Two junior members — the author's son and the scale Curtiss Robin. Both well engineered and trim, the model has all the scale details, interplane struts have been removed for flight.

**by H. G. BOWERS**

OUR 1/2A SCALE RADIO CONTROL ROBIN MIGHT NOT BE THE PRETTIEST — BUT IT WILL BE THE FLYINGEST — EFFICIENTLY ENGINEERED CHARACTERISTICS OF FULL SCALE CRAFT HAVE BEEN PASSED ON TO JUNIOR MEMBER.

# R/C CURTISS ROBIN

Side view of the tarmac and it's hard to tell from the real thing. Scale effect of the buildings, utility poles, and horizon in the background are the only giveaway regarding size.

Authenticity is most important to the scale builder and careful attention to the many small details is what separates the men from boys. Struts, wheels, radiator, good scale details.

► When an old time aviation enthusiast starts to reminisce of what is often called the golden era of flight, one of the first aircraft that undoubtedly comes to mind is the OX-5 powered Curtiss Robin. Though angular and box-like in appearance when compared to modern day airplanes, the Robin nonetheless was a well engineered, sturdy, and highly efficient machine. After its debut in 1927 it became one of the most popular utility aircraft for many years, and in use even today by crop dusters and in remote areas. One incident I recall was of a Robin being intercepted at an inland Florida strip after landing at night between automobile headlights used as field markers. The two rear seats had been removed and it carried a contraband cargo popular during the period. By today's standards, the Robin's performance was by no means spectacular with its maximum speed of 100 and cruising speed of 85 miles per hour, but it was a stable and reliable platform, and it served as a fine outlet for the vast stock of World War I surplus OX-5 engines which were so readily available during the period.

Few aircraft have existed which lend themselves more admirably to an efficient flying model than the Curtiss Robin. It is for this reason, and perhaps a bit of nostalgia, that I selected it as a radio controlled flying scale model. The one inch to the foot scale used provides a convenient and practical size with more than ample fuselage space to accommodate the small, light weight radio equipment available in most hobby shops. Any good .049 engine will provide near scale performance; a highly desirable *(Continued on next page)*


From the rear you can see the attention that has been paid to the scale markings of the Robin, the authentic Curtiss signature is part of details.

**R/C CURTISS ROBIN . . . Continued**

factor in radio control flying, and a 40 acre field is not required.

Construction is conventional and simple so lets begin with the fuselage. Carefully study the plans and cut the two basic fuselage sides from medium 1/16" sheet balsa. Next, install the longerons, uprights, diagonals, and floor bearers, which are made of ⅛" square hard balsa. At this point crack the units to provide the taper shown in the top view, glue well and allow to dry. Install the floor which will serve as a gauge in joining the two sides, glue the two ends together at the tail post, and add the cross members. Cut the landing gear supports from ⅛" plywood and bind and cement the near wires in place. When dry, mount in their respective positions beneath the floor at stations 3 and 4. Now install the ⅛" balsa firewall at station 2 and the ⅛" sheet balsa doublers on each side of the nose, mounting the ⅛" plywood engine bearer between as shown on the plans. Use plenty of cement on this area and allow it to dry thoroughly. The 1/16" sheet balsa top and bottom covering may now be added, along with the wing retaining hooks, suitable escapement mount, and tailwheel strut. Carve the cowl, exhaust stacks, and windshield fairing pieces from medium balsa blocks and install. I recommend the cowling be readily removable for easy access to the engine on the flying field. Complete the landing gear, mount the wheels, and set the fuselage aside.

The wing is very simple and no difficulty what-so-ever should be encountered in its construction. Cut 20 ribs from 1/16" sheet balsa and construct in the normal manner by laying out each panel on the plan. The drawing may be used for constructing both right and left panels simply by reversing the wing tips and installing the strut mount gussets on the appropriate opposite rib. When both panels are completed join them over the center section drawing on the plan using the plywood spar joiners and balsa blocks to obtain the desired 6 degrees of dihedral. Now add the wing retaining hooks in their proper center section position and cover the center section and leading edges with sheet balsa of the thickness indicated on the plan. Except for sanding to shape and covering, the wing is now complete.

Next build the tail surfaces as shown on the plan and carefully sand to insure accurate cross sections. The rudder should be left off until after covering and finishing. It is then mounted with thread hinges using a baseball type stitch. Notice that the lower part of the vertical tail is constructed of 3/16" sheet balsa, and is an integral part of the fuselage since it contains the 3/32" aluminum tubing through which the control torque rod must be run.

Wing and landing gear shock struts may be constructed for scale effect only, but it is recommended that they be left off when the model is flown.

The model is now ready for covering and finish. Use a good grade of medium Silkspan or silk, as desired, and 3 or 4 coats of clear dope respectively. Sand lightly between each coat. When dry apply the desired colored dope, sanding lightly with wet paper between each of the three coats. Our model carried the standard factory color scheme of burnt orange fuselage and struts with yellow wings and tail surfaces. Wheel discs, a stripe down each side of the fuselage, and exhaust stacks were silver. The numerals were glossy black and other details flat black. Cut the windows and windshield panes from clear, flat sheet plastic, trim to fit, and glue into position.

At this point the engine is mounted and radio gear installed. Receiver and escapement installation, along with batteries, switch, wiring, etc., will depend upon the type equipment used so I will not attempt to describe any particular method. The receiver should be mounted in sponge rubber, however, and be movable, along with the batteries, to obtain proper balance.

The stabilizer should be slipped into its slot and be held firm with rubber bands until final trim is obtained, then securely glued. Mount the vertical tail assembly with glue, and secure the wing with rubber bands between the retaining hooks inside the fuselage. A small wire hook used as a tool will prove quite helpful at this point.

Test gliding, alignment, thrust adjustments, etc., are all conventional and when completed your Robin will provide radio controlled flights which will bring back fond memories to all of the old timers.

For those not too hep to (*Continued on page* 41)

## R/C Curtiss Robin

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flight adjustments, our first suggestion would be to make haste very slowly. The test glides should be made at about three feet above the ground and at the approximate flying speed of the model. This speed is unknown now, and should be arrived at in slow, gradual steps. Thrust model forward, with a bit of push if it sinks rapidly to the ground it requires a firmer push. If, however, it tends to nose up and then fall off to the ground, you have either pushed or thrown too firmly or incidence is required beneath either the leading edge of the stabilizer or the trailing edge of the wing. The amount of incidence is also determined in slow, methodical steps. The glide must be a slight nose down angle without tendency to oscillate up or down in its glide path.

The best flight instructions for the beginner are those given with Ken Willard's article the "Scorcher" in the August '61 issue of Model Airplane News.