

CALLBACK

From NASA's Aviation Safety Reporting System



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What Is Wrong?



Among other things, wrong is a word that describes something as being out of normal working order or condition. When something "goes wrong" with an aircraft component, a piece of equipment, a schedule, a passenger, or the weather for example, that's when aviation professionals rise to the occasion and fix what's wrong or work around it. It's part of the job.

Wrong also describes a situation in which someone goes in an unintended direction or makes an erroneous decision. The fix for that sort of wrong can be a bit more challenging. Someone has to recognize that something is amiss. Someone has to figure out *what is wrong*.

The people who submitted the following reports went in unintended directions or made erroneous decisions, but they also did something right. They shared their lessons so that the rest of us wouldn't have to "go wrong."

Foreign Exchange

Armed with about 100 hours of experience, a sectional chart, and a general idea of where to go, this pilot made a borderline decision that led to some interesting inquiries.

■ I departed [an airport in Washington State] for a direct flight to another Washington airport. Forty minutes into the flight, I noticed the right fuel gauge read almost zero... I wondered if I had a leak or a loose cap. I was close to my destination so I continued. Then I started to question my exact location. I couldn't make out landmarks that appeared on my sectional chart... I saw a large airport, turned west, and followed the shoreline. Within a few minutes I found a smaller airport... I circled the field attempting to see a name on the runway or a hangar. Nothing... I had fuel concerns. The sun had already set. Every minute seemed like an hour and this airport could be my destination. I made the appropriate calls, entered the pattern, and landed. I taxied up to the first person I could find, exchanged greetings, and asked him where we were. He said, "ZZZ, [eh?]" I was in Canada! I checked the fuel and flew back to the real destination. Five law enforcement/customs vehicles arrived to welcome me to the U.S. Lots of questions, explaining, and searches. It all ended with a photo session.

I will put more effort into the planning phase of flights and select landmarks that are easier to identify. I will make better use of navigation aids and use "flight following."

Seeing Is Believing

Armed with over 15,000 hours of combined experience, advanced avionics, and visual contact with the airport, this B737 flight crew believed that they were headed for the right place. An alert air traffic controller, however, noticed that something was wrong.

From the Captain's report:

■ I have often wondered how crews land at the wrong airport. Well, now I know.... We were in and out of the clouds.... We were told to expect the visual approach to Runway 19R at ZZZ.... The First Officer was flying and he was asking for lower. I made the comment we had plenty of time, then all of a sudden an airport appears in a break in the clouds. We called the airport in sight. We were cleared for the visual approach and were told to switch to the tower... We were cleared to land. I remember thinking this doesn't look like nine miles, but dismissed it because we had a runway in sight. We made a turn through an opening in the clouds, maneuvered to final, and had just lined up with the runway when the Tower Controller said, "[Wrong Airport] is 12 o'clock, three miles. ZZZ is one o'clock, nine miles. Do you have ZZZ in sight?" We...looked out and saw the real ZZZ Airport in the distance and called it in sight....

I attribute this close call to several things. We could have been more thorough in our brief.... I never verbalized the fact that [Wrong Airport] was going to be in close proximity.... All radios, including ADF's were properly tuned, but ignored. We were not able to see enough of the surrounding terrain to properly orient ourselves visually. We did not have the "big picture."

Lots of lessons learned here. We were very lucky someone else was looking out for us.

From the First Officer's report (after receiving the alert from the Tower Controller):

■ We took a look at the MAP display and quickly confirmed our error....

Human factors: Relying on my few remaining brain cells instead of millions of dollars worth of navigation gear. After all, the whole picture was right there in front of our faces.

Quiet! Approach in Progress

Federal Aviation Regulations Part 121.542 and Part 135.100 address the importance of maintaining a sterile cockpit environment during critical phases of flight. While there is no regulatory counterpart in FAR Part 91, this PA32 pilot's report demonstrates why all pilots should consider adopting the procedure. In small aircraft, both pilots and passengers should not engage in any activity during a critical phase of flight that could be a distraction or otherwise interfere with the safe conduct of the flight.

■ I was cleared for a visual, straight-in, Runway 21.... I located the airport across a body of water and Runway 21 almost straight ahead. Wondering why I had not received a hand-off to the Tower, I tuned to ZZZ Tower and called on final.... Hearing no response, I tried Ground Control. Still no response. I landed and realized during the rollout that this was not ZZZ. The runway was 23.... After explanations and paperwork, I flew VFR to ZZZ, 15 miles away.

I believe this event was a result of my not maintaining a sterile cockpit environment, especially during the approach. I was in deep conversation with a passenger. Because of this, I missed any further calls from Approach Control, mistook the picture of a similar airport environment, and didn't pay enough attention to the unexplained silence during the attempts to reach the Tower and Ground.

ASRS Recently Issued Alerts On...
CRJ200 rudder pedal jam
C310 nose gear extension failure
MD-80 Inertial Reference Unit failure
Western U.S. airport runway marking deficiency
Northwest U.S. airport similar sounding approach fixes

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<http://asrs.arc.nasa.gov/>

December 2004 Report Intake	
Air Carrier / Air Taxi Pilots	2455
General Aviation Pilots	642
Controllers	35
Cabin/Mechanics/Military/Other	101
TOTAL	3233

Wrong Runway - The Intersection Factor



In the following reports, intersection takeoffs were a contributing factor in departures from the wrong runway. At the end of a runway there are usually prominent runway numbers painted on the surface and

the holding position signs indicate only one runway direction (e.g. "27"). At taxiway/runway or runway/runway, non-full length intersections, there are no surface numbers and the hold position signs will indicate both runway directions (e.g. "9-27"). Add in other factors such as fatigue, weather, or distraction, and the possibility for confusion at a runway intersection becomes a concern for everyone.

Right Turn, Wrong Time

In the following report, an ambiguous choice of words by the tower controller and a pilot's failure to clarify the instructions contributed to a wrong runway takeoff.

■ *The active runway was 17. Intersection takeoffs were being used. I was at the Bravo intersection on Runway 17-35. From this position a left turn would yield a 3,500-foot takeoff on Runway 17 and a right turn would yield a 3,500-foot takeoff on Runway 35. Tower said, "Turn right. Cleared for takeoff." I read this back, turned right, and took off on Runway 35.*

I should have realized that they wanted me to takeoff on Runway 17 and turn right after takeoff. I am not sure that the tower used standard terminology, but I have enough experience to have realized that they wanted a right turn after takeoff. I should have asked for clarification.

According to the Controller's Handbook (7110.65P), the controller should, "State the runway intersection when authorizing an aircraft to taxi into position to hold or when clearing an aircraft for takeoff from an intersection." The phraseology, "123 Alpha, cleared for takeoff, Runway 17 at Bravo, 3,500 feet available. Turn right after takeoff," would have gone a long way toward eliminating any confusion.

Heading for Trouble

When flying an aircraft with an unslaved directional gyro, the preferred procedure is to place the aircraft on the correct runway and then align the directional gyro to conform to the known runway heading. Doing the opposite, that is, placing the aircraft on the wrong runway and then trying to realign the earth with the directional gyro, will not work. As this C210 pilot learned, it also leads to more confusion after takeoff. This pilot's conscientious analysis of the incident yields some sound advice to keep the rest of us headed in the right direction.

■ *I received a clearance for departure on Runway 6R. After asking for a progressive taxi clearance, I held short at the assigned intersection and changed to Tower frequency. I was asked by Tower to confirm that the remaining*

runway from the intersection was sufficient. I shifted my attention to the "shorter" end of the runway, confirmed that it was sufficient, and was cleared into "position and hold." Turning onto the runway, I aligned the directional and held in position to await takeoff clearance. After a short period, I was cleared for takeoff. On climb out, Tower advised that I had departed on Runway 24L rather than Runway 6R and I was told to turn to a specific heading. I immediately began a steep turn to the assigned heading. About halfway through the turn, the clearance was repeated, in such a way that I assumed I was turning in the wrong direction. In my readback, I confirmed the new direction of turn to the assigned heading. Soon the controller, sounding more concerned, assigned a new heading. I immediately turned to that heading and was flying it when the controller repeated the assignment. I confirmed that I was flying the assigned heading. At this point, the controller advised an airliner on approach to Runway 6L that a light aircraft was not listening to directions. Simultaneously, I recognized that I must not have been flying the heading that I thought I was flying. I determined that the directional gyro was incorrectly set, reset the directional gyro, and turned to the actual assigned heading.... I advised the controller that I was now on the correct heading.... The remainder of the flight was uneventful....

The primary factors...: 1) failure to correctly set the directional gyro (in spite of following a printed checklist).... 2) failure to corroborate with available aids in the aircraft - airport diagram on the moving map display. 3) failure to heed the "inner voice" that recognized something was not right as the takeoff roll began.

The calm professionalism of the controller directly and significantly contributed to the "containment" of this incident. He issued instructions in a manner that did not compound the stress inherent in dealing with what was clearly a major error....

An Uneasy Departure

Fatigue and complacency are two insidious factors that can sneak up on the most experienced professionals. In this report, a B737 got about a 4,000-foot head start on a weary flight crew.

■ *We were cleared for takeoff from Runway 17 at Golf intersection. As I was lining up for takeoff, the First Officer stated, "This way," and pointed in the direction of Runway 35. I turned as he directed and commenced takeoff on Runway 35 from Golf. After takeoff, I realized that we took off from the wrong runway. The First Officer asked for a vector to join the airway. Tower replied, "Turn left and proceed on course. (Pause) Everything all right?" The First Officer replied, "Left on course," and "Yes." In the midst of this we forgot to raise the gear until 4,000 feet. The rest of the flight continued without incident.*

Contributing factors: 1) Variable winds. We had landed on Runway 35 on the previous leg. 2)...Cumulative fatigue. 3) The First Officer was capable and conscientious, so I let my guard down. 4) I did not act on the uneasy feeling I had after turning onto Runway 35.

In 2004 the highest report intake in the history of the Aviation Safety Reporting System was recorded — 37, 752 reports.