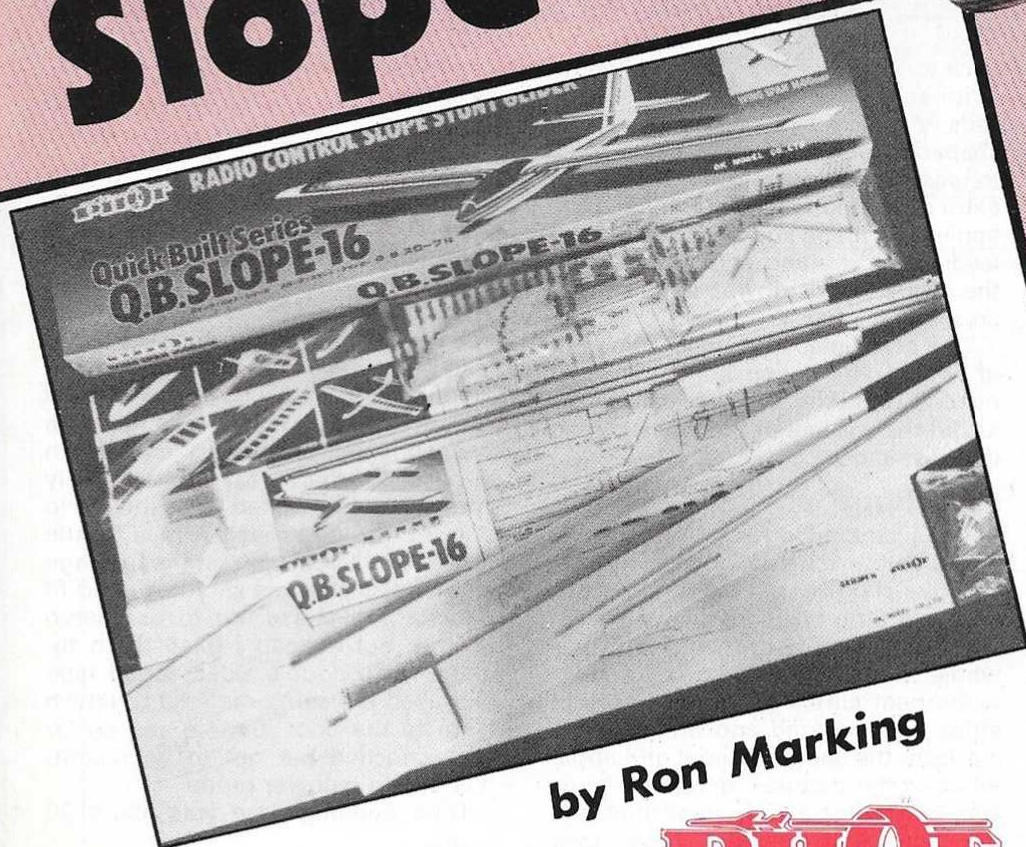


The Pilot QB Slope-16



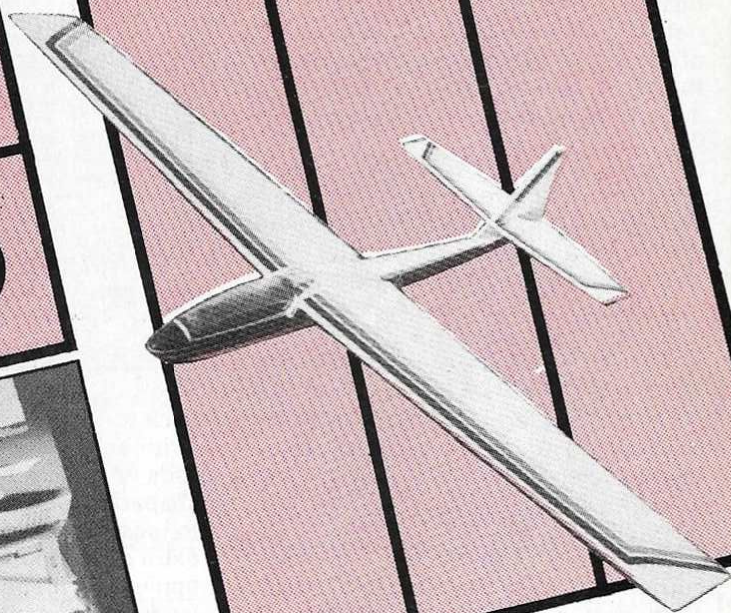
by Ron Marking

PILOT

The Pilot QB Slope 16 is a 2-3 function all built-up slope soarer, with a semi-symmetrical wing section and a design wing loading of about $9\frac{1}{2}$ oz/sq.ft. This was my first Pilot kit and having just completed a scale glider built from a plan it was going to be a pleasure to produce a model in a few days instead of several months.

Contents

The box top, as with all Pilot kits, has a large coloured picture of the complete model on the bench and another smaller picture of it in flight. This in itself would encourage a potential owner to at least take it down from the model shop shelf for a closer look. Removing the lid reveals a mixture of die-cut ply, machined balsa and some hardware and an investigation of the $\frac{1}{8}$ in. ply shows the accuracy and sharpness of the Japanese die cutting machines; each piece is cut completely through with no splitting on the wrong side and yet the cutting blade is of minimal thickness. The quality of the balsa was

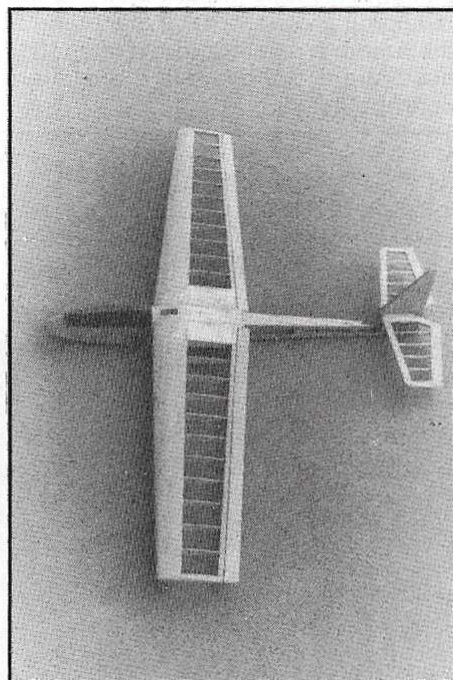


excellent, it was all close grained and of the right density for the job and none of it was in any way warped. All the balsa parts were pre-shaped in some way, the leading and trailing edges were notched to take the ribs and even the tapered stock for the ailerons was chamfered on its leading edge. The ribs were accurately machined and like all the smaller pieces were in a sealed polythene bag. The more I studied the contents the more impressed I was with the thought that had gone into the production of the kit. For example, a tapered piece of balsa was supplied for the trailing edge of the rudder to reduce the amount of sanding required and the front of the rudder had not been chamfered like the ailerons in case the modeller wished to build it as a two function A/E model. Some hardware is provided but surprisingly clevises and hinge material are not.

There are two folded sheets, one of which is a full size plan, and the other comprises a parts list and identification drawings, a series of construction photos and some building instructions. All the writing is in three languages, Japanese, German and English and the dimensions are given in inches as well as millimetres.

Construction

The $\frac{1}{4}$ in. sheet parts for the fin are first glued together and whilst this is drying the fuselage sides and bulkheads can be pressed out of their ply sheets. The fin is then fixed between the fuselage sides: already, most models would have required some packing pieces or shaping since fuselages invariably taper towards the rear but sheet fins are of course parallel. Once again the OK Model Co. have got



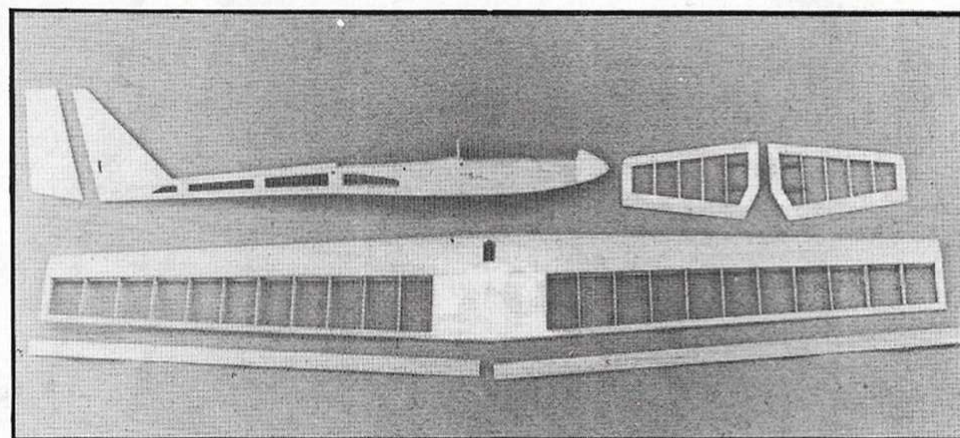
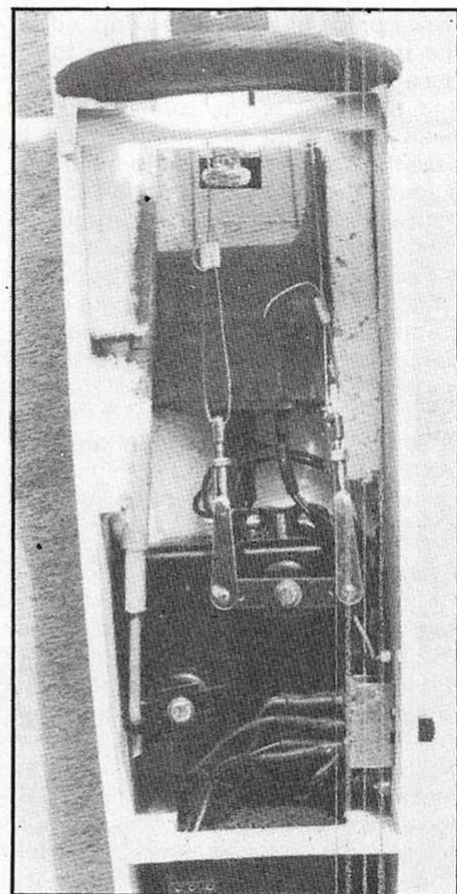
Ready for finishing.

there first and accurately machined a taper on the bottom of the fin. The bulkheads were then fitted into the notches in the fuselage sides, which produced a rigid structure even before the glue, cyano in this case, was added. The front underside of the fuselage was planked with ply to take the stress of landing but rest was planked with 1/8in. balsa. The addition of a semi-shaped nose block completed the main fuselage construction. The parts for the canopy frame were glued together and then this assembly was glued to the canopy itself which extends half way back over the wing to cover the aileron servo.

The all moving tailplane was easily constructed but of course great care is needed to ensure that the holes for the joining wires are drilled square and parallel.

The wing construction is best carried out over the plan but again, every part is so accurately cut that no problems should be encountered and cyano can be used for all joints. The wings are made separately and then joined with substantial ply braces, extra strength being obtained from a ply servo mount between the leading edge and main spars. When making a built up wing one of the most tedious jobs for me is the cutting of the webs but this is already done. They are quickly glued in place and then the wings are sheeted top and bottom

Radio installation is compact and straightforward.



The major components prior to covering.

back to the main spar. The full length strip ailerons are driven via torque rods which are fixed in place by a pre-shaped balsa block which also serves to locate the wing on the fuselage. No extra strengthening is mentioned but I applied bandage soaked in PVA to the leading and trailing edges to prevent the wing hold down bands from crushing the balsa.

This completes the construction but of course all leading edges and tips needed rounding off with sandpaper as did the corners of the fuselage and the nose block.

Finishing

I often spend a long time trying to design a colour scheme which is simple, effective and unusual but in order not to waste time on this review model I decided to copy the box top. The whole model was first covered in white heat shrink film and then trim strips of black, red and orange were cut from the same material and applied as in the pictures. It was certainly simple and the family think that it is the best end result I have ever achieved! I feel that film is very suitable for this light weight slope soarer but if you are in the habit of landing in the bramble patch or gorse bush then heat shrink fabric would be more appropriate.

Although two very nice straight push rods and wire and connections were supplied I have a personal preference for Golden Rods for elevator and closed loop for rudder operation and it was this system which I chose to install. A temporary positioning of everything in the radio bay showed that I had not been vigorous enough with the sandpaper at the back end and in order to get the C of G approximately correct the servos had to be moved to in front of the receiver. A hole for the switch was already cut in the fuselage side and so that the servos should fit under this I chose not to use servo bearers but instead I fixed them together with double sided carpet tape and used the same material to attach them to the floor. Simple and so far very effective but not to be recommended in a power model.

Total building time was about 20 hours.

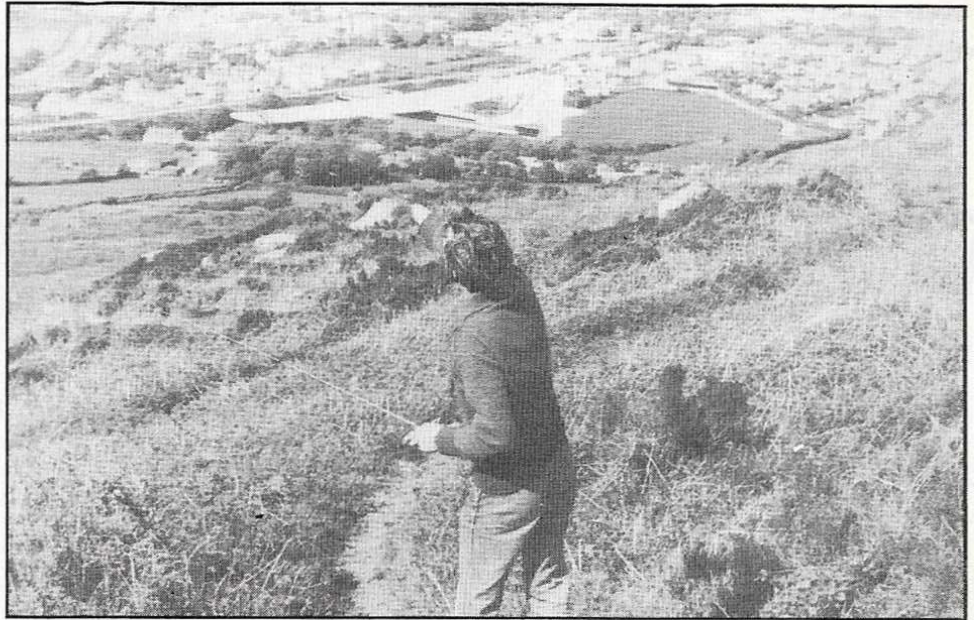
Ron launches the Slope-16 for its first flight.



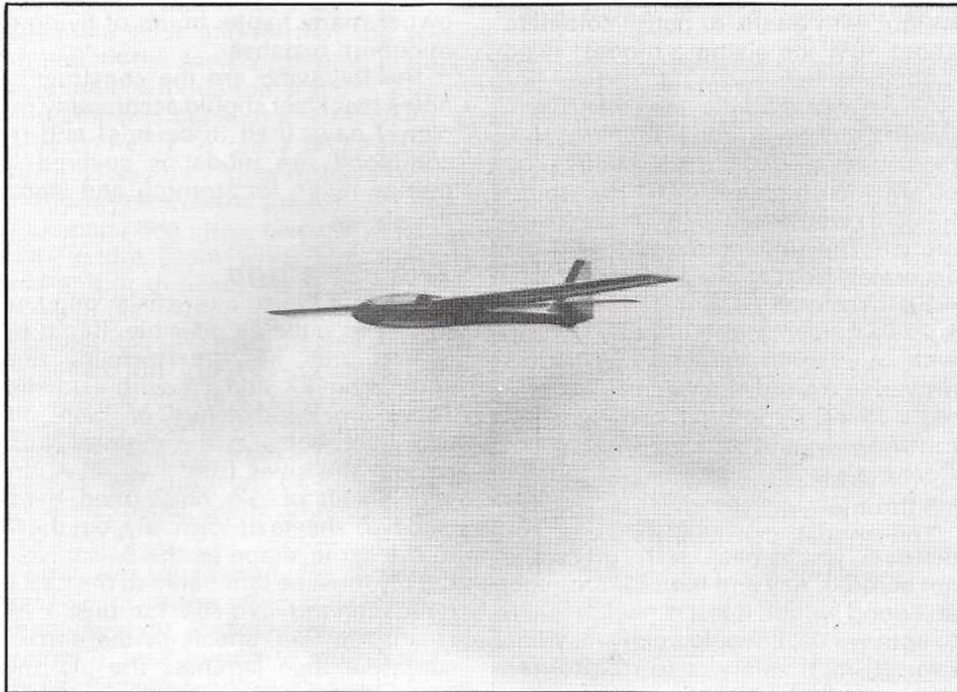
Flying

Even with the servos in the forward position I needed 50gm of lead to bring the C of G to the recommended position but the all up weight of 930gm was still within the stated range of 850-950gm. With the model balanced laterally as well as longitudinally and all control throws set as indicated on the plan it was only necessary to await the right wind conditions. Down here in Cornwall I normally fly from the cliffs but for safety I always make the first flight with a new model from some inland site but since these are often littered with large granite boulders, safety is a purely relative term.

I only had to wait a week before the wind was 12-15mph onto the slope and with one final check the model was launched. It flew straight but not



The slopes of Carn Brea are familiar to many Cornish enthusiasts — rocks and gorse everywhere!



In flight, the Slope-16 is a smooth and steady performer.

Conclusions

As expected from a Pilot kit the model is easily and accurately made, but the limited instructions mean that some previous experience is required. The result, though not necessarily a first aileron model will make a good introduction to slope aerobatics, provide hours of summer fun and remain aloft when many others are grounded. □

Ron looks suitably pleased with the QB Slope-16.



level, it needed some up trim to maintain height, but I was not happy with its flight characteristics until I fed in some more up trim and reduced the flying speed. (I had recently been flying a Phase 6 Professional which I like to fly fast.)

Turns were now smooth with little height loss and the elevator response was gentle but positive and I soon felt confident enough to check its full aerobatic potential. The stall was gentle and although my model tended to drop one wing this did not develop into a spin unless deliberately provoked and it was easily recovered. A loop could be executed after only a short dive for speed and could be made quite tight; rolls were not fast but needed only a small dab of down

to make them axial and outside loops were very easy. Inverted flight was very easy to maintain with only a small amount of down elevator and height could be gained quite readily in this attitude. My only disappointment was stall turns but these could probably be improved with increased rudder throw.

My next excursion was to the cliffs but on arrival I wished I had taken a light weight thermal soarer as there was virtually no wind and even the seagulls were needing to stay close to maintain altitude. However, since I wanted to comment on the model's performance in marginal conditions I decided to risk it. With care I managed to slowly gain height and even managed a loop during the short flight—very satisfying.