

CALLBACK

From NASA's Aviation Safety Reporting System



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Adventures in Ground Operations

“Ground Operations involves all aspects of aircraft handling at airports as well as aircraft movement around the aerodrome, except on active runways.”¹ The Ground Operations environment is broad and dynamic. It is also complex, often challenging those involved with some of the busiest, most unpredictable, and most hazardous conditions in aviation. Constant change is the norm, whether taxiing or parked at a gate, remote spot, or FBO.

For a pilot or crew, duties can be numerous, detailed, and frequently hurried. Attention to detail is paramount, yet a pilot's attention is often divided among many tasks. Hazards and threats may not be perceived, but they can exist most anywhere. Airport construction, high density ground traffic, complicated clearances, close proximity, simultaneous operations, multitasking, fast changing weather, time pressure, and different levels of qualification are but a few.

This month, *CALLBACK* shares reports of Ground Operations incidents that suggest some techniques to employ and others to avoid. These reports also herald the sage advice that pilots “place a strong emphasis on ground operations as this is where safe flight begins and ends.”²

The Best Teacher

A C172 pilot attempted to thread the needle while taxiing to the runway. Failure was forged into wisdom, and judgment was honed to resolve when experience taught a tough lesson.

■ *While taxiing from the ramp, I chose a route that led me to a confined area between an FBO building and several hangars. ... Several ...tenants had parked their vehicles near one side of the taxiway. ... An airplane had been parked on the other side of the taxiway such that its vertical tail was... intruding into the taxi area. I slowed...and attempted to weave between the two obstructions. Unfortunately, the area was too narrow, and my left wingtip contacted the rudder of the parked aircraft. I immediately shut down and secured my airplane. The FBO, having observed the incident, helped me separate the two airplanes, took pictures, and had an on-site A&P Mechanic visually inspect both airplanes.*

Following the incident, per FBO procedure, I taxied the aircraft back to parking and secured it for the day. During discussions with the Chief Instructor of the FBO, I learned that the FBO taxi procedures had recently been revised to avoid this area of the ramp due to the narrow confines.

I made several poor decisions that led up to the incident. I selected a route of taxi with a known choke point even though a less constrained route was available. ... Once a possible conflict was identified, I elected to continue instead of turning around, because I thought there might still be sufficient room. Finally, after realizing how little room there was, I chose to...squeeze through the area instead of shutting down, because back-taxiing by hand would have been a hassle.

In the future, I will...avoid all taxi choke points. ... If I must taxi through a confined area, I will shut down and make sure there is adequate clearance before proceeding. If there appears to be less than a foot of clearance on both sides, I will either have the obstacle removed or...find someone to help direct me through the confined area.

Barring all those options, I will simply back-taxi by hand to a turn-around point and either identify a better route of taxi or wait for the obstacles to be cleared.

First Responder

This GA pilot observed a situation that was deemed to require immediate action. A quick decision resulted in being first to aid a fellow airman who appeared to be in distress.

■ *I had my aircraft parked at the self-service pumps and was about to begin fueling when I caught a landing aircraft in the corner of my eye in the midst of a bad porpoise. The aircraft came down hard on its nosewheel, which separated from the aircraft as it skidded to a stop on its nose a few hundred feet from where I stood. The occupant was not exiting the aircraft, and the master switch was still engaged, as evidenced by the rotating beacon.*

Judging that I was the closest person available to render immediate assistance, I ran toward the aircraft along with

my flying partner, who has been certified in wilderness first aid. I was aware that I was entering the movement area and did use extreme caution, carefully supervising my partner as well. We arrived on scene first, almost a minute before the emergency vehicles. As soon as it was clear that the occupant was unharmed and there was no risk of fire, we immediately left the scene.

Another person, who followed us out to the aircraft with a handheld radio, was admonished by the Controller for entering the area without permission, and it was suggested that we may have violated a regulation. I believe that under the circumstances, we acted upon the correct instinct to render immediate assistance. As a pilot, I understand the hazards that exist in the movement area and did my best to mitigate any risks as I entered with my partner. We retreated to the non-movement area immediately when it was apparent that we were not needed to help.

The decision to enter the safety area was not taken lightly, but I felt it was correct at the time. I am sensitive to the Controller's needs to control access to the area, and I do regret adding to his workload.

Taxi Techniques to Terminate

A Maintenance crew taxied an aircraft to the gate from which this A320 Captain had just pushed. During the operation, avoidable hazards were observed and noted.

■ We were...finishing our pushback, and the brakes were set. The tug was still connected to the aircraft via towbar. We were pushed basically straight back. At this time, a CRJ-700, being taxied by Maintenance crews, cut in front of us to park at the gate we just pushed back from. The aircraft came in unmarshaled, and the area was so tight, he actually came into the gate-line half way up. When he turned to line up with the line, his engines were running, pointed directly at [our] pushback crew. I estimate his tail was about 20 feet from [our] pushback crew. ... This put the ramp personnel directly in their jet blast, creating an extremely unsafe condition. The ramp personnel were having difficulty standing up. They were eventually able to disconnect and then marshal the offending aircraft the last 5 feet to the gate.

The Domino Effect

Confusing preflight circumstances shaped a decision that resulted in a non-standard configuration, which then created extra risk for this operation.

■ When I arrived at the aircraft, my First Officer (FO) advised me that the flap indicator showed full down flaps with...the yellow hydraulic pump switch "ON." My FO went down onto the ramp to check out the situation. He confirmed the flaps were in the full down position. He also indicated to me that there appeared to be no mechanical work being done. We contacted Maintenance, and they verified that there was no maintenance issue with the aircraft. At that time, I communicated with ground personnel to see if it was clear to raise the flaps. However, with all the activity around the aircraft, including refueling, it was not safe to raise the flaps. I elected...not to raise the flaps until the area cleared.... I was informed, just prior to push time, that the refueling truck struck a flap fairing when departing. The incident caused a 3 1/2 hour delay.

Air Anaconda

Per procedure, a ramp worker connected the air hose when the aircraft arrived at the gate. Initially all was normal, but an artificial gust of wind soon appeared as a major hazard.

■ After marshaling the aircraft...into the gate, I began to complete my post arrival duties. I hooked up the Ground Power Unit and received the all clear from the Captain that he had power. After that, I got the air hose from the jetbridge and started unrolling it to connect to the aircraft. Once I hooked the air hose up to the aircraft, I began walking back towards the jetbridge to turn on the air. As I got to... about the midway point between the engine and jetbridge, I felt a gust of wind that started blowing. I thought it was maybe just a big gust of wind that knocked me off balance. I then noticed...the air hose blowing toward me at a rapid pace. Before I could react or move, the air hose had become wrapped around my ankle. Once the air hose wrapped around my ankle, it then snatched my leg and started pulling me violently underneath the aircraft. I tried to pull my leg from the air hose, but as I pulled, it became tighter. I did finally manage to get my leg from the grasp of the air hose. When I looked to see what happened, I noticed that a B777-300 aircraft had turned...toward the taxiway and jet blasted the gate [area].

1. https://www.skybrary.aero/index.php/Ground_Operations

2. https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/airplane_handbook/media/04_afh_ch2.pdf

ASRS Alerts Issued in January 2020	
Subject of Alert	No. of Alerts
Aircraft or Aircraft Equipment	2
Airport Facility or Procedure	4
Maintenance Procedure	1
Other	2
TOTAL	9

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January 2020 Report Intake	
Air Carrier/Air Taxi Pilots	5,420
General Aviation Pilots	1,229
Flight Attendants	983
Controllers	389
Military/Other	290
Mechanics	259
Dispatchers	188
TOTAL	8,758