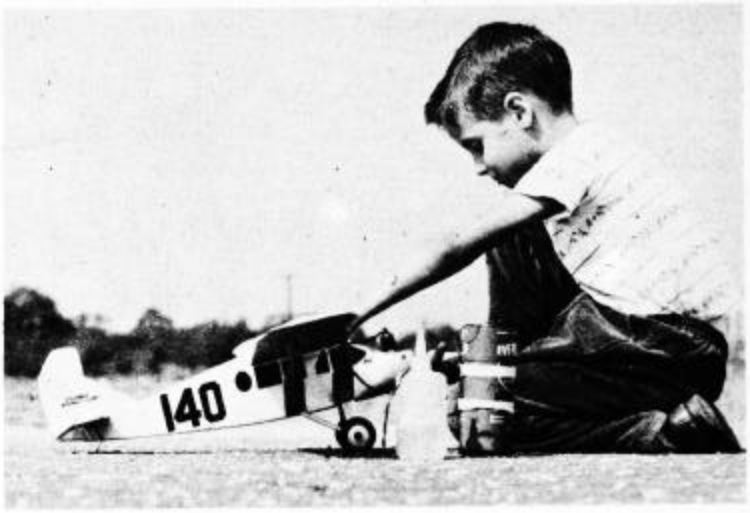


Ronnie Palanek fires up the OK .099 engine for a flight. Ukie fans will get a kick out of building and flying this unique scale model, as much as Ronnie did!

BELLANCA MONOPLANE

by Paul Palanek

Holder of two world records, this plane makes a fine subject for scale modelling

● The prototype of our model dates back to 1927 when it was built and groomed for an attempt at the first non-stop trans-Atlantic hop. But fate dictated otherwise—the Bellanca plane failed to make this flight—it was beaten to the record by Charles Lindbergh.

Though it missed out on this attempt, the "Columbia" scored on two others. Clarence Chamberlin piloted the plane across the Atlantic to Germany, carrying Charles A. Levine as a passenger. This single flight established the first non-stop passenger flight across the Atlantic and the first non-stop flight from New York to Germany.

To the best of our knowledge, the "Columbia" was called a flying gas tank. The craft had an empty weight of 1850 lbs., and took off with a stupifying total of 4,100 lbs. (451 gals. of gas), more than two and one half times the empty ship itself. This alone explains the need of an enormous airfoil plan, and the well known Bellanca lifting struts. To haul this mountain of fuel, a 200 hp Whirlwind J5 Wright engine was employed, spinning a Hartzel Walnut prop, some 99 inches in diameter.

Our miniature is a ¾" scale model of the original, powered by a Cub .099 or similar Class A engine. We adhered to scale as close as possible, beefing the structure at all weak points.

Construction is started after scaling the plans to full size, or by having them photostatted to proper size .

FUSELAGE: The entire fuselage is framed from ⅛" medium grade sheet balsa. Shape the sides as shown, using 4" wide stock. The balance of the ⅛" sheet is used for formers.

Since the fuselage is of box design, construction is narrowed to a few simple steps. Cement the formers between the fuselage sides, starting with former "C" and working fore and aft. Secure the ⅜" square hardwood enginebearers in the precut openings as shown, and cement well. Cement the plywood firewall against former "A."

The bellcrank is mounted to a sheet of ⅛" plywood and, in turn, woodscrewed to the motor bearers. Cut the required lead-out clearance holes in the fuselage side. At this point, secure the Maeco fuel tank as indicated, between the motor bearers, and complete the cabin enclosure.

Prior to any sheeting, shape the landing gear wire and fasten it in place on the fuselage. The lower half of the structure can then be sheeted in.

TAIL SURFACES: Using ¼" sheet shape the blank of each tail surface as shown in the full-size drawing. When complete, the tail should have a true, airfoil section. Install the horn, and hinge the elevator using linen for hinges. As indicated on the plans, cut out the aft portion of the fuselage and install the pushrod and elevator assembly. To complete the control hookup, secure the wire lead-outs and solder. Prior to completing the fuselage sheeting, install the wire tail skid and rudder fin assembly. It will be noted, that just aft of the firewall some balsa fill is required—use scrap balsa for this purpose.

The cowl is built up using strips of ½" sheet balsa. A ¼" sheet nose plate is fastened to this assembly, and sanded to proper contour. Cut out the cavity for the desired engine. Complete the fuselage by applying several coats of clear dope and following with two or three coats of balsa sanding sealer. Use "00" sandpaper to produce a smooth surface. There may be need for some filler, to smooth and blend the joints. Use balsa wood filler.

Wing construction is conventional, using a ⅝" x ¾" leading edge, and a ¼" x ¾" trailing edge. You will note that there are three different rib thicknesses. Most of the ribs are ⅛" sheet balsa, the strut rib is ¼" and root rib is ½". After the panels have been cemented together and have dried, install the ¼" square balsa stub spar and ½" sheet balsa wing tips. It will be noted, where the wing meets the fuselage, some trim work is required for a proper fit. Cover the panels with medium grade Silk-Span wet down to shrink. When dried, brush on several coats of clear dope.

The remainder of work is final assembly, paint and trim. Shape the Bellanca struts from ¼" sheet balsa to a streamline shape. A hole is made in both struts on the lead-out side of the fuselage, to function as line guides. Cement the wing panels in place, and position the struts. Cement this assembly securely. Use 3/16" sheet balsa for all landing gear fairings.

The original "Columbia" was doped silver, and so is ours. In place of windows use black Trim-Film. All lettering and trim is black. Thread is used for all

(*Please turn to Page* 30)

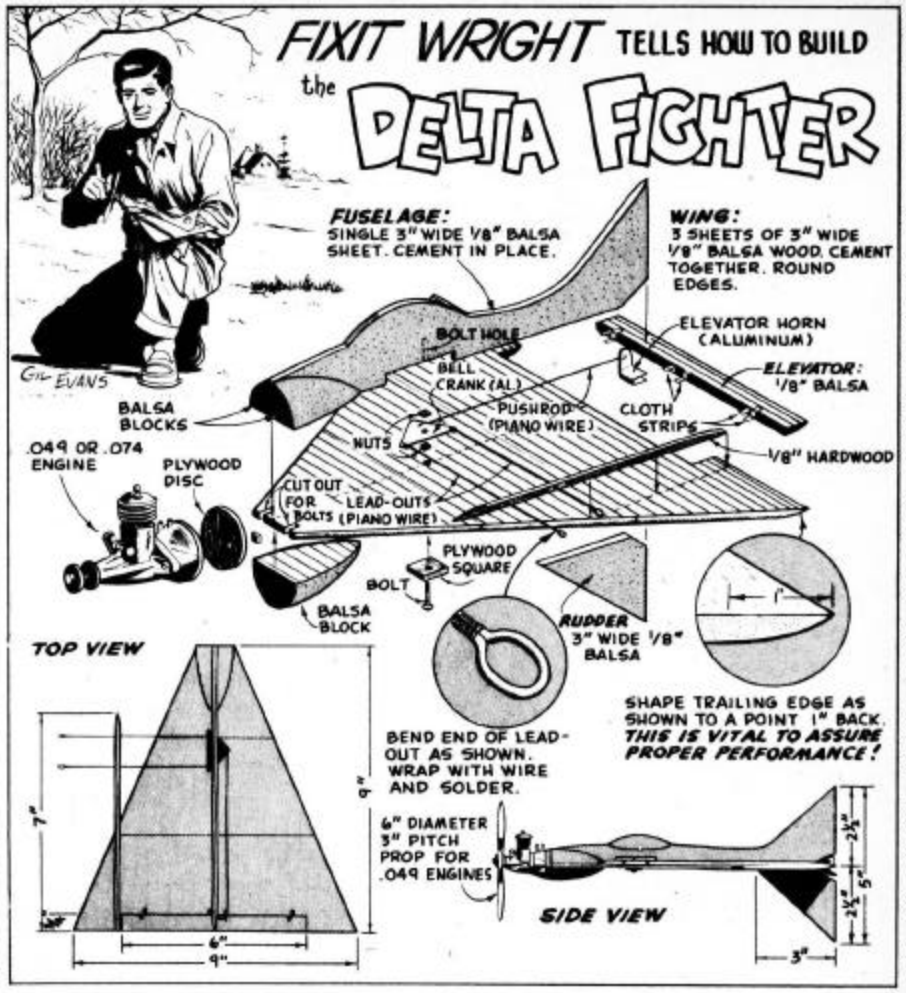
FLYING MODELS GOES MONTHLY!!!

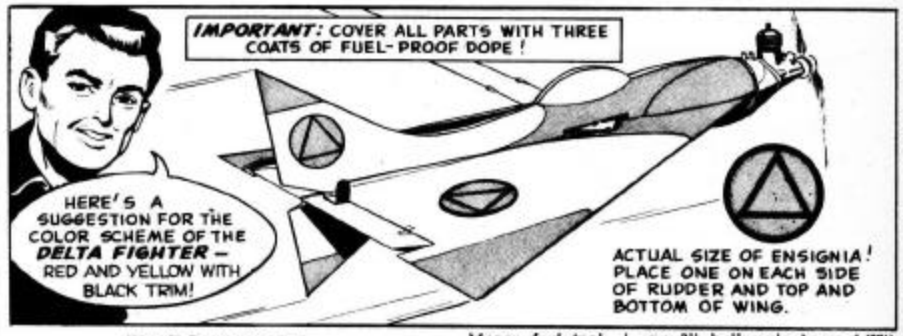
The next monthly issue of FLYING MODELS goes on sale approximately February 15th. Included are many interesting designs:

SLO-MO-SHUN—an R/C boat for the avid boat fan. This, the first of two parts, deals with the construction of the 24" hull.

LIL LOUIE—a simple free-flight gassie for ½A engines. Designed for the contest flyer, this quickie model has proven its ability by consistently winning.

Also scheduled are FM Data Sheets, scale three-views, Fixit Wright, and many other interesting features.





BELLANCA

(*Continued from Page* 16)

rigging wire. After placing the wheels in position, paint the completed model with two coats of fuel proofer.

Our "Columbia," as mentioned earlier in the text, is powered with an .099 engine, turning a 7/5 or 7/4 prop.

BILL OF MATERIALS
(Balsa unless otherwise specified)

1—1/8" x 4" x 36"	Fuselage sides, formers, bottom and top sheeting
1—1/8" x 4" x 4" (plywood)	Firewall, bellcrank platform
1—3/8" x 3/8" x 18" (hardwood)	Motor bearers
1—1/4" x 2" x 36"	Fuselage fill, rudder and fin, stab, elevator, ribs
1—5/8" x 3/4" x 36"	Wing leading edge
1—1/4" x 3/4" x 36"	Wing trailing edge
1—1/2" x 2" x 18"	Wing Tips, root ribs
1—1/4" x 1/4" x 36"	Wing stub spar
1—1/8" x 3/16" x 36"	Tail struts
1—1/2" x 2" x 36"	Nose cowl build up
1—1/8" x 2" x 36"	Wing ribs
1—1/4" x 1 1/4" x 36"	Lifting wing struts
1—3/16" x 1" x 36"	Landing gear struts

Maeco fuel tank, 1 oz.; 2" bellcrank; horn; 1/32" and 1/15" wire; cement; clear and colored dopes; medium grade Silk-Span; 7/5 prop; Trim-Film; spool of thread; 1 3/4" diameter wheels; solder; decals; plastic tubing; cloth hinges; .099 Cub or similar engine.

PAA ATLAS

(*Continued from Page* 28)

BILL OF MATERIALS
(Continued)

4—3/32" x 3/32" x 1-1/2" (plywood)	Sandwiching rear landing gear
1—1/16" dia. x 36" (spring wire)	Landing gear
1—1/8" x 2" x 36"	Fuselage sheeting, wing platform
2—3/32" x 1" x 36"	Wing platform
1—1/4" x 3/4" x 36"	Wing platform
1—3/16" x 1/4" x 36"	Stabilizer leading edge
1—1/8" x 3/16" x 36"	Stabilizer spar
1—1/8" x 1/8" x 36"	Stabilizer spar
3—1/16" x 3/32" x 36"	Stabilizer spar
1—1/8" x 5/8" x 36"	Stabilizer trailing edge
6—1/8" x 1/8" x 36"	Fuselage longerons, braces

Cement; fuel-proof dope; Jap tissue; .040" wire; 1/16" plywood; silk; nuts and bolts; three 1" diameter wheels; plastic fuel line; timer cut-off; rubber bands; Thimble Drome .049 Space-Bug, or similar engine; 6"/4" prop.