

F-BOATS

—a postscript by an ex-pilot

A pictorial postscript to Mr. Bruce's series on the Felixstowe flying-boats is added by this rare photograph of No. 3546, known as the "incidence boat"; it was powered by two Clerget rotary engines. The illustration is provided by the librarian of the Royal Aeronautical Society.



AS one of those who flew the H.12s and F-boats in 1917-19, I wonder whether I may express my gratitude both to *Flight* and to Mr. J. M. Bruce for the three fascinating and authoritative articles that you have lately printed. Even to one who thought he knew those boats fairly intimately the articles have added a great deal of new detail, particularly about the early period of Felixstowe design work. These boats have suffered so badly from mistakes repeated from one book to another that a really authoritative record was badly needed. Even such a careful and well documented book as Thetford's and Riding's *Aircraft of the 1914-1918 War* has a number of rather serious mistakes.

Having said that, may I be allowed to suggest a few very minor additions or corrections to Mr. Bruce's articles? First, the common belief that all F-boats were F.2As is perhaps a little more forgivable than might appear. The famous and well publicized stations were Felixstowe and Yarmouth. Even in the autumn of 1918, apart from a few surviving H.12s and H.12 converts (H.12s rebuilt with an F.2A or H.16 hull) and the prototypes F.2C and F.5, they possessed scarcely anything but F.2As and hardly any F.3s; Felixstowe had, I think, a couple. In the second half of 1918 it became my job, after Killingholme was taken over from us by the U.S. Navy, to test and ferry F-boats from builders' works to the stations where they were being flown. Almost all the F.2As were going to Felixstowe, Yarmouth, Dundee, Calshot (and earlier, also, to Killingholme). The F.3s nearly all went to Cattewater, and the Scillies, and to Houton Bay in the Orkneys. The reason is obvious: the F.2A was faster, the F.3 had the bigger fuel capacity and boat load. The F.2As went (apart from Calshot, which was within a few miles of where they were building at Cowes and Hythe) to the stations in the areas where reconnaissance, Zep-chasing, and fighting were most important. The F.3s went to the stations where the main emphasis was on submarine patrol.

Mr. Bruce has emphasized the weak points of some of the earlier F-boats, and in particular of the F.3s. I do not think that it emerges quite clearly from his narrative that progressively during 1918 the boats coming off the production lines were modified to remove some of the more serious weaknesses. The early boats were all enclosed, so that the pilots had no backward view. From about September 1918 most of the new F.2As were open boats, somewhat faster in consequence, and with a good view for the pilot. At the same time, they had mahogany tail planking (Consuta sewn planking in the Saunders boats) instead of the narrow washboard and fabric which had given so much trouble at stations where sea conditions were less favourable than at Felixstowe.

They also, from about the same date, had horn-balanced ailerons, making them somewhat less tiring to fly than the H.12s and early F.2As; to fly one of those for eight hours with no balance anywhere in the controls, and usually with a considerable tail-heaviness half-corrected by a rubber cord, was an extraordinarily tiring job, and pilots were apt to fold up after a few months of it. One of the most important improvements on the F.2A as compared with the H.12s was that the F.2A had an ingenious arrangement for dual control; the second pilot's control wheel could, when necessary, be disconnected and laid flat so that one could climb over it into the front cockpit. The H.12 had no dual controls, and one pilot had to climb out of the seat and let the other climb in. Since there was no time to change pilots in an emergency landing from normal patrol height, and H.12s were impossibly difficult to land in a rough sea, the first pilot would often fly the whole patrol on a bad day, and get home dead beat. Apart from that, the dual control in an F.2A allowed the first pilot, if he preferred it, to let his second pilot do most of the flying and himself take most responsibility for the navigation. In an H.12, with an inexperienced second pilot it was not easy both to fly and to navigate, and one wondered occasionally whether it was better to risk being killed or being lost.

These official modifications of late 1918 lead one on to the

FOLLOWING publication of a three-part article on the Felixstowe flying-boats, by J. M. Bruce, M.A., a most informative commentary has been received from Professor E. A. G. Robinson, C.M.G., O.B.E., and is printed here, together with a further note by Mr. Bruce. Prof. Robinson, who is Professor of Economics at Cambridge University, served as a pilot in the R.N.A.S. and R.A.F. during World War I.

unofficial modifications. To a generation which takes the minutest change in the design of an aircraft with appropriate solemnity, the cheerful abandon with which any station and almost any pilot made private and major modifications to suit individual tastes must seem unbelievable. Felixstowe itself led the way. If in the autumn of 1918 one arrived with a new enclosed boat it was hardly ashore before the chippies had removed the greenhouse and had started to convert it into an open boat. Both at Felixstowe and elsewhere a number of boats possessed ailerons, rudders and even elevators which differed greatly from the standard. Porte was reputed to frown on too-powerful controls, which might enable one to throw about a not-very-strong aircraft (an H.16 was actually looped by an American pilot at Killingholme), but tired pilots on long trips took a very different view of what was desirable.

All this is admirably illustrated by the photograph at the top of page 931 of *Flight* for December 23rd, 1955. Whatever N.4060 may have been, she was not a standard H.16. My own belief is that the top photograph on page 895 (December 16th) is an H.16. Her number—more legible in Thetford and Riding—in the 4300s seems to support it. The H.16s were enclosed boats with a clear gap down to the main longeron between the deck fairing and the windscreen, and with veneer instead of planking on the nose. (The photograph of a supposed H.16 in Thetford and Riding, 1946 edition, page 95, is of an early type Porte Baby.) The U.S. Navy had some fifty or more H.16s at Killingholme with 330 h.p. low-compression Liberties. The boat on page 931 may possibly have started life as an H.16; but she has fallen into the hands of a first pilot who has views of his own about open boats, balanced ailerons, a balanced rudder, and balanced elevators, but curiously (suggesting a Felixstowe home) without views about washboards and fabric on the tail.

And just as the F.2As came in for a good deal of modification, so did the F.3s. Mr. Bruce has emphasized the weakness of the hulls. On at least one station, where they often had to be bounced off a long swell, it was found that the planking was apt to open up from the keelson. A new boat on arrival would very probably be dismantled and the petrol tanks removed, to permit a series of oak knees to be put in to strengthen and hold together the bottom planking. If, as was not infrequently the case, the hull builders had put on the diagonal double bottom planking the wrong way, so that the water flow was across the outside skin of planking and not along it, the whole bottom would be removed and replanked. At the same time the tail fabric would be replaced with ply-board. All this made the boats stronger but heavier, and sometimes wildly tail-heavy. I wonder whether the almost unbelievable difference between the supposed empty weight of a production F.3 and that of a production F.5 given on page 932 existed in reality.

I tested and delivered all the early F.5s built by Shorts at Rochester, including N.4041 and N.4044 which Mr. Bruce mentions, as well as a great many F.3s. There can be no possible question of the markedly superior performance of the F.5s. The average F.3 had a maximum speed around 78 kt; the best I ever flew, N.4250 built by Dick, Kerrs at Preston and erected at South Shields—subsequently a favourite at Cattewater—did 83 kt on test. Lankester Parker and I timed one of the early Short F.5s (N.4047) to do just under 90 kt, which is very close to the prototype's speed and far in excess of the 88 m.p.h. (76 kt) given on page 932; both take-off and climb were also much better than for the contemporary F.3s.

The endurance figures given on page 932 (*Flight*, December 23rd) need a little qualification. The F.2A carried with full tanks