

KIT

REVIEW



By Jack Barnard

Graupner Stand-off Scale **PIPER CHEROKEE**

THIS very attractive 63 in. span semi-scale model was first introduced as the centrepiece of the Graupner display at the 1976 Nuremberg Toy Fair. My interest was immediately aroused as I was currently flying the full size version. Graupner's Cherokee can best be described as 'stand off' scale - the deliberate resemblance is there, but some concession has been made to perfect scale outline including the use of a tapered wing planform.

The manufacturers place the all-up weight of the model at 8 lb 13 ozs. which, when I first saw the kit, I thought was a little pessimistic. The all-up weight of the review model with scale accessories fitted is 8 lb 9 ozs. and as I rarely achieve spectacularly low airframe weights, I have no doubt that with a little care and sparing use of the gluepot, the weight could be reduced even further.

A good .60 motor is of course essential for a model of this size and weight. I chose the new HB61 P.D.P. and this is mounted 'sidewinder' using the radial mounting plate supplied with the kit. The excellent quick-build kit features outstanding prefabrication. Parts are accurately cut to shape and the whole model was a real pleasure to build, quite simple too and although it is clearly one for the modeller of some experience, I would consider it well within the capabilities of most builders with a couple of other R/C models to their credit.

The first requirement before building can be started is of course a fairly large building board. I was lucky in having the use of a Vario fuselage jig, a very useful piece of equipment on which I built the whole fuselage, removing it

from the jig for photography at various stages of completion.

The manufacturer has minimised building time by supplying the full length fuselage sides with ply doublers glued in place and by providing a ready-to-fit heat shaped, laminated sheet balsa rear fuselage top. The basic fuselage builds very fast, the fuel tank tray and control cables to the rudder, elevator and motor controls being fitted at the early stages before the fuselage top and bottom are fitted.

My first impressions regarding the fuel tank compartment were not enthusiastic. The tank appeared to be inaccessible, but as building progressed, my opinions changed - it is in fact a very good design. The tank compartment is closed at the rear by a hinged door which is itself held closed by the cockpit floor, and a dummy, removable instrument panel can be fitted which completely hides the trap door. The cockpit floor, complete with seats, is bolted into position and but a few minutes work are required to remove the cockpit floor, control spectacles and instrument panel to gain access to the tank compartment. My instrument panel was made up from Plastikard, using the imitation, stick-on instruments provided. The fuel system and tank compartment are designed around the square 500 c.c. Graupner tank which is not supplied with the kit but is readily available through RipMax stockists.

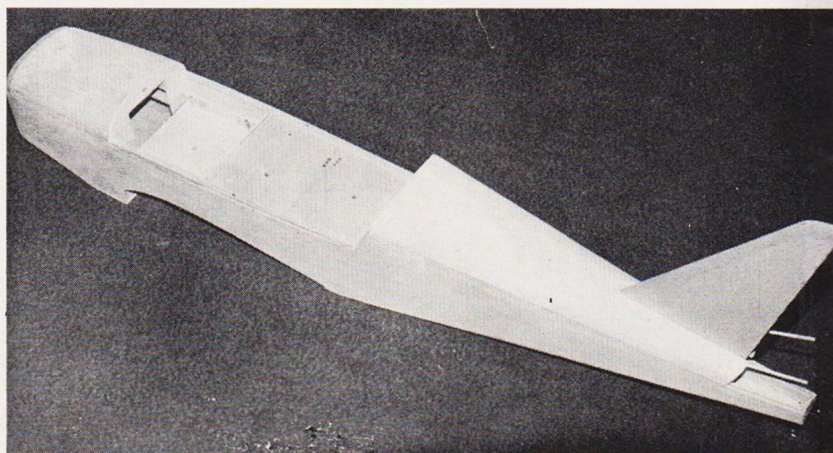
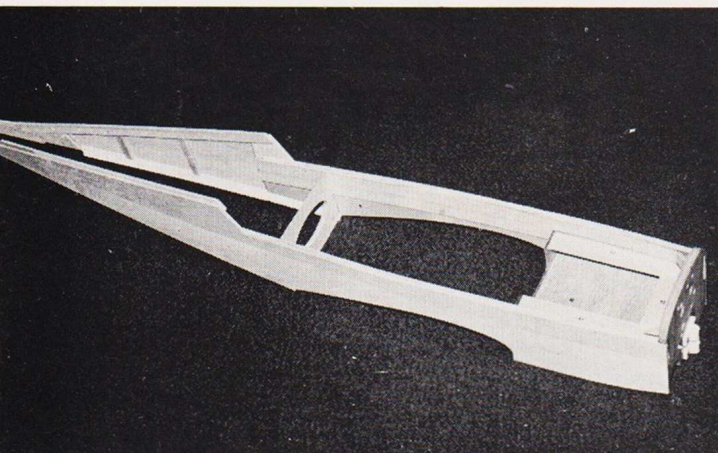
Fitting the motor to its radial mount and the whole assembly to the front bulkhead was quite straightforward but care must be taken to line up the motor correctly before fixing in position in order to ensure the correct fitting of

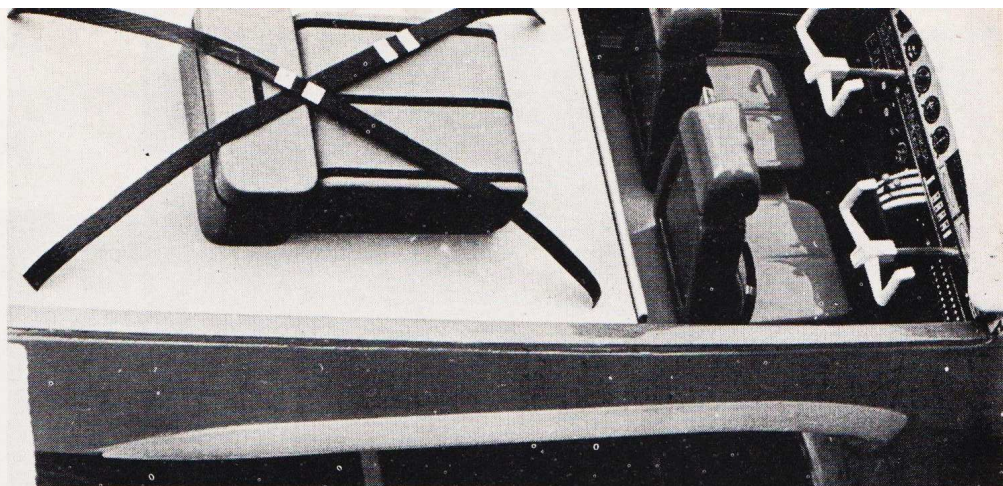
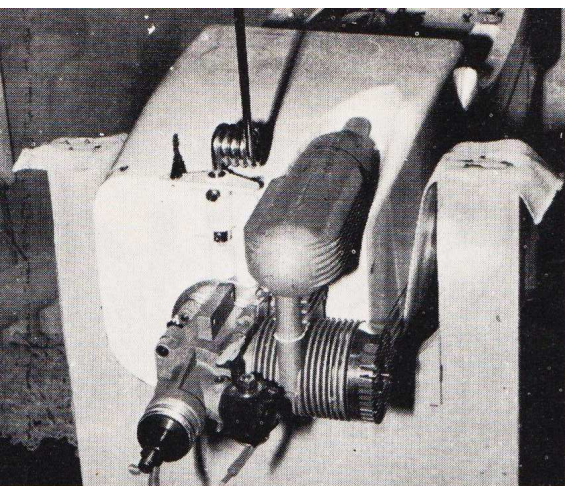
the vacuum formed plastic cowl. The cowl has to be cut-away to suit the motor and silencer used and secured with threaded tubes and bolts to the engine bulkhead.

Nylon outer and inner control cables complete with metal quicklinks are provided, but I preferred to avoid this type of linkage for the throttle control run as it has been my experience that the nylon inner cable can collect engine 'goo' and dust and partially seize up. In this instance I replaced the inner nylon cable with thin piano wire. The steerable noseleg, has a Bowden type wire control rod. The plan shows a central support for the elevator and rudder control cables midway along the rear fuselage, which is essential to avoid control surface 'slop'. Those who have not before used the Graupner nylon cables (or push rods if you prefer) should be advised that the metal quicklinks readily self-tap to the nylon inner cable ends but no attempt should be made to unscrew them due to the risk of cable fracture at the end of the self-tapped thread. Adjustable quicklinks are ready fitted to one end of each cable.

Wing panels are of veneered foam core con-

Below left: early stage of fuselage construction. Below: upper nose block is shaped to form fuel tank compartment. Rear fuselage top is a pre-shaped laminated balsa unit. Removable front cockpit floor is shown in position, a hinged door which closes the rear of the tank compartment not fitted at this stage.





struction, and are excellent examples of the type. Panels are joined by first fixing plywood ribs to the inner ends of the panels and then gluing the panels together. The ply ribs have cutouts for the front wing fixing dowel and servo seat. A glass fibre bandage and resin is then used to strengthen the wing joint and a plastic fairing is fitted to the underside of the centre section of the wing. Torque rod actuated strip ailerons are used, all parts are ready-cut to shape and the whole assembly is quite straightforward. One point to note is that the aileron servo and pushrods are installed immediately below the rudder/elevator/motor servos when the wing is in place on the fuselage, making it essential to fit the aileron servo as deep into the wing as possible and the rudder/elevator/motor servo as high as possible to provide adequate clearance for the aileron servo output arm, pushrod and torque rod arms.

Undercarriage blocks are ready fitted to the wing and the assembly of the undercarriage is quite straightforward. A point to note is that one section of the plan shows the plastic undercarriage leg fairings tight up against the underside of the wing, whilst a second diagram shows a gap of 10mm between the top of the fairing and the wing. The second diagram is of course in order to allow the undercarriage leg to flex and to avoid damage to the fairing when it does so.

The large cockpit canopy really is an excellent fit and I needed only to trim the edges, hold it in position by hand and run cyanoacrylate adhesive around the edges to firmly secure it.

There is little more which can be said about the very straightforward construction of the model. I found the plan and exploded diagrams to be first class, all parts were of good quality material and an excellent fit.

I covered the model with lightweight tissue, used two coats of sanding sealer, well rubbed down, followed by two coats of enamel, trim tape and decals and lastly a single coat of Rip-Max Tufcoat fuelproofener.

Futaba radio gear installed as shown on the radio installation plan produced a balance point very slightly in front of the position shown on the plan.

Flight test

Ground control, both while taxi-ing and dur-

Above left: HB .61 installation using the radial mount supplied with the kit. Above right: scale detail of the cockpit, parts are easily removed for access to fuel tank. Right: tail section, note scale detail and elevator control rod position below rudder. A VHF aerial, running from top of canopy to top of fin is not yet fitted.

ing the first part of the take-off, was very good but immediately prior to becoming airborne, the model swung violently to the left. The flight was spectacular but nerve wrecking. At speed the model was reasonably stable but any attempt to reduce speed caused it to dive violently to the left, a landing approach was immediately initiated and turned into a dive which required full up elevator and a burst of power to correct.

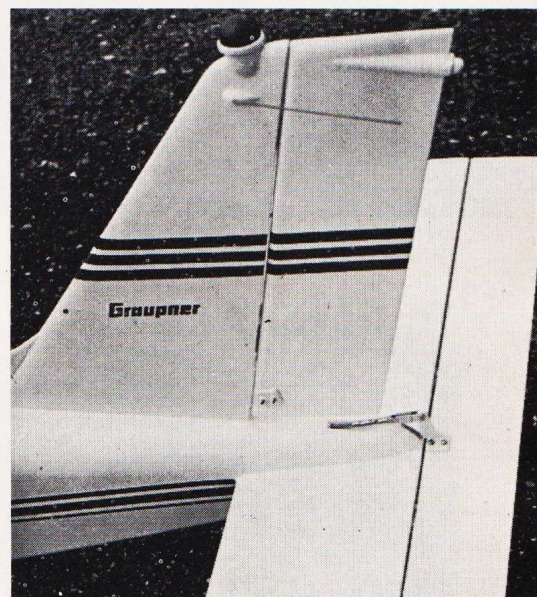
The landing was not too bad, all things considered (but I felt I was getting more than my fair share of luck) and as the model touched down the nosewheel and spat flew off.

We discovered that the noseleg was turned through 90° and scuff marks on the side of the nosewheel tyre showed that it had in fact touched down at that angle. It then became obvious that the noseleg had turned through 90° at the take-off point and that the nosewheel and large spat had flexed during the flight from approximately 20° to 90° dependant upon airspeed, producing a front elevator/aileron effect.

The fault was of my own making, I had not linked the rigid cable connection to the noseleg and had hoped to achieve a servo-saver effect by leaving approximately 1½ ins. of 'free' cable between the end of the nylon outer cable and the quicklink on the noseleg arm. (The plan shows approximately ½ in.) and the cable had buckled.

I was lucky to get away with minor damage and the model was quickly repaired, this time with the steering connection *exactly* as per the plan.

On the next take-off, the Cherokee behaved perfectly, tracking true and needing only a little right rudder to correct a slight swing as the nosewheel lifted. Improvement in handling was obvious immediately the model became airborne. The controls were very effective at all speeds and the model has excellent low speed characteristics.



I began to enjoy myself. The HB .61 PDP is a very powerful motor and although running a little rich, as it is not yet fully run in, it drove the Cherokee through the air at a speed which has to be seen to be believed. Although the full size Cherokee is not fully aerobatic, the model is and even though my loops were too tight and the rolls too fast, I was quite pleased with the results of my first efforts with this model.

Landing was quite straightforward, no 'funny happenings' on the approach this time and I managed a smooth 'main wheels' first touch down.

To sum up, a very nice model, comparatively easy to build and fly. The HB .61 PDP is an excellent motor and I can thoroughly recommend this combination which has given me a considerable amount of pleasure in building and flying.

British distributor

RipMax Ltd., Green Lane, Enfield, Middlesex.

Price:

£73.15 Scale accessory pack - £10.40.



Left: clean nose area clearly seen here, cowl is secured with bolts into threaded tubes epoxied to bulkhead. Fuel tank is two vent type, filler vent at top of cowl, second vent below nose. Right: plenty of room for the radio gear, original intention was to position the third servo in cutout in servo tray but this was found to be rather close to aileron control rods.

