

## Another all-sheet model for .5-.8 c.c. for tough all-round sport flying . . . by

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BULLET WAS BUILT to provide a simple all-sheet sports model which would have a reasonable appearance and yet be easy to make. If you are looking for a rest from that super built-up job, this one can be built in a few evenings. It's the sort of model to take along for fun between more serious flying and is very suitable for the newcomer.

The original flies around comfortably with an 8 x 8 Frog plastic to keep the revs on the Merlin in check and to give a nice steady climb. Although the wing loading is around  $9\frac{1}{2}$  oz./sq. ft. a quite reasonable glide can be obtained and the job seems pretty rugged; what is of particular interest to the flat-dweller is that it packs up easily for transport.

All sheet construction lends itself to a good finish and in spite of a fair amount of colour dope it weighs a little under 11 oz.

**Wings.**—First cut out the  $\frac{1}{8}$ -in. sheet ribs all the same size as the root rib. Cement two pairs of two ribs together to form the two wing roots. Now space ribs over the plan and pin through the rib "tails". Also put steady pins either side of the rib at mid chord. Pin and cement the  $\frac{1}{8}$ -in. medium hard sheet leading edge strip. This should lie easily on the flattened front part of the ribs. Take the soft  $\frac{1}{16}$ -in. sheet for the centre area of the wing; do not cement to the ribs yet but only along the rear of the leading edge strip.

When set, the part-finished wing may be carefully removed from the building board to enable a good cement job to be made of the ribs. Return the wing to the board after applying the cement and pin down the curvature. Add the trailing edge piece of medium hard balsa and leave to set. Now take the wing off the board and sand down the step formed where the  $\frac{1}{8}$ -in. sheet butts against the  $\frac{1}{16}$ -in. on the top of the wing. This should blend into the curvature. Use a small sanding block and work along facing the L.E.

Sand down the root rib at an angle to allow for the dihedral and fix the  $\frac{3}{32}$ -in. ply wing root facings.

Ignoring the protruding rib tails, cover the top surface of the wing with lightweight tissue. Dope upper and lower surfaces and return wing to building board and allow to dry out thoroughly. Finally cut off the protruding ends of the ribs and chamfer off the rib under surface to the trailing edge. The wing has now a sizeable built-in wash-out of incidence.

Make the wing struts from split pieces of garden cane, bind on and cement the wire attachments



and when dry sew the wing and wire to the underside of the appropriate rib.

**Fuselage.**—This scarcely warrants any description except to say that a good firm grade of light balsa should be chosen. Do not omit the binding or sewing through the fuselage especially at the undercarriage well to prevent bursting. Cover fuselage with lightweight tissue, after sanding oval aft.

A vice is useful when bending the undercarriage. Start off with a large hairpin or wire, firm the port to fit the well in the fuselage, then the coils and the rest in turn. The undercarriage should be a good firm plug fit.

The fin is hinged along its base and is retained vertical by means of the thread bracing. This bracing can be detached to permit the fin to fold flat for transport by means of a press-stud. The male portion of the press-stud is slightly recessed in the balsa and cemented liberally. The other half of the stud is tied to the thread. The whole tail unit is covered with lightweight tissue.

Balance the model at the point shown on the plan, this gives a slightly nose-heavy trim for initial tests. Do not increase the positive angle on the tail; any trimming should be done by ballasting either the nose or tail. To do this add weight in the spinner or cut a groove in the top of the fuselage under the tailplane trailing edge and add the weight here, whichever is necessary to give a smooth glide.

