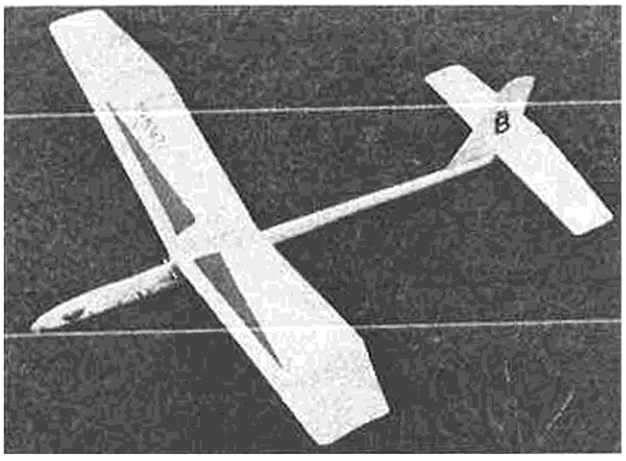
CROFTER

DEVELOPED FROM an earlier all sheet glider that had proved to have a good performance, 'Crofter' was designed for a group of young enthusiasts forming the local model club. To keep costs down, the size of the glider was arranged to make economical use of standard balsa sizes – the lowest cost per model is achieved with a batch of six (!) but even for a one-off job, little expense is entailed.

The most complicated part of the model is undoubtedly the wing construction, and accurate construction here will help achieve good performance later. Mark the wing platform onto a piece of 3 in. wide, 1/16 in. thick sheet balsa, and cut out. It is not necessary at this stage to separate the two halves. Sand the wood smooth, at the same time tapering down the upper surface towards the trailing edge. Now glue along the underside of the leading edge a piece of ¼ in. wide trailing edge section, and when dry, sand the now thickened leading edge to a semi-circular section.

Before proceeding further, try the following experiment. With the flat, uncambered wing held upside down (with the leading edge stiffener uppermost) launch gently forward. The original batch of wings all flew extremely well in calm conditions, although some flutter was apparent on some wings. Even half wings flew! The reason is that a form of reflex section has been constructed, while the stiffened leading edge moves the centre of gravity forward.



Camber must next be introduced into the wing, and this is done quite simply by doping the underside. As the dope dries, shrinkage will pull the wing into a curve. If more curvature is required, try dampening the upper surface with water, but don't overdo it. When dry, smooth down the doped surface with sandpaper, and add the ribs to hold the curve.

Separate the wing halves, and butt-join them at the correct dihedral angle. Note the slight curve required along the joining edges. Stiffen the joint by a ½ in. wide strip of nylon doped to both top and bottom, and sheet-in the area between the centre-most ribs.

The remainder of the model is straightforward, the tail surfaces being cut from 1/16 in. sheet balsa and sanded to a streamline section, while the fuselage is cut from hard stock balsa. The upper surface of the fuselage is left as a straight line, acting as a datum.

Cement the fin and the flying surface platforms securely to the fuselage, then add the rubber band retaining dowels and the tow hook.

Paint the entire model with two coats of thinned dope, and sand smooth. Decorate the model with a minimum amount of coloured dope. Building time for the original batch of models took three periods of one and a half hours, including nattering time!

Flying should present little difficulty. The form of wing shape ensures a certain amount of wing tip 'wash-out' for stability. All the models built so far have shown excellent tow characteristics, the glide performance being well up to good chuck glider standard. With the model ballasted to balance as shown on the plan, little trimming should be necessary. However, a slight stall can be cured by placing a little packing under the leading edge of the tailplane, while a dive can be flattened out by packing up the trailing edge.

This model, by the way, is ideal for club 'scramble' competitions, using the 'hi-start' catapult launch technique.

Couldn't be much simpler, could it? Novel form of wing construction is very easy to make, and quite strong – will absorb many impacts with rather solid, non-flying objects! Can also be catapult-launched – but make sure that the wings are held securely in place.