

Postflight Briefing #1-1**Using PC-Based Simulations: Learning, not Logging**

Earning an IFR rating—at least the flying part of the training—ought to be easy. After all, by the time you start working on the instrument ticket, you already know how to fly, and IFR flying is series of basic maneuvers—mostly straight-and-level, with a few gentle turns and gradual climbs and descents. Of course, there's far more to the art of *operating* by reference to instruments, including working in the ATC system, managing complex avionics, and, most important, maintaining situational awareness and following detailed procedures that keep you safe when you can't see the ground.

Airlines and corporate aviation departments have long made extensive use of sophisticated flight simulators and training devices to get their pilots up to speed and maintain proficiency. The rapid development of personal computer hardware and simulation software has also made it possible to bring many benefits of virtual flying to small flight schools and individual pilots.

But while the aviation community often touts the benefits of using simulation in flight training—especially IFR training—many instructors and pilots still don't take full advantage of the technology, probably because too many instructors and students think of simulators only as substitutes for flying time or as tools for remedial training, not as opportunities to learn and practice new discrete, abstract skills.

For example, aviation forums on the Web burst with arguments about which software to use, what type of hardware makes for a realistic virtual cockpit, and how best to use PC-based simulations in a training/proficiency program. Unfortunately, most of those discussions generate more heat than light, largely because too many folks focus on flight models, cockpit layouts, and other issues that *seem* important but which really aren't the keys to making effective use of PC-based flight simulations.

With competent instruction, most instrument students adapt quickly to the basics of controlling an aircraft by reference to instruments. The hurdles that aviators must jump to become competent IFR pilots and then maintain IFR proficiency usually aren't "flying" problems per se. Instead, the obstacles involve understanding and applying abstract concepts and following complex procedures, such as entering and then running laps around holding patterns, tracking DME arcs, and flying instrument approaches, all the while juggling communications and checklists. That's a lot to handle, especially when the "crew" is one pilot. In other words, instrument students who have trouble holding altitude and heading under the hood often aren't sloppy flyers; they just aren't ready to juggle six balls simultaneously.

The primary benefit that PC-based simulations offer a typical general-aviation pilot is the ability to divide complex tasks into manageable pieces and isolate specific skills and tasks. And because today's PC-simulations are inexpensive and run on most late-model PCs and laptops, they make training as convenient as watching movies on DVD. You can use PC-based simulations at a flight school, like any other flight-training aid, but you can also practice at home (or even during a "break" at work). When you're learning (or refreshing) a specific skill, you can jump directly into a situation that focuses on a specific type of procedure or IFR-flying problem. If a given situation confuses you or if you get behind the airplane, you can stop, reset the situation, and try again until you've both absorbed the underlying concepts and gradually learned to apply them in practice. And at first you can even let the autopilot handle the basic flying chores while you grasp the gestalt of operating under IFR.

Perhaps most important, stop worrying about whether a particular PC-based simulation is "FAA approved" or if you can log time spent using a PC-based "simulator." In the first place, the FAA doesn't approve simulation *software*—it certifies *flight training devices* and *simulators*, which are expensive, purpose-built training gizmos that include both software and hardware. Second, remember that many instructional tools that we use every day (including DVDs, GPS simulators—even airplane models and white boards) aren't "FAA approved." But that doesn't mean they aren't useful—even indispensable—training aids.

Next, remember that whether you can enter the hours spent "flying" a PC simulation as "simulator time" has little to do with the value that such experience adds to the quality and efficiency of your training. An hour in an airplane isn't always an hour well-spent, especially if the goal of a lesson is frustrated by traffic-saturated ATC, weather, or other factors. If you and your instructor want to keep track of "dual" time spent using a PC-simulation as a training aid, log those hours as ground instruction. After all, "flying" *Microsoft Flight Simulator* with your instructor to learn about holding patterns is a great way to visualize and "chair-fly"—better than a white board and static diagrams. Even if you're "flying" solo at home, enjoy and benefit from the experience. It's no different (and probably more fun) than other solo (and not-logging) "training" such as poring over books and taking practice tests.

With proper guidance, time spent "virtual flying" will help you climb over learning plateaus and make the time you spend in a real airplane more efficient and effective if you remember that earning a new certificate or rating ultimately is about learning, not logging.



Bruce Williams

Bruce Williams (BruceAir.com)

Microsoft Flight Simulator as a Training Aid: A Guide for Pilots, Instructors, and Virtual Aviators