



Colin Read's exciting 50 in. wingspan free-flyer for 1-1.5 c.c. engines

GULL wing sports models have a fascination all their own, so it is surprising that one does not see this attractive layout more frequently. *Gullie* is the result of much experiment with parasol and gull wing designs, built in various sizes over the course of several years. It is big enough to accept single channel radio, but also makes a tough, stable, free-flyer that is exciting to fly, with its fighter-like lines and racy performance.

No attempt was made to build a lightweight model, everything being solid and with plenty of sheet covering. Although I covered the original in orange jap tissue, silk or Viscotex would be better. Viscotex can be dyed any colour, using nylon dye of a good quality, orange being good for visibility.

Construction

Commence by cutting out the fuselage sides and formers, then build up u/c former F.2. Upon the choice of engine will depend the spacing of the cut outs in F.1 and F.2, any 1 c.c.-1.5 c.c. diesel or a low powered 2.5 c.c. glow motor being suitable. Araldite the engine bearers to F.1 and then cement both fuselage sides and u/c former F.2 in place, afterwards adding formers F.3 to F.6. When dry cement together the fuselage sides at the rear and add the remaining formers.

If a separate fuel tank is to be used, this should be cemented firmly in place at the rear of F.1, between the engine bearers and level with the jet assembly of the motor used. Be sure to fuel proof this bay thoroughly.

The upper and lower surfaces of the fuselage are now covered in 3/32 in. sheet;

strips 1/4 in. wide being used to plank the curved portions. Cement the cowl sheeting temporarily in position and sand to shape, then remove the cowling and carefully make the cut outs for the engine controls. Several coats of dope will be required to prevent fuel seepage.

The nose fairings can now be built up from 1/8 in. sheet and sanded to shape before cementing in place. Add the 1/8 in. ply cowl ring and sand to a smooth finish before adding the wing and tail attachment dowels. The completed fuselage should be well sanded to a smooth finish. Several coats of sanding sealer are given, sanded down between each coat until a very smooth surface is obtained.

The u/c wire gauge is quite heavy for a model of this size and being short, this results in a very rigid unit, so a good pair of 2 in. airwheels is essential to absorb the landing shocks.

Wings. These are very easy to build, but care is necessary at the gull dihedral section. Commence by pinning down the spar and leading and trailing edges of one wing half and cement all the ribs in place as far as the centre section. Now add the wing tips and upper spars and cement in position the ply dihedral braces for the centre section.

Remove the half wing from the building board and cut at the dihedral joint,

cement in position the dihedral braces and carefully check that the dihedral is correct. Trim the L/E to fit flush with the 1/16 in. sheet wing L/E covering and cement all gussets firmly in position. Cover the wing panels with 1/16 in. sheet as indicated and add capping strips.

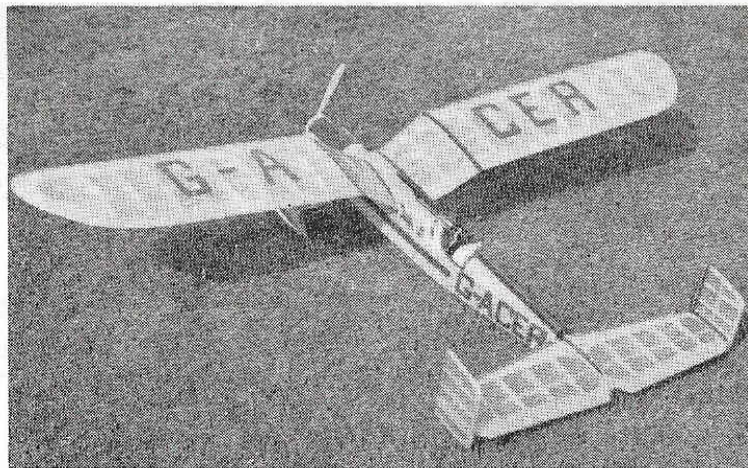
Build the other wing half in a similar manner and join together at the centre section, cementing the ply dihedral braces securely in position. Sheet cover the centre sections top and bottom with 1/16 in. sheet and sand the wing to a smooth finish, carefully checking for any faulty joints. The fairing blocks can now be fixed to the centre section to give a smooth wing/fuselage joint and the final sanding of these is done with the wing held in position.

Tailplane. This is built flat on the drawing board and no difficulties should arise. Pin down all ribs, capping strips, sheeting, etc., to the building board to prevent any warping of the structure. The two fins are built from 3/16 in. sq. and scrap 3/16 in. sheet balsa—one on top of the other. When completely dry they are separated and sanded to a streamline section. The whole tail assembly is doped and covered with jap or lightweight Modelspan tissue.

General. The wing covering should be given three or four coats of clear dope and the tailplane assembly two coats. If jap tissue is used six or more coats can be given on all surfaces and the resulting finish is really good and tough. However, the structure of *Gullie* is quite strong enough to take silk or nylon covering, should you so desire.

Now the model is ready to fly, but certain details such as a machine gun, to give that little bit of extra character and individuality, could be added, while the open cockpit simply cries out for a dummy pilot!

Flying. Add weight to the nose if necessary to bring the C/G to the correct position, then test glide until a shallow glide (turning slightly left or right) is obtained. The first power flights should be made on a calm day, engine running slowly and with about a 10 sec. run. If a turning tendency is evident, adjust the rudder very slightly to open the circle out a little, as on full power it will tighten up considerably, although



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usual 60 size, brings the question to mind again. However, the point to seize on is not, in my opinion, the size of the model, but its weight. Kuznetsov built his model down to a mere 19/20 oz., say two-thirds the average weight of a 60 design—surely this must have some bearing on the matter.

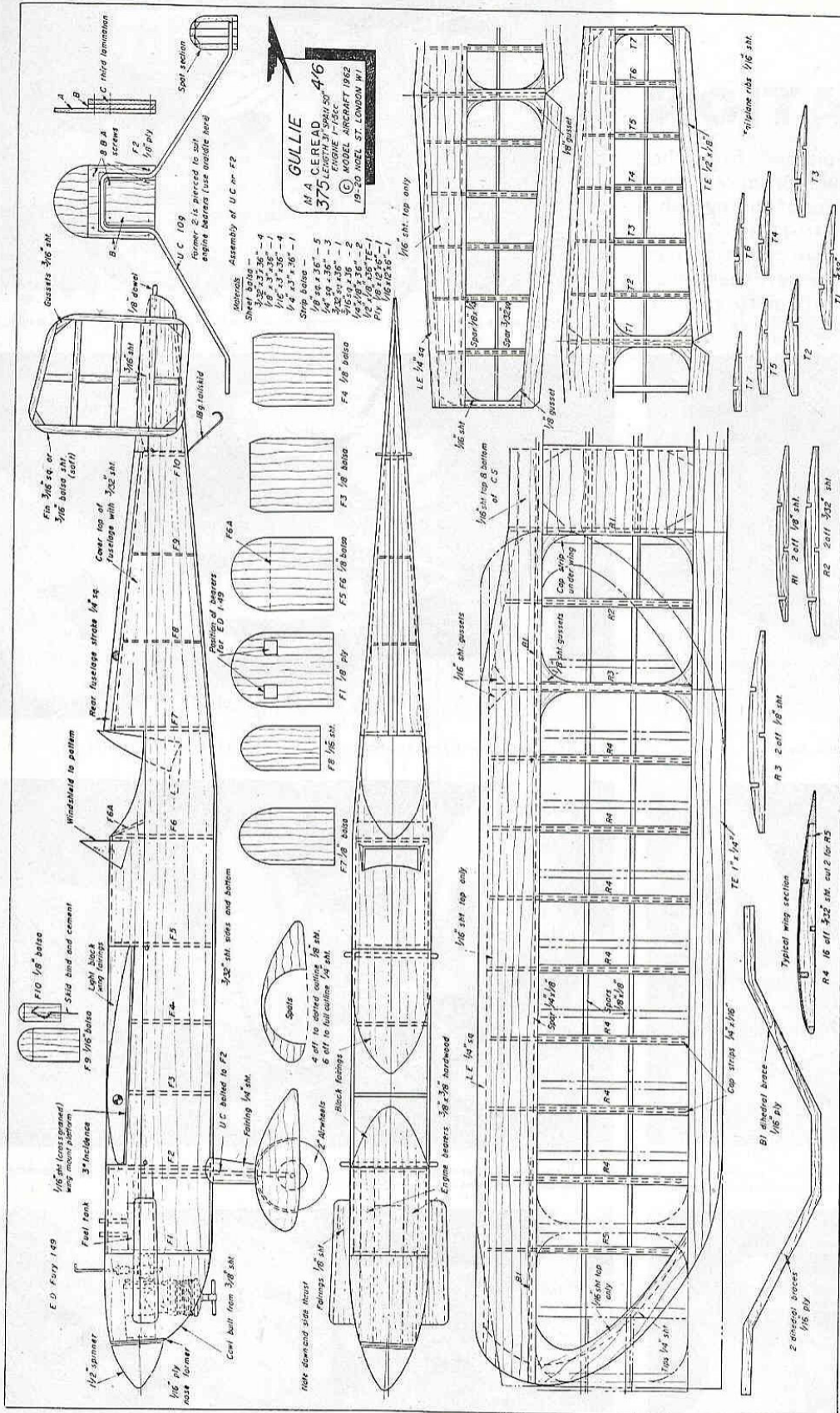
Another myth that dies hard is the one about the motor being the all important part, i.e. the model with the most powerful motor will fly the fastest. This was exploded last year when two enthusiasts—no names, no pack drill, but this is a true story—tried an interesting experiment. A's model was 10 m.p.h. faster than B's, so B naturally assumed A had a better motor. However, A borrowed B's motor and, using the same prop, plug and fuel, promptly flew even faster than with his own motor. The experiment was repeated and, as a last resort, A's motor was tried in B's model, but the result stayed the same.

The models were basically the same in size, weight and even design, so the difference was obviously subtle and not fundamental. Even the experts who closely examined both models side by side after seeing them fly, were unable to point to any one feature and say "That is worth 10 m.p.h."

Once or twice—well once—I overheard flattering comments on the natural wood finish of my F.A.I. Speed models. When questioned I pointed out that a natural wood finish is the easiest of all to obtain. If a model is painted, the big problem is to "lose" the grain, with a natural finish the object is to accentuate the natural beauty of the wood. A mere two or three coats of proofer, rubbed down and polished, will provide the gloss which is necessary to camouflage the grain indentations, which look so bad if they show through a paint surface. All right so I am just lazy!

One of the necessities for long distance overseas travel is a model box. The work involved to produce one is worse in anticipation than in actuality and, once the job is done, the benefits in ease and safety of carrying—even to home events—is more than worthwhile. I illustrate the box I made for the Kiev trip which, complete with two models, dolly and spare props, only weighs 5½ lb. Shaped obeche blocks covered with foam rubber support the models, which are lightly, but securely, held in place with rubber bands.

Pete Drewell, who made a similar case to take his two models to Russia, modified the interior on his return and, at a subsequent speed meeting, it was observed to disgorge no fewer than five speedsters! N.J.B.



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power turns in either direction are quite safe. The engine power can be gradually increased, but the engine run should be kept down to around 15 sec., as Gullie climbs very fast and will fly an awful long way if set off with a full fuel tank, especially as the glide is extremely good—almost of contest standard in fact—so do not forget your address label!

