BEECH 58 BARON

TO THE MANOR BORNE

For the pilot willing to maintain a high degree of proficiency, a new light twin can be a sensible and satisfying investment.

BY RICHARD L. COLLINS

When the light twin was born in the late 1950s, the first Beech effort was the Travel Air, with two 180-horsepower Lycomings. Based on the Bonanza fuselage and wing, the Travel Air was a good airplane, but other manufacturers were upping the ante on power, and Beech soon followed with the Baron, sporting two 260-hp Continentals.

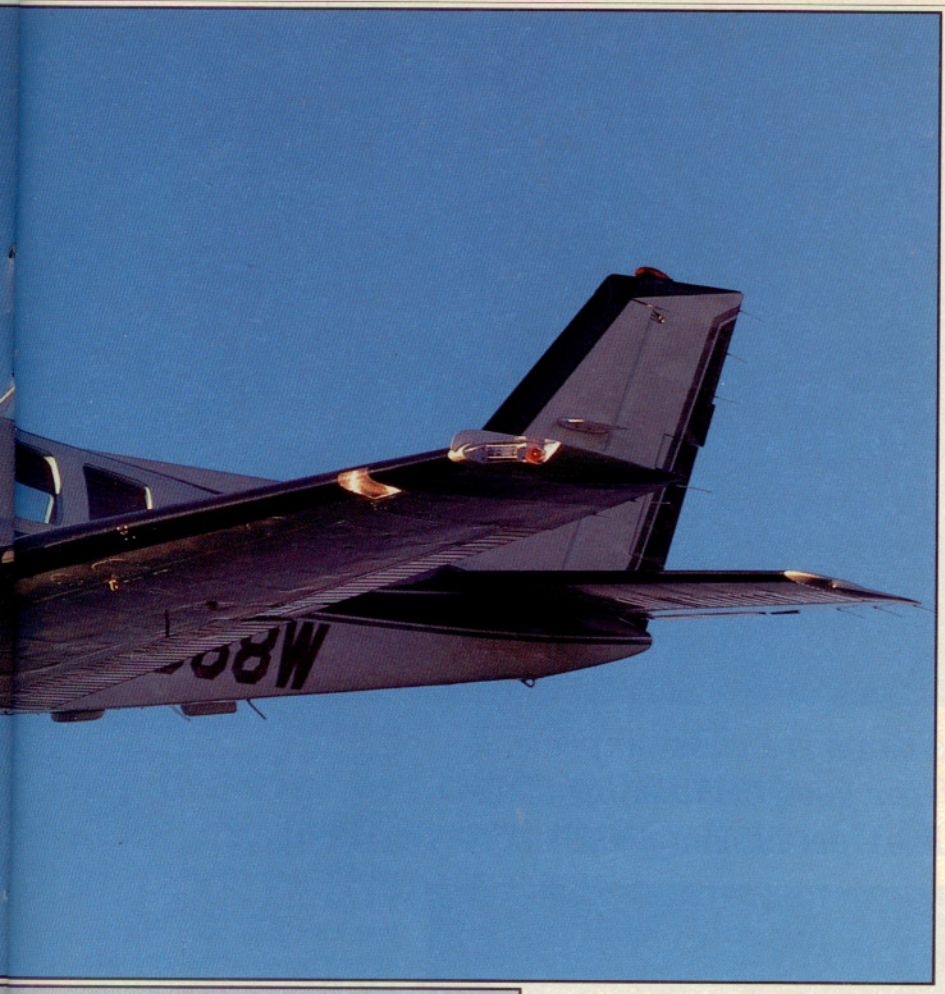
There followed a long line of Barons, including the 58s, which use the same fuselage shape as the Model 36 Bonanza. The most power ever put into a Baron was in the 56TC, which shared basic nacelles and 380-hp Lycomings with the Duke. Later, the long-body 58 was built in turbocharged and pressurized versions. Today only the normally aspirated Model 58 is in production; only one other light twin (under 6,000 pounds maximum takeoff weight), the Piper Seneca, is being built, and no medium piston twins are in production. Baron production is not great—six were delivered in the first half of 1988—but the airplane is available new, and that says a lot about its staying power in the current market.

Several things adversely affected the sale of light and medium piston twins, and all are worth relating to today's Baron. Light twins consist not only of the engines and the aluminum, they are formed by a history that caused an initial popularity among pilots to fade away like a strong old soldier.

Twins were often sold to professionals with the money to buy but without a lot of flying experience. No more. Because the accident history was not good, insurance rates on twins ratcheted upward. Originally rates were lower than for singles, then they became substantially higher. Finally, insurance became basically unavailable to low-time pilots. Prices of used twins dropped: Today a 10-year-old Baron is worth about 50 percent of its price when new; a Bonanza 36 at age 10 is worth an astounding 86 percent of its new list.

Where insurance is still a tough question on light twins—one insurance executive flatly stated, "I don't like them"—there are more answers now than in the recent past. Insurance is available, and, for example, if a pilot is stepping up from a Bonanza to a Baron, the conditions are likely to be more reasonable because of the similarity between the airplanes. The Baron school operated by FlightSafety International would likely be required, along with regular profi-

PHOTOGRAPHY BY MIKE FIZER



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ciency flying. If the pilot has little or no multiengine experience, 40 or 50 hours with a qualified pilot might also be required. After this, the maximum liability limits might be relatively low until the pilot gains some experience in the airplane. The days when you could get the rating in 10 hours at the local fixed-base operator and insure a twin the next day are gone forever. But the conditions under which you can buy insurance are more reasonable than a few years ago. As far as being able to buy insurance with no restrictions and no big upgrade in premium, you have to go in with 1,500 to 2,000 hours total time, 500 hours in multiengine aircraft, and some time in type. This has all been a very real factor in the light twin market.

Are the insurance companies so sticky for a reason? Yes, a very simple one. They lost a lot of money on light twins. A member wrote recently that he was thinking about trading his F33A for a Baron and wanted to know if there was anything to the old saying that twin safety is a myth. If he shopped for insurance, he would learn that at least the insurance companies think so.

There was never a false promise on safety in the airplanes themselves. The false promise was in the minds of the people who were buying the airplanes and in the perception of the World War II-generation pilots who were in general aviation in large numbers at the time the light twin came out. To them, two engines = safety. Period. If the engine on a single fails, you make an off-airport landing, right? Right. If one engine on a twin quits, you fly to an airport and land, right? Maybe. It certainly never proved to be automatic. All the light twins had marginal engine-out performance and demanded almost total perfection in flying technique should an engine fail. The unhappy result was that, in the heyday of the light twin, your statistical chances of being killed after one engine failed were four times greater than your chances of being killed in a single after the engine failed. This has likely improved somewhat because of pilot awareness of the problem.

The Federal Aviation Administration contributed to the safety record that led to the light twin's decline in two ways. First, for years the FAA demanded that engine-out minimum control speed demonstrations be done at the lowest possible altitude, "but not below 500 feet." If this were done today in a brand-new Baron 58, it would mean flying at

84 knots as low as 500 feet and pulling back one engine. Guess what the stalling speed of a Baron is with the flaps up? The same 84 knots. It was a period of idiocy in government regulation that cost a lot of lives and that cast a shadow over the viability of light twins that endures to this very day. If you don't fly them too slowly, you don't lose control, and the FAA was promoting flight at insanely low airspeeds.

The other FAA contribution was in something not done. If a person survived the low-speed, low-altitude shenanigans and got a rating, that was it. No further training or proficiency flying required for life. In studies of engine-out accidents in these airplanes not related to training, the pilots involved usually have a lot of multiengine time. What this tells us is that the pilot got a rating, bought a twin, and flew it successfully until an engine failed. Engines go for a long time, and by the time the failure occurred, the pilot had forgotten everything learned on the subject. Boom.

It is very unfortunate that all this happened because there are a lot of people who would rather have a twin than a single, the choices are down to two new ones, and questions abound.

The simple fact is that if we put the failures in training and proficiency flying in the past and get with the program, a light twin can be a better deal today than ever. All it takes is a high level of skill, operation off relatively large airports, and limiting takeoff weight if necessary to give adequate single-engine performance. This is not totally restrictive. On a standard day at sea level a Baron 58 at gross weight can lose an engine at rotation and still clear a 50-foot obstacle 6,000 feet from the start of the takeoff roll—but only if flown with absolute precision.

The Baron is a classy airplane. It offers a good blend of handling qualities, performance, and utility.

Do it right and the risk from engine failure can be managed and the other benefits of a twin can be enjoyed. They include having dual systems, having the option to continue flight to an airport if an engine fails, and enjoying the substantial rate of climb and measurable cruise speed advantage that the twin offers. In the Northeast, Baron pilots regularly take advantage of routings that go 40 miles out to sea to save a lot of miles; only strong swimmers do that in singles. Many are nervous at night in a single; a Baron soothes those nerves with the drone of two engines. If all the conditions are met, statistically a Baron may not be any "safer" than a Bonanza, but it certainly doesn't have to be any less safe. The vast majority of the twin-related accidents can be addressed with pilot skill. The rest of the wrecks—largely weather-related—have nothing to do with the number of engines on the airplane.

Cost is another item that assaulted the light twin. Higher insurance rates aside, soaring fuel prices soured the cost relationship between operating a single and a light twin. When fuel was 30 cents a gallon, a Baron burned $4.50 an hour more than a Bonanza. At two bucks, that becomes $30 per hour more to fly the twin. Two engines to overhaul, plus two props, is another factor. Probably $15,000 minimum for the Bonanza, twice that for the Baron. Another insidious factor worked on new twins. Pilots started opting for an ever-increasing list of avionics, pushing equipped prices higher. More and more started opting for a high-performance single with all the whistles and bells that came out at about the same price as a basically equipped twin.

Insurance, safety, and cost relative to singles were the big factors. While light twins may not soon sell in the same ratio

to singles they once did, they are still viable for a lot of pilots. And the Baron is a classy airplane in which to travel, one that offers a good blend of handling qualities, performance, and utility. It was with all the background of the light twin in mind that I went flying in a new Baron one stormy day in Wichita.

Beech developed a new instrument panel for the Baron a few years ago. Previously the panel had an arrangement that has become nonstandard, with the throttles in the middle, the prop controls on the left, and the mixtures on the right. The gear switch was on the right and the flaps on the left. All that is standard now, which is great, but to show how ingrained one can become about Baron flying, I tried to use the prop controls to reduce the manifold pressure on the first takeoff. We do need training when something changes.

The Baron accelerates well on takeoff, and the cruise climb is quite impressive: 136 knots and 1,500 fpm were the numbers this day.

The flight was conducted in moderate rain with some light turbulence, which is what enroute and maneuvering handling qualities are all about. I hand-flew, because although watching the autopilot is enjoyable, the other skill has to always be ready. The Baron's relatively light control forces are nice on the gauges, and in total it is a fingertip exercise. Barons show 200 knots as maximum cruise, and I have never heard anyone say that a Baron does anything other than meet or exceed cruise figures.

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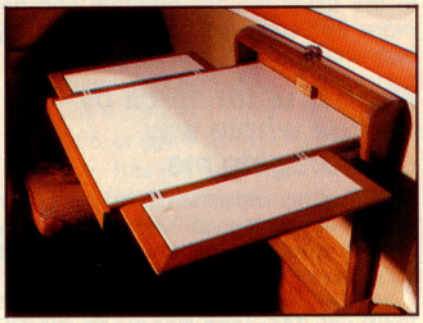

Two hundred knots is a neat cruise number, and coupled with the Baron's good climb it gives greater flexibility when westbound than is found in a turbocharged single and is a real rival on an eastbound trip, even in the wintertime. At 200 knots, the Baron can take 50 on the nose down low and still have a respectable number on the groundspeed. Eastbound, it will climb to 15,000 feet in 25 minutes and cruise 190 knots at that altitude while burning only 25 gallons per hour total. Having the extra power that is required to make the airplane climb 390 fpm with one engine operating pays off in a lot of other areas.

Because of the weather we didn't do any single-engine work in the airplane, but the last time I had flown a Baron 58 I landed with one prop feathered because of a ruptured diaphragm in a fuel pump. Then it was a simple matter of choosing a nearby large airport and flying a normal approach to that airport, mindful of the fact that I would be committed to the landing after extending full flaps.

The approach back into Beech Field this day was a good workout because

the approach had to be a circle, and the weather was right at minimums. Configuring the Baron for landing and the circle at 110 knots to a short final was not a high-pressure event, and the Baron's pitch stability in the landing configuration made holding the airspeed a relatively simple task.

One thing twins are is louder inside than most singles. The Baron is no exception. I don't know why as pilots we put up with this when, for not many dollars, an airplane can be equipped with headsets and an intercom. To put new airplanes out without intercom systems is to emphasize one of the few real weaknesses in contemporary general aviation airplanes.

The Baron has been used for a lot of things. It serves as a military and airline trainer, is used by the U.S. Forest Service, does yeoman work in air taxi and cargo flying, and serves well as a transport for companies. But a Baron is probably at its finest in the service of an individual, a proud individual who cares enough about using fine machinery to hone skills to a high level. □

Beechcraft Baron 58
Price as tested: $539,405

Specifications

Powerplants	Continental IO-550-C, 300 hp
Recommended TBO	1,700 hr
Propellers	McCauley three-blade, constant-speed, full-feathering, 77-in diameter
Recommended TBO	1,700 hr
Length	29.8 ft
Height	9.8 ft
Wingspan	37.8 ft
Wing area	199.2 sq ft
Wing loading	27.6 lb/sq ft
Power loading	9.2 lb/hp
Seats	6
Cabin length	12.6 ft
Cabin width	3.5 ft
Cabin height	4.2 ft
Empty weight, as tested	3,911 lb
Max ramp weight	5,524 lb
Max takeoff weight	5,500 lb
Useful load, as tested	1,613 lb
Max landing weight	5,400 lb
Fuel capacity, as tested	166 gal usable (996 lb)
Oil capacity, ea engine	12 qt
Baggage capacity	420 lb, 28 cu ft

Performance

Takeoff distance, ground roll	1,400 ft
Takeoff distance over 50-ft obstacle	2,300 ft
Accelerate-stop distance	3,000 ft
Accelerate-go distance	6,000 ft
Rate of climb, sea level	1,735 fpm
Single-engine ROC, sea level	390 fpm
Max level speed, sea level	208 kt
Cruise speed/endurance w/45-min rsv, 166 gal fuel (fuel consumption) @ Max cruise power, best economy	
	200 kt/4.3 hr
8,000 ft	(189.6 pph/31.6 gph)
Service ceiling	20,688 ft
Single-engine service ceiling	7,284 ft
Landing distance over 50-ft obstacle	2,450 ft
Landing distance, ground roll	1,425 ft

Limiting and Recommended Airspeeds

Vmc (min control w/critical engine inoperative)	84 KIAS
Vsse (min intentional one-engine operation)	88 KIAS
Vx (best angle of climb)	92 KIAS
Vy (best rate of climb)	105 KIAS
Vxse (best single-engine angle of climb)	100 KIAS
Vyse (best single-engine rate of climb)	101 KIAS
Va (design maneuvering)	156 KIAS
Vfe (max flap extended)	122 KIAS
Vle (max gear extended)	152 KIAS
Vlo (max gear operating)	
Extend	152 KIAS
Retract	152 KIAS
Vno (max structural cruising)	195 KIAS
Vne (never exceed)	223 KIAS
Vr (rotation)	85 KIAS
Vs1 (stall, clean)	84 KIAS
Vso (stall, in landing configuration)	75 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. □