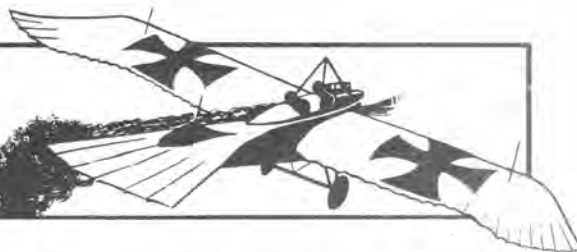


World War One

PHOTO PAGE

by Peter M. Bowers



Since this issue of the JOURNAL features Marine Corps versions of the De Havilland 4, the WW-I photo page will cover earlier models of the same airplane and a few of the more interesting variations. Developed in 1916, the DH-4 was a very fine 2-place day bomber for its time. When the U.S. Government's Bolling Commission toured the European aircraft industry after our entry into WW-I in April, 1917, the DH-4 was one of several established European designs selected for mass-production in the United States. Choice of the DH-4, however, was a fluke. According to Col. V. E. Clark, his recommendation was for production of the later DH-9, not the 4. Whatever the cause of the mixup, the DH-4, renamed the "Liberty Plane" in keeping with the mood of the times (there were the "Liberty Bonds", and good old German Sauerkraut was renamed "Liberty Cabbage") and powered with the new 400 HP American-designed "Liberty" engine, became the major American warplane project. The first Liberty plane flew with the Liberty engine on October 29, 1917, and production was underway. Of 4846 built up to the Armistice, the Dayton-Wright Company turned out 3106, Fisher Body built 1600, and Standard Aircraft built 140. The program ran into all sorts of difficulties, many resulting from the change over from English to American hardware and production methods while others were the inevitable result of trying to establish a major industry from scratch. There was also the problem of too many official cooks stirring things up. All of this, plus the fact that a thoroughly inadequate flying machine was delivered to the front, brought about much scandal and subsequent congressional investigation. The more obvious deficiencies of the design were taken care of in the development of an improved DH-4B model, incorporating much that was desirable in the later British DH-9. The most obvious outward change was reversing the locations of the pilot and the gas tank. In the DH-4 the tank was between the pilot and the observer-gunner-bombardier. DH-4B's were just getting into production at the time of the Armistice, when the contracts were cancelled. "New" military aircraft business was very skimpy in the early postwar years, but funds were available for maintenance and modification of existing types, so hundreds of the wartime models, much more widely known as "Flaming Coffins" than "Liberty Planes", were converted to DH-4B by most of the (surviving) firms in the aircraft industry. All sorts of interesting variations were tried out by the Army Engineering Division at McCook Field, and dozens of different designations were assigned to those used for various purposes by the Army Air Service.

Other than outright changes of wing form and airfoil, the major modification was the development of an arc-welded steel tube fuselage by Boeing. The new Boeing fuselages with old wooden wings and tails were designated DH-4M-1 (M for Modernized) while similar steel-tube versions built by Tony Fokker's new Atlantic Aircraft Company were DH-4M-2. Thirty of the Boeing DH-4M-1's were turned over to the U.S. Marine Corps and received the Naval designation of O2B-1. Navy Serial numbers for these were A-6898 thru A-6927. The Navy used a number of DH-4B's, but received none of the Fokker-built DH-4M-2's.

Because of its numbers, the extensive modification program, and the huge sum invested in it, the DH-4 was kept active beyond its normal life expectancy, and the Army did not retire the last DH-4M until 1932. Descriptions of the photographs on the opposite page follow:

1. Early production British DH-4 with 250 HP 12-cylinder Rolls-Royce engine. The prototype had used a six-cylinder 160 HP Beardmore. This had a very short landing gear and indented rear cockpit, i.e., the upper fairing cut to the upper longerons. (Photo - DeHavilland Aircraft Co.)

2. The "Liberty Plane" with taller landing gear and rear gun mount ring on top of fuselage, as on later British models. Coloring on early "Liberties" was cream sides and undersides with olive drab or khaki brown on top surfaces only. This soon changed to olive drab all over. (Photo - USAF)

3. DH-4AMB-2 conversion of "Liberty Plane", with space in the aft fuselage for two stretcher cases. One entry hatch on each side. Color of special ambulance planes was all white with red crosses. (Photo - USAF, McCook Field)

4. Standard DH-4B on skis. The pilot's cockpit has been moved aft of wing, fuselage sides covered with plywood. Wings and tail identical to earlier "Liberty Plane" but landing gear moved forward slightly to overcome nose-over characteristics. (Photo - USAF, McCook Field)

5. Single-seat airmail conversion used by the Post Office from 1919 to July, 1927. Pilot moved aft, 400-pound capacity mail compartment between pilot and fuel tank. Plywood covered fuselage, reinforced steel tube landing gear with bigger wheels, slightly larger rudder, and electrical system, with landing lights at wingtips. (Photo - Peter M. Bowers Collection)

6. Twin-engine mailplane variant developed by L.W.F., the firm that turned out most of the standard mailplane versions. Standard DH-4 wings fitted to a wider center section supporting two 200 HP Hall-Scott L-6 engines. (Photo - Courtesy of Jesse Davidson)

7. Experimental DH-4B-5 constructed by the Air Service Engineering Division, with two-place enclosed rear cockpit and called the "Honeymoon Express". The Dayton-Wright Company produced a few commercially under the same name. (Photo - USAF, McCook Field)

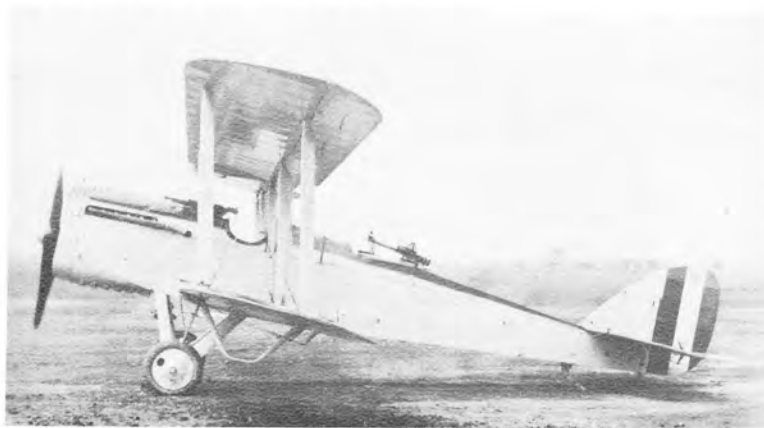
8. The DH-4's were used for all manner of test work at McCook Field in the postwar years. This DH-4B has been fitted with a British Siddeley two-row radial engine. The wings have been rigged with the upper wing as far to the rear as possible to help offset tail heaviness resulting from lighter engine. (Photo - USAF, McCook Field)

9. An Atlantic DH-4M-2P (Photographic) model was fitted with the wings of a Loening COA-1 amphibian and designated XCO-8 (for Corps Observation). Photo taken in Seattle, 1929. The horizontal red and white rudder stripes were adopted by the Air Service in November, 1926. (Photo - Courtesy of Tom Croson, West Coast Air Lines)

10. One DH-4 is still flying, a Boeing-built DH-4M-1 owned and used for motion picture work by Paul Mantz of Tallmantz Aviation, Santa Ana, California. (Photo - Lee Enich)



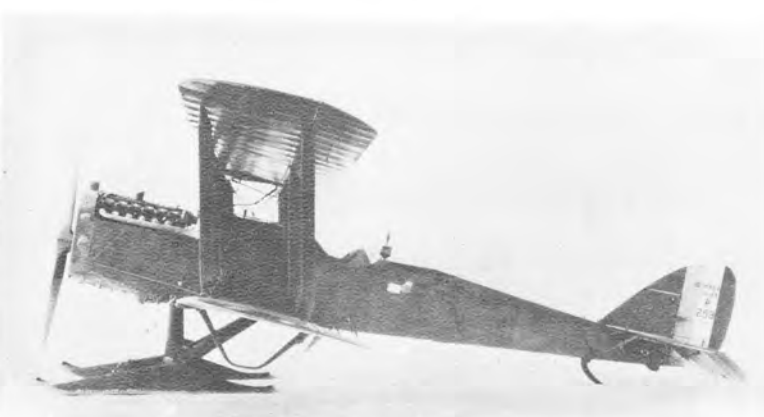
1. British DH-4



2. "Liberty Plane"



3. DH-4AMB-2



4. DH-4B on skis



5. Air Mail conversion



6. Twin-engine DH-4 mailplane

7. DH-4B-5

8. Siddeley engine DH-4B





9. Atlantic DH-4M-2P



10. DH-4M-1



Above - DH-4's at the 7th Aviation Instruction Center, France, 1918. (Photo - Courtesy R.R. Martin Collection)

Below - DH-4M-2 welded steel tube fuselage by Atlantic Aircraft Corp. (Photo - Courtesy North American Aviation)

