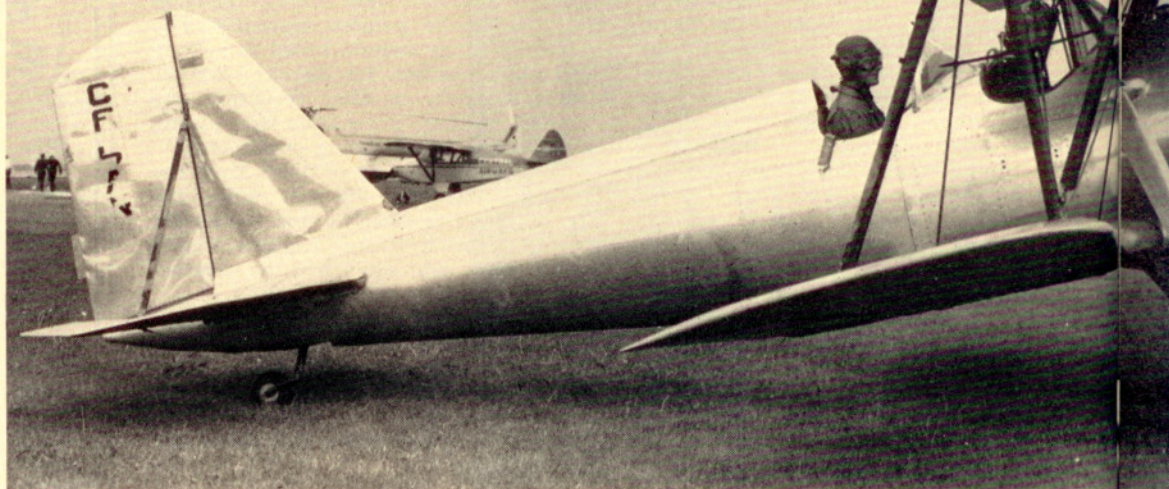


Yesterday's Wings

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The Meyers OTW



A Meyers OTW-145 registered in Canada. Only the Warner-powered models used the close-fitting NACA cowlings. Photo by Jack McNulty

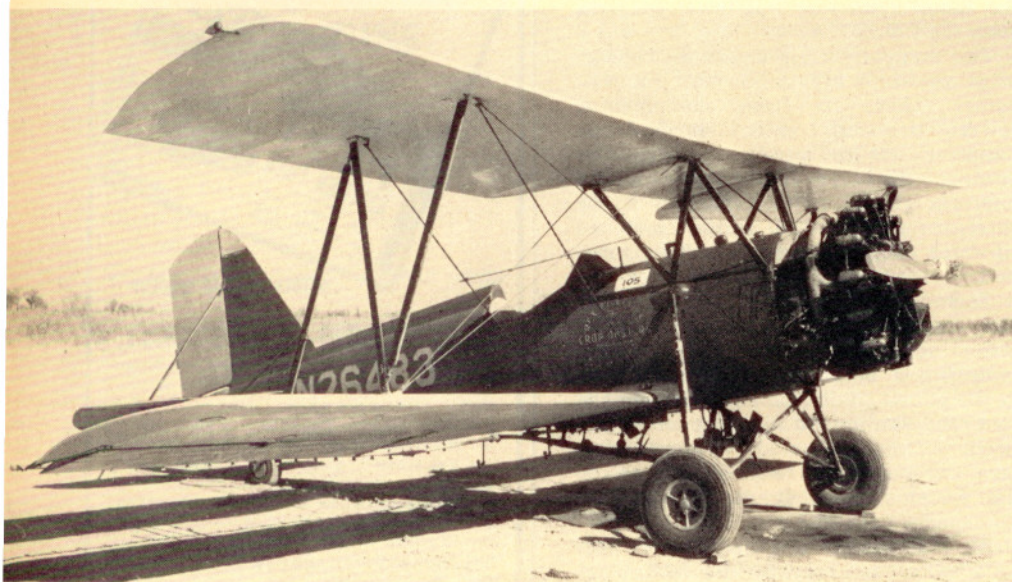
■ Over the years, certain airplane designs have become "milestones" for various reasons. This status usually results from the introduction of a new configuration, from being first to adapt new technology to a traditional design, or similar pioneering. Milestones also result from reverse progress and fame can come from being the last of a traditional configuration.

The Meyers OTW is just such an end-of-the-line airplane. While it could never win honors for performance, structural or aerodynamic innovation, or even good looks, it is unique by being the last of the traditional, two-seat, open-cockpit biplanes to be certificated and see significant production in the United States. While other famous biplanes like the Waco UPF-7 and the Boeing/Stearman

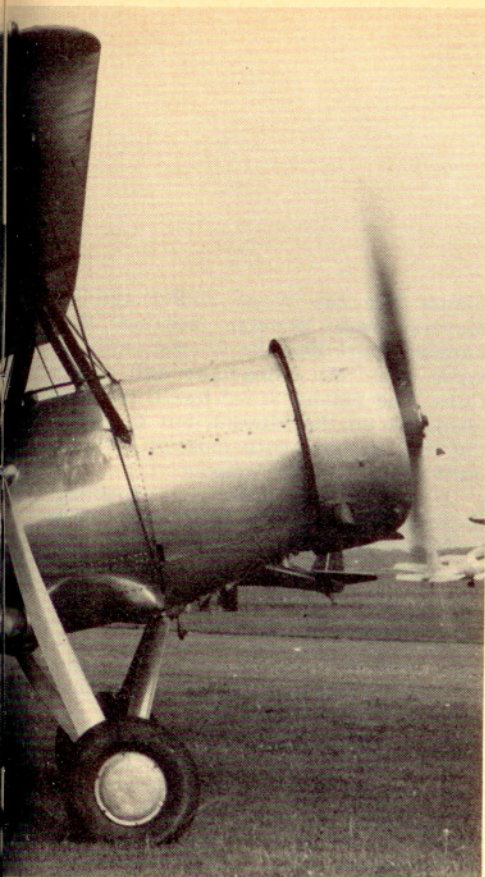
75 and, of course, the milestone Beech 17, were built in greater numbers and well past the Meyers, they were considerably older designs that managed to keep on going because of specialized market demand.

The Meyers had its origin in a one-only design developed by Dole Race pilot Martin Jensen in 1931. This was a two-cockpit biplane of classic lines that was an interesting mixture of outright obsolescence and advanced construction. The wings were wood frame, fabric covered, and used a very thin, World War I vintage airfoil. The fuselage, on the other hand, was several years ahead of the industry. Instead of the traditional rigid frame covered with fabric, it was a semi-monocoque shell built up of sheet aluminum wrapped around shaped aluminum formers. This type of construction entered production with the Ryan ST line in 1934 and was also adopted by Luscombe, to name the principal pre-World War II users. To show where it went from there, we need only mention Cessna.

Allen H. (Al) Meyers was associated with Jensen and his Model 2 and took an extended tour with him in it in 1933. The two later parted company and Meyers went into business for himself, setting up the Meyers Aircraft Co. at Tecumseh, Mich., early in 1936. His experience with the Jensen was drawn on extensively for the design of the new Meyers OTW, the initials standing for "Out To Win". The first two airplanes



Quite a few of the surviving OTWs became dusters and sprayers following their use in CPTP schools. This one has been fitted with a 220-hp Jacobs R-755 engine. Photo E. M. Sommerich



were built in a foundry in Detroit, but a new factory was soon available at Tecumseh and the production models were built there.

The first OTW was flown in November 1936, powered by a 125-hp Warner "Super Scarab" radial engine. This airplane eventually received Memorandum Approval 2-550 as a commercial airplane that did not meet all the require-

THE MEYERS OTW

Specifications

	OTW	OTW-160
Powerplant	Warner Super Scarab 125 hp @ 2,050 rpm	Kinner R-5 160 hp @ 1,850 rpm
Span	30 ft	30 ft
Length	22 ft 8 in	22 ft 7 in
Height	8 ft 6 in	8 ft 6 in
Wing Area	262 sq ft	262 sq ft
Empty Weight	1,190 lb	1,325 lb
Gross Weight	1,860 lb	1,910 lb

Performance

High Speed	115 mph	115 mph
Cruise Speed	105 mph	108 mph
Landing Speed	40 mph	40 mph
Initial Climb	1,200 ft/min	
Service Ceiling	17,500 ft	
Range	300 sm	350 sm

ments of a fully Approved Type Certificate, or ATC.

The OTW retained both the sheet aluminum fuselage and the anachronistic airfoil of the Jensen, plus improving its good-handling characteristics. While the squared-off straight-chord wings looked like they had been built by the mile and chopped off by the yard, their exceptionally heavy stagger arrangement helped to provide excellent longitudinal stability and gentle stall. Ailerons were in the lower wing only, which, being set at a lower angle of incidence than the upper, ensured that aileron control was available well into the stall. Thanks also to the generous stagger, the center of gravity travel was good and the OTW could be soloed from either seat. However, it was placarded for rear seat solo only, unless full engine and flight instruments were installed in the front cockpit.

There were some aerodynamic flaws, however, and the FAA decreed the in-



The larger diameter of the 160-hp Kinner engine in the OTW-160 ruled out the use of a cowling. This one has been dressed up with a postwar paint job and a set of wheel pants. Photo by author

stallation of spin strips on the leading edge of both wings. These could be removed from most low-serial-number airplanes up to No. 50, but resulted in a gross weight restriction to 1,787 pounds.

The new biplane showed very desirable characteristics by the standards of contemporary biplane trainers, but the logical customers, particularly the military, were not interested. The tradition-bound services were still standardized on biplanes for primary training, but these all had 220 or more horsepower, nearly double that of the OTW, which was very nearly the same size. The 125-hp Warner was obviously not enough engine for the high-drag biplane, so it was replaced in production by the 145-hp model.

This was designated OTW-145. The added 20 hp alone didn't do much to increase the speed, since the FAA limited the level-flight speed to 115 mph on all OTWs regardless of power. An alternate engine was available in the form of the 120-hp Ken-Royce, which resulted in the OTW-KR model. However, with 5 hp less than the original Warner, this was no progress at all and the few Ken-Royces installed were quickly replaced with 145-hp Warners or the later 160-hp Kinner R-5 that was used in the final OTW-160 model.

An oddity of certification shows up here. With most other manufacturers, using different engines, or even minor horsepower variants of the same engine in otherwise identical airframes, called for the issuance of a new ATC each time. In the case of the OTW, the three different engine makes and the two powers for the Warner, were all included in ATC-736, after the basic OTW design was upgraded to meet the full ATC requirements.

While the military stuck to biplanes, the civil schools were rapidly switching from biplanes to the "Cub" type of monoplane in the late 1930s and were cool towards the Meyers, with its \$6,700 pricetag, which was beginning to look like it had come on the scene a few years too late. However, it was saved by the imminence of World War II and the big buildup of the U.S. Army Air Corps' pilot training program. While this didn't put the OTWs in the Army inventory, they did become popular with the civilian schools that participated in the famous Civilian Pilot Training Program (CPTP). This gave primary training to pilots before they went into the Army as flying cadets. While the Cub types were the mainstay of this program, bi-

planes like the Waco UPF-7 and the Meyers were popular because they handled more like the heavier, military types than the ultra-light and sporty Cubs. The 220-hp Waco had a runaway headstart on the Meyers, but the OTW did well enough, with most of the 102s built going to CPTP schools.

In spite of its totally civilian status, the impression exists that the OTW actually was a military airplane. This misconception comes from two sources. One, many ex-Army pilots say that they got their primary training in the OTW without pointing out the CPTP angle. Two, with the present boom in antique airplanes, owners of OTWs have formed a Meyers Club within the Antique Airplane Assn. and many have standardized a color scheme that duplicates the blue and yellow of prewar Army trainers, complete with star insignia on the wings and the distinctive Army striping on the rudder.

With the end of the CPTP, the OTW practically vanished from the school and private flying scene. Snappier Stearmans were available at low prices on the postwar surplus market, so the relatively slow OTW had little appeal even as a low-cost sportplane. Many found their way to that last stronghold of the commercial biplane, the agricultural fleet, where their low speed and generous wing area made them excellent sprayer/dusters. Even 160 hp wasn't very useful in this field, so higher powered engines like the 220 to 300-hp Lycoming R-680 and the Jacobs R-755 were installed for this work. Eighty-eight OTWs were still on hand in 1948.

In the normal course of events, the next step should have been the scrap heap, but the antique boom that started in the early 1950s changed that. Some that had actually reached the junkyards were acquired by dedicated antiquers and returned to their original "two-hole" configuration with proper engines. By 1952, the fleet had decreased to 68 examples.

For several years, until the recent death of Al Meyers, the members of the Meyers club held a reunion fly-in on Meyers' home field at Tecumseh, with other Meyers models on hand but the OTW predominating. On one such occasion, 16 of the 25 listed as active, out of 53 still on FAA books, attended and managed to squeeze together for a group photo.

That survivability factor of over 50% for a relatively expendable product that went out of production nearly 40 years ago is probably the most significant tribute that can be paid to a milestone airplane that ended an era. □