

DH 53 Hummingbird

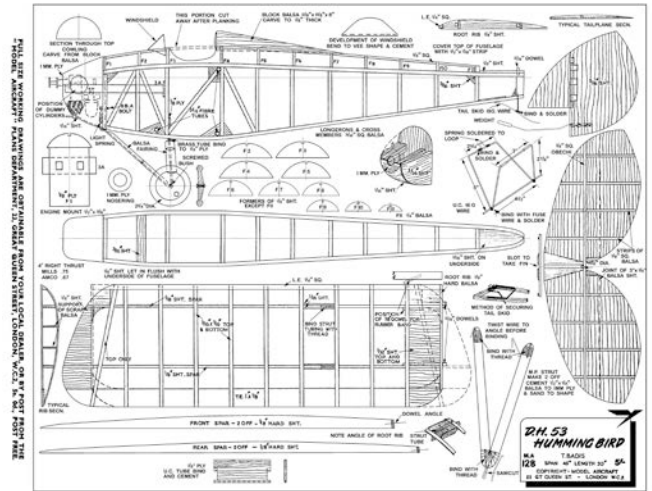


A F/F scale model by T. Badis.

The D.H. 53 was designed in 1923 by the De Havilland Aircraft Company to be entered in a series of trials organised by the "Daily Mail" at Lympne.

The R.A.F. Humming Birds were painted aluminium all over and had red, white and blue roundels on the sides of the fuselage and the underside of the wings only. The rudder had vertical stripes of red, white and blue, and carried the serial numbers (J. 7270-3) in black. The colouring of the civil machines was aluminium all over, with (as in the case of G-EBXN) green struts and lettering.

Fuselage Construction: Start by building up the sides of 3/16 in. square medium balsa. When the cement is hard, remove the sides from the plan and steam the rear of the longerons to the shape drawn on the plan. Join the sides together with 3/16 in. square, and cement the stern posts together. Next cement on F1 ply bulkhead, then add formers 2-11, and sheet with strips of 1/16 X 1/2, holding down the strips until the cement has set hard. Remove the pins, and sandpaper lightly until smooth. Cut out the hole for the cockpit and smooth down the edges with fine sandpaper. Next carve out the headrest from soft balsa, and hollow out to an overall thickness of 1/8 in. Drill the engine bearers to suit the engine being used and make sure the right amount of side-thrust is incorporated. Insert the bearers using fish glue. Bind the undercarriage tube to one-eighth ply former with tinned copper wire, and solder the tube. Build up and cement the lower part of the cowling after the engine has been mounted, and then carve out the top from block balsa. Sheet the underside of the fuselage with



one-eighth sheet inserts up to the rear of the cockpit and cement a strip of 1 mm. ply where the front of the undercarriage wire is spring tensioned to the fuselage. Drill holes to take the fiber tubes that hold the wing and strut fixings and cut a space in the sternpost large enough for the pendulum and weight to pass through. Bend and bind on the tail skid and then construct the undercarriage as in the diagram.

Tailplane and Fin: Cut the elevator to outline from 1/8 in. sheet balsa and add 1/8 in. X 1/8 in. strip to represent the ribs, then sand down to airfoil section. The fin is built up of 3/16 in. sheet and sanded down to a symmetrical section. It is then divided down the hinge line, and the tubing and dowel is cemented and fixed with tape, or sewn on. Push the pendulum into the rudder and secure with cement.

Wings: Cut out the wing tips and spars from 1/8 in. sheet and the trailing edge from 1/16 in. sheet.

Start building by pinning down the trailing edge and wing tips. Cut out the root ribs and drill the holes for the dowels. Lay down the lower capping strips and cement and pin down the leading edge and two spars.

Bend or steam the upper capping strips and cement in place with the aid of pins. When the cement is dry remove from the plan and sandpaper the leading edge shape. Reinforce capping strip between the two main spars with scrap balsa.

Flying: The c.g. is 2 1/4 in. behind the leading edge of the wing. The model should be weighted to balance slightly nose down at this point.

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Check the alignment of flying surfaces, making sure there are no warps, and fix the movable rudder. Test glide near to the ground over long grass, adjusting tail incidence if necessary. The original with 4 deg. side thrust turned slightly to the left under power and to the right in the glide. If the model stalls under power, apply slight down thrust.

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