

## History of the Bonanza

Sporting a distinctive V-shaped or “butterfly” tail, the Beechcraft Bonanza set the standard for the stylish yet well-equipped aircraft for the private pilot, albeit one who could afford to fly in relative luxury. Since its introduction in 1947, the Bonanza has been admired as a “classic” in the aviation world, even earning *Fortune* magazine's prestigious award in 1959 as one of the 100 best designed mass-production products.

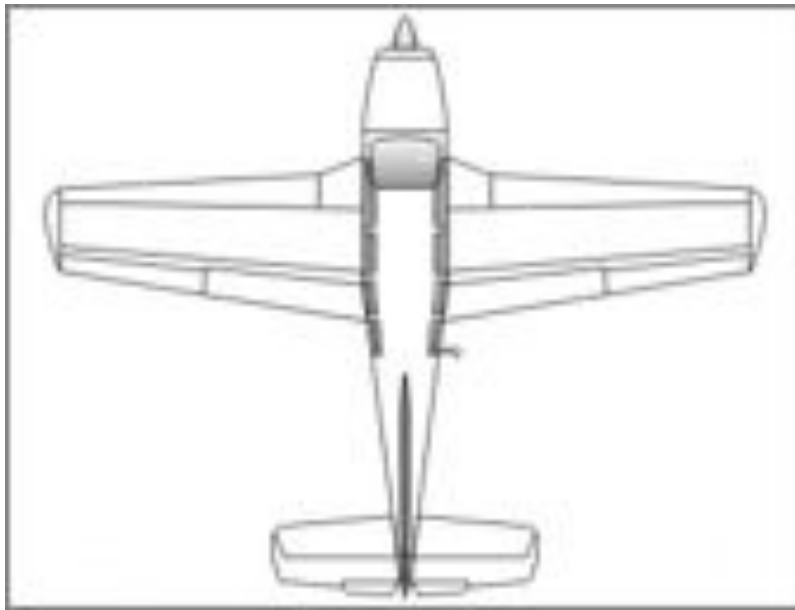


The Beech Aircraft Corporation, confident in its manufacturing capacity after building more than 7,000 combat aircraft during World War II, positioned itself for the post-war era by designing a revolutionary single-engine aircraft with a V-tail configuration that trimmed weight without compromising control. Company founder Walter Beech envisioned a light aircraft with a level of performance and comfort that would distinguish it from the competition.

In theory, the Bonanza's V-tail design uses only two surfaces to perform its function as compared to the three surfaces of a conventional straight-tail design. This reduction in surfaces reduces both drag and weight, while also lowering the probability of tail buffeting from the wakes generated by the aircraft's wing and canopy. Aircraft control response with the V-tail is equivalent to that of a conventional tail of 40 percent greater surface area. Manufacturing costs for the V-tail design are also lower because fewer parts are required to fabricate only two surfaces instead of three.

The Bonanza (Model 35) made its first test flight just after the war's end on December 22, 1945, with pilot Vern Carstens at the controls. This flight test phase would be marred by a 1946 accident when the V-tail broke away from the Bonanza's fuselage during a high-speed dive, killing the test pilot but sparing the flight engineer. Walter Beech ordered continued aggressive testing of the Bonanza, eventually accumulating more than 1,500 hours of flight time without further incident.

The post-war boom in civil aviation translated into marketing success for Beech – more than 1,400 advance orders for new Bonanzas were placed even before the start of production. In March 1947, the U.S. Civil Aeronautics Authority issued its Approved Type Certificate for the Bonanza (Model 35) and full-scale production of the new aircraft commenced.

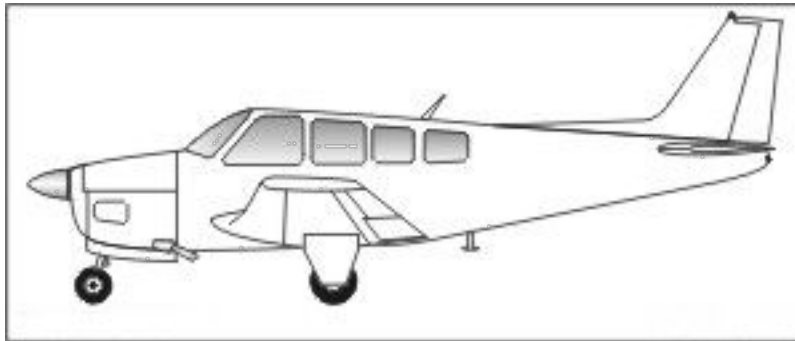


Transforming its wartime production expertise to the consumer sector, the Beech Aircraft plant in Wichita, Kansas, quickly mobilized to meet the demand for the new aircraft, delivering about 1,000 Bonanzas by the end of 1947 at the then-hefty price of \$7,975. The Bonanza quickly developed a solid reputation as a versatile personal and business aircraft and would soon make an impact on the non-flying public as well.

Beech decided to showcase the Bonanza's performance and reliability by sponsoring William Odom's world-record attempt for the longest non-stop solo flight. Odom's aircraft, nicknamed the *Waikiki Beech*, was specially modified with additional fuel and oil reserves,

increasing the Bonanza's range more than fivefold to 5,500 miles (8,851 kilometres).

From March 6-8, 1949, Odom flew the *Waikiki Beech* across the Pacific from Hawaii to California, then cross-country to Teterboro Airport, New Jersey. Flying 5,273 miles (8,486 kilometres) in just over 36 hours (while burning only 272 gallons [1,030 litres] of fuel) earned William Odom a place in aviation history; tragically, he was killed in a racing accident later that year. The *Waikiki Beech* Bonanza was subsequently donated to the Smithsonian Institution's collection of historic aircraft.



In a calculated move to increase sales, Beech introduced a radical re-design of the Bonanza on September 14, 1959. The aircraft's trademark V-tail was replaced with a conventional straight tail, resulting in a new variant initially dubbed the "Debonair." (Later models would revert back to the "Bonanza" moniker). The current straight-tail model, the Bonanza 36, was first built in 1968 and is still in production today.

The basic V-tail Bonanza design also continued to evolve over the next two decades – the fuselage was lengthened, followed by the introduction of a fuel-injected engine - increasing the aircraft's overall performance. A few Bonanzas were even pressed into service as military drones during the Vietnam War.

The Bonanza features a fully retractable undercarriage, making it both streamlined and aerodynamic while airborne, capable of carrying up to five passengers and 277 pounds (126 kilograms) of luggage stowed behind the rear seats. First introduced in the 1970s, the V35B model Bonanza was powered by a 285-horsepower (213-kilowatt) Continental flat-six piston engine with a 44-gallon (167-liter) fuel capacity. The V35B was capable of cruising at 157 miles per hour (253 kilometres per hour) at 8,000 feet (2,438 meters), with a maximum

speed of 210 miles per hour (338 kilometres per hour) (at sea level) and a range of 1,020 miles (1,642 kilometres).

The 10,000<sup>th</sup> Bonanza came off the production line in February 1977, but five years later, Beech discontinued production of the V-tail Bonanza to concentrate solely on the straight-tail Bonanza 36. Concerns over the safety of the V-tail design (and the resultant liability) undoubtedly played a major role in that decision. Independent studies found that the V-tail Bonanza had a fatal in-flight failure rate 24 times higher than the straight-tail version; a possible cause is the greater stress placed on the V-tail aircraft's tail and fuselage during pitch and yaw manoeuvres than on the straight-tail version.

Olive Ann Beech, Walter's wife, became president and CEO of Beech Aircraft following her husband's unexpected death from a heart attack on November 29, 1950, and remained at the company's helm until 1968, when she assumed the role of chairman at age 65. Beech Aircraft ceased to exist as an independent entity when it accepted a takeover bid from Raytheon Corporation on October 1, 1979. Olive Ann Beech, arguably the most successful female executive in aviation history, died on July 6, 1993, at the age of 89.

In May 1996, the Bonanza achieved another milestone when the 3,000th straight-tailed Model 36 rolled off the production line, and 1997 marked the 50<sup>th</sup> anniversary of continuous Bonanza production.

The Bonanza 35/36 holds the distinction of one of the most successful aircraft in aviation history, with more than 17,000 built, as well as one of the most prolific, remaining in continuous production from 1947 to this day.