

RM**TEST REPORT****BILL
BURKINSHAW**

*reports on an
interesting
near-scale
sport model—
Graupner's*

PIPER PA18—Super Cub

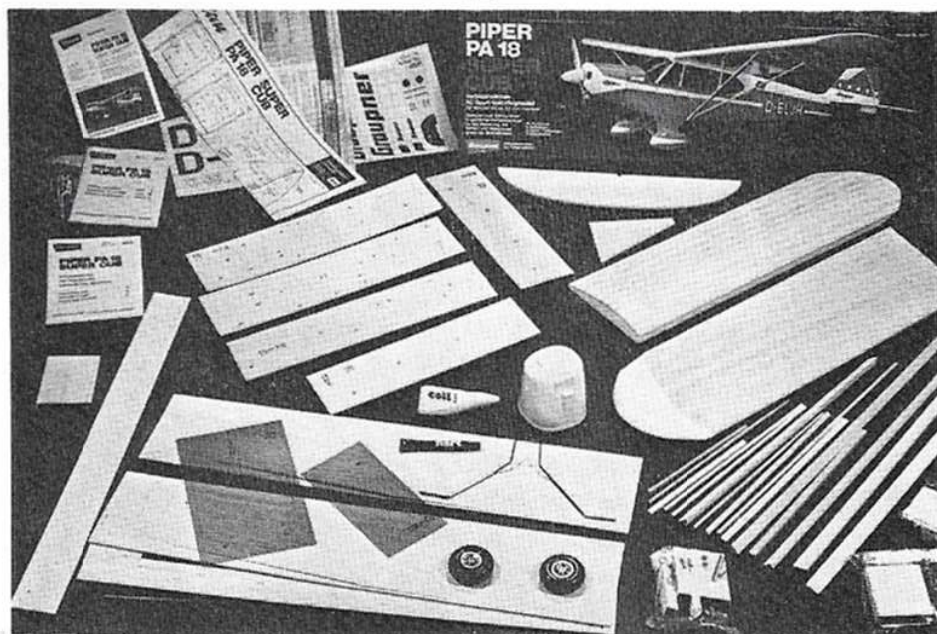
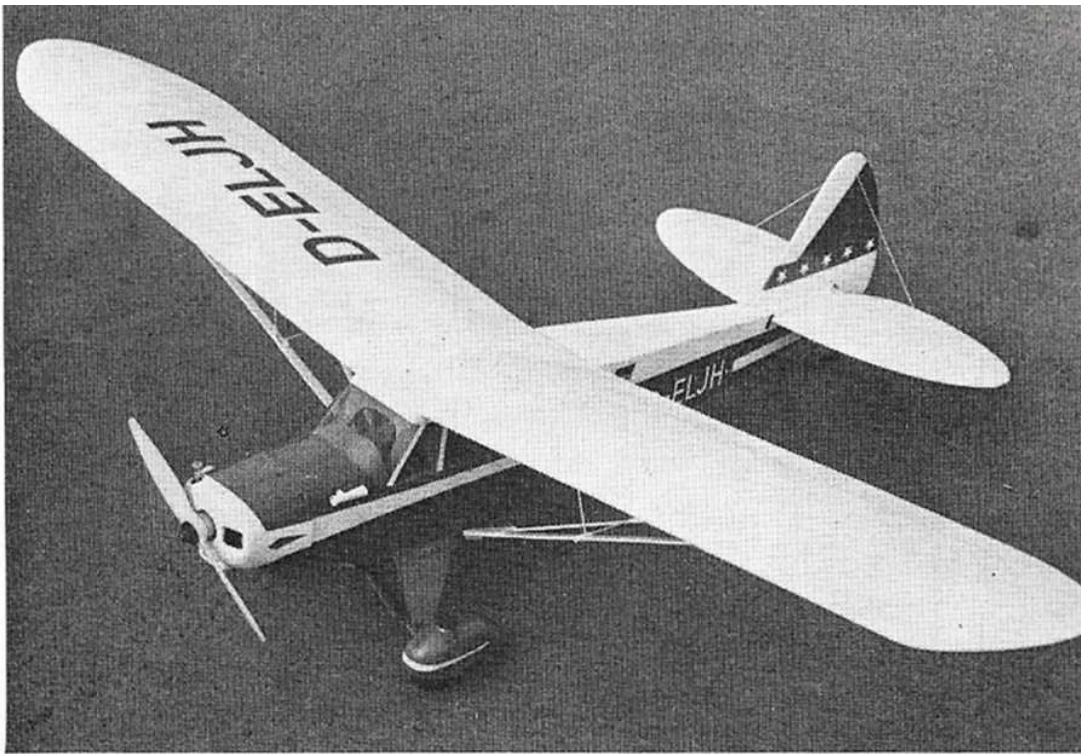
THERE must be something about the Piper *Cub* that makes it such a perennial favourite with kit manufacturers. Perhaps it is the simple but attractive lines which make it such an easy model to produce in kit form. I suppose, for a scale model, it has quite a lot going for it . . . high wings, good tail area, sensible rugged undercarriage and plenty of room for the engine.

The Graupner kit (for rudder, elevator and motor) was supplied to me for this test-report together with its spat and wing-strut kit—normally an optional extra to be purchased separately. As the kit model is of the *Super Cub*, it would not be very scale without the spats—and anyway these items transform a rather bare looking machine into something quite attractively scaly.

Getting it together

I found that the die-cut sheets were more often than not actually narrow sheets of wood glued edge-to-edge, to provide a suitable width for the parts. There is no gluing odd-shaped parts edge-to-edge to make up the fuselage sides, for example. The numbers printed on the die-cut sheets are on the margins, so I was careful to mark the appropriate numbers onto the actual parts before removing them. The wood, as well as being "made-up" was of excellent quality, though perhaps all except the tail material was just a bit harder than I would have chosen myself.

The fuselage construction is very involved, especially for such an outwardly simple shape! I therefore had

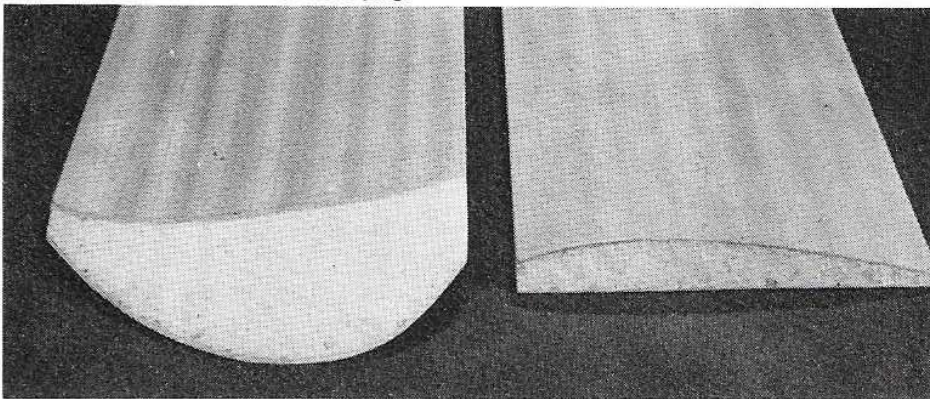


The kit includes wheels, glue and nicely made foam wings. Below: the rather generous dihedral is more obvious in this lower angle shot.

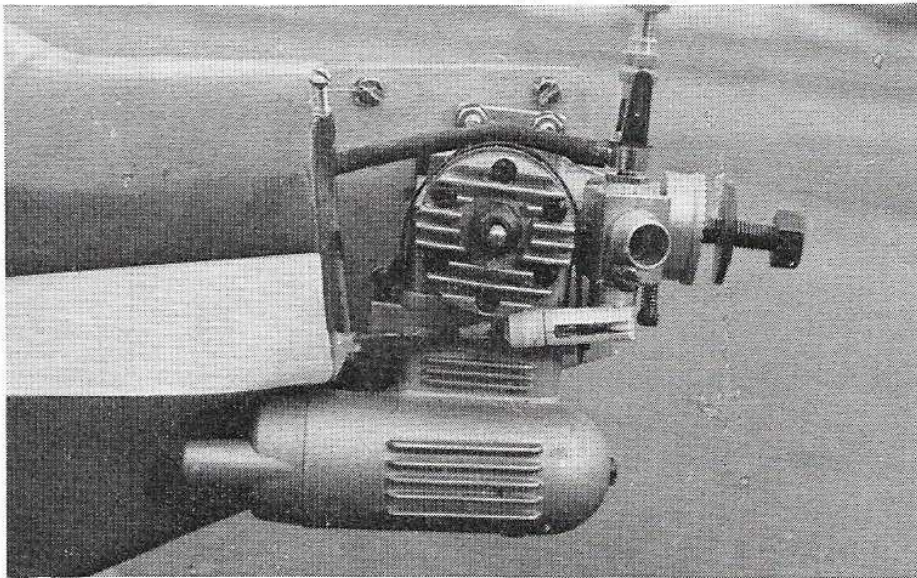




Above: "Before" and "After" shots give an idea how nicely the model dresses up. Note minimum cowl cut-away—OK if you're prepared to remove plug!



Close-up of tip and root of the veneered foam wings. Note the flat bottomed section and large chamfered area under the tip (left, inverted).



A fair amount of downthrust is required, as may be seen in this side-view with cowl removed. (Note ply breakaway plate). Below: a realistic view of finished model.



to study the instructions carefully and follow them step by step. It isn't actually difficult, but there are so many components! A trial "dry run" helped a lot. I still made a mistake in connection with chamfering the formers—which I would not have done had I noticed that all the notes in German on the plan were numbered and had translations in the English instruction book.

The model was designed around either the new HB 12 or 15, so I obtained one of the latter and fitted it. The engine plate is mounted onto a 4 mm. ply plate, which certainly makes for an easy swop, but does need to be thoroughly fuel-proofed.

The wings are foam cored with balsa leading and trailing edges, and balsa sheet under the sharply "chamfered" tip undersides, and have their roots ready cut or sanded to the specified dihedral angle. Glassfibre tape is supplied for joining.

The shaping of the wire parts for the u/c and wing struts is simplified by the use of an unhardened steel wire, but the polypropylene tape supplied for binding isn't easy to work, and I would use ordinary bandage another time. The vacuum formed spats and cowl were very easily trimmed and fitted at this stage. The cowl does not need to be opened up to the extent shown in the booklet, if you are prepared to remove the glow-plug before the cowl, and this makes a neater job.

Radio installation

I was easily able to install my medium-sized servos three abreast. The instructions gave a suggested sequence for installation, which worked out well until I needed a place for the nicad—a flat 500 pack—which eventually I had to perch atop the tank, obscuring the instrument



panel. (A round 500 or flat 225 pack would go in OK.) There is reasonable space for the receiver and switch.

Finishing

I chose Humbrol Epoxycote and Flightspan finishes, and followed the instructions closely, first tissing the fuselage and then spraying with Epoxycote. The wings I covered with Flightspan, the colour scheme duplicating "the model on the box". Some of the trim I applied using masking tape, but most of it I did with a ruling pen, filling in with brush.

Finally I added a few little details . . . a pitot head, wind generator, a step—and tail bracing wires.

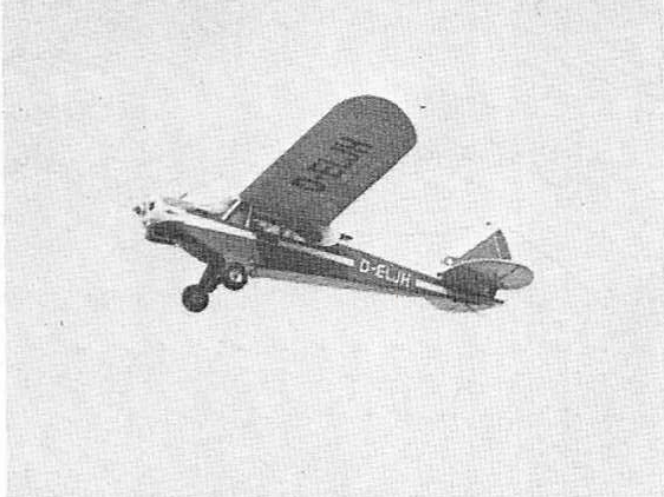
Flying

I would like to be able to say—like virtually everyone else—that this was another model that "flew straight off the board", but unfortunately such was not the case. Having waited for a suitable day, I gave a final check to the balance point, all control surfaces and their movements, before running up the engine in the garage at home. Then down to the flying field . . . whereupon the engine refused to start. I diagnosed a kinked fuel line resulting from disturbing the tank when replacing the nicad after removing for checking.

This rectified, peg on the board and the engine ticking over, an attempt at take-off was made. No chance—the Piper just would not make flying speed over our grass strip. I therefore tried a hand-launch. The model pulled to the left . . . a small correction—and a swoop to the right resulted . . . ground coming up fast . . . a touch of "up" and —woops!—a flick roll! Now, as the push-rods were already connected to the extremities of the control horns, the controls could not be desensitised on the spot, so a return to the bench was called for.

Treble-checking the c.g., I found it was in fact just in front of the indicated point. I reset the controls to give $\frac{1}{4}$ in. each way for elevator and $\frac{3}{8}$ in. each way for rudder. The next flights were from a tarmac runway, when I spent a frustrating hour trying to get the Piper to take-off.

Not too fast for the camera, then!



But, as soon as it picked up speed, ground-looping kept spoiling things. I eventually once again elected to hand launch the model and, after a brisk trot and a gentle heave . . . she swooped away from the launch . . . right into the aerodrome fence. Home again for repairs, and out again the following day (the weather still holding). Another hand launch and . . . she's away! Third time lucky, me.

The *Super Cub* flies well, but is not to be recommended for the beginner. There seems rather too much dihedral, as the rolling effect of the rudder is very pronounced. Extreme caution is required in the use of rudder on launch as the model swoops from side to side alarmingly until speed is picked up. I was unable to stall the Piper in a straight line; all that results is a steady forward "mushing" flight, with no loss of height, at the mid-throttle setting—and a fast, even descent with motor idling.

On full throttle, full up-elevator produces a soggy, mushing climb from level flight—but quite reasonable loop if a little speed is attained in a slight dive. Quite reasonable rolls are possible (as well they might be, with all that dihedral!) and three consecutive rolls were accomplished with ease. Stall turns are good, with a tendency to roll on the descending leg if the rudder is not neutralised very smartly.

With the throttle cut back, the *Super Cub* just floats and floats—and

it wouldn't surprise me if thermal hunting were possible with a dead engine. Landings are quite O.K.—as long as not too many rudder corrections are given too close to the ground. It is advisable to "set up" the landing from a long way off and then follow as straight a "beam" in as possible.

Summary

I would not recommend the *Super Cub* to a beginner to r/c modelling, even though it would seem, on initial inspection, an attractive first model—being of the "trainer type" of layout yet of pleasing scale appearance. Its highly aerobatic potential belies this appearance, however, and any builder should be prepared to "fly it on the trims" for the first flight. The kit itself is beautifully prepared and seems to present quite fair value for money in the present-day market.

Manufacturer: Johannes Graupner, Kirkheim-Teck, W. Germany.

Importer/Distributor: Ripmax Models, Ripmax Corner, Green Street, Enfield, Middlesex.

EDITOR'S NOTE: It seems to us that the generous dihedral could very well be reduced to produce a much more docile—if less aerobatic—model (not to say more realistic) and we would be interested to hear from any readers who may have tried this. (N.B.—we are not at this stage recommending the idea—simply asking if anyone has tried it!)

