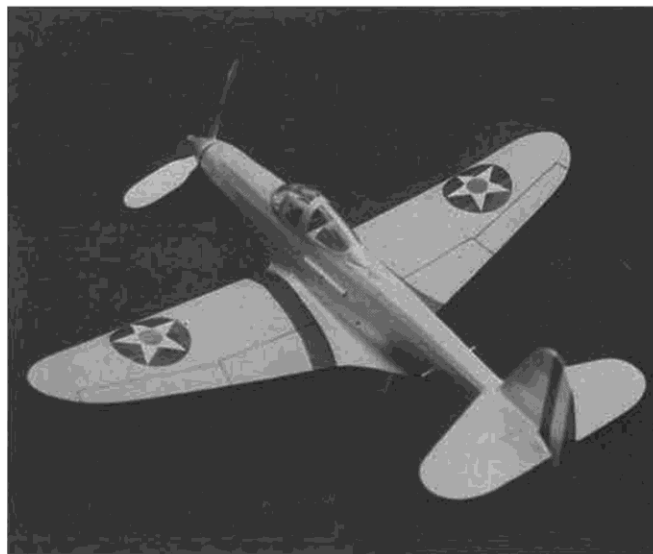
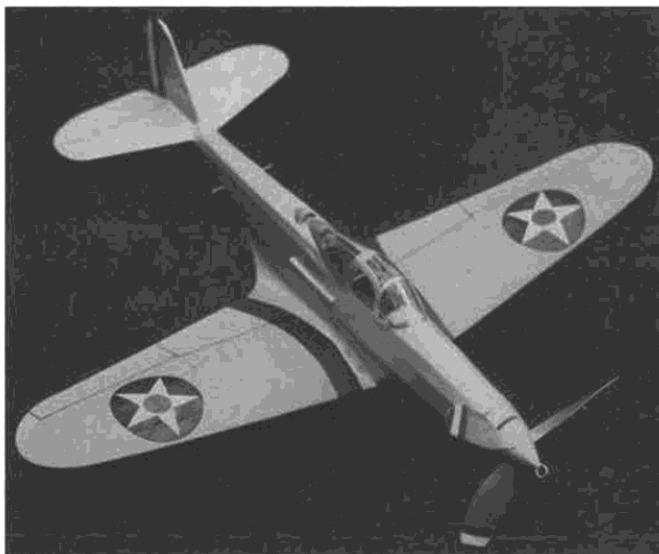




Peanut BELL XFL-1 AIRABONITA

By WALT MOONEY . . . One of the prettiest Peanuts ever presented, not only for the colorful markings, but also for its classic lines, made famous by its Air Force brother, the P-39 Airacobra.

• The XFL-1 Airabonita was developed along with the P-39 Airacobra to be the Navy version of the Army Air Corps XP-39 fighter. Because at that time, it was felt the tricycle landing gear was not suitable for operation from Navy carriers, the XFL-1 was fitted with two main wheels and a tail wheel. However, it failed its carrier qualification trials, because of landing gear troubles, and only one airplane was built.

The XFL-1 is a very colorful WW-II aircraft for modeling. The upper surface and leading edges of the wings were yellow, with large red, white and blue U.S.A. insignia on top and bottom of each wing. The rudder had vertical blue, white, and red stripes, with the blue stripe nearest the hingeline. The rest of the airplane was finished with

silver lacquer. The propeller had red, white, and blue stripes on its tips, red outermost. The graceful shape of the XFL-1 resembles the production P-39, except that the canopy is deeper (the same depth as the original XP-39). The air intake behind the canopy is smaller, and the radiators were not mounted in the leading edges, where the landing gear retracted, but under each wing. The vertical tail was redesigned and is a taller, higher aspect ratio surface on the Airabonita.

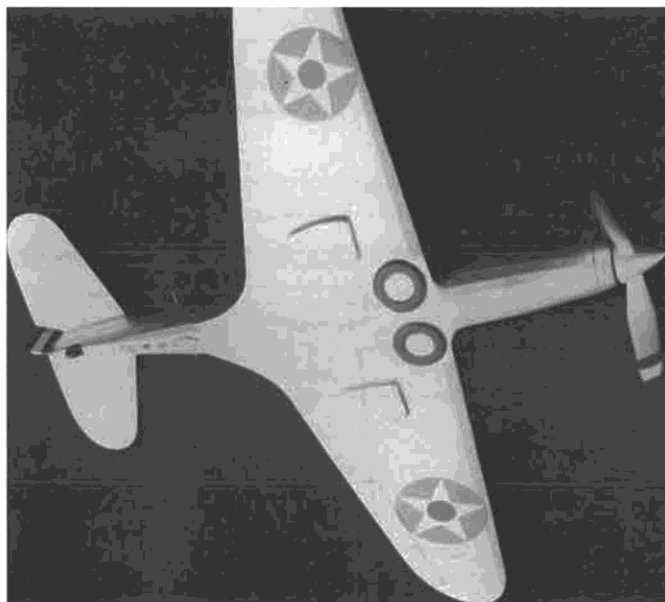
The model shown in the photos was built with the landing gear retracted and looks great in flight. The long nose enables it to carry a longer rubber motor. The wheels, when retracted, were uncovered, and could therefore be seen. The original model was tail heavy, and

required nose ballast for flight. Therefore, although the plans don't show it, if desired, you can fill in between the stringers for the first two bays of the nose with little penalty.

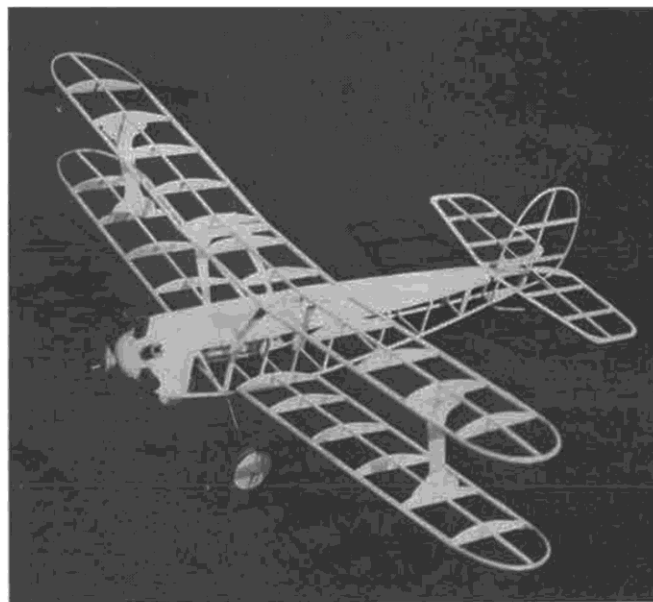
The method used to build this model is the keel and former method, and is used because of the elliptical cross-section of the fuselage. The wing uses sliced ribs and an internal main spar. However, because this size model sometimes suffers from laminar airflow separation and requires turbulence, three upper surface spars made from .020 by one-sixteenth basswood were used. No notches were made in the ribs, the turbulator spars were just added on top.

The tail can be built flat and left that way if desired, or upper and lower

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Ship was built in wheels-up configuration in order to improve flight characteristics. It did 18 seconds in 25 ft. ceiling gym. Very smooth.



A future Peanut project, Ernst Udet's Flamingo. Scaled up to R/C size, this should make an excellent Sport Biplane competitor.

rib caps can be added and sanded to an airfoil section.

The entire tail outlines and the wing tips are made of a lamination of 3 pieces of .012 by one-sixteenth basswood. Put a piece of waxed paper over the plans, insert straight pins into the workboard every quarter inch along the inside of the tip to make a bending pattern. Bend 3 layers of basswood around the outline and use "Hot Stuff" or "Zap" (cyanoacrylate bonding agent) to bond the laminations together. The foregoing is the quickest way to make the outlines. Thinned white glue can also be used as adhesive, but will take longer to dry.

The fuselage is started by cutting out the formers. A left and a right half must be made of each former. Then cut out the centerline keels and pin them down on the plans. Take all the left hand formers and cement them in place on the keels. The location of the stringers are shown by phantom lines (double dotted dash lines) on the side view. Cement in place the stringer that goes along the thrust line on the formers. There are no stringer notches. The stringers are simply attached to the outside of the formers, except for the former at the extreme aft end. The stringer fits flush with the aft former.

When the left side assembly, with the one thrust-line stringer, is completely dry, remove it from the plan. Now, cement the right half formers in place on the keel pieces and add the thrust line stringer on the right side. Make sure that the assembly at this point is straight in the plan view. When this assembly is dry, add the rest of the stringers in left and right pairs. The stringers get closer and closer together towards the tail so that they may have to be fitted at the aft former.

Insert a small rectangle of sheet balsa on each side to support the rear motor peg.

The wing is built over the plan by laying down the leading and trailing edges, cementing the tips in place, and cementing the rib bottom members in place. Note that the side view is drawn as if the wing had no dihedral, for clarity. The necessary dihedral is automatically obtained by cutting the main spar according to the plan. The scale airfoil is not flat on the underside, but for simplicity, the model in the photos was built with a flat bottomed airfoil, except on the center line, where a flat bottom would ruin the fuselage lines.

Cement the left side of the spar to the left wing rib bottoms. Cut the trailing and leading edges for the dihedral break. Now, add the sliced rib tops. To slice the rib tops, make a cardboard pattern to match the shape of the center rib. Then slice the rib tops

one after another by slipping the pattern down one sixteenth of an inch for each slice. To match the wing taper, cut off the aft end of each rib slice. Cement the left rib tops in place. When this is dry, separate it from the plan, cement the spar down on the right side rib bottoms and add the right side rib tops. When dry remove from the plan and your basic wing assembly will have the correct dihedral.

Add the centerline rib bottom. Then add the upper turbulator stringers.

The nose block is made from quarter inch thick sheet balsa. The fixed part, with a square hole in it, is cemented to the front of the fuselage stringer structure. The removable part has a square back-piece that fits in the hole in the fixed piece. It has a Peck-Polymer thrust bearing inserted in a one eighth diameter through-hole. When making this hole, about 3 degrees of side thrust and down thrust can be put in. (The original Model needed down and right thrust.) The spinner is carved from balsa.

Before covering the model, carefully sand all the structure to insure it has the proper contour and no rough spots, or unwanted bumps. Then cover the model with Japanese tissue and water-shrink it.

Assemble the component parts and then give the model a couple of coats of thinned clear dope. Make up bond paper fillets and fit them in place between the fuselage and the wing. The bottom one should be fitted in place first then fit the others. Be very sparing with the cement to prevent shrinking and warping later.

On the model shown, the canopy was made from a small commercially available canopy, or one can be made by carving a wooden form and vacuum forming one from thin plastic.

The air intake, two radiator inlets, and the exhaust stacks are carved from block balsa and added at this point. Also make an arresting hook and hook mount fairing. The fairing was balsa, and the hook was cut from thin plastic, on this model.

If your landing gear is to be in the retracted position, make two outer quarters of the wheel from one-sixteenth balsa, and cement these in place on the bottom of the wing. The tail wheel then need only be a small part of the wheel that sticks out with the tail wheel retracted.

If you want the gear extended, make a left and right main gear wire and cement this in place on the wing leading edge. The tail wheel can be cut from hard balsa or thin sheet plywood.

The three-bladed propeller was made by taking two "Sleek Streak" plastic propellers to supply the blades. Cut the blades off the hubs. Shape the blades to an elliptical tip shape. Sharp-

en the root ends to a wedge and insert them into the spinner at the angle shown in the top view. Use Hot Stuff, or epoxy to bond the blades in place. The prop hook follows fairly standard practice. Shown is a winding loop at the front of the spinner. This is not absolutely necessary if it offends you by being out of scale. It does simplify winding, however.

Finishing the model from this point is a matter of painting it. The method used on the model in the photos was one suggested by Fernando Ramos in his articles in *MODEL BUILDER*. Floquil model railroad paint was used, mixed with nitrate dope. Commercial decals were used for the US stars on the wings. The tail stripes and prop stripes were painted, using plastic model enamel.

This model, especially with its gear in the retracted position, is very aerodynamically clean. A single loop of one eighth Pirelli rubber will be a good outdoor motor. The model tends to turn left under power and flies fairly fast for a Peanut. Make sure the CG is not further aft than that shown. Ballast the nose of the model with clay if required. Make your test flights over deep grass if possible.

The wings of the model in the photo had about an eighth of an inch of washout. Because of the tapered wing, this is important to the flight characteristics. If your model does not have washout, it is recommended that you warp it in.

Have fun flying your Bell XFL-1.

A three view, and photos of the XFL-1 can be found in "War Planes of the Second World War" by William Green. Volume IV, Fighters, pages 13 and 14. ●