

leading and trailing edges and the tips. The ribs are cut slightly oversize and sanded lightly for a good fit. Note that the four center ribs (B and A) are 1/16; all others plus the wing tips are 1/32. The A ribs are straight since they mate with the fuselage. I prefer to glue the ribs in place and then mark the spar locations with a straight edge. This eliminates wiggly spars; the same method is used for gluing the stringers to the body formers. Next add the landing gear gussets. When dry, notch the top of the spars, and LE and TE, at ribs B-B. Keep the center section pinned to the building board and gently crack the wing at the notches to make a 3/4-inch dihedral at each tip. Now glue in the LE and TE gussets with the wing blocked in place and add a drop of glue to each notch. Finally, make the landing gear holes in the gussets.

Rudder and stabilizer are built with 1/20 sq. All structures are then lightly sanded. Covering is done with a 60/40 mix of water and white glue. I use Japanese tissue to save weight and prefer not to dope, especially on indoor models.

After trimming, the rudder and stabilizer are sprayed lightly with alcohol and set aside under weights for 24 hours, to prevent warping.

The wing bottom is covered next, leaving space between ribs A-A open. The landing gear is then added and glued on the uncovered top side. When dry, the top surface is covered and alcohol shrunk and glued to the body. The bottom fuselage stringers can now be added.

The rudder is glued in place, followed by the stabilizer, after added 1/16 shims as shown for the proper negative incidence.

After covering the fuselage, a balsa tail wheel is glued in, along with the headrest and windscreen.

Check all flying surfaces for warps, and steam out if necessary. A North Pacific prop cut to 5-1/4, and 12 inches of 1/8 rubber seemed about right on the initial flights. The model as built required a small piece of clay in the nose to balance. The inside of the nose block was hollowed slightly to accept an

Boeing Peanut Monomail

By KEITH LAZERSON . . . From a young man who has already learned the Doc Martin theory that the highest total contest points come from the ability to fly well, we present living proof!

• The Boeing Monomail appeared in 1930 as a modern, all-metal cargo and mail aircraft known as the Model 200. Later models were designed to carry passengers along with the mail. The 221 carried six passengers, and the final model, 221A, could accommodate eight in the forward fuselage. The plane was a great commercial success.

The Monomail was a very clean design, and despite its size, it achieved a cruise speed of 137 miles per hour with a Pratt & Whitney Hornet engine. The main gear partially retracted into the wing similar to the DC-3. It had a wingspan of 59 feet and weighed 8,000 pounds, and had a range of 540 miles. The design resembled a pursuit ship more than a commercial carrier.

Construction is straightforward, but attention must be paid to building the aft portion as light as possible to avoid adding excess nose weight. The rudder and stabilizer were built with light 1/20 sq. strips. The motor mount, as drawn,

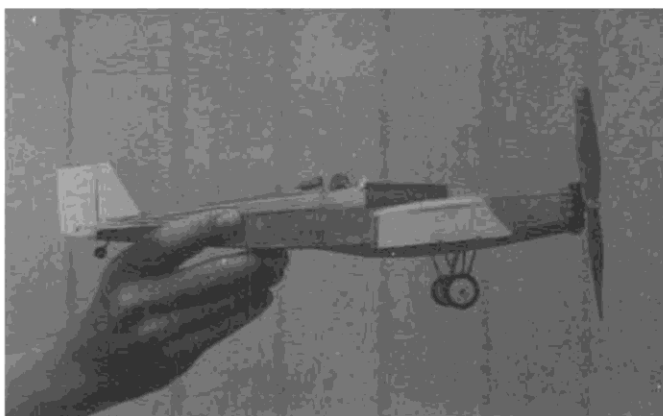
could be shifted forward one station with a further weight saving if necessary.

The main fuselage frame is built up with 1/16 sq. strips and the second half built directly over this after covering with wax paper or plastic film. The fuselage ends are beveled with sandpaper, glued, and 1/16 sq. cross pieces top and bottom added, working toward the nose, taking care to keep the frame square. Top and bottom 1/16 sheet is then added to the nose.

The fuselage formers are cut to shape from 1/32 sheet and glued in place. One can eliminate notching and simply glue on the 1/20 sq. stringers, which saves a lot of tedious work. No stringers are added between (8) and (9) until the wing is glued in place.

The nose block is built up with 1/16 or 1/8 sheet. Simulated balsa cylinders are added as drawn, and painted flat black. To facilitate covering, the windscreen and head rest are added last.

The wing is built by pinning down the



Keith Lazerson, Palos Verdes, California, displays his Boeing Monomail Peanut Scale model which has very competitive flying characteristics. Prop size relative to landing gear length pretty well dictates hand launching!

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equivalent weight made by shaving a sliver off of a fishing weight and gluing. This avoids losing the clay after every landing!

Flight testing was done outdoors on a calm morning. With a 100 turns it climbed out steeply, followed by a straight, flat glide. Adjusting the nose block and bending the rudder failed to produce much turn, so a small down tab of scotch tape was added to the left outboard trailing wing edge (a trick pointed out to me by Walt Mooney at a Flightmaster's indoor meet). This resulted in a climb and glide to the left within about a 50-foot circle. Adding more turns widened the circle slightly while gaining considerably more altitude. For indoor flight, a 3/32 motor might be a better choice. The plane has turned in several 45-second-plus calm morning flights, and with its large wing area should do better with some thermal activity. If scaled up, it would be fine subject for CO2 power. ●