Skyhawks in the works

An update on Cessna's single-engine project

Out on Wichita's Pawnee Road, there's a lonely brick building. To someone who doesn't know, the building might be mistaken for some kind of electrical substation or nondescript warehouse. Even the sign at the entrance—"East Facility"—suggests an attempt to deliberately maintain this atmosphere of anonymity. ■ In fact, the East Facility is home to Cessna's fledgling single-engine restart program. Its prairie-like setting is part of the sprawling acreage belonging to Cessna's Pawnee Division—the ancestral home of all Cessna piston singles. So it's somehow fitting that the rebirth of Cessna's line of piston singles should happen here. ■ *AOPA Pilot* recently paid a visit to the facility and had a chance to scope out the latest

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PHOTOGRAPHY BY MIKE FIZER

developments. The big news is that Cessna is in the final stages of construction on three brand-new Cessna 172s. The company is also in the middle of the new 172's (official model designation: 172R) flight test program. The test airplane is an earlier-model 172 drawn from Cessna's flying club fleet. It's been modified to conform to the new design specs.

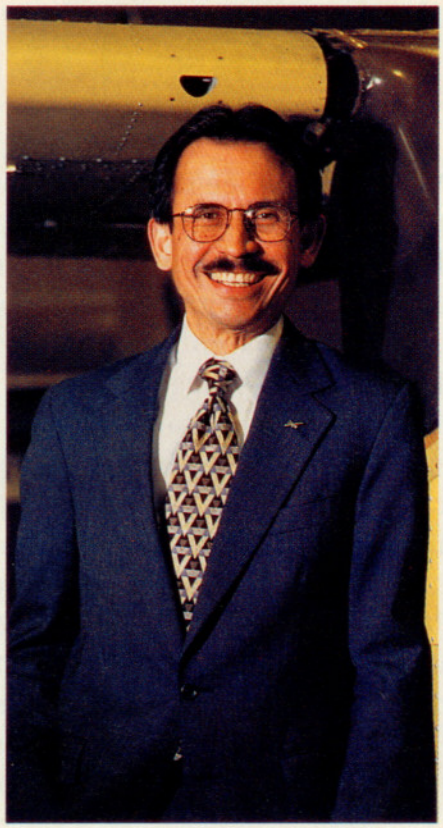
The 172s shown in the accompanying photographs are destined for display and demonstration purposes. The first one out the door will be all gussied up for its grand entrance at Cessna's display at this summer's EAA Fly-In Convention at Oshkosh, Wisconsin. The second and third 172s will serve duty as demonstrators for likely sales prospects.

Assembly workers and executives alike put their John Hancocks on the interior panels of the East Facility's number-one Skyhawk.

For now, these airplanes' principal functions also include helping to teach future assembly team leaders how to build the new Skyhawk. These employees, 14 of them, were recruited from the Independence, Kansas, area and they'll make up part of the supervisory staff when Cessna finishes building the new single-engine assembly plant in that southeast Kansas city. Company officials say that the plant should be open for business by July 4. They estimate that the first Independence-built Skyhawk, which will go to AOPA sweepstakes winner Sharon Hauser of San Jose, California, should roll out the factory doors sometime in January 1997.

Have there been any surprises while building the new 172s? "Oh, yes," says Pat Boyarski, director of the single-engine effort. "I didn't go into this thing with any preconceptions of its going smoothly. Some of the parts didn't fit at first. And then some of the parts didn't get on station on time, so there were some out-of-position parts." Boyarski's referring to the new Skyhawk's 20-position assembly line. If parts intended to be installed at position one, for example, were not yet available, then they'd have to be added at a later position—say, position eight. It's not the end of the world, but out-of-position parts can create bottlenecks and inefficiencies.

On the whole, the use of CATIA (computer-assisted three dimensional interactive application) and other computer software has been beneficial, Boyarski said. Nevertheless, when old sheet metal parts had to be changed to match new design specifications, a few hitches cropped up when it came time to fit the newly designed assemblies to original-design structures. "Where old mixed with new, that's where we had to make some adjustments," Boyarski said. Newly designed components include the instrument panel and its support structure.



Pat Boyarski, director of Cessna's new singles.

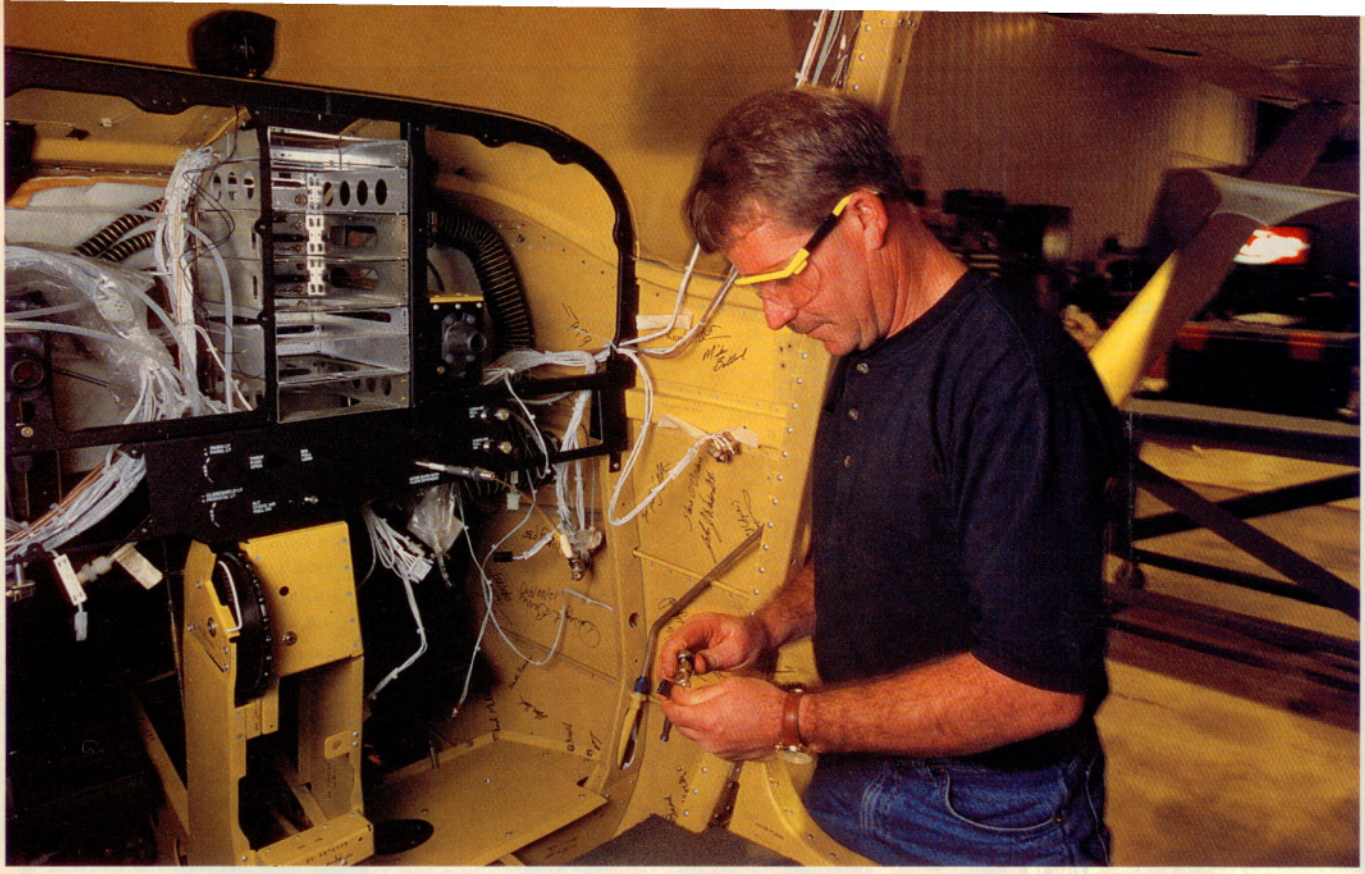
An EEDS (electronic engineering drawing system) computer terminal and printer are located adjacent to the assembly area. The EEDS lets workers print out blueprints of a desired area, and at a wide range of scales.

Mark Drumeller, a team leader trainee from Cherryvale, Kansas, thinks the EEDS is great. "With the old drawings you had trouble reading all the callouts. But with the EEDS you can blow up the drawings and easily read the small notes," he said.

The use of *line stocking* (Cessna's term for just-in-time inventory procedures), cross-trained work teams, and a resident engineering staff should all produce a better quality of work, according to Boyarski. "There won't be huge monetary savings over the way we used to build piston singles," Boyarski said. "But there will be a better quality of work, plus better employee attitude and knowledge about the work processes. With cross-training, for example, we've found that employee interest in the work increases greatly."

A peek inside the number-one 172 revealed a lot of empty space in the panel. Boyarski wouldn't say what avionics would be selected, but allowed that there would be three packages: a basic VFR avionics group, an IFR package, and a package for "flight training." Will the Oshkosh airplane be decked out with a top-of-the-line, IFR equipment load? Probably not, Boyarski said. Most likely, the show airplane will have a complement of King Silver Crown radios. The new "next generation" avionics package (no word on what that means) won't be revealed until sometime later.

Mum may be the word on what avionics are in which package, but past *AOPA Pilot* articles on Cessna's single-engine restart project revealed that AlliedSignal's Bendix/King avionics are favored to get the nod. Dual vacuum pumps will be standard equipment in all airplanes, and these were evident on the airplanes under construction. So,



too, were the new Skyhawk's 180-hp Lycoming IO-360 engines (derated to 160 hp, thanks to a propeller set at a maximum 2,400 rpm setting) and their fuel injection hardware. To accommodate a new air intake, the cowling sports a new shape that incorporates a larger intake air filter.

A new starter motor was also installed. In search of faster engine spin-ups during starts, Cessna has been checking out some alternatives to the Prestolite starters used in the old models. So far, a final selection has yet to be made.

The flight-test 172 has been following a twice-daily flight schedule, and numbers for climb and cruise performance were close to being completed at the time of our visit. "Our goal is to meet or exceed the performance of the old 172s," Boyarski said. "And that's just what the tests are confirming."

There's a bit of new information on the Skyhawk's powerplant output. In the past, the 150- and 160-hp O-320 Lycomings used in the Skyhawk were certified to produce their rated horsepower to tolerances within plus or minus five horsepower. The reborn Skyhawks will have engines rated at plus five, minus zero horsepower tolerances.

The East Facility mentality, with its Delphic utterances and concern for secrecy, should give way soon to a barrage of promotions, advertisements, and demonstrations come summer. When it happens, we'll be there to keep you posted.

Stay tuned. □

Team leader trainee Mark Drumeller works on a panel (above), while a drawing is called up on the EEDS. New Skyhawks will have redesigned fuel and oil gauges, arrayed in a four-instrument cluster.