

# CALLBACK

# ASRS

From NASA's Aviation Safety Reporting System

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## Too-Close Encounters

Even with adequate supplementary lighting, flight crews need to allow an extra margin for error to accommodate the reduction in visual perception that occurs at night. An air carrier First Officer reports that on a well-lit ramp, the crew's perception of the available parking space was still faulty:

■ *After landing...we switched to Ramp Control...and asked which taxiway they wanted us to use. Ramp Control advised us to use taxiway Z. As we approached the gate... it looked like we were getting very close to the side of the concrete wall that supports a walkway bridge over the taxiway. As we emerged on the other side of the walkway, I felt a slight bump. It felt like we had taxied over a drain grate. After we pulled into our assigned gate, one of the ramp personnel came to the flight deck and advised us that we had hit the bridge. We looked at the tail of the aircraft and could see what appeared to be some damage. The Captain went to call Flight Control. I walked to the bridge, where I was handed some pieces of the aircraft.*

The crew had NOTAMs indicating that the taxiway route was not safe for that size aircraft, and airport charts indicating maximum wingspan and tail height for clearance under the bridge. The reporter's recognition that "we were getting very close" should have caused the crew to stop and question Ramp Control's instructions.

Altered visual perception at night may be even more troublesome in flight, where a third dimension—altitude—

adds to the potential for misinterpretation of the visual cues. An air carrier Captain credits TCAS with accurately "seeing" conflicting traffic when the crew could not.

■ *While descending toward ABC, we were cleared to...intercept the localizer course for Runway 30. Center then issued a VFR traffic advisory to us—a General Aviation airplane was also descending into ABC. The GA airplane was also advised that we were descending. [Each aircraft] reported the other aircraft in sight.*

*Just prior to intercepting the localizer at 12,000 feet, we received a traffic alert from our TCAS. We still had a visual on the airplane, but it was difficult to ascertain his altitude or heading due to the darkness. Very quickly after that, the TCAS issued a resolution advisory to "descend, descend now!" We complied, increased our rate of descent, and turned right to avoid the target. I estimate that our aircraft passed within a half mile of each other and were separated by 100-200 feet vertically.*

At night, it is easy to misjudge the altitude and distance of closing aircraft. TCAS II is an excellent resource that can aid in determining aircraft position and rate of closure. However, pilots should also remember to ask ATC for specific assistance with aircraft separation. Brief queries directed to ATC—"Can you keep us informed on spacing?" or "What's the altitude of our traffic?"—can help illuminate the traffic picture. ▲

## ASRS Incident Reports Available at Web Site

On January 15, 1998, ASRS will begin offering a selection of incident reports at its Web site:

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

The reports will be grouped according to frequently requested database search topics. This new offering is intended to bring ASRS data to a wider user community, and to provide recent report samples relevant to users' training and operational activities.

Each report group (report "set") will consist of 50 recent ASRS database reports that have been pre-screened to assure their relevance to the pre-selected topic description. They will be formatted for downloading into RTF (Rich Text Format), which can be read by most word processing applications and by many other programs, including spreadsheets.

The reports sets will be updated quarterly. New topics will be added—and outdated topics removed—in response to input from the ASRS user community, and analysis of Web site usage. Following is a preliminary listing of the report topics that will be available in January 1998:

- Multi-Engine Turbojet Upset Incidents
- Wake Turbulence Incidents
- Controlled Flight Towards Terrain Incidents
- Checklist Incidents
- CRM-Related Incidents
- Commuter Flight Crew Fatigue Incidents
- Fuel Mismanagement Incidents
- General Aviation and Commuter Icing Incidents
- Pilot/Controller Communications Incidents
- Land and "Hold Short" Incidents
- Non-Tower Airport Incidents
- Inflight Weather Encounters
- Runway Incursions
- TCAS II Incidents
- Cabin Crew Incidents
- Mechanics Incidents
- Rotorcraft Incidents ▲



ASRS Recently Issued Alerts On...
In-flight deployment of escape slide on a B-757-200
BE35 ruddervator attachment tabs and cables failure
Fire hazard in a B-767 cabin video entertainment unit
Localizer deflection caused by taxiing widebody aircraft
Confusion over "fly direct" clearances in foreign airspace

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November 1997 Report Intake	
Air Carrier Pilots	1837
General Aviation Pilots	589
Controllers	68
Cabin/Mechanics/Military/Other	68
<b>TOTAL</b>	<b>2562</b>

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

# Weathering Heights

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Two General Aviation pilots report on their challenging encounters with simultaneous IMC and mechanical difficulties. The first reporter was well-prepared with good back-up equipment.

■ *Shortly after departing on an IFR clearance, I experienced...a bad alternator. I shut down everything I could...then I lost the other alternator. Before I could request vectors from Approach, I lost total electrical. I had a hand-held transceiver to listen, but I could not transmit. I also had a hand-held GPS, and used that to navigate to my destination. It was VFR there, so I continued my flight, as I was cleared.*

*Once in a while, after letting the [aircraft] battery charge, I could transmit for about 7-10 seconds. So I let Center know what was going on. They let me descend to 3,000 feet, but that did not get me out of the clouds. I let the battery charge enough to contact XYZ Tower, and they let me down still further. Still in IMC. As I got about 20 miles from my destination, I broke out into VMC. I continued and landed.*

*The mechanics said one alternator had a broken belt, and the other had a terminal burned out. Two totally unrelated problems.*

In this case, limited communication and navigation equipment provided the reporter with enough information to relay his problems to ATC and land

safely. In instances where a failure occurs shortly after take-off, an immediate return-to-land is an option that should be considered.

The next reporter was less prepared—in knowledge of FARs—to make a decision about accepting an IFR clearance when the weather took a turn for the worse.

■ *While flying VFR with flight following, I experienced a vacuum pump failure. Conditions ahead appeared to require an IFR clearance, so I advised the Controller that I had experienced a vacuum pump failure and therefore the heading and attitude indicators were inoperative. I also told him that conditions ahead appeared to require an IFR clearance. He asked if I preferred to land or file IFR. I indicated that, since I was having no problems, I would prefer to file IFR. He issued an IFR clearance and provided no-gyro vectors to the airport. I landed with no problems.*

*Since then I have learned that he probably should not have issued the clearance because you should not enter IFR conditions with an inoperative vacuum pump. He should have advised me of that.*

It was the pilot's responsibility—not the Controller's—to determine the legality of IFR flight. The situation could have been avoided if the reporter had executed a 180° turn at the first sign of deteriorating weather. ▲

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## Between a Rock and a Hard Place

That's where an air carrier Captain found himself, with the rock being conflicting traffic, and the hard place being thunderstorm cells.

■ *Our flight plan showed SIGMETs for embedded thunderstorms in the area and PIREPs of moderate mixed ice. On departure...two thunderstorm cells popped up on the radar screen. Our company policy is to avoid this kind of cell by 5 miles or more. The Departure Controller was talking non-stop to other airplanes, preventing us from requesting a weather deviation or declaring an emergency.*

*I had the choice of entering the cell, or turning to avoid the cell (by maybe one mile, by now) and hoping that TCAS and/or the Controller would warn us of traffic. I chose the latter. I didn't see any TCAS traffic displayed, and turned right. The First Officer was finally able to advise ATC. We were told to level at 12,000 feet due to traffic, and were reprimanded for not getting permission before turning.*

*We followed FAR guidance: ask permission; declare an emergency if necessary; if unable to make contact, for the safety of the flight, deviate, then notify ATC as soon as possible.*

Part of attempting to declare an emergency should include squawking 7700. This immediately notifies ATC of a problem, at which time the Controller will be alerted that the flight crew needs to make a request.

Another Captain in a similar "hard place" deviated without any attempt at ATC contact. The First Officer reports:

■ *Over [oceanic] routes, the Captain deviated [over 20 miles] off-course when thunderstorm build-ups were along our route, **without** contacting any controlling agency. The routes are in an area where we are in radio contact for position reporting (usually HF), and in the area where **we all think** we are not in radar coverage. **WRONG!** I knew, and conveyed to the Captain, that ATC could see us even though we were reporting positions on HF. I don't have a problem with circumventing weather and known turbulent conditions, but some attempt must be made to communicate with ATC or other aircraft to advise them of our conditions and intentions.*

Course deviations beyond the boundaries of an airway may cause ATC to consider an aircraft lost, or worse, a national security threat. ▲