

Ariel



by
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Aeromodeller Photos

THE Ariel was one of two rather similar mid-wing mono-planes built during 1935 and early 1936 as a freelance design for a fast single-seater light plane of that period. Ariel was the second of these two models and after more than twelve years of active flying is still going strong. The model was completely stripped and re-covered for the first time last year after a collision with a car, but apart from new tissue and a section of the mainplane the model is flying with all the original components intact including the airscrew.

Fuselage Construction.

First cut out the fuselage sides from medium weight 1/16 in. sheet balsa, sandpaper smooth and mark the position of all cross struts and the holes for the front and rear wire wing fittings, mark the hole positions very carefully so that they are exactly the same on both fuselage sides, otherwise there will be a difference of incidence of the left and right wing when the model is assembled.

In order to have a rigid framework when building the fuselage, cut temporary bulkheads from 1/8 in. sheet balsa. One the exact depth of the fuselage sides at the third cross strut from the nose and the exact width between the fuselage sides at this point and a similar bulkhead for the sixth cross strut position. Pin these bulkheads in position between the fuselage sides. Next fit the tail block and No. 1 bulkhead at the nose. When these four pieces are fitted in position the fuselage sides will take a natural curve from nose to tail and the remaining cross struts and formers can be cemented in place. Note that 1/8 by 1/16 cross struts are fitted at all the former positions and the formers cemented on top of them, finally these cross struts are partly cut away to give clearance for the rubber motor.

The engine cowling and fuselage deck fairing from the nose to the rear of the cockpit is cut from one piece of stiff card-ridge paper and the undercarriage leg fairings are made from the same material.

The undercarriage is shaped from one piece of 18 gauge steel wire and is held in position by two pieces of celluloid tubing cemented between two fuselage cross struts, the rubber band shock absorbers are hooked in place with a piece of wire through the open cockpit. Before covering the fuselage sides cement celluloid washers at the points where the wire wing fittings pass through the fuselage.

The nose block is shaped from 1 in. block balsa and is located by two pieces of celluloid tube reinforced with wire cemented into the rear of the block. These projecting tubes fit tightly into corresponding holes in the ply and balsa front bulkhead of the fuselage.

The Mainplane.

The whole of the framework of the left and right sections of the mainplane is cut from 1/16 in. sheet balsa, hard balsa being used for spars and trailing edges. Pin the leading and trailing edges on a flat board and complete the framework before removing from the board. Celluloid tubes to take the 20 gauge steel wire wing fittings are cemented and bound with tissue to cut away portions of the main spars and trailing edges. The 20 gauge wire fitting for the wing struts are cemented and bound to the front face of the spars.

Shape the wing struts from hard balsa with a reinforcing strip of half-round celluloid cemented to the leading edge. If half-round celluloid is not available use 22 gauge steel wire cemented and lapped with tissue to the struts. The struts are anchored to the mainplane by 3/4 lengths of celluloid tubing cemented to the projected ends of the wire fittings.

Tailplane, Fin and Rudder.

The tailplane, fin and rudder are simple to construct and should be built up on the plan. The fin and rudder are joined by hinges of thin sheet aluminium pushed through the trailing edge of the fin and leading edge of the rudder and cemented in place. The rudder post is of 1/16 in. celluloid tube reinforced with 20 gauge steel wire lightly cemented into the tube, the tube itself being cemented and bound with tissue to the front face of the fin trailing edge. The rudder post fits into 3/32 in. celluloid cemented and bound to the tail block.

The Airscrew.

The airscrew is carved from 1 in. hard block balsa and requires downthrust and off setting. In order to keep the undercarriage legs short and still have a large diameter airscrew, the airscrew touches the ground when the model is in flying position: this does not affect R.O.G. flights with the model as it has a rapid take-off with the tail down.

Full-sized plans of this 1/4 scale reproduction are available, price 3/-, from the Aero-modeller Plans Service, The Aerodrome, Stanbridge, Nr. Leighton Buzzard, Beds.

Squadron Leader "Tim" Hervey displays the graceful lines of Ariel which is also featured on our front cover this month. As a point of interest we would also mention that the model has performed satisfactorily fitted with a "Jetex" 200 unit.

