HAT Check

In the wee hours of the morning of August 27, 2006, a CRJ-100 was cleared by the tower of the Lexington, Kentucky Blue Grass Airport to takeoff on runway 22, a 7300 foot long runway. As most of us know, the crew mistakenly taxied onto runway 26, which is only 3,500 feet long, and attempted to take off. The airplane ran off the end of the runway, impacting the airport perimeter fence and trees, and crashed. All but one of the persons aboard the airplane died, and the airplane was destroyed by impact forces and the post crash fire. (The first officer was the only one to survive. He lost a leg and suffered brain injuries.)

I know that many of us in the general aviation world were asking the question: "How could they have done that? Didn't they check their compass and HSI with the runway heading?" Obviously they didn't, and I'll address that in just a little bit.

Earlier this week the cockpit voice recorder transcripts were released by the NTSB (National Transportation Safety Board) and they show that the pilot and co-pilot talked about their kids and their dogs as they taxied to line up on the runway. The chatter was in violation of an FAA regulation that bans "nonessential cockpit conversation" during taxi, takeoff and landing. The last word recorded on the cockpit voice recorder was the pilot saying "Whoa" just before the Bombardier regional jet smashed through a fence at the end of Runway 26, became briefly airborne and then crashed in a field.

Now these were professional pilots, flying under part 121 of the CFRs, which strictly regulate things like "sterile cockpits" and other essential items of effective CRM (crew/cockpit resource management). Even with the regulations that they were obliged to observe, they managed to make some horrible mistakes and decisions, and as a result, 49 people are no longer with us.

But what about all of us who do not have to fly with that type of regulation? Is there anything that we can take from this accident that might prevent us from coming to a similar catastrophe? Absolutely, even if we are flying a single seat airplane, that was built in the thirties, and we are operating out of a sleepy grass airstrip.

Clearly the biggest mistake the pilots of the CRJ made was to take off on the wrong runway. Early on in my flight instructing career, I came up with an acronym to help keep me, as well as all my clients, from making that same mistake (along with a couple of others.) The acronym is **HAT** check, standing for **H**eading, **A**ltimeter, **T**ransponder.

As I line up for takeoff on the runway, the first thing that I do is to take care of the **H** (for Heading) of the HAT check to insure that the runway heading, my compass, and my directional gyro are all in agreement. If any one of the three is in disagreement, then there is definitely a problem that needs to be resolved prior

to applying takeoff power. Failure to do so might gain you an appellation similar to one gained by a Mr. Corrigan, numerous years ago.

I know that I am not the only pilot who has announced, as I back-taxied on the runway of a small non-towered airport: “Boondocks traffic, Super Cruiser back-taxiing runway 29”, as I eagerly set my DG to 290˚ so as to minimize my time prior to takeoff. Of course the only problem was that I was heading 110˚ as I did all of this.

The only thing that saved me that late afternoon, as I took up an easterly heading after departure (according to my DG) was that the sun was shining directly in my eyes. Something was obviously wrong. In this somewhat humorous (and embarrassing) anecdote, the only thing injured was my ego.

But when we are operating at a busy airport, with multiple runways, and kick up the ante even more by adding nighttime to the mix, there is no doubt whatsoever, that insuring that your DG (or H S I), your compass, and the runway heading are all in agreement, will lead to greater longevity as pilots.

The next letter in the HAT check acronym, **A** for altimeter, is not as critical as the H, if operating in daytime VMC conditions, but could lead to an early demise, if it is dark out, or there are clouds obscuring your vision outside of the airplane. Again, I know I am not the only pilot who has mistakenly set my altimeter, having an error of 1000 feet. Now if you have set your altimeter 1000 feet too low, the possibility of coming to a screeching halt on the downwind is nowhere near as great as when you do the opposite, and set it 1000 feet too high.

Just a few weeks ago I was working with a client in my PA-12. As we approached the airport and were descending to pattern altitude, I noticed that the houses appeared to be getting much bigger than they usually do. Questioning my client as to proper pattern altitude I got the correct answer, but when I asked how much further we might be descending, I was a bit dismayed to hear “another 800 feet”. (Indeed, the altimeter showed another 800 feet to descend to pattern altitude.) I suggested that we ignore the altimeter for the time being, and fly “out the window”, and that we would check the altimeter once we were ground bound. When we did that, the altimeter indicated that we were 1000 feet above the ground. Obviously if this incident had occurred at night, or in low IMC conditions, I would most likely not be writing this article.

The last letter in the HAT check acronym is **T**, for transponder set to altitude. I know that many of our vintage aircraft might not even have a transponder, and some of you that have one don’t like to use it. However I make a point of turning mine on if for no other reason than the fact that it might give a heads up of my presence to one of the many pilots who are zooming around in their glass paneled aircraft, hardly ever looking outside of the cockpit. With their TIS systems at work displaying all the transponder replies on one of their big glass

screens, hopefully my blip will appear there, and even if they don't see me out the window, as they fly by, they will be aware of my company, and avoid me.

Another reason for insuring that the transponder has been set to altitude prior to takeoff, when departing into Class C or B airspace, is to avoid having departure control ask you to "recycle your transponder" (there nice way of saying: "turn it on, dummy").

Had the pilots of Comair flight 5191, checked their **HAT**s at the door, there might not have been an accident that morning. But another thing that contributed to the accident chain was the fact that the pilots did not maintain a "sterile cockpit". Under part 121 of the CFRs they were mandated to do this, but pilots operating under part 91 are not. However we should all take note, that if a "sterile cockpit" works real well in an airline cockpit, we would be well advised to adopt a similar policy in the cockpits of the aircraft that we fly.

If all of us were to embrace the concept of limiting our cockpit conversations with our passengers, to only those things "essential" to the safety of flight whenever we are operating, not only in the air, within the airport area, but on the ground as well, the safety of everyone would be improved exponentially. We just can't be as effective as we need to be in all the sundry things that require our attention prior to takeoff, and during the climb out, when we are engaged in conversations about the wife and kids, yesterday's ball game, or the latest and greatest joke. So please brief your passengers on the "sterile cockpit" concept. If we want to remain pliant, we need to be silent. (Of course this is just as important during our arrival, as it is in the departure.)

The accident in Lexington was a tragedy, made more so by the fact that it was so easily preventable. Hopefully we can take the lessons learned from analyzing the mistakes those pilots made and apply them to our own flying. Remember how important it is to insure that you are departing on the correct runway. Run a **HAT** check (or its equivalent) prior to takeoff. Maintain a "sterile cockpit" whenever you are in an airport environment. Doing these things will help insure that you experience many more days of… blue skies and tailwinds.

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