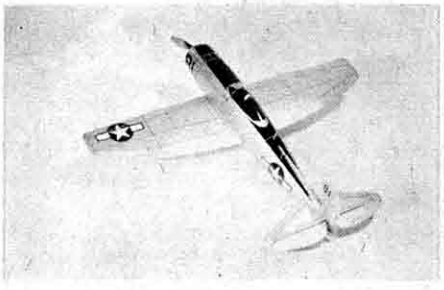
Vaunted World War II "Jug" lives again . . .

Full Size "Timely Plan" Available

by Paul DelGatto

Brawny, power packed Controline Scale: Takes .19 to .35 mills, 32½" Span 57" Wingspan — 460 Sq." Area



REPUBLIC P-47 "THUNDERBOLT"

One of the great workhorse fighters of the Second World War, Republic's rugged P-47 "Thunderbolt" ran up a fantastic total of enemy planes destroyed—as well as countless thousands of ground vehicles of all kinds. Powered by a 2,000 h.p. Pratt &Whitney twin-row radial aircooled engine with turbo-supercharger for high altitude work, it was equally at home against Axis interceptors, as a strafer, a tactical bomber and escort fighter.

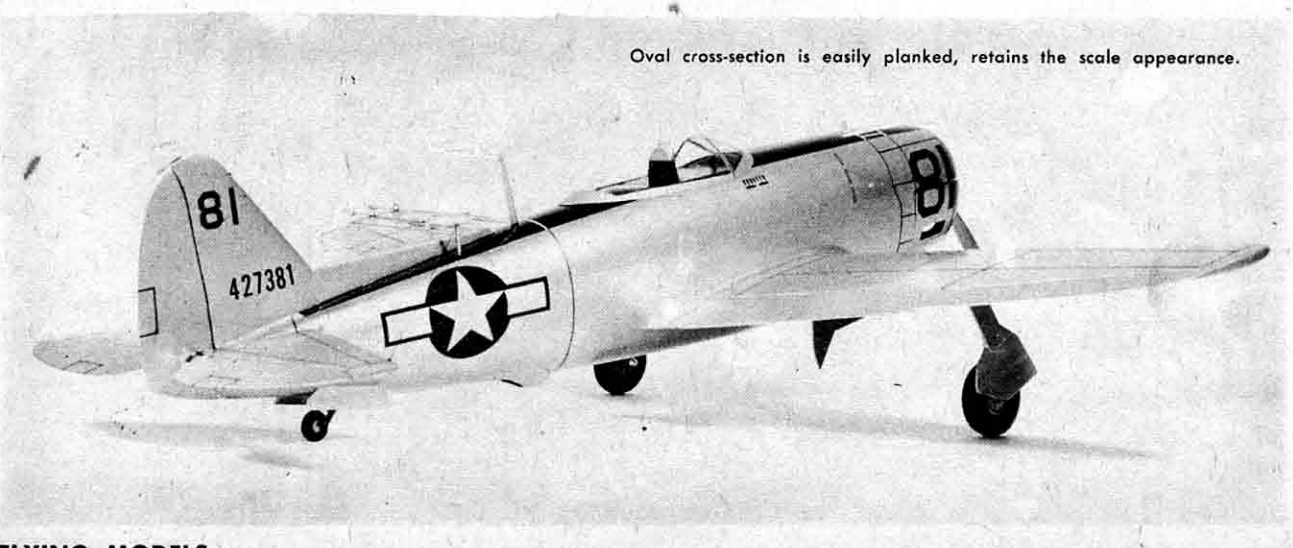
Eight 50-caliber machine guns gave it stunning firepower. For its day it carried an "impossible" load of bombs. With drop tanks to increase its range, it flew convoy for the "Fortress" and and "Liberators," beyond the distance at which many fighters could protect the bombers. In all, some 13,000 "Jugs" were built.

Despite its vaunted fighting ability, the "P-47" was fantastically strong. In performance and strength, our model is in the same tradition. As functional and streamlined as its famous big brother, the model makes an ideal entry at any scale meet. It flies well on any engine of from .19 to .35 displacement, but of course, the most spectacular performance results from the bigger, more powerful motors.

CONSTRUCTION

Fuselage: From the firewall (F-1) to the stern-post, the fuselage is made

Oval cross-section is easily planked, retains the scale appearance.



P-47

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Wide tread, bulk of "Thunderbolt" gives feeling of power which prototype had in abundance. Heaviest WWII fighter.

from two half shells which, when joined, are "planked" with soft balsa strips placed side by side in the usual manner. The portion of the fuselage lying below the top contour of the wing airfoil, and between formers F-2 and F-6, is temporarily removed (before the fuselage is finished) to permit installation of the completed wing. Top and bottom keel pieces insure easy, accurate construction.

Cut-out and assemble keel pieces K-1, K-2 and K-3 directly on the side view plan. Use wax paper to prevent the work from sticking to the surface. Cut out all formers, noting that F-1 and F-3 are 1/8" plywood; the others are of 1/8" sheet balsa. Each bulkhead is separated into halves along its vertical centerline. Make the lefthand fuselage shell first, by cementing all the half bulkheads in position. Check their alignment with a triangle. Be sure to draw and deeply score the separation lines for the wing cut-out on F-4 and F-5.

Before going on, note that the soft planking strips are in three sizes: 1/8" sq., 1/8" x 1/4" and 1/8" x 3/8". Most of the planking will be done with the wider pieces but, when necessary to achieve uniform fits, use the narrower sizes. At times it will be necessary to taper the strips and to slope their sides in order to fit neatly together. For now, locate a piece of 1/8"x 3/8" running from F-1 to the tail, at approximately the thrust line along the side of the fuselage. When dry, remove this half shell from the bench and attach the half bulkheads for the right side of the body and finally locate another 1/8" x 3/8" piece similar to the one on the left half shell.

The motor mounts (3/8" x 1/2" hardwood), bellcrank mount and the pushrod must be installed before proceeding with the planking. Drill 1/8" diameter holes for the bolts and insert hobby shop blind nuts under the mounts. (They take 4/40 machine screws or mounting bolts, a standard item.) Also position the tank with feed, fill and overflow tubing attached.

Depending on the type and size tank, it may be necessary to cut away part of the mounts so that the tank can, if necessary, be fitted between them. The bellcrank mount consists of a sandwich of 1/8" ply with 1/4" sheet balsa in between. With the bellcrank attached, this mount fits into the opening provided in F-4. It is reinforced by two pieces of 1/4" square balsa cemented to the top of the mount, against the front and rear faces of F-4, and extending all the

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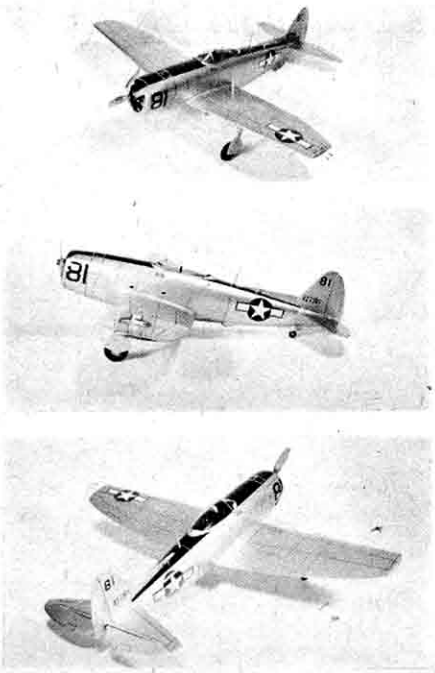
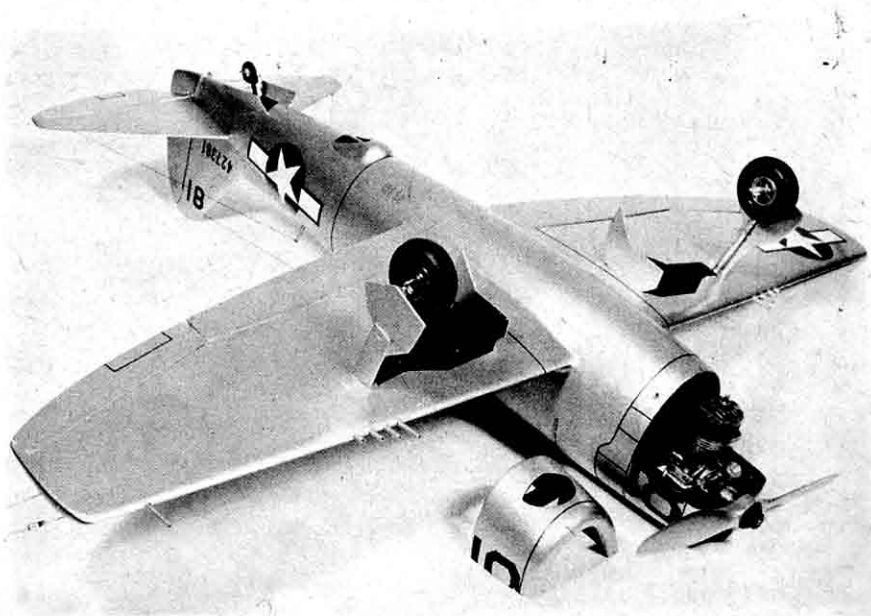


Below: Cowl removed, engine access is a cinch. Durable, practical design for active flying.



THUNDERBOLT

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way to touch the planking on both sides. Remember to attach the lead-outs before the wing is inserted. Make absolutely sure the pushrod length and bends are exactly right and note the eyelet in F-7 which prevents buckling of the pushrod under air loads.

Proceed with the planking alternately adding one strip at a time on each side of the fuselage. Don't plank one side and then the other, as the unequal strain will pull the body out of line. Plank down as far as a line between the leading and trailing edge of the wing, then add perhaps a half dozen planking strips along the fuselage bottom to help it hold shape until the wing has been located. Remove the structure for the wing as described above. Once the wing is in place, this cutaway structure is slipped back into position. It may take slight forcing to restore its original alignment with the fuselage contours. Do not sand smooth all the planking at this time, but do sand the portion immediately above the wing to make things easier later.

When the wing has been accurately fitted and the cement has dried, the planking is completed and sanded. Leave a slot for the pushrod to exit near the tail—the elevator control horn is on the right side of the airplane.

Wing: This assembly is built in two halves and joined at the center with the dihedral angle shown on the plans. Both top and bottom surfaces will be sheeted over with 1/16" thick balsa sheeting and the hardwood landing gear mount, which runs across the centerline, serves as a joiner; also, the cement joints of the wing to the bulkheads will add rigidity.

"Tabs" on each rib—to be cut away later—make it easy to assemble the convex undercambered surfaces on the bench top, in that they indicate the exact leading and trailing edge positions above the working surface. Pin down the front (1/4" x 1/2") and rear (3/16" x 1/4") spars, then cement the ribs in place on top of the spars. Attach the leading edge (5/16" x 3/8" sq.) and the trailing edge (1/8" x 1/2"). Note that the trailing edge must be assembled from two pieces spliced together (double-cement the splice).

When the cement joints in both halves are thoroughly dry, remove the panels from the bench and join at the centerline. To accurately bevel and size the spar ends, place each panel at right angles to the bench edge and, with a large sandpaper block, sand the ends of the spars and edges, using the bench edge as a sanding jig. While doing so, prop up the wing panels to the correct dihedral angle. Shape the leading edges to take the balsa skin. Double cement the butt joints when assembling the two panels together. Prop up the tips for the dihedral angles when you make this joint.

Work the wire landing gear assembly (see landing gear directions below) into place and cement thoroughly. Note how some of the ribs are faced with plywood for the attachment of the landing gear wire. After carefully sanding, smooth all ribs and edge contours, and attach the 1/16" sheet balsa skin. Begin at the center of the wing and work backward and forward toward the edges, but leave open the bottom area forward until the landing gear installation is completed. To preserve alignment, attach one skin piece to the top, then one to the bottom, and continue by alternating the remaining pieces top and bottom.

Note that the skin overhangs the edge at the rear. Attach the bottom sheet first, then feather the edge of the overhanging sheet to take the top skin piece.

When planking is done, attach the two soft tip blocks. These are shaped when you sand the top and bottom wing surfaces smooth. Round off the leading edge as shown. Trial fit the wing in place; then, when alignment is perfect, cement it securely. Complete the bottom planking of the fuselage, working from the bottom toward the wing, so that the final pieces which match the airfoil contour can be pre-shaved to fit the final openings.

Landing Gear: The gear struts consist of two pieces of 3/32" diameter wire, bent as shown in the detail and

on the front and side views of the airplane. The original landing gear used metal straps cut from tin can metal; however, hobby shops stock both predrilled strap fittings and J-bolts (a reasonable substitute). Drill the 3/8" sq. hardwood landing gear piece for the four strap bolt or J-bolt holes. Also note that where the gear pieces bend forward to lie against the ply faces on the anchor ribs, an additional metal strap fitting or J-bolt locks the gear in place. This type of gear installation is unexcelled for strength and flexibility. After the gear is installed, complete the skinning of the underside of the wing.

Wheels are 2" diameter, retained by either commercial wheel collars or soldered washers. Make the landing gear cover door from hard 1/16" sheet balsa. (For greater strength laminate two thicknesses of balsa or use 1/32" plywood.) Sew the gear cover door to the wire strut and cement the two together. A more realistic strut (as shown on the model) may be made by sliding a piece of neoprene tubing over the wire and building up raised portions with wrappings of masking tape.

Tail Surfaces: Stabilizer (and elevators) and fins and rudder are cut to outline from medium-soft 3/16" thick sheet balsa. Note the cross-section shapes which have to be sanded in. Sand the tail surfaces gently with fine

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