YESTERDAY'S WINGS:

SINGLE-SEAT MAIL PLANES

by PETER M. BOWERS / AOPA 51408

■■ As shown by the ancient use of carrier pigeons, the idea of sending messages and mail by air is almost as old as the operation of organized messenger and mail services. The advent of manned flight by means of hot air balloons in November 1783 was quickly followed by occasional, well-publicized, but very impractical carriage of "mail" by this method. This was usually in connection with special events such as expositions, fairs, etc., and there was no pretense that the cargo carried was commercial. The best-known early-American example is the flight of Jean Pierre Blanchard, premier aeronaut of the era, who made an ascension at Philadelphia on Jan. 9, 1793. The flight was witnessed by George Washington, and Blanchard carried a letter from the first president with him to a safe landing 15 miles away at Woodbury, N.J.

The most notable use of the Balloon-Poste, as it was then known, was the traffic into and out of Paris when that city was besieged by German armies in 1870–71. Some 66 balloons were built in the city and flown out, most of them reaching safe territory. Even the Premier and important officials were evacuated by balloon and were therefore able to transfer the seat of government to another city as a result of history's first air evacuation. A few balloons even managed to make their way back to Paris. Although the volume of messages carried was considerable, and was supplemented by pigeon-post, this was a wartime emergency service and not something that the public at large could take advantage of.

Scheduled airmail service was to become a practical operation when airplanes came to the foreground. The big advantage of the airplane over the balloon, of course, was its greater speed, independence of the wind, and the much greater probability of being able to arrive at a predetermined goal. As with the earlier balloons, a few airplanes carried mail on special occasions in the years immediately preceding World War I when "flying machines" were still novelties and most public flying was done for exhibition purposes. The first recognized American airmail flight took place at the Sheepshead Bay Aviation Meet of September 1911 when Earle Ovington carried a special official pouch from Nassau Boulevard Aerodrome, L.I., to Mineola, L.I., N.Y., six miles away, during each of the several days of the meet. Special stamps were issued for the occasion.

It remained for several years of intensive wartime development, however, to bring the airplane to a degree of efficiency where regularly scheduled two-way airmail service could be considered seriously. As with most things aeronautical in those days, Europe took the lead. Using disarmed military observation planes, the Austrians inaugurated scheduled airmail between Vienna and Kiev, Russia, in March 1918.

Official American operations began on May 15, 1918, over a 218-mile route from New York City to Washington, D.C., with a stop at North Philadelphia. With WW I in full swing, there was no commercial aviation available to perform this service for the Post Office Department nor were there many established airports. Four advanced training planes, six pilots, and the necessary ground crews were loaned to the Postal Service by the Army Air Service. The New York terminal was the infield of the Belmont Park Racetrack and the Washington terminal was at the Polo Grounds. There were no navigation aids, of course, nor had any of the Army pilots been trained in cross-country flying. In fact, the pilot of the first flight out of Washington, with President Wilson on hand to witness the inauguration of the service, got lost right after takeoff and landed in Maryland instead of Philadelphia, only 128 miles away. The southbound flight got through all right.

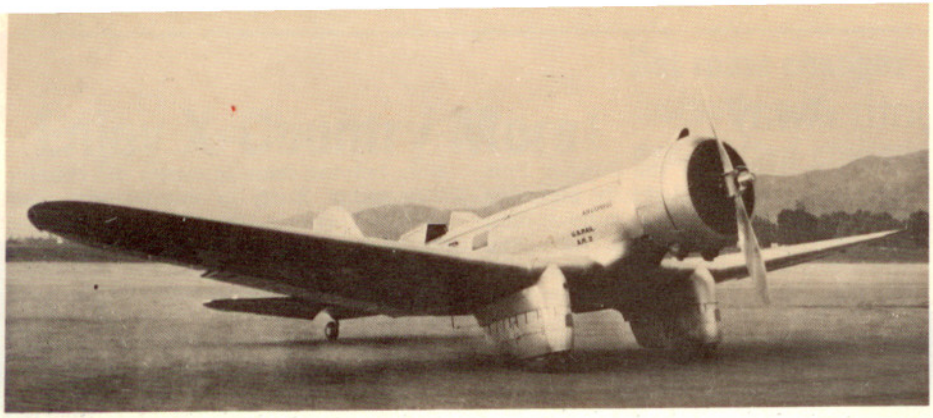
With such a short route, and flying limited to daylight hours only, the original service was hardly practical. The Post Office had a hard time persuading businessmen to put 24 cents postage on an airmail letter when a regular letter, mailed late in the afternoon, would get to New York on a night train for morning delivery. Even the fact that the 24-cent charge included Special Delivery service didn't help business much. Volume picked up after the rate was reduced to 16 cents within two months, still with Special Delivery, then to six cents an ounce for airmail only by the end of the year.

The original mail planes were Curtiss JN-4H's, advanced trainer versions of the famous 90 h.p. *Jenny*. Powered by American-built versions of the 150 h.p. French Hispano-Suiza engine, they were adequate for the trifling mail loads of the time and provided relatively reliable service once the pilots learned the routes. The flight problems were typical of the times, but the major problems were on the ground—selling the concept of airmail to the public and overcoming all of the new problems associated with operating aircraft on fixed schedules. One thinks mainly in terms of the pilots when the famous motto of the Postal Service is applied to the Airmail Service; the ground organization that supports the pilots is simply taken for granted.

On Aug. 12, 1918, full operation of the first American airmail route was transferred to the Post Office Department and became entirely a civilian enterprise. While six special mail planes had been built for the service by the Standard Aero Corporation, they were actually military aircraft, having been procured through the Army. In their civil operations they still carried Army serial numbers and markings. However, better planes and improved service did little to increase the worth of airmail over such a short route. Starting on Sept. 5, 1918, and continuing for a week, trial flights were made over the 712-mile New York to Chicago route. All this did was prove that better planes and more intermediate stations were necessary. An abortive attempt to conduct scheduled service was made in December 1919, but it was not until the following May 15 that regular New

The mailplane competition of 1925 was won by the Liberty-powered Douglas M-1. The improved M-2 model was delivered to Western Air Express in 1926 for that company's Contract Air Mail Route from Salt Lake City, Ut., to Los Angeles, Calif. Span is 39 feet, 8 inches; length, 28 feet, 11 inches; gross weight 4,968 pounds; cruising speed 110 m.p.h.

Starting in 1926, smaller planes with air-cooled radial engines were developed for the contract routes. This Pitcairn PA-5 Mailwing, with 220 h.p. Wright J-5 engine, was typical of contemporary designs. Span is 33 feet; length, 21 feet, 10½ inches; gross weight, 2,512 pounds; and cruising speed, 105 m.p.h. with 500–600 pounds payload.



Last of the single-seat mail planes, the all-metal Northrop Gamma of 1932–33, retained the traditional aft cockpit location after everything else had changed. Span is 48 feet; length, 29 feet, 10 inches; gross weight, 7,000 pounds. Wright Cyclone engine of 710 h.p. gave a cruising speed of 191 m.p.h. Photos by the author

York to Chicago service could be inaugurated.

Expansion from then on was rapid. The east-west route was pushed steadily westward, reaching Omaha, Neb., on May 15, 1920, and San Francisco on Feb. 22, 1921. Shorter north-south routes were added and the present-day network began to take form. Transcontinental service improved immensely when the Chicago to Cheyenne portion of the route was lighted by July 1924.

The 150 h.p. *Jennies* and Standards were impractical for the long routes, as were many of the higher-powered military castoffs that were tried as mail planes. During 1919 and 1920, several manufacturers developed and submitted specialized mail-plane designs, but none had the desired balance between cost, performance, and reliability. After trying a sizable assortment, the Post Office standardized on one single model, the wartime de Havilland DH-4 light bomber and observation plane that had been mass-produced by American industry from a 1916 British design. Powered with a single 400 h.p. Liberty engine, this had won the nickname "Flaming Coffin" over the western front. However, the airmail conversion could carry up to 500 pounds of mail over short routes. More important, spare parts were in plentiful supply, most of the former Army mechanics in the mail service were familiar with both plane and engine, and best of all, the price was right. The Army had hundreds of surplus DH-4's available and all the Post Office had to do was ask for them.

These were useless in their original military form, of course, so extensive modifications were undertaken by various manufacturers who were hard up for business in the early postwar years, most notably the L.W.F. (originally Lowe, Willard, and Fowler, but later just L.W.F. Engineering Company after the partners split up) Company of College Point, L. I. The mail plane configuration that evolved in 1919, with the pilot seated in an open cockpit well aft, a closed mail compartment ahead of him, and then the tanks and engine, became the standard for American single-engine mailplanes for the next 14 years.

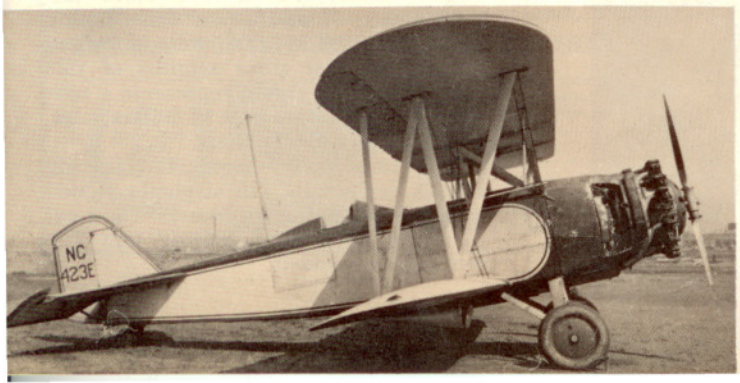
The DH's held their economic advantages over new production types for several years but they still had their shortcomings. Several attempts to redesign them for more efficient mail work were made in the early 1920's. These proved to be more futile than the traditional attempt to make a silk purse out of a sow's ear, so a formal mail plane design competition was held in 1925. One restrictive requirement was that the power plant had to be the wartime Liberty, which was still in plentiful and cheap supply and the only engine of that power then available to civilian users. The Douglas Company of Santa Monica, Calif. won the competition with its Model M-1, a slight adaptation of the O-2 observation plane that it was then building for the Army. Little more than a refined DH-4, the new Douglas wasn't much faster but it was easier to maintain and could carry up to a 1,000-pound payload. Fifty were delivered to the Post Office in 1926.

As a result of a piece of 1925 legislation known as the Kelly Bill, which authorized the eventual transfer of airmail operations to private contractors, the Post Office began to withdraw from the flying business. Certain segments of the established network were designated Contract Air Mail (C.A.M.) Routes and put up for competitive bidding from would-be operators who could meet the requirements. The first to operate was C.A.M. 6, from Detroit to Cleveland. This was inaugurated on Feb. 26, 1926, by the Stout Airlines Division of the Ford Motor Company. The last of the Government routes, New York to Chicago, was flown by the Post Office on Aug. 31, 1927, and became C.A.M. 17, operated by National Air Transport, on Sept. 1. The beacons and emergency fields, previously operated by the Post Office, were kept under Government control by transfer to the Department of Commerce.

The reviving aircraft industry soon came through with new designs for the operators. These were generally smaller than the heavy 400 h.p. Post Office models and used newly available air-cooled radial engines. Since most of the early contractors flew mail only, as had the Post Office, the new planes followed the old open-cockpit single-seat tradition. The first notable exception to the mail-only concept was the Boeing 40A, described in The PILOT for December 1967 (page 54). Even after new aerodynamic and structural concepts were developed by industry and accepted by the mail contractors, some traditional details of the basic mail plane were hard to kill. While cockpit enclosures were adopted reluctantly, the far-aft cockpit location was retained for mail planes designed as late as 1933.

Since mail was more lucrative than passenger carrying for the smaller lines, they preferred the small single-seaters. A few that had bigger planes made concessions and allowed an occasional passenger to ride with the sacks. It took some prodding by the Postmaster-General of the Hoover Administration, Walter Folger Brown, to get these contractors to expand into the passenger business. This rather forceful policy was the beginning of the end for the traditional mailplane, but made public air travel a reality. The sacks were soon carried in standard passenger planes and the specialized mail-only types vanished in the early 1930's to end a unique era of American aviation. □

The Boeing Model 95 of 1929, with 525 h.p. Pratt and Whitney Hornet engine, reverted to large size and high power for mail and express on the trunk lines. It was the last of the big single-seat biplanes. Span is 44 feet, 3 inches; length, 31 feet, 11 inches; gross weight, 5,840 pounds; and cruising speed is 120 m.p.h. with 1,600 pounds payload.



The de Havilland DH-4, a converted World War I type, was the mainstay of the Post Office fleet through 1926. As shown by the men around it, this airplane was big: wing span, 42 feet, 5½ inches; length, 29 feet, 11 inches; and height, 11 feet. Gross weight was 4,595 pounds, and cruising speed was 104 m.p.h. with up to 500 pounds of mail.