

aircraft database
certified aircraft database

history and gallery

M 18 Mite
M20
M 20 cutaway
MA 2-A Cadet
M-10 Cadet
MM-20-A Mark 20A
M-20-B Mark 21
M-20-C Mark 21
M-20-C Ranger '74- '76'
M-20-D Master
M-20-E Chaparral '74 +
M-20-E Chaparral pre'74
M-20-E Super 21 Chaparral
M-20-G Statesman
M-20-Mark 20
M-20C Ranger '77-'78
M-20F Executive 21 1974+
M-20F Executive 21 to 74
201 (M20J)
205 (M20J)
231 (M20K) turbo
M-22 pressurized
252 TSE (M20K)
PFM
TLS
Ovation (2003)
Ovation 2 DX (2003)
Bravo DX (2003)
Ovation2 DX GX
pilot report Mooney Mite
pilot report M20R Ovation

Mooney aircraft history, performance and specifications



Al Mooney



Albert W. Mooney was born in Denver, Colorado on April 12, 1906. In 1926, at the age of 19, he was a draftsman and assistant to the chief engineer at Alexander Aircraft in Denver. This is where the classic Curtiss OX-5 powered Eaglerock became a standard.

Later, as chief engineer at Alexander (1928-1929) he was responsible for the Bullet, an advanced, high speed, low wing monoplane. With Mooney's patented retractable landing gear, it was a mild sensation and ahead of its time.

Early in 1929, Mooney left Denver to form the Mooney Aircraft Corporation with his brother, Arthur B., in Wichita, KS. There he designed and built a more advanced low-wing monoplane, the Mooney A-1. Like the Bullet, it was designed for efficiency. Then the Depression hit the Mooney Corporation, and it closed its doors in 1931.

By 1934, Mooney was with Bellanca, where he spent a short time as chief engineer. During this time, he greatly influenced the design of the very successful Bellanca low-wing wooden wonders, a version of which is still being produced.

Then, becoming the vice president and chief engineer at Monocoupe Aircraft, he developed the Model G "Dart" and the Monocoach. The Dart was unmistakably an Al Mooney airplane, and when Culver Aircraft purchased the design, prototype and tooling for the Dart in 1938, Al followed right along with it.

During his days at Culver, Al designed the famous and fully aerobatic Cadet. With its elliptical wing and retractable landing gear, the two-seat Culver Cadet was fast and efficient. Over 350 of these high-performance aircraft had been produced by the time W.W. II erupted.

During the War, the Culver Company turned to the production of radio controlled target drones, and by the war's end had produced over 3000 of the PQ-8 (a drone version of the Cadet) and the PQ-14 (its successor) target drones. The tricycle geared, bright red PQ-14 was the direct ancestor of the Mite.

In July 1946, in partnership with C.G. Yankey and W.L. McMahon, the Mooney brothers resurrected the Mooney Aircraft Corp. Al was the general manager and chief engineer, while Art Mooney was the production manager. Bill Taylor was the sales manager and chief pilot, while Yankey financed the operation. Their first offering was the Mooney Series 18, an all-wood single-seater with retractable tricycle gear and a cantilevered, laminar flow wing. Test flights continued through 1947 and certification was received in July, 1948. With its now-famous "backward" tail, the Mooney "Mite" hit the sport aviation world with a price tag of less than \$2000, and represented the cheapest, smallest aircraft to be produced in quantity.

The first Mites produced were certified to use the 25 h.p. liquid-cooled Crosley Cobra automobile engine. These engines were mounted back-to-front and drove the propeller through a belt-driven reduction gear. However, due to numerous technical problems, they were soon recalled and replaced, at no charge to the owners, with 65 h.p. Lycomings.

The economy and efficiency of the Mite with the 65 h.p. engine was remarkable: Three-and-a-half to four gallons per hour at cruise between 120 and 130 m.p.h. This miniature "fighter plane" was cheap to buy and fun to fly. It had a lot of appeal to ex-military pilots recently returned from the War. To celebrate his 25th anniversary as an aircraft designer, Al Mooney set an unofficial distance record of 1312 miles in a Mite. One drawback of the Mite was its limited carrying capacity. The pilot could easily equal 25% of the gross weight of the airplane. In the model with the full electrical system, the baggage compartment was taken up by the battery, leaving a baggage capacity of only 40 lb.

The Mite had a hand-operated, retractable gear system which was difficult for some to operate. Pilots who had trained on other small aircraft with fixed landing gear occasionally forgot to lower the gear for landing in the Mite. This is said to have happened to an embarrassed Al Mooney while he was giving a demo flight. This incident prompted him to invent the unique Wig-wag warning device which waves from the instrument panel when the pilot throttles-back with the gear up. Mooney had confidence in the rugged little Mite. Mooney advertisements claimed that belly-landings were a quicker, safer way to stop in difficult landing situations, and would cause little damage.