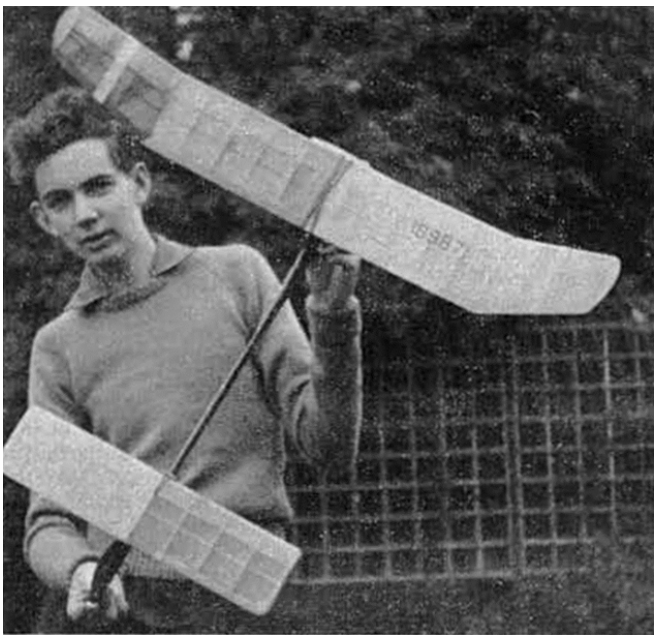
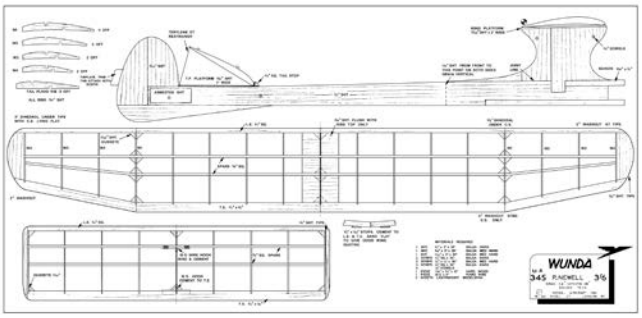
1/2A Wunda





A simple design for the new .049 power class. Ideal for beginners by P. Newell.

Immediately the .049 power contests appeared in the calendar, I decided mat here was a class where everybody was starting from scratch and consequently the chances of success were higher than for any other F/F event. A test model, using a Mills .75, was designed to explore the possibilities and thus id 1 Wunda grew on the drawing board. Time being limited, construction was kept simple and consequently the design is ideal for a first contest power model.

The original was completed in six evenings and flight tests followed immediately. After initial trimming the model was turning in 90 sec. flights following 10 sec. motor runs, until a rough landing broke the original built-up fuselage, and so the all-sheet version shown on the plan was built. This second fuselage was 1/2 in. longer than the original as it was felt that the c.g. was too far forward. All-up weight with the new fuselage was just under 6 oz., yet the model still climbed to quite a good height, and duration, after a few minor adjustments, went up to around 2 1/2 min.

I then decided to fit a proper timer and cut-out in place of the coil of fuel tubing, so an Elmic Mini-Diesel combined timer and cut-out was fitted, and a Dunlop french chalk container provided an ideal tank. An unexpected difficulty was encountered in the form of a delay between die cut-out operating and the engine stopping. This was caused by the low fuel consumption of the Mills, which continued to run on fuel vapour within the crankcase, but a different oil content in the fuel eventually caused the engine to slow down and stop approximately 1 sec. after the cut-out had operated. In flight this " lag " gives a very smooth change over from power to glide, and in fact some timekeepers have complained that they cannot tell when the engine cuts!

All that now remained was to find the best propeller, and although wooden 7 x 3 Stants gave excellent results, they were abandoned because every landing meant a new propeller. I therefore tried a Keil kraft 7 x 4 nylon, and surprisingly, the climb improved so that 3 min. maximums became possible.

Construction: This has been kept simple and should not present any problems to anyone. If a 0.5 c.c. engine is used, lighter grades of wood should be selected, but with a 0.75 c.c. motor, strength is more important than weight, provided the latter does not exceed 7 oz.

Fuselage: This is made from 1/4 in. sheet with the bearers let in flush and spared to suit the engine used. Particular attention should be paid to the joint where the pylon is keyed into the main fuselage. The extreme rear of the fuselage is sanded down to the fin thickness and the fin then attached. The vertically grained 1/16 in. sheet is then cemented on both sides of the fuselage from the front to the point indicated, and the wing and tail seatings added, with the grain running across the fuselage. A tail stop and 1/8 in. dowels complete the job.

Wing and tail: These are built over the plan in the usual manner. Build the port inner wing panel first and when set prop up 1 1/4 in. at one end, then build

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the starboard inner panel, incorporating wash-in during construction. The complete center section is then propped up and one tip panel built, repeating for the other tip. The 1/16 in. sheeting on top is let in flush and then two strips of 1/2 x 1/16 in. are cemented underneath and sanded so that the wing scats squarely on its platform.

The whole model is now sanded down and the wings and tail covered with lightweight Modelspan. Two coats of dope are applied and the wings and tail then given a coat of fuel proofer. On the original model, the fuselage was painted with Humbrol plastic enamel, which provided both colouring and fuel proofing in one coat. Humbrol Butyrate dope will also give a fuel-proof finish and dries more quickly.

Trimming: Check alignment of flying surfaces and make sure that there is no side or down thrust. Test glide to make sure no unwanted turn exists, and then try a short motor run. The final trim should give an almost straight climb with only one complete turn in 15 sec., half of this occuring during initial acceleration. The model should turn oil' the top into a smooth left-hand glide circle, the power turn being to the right.

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