

Gee Bee QED



A Scale Control Liner of a Famous Racer by Peter Lewis.

The year 1934 stands out in the memory as the year of the great England-to-Australia Air Race, and the 700 h.p. P. & W. S5E Hornet-powered Q.E.D. was one of the few pure racing designs to take part after it flew in the Bendix of the previous month. Generally referred to as a Gee-Bee, although not built by the original company, the R6-H reached Bucharest carrying Jacqueline Cochran and Wesley Smith and then withdrew from the contest. It subsequently flew in the transcontinental Bendix races of 1933, 1936 and 1938 and ended its life in 1939 with a crash into the Potomac River under Mexican ownership.

Construction: Sheet, 1/8 in. thick, provides the crutch base for the fuselage with a slot cut at the rear for the push-rod. Mark the location of the formers and cement the 1/2 in. x 3/8 in. hardwood engine bearers into their slots, at the same time drilling bolt holes for the engine to be fitted. If necessary, the bearers should be set at a different spacing to suit other motors.

Formers F3 to F9 are traced onto 3/32 in. sheet and cut at the same time as F2 which is on 1/8 in. sheet. Holes are made in F6 to F9 for the push-rod and the formers are now ready to be cemented in position on the crutch. The 14 G. wire undercarriage is sewn and glued to F5. When they are firm, add the 1/8 in. x 1/8 in. cockpit edging and the tailplane supports. The tank may now be installed in the first bay and also the hardwood bearer holding the control plate between F5 and F6.

Cut the tailplane from two pieces of 3/32 in. sheet and cement together after laying the two elevator tape hinges between them; finally, fit it to the fuselage. The 1/8 in. sheet fin is the next part to be added and, when this is firm, the 18G. wire tailskid is mounted after gluing and binding to its 1/8 in. sheet support; 1/8 in. x 1/8 in. longerons are added on the upper and lower center lines and the 16 G. wire push-rod is fitted.

The fuselage is now ready for planking. This consists of 1/4 in. x 3/32 in. strips laid on, working from the crutch upwards and tapering where necessary to fit. Plank the lower half next, cutting 1/2 in. slots for movement of the lead-out wires which must be attached to the control plate before the final strips are laid on. The 18 G. wire elevator control horn is inserted on to the end of the push-rod and held in place with a soldered stop. The rear of the fuselage is now filled in as required and the tailskid fairing cemented on; 1/16 in. ply former F1 is cut out and pinned and glued to the front of the engine bearers, and the lower cowling is filled in with soft block balsa which is hollowed out to 1/4 in. walls. The upper half is made in the same way and is secured with press-fasteners sewn and cemented to the frame. The laminated front cowling ring completes the main fuselage structure, all of which is given a smooth finish by filling and careful sanding; 1/8 in. wing root pick-up gussets are cemented onto the fuselage sides where shown in line with F5 and F6.

The wings are made in two halves on the plan, the first step being to pin down the 3/16 in. x 3/16 in. leading edge and the 1/2 in. x 1/16 in. trailing edge. Root rib R1 is of it 1/8 in. sheet and R2 to R5 are of 3/32 in. sheet. Cut lead-out wire holes in the port set and add the 1/8 in. sheet and 3/32 in. sheet tips; 16 G. tubing is used on the port side to take the lead-out wires and a coiled solder balance weight mounted in the starboard tip.

Remove the two halves from the board and cover the wings entirely with soft 1/16 in. sheet balsa. Finish smoothly with filling and sanding and cut the slot for the undercarriage wire. Glue in place onto the fuselage and add the 3/32 in. sheet rear fillets. Fill in below with 1/16 in. sheet and above with stiff card, so

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that the fillets follow the outline shown. Steaming may be used to assist the wood to curve sufficiently.

A pair of 2 in. wheels are fitted to their axles and stops are soldered on. The spats are built up as shown from three laminations of 1/2 in. and two of it 3/16in. sheet, with a cut-out in the centre piece for wire movement. Shape both spats completely and then split each one down the inner lamination. Cement firmly to the wings and replace the split-away sections and sand so that they arc smooth again. The spacer bar of 14 G. wire is embedded in the spats in line with the flying wires.

The elevators are shaped, sanded to section and joined to the tailplane with the tape hinge and the wire horn is cemented between the laminations. After shaping the rudder, it is joined to the fin by an aluminium hinge.

Before covering the entire model with tissue, make sure that it is as smooth as it can be after filling with sanding sealer and using fine sandpaper for rubbing down. Aft of the cowling panels, the stringers may be shown by gluing 1/32 in. x 1/32 in. strips along the fuselage and then doping the tissue over them.

Give two coats of clear dope and two to four of coloured, with wet and dry sanding between them for a fine finish. An overall dark green was used as 77 in the 1934 Bendix and as 46 in the Australian race, and the markings were light green. For flying in the former, the smaller fin was fitted. As 6t and XB-AKM, the Q.E.D.. was all-white with green trim.

The headrest consists of a leather pad, and 20 G. wire forms the cockpit frame with celluloid covering. Glass-headed pins, faired with plastic wood, are used for wing-tip and fin navigation lights. For the Australian race only, landing lights were installed in each spat. Nylon thread is used to simulate the double flying anti landing wires with wire spreaders.