

CALLBACK

From NASA's Aviation Safety Reporting System



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Wintertime Ground Operations

Aircraft Ground Operations, by their very nature, can present a hazardous work environment at any airport. Many affiliated threats are obvious, but unrecognized or unknown hazards exist as well. Add to the mix the dangers and downstream effects that cold, winter weather produces, and a normally lesser risk situation or condition may become treacherous, even if proper procedures are followed and appropriate precautions are taken.

Unrecognized, unknown, and unexpected threats during wintertime Ground Operations render the number of conceivable situations nearly endless. Consequently, good situational awareness, communication, procedural discipline, judgment, and teamwork are imperative if ground personnel, pilots, and flight crews are to ensure safe operations in this environment.

This month, *CALLBACK* shares wintertime Ground Operations reports that capture a few uncommon winter weather situations. Explore the narratives and lessons from incidents experienced by ramp personnel and flight crews on the ground, all within the purview of wintertime aircraft Ground Operations.

Part 121 – Unorthodox Deicing

This ERJ-170 Captain recounts the sequence of events of a deicing procedure employed after compelling aircraft icing was found during the preflight inspection.

■ *We arrived as the airport received several hours of snow and freezing rain. During the First Officer's [preflight] inspection, it was found that ice had accumulated on the fan blades of both engines, and the left engine was frozen in place. I contacted Operations per the Cold Weather Operations Guide and FOM to have the ice removed. Operations informed us that Maintenance would have to remove the ice and to contact them, which was done at XA:12. Just after our communication with Ops, the deicing crew informed us they would come and "take a look" at the engines. Contract Maintenance arrived at XB:20 and asked why we had the insides of the engines sprayed with Type 1 fluid. I informed them that we did not request nor did we have any knowledge that it had been done. Upon looking at the intakes of both engines, I confirmed that they had indeed been sprayed with Type 1 fluid. I contacted our Dispatcher,*

informed them, and asked to be transferred to Maintenance to advise them and ask for guidance. In speaking with Maintenance, I confirmed that at no time did I request deicing of the inlets and fans of the engines. Maintenance said that there should be no issue with engine starts provided that we followed the procedure in the SOP... We pushed off the gate at XC:42 and continued the flight.

I have no idea why the deicing crew decided to spray inside the engines without contacting us first. Every other Company aircraft was requesting Maintenance to do the same thing we were, and none of them had the issue we did. The contract mechanics told me that a Captain had requested the inside of their engines to be sprayed and guessed that our deicing crew thought it might be our procedure as well. I was not able to get an answer from anyone as to why we were sprayed without expressed permission.... I feel that our crew followed all policies and procedures correctly.

Part 121 – Skids Aren't for Kids

This A319 Captain experienced a situation that presented an immediate hazard. The solution required quick, out-of-the-box thinking, fast reactions, and a non-standard technique. Fortunately, the Captain was up to the task.

■ *Prior to push, the taxiways were reported as "slippery conditions." On pushback, the tug had issues getting enough traction to push us back further than we requested. They disconnected, and we started engines. After engine start, I elected to finish the Before Takeoff Checklist to the line, so I could utilize the assistance of the First Officer during taxi. Upon brake release to taxi, the aircraft immediately started sliding, and we had no tiller or brake control. There was another aircraft... that had just pushed next to us, and we started sliding in their direction. To prevent us from colliding with that aircraft, we had to use reverse thrust to bring us to a stop. Once I set the parking brake, stowed the reverse thrust, and went back into forward idle, the aircraft again started sliding toward [the same] aircraft. We put the thrust back into reverse and had to use idle, up to max reverse in some occasions, to stop the uncontrolled slide. When we had the aircraft stopped, we contacted... Operations to tow us back to the gate. We kept idle reverse until the tow was hooked up and then shut down the engines. Operations then*

towed us back to the gate. We delayed until the conditions improved and departed four hours late without further issue. [Factors included] cold weather with ice on airport surfaces [and] lack of PIREPs on ramp area conditions. I didn't wait to depart until conditions improved and could have asked for reports from previous aircraft before pushing back. [I suggest] better reporting on ramp area conditions; it was only reported slippery. I should have visually looked more carefully on ramp conditions before beginning the pushback. Airport Operations could be better equipped to improve surface conditions, especially in northern destinations.

Part 121 – Not a Moment's Notice

An air carrier Tow Team characterizes a serious, perennial winter hazard and describes a classic example of the instantaneous consequences it can exact.

From the Tug Driver's report:

■ I was towing Aircraft X and was cleared into the alley. I was driving down the west side taxi lane. I was driving at a slow and consistent speed. I made my initial turn onto the lead-in line. The initial turn-in seemed fine. After about 15 feet, I corrected a little more. Immediately, I could sense I was slipping on the ice, and I was caught in a slide. I attempted to turn into the slide, but it was beyond my control. Once we came to a stop, we could see that the whole alley was a sheet of ice from [one] side to the [other] side. The plane made contact with the tug, and we immediately contacted our supervisor.

From another member's report of the same Tow Team:

■ The tow equipment went into a skid due to the icy conditions of the entire ramp area. The tug driver tried unsuccessfully to regain control and get out from the skid, but the weight of the aircraft kept pushing the tug in a continuous slide on the slippery, icy surface until the aircraft jack-knifed and bumped against the tug and made the dent on the fuselage. The whole ramp surface should have been properly evaluated for safe aircraft towing conditions. There was little to no traction available for safe vehicle operations.

Part 121 – Curious, Thorough, Professional

After being deiced, this commercial fixed wing aircraft experienced an issue during taxi that required a return to the gate. The Captain's curiosity and professional obligations led to the discovery of another type of failure.

■ I was in ZZZ during a snowstorm. We deiced and on the way to the runway, had a stuck brake, which required a return to the gate. The flight deplaned and we eventually timed out. Before leaving the aircraft, I went back to the wing to see how the Type 4 [deicing/anti-icing fluid] was doing, based on the data from the app. Based on all training we receive as pilots, the fluid looks to have failed long before the holdover time expired. I was shocked at how early it failed. If we did not return to the gate and stayed in line for takeoff, I would not have gone back to check the wings.

Part 91 – Inconspicuous and Undetectable

Conditions changed during a refueling and dinner stop for this PA-28 pilot. Although the pilot was attentive and conscientious, seemingly routine events led to unintended consequences.

■ I departed ZZZ1...flying direct, day VFR to ZZZ and landed [without incident].... I parked on the western portion of the ramp and set the parking brake. At the time, the temperature was above freezing with some partial sun, and the ramp had some thin patchy snow that was melting and wet, and I had parked in a mostly wet area. I ate at the restaurant while the plane was refueled and went back to the plane after dinner. It was dark, the runway and taxi lights were not on, and the western section of the ramp had no illumination.... After a normal preflight inspection by flashlight, I started the aircraft normally and idled at 1,000 rpm while starting to look at my checklist and getting ready to click up the taxi/runway lights. I had a cockpit light on. The parking brake remained on. I did not perceive, while looking at the checklist and bringing up the avionics switches, that the plane had begun to slide, move forward, and pick up momentum on a significant patch of ice that had formed as temperatures dropped below freezing. As the aircraft crossed into a dry area of the pavement, I heard an unusual sound that I immediately, but incorrectly, assumed to be an engine anomaly. I quickly pulled the mixture into an off position, but nearly simultaneously heard the propeller make contact with an unlighted runway sign and a nearly co-located, unilluminated taxi light. The aircraft came to a stop a short distance from the ramp edge. The aircraft sustained propeller damage. The cowling had some very minor damage. There were no personal injuries.

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ASRS Alerts Issued in November 2023	
Subject of Alert	No. of Alerts
Aircraft or Aircraft Equipment	3
Airport Facility or Procedure	9
ATC Equipment or Procedure	11
TOTAL	23

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November 2023 Report Intake	
Air Carrier/Air Taxi Pilots	5,271
General Aviation Pilots	1,396
Flight Attendants	1,314
Military/Other	574
Controllers	326
Mechanics	243
Dispatchers	193
TOTAL	9,317