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Private Pilot Training for the 21st Century

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It's the new millennium. Technically advanced aircraft (TAAs) like the Eclipse 500 jet, Cirrus, Diamond and Columbia have jolted the general-aviation manufacturing community from its lethargy of 50 years of the same thing.

New technologies such as the Avidyne FlightMax family of multi-function displays and the Garmin G1000 "all-glass" avionics suite complicate the cockpit. The airspace is more complex and general aviation (GA) is evolving into a practical airline alternative. GA needs to grow up.

And the accident rate begins to creep up. "The increase in accident statistics is disappointing," said Acting NTSB chairman Mark Rosenker in 2006. "The numbers are going the wrong way."

The culprit is aviation's perennial nemesis: poor in-flight decision making, coupled with the challenges of managing a TAA's sophisticated navigation capabilities and automation. The root cause: inadequate training.

It's no surprise. GA training has barely changed in 70 years, and has visibly and painfully lagged behind the pacesetters in aviation safety: airlines, corporate jet operators and the military. Imagine learning about a TAA as if it was a Piper Cub. That's a long stretch, and it doesn't work.

Enter FITS

Hence the creation of FAA/Industry Training Standards (FITS), a partnership between FAA, industry and academia. The partners' mission: to enhance general aviation safety and improve pilots' decision-making skills.

FITS aims to do so by developing convenient, accessible, less expensive and more relevant training to operate safely in today's airspace. The new maxim: "real-world training for real-world pilots," or "Train the way you fly, fly the way you train." The military calls it sortie training: "Train the way you fight, fight the way you train."

Being non-regulatory, FITS can keep up with rapidly evolving avionics. Moreover, FITS is incentive-based, luring flight-training firms and prospective students with the promise of better training more quickly and safely than ever thought possible. FITS-based training is now mandated by many insurance companies who offer lower rates for TAA pilots.

So what is FITS? In short, it is a fundamental redesign of GA training.

The old concept was to train pilots to perform a series of maneuvers or skill demonstrations.

Critical "soft" skills such as aeronautical decision-making and risk management got short shrift.

But the new way of thinking is to train pilots to manage real-world challenges expertly in today's airspace, applying the four facets of FITS:

- Aeronautical Decision-Making (ADM): Defining a problem correctly and choosing the best course of action, then taking action and evaluating the result
- Risk Management (RM): Managing risks associated with the pilot, airplane, environment and purpose of the flight
- Situational Awareness (SA): Deriving the big picture from risk management as well as from the flight plan, the airplane, the pilot, passenger condition and avionics programming
- Single-Pilot Resource Management (SRM): Managing onboard and external resources available pre- and in-flight to ensure a successful outcome, and tying ADM, RM and SA together to operate at near-airline safety levels.

The key to achieving these goals is simplicity itself: scenario-based training, or SBT, the embodiment of "train the way you fly, fly the way you train."

Instructors have informally applied SBT for years, often without much structure. By contrast, FITS scenarios are very structured scripts incorporating real-world experiences. Real-world scenarios produce situationally aware pilots who make sound decisions and use all the informational and automation resources available.

Most fatal accidents don't result from poor stick-and-rudder skills. So FITS makes little effort to change the way basic flight skills such as turns are taught. FITS is intended to develop higher-order judgment skills formerly believed unteachable.

Learning-centered grading is built into each lesson. Maneuvers are graded by the student's ability to explain, practice and perform a maneuver – no meaningless letter or number grades. SRM grading substitutes performance evaluation with a "manage/decide" task gauging the student's ability to acquire data and decide a best course of action.

Does FITS fit you?

FITS is commonplace at progressive GA flight schools, especially those affiliated with universities or community colleges. Students benefit from streamlined training — more effective training per hour and so less flight time needed to meet standards. FITS emphasizes proficiency, not hours.

A FITS student at Middle Tennessee State University earned her private and instrument tickets with just 55 logbook flight hours. The national average to earn a private license and then an instrument rating is about 120 hours.

It's not all cookies and cream

Educators, instructors, pilot examiners and FAA inspectors trained years ago are understandably reluctant or unable to surrender the old and embrace the new. All the same, FITS is the present and future. It may take a new generation of FITS-trained educators to make it the standard training model.

FITS enjoys good market penetration from manufacturers like Cirrus and Garmin, but it's not as prevalent in the field. Many schools still offer Cub-era training.

While FITS is aimed at TAAs and light jets, it works in any kind of aircraft or training - primary, advanced, transition or recurrent. You don't need a fancy airplane to get real-world training.

BeneFITS

FITS is based on techniques long used by zero-error-tolerance groups such as the nuclear industry, police services and fire services.

Airlines have used their version of FITS, called LOFT (Line-Oriented Flight Training), since the 1970s. If you seek a professional flying career, you'll have an advantage with FITS-based training.

FITS benefits include:

- Reducing human error through training
- Speeding up development of higher-level judgment and decision-making skills
- Increasing pilot training efficiency and effectiveness. FITS allows consolidation of private pilot and instrument training into one program, saving many hours
- Reducing pilot training time and cost while improving quality
- The finding that FITS graduates have fewer setbacks during training and are more comfortable with automation and instrument flying.

Research confirms the effectiveness of FITS. After 70 stagnant years, GA finally has the right approach to flight training in the 21st century.

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