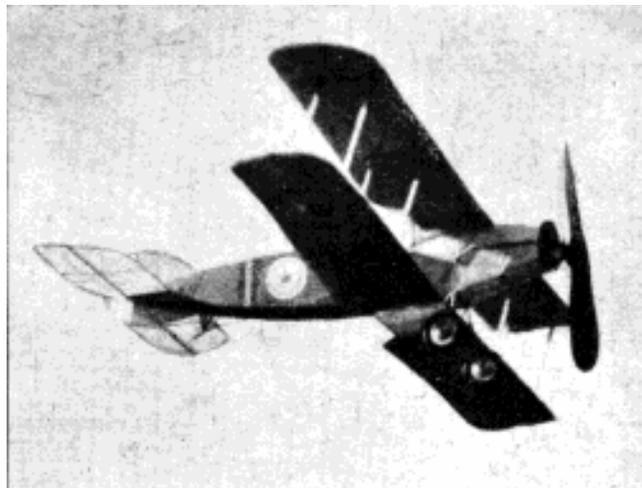


# Build and Fly This Bristol Fighter

How You Can Build a Simplified Flying Scale  
Model of One of the Greatest British World War Planes

By LAWRENCE McCREADY



The finished model looks like the real thing



Though it is only sixteen inches in span, it makes fine flights

THE Bristol Fighter was one of the finest and best known planes at the front during the war. It was a two seater but because of its sound design, high performance and unusual maneuverability, it was often more than a match for the renowned Fokker pursuits.

The model presented here is scaled closely from the real Bristol and flies remarkably well. Its flights are smooth and steady and take offs and landings are an exact imitation of the real thing. You may say "I don't like all-balsa wings-they don't look real enough," but build this little Bristol and your mind will be changed, for you can detail this model so that it looks astonishingly realistic.

## Fuselage

Make the fuselage by first assembling the side frames which are shown "grained" in the plans. The material is hard balsa sanded from regular 1/16" square down to 3/64" square. When the sides are dry, connect them with the cross pieces, square the whole fuselage up accurately and hold it in form until the glue dries. Next cut and notch the formers and fit them on. The radiator is in two pieces, the front piece being cut out, making a ring which fits onto the rear piece which is itself notched and glued to the longerons. Glue this on squarely and then fit on the 1/16" x 1/32" soft balsa stringers, reed cockpit edgings and the rear hook which is mounted on a bamboo cross piece.

Cover the fuselage at this stage and dope it with a water spray. Now fit the characteristic Bristol tail skid, which is made from thin bamboo struts assembled as shown in the detail drawing of the skid. Make it as shown; don't put on a plain skid or the model will not resemble a Bristol so closely.

## Tail Surfaces

The stabilizer and rudder are made up of 1/32" sq. bamboo edging and balsa framing. If you find it difficult to work with bamboo, you can make them entirely of balsa framing as shown dotted in the plans, but bamboo is recommended however. The rudder plans are shown in two sections, so trace and join the patterns to get the true shape. Cover the stabilizer on the top only and the rudder on only one side; then fit them to the fuselage. The stabilizer which is set with the front edge down at 2 or 3 degrees, must be separated in the middle and each half glued on individually.

## Wings

For the wings, use clear, soft 1/64" sheet balsa. This is now sold by several supply houses, but if you wish to make it yourself, you can do so by sanding down regular 1/32" flat balsa. The wings are alike, top and bottom on both sides, and the two center sections are the same size and shape. Trace the wing pattern as given on the plan and cut two wings. Then turn the pattern over and cut the wings for the other side.

Cut out the center sections, doubling the half pattern given, and then smooth all edges off nicely. Bend the 1/32" sq. ribs of bamboo; 1/16" sheet balsa may be used for ribs if you desire. Glue the ribs well to the undersides of the wings and center sections in the positions shown.

To assemble the wings and center sections, coat the edges to be joined with glue and press them together. Block the tips up 5/8" to get the proper dihedral. After these joints dry hard, attach the wings to the fuselage. It is advisable to erect some sort of temporary framing to hold the wings in the proper position while the struts are being glued in. Set the wings in the proper position, with zero incidence and 11/16" stagger. Put in the upper center section struts and the several struts between the fuselage and the lower center section slowly and carefully, for this is the most important point in building this model. Let these struts dry, then install the eight hard balsa interplane struts.

## Landing Gear

Put on the landing gear at this time. Glue the two front legs, which are bamboo as is the rest of the gear, and the 2 -1/16" spreader bar on squarely. When the glue is dry, fit the rear legs of the landing gear. These go through holes made in the lower center section in the location shown on the plan. Glue all the joints, well, for there is considerable strain on these parts. Glue a straight piece of wire on the bottom of the spreader bar and let the ends project enough to fit the 1" celluloid wheels. Glue small washers on the axle ends to retain the wheels.

## Power

A 3/8" long nose plug carries the flat metal thrust bearing. This plug is squared at the back to fit the hole in the radiator. Carve the propeller from a hard balsa block 5-1/8" x 1-7/16" x 7/16". Carve it with the aid of diagonals drawn on the faces and don't cut the block in any fancy shape for the correct amount of blade area has been calculated and it will be changed by doing so.

Sand the prop smooth after carving, round the tips and then put in the shaft, fitting several washers and the nose plug before bending the end over finally. When this is done, put in one loop of 1/16" sq. rubber (.045 sq.). One loop of this rubber flies this model in fine style.

Before this model will fly, it needs to be ballasted with about 3/16 oz. of metal so that it balances at a point about 2-1/2" from the nose.

## **Detailing**

You are now ready to add a few details to your model to add to its realism. Dope 1" red, white and blue circles, the colors reading from the inside out, onto the fuselage sides and dope 2" circles to the tops and bottoms of the wings. Wing skids and exhausts are shown in the plans and these can be made from round reed and balsa. Lewis guns and squadron numerals add realism. Touch up the radiator and tires in black and wheel centers in silver, and the job's about done.

The original model weighed, in full flying condition, exactly half an ounce. Any weight up to about 3/4 oz. will be satisfactory, however.

A word about the color scheme; be sure that you color all of the fuselage back of the sloping longeron piece which runs in the plans from the front of the gunner's ring to the bottom of the front center section strut, and from there down to the bottom longeron a different color from the rest of the fuselage. That line represents on a real Bristol, the dividing line between metal cowling and fabric covering. A white cowling, red fuselage, red fin, white stabilizer and natural wings makes a fine-looking model.

## **Flying**

After the model balances properly, glide it, controlling it with elevators only. When it makes a steady flat glide, try power. The model flies fast and very stable and it will cover an honest 125 feet every time ... often it has flown over 200 feet.

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