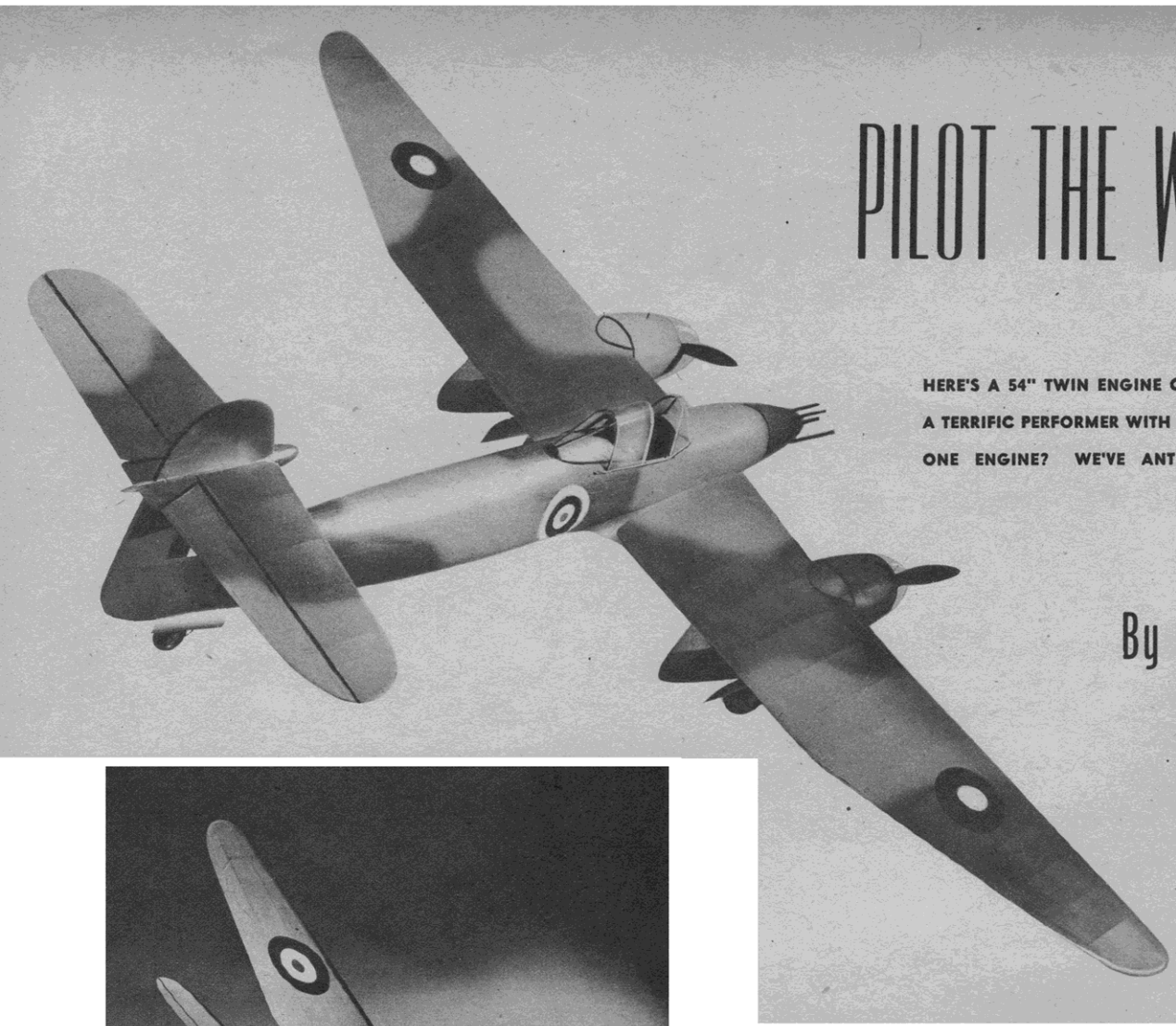
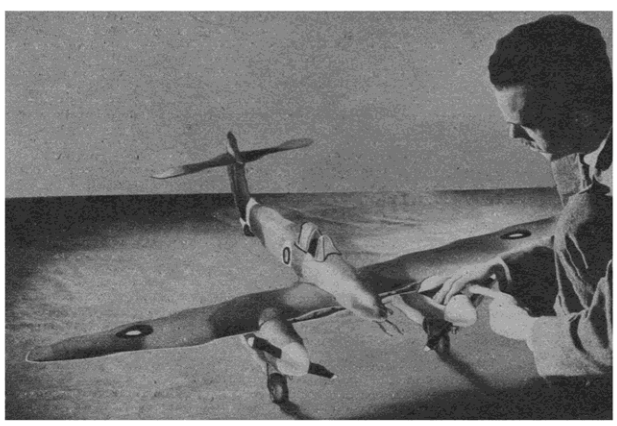
PILOT THE WESTLAND



HERE'S A 54" TWIN ENGINE CONTROL LINER THAT'S A TERRIFIC PERFORMER WITH EITHER PINE OR BALSA. ONE ENGINE? WE'VE ANTICIPATED THAT, TOO.

By Paul Plecan

Under view shows realistic detail of nacelles and landing gear.



This photograph will give you a good idea of immense size of the job.

UNIQUE because of its slimness and high-mounted stabilizer, the Westland Whirlwind is the answer to many a model-maker's dream. Unusual performance is offered by this twin-engined model, plus an appearance that will win most any "beauty" event. A line is connected to switches in both ignition circuits to "cut" both engines if one starts sputtering.

If you are not the fortunate owner of two motors, you can still fly the Whirlwind by installing a Class C engine in one nacelle and using a dummy free-wheeling prop on the other. Of course, the coil, condenser and batteries should be placed in the dummy nacelle to balance the model. In this case the model should be flown in a clockwise circle and the engine mounted in the outside wing nacelle; that is, looking at the model directly from the front, the engine should be mounted on the right side.

Although either balsa or hardwood construction can be employed, a half-and-half combination is advised. Curved parts (formers and ribs) should be of balsa, but straight parts (stringers and spars) should be hardwood. To start fuselage construction, cut out the master keel stringers K-1, 2, 3 and 4 from 1/8" sheet. Pin them down to your workbench as shown in the fuselage-frame layout. Cut two each of all formers (A to M), mark stringer positions on them in ink, and assemble one set of the keel strips. Following the stringer marks, 3/32" square stringers are cemented in place. Remove half fuselage from bench, add remaining formers and finish. Before applying *all* stringers, fill in the proper areas and assemble the bell crank support at the top of former "L."

Wing spars are cut out according to dimensions given. "Hot" landings will make hardwood imperative here. Ribs are now cemented in place. Note that the radiator extends from rib #1 to #5. The leading-edge covering is applied in sections, as the cross section changes abruptly at ribs #5-5A. The center section is covered with 1/16" sheet; the tips with 1/32" sheet. Also cover all the space between ribs #1 and #2 with 1/16" sheet.

Rudder assembly is simple, as full-size outlines are given. Space off as indicated and cement leading and trailing *(Turn to page 66)*

edges in place. Be sure that the ribs have been hollowed out before assembling.

The stabilizer is built in the same manner, with the exception of the movable elevator. Trim the leading edge of the elevator to a "V" so that it can be hinged up and down when up against the rear stabilizer spar. A silk or tissue hinge occupies the span of the entire stabilizer. Before assembling this hinge, be sure that the elevator horn is cemented in place. The tail lever, bell crank, and control arm are connected next.

The nacelles are now assembled as per the sketch and plan. The "crutch" is assembled first, notched for the motor bearers, and the upper portion added. Formers and stringers are next. The portion over the engine is removable for adjustments and repair. Plank it with 1/8" sheet for strength, as it will be handled often. Due to slight wing dihedral a 3/32" slat must be inserted between the nacelle and wing on the outboard side, to keep the nacelles level after assembly. Use plenty of cement at the wing-to-nacelle joint. Two-ply bristol board fillet RF, cemented to wing and R-1, simplifies fairing at that point. Assemble landing gear and cement all joints well. Do not simplify the landing gear, as the "elbows" have been incorporated to absorb landing shocks. Both longitudinal and vertical shocks are absorbed.

A pair of spinners are now assembled. Note sketch. Cement disk to rear face of prop, add parts PS-1 and PS-2, and add front disk. Planking is now applied around perimeter of spinner, topped off with a nose piece, sanded to blend with the rest of the spinner. Three or four prop-spinner assemblies will offset breakages on test flights.

The ignition system is soldered up, following the circuit shown. With two Atom engines, the author found that the proper balance was attained by mounting coils and batteries to the front of former R. This was a planked-type model.

A sliding canopy is included in this model's design, and is worth while. Assemble headrest first, then cement WS-4 and WS-5 in place, line up, and cover with sheet celluloid. The sliding canopy is assembled by cementing a rectangular piece of celluloid between two WS-3 formers. A sharp bend is needed in the bottom ends of WS-3 in order to slide correctly over the 1/32 x 1/8" guide rails. Although hard to do with steel wire, it is easily done if the part is heated over a match and allowed to cool gradually. This softens the metal and allows the small radius bend to be made. To regain the temper, heat again, but dip in water to cool it suddenly. WS-1 is best made of .050" or .063" celluloid so that it remains flat. Neat workmanship will pay dividends.

In order to do the coloring properly a spray gun should be used. To obtain authentic shades, refer to the cover of the October, 1941, Air Trails Pictorial. Remember to mask off the proper areas before spraying, and to thin out the dope enough to obtain a fine spray. The vertical bands on the rudder are 3/4" wide and 2 3/4" high. The fuselage insignia is 2 13/16" diam., including the yellow ring; wing insignia 3" and 4" diam., top and bottom, respectively. 4 3/8" outboard of rib #9. Spinners are white, as is the 2" wide band around the fuselage. Props and cannon are dull black. The letters P7110, 1/2" high, may be included on the fuselage in front of the white band.