



## Aviation Human Factors Industry News

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### **NTSB Updates Status Of Recent Investigations**

# 1: US National Transportation Safety Board said it will investigate a Friday morning **runway incursion incident** at Denver International Airport in which a Frontier Airlines A319 was forced to execute a missed approach in order to avoid a Key Lime Air Swearingen Metroliner that "**inadvertently**" entered the runway. The aircraft **missed each other by 50 ft.**, NTSB said. The Airport Movement Area Safety System alerted the tower at the same time that the Frontier pilots spotted the Metroliner.



# 2: Holidays Saw 12 Fatal GA Accidents. National Transportation Safety Board Chairman Mark V. Rosenker said last week that, during the recent 12-day holiday period between December 22, 2006 and January 2, 2007, he dispatched regional air safety investigators to **12 fatal general aviation accidents**. These accidents resulted in a total of **31 fatalities**.



### **Pilots in Mo. crash went on a joy ride**

WASHINGTON — Federal crash investigators Tuesday blamed a pair of joking pilots who flouted safety rules for a 2004 crash in Missouri that highlighted shortcomings in training and safety oversight at regional airlines.

**RiskyBehavior**



Capt. Jesse Rhodes, 31, and co-pilot Peter Cesarz, 23, died when Pinnacle Airlines Flight 3701 crashed 2½ miles short of an airport in Jefferson City, Mo., on Oct. 14, 2004, after losing power in both engines.

The pilots of the Bombardier CRJ-200, who were moving the jet from Little Rock to Minneapolis with no passengers aboard, **repeatedly violated company safety rules**, the National Transportation Safety Board (NTSB) said. **They whooped and joked on what became a joy ride, pulling the jet into steep climbs and attempted to fly at the plane's highest altitude, 41,000 feet.**

They allowed the jet to slow down too much, causing the engines to snuff out. The NTSB ruled that the accident resulted from the pilots' **"unprofessional behavior, deviation from standard operating procedures and poor airmanship."**

**But the safety board also found that the pilots had not been adequately trained in how to fly at high altitudes and how to handle emergencies.** A problem with the GE jet engines, which froze and could not be restarted, contributed to the crash, the NTSB ruled.

NTSB board member Robert Sumwalt said **Pinnacle's safety system was deficient. All large carriers now monitor flights with computers and encourage employees to report safety problems without fear of discipline — programs that would have made the pilots' actions less likely. But Pinnacle, like most regional airlines, had none of those programs before the crash, the NTSB said.**

**"They didn't cause the accident, but I'm going to suggest that they may have enabled the accident,"** Sumwalt said of the airline.

Pinnacle spokesman Philip Reed said that the airline has **added safety monitoring and reporting programs found at larger airlines. It's also revamped pilot training.**

**"The culture of safety does exist,"** Reed said. **"We practice it every day."**

Several board members said that the accident raised broader questions about safety among regional carriers, which have grown rapidly in recent years as the larger carriers have suffered financial setbacks. Only two regional carriers, Pinnacle and ExpressJet, have computerized flight monitoring, the NTSB said.

**"There is still a big differential between what is happening at these regional carriers and the major carriers,"** board member Kitty Higgins said.

Regional Airline Association President Roger Cohen said most regional carriers are adopting safety programs similar to large carriers. The federal standards governing regional and large airlines are the same, Cohen said.

## [Transport Canada knew of jet engine limit](#)

Transport Canada knew about an engine problem that could cripple Bombardier regional jets 13 years before it contributed to the 2004 fatal crash of an RJ in Missouri.

Transport Canada discovered the potentially catastrophic condition when testing the plane for certification in 1991. **But outside the tight circle of Bombardier, engine manufacturer General Electric and Transport Canada, the aviation community that operated the regional jets was left unaware.** The GE engines are installed on about 1,000 Bombardier regional jets, the plane type Air Canada Jazz flies between Hamilton and Montreal. Details of just how long the manufacturer and Canada's aviation regulator knew of the problem came yesterday as the U.S. National Transportation Safety Board released its report on the tragedy.



It blamed the pilots for the 2004 Pinnacle Airlines crash. They were on a ferry flight without passengers when they flew their plane to its maximum certified altitude of 41,000 feet. They lost speed and the plane started to fall from the sky. Both engines flamed out.

The pilots blundered more as they tried to recover, including flying the powerless plane too slowly. **That led to core lock and doomed them.**

"Simply adhering to standard operating procedures and correctly implementing emergency procedures would have gone a long way to averting this tragic accident," said safety board chairman Mark Rosenker.

Core lock is essentially a jam after a jet engine stops and cools suddenly.

GE doesn't accept that core lock occurred and said it can happen with any jet engine pushed beyond its limits. The company said flight manuals contained instructions to restart engines.

**The safety board says while the manuals contained the procedures, including a "target" speed of at least 240 knots, pilots weren't told why they should fly that fast or that engines could lock up.**

Officials for Bombardier and Ottawa could not be reached for comment.

## [Mandarin Airlines flight lands without rear wheel](#)

Like any commuter flight on a normal weekday, Mandarin Airlines Flight AE1261, on a Fokker FK-100 plane, was expected to land at Kinmen Airport yesterday morning safely and on time.

The flight, carrying five crew members and 53 passengers, took off shortly before 7am from Taipei Songshan Airport and landed in Kinmen at 7:45am.



However, not everything that was supposed to be on the aircraft arrived in Kinmen.

Unbeknownst to the crew, **one of the tires on the plane's rear left landing gear was missing.**

The discovery was made by the maintenance crew based in Kinmen.

It was later retrieved at Taipei Songshan Airport.

Mandarin Airlines said it would investigate the incident. It temporarily grounded the plane in Kinmen, forcing 23 passengers booked on the return flight to catch a Uni Air flight.

Last night Mandarin issued an official statement saying that the plane had been flown to its maintenance facility in Taichung.

The airline said it would conduct comprehensive inspections on all six of its Fokker planes.

**It also suspended the maintenance worker who helped change the tire on Monday.**

The Aviation Safety Council said it would not investigate the incident because no one was hurt and the plane was not damaged.

Civil Aeronautics Administration, Director-General Billy Chang said that workers at Songshan Airport found the wheel and some unidentified objects on Runway No.10 after Flight AE1261 took off.

The discovery forced the airport to shut down for 10 minutes.

"It's still too early to talk about penalty or punishment at this point," Chang said.

## [Turkish aviation safety agency begins probe after Onur Air Boeing MD-88 cargo door opens in flight](#)

Turkish aviation safety investigators have started an inquiry after an Onur Air Boeing MD-88's **cargo door opened during take-off** from Istanbul Ataturk airport, forcing the aircraft to return.



Onur Air says the passenger jet's crew opted to make an emergency landing back at Istanbul after discovering, during the 1 January incident, that **the aircraft was losing pressure as it reached 6,000ft (1,800m)**.

After the MD-88 touched down the cargo door opened causing baggage to fall from the aircraft on to the runway. Loose baggage was subsequently retrieved by airport ground vehicles.

The aircraft, which had been bound for Izmir, was said to have been carrying 134 passengers.

Istanbul-based Onur Air says that the pilots did not receive any indication that the cargo door had not closed. The investigation is being handled by the Turkish civil aviation administration.

According to Flight's fleet database ACAS, Onur Air operates five MD-88s and three MD-83s.

## [Lawsuit Questions Safety Of Sikorsky Parts](#)

**Copterline Files \$60 Million Suit For Deadly 2005 Crash** Finnish company Copterline filed a suit in a New York City federal court just before Christmas naming Sikorsky Aircraft Corporation as defendant. Copterline is seeking \$60 million in damages over an August 2005 crash which claimed 14 lives.



The aircraft, a Sikorsky S-76 helicopter, plunged into the Gulf of Finland after departing the Estonian capital of Tallinn. **In court papers, Copterline claims the crash was due to Sikorsky's negligence and accuses the manufacturer of breach of warranty, aggravated carelessness and neglecting an obligation to give a warning.**

The two sides have reportedly been in discussions concerning liability for the crash, with the focus on the hydraulic control servo for the main rotor.



Copterline maintains the part is of poor design whose failure directly led to the crash, while Sikorsky says there is nothing wrong with the part -- or any other part of the chopper -- and the crash's cause must be found elsewhere.

In a statement to Finnish newspaper Helsingin Sanomat, Sikorsky says it, the servo's sub-contractor manufacturer Hydraulic Research Textron, the NTSB and the FAA have all tested the part and found no problems with it. Further, the statement asserts that despite being subjected to deliberate strains and loss of fluid, consistent with the alleged conditions of the accident, the servo performed perfectly.

An Special Airworthiness Information Bulletin (SAIB) released by the FAA on December 16, however, seems to somewhat contradict Sikorsky's statement. In part, the SAIB says, "During the ongoing investigation, we have observed some anomalies regarding fluid contamination, excessive servo leakage, and flaking plasma coating within the main rotor hydraulic servos. As a result, Sikorsky and the servo manufacturer are conducting tests to evaluate the effects of flaking plasma, fluid contamination and internal leakage on main rotor servo performance. These tests are to determine if the anomalies found during the investigation pose a significant safety risk or if they contributed to the accident."

In an attachment to the SAIB, Sikorsky notes, "Sikorsky Aircraft and the main rotor servo manufacturer continue to evaluate the affects of internal leakage and flaking plasma coating on the operation of the servo. Testing that has been conducted to date by Sikorsky and the servo manufacturer has not identified any safety of flight issues."

The SAIB requests owners to perform a leakage test on certain part number hydraulic servos and send the results to the part's manufacturer, HR Textron.

Helsingin Sanomat says over the years there have been a number of accidents whose ultimate cause remains unclear, but which bear a striking resemblance to the sequence of events in the Tallinn crash.

If it turns out there is a problem with the servo, and Copterline is successful in tying such a problem to the crash of its helicopter, then Sikorsky could see a number of court cases.

The NTSB's final report on the Tallinn crash is due out this April.

## [Agusta Tail-Rotor Flange Caps Separated](#)

An Agusta A109S Grand helicopter suffered severe vibration about four minutes into the flight. The pilot carried out an autorotation at 1,500 feet, declared "Mayday" and landed safely in a field. [Investigators found that one of two tail-rotor trunnion flange caps separated and damaged the tail-rotor blade and vertical fin](#), according to an Air Accidents Investigation Branch report published in November.



AAIB said the "metallurgical examination showed the failure to be due to an initial clockwise torsional overload followed by a final axial tensile overload." [This could have happened either when Agusta manufactured the helicopter or during maintenance, which happened the night before the flight. AAIB said the maintenance manual did not contain the specific torque loading for the trunnion flange caps, but Agusta has since issued torque loading figures for the flange caps and has amended the manuals.](#)

The tail rotor assembly consists of two rotor blades and a trunnion. The model involved in this incident, the Agusta 109S Grand, has flange caps, with an internal thread, which are at the stubs at each trunnion end. Lock nuts hold the assembly in place.

[The maintenance organization that had worked on this helicopter had removed the tail-rotor trunnion assembly, including removing the flange cap retaining nuts and the flange caps themselves. "During the removal of the flange caps, it became apparent that one of the two flange caps could not be fully unscrewed, by hand, from one of the stubs. So, the flange cap was unscrewed until just prior to the point at which it bound on the thread, enabling the removal of the trunnion by full removal of the remaining cap,"](#) said the AAIB report.

[After this was done, an engineer reinstalled the trunnion assembly and used the components originally removed from the helicopter. The manual didn't contain specific information on the installation of the threaded flange caps, so the engineer used the manufacturer's standard practices for torque loading, which was 70 lbf in - within the 69 to 95 lbf in that the manufacture quoted in subsequent literature. This was the first time the assembly had been serviced.](#)

[Agusta produced the A109S Grand maintenance manual based on the A109E Power's manual. The two helicopters have different tail-rotor drive designs, however, because the A109E Power does not use threaded trunnion flange caps that engage onto the trunnion threads, according to the AAIB report. The A109E uses unthreaded trunnion flange caps on the hub. The different designs led Agusta to omit the torque loading figures for the A109S, but the manufacture has since corrected it.](#)

## [Russia working on air safety plan after crashes](#)

OTTAWA, Russia is developing a formal plan to boost aviation safety in the wake of three crashes last year that killed hundreds of people, Transport Minister Igor Levitin said on Tuesday.



Critics variously blame the disasters on poor training, often outdated planes and sometimes primitive infrastructure in what is the world's largest country.

"In the first half of this year Russia will draw up a state program on flight safety," Levitin told reporters during an official visit to Canada, saying Moscow wanted to improve pilot training and might also buy modern equipment.

In July 2006 an Airbus A-310 operated by S7 Airlines crashed at Irkutsk airport in Siberia, killing 125 passengers and crew. The initial accident report blamed the crew.

In August, a Tupolev Tu-154 flown by Pulkovo airlines crashed in Ukraine, killing all 170 people on board. In May, all 113 people on board an Armenian Airbus A-320 died when it crashed near the Russian Black Sea resort of Sochi.

"Of course the two crashes (in Russia) were a big tragedy but as a whole, in 2005 and 2006, there were a series of major air disasters all over the world," Levitin said.

Last November, Levitin asked Prime Minister Mikhail Fradkov to approve the sacking of Valery Saleyev, who heads Russia's overall transportation watchdog. Fradkov has yet to take a decision on the matter.

Levitin said he would give more details of Russia's safety plan to the head of the International Civil Aviation Organization in Montreal on Wednesday.

## [Drunken Pilots of Ukraine to Spend a Month in Norway's Prison](#)

Three Ukrainian pilots of AN-22 crew that were detained drunk in Bergen, Norway, were sentenced to four-week imprisonment, Interfax reported. One more of detained pilots will pay a fine of over \$1,500.

Early January 8, the police of Norway detained in the Bergen-Fresland airport seven Ukrainian



members of AN-22 transport plane on suspected violation of the flight discipline in part of **drinking alcoholic beverages just before the takeoff.**

AN-22 was to deliver to Baku, Azerbaijan, the U.S. equipment for oil production. The crew included 17 members.

**The detained agreed they were drunk before the flight and, therefore, violated the flight discipline,** said Vasily Kirilych from Ukrainian Foreign Ministry. The results of the medical examination showed alcoholic intoxication as well.

Under the laws of Norway, violation of flight discipline by the crew could be punished by up to two-year imprisonment or the fine of \$70,000.

## **5 Charged in Houston Airport Luggage Thefts**

**Five employees of a baggage-handling contractor have been charged in the thefts of 158 pieces of luggage** from George Bush Intercontinental Airport, police said Tuesday.

**Sixty-eight pieces of luggage were discovered in a Houston pet store's trash bin on Dec. 26.** Police said the luggage appeared to have been picked over, with any valuables stolen.



**Another 90 pieces of stolen luggage were found at two undisclosed locations over the weekend,** Houston Police Capt. Rick Bownds said.

Charged with engaging in organized criminal activity were twin brothers Manuel and Ricardo Aguilar, 23; Carlos Osorio, 24; Erick Perez, 29; and Daniel Venegas, who turns 26 this week. The Aguilar brothers, Osorio and Perez were being held at the Harris County Jail on \$20,000 bond. Information was not available for Venegas.

It was not clear Tuesday whether the five men had hired attorneys.

Bownds said the men worked for Menzies Aviation Group, a company that handles baggage for connecting flights across the United States. The company was cooperating with the investigation, police said.

A telephone message left with the company's London office was not immediately returned Tuesday night.

Investigators and the airlines were trying to determine the owners of the bags and figure out what might have been stolen, Bownds said.

## HOME SAFETY

### Domestic Violence & the Bottom Line

Boiled down to its simplest terms, workplace safety involves the interaction between the worker and the industrial environment in which he or she works. Traditional safety programs focus on minimizing risks posed by the industrial environment - on conditions such as machinery, the type of operations performed, etc. But to achieve success, the **safety professional** of the future will also have to address the other side of the interaction - **the individual**. **They need to recognize that what happens to workers outside the workplace will affect how they feel and behave inside the workplace. As such, the worker's life outside of work is a variable in workplace safety.**



This brings us to domestic violence. Domestic violence is not perceived to be an issue of *workplace safety*. After all, by definition, it's something that takes place in the home. But domestic violence is one of those outside of work factors that **impairs performance, both economic and safety-related**. According to one study:

- 24 percent of women between ages 18 and 65 have been involved in domestic violence;
- 37 percent of these victims reported that being the victim of violence **had an impact on their work performance**;
- 74 percent of domestic violence victims have suffered abuse, harassment or violence by their partner **at work** on at least one occasion; and
- 47 percent of executives said that their company had suffered some loss of productivity as a result of domestic violence to members of their workforce.

**The bottom line:** **Safety professionals** need to understand that domestic violence is not just a personal issue; it's a matter that **affects the safety** and financial performance of your business. Source: MAG Regional Domestic Violence Council,

### Portion Alert

According to the Centers for Disease Control and Prevention (CDC), **Americans are eating more calories** on average than they did in the 1970s. Between 1971 and 2000, the average man added 168 calories to his daily fare, while the average woman added 335 calories a day. What's driving this trend?

Experts say **it's a combination of increased availability, bigger portions, and more high-calorie foods.**



Practically everywhere we go — shopping centers, sports stadiums, movie theaters — **food is readily available**. You can buy snacks or meals at roadside rest stops, 24-hour convenience stores, even gyms and health clubs. Americans are spending far more on foods eaten out of the home: In 1970, we spent 27% of our food budget on away-from-home food; by 2006, that percentage had risen to 46%.

In the 1950s, fast-food restaurants offered one portion size. Today, portion sizes have ballooned, a trend that has spilled over into many other foods, from cookies and popcorn to sandwiches and steaks. A typical serving of French fries from McDonald's contains **three times more calories than when the franchise began**. A single "super-sized" meal may contain 1,500–2,000 calories — all the calories that most people need for an entire day. And research shows that people will often eat what's in front of them, even if they're already full.

## **Disturbed sleep and heart trouble go hand in hand, reports the *Harvard Heart Letter***

BOSTON — The connection between sleep and heart disease is a two-way street: **Poor sleep can contribute to heart disease, and heart disease can disturb sleep**, reports the January 2007 issue of the *Harvard Heart Letter*.



**Poor sleep has been linked with high blood pressure, atherosclerosis, heart failure, heart attack and stroke, diabetes, and obesity**. The thread that ties these together may be inflammation, the body's response to injury, infection, irritation, or disease. **Poor sleep** increases levels of C-reactive protein and other substances that reflect active inflammation. It also revs up the body's sympathetic nervous system, which is activated by fright or stress.

**Sometimes heart disease is a cause of poor sleep**. People with heart failure may wake up with trouble breathing, which stems from fluid buildup in the lungs. **There's also some evidence that heart failure leads to sleep apnea**, a breathing problem that can awaken a person repeatedly throughout the night. Some people have nighttime angina (chest pain), bouts of atrial fibrillation, or palpitations (the sensation of a racing or pounding heart) that **disturb sleep**.

The *Harvard Heart Letter* suggests that if you aren't getting enough sleep, you may need **better sleep habits like the ones listed below**. If these don't work, talk with your doctor about having a sleep evaluation.

- **Go to bed and get up at the same time every day.**
- **Use your bed only for sleeping or sex.**
- **If you can't sleep, get out of bed.**
- **Go easy on alcohol and caffeine; avoid nicotine.**
- **Exercise in the late afternoon.**

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