

The Hard Line on Runway Incursions

A runway incursion is defined as “any occurrence at an aerodrome involving the incorrect presence of an aircraft, vehicle, or person on the protected area of a surface designated for the landing and takeoff of aircraft.”¹ Runway incursions result from various causes and usually ensue following a sequence of errors that a pilot, a Controller, or Ground Operations does not trap. Regardless of specific errors or causes, runway incursions have serious implications, which may include a ground conflict or collision.

Fiscal Years 2015 through 2018 have each shown an increase over the previous year in the total number of runway incursions reported to FAA.¹ FAA is making strides to combat the problem and reverse the tendency.¹ Comprehensive, up-to-date runway incursion resources exist for pilots, controllers, and airport ground vehicle drivers. Current FAA plans and progress are presented along with issues that are “trending now.” Links to regulatory documents, educational videos, airport diagrams, other news and publications, and FAA runway incursion statistics are all available.¹

ASRS regularly receives reports of runway incursions, which include significant numbers of incidents that have occurred at non-towered airports. This month, *CALLBACK* shares reports of runway incursions that identify specific threats and errors. Although these incidents concluded without tragedy, they are sobering and clearly emphasize the need to reduce their frequency and mitigate any hazardous consequences.

All in a Day's Work

A commercial aircrew described the circumstances that preceded their unauthorized entry into an active runway environment. Distraction, weather, and fatigue were factors.

From the Captain's Report:

■ *At the end of a long day which included a fuel stop, a late hotel pickup, and weather, we landed on [Runway] 19L in San Francisco (SFO) and were cleared to hold short of 19R. We acknowledged the clearance. As we taxied off 19L, my iPad shut down on its own as it had done the last two days. As I reached over to restart it, ...I lost location SA (Situational Awareness), and our nose taxied onto 19R. Just then the First Officer (FO) said, “Wait. Where are we?” and he told the Tower that we had started taxiing onto Runway*

19R. The Tower said, “Yes, continue crossing 19R and contact Ground.” The rest of the taxi was uneventful.

From the First Officer's Report:

■ *This was originally supposed to be a nonstop flight to San Francisco, but due to severe weather in SFO and fuel requirements, we had to stop for fuel. The day was further delayed...with an SFO flow control program. Upon arrival into SFO, the weather was moderate rain, 3/4 mile visibility, and winds gusting over 40 knots. We landed on 19L, and Tower instructed us to make any right turn and hold short of 19R. We turned right on Taxiway G, and...neither of us saw the hold short line for 19R. Both of us realized the mistake at the same time, but at that point the nose was slightly in Runway 19R. It was difficult to see ground markings with the wet surface, dark conditions, and weather.*

A Subtle String of Errors

A Captain and a Controller describe how an unnoticed error, an assumption, and an expectation combined to result in a runway incursion that could have been catastrophic.

From the Captain's Report:

■ *Taxiing to the active runway, we were cleared to cross the runway at a taxiway on two separate occasions within 30 seconds. We both looked at the approach end of the runway and confirmed an aircraft in position as Ground Control had indicated. My FO confirmed with me that [the aircraft in position] was not moving. I also looked and agreed.*

I now concentrated on steering the aircraft on the taxi line while crossing the runway. My FO then stated that Aircraft Y was...rolling down the runway. I [braked] but was not able to stop before entering the runway. Aircraft Y rotated and overflew us. We...queried Ground, and they confirmed for a third time that we were cleared to cross the runway.

From the Tower Controller's Report:

■ *We were in the last part of a large departure push. I was working the Tower Local Control position. I had four aircraft ready to depart. Three were at one runway and one was at an intersecting runway. I was departing a business jet from an intersecting runway. As the taxiing Aircraft X turned north, I lined Aircraft Y up on the runway. With my plan firmly in my*

head, I would depart Aircraft Y; then I would allow Aircraft X to cross the Runway 4 at a taxiway. When the Ground Controller coordinated the crossing, I had my plan made and did not realize the crossing was before Aircraft Y. I cleared Aircraft Y for takeoff. The aircraft rotated and was airborne before the taxiway. The ASDE-X alerted. I saw Aircraft X approaching the runway, but in my mind, [I thought] the aircraft would hold short of the runway.... Maybe additional training on expectation bias would help.

Communication or Interpretation?

With taxi clearance to the runway and a sequence to follow another aircraft, this A320 Captain was surprised and confused when they followed the aircraft across a runway.

■ We were cleared to leave the ramp and taxi to the runway. We were told our sequence was to follow the MD88 ahead and monitor the Tower, which we did. Approaching the taxiway, the MD88 started taxiing to cross the left runway, which was being used as a taxiway, as there was a tug pulling an aircraft stopped on the runway. So as previously cleared, we continued to follow the aircraft ahead.

Approaching the runway, Tower called our flight number, so I stopped with [our] nose slightly on the runway. My copilot then told Tower that our clearance was to follow the MD88 and monitor the Tower, which we were doing. The Controller then said he has a phone number to call for a possible runway violation. We continued on with no further incident. There was no threat to safety in any way. The clearance to sequence and follow the MD88 superseded the one given to us on the ramp. We were never told to hold short of a taxiway or the left runway with the second clearance. There was a definite communication failure on both parties, ATC and us. With the tug and aircraft stopped on the left runway, the runway was obviously not active. In the future with this type of communication, I will clarify the intent.

Incompatible Taxi Instructions

A LaGuardia Controller made a callsign error while issuing an otherwise valid taxi clearance. A ground taxi crew erroneously accepted the illogical taxi instructions. An alert flight crew averted the developing conflict.

■ Aircraft X was a maintenance aircraft under tow, repositioning from the west side of the airport to the east side. Aircraft X was instructed to proceed via Taxiways DD and G to hold short of Runway 4. A portion of Taxiway A

was closed...for aircraft that were parked on the taxiway overnight.... With Taxiway A closed between E and G, [outbound departures] had to taxi via A, G, and B. My plan was to have Aircraft X hold short of Runway 4 for a few minutes until a couple of outbound aircraft cleared Taxiway G and Taxiway B.... Aircraft Y had called for outbound taxi. Mistakenly I called them Aircraft Y Maintenance and gave them clearance to taxi via N, A, and hold short of M. Aircraft X Maintenance took the clearance and read it back. At that point Aircraft X crossed the active departure runway (Runway 4) and went onto Taxiway B. Even though I missed the read back, at no point did I instruct any aircraft to cross a runway. I am perplexed as to why Aircraft X did not question the clearance. They were holding short of Runway 4 at G. The clearance they took was, "Taxi N, A, hold short of M," and there were not crossing instructions in the clearance. There is no possible way to get to Taxiway N from where they were. I got busy with other duties and caught the crossing just as they cleared. Local Control had cleared Aircraft Z for takeoff as Aircraft X was crossing. It appears that Aircraft Z delayed their takeoff roll and verified with Local Control that they were cleared for takeoff. I don't believe it is good practice to use an actual callsign to tow or reposition aircraft.... [Aircraft with] similar sounding callsigns is not a good idea and will probably lead to more of these incidents.

Stop, Look, and Listen

A C172 student and instructor encountered a surprise during their takeoff roll. The takeoff was successfully continued, but could easily have resulted in tragedy.

■ After announcing...that we (myself and my instructor) were taking off on Runway 23 and staying closed left traffic for 23, we cleared both the final approach and the runway for traffic. We started our takeoff roll and reached rotation speed at 55 knots. Just before I started to lift off, four or five emergency vehicles (fire trucks, ambulance) with lights flashing crossed Runway 23 off of Taxiway C from left to right directly in front of me. There was no attempt by the vehicles to stop at the runway [edgeline] to check for traffic on Runway 23. I had no time to abort the takeoff and simply continued to rotate to...fly the airplane with a normal takeoff. I crossed over the moving vehicles at an altitude of less than 50 feet.... We continued our pattern work, and they were gone when I finished my flight..

1. https://www.faa.gov/airports/runway_safety/

| ASRS Alerts Issued in December 2018 | |
|-------------------------------------|---------------|
| Subject of Alert | No. of Alerts |
| Aircraft or Aircraft Equipment | 2 |
| Airport Facility or Procedure | 2 |
| ATC Equipment or Procedure | 2 |
| Hazard to Flight | 1 |
| Other | 1 |
| TOTAL | 8 |

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 A Monthly Safety
 Newsletter from
The NASA
 Aviation Safety
 Reporting System
 P.O. Box 189
 Moffett Field, CA
 94035-0189
<https://asrs.arc.nasa.gov>

| December 2018 Report Intake | |
|-----------------------------|--------------|
| Air Carrier/Air Taxi Pilots | 5,530 |
| General Aviation Pilots | 1,132 |
| Flight Attendants | 546 |
| Controllers | 406 |
| Military/Other | 250 |
| Mechanics | 243 |
| Dispatchers | 156 |
| TOTAL | 8,263 |