

CALLBACK

From NASA's Aviation Safety Reporting System



Number 303

December 2004

More Weather Reports

Continuing the discussion of winter weather hazards from the previous issue of Callback, the following reports offer more insight into the risks of attempting to fly VFR in IMC. Most of these reports were submitted by pilots flying in Alaska, but the lessons apply everywhere.



Under The Weather

Flying into a valley under a low overcast is tempting fate. If the weather deteriorates, the only VFR escape may be a 180-degree turn. As this C207 pilot learned, one turn may lead to another, and another, and...

■ *I planned to head south along the shoreline and then continue northwest...then direct Bethel. I departed as planned and flew about 23 miles south. Low clouds blocked the valley I'd planned to follow... but the next one south was open. I proceeded into this valley at approximately 800 feet MSL with three miles visibility. I continued to the end of this valley where, due to lower ceilings and visibility, I decided to turn back.... I traveled back about three miles to a point where I did not want to continue due to low weather conditions. I again reversed course and began looking for an alternate route. I found an open pass leading to the north and proceeded into it. At first this pass looked good. As I continued in further, the turbulence began to increase and the ceiling began to lower. I had not gone far when I could see that I would not be able to continue. At this point I was having trouble controlling the aircraft due to the turbulence caused by the gusty winds out of the east. I made the decision to turn around and head out of the pass.... Due to rising terrain and lowered ceilings, I was now at 200-300 feet AGL. I was struggling to maintain control of the aircraft. My attention was being divided between looking outside and at the instrument panel. I was looking outside to maintain clearance from the terrain and to try and navigate, but I was becoming very disoriented as the plane pitched and rolled and went in and out of the clouds. I had very few visual clues and the sloping terrain was making it very difficult to gain a horizon reference. Basically, I was looking outside to maintain terrain clearance and using the instruments to maintain control of the aircraft. I decided that at this point my safest option was to climb above the terrain and head directly back to [departure airport]. I turned, added full power and climbed quickly, leveling off at 3,200 feet MSL. This altitude gave me 1,000 feet of terrain clearance. I then began navigating on instruments.*

Since this occurrence, I have advised my fellow company pilots to only travel established routes or not go at all when the weather is questionable.

Under the Weather II

This PA32 pilot did a commendable job of getting on the ground under difficult circumstances. The decision to enter and continue up a canyon in the face of deteriorating weather, however, could easily have resulted in something worse than a minor runway excursion.

■ *...I was able to maintain 5,500 feet MSL until about 40 miles from ZZZ. Lowering clouds took me into the Yukon River canyon, where I maintained a VFR altitude of 1,500 feet MSL. The ceiling was still about 2,500 feet, with 15-20 miles visibility. Outside air temp was steady at about -10 degrees centigrade. Due to the lower cruise altitude and being in a canyon, my normal attempts to monitor the ASOS (Automated Surface Observing System) were unsuccessful. As I got to within five miles of the airport, the weather deteriorated with visibility dropping to just over three miles, but still with an adequate ceiling, so I continued my approach. About two miles from the airport and with the field in sight, I began picking up the first indication of precipitation on my windscreen. Within less than one minute, my windscreen went from clear to totally iced over from freezing rain. I was still able to maintain contact with the airport through my side windows and elected to land. I judged this to be a better option than attempting a retreat back down the canyon in deteriorating weather with an iced-over windscreen, and facing a 200 mile return in dwindling light. With constant attention to airspeed, altitude, and visual contact with the field, I made a close-in overhead approach to Runway 24 and landed. Upon touching down, I briefly lost visual reference, and the aircraft veered off the left edge of the runway.... There were no injuries....*

Under the Weather III

Ultimately, this C208 pilot made a wise decision to climb out of the weather before becoming a CFIT (controlled flight into terrain) statistic.

■ *I departed...for Nome. Departure weather was VMC. Nome had been IMC, although the weather was reported to be improving. About 30 DME from the Nome VOR, I began a descent from 4,500 feet MSL in an attempt to get under the weather. I stopped the descent at 500 feet MSL. Between 12-14 DME from the Nome VOR, I was scanning outside while attempting to keep ahead of my instrument scan. I made visual contact with the terrain. A glance at the radar altimeter indicated 300 feet AGL and decreasing. I immediately pitched the aircraft up, added full power, and executed a climbing 180-degree turn to 3,500 feet. I returned to VFR conditions and landed safely back at [departure airport].*

ASRS Recently Issued Alerts On...

CL65 rudder and stabilizer trim failure
C310 nose gear extension failure
B737-800 brakes installed on B737-700
Northwest U.S. airport unmarked drainage ditch
Southwest U.S. airport taxiway signage deficiency

A Monthly Safety Bulletin
from

The Office of the NASA
Aviation Safety Reporting
System,
P.O. Box 189,
Moffett Field, CA
94035-0189

<http://asrs.arc.nasa.gov/>

November 2004 Report Intake

Air Carrier / Air Taxi Pilots	1978
General Aviation Pilots	726
Controllers	61
Cabin/Mechanics/Military/Other	121
TOTAL	2886

In the “Go Mode”

After a rough departure, this B737 flight crew questioned the wisdom of trying to get out ahead of the weather.

■ *The Captain and I had finished all of our preflight planning and viewing of the radar in station operations. We were just sitting in the cockpit waiting for the passengers to board. Looking out my window, I saw the weather deteriorating to the west. The Captain coordinated, through station operations and departure control, the best route around the building weather. We blocked out early so we could “beat” the weather. As we were going to Runway 14R, the winds shifted (clue #1) to favor a Runway 18 departure. We taxied out and were primed to go. The tower queried us as to whether we wanted to “take a look” at the weather and the runway (clue #2). We had viewed it on the radar as we taxied out and decided we could “press on” (clue #3). As we were rolling down the runway, the gust front overtook the field and required almost full rudder input to maintain runway centerline. Once we got airborne, I had to fight with the aircraft to maintain control. We experienced a gaining-performance [wind] shear. The rest of the flight was uneventful except for the continuous conversation between both pilots as to how we got into the situation and how to prevent this in the future. We were definitely in the “go mode.” We should have taken a much more conservative view towards the takeoff, read the clues, and constantly reevaluated the threat. Had we done this, I believe we would have waited for the weather to pass and had an uneventful takeoff with much less risk to our passengers and ourselves.*

Overlooked Heater Cord

This pilot’s experience was directly related to cold weather operations, but the lesson learned applies to aircraft preflight procedures in any conditions. By making a walk-around inspection the last procedure before startup, a pilot can catch items such as chocks, tie-downs, covers, or other items that may have been forgotten or put in place without the pilot’s knowledge. This is especially true if the aircraft has undergone loading or fueling operations.

■ *Prior to my scheduled flight, I did my preflight and repositioned the aircraft by hand for fueling and loading. I removed the wing covers and thought I had unplugged the cord from the engine heat plug-in. After loading, I removed and stored the engine cover. I then taxied out with ground control, did my run-up, and got takeoff clearance from the tower. As I lifted off, the controller informed me that there appeared to be a “rope” trailing from my aircraft. I requested and was given landing clearance. After landing and taxiing back, I shut down and got out to investigate. I saw that the engine heater extension cord was still plugged in and had trailed behind me throughout taxi, takeoff and landing. There was no damage to the aircraft.... I don’t know whether someone plugged the cord back in after I*

removed it, or I simply missed unplugging it. However, I am ultimately responsible for the safety of the flight, so the blame lies with me. Our goal is to come up with a procedure to ensure this doesn’t happen again.

Altimeter Error

With each tenth of an inch of barometric pressure (Hg) equaling 100 feet of altitude, the possibility of significant altitude errors can result when flying in areas with very low pressure. The old adage about barometric altimeter settings, “High to low, watch out below,” takes on a whole new meaning when you are the one “below.”

■ *We were cleared to hold as published...and reported established...[in holding]. Another aircraft [in the holding pattern] reported accumulating ice, and requested lower. ATC assigned 11,000 feet MSL which was 1,000 feet above our assigned altitude. A very low altimeter setting (29.02) was confirmed with ATC twice. We visually acquired the other aircraft as they descended to, and entered, holding within 200 feet of our altitude just behind us. We were probably obscured below their nose. Obviously, the aircraft’s altimeter remained at 29.92 inches as our standby altimeter was set to reference their possible deviation. ATC queried their altitude two or three times. They responded, “11,000,” apparently unaware of the altimeter setting.... We accelerated our aircraft briefly to achieve some spacing in the pattern. ATC then told us to be sure and hold as published. ATC advised, “This is a very low altimeter setting and proper setting is important.” The other aircraft became aware of the altimeter error and climbed to 1,000 feet above our altitude. There was no TCASII alert!*

B757 Cabin Report

Keeping cabin crews informed about anticipated adverse weather conditions can help to avoid injury and aid in planning cabin service procedures.

■ *During climb out, our aircraft experienced sudden and abrupt turbulence.... It occurred 15 minutes after takeoff as I was setting up my beverage cart in the galley area. I did not pull the cart out. The aircraft took a sudden drop and I was forced to the floor. My elbow and shoulder hit the bulkhead. I crawled to a seat that was unoccupied. I buckled the seat belt and remained seated until the cabin stopped bouncing around. The captain called on the intercom to find out if we were hurt and told us to remain seated. I was totally unaware that there was severe weather in the area and that we would be going in or around thunderstorms. ... I would have remained strapped in my jump seat if informed prior to departure of any expected turbulence.*