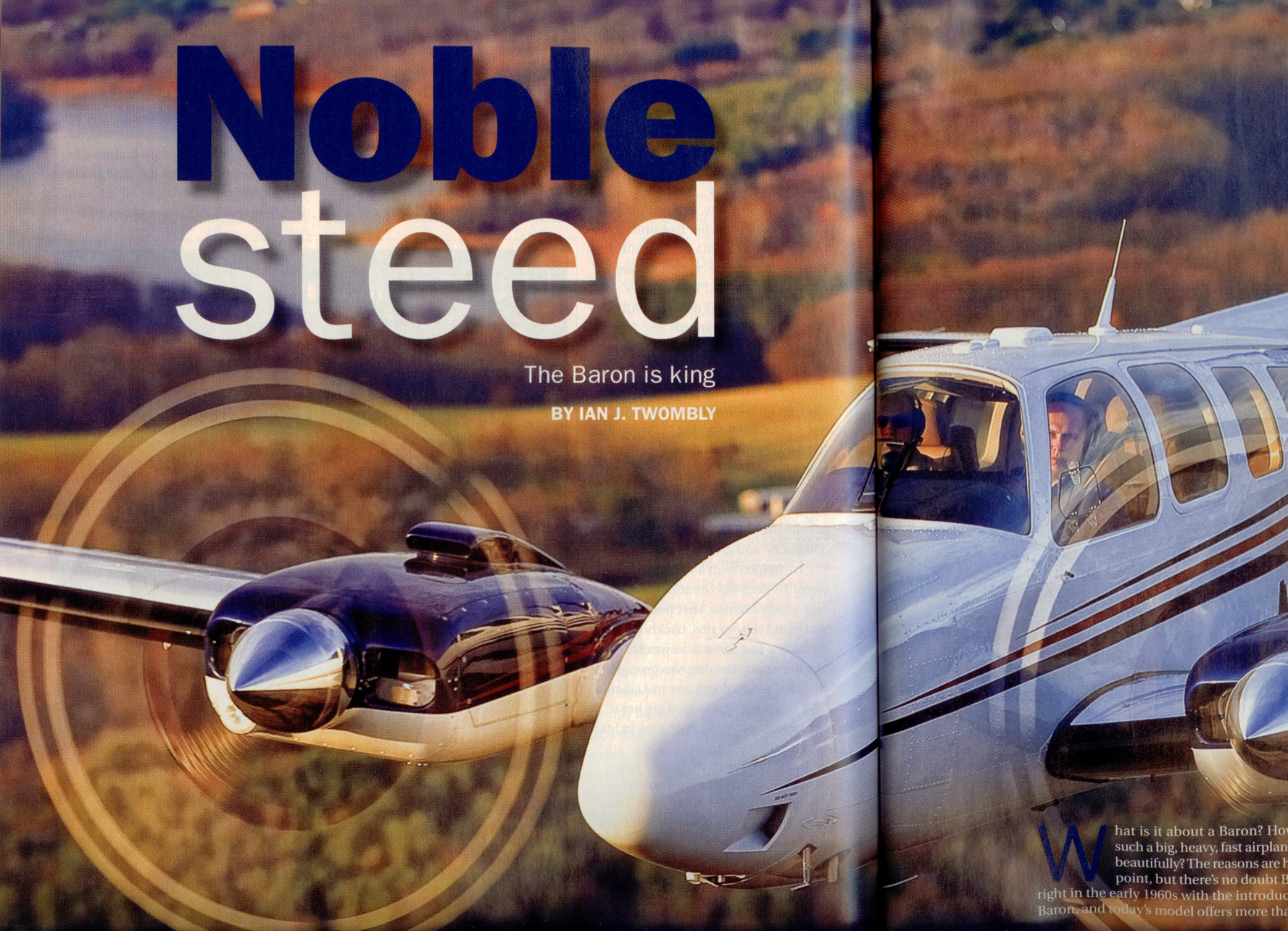
Noble steed

The Baron is king

BY IAN J. TWOMBLY



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What is it about a Baron? How is it that such a big, heavy, fast airplane can fly so beautifully? The reasons are hard to pinpoint, but there's no doubt Beech did it right in the early 1960s with the introduction of the Baron, and today's model offers more than ever.

A long history

The Beech 55B Baron came to market in 1961 as an updated version of the model 95 Travel Air. If the Baron looks suspiciously like a Bonanza, that's because in many ways it is. The fuselage is the same from the front of the cabin to the empennage. Pilots who have flown the Bonanza will immediately feel at home in the Baron thanks to its carbon-copy cabin layout and familiar handling characteristics. The two also share the same wing design, although the Baron's are longer to accommodate the engines and additional fuel. In fact, the two are so similar that today Hawker Beechcraft markets the airplane as an "all-weather Bonanza."

The reason for the similarities is simple. Not only does the familiar design encourage customers to move up within the Beechcraft line—and move up they do—but it also reduces development, production, and maintenance costs.

PHOTOGRAPHY BY CHRIS ROSE

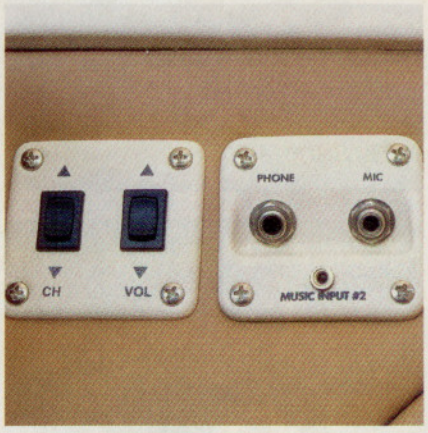
Much has changed with the Baron even if the name's been the same since 1961. The engines have swelled from Continental IO-470s rated at 260 horsepower to today's 300-hp Continental IO-550s. The maximum gross weight also has climbed 620 pounds to the current 5,500 pounds. The fuselage was stretched in 1970 from the original four-passenger version to six total seats. The 1970 model was designated the B58 and is largely the same airframe that is produced today.

There have been airframe tweaks here and there, but the basic airplane has remained the same. Where things have really taken a leap forward is in the avionics and other equipment. Today's Baron is called the G58 and was introduced in 2006 with a Garmin G1000 integrated electronic flight display system.

You won't find turbocharging or pressurization in the product line any more. The reason? Competition. Because Beechcraft wants customers to move up and buy a King Air C90GTi—50 percent of King Air buyers previously owned a Bonanza or Baron—the company has to keep the airplanes far enough apart in performance to make a buyer justify the jump. With pressurization and turbocharging, it's possible that price and performance would make the Baron too competitive within its own family.

All-weather Bonanza

Perhaps most striking about the current Baron is its price. According to Hawker Beechcraft Regional Sales Director Trevor Blackmer, the typical equipped price for a Baron is roughly $1.2 million. Why is the Baron so expensive when new jets are on the market for that price? "Because we know what it costs to build and support an airplane," Blackmer said. It's an astounding amount of money—an amount that might cause one to think that Beechcraft wouldn't sell any at that price. To the contrary; as of mid-November 2008, Baron production was sold out through June 2009, and Blackmer said the airplane isn't being discounted even in this economy. But if that sounds like too much money for a piston twin, chances are you haven't been inside one or had the opportunity to fly it.



The Baron's instrument panel is clean and logically organized, thanks to the Garmin G1000 (above). Switches are all color-coded by system to make for quick recognition (right, top). Aft passengers have their own XM radio controls (right, center). One look at the aft seating area lets one know why the Baron is part of the company's executive line of aircraft (right).

SPECSHEET

Beechcraft G58 Baron
Base price: $ 1.1 million
Price as tested: $ 1.2 million

Specifications

Powerplants.....Two Teledyne Continental IO-550-C, 300 hp
Recommended TBO.....1,700 hrs
Propellers.....Two Hartzell 3-blade, 77-inch diameter, constant speed
Length.....29 ft 10 in
Height.....9 ft 9 in
Wingspan.....37 ft 10 in
Wing area.....199.2 sq ft
Wing loading.....27.6 lb/sq ft
Power loading.....9.17 lb/hp
Seats.....6
Cabin length.....12 ft 7 in
Cabin width.....3 ft 6 in
Cabin height.....4 ft 2 in
Empty weight.....3,880 lb
Max ramp weight.....5,524 lb
Max takeoff weight.....5,500 lb
Useful load.....1,644 lb
Payload w/full fuel.....480 lb
Max landing weight.....5,400 lb
Zero fuel weight.....5,215 lb
Fuel capacity, std..200 gal (194 gal usable) 1,200 lb (1,164 lb usable)
Oil capacity, ea engine.....12 qt
Baggage capacity.....120 lb, 10 cu ft

Performance

Takeoff distance, ground roll.....1,400 ft
Takeoff distance over 50-ft obstacle.....2,350 ft
Accelerate-stop distance.....3,000 ft
Accelerate-go distance.....2,600 ft
Max demonstrated crosswind component.....22 kt
Rate of climb, sea level.....1,700 fpm
Single-engine ROC, sea level.....390 fpm
Max level speed, 6,000 ft.....202 kt
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption, ea engine)
@ 25 in and 2,500 rpm, best economy, 10,000 ft.....193 kt/7 hr (75 pph/12.5 gph)
@ Full throttle and 2,300 rpm, best economy 10,000 ft.....183 kt/7.75 hr (67.2 pph/11.2 gph)
@ Full throttle and 2,100 rpm, best economy, 10,000 ft.....167 kt/9hr (55.8 pph/9.3 gph)
Service ceiling.....20,688 ft
Single-engine service ceiling.....7,284 ft
Landing distance over 50-ft obstacle..2,500 ft
Landing distance, ground roll.....1,425 ft

Limiting and Recommended Airspeeds

V_{MC} (min control w/critical engine inoperative).....84 KIAS
V_{SSE} (min intentional one-engine operation).....88 KIAS
V_X (best angle of climb).....92 KIAS
V_Y (best rate of climb).....105 KIAS
V_{XSE} (best single-engine angle of climb).....95 KIAS
V_{YSE} (best single-engine rate of climb).....101 KIAS
V_A (design maneuvering).....156 KIAS
V_{FE} (max flap extended).....152 KIAS
(full down).....122 KIAS
V_{LE} (max gear extended).....152 KIAS
V_{LO} (max gear operating)
Extend.....152 KIAS
Retract.....152 KIAS
V_{NO} (max structural cruising).....195 KIAS
V_{NE} (never exceed).....223 KIAS
V_R (rotation).....85 KIAS
V_{S1} (stall, clean).....84 KIAS
V_{SO} (stall, in landing configuration)..74 KIAS

For more information, contact the Hawker Beechcraft Corporation, 10511 East Central, Wichita, Kansas 67026, 316-676-5034. 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.

Upper air inlets on the engine nacelles are less conducive to icing, and lend a more agressive look to the powerful airplane (below). Fully enclosing gear doors make for a more aerodynamically efficient airplane (bottom).

Today's Baron is a well-refined machine. Beechcraft has tweaked this airplane in all the right ways, and it appeals to both pilots and passengers alike. Up front, the WAAS-enabled G1000's standard two-screen layout makes a clean, organized panel with capability that rivals an airliner's.

Garmin's GFC 700 integrated autopilot comes standard with the G1000. The result is a robust flight control system that takes the G1000 to the next level—literally. Flight level change, or FLC, enables the autopilot to make constant-airspeed climbs and descents, an especially handy feature in a fast airplane like the Baron. A go-around button is standard on the left throttle. It disengages the autopilot, sets the flight director for the proper go-around attitude, and sequences the missed approach on the GPS.

Terrain and TIS-based traffic (delivered via a transponder from certain radar facilities) are standard on the multifunction display. Lightning, TAS-based traffic (an active traffic system), and datalink weather are options. One nice standard feature is Garmin's GWX 68 color weather radar with selectable scan. Blackmer said the Baron is the first to offer both the radar and GFC 700 standard with the G1000.

Color weather radar is one piece of what helps to make the Baron all-weather. Full deice boots, a windshield hot plate, fuel vent heat, pitot heat, and a

few more pieces are the real workhorses of this system, and make the Baron certified for flight into known icing. According to Blackmer, the Baron will easily take continuous light ice, and will allow the pilot time to seek better conditions if faced with moderate icing.

The cockpit workload to handle all these systems is reduced, thanks to a color-coded bank of switches that groups systems together. Bonanza pilots will find the layout quite familiar. Beechcraft has added an array of features to the pilot's yoke, making it look more like the stick on an F-16 than a mid-size general aviation twin. Aside from the usual suspects of electric trim, push to talk, autopilot disconnect, and control wheel steering, the pilot will find a light, a switch to clear lightning and cell data from the MFD, and a radio playback button that brings up the last 150 seconds of radio communications. Standard back-up instruments, including an electric attitude indicator, further enhance flight safety.

There's little a pilot could even think to add to the Baron's panel, except for synthetic vision on the G1000. Blackmer said a software upgrade with synthetic vision is scheduled to be added after the G58 obtains European certification, which is expected early this year.

Maximum comfort

With a 200-knot traveling airplane such as the Baron, good load carrying capability, solid range, and creature comforts are a must. The Baron does all these things well. Standard useful load runs in the range of 1,640 pounds. Weight distribution isn't a problem, mainly because of a 300-pound-capacity baggage compartment in the nose. And yes, two sets of golf clubs will fit in there nicely. Usable fuel is 194 gallons, giving the airplane a range of anywhere from 915 nautical miles to 1,332 nautical miles, depending on power setting, load, and altitude. Individual on-wing fuel gauges make partial fuel loads much easier to calculate, which is a good thing considering the standard full-fuel payload of only 480 pounds.

In back, four leather seats in a club configuration, a stowable table, a big entry door, separate air conditioning blower, big windows, and separate satellite radio controls make the passengers feel comfortable. Up front, a relief tube makes a potential eight-hour endurance possible.

Saddle up

Barons have a fantastic ramp presence. This is an airplane that says something about its owner. It stands tall and proud, as if reminding other pilots that its owner has reached what many consider to be the pinnacle of piston aircraft ownership. It's a twin—that lends instant street cred. But more than that, it's fast, has nice lines, and flies as an airplane should.

Open the large cargo doors in the back and your eyes are drawn to the table and comfortable leather seats. It's cozy and inviting, complete with requisite cup holders. The two rear seats easily come out for more legroom or to accommodate large items. The middle two seats can be reversed for a more traditional four-place seating configuration.

Up front, it's all Beechcraft. The panel layout has been hugely simplified, thanks to the G1000, but otherwise the cockpit is familiar. Pilots with longer torsos will be happy to know that the seat no longer goes up and down, meaning the equipment necessary to make that happen has been removed, resulting in

With 600 horses, the airplane launches more than it takes off.

more headroom. Cockpit width is still relatively slim at 42 inches.

With 600 horses, the airplane launches more than it takes off. This is especially true if you hold the brakes while bringing up full power, as we did in the demonstration flight. We saw a healthy climb rate of 1,800 feet per minute near sea level, near the Baron's maximum gross weight. That means things happen fast, which is a trend in the Baron. This airplane is not meant for new multiengine pilots, who probably shouldn't be flying it without extensive training. In that sense, it's more like a cabin class twin than a trainer.

Once leveled off at 11,000 feet, we saw 200 knots true airspeed at 20.3 inches and 2,500 rpm, while burning 32 gallons per hour. Running lean of peak from that power setting, the speed dropped off to 194 knots true, but fuel consumption plunged to 26 gallons per hour total. While it's true the Baron gulps more fuel than its single-engine brother, a more apples-to-apples comparison can be made by dialing the power back to 2,100 rpm, which gives 170 knots. That's roughly the speed a Bonanza cruises at on 18 gallons per hour, according to Blackmer. Lean of peak, the Baron can do that at 22 gallons per hour. That's a penalty only of four gallons an hour for the reward of redundancy and all-weather capability (although the comparison overlooks the fact that many Bonanza owners fly lean of peak, too).

Airwork is straightforward. Steep turns are a treat in the Baron, as they fully exemplify the airplane's wonderfully smooth control response. Single-engine operations are made easier by the abundance of power. Although the published single-engine service ceiling is 7,284 feet, cold temperatures pushed us up 400 feet per minute at 11,000 feet on one engine during the evaluation flight. Rudder and aileron trim make it easy to maintain cruise flight on the single engine. Losing an engine after takeoff puts most airplanes in a true emergency situation. But with 300 horsepower still pushing the airplane along, even the dreaded engine-out-after-takeoff scenario results in a respectable and relatively uneventful climb to safety.

Single-engine operations are made easier by the abundance of power.

To top things off, if the cabin amenities and fast cruise speeds don't impress the passengers, the landing will. It takes a load of back pressure, but once you are prepared for that, most pilots agree no other airplane of this size lands as sweetly as a Baron. It's the final touch to a well-built, beautiful flying airplane.

There's a reason Beech named its airplanes after titles of nobility. Climb in or out of your new Baron on the ramp and you will truly feel like a nobleman. AOPA

A fully enclosed gear is one of a handful of features that makes the Baron a stand-out airplane.

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