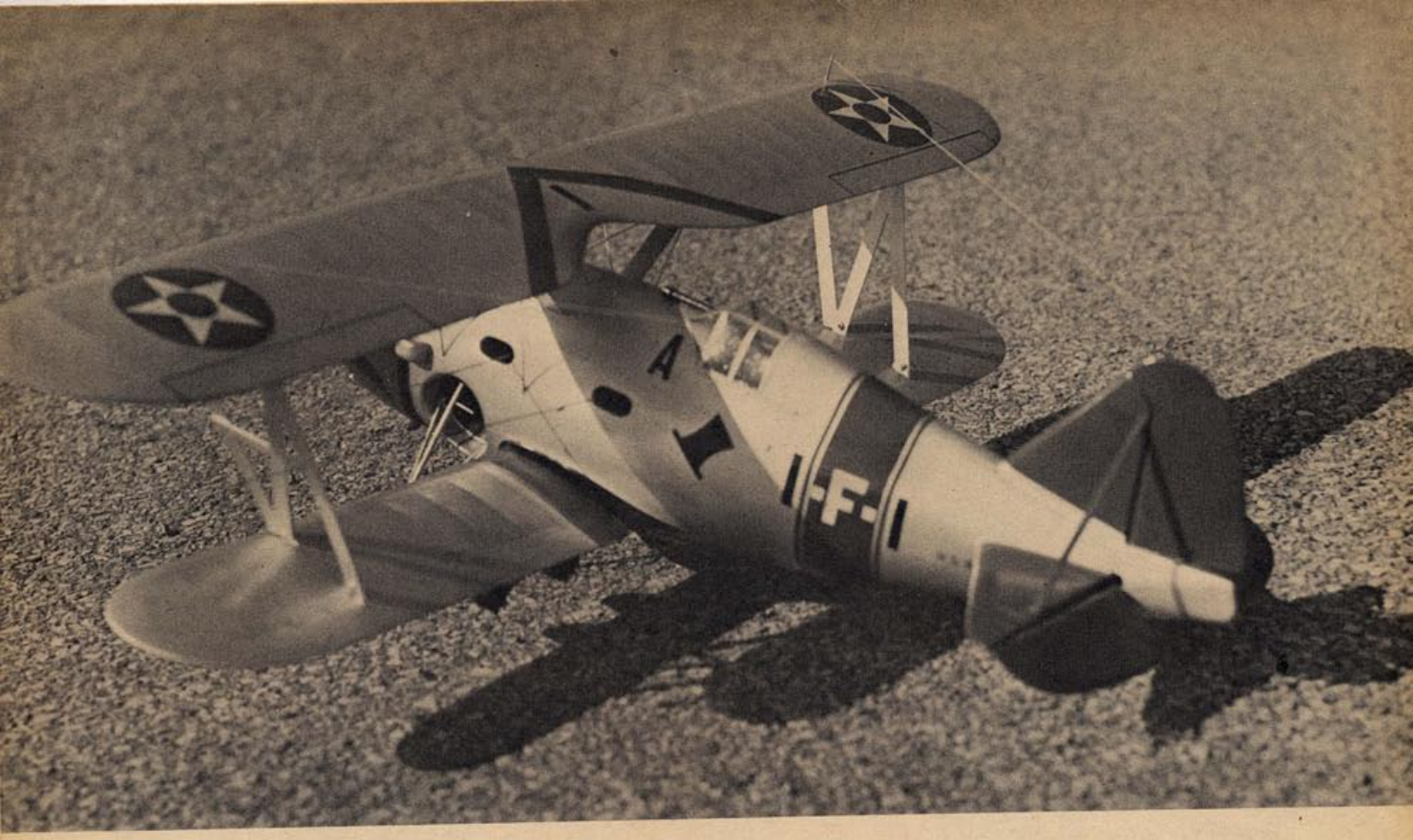


Paul Palanek's

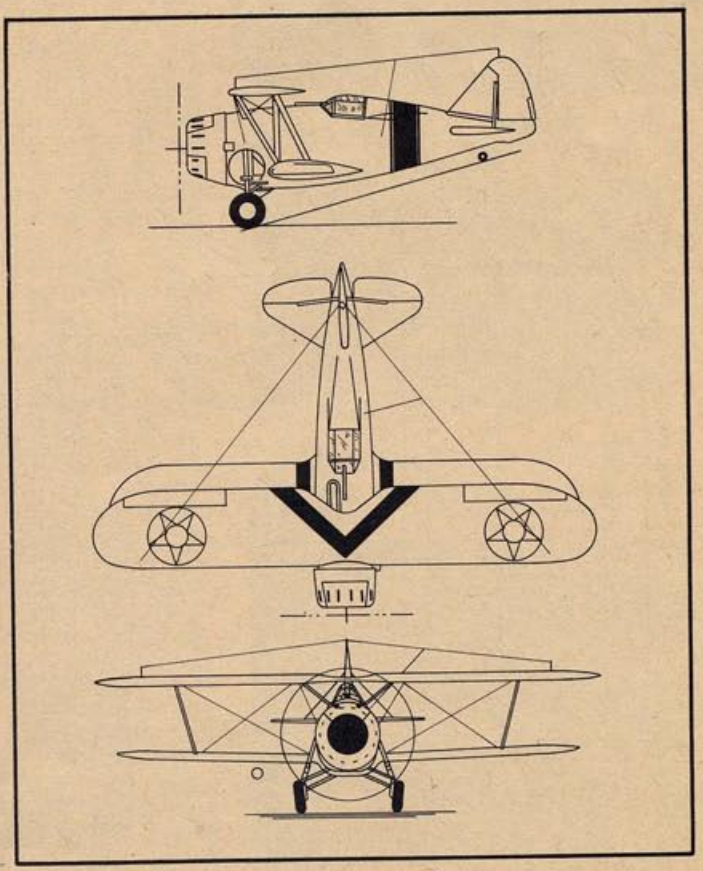
GRUMMAN F3F-1

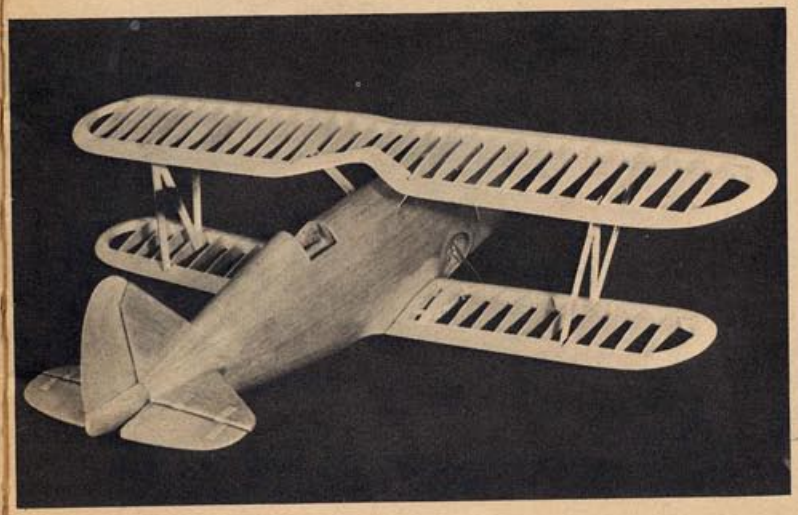
Until the advent of jets, the stubby Naval prop driven fighter aircraft observed in the skies more times than not was a Grumman creation. From the Bearcats of the post war era right on down to the first of their stubby ancestor bipes of the early thirties.

Our modeled biplane replica is but one of many superb designs so ideally suited for the discriminating scale model builder. Aside from having much

32" span bipe replica from decks of U.S.S. Langley.

FULL SIZE "TIMELY PLANS" AVAILABLE AS ADVERTISED





GRUMMAN F3F-1

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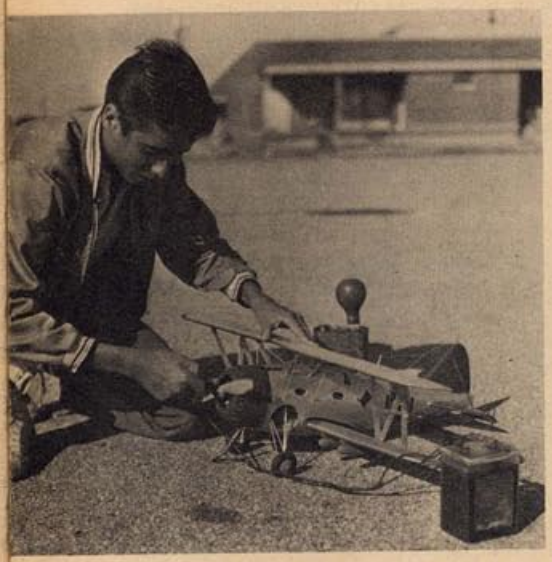
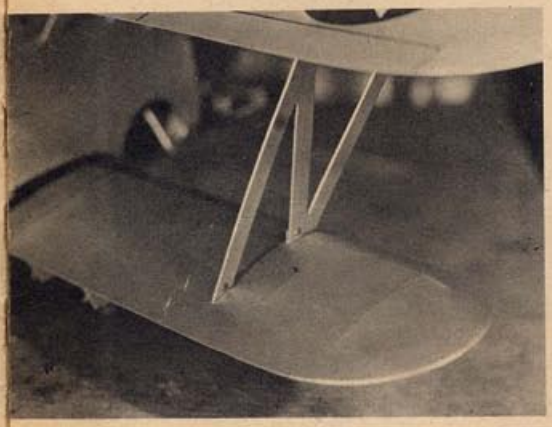


Designed for active flying, the "F3F-1" has a planked fuselage with beefed up wing structure.



The wing "N" struts are fastened to the panel fittings using 4-40 nuts and bolts. Of 1/16" aluminum, or fabricate of 1/16" plywood etc.

class and eye appeal, there is a wealth of color combinations so often found on the Navy fighters of the early and mid thirties. Each Aircraft Carrier of the times had its own squadron color schemes, right on down to the utility aircraft hangered below the decks. Our model markings are taken from the old U.S.S. Langley during the years 1937 through 1941.

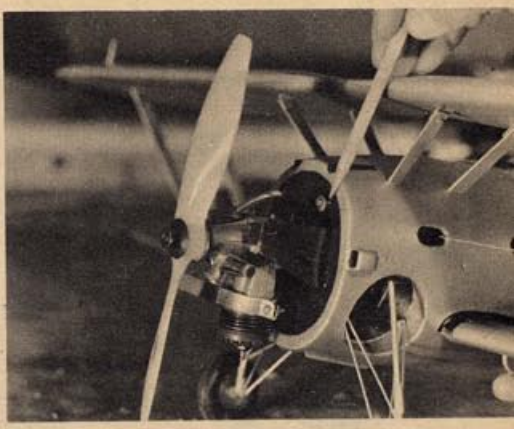
The model F3F-1 is identical with the F3F-2. The only changes in the F-2 are in the cowl area. The F3F-2 had a 1000 h.p. Wright Cyclone Model G. Aside from this change, the two aircraft were essentially identical.

Our design spans a full 32" with the fuselage built on a basic crutch assembly, completely planked. A K & B .19 is the powerplant advised, windmilling a 9/6 Tornado nylon prop. All surfaces including wood areas silked. The wing panels have a full break-away feature to simplify any flying damage.

Construction could start with almost any component the scrap box will allow. As a rule we get a measured amount of satisfaction in starting the fuselage and watching it grow. The ⅛" crutch and ⅛" x ¼" planking create an astoundingly strong and rugged fuselage, worthy of the effort expended. All formers are of ⅛" sheet balsa secured to the vertical crutch on the center-line. The ½" hardwood pine motor bearer sheet fits into the crutch and between the forward formers.

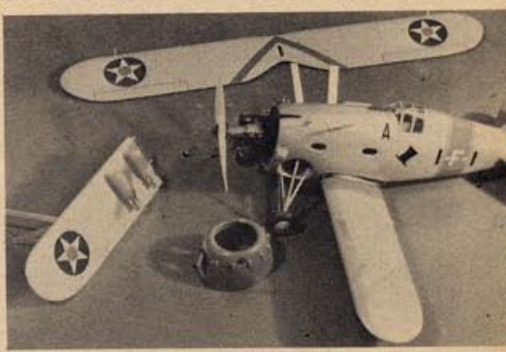
Former "A" is ¼" sheet balsa faced off with a sheet of ⅛" plywood. Cabine strut supports are also fashioned from ½" hardwood. Position as indicated in the plans and cement securely to the crutch. A 2-ounce capacity Acme fuel tank type "M" is fitted between the engine bearers and the cabine strut support on the right side of the fuselage. Vent the tank as required. Plank each quarter of the fuselage to tie in all formers and establish the fuselage shape. At this point, install the 3" Veco

(*Continued on Page* 30)

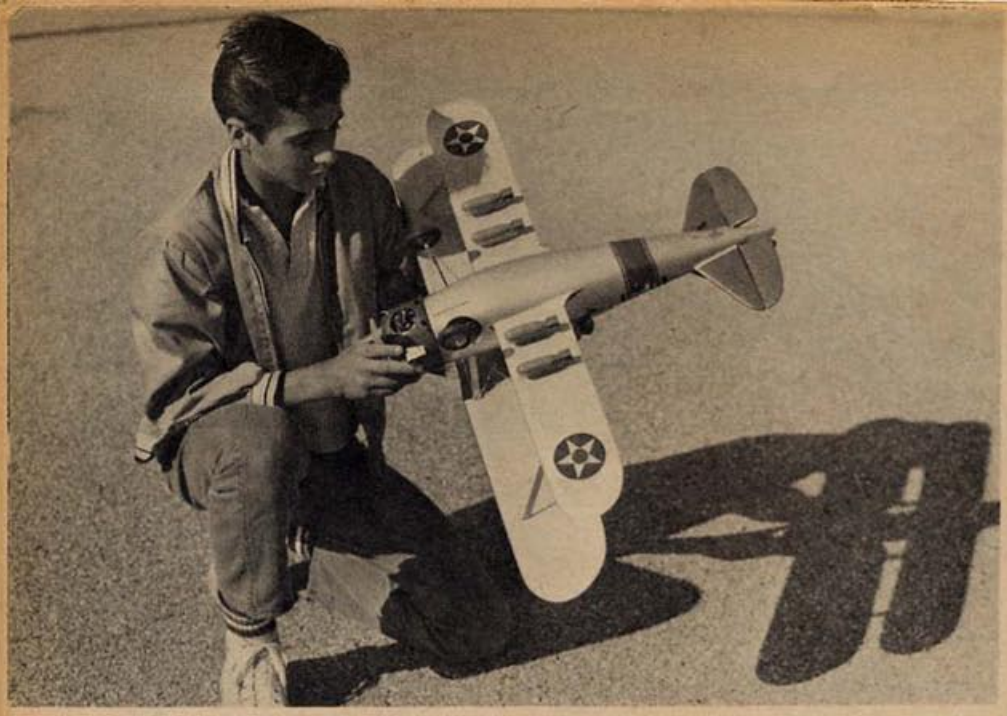


The balsa cowling is secured to the firewall, using #3 screws. Note gusseted engine mounts.

Colorfully decked out, as per F3F-1 squadron based on the U.S.S. Langley. A silver fuselage and wings, top panel of yellow. Tail, bands and cowl are red. Biplanes are appealing to build.



Big feature of design is complete break-away of major components, minimizes the splinters.



150 pounders simulated here, underneath wing. Note exhaust stack protruding through cowling.

GRUMMAN F 3F-1

(*Continued from Page 17*)

bellcrank. Fasten the pushrod and lead-outs to the bellcrank, plank the upper half of the fuselage, allowing space to fasten the aluminum cabine struts. A sheet of ¼" plywood is fastened to the lower half of the fuselage, between formers "A" and "B". This sheet supports the landing gear as well as the wheel well shell. Be certain to fit it properly and cement it securely. Reinforce the joints with ¼" sheet balsa gussets. When thoroughly dry, apply a second round of cement.

While the cement is setting, adhere a length of hard ½" sheet balsa 4½" wide x 4½" long, to the lower portion of the fuselage. The grain must run across the center-line. Check to be certain the cementing places this member square with the crutch and parallel to the center-line. This will take shape to form the wing root to which the lower panels fasten. At this point, fit the tail wheel wire to the aft position of the fuselage. Finish planking the lower half. While the planking is permitted to dry, fashion a pair of cabine struts from 1/16" dural. Bend as indicated in the plans. Drill a #10 hole in four places to secure the struts to their mount, and a #36 hole at the top of each strut to fasten the upper wing. Four #3 wood screws secure the struts. Check for proper alignment, then apply several layers of cement. Complete the planking of the fuselage.

Tail surfaces are simple, run of the mill design, and should give the builder little or no challenge. All components are from ¼" sheet balsa, brought to a streamlined cross section. A large Veco horn ties in both elevator halves. Heavy nylon is used for hinges installed with care and neatness. Apply several coats of clear dope to all surfaces. Cut a slot in the fuselage, fit the stab and elevator assembly, being careful not to notch it oversize, creating a sloppy fit. Slip the stab in place, secure the pushrod and cement. When it has dried, cement the fin in its slot, resting on top of the stab. When all this has dried, cement the soft balsa tail block to former "E". This is later shaped as shown. Be certain that free movement of the horn is evident prior to securing the block.

Fashion a pair of wheel wells from 1/16" sheet balsa. Cut a circular hole in the fuselage in the area of the well and cement to the ¼" plywood. Trim the excess of the well walls to match the contour of the fuselage. Sand the fuselage, shape the wing root fairing and cockpit areas. Apply several coats of clear dope, set aside for now, we will return to it later on.

The wing surfaces are next on the agenda. Here again construction is simple yet rugged. Ribs are ⅛" sheet, while ¼" sheet is used at the eight fastening points. Soft sheet balsa is used in the tips. Trailing edges are ¼" x ¾", preshaped of strip stock. Spars are ¼" x ⅜", while the leading edge is ½" x ⅝" strip balsa. Both leading and trailing edges are notched to receive the ribs, and all gussets are ⅛" sheet. The lower right panel carries one ounce of tip weight. Bury this in the soft balsa tip of this wing panel only.

Secure the ¼" dowels and 1/16" wire hooks to the lower wings, and cement the hooks securely. When cement has set, drill ¼" dia. holes in the wing roots to correspond to the dowels and hooks in the lower panels. Cut a ¼" x ½" wide slot through the wing root to accommodate the rubber fastening the wing halves. Mount the strut fittings to the indicated ribs and reinforce with silk. Next, sand all surfaces, and then cover with a fairly heavy grade of silk. Also silk the fuselage and tail surfaces. Apply several coats of clear dope and set aside for now.

The landing gear may appear tricky at first glance. Study it carefully, before starting. All gear wire is 1/16" dia., soft soldered as required. The wire assembly is soldered to a disc of brass 1/32" thick that has been pre-fitted to the wheel well. When satisfied with the position and alignment, solder the gear to the disc. Secure each gear assembly with #3 wood screws. The landing gear is stubby and sufficiently strong to survive most any abusive landing. We speak from experience.

Returning to the fuselage, box in the extended motor bearers with 1/16" plywood to reinforce this important member of the engine family. Be certain to apply several coats of cement. A cowl is constructed from several layers of ½" sheet balsa and shaped as shown. The rocker arm fairings are strips of ⅛" balsa streamlined in shape. Make a cut out for the cylinder head of the K & B or similar mill at the bottom, and one for the exhaust on the right side. Use a pair of #3 wood screws and washers to fasten the cowling to the firewall.

At this point, add the remaining details such as the canopy from .020 celluloid, guns, scope, oil cooler block and tail struts. The dummy bombs are

Top rear displays the area nicely. 32" tip to tip, all surfaces silked. Gray thread antenna.