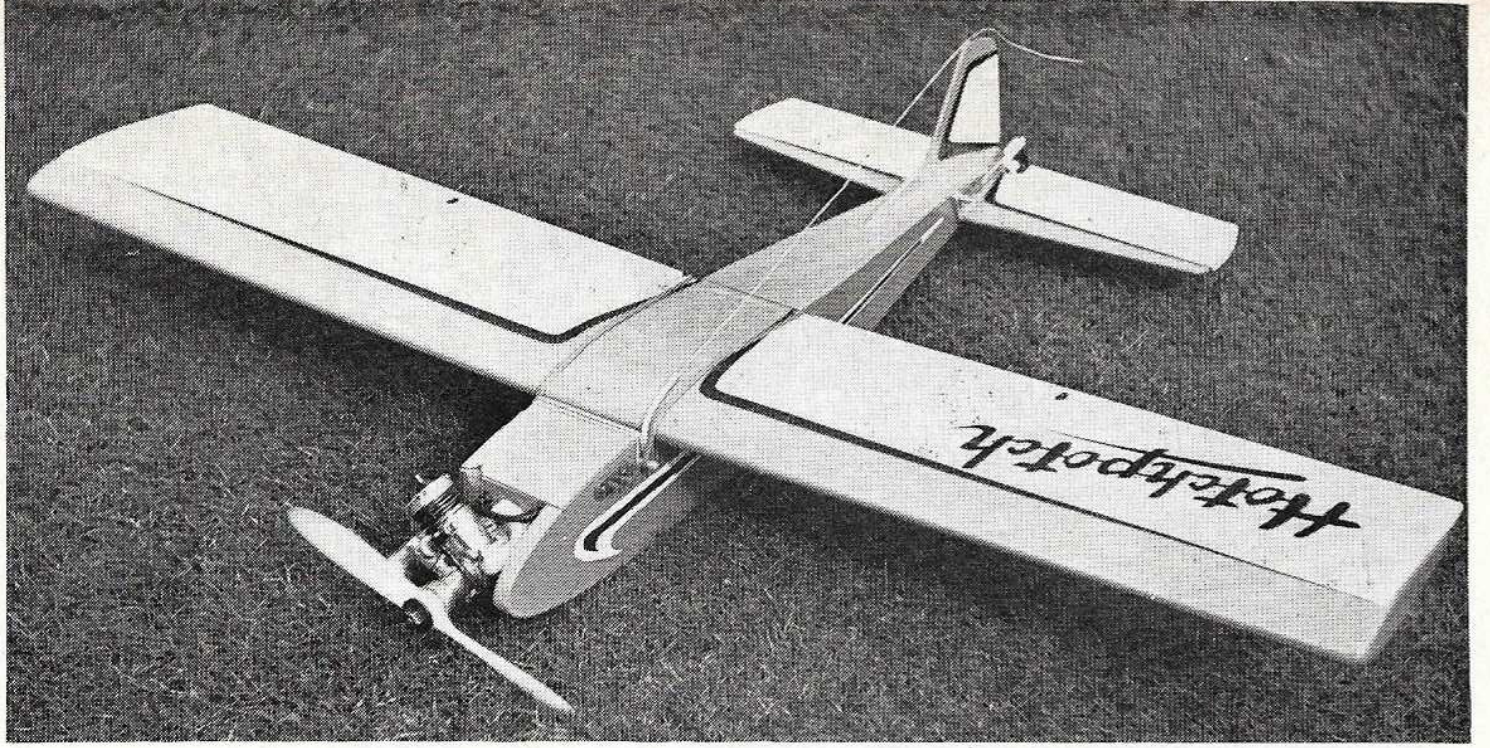


Hotchpotch

by KEN MURGATROYD

a lively 36" tiddler for .10-.15 power and two-function radio (ailerons and elevator)

LAST YEAR, while on holiday in Devon, I heard about Woodbury Common which, as it happened, was only a few miles from where I was staying. Needless to say, it was not long before I went to survey the area and, on arrival, would have given almost anything to have had a model with me! The sight started me thinking. As the friends I go on holiday with are walking fanatics and I tag along like an obedient spaniel, it occurred to me that a small, diesel-powered model, which would take apart and fit into a confined space, would be the answer. Then we could all do our thing!

The result of all my cogitations was *Hotchpotch* which, as its name implies, is really a combination of numerous other designs before it. But with a difference. The difference is that, instead of being a trainer, as most of these types of machines are intended to be, the *Hotchpotch* is more of a " hot cookie," intended for the flier with a fair amount of experience.

The main requirements I had considered to be necessary when drawing it up, were: not too big and thus easily transported; reasonably inexpensive to build; aerobatic performance on two functions; economical to run.

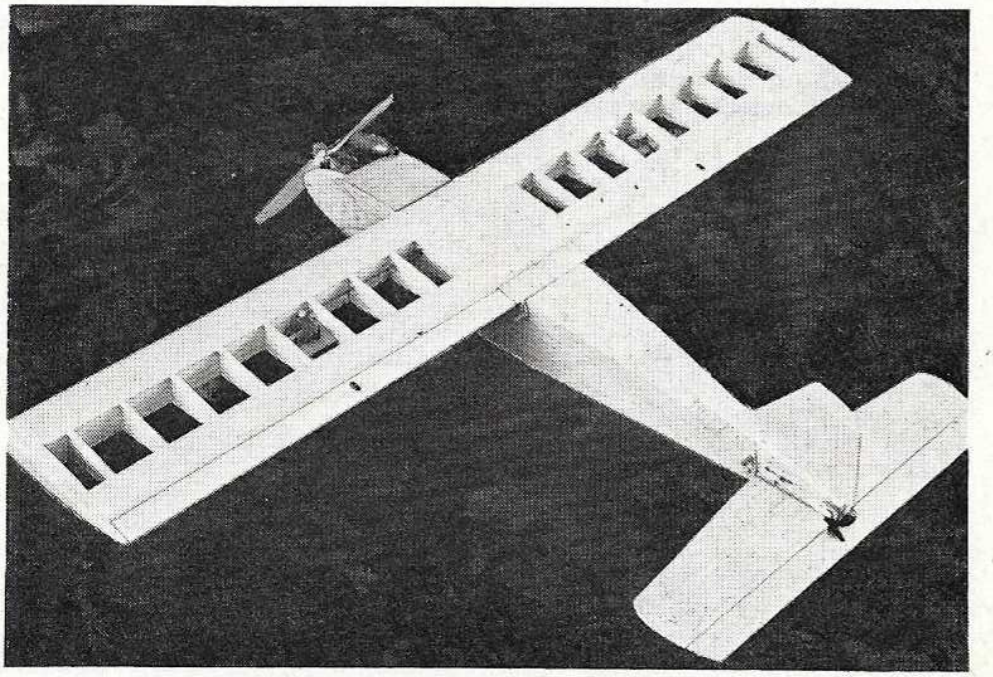
Any glow engine of around .10 or .15 cu. in. capacity could be used, although I fitted an old Elfin 1.8c.c. diesel to the prototype (brought out from retirement after 25 years!) This drove an 8 × 8 prop, cut down to 7½ in. Using the diesel saved me having to carry that weighty starting accumulator, and the only items required to take with one (apart from the model) are the transmitter and a can of fuel.

CONSTRUCTION

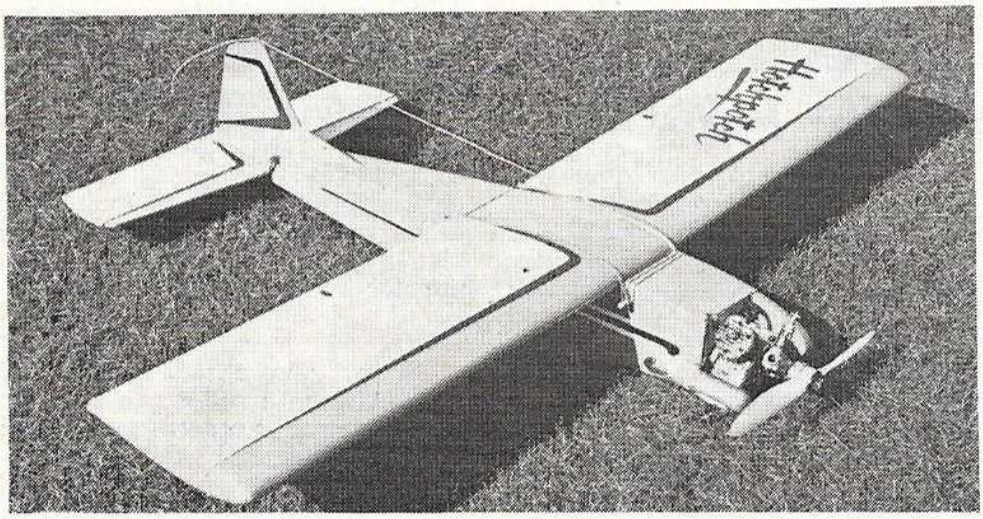
As this type of model is mainly for the modeller who has built a few models before, I do not intend to go into detailed assembly methods, but rather to point out useful pieces of information. The plan gives all the necessary information for building, in any case.

Wing

The wing has a fully symmetrical section, using a full-depth spar for lightness and strength. A small amount of dihedral has been incorporated for appearance's sake, although I see no reason why this could not be left out, to cut your building time. Plenty of aileron



Original *Hotchpotch* had a diesel installed—easily started on the knee, as demonstrated by designer Ken Murgatroyd. Below: now has glow engine.



models fly without any dihedral. Internal push-rods and bellcranks have been used for two reasons. Firstly, the aileron horn is positioned at the centre point, reducing whip, which can sometimes occur with torque rods, and secondly, giving more room between the underside centre section of the wing and the radio gear in the fuselage. Do not forget the lead ballast on the port wing if you use your engine " side-winder " fashion.

Select the balsa with care, as a few extra ounces here and there on a small model can soon mount up and spoil the performance. Total weight of the wing, film covered, came out at just 6oz. on the prototype.

Tailplane

This is straightforward and has been made removable for ease of transportation, as well as being " knock-off-able " in a rough landing. Do not overlook the location panel in the centre of the upper side of the tailplane, which fits into the rear fuselage unit. Film covered, the weight of the tailplane is 1oz.

Fuselage

This is of simple, strong layout, with sufficient room to accommodate a third servo for throttle control if desired. A 225 battery is used in my model, though there is room for a 500. The elevator servo is mounted in a quick-release clip arrangement which takes up very little room when bolted to the ply fuselage floor.

No undercarriage is used, as this only adds on the ounces and is a drag anyway (sorry about that!). A 75c.c. clunk tank is installed, although a purpose-made metal stunt tank might make better use of the available space. A beam mounted engine may, of course, be installed, utilising a ply platform or a metal mount. If the motor is installed in an upright position the front of the fuselage profile on the starboard side may be completed—in my case it had to be chopped off to accommodate the side-winder engine. Total weight of the finished fuselage is 4oz., covered.

Incidentally, after covering, it's a good idea to apply two or three coats of fuel proofer (I used Tufcote) to the film covering under the fuselage, between formers F1 and F3. This, I find, prevents a lot of wear on the covering material when landing. Also, I suggest a coat on the tailplane, around the area where it fits into the rear fuselage, as fuel seems to find its way in there.

Rigging

The wing and tailplane are zero-zero to the centre line, the control surface movements being as follows (measured at the trailing edge): aileron $\frac{3}{16}$in. each way; elevator $\frac{1}{4}$in. each way. Do not exceed these limits, otherwise you could be a candidate for the nearest Intensive Care Unit.

Installation

The prototype was used on ailerons and elevator only, but a third servo could easily be fitted if the battery were to be placed upright and the receiver put on its side. The complete, all-up weight, with radio gear (two-function) tipped the scales at 28oz., giving a wing loading of approximately 18oz./sq. ft.

Flying

The *Hotchpotch* has no vices, provided it is pulled along by a 6in. pitch propeller. I have tried 8 × 4's and, whilst it flies O.K. it is not as happy and lacks the penetration. This little fellow does not drag its heels and is highly manoeuvrable, and, with an 8 × 6 has good penetration. It was found, initially, that the engine tended to cut when the model was launched but, after the tank was pressurised from the silencer, no further trouble was experienced.

As to the flying characteristics of the model, I do not rate myself as an exceptional pilot, but just an average weekend flier, and the manoeuvres I have done to date with *Hotchpotch* are as follows: inside and outside loops, inverted flying, slow rolls, consecutive horizontal rolls, double Immelmann, Cuban eight, horizontal eight and top hat. How well these are done depends on the ability of the pilot, as this model does not hang around, and quick reactions are essential.