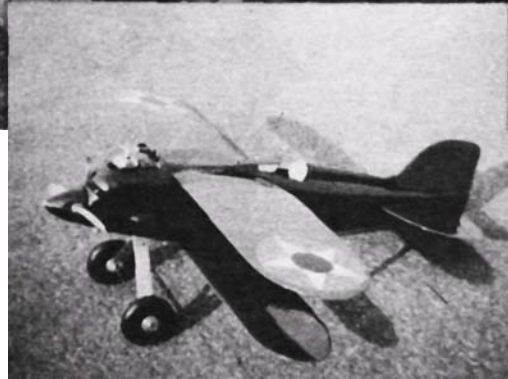


Curtiss R3C-1 Racer



THE FAMOUS RACING PLANE THAT HELD BOTH THE
LANDPLANE AND SEAPLANE RECORDS IN THE '20'S

BY DICK EALY

THE 1925 Curtiss R3C-1 racer makes an ideal U-Control model. Its clean lines make it very fast and its proportions make it highly maneuverable. Lt. Cyrus Bettis used it to win the Pulitzer Race (landplanes) on September 12, 1925, with a record of 248.98 mph. The winning ship was converted to a seaplane in two weeks time for the Schneider International Race. None other than Lt. Jimmie Doolittle flew it to victory at the record speed of 234.36 mph.

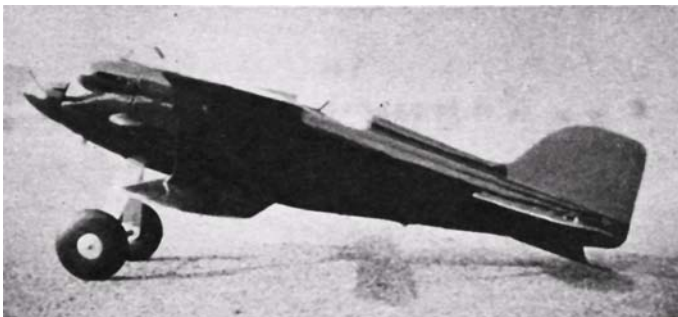
The R3C-1 was the last American plane to hold the world's speed record until the summer of 1947, when it was regained by a special Lockheed P-80R (623.8 mph average).

Construction: Note how the power unit is detachable. It is held in place by two four-forty machine screws. The

wings are detached at lower wing and strut intersection, with two 3-48 machine screws and nuts. The ignition, gas tank, landing gear, and motor are all accessible, with the removal of these four screws. The controls may easily be inspected.

Make firewall at station 2-1/4 out of 3/32" plywood. Assemble top and bottom fuselage blocks and glue them lightly together. Glue the firewall lightly in its proper position on the front end of the fuselage. Glue the two cowl blocks together, using very little cement. Cement the assembled block on front end of firewall.

Next, lay out the fuselage side on the assembled block you have just completed. Draw a center-line with pencil to indicate the line of thrust in center of engine. The vertical heights at each station (*Turn to page 122*)



• Model follows closely detail of the full size aircraft except for minor changes in landing gear. Wings and power plants are removable, quick access to controls provided. A fast scale control-liner.

CURTISS R3C-1 RACER

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may be obtained from the cross-sectional view and placed on the block. Connect all the points and draw a curve to make the fuselage side outline.

Carve the balsa wood away. Lay out the top view by same method, and carve surface balsa away. Sandpaper the fuselage plank smooth and then carve away the corners to obtain the elliptical cross-section as shown, at each station. With a razor, open up all the fuselage blocks for hollowing out. Glue the two top blocks permanently together—let the cowl go until later. The main web of 3/32" plywood is counter-sunk on top of bottom fuselage shell. Cut the lower fuselage block as shown on the drawing, at the rear end of the web. Make the plywood web to fit, but do not glue it in place yet. Cut the holes for the switch coil. The front view shows small plywood double plate. Glue it on web bottom.

Make the motor mount dural clip X. Also make the small bracing clips Y and Z. Make the dural landing gear struts and bend as shown in front view. Clamp clips X and Y in place on web and drill holes through web and double plate. Clamp landing gear struts together with clip Z. Clamp this assembly beneath double plate on the web. Drill the rest of the holes through to match. Bolt with proper screws, nuts, and lock washers. Clamp firewall in place and drill remaining holes.

If the Arden glow plug is to be used, the ignition can be omitted. If regular ignition is used, wire up as shown in diagram. Note how wires go through ignition tunnel at Station 4-3/4 for hold-down clearance. Fit the main web onto lower fuselage block and glue in place. Cut the upper fuselage block as shown at wing leading edge. The front

portion is glued permanently to lower fuselage. This houses the gas tank and condenser. Install 1/4" balsa bulkhead at front of upper fuselage. Cement 3/32" plywood plate M, for Delta T. Delta bell crank.

Make elevator from 3/16" hard sheet balsa. Make silk hinges. Use brass screw for tail horn, which is supplied with Delta bell crank. Connect bell crank and tail horn with 1/16" diameter steel wire push-rod.

Glue lower rear fuselage block to upper block and add the tail skid. Put silk gusset over tail skid to hold in place.

Make rudder from 1/4" hard sheet balsa. Add head rest and windshield fairing. Make each wing from lightest balsa and in one piece. Templates are shown at A, B, and C. Notch fuselage for upper and lower wing. Glue each wing in place with 1 degree plus incidence. Make dural clip H and imbed in lower wing for front hold-down screw. Make two dural strut clips for lower wing and cement in place. Make 3/32" plywood struts and bevel to fit. Cement to upper wing with silk gusset. Make lead-wire guide and bolt onto right strut.

Install 1/32" lead-wires. Make front and rear plywood hold-down plates and cement in place with silk gussets. Make two small nut-retaining plywood pieces by making a press-fit with the nut. Cement in place. Mount Arden 19 engine, and hollow out cowl to fit. It is split vertically and cemented in place permanently after painting. Note how full line passes through plastic canopy at Station 2-1/4. Plastic canopy is glued onto cowl only. Install 1/8" diameter steel wire axle and solder washers to hold wheels in place.