

W When I suggested to our editor that he might like to re-visit some of the older free-flight and control-line kits still available, I had two things in mind:

a) To try and tempt seasoned R/C flyers into taking a sideways look at our hobby and to realise how much fun per £ can be gained from these models.


Mark 'diesel' Lubbock reviews this ever young old-timer

b) To encourage newcomers to power flying without the associated costs and complication of R/C, (you know the scene; Dad takes little Johnny - or Jennifer - into a model shop and asks how much

it costs to start R/C modelling, is presented with a prospective bill approaching four figures, Dad turns pale and promptly marches his charge down to the nearest toy shop where the latest computer game is bought

and another potential recruit to our hobby is lost).

The kit chosen was the Veron Cardinal, a 35" wing span free-flight model for 0.5-1cc engines which dates back some 45 years, making it almost a



Old-timer-ing at it's finest! The Cardinal has stood the test of time very well and may enjoy a new lease of life with the new, lightweight radio systems now available.

THE 'CARDINAL'

vintage model.

So how does a kit of this vintage stand up to modern eyes?

Opening the attractively illustrated box reveals pre-cut fuselage sides, some die-cut sheets for ribs and formers etc, a bundle of stripwood including pre-shaped trailing edges, engine bearers, wire, tissue covering, an excellent, well

detailed plan and an instruction leaflet, detailing step-by-step all stages of construction right through to covering and flying. Full marks here! One of the lightweight plastic wheels was missing, so I substituted one of my own.

The first job is to check and trim the fuselage sides to match the plan after which the cabin sides are

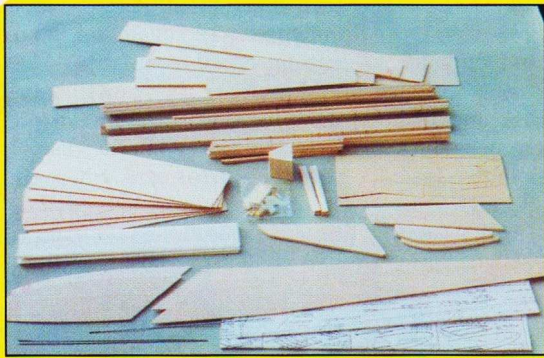
added together with the longerons, taking care to construct a right and left side. The instructions suggest using balsa cement or PVA glue. I can see no good reason these days for using balsa cement so I used PVA throughout although modern adhesives such as cyano's etc could also be used, of course. While these parts were setting I

turned my attention to the die-cut sheets. The quality of the cutting varied from fairly good in the case of the wing ribs, to die-squashing of the wing tips, to hardly marked in the case of the fuselage formers, where the wood was extremely hard. I think a beginner would have had difficulty in this area (my fingers were very sore after I had finished and I have access



PERROW

MINIWAAL



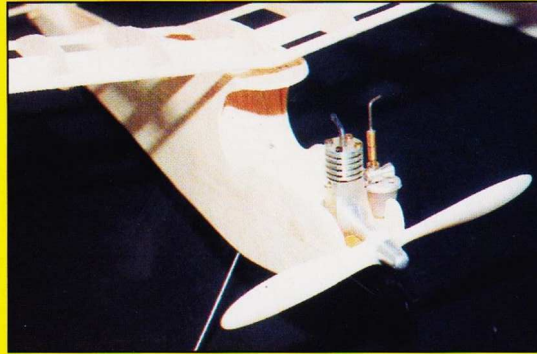
The wood selection was varied as was the quality of cutting. Perhaps CNC technology is the way forward?



The fuselage side is trimmed to fit the plan and then the formers are glued in position making sure they are square.



The wings and tail are built over the plan in traditional fashion. Make sure they are pinned down firmly to ensure a warp-free structure.



The front end showing the engine installation. The completed airframe came out at 6 3/4ozs and the covering added a further 1oz.

to better tools than most beginners).

At this stage it is necessary to decide which engine to fit. The instructions suggest spacing the bearers to suit the engine, but I prefer to move the bearers out as far as possible, fixing the engine to a thin Paxolin plate, which is in turn screwed to the bearers. This method allows easy thrustline adjustments and also affords some crash protection, the engine breaking away without damaging the fuselage in a heavy landing (hopefully!). As I was using one of my own Midge 0.5cc engines, which is radially mounted, I installed a ply bulkhead, details of which are given on the plan, but you have to supply your own plate. The sides are now joined, taking care that all is square, especially when joining the tail. The undercarriage is now added and the top and bottom sheeting completes the fuselage.

The wings are constructed next, the only problem being that the slots in some of the ribs were a bit wide - not too much of a problem using PVA but balsa cement would shrink in the gaps, introducing warps in the wing. The instructions tell you to set the root ribs at an angle, using the template shown on the plan, but I have rarely

found these to be correct, so I always fit them at the same time as joining the wings. The plan gives the dihedral measurement to the wing tip i.e. the top surface, while the instructions tell you to measure under the tip rib. I chose the latter as this more closely matched the pre-cut dihedral brace, and more importantly, looked right!

The tailplane is next, constructed similarly to the wing. The only thing to look out for is that the centre ribs are spaced correctly and they are vertical to accept the all sheet fin. A few minutes with the sanding block to knock off all the rough edges gave a model ready for covering.

You could use tissue and dope as covering, but if you want a coloured finish it would pay to substitute coloured tissue for the white supplied, as colour dopes, used excessively, are very heavy and models of this type should be kept as light as possible. In the interest of marital harmony, and the health of our baby son, I decided to use Litespan in a simple orange and black scheme which, I think, resulted in a very attractive model. The covering process added only 1oz to the model to give a finished weight of just under 7ozs, within the 6-7ozs

quoted by Veron - not bad considering the heavy wood in places and my relatively heavy engine. The model balanced almost exactly as indicated without the need for any ballast.

After what seemed like an age, a suitable day for test flying arrived, although still not ideal, there being a heavy frost and a gusty wind blowing. 1/16" packing under the tailplane trailing edge produced a nice flat glide with just a hint of a left turn - ideal! On with the power tests then.

A short low powered run gave a gentle climb, the model weathercocking into the now increasing breeze, followed by a gently left-hand glide. Increasing the power, and introducing just a tad of left on the trim-tab gave a perfect left-left flight pattern, the model handling the breeze effortlessly. I was well pleased! Later, the model's strength was tested when, following a premature engine cut and a sudden gust of wind, it stalled and, with insufficient height to recover, dived vertically into the frozen ground, wings and tail flying off in all direction! On reassembly, the only evidence of the impact was a lump of grass on the spinner! 10/10 here!

So how does a 45 year old kit

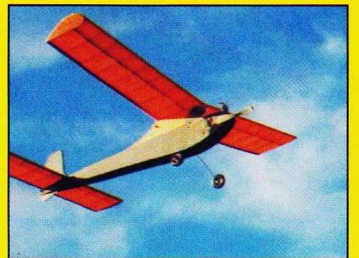
stand up today? Very well, it has to be said. At £16.99, it is difficult to imagine many ways of getting more fun per £ nowadays, and its flying performance is as good today as it always was. An experienced modeller could build one in a few evenings, whilst a beginner should be capable of completing the model successfully whilst still finding it a satisfying challenge. With a little more attention to wood selection and the die-cutting (I wonder if it could be re-engineered to use modern CNC cutting techniques), it would be a perfect beginners' model.

A final thought occurs for hardened R/C flyers. Back in the early 1970's we flew Cardinals using Cox .049's and single channel radio. Now, modern 2 or 3 function radio is even smaller and lighter than those old systems, so why not build one for R/C? You could even just fit one servo and re-discover another lost art! Now where's my balsa knife? Good flying!

(My son, Andrew, fitted a single servo - the old Futaba M series - and together with a Mills .75 up front it provided hours of innocent fun. Guess who went for a tenth flight on 225 NiCads and had a fly-away? Ed!).



The Cardinal flew well from the very first flight, requiring only a little left trim for left-left circuits. The model also proved strong!



This model is so predictable that it makes an ideal beginners' model that will provide hours of fun and experience for the newcomer. The price is such that it is affordable as well, which can only be good news!