

Some Ercoupe History:



The Ercoupe was designed between 1936 and 1940, with the first flight of the prototype in 1937. Before WW2, 112 were built and approximately 5,000 were made immediately after the war. About 400 more were built between 1958 and 1969.

The original name was derived from the name of the company, ERCO, which stood for Engineering and Research Corporation. When later companies manufactured the plane, it was called the Aircoupe.

Designed by Fred Weick and a small team, the Ercoupe was the first plane to incorporate much of the original research that Weick performed as the assistant chief of the NACA aerodynamics division. These new features include the inability to be held in a spin, the tricycle landing gear to improve landing and take-off safety, the wholly cowled engine, and a control system in which the rudders are linked to the ailerons to simplify controlling the airplane. All these features were invented by Fred Weick and his team.



Fred Weick's design goals for this aircraft were simplicity of control and safety. He built in great visibility and ground handling. For safety, the elevator deflection of 13 degrees made stalls nearly impossible. Turning the control wheel operated nose wheel steering, ailerons and proportional rudder for coordinated turns.

In February 1946, Fred Weick received the Fawcett Aviation Award for the greatest contribution to the scientific advancement of private flying.

In addition to service as unmanned radio controlled target drones, and test aircraft for rocket assisted takeoff ([see below](#)) this photo shows a "twincoupe" made from two Ercoupes which flew airshows in the late 40s.

Forney Aircoupes were made from 1958-1959, Alon made planes from 1965-1967, Mooney made the A-2-A (Alon style) Cadet in 1968 and the Mooney M-1.0 Cadet (with a "Mooney" tail) was made from 1969-1970.

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An interesting footnote: The first successful U.S. rocket-assisted takeoff was accomplished in an Ercoupe at March Field by Captain Homer A. Boushey Jr. AAF (later to become Brigadier General), with pressed-powder propellant JATO rockets developed by Cal Tech. He also made the first American manned flight of

an aircraft propelled by rocket thrust alone.

Boushey, a Stanford graduate and former airmail pilot, had been so interested in rocketry that in 1939 he'd written to Robert Goddard at his Roswell, New Mexico testing location and later traveled to the site to visit the pioneering rocket scientist. While he was stationed at Wright Field in Ohio, Boushey was assigned to the aircraft lab to investigate rocket propulsion. Meanwhile, at the California Institute of Technology, Theodor von Karman and his staff had, after several failures, managed to produce small rockets reliable enough to be attached to a light aircraft. Boushey came up with the idea of putting them on the Ercoupe.



"The idea was we wanted to get as light a plane as we could," Boushey remembers. "The Ercoupe belonged to the Army Air Corps. I flew it out from Wright Field to March Field in California, where we made the test."

Eighteen rocket motors were delivered every other day for the first tests at March Field, about an hour's drive from the project. During the first phase of the flight tests one motor failed explosively in a static test and one while the Ercoupe was in level flight. Thereafter, 152 motors were used in succession without explosive failure.

The tests were highly successful: three solid-propellant rockets were strapped under each wing of the airplane, and the Ercoupe took off in about half the length of runway it normally used. On August 16, 1941, Boushey made the first take-off of the Ercoupe with six JATO's firing. Boushey ignited the blend of perchlorate, asphalt, and special oils with an instrument panel switch, and in a blinding flash of light and dense smoke, launched himself in only 300 feet and 7.5 seconds instead of the Ercoupe's usual 581 feet and 13.1 seconds!

At the end of the tests, Boushey recalls, "von Karman said, 'Just for history, let's unscrew the propeller and be the first to fly an airplane with rocket power alone.' "

The first American manned flight of an aircraft propelled by rocket thrust alone was made by Boushey on August 23, 1941. The propeller of the Ercoupe was removed, and to be sure of getting off the ground, they doubled the number of rockets and started the airplane rolling by towing it with a rope attached to a truck. Boushey left the cockpit canopy open and held the end of the rope in one hand. Thus was born the little-known and short-lived concept of Rocket-'n'-Rope-Assist.

"I guess I must have gotten 30 or 40 miles an hour before the tension got too great for me to hold onto," Boushey said. "Then we lit the rockets - we put 12 on instead of six - and it took off in a hurry."

The airplane left the ground and reached an altitude of about 20 ft.

The Navy Department regarded the successful Ercoupe tests with much interest from the point of view of application of rockets for assisted take-off of aircraft from aircraft carriers. Upon the urging of Lt. C.F. Fischer of the Bureau of Aeronautics, who had witnessed the tests, a contract was placed by the Navy with the Project in early 1942 for the development of a 200 lb. thrust, 8 second unit. The unit was designated by the acronym JATO for Jet Assisted Take-Off (sometime RATO), and this designation is still used.

In 1943 General Boushey became the Air Corps' first commander of a jet organization when the 412th Fighter Group was organized on a confidential status at Muroc, Calif. In 1947 General Boushey led the first over-water flight of jet fighter aircraft when one squadron of P-80 aircraft was transferred from the Philippines to Okinawa. His decorations included the Legion of Merit with oak leaf cluster,

Distinguished Flying Cross, the Air Medal and the Guided Missile Insignia. He retired in 1961, and passed away Dec. 25, 2000 at age 91. There is more information on his life [here](#).



Dr. Theodore von Kármán sketches a plan on the Ercoupe wing. From left: Dr. Clark Millikan, Dr. Martin Summerfield, Dr. von Kármán, Frank Malina, and Gen. Homer Boushey.

[Other Ercoupe variations](#) were built under patents of Fred Weick. There was the General Skyfarer, another two control (no rudders) twin tail, non-spinnable tricycle landing gear airplane, and the Aeronca "Chum", which had nearly the same spec's as the Ercoupe. [See them here](#).

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