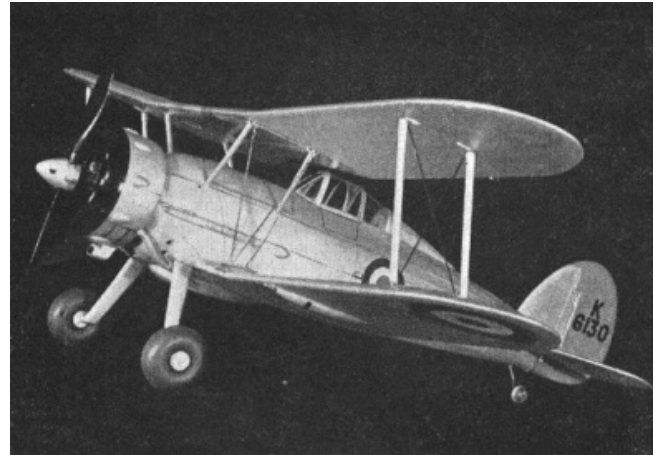


Gloster Gladiator



Build your own free-flight replica of this classic machine. Suitable for up to 1 c.c. motors by Geoffrey Gannon.

As the last fighter biplane to see service with the R.A.F., this aircraft has its own little corner in history and, in building and flying the model, we can recapture some of the atmosphere of its last days over Norway and Malta. The plans are very fully detailed, and, together with the cutaway drawing and these instructions, will enable anyone of average modelling experience to successfully complete the model.

Construction: Start by building the basic crutch on the plan and adding the top half formers from F4 to F11a. On to these add the 1/4 x 1/8 in. hood-shoulders, F7a, 1/8 x 1/16 in. stringers and hood fairing block. While this portion is still on the plan it is advisable to build the tailplane, making sure that T6 is not cemented to the crutch. Unpin these parts from plan and add the lower formers from F5 to F11a and also the roughly carved tail block. The block components should be hollowed to give a wall thickness of about 1/4 in.

The next stage of construction requires a little care, as the incidence settings of both wings depend upon its accuracy. Bend the cabane wires to accurate shape and join them with the tubing only at this stage.

Stitch each strut to its correct former, and do the same with the under-carriage leg wire. Now add the rest of the formers as far forward as F1 using the

crutch as a guide to make sure that they are in correct alignment. F2 and F1 should be assembled in one piece. The center section ribs may now be added, plus the remaining wing platform wires and the top 1/8 in. sq. stringers. Check the alignment of the wing center-section very carefully.

Complete the lower center-section by adding the leading edge and trailing edge straight through the fuselage, the trailing edge locators, brown paper tubes and mm. ply facing ribs. Cut the engine bearers to the correct length and drill suitably spaced mounting holes for the engine to be used. Slide the bearers into place through F1 and F2 and add the 1 x 1 1/2 in. block to F1 as shown on the plan. Slide C3 into position and cement it to the block and bearers. Carve roughly to shape from F1 to C3 leaving it 1/16 in. oversize at F1.

Top and bottom halves of the engine cowl should be completed separately on the plan, including the 1/8 in. planking. Stitch half press-studs on each side. Laminate and roughly shape the cowl ring. Cement it to the lower half-cowl which is in turn cemented into position on C3. Snap on the top half and sand it roughly to shape, drilling the holes for the needle valve, compression screw, drain hole and exhaust tubes.

Add the rest of the 1/8 in. sq. stringers to the fuselage and the wire loops to the stub spars. Plank where shown with 1/16 in. soft sheet, including the center-section stubs. The whole of the fuselage may now be finally sanded smooth, and the mm. ply facing ribs added.

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The bottom lower wings are built in two halves and are fairly straightforward provided care is taken to give the 1/8 in. dowels and root-ribs their correct angles and that the metal tubes for the inter plane struts are correctly positioned. Check all the dowels for a good plug-in fit to the tubes and make the mm. ply face rib fit snugly against the mm. ply rib on the stub wings. Standard 1 x 1/4 in. trailing edge and 3/8 in. leading edge section may be used throughout.

Cut the top wing main spars, build the wings in two halves and then pin both halves either side of the center- section on the plan. Support each tip at the correct dihedral, and complete the wing by building in the center section, adding the gussets and wire loops (paper fasteners) after removing from the plan. The fin/ rudder is built flat on the plan and fitted into slots in F12 and F13 which are then planked with 1/16 in. sheet. A small hole may be made in F12 to accommodate lead shot should the completed model balance nose heavy.

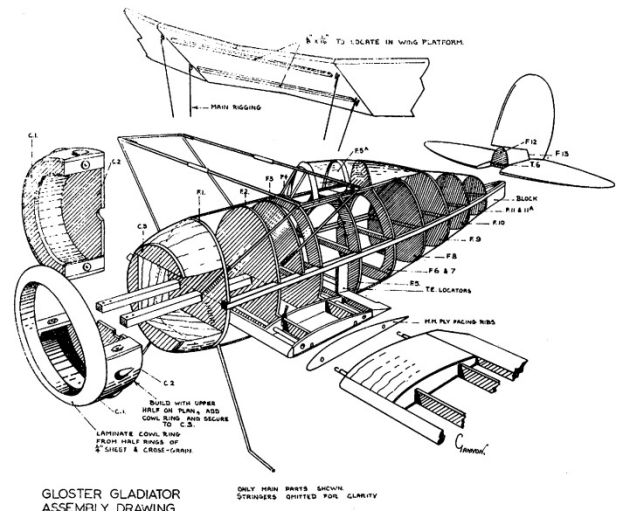
Fix the sheet fairings to the wire undercarriage legs, and add the cowl blisters and belly blister. Complete the cabane struts and interplane struts. Where milliners' elastic is used for rigging keep it nice and tight, and make the fixing hooks from paper clips. Add the celluloid hood and frame and cover the entire model with lightweight tissue, except for the underside of the lower wings where it pays to use heavyweight, as lightweight is easily punctured by the straw-like grass that is found on so many of our flying fields.

Model Aerodrome air wheels were used on the original model, but ply hub discs should be added to these for exact scale appearance. The original model was given a concours finish and weighed just under 17 oz., including prop and engine. A lighter model would result if less colour dope were to be used.

Flying: Balance the model on the c.g. and use lead ballast if it is nose heavy in preference to negative incidence on the tailplane. The latter method of trimming is inclined to increase the sinking speed more than the former. Should the model be tail heavy, then before adding any weights to the nose try a very small amount of positive incidence under the

tailplane always remembering to test glide over long grass. Flying speed is fairly high so hand launch accordingly. For power tests (after a good smooth glide is obtained) it is preferable to try short take-off runs with the amount of down thrust shown on the plan, decreasing this by easy stages until the model just leaves the ground. Aim for a nice flat left-hand climb with just enough right-hand rudder tab for a wide right-hand glide circle. With the well-positioned undercarriage some pretty good landings are obtainable.

Stick to the 1 c.c. engine as a safe maximum capacity. I have tried a 1.5 out of curiosity, with a view to fitting stunt devices, but I was so alarmed by the rocket-like climb, that I abandoned this project. With a 1 c.c. engine the model will, under reasonable conditions, take a good bouncing, fall apart where it should and within two or three minutes be on its way back upstairs.



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