

FIRST NEW



172

# A Tradition Continues

The Skyhawk is back

BY THOMAS B. HAINES

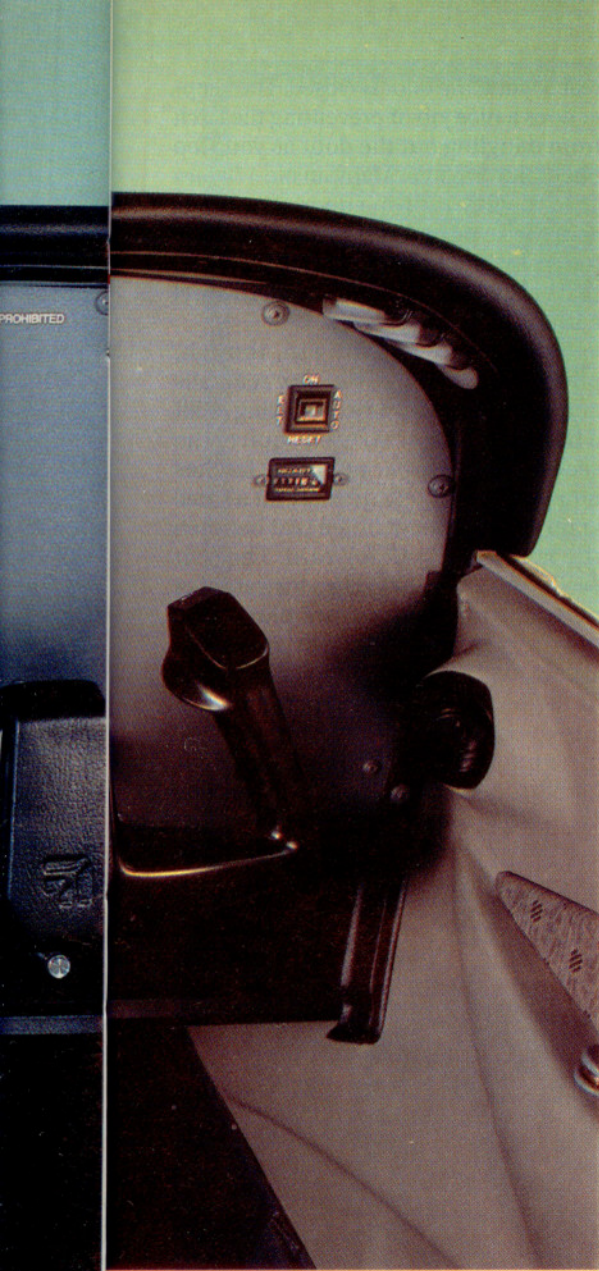
**T**wo years ago in this magazine, I wrote about a flight to Wichita to visit the Cessna factory and to learn more about the company's then recently announced plans to restart its single-engine aircraft production lines ("Waypoints: Single-Engine Scenario," November 1994 *Pilot*). The trip to Mid-Continent Airport proved to be a beautiful flight, with tailwinds while westbound—red, green, and gold Appalachian ridges shouldered by fog-filled valleys, and beautifully clear skies. ♦ After recounting Cessna's plans for a new factory and the production of 172s, 182s,

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and 206s, I closed the column by speculating on when we might fly a new 172 for the first time in more than a decade: "So it would seem that if Cessna puts its financial wherewithal and marketing prowess into high gear, in as little as 2 years we'll be able to enjoy the view of the fog-filled Appalachian valleys and the colorful autumn foliage from the left seat of a brand-new 172. That truly will be a special flying day."

And indeed it *was* a special day almost exactly 2 years later, in October of this year. No, I didn't fly over the Appalachians. Instead, I ferried N172NU, one of three new 172 production prototypes, along the coastal ranges of California from San Jose to Santa Barbara and on to Phoenix. The flight was a first for me because I had never flown a *new* 172. Like many other pilots trained in the past 20 years, most of my Skyhawk time is in aircraft nearly as old as I am.

Let there be no confusion here. This is not the airplane that will be given to Sharon Hauser, who won AOPA's 1995 sweepstakes prize of the first new *production* 172. That airplane rolled out of the Independence, Kansas, factory on November 6 and is currently in the paint shop, being readied for delivery to Hauser in January. Instead, N172NU and two other Skyhawks were built on the production tooling in a small facility in Wichita. These prototype units gave Cessna a chance to try out the tooling that had long sat idle, train new production workers, and to get a few new airplanes into a flight test program while the factory was under construction. Similarly, Cessna has built three prototype 182s and will build three prototype 206s.

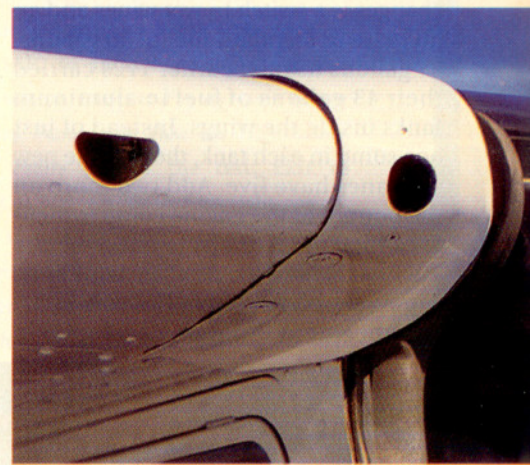
With the training complete and the tooling thoroughly tested, Cessna shipped the equipment to Independence once the factory opened on July 3. Work on Hauser's airplane began on July 10. Production of the first new 182 began in October, with delivery of that airplane—the grand prize in AOPA's 1996 sweepstakes—planned for February. Entries for the 1996 sweepstakes must be received by December 31. AOPA members who renewed their memberships anytime in 1996 are automatically entered in the drawing.

### The smell of new

With just more than 100 hours on the tachometer, this 172 legitimately smells new. Nonetheless, you won't mistake it for anything but a Skyhawk when you walk up to it. In an effort to get back

into production as quickly as possible after the signing of the General Aviation Revitalization Act in 1994, Cessna officials decided to make virtually no airframe changes to the tried-and-true 172, and the other two models as well.

However, there are some things new about the 172R, as this model is dubbed. Out front hangs a new Lycoming IO-360, making this the first factory Skyhawk with a fuel-injected Lycoming. The 172P, the last model produced, flew behind a carbureted 160-hp Lycoming O-320. Normally the IO-360 makes 180 hp at 2,700 rpm. Conscious of growing con-



**Cessna has reworked the ventilation system; gone are the 'orange juice can' vents in the upper windshield.**

cerns over noise, especially in Europe, Cessna chose to install the larger engine and then limit the rpm to just 2,400, giving it a peak performance of 160 hp. The result is a noticeably quieter airplane inside and out. Cessna reports that the flyover noise is 4 decibels quieter than that of the mid-1980s 172s.

Early in the project, Cessna had wanted to deliver the first airplanes with engines capable of burning an unleaded aviation fuel and with new electronic ignition systems being developed by Unison. It turns out that the wide-scale production of unleaded aviation fuel is years away. Cessna did evaluate Unison's Lasar ignition system but found that—at least for now—the cost outweighed the benefit. Cessna officials are quick to note, however, that they believe the Lasar system will soon be refined enough to prove beneficial.

An improvement in the engine com-



partment is the consolidation of all primary electrical components into a junction box mounted on the firewall. The box provides for ease of maintenance and protection from the elements. Redundant vacuum sources also are something new to the 172. Two engine-driven pumps run constantly. When one fails, the system automatically switches to the backup. Inside, the pilot gets an annunciator light showing which pump has quit.

Pilots will spend a bit more time pre-flighting the new 172s, thanks to some changes in the fuel system. Among the changes is a switch to wet wings and an increase in standard fuel to 56 gallons, 53 gallons usable. Earlier 172s carried their 43 gallons of fuel in aluminum tanks inside the wings. Instead of just one sump in each tank, though, the new airplanes have five. Add two more on the bottom of the engine compartment for a total of 12 sumps to check before the first flight of the day. The additional sumps are a fallout from Cessna's Safety Enhancement Program developed in

the early 1990s. The initiative urged owners to install a number of safety items, from seat track latches and shoulder harnesses to umbrella fuel caps and additional sumps. Cessna reasoned that fuel sumps in each corner of the tanks ought to catch any water in the fuel no matter the attitude of the airplane on the ramp. Not a lot of owners opted to install the extra sumps, but Cessna obviously thought it necessary on the new airplanes.

### **Please be seated**

Cessna Southeast Regional Sales Manager Rich Manor deftly straps into the right seat of N172NU as I wrestle with the new automotive-style three-point inertia reel seat belt. I soon discover that you need to latch the seat belt *before* closing the door. The belt latch keeper fastens to the outside of the seat, making it hard to

*The first new production Cessna 172 rolls off the Independence, Kansas, production line on November 6. After painting, N172FN will be awarded to Sharon Hauser, who won it in the 1995 AOPA membership sweepstakes.*

reach when the door is closed. The keeper does a nice job of preventing the latch from dangling out the door as you step out of the airplane. Many an old 172 flies around with a sprung door after pilots shut the seat belt latch in the door a few too many times. For the first time, the aft seats also carry three-point inertia reel harnesses.

Even before buckling in, though, pilots will appreciate the new seat rails and seat latches. Instead of having to lift a bar under the seat, then squirm the seat forward and hope that it latches into place, 172R pilots simply lift a small knob on the bottom of the seat between the knees and pull forward. The seat easily and smoothly glides forward. Let go and the seat locks into place. The new seat rails are straight out of the Cessna Caravan turboprop and are one of the best improvements to the new airplanes.

The seats themselves also are new. Like the rest of the airplane, the seats are certificated to the latest amendments to Part 23 of the Federal Aviation







Regulations. In this case, the seats must be able to withstand 26 Gs. That provides some peace of mind, but more important on a day-to-day basis is the fact that the seats are fully articulating, meaning that they adjust up and down, fore and aft, and recline.

To make the crew and passengers more comfortable, Cessna has reworked the ventilation system. Gone are the "orange juice can" vents in the upper windshield. Now the fixed vents are bent at an angle toward the pilot and front-seat passenger. Each vent closes tightly with a Wemac-style nozzle. Another pair of Wemacs stare back at the pilots from either sidewall next to the yokes. Interestingly, this is exactly the sort of ventilation system we put in our Better Than New 172 back in 1994. We're glad that the Cessna folks take good notes.

Also gone from throughout the interior is all of the Royalite plastic that

Cessna and other manufacturers used in the past. Instead, the interior is made from more durable fabrics and new plastics supposedly more resistant to cracking and ultraviolet damage.

The interior of the new airplanes is quite attractive. With the new Skylane-style control yokes, the supportive seats and tall seat backs, and nice materials, today's 172 feels like a bigger, more rugged airplane.

Adding to the big-airplane look is the new flat metal panel. To the left of the pilot's yoke are all of the fuel and engine gauges. They are all electric and seem to be far more accurate than those of old. The new fuel gauges are accurate enough to correctly annunciate a low-fuel warning when there's 5 gallons left in either tank. No longer do the needles bob all over the gauge during flight. Besides the aforementioned vacuum and fuel annunciations, the small annunciator panel also warns of low

voltage or oil pressure.

All of the engine and flight instruments are internally lighted. A fluorescent system under the glareshield floods the panel with light.

The standard airplane comes with the usual flight instruments. New to the 172R, though, are a bug on the heading indicator and a "fail" flag that drops down if the attitude indicator develops a bad attitude. Throughout the airplane, Cessna has made other subtle improvements. The lighting switches, for example, are now of a heavy-duty circuit breaker variety. A second latch pin at the top of each door helps to assure a solid close and reduces the likelihood of a door's popping open.

What really sets the first airplanes off the assembly line apart from other aircraft is the new avionics suite from AlliedSignal. The stack is a new generation of radios to replace the company's aging Bendix/King Silver Crown set. The





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new radios won't be available on the aftermarket until at least mid 1997.

The standard airplane comes with a navcom, transponder, and audio panel with marker beacon and four-position intercom. Add \$10,000 to the base price of \$124,500 for a VFR GPS, a second navcom with glideslope receiver, and an ADE. A \$15,000 add-on to the base prices brings an IFR GPS, second navcom with glideslope, an ADE, and a single-axis autopilot. This was the package that went into N172NU. Wheel fairings carry a \$1,200 price tag.

The avionics stack brings several new features. Fewer buttons on the new KMA 26 audio panel/intercom make it easier to use. Indicator lights denote which options are selected. The unit has separate volume controls for crew and passengers and features a semi-automatic squelch control. Just touch the squelch button and be quiet for a couple of seconds and the intercom sets the squelch

for you. Also new are the addition of two music inputs and the ability to mute the marker beacons.

The GPS of choice is the KLN 89; it's the 89B for IFR installations. As we noted recently (see "Top Contenders," October *Pilot*), the 89 is one of the most full-featured panel-mount GPSs available. The KX 155A navcoms carry a couple of new features, including the ability to store up to 32 com frequencies for quick recall. On the nav side, the frequency display can be replaced with an electronic course deviation indicator with a touch of the Mode button. This means that an owner could save some acquisition and installation costs by not opting for the standard panel-mount indicators. However, there is no provision for a glideslope indication on the radio itself. With the electronic CDI displayed, the pilot can choose to see either the radial from or bearing to the station. Another touch of the Mode but-



ton brings up a digital timer.

The new KT 76C transponder makes life easy for the pilot by carrying 10 buttons, numbered 0 through 9. When ATC calls with a squawk code, just touch the appropriate buttons and the code appears in the display—no fuss, no muss. Canceling IFR, just touch the VFR button to bring up the 1200 code.

The KAP 140 single-axis autopilot is a new unit from AlliedSignal designed to be easily upgradable. If you later decide to add altitude hold, for example, it means just the addition of a few

new circuits and the pitch servo and away you go. Unlike the KAP 100 autopilot, the new series gets its information from the turn coordinator rather than the attitude gyro. As a result, if your vacuum-powered AI gives up, your autopilot keeps on functioning as long as you have electric power to the turn coordinator's gyro. In the 172, the KAP 140 works in heading, navigation, approach, and backcourse modes.

And, according to the Cessna spec sheet, the airplane offers lots of other features too, such as the rear "Omni-

Vision" window, the "Para-Lift" wing flaps, and the "Land-O-Matic" fixed landing gear—not to mention the hub caps, steerable nose wheel, and, oh yes, the "LH Door" and "RH Door."

### Along the way from San Jose

Climbing off San Jose's Reid-Hillview Airport, I leave the radio work to Cessna's Manor and settle into the left seat to enjoy flying a new 172 over some of the best scenery in the country. Forty-five miles off our right side are the Golden Gate Bridge and San Francisco Bay, both clearly visible on this pristine morning.

We climb to 7,000 feet and head south. Throughout the climb, the airplane maintains about 800 feet per minute at 90 knots indicated airspeed. Level at 7,000 feet, I pull the power back to 2,200 rpm and the cruise settles down to about 120 knots true, as near as we

**The low noise level is a tribute to both the slower-turning prop and the extensive soundproofing Cessna has stuffed into the airplane.**

can tell. This prototype airplane has no outside air temperature gauge, so we can't be sure of the true airspeed. Fuel flow is about 8 gallons per hour.

Manor and others at Cessna have warned me that I'll be shocked by how quiet the new airplanes are. I'm prepared to not be impressed, since all manufacturers claim that their airplanes are the quietest and none of them seem to be very quiet at all. However, I am surprised at how quiet this one is. With headsets removed, Manor and I can talk in normal voices and hear each other just fine. The low noise level is a tribute to both the slower-turning prop and the extensive soundproofing Cessna has stuffed into the airplane.

On subsequent legs of the journey to Phoenix, we climb to 9,000 and 11,000 feet. During those long climbs, I decide that I would gladly pay a little extra for a rudder trim system that Cessna does not offer. Climbing into the morning sun, I flip the small, solid plastic sun visor down to discover that it does no good. Manor explains that the old-style

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visors were an effort to reduce costs and one that several Cessna senior officials are reevaluating after flying the aircraft themselves. Large tinted Rosen visors would be a nice addition.

Apparently the Land-O-Matic gear needs some adjustment, too, because I can't get it to work well at all. Manor warns me that the new 172s seem to be a bit slipperier than the old models. "It'll float if you're not careful," he cautions. It's been nearly 2 years since I've flown a 172, but it's like riding a bicycle, isn't it?

Apparently not, because at Santa Barbara I sail right past the numbers and land a third of the way down the runway. Same thing at Borrego Springs, California, where I'm hot and high after an ear-popping quick descent once we cross the mountains southwest of Palm Springs.

After a late lunch, we climb eastward over the Salton Sea toward Phoenix. Chasing our own strut-winged shadow across the desert valleys as the late-afternoon sun settles behind us, I once again realize why Cessna decided to

bring the 172 back first. We're tooling along at 120 knots or so on 8 gallons an hour in an airplane that anyone can fly. It has a terrific safety record, reasonable comfort, speed, and load-carrying ability in a rugged airframe behind a bullet-proof powerplant. It's an ordinary, yet extraordinary design. As the world's most produced airplane, it is uniquely common. And now, 40 years after it was introduced, it's back. With a new engine, panel, avionics, and interior, today's Skyhawk can probably go 40 more years. □

#### Cessna 172R

Base price: \$124,500  
Price as tested: \$140,700

#### Specifications

Powerplant	Lycoming IO-360-L2A 160 hp @ 2,400 rpm
Recommended TBO	2,000 hr
Propeller	McCaughey two-blade, fixed-pitch, 75-inch diameter
Length	26 ft 11 in
Height	8 ft 11 in
Wingspan	36 ft
Wing area	175.5 sq ft
Wing loading	13.9 lb/sq ft
Power loading	15.3 lb/hp
Seats	4
Cabin length	9 ft 1 in
Cabin width	3 ft 1 in
Cabin height	4 ft
Empty weight	1,600 lb
Useful load	850 lb
Payload w/full fuel	532 lb
Max takeoff weight	2,450 lb
Fuel capacity	56 gal (53 gal usable) 336 lb (318 lb usable)
Oil capacity	8 qt

#### Performance

Takeoff distance, ground roll	940 ft
Takeoff distance over 50-ft obstacle	1,685 ft
Max demonstrated crosswind component	15 kt
Rate of climb, sea level	720 fpm
Max level speed, sea level	123 kt
Cruise speed/endurance w/45-min rsv, (fuel consumption)	
@ 75% power, best economy	120 kt/5.8 hr
8,000 ft (48 pph/8 gph)	
Service ceiling	13,500 ft
Landing distance over 50-ft obstacle	1,295 ft
Landing distance, ground roll	550 ft

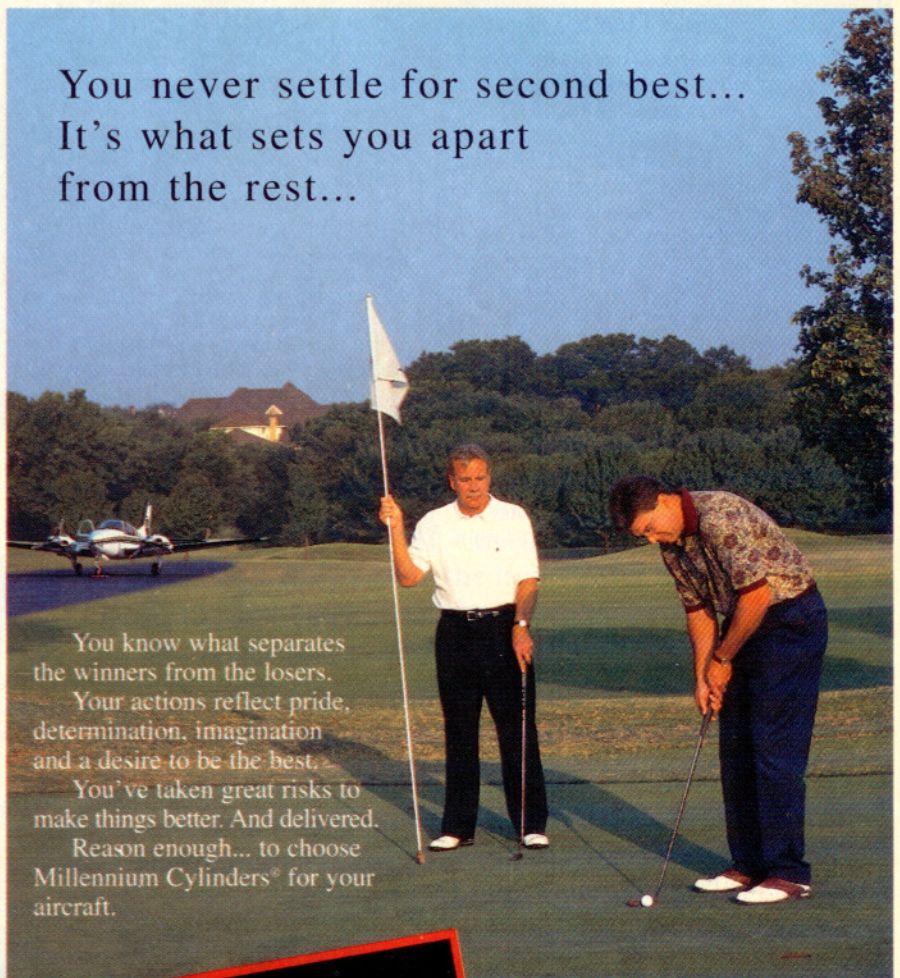
#### Limiting and Recommended Airspeeds

V <sub>X</sub> (best angle of climb)	60 KIAS
V <sub>Y</sub> (best rate of climb)	76 KIAS
V <sub>A</sub> (design maneuvering)	99 KIAS
V <sub>FE</sub> (max flap extended)	110 KIAS
V <sub>NO</sub> (max structural cruising)	129 KIAS
V <sub>NE</sub> (never exceed)	163 KIAS
V <sub>S1</sub> (stall, clean)	44 KIAS
V <sub>SO</sub> (stall, in landing configuration)	33 KIAS

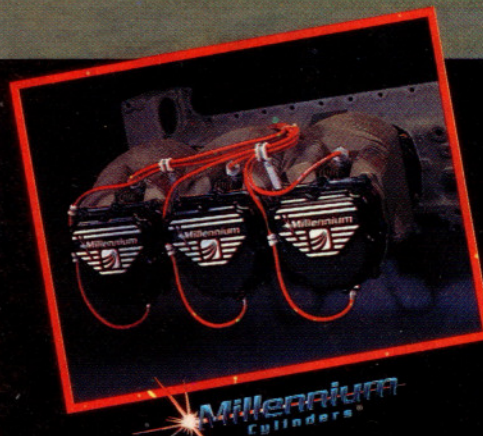
For more information, contact Cessna Aircraft Company, One Cessna Boulevard, Wichita, Kansas 67215; telephone 800/4-CESSNA; fax 316/941-7812.

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.

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