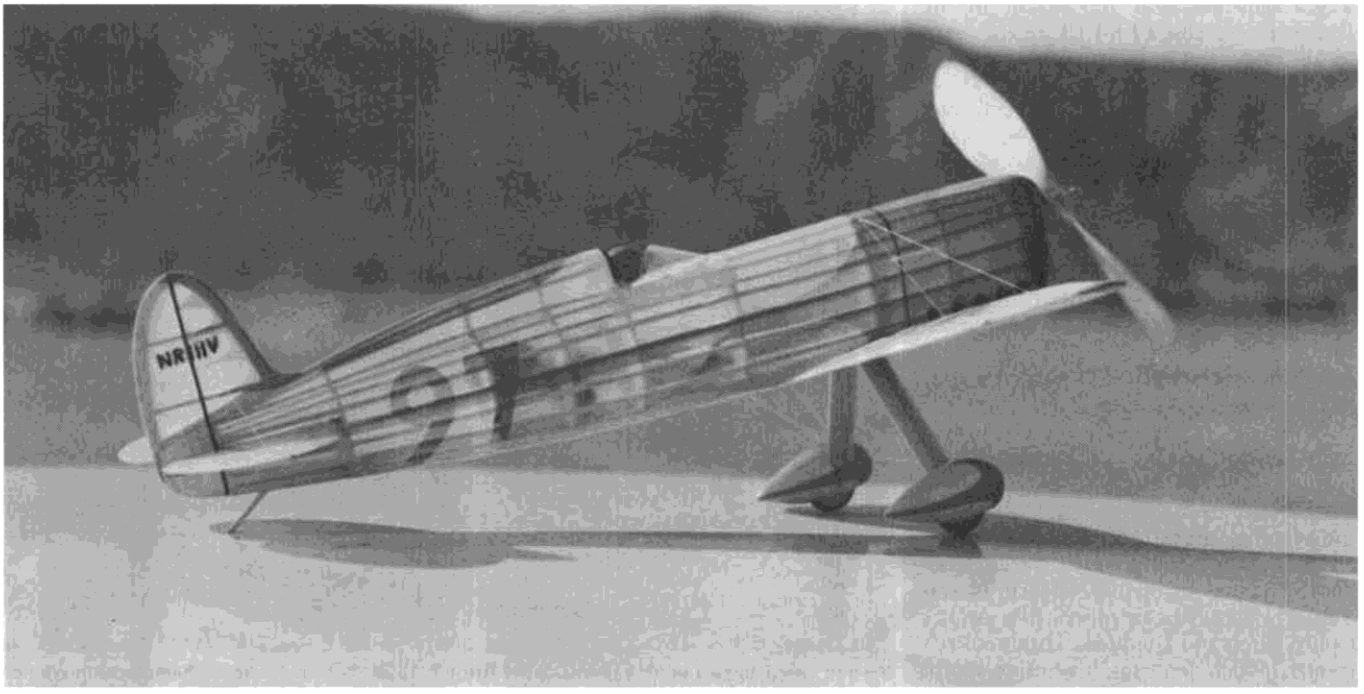


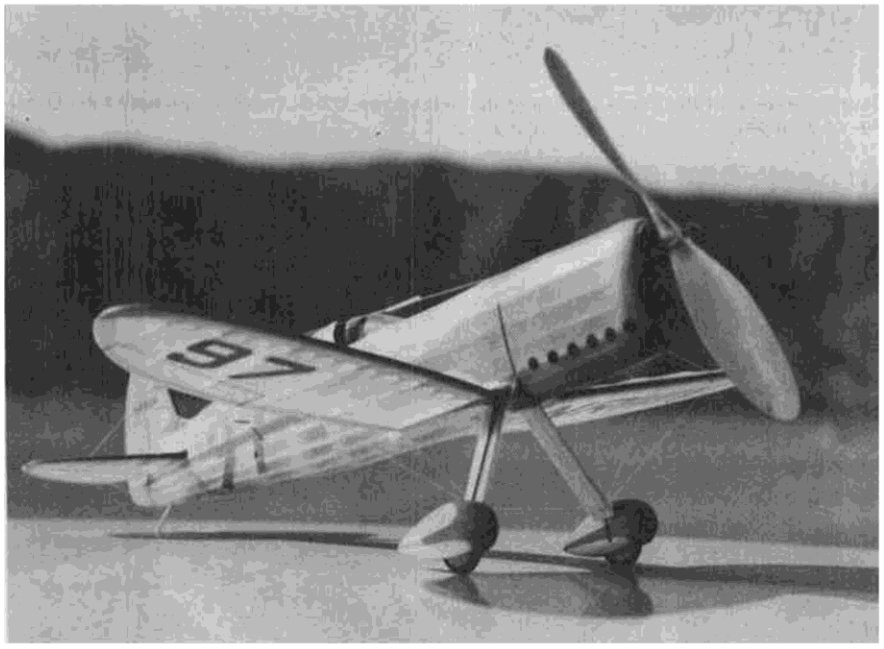
GORDON ISRAEL'S "RED HEAD"

A SPECIAL PEANUT WITH AN INTERESTING HISTORY

Except that the plans had to be reduced by 97% in order to meet the 13 inch span limit for Peanut models, the construction article presented herein is reproduced word-for-word and line-for-line from two consecutive Sunday editions of the Omaha Nebraska World Herald, October, 1934. The model was designed by Ted Vogel, and the article was written by "Bud" Schleh.

NPMRA President Glen Spickler sent us prints of the original newspaper clippings, and Walt Mooney built the Peanut model shown in the photographs, using the plans as printed on the following two pages.

Considering that they are over 40 years old, the plans and text are surprisingly modern. About the only thing missing is the word "epoxy!" Walt's model is a fine, stable flier, and on the day photographed, it put in several 30 to 40 second flights. The most noticeable modifications are the installation of Walt's favorite music wire shock absorbing landing gear, and the rear motor peg relocation . . . to keep rubber weight forward. All of the flying and landing wires are nylon monofilament.

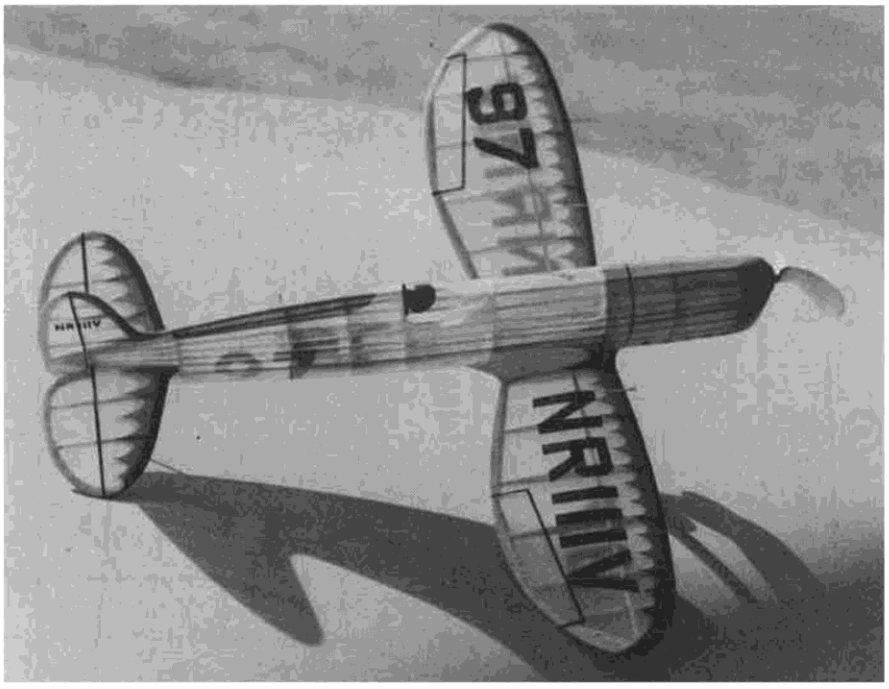


High thrust line plus long landing gear permits generous size prop for this Peanut scale model. Ship flies quite well in spite of racing configuration.

• Perhaps no ship at the last Omaha air races holds more interest for model builders than Gordon Israel's "Redhead." Many requests have come to me for flying scale plans of this sleek little racer, and here they are! This model is much larger than any shown on this page up to now, and (don't get discouraged) requires a great deal of time and patience to build. However, the finished job will well repay you for your efforts.

"Due to the length of the fuselage, it is necessary to show the side view in two sections. Cut these parts out with shears and paste them together to form a continuous side view . . . then start construction.

"Note that along the bottom of the fuselage, from end to end, runs a keel using the dotted and the solid lines shown. Cut the keel from good, firm one-sixteenth-inch flat sheet balsa. With a pencil, mark the position of the formers on the wood. Then, from one-sixteenth-inch flat balsa, cut out formers "A" and "I." The rest of the formers



Unusual plan form of wings is evident in this photo. Long fuselage permits lots of rubber and long power run. Original plans show hook at rear, which could cause tail-heavy problem.

. . . "B" to "H" inclusive, are cut from one-thirty-second-inch flat balsa.

"Make pencil marks on all the formers to show the position of the one-sixteenth-inch square strips (or stringers). Now glue the formers to their proper places along the keel, being sure that they are properly lined up from front to rear, and that they are perfectly perpendicular. Connect the formers with one-sixteenth-inch square stringers, laying them along the top of the formers, according to the marks given. The keel should protrude one-sixteenth-inch below all formers except rear former "I." This serves in place of a one-sixteenth-inch stringer along the bottom of the fuselage.

"This type of construction . . . (formers glued to keel, then connected) automatically lines up the fuselage from end to end, eliminates the need of a top view drawing, and also the need of building a box fuse first.

Between formers "D" and "E," cover the cockpit with one-thirty-second-inch flat balsa, sanded thin. Cut out the hole for the pilot's seat with a razor blade. Don't apply the celluloid windshield until after the ship is covered.

"Make the nose-block from a block of balsa cut to the general outline of former "A," then carved and sanded to shape. The inside should then be hollowed out, and a hole drilled for the nose plug. Then glue the nose-block to former "A." To add realism mark the openings shown on the front view of the nose-block with India ink. Or, carve them in with a knife. On the real ship these openings provided air cooling for the motor. The six round dotted holes on the side view represent exhaust ports. They are on the right side only, and are either drawn on with India ink, or made of thin discs of balsa, painted black, and glued to the cover job.

"The vertical fin and the rudder are built up from one-sixteenth-inch flat balsa, using the outline given in the drawings, and have two connecting ribs built into them. These are shown by the double broken lines. The single broken lines simply indicate the scale number of ribs in the real ship's fin and rudder. The bottom part of the rudder is made of balsa block shaped to conform to former "I," then tapered to the tail of the fuse. It is glued to the rest of the rudder, and moves with it on aluminum hinges. The tailskid is made of one-sixteenth-inch bamboo, securely glued to a notch cut in the keel.

"Although the landing gear is not mounted to the ship until after the wings are built in, it is just as well to make the landing gear struts and wheel pants along with the fuse. The struts are made of one-eighth-inch flat balsa cut to two and one-eight inches length and one-half inch width, then sanded so that the rear is tapered to an edge. Each wheel pant is built up of three pieces of flat balsa . . . the center piece one-quarter-inch and the two outside pieces one-eighth-inch stock. Carve a circular opening in the center pieces, large enough to hold the wheels without jamming, then glue on the outer pieces and sand the pants to their streamlined shape (see top and side view of pants).

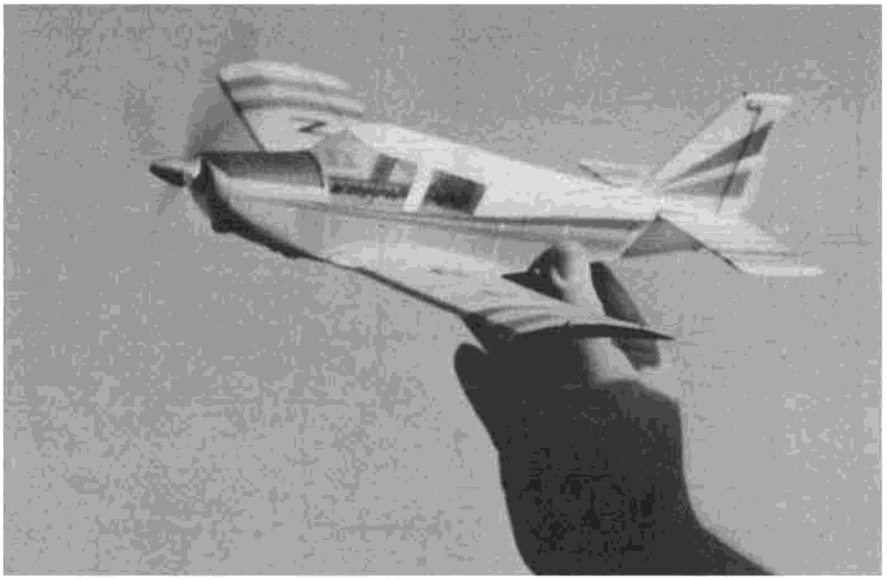
"The wheels are assembled after the pants have been glued to the landing gear struts. The axle is one continuous piece of thin music wire, which also serves as a flexible, shock-absorbing brace.

"Now glue in a music-wire motor hook at the rear former "I," and make one for the front of the ship. This goes through the nose plug, then through two small washers which act as bearings, and finally through the prop—where it is securely glued. Carve a flying prop from a one-half by three-quarters by 5-inch balsa block.

"Cut the 12 wing ribs from one-thirty-second-inch flat balsa, noting that ribs three and four are identical. In the real ship, there were more ribs. The dotted lines indicate the scale number, and if you feel ambitious, you may add them, by fitting pieces of one-thirty-second-inch flat balsa in position and then shaping them to the proper contour. However, the ribs shown are ample. Next, cut two wing spars from one-sixteenth-inch by one-eighth-inch strip balsa. Pin them in place on the plan, and add the ribs as noted by their numbers.

"The leading edges are one-eighth-

Continued on page 65



Next month's Peanut placed second at Las Vegas contest; 40 seconds under a 25 foot ceiling. It's the Robin HR-100 Tiara.

Peanut . . . . . *Continued from page 39*

inch flat, cut curved as shown, and glued to the end of each rib. Hold these edges securely with pins until they are dry. Next make the wing tips, (two pieces of one-eighth-inch flat balsa for each wing) gluing them to the leading edge and to the rear of ribs six. Each trailing edge is built of three pieces of one-sixteenth-inch flat balsa. These should be tapered to an edge before the wing is covered.

"Note that ailerons are merely indicated on this model. Make them movable if you wish, but a ship of this type is extremely sensitive to controls, so I'd advise you to simply indicate them with an ink line on the covering.

"When the wings are dried, mount them to two wing-stubs, which in turn are glued to the fuselage. These stubs are carved from one-quarter-inch flat balsa, cut to the outline shown on the wing layout. Then carve and sand to shape. At the point where the wings are glued to the stubs, the stub is carved to the exact shape of rib one. The stubs add to the streamlining of the whole job.

"It will be necessary to remove part of the stringers, and part of formers "C" and "D" to give the wings a secure mounting. The two wing-stubs are glued to the keel, as shown. NOTE: Be sure that the left has a greater angle of incidence (leading edge higher and trailing edge lower) than the right wing. This offsets the absence of ailerons and keeps the ship from rolling because of prop torque. Now replace the pieces of stringer that you cut away, and sand the whole job carefully.

"The scale elevators and stabilizers on your plan will, in many cases be sufficient tail surface for this model, but the larger surfaces are better for flying. The outline pieces are cut from one-sixteenth-inch flat balsa, and connected as shown, with ribs of one-sixteenth-inch balsa strips. As in the wings, the real job had the same number of ribs as are shown by the dotted lines.

"For flying purposes, the two shown by double dotted lines give enough strength without too much weight. When the tail surfaces are dry, add the aluminum hinges by slitting the balsa framework and gluing the aluminum strips into place. You will get a better cover job if you cover the tail surfaces before mounting them to the fuse. Consult the view of the ship for the proper horizontal position for mounting these parts.

"Since the landing gear will not interfere with covering, add it next. The wing drawing shows the right point for gluing the struts to the wing stubs. For added strength, cut a slot in each wing-stub (about one-sixteenth inch deep, and long enough for the strut), then glue the struts firmly in place, pinning them securely until dry. The distance between the wheel pants (width of axle) should be three and three-eighths inches. The axle is one continuous piece of music wire, running through and between the wheel pants.

"Next comes the cover job and the painting of all exposed wooden parts. The nose-block is painted a solid red. The landing gear, struts and pants are white, trimmed red inside of the color lines shown on the drawing. The tail-skid and the cover over the cockpit are white; the wheels black. Give the propeller several coats of silver dope, then one of clear.

"From former "A" back to former "C," the fuse is covered with red tissue. The rest of the fuse, and the wings and tail surfaces are covered with white tissue. Then, the red scalloped patterns (made of red tissue very carefully cut out with scissors) are doped on over the white tissue. These patterns are shown on the drawing.

"Before applying the red patterns, water-dope the whole ship and let it dry tight. Then apply the scallops, a small section at a time, by laying them in position and carefully gluing them down with clear dope and a camel hair brush. On each side of the fuse there is a long, triangular red streak that runs from the red cowling at "C" back to the tip of the rudder. All letters and numerals are of black tissue, applied with clear dope. These may be hand-cut, or purchased from model plane shops very reasonably.

"When all the scallops and numerals are on, give the ship one or two coats of clear dope for a finishing touch. Then add the thread landing and flying wires. These are of stout black thread, running from the pants up through the wings (at points marked "X") and into the fuse. Draw them very tightly, and anchor them at all points of contact with drops of glue. Beside being ornamental, these wires add greatly to the strength of the landing-gear and wings. Note especially one set of wires that run from the pants up into the fuse, at former "B." These should be made of wire instead of thread, since they will act as a protection to the wings. Secure them well with glue.

"With the addition of ink lines around the cockpit and one around the fuse between "B" and "C" . . . a celluloid windshield . . . and the six exhaust ports, your Israel "Redhead" is complete! What do you want next? ●