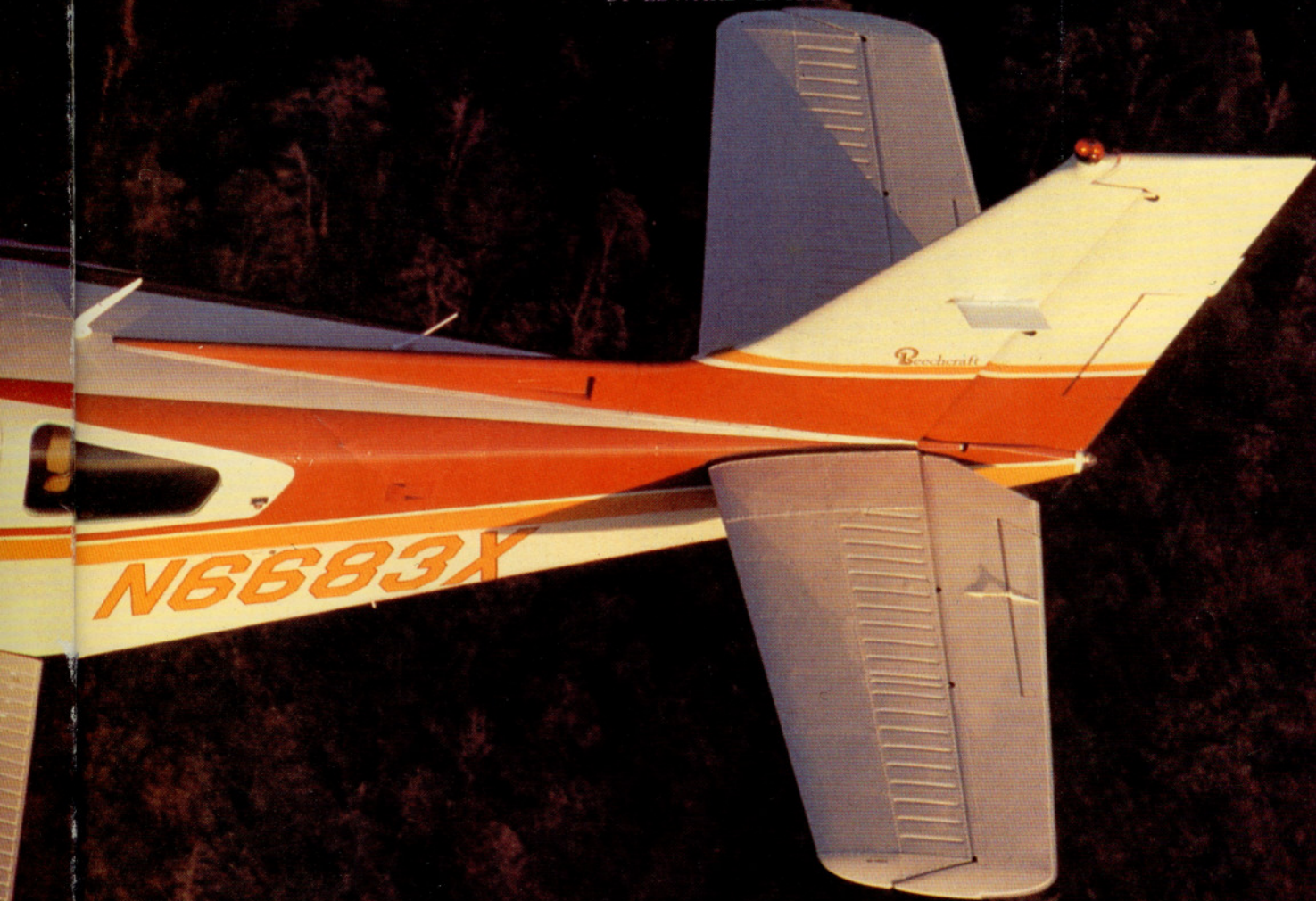


The B55 Baron

If it works, don't change it.

BY EDWARD G. TRIPP



The approaches to the southern airport were jammed with jet transports loaded with tourists. They arrived with the predictability the railroads once had. We had to check a repair to the autopilot navigation couplers before leaving and were happy to have ATC so accommodating during a high traffic period. All they asked for was sufficient speed to fit in with the heavies.

"Please keep your speed up to the marker. Can you keep it up to the threshold?"

"How much do you want?"

"How much can you give us?"

"Is 175 enough?"

"150 knots will do."

That was fine, because it meant we could keep the gear down. Gear and approach flaps in the Beech B55 Baron can be extended at up to 153

indicated at gross weight.

Of course, a normal approach in the B55 is flown considerably slower, 110 to 120 knots, and racing down a glideslope is hardly recommended technique. The point is that the capability is there should conditions ever require it.

We would not do it in just any airplane, either. The smallest Baron is a combination of capabilities and

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qualities that generate a high degree of confidence. It is strong. Flight load factors at gross weight (5,100 pounds) are 4.4 Gs positive and 3 Gs negative with the flaps up. This and the high gear- and flap-extension speeds, the strong gear (tested to 600 feet per second) and the relative speed with which the gear retracts and extends make ATC-requested deviations from normal, sedate and well-programmed descents and approaches less work intensive than with other aircraft.

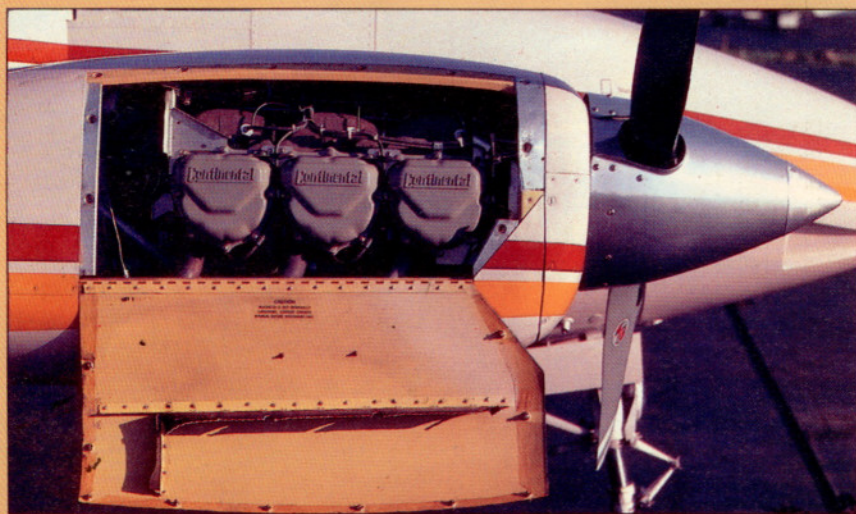
Washington National Airport often is used as an example of high-density mixed traffic. Approaching from the north or south, there are three crossing runways that regularly are used simultaneously. Fortunately, the ATC people who work the field are efficient and cooperative.

To fit into the normal flow, a pilot must know the area, the equipment

If timing does not work out just right, one can get a lot of practice making go-arounds at National, too.

Being able to comply with ATC requests in such situations does not mean one is Ace Fighter Jock. But it does mean that one or two or even more kerosene queens do not have to go around, further fouling up the approaches of several other aircraft. It does mean that one has to know, know how to use and have confidence in his airplane.

There are a lot of general aviation aircraft in which there are several decisions or even potential problems that confront a pilot being held to relatively high altitude and speed close in to an airport, then asked for a short landing to boot. Or one given a go-around after a high, hot approach in the middle of a desperate transition to something-close-to-nor-



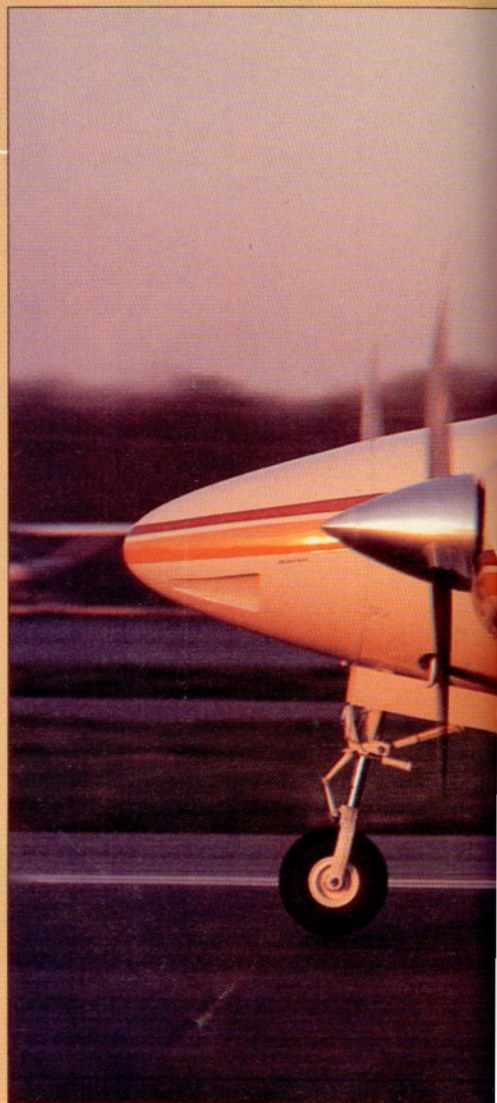
mal landing configuration and speed.

Things can get out of hand. Fast. A typical VFR approach might include being handed off to the tower on a downwind leg anywhere from 3,000 to 6,000 feet above the runway. A pilot may be asked to change runways while on short final. (My personal record was made the day I was at 200 feet, heading for Runway 36, when the tower asked if I would take Runway 33 instead. After complying, I was asked if I could switch over to 3, just as I thought the flight was over. Of course, they wanted me to keep the speed up as much as possible and wanted to know if I could hold short of 36 during rollout.

With time and practice, the B55 is a very comfortable airplane to fly in such situations. The controls are light, well harmonized and very responsive. It does not feel like a relatively heavy airplane. In fact, quite a few pilots find it too light; the tendency is to overcontrol, particularly in pitch.

Control surfaces are balanced internally; the cables are pre-stretched; the trim tabs are fully hinged and there are tabs on each elevator. The relationship between the yoke and the rudder pedals and the control surfaces is tight and quick.

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Engine compartment access is easier than in many twins. Solid gear and doors aid performance in high-traffic areas.

Aileron, elevator and rudder trim are standard. We used aileron trim quite a bit in the latest B55 we have flown, N6683X. The aircraft had little more than ferry time and had just had avionics installed. It was out of rig and required a lot of trimming.

The other aspect of the crisp, light controls is higher workload in turbulent air. The King KFC-200 autopilot in the airplane failed during one flight when the workload was high because of turbulence, constant communications and a lot of map reading. The Baron needed constant attention because of the turbulence and out-of-rig condition. The trip demonstrated

the value of boom mikes and, at the very least, something to hold the wings level. Fortunately, the physical workload is not high because the airplane is so responsive.

The airplane is somewhat of a sleeper. The Model 55 Baron was introduced in 1961. Unlike other aircraft of that vintage, very little about the 55 series has changed since it was spawned from the Travel Air. The most apparent change to the fuselage is an extended nose, providing good avionics and baggage space up forward, which was introduced in 1964 and is practically all that differentiates the A model from the B.

Nearly 2,200 units have been produced in the 19-year production life of the Baron. For a few extra dollars, the present version is available with a few extra features, such as an extended rear baggage bay, which is particularly useful to have if the optional fifth and/or sixth seats are installed; and the large baggage door first introduced on the 285-hp Baron.

There might be something to the light aircraft industry's philosophy of emulating the automobile manufacturers—the new, all-new Belchfire every single year. The all-new is usually a marketer's illusion conjured in collusion with a sheet-metal expert, with nothing changed under the skin. Nevertheless, it excites enough people to visit the showroom when the new models are on display. Possibly the relative lack of change to the B55 has made it less talked about than its more powerful variants, the E55 and the Model 58.

It also could be that pilots think of it as small or smaller and, therefore, less capable than the competition. The difference in size between the B and E model Barons is slight, as it is between them and the Piper Aztec and the Cessna 310.

Yet a lot of people considering light twins go right past the B55. Within the Beechcraft product line, the tables may have been turned a bit this year, however. Only 15 Model

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E55s will be built as opposed to 86 of the B55s. It seems that the 58 series, with its longer cabin and greater loading flexibility, is eclipsing the E55, while the lower initial and operating costs of the B55 is more appealing to prospective buyers who do not need the space. The \$32,250 base-price difference buys a lot of equipment or fuel.

Even with the high initial and operating costs of twin-engine versus single-engine aircraft, a lot of prospective operators will prefer twins for redundant systems, if for nothing else. For pilots of the twin-engine persuasion, the B55 is a compelling competitor.

The aircraft we used for the basis of this article, N6683X, is an average-equipped version. No anti-icing or deicing equipment, except for alcohol

anti-icing for the propellers and windshield. No radar. But six seats, a good avionics package, higher capacity alternators and batteries, 142-gallon (136 usable) fuel tanks and other utility and comfort options, including a highly desirable one—soundproofing (32 pounds and \$625).

The B55 is just about as noisy as any other twin. We have flown a few with optional three-bladed propellers, which weigh an additional 46 pounds and cost \$2,530. In our subjective opinion, the reduction in both noise and vibration make this option a useful investment.

The equipped price of N6683X (\$201,436) includes nearly \$42,000 worth of avionics and autopilot. The B55's base price, \$141,500, shows what has happened in just five years to new aircraft costs when compared



An organized cockpit and good visibility aid heads-up flying, despite non-standard controls.



with the 1975 base price of \$89,000. One office wag points out that a six-pack of good beer has more than doubled in that time, too, and that all things are relative. Some hurt more than others, though.

Given the various price levels of general aviation aircraft, the B55 is competitive with other twins of similar performance and capability. With full tanks (the 136-gallon usable option), 83X has a payload of 902 pounds and enough flexibility in load distribution among the cabin, nose and aft baggage bays to use it all. There are no zero-fuel-weight or landing-weight limitations, either.



Speeds, range and fuel flow also are competitive, and the B55 operates fairly well at higher altitudes. For instance, on a standard day at 14,000 feet, full throttle and 2,300 rpm, the airplane will cruise at 170 knots and burn about 20 gph, which is competitive with quite a few of the larger single-engine airplanes. With the same settings at 10,000, it will true 176 knots and burn 22 gph.

Pilots who are new to the Baron will find a few things different in the cockpit that could cause problems, particularly for those who tend to do things by rote rather than with a checklist and constant verification.

The power quadrant levers are not arranged in the standard positions of throttle, propeller and mixture; the propeller levers are on the left and the throttles in the center. Any adjustment must be verified before any movement is made, until the pilot is accustomed to the non-standard arrangement. The task is eased because the throttle levers are longer than the propeller and mixture controls. Another good feature of the power controls is that the gauges that correspond to the controls are directly above them on the panel: tachometer above the propeller controls, manifold pressure above the throttles and

fuel flow above the mixture levers.

The flap and gear selectors also are reversed from the standard locations, with the flap selector and indicator to the left of the power quadrant and gear on the right. Again, great care must be taken to ensure you are about to move the one you want.

Both the B and E models have this non-standard arrangement of controls, yet the 58 series and the Model 60 Duke have the standard arrangement. So pilots moving up the line have to learn all over again.

Some people feel that Beechcraft is trapped in its own Catch 22: there are potential problems whether it leaves

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the controls as they are or changes them to standard. My personal opinion is that Beech should standardize, despite the potential hazard that would confront operators of several Barons or those moving from an older, non-standard model to a new, standard version.

The rest of the cockpit arrangement is very good, very logical. It is easy to learn where everything is, which is good because the control column blocks the pilot's view of much of the sub-panel below the flight instruments, where the electrical subsystems and other controls are located. It also blocks ready view of the trim controls and indicators, particularly when the optional, dual-control column is installed (which is the way

most B55's are ordered. The standard, single-yoke control versions are not approved for flight instruction).

The cockpit is comfortable, the seat position good and visibility about the best of any of the light twins. There is lots of space for charts, approach plates and other paraphernalia. A pull-up center armrest and adjustable pilot's seat (reclining mechanism is optional for the second, third and fourth seats) make long trips more comfortable. These, plus adjustable rudder pedals, enable pilots of varying sizes to be comfortable.

One other potential problem we uncovered in the cockpit is that it is relatively easy to hit the lower magneto switch (the outside air temperature gauge and magneto switches are

mounted on a sub-panel on the left cabin wall) with an errant knee, knocking it from Both to Right. It has happened enough times to make checking the mag position a regular part of the cockpit scan.

Passengers are well treated in the B55 cabin, particularly those in the third and fourth seats. The seats are high and comfortable, and legroom is very good, even with tall people up front. All the pleasant comfort touches are there: individual reading lights and air outlets, for instance; and the large side windows add a sense of space to the good view.

The optional fifth and sixth seats should be considered occasional or children's seats. Aside from the loading considerations, they are a bit hard to get to, even with the extended rear cargo door, and there is less legroom and lower chair height. They do come in handy at times and can be strapped up out of the way when they are not. However, when installed, they have headrests, reading lights, shoulder harnesses and air vents, so its not like riding steerage back there.

It is possible to customize the Baron to a greater extent than with other light twins. The list of options is long, including interior choices. While the B55 is not approved for flight into known icing conditions, even with the available package of anti-icing and deicing equipment, protection sufficient to get out of icing is available. There is enough space on the panel and in the nose bay for radar (seven different sets are factory options). And the avionics and autopilot options run for five pages. In other words, it can be equipped with all the available whistles, bells and other aids.

Shoppers who do not want a standard interior have a sufficient choice of colors, materials and little touches to please an interior designer.

For those with the need and the bank balance who do not equate quality with ostentation, the B55 is a very attractive and satisfying airplane. Good flying qualities; intelligent cockpit arrangement; quality accessories, materials and features; comfort; competitive performance with relative operating economy. All of these make the B55 a strong competitor. □



Passengers riding in the third and fourth seats get the best in the house: comfortable and spacious, with a good view.

Beechcraft 95-B55 Baron

Basic price \$141,500

Price as tested \$201,436

Specifications

| | |
|--|--|
| Engine | Teledyne Continental IO-470-L, 260 @ 2,625 rpm |
| Recommended TBO | 1,500 hr |
| Propeller | McCauley, constant speed, full-feathering 78 in |
| Wing span | 37 ft 10 in |
| Length | 28 ft 0 in |
| Height | 9 ft 7 in |
| Wing area | 199.2 sq ft |
| Wing loading | 25.6 lb/sq ft |
| Power loading | 9.8 lb/hp |
| Passengers and crew | 4-6 |
| Cabin length | 10 ft 1 in |
| Cabin width | 3 ft 6 in |
| Cabin height | 4 ft 2 in |
| Empty weight | 3,233 lb |
| Empty weight as tested | 3,403 lb |
| Useful load (basic aircraft) | 1,888 lb |
| Useful load (as tested) | 1,718 lb |
| Payload with full fuel (basic aircraft) | 1,288 lb |
| Payload with full fuel (as tested) | 902 lb |
| Maximum ramp weight | 5,121 lb |
| Maximum takeoff weight | 5,100 lb |
| Maximum landing weight | 5,100 lb |
| Fuel capacity | 106 gal (100 usable) |
| Fuel capacity (w/opt tanks) | 142 gal (136 usable) |
| Oil capacity | 12 qt |
| Baggage capacity (4-seat configuration) | |
| Nose | 300 lb (12 cu ft) |
| Rear | 400 lb (35 cu ft) |
| Aft | 120 lb (10 cu ft) |

Performance

| | |
|---|-----------|
| Takeoff distance (ground roll) | 1,400 ft |
| Takeoff over 50 ft | 2,154 ft |
| Rate of climb (gross weight) | 1,693 fpm |
| Single-engine rate of climb (gross weight) | 397 fpm |
| Maximum level speed (SL) | 201 kt |
| Cruise speed | |
| 77% power, 6,000 ft | 188 kt |
| 66% power, 10,000 ft | 184 kt |
| 56% power, 12,000 ft | 173 kt |
| Range, with 45-min reserve | |
| @ 77% cruise (6,000 ft) | 798 nm |
| @ 66% cruise (10,000 ft) | 907 nm |
| @ 56% cruise (12,000 ft) | 991 nm |
| Service ceiling | 19,300 ft |
| Single-engine service ceiling | 6,400 ft |
| Landing distance (ground roll) | 1,467 ft |
| Landing over 50 ft | 2,148 ft |
| V _{si} (Stall speed clean) | 79 kt |
| V _{so} (Stall speed with gear and flaps down) | 73 kt |
| V _{mc} (Minimum control speed with critical engine inoperative) | 78 kt |
| V _{yse} (Best single-engine rate-of-climb speed) | 99 kt |
| V _{xse} (Best single-engine angle-of-climb speed) | 91 kt |
| V _{sse} (Intentional one-engine- inoperative speed) | 84 kt |
| V _{fe} (Maximum flap-extended speed) | 153 kt |
| V _{le} (Maximum landing-gear- extended speed) | 153 kt |
| V _a (Design maneuvering speed) | 157 kt |