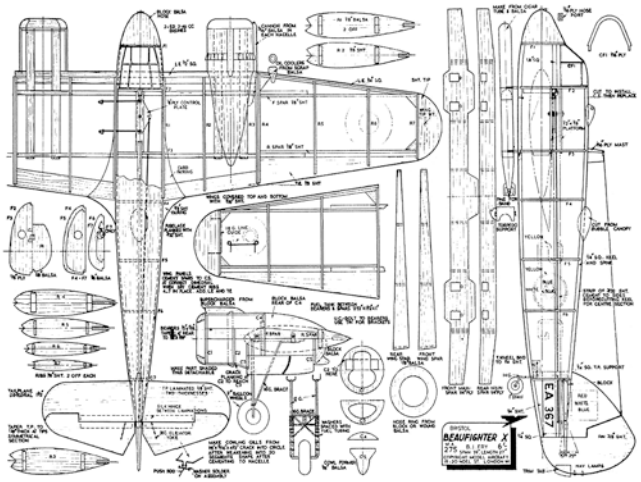
Bristol Beaufighter X



How to build a 39in. span of the twin engined fighter that was tagged " Whispering Death " by Brian Fry.

Multi-Engined C/L scale models have a fascination all their own, both for modellers and the public, and the purposeful lines of this 39 in. span Beaufighter are guaranteed to draw the crowds anywhere. If you like your models with " bits and pieces " stuck on, then the Beaufighter can provide the lot guns, bombs, rockets, torpedoes and what have you! Construction is fairly straightforward although not for the absolute novice.

Wing Center-section: The wing center-section should be made up first so that it can be put aside to set thoroughly. Cut out and assemble the two 1/4 in. ply main wing spars and engine bearers, using Durofix or a good Hardwood glue. Make a point of using oak or a really hard wood for the bearers, and your engines will never leave the 'piane' till it is matchwood !

Make up the undercarriage units from 12 S.W.G. wire and bolt in place. This is a good time to install the fuel tanks permanently, it may save no end of chopping later! Test them for leaks now and when satisfactory, seal up the vents from dust. Put the whole assembly aside to set.

Fuselage: Pin the 1/4 in. sq. baba spine and keel to the plan and add the left- hand halves of formers F1-F7. Cement in the 1/4 in. sq. tailplane support, chamfering it at the rear to 1/8 in. thick. The rear should be supported of the plan with a scrap of 1/8 in. balsa so that then the right- hand T/P support is added, the total width of the fuselage is 1/4 in., later the 3/32 in. planking will bring this up to 7/16 in. wide.

Make up the bellcrank assembly with two 1/8 in. ply platforms, add lead outs, and after removing the framework from the plan, firmly cement into the slots in formers F2 and F3. The right-hand half formers arc then cemented in place together with the right half of the tailplane support.

In order to facilitate the next step, cement a strip of 3/32 in. planking along each side of the fuselage (from F1 to tail) to run flush with the lower edge of the cockpit; this will prevent the fuselage distorting when the 1/4 in. sq. keel is cut. This is done to allow the wing center-section to be glued (Durofix) to F2 and F3. Do this now, before the fuselage is planked. Gut the keel at an angle to give a better join when cementing the pieces back in place. The position of the main wing spars should have been marked on F2 and F3 to ensure accuracy in lining up, but sight along the fuselage as a double check.

Make up the tailplane from two laminations of 1/8 in. sheet, sandwiching in between cloth hinges and separate control horns of 18 S.W.G. wire. Chamfer for dihedral, pee cement, then cement together and put aside to set. Cut the fin and rudder from 3/8 in. sheet, and shape to an overall streamline section.

Thread the push rod through the formers and retain it in the bellcrank with a washer soldered on. At the tailplane end, the pushrod should terminate in a " T " piece which fits into the control horns. Hold the

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bellcrank at neutral and bend the elevator control horns to obtain precise neutral on the elevator. The tailplane can then be firmly cemented in place. Sight along fuselage to see that it is lined up accurately.

Attach the 1 in. tailwheel, plank the fuselage with strips of 1/4 x 3/32 in. balsa and after adding the nose-block and the small block behind F7, sand all over. The cockpit and fin are left off for the time being to prevent accidental damage.

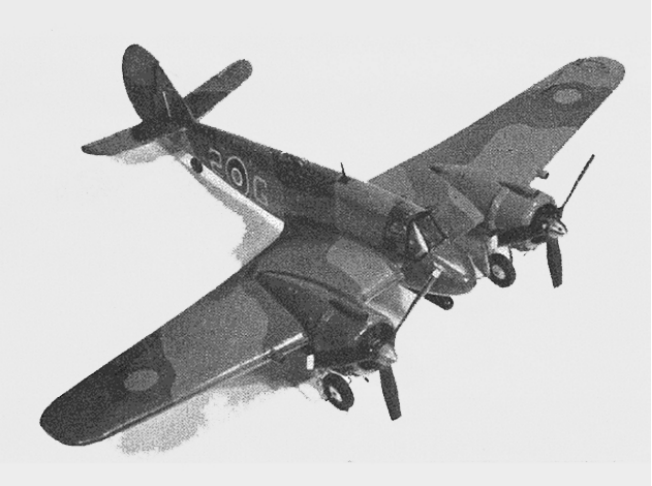
Nacelles and Outer Wings: Cement ribs R1, R2 and R3, to the main wing spars and add the 1/2 in. sq. leading edge and 1/8 in. sheet trailing edge. Drill the bearers to suit your engines (most powerful one in inboard nacelle) and install bolts locked across the top with solder. Do not fit the engines yet. Cement in place formers C1-C5, and plank back to C4 above the wing, and C5 below, with 1/4 in. x 3/32 in. strip. Soft block fairs the nacelle into the wing top and bottom. Cement cowl ring in place and when set, carve and sand nacelle smooth all over. Details such as U/C doors, superchargers, etc., should be left until later or they will be damaged during building.

Sheet the inboard wings top and bottom with in. balsa, using card templates to fit the sheet neatly round nacelles. Plastic wood will hide any small errors here.

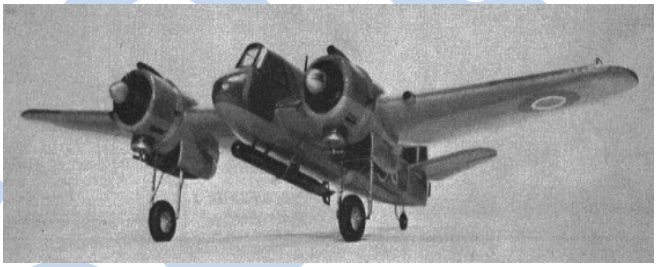
Cut out the 1/8 in. hard balsa wing spars and cement them to the main wing spar stubs, using the lower edge as a guide, but sight by eye along the fuselage as a double check to ensure the dihedral is symmetrical. Also check that when the outer ribs are added, no wash-in or washout is built in.

When set, slide on ribs R4,5,6, and 7 and add the 1/4 in. sq. L.E. and the I in. sheet T.E., not forgetting the gussets. Sheet the outer wings top and bottom with 1/16in. sheet and add the block tips. Don't forget the 18 S.W.G. line guide and the 2-3 oz. weight in the starboard tip. The fin can now be cemented in place.

Finishing: Sand the model smooth all over, and give it several coats of sanding sealer to fill the grain. When satisfactory, dope on lightweight tissue all over, give



The two photographs on this page show well the detail that can be added to the Beaufighter to put it in the " Super Scale "class.



the model another coat of sanding sealer, and rub down. Fit up the cockpit and add all the details, i.e., U/C doors, superchargers, cooling gills, cannon, nose port, oil coolers, torpedo sling, etc. See page 92 for an easy way to make cooling gills.

Next, cut off the lower cowls by slicing along below the bearers and half-way round the circumference just behind the gills, you will then be able to fuel proof inside the cowling; mount the engines in place and cut away the cowls to clear the cylinder heads. Now, before the model sees a drop of camouflage dope get the C.G. on, or in front of, the front line. You may have to fill the nose block with lead shot, but this is as important as the wing tip weight.

Authentic colouring is matt medium grey and olive drab camouflage on the upper surfaces and light grey on the underside. A study of photos will explain this better than pages of writing. If you can spray the camouflage on so much the better, but careful brushwork is almost as effective. Fuelproof where necessary.

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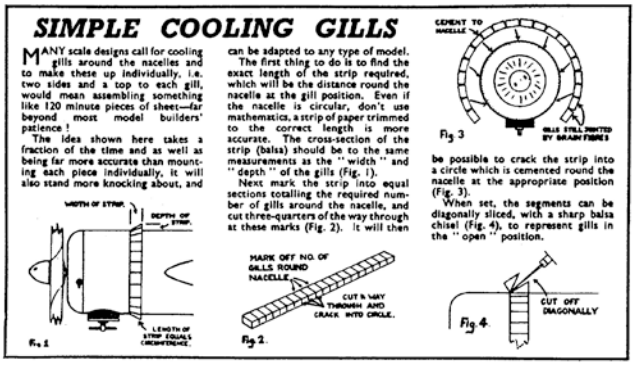
Add the W.W.II roundels and astradomes and you are ready for the first flight.

Model Aircraft Magazine March 1958



SIMPLE COOLING GILLS

MANY scale designs call for cooling gills around the nacelles and to make these up individually, i.e. two sides and a top to each gill, would mean assembling something like 120 minute pieces of sheet—far beyond most model builders' patience!

The idea shown here takes a fraction of the time and as well as being far more accurate than mounting each piece individually, it will also stand more knocking about, and can be adapted to any type of model.

The first thing to do is to find the exact length of the strip required, which will be the distance round the nacelle at the gill position. Even if the nacelle is circular, don't use mathematics, a strip of paper trimmed to the correct length is more accurate. The cross-section of the strip (balsa) should be to the same measurements as the "width" and "depth" of the gills (Fig. 1).

Next mark the strip into equal sections totalling the required number of gills around the nacelle, and cut three-quarters of the way through at these marks (Fig. 2). It will then be possible to crack the strip into a circle which is cemented round the nacelle at the appropriate position (Fig. 3).

When set, the segments can be diagonally sliced, with a sharp balsa chisel (Fig. 4), to represent gills in the "open" position.

Fig 1. Fig 2. Fig 3. Fig 4.

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