



CURTISS ROBIN

The Curtiss Robin was the first closed cabin, three-piece airplane to appear on the market within the moderate price range. It was developed early in 1928 and sold for less than \$4000. The first models that appeared featured the famous Curtiss OX-5 engine; for construction simplicity, this is the plane we are presenting. Later design improvements included the Curtiss Challenger six cylinder radial air-cooled engine. The square fuselage makes it a snap to build and its generous wing area makes it a fine flyer.

Construction

Cover the plans with waxed paper and pin 3/32 square medium hard balsa stringers to the plan for the fuselage sides. Build one side directly over the other so they will be identical; when the glue is dry, lift them from the plan and gently slice them apart using a single-edge razor blade. Cut the rear motor supports from 1/16" plywood, drill a 1/8" hole in each and then glue them into place. Cut the top and bottom spacers from the same stock used on the fuselage sides. Now glue the fuselage halves together at the tail and then glue in the spacers starting at the rear and working toward the nose. Work very carefully here to make sure the fuselage cross section will be square. Bend the main landing gear strut from 1/16" piano wire and the tail skid from 1/32" piano wire. Fasten them into place as shown on the plan. Use thread wrapping

Have you made a
stick-and-tissue model recently?
Here's a simple scale
rubber job of a great old plane
from the golden age of aviation.

TED DAIGLE

and then apply glue liberally. Glue the balsa shock onto the tail skid. Finish the main landing gear after the wing and the wing struts have been assembled. Cut eight triangles from 3/32" balsa and notch them for 3/32" stringers. Glue these to the top edge of the fuselage nose section and glue in the stringers to simulate the engine cowling. Now glue the windshield supports and the landing gear strut supports in place. These parts are 3/32" stringers and balsa scrap.

Cut 16 wing ribs from 1/16" balsa and two from 1/8" balsa. Cut the wingtips from 1/8" soft balsa and pin them to the wing plan. Pin down the leading edge (1/8" square hard balsa), the wing spar (1/4 x 3/32" hard balsa), and the trailing edge (1/4 x 3/32" hard balsa). Fit the wing ribs and spar supports into place and glue the whole works. When the glue is dry, remove the wing from the workbench and gently taper the trailing edge and round the leading edge and the wingtips. Score the leading and

trailing edges and the spar just outside the two 1/8" center ribs and prop the wingtips up 1-1/8" from the table. Glue the cracked joints liberally and let them dry. Now build the skylight into the top of the wing center section.

Tail surface construction is straightforward. Simply pin 1/16 x 1/8" balsa to the plan and use 1/16" sheet for the curved sections of the tips.

Carve the nose block from a piece of soft balsa. The nose plug is carved from pine. After it has been drilled out, use epoxy glue to fasten small brass washers to the front and the back to serve as bearings. A plastic propeller can be used, but patterns for a balsa prop are on the plans.

Before covering, very gently sand all the framework and round off the edges of the tail surfaces. Use Jap tissue to cover the model. I used blue for the fuselage and yellow for the wings and tail surfaces. Outline the surface to be covered with clear dope; then lay a piece of tissue onto the surface and gently work out any wrinkles. Spray the covered surfaces with water and let them dry to shrink, then steam out any warps. Make up a mixture of 50% clear dope and 50% thinner and about ten drops of glycerin. This will give you a sealer for your model that is light, but yet will not shrink on the airframe and pull it out of shape. Give the model one coat of this mixture. Use thinned colored dope for the cockpit window frames. Glue on lightweight cellophane



Being a slow flyer with a large wing, the model will take off from close-mown grass.



The Robin has many square corners and straight lines. It was a durable workhorse in real life but not very fast.

for the windows and the skylight in the top of the wing.

You can now begin to assemble your model. Glue the wing into place and carefully check to make sure it is properly aligned. Spot glue the fin to the top of the elevator and hold the assembly in place on the elevator platform with rubber bands until the final flight adjustments are made.

Build four wing struts as shown on the plan and dope them silver and then glue them into place. When the glue has dried, complete the landing gear. Drill a small hole in each secondary landing gear strut support in the bottom of the fuselage. Bend two secondary landing gear struts from 1/32" piano wire and slip the rear of each into the holes you have drilled in the bottom of the fuselage. Wrap them with thread where they connect to the wing strut and glue thoroughly. Now solder these struts to the main landing gear struts where the two meet just above the axles. Glue soft balsa stringers to each strut wire and then add the two additional struts from the wing strut to the forward part of the fuselage. If you want to get fancy, install a shock strut from the top of the wing strut to the underside of the wing next to the top of the cabin window. This strut takes a lot of stress during landings. Cut two pieces of 1/16" OD aluminum tubing 3/4" long. Then take two straight pins and four pieces of soft balsa stringer 1/8 x 1/8" that are 3/4" long. Force a straight pin into the end of two of the pieces of balsa and clip off the heads of the pins. Very carefully force the aluminum tubing into the ends of the other two pieces of balsa. Now sand the balsa round, insert the pins into the tubing sections, and glue the ends of the struts into place and you have two neat-looking shock struts. The easy way is to cut two pieces of 1/16" rubber 1/8" short and hold them in place with pins while the glue dries.

Carve the engine exhaust stacks and the wheels from soft balsa. Paint the exhaust stacks silver, the wheels flat black and the hubs silver or yellow. The control surfaces can be outlined with black thread. Cut the thread to the proper length and dip it into clear dope. Then wipe off the excess dope, lay it into place and tap it lightly with your finger. The lettering and name on the fin can be applied with a fine point black felt pen.

The model should balance at the wing spar. Use a little bit of clay or some pieces of lead in the bottom of the nose block to make the adjustment. Now adjust your ship for a long, smooth glide by using small balsa wedges under the elevator assembly. If the model dives, raise the front edge of the elevator. If it stalls, raise the rear edge of the elevator. When you find you have it properly adjusted, glue the assembly in place and remove the rubber band. Now warp the rudder a little to adjust for a wide left-hand turn and install four strands of 1/4" flat rubber; try several hand-wound flights over tall grass to make sure the plane is properly trimmed under power. Now hook up your winder and pack in the turns. Good luck!