

The inside job



Farewell, ripped and beaten seats—
Hello, fresh leather and bubinga wood

BY THOMAS A. HORNE

It's been a mere seven months since we first bought AOPA's 2011 sweepstakes airplane—a tattered-looking 1974 Cessna 182P—and put it through several major-league steps in its complete restoration. First came the installation of a factory-remanufactured, 300-horsepower Continental IO-550 engine, a new Hartzell three-blade propeller, and Flint Aero wingtip fuel tanks at Air Plains Services of Wellington, Kansas. After a stint on display at AOPA Aviation Summit in Long Beach, the airplane next went to Advantage Avionics, at the Chino, California, airport. There, its 1970s-chic panel was yanked in favor of a totally new design. The new panel is centered around Garmin's G500 combination primary flight display (PFD) and multifunction display (MFD), and includes a huge assortment of the best and brightest in retrofit instrumentation. (A complete list of the contributors to the panel, as well as the entire project, can be found on the sweepstakes website—www.aopa.org/sweepstakes).



Plus— See the video installation.



A job this big calls for lots of paperwork (far left). Air Mod's Dennis Wolter (above) puts the final touches on a soundproofing insert. New fiberglass wing tips were installed (left).

On to Air Mod

After a shakedown flight and some final tweaks to the avionics, it was time for me to take the Crossover Classic on a long, long cross-country flight—from Chino to Air Mod's location at the Clermont County Airport in Batavia, Ohio. Air Mod is a well-known and respected interior shop that has performed interior conversions on several of AOPA's sweepstakes airplanes.

That cross-country flight let me become really familiar with that brand-new panel. And luxury of luxuries, the airplane now has Cobham/S-Tec's System Fifty-Five X autopilot. Compared to hand-flying the original airplane, this is a huge step up. Before the new avionics, the airplane was badly misrigged and had a heavy right wing that made flying a full-time chore. Now, I could set a course and preselect an altitude on the G500, and let the Fifty-Five X do the rest. The G500's synthetic vision, together with the XM WX datalink weather overlays on the MFD, Garmin's GTS 800 traffic advisory system, and an abundance of engine information on the JP Instru-

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ments EDM-930 engine data monitor, gave me situational awareness as good as, if not better than, that afforded by an airliner. And I'm sure the winner will feel the same way.

Three stops, 1,500 nm, and 11 hours after leaving Chino, I was taxiing onto Air Mod's ramp, where owner Dennis Wolter wasted no time pulling the airplane into his shop. Almost immediately, Air Mod's team of technicians set up the

airplane—and that's no exaggeration. Within an hour the cabin was stripped of carpet, seats, sidewalls, and headliners. A few minutes after that, and most of those funky interior components were in the trash bin. From here on, it was *tabula rasa*, as Air Mod started with a fresh slate and began implementing a much-needed, entirely new interior design concept.

Working on the airplane were Air Mod's Tom Bayer, Gary Denison, Dean Hamilton, Taylor Riggs, Mark Rogers, Rick Wainscott, and Bob Wilson. The seamstresses who cut, form, and stitch the seats and other interior elements are Dierdra Burr and Cathy Wilson. Meanwhile, Don Hugenberg is in charge of cutting, shaping, and fabricating the foam cushioning and supports for the seats—which will be covered in beige leather.

Sequences and surprises

For Wolter, redesigning and installing an interior are just part of the job. Just as important is his concern with corrosion, something that distinguishes

his shop from many others. It makes no sense to redo an interior and ignore any underlying corrosion, he says. Ultimately, corrosion is what will claim so many airplanes in our aging general aviation fleet.

Although our Cessna 182 has a remarkably clean airframe, Wolter still found corrosion, and more. The aluminum beneath the seat rail attach points had corroded, as had some aluminum panels in the footwells and above the headliner. Luckily, this could all be corrected with a thorough cleaning, using Scotchbrite pads and lacquer thinner. This was followed by a zinc chromate treatment of the entire cabin interior.

Next came removal of all the original windows, and their replacement with new, lightly tinted windows from LP Aero Plastics of Jeanette, Pennsylvania (www.lpaero.com). Take our word for it: Don't even think about upgrading an older airplane without installing new windows. The original windows may

not have seemed scratched, crazed, or dull before, but after a new interior and paint job they'll certainly look sub-par.

Air Mod's attention to detail took other avenues. The nosewheel assembly, for example, was found to be loose and in need of new bushings. The nosewheel itself—a three-piece assembly—had allowed moisture into the bearings over the years, and you know what that means. Yep, corrosion. So a new, modern-style, two-piece nosewheel was ordered and installed. Air Mod also installed the sleek new Knots2U wheel pants, Hartwig Fuel Cell Repair's Monarch fuel caps, and new seat rails from MacFarlane Aviation Inc. of Baldwin City, Kansas (www.macfarlane-aviation.com).

A few words about the fuel caps and seat rails are in order. The original Cessna 182P fuel caps are recessed slightly beneath the level of the wing skin. This can cause water to pool on the caps, a design that inevitably results in spillage of rainwater into the fuel tanks

when it comes time to fuel the airplane. Over time, fuel seals can deteriorate, and so any water trapped on top of the caps can enter the fuel tanks that way also. The Monarch caps are raised, and thus prevent water from entering the tanks. So Monarch caps are a good investment—even at \$700 for the pair.

As for the seat rails, they're the subject of a repetitive airworthiness directive that calls for inspections every 100 hours. The holes in the rails are engagement points for the pins that lock the front seats in place. If the holes are elongated, the seat can slip during takeoff or other times when flying at nose-high attitudes. This sort of seat slippage has been blamed for fatal accidents, but installing new seat rails does away with both the AD and the danger. So new seat rails also made sense in our goal to make this sweepstakes airplane the best it could be. Anyone flying an older Cessna single would be well-advised to keep an eye on those seat-rail holes, and replace the rails at the first signs of wear—even if a set of seat rails can set you back some \$600.

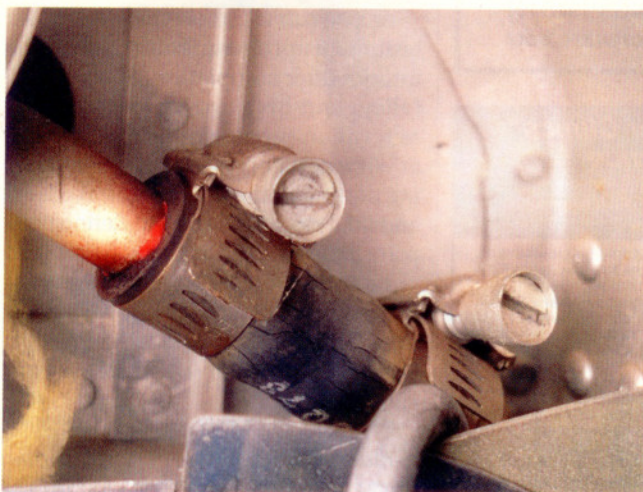


The old seat covering material was yanked (left) while new leather-covered interior door panels were installed to the door inserts (below). Cracked fuel-line connections at the wing roots (bottom left) were replaced with new rubber sleeves. New seat rails from MacFarlane Aviation Inc. were installed (bottom right) to prevent seat slips.



Leather and bubinga

The final stages of Air Mod's renovation involve the fitting of the new seats, carpet, sidewalls, and interior plastic components. The latter were generously contributed by Vantage Plane Plastics (www.planeplastics.com). The old plastic was shot, of course. This was most evident when you examined the plastic headliner. In the past, someone used a spray-on cleaner such as Fantastik, Windex, or who knows what else to clean the headliner. Bad move. The cleaner interacted with the plastic and gave it a sticky surface that attracted more dirt; otherwise, it was in good shape. Air Mod



cleaned this mess by wiping it clean with isopropyl alcohol, then giving it a coat of acrylic paint. Now, cleaning can be accomplished with a plain soap-and-water mixture.

The Garrett Leather Company (www.garrettleather.com) of Buffalo, New York, contributed the leather for the seats and sidewall treatment, and the bubinga wood trim being applied to the interior door panels came from a local Cincinnati source that specializes in furnishing custom homes. The wood of the bubinga, grown in Africa and South America, is used in furniture but is also featured in high-end guitars, archery bows, harps, drum sets, and Lexus automobiles, and was once fitted in certain models of the Beechcraft Bonanza A36. It has a reddish-brown color and a distinctive appearance similar to that of the mineral tiger eye.

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Rounding out the package is a center console from Saircorp/Flight Boss Ltd. (www.saircorp.com). The console incorporates a flip-up armrest that covers a storage compartment, a fold-down "flight desk" with a clipboard, and a storage compartment for a Mountain High oxygen system, which is on its way as this is being written.

As you can tell, this interior will be a beauty. An upcoming issue will show the interior after completion, and you can follow late-breaking coverage of the renovation process online, as always, at www.aopa.org/sweeps. We're nearing the end of the upgrades, folks! Next and final stop: Boss Aircraft Refinishers' paint shop in Salisbury, North Carolina.

Look for the airplane in all its glory at EAA AirVenture in July and AOPA Aviation Summit in September. Meanwhile, join or renew by July 31 to assure your chance to win. **AOPA**

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