

# TOP 10 IFR MISTAKES

***Are you guilty of any of these common blunders? If so, don't feel bad—most of us are. The good news is that change is possible, and not too difficult.***

by Fred Simonds

Time has a way of revealing patterns. I submit to you below the 10 most common mistakes I have seen in 20 years of instrument education.

## **1. Fixation**

Flying IFR is an exercise in multitasking. There is just one problem: human beings cannot multitask. We can only do one thing at a time. We approximate multitasking by doing a little of this and a little of that to create the overall effect of doing everything at once. Multitasking stops when we imperfect humans do all of one thing and none of the others.

Example: ATC asks Joe to fly heading 120 degrees to join the ILS localizer. Joe does such a perfect job of flying the heading that he blows right through the localizer. Ugh.

Why? Joe fixated on the heading and lost his situational awareness by concentrating on one thing to the exclusion of everything else.

Here's a cure: the six-second rule. Train yourself never to look at any one thing for more than six seconds. Not at the GPS, the approach plate, the heading indicator or at any one thing. With practice you can beat it down to two or three seconds.

Another suggestion: Freeze your hand on the yoke when you look away from the instruments. It will help you avoid undesired control inputs while your eyes are elsewhere. (Even better: Take your hands completely off the controls when you look away from the

instruments. Hovering is good; unintentional inputs are bad.)

## **2. Impatience**

We live in an era of instant gratification, but flying IFR often requires a great deal of patience.

The controller suggests that you fly 300 degrees to join the 273-degree radial. The VOR needle is fully deflected to the right. It sits there on the peg for what seems like eternity. The urge to turn left becomes almost overpowering. When the needle finally wakes up, you turn immediately and wind up on heading 273 with a right needle. Now you have to turn right again to

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fix the error you could have prevented by being a little patient.

Most impatience problems originate from one nagging question: "Am I doing the right thing?" The fact that not much is happening leads to self-doubt and an urge to act, even if that action is wrong.

Impatience is easily solved by turning a static display into one that is more dynamic. Example: Set the OBS

so that the needle is not quite on the peg. As it moves left, keep resetting the OBS until it reads the desired 273-degree radial. Now you know that you are doing the right thing, and you can see that it's working.

## **3. Overcorrecting**

Overcorrecting is the cousin of impatience. In your eagerness to join the 273 radial, you may fly 330 degrees instead—after all, ATC gave you a suggested, not a mandatory heading. Now you join the radial at a sharp intercept angle and overshoot it.

Sometimes you just have to wait and let it happen.

## **4. Poor Task Management**

As an instructor, I squirm when an instrument pilot just sits there, driving. In IFR there is always something to do or think about. The ebb and flow of IFR is such that periods of near-zero activity are punctuated by periods of high workload, and then back to near zero again. Task management is an effort to level those peaks.

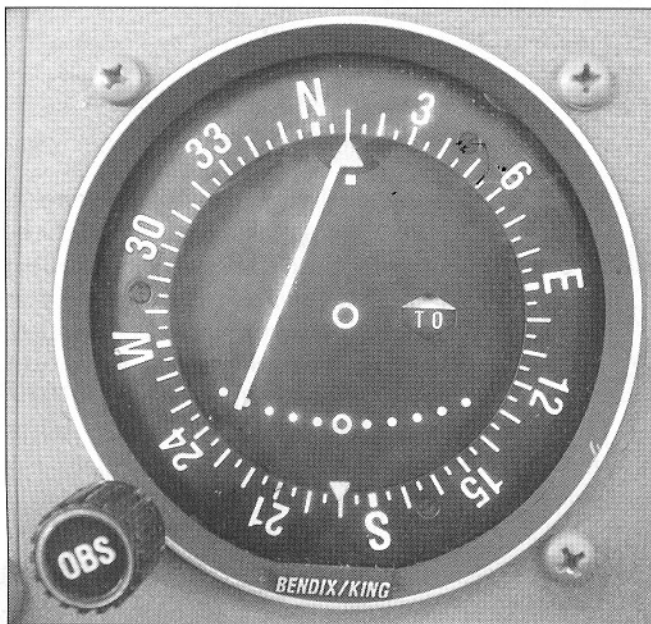
The pilot who presets as much as possible on the ground, before takeoff, is using sound task management as is the pilot who sets up an expected approach before beginning the approach transition.

IFR is no place for procrastination. Do what you can when you have the time to do it. You will thank your foresight when things get busy.

## **5. Lack of Organization**

An organized cockpit and an organized mind greatly enhance the safety of IFR.

An organized cockpit means having everything at hand that you might need in the order you need it. Charts should be opened to the desired panels to avoid in-flight fumbling, and stacked in the order of flight. Multiple pens or pencils should be within ready reach—they have a habit of disappearing just as ATC amends your clearance. And be sure you can reach the POH



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without dislocating your shoulder.

Lack of mental organization includes failure to use (not just read) checklists and lack of a systematic way of setting up an instrument approach. I attach so much importance to this last item that I wrote an article titled, "Organize Your Approach Brief" in the August 2008 issue suggesting the WRIMTM checklist.

WRIMTM includes two longevity-enhancing essentials: a reminder to tune and verify all radio frequencies (see "Tune and Identify," February 2009) and a review of applicable minimums before beginning the approach. WRIMTM, or some other organized method, helps prevent these two common and potentially deadly mistakes.

## 6. Inadequate Preflight Planning

You can circumvent many unpleasant yet avoidable surprises by doing a thorough job of preflight planning. Where is the freezing level? What is the weather en route and expected at the destination? Do you need an alternate? Where is the nearest VFR if the instruments fail?

Preflight planning includes checking the FDC NOTAMs to make sure that any approach you might use is

safe. This means checking the amendment number against the number on your NACO plate. Make necessary pen-and-ink changes right on the plate.

Are the desired

## 7. Poor Radio Communication Skills

navaids and approach facilities working? If planning a GPS approach and you are not WAAS-enabled, will RAIM be available at the time you arrive?

There are five simple things you can do to vastly improve your radio technique. First, listen before you speak. Allow an exchange in progress to finish before you transmit. Second, think about what you are going to say before you say it.

Third, on initial call to a controller, the format is: who you are, where you are and what you want. "Palm Beach Approach, Archer 44939 five south of PBI, request IFR clearance to Vero Beach." Fourth, on subsequent exchanges, use the last three digits of your call sign: "939" (unless the controller continues to use your full call sign, probably because there is another similar call sign on the same frequency).

And fifth, when handed off to another controller, the initial call is: "Miami Center, Archer 44939, 6,000." Controllers really dislike that "with you" stuff. Your altitude report lets them verify your Mode C readout immediately.

## 8. Falling Behind The Airplane

You can stay ahead of the airplane by continually asking, "What's next?"

One very common error is not looking for the runway until the missed approach point is reached. By then it's often too late to land when the approach could have been completed had the pilot been looking sooner.

Some experts say you should have the next two or even three things in mind. For me, two works. You don't want to get so far ahead of the airplane that you forget where you are.

Of particular importance is what your next heading will be. This is not always obvious, as when executing a missed approach. If you are asked to join the 343-degree radial, what heading will you use to get there? The plate may not say, so you must have a number in mind before you need it.

Another way to be ahead of the airplane is to listen to your destination airport's AWOS/ASOS/ATIS from some distance away on a second radio. Once you have that, you can listen to the tower or Unicom frequency. This way you can learn how busy the airport is and the runway in use at a non-towered field. That's being ahead of the airplane!

## 9. Loss of Situational Awareness

You cannot abdicate your responsibility for knowing where you are, where you're going or what's going on around you to ATC, the MFD or anything else.

Listen to ATC radio traffic. The chatter will help you form an image

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# IFR REFRESHER®

## Quiz Answers

1. a. See the *Instrument Flying Handbook*, Chapter 11. St. Elmo's Fire is caused by precipitation static (or P-static), a form of radio interference caused by rain, snow, or dust particles hitting the antenna and inducing a small radio-frequency voltage. P-static can, in extreme cases, knock out an aircraft's entire electrical system.

2. c. See the *Instrument Procedures Handbook*, Chapter 2. Also see the ATC handbook Section 6, Vectoring. A controller may vector an aircraft "at or above the MVA or the minimum IFR altitude except as authorized for radar approaches, special VFR, VFR operations, or by paragraph 5-6-3, Vectors Below Minimum Altitude."

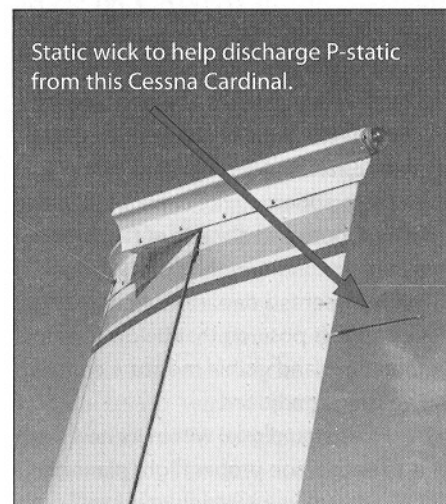
3. b. See the *Instrument Procedures Handbook*, Chapter 4. "The approach gate is established along the final approach course 1 mile from the FAF on the side away from the airport and no closer than 5 nautical miles from the landing threshold."

4. a. See the *Instrument Procedures Handbook*, Chapter 5 and also the answer to question 3, above. "When vectoring aircraft to the final approach course, controllers are required to ensure the intercept is at least 2 nm outside the approach gate." However, if the reported ceiling is at least 500 feet

above MVA/MIA and the visibility is at least 3 sm, aircraft may be vectored to intercept the final approach course closer than 2 nm outside the approach gate but no closer than the approach gate. So it's possible to get a vector to intercept final 1 mile from the FAF.

5. c. See the *Instrument Procedures Handbook*, Chapter 5. "If specifically requested by the pilot, aircraft may be vectored to intercept the final approach course inside the approach gate but no closer than the FAF. RNAV equipped aircraft shall be vectored to the IF to allow the onboard avionics to stabilize on the inbound course."

6. c. See the Pilot/Controller Glossary in the AIM.



Static wick to help discharge P-static from this Cessna Cardinal.

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of what's going on. For instance, if the controller calls traffic to another airplane at your altitude, then that traffic might just be you. The controller may or may not call you next. Either way, there is traffic out there at your altitude—a good thing to know.

It is essential to know your approximate position all the time. If you have an emergency, you will know your basic landing alternatives. Knowing where you are helps you work around weather or cope with vectors given you by ATC.

Play a constant game of "What if?" I find it very comforting to have a Plan B and even a Plan C. Smoothly shifting to a better or alternative plan is a necessity in the fluid IFR environment and is the mark of a polished IFR pilot.

There is no easy way to know if US Airways Captain Chesley Sullenberger pre-considered putting his Airbus A320 jet in the Hudson River if something really untoward happened, but it wouldn't surprise me if he had. Where would you put your airplane if it lost power on takeoff? "What if?"

### 10. Failure to Trim

Short of an autopilot or a third arm, the trim is the instrument pilot's best friend. It frees your hand to do other things, and helps you establish a stable climb, descent or level attitude. A properly trimmed airplane helps you maintain comfortable control in IMC.

If your aircraft has an autopilot, use it to its full advantage, inasmuch as you are trained and comfortable using it. Engaging the autopilot will help you solve many of the problems listed here, especially No. 4, task management.

The idea is to get the airplane to do the flying. It's up to you to do the thinking.

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