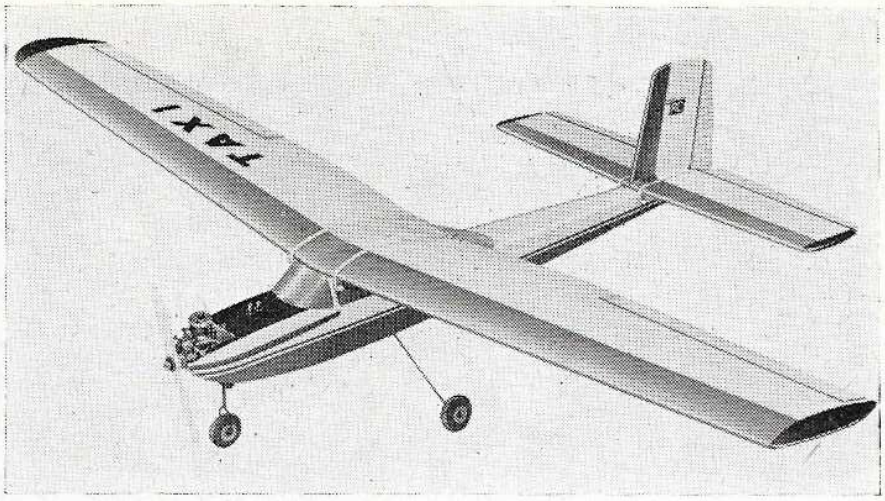
The Graupner TAXI

built and flown by ERIC EVANS



a new look at a not-so-new "Intermediate" kit model

ALTHOUGH THE Graupner *Taxi* is by no means a new kit—having been introduced, in fact, some five years ago, it has never been reviewed here, and I feel that it is a somewhat neglected model, of a size that should be popular with Sunday fliers and all "pre-full-house" intermediate people. It has a wingspan of 59in. and a length of 40¼in., the wing area being in the region of 493 sq. in. Power-wise, it is suitable for motors from .15 to .35 cu. in. capacity, which makes it a very versatile machine. This versatility is enhanced, as you will see later, by the availability of a float kit, and the *Taxi* performs particularly well in the role of a float-plane . . . but to start at the beginning . . .

On studying the contents of the box, it appeared that the wood had all been very carefully selected. All the sheet parts were crisply die-cut—apart, that is, from the ⅛in. ply which was printed only, to be cut out with a fret-saw. The firewall, of ¼in. ply was completely pre-shaped. The fuselage sides, top, bottom and formers, as well as fin, rudder and several smaller components were die-cut from balsa *three-ply*, which immediately put me in the right frame of mind, and I was eager to commence building.

Some general constructional pointers

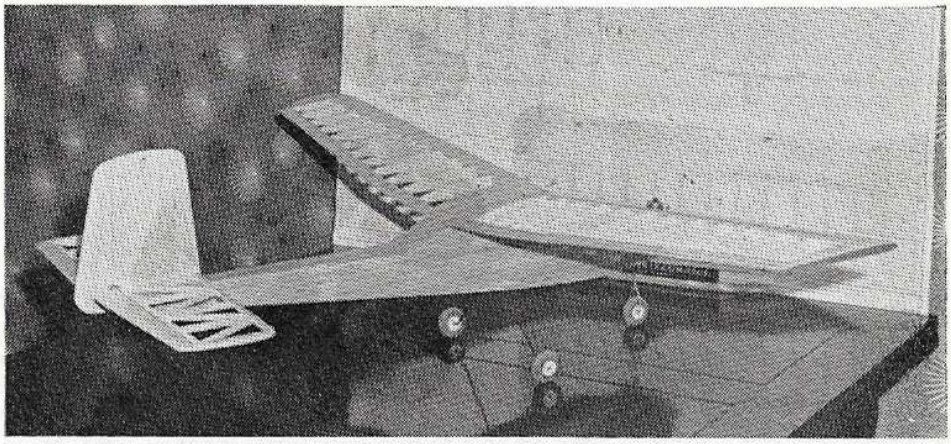
Care should be taken to see that the two fuselage sides, which are built on the plan, in the conventional manner, are a perfect match—particularly as regards the slots where the engine bearers fit. Any slight discrepancy can be easily cured before the sides are joined, but would be much more difficult later. The wing mount, or cabin section, is built separately and glued on after the two sides have been joined, so it is essential to check incidence angles before final fitting.

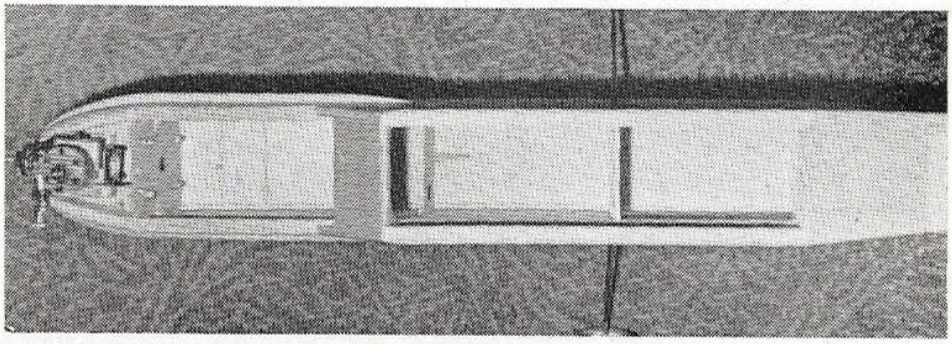
The tank bay has a removable hatch, the rear end of which fits into the cabin structure, and the front end of which is secured by a wood-screw to the ply firewall, quite a neat arrangement and one which makes for easy access.

The wing is of conventional construction, with sheeted leading edge and centre section. The finished structure is really very strong, and has built-in wash-out by means of the shapes of the ribs, which become almost symmetrical at the tips. This means packing up the trailing edge with a piece of ¼in. sq. balsa, which is 20in. long and tapered to "nothing" over its full length, so forming a 20in. long wedge. I used the same piece of packing for building each wing half to ensure the wash-out was equal.

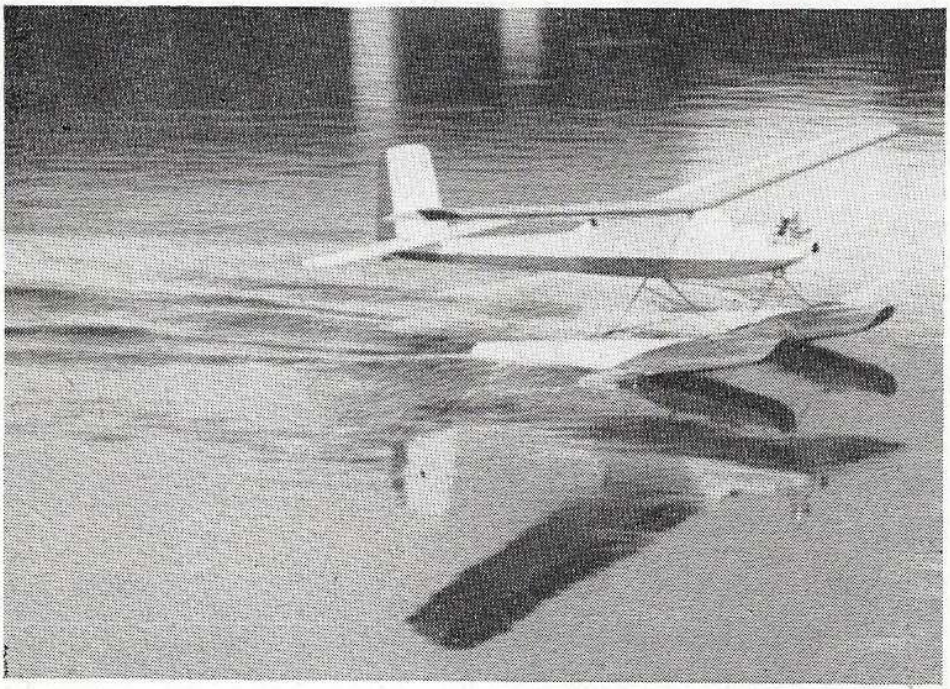
The tailplane is made up from $\frac{5}{16}$in. sq. balsa and the fin is slotted into the centre-section and glued permanently in place. The whole unit is held onto the fuselage by rubber bands and, since any movement of the tailplane would alter the elevator and rudder settings, a location piece is fitted. This takes the rather unusual form of a piece of ⅛in. dowel glued along the underside of the tailplane centre-section and fitting into a fore-and-aft slot in the fuselage. I found that this was very easily dislodged, so replaced it with a piece of ⅛in. sq. hardwood, which gives a much firmer location of the tail unit, and cannot be rocked out of position.

The kit contains ample heavy-weight tissue but, from previous experience, I would never cover the

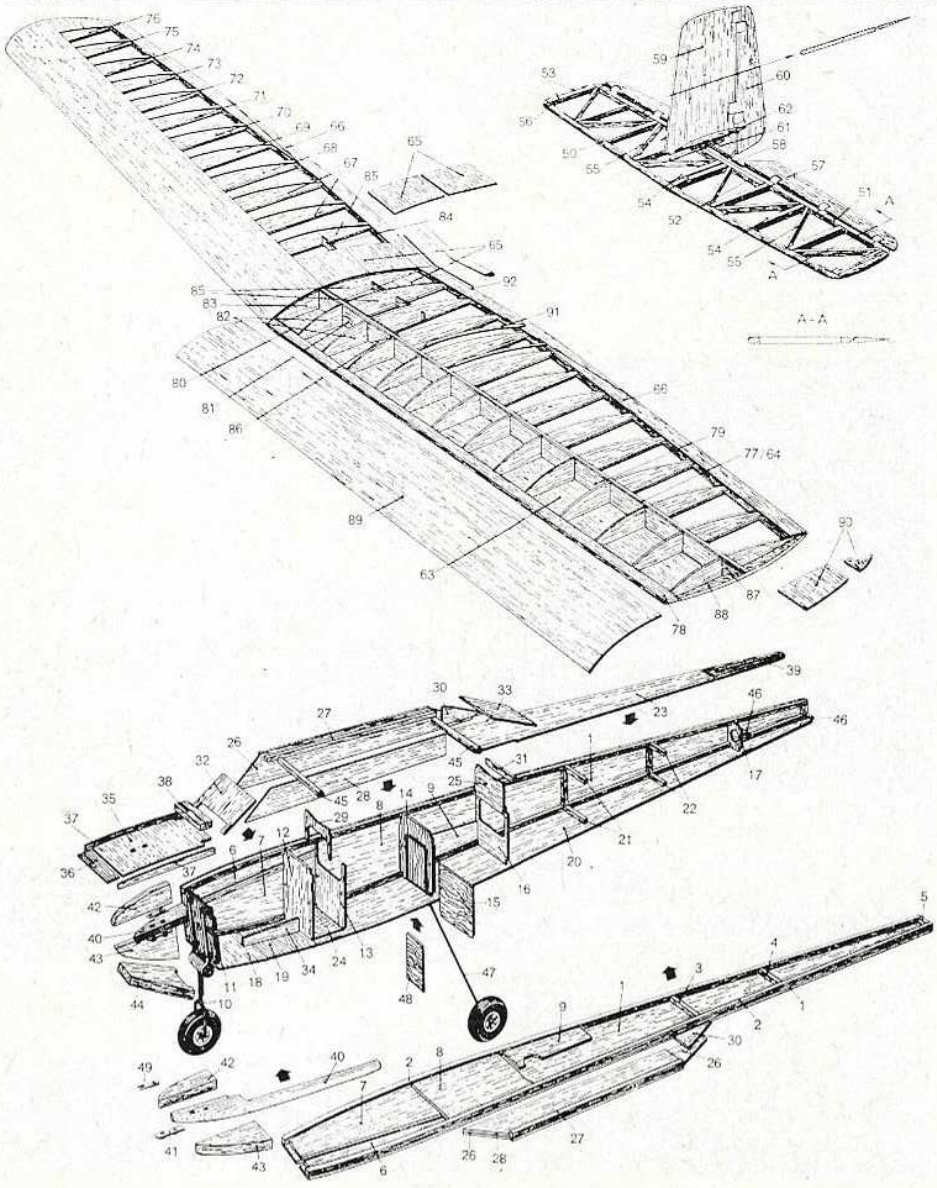




Heading picture shows the attractive lines of this medium-sized power model. Above: the airframe ready for covering. Below: plenty of room in this fuselage.



The *Taxi* makes watersports easy and so much fun !



open flying surfaces of a model of this size with tissue and therefore used nylon, with tissue for the fuselage and sheet fin. The complete model was given two coats of sanding sealer before covering, rubbing down between each coat. After covering, the fuselage was given two coats of primer surfacer, again rubbing down between each coat, and finally the colour was sprayed on, using masking tape to get clean lines between the two contrasting colours. The nylon was applied wet and given two coats of clear dope, the final colour coat again being sprayed on.

Though designed for German equipment, no-one should have any trouble fitting three-function proportional equipment—and the *R.M. Propo Book* tells everyone all they need to know about doing this, so I won't repeat it here. An O.S. 15 motor was mounted up the front end (after a bit of tedious spanner-work —there isn't much room inside those side cheek panels !) and the model's c.g. checked. It turned out to be spot-on, but could have been altered, if it had been necessary, through an inch or so, by re-location of the equipment. The completed model weighed 4lb.

Trimming and flying

A few test-glides were made first, during which a touch of down-elevator trim was introduced. By the time we were ready to fly, the wind had risen, and kept tipping the model over on its wing-tip when placed on the runway, so we moved over onto the grass and elected to hand launch. I set the throttle at about 2/3 full speed and launched the *Taxi* into the wind. She climbed steadily away, going as straight as a die, with no help from me whatsoever. I then took her round in circles and, with an occasional touch of down elevator, she penetrated into the now quite strong wind with no trouble at all. After about three minutes the engine cut (we'd obviously used more fuel tuning up than we realised) and I took her down-wind about 150 yards and turned her towards me. Only the odd touch of rudder was required to keep her straight and she virtually landed herself, settling on the grass just a few yards away from us.

The O.S. 15 proved to have plenty of power—and I don't intend to put a larger engine in at this stage. Several more flights were made before the light began to fade, and

it was obvious from these that the *Taxi* was going to be an ideal model for that intermediate step to multi-function flying.

Taxi-floatplane

After several weeks' flying time had been put in, we acquired the float kit put out by Graupner for this machine. These are of the streamline type, and look very smart. They are attached to the fuselage by wire struts and cross-braces—and a high degree of accuracy is necessary when bending these to the correct shape. The c.g. must fall in line with the step, and the floats are set at between $+1°$ and $+2°$ measured from the datum line of the aircraft and the top edge of the floats, which is achieved by moving the front support up or down in the eye-bolts and tightening them up when the correct angle is arrived at.

Having fitted the floats, I then fitted the recommended O.S. 30 R/C and used a 9×6 prop instead of the 8×4 used with the .15. The Deacs had to be moved further back, and a little weight added to the rear end of the model to bring the c.g. back to its correct position, as a result of fitting the larger motor.

The model was first tried out with its floats on some flooded land—quite an expanse of water, but only about 1ft. deep. On slow motor, it proceeded to saunter about, changing direction with every puff of light breeze, and moving the air-rudder had no effect whatsoever. When it eventually pointed itself in about the right direction, I opened the throttle a little and, with the additional speed, it seemed to maintain a fairly straight course. At no time did it tend to "dunk" its floats when the throttle was opened, though I repeatedly opened and closed the throttle to see the effect. The *Taxi* was then held on full throttle and after an almost straight run of about 30 yards it left the water. The photo shows it after some 15 yards and, as can be seen, the wake is quite straight and the machine had already raised itself onto its steps. When airborne, the *Taxi* seemed less sensitive to rudder movement than when fitted with its wheels—not an unexpected characteristic, of course. This won't be my last excursion into water-sports—it really is great fun! However, I would strongly recommend the fitting of some type of water-rudder to the floats, for low-speed steering.

Getting away steadily from a hand-launch on the model's maiden flight.

Summary

The Graupner *Taxi* is of simple and very robust construction and should give many hours of relaxed flying. I find it difficult to fault—certainly a great deal of thought has gone into the design. In particular I like the extensive use of balsa-ply in the fuselage, which gives very strong construction with no weight penalty. Ideal for the man with single-channel experience—and multi intentions, it bridges the Intermediate gap to a nicety.

Left: the float construction, and, right, typical "sit."