

**PROGRESS REPORT**

A panel takes shape

Panel precision via CAD-CAM technology

BY THOMAS A. HORNE



ONE OF THE MORE SATISFYING ASPECTS of an AOPA sweepstakes renovation project is seeing the new instrument panel come to life. This transformation begins in small, time-consuming stages, so in the first few weeks of avionics work there's not a lot of progress apparent to the untrained eye. Sure, the original panel's old gear has been removed, but now the wiring bundles are being painstakingly assembled, the new switches and relays are being connected and tested, and the actual panel template is in the process of being cut. Compared to the panel-cutting part, the grunt work can seem mundane.

Santa Fe Aero Services had to yank out yards and yards of 50-year-old wiring—because why create a state-of-the-art panel and retain the original wires?—and all that takes time. It takes even more time to assemble the new bundles. While that's going on, Santa Fe Aero digitally scanned the old panel and created a new, computer assisted design (CAD) model that's accurate to within 1/10,000 of an inch. Think the new panel will fit the perimeter dimensions of the old one? You bet it will, right down to perfect matches of the original panel's mounting

screw holes, thanks to the CAD's perfect measurements. Once that was done, avionics cutouts were added to the CAD model so that they and other panel components will fit exactly into them. Computer-assisted machining takes this information and turns on the shop's computer numeric control machining router. The end result is an aluminum panel ready for installation.

At the same time, Santa Fe Aero sent out the control yokes for refurbishment, and the fuel sending units were overhauled. The old analog units simply weren't up to the standards required by the Debonair's new Electronics International MVP-50P engine and systems analyzer and, like the old wiring, it just made sense to upgrade the 50-year-old senders.

Stay tuned for more updates on this exciting project—in *AOPA Pilot*, online at our brand-new Debonair Sweepstakes blog, and, in the near future, on video reports on AOPA Live This Week weekly webcast.

A PREVIEW OF THE panel cutout and how the Aspen Evolution 2500 will fit into the picture.

EMAIL tom.horne@aopa.org

**WEB**

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