

CALLBACK

From NASA's Aviation Safety Reporting System



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CRM – Always in Season



“Tis the season” to celebrate the spirit of communication, cooperation, and sharing – otherwise known as Crew Resource Management. The CRM concept originated in 1979, in response to a NASA workshop that examined the role of human error in aviation. CRM emphasizes the use of cooperative interaction to achieve flight efficiency and safety.

And 'tis also the season for birds. While most of the turkeys are accounted for, many other species winter-over near airports. The mix of birds and aircraft can result in emergency scenarios that require good CRM. The flight crews who submitted these reports maintained the right spirit in the midst of “fowl” play.

Recipe for Success

Holiday Goose

1. Preheat CFM56 Turbine to 600° C
2. Insert goose
3. Activate CRM and evacuate the kitchen

■ *A large goose was ingested into the Number Two engine causing a flameout immediately following rotation... [We] executed the single-engine procedures and found that the Number Two engine had relit and was providing some power... Indications were normal, but the engine had a loud whining noise and aircraft handling suggested partial power loss... The Captain declared an emergency and notified ATC, the company, and the passengers. All relevant checklists were reviewed... After an uneventful landing...the Number Two engine was shut down, but caught on fire. We proceeded with emergency evacuation procedures. All passengers and crew deplaned without injuries. Good training and excellent Crew Resource Management (CRM) contributed to the successful outcome of this bird strike.*

Mrs. Bundy: I hardly think a few birds are going to bring about the end of the world.

Melanie: These weren't a few birds.

Alfred Hitchcock – *The Birds*

A Jetstream 31 encountered an ominous gathering of gulls, but CRM saved the day.

■ *Taking off on Runway 2...we hit nine seagulls at 30 feet AGL, [and] lost our right engine. Weather was 300 feet*

overcast with a mile and three-quarters visibility. We diverted to XXX due to weather and the possibility of hitting more birds (the flock of seagulls was very large, more than 200 birds!). Great CRM and a very helpful Tower Controller turned this emergency into a non-event.

Mitch: They're amassing out there someplace and they'll be back. You can count on it...

Alfred Hitchcock – *The Birds*

This B767 crew used CRM to overcome the sudden chaos of a “messy” situation.

From the Captain's Report:

■ *...I was looking at a chart when we had the bird strike... I heard a loud bang and a rush of air, so I immediately put on my oxygen mask... I looked up and saw [bird remains] on my side window and daylight through a hole above the eyeball vent... It was extremely loud and I couldn't understand the First Officer's comments to me, but I was satisfied with how he was handling the aircraft. I...declared an emergency, and...requested a return to [Foreign Field]... I took my mask off...at FL090. At that point we all started interacting through normal voice levels... I felt we did a good job allowing information and ideas to circulate during this event... The First Officer and Relief Pilot were outstanding in taking initiative and asking me all the right questions throughout the problem... Benefit was derived from having [been through] a simulated exercise on crew coordination and problem solving in an unscripted environment...*

From the First Officer's Report:

■ *... I noticed four to six large birds. A millisecond later, a loud bang was heard and felt... The Captain was in full command. I was responding to ATC via his requests. Bird debris and insulation was splattered on the Captain and myself. The Captain and the Relief Pilot concentrated on checklists, Flight Attendants, passengers, ATC, and Ops.*

From the Relief Pilot's Report

■ *As soon as the aircraft started to depressurize through the hole in the cockpit, the cockpit door flew open. I held it closed until the pressure equalized because the lock wasn't strong enough. I would like to personally commend the Captain for his immediate command of the situation and the professional manner in which he handled it.*

ASRS Recently Issued Alerts On...

MD-11 windscreen incident
CL-65 APU battery meltdown
Foreign airport faded taxiway markings
Municipal airport approach obstruction
Gulfstream V elevator disconnect incident

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Air Carrier / Air Taxi Pilots	1921
General Aviation Pilots	689
Controllers	35
Cabin/Mechanics/Military/Other	100
TOTAL	2745

No Holiday from Natural Hazards



As snow falls fast in the dark, winter night,
Reflecting the beacon that shines green-and-white,
And icy trees sparkle while deer prance and patter,
Pilots must clear the former, and dodge the latter.

“Trees!”

Trimming a tree is a Holiday tradition shared by many families, but it is a practice that should be avoided on final approach. This Mooney pilot's wife deserves to take a “bough” for being alert when her spouse went “a little” below the glideslope.

■ ... *I was on the Localizer, a little below the glideslope, about one mile from the touchdown zone. We were in the clouds and my wife was looking out the windows to check for the ground. When she yelled, “Trees!” I...gave full throttle, pulled back on the yoke, and heard the noise of treetops scraping on the aircraft...The attitude indicator tumbled and my directional gyro was spinning to the right and taking the aircraft with it. I disconnected the autopilot and put in left aileron and kept climbing. I turned on the aircraft's backup vacuum and used the turn and bank indicator to continue a straight climb... Approach told me to keep wings level and continue climbing to 5,000 feet. After a while, the attitude indicator and directional gyro began working correctly with the backup. I informed Approach that I had hit the treetops... I was vectored to XXX with a fly-by of the tower to check the gear... I taxied to the FBO and a mechanic...removed some tree limbs and leaves from the gear... The two outboard panels of the right wing were also damaged by the encounter...*

Deer – A Course Hazard

When teeing off in golf, increased rotation and good coordination help the swing. On takeoff, these actions were a winning combination for a B737 crew when they encountered an unexpected hazard.

■ ... *Just after V₁, two deer were spotted in the center of the runway and rotation was increased to avoid the deer. A loud thump was heard and felt near the main landing gear. The gear was not retracted and flaps were raised to five degrees after stability of the aircraft had been determined... A fly-by was accomplished to ensure that no damage...would complicate the landing. We stopped on the runway...and had the landing gear pinned... [There was] good coordination in the crew and all appropriate checklists were performed...*

This incident occurred at a major international airport. Several other reports in the ASRS database confirm that animal encounters can cause significant damage and are not limited to rural airports.

Once Clear of the Deer, Watch Out for the Porpoise

An encounter with a deer in a small, private jet is particularly dangerous to pilots due to the low cockpit height. In the next report, the pilot's decision may have been the best for the crew, despite the effects of the “porpoise.” It was definitely best for the deer.

■ ... *[We] touched down and activated the thrust reverse. [Then we] saw a deer on the runway and [the Captain] pulled back on the elevator and jumped over the deer. When he pushed back down to the runway the aircraft porpoised about three times and the nose fork broke. The airplane came to a stop on the nose strut with no further control problems.*

Close Scrape



Due to the number of aircraft and support vehicles operating in close proximity on the airport surface, constant vigilance and good communication are required to prevent collisions. Heavy snow and a lack of communication contributed to this close encounter between a snow plow and a B737.

■ ... *Visibility was one-half to three-quarters of a mile in blowing snow and mist... After...we entered the taxiway...both the First Officer and I observed a plow that had started its run from the gate area, moving toward the taxiway at a high rate of speed. We were not sure of the plow operator's intentions, so I began to slow the aircraft to avoid a potential problem. However...the plow operator did not see us and was continuing...at a high rate of speed as though his intention was to go on through and push the snow to the side of the taxiway area. I applied maximum braking, turned the aircraft approximately 25 degrees to avoid a collision, and slid to a stop within just a few feet of the edge of the taxiway. The plow operator also applied maximum braking and slid to a stop about 15 feet from the left side of the fuselage... We contacted Ground Control and informed them of the near collision...*

Snow removal at a major airport is a very difficult job and requires a tremendous amount of coordination between the workers and Ground and/or Tower Control, but it seems that in this case those communications had broken down.