

Yesterday's Wings

The Pilgrim 100

by PETER M. BOWERS / AOPA 54408



The one and only Fairchild Model 100. The name of the company changed before the airplane was ready for production, so subsequent aircraft were marketed as the Pilgrim 100. Compare fuselage and pilot's cabin lines with later models.

■ ■ Today, all the trunk-route airliners are multi-engine jets. It is not too hard for some of us to remember back to the 1950s, when they all used piston engines and propellers. Even then, however, airliners were all multi-engine types. In any discussion, the word "airliner" automatically implied an airplane with two or more engines.

It was not always so. Back in the early 1930s, several different designs used on the main airline routes were single-engine types. A few had room for only one or two passengers and were essentially minor stretches of the classic single-seat, open-cockpit mailplanes of the 1920s. Others were larger developments of established light-commercial cabin monoplanes that could carry 6 to 10 passengers in scheduled airline operations.

The Fairchild/American Pilgrim 100 is one of these.

This is another of those designs that suffer from an identity problem. Back in 1930 the Fairchild Airplane & Manufacturing Co. developed its new Model 100 passenger plane. However, by the time the design was proved out and ready for production, the firm underwent a name change and the airplane was no longer a Fairchild.

The Fairchild 100 followed the general lines and construction of the famous Fairchild Model 71 of 1929 and the earlier FC (Fairchild Commercial) models dating back to 1925. There

were notable departures, however. The pilot did not sit in the same cabin with the passengers as on the earlier models. As on the multi-engine airliners of the time, he occupied a separate compartment. This was in the form of an elevated cupola above and ahead of the passenger cabin, and even had a separate door for entry. There was no door between the two cabins and there was no provision for a copilot.

Three of the passengers sat side by side on a single bench-type seat with their backs toward the forward cabin bulkhead, while six more faced forward in conventional airliner seats. Baggage and cargo were carried in a separate compartment ahead of the passenger cabin and under the pilot's station.

Wing construction changed from the traditional wood spars with wood-truss ribs to welded steel-tube trusses for the spars with riveted dural truss ribs. The fuselage frame was still welded steel tubing but the tail surfaces were riveted dural frames. Although the 100 was designed by Virginius E. Clark (who is best remembered today as the originator of the famous Clark Y airfoil), it used a thicker high-lift section—the German Gottingen 398. While wing flaps had been invented and were in limited use by 1930, they were not used on the Fairchild 100.

Powerplant was the 575-hp Pratt &

Whitney Hornet air-cooled radial. Fuel capacity was 120 gallons in gravity tanks in the wing roots. The prototype completed its tests and was awarded Approved Type Certificate A-390 on Jan. 14, 1931. However, the prevailing economic depression was making itself felt to the point where the Model 100 found itself with no market. The single Fairchild-built article was eventually sold to the Wright Aeronautical Corp. for use as a flying test bed for the Cyclone engine, Wright's direct competitor to P&W's Hornet.

Further sales of the 100 resulted not from an improved economy but from the creation of an in-house market.

In 1929, the Aviation Corp., a large New York-based aeronautical holding company, acquired control of Sherman Fairchild's aeronautical empire, which included the Fairchild Airplane & Manufacturing Co., Fairchild Engine Corp., Fairchild Aerial Surveys, Fairchild Aerial Camera Corp., S.M. Fairchild Flying Corp., and Fairchild Aircraft Ltd. of Canada. These various firms stayed in business under their own names in their original locations, with the airplanes (including the 100) being built at Farmingdale, N.Y.

In 1931, as a result of the depression's effect on business, Aviation Corp. reorganized its holdings. Fairchild Airplane and Fairchild Engine were merged into a new company—



A production Pilgrim 100-A in the livery of American Airways. This black-and-white photo does not do justice to the bright red-orange wings and tail and the deep blue fuselage. In 1934 the line changed its name to American Airlines but kept the same colors.

FAIRCHILD/PILGRIM 100

Specifications and Performance

	Fairchild 100	Pilgrim 100-B
Powerplant	Pratt & Whitney Hornet B 575 hp @ 1,950 rpm	Wright Cyclone E 575 hp @ 1,900 rpm
Span	57 ft 0 in	57 ft 0 in
Length	38 ft 0 in	38 ft 0 in
Wing area	418 sq ft	412 sq ft
Empty weight	3,700 lb	4,698 lb
Gross weight	6,500 lb	7,750 lb
High speed	141 mph	134 mph
Cruising speed	120 mph	117 mph
Initial climb	900 fpm	750 fpm
Service ceiling	18,000 ft	13,600 ft
Range	432 mi	503 mi

The American Airplane and Engine Corp.—and the other Fairchild companies were turned loose. Airplane and engine manufacture continued at Farmingdale, where the airplanes were now known as Pilgrims and the engines as Rangers.

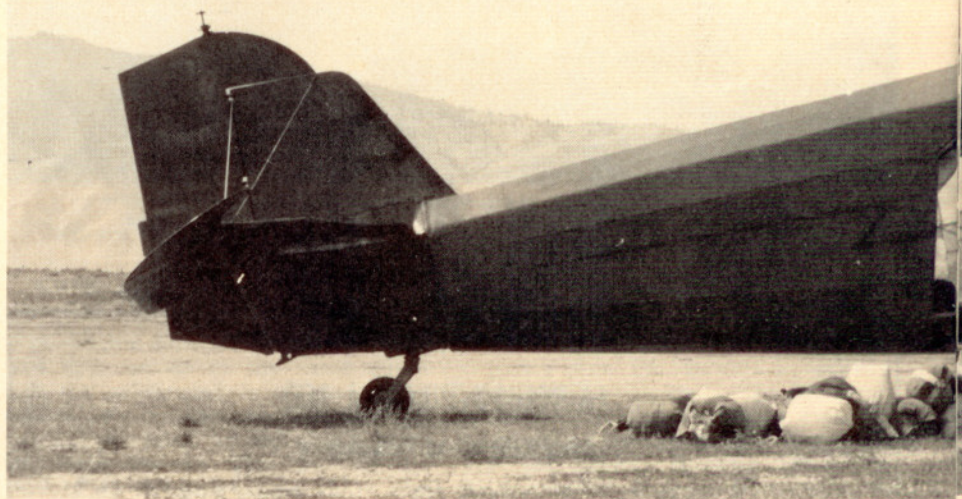
An airplane customer appeared in the form of American Airways, another company controlled by Aviation Corp. The airline placed an order for 16 Pilgrim 100-As—slightly enlarged and updated versions of the original

Fairchild 100, still to be powered with the 575-hp Hornet. The pilot was still in his high cupola but the nine passengers had slightly improved accommodations, including a lavatory in a separate compartment to the rear of the cabin and dual entry doors. This later model took on a rather bloated appearance by the addition below the lower longerons of a rounded belly, which contained baggage compartments. The price was \$28,750.

The 100-A did not qualify immedi-



The U.S. Army bought four Pilgrims as C-24 cargo planes. Because of their Wright Cyclone engines, they are considered as Pilgrim 100-B variants when actually they incorporate features of earlier versions.



YESTERDAY'S WINGS *continued*

ately for a full Approved Type Certificate; the lesser Memo, or Category 2, Certificate 2-365 was issued on July 16, 1931, with full ATC A-443 coming on August 21. All of the 100-As built went to American Airways.

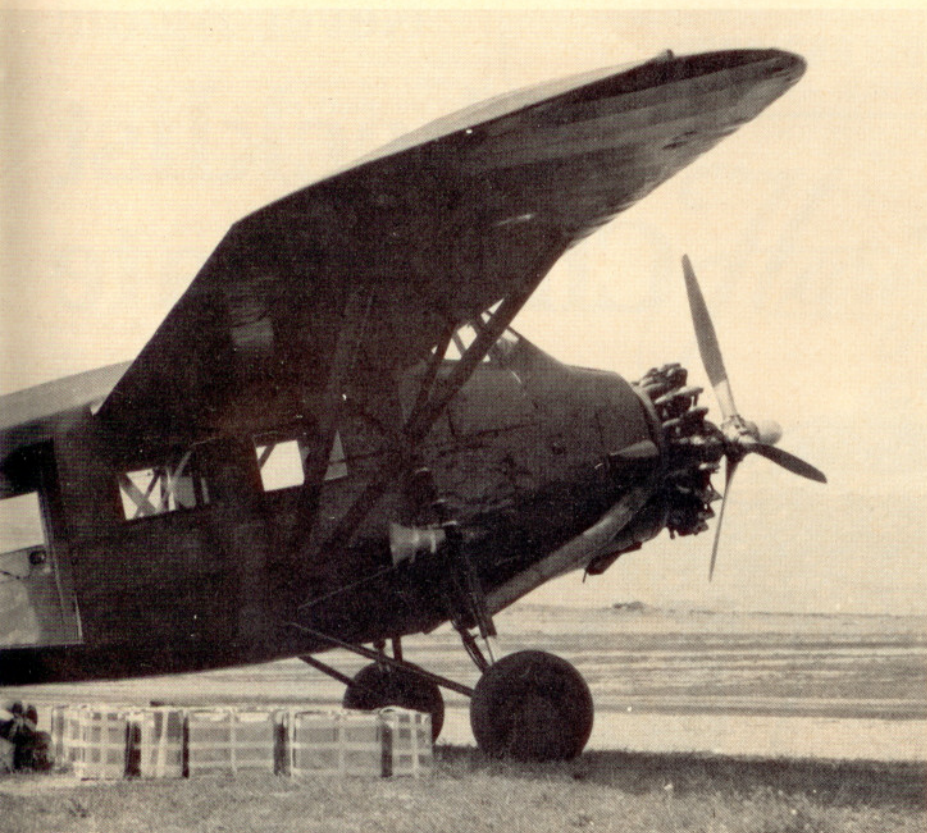
The 100-As were followed by six 100-Bs, also for American. The principal differences were substitution of a 575-hp Wright Cyclone engine for the Hornet, 150 gallons of fuel, and an increase in vertical fin area. As could be expected, the performance fell off a bit over that of the prototype and the 100-As because of the increased weight with no increase in power.

The U.S. Army bought four additional Pilgrims as C-24 cargo planes under the Service Test designation of Y1C-24. Except for the Cyclone engine

that qualified them as 100-Bs, these were more like the prototype because of their older features—the small fin and a slim fuselage that lacked the airliners' belly baggage compartments. At 7,070 pounds, the C-24s were somewhat lighter than the Cyclone-powered airliners.

The Pilgrim's service on the airline was short. Because of the revolution in air travel brought about the slick new Boeing 247 of 1933, American Airways put all of its 100-As, along with a couple of dozen other obsolescent strut-braced slowpokes, up for sale in July 1934. The Army kept its C-24s in service into 1939.

The civil Pilgrims found a ready market in Alaska, where their lack of speed was an asset, rather than a handicap in bush flying; no other single-engine airplane of the time could carry equivalent loads out of short



This Pilgrim was built as a 100-A but became a 100-B when fitted with the larger fin and a Cyclone engine. By 1958, when this photo was taken, it had been refitted with a 750-hp Wasp engine and the doors had been enlarged for loading bulky cargo. Here it is ready to load supplies to be dropped to firefighters in Washington State.

fields. A few even continued in airline service with Pacific Alaska Airways, a subsidiary of Pan American.

As later, higher-powered Cyclone engines became available on the second-hand market, some as high as 750 hp were installed in the bush-flying Pilgrims, with no need for a revised type certificate.

Identity problems began to appear for individual aircraft after the start of bush operations because of the common practice of modifying airplanes for special purposes. Just cutting a big cargo door in the fuselage didn't change the designation of the airplane, but changing engines did. Some 100-As became 100-Bs because Cyclone engines were better suited to a particular operator's work than a Hornet; and some 100-Bs became As in spite of their larger tails when their Cyclones were replaced by Hornets.

In later years, model numbers did not change as a result of such powerplant switches. As an example, the last operational Pilgrim (still flying in Alaska) was built as a 100-A but became a 100-B by engine change and tail modification soon after leaving the airline. It has since been fitted with a 750-hp, surplus WW II Pratt & Whitney geared Wasp engine. If it had been built with that engine, it would probably have been identified as a 100-C; on today's paperwork it is only a modified 100-B.

Only two Pilgrims were still operational by 1950, one bona-fide 100-A and the 100-A that became 100-B. Fitted with enlarged doors for bulk cargo and airdrop of supplies, it is the last of the 26-plane Fairchild/Pilgrim total still working. One other example is preserved by American Airlines in its museum. □