CALLBACK

From NASA's Aviation Safety Reporting System

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Intersection Interactions

Some recent ASRS reports show that runway transgressions are often the result of confusion about taxi instructions at runway/taxiway intersections. In a report from a corporate aircraft First Officer, time pressure helped to fuel the misunderstanding:

■ *The problem arose when we became rushed and distracted by our eight-minute time limit to make our takeoff slot for flow control. The controller instructed me to cross the runway at Taxiway X, taxi the full length of Runway 07, and hold short. I misunderstood the taxi instructions. I taxied onto active Runway 07, and proceeded to back-taxi down the runway to turn around and hold awaiting further takeoff instructions. What we really should have done was cross Runway 07, taxi on the parallel taxiway, and hold short at the end of the runway. The controller questioned my actions, and told us to taxi down and clear the runway immediately. As we were leaving the runway, I saw an aircraft that I believe the Tower had sent around.*

The instruction to "cross the runway at Taxiway X" should have been a heads-up to the crew not to taxi onto the runway. In a callback conversation with an ASRS analyst, the reporter stated that in the future, the flight crew will verify any clearance to taxi onto a runway.

Absence of definitive ATC instructions lured another corporate flight crew into a runway transgression. The First Officer reports:

■ *We were cleared to land Runway 30. No "hold short of Runway 20" or anything. On rollout, we were not given any taxi-off instructions because Tower was busy with someone who was having radio problems. I believed there was some traffic landing behind us, and I thought we should clear the runway as soon as possible because that's what you are supposed to do. We taxied clear of Runway 30 by turning onto Runway 02/20, and stopped awaiting further ATC instructions. The controller told us in the future not to taxi onto another runway because it messes up his separation.*

In the landing clearance, the absence of a "hold short" instruction was not permission for the flight crew to enter Runway 20 and stop there. In this case, there were intersecting taxiways shortly before and beyond the intersection with Runway 20 which could have provided appropriate turn-offs. The Aeronautical Information Manual (AIM) states that pilots should exit the runway at the first available taxiway or as instructed by ATC. The AIM Section 4-3-20 offers additional information on exiting the runway after landing.

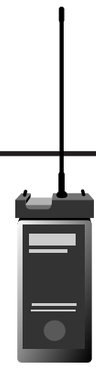
Construction Zone

A report from a Local (Tower) Controller points out the increased runway/taxiway confusion that can result during airport construction activities.

■ *Ground Control requested to cross a small airplane at the departure end of Runway 31. I approved it. This is a non-standard operation due to the main taxiway being closed for construction. The airplane pilot turned onto the runway instead of crossing it as instructed. He observed a jet turning onto Runway 31 [for departure]. He moved over to the edge of the runway, but never said anything. The color of the aircraft and its position were such that it blended in with the runway paint. I cleared the jet for takeoff, then observed the airplane just prior to the jet rotating. After the jet passed over the airplane, the airplane pilot asked Ground Control if he was in the right place.*

In a subsequent conversation with the controller, the pilot indicated that he was unaware that there was a parallel taxiway available, and so turned onto the active runway. When airport construction or any other unusual activity renders runway and taxiway operations non-standard, both pilots and controllers need to use extra caution to ensure that taxi instructions are clearly understood and followed. Pilots can give themselves an edge by having airport diagrams close at hand to confirm taxi routes.

ELT Interference



A situation commonly associated with GA pilots —an ELT false alarm—became a serious distraction to a commuter flight crew. The First Officer reports:

■ *From first contact with Ground Control until landing ...the ELT signal could be heard strongly on all frequencies. The sound was so loud that it was hard to hear and understand any ATC transmissions. The Captain elected to continue the flight. After landing, I climbed into the rear baggage compartment and found a box jammed into the ELT. After removing the box and resetting the ELT, the signal stopped. In the future, I would suggest stopping the aircraft and checking to see if it was my ELT.*

Pilots' quick responses to an ELT signal can save ATC and the Civil Air Patrol from scrambling to a false alarm, as well as save other pilots the frustration of trying to communicate over the sound of a transmitting ELT. The reporter does not indicate what, if any, repercussions resulted from this noisy flight.

ASRS Recently Issued Alerts On...
Uncommanded disengagement of an EMB-145 autopilot
SAAB 340 brake failure attributed to a broken hydraulic line
DC-10 engine flameout attributed to the wake of a preceding jet
Reporters' advocacy of TCAS II equipment in cargo aircraft
SID-created traffic conflicts between two adjacent airports

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July 1998 Report Intake	
Air Carrier Pilots	2145
General Aviation Pilots	832
Controllers	79
Cabin/Mechanics/Military/Other	161
TOTAL	**3217**

"Helping Out" ATC

Air Traffic Controllers are constantly choreographing the ever-changing aerial and ground flow of traffic. They rely on pilots to provide accurate information and follow ATC clearances to keep the traffic movement progressing smoothly and safely. In our first report, the ground flow nearly came to a grinding halt when a training aircraft "stepped on the toes" of an air carrier jet. A Ground Controller reports:

■ *The aircraft, with a student and instructor on board, had been operating in the touch-and-go pattern, then made a full stop. The student was instructed to turn right at Taxiway X and hold short of Taxiway Z for a taxiing jet. The student read back the instructions, turned onto Taxiway X, and appeared to slow down. Then he was observed to speed up toward Taxiway Z, putting him on a collision course with the jet. ATC instructed the [student] to stop, which he did, but he had already crossed the hold line. The jet had to move to the side of the taxiway to get by.*

[Later] the student stated that he had heard and understood the instructions. He stated that his instructors had taught him to "help out" the controllers whenever he felt he could. He was certain he could "beat out" the jet. The instructor supported the student's viewpoint.

There are ways to "help out"–with accurate position reports, etc.–but not following an ATC instruction is ***not*** *a help.*

In another report, marginal weather and rising terrain in the direction of flight should have encouraged the pilot to follow the vectors provided by the reporter, a Departure controller frustrated in his efforts to keep the pilot on course.

■ *The aircraft had filed direct to XYZ VORTAC, and on to the southeast at 9,000 feet. I issued a route direct ABC VORTAC [to the northwest] climbing to 5,000 feet, since as filed would have put the aircraft in Center's airspace without prior coordination. There is very rapidly rising terrain and obstructions as you proceed southeast from here, while to the northwest the terrain is lower. The aircraft took off and was tracking southeast. He stated that he was going to ABC VORTAC. As he proceeded southeast, I lost communication with him, and observed him level at 5,000 feet. By the time I was able to re-establish communication, he was ten miles southeast of here and he still said he was proceeding direct to ABC VORTAC. After getting the aircraft identified, I was able to issue a clearance on course and climb him to 9,000 feet.*

The pilot probably figured, "Why go northwest when the controller will probably put me on course [to the southeast] right away. The controller only wants to delay me…" Or, there was a complete loss of situational awareness by the pilot, blindly flying along into rapidly rising terrain, and trying to figure out why the controller was repeatedly asking him if he was going northwest.

We issue clearances with very good plans in mind…it is to keep you out of someone's way, or to avoid an unplanned close encounter with the earth.

Helping Other Crew Members

ATC's choreography can also be disrupted due to flight crew distraction and subsequent loss of intra-cockpit coordination. A Captain's report provides an example.

■ *While we were in level cruise at FL330, Center cleared us to FL290, "pilot's discretion" to 11,000 feet (or so I thought). I dialed in 11,000 feet in the altitude window, and the First Officer [FO] acknowledged. The first clue I had that something was amiss was when I noticed another aircraft…we were approaching FL270, and the FO told me we were only cleared to FL290.*

The First Officer pinpoints the causes of the confusion:

During the conversation with the controller, a conversation was going on within the cockpit with a deadheading crew member, which may have contributed to the FO and Captain not verifying the altitude assignment with each other. The crew had several tasks in progress, with briefing, receiving ATIS, and making "in range" calls.

Although the company communications might have been necessary, the timing of the conversation with the jump seat passenger was inopportune, interfering with the intra-cockpit communication that might have prevented the altitude deviation.

Another Captain likewise attributes an altitude deviation to workload and non-ATC communications.

■ *Shortly after takeoff, we were cleared to 5,000 feet. I left the frequency to call company operations, get arrival ATIS, and call arrival airport operations. While I was off the frequency, we were cleared to go direct to a VOR when reaching 3,000 feet (but ATC expected us to continue the climb to 5,000 feet). When I got back on frequency, I asked the FO about our latest clearance, and he said, "Direct to the VOR, maintain 3,000 feet."*

Contributing factors were: a new Captain (one month) paired with a new FO (two months); a 20-minute flight [with] high workload; and the need for the pilot-not-flying to leave the frequency three times to make required company calls.

Company communications are important but may need to be re-prioritized so that both crew members are available to confirm ATC clearances.