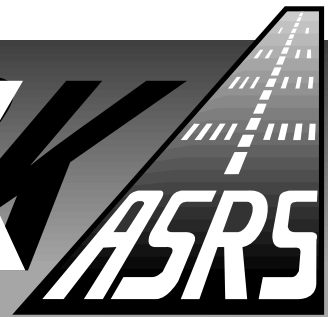


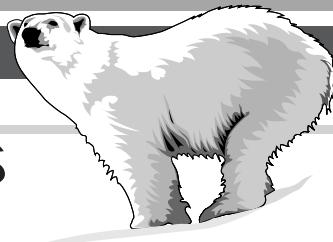
CALLBACK

From NASA's Aviation Safety Reporting System



Number 213

March 1997



Winter's

Lingering Touch

Although some parts of the country have seen evidence of a Spring thaw, many areas are still firmly in winter's grasp. In this first report, a general aviation pilot endured the winter cold for the duration of a three-hour flight:

■ *Aircraft heater did not work, so I tagged it "inop" to satisfy the MEL [Minimum Equipment List], and flew it anyway. The flight was conducted for the most part in VMC on an IFR flight plan. I wore extra-warm winter military flight clothing. Temperature in the cockpit at cruising altitude was about 25°F. Flight time both ways was about 3 hours.*

Although the flight was completely uneventful, I now know what it feels like to be a piece of luggage in an unheated baggage compartment. Even though I wore special cold-weather flight clothing, I was physically challenged by this flight. I am certain that my decision-making ability was affected after being cold-soaked for 3 hours.

Hypothermia, and its resultant lethargy and sleepiness, can creep up on its victims, particularly when they are engaged in such a sedentary activity as an airplane flight.

Turnabout Saves the Day

Winter weather is subject to rapid change, so sometimes even the most up-to-the-minute forecasts can turn out to be off the mark.

■ *When I left my home airport, the ceiling was 4,200 feet overcast with visibility 10+ miles. XYZ is about 10 miles away. As I got closer to XYZ, a thin scattered layer at 2,000 feet got thicker and lower. About 4 miles from XYZ, I saw low clouds over the airport. I immediately turned back for home. I was able to continue VFR without incident.*

I was amazed how quickly the weather deteriorated. I had received a [computerized weather] briefing only minutes before the flight. I would not have hesitated to send a student pilot on the same flight with the information I had about the weather. A student pilot in the same situation may have pressed on with disastrous results.

The 180° turn this instructor-reporter executed was exactly what every student is taught early in training. Other pilots who encounter fast-moving weather on short flights should be aware of the necessity for quick decision-making.

Degrees of Default

In our next report, an air carrier First Officer discovered that the aircraft's ACARS computer doesn't know—and doesn't care— whether it's winter or summer.

■ *Since we were weight-restricted because of 2,500-foot field elevation, we requested a new takeoff weight sheet. I entered airport temperature into ACARS to get our allowable takeoff weight. I entered 18 for the airport temperature of 18°C. By not putting the "C" in, the computer figured the temperature was 18°F. Consequently, we inadvertently took off 700-1,000 lb. overweight.*

There is a notice out to make sure °F or °C is entered, rather than leaving it out and assuming the computer will default to what you [want].

The difference between the temperatures is considerable. An 18°C day is a relatively balmy 65°F. An 18°F day is well below freezing, and sounds even colder when expressed as -8°C. This crew should have paused for a reality-check when the computer indicated they could take off near maximum gross weight at that field elevation, on a balmy day. ▲

Knock, Knock

"Who's There?"

The Captain.

"The Captain Who?"

The Captain who wants to get back into the cockpit:

■ *I left the cockpit for a minute, and on trying to re-enter, I found the doorknob to be completely free-wheeling, with or without a key. The door simply could not be opened from either side. The Flight Engineer attempted to kick open the door, but to no avail. For almost an hour, until just prior to landing, several passengers and I were engaged in attempting to open the door with everything available to us—pocket knives, nail files, small screwdrivers. The alternative was to have the FE use the fire axe to chop down the entire door, causing potential panic to many of our passengers. In light of the heavy experience level of both the co-pilot and the flight engineer, I elected to leave the door intact. A safe landing was accomplished with two well-qualified crew members at the controls.*

The reporter doesn't say how the co-pilot and flight engineer ever escaped from the flight deck. ▲

ASRS Recently Issued Alerts On...
Total hydraulic failure on a BA31 Jetstream
Uncommanded rudder oscillations in a B737-200
An uncharted obstruction on a Kentucky airport approach
An MEA lower than terrain near a South American airport
Areas of inadequate radar coverage near a California airport

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

January 1997 Report Intake	
Air Carrier Pilots	1888
General Aviation Pilots	612
Controllers	59
Cabin/Mechanics/Military/Other	42
TOTAL	2601

Quadrassaurus and Other Jurassic Jets

An air carrier crew, flying a four-engine, non-glass-cockpit "quadrassaurus," encountered some difficulty dealing with their vintage navigational equipment:

■ *Our flight was originally cleared to expect to cross 25 miles southwest of XYZ VOR at 8,000 feet. The Controller said he needed us to proceed direct to ABC intersection and cross that at 8,000 feet, then direct to XYZ VOR. By the time we had programmed our INS and VORs to display this position, we had already passed it. We advised ATC that we would be unable to make the crossing altitude. We were descending at maximum rate with speed brakes.*

The clearance he gave us to go direct ABC was an impossible one for us to make considering our altitude and proximity to the fix. Also, we do not have the capacity to go direct to a point unless we enter it into our INS, which, after an ocean crossing, is not accurate enough for a terminal environment. A glass cockpit aircraft might have this immediate capability, but our vintage equipment does not!

Planning ahead for over-land navigation may include having charts available for quickly dialing in likely VOR/DME frequencies on multiple VOR receivers.

Our next reporter, an A320 First Officer, points out that a glass cockpit aircraft may not provide quite the "immediate capability" the previous reporter suggests.



■ *Our original clearance was for the ILS runway 25R. [About 30 miles out], we were told to transition to runway 24R ILS. Once established there...we were told to transition to 24L for landing.*

In a Jurassic Jet, this is normal stuff—kind of—but in a glass aircraft, this requires some head-down time on final approach to swap and input displays, and assign new runways to the flight computers. Three changes in 31 miles shouldn't happen in any aircraft, much less a glass one.

My company's standard operating procedures require doing an approach check each time a new approach/runway is assigned. Again, more head-down time in a busy environment with plenty of radio calls going on.

Our ASRS analysts suggest additional inflight preparation for more than one arrival route. For example, pilots might load "Route 2" with an alternate approach or airport, so that the information is readily accessible if needed due to a runway change or diversion to an alternate airport. ▲

More from ASRS on the "Web"

A little over a year ago, we announced the activation of the ASRS Internet site. Since then, the ASRS pages have had over 50,000 "hits." We have also made a number of changes and additions. Our new and improved address, which is no longer case-sensitive, is:

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

Our Internet site provides electronic products and services to the aviation community, including:

Program Overview. A brief overview of the ASRS program, including program purposes, reporter immunity and confidentiality, report processing, the ASRS database, and ASRS program outputs.

ASRS Database. How to request database information from the ASRS, or purchase the ASRS database CD-ROM from Aviation Research Group/U.S., Inc.

Reporting Forms. Reporting forms for pilots, controllers, cabin attendants, and maintenance personnel. These forms are in an Adobe Acrobat format, so you will need to download a free copy of Acrobat from

Adobe, then the reporting form(s) of your choice. Then print, fill out, and mail the completed form to us.

Immunity Policy. A look at FAA immunity policies as they apply to ASRS incident reports, including the current Advisory Circular 00-46C (soon to be replaced by 00-47D), Federal Aviation Regulation 91.25, and Facility Operations and Administration Handbook (7210.3M), paragraph 2-2-9.

ASRS Publications. Recent issues of *CALLBACK* and *Directline* aviation safety publications can now be accessed directly in "html" formats.

Operational Issues Bulletins. This new feature provides a topical review of important issues in the aviation community. The first Bulletin examines Confusion in Using Pre-Departure Clearances.

Our next planned addition to the ASRS Internet site will be selected recent ASRS research papers, covering a wide range of aviation safety subjects, available in both "html" and Adobe Acrobat versions. ▲