

Flying Blind

The story of the first takeoff, flight and landing using only instruments as a guide.

Aviation pioneer General James H. Doolittle is famous for leading the World War II air raid on Tokyo on April 18, 1942. But the recipient of the Medal of Honor, the Presidential Medal of Freedom, two Distinguished Service Medals, the Silver Star, three Distinguished Flying Crosses, the Bronze Medal, four Air Medals, and many other service medals from allied countries, may have made his greatest contribution to aviation on the home front. On September 24, 1929, at what is now Mitchel Air Force Base on Long Island, NY, Army lieutenant Doolittle, became the first to use only instrument guidance to take off, fly a set course and land.

The Early years

Born in Alameda, California on December 14, 1896, Doolittle left college early to enlist as a flying cadet and earned a commission as a second lieutenant in the Signal Officers Reserve Corps of the U.S. Army, for which he served as a flight instructor in the 104th Aero Squadron and the 90th Aero Squadron during World War I. Following the war, Doolittle distinguished himself in the realms of pioneering flights and aeronautical engineering. During this time, he earned the Distinguished Flying Cross for flying across the U.S. in 21 hours, 19 minutes and another one for conducting aircraft acceleration tests. Doolittle also continued his education during that time eventually attending Massachusetts Institute of Technology where he earned his Master of Science in Aeronautics in a year. Since he still had another year approved by the Army to attend school, he followed up by earning a Doctor of Science in Aeronautics.

With growing expertise as one of the preeminent pilots in the world, Doolittle knew that true freedom in flight would only occur once pilots could successfully operate aircraft without complete reliance on their senses. In the years leading up to the first “blind” flight, airplanes had begun to be equipped with basic instruments used to determine altitude, direction and air speed. However, these instruments were insufficient to direct a pilot in zero visibility conditions from takeoff to landing. To perform the test flight, the plane, a NY-2 Husky, had to be outfitted with the instruments that would soon become universal on aircraft. A direction gyro, now known as a heading indicator, an artificial horizon, also known as an attitude indicator, and a barometric altimeter were all newly developed, and Doolittle helped modify them for the Husky as well as suggest improvements to them based on his test flight.

The First Blind Flight

On that Tuesday, September 24th, 91 years ago today, Doolittle and his check pilot climbed into what was possibly the most heavily instrumented plane in the world at the time. Doolittle made the flight as part of research he conducted for the Daniel Guggenheim Fund for the Promotion of Aeronautics, with cooperation from the Bureau of Standards, the Aeronautics Branch of the Department of Commerce—which was the FAA’s earliest predecessor agency—and other organizations. Doolittle received directional guidance from a radio range course aligned with the airport runway, while radio marker beacons indicated his distance from the runway. He relied on a sensitive altimeter to determine his altitude, and controlled the attitude of his aircraft with guidance from the directional gyro and the artificial horizon.

To prove he wasn’t “cheating,” he had a hood placed over his entire seat, effectively trapping him in a blind bubble with only his instruments, the radio and his determination to improve aviation guiding him

through his flight. The check pilot the front was there to intervene in an emergency, but kept his arms above his head the whole time to silence cries of foul play. A few years later, on May 9, 1932, Capt. A. F. Hegenberger further proved that instrument flight was possible when flew without a check pilot to make the first blind solo flight using instruments only, at Dayton, Ohio.

Doolittle's flight took only 15 minutes, but those minutes proved that a plane could be flown with only instruments. He proved that all-condition flight was possible, opening up new possibilities for aviators everywhere. The advancements and breakthroughs in aeronautics he helped make are still with us today.

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Doolittle getting ready for the historic flight. You can see the hood folded open as he runs his pre-flight checks.