

A 13½ in. SPAN FLYING SCALE MODEL OF THE AVRO "COMMODORE"

By H. McDOUGALL

THE Avro "Commodore" is a four or five-seat machine designed primarily for the private owner desiring something a little larger than a two-seater 'plane.

Power is supplied by a 215 h.p. Siddeley Lynx engine giving the machine a cruising speed of 110 m.p.h. It is luxuriously furnished, and the inside of the cabin has been likened to that of an expensive car.

Construction.

The entire model is built directly on the plans, which should be covered with grease-paper to prevent the wood sticking to the drawings. Construction is, of course, of balsa.

Fuselage.

One-sixteenth in. square balsa strips are used for the fuselage sides. They are held in place on the plan by means of straight pins knocked into the board at each side.

Two triangles are cut from $\frac{1}{16}$ in. sheet, and the completed sides are glued together at the rear with the triangles sandwiched between the top and bottom longerons and the spacers are then added, working along to the nose. Note that a slot is left at the rear for the accommodation of the tail-plane.

A circular nose former is cut from $\frac{1}{16}$ in. sheet and glued to the nose. A rim of $\frac{3}{32}$ in. balsa is also cut and glued to the circular piece mentioned above, after which the cowling may be cut to the shape shown, from a postcard, and wrapped round the formers and glued in place. A hole is cut in the centre for the accommodation of the nose-plug.

Tail Surfaces.

The leading and trailing edges of the tailplane are of $\frac{3}{32}$ in. by $\frac{1}{16}$ in., cross pieces are of $\frac{1}{16}$ in. square, and the tips are of $\frac{1}{16}$ in. sheet.

The outline of the rudder is of $\frac{1}{16}$ in. sheet, and the cross pieces are of $\frac{1}{16}$ in. square.

Both rudder and tail-plane are built directly on the plan, and hinged by means of thin pieces of aluminium. The tail-plane is pushed into the slot first, and then the rudder may be glued to the fuselage, and the bottom hinge glued in place.

Wings.

These are made in the usual manner, and the lower

wings are glued to the fuselage. Two short lengths of $\frac{3}{16}$ in. square balsa are fashioned into streamlined "shoulders," and glued at the top of the cabin, and the top wings may then be added. The $\frac{1}{8}$ in. wing struts are added last, together with the anti-lift strut, which runs from the base of the leading strut to the front of the cabin.

Both upper and lower wings are identical.

Undercarriage.

This is of the monostrut type, the legs being cut from $\frac{1}{16}$ in. sheet.

Spats are made from $\frac{1}{16}$ in. sideplates, and centre pieces of $\frac{3}{32}$ in. sheet, which are cut out to accommodate a $\frac{1}{2}$ in. wheel.

The spacer bars are of $\frac{1}{16}$ in. square.

Accessories.

Owing to the restricted diameter of the propeller it is necessary to use a very wide blade in order to obtain sufficient thrust to fly the model. It is, of course, practically invisible when the model is in flight, and an ordinary propeller may be substituted for exhibition purposes.

The rubber hooks are twisted from 22 s. gauge wire. 2/4 strands of $\frac{1}{8}$ in. flat rubber supply the power.

Finishing and Flying.

Covering is of coloured Jap tissue, and is shrunk by spraying with water. The windows may be of cellophane, if desired, but an easier method is simply to cut out pieces of white paper to the desired size and paste into place.

The whole model may be given one coat of very thin dope, except the tail-plane and rudder. Lettering, etc., may be added by cutting out pieces of tissue of a different colour to that in which the model is covered and pasting them in place.

As is usual with scale models it may be a little tail heavy, but a small amount of clay inside the cowling should be sufficient to balance it. The longer the rubber skein the better the results are likely to be. The rubber should be well lubricated and stretched while winding by the removal of the nose-plug. Flights of 20/80 seconds should be obtainable in a reasonably large hall.

A FULL-SIZE BLUE PRINT OF THIS MODEL IS BOUND IN THE CENTRE PAGES OF THIS ISSUE

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