



Aviation Human Factors Industry News

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[Continental's 757s Having A Bad Week At Newark International](#)

Ground Collision Follows Taxiway Landing Incident Continental Airlines has had difficulty staying out of the news this week, following two incidents at New Jersey's Newark International Airport.

The airline has grounded the two pilots involved in Saturday's landing faux pas at Newark. In a scary moment for all involved, a 757 with 160 passengers onboard **landed on a parallel taxiway, instead of the adjacent runway.**



Newark airport officials tell the Associated Press all navigation equipment and airport lighting was operating properly at the time. Although federal investigators are looking into the incident, so far the grounded pilots haven't been interviewed.

Authorities say the cockpit voice recorder won't help... because Continental used the jet for a subsequent flight. Since the CVR records on a continuous 30 minute loop, the tape of the incident was recorded over on the follow-on flight.

A report in the New York Post also suggests **tower personnel didn't notice at first the plane had landed on the taxiway... and the pilot didn't tell them.** **Controllers said a frightened port authority employee working in a building just off the taxiway called them, reporting a plane moving too fast on the taxiway.**

The Post reports [the crew fessed up when the tower supervisor radioed them after that phone call.](#)

Meanwhile, another incident at Newark caused a flight cancellation -- at least for one of the jets involved. A Lufthansa 747 was taxiing out from the terminal when it brushed wingtips with a Continental 757 that was being pulled by a tug.

No injuries were reported on Lufthansa flight 403 bound for Frankfurt with over 300 aboard; the 757 was unoccupied. The Lufthansa crew returned to the gate, where the passengers got to bag drag to a new jet for the flight to Frankfurt.

Other Newark operations were unaffected by the incident, according to a port authority spokesman. Again, authorities are investigating.

[Alaska Airlines 737 uses wrong runway](#)

SEATTLE -- Alaska Airlines and federal officials are investigating why one of the carrier's jets, which was headed for Juneau, [took off from the wrong runway at Seattle-Tacoma International Airport.](#)



The incident happened about 8:40 a.m. Monday when Alaska Flight 61, a Boeing 737, was preparing to take off for Juneau with four crew members and 63 passengers, airline spokeswoman Amanda Tobin Bielawski said Tuesday.

KING-TV, which first reported the incident, said the plane was told by air traffic controllers to depart from Runway 34 Center.

[The pilots twice correctly read back that they were going from 34 Center, but instead took off from Runway 34 Right, KING reported, citing the Federal Aviation Administration.](#)

The runway was clear and air traffic controllers did not ask the plane to abort its takeoff, which occurred normally, Bielawski said.

She said she was not aware of any preliminary explanation of why the [mishap](#) occurred, or when crew members realized they had taken off from the wrong runway. She said no action had been taken against any of the crew members.

[US NTSB Dispatches Team to Nigeria](#)

US National Transportation Safety Board dispatched a team of investigators to Nigeria to assist in determining the cause of Sunday's ADC Airlines 737-200 crash in Abuja that reportedly killed 98 of 106 on board and one farmer on the ground. Abuja's *Daily Trust* reported yesterday that **the aircraft's pilots were told not to take off because of poor weather but insisted on doing so.** Citing three ADC staff who declined to be identified, the newspaper said the Abuja Airport control tower sent instructions shortly before the crash **"suspending flights from either landing or taking off from the airport" due to "very bad weather emanating from a heavy rainstorm in Abuja."** The pilot chose to take off and was not stopped by the airline.



Flight 53 originated in Lagos and stopped in Abuja before departing to final destination Sokoto. The aircraft crashed and burned in a cornfield near Abuja Airport immediately after takeoff. According to the Flight Safety Foundation's Aviation Safety Network, the Pratt & Whitney JT8D-15A-powered aircraft, registered 5N-BFK, made its first flight in September 1983. **The crash is the third commercial air disaster, and fourth overall, in Nigeria in fewer than 13 months, collectively killing more than 300 passengers. ASN said the latest crash marks ADC's fifth hull-loss accident since launching operations in 1991.** According to its website, ADC operated four dash 200s. Eight passengers reportedly survived Sunday's crash.

[FAA-ATA Human Factors in Maintenance and Ramp Safety a Success](#)

FAA teamed with ATA to revive the Annual Maintenance Human Factors Symposium, which had ceased from 2003-2005. The result was a success when over 300 delegates, including 75 from FAA, attended the meeting in Orlando, September 6-7. Boeing and Airbus participated as Symposium Co-sponsors.



Augusto Casado (Flight Standards from Orlando) welcomed the symposium to Florida. FAA speakers included Dawn Veach (newly appointed Flight Standards Division Manager for Southern Region) who stood in for Nick Sabitini. Jim Ballough (AFS-1) talked about issues surrounding Repair Stations and said that new rules are coming to address **maintenance human factors.**



Bill Johnson (Chief Scientists for Maintenance Human Factors) described current and planned Human Factors initiatives for Flight Standards.

Carla Hackworth (CAMI) described the results of an international [human factors survey of maintenance organizations showing that good regulations ensure the best attention to maintenance human factors](#). Jay Hiles (AFS330) served as Master of Ceremonies. Industry partners, Alan Hobbs (NASA) talked about maintenance of Unmanned Aerial Vehicles while Roger Hughes ([jetBlue](#)) and Dennis Watson (American Airlines) described FAA's Operators Manual for Human Factors in maintenance.

[Ottawa to regulate plane mechanics' hours of work](#)

PARIS -- [The federal government is drafting safety regulations aimed at making Canada the first country in the world to regulate the hour's aircraft maintenance crews are required to work.](#)

"It's a proactive approach," said Jacqueline Booth-Bourdeau, chief of technical and national programs for Transport Canada. "Employers need to do everything they can to [minimize fatigue and schedules that lead to fatigue.](#)"



Although Booth-Bourdeau said in an interview that while Canada expects to be the first to adopt such regulations, "a lot of countries are considering it from a maintenance perspective. There is a lot of interest."

Booth-Bourdeau is speaking today on the issue of [fatigue risk management](#) at the Flight Safety Foundation's 59th annual International Air Safety Seminar. The foundation provides a forum for the world's air carriers, manufacturers, suppliers, maintenance organizations, aviation regulatory agencies and flight crew members to share information, ideas, and best practices for safety.

[The regulations won't be as specific as those that apply to commercial pilots, including the requirement they perform no more than 14 consecutive hours of flight duty time.](#)

[Instead, Ottawa would require mechanic fatigue to form part of a company's safety management system. The system should allow companies to look at a number of factors and change schedules or implement corrective actions to mitigate any risks as necessary.](#)

Booth-Bourdeau called it a performance-based approach "tailored to an organization because one size won't fit all."



She said individuals must also share responsibility for safety, taking into consideration factors in their personal life that could increase the risk of making mistakes while working on aircraft.

"If you understand the impact it can have not just on your performance but family life, it can help to build the sense, 'I need to tell someone that the baby is keeping me awake at night.' Those kinds of considerations."

Fatigue can be related to overtime as well as odd shifts or a mechanic's personal life. Cognitive skills rather than physical exertion pose the greatest risk from fatigue.

A Transport Canada study in 2003 suggested some maintenance duties should be performed when personnel are fresh, that the number of apprentices should be

kept to a minimum on night shifts, and that tricky troubleshooting jobs should not be scheduled between 3 and 6 a.m.

Reassembly errors constitute the majority of maintenance errors; contributing factors relate to planning, inspection, documenting, communicating, and supervising during the reassembly process.

Bill Yearwood, regional manager of the federal transportation safety board, noted the new regulations are not expected to require maintenance crews to have regular medical exams to ensure fitness of eyesight -- as is currently required of airline pilots.

"Technically and legally, you could be blind and still be an inspector," he said. "Aircraft maintenance engineers who are tightening up bolts and working in dark places looking for cracks don't have to have their eyes checked."

He added that even mechanics who allow their glasses to become smudged are increasing the risk of not spotting small cracks in engine parts that could potentially lead to crashes. "We know there is a weakness in finding cracks. Is it training, physical, instructions ... ? Somewhere along the line it's not adequate."

Gordon Dupont worked a total of 13 years with Transport Canada and the transportation safety board before starting System Safety Services, in Richmond, specializing in aviation safety training related to human factors.

He believes Transport Canada will have airline companies incorporate a computer software program to assess the various factors that could lead to fatigue among mechanics. For example, if a maintenance worker has worked two long shifts, he or she might have to scale back on the next one.

Dupont said fatigue is one of the leading causes of human error in the aviation industry.

Maintenance crew fatigue has proven to be a factor in several accidents over the years, he said, including a pilot almost sucked out of a British Airways jet in England in 1990 due to an improperly installed windshield, and the death of a flight attendant sucked out of an Aloha Airlines jet in Hawaii in 1988 after dozens of minute cracks created a tear in part of the roof.

Dupont emphasized that no system is perfect, observing that an older employee who reports to work with little sleep might pose a greater risk than a younger, more resilient worker showing up hung over.

He endorses a simple computer game -- the **Fit For Work Indicator**, developed in Australia -- that employees would be required to undergo each day before work. If a worker performs the test below normal levels it might indicate the presence of fatigue or other problems that could impair the person's ability to safely perform work.

Expert: Airport error not systemic
But mistake in an plane can be fatal

LEXINGTON, Ky. - Experts who study airplane accidents say the **errors** that lead to crashes are similar to the common **mistakes** people make in their everyday lives, akin to locking keys in the car or forgetting an item on a grocery list.



"In an airplane, it gets you in trouble," said Scott Shappell, a professor at Clemson University who studies aviation accidents and the **human errors** that cause them.

Shappell believes investigators will ultimately conclude that the **errors** that contributed to the crash of Comair Flight 5191 in Lexington are not systemic.

They will be local, particular to that flight and that morning, he said.

Scholars said as many as 80 percent of airplane accidents are caused by human error, which may be one of the leading causes of the Aug. 27 crash that killed 49 people.

The jetliner crashed after trying to take off from the wrong runway at Blue Grass Airport.

An entire field of study is devoted to human factors in aviation. The discipline embraces not only how a cockpit is run but also how mechanical repairs are made.

Its practitioners want to **prevent mistakes**, knowing, however, that **mistakes** are inevitable.



"Even though we try to design the airplane and train the air crews to **zero errors**, we do realize that **errors** do happen," said John Allen, deputy director of flight standards at the FAA.

"So we design techniques and procedures so that no one **error** will result in an accident."

Those techniques should have prevented the Comair crash, said Jim Hall, a former chairman of the National Transportation and Safety Board.

"There are just so many basic things that appear, on the surface, not to have been properly followed," Hall said. "Almost every **safety net** that was in place was blown through."

Hall thinks the Comair crash will be studied by experts for years to come.

"It is the most significant accident of this decade," Hall said. "**It has a wealth of safety do's and don'ts in it that need to be examined.**"

The plane's captain, Jeffrey Clay, who died in the accident, taxied the plane into position, but instead of turning onto Runway 22, which is used by commercial flights, the plane turned onto Runway 26. That runway is unlit and only 3,500 feet long.

To figure out what went wrong, **human-factors investigators** will want to know the basics, such as what the pilots were talking about in the cockpit, Shappell said. But they will also want to know **when the pilots went to bed, how they slept, what they ate and drank and if they were having difficulties at home.**

"**There's a whole host of things, and you try to identify what issues caused the accident and what issues contributed to it,**" Shappell said.

Still, **several signs should have told the pilots** they were on the wrong runway. Runway numbers correspond to compass directions, and the plane's compass, a routine check on takeoff, would have pointed to 260 degrees, signaling that the pilots were on Runway 26. In addition, Runway 26 didn't have any lights.

But once the pilots were on the wrong runway, **another factor** would have come into play, what experts refer to as "**confirmation bias.**"

"**Once you make a decision, you seek out those things that confirm your original decision and ignore everything else,**" Shappell said.

To prevent these kinds of **errors**, pilots in training take classes to help them identify what might **limit their performances**, and the FAA requires airlines to train their employees in crew resource management - a way of running the airplane designed to keep **human errors** from happening. "You hope it doesn't happen again," Shappell said. "But it will. It absolutely will. It's just a matter of time."

[Introducing the FAA Safety Team](#)

The FAA Safety Team (FAASTeam) will be launched on Oct. 1, 2006 coinciding with the sunset of the FAA's Aviation Safety Program (ASP). The ASP's shotgun approach of educating airmen on all types of safety subjects has been successful at reducing accidents in the past. However, the easy to fix accident causes have all been addressed. In other words, the "low hanging fruit" has been harvested. To take aviation safety one step further, Flight Standards Service created the FAASTeam. The FAASTeam is devoted to reducing aircraft accidents by promoting a cultural change in the aviation community toward a higher level of [safety](#).



To Further Reduce Accidents

To further reduce accidents the FAASTeam will use a coordinated effort to focus resources on particularly elusive accident causes. This will be accomplished by data mining/analysis, team work, instruction in the use of safety management systems/risk management tools, and development/distribution of educational materials. There's plenty of data available on aircraft accidents, but it's often difficult to determine exactly what should be done to reduce accidents from the data. The FAASTeam is developing a web-based Data Mart specifically designed to bring each FAASTeam program manager (FPM) the correct data for his/her geographic area. This will include accident data for airmen who live in the area, but actually had an accident in another area. This is an important new concept. In the past, accident data was summarized by where the accidents occurred. Programs to address those accident causes were developed and delivered in that area. But, the airmen who had the problem and others like them are not there to receive it. The FAASTeam will reach these airmen in their home areas. We're not likely to catch them hanging around the accident site.

FPMs will be trained to analyze the data and extract systemic and [human factors](#) problems that need to be addressed. The problems identified will be combined with information from local FAA inspectors who certify and perform surveillance on airmen and air operators. Together this data and information becomes the FPM's source data. The source data will be used to develop topics and tasks that the FPMs will weave into an annual business plan of actions. Regional FAASTeam managers (RFM) will coordinate and prioritize the actions of their FPMs into a cohesive and efficient regional plan. All of this effort is designed to ensure that resources are devoted to activities that will have the biggest effect on the safety culture and accident rate.



Team work will allow us to multiply our efforts beyond what the FPMs can do alone. The FAAS team will develop symbiotic relationships with individuals and industry groups that have a vested interest in **aviation safety**. These individuals, FAAS team representatives, will work closely with the FPMs to "touch" airmen with our safety message on a local level. The FAAS team will "team" with the aviation industry to bring aviation safety to airmen on a broader scale. The coordinated effort of all these FAAS team members is what will cause the **safety culture to "tip" in the right direction**. The FAAS team will bring system safety to many segments of the aviation community that have not experienced it before. Aviation operators such as flight/mechanic schools and repair stations identified to have higher risk levels will be provided with training on how to develop their own **safety management systems** including the tools necessary to set up their own system. Individual airmen will be provided risk management training and tools via live seminars conducted by FAAS team members and the web application at www.FAASafety.gov.

New products for airmen and air groups are being developed. Although they cover many aviation topics, **they focus on showing airmen how they can change their behavior to be consistent with the new safety culture**.

Many Products Will Be Developed

Many products will be developed by working with our industry.

FAAS team members and others will come from our National Resource Center (NRC). The NRC is collocated with the FAA Production Studios in Lakeland, Florida. This facility has the ability to take new product ideas from any of our FAAS team Members and turn them into safety products in a variety of media. Then, they are duplicated, stored, and shipped (or beamed via satellite) wherever they are needed.

The Flight Standards Service has always been a world leader in aviation safety. Launching the FAAS team is one more strategic step in supporting the FAA Administrator's goal of **having the safest aviation system in the world**. Go to www.FAASafety.gov for more information about the FAAS team and sign up to receive important aviation safety information via e-mail. It's the first step to becoming part of the FAAS team.

From Phil Randall

As the Deputy National FAAS team Manager I am responsible for the Airworthiness portion of the FAAS team Program, thus it is my responsibility along with yours to reduce accidents and incidents that are caused by AMTs. **A review of accidents that have occurred over the past 10 years revealed that in accidents where maintenance was found to be the causal factor, the two leading findings were, improper installation of a component or part, and improper inspection following maintenance**.

The initial project the FAA Team Airworthiness program managers will be that of developing training programs to address these two issues. But, to do so we need your help! I'm asking you to join the FAA Team in your local area as either a lead representative or representative and work alongside your Airworthiness FAA Team program manager to address these issues.

S7 Airlines, Airbus Unit Sued

NEW YORK (AP) — S7 Airlines, which was formerly Siberia Airlines, and a leasing affiliate of jet maker Airbus are being sued in a U.S. court over the crash of an **Airbus A310** in Irkutsk, Russia, earlier this year.

The lawsuit was filed on behalf of persons injured or killed on the flight and their families in the Southern District of New York against the airline and Airbus Leasing II Inc., which owned the aircraft.

The complaint alleges that Siberia Airlines knew or should have known that the aircraft wasn't operated by "properly trained and competent pilots" and that there would be "an unreasonable risk of harm" to persons onboard.

Siberia Airlines Flight 778 crashed when trying to land at Irkutsk International Airport on July 9, killing more than 120 people.

"We are aware of the lawsuit, but we do not comment on pending lawsuits," said Clay McConnell, a spokesman for Airbus.

S7 Airlines, Russia's second-largest airline, didn't immediately respond to a request for comment.



[F-22 Maintainers Focus More On Avionics, Less On Engines](#)

TYNDALL AIR FORCE BASE, Fla.- Maintaining F-22 Raptors requires greater emphasis on avionics training and care - and relatively little concern for engines - than legacy aircraft like F-15s, say those in charge of keeping the aircraft mission ready.



Most of the Raptor's systems are electronic - compared to the mechanical design of the F-15 - and most of those F-22 systems are integrated through the avionics brain of the plane. **So maintainers have reduced the number of specialty roles needed to take care of the aircraft by nearly half to three - weapons, general tire-kicking crew work and avionics, plane maintainers said Oct. 17.**

"Avionics is 70 percent of the workload on the F-22," said Chief Master Sgt. Larry Aderholdt, who is responsible for F-22 care at Tyndall. **There are some big pluses - the avionics self diagnostic can pinpoint problems even before the pilots can. The maintainers can do more preventative care, and they often are able to replace specific components instead of entire equipment set because of the accuracy.**

One of the results is that an F-22 work crew needs only about half the amount of spares and parts that an F-15 crew might need, reducing the Raptor's logistical footprint and cost compared to the Eagle.

But there are some issues. For example, because of the integrated avionics, a problem indicator could light up on a component in which five or more systems could converge, and it can take time to locate the right system.

In some cases, they've had some parts - pumps, for example - that have failed more often than thought. Prime contractor Lockheed Martin has modified the Raptor to put those pumps in a more accessible location, the maintainers said. That's proved especially helpful because the previous access points were near sensitive stealth-coating areas.

Maintainers say they've even had to access the active electronically scanned array (AESA) radars because an indicator said radar modules had failed. The tolerances were set too high for the modules, and a software patch took care of the problem. **The one big surprise concerning the aircraft has been the engines.**

"We've hardly had any engine problems at all," Master Sgt. Michael Dye said.

"We've gone months without an engine write-up."

"That's amazing," Aderholdt said.

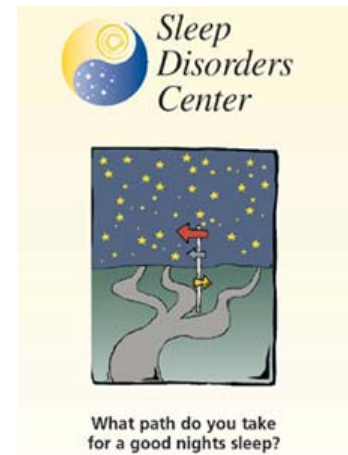
Sleep Disorder Screening

Employees with untreated sleep apnea are a greater risk and cost for your company because they ...

- Are at least twice as likely to have an accident due to fatigue as the rest of the population.
- Incur health costs twice as high as those of other patients.
- Spend twice as much time in the hospital.
- Double their risk of hypertension and triple their risk of heart disease.

By implementing a program to screen for and treat sleep apnea, 24/7 operations can:

- Reduce absenteeism associated with apnea-induced worker fatigue and medical conditions.
- Improve performance by having a better-rested, more alert workforce.
- Cut medical costs of associated medical conditions.
- Reduce fatigue-related accidents on the job and driving to and from work.



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