



● In camouflage paint, the Firefly I controliner presents a particularly realistic appearance, and its performance measures up to the promise of its looks.

FIREFLY I

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HERE'S A SCALE MODEL WITH MANY OF THE FLYING QUALITIES OF ITS PROTOTYPE

THE Firefly I is Britain's standard carrier-based multi-purpose fighter, the successor of the famed Fulmar. Serving as a night-fighter and long-range fighter, the two-seater Firefly is also provided with a rear observation greenhouse for reconnaissance. It is powered by a Rolls-Royce Griffon engine and is reputed to be one of the fastest and heaviest armed two-seaters in the world. Take-offs from carrier decks are jet-assisted, and fully retractable Youngman flaps enable this heavy plane to land slowly.

As the subject for control-line flying, the Firefly I leaves very little to be desired. The low wing keeps the center of resistance just below the thrust line for the speed fans, and who can resist a bulbous cockpit and a camouflage paint job for beauty? The model as shown is an ideal sport and stunt-precision performer with a class B engine such as the Ohlsson "23"; however, if it's speed you are after, employ a larger engine and cut down on the elevator area to reduce sensitivity.

Before initial construction, enlarge the plans by means of the $\frac{1}{2}$ " grids and the scale shown on the drawing.

The fuselage is built around a conventional crutch of $\frac{1}{4}$ " sq. balsa with $\frac{1}{8}$ " by $\frac{1}{4}$ " cross-pieces. This is clearly shown in the top view drawing. Build the sub-crutch directly upon the crutch; it runs from "A" to "G" and forms the base of the removable section of the fuselage. Cut all the fuselage bulkheads from $\frac{1}{8}$ " sheet balsa except "A" which is two-ply $\frac{1}{4}$ " hard sheet. Lightly cement the sub-crutch to the crutch and add the bulkheads all in their proper locations. The fuselage is now planked with soft and spongy $\frac{1}{8}$ " sheet balsa. Use strips about $\frac{1}{4}$ " wide at the extreme top and bottom of the fuselage.

It is advisable to install your engine with all the ignition units now so that you can build the lower cowling directly around your

individual engine. Note how it is built up of $\frac{1}{4}$ " sheet box construction. You may make the lower cowl removable or hinged to gain access to your spark plug. Now add the tail blocks of soft balsa and hollow for lightness. The cockpits are not cut out until the fuselage is completely planked, sanded, and doped. Bend the tail wheel fork from $\frac{1}{16}$ " steel wire and imbed and cement well to the bottom tail block. Tail wheel is 1" diameter. Do not secure the battery box until the model is complete, for it is used to achieve the proper balance. The left and right air scoops are cut to shape from soft balsa blocks but are not cemented in place until after the wing is secured to the fuselage.

The rudder is shaped from soft $\frac{3}{8}$ " sheet balsa and sanded to a symmetrical cross section. The stabilizer is cut from firm $\frac{3}{16}$ " sheet to the design shown. Note that a $\frac{1}{16}$ " wire brace connects the two elevators together. The control horn is of $\frac{1}{16}$ " wire, has a copper washer soldered to each end for the control-line hook-up, and it in turn is soldered to the elevator connecting brace. Cement the stabilizer in place on the fuselage, then add the small top fairing block and the rudder. Offset the rudder about $\frac{1}{8}$ " to keep the control lines taut.

The wing construction is rather unique and yet extremely simple—and above all, STRONG! Cement 2" or 3" sheets of $\frac{1}{8}$ " balsa together to form one sheet 34" by 7" by $\frac{1}{8}$ ". On this draw the wing outline and cut the sheet to this outline; this forms the entire bottom of the wing. Cut the sheet down the center line to form two wing halves, one right and one left. Build the wing spar from $\frac{1}{8}$ " sheet balsa and the $\frac{1}{32}$ " plywood dihedral brace which also acts as the landing gear mount. Cut all the wing ribs from $\frac{1}{8}$ " sheet balsa as shown. Now mark the spar and rib locations on the sheet wing bottom. Build one half of the wing at a time. Cement the

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$\frac{1}{4}$ " by $\frac{3}{8}$ " leading edge to the wing bottom, then the spar and ribs. When cement has set, cement the spar to the other half wing bottom, adding the leading edge and ribs. The landing gear and control tubes are cemented and bound in place before the $\frac{1}{16}$ " sheet balsa wing top is added. You must bevel the trailing edge of the wing bottom and the top of the leading edge before adding the wing top. You can clearly see this in the Rib 1 drawing. The control lines run completely inside the wing and out the tip. The control tubes are tilted to form a straight line to the control horns. This will have the two lines coming outside the fuselage, between bulkheads "E" and "F" and slightly below the crutch. Install large bushings at these exit points. The wing is now covered on top and the tips filled in with soft balsa from Rib 5 to the edge. When installing the wing in the fuselage be very generous with the cement around bulkheads C, D, and E, and the planking as these are the stress points in rough landings. The wing fillets are cut from balsa for extra strength at this point.

The entire model is now carefully sanded to produce as smooth a surface as possible. At least four coats of wood filler made from clear dope and talcum powder with lots of sanding between coats should be applied before coloring. The cockpits may now be cut out as seen in the drawing.

The bubble canopy is made of .030" plexiglas. Heat over an electric hot plate until it becomes flexible and then stretch it over a smooth balsa form. Or any good commercial solvent may be used to form a celluloid canopy.

The model is camouflaged and "sand-and-spinach" on top and a sky blue on the bottom. For best results, spray the paint on, using masks for the camouflage effect, but a good result can be obtained with a brush if you rub the finish down enough. Use at least four coats for a solid color. Strips of black tissue doped to the canopy form the structure members and black dope lines made with a ruling pen mark the ailerons and other details. We recommend the use of air wheels and the removal of the wheel cover plates for flying. If correct size insignia decals cannot be found, stencils may be made of masking tape. A Topping three-bladed propeller cut down to a 10" diameter will give the necessary scale effect with its large spinner. The top half of the fuselage may be held in place with Scotch tape or you may make little snap hooks for this purpose.

The model should be balanced at the wing tips between the two control lines. Above all make certain that your model is not tail heavy. Move the battery box with batteries in it to balance the model. When the correct balance point is obtained secure the box in place.