

FORWARD

Carefully check the parts against the parts list; this will help you to familiarize yourself with the different parts. Alphabetical letters are prefixed to the parts numbers. This letter indicates to what group the corresponding parts belongs. Letter "F" stands for fuselage, "R" for rudder, "S" for the stabilizer & "W" for wing. The numbers are in consecutive order, that is you start with number 1 and go on to 2,3,4,5. . . . as you progress in the construction. Read the instruction guide carefully, and always refer to the construction plan.

WING CONSTRUCTION

(1) Double the 1/8"x 1/4" SPRUCE spars from center to the inside of the rib W-5. Lay the spars, leading edge W-10 and trailing edge W-11 on to the plan. Put and glue the wing ribs into the notches in the L.E. and T.E. Be sure the ribs are square with the spars.

(2) Glue the various shear webs W-12 through W-19 to the correct position with grain across up & down.

(3) Bevel the spars and T.E. to match the wing dihedral angle. Joint two wing halves with wing joiners W-20 and W-21. Glue two W-22s into the wing center.

(4, 5) Plank top & bottom of wing with 3/32" balsa sheets using plan as reference. The wing sheeting is installed with the grain running along the spars. Use 1" width balsa to the T.T. and 3" width to L.E. & center section. Cut the cap strips to the exact length from the 3/32"x 1/4" balsa strips and glue the top and bottom of each ribs.

(6, 7) Trim and sand spars, L.E. and T.E. to match the wing tip rib W-9. Glue wing tip block W-23 to the place. Shape and sand W.T. block W-23 to proper contour using plan as reference. Attach the aileron horns to the center T.E. and glue W-24 in to the position. Cut a slot on the W-24 to clear the aileron horn. Be careful not to allow glue in the slot. Attach the ailerons W-25 to the T.E. with hinges (Hinges are not included in the kit.) Glue W-26 through W-28 into the position. Round the L.E. and shape entire wing with sand paper.

FUSELAGE CONSTRUCTION

(8) Glue ply doubler F-2 to the inside of side panel F-1. Glue 5/32"x 1/4" balsa to the top and bottom edges of sidepanel. Glue two F-3s together with epoxy.

(9) Lay the sidepanel against the plan and mark the place of bulkheads F-12 through F-15. Trial fit the bulkheads and sidepanels. When satisfied, epoxy the bulkheads to the sidepanels. Before epoxy cures, correct any warps or misalignment. Glue tail block F-16 between the sidepanels.

(10) Put and glue 5/32"x 1/4" balsa stringers into the notches on each bulkheads.
(11) Attach the radial mount to the firewall F-3 with 5/32"x 13/16" bolts and nuts. Use washers under the bolt heads. Align the engine's thrust line to match the fuselage center. Use plan as reference.

(12) Plank top of fuselage with 7/64"x 3" balsa sheets.

(13, 14) Plank bottom side of the fuselage with 7/64"x 3" balsa sheets. After glue sets up, trim excess balsa and sand flush with bottom surfaces of each bulkhead. Plank bottom of the fuselage with 7/64"x 3" balsa. All fuselage planking is installed with grain running along the fuselage.

(15, 16, 17) Glue F-17 into the notches in bulkhead F-4 and F-5, and glue main gear mount parts F-18 into the place with epoxy glue. Glue F-19 and F-20 into the place and drill 3/16" holes to line up with the slots on the hard wood mount F-18. Cut and shape each parts to the contour of bulkhead F-4. Push landing gear's short leg into the hole and fix with oval gear straps and 7/64"x 3/8" wood screws.

(18) Glue 3/16" balsa F-22 and two ply tail gear mount F-23 into the place.

(19) Glue three cowl mounting blocks F-21 to the front of firewall. Trial fit the cowl to the fuselage. Position the engine so that back of the spinner will be 1/16" from the front of the cowl. When satisfied attach the cowl to the fuselage with three self tapping screws and make any necessary openings for the cylinder head, muffler, etc.

(20, 21) Trim W-27 of the wing to clear the fuselage sides. Drill 1/4"φ bamboo dowel to the wing. Place the wing on the fuselage and drill 1/8"φ hole for the wing bolt, being careful to line it up with the mounting back F-24 inside the fuselage. Open the holes on the wing up with 5/32"φ drill. Tap for the 5/32" bolts on the mounting block F-24. Cut out the canopy from the molded plastic sheet along the line indicated on the inside of the parts. Construct the canopy frame with C-1 through C-4 to match with the fuselage. Drill hole for a 1/4"φ canopy lock pin to the C-2. Glue canopy lock block W-32 onto the wing. Place the canopy lock block W-32 onto the wing. Place the canopy on the wing and fix with the lock pin and 7/64"x 5/16" self tapping screws.

STABILIZER CONSTRUCTION

(22) Glue the 1/8"x 3/16" spruce to the center inner side of S-1. Construct the horizontal stab frame with S-1 through S-4 on the plan. Cut the stab ribs to exact length from a strip of 1/8"x 3/16" balsa and glue into the position. Construct the elevator frames with S-5 through S-8, and ribs from 1/8"x 5/16" balsa strip. Build the rudder and vertical fin using same procedure as stab and elevators.

(23, 24) Cover the both sides of horizontal stab and vertical fin with 1/16"x 3" balsa sheets. Round the L.E. with a knife and sand paper. Bevel the T.E. of the rudder and elevators. Align the fin and rudder and mark the hinge positions on the fin. Cut slits in fin T.E. and fit hinges, and push the surfaces together. Fit the horizontal stab and elevators together using same procedure as above.

(25) Glue the horizontal stab onto the fuselage. The stab should be horizontal when viewed from the rear and at right angle to the fuselage centerline when viewed from above. Check the alignment again before the glue sets up.

(26) Trial fit the vertical fin and tail blocks R-5. The vertical fin should be exactly vertical and should exactly along the fuselage centerline. Shape the R-5s to contour of bulkhead R-15. Glue the vertical fin and tail blocks R-5 onto the fuselage. Check the alignments before the glue sets up.

(27) Attach the tail wheel steering arm [A] to the bottom of the rudder with two self tapping screws. Put the tail wheel on the gear with a brass collar on each side. Hold collars in place with solder. Also solder a retainer to the steering arm [B] and a small collar to the tail gear as shown in the drawing on the plan. Attach a spring steel strip to the bottom of the fuselage with two 7/64"x 5/16" self tapping screws, and the tail gear. Attach the steering arm [A] to the tail gear and set screw. Join steering arms [A] and [B] with two springs.

(28) Fill the gaps round all edges slightly and shape entire surfaces with fine sand paper.