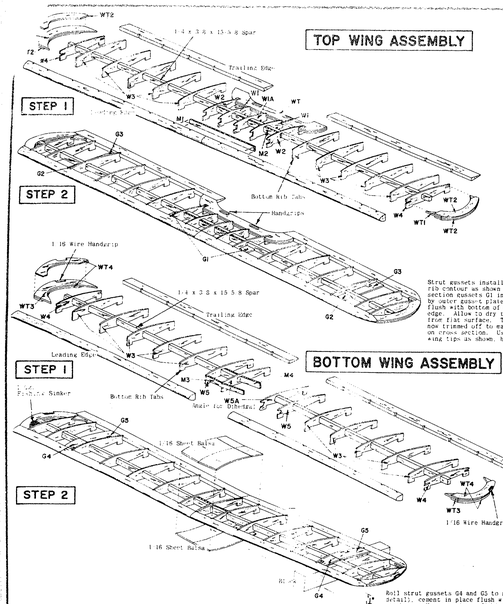
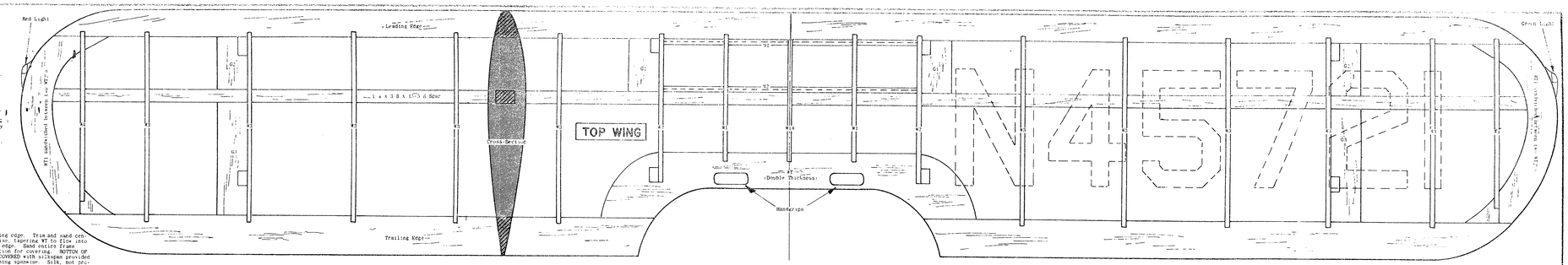


STEP 1

Top wing leading edge and spar are assembled first. Pre-glue in front of notch which is allowed to dry, then a second run when parts are joined ends which form center joint, and bottom covered by plywood pieces W1 and W2 as shown. Cement leading edge halves together with W1 centered between. Add W1A and bottom. Cement spars together. W2 is flush. Allow to dry on flat surface, be sure they are straight. Cement rear center section WT + Trailing Edge to form a double layer. Make two tip assemblies by cementing a WT1 between two WT2's as shown. Allow units to dry then start assembly by sliding ribs onto spar in numbered order shown. Only one W1A is used, additional one is cut in half and used at each tip. Ribs W1 are of THIN STOCK. They must be done for fitting now when inserted in leading and trailing edge. Space out ribs and pin assembly directly over drawing. Tabs on bottom of ribs which permit pinning of wing on flat surface are removed in step 2. Cement leading edge securely in place inserting front end of ribs into notches. Leading edge is flush with top of ribs. Cement trailing edge in place behind leading edge and with tops of center ribs W4. Cement center trailing edge in place inserting ribs into notches. Ribs and trailing edge on each side. All ribs are inserted into their respective notches and are flush with top of trailing edge. Check that leading and trailing edge are positioned as shown in wing cross section. Allow to dry thoroughly.

STEP 2

Strut gussets installed next, are rolled to fit rib contour as shown in detail. Cement center section gussets G1 in place as shown, followed by outer gusset plates G2 and G3. Gussets are flush with bottom of ribs, leading and trailing edge. Allow to dry thoroughly then remove wing from flat surface. Tabs on bottom of ribs are now trimmed off to match curve of rib as shown on cross sections. Using sand paper, round off wing tips as shown, blending smoothly into lower and trailing edge. Trim and sand center section leading edge WT to fine contour and trailing edge and entire wing smooth in preparation for covering. BOTTOM OF WING ONLY IS NOW COVERED with silkspan provided in kit, grain running spanwise. Silk, not provided in kit, may also be used if desired. DO NOT WOOTROA OR SHRINK COVERING. This is done when top of wing is covered after wing has been installed.

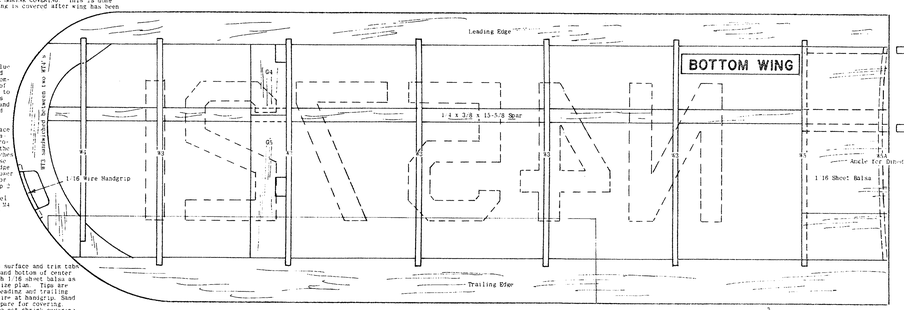


STEP 1

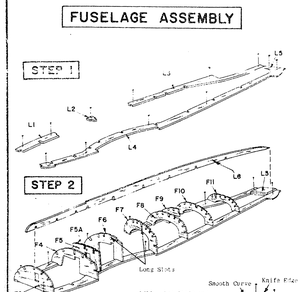
Bottom wing is built in halves. Pre-glue center joints of Leading Edge, Spar and Trailing Edge, but do not assemble. Complete both WT2's by creasing a piece of 1/16 wire, curved to shape into notch to form handgrip. Complete tip assemblies by cementing a WT3 between two WT4's, and allow to dry. Slide ribs onto spar and pin assembly to plan. Bottom wing has dihedral angle. All ribs are vertical except W5 which is sloped. Place at angle (top towards tip) using rib angle template drawn to actual size as provided in detail note on plan. Cement the front plywood gusset M3 into front notches of ribs W3 and W3A as shown. Do likewise with W4 behind spar. Cement leading edge in place. Note that W1 & W3A are narrowed to permit 1/16 spacer at top & bottom for 1/16 sheet balsa covering as shown in step 2. Cement tip & trailing edge in place in same manner as top wing. Opposite panel is built in same manner, except W3 and W4 are omitted. Allow wing panels to dry thoroughly on flat surface.

STEP 2

Roll strut gussets G4 and G5 to rib shape (see detail). Cement in place flush with top of rib as shown. Hammer a 1 oz. fishing sinker to fit and cement between W5 and RIGHT wing tip rib. Remove wing from building board and when set W3 and W4 is removed from flat surface then covered on other panel by sliding onto protruding W3 & W4. Use cement generously and join center joint together tightly, holding with pins. Tip is blocked up fly off flat surface as shown for proper dihedral. Allow to dry thoroughly.



FUSELAGE ASSEMBLY



FUSELAGE ASSEMBLY

STEP 1

Fuselage assembly is started on flat surface directly over fuselage frame assembly plan. Pin L parts in place as shown, covering L5 between and flush with rear of L3 and L4.

STEP 2

Bulkhead F5 is double thickness. Cement F5A to rear of F5. Make two, being sure F5A is cemented to front F5 on both units. Cement all bulkhead halves from F2 to F11 (omitting F3 at this time) vertically to frame, and also cementing another L5 directly on one previously installed. Install and L6 which is inserted into lone slots in center of bulkheads.

STEP 3

With fuselage section still pinned to flat surface, cement F3 in place followed by L7 as shown. Hold with pins until dry. Starting at L6, install 1/32 x 1/4 stringers around bottom from F5 back. Stringers are cut flush with outside of bulkheads, but extend 1/16 past so that bulkheads will not touch covering after installation. Stringers rear of fuselage on L5, bottom of stringers are beveled just enough to fit. When dry and pins are removed, top of stringers are sanded to smooth curve ending in knife edge at rear of L5. Stringer above F3 is cut from F3A to rear to conform to shape. Stringer above it is installed from F5A to F9, and is flush with outside of bulkheads (but extends 1/16 past) so that bulkheads will not touch covering after installation. Rear of fuselage on L5, bottom of stringers are beveled just enough to fit. When dry and pins are removed, top of stringers are sanded to smooth curve ending in knife edge at rear of L5. Stringer above F3 is cut from F3A to rear to conform to shape. Stringer above it is installed from F5A to F9, and is flush with outside of bulkheads (but extends 1/16 past) so that bulkheads will not touch covering after installation. Rear of fuselage on L5, bottom of stringers are beveled just

STEP 4

Remove frame from flat surface and continue construction by cementing other halves of bulkheads directly to opposite side of framework. L parts originally pinned to flat surface are also cemented between bulkhead halves. Add L5, L6, L7 and stringers in same manner as opposite side. Cement F5A against rear of 1/2 bottom resting on stringer as shown. Cement F9A against rear of F9 flush with top. Cement stringer on both sides from F5A to F9. These stringers extend past bulkheads 1/16. Prepare hardwood engine mounts for installation by making holes for engine and control system as described in detail note. Engine mounts are now inserted thru notches from F2 ending flush with rear of F8, straight edge facing outside of fuselage.

STEP 5

Fuel tank (not provided in kit) is now installed. Use 4oz. PIPER or similar type. Locate and make 1/8 hole for feed tube in F2, then mount tank directly over gas tank location using two 1/2 hardwood strips cut to conform to top curve of fuselage. Mount tank with straps provided in kit. Bend feed tube into L shape as shown. Cut a 16" length of plastic fuel tubing and install on top filler tube as shown with 26" length to overflow tube at bottom of tank. Cement the die cut stringers C1 and C2 into notches as shown in sketch 5A, flush with edge of bulkheads. Allow to dry thoroughly. Cement F3A (cut from F3 template, slot) over F3 and on top surface of L3 as shown. Notch F3A to clear engine mounts. Make wing struts as described in detail note, and allow to dry. Securely cement both wing in fuselage between F4 and F7. Push wing up firmly in place, center of wing on center keel. Hold with pins and check that wing is horizontal. Cement assembled stab (see detail) in place while at the same time inserting rear spar of wing into slot in vertical fin. Add celluloid washer to end of spar. Secure rear portion of this installation, checking that stabilizer is horizontal and in line with wing. Be certain that controls move freely and easily. Cement rudder to top of stabilizer and against rear of fuselage. R fitting into notch in F11. Rudder offset 1/2 to right (weighted tip). Add stringers to each side flush with F11 and bevel to knife edge as shown in sketch 6A. Stringer continues back in smoothing to shape for cover section. Trim WT1 and WT2's to knife edge and cement in place as shown in sketch 6A. Add stringers which are tapered to fit as shown. When dry, sand smooth for covering. Dust ejector pipe is constructed by cementing WT2's on H1 as shown. (Other H1 is bent slightly at crease mark to fit, then cemented to top of W2's. Cowl is built up of 3 formers, F6, F7 and F8 (small washer to end of spar). Secure propeller assembly in this installation, checking that stabilizer is horizontal and in line with wing. Be certain that controls move freely and easily. Cement rudder to top of stabilizer and against rear of fuselage. R fitting into notch in F11. Rudder offset 1/2 to right (weighted tip). Add stringers to each side flush with F11 and bevel to knife edge as shown in sketch 6A. Stringer continues back in smoothing to shape for cover section. Trim WT1's