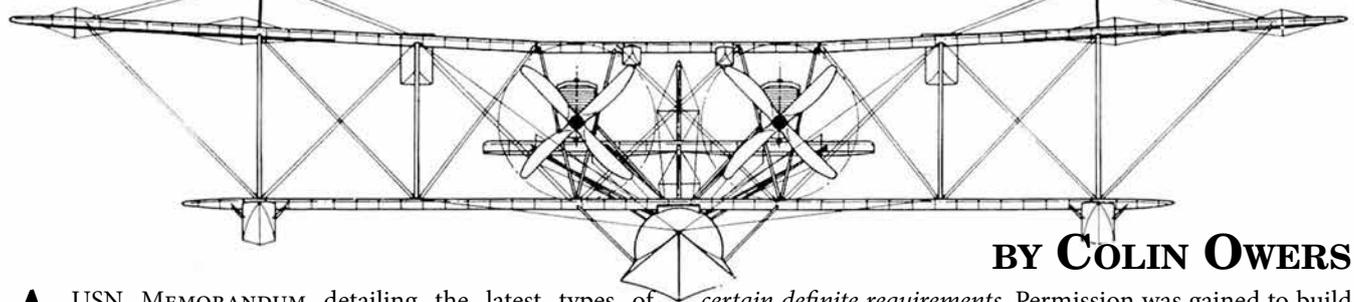


# PHOENIX P.5 CORK



BY COLIN OWERS

A USN MEMORANDUM detailing the latest types of British flying boats was prepared for Navy Constructor J.C. Hunsaker in November 1918. With respect to the Phoenix P.5 the Memorandum noted that the

*P-5 Flying Boat, completed last August is a radical change in hull construction. It has many improved features in design, providing more room, stronger per unit weight, more sea-worthy, more streamlined, and more efficient than the H-16 type of hull now in service.*<sup>1</sup>

The H-16 was the Felixstowe F.2a built under licence by Curtiss in the USA.

The Air Department of the Admiralty drew up specification N.3B for a flying boat of roughly the same loaded weight as the Porte designed Felixstowe boats. The F.5 was the last of the Felixstowe biplane flying boats designed by Squadron Commander John Porte at the RNAS/RAF Felixstowe Station. Porte had developed the F series of flying boats such that by the beginning of 1917 large flying boats of 12,000lb and more were being built. While they were sound, practical war machines capable of carrying the fight to the enemy in the North Sea, it was considered that they had many faults in design, construction, handling and seaworthiness that it was hoped to improve by introduction of the latest ideas and experience into this type of machine.

It was decided that the Air Department would design a boat to the N.3B specification to the design of Lt Cdr Linton C. Hope MINA FRAeS. According to the US Memorandum, the P.5 was the result of a conference held at the Admiralty in autumn 1918, but this must be incorrect as the first P.5 hull was completed in April 1918. According to the US Memorandum, Major Linton Hope RAF, part designer of the AD boat, was convinced that proper design methods had not been applied in the case of the Felixstowe F flying boats, as this type evolved at the Felixstowe Station *where the only idea was to meet*

*certain definite requirements.* Permission was gained to build the P.5 which was to have the same performance with regard to load and range as the F.5 but to have ease of production and a high speed as main considerations.<sup>2</sup>

Linton Hope was an exponent of the monocoque form of construction for hulls and floats. Numerous stringers were attached to hoop-like formers and the whole planked over with two thicknesses of mahogany. The resultant strong structure was relatively light, free from internal cross bracing, required few metal fittings, and could be given a good streamline form. By contrast, the Porte hull followed landplane construction, with longerons, spacers, crosses bracing and numerous metal fittings. These hulls could be built by firms with no boat building experience whereas the Linton Hope hull, while a thing of beauty, required the skilled labour of boat-builders to construct, and was not suitable for mass production.<sup>3</sup>

The USN noted that *at first sight the hulls look terrible jobs from a production standpoint, but on investigation one finds that there is hardly any cutting and fitting of frames except on the keel and chines. All other intersections are simple crossed. Of course the planking is a hard job, but it certainly was beautifully done on the hulls seen.*<sup>4</sup>

Two hulls for the Air Department boat were ordered from May, Harden and May Ltd, of Southampton Water, a firm that was a subsidiary of the Aircraft Manufacturing Co Ltd. These were two of four experimental hulls designed to have the same wing spars as the Large America flying boats. The other two were contracted to SE Saunders of Cowes. The use of the Large America wings on these hulls was seen as a means to evolve an improved type of machine with minimum delay. It was estimated that a savings in weight of at least 200lbs could be made by redesigning the wings. The Phoenix Dynamo Manufacturing Co Ltd, of Bradford, was selected to undertake this work for the May, Harden and May hulls, as they were

Felixstowe F3s under construction in the Phoenix Dynamo Manufacturing Company's factory at Bradford.  
:via author

