

CALLBACK

From NASA's Aviation Safety Reporting System



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End of Tail



Not End of Story

Last month, we looked at some of the results of taxiway and runway incursion incidents. This month, we focus on a specific taxiway incursion issue encountered by pilots at a number of busy airports. An air carrier pilot explains the problem:

■ *We landed on runway 36, and were instructed to hold short of taxiway Z, which is the parallel taxiway for runway 36. In order to be sure the tail of the aircraft was clear, I taxied onto taxiway Z. The Controller got upset. We indicated that the only way to insure that our tail was clear was to taxi onto Z, since Tower had already cleared an airplane for takeoff behind us. We also stated that we believed it was appropriate that no part of the aircraft be beyond the hold line (between the hold line and the active runway).*

When pilots are clearing runways with large aircraft, they have no way of exactly determining when their tail is clear of the runway... Many controllers do not understand that if a widebody is on the centerline of a runway, its wingtips [may] extend beyond the edge of the runway. It is not acceptable for wingtips to touch the tails of other aircraft [holding on an adjacent taxiway].

Several other reporters have faced the same problem:

■ *The distance between the runway and the parallel taxiway is so narrow that a widebody whose tail is clear of the runway will have its nose into the parallel taxiway.*

■ *Tower issued instructions to clear the runway and hold short of the parallel taxiway. We couldn't do both. If we held short of the taxiway, it looked like our tail would be over the line and not clear of the runway.*

■ *[On takeoff roll], I saw the previous aircraft's tail sticking out about 20 feet onto the runway. The First Officer swerved and...we both felt we had missed the other aircraft. [At our destination], we found a piece of the left wing leading edge missing.*

Normally, ATC will provide taxi instructions if an aircraft is required to enter a taxiway or runway in order to clear the landing runway. However, the Air Traffic Control Handbook (7110.65J) states: "In the absence of ATC instructions, an aircraft should taxi clear of the landing runway even if that requires the aircraft to protrude into or enter another taxiway/runway/ramp area. This does not authorize an aircraft to cross a subsequent taxiway/runway/ramp area after clearing the landing runway. The pilot is responsible for ascertaining when the aircraft is clear of the runway." The AIM discussion of the procedure for exiting runways after landing can be found in section 4-3-20.

The hazards associated with this issue are not confined to large aircraft. A general aviation pilot was on the receiving end of a Boeing 747 letting it all hang out:

■ *Ground cleared me to taxi to the hangars. I taxied onto taxiway X, and began slowing down because a B747 was on the intersecting taxiway with part of its tail sticking into taxiway X. Ground told me to taxi behind the B747 and to use caution. I should have told Ground that I would hold until the B747 taxied onto the runway, but I assumed Ground was holding the B747 in position until after I passed behind. Just as I got almost even with the B747's wingtip, I heard the jet's engines increase power. My Cessna was immediately pushed to the left and forward, and pitched nose down. I brought the aircraft to a stop, but not until after the wingtip and the prop contacted the ground.*

For small aircraft, jet blast on the ground can be almost as dangerous as wake turbulence in the air. As the reporter indicates, waiting for the jet to clear the taxiway would have been the prudent choice. ▲

"Cell" Save

Any in-flight emergency is an adrenaline-producing event, but a forced landing over water is the stuff nightmares are made of. The crew of a helicopter equipped with inflatable floats makes the situation sound almost routine.

■ *After completing the after-takeoff checklist, we heard a buzzing sound, then a vibration, followed by a main transmission chip caution light illumination. The Captain executed memory item checklist, "land immediately [and] arm the floats." Then, at the right time, he commanded, "blow the floats." The aircraft made a gentle landing on the water. There were no injuries or airframe damage. Upon landing, I used our handheld cellular phone and dialed 911. I described our location and situation to a police dispatcher, who contacted the Coast Guard. Approximately 10 minutes later, they arrived alongside... We towed the aircraft to the shore, where it was recovered. Good training and a little luck resulted in a happy ending.*

This report highlights the value of cellular phones for providing back-up communication during electrical failures and other emergencies. ▲

ASRS Recently Issued Alerts On...

Dual generator failure on a B737-200
Autopilot rate gyroscope failure in a B747-100
Smoke hazard from overheated fluorescent light ballast
DC-9 rudder deflections attributed to autopilot malfunction
Erroneous altimeter readings caused by an electrical surge

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May 1996 Report Intake

Air Carrier Pilots	1891
General Aviation Pilots	682
Controllers	107
Cabin/Mechanics/Military/Other	27

TOTAL

2707

Hazmat Revisited



ASRS occasionally receives reports regarding the carriage of hazardous materials on aircraft, a subject much in the public eye, lately. Whether in the passenger cabin or in the cargo hold, these materials can present a significant hazard if not properly packaged, labeled, stowed, and listed on a pilot's load manifest. Although the following ASRS report is of 1988-vintage, it is an example of how serious—and costly—hazardous material incidents can be.

■ *As we were being vectored for final approach, a Flight Attendant called from the main cabin and informed the First Officer (FO) that there were fumes of unknown origin in the cabin. The FO kept in constant contact with the cabin crew in an effort to identify the fumes and locate the source. As we were turning final, a deadheading FO advised that the floor in the area of the landing gear was hot. When we heard “gear area,” we elected to extend the gear immediately...I landed the aircraft and taxied off the runway. The deadhead FO informed us that the floor was hot and mushy, and he thought there might be smoke. We initiated a ground evacuation. The crew performed admirably well.*

After completion of the evacuation, the middle cargo bay was opened. The sight of smoke coming out of the bay proved that our decision to evacuate immediately had been prudent. It turned out that illegally-shipped sodium hydroxide [caustic lye], in chemical reaction with something, caused the smoke and heat, and probably the fumes as well. The cargo was marked “laundry

Hot Days, Cool Heads

In hot weather, air molecules expand, resulting in fewer air molecules flowing under and around airfoils to give them lift. Under these conditions (known as high density altitude), an aircraft will perform as if it is at a higher elevation than it actually is, and pilots may be robbed of the performance they usually count on. The additional impact of operating at maximum gross weight may put the aircraft beyond its capacity to fly normally, as this reporter found out:

■ *The operation was agricultural dispensing. Aircraft was loaded at close to gross weight. This was during a heat wave with temperatures 95-100 degrees, humidity 70-90%. The density altitude was 2,400 feet. Fields to be sprayed had obstacles, including two areas which were considered congested. I completed the long rows to get rid of as much weight as possible to increase aircraft performance before working the tight places. On several of the turns near the congested areas, I had to pull tighter than I thought to prevent overflight. As time progressed, the wind diminished to nothing. On one pass I caught some turbulence from a previous pass and, in order to*

equipment,” so no special loading procedures were used. Temperature in the cargo compartment reached 600-800 degrees. At this time, the aircraft is being declared a total loss because of possible keel beam damage.

More recent examples from the ASRS database include:

✓ **Gasoline.** *“The source of the spill was a gasoline generator. There were no hazmat labels...”*

✓ **Tear gas.** *“Law enforcement personnel knew about not carrying their tear gas canisters aboard, but did not see a problem with those in the baggage area. [The tear gas] was not declared. They claimed they do it all the time.”*

✓ **Jet fuel.** *“Strong odor of fuel in the cargo cabin. Inspection revealed jet fuel leaking from a box that contained an engine fuel control being shipped from the maintenance department.”*

✓ **Ammunition.** *“A box marked ‘Class 3 Explosive—Do Not Load On Passenger Aircraft’ had been loaded as regular checked baggage.”*

Even such everyday items as insect repellent, fingernail polish remover, and household cleaning liquids may leak and release unpleasant fumes. The chemicals in these products may also react with other materials to create a dangerous environment for flight crew and passengers. All of us—pilots, ground crew, cabin crew, and passengers—are responsible for ensuring that carry-on baggage and cargo do not present a safety hazard to the aircraft and its passengers. ▲

maintain controlled flight, I had to overfly a congested area at approximately 200 feet AGL. The higher than normal density altitude...created a situation where I tried to ask the aircraft for more than it could deliver performance-wise.

Alternatively, high density altitude may appear to be the cause of poor performance, when a mechanical malfunction is the real culprit. A general aviation pilot reports:

■ *On an 85-degree day, I noticed a longer than normal takeoff roll and very poor rate of climb. I thought it was probably normal considering a 100-horsepower aircraft, fully loaded on a hot day, but decided to return for landing anyway just to be safe. The mechanic discovered that the carb heat cable needed adjustment, and carb heat may have been partially on when the carb heat control was off. Later test flight found normal performance. The pilot who flew the plane before me also noted poor performance, but continued flight thinking it was only a result of high density altitude.* ▲