Junkers Ju.87D

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A 17-inch span rubber driven F/Scale Model as on the cover.

Also available as a 34" span .5 c.c. F/Flight power model and 2.5 c.c. Control line scale model.

FULL SIZE PLANS ON PAGES 476 and 481
unpin centre pages and remove plan for building

DURING RESEARCH for the drawings for this month's Aeroplane in Outline, the author became fascinated by the possibility of producing a flying model of the Ju.87D. A diesel powered model was envisaged, but owing to the lack of time and desire to reassure himself of the feasibility of the type as a flying model, a small rubber powered model was first produced. This flew so well that it is here presented as a full size plan. For those who would like to make an enlarged (twice-size) power driven version, die-line prints of a 34 in. span design are also available, price 5/- from A.P.S.

First remove the plan pages from the magazine and cover with thin greaseproof paper and begin construction with the fuselage. Lay down with $\frac{1}{8}$ in. x $\frac{1}{16}$ in. keels and to them cement the left hand halves of the formers except F.7, which is added later. Make sure these are quite upright and add the $\frac{1}{16}$ in. square stringers. Fill in between the stringers at the wing root with $\frac{1}{16}$ in. sheet and cut the slots for the mainspars and wing leading edge. When *thoroughly* dry remove this assembly from the plan and bind on the tailwheel strut and rear rubber anchorage hook. Repeat the procedure for the starboard side, cementing formers to left fuselage side. Add stringers and former F.7. Add the noseblock and bend some soft $\frac{1}{16}$ in. sheet around the underside of former F.2, to form the radiator. Cover the nose with cartridge paper as shown in photo of uncovered framework.

Make two wing mainspars from firm $\frac{1}{16}$ in. sheet as shown in front view. Don't forget to make one left and one right-hand spar, the root spar being cemented behind the outer spar. Lay the outer spars on the plan and build up the wings from tip to ribs R.2. Note angle of R.2 on spar front view. When dry arrange the root spars flat on the plan with the already assembled parts of wings sticking up in the air, and add the ribs R.1, making certain they are at the correct angle to the spar. Complete the wing by adding root leading and trailing edges and $\frac{1}{16}$ in. sheet fillets where indicated.

Bend undercarriage wire, one left and one right hand and bind to root spar, cement well. Add wheels. Build up spats from soft sheet laminations and cement and bind to undercarriage wire. Do not cement the undercarriage legs to rib R.2, they must be allowed to travel backwards on impact with the ground to absorb the landing loads. Make up the flaps from $\frac{1}{16}$ in. sheet and attach to wing T.E. at the four points shown with thin wire supports (short pieces of control line wire are ideal), cement well. The flaps should be carefully aligned and be about $\frac{3}{32}$ in. below the wing trailing edge. Cement wings in position so that when sighted, along the wing from tip to tip, the tips come level with the lower edge of the cockpit cover. Make sure the incidence is exactly the same on both wings.

The cockpit cover may be moulded from thin acetate sheet by any of the methods which have been frequently described in AEROMODELLER. Alternatively, it may be made up in sections between the formers without too great a loss in realism.

Make up the prop by carving three blades from $\frac{1}{4}$ in. sheet balsa as shown on the plan. Build up the spinner laminations and carefully position three $\frac{1}{4}$ in. diameter holes equidistantly around the rear $\frac{1}{4}$ in. balsa lamination. Cement the blade roots well and carefully position them at the angle shown in the side view. A 5 in. commercial plastic prop could be used, but a certain amount of realism and performance are sacrificed.

The tailplane is simply cut from soft $\frac{1}{16}$ in. sheet balsa and cemented in place.

Exhausts and air intake are cut from scrap balsa and positioned as shown on the plan.

Cover with lightweight Modelspan and give one coat of clear and one of coloured dope. The colour schemes are detailed on the detailed scale plan. Apply transfers as shown on the cover photograph.

One loop (two strands) of $\frac{1}{4}$ in. flat rubber will be sufficient to fly the model provided you have kept the weight to a minimum, by selecting your balsa carefully and doping lightly. Balance at wing main spar. Add weights to nose or tail if necessary to achieve this. When a straight level glide is obtained apply 50 turns and gently launch level at the model's flying speed. If a stall results, pack the top of the nose bearing out to tilt the prop down slightly. If the model turns sharply left, adjust the bearing to point slightly right and *vice versa*.