www.aopa.org , 10/01/2002

Beechcraft Travel Air: Baron Lite

Beech's first true light twin

In the mid-1950s, Beechcraft called its Twin Bonanza a "light" twin. But the Twin Bonanza's 6,000-pound-plus max takeoff weight was significantly heavier than light twins from other manufacturers, namely Piper's Apache and Cessna's 310. The Twin Bonanza (see " Beech Twin Bonanza: A Legend Roars On," September 1999 *Pilot*) and Ted Smith's Twin Commander were in their own microcategory of, shall we say, "not-so-light twins."
Seeing the success that Piper and Cessna were having with their respective light twins, Beech engineers went to the parts bins and pulled out some pieces from the company's popular Bonanza and its T-34 military trainer to create a smaller twin. With the various parts and pieces, Beech created what was to be known as the Badger.

First flight of the Badger was in 1956. Powered by a pair of carbureted Lycoming O-360s of 180 horsepower each, the Badger proved to be more like a Bonanza with its power divvied up between two engines. It utilized a standard Bonanza cabin rather than the wide-body Twin Bonanza's. Unfortunately for Beech, the Badger name wasn't going to work because the name had already been chosen by the military to identify a Russian bomber. The company then chose a name with which Walter Beech was very familiar — Travel Air, the name of the company formed by Beech, Lloyd Stearman, and Clyde Cessna in the 1920s.

The new(er) Travel Air is easily distinguished from its biplane namesake as well as more modern Beech twins — most notably the Baron — by its blunt nacelles and straight tail. The tail and landing gear are from the military's T-34 Mentor trainer. Otherwise, the little twin was constructed of mostly Bonanza parts.

Earlier Model 95s had small third- cabin windows like the Bonanzas of the time. The B95, introduced in 1960, upped the maximum gross weight by 100 pounds (to 4,100 pounds) and featured a cabin stretch of 19 inches. Beech also added a standard forward-facing fifth seat as opposed to the optional side-facing jump seat, offered in the 1959 model year. The B95A came in 1961 and marked some of the biggest changes to the Travel Air. Among the more noteworthy changes were fuel injection, a longer cabin with an available sixth seat, a max takeoff weight increase to 4,200 pounds, wider-chord flaps to retain stall speed at the higher gross weight, and larger third windows.

The D95A was introduced in 1963, featuring an extended nose baggage compartment, Bendix fuel injection to replace the more troublesome Simmonds system, and a redesigned instrument panel. The D95A continued production through 1967 with many minor improvements, such as the addition of a one-piece windshield in 1966 and the controversial "Magic Hand" landing gear safety system. The last model of Travel Air was the E95A in 1968, which featured the more slanted "speed sweep" windshield and new paint and interior designs.

Utilizing experience gained with the Travel Air, Beechcraft introduced the Model 55 Baron in 1961. Save for the swept tail and slim nacelles enclosing 260-hp Continental IO-470s, the new Baron was nearly identical to the Travel Air. The Baron allowed Beech to better compete with Cessna's speedy 310 and Piper's new Aztec. The Travel Air and Baron were produced alongside each other for seven years. By 1968 most buyers were opting for one of the two available Baron models. In that year sales of the Travel Air had fallen to just 14 airplanes and production was halted.

Travel Airs have been placed into a microcategory of the original light, light twins. Others in the group are the Piper Twin Comanche and the Piper Apache. Their low fuel burn and nearly bulletproof engines make these three airplanes extremely popular multiengine trainers. Despite the introduction of the more-modern Piper Seminole and Beechcraft Duchess twin trainers in the late 1970s, Travel Airs soldiered on with similar or better performance than the new kids on the block.

The same traits that make these airplanes popular for training make them popular owner-flown twins as well. The fuel efficiency and low-maintenance engines make the Travel Air affordable to own. While most well-equipped Travel Airs lack the useful load to carry four adults, baggage, and full fuel, these airplanes are well suited to a family with two or three preteens.

Also appealing is the fact that Travel Airs possess the same responsive handling for which the Bonanza/Baron family has become legendary. Crisp roll rates, spirited runway acceleration, and a good climb rate give the Travel Air a sportplane feel. Despite the chunky look of the tail and nacelles, the Travel Air is a clean airplane. Point the nose down and the speed will pick up rapidly. Like its Bonanza and Baron brethren, the Travel Air is reluctant to slow down and go down at the same time.

Like all light twins, the Travel Air is far less spirited on one engine, mustering a single-engine climb rate of 205 feet per minute (E95) in standard conditions at gross weight. Single-engine service ceiling is a paltry 4,400 feet. In fairness, however, this is typical performance for light twins powered by four-cylinder engines of 160 to 200 horsepower. In addition, the earlier model 95s, which had lower max gross weights yet the same power, show better single-engine performance.

Visibility through the expanse of acrylic is excellent, especially in the later models with the larger aft windows. This creates an open and airy feeling that distracts Travel Air passengers from the fact that the cabin is a narrow 42 inches. What the cabin lacks in elbowroom it makes up for in generous leg- and headroom. Those of wider girth may find the Apache/Aztec or Cessna 310 a little more comfortable.

Travel Air pilots are subject to a common embarrassment that many other Beech pilots have discovered over the years — inadvertent gear retractions on the ground. Other light-twin manufacturers decided that the landing-gear

switch should be placed on the left side of the power quadrant, despite the fact that heavier twins retained the switch on the right side. As a result, pilots, especially those who were trained in Pipers or Cessnas, would grab the landing-gear handle during the landing roll and fold the undercarriage. There is a squat switch designed to prevent this from occurring, but apparently some pilots grab the gear handle early in the landing roll before there's enough weight on the wheels to trip the squat switch.

Also typical of the heavy twins of the era, the Travel Air's throttles are located in the center of the quadrant while the other light-twin manufacturers decided to place the throttles on the left side. The Beech 18 and larger piston airliners had throttles in the middle to give the pilot and copilot equal access to the go-levers. Other light-twin manufacturers, who rationalized that these airplanes were most likely to be flown by a single pilot rather than a crew of two, placed the throttles on the left side of the power quadrant. This layout was targeted as the cause of sometimes-fatal accidents in which the pilot confused the prop lever for the throttle or vice versa. The Beech placement of the flap/gear switches and the throttle/prop levers eventually became nonstandard for light twins, and pilots switching between Beechcraft twins and light twins from other manufacturers often confused the placement with expensive and sometimes fatal results.

Fuel management is another area where Travel Air pilots have run into problems. There are a total of four bladder-type fuel cells. Each wing has a main tank (inboard) and an auxiliary (outboard), but there are only two gauges in the cockpit. You can see the quantity in the mains or the aux tanks by toggling a switch rather than moving a fuel selector. So while the cockpit gauges may be depicting the quantity of the aux tanks, for example, you may in fact be burning out of the mains. This was targeted as the cause of many Travel Air (and early Baron) fuel starvation and exhaustion accidents. The system also requires the mains be used for takeoff, landing, and maneuvering flight. Overall, the fuel system is not complicated but it isn't completely pilotproof.

Today, Travel Airs represent a fairly good value in the used twin market. Like most twins, though, the purchase price is easy to swallow compared to the ongoing maintenance. The airframe is quite stout and needs little in the way of routine maintenance. However, prospective buyers must keep in mind the big-ticket items on these airplanes. Magnesium control surfaces were used in production because of that metal's featherlike weight. Unfortunately, magnesium corrosion is nearly impossible to stop, and the replacement skins are quite expensive. A thorough check from a Beech expert will reveal whether you're getting a lemon.

Buyers will find quite a disparity in the condition of the remaining fleet. While many Travel Airs have spent time on the front lines as trainers, others have been coddled by individual owners for years. The Travel Air featured on these pages was a trainer but has since been rescued and extensively restored by its owner, John Beaulieu. N69VA is a 1968 E95 and is the eighth-from-the-last Travel Air built.

Beaulieu flies the airplane for personal and business use. Typical trips for the Travel Air take Beaulieu all over Virginia and north to Washington, D.C., and Baltimore for meetings and sales calls. Lacking only ice protection and weather radar, N69VA is an IFR heavy hitter featuring dual Garmin GNS 430s, each connected to its own HSI — one of which is a Sandel EFIS/map. There are other less visible options such as a three-axis autopilot, three-point seat belts up front, and an Air Mod interior and instrument panel featuring a clever two-piece glareshield.

Those of you drooling on these pages will be happy to know that the airplane is for sale. But Beaulieu won't let the airplane go without a fight, which is reflected somewhat in the $179,000 asking price. Vref pegs the average E95 at $83,500. Of course, the long equipment list and twenty-first-century panel help justify the price.

During testing, Beaulieu's E95 averaged 171 knots true airspeed at 23 inches manifold pressure and 2,500 rpm at 7,500 feet. At a best-power mixture setting the Travel Air burns approximately 20 gallons per hour total. In turbulence, the Travel Air fishtails like Bonanzas and Barons are wont to do. Adding a yaw damper, as Beaulieu did, is a good investment.

Like many other Travel Air owners, Beaulieu had to replace his propellers because of the far-reaching airworthiness directive affecting older Hartzell propellers. Anyone looking for a Travel Air must keep this major expense in mind. Most other ADs on these airplanes have long since been complied with.

Those based at higher elevations may want to seek out Travel Airs that have been outfitted with Rayjay turbochargers under a supplemental type certificate.

What started as a cannibalistic creation known as the Badger put Beech on the path to create what is likely the most successful light-twin design of all time — the Baron. But between the Badger and Baron is the Travel Air, which will forever be known for its unique combination of speed, economy, and twin-engine redundancy that keep it at the top of the list for first-time twin owners and for flight schools.

Peter A. Bedell, AOPA 1136339, *is a captain with a regional airline and a former technical editor of* AOPA Pilot.

SPEC SHEET

1968 Beech Travel Air E95
Average market value: $83,500
Specifications

Powerplants	180-hp (ea) Lycoming IO-360-A1A
Recommended TBO	2,000 hr
Propellers	Hartzell constant speed, full-feathering 72-in

	dia
Length	25 ft 11 in
Height	9 ft 6 in
Wingspan	37 ft 10 in
Wing area	199.2 sq ft
Wing loading	21.1 lb/sq ft
Power loading	11.7 lb/hp
Seats	4 to 6
Cabin length	8 ft 6 in
Cabin width	3 ft 6 in
Cabin height	4 ft 2 in
Empty weight	2,650 lb
Empty weight, as tested	2,946 lb
Max ramp weight	4,218 lb
Max takeoff weight	4,200 lb
Useful load	1,568 lb
Useful load, as tested	1,272 lb
Payload w/full fuel	932 lb
Payload w/full fuel, as tested	636 lb
	80 gal (74 gal usable)
Fuel capacity, std	480 lb (444 lb usable)
	112 gal (106 gal usable)
Fuel capacity, w/opt tanks	672 lb (636 lb usable)
Oil capacity, ea engine	8 qt
	12 cu ft; 270 lb (nose)
Baggage capacity	33.5 cu ft; 400 lb (aft)

Performance

Takeoff distance, ground roll	1,000 ft
Takeoff distance over 50-ft obstacle	1,280 ft
Accelerate-stop distance	2,700 ft
Rate of climb, sea level	1,250 fpm
Single-engine ROC, sea level	205 fpm
Cruise speed/endurance w/45-min rsv, opt fuel (fuel consumption, ea engine)	
@ 75% power, best power, 7,500 ft	174 kt/4.3 hr (63 pph/10.5 gph)
@ 65% power, best power, 11,000 ft	169 kt/4.8 hr (57 pph/9.5 gph)
Service ceiling	18,100 ft
Single-engine service ceiling	4,400 ft
Absolute ceiling	19,700 ft
Landing distance over 50-ft obstacle	1,590 ft
Landing distance, ground roll	980 ft

Limiting and Recommended Airspeeds

V_R (rotation)	74 KIAS
V_{MC} (min control w/critical engine inoperative)	73 KIAS
V_{SSE} (min intentional one-engine operation)	87 KIAS
V_X (best angle of climb)	83 KIAS
V_Y (best rate of climb)	91 KIAS

V_{XSE} (best single-engine angle of climb)	85 KIAS
V_{YSE} (best single-engine rate of climb)	87 KIAS
V_{A} (design maneuvering)	139 KIAS
V_{FE} (max flap extended)	113 KIAS
V_{LE} (max gear extended)	143 KIAS
V_{LO} (max gear operating)	143 KIAS
V_{NO} (max structural cruising)	161 KIAS
V_{NE} (never exceed)	208 KIAS
V_{S1} (stall, clean)	70 KIAS
V_{SO} (stall, in landing configuration)	61 KIAS

All specifications are based on manufacturer's calculations. All performance figures are based on standard day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.