

# Aviation Human Factors Industry News

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*From the sands of Kitty Hawk, the tradition lives on.*

Hello all,

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## Hit A Bird? FAA Needs To Know

General aviation operators and airports [need to do a better job](#) of reporting wildlife strikes, the FAA said this week. A recent study showed that out of more than 100,000 reports, only about 6,000 originated from GA operations, indicating a [reporting gap](#). The agency hopes to improve those numbers by distributing posters to GA airports that encourage reporting, and redesigning its [wildlife-hazard website](#) so it's easier to file the reports. The new posters also feature a Quick Response (QR) code for smartphone users.



Airport operators that would like to study wildlife hazards may be able to get grant funds to do that, the FAA said. Better data would help the FAA to develop mitigation plans that could reduce wildlife conflicts with aircraft. Hazards include not only birds but deer, coyotes, and other animals that can cause accidents during ground operations. The FAA also said it is launching a new research effort soon that will examine the usefulness of special bird radar for use at airports to warn pilots and controllers of bird hazards.

[wildlife-hazard website](#)

## Final Report: Shoddy Maintenance Blamed for King Air Aileron Problems

[Hawker Beechcraft King Air C90A](#), Chickasha, Okla., April 11, 2011—The National Transportation Safety Board found that the mechanic's [improper installation of the aileron](#) was the cause of its partial detachment from the King Air during flight. While on a downwind leg for landing at Chickasha Municipal Airport at the end of an instructional flight, a pilot-



passenger in the cabin alerted the certified flight that the right aileron had partially detached. The CFI took control of the airplane and landed it safely. Ten days before the incident the turboprop twin had undergone a phase inspection during which the aileron was removed to repair some light surface corrosion. The King Air had flown 5.3 hours since its reinstallation. Post-incident inspection revealed [two of the three hinges on the aileron had become disconnected](#). The mechanic determined that the screws that attached the aileron to the hinge points were seated in the aileron skin but [did not screw into the corresponding nut plates](#) on the hinge points.

[Hawker Beechcraft King Air E90](#), Des Moines, Iowa, Feb. 15, 2011—The failure of maintenance personnel [to install the right aileron properly](#) led to its loss during flight and subsequent damage to the aircraft, according to the NTSB. The turboprop twin had just undergone maintenance, which included an 800-hour inspection of the ailerons, and the pilot had performed a preflight inspection before taking the airplane on a test flight. In the course of a 180-degree turn to Des Moines International Airport, the pilot noticed the autopilot “jerked, stabilized and jerked again” during the turn to level off. The pilot then noticed [the right aileron was missing](#). After an uneventful landing, examination revealed the outboard aileron hinge bracket had separated from the aft spar. The King Air 90 Series maintenance manual details the procedure for reinstalling the ailerons and cautions technicians to “Pull on the aileron straight away from the wing. If any movement is detected, carefully check the bolt installation.” In 2003, Raytheon Aircraft issued a bulletin alerting operators that during reinstallation of the ailerons, screws can miss the nut plates on the aileron hinge points, [a condition that can go unnoticed](#).

## **No Mechanic Is an Island - As the Wrench Turns by John Goglia**

Forty years of maintenance stories are in my brain. Somewhere. Some are as fresh – or raw – as if they occurred yesterday. Particularly if they involve a tragic event. Or could have but by the grace of God didn't. Others are buried deep in memory. But they are often dislodged from those crevices of time by an event that reminds me of it.



Or sometimes a past event is brought to the fore by seeing someone I worked with back on the ramp. This story comes to me by way of our weekly Breakfast Club. Yes, indeed. [A mechanic's breakfast club](#). Not exactly Breakfast at Tiffany's, more like a local diner in the Boston area where we all live. Who would think that a bunch of mechanics who started together forty years ago at Mohawk or Allegheny or Eastern Airlines would still be meeting every week? We're not a sentimental bunch. We just enjoy sharing the stories of our lives, communicating with people we bonded with when we were young, newly-minted mechanics. I guess we probably always talked a lot among ourselves – even back in the day. About our bosses, our co-workers, our families. With all this talking, you would think that we would be communicating some important work-related stuff. Somehow that wasn't always the case. Seeing one of my co-workers from Allegheny at one of our recent breakfasts reminded me that mechanics working alone on an aircraft, especially late at night, sometimes forget that they are not, in fact, alone. It's not just them and their aircraft. I'm not giving up his name; but if he reads this, yes, it's your story!

It was one of those crazily busy nights at Logan, [with more work than people to do it](#). I was the crew chief, running around trying to keep the work moving. Since we were scattered all over the airport, sometimes I felt like a taxi driver shuttling parts around. But enough about me.

That night a DC-9 had come in with a problem with the thrust reverser. It was scheduled out the next morning so the problem needed to get fixed that night. The mechanic assigned had finished trouble-shooting the problem and determined that in order to gain access to the area, he had to remove several hydraulic lines. Normally this was a two-man job – two persons today – [but because of the workload that night](#), he was left alone to handle it.

When he removed the lines, he laid them out neatly – outboard and towards the rear of the engine. Nearby, but not so close that he would be tripping over them. He then proceeded to climb up on the engine. Engrossed in his work in the quiet hours [after midnight](#), he likely forgot that at 5 am, Logan starts to come to life. And sure enough, some of that life, in the form of a baggage handler hot rodding his way to the terminal drove over those neatly laid out lines, mangling them beyond repair.

Needless to say, that DC-9 did not make it out that morning.

[Moral of the Story](#) – There are many morals here, but communication is my point here. [A few well-placed cones or some other clearly visible markings](#) would most likely have prevented this expensive and time-consuming incident.

## Red Arrows Pilot Dies In Ejection Accident

For the second time this year a pilot in the RAF's Red Arrows air demonstration team has been killed in an accident, but in Tuesday's mishap it appears the aircraft never left the ground. Early details are sketchy but it appears the pilot was killed when [the ejection seat activated while the aircraft was parked](#) at RAF Scampton, the team's home base. "It would be inappropriate to speculate on the cause of the incident until that inquiry is complete," Group Capt. Simon Blake told BBC News. "The investigation will determine the facts."



In August a Red Arrows pilot died when his aircraft went down at the Bournemouth Air Festival. Flt. Lt. Jon Egging died in that accident. He reported a [mechanical failure](#) before the crash and there was speculation that he blacked out in a high-G turn to avoid crashing the aircraft into a residential area. The investigation of that accident is continuing and the cause has not been officially determined, but there is speculation his Hawk trainer may have been involved in a [bird strike](#) resulting in an engine.

## Pilot who had been drinking gets six months in prison

A United Express pilot caught flying a plane [under the influence of alcohol](#) was sentenced Friday to six months in federal prison.

The pilot also will serve six months of home detention, three of those months on electronic monitoring, once his prison sentence is completed. He must report to the U.S. Bureau of Prisons by Jan. 3.

After a two-day bench trial in June, he was convicted of operating an aircraft under the influence of alcohol.

He was the co-pilot on a flight from Austin, Texas, to Denver on Dec. 8, 2009, when another pilot smelled alcohol in the cockpit.

When the flight landed at Denver International Airport, the co-pilot "took a big whiff" and realized the captain had been drinking, according to the Colorado U.S. attorney's office.

He went to a bar with a friend and purchased beer from a gas station near his hotel before his flight. [His blood-alcohol level was 0.084 percent.](#) Federal aviation regulations prohibit anyone from acting as a crew member of a civil aircraft with a blood-alcohol level of 0.04 percent or more or within eight hours after the consumption of any alcohol beverage.

"The public rightly expects that airline pilots will not drink and fly," Colorado U.S. Attorney John Walsh said in a news release.



## **NTSB: Cape Air pilot ignored backup gauge in 2010 overrun**

A just released factual report on the 1 February 2010 overrun by a Cape Air Cessna 402C shows that the lone pilot [ignored aircraft handbook procedures](#) after experiencing an airspeed indicator anomaly while approaching Watertown airport in New York with six passengers.

Due to the low airspeed reading, the pilot flew the aircraft faster than usual, settling on the snow-covered runway at approximately the midpoint of the 1,524m (5,000ft)-long runway at the [non-towered airport](#).

The twin-Cessna came to rest in deep snow 111m beyond the end of the runway. All three landing gears had collapsed and the six propeller blades had been bent aft, but none of the occupants were injured.



According to the pilot, the pilot's side airspeed indicator had decreased from 140kt to 85kt as Flight 1805 from Albany entered the traffic pattern at Watertown, prompting him to "push the aircraft's nose down and apply maximum power", said the NTSB.

Due to the deteriorating weather conditions, the pilot decided to land rather than to climb to a higher altitude to troubleshoot the problem. The pilot told investigators he did not cross check the copilot's side airspeed indicator, as called for by the pilot's operating handbook in situations where airspeed readings do not reflect the appropriate trend after initiating a climb or descent. Given the weather conditions, the pitot heating system that warms both independent airspeed measurement systems should have been turned on to prevent ice build up from causing erroneous airspeed readings.

"The inspectors reported that many of the cockpit switches remained on, but that the de-ice boots, stall warning vane, leading edge light and pitot heat switches were in the "OFF" position," the report stated regarding the post-crash inspection. "These switches were located in close proximity to one another on the left side of the instrument panel." Both the pitot-static system, after accounting for landing damage, and the pitot heat function were found to operate normally after the accident.

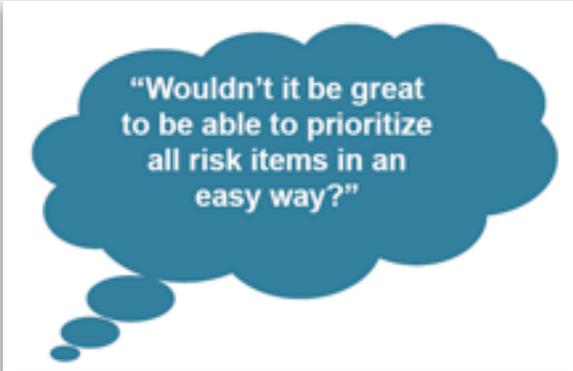
The pilot said he had been wearing gloves and may have inadvertently switched off the pitot heat and stall warning vane heat switches while securing the aircraft and shutting down various systems after the overrun.

The same aircraft (N121PB) flying with Cape Air was involved in a runway overrun in 1997 after landing with a strong tailwind in Hyannis, Massachusetts. The aircraft exited the runway onto a soft overrun area where the right main gear collapsed.

"Five days after the accident, the airline issued parameters for arrivals and departures from the airport, which included landing with a maximum tailwind of 10kt," the NTSB probable cause for the 1997 overrun stated.

## Pilots: Canadian SMS Proven Aviation Safety Tool

Safety Management Systems (SMS) continue to be a [valuable tool](#) to enhance safety in aviation and other transportation industries in Canada, according to the Air Line Pilots Association, Int'l (ALPA), the world's largest non-governmental aviation safety organization. "SMS programs ensure continuing safety by combining the appropriate levels of incentive for front-line employee reporting, internal auditing and regulatory oversight," said Capt. Dan Adamus, president of ALPA's Canada Board. "Canada is a world leader in adopting SMS programs in its marine, rail, and aviation industries, and ALPA is proud to be part of that effort."



"Wouldn't it be great to be able to prioritize all risk items in an easy way?"

"ALPA has collaborated with Transport Canada, the Transportation Safety Board of Canada, and our government and industry partners internationally to explore the most modern, effective ways of doing business," said Capt. Lee Moak, ALPA's president. "We will continue these partnerships at every opportunity to do all we can [to move aviation safety programs forward.](#)"

SMS aids airlines by helping to identify and mitigate safety risks that have not been anticipated by the regulators. As a result, the SMS programs are critical to ensuring the highest safety standards are maintained and to providing a continuous means of identifying hazards before they become serious.

"ALPA supports appropriate oversight by Transport Canada and ensuring that SMS programs are effective," concluded Adamus. "We look forward to and encourage properly implemented SMS programs that will help make flying even safer for passengers and crews across Canada."

## Listen Up!

There are three ways a manager can learn about a potential safety problem in their organization: (1) they see it first hand, (2) the employees bring the issue to the managers attention, and (3) an incident occurs and the subsequent investigation reveals the problem.

Because the [aim of safety program](#) is to avoid #3, and managers are unlikely to spot more than a fraction of potentially unsafe situations, the best route is #2.

On paper, it seem obvious. In reality, it's no easy task to create an environment in which employees are willing to raise concerns. From worries about how they'll be perceived by managers and peers to convictions that nothing will be done, technicians around the world can more reasons to clam up then open up.

While there's no single solution to creating a continuous flow of dialogue between manager and technicians, leaders can take a giant step in the right direction by [learning how to listen](#). Think you already know how? [Here's a test](#): Do you ever plan what you are going to say while the other person is talking? Do you ever pretend to be listening while you are thinking about something else? Do you get defensive if it sounds like you are being criticized? If you answer yes to any of these, your listening skills-and therefore your ability to gather crucial safety information from front-line employees-need sharpening.



The good news is that listening is like sheet metal repair- [it's a skill that can be honed with practice](#). Communication expert Morey Stettner, author of *Skills for New Managers* (McGraw-Hill, 2000), says maintenance leaders can perfect the way they listen, and thus improve the quality and quantity of information they receive from technicians, by starting with these four things:

1. **Eliminate distractions.** In today's hyper-busy, multi-tasking world, it is tempting to peek at email or sing forms or shoot off a text message while someone is talking. These tasks make us feel we are being productive; however, they signal to the other person that their message isn't important. When talking with employees, do nothing but focus on what they have to say. You'll communicate that you value them and their ideas, which ultimately will make them more willing to speak up about problems on the floor.
2. **Bite your tongue.** Don't be in a hurry to jump in and respond when an employee brings you and issue. Stettner urges managers to count to three before responding in order to "insert a cushion of silence into the conversation." Not only do you avoid cutting someone off, you may glean more valuable information. As you count to three, "Don't be surprised if the speaker chimes in again," says Stettner. "You can often learn the most revealing facts from your employees only after you stay silent an extras few moments."

3. **Interpret.** After you have told something, make sure you really understand it. Ask questions. Paraphrase what was said with the goal of simply understanding it. For instance, when an employee admits, “I’m not sure about this new procedure,” is he saying he doesn’t want to comply? That he sees a problem with it? Or that he really doesn’t know about it and needs more information? Clarify in a neutral, curious, non-judgmental way.
4. **Assess.** Only after you’ve confirmed an accurate understanding of the message should you judge it. Remain open minded. Consider all sides of the issue and evaluate it based on a dispassionate analysis of the facts, not a gut reaction or snap judgement. Also keep in mind that your mood, your physiological state-even your to-do list-all affect how a speaker’s words register with you, says Stettner.

It’s natural, especially as a manager, to want to jump in and immediately do something to solve a problem, warns Stettner. But that can cause more problems. It’s also natural to want to defend yourself when you feel the problem presented is a criticism of your ideas or policies. Again, **defensiveness will backfire** by shutting down the line of communication. Instead, remind yourself that your goal is to listen for understanding, not agreement.

When you listen to employees, they will be more motivated to bring problems to your attention, which will enable you to take more effective steps to improve safety.