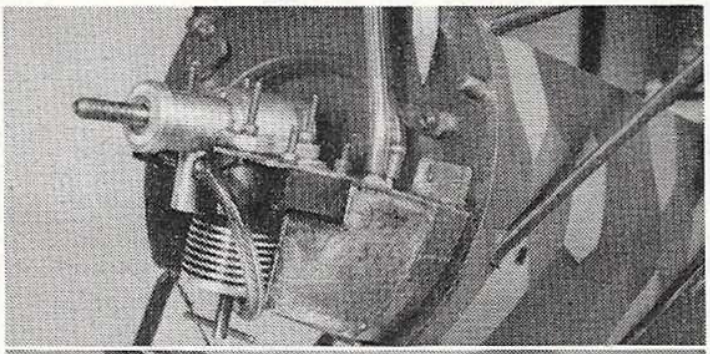
Radio Installation

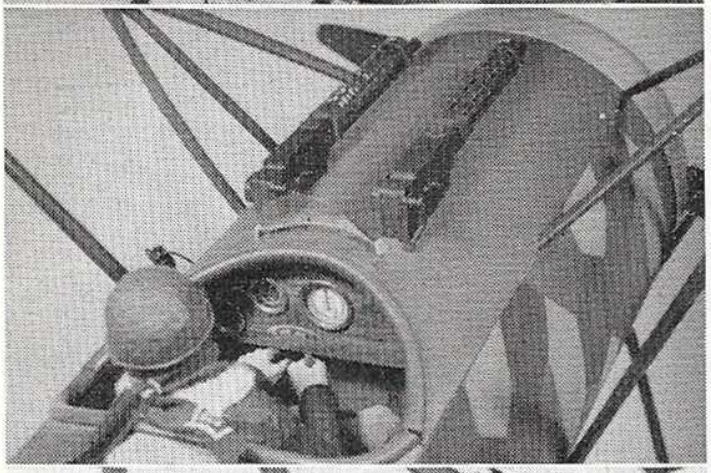
The model has a *MacGregor* single channel receiver. The *Elmic Compact* escapement has been stripped of its wiper contacts as my example had proved to be unreliable. It would have been nice to have had throttle control but not at the expense of loss of control. Reliability of equipment is essential with an unforgiving model of this nature. Keep the gear in the positions shown on the plan and you will not be far wrong.

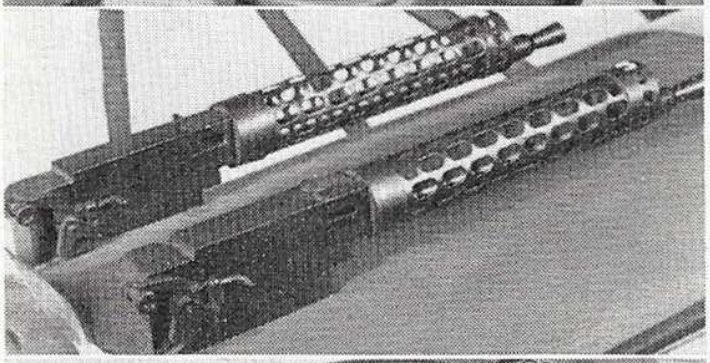
Fuselage

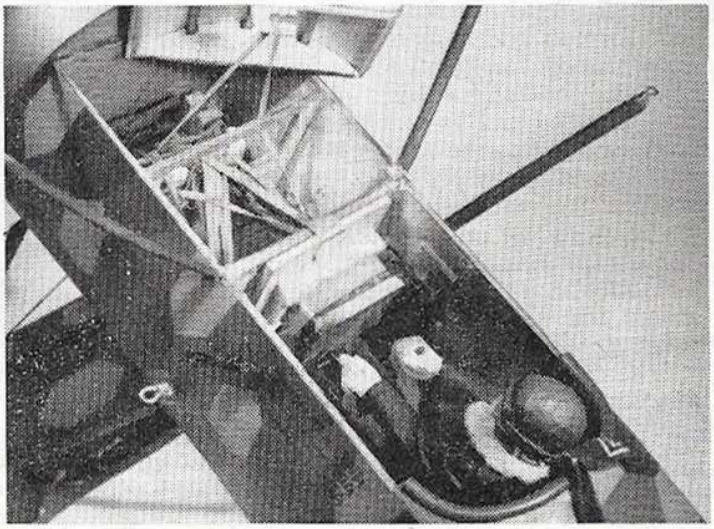
The fuselage is built in the usual crutch system. Front side formers and longerons are then added and the front end from cowling to aft of the cockpit is covered in 1/32in. ply. The top hatch is built up with formers and stringers, then covered in 1/16 in. sheet. The hatch is held in position by utilizing the rubber bands that hold the batteries in place, plus the ply hook cemented beneath the hatch former. Top and bottom of the fuselage is covered in sheet balsa as shown on the plan. The sides from the end of the ply sheeting to the stern post can be sheeted also, this is optional. The prototype had nylon covering at this point and proves to be strong enough, besides being more realistic.

The cowling can be quite easily made from a six-inch diameter *whistling kettle* and construction sketches are shown on the plan. They are easy to find, just cut away the spout, fill in the rivet holes after removing the handle. Cut away the bottom as shown with a fine toothed fret or coping saw and add the reinforcing ring using epoxy glue.









Left: close-up of the engine bay with cowling removed showing engine mount, and tank position. Pencil points to dowel peg and catch which retain engine cowl in position, similar arrangement on opposite side. Second left: view of the cockpit forward, showing instrument panel and windscreen, plus twin Spandau machine guns. Third left: close-up showing beautifully made and detailed machine guns. Fourth left: close-up of extremely realistic pilot. Note convincing folds in flying jacket. Bottom left: equipment hatch removed to reveal radio installation. Note rubber band and catch for holding hatch in position. Below: the uncovered airframe.

The holes in the ring locate the cowling to the dowels on the firewall. The lower portion of the cowling should then be strengthened by laminations of fibre glass.

Wings

Nothing unusual here, start by constructing the centre section, less wing tongues. Build the outer panels but do not fix the wing boxes or rib R1 in position until all three panels are complete. Finally, slot all three panels together, cement the tongues and wing boxes in place, invert the whole of the wing and place it on a flat surface to set. This ensures that you get zero dihedral across the upper surface of the wing. It may sound a little drastic but in fact one gets a little dihedral when the wings flex on their tongues in flight. A feature worth mentioning is that the DVIII had a plywood covered wing. This means that the model had to be sheet covered with 1/32 in. balsa. Take care when gluing up the 4-inch wide 1/32 in. sheet prior to covering as the slightest spot of cement will warp the sheet and make it difficult to apply. Keep a bottle of acetone handy to soak through the sheet in places where the cement has started to dry on the ribs.

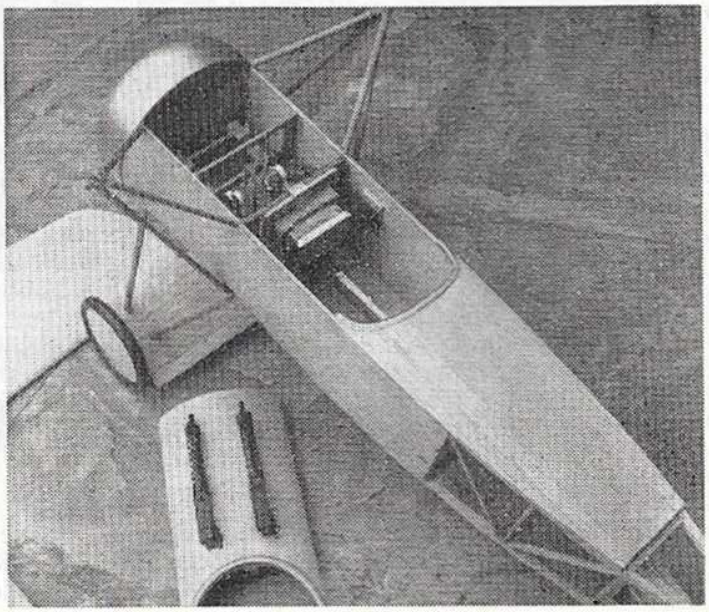
If you are wondering what a single channel model is doing with ailerons, they are there purely to aid in trimming the model. Once trim has been achieved, cement them in place. They could also be used to give a washout effect by turning both up slightly, but washout was not built into the original model.

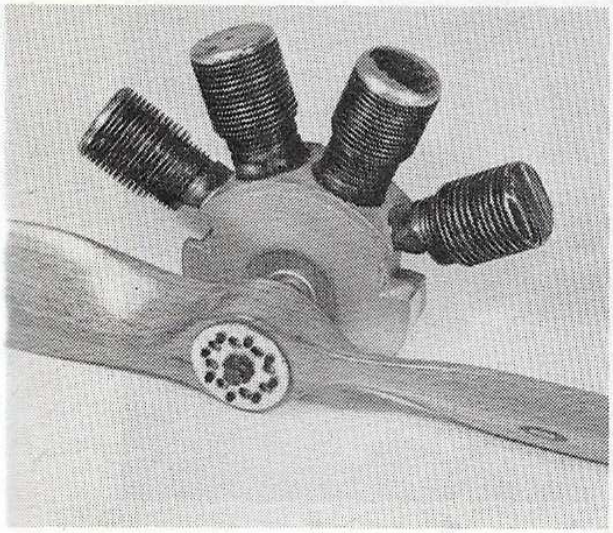
Tail Unit

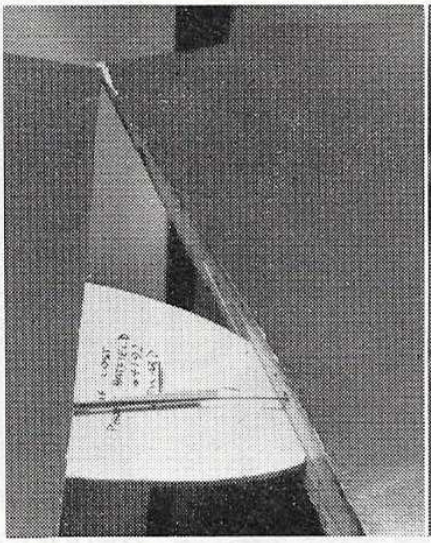
To make sure that the torque rod does not stick within its rudder housing, it is advisable to attach a small brass bead to the end of the rod. Make sure that it rotates freely by applying a spot of oil.

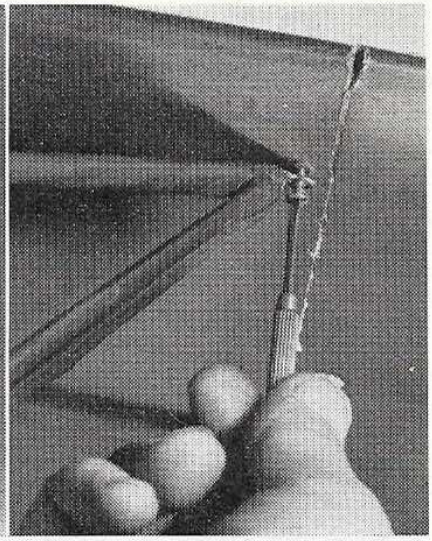
Wheels

There are many ways of making scale wheels. The form on the plan is one that has been popular for a long time. The only difference being that the tyre itself is made from neoprene tubing. This is pretty heavy stuff and can be found in any car accessory shop. A tip that I









Above left: dummy rotary engine and scale propeller made by designer Pat Tranfield for static display work with prototype Fokker DVIII model. Above centre: method of retaining knock-off wing with rubber band. Note owner's name and address with 'If found – reward' offer on wing tongue. Top right: wing is anchored in position with 6 B.A. bolts as shown here.

got from Doug. Jeakins (Old Warden S/C first prize 1968. Who, incidentally, taught me to fly my first radio model), is to weld the two ends of the tube with a piece of hot tin, as shown in sketch.

Finishing

As a commercial artist, you can imagine that this is the part of the job that I look forward to and in most cases it is the colour scheme that first attracts me to a particular type. Try to get hold of the Profile Publication (No. 67) on the DVIII, they are still available as long as you order two other copies at the same time.

The stencils for spraying the hexagon pattern are cut from *Permatrace* or *Kodatrace*, obtainable from any good art shop. Apply the lighter colours first or you may get the spray dust over the darker colours. Note that the sides, top and bottom are separate pieces of fabric so don't run the pattern from one side of the fuselage over the turtleback. Do not be upset if the colours look a little gaudy when you have finished as the whole thing can be toned down with a thin coat of watery black cellulose, this also helps to scale down the colour effect of the model. If you use this method of toning down be very careful as you can easily be carried away and end up with a black model!

One last point for modellers who will want to fit a glow-motor to their model, try mixing a drop of *Humbrol Flatting Agent* to your polyurethane clear lacquer as a fuel proofer.

Flying

Don't try to test glide the model as it is almost impossible to get the right speed and correct flying angle from a hand launch. Instead, pick a fairly calm day and you will be amazed at how light the model becomes once the prop starts to bite. Don't use too much fuel on the first flight. Be very gentle with that button, as the model needs a lot of rudder movement in the glide and this in turn means being gentle with the rudder under power. Adjust the down-thrust and side-thrust to suit your model (approximately 6 deg. side and 3 deg. down) and set the elevator to the required angle starting from zero degrees. It is advisable to cement the elevator in its final trim position. Any slight alterations needed at time to time due to varying wind conditions can be adjusted by packing the tailplane 1/32 in. at a time.

I'll bet there is some multi man reading this article somewhere and saying to himself, 'Who is this silly twit who can get himself all worked up over a simple single channel model'. All I can say in my defence is; One day when I haven't the commitments of home and family and you name it. The day when we colonize the moon and they give proportional radio equipment away instead of Trading Stamps. I shall go along to the Nationals with my action packed BF109 G and ..... See you there in 1979?

Below: two views of Pat Tranfield's beautifully prepared model. Full size patterns for unusual lozenge camouflage scheme are shown on plan.