TRU-FLITE

Prefect Mk 1
GLIDER

BUILDING INSTRUCTIONS

This series of " VERON " Flying Scale Models of popular and world-famous planes are the essence of simplicity and make ideal beginners' models giving initial experience in construction and assembly. You need only a " VERON " balsa knife, balsa wood cement, small half-inch pins (called " Lillipins " in the shops) and a pair of small round-nose or side-cutting pliers, thread and fine garnet paper. A tube of tissue paste, a small jar of shrinking dope and a soft brush will complete your requirements. Study the plan carefully and identify all the parts on the printed sheets of balsa. Familiarise yourself with the sequence and method of construction. Cut out all the balsa parts, taking great care when cutting out the $\frac{1}{16}$" notches in the formers. Cover the plan with waxed or greaseproof paper and pin both to a flat building board. The fuselage is built by constructing two lower sides of $\frac{1}{16}$" square balsa directly over the plan, these being joined by two basic formers. Wings and tailplane are similarly constructed over the plan on the flat.

This system of construction by inserting formers of a pre-determined width obviates the necessity for a fuselage top view and the alignment can be checked by sighting along the fuselage.

FUSELAGE.

Pin the two main longerons of $\frac{1}{16}$" × $\frac{1}{16}$" in place over plan then complete one side with addition of $\frac{1}{16}$" × $\frac{1}{16}$" uprights and diagonals. Notice that main longerons protrude $\frac{1}{16}$" beyond K.1 at the nose. Make neat joints, double coating with cement, the first coat being allowed to dry into the wood before applying the second. Secure all struts in place with pins either side of the wood, never through it. When quite set, move from the board and build a second identical side, where possible using the same pin holes to locate the strips. The two sides when complete are joined together by two basic formers F.3 and F.5. Chamfer inner face of sides at rear and pull together joining with cement and securing with a clip or spring clothes peg. Add top formers F.4, 6, 7 and 8 then top stringers of $\frac{1}{16}$" × $\frac{1}{16}$", steaming the rear stringer gently over a steaming kettle spout to produce the curve. Add lower cross pieces cut to sizes given on the plan. Steam front longerons very gently and pull in to fit front former F.1, then add F.2 and two top stringers. Add lower F.2.B. and F.4.B. then single lower stringer with gusset K.2 against F.4.B. At all times during construction, check the alignment of parts. Cement nose block very firmly to front of F.1 and when set carve and sand to shape shown, forming continuity with the longerons and stringers. The skid S.1 is steamed to a gentle curve and bound and cemented in place to front of lower stringer. At rear, a $\frac{3}{16}$" wide piece of rubber tubing (off electric cable) is bound with thread as shown to form a shock absorber in the same manner as the real glider. Do not fit the half wheel until after covering. The tail skid and tow hook are bent from wire and bound in place, rubbing the thread well with cement.

WINGS.

Pin leading edges of $\frac{3}{16}$" × $\frac{1}{16}$" in place, cutting the diagonal scarf joints with a straight edge and rule to ensure accuracy. Similarly the trailing edge of $\frac{1}{4}$" × $\frac{1}{16}$". Insert the tip pieces W.1. Erect in place all the ribs in their respective positions, canting the root ribs very slightly to allow for the dihedral when joined. Insert inner spar into slots then outer spar is tapered to $\frac{1}{32}$" at tip from R.6 and cemented in place. A strip of $\frac{1}{4}$" × $\frac{1}{16}$" is laid adjacent to base rib R.1 between leading and trailing edge to permit eventual joining with fuselage. When both left and right wings are set, lift from the board and sand leading edge gently round. Lay one panel flat on the building board and cement together two base ribs resting the other wing tip on a block 2" high (the height of a standard match box). This will give 1" of dihedral to each side of the wing when complete. Do not cement to the fuselage until all parts are covered with tissue.

TAILPLANE.

All the outline parts are to be found on the printed sheets. Pin the spar T.1 in place then join the leading and trailing edge strips T.3 and T.4 with T.2 at the tips. The centre ribs are $\frac{3}{16}$" × $\frac{1}{16}$" set flat whilst the rest are $\frac{1}{8}$" × $\frac{1}{16}$" set flat. Make neat joints but do not use a surplus of cement or warpes will occur. Do not remove from the board until completely set, then gently sand the edges round.

COVERING AND ASSEMBLY.

Cut tissue into strips about $\frac{3}{8}$" wider all round than the part to be covered. Use tissue paste or photo mountant paste as the adhesive. Apply paste only to the outer edges of the part being covered — covering the fuselage in lengthwise strips over each surface from end to end — nose to tail on the sides, etc., nose to F.3 on the top of the fuselage, etc. Do not adhere tissue to individual ribs on wings and tail but only around the edges. When the tail is covered both sides, it is cemented in place over tail bay flush to top stringer, checking its alignment very carefully. The tissue is then water shrunk to initially shrink out the wrinkles. Use a modellist's spray or old scent spray — never brush the water on. When quite dry, cement the fin in place checking its alignment by sighting along the fuselage. Cement the wing in place upon formers F.3, 4 and 5, noting that the trailing edge is level with F.5 and the leading edge protruding forward. Do not permit surplus cement to pull the tissue into wrinkles. Check very carefully the wing position both from the front and top of the model checking that the 1" dihedral on each wing tip is square to the fuselage. Laminate the two wing struts from two strips of $\frac{1}{16}$" × $\frac{1}{16}$" and when dry, sand to streamline and cement in place between lower longeron and underside of fourth wing rib where indicated on plan. A small $\frac{1}{16}$" × $\frac{1}{16}$" strut supports each underside of the tailplane. When set give the whole model one coat of clear shrinking dope and then an extra coat to the fuselage. Check all the flying surfaces for warps whilst drying. A colour scheme is not recommended unless silver dope is very lightly applied all over the fuselage. The area of wings is so great that coloured dope on the wings would make them far too heavy. Use transfers for the roundels and fin flashes. Cut the piece of cellophane to pattern given on plan for windshield then cement in place over tissue.

BALANCING AND FLYING.

Insert plasticine through the cockpit and onto the rear face of the nose block adding sufficient to make the model hang slightly nose down in its normal gliding attitude when supported by the fingertips under the spar. Test glide the model over grass in calm windless conditions. Launch forward, slightly nose down at normal gliding speed. If the model dives, add $\frac{1}{4}$" wide gummed paper trim tabs to the trailing edge of the tail and bend up slightly. If the model stalls (noses up then dives) add tabs but bend down slightly. Do not disturb the balance. Try to achieve a nice even glide. The model may be hand launched down inclines or towed up like a kite (with the aid of a helper) with a length of thread with a small wire hook or ring to fit over the tow hook. A small piece of silk or tissue paper about 4" below the hook will release the glider when the thread is slackened after towing up. Always tow up directly into wind.

When you have completed this model, ask your dealer to show you the others in the "VERON" range of Flying Models and for our latest free illustrated folder.