

FAA / Industry Training Standards *FITS and the Future of General Aviation Training*

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Flight training within the general aviation (GA) community has reached a critical juncture. While the industry as a whole enjoys an admirable safety record, the proliferation of advanced technologies in small aircraft cockpits, coupled with their increased performance capabilities, has led the Federal Aviation Administration (FAA) to take a critical look at how pilots are trained.

To that end, the FAA has partnered with industry to develop the FITS program. FITS, or FAA/Industry Training Standards, offers a new training paradigm that embraces concepts such as risk management, aeronautical decision-making, situational awareness, and single-pilot resource management. Instead of treating each element as a separate or stand-alone lesson, scenario-based training will be used to efficiently integrate these tenets of system safety into every instructional exercise.

To understand why such a profound philosophical change is needed, consider that flight training has changed very little since the dawn of regulated aviation. In fact, a private pilot trained to standards outlined in the Civil

Aeronautics Regulations, circa the 1940s, would likely do quite well in most operations required by today's practical test. This is because many of the basic skills needed to pilot an aircraft have changed very little. However, the development of new technologies and a rapidly evolving airspace system have outpaced current training methods. Moreover, the FAA and the flight training community now have over a century's worth of experience upon which to draw when determining how best to train pilots. While the military and airline communities have leveraged this experience, the general aviation community has been slow to make use of the lessons learned.

such skills are important, most fatal accidents are not a result of deficiencies in these areas.

Moreover, as if rapid technical advancement and an increasingly complex operating environment weren't enough, the number of technically advanced aircraft continues to grow dramatically. For purposes of the FITS, a technically advanced aircraft is one that combines some or all of the following design features: advanced cockpit automation systems (moving map global positioning system/glass cockpit) for IFR/VFR flight operations, automated engine and systems management, and integrated auto flight/autopilot systems. Most GA airframe manufactur-

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As a result, the vast majority of fatal GA accidents continue to involve a lack of situational awareness and poor aeronautical decision-making. Currently, pilot training standards focus less on these factors, and more on the development of mechanical, or "stick and rudder" skills. While

ers, including Cirrus Design, Cessna, Piper, Mooney, Lancair Certified, and Diamond Aircraft have introduced "glass" cockpit-equipped aircraft systems to their respective lines of piston singles and light twins. Couple this with the dramatic growth in advanced systems now being installed in

traditional or “legacy” aircraft, and it becomes clear that training techniques rooted in the 1930s and ’40s are woefully inadequate for the 21st century aviator.

With this in mind, the obvious question now becomes what can FITS do for avionics manufacturers, technicians and retailers? First, it is important to note that FITS is an incentive-based program. While FITS will not result in regulatory changes, it will allow the FAA to offer a host of benefits to those aircraft owners/operators who receive additional training. These include improved flight review and instructor renewal guidance, as well as transition and recurrent training programs that more effectively meet the needs of GA pilots. This additional training not only serves to make safer pilots, but increased familiarity and comfort with aircraft systems will lead to future investment in avionics upgrades.

Next, FITS training can help keep insurance costs at manageable levels. Traditionally, when new aircraft and/or technologies enter the market, insurance companies have a difficult time assessing potential risk, a major determinant in establishing rates. Because GA lacks a regulatory requirement for structured transition or system-specific training, insurance companies are often forced to mandate certain conditions in order to write policies. This usually translates into expensive, often burdensome, experience (time-in-type) requirements. Also, because much of the training is not well structured, the pilot receives minimal benefits from the additional instruction. This is clearly a disservice to the owners/operators of such

aircraft/avionics systems, and has the undesired effect of discouraging pilots from investing in new technologies. By offering a FITS alternative, pilots will receive the training they need in less time, and with less expense. Insurance companies, recognizing the benefits of such training, will be in a position to offer lower rates. This is because insurance companies recognize and reward structured training that addresses the causal factors associated with many GA accidents, regardless of the aircraft type. In short, the more money aircraft owners/operators can retain, the more likely they are to invest in avionics upgrades.

Finally, FITS is intended to raise the level of aviation safety by improving the quality of flight training. FITS will make flying safer, less expensive, and provide more practical training for the general aviation community through the development of value-added programs and new instructional resources. These FITS “products,” which include new aircraft/avionics-specific and generic training programs and improved pilot examiner guidance and practical test standards, will be the cornerstone of the FAA’s efforts to modernize the flight training system. Not only will these systemic improvements reduce accidents, but they will also help acclimate pilots to the rapid pace of technological advancement that will surely be the norm in coming years. Again, this cannot help but to motivate greater investment in new cockpit technologies and appropriate training.

To maximize the benefits of this program, FITS will focus on the segment of general aviation

that uses single pilot, small reciprocating or turbojet/turbofan-powered aircraft for personal transportation. While FITS may offer advantages beyond the general aviation community, the justification for this focus is clear. Air carriers and larger, crew-served, corporate operations currently have in place extensive training requirements. In addition, these operations enjoy a record of safety that is unsurpassed. While operational and regulatory differences pose unique challenges for GA, statistics have shown that structured, scenario-based training is the key to achieving the high level of safety enjoyed by the airlines and larger corporate operators.

So where will FITS go from here? FITS will not evolve without input from the GA user community. Because flight safety is everyone’s concern, the FITS program development will involve pilots, flight instructors, airframe and avionics manufactures, insurance providers, as well as research and academic institutions.

General aviation, once a homogeneous community comprised mostly of “round gauge” piston singles, now includes everything from ultralight and sport aircraft to single-pilot and crew-served jets capable of operating above flight level 410. Systems that were once seen only in airline cockpits are now readily available in many small piston-powered aircraft. As the capabilities of GA aircraft continue to increase, so too will the piloting skills required to maximize both safety and operational effectiveness. Clearly, a one-size-fits-all approach is

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no longer adequate in meeting the demands of pilots and flight instructors. The pace of development and other systemic changes no longer affords us the luxury of a slow, unprogressive approach to flight training policy. That is why the success of FITS is so critical to the FAA, airframe and avionics manufactures, flight schools, and to pilots. With the active support and involvement of industry, FITS will prove an indispensable tool in reducing aircraft accidents. Welcome to the future of flight training!

For further information and FITS-accepted products, please check out our FITS website at <http://www2.faa.gov/avr/afs/fits>. ■