

THE FAIREY JUNIOR

Designed and drawn by ALBERT E. HATFULL.

Rub the plan with candle wax to prevent constructed parts adhering to it.

FUSELAGE

Build a basic side frame first, by pinning piece 'D' to the plan then the strips of $1/16" \times 1/16"$ running along the top and bottom, then add the $1/16" \times 1/16"$ uprights, cement all the joints. Build a second frame directly over the first for accuracy, remove both sides from plan when set and separate them with a razor blade; install pieces 'M' which are made from two pieces of $3/16" \times 1/16"$ as shown on plan, bore the hole for the motor peg. Cement the rear ends together as shown in "View of Underside of Fuselage" and before this joint dries install former '4' in position where shown, cut the cross braces to their correct lengths and glue in place working from former 4 towards the tail, (note the cross braces are on the underside only) and add formers 5, 6, 7, 8, 9 and 10 above their corresponding cross braces as you proceed. Carefully draw in the side frames at the nose and add cross braces and formers 2 and 3. Cement formers 11 and 12 in place (underneath the nose) over the cross braces, add former 1 at the nose. Cement $1/16" \times 1/16"$ stringers in the notches provided in the formers (note their arrangement in side view). All the stringers except the top one butt join to the inner face of former 10. Add stringers to notches in 11 and 12. Bend the landing gear wire as shown and bind and cement to the landing gear spar, install this as a unit into the notches in pieces 'D' of the fuselage, add wheels as noted. Shape tailwheel wire, mount wheel and bind in place where shown. Add the pieces of $3/16" \times 1/16"$ forming the support for the tailplane at the rear end of the fuselage. Cement paper cowls A, (each side), B and C in place. Roughly carve the nose block to shape, cement pieces 1A and 2A to the rear face and use these to "plug" the nose block into the hole in former 1, sandpaper to a smooth finish while mounted thus on the fuselage. Bore a hole in the nose block and cement the nose plug in place (file flat at front as shown). Bend a hook on the wire supplied, push the other end through the nose plug from the rear place two cup washers then the plastic propeller on the wire. Cut the wire to a convenient length and bend over approximately $1/8"$ at the end to fit the slot in the propeller spinner. Paint the intakes on the nose block as shown in the front view. Tissue cover the fuselage before assembly with the wings and tailplane, water shrink and apply one thin coat of clear dope. Add the celluloid windscreen and petrol cap.

WINGS

Retain the $1/16" \times 1/16"$ lower spar in place on the plan by placing pins on either side. Pin the $1/4" \times 1/16"$ trailing edge, the $3/16" \times 1/16"$ leading edge and the $1/4" \times 1/16"$ up pieces in position, cement the joints, add pieces T1 and T2. Cement the wing ribs over their correct positions; note that rib R1 on each wing is "tilted" to obtain $3/4"$ dihedral at each wing tip when the wings are joined to the fuselage — use the template as shown on the plan for this purpose. Add the scrap sheet gussets. It is important that the spars and leading edges are left protruding to the amount shown as these serve to locate the wing in the notches in pieces D. Check the fit in ribs R1 when the cement has set, and if correct cement the top spar in notches in the ribs. Note how this spar joins the up piece. Remove wings from plan when dry, tissue cover, water shrink and dope, then apply cement to ribs R1 and gently press on pieces D, pushing the spars and leading edge projections into the notches in same, and ensuring that the landing gear spar fits snugly into the notches in ribs R1 and R2 of each wing. Add fairings "W". When in place on the fuselage the underside of the wings may be tissue covered, water shrunk and doped. Add paper fairings "X" where shown on the top surface. Aileron lines may be added by using strips of black paper, or ruling lines with black ink.

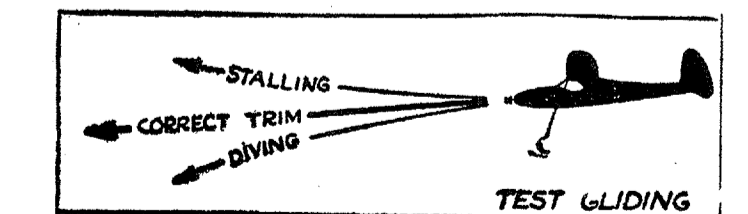
TAILPLANE AND FIN

These are constructed by pinning the outlines of the correct size stripwood in position on the plan, cementing the joints and then adding the cross pieces of $1/16" \times 1/16"$. Cover both the fin and tailplane, water shrink and when quite dry, apply a coat of thin clear dope. Cement the tailplane in place at the rear of the fuselage where "arrowed," check for "squareness" by "sighting" along the fuselage from either the front or back, cement the fin in position directly over the centre line of the tailplane and check for squareness in relation to the wing and tailplane. The model may be coloured, using thin coloured dope, an authentic colour scheme being primrose yellow all over, with silver rudder, tailplane and portions of the wing, above and below aft of the wing spar. Blue registration letters and "flash."

FLYING

Lubricate the rubber motor with ordinary castor oil, cut out a panel of tissue near piece M, then using a piece of hooked wire draw the motor through the fuselage from the rear, retain the motor with the small dowel pushed through the holes in pieces M. Place a few turns on each loop separately then place both loops on the propeller shaft hook. With the model now fully assembled it should be held on the fingertips at the spar position of the wing and made to balance level by adding small pieces of plasticine to either the nose or the tail, whichever is required. When balance is obtained test glides may be carried out preferably over long grass to avoid undue damage. Handlaunch the model from shoulder height on a slightly downward path directly into the wind. If the model dives add a small piece of plasticine to the tail, if the model "stalls" add a small piece to the nose (weight previously added when balancing the model may be removed to obtain similar effect). Once a long flat glide has been obtained, hand turns may be applied to the motor, starting with about 75 turns and gradually increasing to 200 or more. The model may be made to "take-off" from smooth surface. When using full power insert a piece of $1/16"$ square balsa under the nose block at the top, this will apply downthrust to the propeller and avoid power stalling.

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