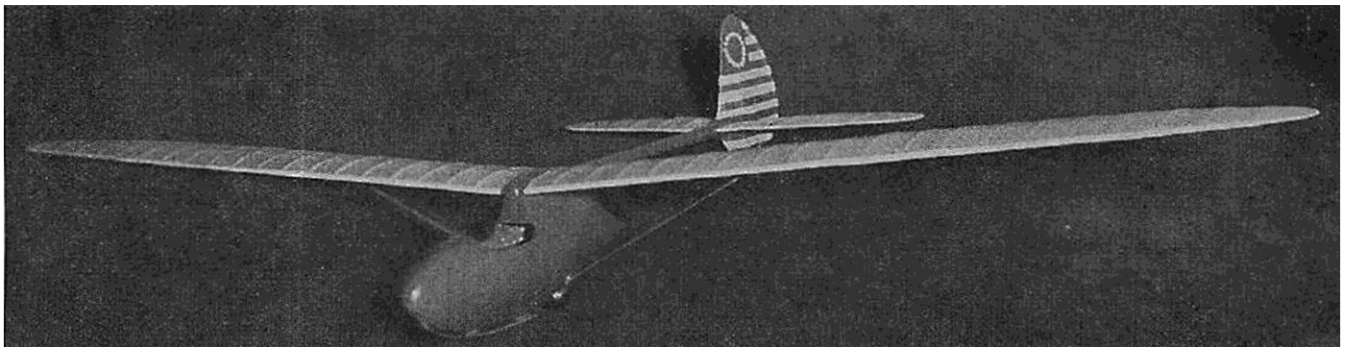
The Bowlus "Baby Albatross"



Plans and instructions for making a fine flying model of a modern sailplane.

By
Paul Plecan

Drawings by William Winter

THE name Bowlus has been identified for years with the finest soaring craft in America. Already distinguished because of the Albatross and other ships too numerous to mention, Bowlus is now producing the Baby Albatross. The new design is highly original, striking a pleasant note in this day of standardization.

The model, with the exception of alterations in the size and area of the tail surfaces and the addition of dihedral, is an accurate reproduction of its prototype.

CONSTRUCTION OF POD

Material sizes are not listed throughout this article—you will find them in the bill of materials at the end.

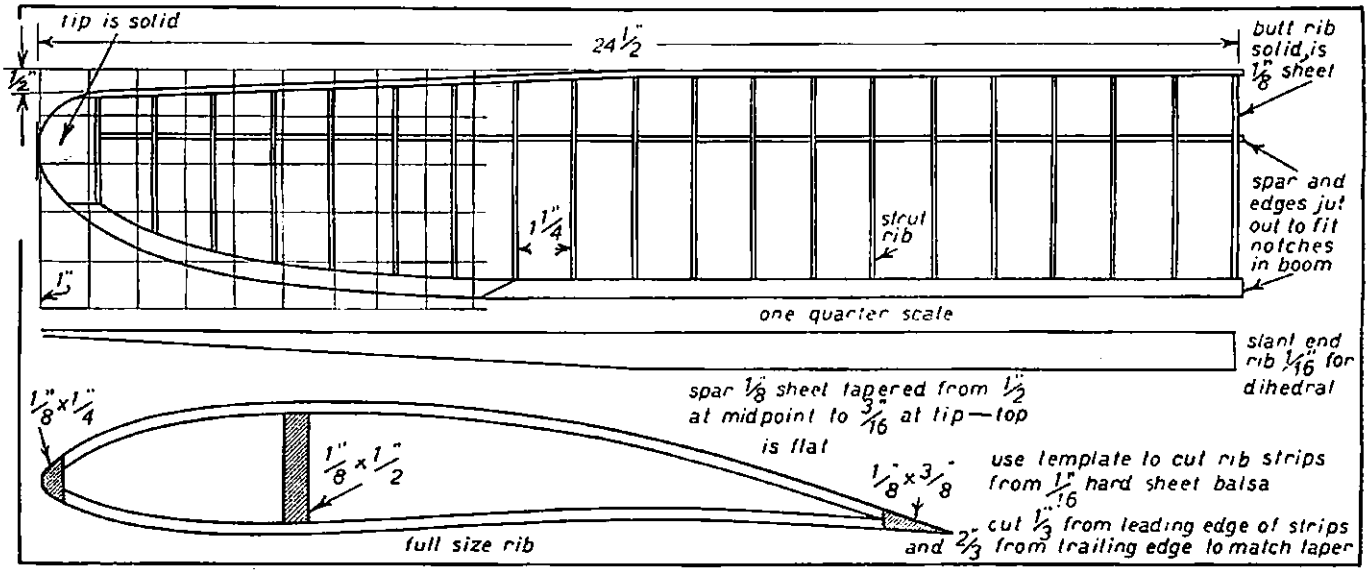
The fuselage or "pod" is carved from a solid block of soft balsa. After shaping the block to the required outside dimensions of the pod, draw the profile on the largest side. Cut away the excess wood and repeat the process to obtain the proper top-view shape. Shape the pod to the proper cross-sections, indications of which are drawn integral with the side view. Sand the finished pod to a temporarily rough but even finish. Cut the pod in half longitudinally and hollow each half until an electric light, held close, can be seen through the wood. A curved blade of some description would facilitate the work. The hollowed halves are cemented together and held, until dry, with rubber bands wrapped around the whole. Cut out the pod for the landing wheel and cockpit openings. Sand the surface of the pod with progressively finer grades of sandpaper. Blow off the dust after the final sanding.

THE BOOM

The boom is prepared from a square strip of firm balsa, the ends of which, even while the boom is being rounded, are left square to serve as a base to which the wings and tail can be cemented. Shave the corners of the boom until a true octagonal cross-section is affected. By drawing the boom through sandpaper held roundly in the hand, a circular cross-section can be worked accurately. The boom is left solid, sanded to a satin finish, and attached to the pod. Form the skid from bamboo and cement in place.

FINISHING THE POD ASSEMBLY

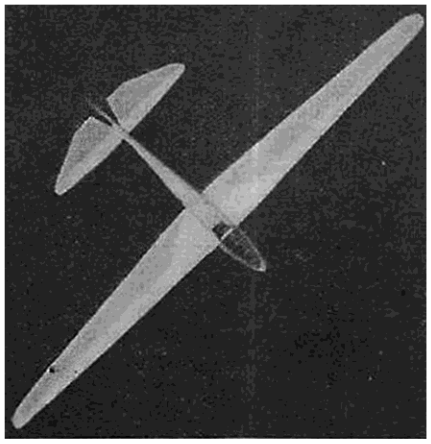
Give the pod and boom a coat of wood filler and, when dry, a sanding with the finest paper. If a prepared model filler is used, give the surface three coats, *(Turn to page 94)*



THE BOWLUS "BABY ALBATROSS"

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sanding lightly between each. Allow at least 15 minutes between coats. Finish with three coats of the top color desired. Sand between each with wet or dry sandpaper. After the final coat, rub the finish with especially prepared model rubbing compound. Polish the surface



The Ross-Stephens sailplane model featured last year's annual gliding and soaring number. Plans appeared in the December issue.

with a flannel cloth to bring out the luster.

LANDING WHEEL

Mount a 5/8" M & M airwheel on a .028 wire axle. The assembly can be easily worked into position and cemented through the cockpit and wheel opening in the pod.

TAIL SURFACES

The stabilizer rib strips are all cut to the same shape and size from sheet balsa by means of a rib template. The shorter ribs are attained by cutting one-third from the leading edge portion and two-thirds from the trailing edge portion of each rib until the lengths match the plan. Place the two stabilizer halves—one left-hand, the other right—on the bench. Cut the edges from sheet balsa and assemble the entire unit in the form by placing small blocks beneath the pieces to be elevated. After the ribs have been fitted and cemented, shave the edges to the required cross-sections—conforming with the contour of the rib section. The rudder is constructed in like manner with the exception of the various details noticeable on the plans. Since the edges are thickest at the point where the rudder has the greatest breadth, it will be necessary to use the thickest sheet balsa required, for the entire outline. The edges can be cut from the sheet balsa, cemented together on the bench, and then sanded to a gradual taper toward the top and bottom.

WINGS

Prepare a wing rib template and cut all the wing rib strips required, both top and bottom. It will be noticed that the sheet balsa spar tapers from its midpoint to the tip, being flat on the top throughout its entire length. As was done with the tail surfaces, make the shorter ribs by cutting one-third of the surplus length from the front ends and two-thirds from the rear. Slide the lower rib strips beneath the spar, pin the spar and edges in place, (elevating the leading edge with small blocks), and cut the ribs to the exact fit. The butt rib is of 1/8" sheet and is solid. It is slanted 1/16" for dihedral. The tip is a solid piece of sheet.

COVERING

Run the grain of the paper spanwise on the wings and tail. Attach the paper, first to the tip and butt ribs, stretching tightly until adhered. Dope down the leading and trailing edges. The paper may then be lightly sprayed, the units being pinned to the bench until dry to prevent warping. Dope the finished surfaces with thinned clear dope. Cement the wing panels, the stabilizer and rudder to the squared boom ends. Brace the wings with a single streamlined strut on each side as called for in the plans.

FLYING

Use a 100-foot heavy thread or light cord for a tow line. Place a loop around the skid and move forward to tow the ship into the air. The resistance of the air will slide the tow line off the skid after sufficient altitude has been obtained for gliding. Balance the job with small pieces of lead. Gliding trim can be obtained by gliding the model from the hand over tall grass.

COLOR SCHEME

The real ship is painted as follows: white wings, gold trim; natural veneer finish on pod; metallic boom; red, white, and blue tail. For simplicity, a blue or black fuselage and yellow or red wings are suggested. The same tail design serves as a decorative value.

BILL OF MATERIALS

1 2½x3¼x12" soft block
1 ½ sq. x14½" medium strip
1 1/8x1/4x36" hard strip
1 1/8x3/8x36" hard strip
1 3/16x2x12" hard sheet
1 1/16x2x36" soft sheet
1 1/8x2x36" hard sheet balsa
1 1/16x2x24" hard balsa
1 1/16x1/4x10" bamboo
1 sheet Jap tissue
1 oz. cement
1 oz. clear dope
1 piece .028 wire
wood filler, colored dopes as required



The Taylorcraft gas model, plans of which appeared in the April issue, won the Eastern States scale event at Seversky Field. Ship built by Paul Plecan, flown by Roger Hammer.