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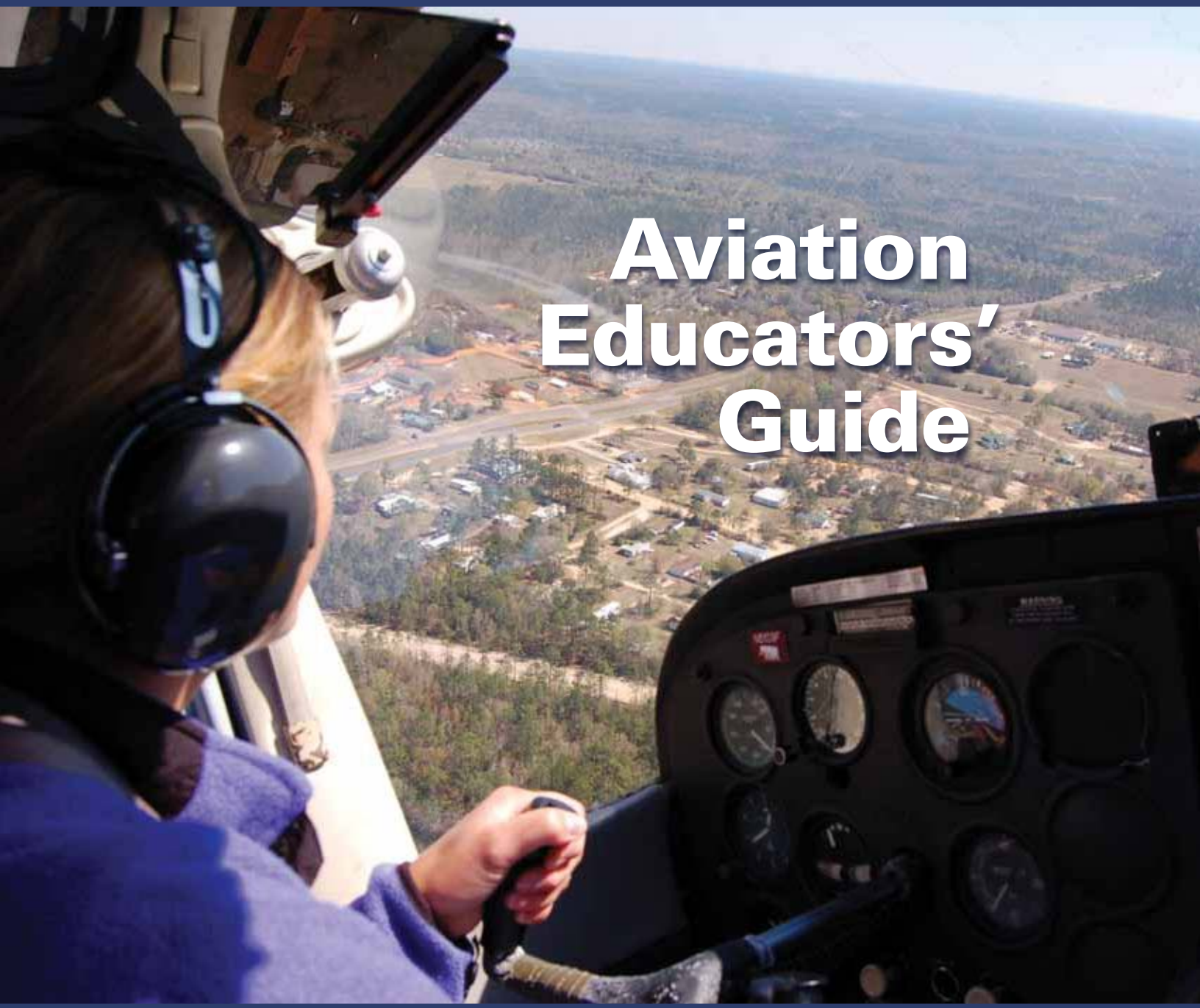

Aviation Educators' Guide

Federal Aviation Administration

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The Sep/Oct 2012 issue of FAA Safety Briefing *explores the critical role of the aviation educator. Articles focus on flight instructor requirements and best practices as well as the many tools and educational resources that can help sharpen your teaching skills.*

Features

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JASON BLAIR

CLEARED *for the* APPROACH

(But What Happens When the Approach Isn't Clear?!)

Before the first instrument flight lesson, even the greenest candidate for an instrument rating knows that the most basic goal when flying by reference to instruments is to avoid hitting anything (or anyone). We accomplish this task by maintaining position awareness based on IFR certified instruments, maintaining constant contact with ATC, and operating only in protected airspace. This airspace is protected by a variety of rules and regulations for minimum weather standards, distances, and altitudes to maintain at certain positions, and the general adherence to these rules by other pilots. This system works as long as everyone follows the rules.

Photo by Susan Parson

But it is also important for you as an instrument instructor to convey to any and every IFR client — whether for the initial rating, approach practice, or Instrument Proficiency Check (IPC) — that a pilot can never, ever, *ever* relinquish responsibility for situational awareness.

Here's a story I now use to illustrate and instruct on that very point. In my travels to Sun 'n Fun last year, I think I came as close to a mid-air collision as I ever have in my many years of flight experience. I am not entirely sure how close it was; we were in IFR conditions and I never spotted the other aircraft. But it was certainly as close as I ever want to come.

Setting the Stage

The weather for the trip was mostly IMC (instrument meteorological conditions) from Michigan to almost the Gulf Coast. Some areas to the south had strong storms, but our first leg looked like general IFR with a good chance of being able to fly VFR on top most of the way. Our first stop was in Bowling Green (KBWG), Kentucky, a non-towered airport.

Approximately 40 miles out, we picked up the weather, noting that the 700-foot ceiling certainly was going to require us to fly the ILS. With cloud tops around 3,300 feet mean sea level (MSL), only the approach portion of the procedure was really going to be in IMC. I typically love approaches where I know I am going to break out, and where I won't be spending a long period of time in the clouds prior to the final approach fix.

Temperatures were hovering near the freezing level, so we had some concern about heading into the clouds with icing potential. While temperatures at altitude were slightly above the freezing point, many times the dive back into the clouds can result in lower temperatures since those clouds block heat from the sun. Icing is definitely not a condition I want to encounter in a Cherokee not equipped for flight into known icing.

Act One

Memphis Approach began setting us up for the procedure, vectoring us south of the airport to come back in on the ILS to Runway 3. As we began our setup, a friendly Beechjet driver contacted Memphis approach on the same frequency. His fuel stop was also KBWG. His situational awareness as we both approached the airport may be the reason I'm still here. But more on that in a moment.

Normally I would expect an approach controller to work the jet into the sequence first, with our slower aircraft playing a second fiddle. In this case, the generosity of the Beechjet driver made the situation much better than it could have been. He courteously offered to take a hold and let us go first on the approach, keeping us from having to spend significant time in the clouds where icing was a possibility. With his more capable aircraft, he was willing to wait. Memphis consented, and continued vectoring us toward the final approach fix while the Beechjet pilot set up for the hold at 4,000 MSL.

Act Two

As we continued with the approach, we began to experience very light rime icing. While we were evaluating this development, the Beechjet pilot made an attention-getting query: "Memphis approach, Beechjet 1234, we were just wondering if you were working two aircraft toward the final approach fix at Bowling Green." My full attention went instantly to processing this information and listening as Memphis replied that they were only working with "the Cherokee" (us) and the Beechjet. Memphis had received some intermittent replies in the area before, but was no longer observing them. To this, the Beechjet pilot replied, "Okay, but as we look at our TCAS (traffic collision avoidance system), we are seeing two transponder replies, one at 3,000 and one at 2,400 converging." Now I was *really* "interested," to put it mildly. We were at 3,000 MSL, just about to begin our descent toward the final approach fix.

I immediately asked Memphis if they had any further information. They didn't. Unwilling to continue with such scant but scary information, we asked permission to leave the frequency and inquire on the local Common Traffic Advisory Frequency (CTAF) if there was any other traffic in the area. Permission granted. We made the call. And — lo and behold — we heard from a Cessna 172, whose pilot reported that they were "on the ILS for Bowling Green." We queried further: "Are you on an IFR clearance and working with an approach controller?" The answer: "Well, um, gee, we are out here shooting the approach …."

Act Three

I was as stunned as I was intensely concerned. Here we were, in actual IMC, about to descend, and we find out — solely through the good fortune of having an alert fellow pilot who was paying attention and willing to speak up — that there was another aircraft on the approach, in IMC, shooting the approach without any coordination with air traffic

Photo by James Williams

control. And did I mention that ice was already forming? If we saw it, they must be experiencing it as well.

Our next transmission was to ask the C-172 to "exit the approach procedure" and allow our flight, which was operating with an ATC clearance, to continue and also to accommodate the the Beechjet now holding for the same approach. Fortunately for all involved, he complied. I may never know exactly where the C-172 went, but I know we broke out around 700 AGL, right about where the cloud bases were reported. It requires no mental math to conclude definitively that the C-172 was wandering around in IMC, just off the approach path, without any clearance or communication with ATC for some undetermined additional period of time.

Situational awareness of your own position, and your position relative to that of other aircraft in your area, can help keep us all safe. This story also illustrates the importance of speaking up when something doesn't look, sound, or feel right.

How close did we come to a mid-air? I am not entirely certain. I do know that when we were on the ground, the Beechjet pilot, who had landed shortly after we did, told us that at one point his TCAS showed the "blips" overlapping with just a mere few hundred feet of altitude separation. I know that at one point, the C-172 was at 2,400 MSL while we were at 3,000 MSL. That alone put us as close as 600 feet apart, in IMC. Scary? You bet.

Final Act

The obvious lesson — certainly one I am sure you teach and stress to all your IFR clients — is that flying in IMC without a clearance in controlled airspace is both illegal and extremely dangerous. I would like to think that is a lesson that pilots already know and don't need to learn, but of course the C-172 pilot near KBWG that day demonstrated conclusively that at least one pilot needs a refresher.

But there is another point here, one well worth stressing at every opportunity: Situational awareness of your own position, and your position relative to that of other aircraft in your area, can help keep us all safe. And this story also illustrates the extreme importance of speaking up when something doesn't look, feel, or sound right. There is no doubt in my mind that the Beechjet pilot's willingness to consider the overall situation, taking into account both ATC data and the data he had at his disposal in his own aircraft, and to speak up about what he saw, saved us from being closer to a disaster or, worse, experiencing one first hand.

His actions make the point that situational awareness isn't just about making sure your own aircraft is safe, but also about helping to keep other aircraft safe as well. My Cherokee doesn't have TCAS. When I am in IMC, I am depending on ATC to provide separation. I am depending on myself to operate in protected areas using known procedures, IFR routes, and IFR altitudes. And I am depending on everyone else to follow the same rules. In this case, another pilot was careless enough and reckless enough to ignore those rules. His actions, which at the very least demonstrate lack of discipline and professionalism, created a hazard that could have cost lives.

Curtain Call — Applause to the Beechjet Pilot!

I can't say enough to thank the pilot of the Beechjet, who may have saved us from a horrible accident. His willingness to engage in what he saw developing shows that situational awareness on the part of all pilots in the air can help provide additional safety throughout our entire flight system. Whether you are a flight instructor, a student, or a rated pilot, I hope you will take heed of his actions and repay his professionalism by modeling it in your own instructing and flying.

Bottom line: Most aviation accidents result from a combination of factors. In many cases, they are avoidable if we all work together and make good decisions. The lesson is to always maintain situational awareness, for yourself and for others. Good decision making, good situational awareness, and a willingness to speak up to clarify potential conflicts can help avoid accidents.

Jason Blair is an active instructor, FAA Designated Pilot Examiner, and the Executive Director of the National Association of Flight Instructors. He regularly flies using general aviation aircraft for business and personal travel, typically for more than 400 hours each year.