

F4F-4 "WILDCAT"

COMBAT SCALE PROFILE OF THE GRUMMAN CARRIER FIGHTER . . .



Full Size "Timely Plans" Available

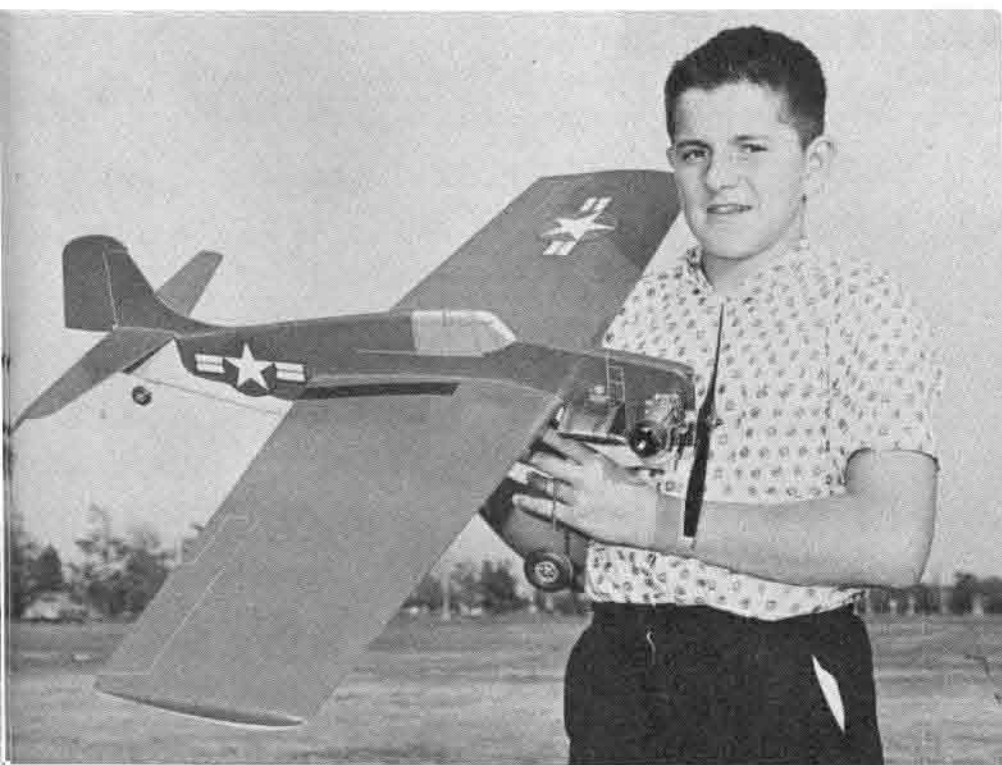
Airfoil, area, moments, balance, all teamed up in right proportions make for good cornering Combat craft. Scale-like looks add to the fun.

Undersides are light in color, aid in keeping track of fast ship as it inverts and reverts.

Decal and dope detailing applies fast, really takes no more time than standard Combat types.

Pit it against a Zero type, and a real aerial brawl will surely follow. Good exhibition flyer.

Corners well, a lively flyer, builds up fast



► The "F4F" was originally designed in 1935 and as strange as it may seem, it was to have been a biplane. It never left the drawing board though due to the development of the Brewster "Buffalo" and the fact that the Japanese were conducting flight tests on their ASM, which in 1937, would become the first monoplane carrier fighter in active service.

At the outbreak of WWII, the Navy was unprepared for the Air defense that would be so vital in the Pacific. In December of 1941 there were only 248 F4F-3's in service between the Navy and the Marines. By the end of the war 7,898 "Wildcats" had been produced and served the U.S. and the British, who called it the "Martlet".

Although the "Wildcat" was not an outstanding performer, (the "Zero" was faster and could outclimb it), its ruggedness, fire power and skilled pilots enabled it to set a combat record of nearly seven enemy aircraft downed for every loss, an outstanding record to say the least.

Our model is a rugged and practical profile version of the "Wildcat." It

has performance characteristics that are suitable for a beginner or an expert. With a hot .19 or any .29 engine for power, the beginner will find the model slow enough for him to think about what he's doing, yet fast enough to stay out on the lines during the abrupt maneuvers that are sometimes performed. As a stunt trainer, performance is responsive yet smooth with a "29" or "35". For those interested in real stunt flying or slow combat, the performance is great with a 35 or .40 engine.

The model must of course be light in weight to give maximum performance, so select materials carefully, using firm and hard stock only where specified. Building time is no longer than the average profile model. However with the addition of added scale detail and color trim the model has an extra something, not found in standard profile models.

CONSTRUCTION: The wing being the only major piece of construction is built first. Cut out all the wing ribs using medium $\frac{3}{32}$ " sheet. Mark location of ribs on the shaped leading and trailing edges and cut notches for ribs. This helps in lining up ribs and adds much strength to the framework.

The $\frac{3}{16}$ " x $\frac{3}{8}$ " medium hard top spar is pinned down on the plan and ribs No. 2, 7 and 13 are cemented in position on each wing. Note that the wing is built upside down to give a straight top with slight dihedral on the bottom surface. This is due to the taper in thickness. Cement leading and trailing edges in place on the six ribs, making sure there is no twist in the wing structure. Use blocks under trailing edge to hold alignment. When this has dried, cement remaining ribs in place omitting rib No. 1.

Add $\frac{1}{8}$ " plywood center braces as shown on the plan. Now cement rib No. 1 in place followed by the bottom spar. Let dry thoroughly before removing from plan. Install $\frac{1}{8}$ " plywood bellcrank mount and control system, leaving pushrod a little longer than necessary. Cover center-section with $\frac{1}{16}$ " sheet. Carve $\frac{1}{2}$ " sheet wing tips to rough shape, partially hollowing

the outside one to receive approximately one ounce of weight. Cement in place and sand to final shape.

Drill the inboard tip for the lead-out guides. Sand wing all over to remove any rough spots and cover with heavy Silkspan or silk.

FUSELAGE: Cut the upper and lower half of fuselage from $\frac{1}{2}$ " x 3" medium soft balsa. Cement two halves together, adding a piece to top of cockpit. Make $\frac{1}{8}$ " plywood nose doublers, cutting them to outline shown on plan. One doubler has a cutout for the engine. Be sure to mount this one on the correct side of the fuselage. Cement the $\frac{3}{8}$ " x $\frac{1}{2}$ " x 4" motor mounts and the doublers to the fuselage, preferably using a hard glue such as Weldwood. Clamp securely and let dry for 24 hours.

In the meantime, make stabilizer, elevator and rudder parts of $\frac{1}{8}$ " medium hard balsa. Join elevator sections with a "Veco" control horn, keeping horn off-center as shown on plans. Join elevator to stabilizer with cloth hinges. Bend landing gear to shape using $\frac{1}{8}$ " diam. music wire. When fuselage has dried, remove clamps. Then round all edges except stabilizer platform and sand smooth. Mount landing gear in proper location clamping it with metal straps bolted through body. Fit engine and tank to fuselage now, as it is easier to drill necessary holes at this stage of construction. Remove the engine and tank.

The wing center-section and hole in fuselage where wing fits are coated with a thin layer of cement and permitted to dry. Slide wing through fuselage almost to center and run a heavy bead of cement around the center-section. Slide wing into final position being sure there is plenty of cement in joint. Check to make sure wing and body are in perfect alignment. When dry form a cement fillet along joint with a few thin coats of cement. This joint must be strong!

Pin the stabilizer in position and with bellcrank and elevator in neutral, and bend pushrod to the proper length. Hook up pushrod to elevator horn and cement stabilizer in position. Add fin and rudder, putting offset as shown on plans. Bend the $\frac{1}{16}$ " diam. wire tail wheel leg to shape and install, reinforcing with cloth hinge material. Cement tailwheel fairing in place.

Sand all over to remove rough spots and round all edges. Clear dope one coat over entire plane. When dry, sand with fine paper to remove fuzz. Put two more coats of clear dope on wings, sanding lightly between them. Fill grain in fuselage and tail with two coats of sanding sealer, carefully sanding between coats and after final coat. After final sanding, brush one more coat of clear dope over entire plane to make it ready for color dope.

The color scheme is light gray on the bottom of all surfaces and medium blue on top. Put the gray on first, applying as many coats as necessary to obtain solid coverage. Use a spray gun, if possible as this gives a lighter weight more uniform finish. Mask off the gray and apply the blue. Paint cockpit silver and simulate wheel wells and wing walks with black dope. Control outlines and cowling vents are easily applied using $\frac{1}{32}$ " wide "Trim Tape". Use silver or white for good contrast. Cockpit framework is $\frac{1}{8}$ " wide blue "Trim Tape." The letters and numbers are white decals available at most hobby shops as are the star decals.

Mount the 2" diam. wheels and $\frac{3}{4}$ " diam. tailwheel, retaining them with washers soldered to axle ends. Install engine and tank to complete the model.

Flying is done on 52' to 60' lines. Use full power and always launch downwind to help maintain line tension during the takeoff. Feel the ship out with mild wingovers and big loops, proceeding to the more advanced maneuvers as you get used to the controls. I think that after a few flights you will agree that his plane is as its name implies, a real wild, wild, "Wildcat". ●

BILL OF MATERIALS

(Balsa unless otherwise specified)

- (2)- $\frac{3}{32}$ " x 3" x 36" (med.) wing ribs
- (2)-1" x 1" shaped (med.) wing leading edge
- (2)- $\frac{3}{8}$ " x 1 $\frac{1}{4}$ " shaped (med.) wing trailing edge
- (1)- $\frac{1}{4}$ " x 3" x 36" (soft) center-section covering
- (3)- $\frac{3}{16}$ " x $\frac{3}{4}$ " x 36" (hard) wing spars
- (1)- $\frac{1}{8}$ " x 3" x 36" (hard) stabilizer and rudder
- (2)- $\frac{1}{2}$ " x 3" x 36" (med.) Fuselage and wing tips
- (1)- $\frac{1}{2}$ " x $\frac{3}{4}$ " x 8" (hardwood) Motor mounts
- (1)- $\frac{1}{8}$ " x 12" x 12" (plywood) Doublers, bellcrank mount, wing joiners; "Veco"-3" bellcrank and control horn; $\frac{1}{32}$ " diam. lead-out cables $\frac{1}{8}$ " diam. wire; $\frac{3}{32}$ " diam. wire; pair of 2" diam. wheels; $\frac{3}{4}$ " diam. tailwheel; heavy Silkspan or silk covering. Clear dope; cement sanding sealer, gray and blue dope; .29-.40 size engine, two to three oz. tank (wedge); decals; nuts and bolts; trim tape (Timely Plans). ●

