

CALLBACK



From NASA's Aviation Safety Reporting System

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Fifth Annual Award Winning Performances

For the past four years, *CALLBACK* has presented a selection of "best" reporter actions in incidents submitted to the ASRS. In this fifth annual issue of award-winning performances, we offer a selection of incidents that were handled with creativity, skill, and professionalism. We believe these incidents illustrate the value of communication, training, and teamwork when adverse events occur.

As we were preparing this issue for publication, the "Miracle on the Hudson" occurred on January 15, 2009 when US Airways Flight 1549 force-landed in the Hudson River after suffering a bird strike, and catastrophic loss of both engines, following take-off from LaGuardia airport. All on board survived the icy water ditching, thanks to the superb piloting skills of Captain Chesley "Sully" Sullenberger, disciplined flight deck support by First Officer Jeffrey Skiles, and a by-the-book cabin evacuation by Flight Attendants Donna Dent, Sheila Dail, and Doreen Walsh. In the words of New York City Mayor Michael Bloomberg, "there is no miracle without the years of experience" represented by the pilots and cabin crew of Flight 1549. ASRS salutes the outstanding professional performance of this air crew, and dedicates this issue to them and to the skilled air traffic controllers who assisted.

And the Winners are...

Best Actor in a Supporting Role



An alert passenger observed a problem and literally "drew a picture" for an MD80's flight crew and company mechanics, averting a potentially serious inflight incident.

■ On completion of flight, a passenger seated on the left side of the aircraft asked to speak with us on the jet bridge. The passenger presented us with a drawing of the left wing and stated he saw missing or detached rivets and a loose wing panel just forward of the flight spoilers. We presented the diagram to maintenance. Aircraft mechanics confirmed rivets were missing/pulled through and a wing panel was loose. The aircraft was taken out of service. This panel would not be seen during a normal pre-flight inspection. While on the ground it looked normal. Only in flight did it lift away from the wing structure. Our thanks to the alert passenger who communicated the problem clearly to crew and mechanics... Without his sharp eye and clear description of the problem, we would have continued to fly this aircraft....



Best Live-Action Sequence

Mountainous terrain and a catastrophic engine failure became the backdrop for a single-engine

Beech Bonanza pilot's stellar performance in getting a mother and her infant down safely.

■ I flew a VFR flight to ZZZ. The passengers were a young mother and her 1-year-old. I met the passengers at the FBO, obtained a briefing, but the weather forecast was so good I knew I'd just get out of the Class B airspace and go direct. I completed a preflight, noted nothing unusual, loaded mother and baby, and received clearance. A good start-up, temperature and flows good, good taxi, good run-up, GPS lock on, radio checks and 6-pack [light cluster] all OK. Departure—no problem. Cleared out of Class B... to 8,500 feet...Nearing inhospitable terrain, I determined to check nearest airports via the GPS and continued to do so every few minutes while monitoring the gauges. Again, everything was in the green and good. The terrain became more challenging and I flew a little further west...Suddenly there was a muffled "poof" sound with an immediate decrease in power and the aircraft slowed. I applied full mixture and prop. No change. I recall scanning the gauges and quickly noting we were going down over nothing but mountainous terrain. I declared an emergency with Center, leveled the plane and simultaneously started a shallow turn to the east, thinking level terrain was behind. During the turn I pressed the "NRST" button and happened to glance out my window. Below was ZZZ1. The GPS confirmed ZZZ1 was west at 2 miles. I did not hesitate in reversing the turn...I continued the calls and did not talk to the mother, although...I could see she was distressed. I did not try to restart the engine. My focus was on flying the airplane, judging how to get best aligned with the airport and providing ATC location and position. In 5 minutes we lost 5,000 feet, while trying to keep enough airspeed to stay aloft and maneuver for a base entry. I completed a series of spirals and aimed for the middle of the runway. I turned a base leg, lowered the gear and flaps. Once on final, I needed crosswind correction and touched down mid-field, immediately on the brakes, slowed down, coasted off on the last exit to the taxiway. It was very quiet, as the prop stopped. I asked the mother if she and baby were OK. She said yes, and we exited the plane. The lower cowlings was covered with oil, not a lot, but enough to notice...My A&P mechanic synched up with an FBO. They surmised the camshaft failed, resulting in a catastrophic failure.



Best Short Feature

A Piper Cherokee instrument student and instructor formed a dynamic duo in an "electrifying" drama.

■ The situation occurred while on final for the GPS approach. The first indication of abnormality occurred shortly before crossing the Final Approach Fix when the GNS 530, Mode S transponder, and HSI abruptly failed. Approach Control advised that the altitude encoding

ASRS Alerts Issued in December 2008	
Subject of Alert	No. of Alerts
Aircraft or aircraft equipment	14
Airport facility or procedure	9
ATC procedure, operations or equipment	1
Company policy	2
TOTAL	26

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December 2008 Report Intake	
Air Carrier/Air Taxi Pilots	3079
General Aviation Pilots	786
Controllers	62
Cabin/Mechanics/Military/Other	340
TOTAL	4267

was lost. Seconds later all electrical power was lost, resulting in failure of the...turn coordinator and digital tachometer. My instructor assumed control of the aircraft, immediately initiating a climbing right turn to...an altitude of between 4,300 and 4,700 feet MSL, our last known VFR on top altitude. I then contacted TRACON with a cellular telephone and apprised the controller of our plight before losing reception. My instructor concurrently discovered the ammeter indicated zero. After evaluating the situation, we decided our best option was to head toward the last known VFR conditions...Thus we initiated a turn towards a southeast heading. Shortly after commencing the turn, sufficient charge was accumulated...to permit radio communication. Approach then provided radar vectors through the clouds. We broke out at approximately 900 feet MSL and 1 sm from the threshold and landed without incident. Subsequent pilot inspection of the aircraft revealed that the alternator belt was missing....

Best Ensemble Cast Performance



An experienced B767 Captain, capable First Officer, and responsive cockpit jumpseat rider teamed up to transform a critical flight emergency into a safe landing event.

■ *Passing over ZZZ at FL240, we heard a thump immediately followed by a significant pressure change in our ears. I immediately looked up to the tiny cabin pressure gauges to see if we were losing cabin pressure... My jumpseat rider was thinking the same thing as we both simultaneously leaned over the center console and looked up at the gauges. It was apparent we were not losing pressure, and queried each other as to what we thought the noise and pressure jolt might be. At the time we got a 'BODY DUCT LEAK' EICAS message. The First Officer was flying and I opened the QRH to the body duct checklist. During this time the cabin call chime was ringing, but we were not able to hear anything over the interphone. Within seconds, there was rapid and loud pounding on the cockpit door. My jumpseat asked permission to open the door, which I granted. The flight attendant said there was a lot of smoke and debris in the aft cabin, and it looked like*

there was a fire. The flight crew immediately performed the initial action items for smoke...I looked at my HSI and saw that we were just a little southwest (maybe 20-30 miles) from ZZZ. I informed the crew that we were going to divert to ZZZ, called ATC, declared an emergency for smoke in the cabin, requested an immediate descent and a turn direct. We were immediately cleared for a right turn direct to ZZZ with a descent to 11,000 feet. The 'Body Duct Leak' checklist was quickly completed as I thought this might help the situation in the back of the plane, and the co-pilot aggressively turned the plane towards ZZZ and descended with full speed brakes.

Given the information I had received so far, I believed the safest course of action was to treat this emergency as an inflight fire. There has been an emphasis on the smoke and fire scenario over the years in the company's initial and recurrent training programs. Establishing and maintaining communication with the back of the aircraft is critical.

With the copilot flying, I attempted to talk with the crew in the back of the plane. The static was overwhelming and made the use of the interphone nearly impossible. I turned to my jumpseat and asked him to work the interphone, PA's, and get me whatever info he could concerning our situation...I turned my attention to getting the aircraft on the ground. We received vectors to an ILS. All normal checklists were accomplished...The flight crew performed their duties wearing full-face oxygen masks...I chose to have my copilot fly the approach and landing, so that I could continue to monitor the situation in the back, as well as continue briefing what I planned to do after landing. There was so little time, and I wanted to be sure everyone knew what to expect, and what was expected of them... The jumpseat assured me that the passengers had been instructed to stay in their seats until they received instruction from the crew. The rest of the plan was for him to leave his seat as soon as the aircraft was stopped, quickly ascertain the situation, and essentially be my eyes and ears again. I had no interphone for communication with the cabin. The First Officer's landing was excellent. After stopping on the runway, the jumpseat provided me with the information I needed to decide an emergency evacuation would be unwarranted...The fire crew examined the aircraft and informed us there was no sign of smoke, fire, or damage. We then cleared the runway...

ASRS Wake Vortex Study Update

In March 2007, with the support of FAA funding, ASRS began an analysis of Wake Vortex Encounter incidents reported to the program. The purpose of the study is to provide the FAA with the details needed to fully understand wake vortex hazards and the factors that contribute to them.

Pilots and controllers submitting an ASRS report on wake vortex encounters are subsequently invited to complete a web- or phone-based set of supplemental questions. To date, 74 ASRS reporters have agreed to participate in the study. All identifying information (names, company affiliations, etc.) are removed before the ASRS research data are provided to the FAA.

The study focuses on any U.S. location at which a wake vortex incident occurs, including airports (all runway

configurations – closely-spaced parallel, in-trail, and crossing runways) and the en route environment. Some of the factors analyzed include the magnitude of the wake encounter, aircraft spacing, aircraft type, runway configuration, and consequences of the encounter.

If you experience a wake vortex incident, please keep in mind that your report of the incident will be a valuable addition to the ASRS study. Your participation in the wake vortex study will enhance the FAA's understanding of related aircraft separation and airport capacity issues.

To participate, simply file an ASRS report describing the incident, and you will be contacted by ASRS and provided information about filling out the supplemental Wake Vortex questionnaire.