Yesterday's Wings

The Forgotten Flamingo

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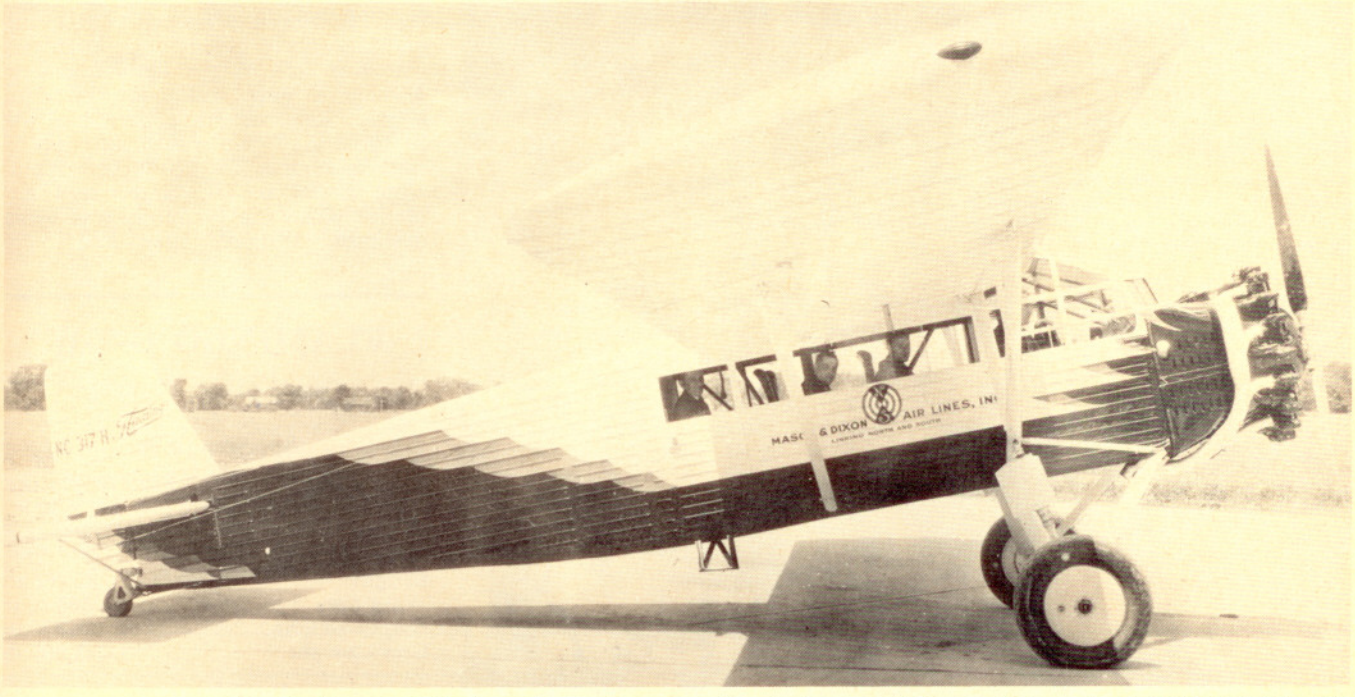


The Flamingo was better-known by its given name than by the name of its manufacturer, the Metal Aircraft Corp. This example displays the unique color scheme of Mason & Dixon Air Lines, Inc.

It is interesting to note how some individual airplane designs that never amounted to much, or were built in very small numbers, had a certain charisma that made them memorable far out of proportion to their proper place in history. On the other hand, some really worthy designs that did a good day-by-day workhorse job over a period of years had no glamour at all and are almost totally forgotten.

An airplane of the latter type is the Flamingo, a 1929 product of the Metal Aircraft Corp. Even the firm name was a handicap to the plane in a historical sense since it was so similar to the overly famous Stout Metal Aircraft Co. that became a subsidiary of the Ford Motor Co. Further, the manufacturer's name is hard to find in some reference books because the airplane is listed under Flamingo instead of the company name.

Unlike many new models that were the products of established aircraft manufacturers, the Flamingo originated as a private project that was not supported by production facilities. After the hand-built experimental model showed a good market potential, a new company was established to put it into production.

As an airplane, the production Flamingo was a conservative example of the large single-engine passenger monoplane of the Lindbergh era. One had to look twice to distinguish it from the numerous Ryan, Travel Air, and Stinson high-wing, strut-braced cabin monoplanes that were the principal feeder airliners of the day. Other than its metal skin, the slightly greater size of the "Flamingo" was its principal recognition feature. The prototype was designed by Ralph R. Graichen for Thomas E. Halpin of the Halpin Development Co. and was completed early in 1928. The designation was G-MT-6 for Graichen Metal Transport —six place.

While conservative in outward appearance, the G-MT, like the earlier Ford-Stout and contemporary Hamilton designs, foretold the structural revolution that was only a few years in the future. The fuselage retained the popular welded steel tubing of the time, but instead of being covered with fabric like its contemporaries, the G-MT used sheet aluminum. Since this was simply a substitute for fabric in this application and was not stressed as in later semi-monocoque designs, the skin was beaded for stiffness to prevent the oil-canning and noisy vibrational characteristics of large areas of flat sheet metal. Although this skin was called corrugated at the time, it was not in the regular "tin roof" pattern and spacing of the famous Ford trimotors.

The two-piece wing departed from tradition only in that it used built-up aluminum spars and pressed sheet aluminum ribs, both portents of the future, instead of the wooden structure popular with contemporary designs. The airfoil was the popular NACA M-12. A single 75-gallon fuel tank was installed in the root of each wing panel. While the beaded sheet metal could have imparted a certain amount of torsional stiffness not provided by fabric, the two lift struts for each panel took care of the torsion just as they did on fabric-covered wings. The tail surfaces were also metal frames with metal skin and external bracing.

The cabin layout was standard, with from four to six passenger seats in the cabin aft of the pilot and co-pilot seats. The crew had a throw-over wheel and the innovation of separate pedals for the brakes. Passengers entered through a right-side door at the rear of the cabin while the crew had a separate door forward on the left, even though there was no separate

The principal innovation of the Flamingo was the substitution of corrugated sheet aluminum for fabric on an otherwise conventional airframe. Note that the corrugations are only on the outer side of the skin, not alternating as on the contemporary Ford trimotors.

crew compartment as on some other single-engine commercial models of the time. A lavatory—a rarity on single-engine types—was behind the cabin, and the aft-mounted baggage compartment had an external access door on the right side.

The original powerplant was the Wasp, first product of Pratt & Whitney Aircraft. This 400- to 450-hp air-cooled radial had been developed in 1926 under U.S. Navy auspices by engineers who had left Wright Aeronautical to develop a new and more powerful engine. Released for commercial use in 1927, the Wasp was rapidly replacing the famous 220-hp Wright Whirlwind radial in the larger civil airplanes when the Flamingo was being designed. Wright's new and more

The passenger and baggage compartment doors were on the right-hand side of the Flamingo, while the pilots had a separate door on the left side. Note the fixed landing light on the wing.

FLAMINGO G-2-W

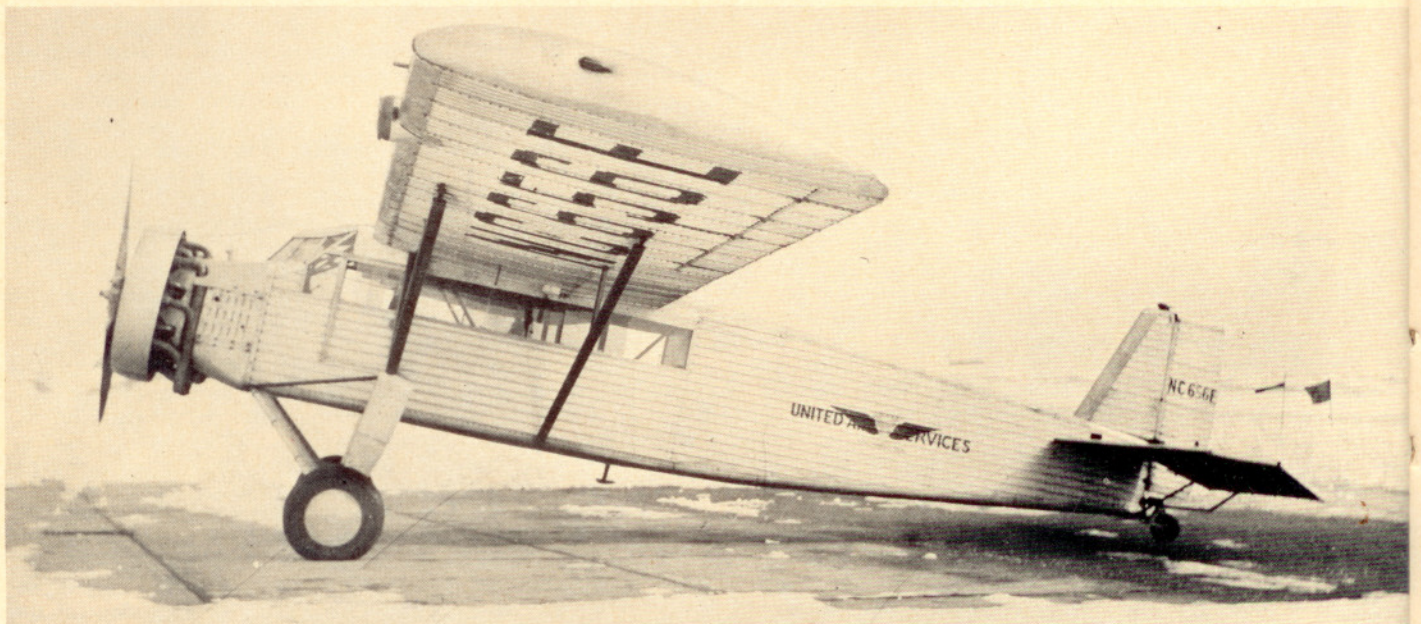
Basic price: $21,000

Specifications

Powerplant	Pratt & Whitney Wasp, 450 hp @ 2,100 rpm
Span	50 ft
Length	32 ft 8 in
Wing area	365 sq ft
Empty weight	3,370 lb
Gross weight	5,800 lb

Performance

High speed	135 mph
Cruise speed	115 mph
Initial climb	850 fpm
Service ceiling	14,000 ft
Range	745 sm



Although accessories like the Townend antidrag ring appeared after the Flamingos were built, they were soon added. The aerodynamic advantage outweighed the weight penalty for the Flamingo and other contemporary designs.

powerful model, the Cyclone, was still experimental at the time.

The plant of the newly established Metal Aircraft Corp. was set up on Lunken Airport, Cincinnati, Ohio, and production got under way on the G-1, the initial production version of the G-MT. This soon became the G-2, and suffix letters were introduced to the designation when engine options became available; the G-2-W used the original Wasp engine, while a variant with the later and more powerful 575-hp P&W Hornet engine became the G-2-H.

Full certification of the new model was not immediately forthcoming after the initial flight test program; the first 11 airplanes were licensed under Memo, or Category 2, approvals instead of the more desirable Approved Type Certificates, or ATC's. Because of variations in seating, gross weight and powerplant, several Memo approvals were required for the early Flamingos.

The first G-1 Flamingo built by the new firm was a five-place, 5,000-pound airplane and was granted Memo Approval 2-19 on Sept. 22, 1928. This proved to be a little short of expectations, so the design was reworked and the one and only Wasp-powered G-2, a six-seater grossing 5,718 pounds, got Approval 2-63 on May 14, 1929. The first G-2-H, with six seats and 5,890-pound gross weight, had been awarded Approval 2-67 the day before. Seven G-2-W's, airplanes 4 through 8, plus 10 and 11, received Approval 2-62 on July 31, 1929, for eight seats and 5,800 pounds. Airplane No. 9 was an eight-place G-2-H weighing 6,000 pounds, which received Approval 2-75 on June 12. Other Wasp-powered eight-seaters could be converted to Hornet power under this approval. Full ATC 192, not awarded until August 8, covered the subsequent 10 airplanes—eight-seat G-2-W's. Oddly, the last one was delivered as a G-2-H on the same ATC even though the different engine normally called for a separate ATC at the time.

The years 1928 and 1929 saw a terrific boom in the establishment of short "feeder" airlines, most of which used the larger single-engine cabin monoplanes and provided the logical market for the Flamingo. Three—Embry-Riddle, U.S. Airways and Mason & Dixon Air Lines—used this airplane.

All those little lines, like the airplane, are now forgotten. Embry-Riddle started as a fixed-base operation in Cincinnati in 1925, acquired an air. mail contract in 1927 and started carrying passengers between Cincinnati and Minneapolis in 1928. It was merged into the Aviation Corp. (AVCO) in 1929 and, through that, can be regarded as one of the originators of American Airlines. U.S. Airways, with a fleet of seven Flamingos, started passenger service between Kansas City and Denver on June 1, 1929, but soon got involved in a three-line merger called United Avigation, from which it later withdrew. Having lost its original route, it leased the St. Louis to Kansas City route from American Airways (the present American Airlines), and was eventually absorbed by TWA. Little is known of Mason & Dixon, which had a route from Cincinnati to Detroit that ended in 1931.

The date of ATC 192 gives a good idea as to what happened to Flamingo production. The depression that followed the stock market crash of October 1929 wiped out many small and some large aircraft manufacturers and brought about a major reorganization of the airlines. Consequently, only 21 Flamingos were built. Their airline life was relatively short and their numbers too small to become memorable.

The closest that a Flamingo can earn a significant entry in the history books is the use of one ex-airliner by explorer-pilot Jimmy Angel, who was flying one when he discovered 3,200-foot-high Angel Falls in South America. His plane didn't even have a chance to have its picture taken after the big discovery; Angel landed near the base of "his" falls to explore farther, the airplane bogged down, and Angel and his companion had to abandon the airplane and hike out of the jungle. □