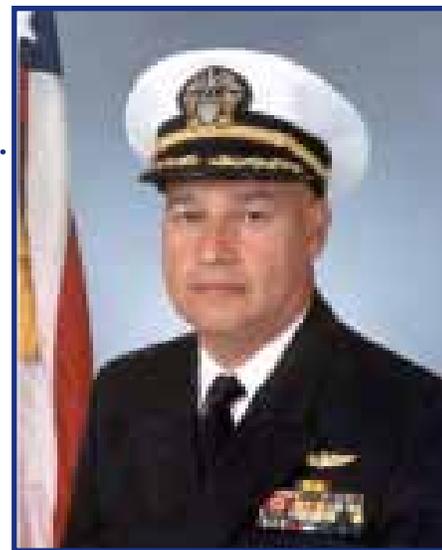


SAFETY FIRST

COUNTERINTUITIVE

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In reviewing aviation safety data, it appears that perception is often at odds with reality when results of well designed studies are analyzed and all the numbers are crunched.

A recent report released this past March by the NTSB addressed the issue of whether safety is enhanced in technologically advanced aircraft (TAA) fitted with glass panel PFDs and MFDs. Virtually all newly manufactured aircraft now leave the factory equipped with glass displays. A reasonable inference may therefore be made that the change to glass evolved due to an observed enhancement in flight safety. It would be logical to expect improved situational awareness, especially during instrument flying, when referencing to that big synthetic horizon. Additionally, TAAs with glass panel MFDs bring a wealth of information to the cockpit, such as terrain awareness, traffic warnings, datalink weather, and advanced coupled autopilots. The advanced instrumentation at first glance may seduce the uninformed into expecting an immediate corresponding reduction in risk exposure, leading to diminished total and fatal accident rates in aircraft so equipped. But the report, which caught the at-

tention of NTSB Chairman Hersman, disclosed that piston engine GA aircraft equipped with glass have a higher fatal accident rate than aircraft with a conventional six pack display. The NTSB report then went on to stress the need for pilots flying TAAs to undergo specific initial training and recurrent proficiency training.

Our friends at the Air Safety Foundation have reviewed the issue of TAA safety in several reports over the last few years. Bruce Landsberg has noted on several presentations that glass cockpits do not drag safety into the cockpit in the absence of specific training. And it is important to discriminate between the types of accidents seen in TAAs. While it may not be surprising to see that lack of stick and rudder skills can hurt you when flying a slick, composite, high wing-load TAA airframe, one item that I did not expect to see was a three times higher weather related accident rate in airplanes with enhanced weather displays. I would invite any of you flying behind glass to read Bruce's summary at <http://www.aopa.org/asf/asfarticles/2007/sp0708.html> to understand this complex topic.

The March NTSB report hit the street just as I had completed transitioning from steam to glass after

a month-long avionics upgrade to a G 500 into 38V. The report was counterintuitive in so far as I had just gotten over the hump and felt quite comfortable in instrument conditions behind the glass panel. It took about 10 hours of flight time to fully readapt my scan, and I had pretty much stopped glancing at the redundant AH, altimeter, and ASI for reassurance in IMC. I have some personal reservations about the logic of the display. For example, I miss the ball and don't care for the bar which provides the same information, and I also miss the solid line representing the glide slope, now presented as a small triangle. No doubt the display was designed by computer geeks, not pilots.

One thing that rapidly becomes apparent after the first hour of flying glass is how one can quickly get into a world of hurt if not adept at pushing the right buttons in the right sequence. The first time I forgot to switch from "GPSS" to "HDG" under the hood, the airplane took an unexpected 90 turn. That would have been very disconcerting on an instrument approach. Once mastered, however, it is truly amazing to monitor the airplane as it flies a fully coupled approach starting at the IAF, intercept the glide

slope, and continue down to DH, all hands off. Confident as I feel in my plane however, I would be very reluctant to hop into another glass airplane, even another glass Mooney, due to the lack of standardization in the installations. Bottom line on this topic: don't fool yourself into thinking you are flying with a reduced risk exposure just because you are flying behind a fabulous glass panel. Training is the key.

Shortly after the March NTSB report, a second unrelated study was released by the Flight Safety Foundation (not to be confused with the Air Safety Foundation), on heads up displays (HUDs), with an opposing result. This study involved multi engine aircraft (12,500 lbs and up), so it is not comparable to the NTSB report on GA aircraft. Still, the significant finding was that a 70 % reduction in take off and landing accidents could have been prevented by use of a HUD. This technology however, is more complex and expensive and not as easily brought down to GA. It would be interesting to see if synthetic vision, which is displayable on a PFD at reasonable cost, can bring the same benefit to GA. My suspicion however, is that, as with all else in life, there is no free lunch, and training will again be paramount to extract the benefit of advanced technology.

Nil illigitimae carborundum

Famous German philosopher Friedrich Nietzsche once said
"He who would learn to fly one day must first learn to stand and walk and run and climb and dance; one cannot fly into flying."

Margaret Dennis Smith, M.D.



FPA members mourned the untimely death of Dr. "Maggie" Smith on July 5, 2010. Dr. Smith with her step-son, Michael Ferguson, 44, and his wife Theresa Renz, 47, were killed when the Cirrus SR-22 piloted by Dr. Smith crashed at a commercial business strip near Fairfield Airport in New Jersey. They were returning from a family holiday near Lake Champlain.

Dr. Smith was an active member of Flying Physicians. She had served as the Northeast Chapter Vice-President of the FPA Board of Directors and also completed a 3-year term on the Board of Directors in June, 2010. She was recently named chair of the FPA Samaritan Committee by the president, Felix Tormes, and had served as co-chair of that committee for the past two years. Maggie Smith was a frequent participant at FPA chapter and national meetings, accompanied by her husband, Dr. Matthew Ferguson.

Services were held in Manhattan on Friday and Saturday, July 9-10.

By family request, donations may be made in her memory to Medicine Sans Frontiers or The Arthritis Foundation.