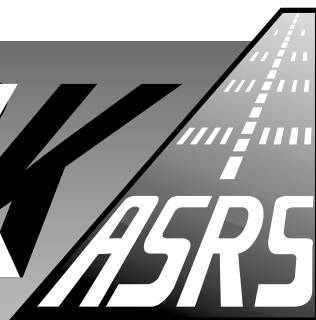


# CALLBACK

From NASA's Aviation Safety Reporting System



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## It's Nice to De-Ice – But Be Careful!

Icing – its presence and possibility – is a staple of winter operations that pilots must reckon with in their pre-flight inspections. According to ASRS reporters, the attempt to remove ice from an aircraft before flight may have consequences just as hazardous as an unexpected encounter with icing while airborne. We illustrate with a First Officer's report that describes how routine ice-removal procedures went awry.



■ *During rotation Runway 25L, lost autothrottles, Flight Director, and Captain's airspeed began to decrease. GPWS [Ground Proximity Warning System] began alert, "Terrain, terrain" and "Whoop, Whoop, pull up!" Attempted to stay VFR but unable. Flew vectored ILS to runway 35L. On landing, unable to start APU. During pattern, may have deviated from assigned headings or altitudes. Tower controller outstanding and very helpful. Captain made excellent use of all resources including First Officer, ATC, Flight Attendants, and company.*

This reporter told ASRS analysts during a callback conversation that the aircraft had spent the night on the ground during a severe ice storm and as a result was de-iced prior to departure. The reporter believed the problem was caused by de-icing fluid in the pitot and static tubes of the #1 system.

### The Broom That Didn't Sweep Clean

The flight crew of a regional passenger jet experienced an equally harrowing aftermath of ice removal. From the Captain's report to ASRS:

■ *Our airplane was boarded 20 minutes late because of heavy sleet, snow and rain... Later, residual slush build-up on the airplane was swept off... Start-up, taxi out for takeoff was normal... Takeoff on Runway 35 was normal. Cleared to climb to 9,000 feet (all anti-ice protection on), everything in the climb was normal. However, when I went to level off, I immediately noticed I couldn't push the nose over! We were on instruments (OAT -14 degrees Celsius). I noticed about a 1-inch strip of rime ice on the leading edge of the wing. My own past experience told me this was not enough ice to freeze up the controls. I was able to arrest the climb somewhat with use of trim and power, while continuing to free up controls. Then, all of a sudden it [the ice] let loose and an abrupt nose-down attitude resulted... This [sticking*

*controls and abrupt attitude changes] continued for about 2 to 4 minutes. During that time we flew into clear skies and advised Center we were having trouble controlling pitch on our airplane. Immediately [a lower altitude] was granted, and as we descended into warmer conditions...the pitch controls began to respond normally.*

The reporter added that because of a warming trend, slush was sliding

off the aircraft's wings and fuselage prior to pushback. Ground crew elected not to de-ice the airplane, but just to sweep the fuselage with brooms. Maintenance inspected the elevators after the incident and found that slush from the top of the fuselage had lodged in the stabilizer elevator gap, causing recurring elevator jams. ▲

### ASRS Updates Web Site Reporting Forms

The ASRS web site (<http://asrs.arc.nasa.gov>) has been updated with new "interactive" Adobe Acrobat versions of the program's reporting forms. After web site users download a reporting form, they can now fill it out using their computer to enter information. All four ASRS forms have been updated with this new interactive feature. The forms include:

- **General Form** (for pilots, dispatchers, airport personnel, and others)
- **ATC Form** (for Air Traffic Controllers)
- **Maintenance Form** (for aviation maintenance personnel)
- **Cabin Crew Form** (for airline cabin crew members)

**Important Note:** The free (non-commercial) version of the Adobe Acrobat Reader does not allow users to "save" information entered into the forms. Once the forms are filled out using the freeware version of the Acrobat Reader, they must be printed to preserve the information entered. Reporters can print a duplicate copy of the report for their own records at this time, also. Completed forms should be mailed to ASRS at the address given on the form. ▲

#### ASRS Recently Issued Alerts On...

MD80 auto spoiler deployment incidents
ATC handling of an air carrier on a STAR routing
Incidents involving CL65 trailing edge inflight failure
Unusual wake turbulence incident involving a EMB-145
Security incidents since the Sept. 11th national emergency

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#### November 2001 Report Intake

Air Carrier / Air Taxi Pilots	1721
General Aviation Pilots	850
Controllers	30
Cabin/Mechanics/Military/Other	103
<b>TOTAL</b>	<b>2704</b>

# Is There a “Next Time” in Your Future?

ASRS reporters often use the phrases “next time” and “in the future” to introduce the safety lessons they have learned from incidents. In fact, the ASRS database contains more than 6,000 narratives that use these exact words. As we ring in the aviation New Year, a sampling of resolutions from the ASRS reporting community provides food for thought.

## “Next time I will ask about any hold short sign” (Air Carrier Captain)

■ *From de-ice pad to Runway 28, told by Ground to taxi to Runway 28 on Taxiway J, stay on Ground frequency. On Taxiway J, taxied past a sign labeled “Runway 28 Cat I Hold.” After passing sign, Ground said we were 1,000 feet past the runway hold short [spot] and to contact Tower... Since Runway 28 was being used for departing [aircraft] only, we taxied past that spot...Lesson learned.*

## “Next time we will review the Terminal Area Chart before takeoff” (GA Pilot)



■ *We had been searching all day for a missing aircraft. Upon leaving our mission base to return to our home base, we tried to contact Approach for clearance through the Class B airspace. He [the controller] was extremely busy and said to stay clear of Class B airspace and remain VFR. We had been climbing at*

*that point, expecting clearance. We immediately descended to 1,200 feet to stay clear (below) the Class B airspace, and used the DME to stay approximately 8 miles away. The controller called back a few minutes later for our request, and at that time, he said we were in Class B airspace under the approach path to [major airport’s] runway 19R... Next time we will review the Terminal Area Chart more before takeoff.*

## “In the future, I will keep this aircraft on the ground” (Air Carrier Maintenance Technician)

■ *Aircraft arrived at gate with [log note]: ‘rudder travel unrestricted’ light illuminated during flight at altitude and system operated normally on approach. I visually inspected the rudder limited system and couldn’t find any abnormalities, but should have further investigated and hooked up a pitot source and checked the system as it would be inflight at altitude. However, we don’t have the*

*equipment at this station, and it would have to be shipped here to check the aircraft by the procedure. In the future, I will keep the aircraft on the ground rather than releasing it due to a turnaround condition and open the gate to the next inbound flight.*

## “In the future, I suggest putting up a sign” (Flight Attendant)

■ *When I exited the cockpit after reporting that it was too warm in the main cabin, a passenger opened the First Class lavatory carelessly, and literally smashed the door against my forehead as he was exiting the lavatory. This resulted in a concussion and whiplash trauma to me, the Flight Attendant. To help prevent such incidents in the future, I suggest putting up a sign [inside] all lavatories that states: “Open door slowly and carefully.”*

## “Next time we will level off” (Air Carrier First Officer)

■ *Cleared for Runway 09 SID at [South American airport], FL350. Since this SID has a level-off at 4,000 feet till advised further climb by ATC, we confirmed our initial altitude as FL350 with Tower when we received takeoff clearance. We were advised FL350 (by ATC). On handoff to Departure Control, Controller gave us a “friendly reminder about 4,000 feet level-off.” We mentioned to controller our conversation with Tower, and controller seemed satisfied. Since international procedures, communications, and expectations appear to be different at each foreign airport, next time we will level off at 4,000 feet until Departure Control advises to continue climb to our cleared altitude.*

## “Next time use WHOOPS!” (Air traffic controller)

■ *First day of work after 2-day break. Whole area of specialization had chop/turbulence all altitudes... Traffic workload was very light at this time. It had been very busy not long before. Air carrier X [level at FL390] asked for descent to FL350 and I issued clearance and sat back. I did not ‘see’ corporate aircraft Y at FL370! I have no idea how far apart the aircraft were when I cleared air carrier X to FL350. My first clue was when the conflict alert went off. Surprise, surprise! The pilots reacted very quickly to my instructions for turns... Their reactions may have been quickened by what we’ll call the utterance of a ‘non-approved call to attention’ over the frequency (as shown in the comics)... To prevent recurrence: take a break after a long busy period (off the sector). Next time (heaven forbid) use ‘whoops’ as an attention-getter. ▲*