

■ ■ There was another general aviation show at Wichita recently, so I flew my venerable though reliable Twin Comanche (see October PILOT) out for the doings.

Actually, considering what I was flying out to see, my little twin looked even more modest than usual. One of the planes that were part of the Big Show was Cessna's new turboprop twin, the 441. Cessna showed and told us almost everything about the new plane except the price, but I estimate that it will be between \$510,000 and \$600,000.

There was a second new Cessna model, but all we saw of it was that it was standing in a show room, without turning a wheel. It was the Titan, a new 400-series Cessna with Continental piston engines. The Titan is almost a dead ringer for the 441, or vice versa. The measurements are within tenths of an inch of being identical. The wings and tail are virtually interchangeable. The basic design is the best-looking 400 in

the entire series.

The third new model introduced was Beech's pressurized Baron, a delightful plane and much more in my personal class—except that the demonstrator I flew to lunch (down to Tulsa) listed at \$255,000, which is just 10 times the value of my little pet, even though it's officially a "light twin." Basic list price of the pressurized Baron—without air in the tires, as I usually describe these prices—is \$188,500, or eight times the value of my Twin Comanche.

The main concentration at Cessna was on the 441, which is the only identification the company has given the new turboprop so far. But that introduction was handled with imagination. There was quite a press—and public—turnout for the 441's first flight, which went with neatness and dispatch. After quite a buildup about its being absolutely the first flight of the new design, the test was conducted at Wichita Municipal Airport, with a jet Citation

Wichita's Newest Twins

From Cessna, the company's first turboprop (the 441) and a new corporate/commuter entry (the Titan); from Beech, a pressurized Baron

by MAX KARANT / AOPA 18



Prototype 441 being readied for first flight. Cessna's pressurized propjet will seat 10 and cruise at better than 320 mph. Photo by the author.

tagging along as chase plane. All of the conversation between the pilots of the two planes was over a discrete radio frequency and was piped into a public address system in the hangar that served as the base for the whole operation. So everyone presumably heard everything that was said and made copious notes.

The 441 performed without a hitch. I'd studied the advance paperwork that was distributed at the hangar and found the numbers impressive. Takeoff gross weight was 9,500 pounds, useful load was 4,530 pounds (47.7% of gross), and the specifications call for this plane to carry 10 people a maximum of 1,335 miles at over 300 mph at 33,000 feet,

CESSNA 441*

Specifications

Engines	2 Garrett AiResearch TPE-331-8-401 turboprop, flat-rated at 620 shp to 16,000 ft
Seats	8 to 10
Length	39.0 ft
Height	13.1 ft
Wingspan	46.3 ft
Wing area	242 sq ft
Gross weight:	
Ramp	9,575 lb
Takeoff	9,500 lb
Landing	9,300 lb
Empty weight	5,045 lb
Useful load	4,530 lb
Usable fuel	450 gal

Estimated Performance

Range, max cruise power, 45-minute reserve:	
5 people at 17,000	1,335 sm
5 people at 33,000	2,106 sm
10 people at 17,000	869 sm
10 people at 33,000	1,335 sm
Max speed (16,000 ft)	325 mph
Max cruise speed (17,000 ft)	322 mph
Takeoff roll over 50-ft obstacle	2,455 ft
Landing roll over 50-ft obstacle	2,425 ft
Rate of climb, sea level:	
Twin engine	2,405 fpm
Single engine	700 fpm
Service ceiling:	
Twin engine	33,200 ft
Single engine	18,350 ft

*Customer delivery scheduled for 1977.

which is quite some respectable performance. It's right up there, pushing six real and imagined competitors in the turboprop market. Cessna apparently considers its No. 1 competitor for the 441 to be Piper's Cheyenne (which they kept referring to erroneously, both in print and verbally, as the "Chieftain").

The 441 is purely experimental. It's not intended for immediate FAA certification; first deliveries are scheduled for

1977. Primary reason Cessna wouldn't talk about the price is that the company's costs from suppliers are in such a state of flux that they can't even guess what they'll be for the 1977 market.

I listened to a lot of engineering jargon over that loudspeaker hookup, and it was clear that the 441 was doing very well. For the first flight, tests were confined to takeoff, landing, gear and flap extension at 10,000 feet, and general maneuverability. The test pilot (Gerry Baker), and the Citation pilot both reported normal, routine results. The projected stalling speed of the 441 is 75 knots; I heard the pilot report 61 with full flaps and gear down.

The engines are Garretts, a model specially modified for Cessna. It's the TPE-331-8-401, which is normally rated at over 800 shaft hp, but deliberately derated to 620 by Cessna. It's expected to have 3,100 hours between overhauls.

The first flight lasted 45 minutes, and the 441's landing was normal and short; the pilot turned off the runway at the first taxiway.

I tried to buttonhole Cessna officials to ask why they're spending so much money entering the turboprop market at this late date, in the face of such

competition. The general answer: Ours is better, and we'll beat them. It's sort of flip ordinarily, but when a company like Cessna says it, you pay close attention. By 1977 the 441 will be entering a busy marketplace; Cessna guesses general aviation manufacturing will prosper this year, next, and in 1977. Cessna—and GAMA—estimate a billion-dollar year in 1976, the first such year in general aviation history.

There was a brief rundown on the foreign market, with emphasis on the 70% tax Venezuela had just hung on imported general aviation aircraft. That hurt, because a substantial percentage of Cessna exports has traditionally gone to Venezuela. So two Cessna officials went to Caracas and met with the appropriate minister. He looked a little surprised and told them he considered that "these small planes" are only used by people to fly on their vacations. The Cessna men did an outstanding selling job on what general aviation really does, because on August 19 that tax was reduced to 1%-3%, depending on weight, with a 25% tax for planes above 14,000 pounds.

All we got on the Titan was advance press material and a quick look at the

CESSNA TITAN*

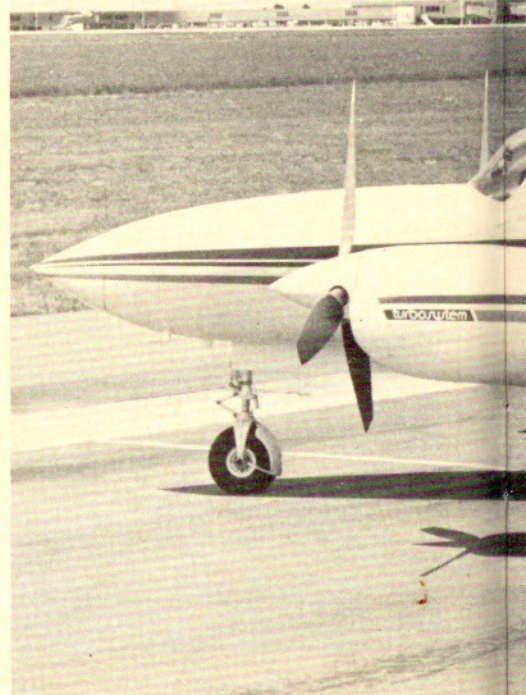
Specifications

Engines	2 Teledyne Continental GTSO-520X, 375 hp, geared, turbocharged, fuel-injected
Seats	6 to 10
Length	39.5 ft
Height	13 ft 1 in
Wingspan	46.0 ft
Wing area	242 sq ft
Gross weight:	
Takeoff	8,300 lb
Landing	8,100 lb
Empty weight	4,773 lb (Courier) 4,754 lb (Ambassador)
Useful load	3,527 lb (Courier) 3,546 lb (Ambassador)
Usable fuel	340 gal

Estimated Performance

Range, 10 people recommended lean mix, max recommended cruise speed, no reserve	1,020 sm
Max speed (16,000 ft)	269 mph
Cruise speed, 75% power:	
10,000 ft	223 mph
20,000 ft	246 mph
Takeoff distance over 50-ft obstacle	2,530 ft
Landing distance over 50-ft obstacle	2,240 ft
Rate of climb, sea level:	
Twin engine	1,515 fpm
Single engine	220 fpm
Service ceiling:	
Twin engine	22,200 ft
Single engine	9,500 ft

*Customer delivery scheduled for mid-1976.



prototype. It is scheduled for first deliveries in mid-1976, did not fly, and is not yet FAA certificated. Its gross weight is 1,200 pounds less than that of the 441, and its useful load is 984 pounds less. In most other respects, however, the two planes are identical. The Titan has piston Continental GTSIO-520Xs of 375 hp, and its maximum speed is 269 mph at 16,000 feet. Again, because of the time lapse, no firm price yet.

It's interesting how close Cessna's engineers have come to making a dual-purpose design out of these two models. Except for the engine installations, both have an identical layout, although the Titan is not pressurized. Both use the NACA 23018 airfoil in the wing; both use the NACA 23012 airfoil in the wing-tips; both use a NACA 0012 vertical tail and horizontal tail. Both have 3°30' wing dihedral and 12° in the horizontal stabilizer. Wingspan is virtually identical, length is 6 inches more for the Titan, and the 441 is 0.2 inches higher.

Just up the road a bit, I had an old-home-week reunion at Beech. I had owned one of the original Model 35s for 11 years, and had flown briefly

in the service-test program of the Bonanza before it was certificated. Primary purpose of this visit was to fly Beech's recently announced pressurized Baron, the Model 58P. The Baron is just as good a light twin as the Bonanza is a single-engine plane, and I'd always looked forward to flying one whenever I could. I'd flown one to Paris in 1965, and it flew just as beautifully with a heavy fuel overload as it did empty.

The evolution of the Baron is an interesting example of general aviation development. You don't have to look very hard to see that the Bonanza started it all. The first twin developed from the Bonanza was the Travel Air. The Baron is a bigger and heavier Travel Air, with bigger engines. The first Baron was called the Model 55 and first flew in 1960. At that time, its gross weight was 4,880 pounds. Gross of the new Model 58P is 6,100 pounds, and the horsepower per engine now is 310.

The 58P I flew had the tail number N58PB, and I flew it for 1 hour and 36 minutes. Dave Palay, assistant marketing manager for the Baron, went along and did a lot of the unfamiliar house-keeping in the cabin.

The turbocharged engines are com-

pletely controlled by the governors; you can't overboost them on the ground. Just shove the throttles open and leave them there until you're at cruising altitude. We averaged 1,000 fpm to 15,000 feet, leveled off, then pulled the power back to 65% for cruise and leaned the engines. True airspeed worked out to 202 mph. Then we climbed to 18,000 feet to get over some weather and cruised there at 214 mph true at 65%. All this time I was in shirtsleeves and quite comfortable. We'd decided to have lunch at Tulsa, and at the appropriate time I started my descent.

The cabin pressurization held at 500 feet while I descended 2,800 fpm with flaps and gear down. Down lower, rate of descent went to 3,000 fpm. Flying the Tulsa traffic pattern was normal and routine, and 58PB made a nice, slow, Bonanza-type landing.

After lunch, we took off, climbed to 16,500 feet, and set up 65% power at 2,200 rpm and 30 inches mp. Again, well over 200 mph true.

Maneuverability of the 58P is excellent, and the controls are firm, as contrasted with the feather touch I'd gotten used to in my Bonanza. The stall is simple and straightforward, with the



Cessna's turbocharged Titan looks much like the 441 and shares certain of its features: trailing-link landing gear; Fowler-type flaps; and a wet-wing design, using metal-to-metal bonding.

BEECHCRAFT BARON 58P

Specifications

Engines	2 Continental TS10-520L, 310 hp
Seats	6
Length	29 ft 11 in
Height	9 ft 2 in
Wingspan	37 ft 10 in
Wing area	188.1 sq ft
Gross weight:	
Ramp	6,140 lb
Takeoff	6,100 lb
Landing	6,100 lb
Empty weight	3,985 lb
Useful load	2,155 lb
Usable fuel (standard system)	166 gal

Preliminary Performance

Max range, 45-minute reserve:	
75% power, 20,000 ft	937 sm
65% power, 20,000 ft	1,021 sm
Cruise speed:	
75% power, 25,000 ft	254 mph
65% power, 25,000 ft	238 mph
Takeoff roll over 50-ft obstacle	2,761 ft
Landing roll over 50-ft obstacle	2,498 ft
Rate of climb, sea level:	
Twin engine	1,424 fpm
Single engine	205 fpm
Service ceiling, single engine	13,220 ft
Base price	\$188,500

nose just dropping forward until the plane picks up speed. But I didn't try any of that business of pulling back one engine, then stalling the plane into the dead engine in a turn.

At 65% power this Baron will cruise over 1,000 miles at 20,000 feet at 232 mph. It has three-blade Hartzell propellers, which help make the noise level very low and comfortable. Normal fuel capacity is 166 gallons.

Beech has an excellent safety device built into this Baron: you can lower the gear at 201 mph indicated. That's also the speed for 15 degrees of flap; with full flaps it's 161. If there are any non-instrument-rated pilots flying this Baron, that's a good safety feature to have for losing altitude quickly without getting into a high-speed spiral, which tears such high-performance planes apart in the hands of amateurs.

The pressurization system seems to be the essence of simplicity. You set a little dial for the cabin altitude you want, and you get 3.6 psi maximum pressurization differential automatically. At 21,000 feet you can hold the cabin at 9,800 feet. It's 8,000 feet at 18,000 feet, 4,500 at 14,000, and so on. Particularly important is the fact that the 58P's single-engine service ceiling is 13,220 feet.

Anyone who buys a 58P gets a two-day training course in the plane at the factory. A factory instructor flies with you and won't turn you loose until

you're qualified. Another safety device: shoulder harnesses are standard.

Of course, none of these three newest planes are "typical" general aviation. Any more than a typical AOPA member is a multimillionaire. But a lot of people have bought, and are buying, airplanes like these for their businesses. That's the only way you can afford a \$500,000 turboprop, or even a smaller twin. That pressurized Baron has a base price of \$188,500. The original Baron 55, introduced in 1961, listed for \$58,250; a 55 today lists for \$90,780, or 55.8% more.

Granted, that's a lot of money for what's euphemistically referred to as a "light twin." Actually, the whole pricing business in general aviation is wild. The original Model 35 Bonanza sold for \$7,500, including two-way radio. That was in 1947. The same basic plane today is \$56,508 without radio, a 653% increase in 28 years.

Of course, this is inflation. Milk costs 223.8% more than it did in 1960; haddock is 168.9% higher, ham 80.3%, rib roast 89.4%, and hot dogs 92.3%. That's also why Cessna won't risk talking price about its two new models. They have no idea what engines, wheels, tires, and aluminum sheet are going to cost at production time.

Interestingly, these prices don't seem to have much effect on the sale of such costly planes, or even "cheap" items like the Cessna 150 (\$10,700), the Skylane (\$34,347), the deluxe Super Cub (\$17,450), or the Cherokee trainer (\$18,230). □



At 65% power at 20,000 feet, Beech's pressurized Baron cruises at 232 mph for more than 1,000 miles. At a flight altitude of 21,000 feet, cabin altitude holds at a comfortable 9,800 feet. Photo by the author.