

CALLBACK

From NASA's Aviation Safety Reporting System



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Winterside Wisdom

*Winter is icumen in...
Raineth drop and staineth slop,
And how the wind doth ramm!
— Ezra Pound*

Pound's parody of the medieval *Cuckoo Song* suggests that the worlds of poetry and piloting are not far apart. Several ASRS reporters elaborate as they share lessons learned – on the ground and in the air – during wintertime operations.

Frozen Slushy

■ *We landed at airport just after a wet snowstorm had finished dumping approximately 2 inches of wet snow on the runway... That was a termination flight for the evening. On postflight noticed slush had blown up into wheelwell. The next morning on the walkaround the First Officer reported slush had frozen to gear doors and general area around gear. [He] reported it to the mechanic on duty. [The mechanic] said he would deice area when deice crew was done [with] airplane. Area was deiced with glycol.*

Taxied out and took off. We received 2 main gear in-transit lights after selecting gear up. Tried cycling gear to no avail... We flew the published departure procedure to altitude and held over VOR. [We then] consulted with our Dispatch on plan of action. Since the departure airport [had] marginal weather and... high terrain, we elected to proceed to destination. We climbed to 20,000 feet and flew at 210 knots (aircraft limitation due to in-transit light). En route we consulted with Dispatch and determined that with fuel burn and winds aloft, we would have to divert [for fuel].

I believe CRM was very helpful here in that the First Officer flew the airplane while I worked on the problem with Dispatch and Maintenance. Also, next time I land on wet, slushy runways I am going to request that heat be applied to the gear area instead of glycol.

The only method of ice removal approved by many airlines is use of heated de-icing fluid (glycol). De-icing should always be followed by a visual inspection of the surface areas to which the mixture is applied.

Right Seat, Wings of Gold

ASRS received two flight crew reports describing a bad-weather IFR incident. The First Officer's report was succinct and to the point:

■ *On missed approach, Captain got behind aircraft and climbed 500 feet above assigned altitude.*

The Captain's report explained why the altitude bust occurred and affirmed the value of the crew concept:

■ *I'd like to say something about the effects of fatigue, bad weather, and flying: they don't mix! The day this event took place was day 3 of 4. I had gotten up after getting only 3-1/2 hours of sleep so I could drive to work... Strong*

surface winds, precipitation, low ceilings and visibility were present. The leg was the worst leg I have ever flown... I think the combination of fatigue, bad weather, a late close turn to intercept the localizer, a slow autopilot, a go-around from an unusual attitude, and me not being in the loop all contributed to this event.

They say a good First Officer is like gold. Thank heavens for mine on this day. CRM also played a positive role in that my First Officer pressed me diplomatically enough for me to say "Enough is enough!" That's why there are two pilots in the cockpit.



A Winter's Tale

An air carrier Captain described a hazardous dawn takeoff in snowy weather at an uncontrolled field.

■ *... We called ATC for clearance... We were given 5 minutes to be airborne. As we approached the runway First Officer called CTAF 122.8 and announced takeoff position. I noted that I could see the terminal and... lights beyond the airport. It was dawn and it was gray with little contrast in light snow. I was off UNICOM frequency. As I saw 100 knots the First Officer said, "There's a plow on the runway!" It took several seconds to acquire any image that looked like an object. It was a dim gray spot on the right side of the runway far away. No lights were visible. It was within 100 feet of the end and on the right edge of the runway. Not until we were close could we*

see lights on it. We passed well above it. Neither of us saw any obstacle on the runway from takeoff position. It was virtually obscured by the snow billowing around and over it as it headed into the 20-knot wind...

Had we not been pressed for time, we more likely would have made the CTAF "starting to taxi out" call which would have alerted the plow crew sooner... When any plow is on the runway, the plow crew should place a handheld rotating beacon on the runway at the edge near the takeoff end. This could be Standard Operating Procedure at all uncontrolled airports where snow plows operate... ▲

ASRS Recently Issued Alerts On...
A-300 flight control malfunction during approach
Jet structural damage attributed to a thrown recap tire
Reported hazard in B-757 cabin oxygen mask release
Loss of GPS navigation incidents near an airport in Italy
Chafing/fire hazard in MD-80 coach seat power port wiring

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December 1999 Report Intake	
Air Carrier / Air Taxi Pilots	2051
General Aviation Pilots	532
Controllers	51
Cabin/Mechanics/Military/Other	126
TOTAL	2760

“Mechanics of the Human Mind”

A general aviation pilot rushed to make a VIFNO (Void If Not Off by) departure time for an IFR flight at night. Once in the clouds, he suffered a gyro failure and subsequent disorientation. He reported to ASRS that his prior instrument and simulator training were unequal to the “mechanics of the human mind” experienced during the incident:

■ *I filed an IFR flight plan. I filed and received a void clearance to depart...less than 10 minutes from the time it was issued. I quickly preflighted the aircraft, started the engine, taxied to the runway and performed a fast prop and mag check. I departed...and called Approach on climbout and heading 220... While I made radio contact with Approach, I noticed the attitude indicator showing a bank in excess of 50 degrees, while the heading indicator appeared to be spinning. I tried to roll wings level with the turn coordinator, but found myself losing altitude quickly... I was able to recover below the cloud deck and asked Approach for heading and distance to departure airport. I remained VFR and landed.*

I feel several factors led to this:

- ✓ *My accepting a clearance which left me little time to prepare the aircraft and myself for a flight in night IMC.*
- ✓ *The aircraft was probably running for 5 minutes or so after sitting outside for 2 days in 40° damp weather. This didn't allow enough time for the gyros to*

completely spin up. The attitude and heading gyros are older units with many years and hours of service. These will be overhauled....

- ✓ *Partial panel procedures. All my initial and recurrent partial panel training has been accomplished using suction cup style covers over the attitude and heading indicators. In this actual event, I found it difficult to ignore the erroneous information presented by these instruments. I found myself overcorrecting and my instrument scan diminished and was more fixation than scan. I wish there were an acceptable method of reducing vacuum to create a realistic partial panel training environment. This [would] help pilots to modify their instrument scan and ‘tune out’ the failed gyros.*
- ✓ *I found [that] my thought processes and instrument scan declined with the seriousness of the situation. When faced with unusual attitudes [at] 2,000 feet or less AGL, decision making ability suffers and thought processes narrow and become focused on one aspect of the situation instead of analyzing and evaluating the whole situation... Practicing unusual attitudes under a hood with an instructor cannot create the fear and alarm needed to enlighten the pilot on the mechanics of the human mind....*

While our reporter searches for improved training aids for partial panel operations, he plans to work with an instructor on gyro failure and other emergencies. ▲

From Our Readers

From time to time readers send us thoughtful comments on articles we've printed in *CALLBACK*. We'd like to share several letter excerpts on items published in the January 2000 issue (#247):

✍ *In the article on “Unhappy Landings,” a GA pilot landed gear-up because he didn't hear the gear warning horn sounding in cabin due to a noise canceling headset. He recommended removing one earpiece in approach and landing phase. I didn't land gear up, but we noticed one day the [gear warning] horn was audible only in the cabin, not [in the] headset. We rewired the horn to be heard in the intercom.*

Another reader responded to the “Oxygen Irregularities” article in the same issue, offering a refinement on our suggestion that pilots consider using oxygen tanks with flow indicators:

✍ *...Flow indicators, which go from red to green to show flow, register green at 1 liter / minute... As part of the regulator assembly attached to the [oxygen] cylinder, there is usually a gage (often inaccurate) that registers liters / minute. Often the cylinder is*

located in a position where reading the gage is difficult.

*The easy solution to the problem of correct flow is to insert an altitude compensated **flow meter** in place of a flow indicator. One type that has proven to be accurate is scaled in thousands of feet instead of liters / minute, thus eliminating the need for the user to convert liters to altitude. Another useful feature is dual scaling, enabling the user to get correct flow with either mask / ordinary cannula or with oxygen-conserving cannulas.*

And courtesy of an FAA Aviation Medical Examiner, description of a “hearback” problem frequently detected during pilot medical exams:

✍ *... As is my protocol during the interview for an airman's physical examination, I will ask if they possess a “S.O.D.A.” I will invariably get a response of “No thanks, I just ate.” One pilot answered, “Yes, a Coke or Pepsi, please.”*

Oh yes, S.O.D.A. means “Statement of Demonstrated Ability.” ▲