

Combat Flyer Looks Like Real Hawker Typhoon When Airborne

By PAUL DEL GATTO

■ Combat flying is growing steadily throughout the country because of the many thrills it affords for both spectator and contestant. It is an event which appeals especially to modelers who like to fly just for fun or want the excitement of precision aerobatics without stunt's finish requirements.

Because of the sometimes short life of combat designs, the models have leaned towards simplicity and functionality. With such emphasis, combat designs can be turned out rapidly and inexpensively, permitting more time for flying fun. The scale profile design follows this line of reasoning, and also offers excellent performance, as well as added realism to combat flying. We have had several designs in the air now with engines from .09 to .15 displacement,

both glo-plug and diesel, and the results were most satisfactory.

This Hawker Typhoon is one of our favorites because of the surprising amount of realism we could achieve, despite the fact that it was a profile model. Don't be fooled by the moderately low wing position, because the model is capable of doing everything in the book, even with an .09. We have had equal success with mid-wing, shoulder wing and even low wing designs.

Construction: Begin with the wing and tail surfaces. For the wing, cut out the full size ribs and wingtips as specified. Then cut out the leading and trailing edge gussets, and also the hardwood bellcrank mount. The leading and trailing edges are cut to length and notched for

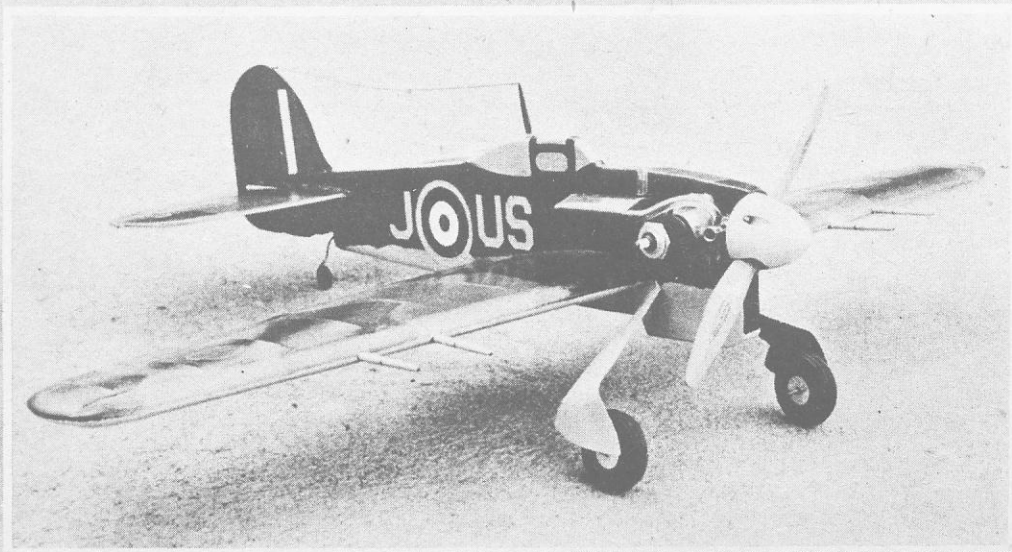
the rib positions, which are 2 inches apart, center to center.

Join the centersection ribs to the leading and trailing edge gussets and cement the hardwood bellcrank mount in position. Then cement the leading and trailing edges to the assembled unit. When dry, cement all the remaining ribs in position and also the wingtip sheeting. Install the complete bellcrank assembly including the lead-out lines and tip guides, and add ½ oz of lead ballast to the right wingtip. Bend the wire pushrod to shape as indicated and then cement the top and bottom centersection wing sheeting in place. Rough-shape the leading and trailing edges of the wing to the desired airfoil cross-section as indicated on the plan. Smooth-sand the entire structure to complete.

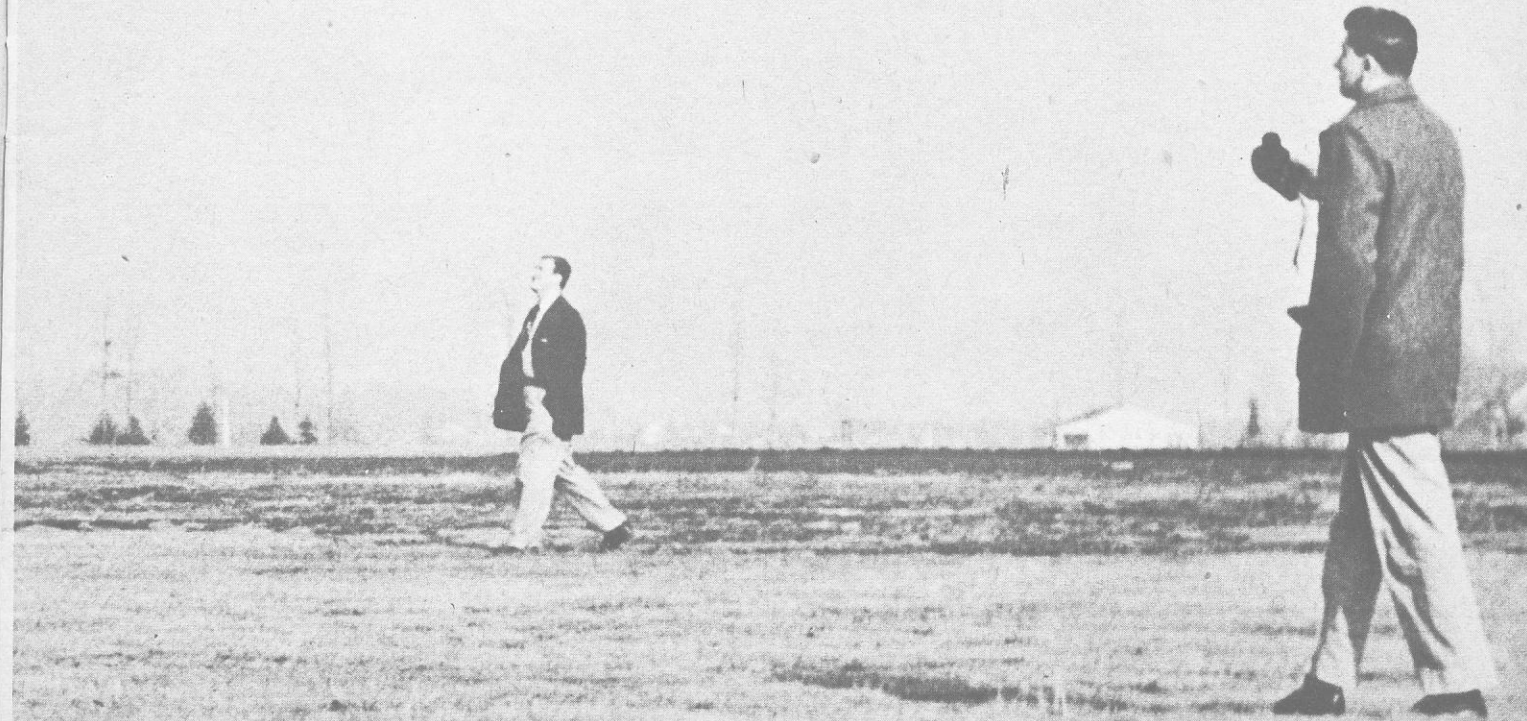
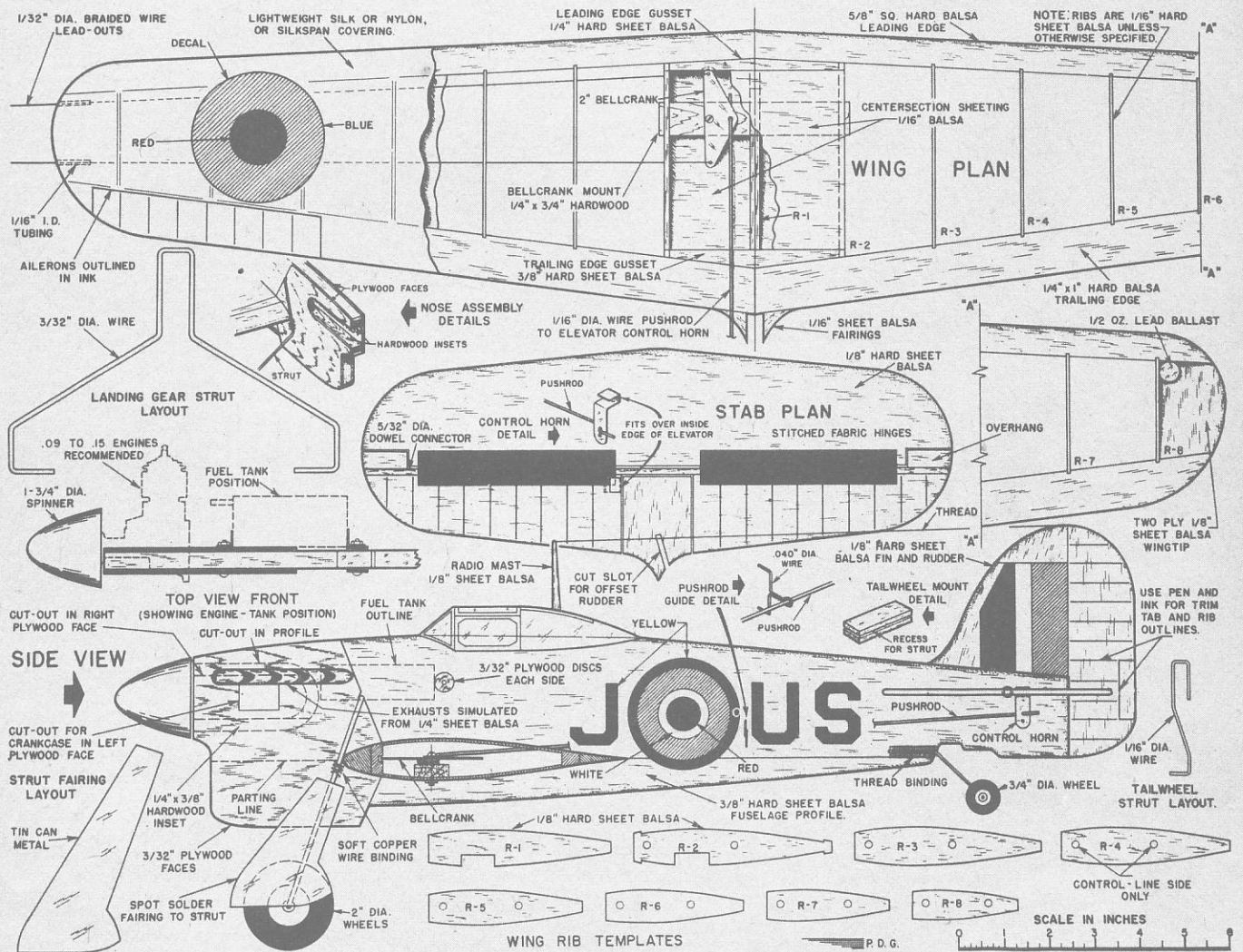
Tail surfaces are cut from ⅛" hard sheet balsa and joined together with a 5/32" dowel connector. We generally use stitched fabric hinges; however, cloth or most any other type hinge should prove satisfactory. Round off the leading and trailing edges of the tail surfaces with sandpaper. If you should prefer more of an airfoil shape in the tail we would recommend that you use thicker sheet for the surface to begin with. We have tried this without any apparent change in performance. Hence we have shown the simpler and functional arrangement.

Fuselage profile is made up of ⅜" medium to hard sheet balsa. The basic profile consists of three pieces. The main piece extends from the center line of the wing section to the point of intersection in the cabin. A very small piece completes the cabin outline and a third piece completes the bottom profile of the model. After these have been cut to outline shape, cut out for such things as the engine and hardwood inserts, stabilizer and elevator, and tailwheel strut assembly. Cement the tail surfaces in position. Bend the tailwheel strut to shape and bind it to a piece of hard balsa as shown and cement it in position. Then cement the bottom piece of the basic fuselage profile in position, as well as the top of the cabin area.

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Full size plans for the Combat Hawker are on Group Plan #457 from Hobby Helpers, 770 Hunts Point Avenue, New York 59, N. Y. (50c)



Hawker

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Cut the hardwood inserts to the length and shape required and cement in position as indicated. Use $3/32$ " to $1/8$ " plywood for the nose section of the profile and cement it firmly in position. Note that one plywood face is cut out for the engine crankcase. Bend the main landing gear strut as indicated and insert through profile and bind to the plywood faces with soft wire just beneath the leading edge of the wing. This arrangement has proved very satisfactory, and can withstand plenty of punishment beyond normal use. Strut fairings can be cut from tin can metal or something similar which can be spot-soldered to the wire strut.

Fin and rudder are cut from $1/8$ " hard sheet balsa and rounded off much in same manner as the tail surfaces. We would advise offsetting the rudder at least $1/4$ " to the outside of the circle.

Install engine and tank assembly of your choice. Approximate tank location is indicated on the plan, but there is ample area to maintain a considerably larger tank. The wing position permits greater flexibility in size and choice of tank and more importantly, its location.

For increased realism add other structural details such as wing cannons, exhaust stacks, radio mast and antenna. When completed, re-cement all joining surfaces for added strength and smooth-sand the entire structure before covering and finish.

Cover the wing with light weight silk or nylon or heavy Silkspan. All of these materials can be applied wet to insure a smooth covering, free of any wrinkles. For a finish we would recommend that two coats of clear fuel-proof dope be first applied, smooth-sanding between each coat. Then apply colored trim of your own choosing. We stuck to camou-

flage colors for added realism. Two to three coats of colored trim should be sufficient depending, of course, on the consistency. If you contemplate rubbing the model lightly we would suggest an added coat.

Trim and insignia found on many real Typhoons is similar to what we have indicated. However, should you prefer you can change the letter and add squadron colors and other markings that you may personally be familiar with or have come in contact with through other sources.

Model should balance 1" back from wing leading edge at fuselage.

Flying: Flying the model requires remarkably little skill, but for those lacking experience we might just say a few words on routine procedures to hasten the model's successful flying debut.

To begin with measure out about 60 ft. of line and figure the take-off position to be with the wind on your back. Tune up the engine and check it out for flying. Check for uniform running conditions through all attitudes of the model. Having done this, start the engine up again and lean it out for maximum thrust and let 'er rip. We know you will be mighty pleased with the results you will get.

BILL OF MATERIALS

(Balsa unless otherwise specified)

One $1/16$ " x 3" x 18" (hard) for wing ribs; (1) $1/16$ " x 3" x 18" (med.) for centersection sheeting and fairings; (1) $1/8$ " x 3" x 36" (hard) for tail assembly, centersection ribs, wingtips; (1) $3/8$ " x 3" x 36" (hard) for fuselage profile and gusset; (1) $5/8$ " x $5/8$ " x 36" (hard) for wing leading edge; (1) $1/4$ " x 1" x 36" (hard) for wing trailing edge. Also $3/32$ " plywood faces; $3/32$ " dia wire landing strut; $1/16$ " dia wire tail wheel strut and pushrod; $1/4$ " x $3/4$ " hardwood bellcrank mount; $5/32$ " dowel connector; metal strut fairings; bellcrank; fuel tank; $1/32$ " dia braided wire lead-outs; $1/4$ " x $3/8$ " hardwood inserts; tubing; $13/4$ " dia spinner; control horn; thread; silk or nylon covering; fuel-proof cement; clear and colored dope; decals; .09 to .15 engine.