


Beech Twin Bonanza

A legend roars on



Pacing eagerly around the terminal at Benton Harbor's Southwest Michigan Regional Airport, I finally heard the noise that I was waiting for—the unmistakable growl of two geared engines playing through augmentor tubes. A peek out the window to the southwest confirmed the arrival of Dan Schlapkohl's gorgeous Beech J50 Twin Bonanza. As he taxied up to the ramp, someone asked, "What is that?" ■ "A Twin

Bonanza," I said. ■ "Nah, a Twin Bonanza is a Baron," he retorted. ■ So goes the typical

conversation when somebody initially sees Beech's first "light" twin, the Model 50 Twin Bonanza. Because sighting a Twin Bonanza has become such a rarity these days, it's not unusual for people to be confused by its appearance in relation to its moniker. After all, a Bonanza is one of the most recognizable small airplanes in the world. Add another engine to a Bonanza and you have a Twin Bonanza, right? Wrong. Bystanders at Benton Harbor—and many others—expect to see a silhouette like that of the more

common

Baron. The Twin Bonanza looks more like a straight-tailed King Air with piston engines and a couple of side windows lifted from a Bonanza. But why would such a radical departure from its namesake even carry the Bonanza name? ■ Ask Richard Ward, president of the Twin Bonanza Association; he wrote an entire book about the airplane, titled *Beechcraft Twin Bonanza: Craft of the Masters*.

In this labor-of-love book, Ward discusses everything you'd want to know about the endangered craft, including its rich history in the U.S. armed forces. One fascinating section of the book puts into print a speech made

Beech's first "light" twin spawned a king

BY PETER A. BEDELL

PHOTOGRAPHY BY MIKE FIZER

by the late Ralph Harmon, designer of both the Bonanza and Twin Bonanza, at the 1989 Twin Bonanza Association Fly-in. In his speech, Harmon spoke of Beech's desire in the late 1940s to create a six-place follow-on to the Bonanza. It didn't hurt that the U.S. Army was also looking for an airplane of that size. Further pressing Beech was the fact that a fellow named Ted Smith was working on a revolutionary four- to six-place twin called the Aero Commander—the race was on.

Seven months and 10 days after Harmon presented the initial drawings to Beech management, the Twin Bonanza made its first flight. The date was November 15, 1949. Unfortunately for Beech, Ted Smith already had his Aero Commander certified.

The Twin Bo, one of the airplane's nicknames, was built like a battleship in order to attract the Army contract and for Beech to sell the public on safety. Twin Bonanza brochures tout the airplane's strength and the fact that load limit tests of eight Gs were passed without a wrinkle. Beech also developed shoulder harnesses for the airplane, although the flying public seemed reluctant to use them at the time. They were later dropped from the equipment list.

Backing the stout reputation of the T-Bone (another nickname), Harmon explained how the airplane eventually won the military contract by a stroke of luck at a competition in Fort Bragg, North Carolina. All of the major manufacturers of the time brought their airplanes and were challenged to meet company performance claims. In the case of the Twin Bonanza, a takeoff and landing were to be demonstrated on a 1,700-foot runway with trees on one end and 50-foot poles joined by a streamer at the other end. With five GIs and sandbags on board, and the fuel tanks topped off, the airplane took off just fine. On approach, however, the demo pilot got a little low and slow, added some power to get over the streamer, cut the power, and stalled the airplane 50 feet above the ground.

The airplane hit hard enough to bend the nacelles down, bend the fuselage behind the rear wing spar, and blow the plugs in the landing gear struts through the top of the wings. All on board were unharmed and walked out. Harmon, thinking that he had just blown the chances of bringing the lucrative military contract home to Wichita, was surprised to learn that the strength the airplane demonstrated after essentially dropping 50 feet had sold the colonel on the



Dan Schlapkohl's 1962 J50 Twin Bonanza has been extensively refurbished. The instrument panel in N30AE is of the type used in the more modern Beech King Air. Earlier Twin Bonanzas had the familiar center yoke bar used in older versions of the single-engine Bonanza. Notice the lack of mixture controls—the Simmonds fuel injection system used in the supercharged engines automatically compensates for altitude and power setting.



design. After splinting the airplane, Harmon flew it back to Wichita. Thus was born the military version of the Twin Bonanza, the L-23/U-8.

Perhaps the best way to visualize how Beech created the Twin Bonanza is to imagine a Bonanza fuselage cut lengthwise down the middle. Insert a 12-inch plug between the halves and rivet it all back together. If you look at a Twin Bonanza with the original three-piece windshield, visualizing the mating is easy. Of course, the aft fuselage and

The tough landing gear used in the Queen Air and King Air 90 series helped Beech to sell the T-Bone to the military.



conventional empennage were all new.

The resulting 54-inch-wide cabin made enough room for three-across seating in the first and second rows. Several seating options were offered in later models, including a side-facing couch that seated three. Some Twin Bonanzas seat seven. Up front the copilot's seat was the middle seat because the Bonanza's throw-over yoke could reach only halfway across the huge cockpit. If three-across seating was a little close for comfort, buyers of models D50 (1956 and 1957) and later could opt for separate seats with a wide aisle. The right seat in that setup could be slid inboard to accommodate those who wanted to play copilot.

Easily recognizable are the side windows. The first and second row of side windows are directly from a Bonanza. Early Twin Bonanzas also use the main cabin door that is still used on today's Bonanzas and Barons. Of course, that means that the airplane had an overwing entrance via a step on the airplane's right side. D50Cs, introduced in 1960, and later models utilized an airstair door for access. A seventh window was made optional in the D50E and J50 models, both of which were made between 1961 and '63. The control system, rudder pedals, and outer panel flaps are the only other easily recognized Bonanza parts.

Twin Bonanzas were designed to be powered by supercharged Franklin engines, but those plans were scrapped when Preston Tucker bought Franklin and shut down the aviation side of the business to concentrate his efforts on the doomed Tucker automobile. Beech fell back on Lycoming's GO-435, which created 260 horsepower in the 1952 Model 50 and 1953 Model B50. The original engines turned two-blade wooden propellers that were nearly eight feet in diameter and as wide as oars. Power was upped to 275 hp with the introduction of the GO-480 in the 1954 C50. The D50, introduced in 1956, was powered by 295-hp GO-480s and turned three-blade propellers. The first supercharged T-Bone was the E50, introduced in 1957, featuring 340-hp GSO-480s.

The Lycomings are housed in cowlings that were originally designed to contain the larger Franklin engines. After falling back on the geared Lycomings, Beech justified the gargantuan cowls as "easy access for mechanics." As it turns out, this feature is quite useful during preflight inspections and even allows for major maintenance, such as cylinder changes, to take place by just popping open a few quarter-turn fasteners.

There's no doubt that the huge cowlings are a factor in the Twin Bonanza's lackluster cruise performance. Besides the Aero Commander, the Twin Bonanza's competition was the company's own Beech 18, which was in production until 1970. The Beech 18 was larger but had better performance and familiar (for the time) Pratt & Whitney radial engines. Today, the Beech 18's radials still cost thousands of dollars less to overhaul than the T-Bone's geared flat engines.

Fuel economy is not a trait associated with Twin Bonanzas, either. Expect single-engine Bonanza speeds (160 to 170 knots) with Baron 58 fuel burns (30-



N30AE has many of the Excalibur mods including the one-piece swept windshield and radar nose cone (above). Airstair door (below) replaced the Bonanza cabin door in later models.





plus gph total). Supercharged versions, if they are flown high, can top 200 knots at 12,000 feet while burning 40 gph.

Gross weight of the supercharged versions started at 7,000 pounds but crept up to 7,300 pounds in the last of the supercharged models, the J50, introduced in 1961. The D50E was the last normally aspirated version of the Twin Bo and was produced concurrently with the J50 until production ceased in 1963.

N30AE is the ninth from the last Twin Bonanza ever built. Owner Schlapkohl believes that there currently is only one known T-Bone newer than his 1962 J50. N30AE has many mods from Excalibur Aviation, including the swept windshield and radar nose cone. Schlapkohl, who used to be the chief pilot for Elliott Aviation in Moline, Illinois, is now the CEO of Design Build Associates.

Schlapkohl mostly uses his Twin Bo for personal trips. "It's has been

This big dinosaur is built like a fortress and belches an intimidating sound from its twin geared Lycomings.



absolutely trouble free," says Schlapkohl, somewhat denouncing the rumors that these engines are temperamental maintenance hogs. If the airplane is flown properly, Schlapkohl has no doubt that the engines can make their 1,400-hour TBO.

"Don't ever let the prop drive the engine," says Schlapkohl. This sets the stage for gearbox lash and premature gearbox overhaul. With this in mind, power reductions in the normally aspirated Twin Bonanza are made using the propeller controls first, followed by the throttles. N30AE has fuel-injected engines, which were available on supercharged T-Bones from 1959 to 1963. The Simmonds fuel injection system features automatic leaning, so there are no mixture controls. Older Twin Bonanzas have altitude-sensing pressure carburetors

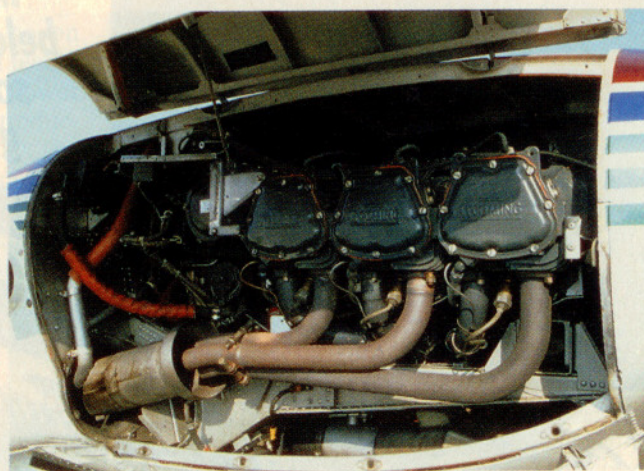


that made the mixture controls inside of them more like those of a condition lever in a turboprop—forward for Run and aft for Shut Down.

If not having to fool with mixtures turns you on, then not having any cowl flaps to tinker with makes the airplane even more attractive. Cooling is accomplished strictly by use of augmentor tubes à la the Beech T-34. Each cylinder belches its exhaust gas into the six-inch augmentors via a straight, unrestricted pipe, giving the Twin Bonanza that head-turning sound. At full throttle the reduction gearing keeps propeller rpm at about 2,200, while the engine is turning 3,400 rpm. If the Twin Bonanza didn't succeed in turning all of the heads at the airport on takeoff, buyers could choose the optional JATO (jet-assisted take off) rockets that allowed for a 100-pound-higher takeoff weight and associated boost in single-engine climb rate.

After no more than one minute at full throttle, the props should be brought back until engine rpm settles on 3,100 or 3,200 rpm (depending on model) for maximum continuous power. Once the excitement of takeoff is over, one really begins to appreciate why this airplane has a fanatical, albeit small, following. Creature comforts abound, and handling is superb for such a large airplane. Roll forces are like those of a King Air (heavier than a Bonanza's or Baron's) but the rock-solid stability invokes the feeling that you're riding in an airplane of true substance. During speed changes, no trimming is needed except in pitch. When entered smoothly, coordinated turns can be made with your feet on the floor, a trait that found its way into many Beech airplanes that Ralph Harmon designed.

Each cylinder's exhaust gases are directed into the six-inch augmentor tubes, giving the T-Bone its distinctive growl.



Besides the delightful handling, Twin Bonanza pilots enjoy an IMAX-like view of everything around and above. The aisle in those T-Bones lacking bench seats is plenty wide to walk, Quasimodo-like, to the rear of the airplane to fetch gear. The instrument panel is basically a King Air panel that is slightly cropped at the top. N30AE has the optional deluxe instrument panel with copilot instruments, which became available in 1961. The modern avionics and professional layout of N30AE make you feel as if you're in the pilot's seat of a newer King Air.

Using the wings and beefy carry-through structure of the Twin Bonanza, Beech launched the Model 65 Queen Air in 1960. With its even bigger cabin, the Queen Air soon began to eclipse the Twin Bonanza as the company's premier business airplane. The same basic wing

and carrythrough design is still in use today on Raytheon's new C90B King Airs, which boast a max takeoff weight nearly double that of the original T-Bone's max gross weight. Designer Ed Swearingen also realized the potential of the Twin Bonanza design and created the Excalibur 800, a mod that, among other things, swapped the geared engines for

400-hp, eight-cylinder Lycoming IO-720s. Swearingen also created the Merlin II by placing a pressurized fuselage and turboprop engines on the Twin Bonanza's wing and carry-through structure.

Today, the Twin Bonanza is probably the least expensive six-place airplane on the market. Average prices range from \$41,000 to \$76,000, according to *Vref*. An example like N30AE would command a significantly higher price. Operating expenses are relatively high, and parts availability for the

oddball engines may be limited in the future. The only major gotchas will be compliance with the more recent Hartzell prop AD, engine time/condition, and the condition of the magnesium control surfaces. McCauley has introduced a replacement prop for the T-Bones affected by the Hartzell AD. Anyone considering the purchase of a Twin Bonanza would be wise to contact Dick Ward at the Twin Bonanza Association by calling 616/279-2540 or via e-mail (forward@net-link.net).

The use of the same basic wing structure from 1949 to today and beyond is astounding. Raytheon still builds the King Air C90, proving that the legend of the Twin Bonanza will truly live on. □

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