

PILOT FATIGUE HIDES ERRORS

It's one thing to catch yourself in the error chain, but bad things happen when you're too tired to see the mistakes and can't resolve the confusion.

by Harry Kraemer

As instrument-rated pilots, we take certain tasks for granted. For instance, when we read the title bar of an instrument approach procedure or look at the minimums section, we don't consider these two tasks difficult.

You would think that if someone tried to sneak some additional text in there or throw us a curve in some way, it would stand out and be obvious. Well, it's not always so. Fatigue has a way of making obvious things invisible. It's not that the obvious becomes fuzzy or hard to see, it just isn't there.

This is certainly what happened to the pilot in this story. He couldn't see the obvious, and even though numerous clues were available, he couldn't pick up on them due to fatigue.

Our pilot in this story, Joe, started his day early on a cold December morning. Joe was flying from the southwestern part of Alabama to Carroll County, Maryland (KDMW). The second half of the trip would be in IMC.

The freezing level was forecast to be much higher than Joe's en route altitude of 7,000 feet until after sunset, when the level lowered. This concerned Joe because he knew that if he was delayed, he would be cutting it close. Including one fuel stop, Joe thought that he could be on the ground in Maryland well before sunset.

But it wasn't Joe's morning. There were delays getting fuel, the tires needed air and last-minute weather checks

kept Joe on the ground until just before noon.

The first half of Joe's flight was uneventful. It wasn't until he arrived at his destination that things started to go wrong. The weather was lower than expected, and Joe shot two approaches into KDMW and also did two missed approaches. This was where things started to fall apart.

Comes The Fatigue

By now, Joe was getting tired. He had skipped lunch in order to make up for lost time, and he only had coffee and a doughnut on the way to the airport. Without nourishment and with the adrenaline rush wearing off after his two missed approaches, fatigue began to take over the flight.

After checking in with Baltimore Approach after the second miss, Joe asked for the weather at KBWI. He was advised that the current weather was 400 overcast and two miles.

With choices running out, not to mention fuel, Joe told the approach controller that he would like to go to KBWI. Approach gave him a heading to fly, and he was told to expect vectors for the ILS Runway 10 at Baltimore.

KBWI has three different approach plates for the ILS to Runway 10. One of the plates is labeled ILS RWY 10 (CAT II), another is labeled ILS RWY 10 (CAT III) and the third is called ILS RWY 10.

Joe opened up the book to the ILS RWY 10 (CAT III) approach plate. He didn't catch his mistake with the word-

ing "CAT III" in the title. In Joe's mind, he had the correct plate out and was setting up the radio stack for the approach.

The plate shows that the localizer and VOR frequency boxes are very similar in appearance and shape. Both have lines pointing to about the same location on the airport. One is shown on one side of the localizer and the other is on the opposite side.

Joe incorrectly dialed in the VOR frequency, thinking that it was the localizer even though localizer frequencies range from 108.10 to 111.95. Joe dialed in the VOR frequency of 115.10 instead of the localizer frequency of 109.7. He identified it and even checked it with the box on the plate, and it checked fine in Joe's mind. He believed that he had the correct localizer frequency tuned in.

Even if Joe had the wrong plate out, if he had caught this mistake, he probably would have made it in. With the inbound course of 105 degrees set in his HSI, Joe was vectored to intercept the localizer.

Keep in mind that the VOR is on the airport and the 105-degree radial inbound would look much like the localizer course. As Joe intercepted what he thought was the localizer, he noticed that there was no glideslope.

The Illusion

Convinced that the glideslope was out, he looked down at the minimums section for the "localizer only" mins. Something was wrong, he thought. There were no localizer-only minimums, so he decided that 500 feet MSL would be his MDA.

At 500 feet MSL, there was nothing — Joe still was in the soup. Another missed approach. This was Joe's third miss of the day.

By this time, the sun had set and Joe had advised ATC of his missed approach and was vectored for another try. He also had advised ATC of his low fuel situation, which he estimated

(continued on page 16)

Pilot Fatigue

(continued from page 3)

at 40 minutes remaining.

While he was being vectored for the approach, Joe picked up some ice. Knowing that he needed to get down, Joe decided to make his MDA 400 feet. Fatigue had set in, and Joe was not thinking clearly. He never questioned ATC about the glideslope or thought about a different ILS to another runway.

After joining the localizer, which actually was the 105-degree radial inbound to the VOR, Joe descended to 400 feet MSL. There was nothing there. Joe missed again.

Troubles Compound

So Joe declared an emergency. He advised ATC of his glideslope problem. ATC responded that airplanes before and after him had no problem with the glideslope, so Joe assumed that he had bum equipment.

With low fuel and a failed glideslope receiver, options were few. Approach decided to vector him toward Andrews Air Force Base, where he could get a PAR approach. Joe still was relatively calm, and after a handoff to Andrews Approach, he was vectored for a PAR approach and landed safely.

Because Joe declared an emergency and landed at an Air Force Base, he received a lot of attention after his arrival. It was during the FAA's investigation that Joe learned of his mistake with the frequencies.

A CFII couldn't have planned and carried out a lesson that would have taught Joe more about the effects of fatigue and had more of a lasting impression than the lesson that Joe taught himself that day.

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Old Teacher On Board

(continued from page 15)

radio and radar coverage. For this reason, Des Moines Approach often notifies Chicago when an approach is in progress at Chariton.

Big-city pilots should be prepared to hold when visiting smaller airports. Often the approaches take you below radar or radio coverage. This means "one in, one out."

"Cleared for the approach, radar contact lost, change to advisory frequency approved, report canceling IFR on the ground with Flight Service."

You'll have to search for the pay phone; it's located in a small room down the alleyway (we're not kidding) between the last two large hangars. Look for the sign and don't let the cat out or Mike, the airport manager, will turn off the NDB the next time that you come in.

A pilot who neglects to cancel IFR on an approach to a small airport will tie up that airspace for at least 30 minutes. This, unfortunately, is a common occurrence.

Also, you might arrive only to learn that ATC has cleared an IFR departure off your airport, thus blocking the airspace for 30 minutes beyond the departure's clearance void time. Your fuel reserve can get real skinny with only one other airplane ahead of you.

Places like Chariton, Iowa, aren't usually in the flow control program, so

there's no way to know about these delays in advance. If you're worried, ask ATC while you're still far enough out to make an alternate. Or bring along plenty of fuel and take the time to practice NDB holding.

A VFR Neighborhood

A word of caution to those pilots who wish to do practice approaches under VFR at KCNC or any other small uncontrolled airports. Des Moines Approach runs the airspace at KCNC, but they do not provide separation services to practice VFR approaches. It's their option, not the pilot's.

There is nothing to prevent 10 VFR instrument pilots from all practicing the same NDB approach at the same time, so at all non-towered airports, be ready for this possibility. Announce your position on CTAF often and listen carefully.

Finally, just because this is a non-precision approach doesn't mean that the pilot should be less than precise in the attempt. Precision comes with practice, but even a rusty instrument pilot can make a fair show of navigating the NDB.

With GPS on the panel, we have come to view the NDB as a quaint memory from the radial engine days. But the ADF shouldn't be tossed onto the junk heap of ATC history just yet.

Who knows, maybe nostalgic pilots someday will spend large sums just to shoot NDB approaches in smelly old airplanes in Iowa.



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