



## Aviation Human Factors Industry News

May 23, 2007

Vol. III, Issue 17

### [Airline worker dies trying to dislodge object in elevator](#)

DAYTON — The Pinnacle Airlines employee who **died** last Wednesday after **being crushed by a luggage elevator** was attempting to dislodge an object stuck in the lift, according to an airline spokesman.



Catrina Coffman, 21, of Dayton died at 5:22 p.m. Wednesday at Miami Valley Hospital **as a result asphyxiation due to mechanical chest compression and blunt force injury to the torso**, according to the Montgomery Coroner's office.

The incident occurred at 7:15 a.m. **The coroner has ruled Coffman's death as accidental.**

"We have some initial reports that apparently an object became lodged in (the elevator lift) and the employee in question was attempting to dislodge it," said Phil Reed, spokesperson for Pinnacle. "We are so deeply saddened by this event. It's just shocking and upsetting to us, and **we want to make sure we fully understand what occurred.**"

The Cincinnati area office of the Occupational Safety and Health Administration is investigating the incident.

Pinnacle, which operates as Northwest AirlinK, provides commuter services at Dayton International for Northwest Airlines.

The luggage-sized elevator used by Pinnacle is located in an area Northwest Airlines leases from the city of Dayton, which owns the airport.

**It's in the vicinity of the airport gates under the jetway** — the long accordion-like passage that passengers walk through to board airplanes.

The area is only for employees, without public access, said Sharon Sears, airport spokeswoman.

"This is a secured operations area. It is something passengers do not see or use," she said.

**In recent history, there have been at least two other employee deaths at the Dayton airport, she said.**

**A male employee of the Menlo Logistics Center died about a year-and-a-half ago after boxes of freight fell on him. More than a decade ago, a Trans World Airline employee, also a male, died from injuries after an airline tire exploded.**

Reed said he could recall only one other employee death in Pinnacle's 22-year history.

"I believe it was about seven or eight years ago we did have an employee who was killed in Memphis, Tenn. **after they came in contact with a propeller,**" he said. "It was horrifying."

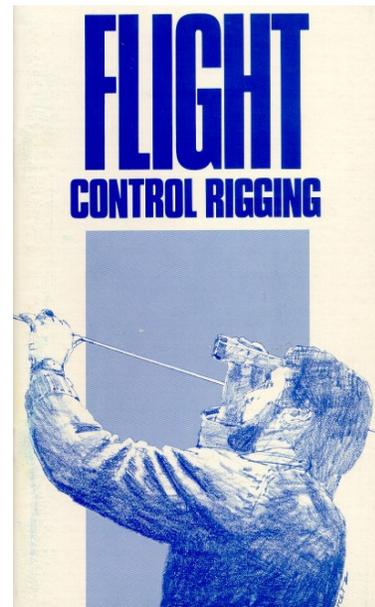
## **Heavy Controls Traced to Misrouted Cable**

Boeing 737-700. Minor damage. No injuries.

After completing a scheduled flight from Melbourne, Victoria, to Sydney, New South Wales, Australia, the night of Aug. 9, 2005, the **pilot reported 'heavy' flight controls.** 'An inspection by maintenance engineers revealed that the left lower rear **elevator cable was incorrectly routed** around a stiffener and that the stiffener and cable section had been damaged as a result of contact between them," said the ATSB report.

About two weeks before the incident, a contract maintenance organization had replaced eight elevator control cable sections while performing a scheduled maintenance check of the aircraft. The cable replacements were required by Boeing Service Bulletin 737-27-1254. Rev. 1.

**The contract maintenance organization's forward planning department was not assigned to provide full work details from the service bulletin, and work task cards from the previous job were copied and used instead.**



“The task cards contained insufficient instructions for the required work to be satisfactorily completed,” the report said.

While preparing a rear cable for replacement, a trainee failed to secure it before removing the cable keeper. When the keeper was removed, the unsecured cable slipped out of sight. “When recovering the cable, the trainee and an aircraft maintenance engineer inadvertently misrouted the cable around the stiffener,” the report said. “When the replacement cable was pulled into place, it followed the same incorrect route around the stiffener.” The two workers did not inform their team leader or make a record of the temporary loss of the old cable; they also did not verify that the new cable was routed correctly.

While performing duplicate inspections of the cable replacements, two maintenance engineers heard a rubbing noise but thought that it came from a cable pressure seal. They also noticed heaviness in elevator control movement. However, they failed to conduct thorough investigation of the two anomalies.

The report indicated that time pressures might have contributed to the worker’s failure to inform their team leader of the temporary cable loss and their less stringent duplicate inspections of the cable work. The duplicate inspections were recorded on a form that was not current. The form, which had been replaced in 2003, “did not reflect the correct scope of duplicate inspections required,” the report said.

“The investigation has highlighted the necessity of using forward planning processes for critical work tasks and the necessity to report and record all non-routine work events,” the report said.

“Had the loss of cable control run integrity been recognized as a critical event and a record been made of the event, then more rigorous inspections may have detected the misrouted cable.”

## [Report: Pilots of crashed Pakistani plane knew of engine malfunction before take-off](#)

ISLAMABAD, Pakistan: Pilots of a Pakistan International Airlines plane that crashed last year, killing all 45 people on board, took off despite knowing the right engine was not working properly, a senior government official told Parliament.

Parliamentary secretary for defense, Tanvir Hussain, also said PIA engineers had “virtually used (a) hammer and chisel” — not tools designed for the job — to fit a bearing in a plane turbine that malfunctioned.





Hussain concluded that **poor maintenance** and inexperienced pilots had caused the Fokker F-27 turboprop plane to crash soon after takeoff on a domestic flight from the eastern city of Multan on July 10, 2006. Forty-one passengers and four crew were killed.

Hussain's comments, made late Wednesday to the National Assembly, were reported by the state-run news agency, the Associated Press of Pakistan or APP. He was citing an inquiry into the crash conducted by a senior Pakistan air force official.

PIA spokesman Nasir Jamal said Thursday the airline had not received the report and was not in a position to comment on it. He referred questions to the Defense Ministry.

In recent years, the once-respected national carrier has been **beset by worries over plane safety and its finances**. In March, PIA temporarily slashed its flights to Europe by nearly 50 percent after the European Union barred most of its planes due to safety concerns.

Soon after the July crash of the 27-year old aircraft, PIA grounded many of its aging fleet of Fokkers. Airline executives maintained that the planes, used mainly on domestic routes, were safe. However, they are now only used on cargo flights.

According to APP, Hussain told lawmakers that the **plane's pilots "had not completed enough flying hours and were relatively inexperienced."**

He said the **voice recorder** recovered from the wreckage revealed that **before take-off, one of the pilots had asked the other if there was a "depleting thrust of the right engine," and had received an affirmative reply.**

**Hussain said the pilots should not have flown the plane, but still took off.**

There were also **serious concerns over the plane's airworthiness.**

Hussain said there were holes in one of the plane's turbines, which prevented the plane from ascending more than 50 feet (15 meters). He said **engineers had fitted a bearing in the turbine manually instead of using special equipment needed for the purpose.**

**"They virtually used hammer and chisel to put that bearing into the turbine (and) as a result it started to wobble,"** Hussain was quoted as saying.

Hussain said the findings of the crash inquiry would be forwarded to the prime minister, who would order **"punishment for those responsible for the crash."**

## Strategies For Incident and Accident Investigation



MORNING STAR  
AVIATION  
SAFETY  
LLC



### **Master and Commander Conference**

Command/Leadership for Captains  
October 24 – 26, 2007  
Denver, Colorado USA

This conference is designed to update your knowledge of captain command and leadership skills that will enhance the overall effectiveness of the entire crew and provide higher quality coordination with adjacent working groups like ATC, dispatchers, mechanics, gate and ramp agents and others.



Keynote Speaker  
Captain Al Haynes  
United Airlines Flight 232  
Sioux City, Iowa

## Ivanov blames pilots for 80%-90% of Russian air crashes

MOSCOW - First Deputy Prime Minister Sergei Ivanov on Friday blamed "80 to 90 percent" of air crashes in Russia on mistakes by pilots, complaining that "discipline among air crews has become horrifying."

"Believe it or not, but the so-called human factor is behind 80 to 90 percent of air crashes. Discipline among air crews has become horrifying," Ivanov told a meeting of the Russian Public Chamber in Moscow.



## Work Place Distraction – Truck and Rail Collision

The Transportation Safety Board of Canada's Final Report into the Derailment in MacKay, Alberta, Highlights the Preventable Nature of Heavy Truck and Train Collisions at Rail Crossings

GATINEAU, QUEBEC- The Transportation Safety Board of Canada (TSB) today released its final investigation report (R05E0008) into the **crossing accident** in MacKay, Alberta, on January 31, 2005. The report raises a number of **safety issues**, including the educational requirements for diabetic drivers, the lack of event recorder requirements for commercial vehicles, and the absence of a robust inspection system for commercial vehicles. **TSB investigators have also drawn attention to a number of occupant safety issues that were uncovered in the course of the investigation.**



While nearing the public crossing at Secondary Highway 751, the driver of a loaded logging truck **did not notice** an approaching VIA Rail Canada Inc. (VIA) train. Though he swerved at the last minute, **the truck collided with the north side of the lead locomotive**, derailing all nine passenger cars and both locomotives. The driver of the truck sustained serious injuries and was transported to hospital. In addition, one train passenger and one VIA employee sustained minor injuries.

In its investigation report, the TSB **emphasizes the role played by the driver's physiological condition** as well as **potential distractions** in the cab. The **factors considered** in analyzing the driver's state were **his blood sugar level, fatigue and dehydration**. Investigators have determined that the driver's **lack of attention to his diabetic** condition placed him in a physical and mental condition that likely impaired his ability to drive.

As well, investigators noted that **the driver opted to eat his lunch while driving and that his dog accompanied him in the cab of the truck. Both likely contributed to his not observing the automated advance warning crossing protection devices and approaching train.**

According to statistics compiled by the TSB, **inattention and distraction are frequent factors in accidents involving trucks and trains.** The MacKay collision also provides a stark reminder that, when a heavy truck and a train collide, it will often result in a derailment.

The TSB is an independent agency that investigates marine, pipeline, railway and **aviation transportation** occurrences. Its sole aim is the advancement of transportation safety. It is not the function of the Board to assign fault or determine civil or criminal liability.

## The Skyways of Death

"Insisting on perfect safety is for people who don't have the balls to live in the real world," so said Mary Shafer of NASA in 1960s. Indian aviation managers seem to be blissfully in agreement with the famous quote.

Fully knowing the unforgiving nature of air crashes, **every such disaster is attributed to almost a similar set of causes -- usually a curious mix of human, technical or natural factors.**



Every crash leads to a lot of hue and cry, **high-pitched blame game**, a high-profile probe, **search for scapegoats**, a set of expert recommendations and then a set of government pledges and announcements to tone up the air safety system. And soon the dust settles, **recommendations go junk and it's life as usual** -- like what happened after the July 17, 2002 Alliance Air crash at Patna airport **killing 60**, or when two foreign aircraft crashed over Charkhi-Dadri in Haryana in 1997.

The state-owned Alliance Air, whose aircraft are dubbed as **'engineers' nightmare'**, had put a big question mark over safety standards of Indian Airlines after Patna airport crash. Big questions were raised about the condition of Boeing 737s, **their maintenance**, vintage and usefulness, most of which remain largely unanswered till date. **The official word just pointed out the reason: Loss of control due to pilot error.**

The Boeing 737 involved in the Patna crash was to be phased out by the end of that year as per government guidelines not to allow any aircraft to operate beyond 20 years. Internationally, the norm is to not to fly a plane for more than 12 years, say aviation experts. **But many experts say that maintenance, rather than age, are the key.**

Experts cite eight incidents since 1970 when Boeing aircraft have crashed since being inducted into the Indian aviation fleet.

Aviation authorities, generally immune to criticisms, usually reject the allegations as "uninformed, sensational and highly opinionated". They even claim that India has one of the lowest rates of air accidents in the world.

Civil Aviation officials point out that insurance payments by Indian Airlines have come down to levels comparable with other international airlines and that it has actually saved up to Rs 1 billion in insurance premiums.

"An aircraft is not judged by its age alone, but also by the number of flights it takes," said a senior civil aviation official. "Every landing adds to the stress, and thus after a few years, there is a complete check on metal fatigue and stress, and only those cleared as airworthy are allowed to fly," he said.

**The experts find the official claims debatable.**

Former Union Civil Aviation Minister Madhavrao Scindia had once said the time had come to make it compulsory for airlines to dump an aircraft when they reach a certain age. **But the suggestion never cut through the red tape.**

However, the private airlines seem to be in good state of health so far as the age is concerned. While Alliance planes are between 17 and 20 years old, private aircraft in India are not more than five years old.

Aviation authorities agree that older planes are not only much costlier to maintain but also low in productivity. But they deny that these are unsafe. However, under public pressure, the authorities are indeed identifying such aircraft for greater monitoring.

**The locations and disaster control systems of Indian airports have also been a cause of worry. Illegal constructions, shanties, trees and human population make both landing and take-off hazardous.** Patna airport is a case in point but it is not the only one. Hyderabad airport too does not subscribe strictly to the safety code, which states that "the airport should be located far from densely-populated city premises". Patna airport has recorded more than 15 bird-hit cases since 1980.

As per a recent report by Airports Authority of India (AAI), **various critical equipment and navigational aids like the up-to-date instrument landing systems are lacking or need proper calibration.** And the report applies to all metro airports as well. As about the smaller airports where operations have been on the increase over the last few years, even more needs to be done.

Meanwhile, the AAI is also negotiating with the Defense Ministry for more air corridor space over Delhi - 70 per cent of the capital's aerospace is manned by the Air Force -and the rest is allotted to commercial aviation.

The frequent incidence of 'air misses' or 'near misses' between aircraft keep on reminding the aviation managers about the lurking air-travel dangers.

But in the welter of accusations, there is little doubt Indian aviation needs a push, and a modern one at that.

### *Staff As Important As Technology*

Despite the advances in technology, people rather than products can still be the most effective element in ensuring the highest levels of security in the maritime and aviation sectors.

That was the view of Andrew McClumpha, Director of Transport Security at BMT, speaking at the Maritime and Supply Chain Security Conference at London Olympia.

Focusing on the human factors within aviation and maritime security, Mr McClumpha told delegates that while staff working in the frontline was under increasing pressures, there was a constant need to raise the levels of performance.

“One of the challenges we face is how we acquire some ‘headroom’ for these staff to achieve even higher standards,” said Mr. McClumpha.

“So how well are we doing? Not very well at all, I would suggest. There is a wealth of documents detailing the need for improvement in human performance.”

He highlighted the issues of certification, competency assessments and selection and training as critical in the development of transport security staff, with the target of securing a 100 per cent effectiveness record.

Referring to the heightened state of security following the potential terrorist threat at airports over the summer, Mr. McClumpha continued: “After August, a lot of focus was placed on not looking at what people are carrying, but looking at the people who were carrying it.



“Individual attribute screening, based on verbal and non-verbal cues can be an important contribution to a total security solution.” However, such an approach was not always favored by organizations because “it cannot be plugged in and run on electricity, **it needs individual human skills,**” he added.

**“People, if integrated properly, are our most effective decision makers, given the standards of equipment we have.”**

## **Aircraft lands on the wrong runway (India)**

At least 70 passengers of Paramount Airways flight from Hyderabad had a miraculous escape last week when the **aircraft landed on the wrong runway** at the INS Diga airport of this coastal city. Airport officials said all passengers and crew were safe.



The ATR aircraft landed on the newly-built runway, which is yet to undergo in-flight calibration, instead of the one currently in use. Airport Traffic Controller C Pattabhi said the **pilot got confused** and landed on the wrong runway and lost control. The aircraft overshot the runway and halted in bushes on muddy land. **A major disaster was averted as the aircraft stopped a few meters from the area where construction materials were dumped.**

Fire engines and ambulances were rushed as a precautionary measure. While nobody was hurt, the accident created panic among the passengers. All flights to and from Visakhapatnam were cancelled for the day. The flight had taken off from Hyderabad at 9.55am and landed here at 10.55am. The director general of civil aviation has ordered an inquiry.

## **Dying For a Living in China**

The risks of toiling in Chinese coal mines go far beyond the possibility of dying in a methane explosion. According to state media there, **thousands of miners and cement workers die every year from "black lung disease" or pneumoconiosis.**

Black lung disease last year accounted for about 75 percent of 11,000 newly reported cases of occupational disease. Amazingly, more than 600 of the workers diagnosed with the potentially fatal disease were 18 or younger.



There are two forms of pneumoconiosis, one being the simple form. It is not usually disabling, although workers with the disease may experience shortness of breath and chronic cough. The complex form of black lung disease can lead to heart failure and emphysema.

China has a voracious appetite for electricity - two-thirds of which is generated by coal-fired plants. **About 17 workers die every day in mining incidents in China.**

Su Zhi, a spokesman for the Chinese health ministry, said that pneumoconiosis case numbers rose by almost 1.5 percent between 2005 and 2006.

## Worried or anxious? Tips for coping

Everyone worries or gets frightened from time to time. These are normal, even healthy, responses to threatening situations. But if you feel **extremely worried or afraid** much of the time, or often feel panicky, consider talking with your doctor.

**Anxiety** can make you so uneasy around people that you isolate yourself, missing out on social events and potential friendships. It can fill you with such obsessive thoughts or



inexplicable dread of ordinary activities that you cannot work. **Anxiety disorders** can be mild, moderate, or severe, but overcoming them generally takes more than just “facing your fears.” **Many people need help in dealing with these problems.**

There has long been a **stigma** surrounding getting help for **anxiety**. People are ashamed to admit to phobias and persistent worries, which seem like signs of weakness. Add to that the tendency of people with anxiety to avoid others, and you have perhaps the biggest obstacle to relief and recovery. Without treatment, many individuals become more fearful and isolated. In extreme cases, they are so imprisoned by their anxiety that they are unable to leave home.

Sigmund Freud regarded anxiety as the result of inner emotional conflict or external danger. While these factors often contribute to anxiety, **scientists now know that anxiety disorders are biologically based illnesses.** Sophisticated brain imaging enables scientists to trace the neural pathways of fear and anxiety. In the process, they’ve discovered certain brain abnormalities in anxiety sufferers. **Research also suggests that genes may contribute to these abnormalities.** This growing knowledge about anxiety has already led to safer, more effective treatments.

**Anxiety disorders, which include panic attacks and phobias,** affect about 19 million American adults and millions of children. For every individual with an anxiety disorder, many more are affected by it, including spouses, children, other relatives, friends, and **employers.**

The **good news** is that there are many therapies to help control anxiety and improve quality of life for sufferers. Medications can, in many cases, reduce or eliminate symptoms. Several types of psychosocial therapy, especially cognitive-behavioral therapy, also help by teaching people to adopt more positive thought and behavior patterns. Some medications under development may even help prevent anxiety disorders in people genetically predisposed to them.

### What If You Are Just Plain Worried?

Not everyone who suffers from frequent worry has an anxiety disorder. If you don't have anxiety disorder, but **think you worry too much, the following advice may help.**

- Practice **relaxation techniques.** Listen to music or to relaxation recordings to take your mind off whatever is worrying you. Or try **progressive muscle relaxation.**
- **Exercise regularly.** Studies have found that exercise improves mood and modestly decreases anxiety symptoms. Aim for at least **30 minutes of moderate activity on all, or most days.**
- **Consider biofeedback.** Biofeedback helps you become aware of your body's responses to **stress** and teaches you control them using relaxation and cognitive techniques.

## Exercise Shown to Reduce Likelihood of Repetitive Strain Injuries

After a hectic day at work, the couch undoubtedly looks more inviting than the gym. But people can add one more benefit to the list of **good reasons to exercise:** Research has shown that **an active lifestyle helps prevent work-related repetitive strain injuries (RSIs).**

Researchers at the University of British Columbia in Vancouver, Canada looked at nearly 60,000 full-time workers in their mid-teens to mid-70s who had experienced upper body RSIs serious enough to interfere with





their normal activities within the previous year. They were asked about their physical activities, the type of work they did and their overall health.

The study, reported in Arthritis Care & Research, found that **workers who exercised moderately three to four times per week were about 16 percent less likely than their inactive counterparts to report RSIs.**

Lead researcher Charles Ratzlaf, a physical therapist, said it makes sense that **three to four brisk half-hour walks every week** would be beneficial to the musculoskeletal health of someone who was **deskbound for 40 hours per week.**

**END**