



Look - NO WHEELS!

SAWDUST

**By Chris Foss for 1.5 cc.
and single channel R/C
is strictly functional**

SOME will consider it functional, others may think it Sugly (curse them!) but the fact remains that it works.

To design a single channel power model for the sole purpose of flying, functionability (that's a good word) has to take precedence over aesthetics, so nuts to a cowed engine, fancy cabin, wheel spats, concealed wing fixings and the like. Sawdust is the combination of three essential components, wing, tail and fuselage, in that order. As there is nothing worse than having a fuselage only just large enough to squeeze the radio in, Sawdust has been made adequately large to accommodate all the necessary gubbins, which are, at the same time, confined within the extremities of the wing mount for both structural and practical reasons. The equipment used in the original is RCS Guidance System Mk. 3, with an AM 15 motor up at the heavy end to provide the necessary pull - both truly British inventions which have made so many trouble-free flying hours possible.

As I have a certain dislike for flying sessions being terminated by structural failure, Sawdust is so constructed as to virtually eliminate this possibility. In retrospect of over a year of consistent flying, totalling some 20 airborne hours, the only damage that comes to mind is a bent tailplane and broken engine mount. The latter was the result of fitting a deadly pointed spinner, which subsequently buried itself in the ground on landing (?) whipping the motor out at the same time. Lesson learnt is not to use a spinner with a paxolin mount.

I initially attempted to fly Sawdust using a Conquest 'bang-bang' escapement, but soon discovered that this rather unpredictable form of control resulted in more digging than flying. Thus, after a series of vicious encounters with terra firma which resulted in little more than clogging the motor with a load of Sussex crud, I reverted to a more predictable and sensible form of control, namely, the Elmic Compact selective escapement. This made life a lot easier - no more dithering around wondering which is the next signal (inevitably it turns out to be the wrong one!) - for all one has to remember is that one press is right and two is left, and that's not asking too much. Nevertheless, I didn't chuck the Conquest escapement away, but instead converted it to operate the throttle using the 'quick blip' method. After having found this extra control invaluable, I am surprised that so few 'one-button' flyers make use of it. For only an ounce of extra weight, folks, you can land the model when you wish, without waiting for the tank to run dry, make low passes (oh, yes!) and even try Limbo.

Assemble the wing L.E., T.E. and ribs of both panels, then raise each tip $1\frac{1}{4}$ in. and cement in ply dihedral braces followed by the two $\frac{1}{8}$ in. sheet centre ribs. Add top spar and fill in the L.E. and T.E. at the centre section. Lift the wing off the building board and add bottom spar, $\frac{1}{8}$ in. gussets, vertical webbing, centre sheeting top and bottom, and $\frac{1}{4}$ in. sheet tips. Inset 16 s.w.g. wire into the T.E. and secure with nylon wrapping. Finally, cover the wing with either silk or lightweight nylon.

Cement the $\frac{1}{8}$ in. sheet nose doublers to both fuselage sides. Assemble ply formers 1 and 5 and engine bearers (already drilled) on to one of the sides, and when positioned correctly, glue the other side into place - Evostik Resin 'W' or similar is recommended for this operation. When completely set, cement former 2 on to 1 and cement formers 3 and 4 together and position correctly - adjustments may be necessary here to suit the type of clunk tank used, and should be arranged so that the tank is a push fit into the bay when completed. Add formers 6, 7 and 8 followed by the $\frac{1}{8}$ in. sq. and $\frac{1}{8}$ in. x $\frac{1}{4}$ in. supports at the tail, and finally, the upper and lower portions of former 9 - the detachable section is set aside for attaching to the rear escapement rubber hook. Line the tank bay with soft $\frac{1}{16}$ in. sheet. Cover the top and bottom of the fuselage with sheet, remembering to incorporate the $\frac{1}{16}$ in. balsa and $\frac{1}{16}$ in. ply lamination under the nose - essential when there is no U/C. If a second escapement is to be used for motor control, cut an opening in the top of the fuselage and construct a hatch from $\frac{1}{16}$ in. ply as shown. Add the $\frac{1}{8}$ in. x $\frac{1}{2}$ in. strengtheners beneath the wing mount, the $\frac{1}{8}$ in. sheet doubler behind former 6, and the escapement rails. Tap four 6 B.A. bolts into the bearers, 'Araldite' the heads to prevent them turning and block in the underside. Cement fin and rudder into place. Tissue cover the fuselage and dope well, finally add the wing and tail dowels and torque rod.

All that remains is to cut the tailplane from $\frac{1}{8}$ in. sheet, add the anti-warp inserts, round off the edges and tissue cover.

The finish on the original Sawdust consisted of clear doping followed by clear polyurethane varnish, applying up to three coats around the engine and tank bay. The general appearance of dark blue silk wings, orange tissue fuselage and fin, and white tailplane is very pleasing, even if rather simple, whilst the polyurethane has provided a tremendously tough impervious finish which has kept the model looking in good condition, despite the vast amount of use it has had to withstand.



