



## Aviation Human Factors Industry News February 12, 2008

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### Worker killed in collision on tarmac at Hartsfield

An airport ramp worker was killed on the night of January 31, 2008 when the vehicle he was driving collided with another vehicle on the tarmac at Hartsfield-Jackson International Airport.

The 19-year-old man was working General Aviation Terminal, an AirTran Airways subcontractor that provides lavatory and water services for planes, said Tad Hutcheson, a spokesman for the airline.



Hutcheson said the man, whose name has not been released, was driving an AirTran lavatory truck when it collided with a catering truck.

He had just finished a job at Gate C-1 and was headed to another assignment when the wreck occurred.

**He was thrown from the open-cab truck in the collision.**

An AirTran mechanic and an maintenance engineer tried to revive the teenager, but he was pronounced dead a short time later at South Fulton Hospital.

Two nearby gates were shut down for a couple of hours after the wreck, but Hutcheson said air operations were not affected.

He said the teenager, a Riverdale High School graduate who was **working his first job**, had been a "model employee."

"It was just a tragic accident," Hutcheson said Friday morning. "It's a very sad day at the airport today."

## Engine Separates During Departure

**Boeing 747-100. Substantial damage. No injuries.**

Nighttime visual meteorological conditions (VMC) prevailed when the airplane departed from Chicago for a cargo flight to New York on October 20, 2004. The B747 was climbing through 15,000 ft over Lake Michigan when the flight crew heard a loud bang, detected a left yaw and observed indications that the no. 1 – left outboard – **engine had failed**, said the report by the U.S. National Transportation Safety Board (NTSB).



"A visual inspection by the crew of the no. 1 engine to check for damage revealed that the mounting pylon was still in place **but the engine was missing**," the report said. The crew diverted to Detroit and landed without further incident.

Most of the no. 1 engine was recovered from the lake bottom, about 270 ft below the surface, during the summer of 2005. Examination of the engine showed that an uncontained separation of about half of the second-stage turbine disk rim had occurred in flight, creating a severe imbalance that caused the turbine exhaust case to break up and release the engine.

The report said that an **anti-seize compound that is not authorized** for use because it **causes corrosion** had been used on second-stage turbine bolts during maintenance of the engine and **no preservation procedures** had been performed before the engine subsequently was **placed in storage for five years**. Only a visual inspection of the high-pressure turbine and turbine exhaust case had been performed before the components were installed on the no.1 engine of the accident aircraft 94 operation hours before the separation occurred.

## Jet engineer charged with forgery

A Former Qantas **engineer** responsible for **safety checks** on the airline's fleet of Boeing 747s **could be jailed** after being charged with more than 100 offences, including **forging** a maintenance engineer's license and maintaining jets without a license.



Timothy Leslie McCormack - who worked at Qantas's Sydney base until his allegedly forged license was discovered in July - is believed to have performed **safety checks** on the plane involved in a recent dramatic landing in Bangkok.

After investigations by the Australian Federal Police, McCormack, 26, from Kensington, has been charged with 88 counts of maintaining Qantas jumbo jets **without a license**, as well as **forging exam results** for the Civil Aviation Safety Authority's aircraft maintenance engineer license.

Documents tendered to Downing Centre Local Court yesterday show that McCormack has also been charged with making a false declaration and creating a false license "**with the intention** that it would be used to dishonestly induce Qantas to accept it as genuine."

McCormack, who failed to appear for yesterday's hearing, has also been charged with possessing a forged Commonwealth document, "namely a license purported to be issued by the Civil Aviation Safety Authority".

From July 2006 until July last year McCormack **is alleged** to have carried out maintenance on Qantas Boeing 747-400 jets that regularly fly on the US and European routes.

One of the aircraft, over which he has been charged with performing unlicensed maintenance work, bears the registration number VH-OJM.

It is understood this was the Qantas Boeing 747-438 jet that made an emergency landing in Bangkok last week due to a **power failure** later attributed to **water leaking** from a cracked drip tray.

Carrying 344 passengers from London, it had to rely on standby battery power. Qantas dismissed claims by aviation experts who said the accident **could have been catastrophic** because the emergency power system was designed to provide back-up for up to an hour only.

Yesterday the magistrate, Gail Madgwick, said she would have McCormack arrested if he failed to appear in court next Tuesday.

His lawyer, Michael Jaloussis, said his client intended to plead not guilty.

## SAS finds problems during technical examination of grounded DHC-8-Q400 planes

SAS has made a thorough technical examination of the landing gear on the Dash 8 Q400 aircraft that were taken out of service after the third accident involving this aircraft type in autumn 2007.

The technical department has found problems in 63 per cent of the solenoid sequence valves (SSV) on the inspected aircraft that were permanently grounded after the accidents last autumn.



The Danish Accident Investigation Board has previously concluded that a **construction error** in the actuators was the cause of the first two accidents involving a Dash 8 Q400. The Accident Investigation Board has not presented any conclusion on the reason behind the third accident, but has in a provisional report stated that the most likely reason is that an **O ring came loose** from the SSV valve in the hydraulics system in combination with the following fault-tracing. The SSV valve **also has a construction error** and is currently being modified by the supplier.

According to SAS, they "**had no possibility** of [...] discovering these problems, or the undetected error that caused the first two accidents, in the course of its maintenance work". (SAS)

## Audio File

Audio MP3 – 17 January 2008, British Airways 777 Accident Investigation Update.

AirSafe.com

[http://www.airsafe.com/podcasts/show37\\_ba777c.mp3](http://www.airsafe.com/podcasts/show37_ba777c.mp3)



## Air Jamaica Charged With Safety Violations

Air Jamaica last Friday was **charged with multiple violations** of U.S. aviation safety regulations in federal civil action filed by federal prosecutors and the Federal Aviation Administration.

In the complaint, the state-owned air carrier was **accused** of being at fault after one of its planes made an emergency landing on Dec. 17, 2001 due to **incorrectly installed air conditioning panels that cracked and prompted a loss of hydraulic power to the landing gear.**



## Four small planes in wreck at Fort Lauderdale Executive Airport

**Business jet starts chain reaction at Fort Lauderdale Executive Airport**

It happened like a chain-reaction car accident on the highway: bam, bam, bam.

An **out-of-control business jet** caromed off three other aircraft, including two other corporate jets and a chartered prop plane while on the ground at Fort Lauderdale Executive Airport on February 1, 2008 authorities said.

No one was hurt. But when the dust cleared, the **three jets were a tangled mess** with wings over wings and the nose of one plane angled into the fuselage of another.



Because fuel leaked on the ground, the Fort Lauderdale Fire Department sprayed foam on the tarmac to dampen the risk of fire. The incident took place on the apron of World Jet, an aviation service company, at the northwest corner of the airport, officials said.

The trouble started at 2:45 p.m., when the wing of a Rockwell International Sabreliner 265 **clipped the propeller** of a Bimini Island Air Cessna 208 Caravan, which had been taxiing for takeoff, authorities said.

"Then the Sabreliner **lost control**," Kathleen Bergen, Federal Aviation Administration spokeswoman, said.



In short order, the Sabreliner ran into another parked Sabreliner and a Hawker Siddeley corporate jet that was being towed, officials said.

It was not immediately known if the Cessna had any passengers on board, but officials said it remained grounded after the incident. Officials of Bimini Island Air, a charter firm based at Executive Airport, could not be reached for comment despite several calls to their offices.

The first Sabreliner, with two pilots on board, was taxiing to a different part of the airport for maintenance, officials said. According to federal records, that plane was manufactured in 1977 and is registered to Qualint, a firm in Wesley Chapel, near Tampa. No phone listing could be found for it. The names of the pilots were not released.

"The plane that was being towed also was being re-positioned for maintenance work," Ted Lawson, Executive Airport spokesman, said.

The FAA is investigating the incident. Although it isn't unusual for two planes to grind wings and tails against each other while on the ground, it is rare for a plane **to run into three other aircraft**, authorities said.

## **NTSB: FAA Hasn't Enacted Recommendations**

The Federal Aviation Administration has yet to implement recommendations stemming from several instances in which **smoke was reported in the cockpit** of a Boeing 757 aircraft, the National Transportation Safety Board said Friday.

In response, the FAA said that Boeing has already notified carriers of the problem and how to fix it.

Last Wednesday, an American Airlines B757-200 flying from San Juan, Puerto Rico, to Philadelphia made an emergency landing in West Palm Beach, Fla., because of **cockpit smoke**.

Several of those aboard — the flight carried 139 passengers and seven crew members — were treated at a hospital for smoke inhalation, the NTSB said.

While that incident was still under investigation, the NTSB noted **five incidents** between 2004 and 2006 in which smoke, and in some cases fire, was reported to have originated from window heating systems in B-757 aircraft.



In September, the NTSB issued **two safety recommendations** to the FAA asking the agency to require the installation of redesigned window heating systems in all Boeing 747, 757, 767 and 777 series aircraft. The recommendations have not been implemented, the NTSB said.

FAA spokesman Les Dorr said Friday night that Boeing in recent weeks had issued a service bulletin, a voluntary notice that Dorr said addresses the most **urgent safety issues**. The FAA expected to issue an air worthiness directive, which mandates action, in the next few months, he said.

The Boeing service bulletin **did not include** the 747 series, Dorr said, adding that the FAA was in discussions with Boeing regarding that model.

The crew aboard the flight originating in San Juan said that while at cruise altitude over the Atlantic Ocean, smoke began emanating from the window heating system connected to the first officer's windshield, the NTSB said. The crew donned oxygen masks and smoke goggles and diverted to Palm Beach International Airport.

During the descent to land, the inner pane of the first officer's windshield shattered, the NTSB said. The crew continued the descent and landed without further incident.

Cabin smoke also forced an American Airlines Boeing 757 to make an emergency landing in Grand Junction, Colo., on last Wednesday night, but officials say no fire was found. The plane was carrying 103 passengers and seven crew from Newark, N.J., to Los Angeles.

## [WestJet's Culture Success All About People](#)

On January 18, 2008 **WestJet** announced it hold the title of **Canada's Most Admired Corporation Culture** for the third year in a row. The award, presented each year by Waterstone Human Capital, was also give to WestJet in 2005 and 2006.

“This accolade is the result of WestJetters’ **relentless commitment to our culture and values**,” said Sean Durfy, Westjet President and CEO.

“Being successful in the airline industry is extremely difficult. **Our culture and our people are great constants** and is what has helped us to achieve tremendous growth and success over the last 11 years and will continue to drive our success.



“We share this award with our guests who experience our culture daily through our world-class guest experience. We thank Waterstone Human Capital for this honor and for the recognizing the [importance of corporate culture](#) in maintaining a successful organizations,” said Sean Durfy. “A heartfelt thank you also goes out to all of our WestJetters’ for demonstrating [how they care about each other](#) and our guests every day. The have earned this award.”

The 2007 award submissions were evaluated and ranked by a broad of governors. Information was gathered through direct interviews with chief executives at Canada’s top 500 companies. This year’s 10 Most Admired companies average three-year revenue growth of 56 per cent; outpace the S&P/TSX 60 Index’s of 16 per cent. Three-year asset growth for the 10 companies averages 63 percent, well-ahead of the S&P/TSX 60 at 13 per cent.

The airline held an internal nomination contest to decide which of the over 6,700 dedicated WestJetters will attend the January 28 award ceremony and accept this [prestigious award](#) on the Company’s behalf.

## [Famous Gimli Glider retired from Air Canada service](#)

An Air Canada Boeing 767, nicknamed the Gimli Glider, dwarfs race cars using the Gimli, Man. abandoned airstip as a race track in this July 24, 1983.



Air Canada employees gathered in Montreal today to [bid farewell](#) to one of their more storied birds.

On its last flight, the Boeing 767 known as the infamous Gimli Glider, made a pass and waved its wings as a salute to the city that was the point of origin of a 1983 trip that wrote a page of aviation history.

It could have been an ugly page about one of the worst aviation disasters in Canadian history.

In July 23, 1983, [maintenance crews](#) for Air Canada Flight 143 discovered a [shoddy soldering job](#) had knocked out the computer that calculates how much fuel is needed to get the plane from Montreal to Edmonton, with a brief stopover in Ottawa.

Instead of canceling the flight, the ground crews decided to do the calculations manually, [even if none of them had been trained to do this](#).



The aircraft arrived safely in Ottawa and it was not until a warning signal began beeping at 12,300 meters somewhere over Red Lake, Ont., that the flight crew realized the **mistake - imperial measurements** had been used to calculate how much fuel was needed rather than **metric**.

**The plane had run out of fuel and both engines soon ran out of steam.**

Captain Robert Pearson, a trained glider pilot, had his first officer begin calculating for the optimum gliding speed for an 80-tonne jumbo jet. After determining they would not make it to Winnipeg, First Officer Maurice Quintal suggested taking the plane down at a nearby Air Force base in Gimli, Man., where he once served.

Unbeknownst to the first officer, however, was that one of the airstrips - where the plane would eventually land - had become a drag-racing strip. On that day, crowds of campers had collected along the runway to watch go-cart races.

The plane's nose gear eventually came to a stop just 30 meters from where the group had collected, after its front landing gear collapsed on landing.

The so-called Gimli Glider, having sustained only minor damages, **entered back into service just two days later.**

Today marked the plane's final journey as it headed to airplane heaven, in California's Mojave Desert, where planes are mothballed.

Pearson and Quintal were among others on the plane's final flight.

## [Midnight Shift Nugget](#)

### [Insomnia Symptoms Impact Well-Being](#)

A recent study by researchers at the University of Kansas finds that **insomnia symptoms** are closely linked with lower levels of well-being. In their study, the team conducted an analysis of the data from the National Survey of Midlife Development in the United States, a nationally representative survey of 7,189 adults between the ages of 25 and 74. They found that insomnia symptoms had a significant relationship with both psychological and subjective well-being, but a stronger relationship to subjective well-being. What's the difference between subjective well-being and psychological well-being?



Subjective well-being refers to one's perception of his or her life. It is different from – though an aspect of - psychological well-being, which refers to one's overall mental health. [Read the abstract now](#), and then read NSF's [ABCs of Zzzzs](#) for tips on sleeping well.

### [Breath Test May Predict Sleep Apnea Severity](#)

Diagnosing **obstructive sleep apnea** (OSA) is most often done by polysomnography (PSG), which measures muscle tone, heart rate, blood oxygen levels, breathing, and brain activity during sleep. PSG is also used to determine the severity of OSA. Now a new study finds that components of a patient's breath may also serve as a predictor of OSA severity among non-smoking patients. The study was based on a group of 68 non-smokers with mild, moderate, or severe OSA as well as ten healthy smokers, all of whom underwent PSG. The



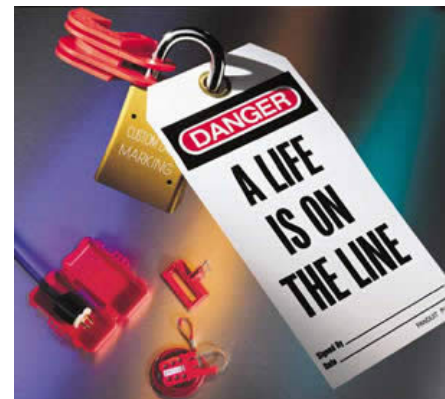
results showed that among non-smokers, exhaled breath concentrations of Interleukin 6 and Interleukin 10, two biomarkers for immune response, differed significantly across the four groups and were correlated with severity of OSA. These results suggest that while levels of Interleukin 6 and Interleukin 10 would not be adequate for the diagnosis of OSA, such biomarkers could aid in the characterization of OSA among non-smokers. [Read the abstract](#), and then read about [what goes on in a sleep lab](#).

### [Lockout/Tagout/Tryout: Your Key to Safety](#)

John was a member of the maintenance department. He was called to repair a machine in Unit 3. John simply turned the machine off, got his tools, removed the necessary guards, and started to work. The job was on the rear side of the machinery, away from the control panel. John was doing an outstanding job of repairing the machine, **but he forgot** the most important component of this job:

#### [Lockout-Tagout-Tryout.](#)

Meanwhile, Bill the operator returned from his break.





He **did not see** John and **there was no indication the machine was under repair.** Assuming his machine was ready to run, Bill started it. He had no idea that John was inside!

In an instant John was **seriously injured** and his screams have been forever etched into Bill's mind. Could this accident have been prevented? The answer is "Yes!" Here's how:

**Lockout-Tagout-Tryout** is a three-part procedure designed to protect you from accidental or unexpected start-up of equipment.

**This procedure serves four important purposes:**

1. To protect the person working on the equipment.
2. To protect other workers in the area.
3. To protect the equipment.
4. To serve as a communication device for the above three. This is usually done in conjunction with a safe work permit.

The "**Lockout**" involves the use of a specific lock or locks to isolate equipment from all energy sources. These sources may include air, water, electricity or hydraulic power. Once the shut-off devices have been identified, personal locks are attached to each device.

The "**Tagout**" requires a specific lockout tag to be completed and attached with each lock that is placed on an isolation device. The completed tag will usually have your lock number, name, department, equipment identification, and reason why the equipment is down.

The "**Tryout**" requires that you physically attempt to turn on all power switches and devices once the equipment has been locked out. This is your final check and assurance that the equipment has been isolated from all power sources. Once the equipment has been isolated and locked out by following the proper steps, no one should be able to start the equipment. They would not be able to do so until you have completed the necessary work and removed your personal locks from each power switch or device.

**Lockout-Tagout-Tryout** is a simple procedure that is designed to prevent an accident such as John's. It's the key to your safety when working on equipment.

**Lockout-Tagout-Tryout** requirements will always vary from one facility to the next. If you are unsure about any specific requirements, you should always ask for more information.

## AUDIO SAFETY TALKS!

### Lockout Hazardous Energy

“What you don’t know can’t hurt you?” Balderdash. How many of us have burnt our fingers because we couldn’t tell that something was hot? Lockout/tagout is supposed to **assure that workers don’t get hurt** by energized systems, whether the energy contained is hydraulic, electrical or mechanical. Because not being able to tell if something might suddenly start up again while you’re working inside or around it could kill you.

[To listen to the talk, click this link](#)



## BY THE NUMBERS

### 2007 Football Injuries

The American Football Coaches Association commissions an annual study of injuries sustained in organized football games at all levels: professional (including NFL, indoor and sandlot), college, high school and junior high. Here are some of the numbers from the 2007 report:

- **4** Total direct fatalities sustained in football games (3 in high school, 1 professional—World Indoor Football League)
- **0.22 per 100,000 Participants** The fatality rate to football players
- **9** Total indirect fatalities that occurred as a result of injuries sustained in football games (6 in high school, 1 college, 1 sandlot and 1 semi-pro)
- **33** Football players who have died from heat stroke since 1995 (25 high school, 5 college, 2 pro and 1 sandlot).



**The Bills' Kevin Everett:  
Nearly died of a football injury  
in 2007**

Source: National Center for Catastrophic Sport Injury Research, Annual Survey of Football Injury Research, 2007, Feb. 2008,  
<http://www.unc.edu/depts/nccsi/SurveyofFootballInjuries.htm>

## Bad Designs!

### *What's in the bottle?*

A lot of manufacturers package both shampoo and conditioner in nearly identical bottles. You ought to be able to easily distinguish between them in the shower without your glasses on.

Going on a trip, I quickly packed my suitcase taking the hand lotion (bottle on the left) instead of the shampoo (bottle on the right). I didn't discover my mistake until I was in the shower the next morning in the motel and my hair was full of hand lotion! Have you ever tried to wash hand lotion out of your hair with a bar of soap?



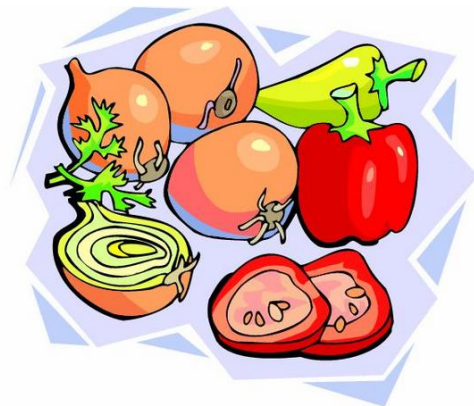
### Design suggestion

Things that need to be distinguished from each other should differ by more than just a single feature. For example, the bottles could have different shapes and sizes to make them more distinguishable.

## Lower cholesterol safely and cheaply

One of the safest and cheapest ways to treat high cholesterol is to change your eating habits. In a nutshell: **Eat less saturated and trans fats.**

Your goal: no more than 25% to 35% of your total daily calories from fat, keeping your saturated fat intake to less than 7% of total calories and limiting dietary cholesterol to 200 mg or less per day. How can you tell how much and what kind of fat you're getting? The labels on packaged foods and a calorie counter that includes fat grams are **useful tools** to help you determine fat calories.



**Another tip:** saturated fats are **solid to semi-solid** at room temperature and include the fats in meat, dairy products, and eggs, as well as some vegetable oils, particularly the tropical oils (palm, palm kernel, coconut, and cocoa butter).



Most saturated fats stimulate LDL production in the body. Reducing the amount of saturated fat in your diet can lower your LDL.

On the other hand, unsaturated fats, which tend to be **liquid** at room temperature, include both monounsaturated and polyunsaturated fats. Olive, peanut, sesame, and canola oils are rich in monounsaturated fats, while soybean, corn, cottonseed, safflower, sunflower, and fish oils are high in polyunsaturated fats. In contrast to LDL-raising saturated fats, both monounsaturated fats and polyunsaturated fats have some ability to lower LDL.

**Avoid trans fats**, which are created when food manufacturers solidify unsaturated liquid oils to create firmer margarines and shortenings. Trans fats have been shown to raise LDL and lower HDL levels in the blood. These fats are a **greater risk to heart health** than even saturated fats. An expert panel from the Institute of Medicine concluded that trans fats **have no known health benefit** and that there is no safe level of consumption. Growing data on the hazards of trans fats prompted the FDA to pass a regulation that now requires nutrition labels to include trans fat content.

Monounsaturated fats do not undergo modification, and, when substituted for saturated fats, can help lower LDL cholesterol levels. Replacing saturated fats with monounsaturated fats — for example, using olive oil instead of butter — is **one way to improve** a wayward lipid profile, as long as you aren't just adding monounsaturated fats and forgetting to cut back on the saturated fats.

Other diet changes that will help lower cholesterol include **eating more fiber**, such as that found in **oat bran**, and increasing your consumption of plant stanols and sterols, which are found in a number of food products. Plant stanol margarines such as Benecol and Take Control are worth trying, since regular use can help lower LDL cholesterol levels.

Research shows that genetic and physiological differences influence how dietary fat affects cholesterol levels. To maximize the benefits of modifying fat intake to lower cholesterol, you should:

- 1. Determine whether diet changes work for you.** Say you decide to try a lower-fat, lower-cholesterol diet for three to six months, but at the end of the trial period, a blood test shows that your cholesterol levels haven't budged. You may belong to the nonresponder group and need a different kind of diet, or medication, to control your cholesterol.
- 2. One size doesn't fit all.** When a friend or relative tells you how much his or her cholesterol level dropped after trying a particular diet, you may be tempted to try it too. But if after a few months you discover that the diet has no effect, remember, **there isn't a one-size-fits-all recommendation** for fat or cholesterol consumption. You may have to try several different diet and exercise approaches to find one that works for you. For more information on lowering cholesterol, order our Special Health Report, What to do about High Cholesterol, at [www.health.harvard.edu/HC](http://www.health.harvard.edu/HC).



## PICTURE THIS!

You have to wonder what these guys were thinking. The roof is steeply pitched and they're moving heavy bundles of shingles and other roofing supplies up and down. But they're wearing neither **head protection nor fall protection**. And to put the rotten cherry on this **safety sundae**, they've hit upon an innovative way to extend an extension ladder. They may one day discover that, in an emergency, a ladder can make a pretty good stretcher, too.

