



## Aviation Human Factors Industry News

July 19, 2007

Vol. III. Issue 25

### Brazil official denies runway to blame in crash

Sao Paulo (Brazil), July 19 (AP): A top aviation official denied that a short, slippery runway was to blame for Brazil's worst air disaster, in which at least 189 people were killed when a jetliner overshot its landing, collided with a building and burst into flames.



Armando Schneider Filho, director of engineering for the nation's airport authority, Infraero, said Wednesday that the runway at Congonhas airport meets international safety standards.

"I can confirm that there was no possibility of skidding on this runway," Schneider told a news conference. "Twenty minutes before the accident, Infraero performed a visual inspection of the runway and detected no problems. It was wet, but there was no accumulation of water."

Many experts have flagged the runway at Congonhas airport as a likely key factor in Tuesday's crash of an Airbus 320 operated by TAM Linhas Aereas SA.

None of the 186 people on board survived, TAM chief executive Marco Antonio Bologna said Wednesday. Three TAM workers on the ground also died, 11 more were hospitalized and five were missing.



Pilots have long likened Congonhas' 6,362-foot (1,939-meter) runway to landing on an aircraft carrier - if they don't touch down within the tarmac's first 1,000 feet (300 meters), they're warned to pull up and circle around for another try. **The ungrooved runway becomes even more treacherous when slick with rain.**

Two other planes skidded off the same runway Monday. And on March 22, a Boeing 737-400 overshot it in a heavy rain, coming to rest just shy of a steep drop-off to an adjacent highway.

**In February a federal judge banned three types of large jets from Congonhas airport, Brazil's busiest, but that ruling was quickly overruled an appeals court which said any safety concerns were outweighed by potentially severe economic ramifications. Airbus-320s were not covered under the court's ban.**

The airport has tried to improve the runway, recently **resurfacing it to provide better braking in rainy conditions. But the new surface had not dried enough for the next step, cutting deep grooves into the tarmac.**

On Wednesday, President Luiz Inacio Lula da Silva ordered federal police to investigate whether there were any irregularities in the renovation project.

Schneider said the runway would be grooved in August or September after the asphalt hardens. He added that it will remain closed for 20 days and thereafter will not be used in rainy conditions.

Jorge Kersul Filho, director of the Air Force's Center for Investigation and Prevention of Air Accidents, said the plane's flight recorders will be sent to the United States for analysis on Monday and it could take as long as 10 months before the accident's cause could be determined.

**"We are not discarding absolutely any possibility: human error, mechanical error or it could even be the runway," Kersul said. "But to say which factor was the dominant cause is premature at this stage."**

Kersul said **video of the landing showed the TAM plane was traveling at a very high speed** and it appeared the pilot tried to take off again before the crash.

**"He jumped over the avenue, an indication that he tried to take off. Otherwise he would have gone nose-down at the end of the runway,"** Kersul said, adding that it appeared the pilot had enough room to stop.

**The plane's pilot, Kleyber Aguiar Lima, and co-pilot, Henrique Stephanini di Sacco, both had more than 20 years of experience,** TAM said.

By Wednesday night, firefighters had pulled 175 charred bodies from the site where plane clipped a gas station and slammed into a TAM Airlines building. It narrowly cleared the airport's perimeter fence and rush-hour traffic on the highway.

International air safety experts have long warned of the danger of just such an accident on the short runway at Sao Paulo's airport, especially in heavy rain.

Jim Burin, director of the technical program for the Flight Safety Foundation, said the accident appeared to be caused by excess water on the runway.

“When it comes to plane excursion, it's usually contaminated runways, like it sounds like this one was with the water,” Burin said. “The length itself is not a problem, but the runway's condition is critical.”

## Jet skids off runway into Caribbean Sea, injuring 7

This dramatic photo came after an Aero Republica jet carrying 59 people skidded off a wet runway and into the Caribbean Sea in Colombia on Tuesday. [The Associated Press](#) says the accident caused minor injuries to seven people on board. “The Brazilian-made Embraer 190 plane operated by operated by Aero Republica was carrying 54 passengers and five crewmembers from Cali to Santa Marta, a tourist destination on Colombia's north coast,” AP writes. [Aero Republica](#) is a subsidiary of Panamanian carrier [Copa](#)



## Baggage Loader Locked in Cargo Hold

Airbus A330-300. No Damage. No Injuries.

The flight crew had just begun to taxi from the gate for a flight from Dublin (Ireland) Airport to New York the morning of Dec. 28, 2005, when they were told by an airport tower controller that [a baggage loader had been accidentally locked in a cargo hold](#). The crew returned to the gate, and the baggage loader was removed from the airplane.



The Irish Air Accident Investigation Unit (AAIU) report said that while the airplane was being prepared for departure, the baggage loader were told that one passenger might not be allowed to travel on the flight because of security concerns. The ramp agent asked the loading shift leader to locate the passenger's baggage, so that it could be unloaded if necessary.

[While checking the loading cards, the leader noticed that a bag intended for another flight had inadvertently been loaded into the incident aircraft.](#)

The leader told the ramp agent and a member of the loading crew, “Loader,” that he was going to retrieve the bag.

While the leader was in the cargo hold, the ramp agent told Loader 2 that the questionable passenger had been cleared by airport security personnel to travel on the flight. Leader 2 relayed the information to two other loading crewmembers but did not tell them that the leader had reentered the cargo hold. One of the crewmember gave the “thumbs-up” signal to a colleague, who secured and locked the cargo hold door.

“By this time, the leader had located the (misplaced) bag,” the report said.

“However, as the lights remained on in the hold, he did not notice that pushback had commenced. When the engines powered up, he realized that he was locked

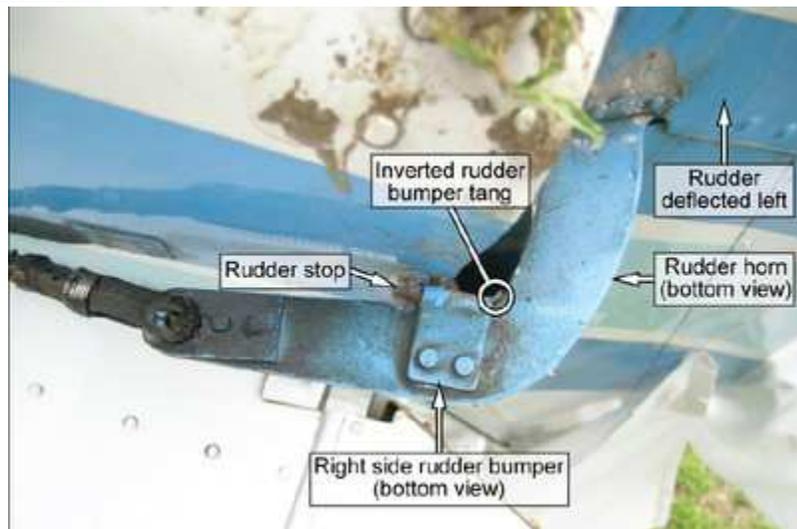
in...He phoned the base supervisors’ office and told them of the situation.

The incident was classified by the AAIU as serious. “(Other) cases have occurred where loaders have been inadvertently locked in a hold,” the report said. “Some years ago, a loader was locked in a hold for a two-hour flight from Philadelphia to Chicago. This was a traumatic event for this person.” Among AAIU recommendations generated by the incident investigation was for the development of standard operating procedures for the late removal of item from cargo holds.

## [AOPA Opposes Proposed AD On Cessna 150/152 Rudder Stops](#)

### [Fix Might Limit Rudder Travel](#)

The Aircraft Owners and Pilots Association tells ANN the pilot advocacy group is formally opposing a proposed airworthiness directive (AD) for Cessna 150 and 152 aircraft that would require the rudder stop, rudder stop bumper, and attachment hardware be replaced and safety wires substituted with jamnuts within the next 100 hours time in service or 12 months.



Instead of what would amount to be a costly AD, the group is proposing the FAA issue a special airworthiness information bulletin (SAIB), providing for a one-time inspection by the owner of the aircraft or a mechanic to check for proper installation. AOPA says this is an appropriate way to address what is ultimately a maintenance issue.

As ANN reported, the NTSB issued a safety recommendation in March based on **two fatal accidents** in the aircraft, one in Canada in 1998 and another in the United States in 2005. In both cases, **the pilots were practicing spins and were unable to recover because the rudders were jammed beyond their travel limits.** The proposed AD is based on that recommendation.

"What the FAA isn't taking into consideration is that in the 1998 accident, the aircraft wasn't airworthy before the flight; **in the 2005 accident, the rudder bumpers were installed incorrectly,**" said Rob Hackman, AOPA senior director of regulatory affairs. "This is an overreaction to maintenance issues that affected these aircraft prior to their respective accidents."

The AD would affect nearly 19,000 aircraft, and AOPA believes there is evidence to suggest that **the proposed fix could inhibit rudder travel.**

**A Canadian pilot, who had complied with a Canadian AD that required the same fix that the FAA is proposing, said that the enlarged rudder stop bolts that were required in the AD caused binding between the rudder and rudder stop bolts.**

## So far....So good. World airline safety

Worldwide airline safety has been better, statistically, in the first six months of 2007 than it has ever been for the same period. Although the number of deaths has been lower several times before, the number of fatal accidents globally has reached a record low.

There have been only 11 fatal accidents to 30 June this year, taking into account all categories of commercial airline operations, including cargo. The lowest previous total was 12, achieved in the first six months of 2003 and 1984. In 1984, however, the amount of traffic was about one-third of what it is now. **The number of fatalities to 30 June this year was 312,** which is below the average for the past 10 years, but in some years it has fallen much lower than that because casualties per accident were fewer.



In fact most of the fatalities this year occurred in just two accidents: the Adam Air Boeing 737-400 in Indonesia (102 deaths) and the Kenya Airways 737-800 in Cameroon (114 deaths)). All the crashes except one (Kenya Airways) involved veteran aircraft, and they occurred in parts of the world where accident rates are consistently above the global average and serious accidents are still relatively common.



By contrast, there has been no fatal jet accident involving a major Western European, North American or Australasian carrier since the November 2001 crash of an American Airlines Airbus A300-600 at Belle Harbor, New York, and that applies also to the great majority of major intercontinental carriers from other regions.

### Age factor

This year's Kenya Airways crash happened to involve a new 737-800, and it was only the second fatal accident affecting a Next Generation 737 in the 10 years since the series went into service. Because most recent crashes in African countries and elsewhere have involved veteran jets and turboprops, **some nations have been considering removing certificates of airworthiness from old aircraft, including 737-200s and aircraft of similar vintage, in the belief that aircraft age is a major factor in crash causes.** In 2002, Russia decided to revoke permanently the operating certificates for the 17 remaining Ilyushin Il-18 four-engined turboprop airliners following an accident, even though none of them was as old as the 1947-built Grumman Turbo Mallard that crashed fatally in the USA in December 2005 operating a scheduled passenger service.

Nigeria, for example, is considering grounding all commercial transport aircraft beyond a certain age on the premise that it **cannot guarantee their structural and electrical safety when maintenance becomes a much more extensive - and expensive - job.** The results of the inquiry into the Kenya Airways accident will inevitably confirm that taking such measures is not enough on its own.

### Special regulation

Taken to extremes, however, the operation of very old aircraft in public transport roles needs a special form of regulation, according to US National Transportation Safety Board chairman Mark Rosenker. At a public hearing last month on the Chalks Ocean Airways Mallard crash, Rosenker said: **"This accident tragically illustrates a gap in the safety net with regard to older airplanes. The signs of structural problems were there - but not addressed."**

The technical accident report gave the probable cause as **"the failure and separation of the right wing, which resulted from the airline's failure to identify and properly repair fatigue cracks in the wing, and the failure of the FAA to detect and correct deficiencies in the company's maintenance programme".**

Considering this and other structural failure accidents to very old airframes, last year the NTSB had recommended that the FAA eliminate an exemption that allows aircraft with fewer than 30 seats type-certificated before 1 January 1958 to forgo

certain supplemental inspections that would reveal fatigue faults. That exemption applies to about 80 transport aircraft on the US register.

Meanwhile, some **soul-searching** is going on in the USA about a consistent and demonstrable safety vulnerability in one particular sector. In the first six months of this year, the USA has seen **four runway incursion events** that came close to



being disastrous, and this reflects previous recorded experience. This has given the NTSB's Rosenker another reason to attack the FAA, which has been independently taken to task in a report by the Department of Transportation watchdog agency the Inspector General's Office. **The IGO says the number of runway incursions in the USA has not fallen during the past five years despite action by the FAA.**

Dangerous events continue to occur at four major international airports: in FY2005 and 2006, says the IGO, **Boston Logan airport suffered 22 runway incursion incidents (one severe), Chicago O'Hare 15 incidents (five severe), Los Angeles International 16 (two severe) and Philadelphia 16 (one severe).** According to the IGO, the specific local remedial actions that have now been carried out by these airports were not adopted until after a serious runway incursion had occurred.

Rosenker says one causal factor in these events is the failure of the airport movement area safety system to perform as intended. **So Africa and Indonesia may have their problems, but no country, however advanced, is immune from safety challenges.**

## **Children's Hospitals Using Safety Tools From Aviation To Cut Mistakes**

According to a recent study in the New York Times, "Medication Errors Are Studied," **12% of children undergoing surgery experience some sort of medication error.** This **error rate** is significantly higher than the 5% risk associated with all adult patients. **Medication errors often result from teamwork failures and miscommunications.**

Recently in the Mid-west, two premature babies died after accidentally receiving an adult dose of blood thinner medication. The drug, heparin, typically leads to internal or external bleeding. Another report on FoxNews.com revealed that a third baby died just days later for the same reason. **Other reports concluded that this was not the first time this hospital has administered an overdose of heparin.**

**To avoid these kinds of tragedies, some of the best and safest children's hospitals are turning to a proven aviation-based safety systems known as Crew Resource Management (CRM) and Maintenance Resource Management (MRM).**

CRM/MRM has been used in the aviation industry to teach pilots, flight attendants, and **mechanics** the importance of **team performance and communication skills to reduce error.**

LifeWings, the country's largest provider of CRM-based systems in healthcare, is implementing the CRM system at Vanderbilt Children's Hospital (VCH) in Nashville, TN. VCH is one of 70 LifeWings clients, several of whom are children's hospitals.

"The medical teams we work with are in many respects just like the flight crews we've worked with in aviation. They provide incredibly good individual care. But unlike aviation, sometimes the system of care in hospitals makes it difficult to coordinate and collaborate their efforts," says Captain Stephen Harden, President and Co-founder of LifeWings.

"And because children can't crosscheck what their doctor or nurse is doing, it is critically important to have a proven safety system in place to provide this function for them."

VCH is one of the best hospitals in the country and **they are taking ground breaking steps** to ensure their safety systems support the incredible care their physicians and nurses are giving. "It's the hospital where I would take my own children. I know they will get great and extremely safe care there," adds Captain Harden.

## H Factor

### Make sure the tool fits the mechanic



By [Bill O'Brien](#)

#### AMT Contributor

**The science of human factors is not a new one.** The first meeting of the Human Factors Society was held in the United States in 1957. Back then, human factors practitioners first concerned themselves with the elements of human performance and included at least one psychological component. **But for the most part, human factors training stayed under the radar screen for 30 years until the tragic Aloha accident on April 28, 1988.**

Those pictures of a convertible B-737 on TV every night for weeks **propelled the science of aviation maintenance human factors** into the spotlight. So much so that in the last 19 years we have witnessed the birth of many different variations of human factors programs **designed to reduce human error**. A few of these programs have been successful, many have not.

Please do not misunderstand me. I strongly support human factors training especially for mechanics. **I believe that all human factor/safety programs can provide good results in reducing human factor accidents and improving safety in the short term.**

However, their long-term success rate is dismal. Too many human factors initiatives fail to last the long term because the safety culture within the organization starts to break down due to combinations of internal and external stressors. Problems arise like key employees and managers leaving, escalating manpower costs, lower profits due to fierce competition, and additional marketplace pressures that nibble at the ankles of the company's human factors program, until it falls over.

### Short-term success

Perhaps the biggest enemy of an in-house human factors program is short-term success. After all, managers believe that they no longer have to worry about accidents any more; they have a safety team in place. Employees think the same. But as I said earlier, in the short term accidents do go down, life is good, and it doesn't take long for complacency to dig in to the organization like an Alabama tick.

But as time goes by, these negative stressors frustrate empowered safety employees. They slowly lose management and employee support along with resources to improve safety. It's a losing battle, so it's no wonder that even the most committed finally give up and the company's human factors program dies a slow, quiet death; a victim of its own success.

While the failure of a human factors program in an organization is sad, what is worse is how difficult it becomes to sell a brand new company human factors safety program to the employees. The employees see it as another safety program de jour and sing the company song, nod their heads at the appropriate times, but never buy in because they know it will be gone tomorrow. After all they reason, the last program died, so will this one. I think the PhD's call this a self-fulfilling prophecy.

Market factors aside, I wonder how else can we keep these programs from failing in the long term. After all, the majority of accidents are caused by humans. Accidents cost the company tons of money so why not infuse a safety culture into the company's organization? However, to infuse anything new into an organization's chain of command is difficult because changing the culture requires more than just organizational changes. It requires the incorporation of, and commitment to, new ideas. For many this is difficult. Why? Because like the old saw says: all men are afraid of the dark and maintaining the status quo is always the choice of lazy men.

### Description of a mechanic

But still the questions remain: "Why do these kinds of programs fail in the long term?" "Why is the intermix between safety and mechanics more difficult than with other groups?" Perhaps one of the most glaring discrepancies I have found doing research for this article is that I could not find a maintenance human factors

**program that took the time to identify a mechanic.** Oh the maintenance tasks were defined, each job-function was locked down, and recordkeeping requirements spelled out.

**But no where in the program did it define who we are.** The designers of these programs always started with procedures to make each maintenance task error free. **They should have started with identifying the human who was doing the task. Since a culture is defined by who people are, not by what they do, is it no wonder**

**safety programs start to unravel** in the long term because the glue that holds the safety program in the organization, **the “H” factor**, the human, was missing from the start.

Figuring out who is a mechanic is not that hard to do. Logic demands answering a series of questions like: **“What are his physical and psychological profiles?”** **“What are his strengths; what are his weaknesses?”** **“What does he need, and what can he do without?”** **“Is the average mechanic an extrovert or an introvert?”** **“What are his communication skills?”** **“What is the average level of education?”** **“Is he a process or goal-oriented individual?”** **“How does he think?”** **“How does he learn?”**

**What are his core beliefs and values?”** Ask enough questions and a profile of a mechanic will appear. **From this profile, the company’s human factors program can be designed to meet the mechanic’s needs and not the other way around.** By the way, this would make an excellent subject for an FAA research paper that besides answering the question who is a mechanic, it would also shed some light on why fewer people are choosing this profession.

### Custom-designed tools

The point I am trying to make is that in order to ensure the success of any new program to reduce maintenance human error, **the company management must first realize that all human factors programs provide only the “tools” to reduce human error in an organization.** These “tools” must be custom designed for the mechanics on the hangar floor. The program has to be dynamic in concept and visual in presentation. Why visual? Because even **I know all mechanics are visually based people.**

**We have to see the problem before we can fix it. By way of explanation the very best safety presentation I ever saw was a pair of safety goggles hung on a hangar wall over a 10-inch grinder. The left lens of the safety goggles had a chunk of 1/4-inch steel about an inch long stuck into it. The pencil-in sign above it simply said: “Use it or lose it!” Every mechanic used safety goggles when they used that grinder.**

On June 22, 2006, the FAA published an excellent **Advisory Circular AC 120-92** titled: *Introduction to Safety Management Systems for Air Operators.*



The AC is designed to sell the Safety Management System (SMS) to large air carriers. To its credit the FAA is taking the next step to take SMS to smaller Part 135 and Part 145 repair stations later on this year.

In way of showing my support for the FAA's SMS effort, I am going to try to make their initial sales pitch to Part 145 and Part 135 managers a little bit easier. Because the hardest thing about selling safety is trying to convince a manager of an organization that has not had an accident in six years, that he needs a safety management system.

So to reduce the initial resistance to the SMS, I dreamed up a series of 20 questions based on areas of concern that have caused safety problems in the past. The company manager should be the one who takes and grades the test. He makes the determination whether or not the company needs to set up a SMS by deciding if they are tiptoeing on the edge of disaster or living the good life in safety city. Let's give it a try.

#### Questions:

1. Are there **safety signs or posters visible** throughout your facility? This is at least recognition of the need for a safety culture.
2. Do you have a disaster plan in place? In case of an accident or heart attack, do you know the location and telephone number of the nearest hospital, police, or fire department? Do your employees know the numbers? How many know CPR?
3. If you are a small shop (15 employees or less), do you know your employees' spouses' names? If not, you may have a communication problem.
4. How much rework was done last year due to employee or management error? If more than 3 percent of your total invoices was rework, then you have a quality problem or the employees **are tired from too much overtime.**
5. Did you have any human errors in the last year? How were these human factors errors addressed? Did the same ones happen more than once? **Recurrent problems are a danger signal** that says more than just one thing is wrong within the company.
6. **How much overtime** was paid out last year? If it was more than 2,500 man-hours, you need a new employee.
7. **How many safety meetings/fire drills** do you hold a year? No meetings, then your organization has an Alabama tick on the payroll.
8. **Have you ever asked** an employee or another manager on how the company can prevent an accident from happening? If not, why not?
9. **How many mechanics** have a black book or cheat sheet stashed in their toolbox on which frequently used torque values or part numbers are written? **Is the data current?** Can your employee prove it? Maintenance manuals do get revised.
10. **How many employees own their own special tools?** When were they calibrated last? Is the special tool equivalent to the manufacturer's special tool? Can you prove it?

11. **Is a mandatory tool inventory taken after each inspection or repair?** If not, how do you know if any tool is missing?
12. **Are shift change procedures in place?** Have you ever witnessed a shift change in the last six months?
13. **Have employees' vision been tested within the last 18 months?** Are dust masks or other forms of breathing protection available and being used?
14. Are one or two employees' getting the majority of the available overtime than the other employees? If so you have a training problem.
15. **Are the maintenance manuals being used at each workstation?** Are there enough manuals to go around? No manuals visible, then the employees are winging it.
16. **Count the number of inoperative tools, equipment, jacks, etc.** More than three, you have a problem. Of the jacks being used, how many leak?
17. **Can you read a newspaper in the darkest area of the hangar or work space?**
18. **What is the average temperature** of the hangar in the winter and summer? Check the OAT on the next airplane in the hangar for the temperature. For a better assessment of the temperature, the manager should spend three days a week on the hangar floor in January and August.
19. **What is the average noise level in the hangar?** Are ear muffs or plugs available and being used? If the compressor is louder than your mother-in-law's whisper, you have a noise problem.
20. **How much time is spent on training for each employee?** No one is fully trained, no one is completely safe, no one is error free.

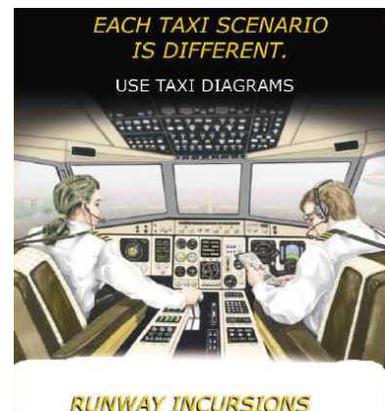
In closing, if you decide that your company needs to incorporate a company human factors/safety management system do yourself a favor. **Don't forget the "H" factor. For long-term success, make sure the SMS tool fits the mechanic's hand and not the other way around.**

## **2 planes nearly collide on Fla. Runway**

FORT LAUDERDALE, Fla. -- **Two planes came within 100 feet** of colliding at Fort Lauderdale-Hollywood International Airport **after one missed its turn onto a taxiway and entered the runway** where the other was about to land, federal authorities said.

Air traffic controllers noticed a plane entering a runway Wednesday as Delta Flight 1489 approached the same runway for a landing, Federal Aviation Administration spokeswoman Kathleen Bergen said.

**The controllers alerted the Delta crew to pull up** and circle the airport to avoid United Flight 1544, which had missed a turn onto another taxiway, Bergen said.



Investigators were focusing on what caused the United flight to veer into Delta's right of way, Bergen said.

Spokeswomen for Atlanta-based Delta Air Lines Inc. and Chicago-based UAL Corp.'s United Airlines did not immediately return messages Thursday seeking comment.

The near-miss, or "runway incursion" in FAA terminology, is under investigation, Bergen said.

The Fort Lauderdale-Hollywood airport had three runway incursions during the 12 months that ended May 31, according to FAA records. **Two were blamed on pilot error** and the third was ruled an air traffic control error. Nationwide, the FAA reported 330 runway incursions in fiscal year 2006.

## Human Interest Story

### Former Air Force chief master sergeant dies

WASHINGTON — **Former Chief Master Sergeant of the Air Force** Gary Pfingston died Saturday after a battle with cancer. He was 67.

Pfingston was the **10th chief master sergeant of the Air Force, serving as the highest enlisted airman** from Aug. 1, 1990, until his retirement in 1994 after 32 years in the service.

In a statement released Tuesday, current Chief Master Sergeant of the Air Force Rodney McKinley called Pfingston "a shining example of service to our nation."



Pfingston, an Indiana native, played minor league baseball before enlisting in the Air Force in 1962.

**He attended aircraft mechanics technical school** at Amarillo Air Force Base, Texas, in the summer of 1962 after graduating from Basic Military Training, Lackland AFB, Texas.

**He served as an aircraft mechanic and B-52 crew chief, then became a military training instructor in 1973.** He later became commandant of the service's Military Training Instructor School and served as a senior enlisted adviser at a number of bases, including Pacific Air Forces Headquarters at Hickam Air Force Base in Hawaii.

"He didn't just fix it when it broke," said General McPeak. "He kept things from breaking, the whole idea of preventive maintenance. During the early 1990's, in the long post-Cold War drawdown, he helped keep the enlisted force from breaking. In fact, with his leadership, the Air Force may have gotten smaller, but it also got better, and became a tougher, sharper instrument for protecting the country," said the general. "That's why I think of him first as a masterful crew chief, then as a magnificent chief master sergeant of the Air Force."

As chief master sergeant of the Air Force he created the Career Field Education and Training Plan, three-level and seven-level technical schools for all career fields, and mandatory in-residence Professional Military Education schools.

Air Force officials said he remained involved with the service after retiring, speaking at Air Force Senior NCO Academy graduations and military schools.

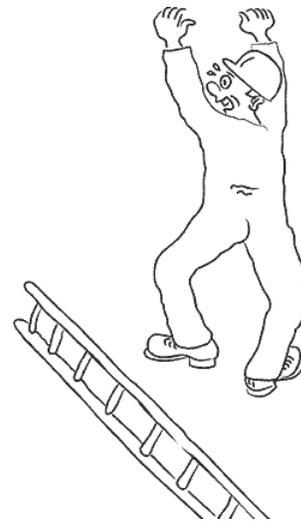
"You manage things and you lead people," he said in a 2006 Air Force News Service interview. "You do that by being up front, honest, sincere and visible. I've always felt strongly that you can't ask somebody to do something that either you won't do, or that you haven't done someplace along the line before. It's not 'do as I say, not as I do' -- it just doesn't work that way."

## Ladder Injuries Climbing According to Study

Non-fatal injuries associated with ladder use have jumped 50 percent between 1990 and 2005. While researchers at the Center for Injury Research and Policy at Columbus Children's Hospital in Ohio aren't certain why ladder-related injuries are increasing, they suspect a surge in home improvement activity is driving the numbers higher.

Study co-author Lara Trifeletti says the results are somewhat alarming and there's obviously a need for some prevention strategies to bring ladder injury numbers down. The researchers looked at 2.2 million non-fatal ladder injuries during the 15-year period and found that 75 percent of those injuries involved males.

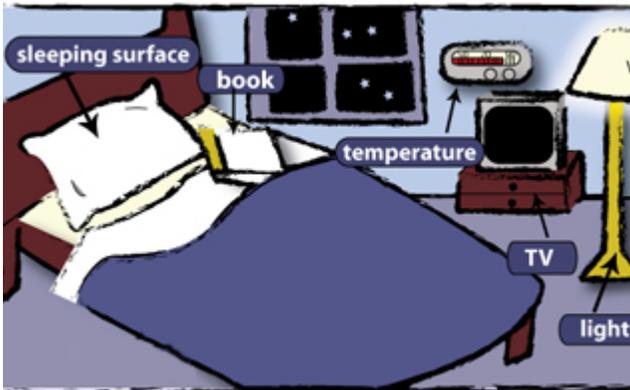
Ninety-seven percent of the injuries were non-occupational in nature. Trifeletti says most people view a ladder as a benign tool when compared to a power saw, but using both the wrong way can be equally deadly.



## Midnight Shift Nugget

How much do you know about your sleep environment? Test your knowledge!

Open the attached **PDF** to this e-mail.



---

## AUDIO SAFETY TALKS!

### Getting There Safely!

You may spend hours on the highway every single workday. In fact, **your commute to work may be the most dangerous part of your day.** You might have to contend with isolated parking areas, crazy motorists, tripping hazards and all sorts of other dangers. You need to be aware of the hazards of traveling the roads in order to avoid them. **This safety talk will help you think about those dangers and plan to get around them safely.**

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

<http://www.safetysmart.com/ezone/070709/talk.mp3>



END