PIPER ARCHER III

III TIMES A CHEROKEE

An old friend gets a face-lift

BY PETER A. BEDELL

Thirty-two years after its introduction, the Piper PA–28-181 is born again as the Archer III. The 1995 Archer III, like its forebearers, provides a smooth transition for step-up pilots who want a little more performance than a trainer without a lot more complexity. With only 20 more horses under the cowl than the Warrior, the Archer III will not get a newly certificated pilot in too much trouble. ■ The Archer's redesign follows the Saratoga II HP and Seneca IV pattern. On the outside, the most obvious changes are the new cowl, a lowered windshield roofline, and redesigned side windows. A new long and polished spinner encloses the hub of the same two-

PHOTOGRAPHY BY CHRIS SORENSON

blade, fixed-pitch Sensenich propeller. The all-fiberglass cowl, with its circular air inlets and aft-exiting exhaust, looks cleaner and more modern than the Archer II's. The landing light has been relocated from the nose bowl to the wing tip, increasing its life expectancy because of reduced vibration. In the other wing tip, a taxi light has been added. Operating together, the lights give the airplane a larger appearance during night approaches. The squared-off side windows and the lowered windshield roofline combine to provide a cleaner, more rakish look.

Inside, there are big changes—good ones, too. The panel shed all hints of plastic overlays in favor of a flat metal, businesslike arrangement that has plenty of room for growth. A 3-inch combination gauge contains oil and fuel pressure and oil temperature readouts, replacing the rectangular gauges of old. A massive, easy-to-read EGT gauge, snatched from the Malibu parts bin, makes leaning a snap. According to Piper, the change to a 28-volt electrical system was made to accommodate all the goodies we pilots like to have. Our test aircraft had the deluxe avionics package and air conditioning, which Piper says puts a lot of strain on a 12-volt system—even with the aid of a high-amp alternator.

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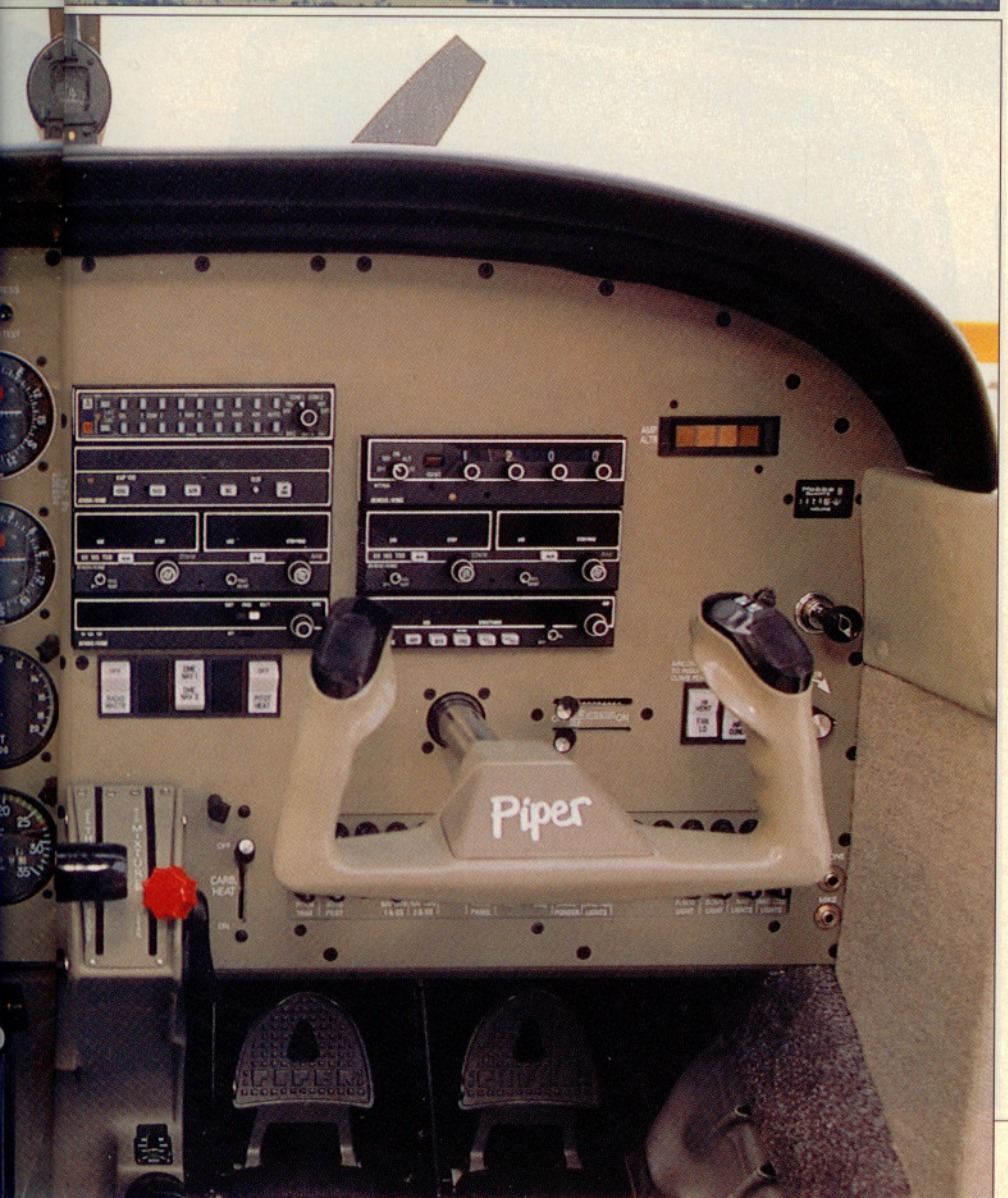
In conjunction with the lower windshield line, Piper has added an overhead panel that houses all powerplant and light switches. Upward visibility through the windshield is a little restricted and requires a bit of neck stretching to see around the overhead panel. The starter is operated by a button on the overhead panel that eliminates the need for a key. Piper officials said they felt that a keyless starter would not pose a security problem.

Starting the Archer III makes you feel like you're in a larger twin. Your right hand works the mixture and your left pushes the starter button overhead. The day I flew, it was 90 degrees Fahrenheit on a typical Florida after-



noon, so the cabin was quite hot (one of the disadvantages of a low-wing airplane in Florida). The Archer's air conditioning, complete with politically correct CFC-free refrigerant, cooled the cabin in about two minutes, but the air-conditioning option should be carefully considered to justify its $8,210 price tag and 60-pound weight penalty.

The interior has been reworked with a completely new headliner encasing the air vents and dual radio speakers. The front seats can be adjusted vertically for a heads-up view or hunkered down for instrument flying. A standard inflatable lumbar support is operated by a hand bulb under the seat. Shoulder room up front felt on par with most aircraft in its class. The rear seats are comfortable, with ample legroom. However, anyone taller than 5 feet 9 inches may need to recline a notch or two to maintain adequate headroom. Adults in the rear seat may get antsy after a few hours in the back of the Archer.

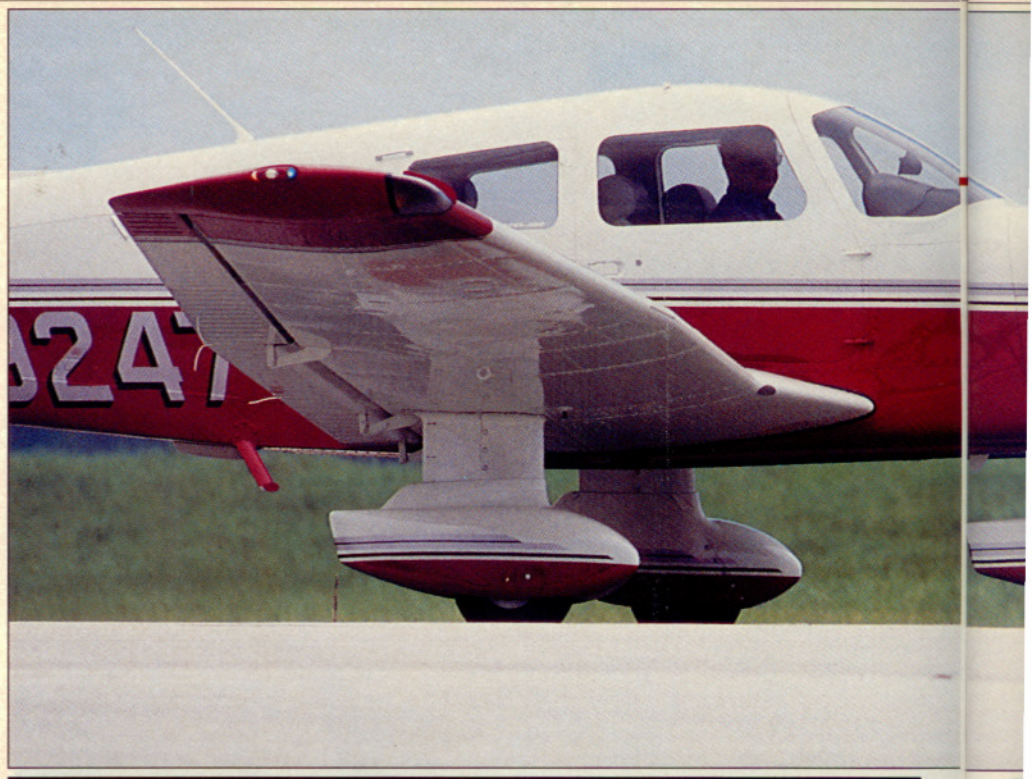
In a no-wind situation, the Archer III can take you 520 nautical miles at 75-percent power with a 45-minute reserve. As a comparison, the Warrior III—which just received its panel updating—will take you 602 miles, thanks to its less-indulgent 160-hp powerplant and same-size fuel tanks. The Archer III is only 2 knots faster than the Warrior III at max cruise speed (129 and 127 knots, respectively). The Warrior also has 37 pounds more useful load, thanks in part to its lighter Lycoming O-320. Our test Archer III weighed in at 1,758 pounds empty, leaving 792 pounds available for the pilot's choice. Three 170-pounders, full fuel, and charts will take you to the 2,558-pound ramp weight.

Takeoff and initial climb performance is where the Archer shines over the Warrior. With two adults, about 36 gallons of fuel (of a possible 48 usable), and an outside air temperature of 90 degrees, the Archer used less than 1,000 feet of pavement for takeoff. There was, however, a 12-knot breeze blowing to our advantage. According to the POH, using 25 degrees of flaps on a standard day at maximum gross weight will get the Archer III airborne in 870 feet and clear a 50-foot obstacle in 1,210 feet, compared to the Warrior's 725-foot ground roll and 1,650-foot obstacle performance. In climb, though, the Archer is only 23 feet per minute better than the Warrior at gross weight. After leveling off at 2,500 feet msl and letting the

Archer accelerate, we settled in at a 2,400-rpm cruise, yielding 122 knots true airspeed. The book claims 129 knots true at 8,000 feet and 75-percent power. Control feel is firm but not heavy, and roll response is good.

Stalls, flaps up or down, are docile, straightforward, and uneventful. On our flight, the stall came at about 40 knots indicated with flaps at 40 degrees. This was less than the book claim of 45 knots, due in part to our lighter weight. Flaps-up stalls occurred at approximately 45 knots, compared to the book's 50 knots. With all the gadgets the Archer III has, it's nice to see that Piper has retained the "Johnson bar" manual flap system. It's fast, easy to use, and won't be bothered by an electrical failure.

Coming back into the pattern for some touch-and-goes, the Archer III slows down nicely. Flaps can come out at a relatively speedy 102 knots. Don't forget carburetor heat and the

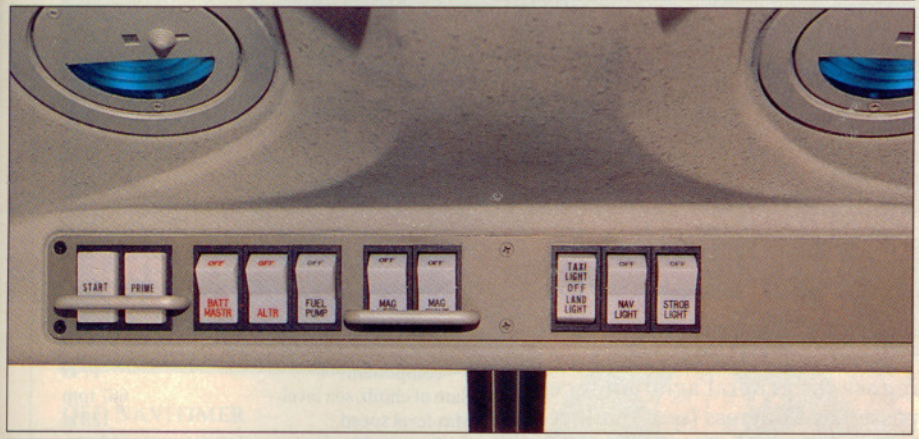


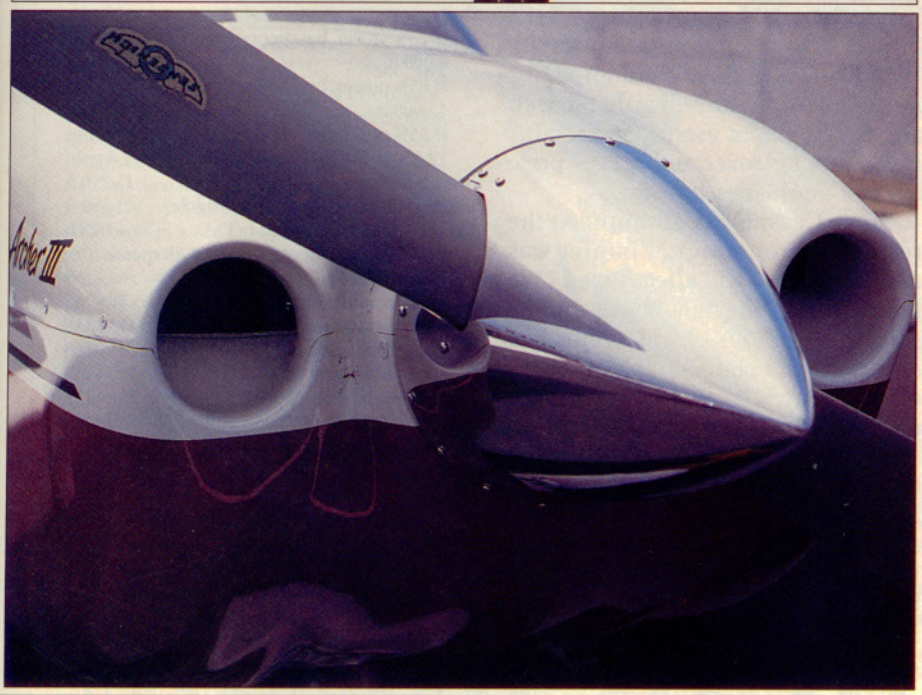
The front seats can be adjusted vertically for a heads-up view or hunkered down for instrument flying.

precautionary fuel pump, and you're ready to land. About 70 knots in a power-off approach seemed to work just fine. Wondering if I was doing it right, I ask demo pilot Joe Lahout what a good speed for approach would be.

"Whatever feels right to you," he says confidently. It felt right, and it worked—again, no surprises. Simulated engine-out landings are a breeze, too. Set up the best glide speed of 76 knots, extend the flaps when you think you need them, or retract them if you thought wrong. The Archer is very forgiving, and chances are you will come out unscathed.

Landings are typical of a low-slung, low-wing airplane. If you come in too fast, it will float more than a similar high-wing airplane. Coming across the threshold with power off, at about 55 to 60 knots, and starting the flare delivers a nice, nose-high attitude for bleeding off excess speed while feeling for the runway. Once on the ground, the Archer can be stopped in 925 feet.





As we were doing touch-and-goes at Vero Beach, I found myself digging for an excuse to go around and do another one and another one. Even on an introductory flight, the Archer III feels like an old friend.

Piper is offering myriad splashy colors to be sprayed on the new Archer III. Our purple-and-white test aircraft has the only available options: deluxe avionics and air conditioning, which brought the price to a stiff $183,110. The base price is $144,900.

What do you get for that price? True, you get a brand-new airplane with a plush interior, a two-year spinner-to-tailcone warranty, and some big-plane options. But are buyers willing to spend that much money for a fixed-gear, 120-knot airplane? AOPA's Better Than New 172 project airplane makes an interesting alternative. It, too, is a 120-knot, four-place, fixed-gear airplane with even more goodies than the Archer III for a

similar price, but the catch is that the Better Than New is a well-masked airplane nearing its college years. The two airplanes fly very similarly, and performance figures reveal fractional differences.

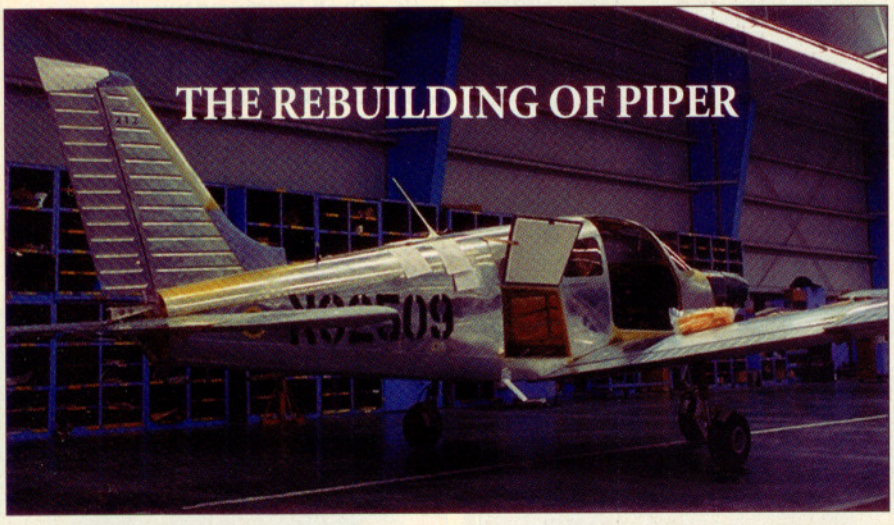
Another major difference is the continuously-debated high wing versus low wing advantage. Brand loyalty is also a big factor in a buyer's decision. Those who learned in the low-wing Pipers tend to come back to them when shopping for an airplane of their own. The same is true of high-

wing airplanes. The Cessna devotees, however, don't yet have the choice of a new airplane.

There are some psychological factors involved, too. A nervous passenger will take to a brand-new Archer III much more kindly than a 20-year-old Skyhawk. The overhead switches, professional looking panel, and underslung wing will make the passenger feel more like he or she is riding in a miniature airliner. Add to that a more modern looking exterior with its snazzy paint job and fiberglass cowl, plus a car-like interior, and the butterflies are nearly gone. Going new does have its advantages.

The Piper Archer III feels like an old friend.

For 1995, Piper will produce 24 Archer IIIs; only 11 were still available at press time. This airplane will accommodate the sensible but low-time pilot with money to spare. He doesn't want the headaches or mishaps that can occur in an airplane with folding wheels and a variable-pitch propeller. He wants a nice, new, simple little airplane with a big-plane look and feel. □



LIFE AT THE (VERO) BEACH

Although September is the slowest month of the year for tourism in Vero Beach, Florida, the Piper factory shows some signs of life. The ramp has a handful of fresh new airplanes being prepped for delivery, and the parking lot is occupied by the vehicles of Piper's 387 employees. Slightly deterred by a sign reading, "Plant tours discontinued," we convinced sales analyst Rick Zimpfer to show us around.

Activity is at a virtual standstill compared to the late 1970s, but Piper *is* building new airplanes. In fact, Piper is the second largest piston-airplane manufacturer, second only to Raytheon Aircraft's Beech products.

For 1995, Piper will produce 136 airplanes, from Warrior IIIs to Seneca IVs and Malibu Mirages. Wrapping up the 1994 model year, Zimpfer said Piper is producing 10 to 12 airplanes a month and is bringing in an average $2.5 million per month. "Half of the airplanes are exported, with Brazil and Germany being big markets," Zimpfer said.

Referring to the 18-year statute of repose for general aviation recently passed by Congress (see "Product Liability Reform," September *Pilot*), Zimpfer commented that it was the "icing on the cake. It will allow for more money to go toward research and development for future aircraft." It will not, however, reduce the price of Piper's airplanes, he said.

Since Cessna has announced the restart of production, Zimpfer was asked how that will affect Piper. "We hope Cessna starts building again," he said. "The vendor-related items like switches, wire connectors, actuators, all the little things will be much cheaper."

The attitude of the workers on the line seemed spirited, but the overall mood in the offices seemed, well, unsure at best. But Zimpfer believes Piper will emerge from Chapter 11 bankruptcy by the beginning of 1995 (see "Pilot Briefing," September *Pilot*). —*PAB*

Piper Archer III
Base price: $144,900
Price as tested: $183,110

Specifications

Powerplant	Textron Lycoming O-360-A4M
Recommended TBO	2,000 hr
Propeller	Sensenich 76EM8S5-0-62, 76-in dia, fixed pitch
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	1,639 lb
Empty weight, as tested	1,758 lb
Max ramp weight	2,558 lb
Gross weight	2,550 lb
Useful load	919 lb
Useful load, as tested	792 lb
Payload w/full fuel	623 lb
Payload w/full fuel, as tested	504 lb
Max takeoff weight	2,550 lb
Max landing weight	2,550 lb
Fuel capacity, std	50 gal (48 gal usable)
Oil capacity,	8 qt
Baggage capacity	200 lb, 26 cu ft

Performance

Takeoff distance, ground roll	870 ft
Takeoff distance over 50-ft obstacle	1,210 ft
Max demonstrated crosswind component	17 kt
Rate of climb, sea level	667 fpm
Max level speed	129 kt
Cruise speed/endurance w/45-min rsv, std fuel	
@ 75% power, best economy	129 kt/3.8 hr
8,000 ft	(63 pph/10.5 gph)
@ 65% power, best economy	125 kt/4.5 hr
12,000 ft	(54 pph/9 gph)
@ 55% power, best economy	111 kt/5.4 hr
12,500 ft	(46.8 pph/7.8 gph)
Service ceiling	13,236 ft
Landing distance over 50-ft obstacle	1,390 ft
Landing distance, ground roll	925 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)	113 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)	50 KIAS
V_{SO} (stall, in landing configuration)	45 KIAS

For more information, contact Piper Aircraft Corporation, 2926 Piper Drive, Vero Beach, Florida 32960; telephone 407/567-4361; fax 407/770-2237.

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.