

WISCONSIN **VELOCITY XL RG INSTRUMENT PANEL UPGRADE**

WON'T BELABOR the extensive list of reasons to upgrade a perfectly good 2005 instrument panel. A vacuum pump failure in flight, safety, ADS-B regulations, and gee-whiz factor alone should be enough. But if it is to be updated, why adhere to the age old policy of plunking new equipment into holes hollowed from a flat stock of material?

Gazing at the dashboard of my sports car on the way to the airport, I longed for something more functional, more aesthetic, and more exotic for my airplane. The profile on the Velocity XL RG that I purchased is sufficiently low in headroom that my seat is reclined, placing my upper torso a fair distance from the panel. It was my hope to not dislocate a shoulder entering the next waypoint. Although old school aviating is predominantly unidirectional receiving from the panel, modern avionics are more interactive.

So the concept was to bring the instrumentation to the pilot. I designed a pair of protruding pods and center stack. Working in cardboard, then Fiberglass, then clear Plexiglas, I originally planned to cover it in leather. Without exception, all who have seen it have encouraged me not to, as the interest in what lies behind exceeds the desire to cover it up.

I have found that a flat screen on the other side of the aircraft facing someone else is of limited utility to the pilot. So the copilot



pod is fashioned such that it will click-stop pivot toward the pilot, or stay flat for the copilot to earn their next \$100 burger. The hinge is angled to compensate for the slightly raked-back monitor, maintaining fairly horizontal geometry in all positions. The bezels surrounding the dual G3Xs protrude to accommodate gripping digits in turbulent rides. The new annunciator above the pilot's screen was cut of black plastic housing, wired with LEDs, and detailed with icon masks laser printed on clear film.

The SL30 was the only item retained from the old panel. Of the at least six iterations of the panel, the most recent was expanded for the center stack to narrowly accept a GTN 750 instead of the existing GTN 650. The extra space at the top presently accommodates my cellphone with aviation apps until said upgrade. I continue to work on glare shields, removed for the photos.



It is of amazing benefit to work on a panel that is transparent. Reaching behind and drilling holes, placing screws, and connecting wires is easier, because you can see right through the panel to everything you touch. I have learned much in the process of materials handling with cutting, drilling, and bending, having a sizable stack of failed plastic to prove it. It is difficult to photograph something that is transparent, however.

Although I may take credit for the design and building of the panel, I extend my gratitude to Skycom Avionics (Waukesha, Wisconsin, at KUES) for steering that process and its assistance in wiring and installation.

I hope my project may inspire others to break out of the "flat-panel syndrome." *EAA*

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