

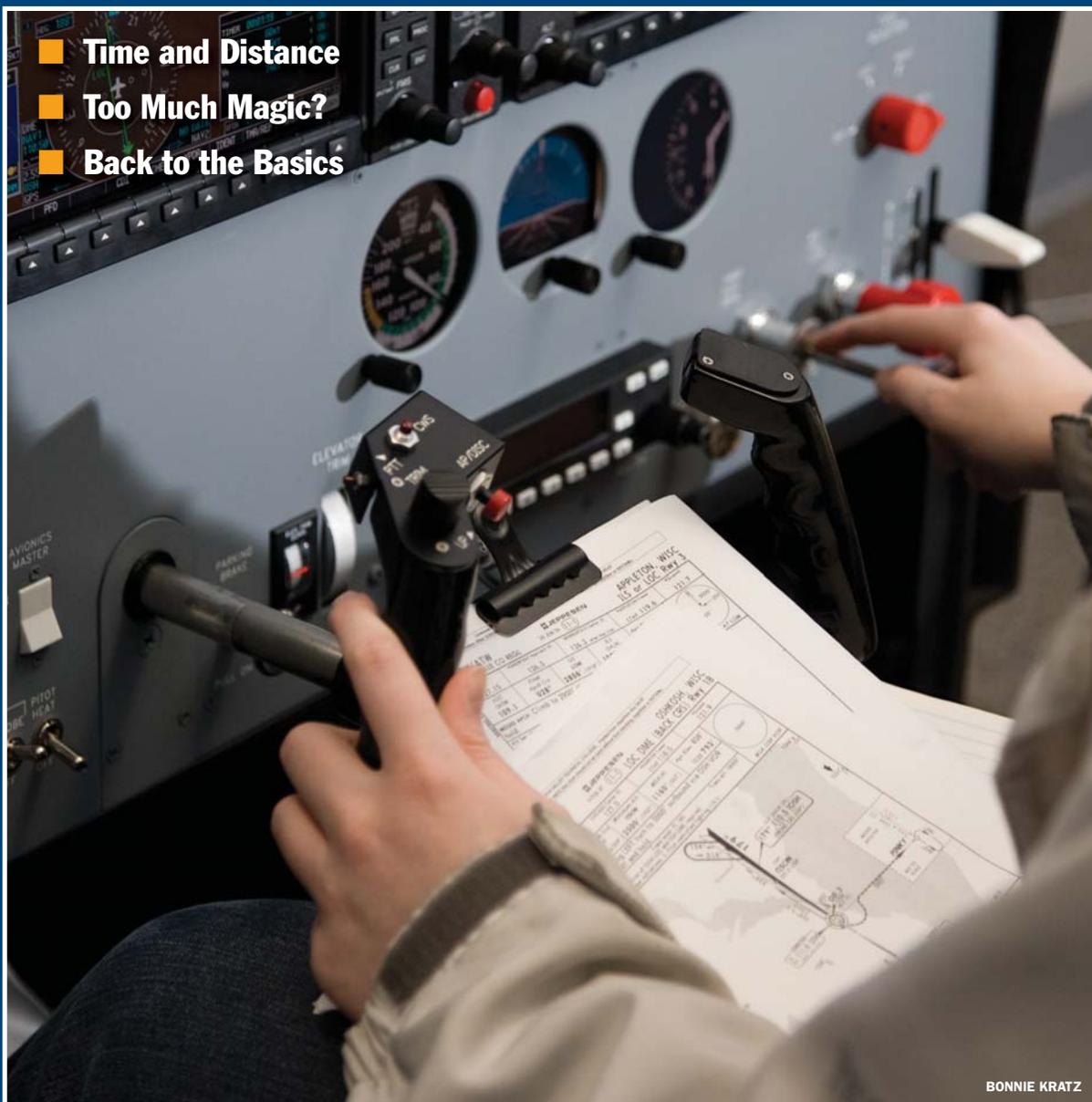
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The Thin Line

The difference between “simulating” and “creating” an emergency

by Jason E. Blair, MCFI

As instructors, we have the duty to provide training to our students that simulates potential emergency situations. Our intent is to develop their ability to handle a real emergency situation if they ever actually find themselves in one. While conducting this training, our goal is to provide realistic and thorough training so the student will be able to respond properly.

Some of the typical training that we provide includes emergency engine-out operations, gear-system failures, electrical-system failures, hydraulic failures, single-engine operations in a twin-engine aircraft, and others. Yet, as we train students, it's important that we are careful to simulate the emergency instead of actually creating the real deal. The line between the two can be thin at times, but it is our duty to make sure that line is never crossed.

When demonstrating single-engine operations in a multiengine aircraft, I recommend using a zero-thrust configuration for most training instead of actually shutting down engines. While the practical test standards (PTS) require a multiengine checkride applicant to demonstrate a full engine shutdown, securing, and restart, this training can be kept to a

minimum, and most of the single-engine requirements can be conducted without adding the risk of a shutdown engine that may not restart, or of overcooling an engine while it is shut down, or of adversely affecting other systems, such as generators or alternators.

In an aircraft with a glass panel, some instructors like to pull circuit breakers to fail the systems. A better alternative when simulating instrument or flight-system failures is to dim the screen so it isn't visible. Repeatedly pulling circuit breakers on an aircraft can lead to wear of the breakers and potentially a failure of the circuit breaker itself.

When simulating fuel starvation, some instructors will actually shut the fuel off on the student so they are able to hear and feel what a fuel-starved engine sounds like. In this case, the potential for having the student not catch the failure fast enough to avoid an actual engine stoppage exists, which would leave you and your student in a situation where you must restart an engine at altitude. While rare, it's possible that the engine may not cooperate. Avoid this by talking through the procedure and simulating the response by

having your student touch and tell how he would respond to the potential failure. Allowing the engine to stop after a simulated fuel exhaustion situation is creating an emergency, even if it is a solvable one.

Many of us have heard the stories of the old instructor who would pull the mixture, remove the key, and tell the student to make the emergency landing at the nearest airport. While this does provide a realistic sense for the student of exactly how a real emergency landing would feel, there is an inherent and obvious danger here, and by doing this you've limited the options you have should the student not make a perfect approach to the airport. The remedy in this case is to leave the aircraft running and simply bring the aircraft engine to idle, which simulates virtually identical glide characteristics.

These are just a few examples of how simulation of emergencies can potentially

“My View” is a member opinion column that gives you a chance to stand on your soapbox regarding your biggest concern, pet peeve, or long-standing issue with the flight-training industry and provide a workable solution. For more information, contact editor Greg Laslo at glaslo@eaa.org.

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cross into the realm of creating an actual emergency. In our efforts to instruct emergency operations and preparedness, we must remain diligent to avoid creating a greater potential for danger. We have a duty to our students to provide them the necessary skills to prepare them for anything that they may encounter as pilots, but we also have a duty to limit the risk of putting them in unnecessary danger during their training.

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