

# The "Camel"

By J. S. SPROULE

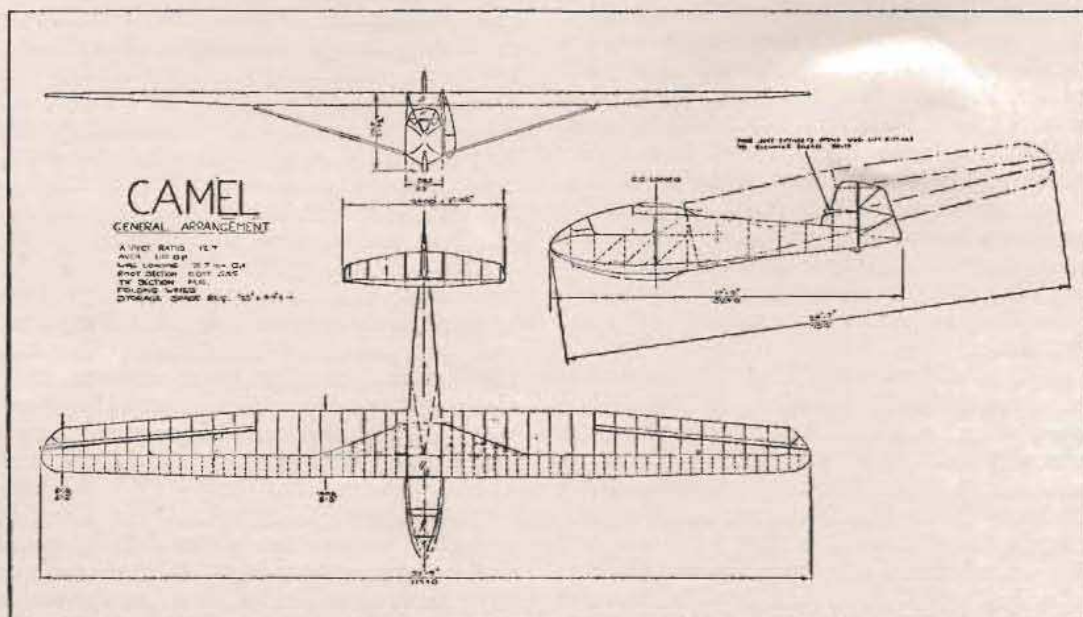


**D**URING the winter of 1937-8 Ivanoff and myself decided to design a medium performance sailplane. After much vociferous discussion we finally decided that we wanted small span, pleasing line, cheapness, good controls and speed range. For good measure—and perhaps to show off a little—we would throw in the desirable features of quick assembly and wing-folding. Mr. Smith, of Southampton, was of much assistance when we finally got going on the design—in connection with the stressing—and Ivanoff and myself would like to record our appreciation for all the trouble he took.

The CAMEL is of the torsion-resisting leading edge,

single spar and lift strut formula. The wings do not meet on a narrow neck as on most machines of this layout, but meet the fuselage at its full width. The wing-fuselage junction was the subject of much careful thought, the underside of the root wing section being flattened to avoid any undesirable burbles. Also, as the fuselage sides were kept parallel with one another at this point, we feel we have done our best over this question.

The fuselage is slab-sided for cheapness but, we fondly hope, quite easy on the general eye. The bulkheads have no corner blocks, the ply gussets, etc., being of suitable thickness, as this is much cheaper



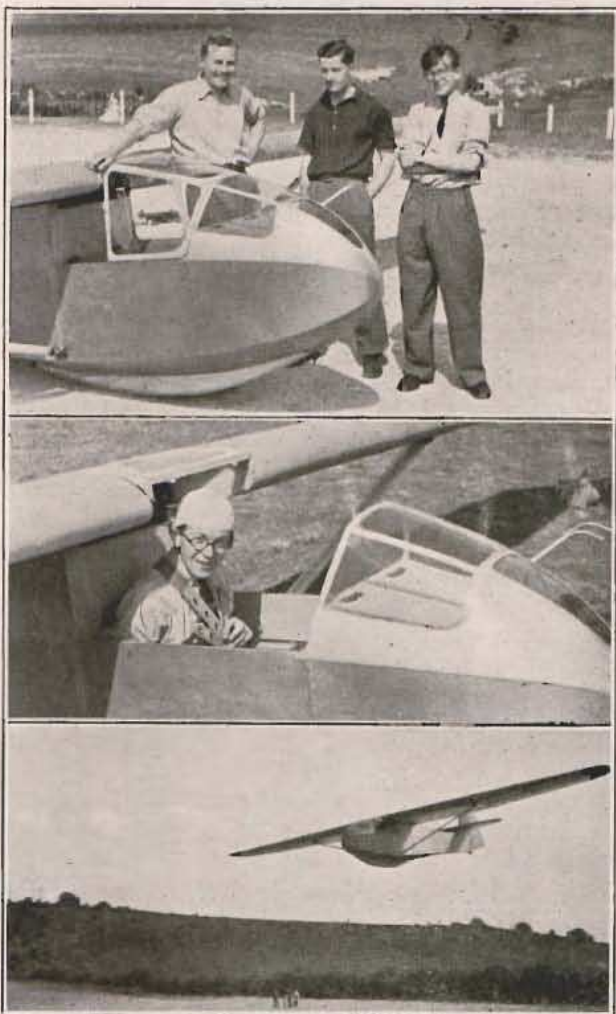
General arrangement drawings of the "Camel" which was constructed by Scott Light Aircraft, of Dunstable. The span of the first machine is slightly larger than that shown in the drawing, being 35 ft. 8 ins.

than the labour of fitting wood into the various corners.

The steel tube struts meet the wings at balsa "blobs," as the attachment fittings are carried well below the wing, to reduce interference. The flattening of the wing section, as mentioned above, has the added advantage of giving a deeper rear "sparlet" to bolt the wing-fuselage attachment fittings to. The wing folding fittings at this point are extremely robust and simple, and the additional weight of this feature is about 5 lbs.

Folding procedure is as follows:—

The tailplane is removed by releasing its quick release bolts. A section of decking is removed from the fuselage top. The wing lift strut is released from the wing at the top end, and the strut is swung back alongside the fuselage, to engage in a small catch on the lower longeron. The wing is then released at the main spar root and raked back until the leading edge is clear of the fuselage. It is then lowered and the wing is folded back flat along the fuselage, the strut lift fitting engaging by means of a small jury fitting to the appropriate elevator quick-release at the tail. The procedure is identical in the case of the other wing, and the entire operation takes about three minutes.



Top, from left to right: A. Ivanoff, T. T. Davies, and J. S. Sproule, the owners of the "Camel." The centre picture shows that the cockpit is both roomy and easy to get out of in a hurry. Below is the machine on one of its first test hops.

The fully enclosed cockpit top continues in unbroken line from the wing, right down to the nose. The cockpit (from which there is a surprisingly complete view) was designed for rapid exit. The hinged top of the two transparent swinging panels are all secured by a common quick release. There is no parachute box to jam a back-type parachute pack.

The tailplane is of the balanced variety, and is carried high on the fin. This is an aid to spin recovery as well as making an easier job of holding back on bungee launches.

The strength factors are 11 for the c.p.f. case, and 6 for inverted flying. There is a factor of 2 at 160 m.p.h. The speed at which aileron reversal would occur is 174 m.p.h.

The CAMEL stalls at 30–32 m.p.h. according to pilot, and this is unaccompanied by any vicious tendencies.

The wing root section is Göttingen 535 flattened on the underside, merging into 535 proper three ribs out and continuing thus to the aileron roots. From here the Göttingen 535 merges into Göttingen 389 at the tip. The datum lines of these sections gives 3.6° aerodynamic wash-out.

Optimum sinking speed (checked by Slater-Cobb) is 2.85 ft. per second at 35 m.p.h. A sinking speed of 6 ft. per second occurs at 65–70 m.p.h. The CAMEL has so far been dived up to 80 m.p.h., opportunity for going faster not having yet presented itself.

The CAMEL is very amusing indeed to fly, control being extremely positive and aeroplane-like without being in any way "jumpy," as one might expect in a small machine. Turns can be made on rudder or aileron alone, and the elevator is, rather unexpectedly, very mild for a full floating type. The machine is pleasantly stable longitudinally and betrays no signs of hunting on the winch climb.

The machine has been flown in all sorts and strengths of winds throughout the last winter, and the syndicate, which includes T. T. Davies, is looking forward to the summer and its thermals. It *would* be nice to land it in France, where all the other "Camels" were, but nice things like that *never* happen!

## This Gliding

A BORED YORKSHIRE GLIDER MANUFACTURER is being interviewed by the Press.

REPORTER: "What is the use of gliding—I mean to say, why do people do it? There must be some appeal?"

B.Y.G.M.: "That's an easy one."

REPORTER: "Oh, I should have thought the idea was to give the Youth of Britain air sense."

B.Y.G.M.: "Maybe; but have you ever stood on the edge of a high cliff and felt the urge to spread out your arms and soar gracefully over the country below?"

REPORTER: "Yes, yes, now you mention it I have felt like that!"

B.Y.G.M.: "Well, gliding allows you to do it more than just once; even if only a few times more than just once the Coroner will not say rude things about you."