

Pressurized cabin of Cessna 340 is marked by smaller windows and bulbous fuselage (most are round or oval). This is N4001Q, the aircraft flown by the author. Note airstair door. Landing gear and wings are same as those on Cessna's 414. All photos by author

■ ■ Cessna's 340, lowest-priced pressurized twin now available, and Piper's Seneca are two highlights of the new-plane season. I have flown them and they represent significant additions to the fleet. A \$78,500 pressurized version of Cessna's Skymaster is also in the works but deliveries aren't planned before May; so its evaluation remains for the future.

As a generality, the Cessna 340 is a pressurized, turbocharged 310. It's also the lowest-priced pressurized twin currently on the market, listing for \$127,500. As the pictures show, the 340 is attractive both inside and out. Cessna puts a lot of effort into its styling and the results are particularly attractive.

The Cessna sales' effort places great weight on the pitch that the 340 is a "300 series plane," and not one of the 400 series. But to look at it, you see more of the 400 series than you do a pressurized 310. Not only that, Cessna's detailed engineering report on the 340 says the wing is the same as the 414, as are the flaps and ailerons. The landing gear is the same as the 414, but the horizontal and vertical stabilizer, elevator and rudder are the same as the 310; minor changes in the 310 tail make it interchangeable with the 340.

The 340 has a gross weight of 5,975 pounds, and an empty weight of 3,697 pounds. But any discussion of an airplane—any airplane—must balance all the heavily publicized features to some practical use. The customary advertising claims throw all the seats, gross weight, maximum fuel, and maximum performance into one arena. But hardly any plane can do all those things, and carry all that weight, at one and the same time.

The trend appears to be more reasonable these days. Cessna, for example, lists a variety of combinations, up to a maximum of six people, but with greatly reduced fuel load and range. With up to four people, for example, the 340 can carry its maximum of 180 gallons of fuel, although maximum range drops off slightly as the weight goes up. With six people, the fuel load must be reduced to some 112 gallons.

The 340's cabin pressurization system maintains a differential of 4.2 psi. The day I flew N4001Q for this preliminary report, the cabin pressure remained at 3,000 feet, with the plane at 13,000. On takeoff, we used 33 inches and 2,700 rpm; both engines have a double set of safety stops to prevent overboosting the turbochargers. All you do is leave the throttles at takeoff position, and climb right up to 13,000 feet.

Stalls are simple and straightforward.

There's plenty of room in the Seneca. Other main door is on front right-hand side. With full tanks, Seneca essentially is a four-place airplane and, with all this room, caution in loading is required, author says.



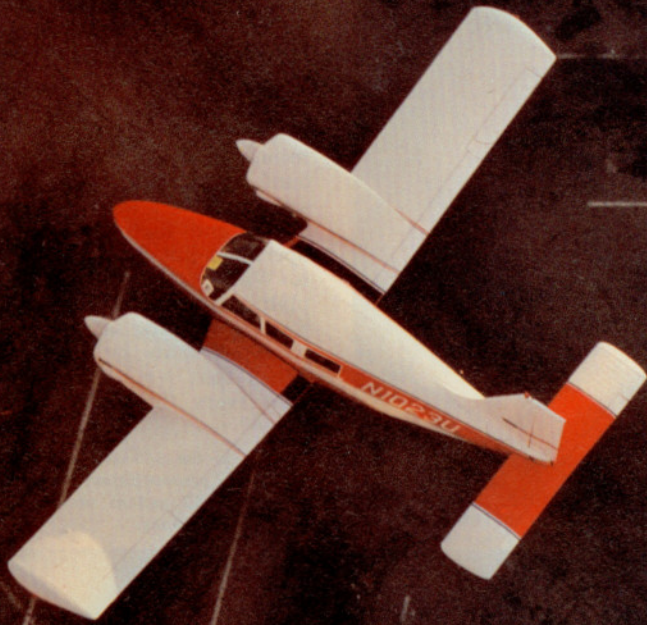
A Pair Of

Of the dozen or more 1972 models now being delivered, Cessna's pressurized 340 and Piper's Seneca are new and significant. PILOT Editor checks out both. Cessna also planning mid-1972 delivery of a \$78,500 pressurized Skymaster

by MAX KARANT / AOPA 18



Photographed from the roof of a nearby building, Seneca N1023U is seen taxiing into parking lot of the Dunes Hotel in Las Vegas, Nev., during the 1971 AOPA Plantation Party. Plane has a high-lift wing that is longer than laminar-flow wing of Twin Comanche.



At zero thrust on the left engine, with the right engine at cruising power at 12,000 feet, the 340 stalled at 80 mph indicated with flaps and gear up, and was easily controllable in level flight. In the short time we were in the air we didn't have time to make significant checks on climb and speed. But we did try descending—airline-style—at rates up to 4,000 fpm, to see if the cabin pressurization follows such a steep descent. It does, and very well.

The 340 doesn't land like the 310. You get the approach speed stabilized at 117 indicated with flaps and gear down, then hold it in that position until just over the runway, when you ease off the power. The plane lands itself. No flaring nose-up and sitting it on the back wheels.

Unless some unexpected defects show up, the 340 should prove a most significant addition to the general aviation fleet. It does what I felt had to be done a few years ago after flying a Cessna 320 on a high altitude flight to Mexico City, using oxygen masks. The conclusion then was clear: No matter how you turbocharge engines, they won't be practical until the cabin itself is pressurized. Now Cessna's done it.

Other 1972 Cessna models include the latest 310, complete with a skylight in back. Then there are newly decorated versions of the retractable-gear *Cardinal*, *Skylane*, *Stationair*, *Centurion*, *Skymaster*, 401, 402, 414 and 421.

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With the *Seneca*, Piper apparently has done it again. I had N1023U out for about five hours of miscellaneous flying, shooting landings, takeoffs, and other performance checks. Originally, I was supposed to fly it on a business trip from Lock Haven, Pa., to Denver, Wichita, Kan., Atlanta, and back to Lock Haven. But a prop seal went bad at the last minute, so I took my own plane. Later, I went back to Lock Haven for the repaired *Seneca*.

The obvious reaction by almost everyone who sees the *Seneca* is that it's a twin-engine *Cherokee Six*. That's pretty accurate. It's the result of the numerous experiments with the *Six* at Vero Beach, which we've reported off and on over a period of several years. Piper tried a trimotored version, fixed-gear twins with various engines, and finally settled on what's now called the *Seneca* (PA-34).

It should be another winner but I can't quite figure out the fate of the *Twin Comanche*, which the *Seneca* resembles. This, however, is an old Piper evolutionary process, coming up with so many models they meet each other com-

Airstair door is carefully designed and constructed to close in two parts, making the seal for pressurization. There are baggage lockers in the rear of each engine nacelle.

Newcomers





Electronic checklist is at far upper-left-hand corner of main panel on the Cessna 340; cabin pressurization control is at bottom of panel, to right of control wheel. Taken in flight, photograph shows the 340 cruising at 3,000 feet, using 29 inches manifold pressure and 2,300 rpm. Radio equipment is Cessna 400 series (made by ARC) and DME is King. That's a digital ADF at bottom right of panel.

sure everything was working normally before they turned it over to me.

The problems I found were relatively minor production and assembly problems, which can be fixed by careful servicing. As I write this, Piper's out on strike, and their entire service hangar operation has been moved, temporarily, to Williamsport, Pa. This probably explains such little things as the longitudinal trim being off pretty badly, a non-standard trim button on the control wheel that would knock off the autopilot every time you reached across it

Engines in the 340 are turbocharged, and also drive the pressurization system. Bulk of the airplane's 102 gallons of usable fuel is stored in its wingtip tanks.



Clearly related to the Cherokee Six, the Seneca has attractive lines. Photograph was taken at Bay Bridge Airport, on the Chesapeake Bay. On this portion of the flight check, author had four people aboard. Standing on the wing and in the door are Catherine (Kitty) Howser, head of AOPA's Flight Department, and Charles Spence, AOPA vice president, public relations. Robert Bornarth, director, AOPA Service and Reference Department, is the other person.

Makeshift button on left top of pilot's control wheel kept snapping off autopilot at slightest touch of the button during Seneca flight check. This happened several times as author pulled microphone off its tight mounting. Autopilot is under far left side of wheel. Radios are Narco's Mark 16s and transponder is In-Flight Devices'. Bendix's digital ADF and King's DME are also visible.

ing around a corner—almost.

N1023U was one of the original demonstrators, and everybody's pounded it around for some time. It was on display in the parking lot at the Dunes Hotel in Las Vegas at AOPA's Plantation Party in October. So again—as I do with virtually all planes I plan to fly for articles like this—I phoned a couple of times in advance, urging them to make



Cessna 340

Gross weight (lbs.)	5,900
Empty weight (lbs.)	3,645
Useful load (lbs.)	2,218
Wingspan (ft.)	38.108
Wing area (sq. ft.)	184.7
Length (ft.)	34.33
Height (ft.)	12.56
Power loading (lbs./hp)	10.45
Wing loading (lbs./sq. ft.)	32.47
Fuel capacity—standard usable (gals.)	102
Stalling speed (approximately)	75
Rate of climb (ft./min., at sea level)	1,500
Best rate-of-climb speed (mph)	130
Service ceiling (ft.)	26,500
Single-engine service ceiling (ft.)	12,100
Top speed (mph, at 16,000 ft.)	260
Base price	\$127,500

for the mike. Minor items like that.

Performance of the *Seneca* is almost exactly in the *Twin Comanche* ballpark, with some improvements; most notably in landings. However, it has 200 hp Lycomings, compared with the *Twin Comanche's* 160s; so it's more expensive to operate. Top speed is 196 mph at sea level; the *Twin Comanche's* is 205. Optimum cruise at 65% power is 185 mph; it's 186 for the *Twin Comanche*. But my old *Twin Comanche* averages about 14.5 gph at 65% cruise, and the *Seneca* averages about 18.3. Range of my plane with standard tanks is just over 1,000 miles; with the *Seneca*, it's just under 1,000 miles.

The big differences include the size of the cabins, and the *Seneca* is akin to a bus. When you look back from the pilot's seat, it looks like a small transport, which is one of the roles Piper hopes it will play in those parts of the world needing a small, economical twin for cargo and passenger flying. Inside, it's like the *Cherokee Six*: huge. That may very well be a point of warning to everyone who flies the *Seneca*. Weight and balance will be vital to the use of the *Seneca*, because it has the potential for being grossly overloaded.

It's in this area—potential overloading—that the *Seneca* pilot must be alert and careful. Gross weight is 4,000 pounds. Two-three U, with its full IFR equipment, weighed 2,783.4 pounds empty. If you fill the tanks (600 pounds) and allow for, say, 77 pounds of baggage, you can only carry three people. Conversely, if you must carry six people and no baggage, you can only carry 32.8 gallons of fuel, which is 01:48 endurance at 65% power.

It's probably not fair to compare the noise level of any airplane to that of the *Twin Comanche*. But unfortunately, I got out of my seven-year-old *Twin Comanche* into the *Seneca*, and the contrast was striking. The *Seneca* engines have large, stubby exhaust ports right

outside the front windows; that must be an important contributing factor.

The rate of climb is little short of startling. Initial takeoff is short and the plane leaps out of an airport at 1,500 fpm at 105 indicated, carrying four people. One climb, with the same load, averaged 1,250 fpm from takeoff to 4,000 feet. Another time, with just two aboard and full fuel, it averaged 1,100 fpm up to 7,800 feet.

Stalls are simple, gentle, and give plenty of warning. With flaps and gear down, stall speed was around 66 mph. The counter-rotating engines probably helped, because there was no torque, though the plane was out of rig.

Landings are very much like the *Cherokees*, though the *Seneca* is heavier on the controls. I'd heard that it was tough to land with just two aboard and full tanks, but I had no problem. You have to trim the nose up on the approach, but you do that with a lot of contemporary planes on the market. It's no good to make direct comparisons of control-heaviness with planes like the *Bonanza* or *Twin Comanche*; the *Seneca* is heavy, but I found no problem in acclimating myself to it.

If only the *Twin Comanche* landed as easily! This inevitable comparison is probably the most onerous. The *Seneca* lands like a feather; not the *Comanche*.

The *Seneca* fuel system is an improvement. Two knobs, both forward for normal operations. That's all there is, until you run out. No switching from tank to tank while you "scientifically" burn off fuel. Just "on," and that's that. There's a second setting for crossfeed in cases of single-engine operation, but that's an emergency technique.

The equipment in 23U was for full IFR work: an Altimatec III autopilot, two Narco Mark 16s, King KN-60C DME, digital Bendix ADF-T-12D, IFD transponder. The instrument panel is well laid out and attractive, with every-

thing functional and close at hand.

Interesting how little things drive you batty. The electric elevator trim button on the pilot's wheel is nonstandard. It's a rectangular-bar type of switch that sticks up. In 23U, the radio mike was on a tight mounting, and had to be pulled loose each time to use it. When pulling on it, my sleeve brushed across the trim button—and knocked off the autopilot.

It took a while to figure out what was doing it, but the out-of-trim plane would veer off to the right so fast I'd know immediately something was wrong. After some experimentation, I found that the slightest pressure downward on the button tripped off the autopilot. Touching it on the sides didn't cause any problem, just the slight touch on top. Tiny thing, but the sort of thing you certainly wouldn't want to happen on an instrument approach. I kept the mike in my lap after determining what was happening.

The cabin seats are comfortable, and easily removed for cargo work. With all but the pilot's seat out, the *Seneca* looks like an auditorium inside.

Another "tiny" item: I found myself tromping on the brakes, with nothing happening. I soon found that the rudder pedals and toe brakes measure nine inches from top to bottom. My feet measure 12 inches. Directly behind the pedals is a steel bar across the width of the fuselage. No amount of toe-pushing on that bar will give you any brakes at all.

As you can see, these worrisome items are relatively minor. The *Seneca* itself should be a bestseller, being the all-round workhorse that it is. Private owners, taxi operators, charter companies—all can use the *Seneca* to great advantage, and still comply with the FAA requirements for commercial operations. This is an achievement for a twin that costs just \$50,000. □

How They Compare

	Seneca Lyc. 200 hp	Skymaster Cont. 210 hp	Twin Comanche Lyc. 160 hp
Wingspan (ft.)	38.9	38.16	36
Length (ft.)	28.5	29.75	25.2
Height (ft.)	9.9	9.33	8.2
Gross weight (lbs.)	4,000	4,630	3,600
Empty weight (lbs.)	2,479	2,695	2,270
Power loading (lbs./hp)	10.0	11.0	11.25
Wing loading (lbs./sq. ft.)	19.4	22.9	20.22
Fuel capacity (gals.)	100	93	90
Top speed (mph)	196	199	205
Cruise speed (75%, mph)	187	189	198
Stall speed (mph)	67	70	70
Ceiling (ft.)	20,000	18,000	20,000
Single-engine ceiling (ft.)	6,600	7,100	7,100
Maximum range (miles)	1,160	1,285	1,200
Base price	\$49,900	\$51,250	\$43,990