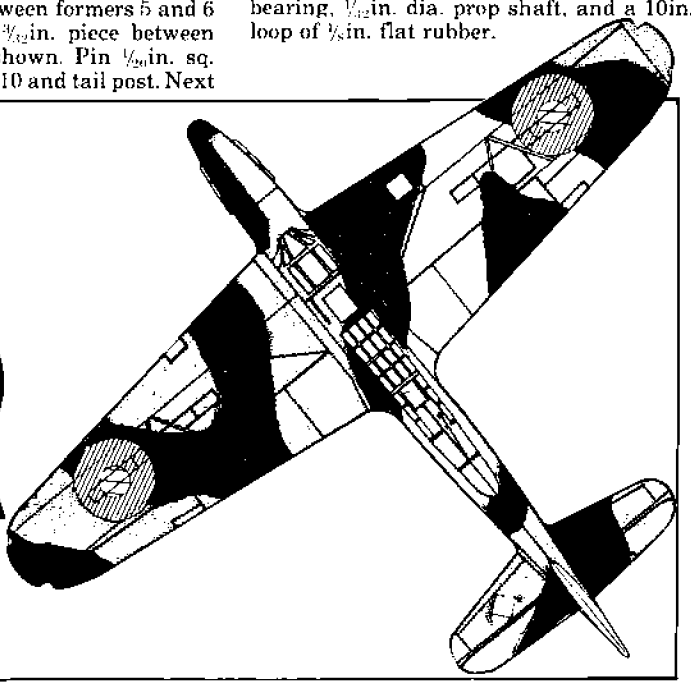
FAIREY FULMAR

Full size Peanut Plan
By David G. Diels



THE CONCEPT for the development of the *Fairey* 'Fulmar' came from the Royal Navy's need for an up-to-date fleet fighter to operate from the smaller carriers of the period. The result was an aircraft that was a delight to fly, reasonably heavily armed with a useful operational range. Sadly the specification called for an additional crew member to cope with the navigational requirements of a carrier based aircraft. This led inevitably to a reduction in performance compared to its land-based contemporaries. Nevertheless the *Fairey* 'Fulmar' stood the Navy in good stead until the later days of the war when American aircraft such as the 'Corsair' and 'Hellcat' made their appearance.

The *Fairey* 'Fulmar' was a development from the P.4/34 two-seat light bomber. The first prototype flew in January, 1940 and over 240 'Fulmar MkI's' were subsequently built, powered by the Merlin VIII. Not surprisingly the 'Fulmar' was kept secret until mention was made in Parliament late in 1940. Its first operational sorties were in the Mediterranean theatre in 1941 where one squadron of 'Fulmars' from HMS 'Formidable' was involved in an attack on a group of enemy warships including Italy's finest, the battleship 'Vittorio Veneto'. In all some 650 'Fulmars' (MksI and II) were built during World War II.

Size your own wood

The plan shown here calls for some sizes of balsa that might not be available in your local model shop. There are two ways round this possible problem. First is to use fairly lightweight stock sizes in the nearest size *up* from those shown on the plan. The second option is to sand down some sheet to the right size and cut what you require from this! As we are dealing with a very small model the latter option becomes reasonably feasible. The best way to sand down sheet for this purpose is shown in Fig. 1. The fine sandpaper is fixed to your bench with double-sided sticky tape or an adhesive which you can peel off afterwards, like cowgum. This will hold the sheet firmly in place whilst you are sanding it. Cut your sheet about 4ins. over size so that you are not having to sand to the ends. Sanding the ends can (a) be difficult to sand 'square' and (b) sooner or later you will catch the end as you sand 'in' to the sheet and snap your carefully sanded work! Use a fine sandpaper *on a wooden block* and sand *both* sides of the balsa sheet. If you sand one side then the wood will bow up towards the side sanded.

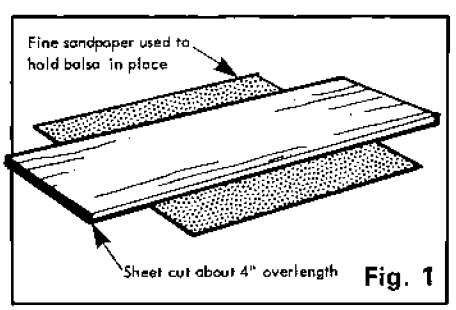


Fig. 1

Tail surfaces

Laminate stabiliser tips and rudder tip from 2 pieces of .025 x 1/20in. balsa. Make frame pieces from 1/20in. square and 1/20 x 1/32in. balsa as shown. When complete cover with tissue.

Wing

Laminate wing tips from two pieces of .025 x 1/20in. balsa. Cut ribs as shown from 1/20 and 1/32in. sheet. Use 1/20in. square stock for spars. 1/20in. x 3/32in. for trailing edge, and 1/20in. or 1/16in. square stock for leading edge. Cut landing gear mount from 1/20in. sheet.

Pin lower spar and trailing edge to plan. Glue ribs in place but not W1. Pin W1 in place but do not glue. Glue wing tips to trailing edge. Glue top spars to ribs W2, W3, and W4 but not to W1 or wing tips. For easier fit at W1 top spars may overlap at W1 by cutting notches in W1 wider and extending spars about 1/16in. to either side of W1. Glue leading edge in place and glue wing tips to it.

When glue has dried remove pins from both panels and prop up wing tips 13/16in. as shown and glue W1 to all spars and edges. When dry remove wing from plan and crack ends of spars and bend spars so they smoothly join the wing tips. Glue to tips.

Glue landing gear wires in place if used, after gluing gear mounts in place. Sand and carve to shape as shown. Cover wing with tissue at this time.

Fuselage

Fuselage is built using the half shell method. Cut all parts as shown from 1/20in. or 1/32in. sheet. Pin keel pieces to plan. Also pin 1/20in. sq. top piece between formers 5 and 6 as shown. Pin 1/20 x 3/32in. piece between formers 6 and 8 as shown. Pin 1/20in. sq. pieces between former 10 and tail post. Next glue left half of formers to keel, except for formers 4A and 5B which are added later. Then glue side longeron in place.

Next add stringers as follows:

(1) 1/20in. sq. stringer above and below side longeron from nose to tail.
(2) Top stringer from 5 to 6 and from 8 to tail.
(3) Short stringer below stabiliser opening between 10 and tailpost.
(4) Lower 1/20in. sq. stringer between keel aft of 10 to forward of 7, allowing extra length for trimming to fit wing.
(5) Add 1/20in. sq. stringer between 3 and 4, 2nd stringer below side longeron.
(6) Do not add 1/32in. sq. stringer to bottom nose or top nose until later.

Next remove left half from plan and add right side parts in same order as left half. Add 4A as shown. Then add 1/32in. sq. stringer between 3 and 4A and add motor peg support. Cover with tissue except lower nose area. Carve nose block as shown. Glue to 3 after hollowing out. Glue 1A to block and finish sand. Cut and glue 1 and 1B together and drill a 1/8in. dia. hole for Peck PA-1 thrust bearing. Test fit removable nose 1 and 1B to 1A. Fit should be snug.

Assembly of Parts

Test fit wing to fuselage. When satisfied with fit glue in place. When dry add former 5B to bottom of wing and glue to K-3. Next add 1/32in. sq. stringers from 3 to 5B. When dry cover with tissue. Add tissue wing fillets as shown by outlines on plan.

Add stabiliser and rudder. Then add whatever detail parts are desired such as tailwheel, aerial, wheel covers, engine exhaust, etc. Make canopy in 2 pieces if moulded. Or it can be fabricated of 3 pieces, windscreen, front canopy, and rear canopy. Wheels are balsa with aluminium tube hub.

Finishing

Colour details and more information on the *Fairey* 'Fulmar' may be found in Plans Pack 3047 from Aeromodeller Plans Service, PO Box 35, Wolsey House, Wolsey Road, Hemel Hempstead, Herts. HP2 4SS.
Price £2.75 (plus 50p postage).

Power

Use *Peck* 4 1/4in. dia. prop, PA-1 thrust-bearing, 1/32in. dia. prop shaft, and a 10in. loop of 1/8in. flat rubber.