The New Piper's Archer III

Primary Piper

With all of the talk about Cessna's reentrance into the single-engine market, you might not have heard much about The New Piper's Archer III. Through all of the Cessna hype, this little jewel of Piper's has steadily increased its sales numbers, as well as the company's bottom line. ■ Piper plans to build 100 Archer IIIs in 1999, more than double the number that were sold in 1997. Fleet sales have been one reason for the growth. Lufthansa German Airlines purchased 15 of the airplanes earlier this year, and that order has led to inquiries from other airlines, said a Piper official. During *AOPA Pilot's* 1994 visit—while Piper was clawing its way out of bankruptcy—the company announced that it would produce just 24

The first rung on Piper's Step-Up ladder remains popular with first-time owners

BY PETER A. BEDELL
PHOTOGRAPHY BY WINSTON LUZIER

Archer IIIs in 1995. How times change—for the better.

This third iteration of the Archer was introduced in late 1994 as a 1995 model. Big changes on the outside are the stylish new cowling with axisymmetric air intakes and a single, aft-exiting exhaust stack. Landing and taxi lights are now in the wing tips, where they are isolated from the filament-breaking vibration experienced by the single landing light located in the cowling on Archer IIs. Slightly redesigned windows, flush-fit locking fuel caps, and other minor cosmetic touches round out the redesign from an exterior point of view.

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Piper made the most dramatic and welcome changes inside the cockpit and cabin. A new instrument panel—befitting of the company's higher-end airplanes like the Saratoga and Malibu Mirage—brings the Archer into the 1990s. Stylish new yokes impart the look and feel of a more substantial airplane as well. Powering the panel is a new 28-volt electrical system, which replaced the previous-generation Archer's 14-volt system in 1995. It provides enough oomph to power all the goodies a pilot could cram into the airplane, including air conditioning.

Overhead switches for the battery, alternator, magnetos, and lights, among others, free space in the panel for avionics and lend a big-airplane feel to the Archer. Plusher seats can be covered in leather if you like—for a $2,785 price tag. And those "groovy" colors of the 1970s-era Cherokees have given way to more sedate, tasteful hues and patterns. Front seats are vertically adjustable, and all four seats have inflatable lumbar supports. The rear seats are a little cramped in the headroom department for tall riders, but a reclining feature does wonders to solve that dilemma. Overall, legroom accommodations in the rear seat aren't as generous as they are in Cessna's Skyhawk. However, the low-wing design floods the Archer's cabin with daylight, minimizing any claustrophobic feelings.

Since the major redo in 1995, New

Piper has added the new Bendix/King Silver Crown Plus line of avionics from AlliedSignal. Three different avionics packages are available to Archer III buyers. Standard avionics include a KX 155A navcom, a digital KT 76C transponder, and PS Engineering's PMA 6000M audio panel with built-in four-place intercom and marker beacon receiver. A $12,990 optional avionics package adds a second navcom, a KR 87 ADF, and a VFR KLN 89 GPS. Finally, the top-of-the-line package ($19,900) swaps the KLN 89 GPS for the IFR-approved 89B model and adds a coupled KAP 140 single-axis autopilot. Avionics options not offered in package form are DME, two-axis autopilot, and electric trim.

As this article went to press, the ink was still drying on an agreement with Garmin and S-Tec that will bring an entire new line of avionics to the Archer III and Saratoga series. Piper recently announced agreements with Garmin and S-Tec for the Malibu Meridian turboprop. The new avionics will be available in January with the introduction of the 1999 models. Standard avionics will consist of the Garmin GMA 340 audio panel, one GNS 430 GPS/navcom, and the GTX 320 transponder. A Premium Select package will add a second GNS430 and S-Tec's System 55 two-axis autopilot with altitude preselect. The new avionics will raise the price of the 1999 Archer III by $10,000.

The current Bendix/King Silver Crown Plus avionics (left) will be replaced by a stack of radios from Garmin and topped off with an S-Tec autopilot (above).

Other options for the 1998 model include an excellent air conditioning system ($8,440), stainless-steel cowl fasteners ($355), carburetor ice detector ($865), low-noise exhaust resonator ($425), and electric trim ($3,930). With every option piled on, an Archer III can list for more than $210,000. Typically, airplanes will depart the factory listing

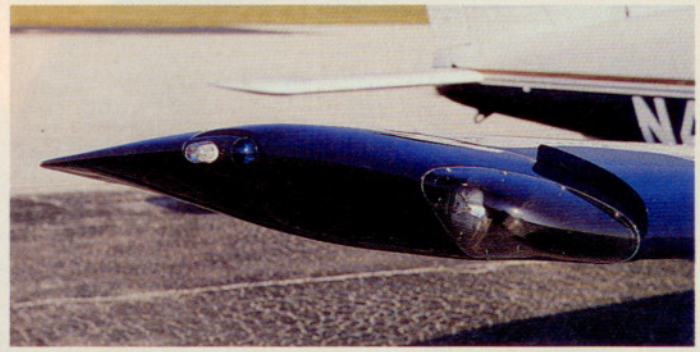
for $179,500, which gets you the IFR GPS and single-axis autopilot. With air conditioning the price reaches $187,940. Compared to Cessna's 180-hp 172S, the Archer—also sporting 180 hp—is about $10,000 more when comparably equipped.

There are no major performance changes from that of older Archers and Cherokee 180s. On a warm South Florida morning, we wrung out the Archer III to a maximum of 140 knots true at full throttle (2,700 rpm) and 5,500 feet. Backed off to a more realistic 2,450 rpm, the Archer III managed about 120 knots true. The manual says that the Archer can achieve 128 knots at 75-percent power at 8,000 feet. That speed is slightly better than what we observed flying the new Cessna 172S—126 knots on a slightly cooler day (see Cessna Skyhawk SP: "Ponying up the Skyhawk," September *Pilot*). Interior noise levels inside were a very respectable 86 dBA, compared to the Skyhawk's 89 dBA.

Handling of the Archer III is pure Cherokee—the airplane won't do anything unpredictable without plenty of coaxing from the pilot or without giving lots of warning. The wing is the semi-taper design that debuted on the Archer II in 1976 and has proven to be just as forgiving as the Hershey-bar wing of older Cherokees.

Still powering the Archer is a carbureted Lycoming O-360 spinning a fixed-pitch Sensenich propeller. (Cessna switched to a fuel-injected Lycoming in its new Skyhawk.) During our evaluation of the Archer III, the carburetor's less efficient fuel distribution provided some noticeable vibration at low power settings, such as when we were entering the airport traffic pattern at Piper's Vero Beach (Florida) headquarters. Aggressive leaning stopped the vibration.

Performance of the Archer III is marginally better than that of Piper's introductory trainer, the Warrior III. In fact, in terms of useful load and range, the Warrior outperforms the Archer,



Major changes that mark the Archer III are the new cowling with axisymmetric air intakes and landing/taxi lights relocated to the wing tips (above and below). Flush-mounted fuel caps can be locked (below left). Leather-clad interior is a $2,785 option (bottom).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because it is lighter and its 160-hp Lycoming O-320 burns less fuel. Climb rate is where the Archer struts its extra 20 hp. In cruise, the Archer is about five knots faster than the Warrior. The main difference between the airplanes is seen in the available options—no autopilot or air conditioning can be had with a Warrior. It's quite clear that Piper is marketing the Archer to the individual owner, while the Warrior ends up at flight schools and aviation universities.

The Archer is the first airplane in Piper's Step Up Program, an innovative plan that minimizes the depreciation losses usually associated with the trade-in of late-model airplanes. Step Up allows buyers of new Pipers to trade in their airplanes after 18 months of ownership and be credited the entire retail price of the airplane less a usage fee. For the Archer III, the fee is $30 per hour; however, it can vary, based on individual Piper dealers and location. Step Up is well-suited for new or student pilots who are considering the purchase of an Archer III and using it for personal use and instruction, for example. Within 18 months the owner could move into one of the larger, faster Saratogas. After that, the owner can opt for a Malibu Mirage or a Seneca V. Step Up makes the purchase of a new airplane an attractive option and builds plenty of brand loyalty for Piper's line of airplanes.

With its predictable handling, simplicity, good looks, nice interior, and well-stocked panel, the Archer III makes an excellent entry-level airplane for new pilots. Buyer-incentive programs, a two-year spinner-to-tail warranty, and attractive financing make the Archer III a good buy in today's new aircraft market. A doubling of production in two years proves that New Piper has a winner at the first rung of its Step Up program. □

Links to all Web sites referenced in this issue can be found on AOPA Online (www.aopa.org/pilot/links.shtml). E-mail the author at pete.bedell@aopa.org

1998 Piper Archer III
Base price: $159,600
Price as tested: $187,940

Specifications

Powerplant	180-hp Lycoming O-360-A4M
Recommended TBO	2,000 hr
Propeller	Sensenich fixed-pitch, 2-blade, 76-in. dia.
Length	24 ft
Height	7 ft 4 in
Wingspan	35 ft 6 in
Wing area	170 sq ft
Wing loading	15 lb/sq ft
Power loading	14.2 lb/hp
Seats	4
Cabin length	8 ft 2 in
Cabin width	3 ft 6 in
Cabin height	3 ft 9 in
Empty weight	1,683 lb
Empty weight, as tested	1,758 lb
Maximum ramp weight	2,558 lb
Maximum gross weight	2,550 lb
Useful load	875 lb
Useful load, as tested	800 lb
Payload w/full fuel	587 lb
Payload w/full fuel, as tested	512 lb
Maximum takeoff weight	2,550 lb
Maximum landing weight	2,550 lb
Fuel capacity, std	50 gal (48 gal usable) 300 lb (288 lb usable)
Oil capacity	8 qt
Baggage capacity	200 lb, 26 cu ft

Performance

Takeoff distance, ground roll	1,135 ft
Takeoff distance over 50-ft obstacle	1,610 ft
Maximum demonstrated crosswind component	17 kt
Rate of climb, sea level	667 fpm
Maximum level speed, sea level	129 kt
Cruise speed/endurance w/45-min rsv, std fuel (fuel consumption)	
@ 75% power, best power mixture, 8,000 ft	128 KTAS/3.8 hr (63 pph/10.5 gph)
@ 65% power, best economy mixture, 12,000 ft	125 KTAS/4.5 hr (54 pph/9 gph)
Service ceiling	13,236 ft
Landing distance over 50-ft obstacle	1,400 ft
Landing distance, ground roll	920 ft

Limiting and Recommended Airspeeds

V_X (best angle of climb)	64 KIAS
V_Y (best rate of climb)	76 KIAS
V_A (design maneuvering)	103 KIAS
V_{FE} (max flap extended)	102 KIAS
V_{NO} (max structural cruising)	125 KIAS
V_{NE} (never exceed)	154 KIAS
V_{S1} (stall, clean)	51 KIAS
V_{SO} (stall, in landing configuration)	46 KIAS

For more information, contact The New Piper Aircraft Inc., 2926 Piper Drive, Vero Beach, Florida 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 day, standard atmosphere, sea level, gross weight conditions unless otherwise noted.