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New Piper Seneca V

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NEW PIPER SENECA V TOUGH BIRD

November 5, 2002

By Thomas A. Horne

A proven design still earns its keep

These days, conventional wisdom holds that the market for new piston twins is all but finished — a tiny and shrinking slice on the pie chart of annual general aviation sales. Can it really be that we're watching the twilight of the multis, that their glory years are gone for good, that turbine singles and next-generation mini-fanjets will finish them off completely?

Yes and no. True, the market for twin-engine piston aircraft is comparatively small. But that's always been the case, even from the mid-1950s through the late 1970s. If piston singles rolled out factory doors by the thousands each year back then, piston twins were built by the hundreds. So it's a matter of scale: Piston twins represent a small chunk of the total market, and that market is certainly smaller today than it was 40 years ago.

If the trends realized at The New Piper Aircraft Inc. are any indication, then the demand for piston twins is secure, starting with the Seneca V — the flagship of New Piper's piston fleet. Even with a standard-equipped price of \$583,900, the company delivered 41 Seneca Vs in 2001 — which represents almost 10

percent of its 441 total deliveries for that year. This year, New Piper plans on selling 37 Seneca Vs. And most buyers will go for options that push prices closer to \$690,000.

Who buys new Seneca Vs? Chris Layson, president of Northern Air, a Grand Rapids, Michigan-based New Piper dealership, says that the typical Seneca V buyer has owned a New Piper Saratoga II for two to three years, although some "come right out of an Archer, just to build multiengine time." For this reason, Layson schedules demonstration flights in Seneca Vs after his Archer and Saratoga buyers pass the two-year mark.

John Lowe, president of Des Moines Flying Service — the oldest Piper dealership in the nation — says that the optional known-icing package (\$25,015) is an important draw. "It's a good winter airplane, it can get in and out of 2,700- to 3,000-foot strips easily, it has an excellent single-engine service ceiling, and the turbos give it good performance at high density altitudes," he says. Most of Lowe's Seneca Vs are sold to small- to medium-size companies and serve in corporate fleets. They provide transportation on shorter trips, or swing into action when the company jet is unavailable.

Layson echoes the known-icing draw. "It's not so much that it's got a second engine — though that's a big factor for those who spend a lot of time crossing the Great Lakes — it's that the airplane can get in and out of Michigan and the other states up north in the winter."

As for price resistance, Lowe says that hasn't been a factor. As always, some customers simply want a new airplane and like the security of flying under a warranty. "Besides, a new [Beechcraft] Baron without turbos goes for about \$1.1 million, and you can operate two Seneca Vs for the price of one Baron," he says.

New Piper officials point out another reason why some owners are drawn to the Seneca V. Some pilots would like to buy New Piper's turboprop single, the Meridian, but can't meet insurance prerequisites for flying a turbine-powered airplane as pilot in command. The desire for certification for flight into known-icing conditions seals the deal.

Although the Seneca V is based on a 1972 design — the Seneca I — it's the beneficiary of refinements made over the years. The first Senecas came with 200-horsepower Lycoming IO-360 engines. In 1975 the Seneca II offered 200-hp turbocharged Continental engines. The Seneca III came with a 28-volt electrical system, one-piece windshield, Continental TSIO-360 engines of 220 hp, three-blade propellers, and a redesigned Royalite-free instrument panel. The Seneca IV added high-end instrument options, a deicing package, a leather interior, and optional air conditioning. The V came out in 1997 and brought intercooling to the turbocharged Continentals.

The 2002 Seneca V flown for this article was decked out with popular options: copilot instruments (\$8,305); Honeywell Bendix/King RDR 2000 vertical profile weather radar (\$35,375); air conditioning (\$13,490); yaw damper (\$4,270); and the known-icing package. It's interesting to note that New Piper won't sell you ice-protection equipment piecemeal. You either buy the full, approved FIKI (flight into known icing) package or nothing at all. This includes pneumatic leading-edge deice boots, electric windshield and propeller heating elements, electrically heated pitot-static probes and stall warning vanes, plus an ice light for illuminating the left wing leading edge to check for ice buildups when flying at night.

The system is effective, but like any ice-protection system it is not designed to take on the worst icing conditions, or to let you mill around in ice-laden clouds for indefinite periods of time. The system merely allows you some extra time to escape icing should it be encountered.

The standard-equipped panel comes with a Garmin GNS 530/430 setup, which gives you a pair of IFR-certified GPS, VOR, localizer, and com radios. A slaved compass system and S-Tec System FiftyFive X autopilot are also standard, as are Garmin's GTX-327 transponder and GMA-340 audio panel with marker beacons and intercom.

If you want even more large-display acreage, then you can order up what New Piper calls the Situational Awareness Package — which was also aboard our demonstration airplane. This adds a Goodrich WX-500 Stormscope and Goodrich SkyWatch traffic advisory system, plus Avidyne's FlightMax 750 Flight Situation Display (FSD). Moving map, lightning, aeronautical charts, radar imagery, and Stormscope returns can all play on the FSD's large color display. The Situational Awareness Package is an extra \$41,740, but the Stormscope and SkyWatch option can be bought independent of the Avidyne FSD and play on the Garmin 530 instead.

The panel has a professional look to it, let there be no doubt. The vertical stack of dual Horizon Aerospace engine gauges is a big part of that look, and so is the Flightline Digital Display Monitoring Panel (DDMP). The DDMP is at the top of the engine instrument stacks, and has a rotary mode selection knob that lets you display a wide range of system and performance data. These include engine power output, fuel and electrical system status, temperatures, and any excessive values — such as engine overtemps — along with the duration, peak value, and time of day and date of the exceedance. The DDMP can be set up to show just about any combination of parameters. Especially helpful is the percent-power display. This lets you adjust the engine controls and watch the percent-power display change until it shows the power output you want.

Fly a Seneca V and you'll quickly understand why Archer and Saratoga pilots make smooth transitions.

The control feel is very much like that of a Saratoga — kind of trucky, what you'd expect from a 4,750-pound airplane — and so are the target airspeeds used in the pattern. On short final, the Seneca V can be flown as slow as 82 knots and yes, the airplane is easy to land.

Setting power is no sweat, thanks to the V's automatic wastegates. You simply throttle up to the manifold pressure you want, and the wastegates hold that value as you climb to the critical altitude — the altitude where the wastegates are closed and power output begins to drop off, approximately 19,000 feet according to New Piper. Even so, the V's Rajay turbochargers let you cruise as high as 25,000 feet — but up there you'll need the built-in oxygen system option (\$7,406).

The day of our visit to New Piper, five Seneca Vs and seven Seminoles were being readied for delivery. The Seminole also figures prominently in New Piper's sales mix. It's the only multiengine trainer in production, and last year 62 were sold. This year New Piper thinks it will sell 70. Add that to the Seneca Vs planned for 2002 delivery and you've got reason to convince yourself that there will always be a market for hard-working new piston twins like these.

E-mail the author at tom.horne@aopa.org.

SPEC SHEET

NEW PIPER PA-34-220T SENECA V

BASE PRICE: \$583,900

PRICE AS TESTED: \$740,100

SPECIFICATIONS

Powerplants	220-hp (ea) Teledyne Continental TSIO-360
Recommended TBO	1,800 hr
Propellers	Hartzell two-blade, 76-in dia (three-blade McCauley, 76-in dia, optional)
Length	28 ft 7 in
Height	9 ft 11 in

Wingspan	38 ft 11 in
Wing area	208.7 sq ft
Wing loading	21.2 lb/sq ft
Power loading	10 lb/hp
Seats	6
Cabin length	10 ft 4 in
Cabin width	4 ft 1 in
Cabin height	3 ft 6 in
Standard empty weight	3,413 lb
Max ramp weight	4,773 lb
Max takeoff weight	4,750 lb
Max zero fuel weight	4,479 lb
Max useful load	1,337 lb
Max payload w/full fuel	605 lb
Max landing weight	4,513 lb
Fuel capacity, std	128 gal (122 gal usable) 768 lb (732 lb usable)
Baggage capacity	
Forward, external	100 lb, 15.3 cu ft

Aft, internal	85 lb, 17.3 cu ft
PERFORMANCE	
Takeoff distance, ground roll	1,143 ft
Takeoff distance over 50-ft obstacle	2,180 ft
Accelerate-stop distance, 0 flaps	2,650 ft
Max demonstrated crosswind component	17 kt
Rate of climb, sea level	1,460 fpm
Single-engine ROC, sea level	253 fpm
Cruise speed/range w/45-min rsv (fuel consumption)	
@ High-speed cruise, 10,000 ft	182 kt/635 nm (28 gph)
@ Normal cruise, 25,000 ft	200 kt/645 nm (24 gph)
Max operating altitude	25,000 ft
Service ceiling	25,000 ft
Single-engine service ceiling	16,500 ft
Landing distance over 50-ft obstacle	2,180 ft
Landing distance, ground roll	1,143 ft
LIMITING AND RECOMMENDED AIRSPEEDS	
V _R (rotation)	81 KIAS
V _X (best angle of climb)	83 KIAS

V_Y (best rate of climb)	88 KIAS
V_{XSE} (best single-engine angle of climb)	83 KIAS
V_{YSE} (best single-engine rate of climb)	88 KIAS
V_{MC} (min control w/one engine inoperative)	66 KIAS
V_{SSE} (min intentional one-engine operation)	85 KIAS
V_A (design maneuvering)	139 KIAS
V_{FE} (max flap extended)	113 KIAS
V_{LE} (max gear extended)	128 KIAS
V_{LO} (max gear operating)	
Extend	128 KIAS
Retract	107 KIAS
V_{NO} (max structural cruising)	164 KIAS
V_{NE} (never exceed)	204 KIAS
V_{S1} (stall, clean)	67 KIAS
V_{SO} (stall, in landing configuration)	61 KIAS

For more information, contact The New Piper Aircraft Inc., 2926 Piper Drive, Vero Beach, FL 32960; telephone 561/567-4361; fax 561/778-2144; or visit the Web site (www.newpiper.com).

All specifications are based on manufacturer's calculations. All performance figures are based on standard