Aviation Human Factors Industry News

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Three AI engineers suspended for nosewheel crash

MUMBAI: Three Air India (AI) engineers have been suspended pending inquiry into Friday's incident in which the nose gear of one of its aircraft collapsed during a routine pre-flight inspection.

"An inquiry into the incident has begun and one aircraft maintenance engineer, one assistant engineer and one service engineer have been suspended," said an AI spokesperson. The damaged aircraft was taken back to the AI hangar on Friday night.

The mishap occurred in the afternoon when a leased Boeing 777-200 ER was being readied to operate a Mumbai-Dubai flight.

The plane was berthed in a nose-in bay with its door opening into an aerobridge tunnel. "The engineer retracted the aircraft's landing lever without putting the nose-pin in place. A nose-pin is a titanium pin fixed on top of the nosewheel during ground inspections to prevent the nosewheel from collapsing into aircraft when the landing lever is retracted," said the source.

"Retracting the lever without putting the nose-pin is done only after the plane is airborne. In this case, the nosewheel went back into its retracted position and the aircraft nose, along with its twin engines, hit the ground," the source said.

The landing lever is tested in the hangar and not when aircraft is in the parking bay ready for a flight, say sources. While the losses to the airline would run into revenue losses due to non-availability of aircraft, the extent of damage would only be known after thorough inspection.

One of its doors (L-2)-the one which was inside the aerobridge-has been completely damaged. The two engines also bore the brunt.

"Our engineers and those from Boeing will inspect the aircraft. We will ascertain the extent of the damage only after that," said an airline spokesperson.

The Directorate General of Civil Aviation has also initiated an inquiry into the matter.

NASCAR: Bad wiring caused plane crash

Feds note report of 'burning smell' day before

On a routine flight between NASCAR headquarters in Daytona Beach and North Carolina, Van Brendle detected a burning smell in the cockpit of his Cessna 310R after his weather radar failed.

The smell quickly dissipated once the pilot pulled the radar's circuit breaker, and he landed without incident. In a standard maintenance write-up, he underlined the word "burning" three times.

A copy of the report was still in the plane the next morning, July 10, when Dr. Bruce Kennedy and Michael Klemm took the Cessna for a recreational flight to Lakeland. Ten minutes into that flight, they declared an emergency, telling air traffic controllers in Orlando there was smoke in the cockpit.

Four minutes after that, they and three others -- including an infant and a 4-year-old girl -- were dead after the plane crashed into a quiet Sanford subdivision, destroying two houses.

The maintenance write-up was a focal point of the 160-page public docket released last Friday by the National Transportation Safety Board. The report -- a summary of facts and findings in the fatal crash -- provides no conclusions about the accident's probable cause. That will come in a final report due out this summer, NTSB officials said.

Friday's report also included a 23-page analysis submitted by NASCAR, which owned the Cessna as part of a nine-plane fleet based in Daytona Beach and Concord, N.C.

The NASCAR analysis -- written with the aid of an aircraft safety consultant and a former NTSB investigator -- concludes the fatal crash was caused by electrical wiring unrelated to the radar. Flammable insulating material installed by the manufacturer created "copious amounts of thick, toxic smoke" that incapacitated the pilots, the report states.

"I would let that (report) speak for itself," NASCAR spokesman Ramsey Poston said Friday. "The fact-finding process is continuing, and we don't want to get out ahead of that."

While typically three out of four general aviation accidents are blamed on pilot error, a News-Journal analysis of Federal Aviation Administration data shows that the majority of cases in which investigators note smoke in the cockpit are caused by mechanical problems.

The NTSB report includes evidence to support the theory that the pilots were unconscious when the plane crashed at 8:36 a.m. One of the cockpit doors appeared to have been torn off at the hinges, suggesting the pilots opened the door to aid in venting the smoke. About one minute shy of an emergency landing at Sanford Orlando International Airport, the plane suddenly veered to the right. Witnesses said the wings were "teeter tottering," and the landing gear had not been deployed.

The report shows the pilots were killed by the impact. It's unclear who was in control of the plane just before the crash, although Kennedy, 54, the husband of International Speedway Corp. President Lesa France Kennedy, had been identified as the flight's pilot. Klemm, 56, was the more experienced flier. In fact, Kennedy was not permitted by NASCAR to fly without Klemm, according to statements in the report.

It was Klemm, who'd worked for NASCAR since 1985, who signed off on the plane's readiness to fly. Brendle told investigators he'd told Klemm about the burning smell. But visibility was good that morning, and Klemm didn't seem to think they'd need the weather radar.

"I know about the radar," he told the plane's mechanic, Juan Solis, according to an NTSB witness report. "I don't give a shit about that. I'm taking the airplane."

Solis told the NTSB he hadn't seen the write-up himself. In retrospect, he didn't think Klemm understood its severity.

"I would not have released the airplane had I read this write-up," Solis told investigators. "I would not have released the airplane. I would have told him no."

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Yet, with the electrical supply pulled, the radar could not have caused the fire that created the cockpit smoke, the NASCAR report points out. Evidence of burned wiring found in the crash came from the navigation/communication radios, according to a Cessna representative working with the NTSB.

The NASCAR report concludes that wiring may have been the source of the electrical fire. PVC insulation on the wiring -- installed when the plane was built in 1977 -- added to the problems, the report states, because it is both susceptible to burning and creates fumes that can quickly incapacitate a pilot in an enclosed cockpit.

The report cites studies of military and commercial airplanes that found the wire insulation deteriorates with age. The Federal Aviation Administration put out an advisory warning that wiring with PVC insulation doesn't meet its flammability standards for commercial aircraft.

"Unfortunately, this information was not shared with the owners and operators of general aviation aircraft including the accident aircraft," the NASCAR report states.

http://www.ntsb.gov/Dockets/Aviation/NYC07MA162/392068.pdf

AAIB: BA Boeing 777 had low pressure in fuel pumps when it crashed

The U.K. AAIB issued special bulletin, describing their progress in the investigation into the Boeing 777 accident at London-Heathrow in January, 2008.
The report states: "The high pressure (HP) fuel pumps from both engines have unusual and fresh cavitation damage to the outlet ports consistent with operation at low inlet pressure.
The evidence to date indicates that both engines had low fuel pressure at the inlet to the HP pump. Restrictions in the fuel system between the aircraft fuel tanks and each of the engine HP pumps, resulting in reduced fuel flows, is suspected." (AAIB)

Cause of Jet Crash Remains Elusive

As the hulking passenger jet approached London's busiest airport after a long flight from China, the inexplicable happened: Both of the plane's engines sputtered and essentially died.

There was little the British Airways pilots could do to keep the Boeing 777 in the air. Within seconds, the twin-engine jet pancaked spectacularly to the ground. The plane was wrecked beyond repair.

Although no one was killed in the Jan. 17 crash, investigators are facing extreme pressure to determine what brought down the 777 in an accident that has quickly become one of aviation's modern mysteries.

The wide-body 777 is one of the world's most popular long-haul jets, ferrying tens of thousands of passengers a day across the globe. The crash has also raised questions about how airlines operate an increasing number of long flights over remote and harsh areas of the world.

British authorities have not said much publicly about the accident. They released a report last week saying they suspected that the plane's fuel flow became restricted somewhere between the engines and the fuel tanks. They did not indicate what they thought caused the blockage. Ice collecting in or near an engine component has emerged as the prime suspect, according to sources familiar with the investigation who spoke on condition of anonymity because they were not authorized to discuss the probe.

It is ironic, outside experts said, that investigators have not figured out what caused the jet to crash about 1,000 feet short of a runway at Heathrow Airport. Investigators expected a quick resolution because they have obtained more data and information about the accident than any they can recall in aviation history, according to sources and outside experts.

They have interviewed passengers and crew members. They recovered every key part of the plane, allowing them to test the jet's components. They retrieved the plane's flight data recorder, cockpit voice recorder and a separate data recorder installed by British Airways.

"This is a great mystery, and I never expected this accident to be this difficult to solve, given the state-of-art tools on the plane and the fact that the aircraft was largely intact," said Bill Voss, president of the Flight Safety Foundation, an organization that advocates for improving aviation safety. "This has potentially broad implications that go beyond this one airplane, depending on what they find."

A spokesman for Rolls-Royce, which made the plane's engines, declined to comment.

"We suggest people avoid speculation and wait for the formal publication of findings at the conclusion of the inquiry," the spokesman, Martin Johnson, wrote in an e-mail.

Spokesmen for Boeing and British Airways also declined to comment, citing company policies against making public statements before investigators have concluded their work.

British Airways Flight 38 began like any other for its 16 crew members and 136 passengers when it took off from Beijing about 10 a.m. Jan. 17.

The plane headed over Siberia and skirted the Arctic, far from emergency airports. For years, regulators have generally limited such flights on twin-engine planes because they worried about engine failure. But engines have become so reliable that U.S. regulators have steadily loosened those limitations, including restrictions on flights over the North and South poles. The Boeing 777, especially versions designed to fly extremely long distances, has become the workhorse of many of those routes.

During portions of the British Airways flight, the outside temperature was as low as minus-49 degrees. Experts said such temperatures should not have been a particular concern to the crew.

The lowest recorded temperature of the plane's fuel was minus-29 degrees, well above the freezing point of minus-70. Investigators found that the fuel did not have "excessive" amounts of water in it, which can cause engines to freeze and block fuel lines.

Toward the end of an otherwise uneventful 10 1/2 -hour flight, the plane was nearing Heathrow about 10:40 a.m. London time. About 800 feet above the ground, the plane was configured to land, and the copilot had taken the controls.

About this time, the plane's auto-throttle system commanded the engines to increase thrust to keep the plane on its proper glide path to the runway.

The engines initially responded, but then the right engine's thrust subsided. A few seconds later, thrust on the left engine dropped off. The engines did not quit, but their thrust was too weak to keep the plane airborne. The plane slowed and lost lift. Then it smacked to the ground, according to investigators and witnesses.

At first, investigators thought the plane might have experienced a computer glitch that led to the reduction in thrust. Aircraft are becoming increasingly reliant on computers to control their movement and engines. The possibility of such a failure worried investigators, according to sources familiar with the investigation.

But the recorders quickly disproved that theory, revealing no errors in the computer signals sent from the cockpit to the engines, according to reports and sources. Meanwhile, investigators were looking at the plane's fuel supply. An empty gas tank would have led to a thrust reduction, but the plane's tanks still contained plenty of high-quality fuel, investigators said in reports.

When they took apart the engines, investigators found evidence on pumps that the engines had been starved for fuel in the moments before the crash. That led them to conclude that the fuel supply had become blocked somewhere between the plane's tanks and its engines.

Sources familiar with the probe said engineers suspect that ice collected in or near a fuel-oil heat exchanger on each engine, blocking the fuel supply. The heat exchanger uses cold fuel to cool hot engine oil and the hot engine oil to warm fuel before it is injected into the engines. The heat exchanger is the only point in the system that engineers have not yet eliminated as the potential bottleneck, the sources said.

But the ice theory is not perfect. Plenty of jets fly through cold weather, and the 777's fuel contained additives designed to prevent it from freezing under such conditions.

Outside experts noted that the ice theory seems implausible for another reason: Each engine should have been drawing fuel from a separate tank. The chances of ice breaking off in separate fuel tanks and blocking the fuel supply in each engine at nearly the same moment is almost too tiny to comprehend, said John Goglia, a former member at the National Transportation Safety Board, which investigates air crashes in the United States.

"This isn't supposed to happen," Goglia said. "These are two independent systems."

Court Finds ATC At Fault For Fatal Helicopter Crash

A federal judge in California said this week that air traffic controllers at the Torrance Municipal Airport made a critical mistake in November 2003, resulting in the collision of two helicopters in flight. The NTSB report, issued last May, found the surviving pilot, a student flying an R22 solo, had caused the crash, by failing to comply with an ATC clearance. Two men in a Robinson R44 helicopter on a training flight died when it crashed to the runway and exploded. The R22 pilot survived with serious injuries.

The judge said the two controllers involved "failed to issue clear and concise instructions" to the pilots and acted "negligently and carelessly," the L.A. Times reported on Wednesday. The two pilots were maneuvering in the traffic pattern above parallel runways and were in positions where neither pilot could see the other when ATC reportedly told one of the pilots to turn, putting the two aircraft on a collision course, the Times said. The NTSB final report says the R22 pilot crossed runway 29R, where the controller had directed him to land, and was heading toward 29L when the collision occurred.

The case was brought to court by families of the three victims, who filed a civil lawsuit against the FAA. Testimony was heard for 11 days. An FAA spokesman declined to comment on the case, The Associated Press reported. "The tower should have been staffed with four controllers, but instead had just three at the time of this crash, as the ruling affirmed," Doug Church, spokesman for the National Air Traffic Controllers Association, told *AVweb* on Wednesday. "Like the Comair crash in Lexington, when a facility is understaffed, it is unsafe and tragedy can result."

OSHA Cites United Airlines for Workplace Safety Violations and Proposes $215,500 Penalty

OSHA has proposed $215,500 in fines against United Airlines Inc. in Chicago for alleged multiple serious and repeat violations of federal workplace safety standards.

OSHA selected United Airlines for inspection after reviewing occupational injury and illness data, which included ramp services, customer service areas, air freight, aircraft and ground equipment maintenance, building/facility maintenance, business operations, strategic procurement, medical facilities and flight attendant operations. As a result of its inspection, OSHA issued 43 serious violations and four repeat violations.

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The serious violations address hazards associated with fall protection, hazardous energy control procedures and training, storage of oxygen and fuel-gas cylinders, platform load ratings and electrical hazards. The four repeat violations, based on citations issued and affirmed in 2006 and 2007, cover machine guarding and electrical issues. Proposed penalties for the repeat violations alone total $57,500.

"Falls, electrical hazards and machine guarding issues, as well as energy lockout/tagout procedures, which are intended to prevent accidental start-up of machinery during maintenance, are problems that should not exist at any worksite," said Diane Turek, director of OSHA's Chicago North Area Office in Des Plaines, Ill. "They are problems that can be avoided if an employer is dedicated to protecting employees. Employers must remain dedicated to keeping the workplace safe and healthful, or face close scrutiny by this agency."

Since 2004, OSHA has inspected United Airlines 22 times at various locations nationwide. United Airlines operations at O'Hare International Airport have been inspected eight times since 2000 with only three of those inspections resulting in citations.

OSHA operates a vigorous enforcement program, conducting more than 39,000 inspections in fiscal year 2007 and exceeding its inspection goals in each of the last eight years. In fiscal year 2007, OSHA found nearly 89,000 violations of its standards and regulations.

Smoking Rivets

CALLBACK ASRS
From NASA's Aviation Safety Reporting System

In mechanic's parlance, a "smoking rivet" is a loose or working rivet whose vibration causes a black streak trailing aft. Smoking rivets may be acceptable for continued service for short periods of time under the limited conditions outlined in the aircraft's Structural Repair Manual (SRM). The trick seems to be digging deep enough into all the footnotes in the SRM to determine exactly what the limitations are, as an air carrier Maintenance Controller reports:

- **The foreman called for the deferral of a working rivet and edge delamination on the aileron trim tab. The foreman stated that the rivet was smoking and delamination was within limits per the SRM for deferral for repair. I instructed the foreman to verify the limits and make an interim repair. The time limit was 25 hours for [final] repair. While researching a similar problem [later], I found a reference that states the [deferral] does not apply to the aileron trim tabs. The foreman either did not see the note or missed the limitations of damage to trim tabs.**

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Maintenance personnel must ensure that they are looking at the appropriate section of the SRM for the exact problem being researched. Careful reading of all limitations and instructions--including footnotes--should prevent misinterpretation of the corrective action.

SMS: More Than Just the Latest Buzzword in Bizav

"Safety management systems aren't just the latest fad for corporate flight departments," Daedalus Aviation Services president David Bjellos told the nearly 450 attendees at the 53rd Corporate Aviation Safety Seminar (CASS), held this year in Palm Harbor, Fla. In fact, SMSs could be a requirement for entry into some foreign countries starting in 2010, per ICAO Annex 6 section 3.2.4, noted FAA SMS program coordinator Rick Krens.

A "systematic way to control safety," an SMS also provides a safety-culture framework for aircraft operators. SMSs are currently voluntary in the U.S., but "at some point" they will be mandatory for Part 121 and 135 operators, according to Krens.

The FAA issued SMS guidance for operators in June 2006 (see AC 120-92), but the agency plans to issue an updated Advisory Circular in the next three to four months, he told CASS attendees. Meanwhile, the FAA is working on how to protect SMS data from use in any agency enforcement actions or in legal prosecutions, Krens said.

Runway debris detection system takes aim at human error

An advanced foreign objects debris (FOD) detection system developed by Israeli company Xsight is being tested at Boston's Logan airport and will soon be installed for evaluation in a major European airport.
Xsight chief executive Alon Nitzan says the FODetect system could improve on current international airport safety standards, which stipulate two to four visual inspections per day on the active runways: "This task is time-consuming, restricts runway availability, is subject to human error and does not offer any solution to FODs deposited between scheduled runway checks."

FODetect is a distributed system consisting of Surface Detection Units (SDU) located on the edge-light bases along the travel surfaces.
Each SDU consists of a small, 77Ghz millimetre-wave radar system combined with a CCD camera with zoom that scans a runway section in less than 30 seconds with detection resolution down to the size of an aircraft nut or rivet.
Each SDU is also equipped with a near-infrared illumination unit to enable night-time CCD camera use. "The camera does most of the job, with the radar serving as an additional sensor mainly for poor visibility conditions," says Nitzan.
The Logan demonstration has been using about 100 SDUs since last August and is being carried out in co-operation with the Federal Aviation Administration.
Siemens is involved in the planned demonstration in Europe.
FOD costs the aviation industry some $4 billion yearly according to a survey by the US Airforce Research Laboratory.

Auditor General of Canada: new approach to oversight needs to be better managed

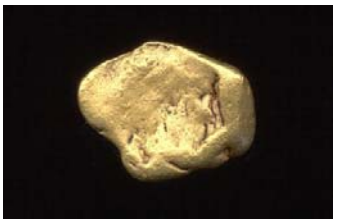
There are several weaknesses in how Transport Canada has managed the transition to a new approach for overseeing air transportation safety, says the Auditor General of Canada, Sheila Fraser, in her report tabled in the House of Commons.

Under the new approach—a requirement of the International Civil Aviation Organization for all member countries by 2009—aviation companies must have their own systems for managing safety risks. This means that like other civil aviation authorities, Transport Canada will shift its primary focus from traditional oversight such as conducting inspections and audits to assessing the safety systems that companies have in place.

The audit found that in the first stages of the transition, affecting 74 airlines and aircraft maintenance companies, the Department carried out pilot projects and made adjustments as needed. However, in planning the transition, it did not formally assess the risks involved in the change or forecast the overall costs of managing it. Nor has it measured the impact of shifting resources from traditional oversight activities to the new approach.

The audit also found that Transport Canada has not yet identified how many inspectors it needs both during and after the transition, and what competencies they should have. (Office of the Auditor General of Canada)

Midnight Shift Nugget



Surprising advice for insomniacs — sleep less

Changing your behavior, rather than medication, may be the first step to better sleep. And surprisingly, for chronic insomnia, the best treatment may be to cut back on the time you spend trying to sleep.

People with insomnia often find that spending less time in bed promotes more restful sleep and helps make the bedroom a welcome sight instead of a torture chamber. As you learn to fall asleep quickly and sleep soundly, the time in bed is slowly extended until you obtain a full day or night's sleep

Some sleep experts suggest starting with five or six hours at first, or whatever amount of time you typically sleep. Setting a rigid waking time often works best. If the alarm is set for 7 a.m., a five-hour restriction means that no matter how sleepy you are, you must stay awake until 2 a.m. Once you are sleeping well during the allotted five hours, you can add another 15 or 30 minutes, then repeat the process until you're getting a healthy amount of sleep.

Reconditioning

In the 1970s, a Northwestern University professor developed a technique to recondition people with insomnia to associate the bedroom with sleep. These are the rules:

- **Use the bed only for sleeping or sex.**
- **Go to bed only when you're sleepy. If you're unable to sleep, get up and move to another room. Stay up until you are sleepy; then return to bed. If sleep does not follow quickly, repeat.**
- **During the reconditioning process, get up at the same time every day and do not nap.**

The idea is to train your body to associate your bed with sleep instead of sleeplessness and frustration.

Relaxation techniques

For some people with insomnia, a racing or worried mind is the enemy of sleep. In others, physical tension is to blame. Fortunately, there are ways to release physical tension and relax more effectively. Relaxation techniques that can quiet a racing mind include meditation, breathing exercises, and progressively tensing and relaxing your muscles starting with your feet and working your way up your body — a technique known as progressive muscle relaxation.

In biofeedback, people use equipment that monitors and makes them aware of involuntary body states (such as muscle tension or hand temperature). Immediate feedback helps people see how various thoughts or relaxation maneuvers affect tension, enabling them to learn how to gain voluntary control over the process.

Biofeedback is usually done under professional supervision. Other relaxation techniques — such as progressive muscle relaxation or meditation — can be learned in behavior therapy sessions or from books, tapes, or classes.

Progressive muscle relaxation

Looking for a drug-free method to help you relax, free your mind of worries, and fall asleep? Progressive muscle relaxation is a tried and true technique for achieving both physical and mental relaxation.

- **Lie down on your back in a comfortable position. Put a pillow under your head if you like, or place one under your knees to relax your back. Rest your arms, with palms up, slightly apart from your body. Feel your shoulders relax.**
- **Take several slow, deep breaths through your nose. Exhale with a long sigh to release tension.**
- **Begin to focus on your feet and ankles. Are they painful or tense? Tighten the muscles briefly to feel the sensation. Let your feet sink into the floor or the bed. Feel them getting heavy and becoming totally relaxed. Let them drop from your consciousness.**
- **Slowly move your attention through different parts of your body: your calves, thighs, lower back, hips, and pelvic area; your middle back, abdomen, upper back, shoulders, arms, and hands; your neck, jaw, tongue, forehead, and scalp. Feel your body relax and your lungs gently expand and contract. Relax any spots that are still tense. Breathe softly.**
- **If thoughts distract you, gently ignore them and return your attention to your breathing. Your worries and thoughts will be there when you are ready to acknowledge them.**

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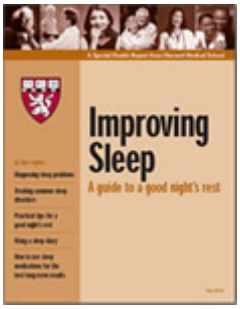
**** *Get your copy of* Improving Sleep: A guide to a good night's rest**



In Harvard Medical School's Special Health Report, *Improving Sleep: A guide to a good night's rest*, you will learn what factors can disturb sleep, the latest in sleep research, and — most importantly — what you can do to get a good night's rest. It also includes in-depth information on sleep disorders, including restless legs syndrome, narcolepsy, and sleep apnea. Click here to read more or buy online.

To order online, click one of the following links:

- Purchase printed version ($16.00)
- Purchase electronic download (PDF) ($16.00)
- Purchase print + electronic download (PDF) ($24.00)

PAMA's First Regional Airworthiness Symposium Slated for August in Wichita

The Professional Aviation Maintenance Association (PAMA) will hold its first Regional Airworthiness Symposium August 22-23, 2008, in Wichita, Kan.

The symposium will offer education tracks for aviation maintenance technicians and management personnel, and presentations and panel discussions on important issues facing the aviation maintenance industry.

Topics expected to be discussed include:

- **Trouble-shooting systems, components and cabin pressurization**
- **Accident investigation and dealing with the Federal Aviation Administration, the media and law enforcement**
- **Avionics installation and modifications in older aircraft - also, the "new" avionics**
- **Liability and safety issues including human fatigue management and other human factors**
- **Non-destructive testing**
- **Dealing with the shortage of technicians, including retirement and retention**
- **Painting corporate aircraft**
- **Business strategies, planning and budgeting**
- **Manufacturer's updates**

While the Wichita event is the first regional symposium offered by PAMA, it will not be the last. Clark Gordon, Chairman, PAMA Board of Directors, said a series of events are planned that are designed to best meet the needs of busy technicians and management personnel.

"This new model provides an intensive, two-day training experience in an environment that requires less travel and less time away from the job because we offer them on a regional basis, several times a year," Gordon said. "We are pleased to offer these symposiums to PAMA members and to the aviation maintenance industry."

Special pricing is available for PAMA members. For more information or to register for the Wichita symposium, visit –

http://www.pama.org/content.asp?contentid=67

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NTSB CHAIRMAN ENCOURAGES BOATING SAFETY DURING SAFE BOATING WEEK

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With National Safe Boating week beginning last Saturday, NTSB Chairman Mark V. Rosenker reminded boaters of the importance of using good judgment by wearing personal flotation devices at all time while on the water.

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"I urge all boat operators and passengers to wear their life jackets when sailing or boating this summer," said Chairman Rosenker. "As stated in the theme of this year's campaign, 'Wear It!' a life jacket may save you and your passengers lives."

Since 1993 the NTSB has been warning that all children under age 13 (or 12 and under) should be required to wear life jackets. This campaign further underscores that message. The United States Coast Guard indicates that over a ten-year period the life jacket wear rate for children has increased from 81% to 92% (ages 0-5) and 69% to 84% (ages 6-12).

Chairman Rosenker said, " I am gratified that 48 states now require life jacket wear by children. I hope that Wisconsin and Virginia will take action soon to provide the children in their states equal protection to every other state in the country." On May 10, 2008, the Governor of Iowa signed into law a life jacket requirement for children (ages 12 and under). Wisconsin and Virginia are the only 2 states that have not taken such action.

National Safe Boating Week is from May 17 to May 23.

The North American Safe Boating Campaign begun in 1957 by the National Safe Boating Council aims at spreading a message of boating safety, encouraging boater education, and helping to save lives. The Campaign has evolved into a targeted media effort stretching across the United States and into Canada.

It is clear that life jacket wear will save many more lives if persons age 13 or older would wear their life jackets. Sadly, the clear majority of recreational boating deaths involve drowning (474 out of 710 deaths in 2006), and over 89% of drowning victims were not reported to have been wearing life jackets.

Bad Design

Which way is the gate?

This picture shows an airport concourse in San Jose. Notice how the gates are numbered. The gates go from C6 to C2. The gate numbers actually increase down the left side and decrease down the right side.

As a result, it is difficult to figure out which way to walk to get to your gate since no matter which way you walk the gate numbers both get larger on one side and smaller on the other.

In contrast, this picture shows an airport concourse in Phoenix. The gates go from A8 to A7. If you walk down the concourse in one direction, the numbers get larger, and in the other direction they get smaller. This makes it a lot easier to figure out which way to walk to get to your gate.

Design suggestion

When you organize something, try to give it the simplest organizational principle that will suffice. Try to take the point of view of a person trying to discover that organizational principle.

COMMUTING BY BIKE

Why and How Employers Can Encourage It

According to the League of American Bicyclists, there are many reasons why employers should encourage workers to commute by bicycle. For example:

Employee Parking Lot of the Future?

- **It costs employees less money to operate a bike than a car**
- **Bikes are more reliable than transit**
- **Biking to work can reduce employees' stress**
- **Biking to work is a healthy activity**
- **Healthy employees are more productive employees**
- **Healthy employees are more alert employees**
- **Healthy employees take less sick time**
- **Healthy employees can reduce your health insurance costs**

If you want to encourage bicycle commuting among your workers, there are a few things employers can do:

- **Provide showers and changing rooms for cycling commuters**
- **If that's not possible, arrange with a local health club for your workers to use their shower and changing room facilities**
- **Allow cycling commuters to dress more casually at work**
- **Provide indoor, secure storage space for bike parking (ideally, on the ground floor)**
- **If that's not possible, provide bike lockers or covered bike racks outdoors**
- **Appoint someone to coordinate local bike route maps**

- **Bring in a trainer to provide cycling education for employees**
- **Team up with a local bike retailer to offer your workers discounts on bicycle purchases or bike maintenance clinics**
- **Form a company bike club or race team**

For more information about Bike-to-Work week, visit the League of American Bicyclists.

Road Sharing Safety Tips for Bicyclists

Cycling is a popular outdoor activity for many people. Unfortunately, with the increase of cyclists has come an increase of bicycle accidents. But biking accidents can be avoided. It's a matter of knowing your bike, the rules of the road and the potential hazards associated with cycling. Here are 6 pointers:

1. **Learn the traffic safety rules and guidelines. And abide by them! In many cases, bicyclists involved in accidents either did not know or had a disregard for normal traffic rules and regulations, but the bicycle is a vehicle and has the same rights and responsibilities as any other vehicle on the road.**
2. **If you haven't ridden a bike for a while or if you're teaching your child how to ride, learn how to ride it properly away from the traffic. Try a school yard or an empty parking lot. It's also a good idea to enroll in a reputable cycling safety course.**
3. **In many vehicle/bicycle accidents, motorists say they didn't see the cyclist until it was too late. Increase your visibility by using safety flags and reflective devices.**
4. **Select a bicycle that is the right size for you. (And parents, don't buy bikes your kids will grow into.) Fatal accidents often occur as a result of loss of control. A bike that is too large or too small is uncomfortable and will be difficult to control.**
5. **Don't be a road hog. When riding as a group, always ride in single file, never side-by-side. Don't carry passengers on your bike or hitch a ride by holding onto a motor vehicle.**
6. **Always wear a helmet! To minimize possible head injury, choose a safety-approved bike helmet and make sure it fits properly.**

PICTURE THIS!

For a lot of you, this situation probably isn't directly related to the work you do. But for some it is. Many people work with or around trailers or various sizes. And some who don't have been watching the last of winter melt away, eager to hit the lake for some fishing or waterskiing or just messing around in your boat. This picture is presented as a public service, to remind you to be aware of your surroundings when loading, hooking up or unloading any trailer-vehicle combo.