Train Like They Fly: Teaching TAA

- **Selling the Utility of GA**
- **Quality Assurance in Training**
- **Avoiding Runway Incursions**
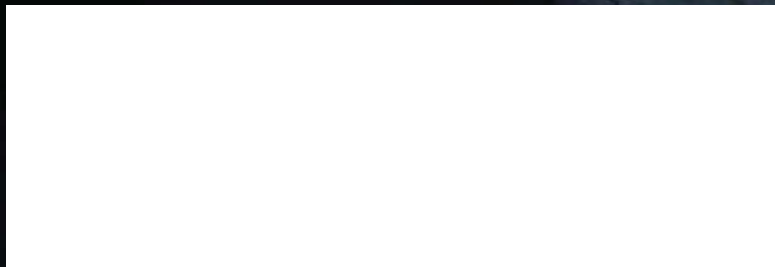
position Report

Teaching Technology

Today's pilots need more than stick-and-rudder skills

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W e love our acronyms in aviation. One of the favorites of late is technically advanced aircraft (TAA), which describes those aircraft with the latest-and-greatest automation and instrumentation.

Just a few years ago, we'd call an aircraft with a basic-level GPS that complemented traditional round gauge instruments "technically advanced." Twenty years ago we'd probably think the same of aircraft with a DME, HSI, and autopilot—especially if they had retractable gear. Times change, and so does the technology infused throughout aviation.

When we think of TAA now, we think of GPS, full glass panel cockpits, advanced autopilot systems, onboard weather, moving maps, and maybe FADEC, and these systems have become commonplace in the past few years—in both new Part 23 and light-sport aircraft and in older aircraft that have been retrofitted to "modern" standards. In fact, these aircraft have quietly filled the flight line of many schools.

For instructors, that leaves few options if they aren't up-to-date on their button pushing. Those

who want only to provide instruction in "old fashioned" instrument-equipped aircraft are more frequently being left out in the cold. Let's be honest, in many cases older round gauges are becoming rare.

We have our work cut out for us if we intend to stay proficient—and relevant. Indeed, one of the operations where I regularly give check-rides recently went through an avionics upgrade on its entire fleet, switching from the Avidyne E1 package to the Avidyne R9 package; on top of that it switched from the S-Tec 55 to the DFC100 autopilot. If I wanted to stay ahead of checkride applicants, I had some homework to do, and only after reading a few hundred pages of manuals, practicing on the online simulator, and attending training by the school itself did I finally find myself at the point where I could keep up with applicants.

Yet beyond the training challenge that the avionics themselves present, their potential permits pilots to fly missions that require additional training, as well. TAA offer information and capability far beyond a 40-year-old legacy aircraft; advanced autopilots, weather-information

systems, and long-range comfort make modern TAA effective business and family travel tools. Our customers need to know not only how to take off and land, but also how to use their aircraft as a personal airliner. We must teach pilots with these aspirations how to use the aircraft systems to fly more knowledgeably, to operate in and around real weather conditions, and to manage the human factors—fatigue, decision-making, and risk management—with automation to ensure the safety of these flights.

This changes how we train pilots, moving us away from the traditional task-based approach to training and toward scenario-based approaches. With TAA, more than ever, this approach is necessary to fast-forward pilots' learning and flatten the curve, so that their abilities match that of the airplane—and do it quickly, too, as they attempt similar missions to those made by regional, if not main-line, airline pilots, yet they have potentially thousands of hours less experience and half the required crew.

TAA have driven general-aviation training in a new direction, one where instructors must keep current

on ever-changing aircraft systems, training approaches, and customer demands. We've turned a corner, and those of us who don't recognize it's happened may ultimately find themselves left in the rear-view mirror.

To those ends, in this issue of *Mentor,* we're exploring how pilots train and fly TAA. While there will always be pilots who choose simple aircraft to fly for fun, potential students who have the wherewithal to buy newer aircraft will likely do so for one reason: an advanced aircraft is a device that makes their lives more efficient, however they choose to measure that. As instructors, understanding what—and how—tomorrow's customers will be flying allows us to stay ahead of that curve; if we're to be successful at providing training next year, or the next, or the next, we'll have to be competent in what each needs to learn.

For sure, we no longer simply teach student pilots to fly. We teach them to use their airplane, as well. That takes more than just pushing the right button; it takes knowledge, experience, and a dedication to training that doesn't come in a little black box. ∎