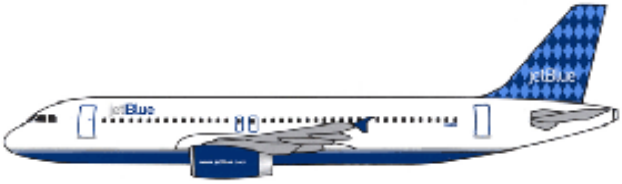

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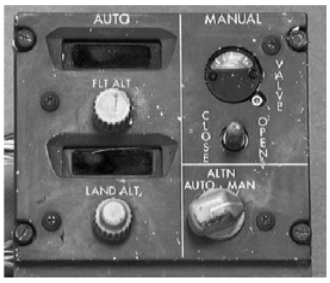
Cyprus to Prosecute Five People Over Airplane Crash in 2005



The doomed Helios 737-300 aircraft used this panel type. The image shows the panel as recovered. Report downloadable from www.iasa.com.au/helios.htm

Cyprus will prosecute five people in connection with a plane crash in 2005 that killed all 121 passengers and crew, said Petros Clerides, the island's attorney general.

``We came to the conclusion that, from the evidence gathered, a criminal prosecution is justified against several people whom we consider accountable for the plane crash,'' he told a press conference in Nicosia. He didn't name the people to be prosecuted or indicate their positions.

A Boeing 737-300 operated by Helios Airways, a Cypriot low- cost carrier, crashed in Greece on Aug. 14, 2005, while it was en route to the Czech Republic from Cyprus. The Greek transport ministry in 2006 said the pilots failed to spot that the cabin pressurization system was not functioning and collapsed due to hypoxia.

http://www.iasa.com.au/folders/Safety_Issues/dfdr-cvr/outagas.htm

Accident reports should include mechanics' details: IFA

Airlines' abilities to learn from accidents involving maintenance errors is being severely compromised by investigators' failure to include in their reports the salient details of the engineers or mechanics who made the mistakes, claims an International Federation of Airworthiness representative.

IFA technical committee member and engineer Philip Hosey notes the prolific information provided about pilots in accident reports. This information includes their licenses, ages, medical records, flying hours - both total and on type - flight and rest records, and other facts.

Speaking at the International Aviation Safety Seminar in Honolulu at the end of October, Hosey contrasted this with the lack of equivalent detail about the engineers involved or the circumstances associated with their work and the specific job on which the mistake was made.

He says that all the data pertaining to pilots was faithfully recorded even when they played no part in the accident cause or outcome, whereas detail about the engineer's training, health, experience, background and working hours was almost always omitted in reports, even when maintenance error was involved.

Hosey quotes only one recent report he was aware of in which all the appropriate detail about the engineer and task was provided.

He says it is remarkable that this difference in attention to the detail provided about two different professional groups in relation to accidents should exist, and it may be one of the reasons why managing the risk of error during maintenance receives less detailed attention than managing the risk of pilot error.

Recording engineer working hours and patterns, including shift times and rest periods, is at least as important as for pilots, Hosey argues, because the pilot's task can, at high-risk periods, generate adrenaline that can help overcome the affects of fatigue. An engineer's task does not benefit from an adrenaline burst toward the end of a long night shift, Hosey claims.

Broken Trim Tab Causes Severe Vibration

Beech King Air C90A. Substantial Damage. No Injuries.

The pilot said that the King Air suddenly began "shuddering with a severe high frequency vibration" while flying at 12,000 ft, in route with six passengers from Tulsa, OK, to Manhattan, KS, the night of Sept. 22, 2007. He told NTSB investigators that the vibration 'was in the entire airframe, not specifically the flight controls, so I had no clue where it was coming from."

The vibration continued when the pilot reduced power from the left engine but stopped when he reduced power from the right engine. The pilot said, however, that a few minutes after he shut down and secured the right engine, the vibration "returned just as bad as before."

The pilot diverted to Emporia, KS, and landed the King Air without further incident. He noted that the vibration had stopped when the landing gear was extended during approach.

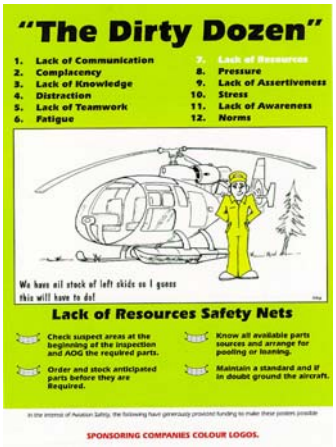
"During a post-flight inspection, the pilot observed that the right elevator trim tab push rod was broken" the report said. According to maintenance records, the bolts and bushings on the trim tab attachment mechanism had been replaced 101.5 flight hours before the incident occurred. The report said that the trim tab had not been reinstalled properly; and nut on a clevis (a U – shaped fitting on the push rod), resulting in a fatigue crack that propagated through the threaded portion of the push rod.

CALLBACK ASRS
From NASA's Aviation Safety Reporting System

The "Dirty Dozen" in ASRS Maintenance Reporting

"Lack of Resources"

Maintenance technicians trying to accomplish a strut replacement on a B737-800 failed to follow standard aircraft jacking configuration. The contributing "dirty dozen" factor:



Lack of Resources: Use of improper equipment

- **[We made] a field trip for aircraft strut replacement. We arrived and started inspecting what we had for equipment, tools, and parts. When [we] determined that we were missing a cup for one of the wing jacks, we ordered that and some miscellaneous parts from [airport] ZZZ1. We installed the right wing jack and the tail jack in place for stability to remove the #4 brake and #3 tire and brake. We were unable to accomplish this without an axle jack.**

- **Instead of waiting for the cup to come from ZZZ1, we jacked the right axle with the axle jack enough to remove the bad brakes and tire. When the cup came from ZZZ1, we installed it on the left wing jack and placed it in position under the wing. Upon setting that jack in place, we went to check the other jacks to prepare them for jacking and we found that the tail jack had slipped off of the jack pad and punched a hole through the fuselage just forward and outboard of the jack pad.**

NTSB Wants Safer Medical Flights

The NTSB last week issued its annual list of "Most Wanted Safety Improvements," and topping the list for aviation: Emergency Medical Services (EMS) Flights, making the list for the first time. "Although the Board has issued recommendations to improve EMS safety, the FAA has not implemented the changes," the NTSB said. "In the last 11 months, there have been nine EMS accidents, resulting in 35 fatalities.

"The board also wants to improve runway safety by implementing better information and alerts, and requiring pilots to calculate landing distances based on current information. Other items on the list were better practices for flying in icing conditions, crew resource management training, and crew member fatigue. The board would also like to see widespread use of image recorders in cockpits, even in smaller aircraft that are not now required to have recording devices, to help in post-accident analyses.

One item that was on last year's list has been resolved -- "Eliminate Flammable Fuel/Air Vapors in Fuel Tanks on Transport Category Aircraft." The FAA enacted a rule in July that requires fuel/air mixtures in all fuel tanks to be below a prescribed flammability level for all newly manufactured aircraft that have more than 30 seats. "All of these safety-related issues highlighted in the Most Wanted List should be addressed promptly," said board chairman Mark Rosenker. "Though we are encouraged by progress being made, resulting in some items being removed from the list, several of these safety concerns have been on this list since its inception."

Airhostess falls from plane, escapes with minor injuries

A Jet Airways airhostess fell down on the tarmac from the aircraft while she was closing its door but escaped with minor injuries.

The airhostess, after the passengers were seated and instruction from the pilot, was closing the door of the Mumbai-bound plane on Friday morning when she slipped and fell down from the plane, an airlines official said on Saturday.

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She was immediately rushed to Indian Spinal Injuries Centre at Vasant Kunj, from where she was released after treatment, she said, adding since it was a Boeing aircraft, which are not very high from the ground, she did not receive serious injuries.

She got the best treatment and the expense was borne by the airlines, the official said.

The airlines fraternity does not term this incident as uncommon. Since we have to perform our duties wearing high heels, there are chances that we trip, said an airhostess.

Learn and Earn

I recently attended the Aviall sponsored FAA IA Renewal Seminar in Vancouver, Washington where the Michelin aircraft tire representative was one of the featured speakers. He indicated that Michelin developed a Level 1 study guide for technicians designed to help you learn the basics of tires and tire care. This is the introductory level of the program and the prerequisite for the more detailed and demanding Level Two course. The goal of both of these courses is to provide a greater understanding of tire construction, care and service while helping you to develop a greater recognition of tire design, serviceability and quality characteristics.

At course completion, the next step in the certification process is to complete the short test that is enclosed in the study guide and then submit your answers to Michelin at the address listed on the answer sheet. After they receive your answers, they will send your certificate out provided you get at least 17 of the 21 answers correct. They will also send you information about Level Two of the certification program.

The FAA also recognizes the successful completion of Level I as going towards IA Renewal credits.

http://www.airmichelin.com/pdfs%5CCertification%20Level%201.pdf

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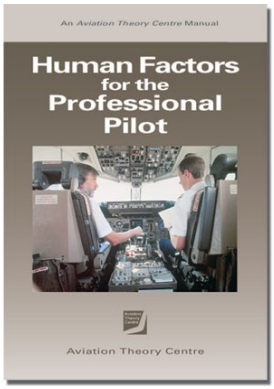
It takes more than technical skills to make pilots



There is a need to broaden the base of pilot training beyond the technical skills needed to fly an aircraft, says one of the longest serving staff at Massey's School of Aviation, and a veteran of the industry, Ritchie de Montalk.

Mr. de Montalk has just completed his PhD in Aviation which focused on the case for teaching non-technical skills in order to develop greater proficiency in pilots graduating from basic flying training programs.

He found that while the industry perceives training in technical skills to be highly satisfactory, there is less commitment to the value and teaching of non-technical skills like leadership, management and organizational focus.

At Massey, Mr. de Montalk is the manager of aviation safety, chief flight examiner and the co-coordinator for a paper on crew resource management that is part of the Bachelor of Aviation program He came to the University's School of Aviation with extensive flying experience and has held a number of senior roles internationally within the airline industry.

"Currently training focuses largely on the technical aspects of flying an aircraft. The graduating pilots come out with a license but at this stage of their careers they are not yet acceptable as employees to a bigger airline. They have to accumulate hours and hours of flying experience in order to be acceptable as pilots to larger airlines.

"But the whole assumption that hours logged means proficiency gained, is questionable. There is a flawed assumption that somehow, something will occur in their overall development just because they have accumulated more flying hours.

"In effect, they have been released into the aviation world, largely unsupervised and expected to somehow become equipped with a broader range of skills and competencies that can in fact take years to acquire.

"In New Zealand standard commercial pilots seeking employment in the airlines receive little education for their future roles. By nature, pilots tend not to be company people. The plane is their office and their working world and they don't necessarily identify with the company they are working for. They don't have much understanding of its strategies and objectives or of the other skills that go into running the organization."

Mr. de Montalk says that although the subject of 'human factors' is now a curriculum requirement in pilot training, there should be more emphasis on developing non-technical skills from the onset of any pilot training course.

School of Aviation general manager Captain Ashok Poduval says Mr. de Montalk's work is very useful for the school.

"We have a unique program that integrates regulatory flight training requirements with academic papers to build these very non-technical competencies in our students. This is supported by a state-of-the-art flight simulator that is used in conjunction with flight training to create a well rounded program."

Embry-Riddle To Offer Aviation Doctorates

Embry-Riddle Aeronautical University will offer two new doctoral degree programs in 2009, including the first Ph.D. in Aviation in the U.S., the school said this week. The new program will allow students to "pursue interests in aviation in a diverse, intellectually versatile and multidisciplinary environment and to affect a global impact on the aviation industry," the university said in a news release. The flexible, online program will require one week a year on campus and will take about three years to complete. The university is also offering a new Ph.D. program in Engineering Physics at its Florida campus at Daytona Beach, which covers topics in space physics, upper atmospheric physics, remote sensing, spacecraft instrumentation, spacecraft systems engineering, and control of aerospace systems.

"These doctoral programs are designed to give both working professionals and research professionals the opportunity to pursue their intellectual interests through rigorous programs and meet their professional goals to prepare them to serve as our aviation, science, and engineering technology leaders of tomorrow," said Dr. John P. Johnson, Embry-Riddle president.

The university is accepting applications for both programs now. Accreditation by the Commission on Colleges of the Southern Association of Colleges and Schools is pending.

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Who regulates rail workers' shifts?

The federal agency responsible for railroads should have the power to regulate workers' schedules.

The Federal Aviation Administration sets rules for what kinds of work shifts pilots can safely fly. The Federal Motor Carrier Safety Administration regulates hours for truck drivers. So why doesn't the Federal Railroad Administration have the authority to do the same for train engineers and other rail workers whose alertness is vital to safety?

Investigators might never know whether fatigue contributed to the fatal errors made by Robert M. Sanchez, the engineer of the Metrolink train that hit a freight train Sept. 12, killing more than two-dozen people.

But the dangerous consequences of long work shifts without meaningful rest breaks for people in jobs that require constant attention are well documented. Two federal bills would impose more reasonable shifts for rail workers, but the Bush administration has a better idea: Instead of Congress micromanaging transit workers' time sheets, let the railroad agency set the rules.

According to Times reports, Sanchez began his workday shortly before 6 a.m. and worked until 9:30 a.m. Then he received a 4 1/2 -hour break before beginning a seven-hour shift that ended at 9 p.m. Even assuming that he could get home within half an hour of ending his night shift, that he spent no time on dinner or relaxation, that he could fall asleep immediately and didn't bother showering or brushing his teeth when he awoke, he would have gotten a bare eight hours of sleep before having to start his commute to work in the morning. Sanchez was nearing the end of five back-to-back split shifts when he apparently ignored three signals warning him of the freight train ahead.

Metrolink, which fought off previous efforts to make rail workers' schedules more reasonable, should be leaping to support the latest efforts. Yes, it will cost more money to hire workers for both the morning and evening rush hours, and those costs will be passed on to passengers. Perhaps, as Metrolink executives have predicted in the past, that will reduce ridership -- but not nearly as much as a perception that trains are dangerous and that Metrolink is doing nothing to make them safer.

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Both the House and Senate have passed versions of rail-safety bills that would improve railroad employees' schedules, but these would only continue a system under which it takes a literal act of Congress to tweak work rules to meet changing conditions. The Bush administration has proposed empowering the Federal Railroad Administration, which could act far more nimbly than Congress, to regulate work shifts. Too bad this sensible idea hasn't gained any traction.

TSB investigator recalls being overwhelmed by Swissair crash off N.S.

Larry Vance remembers feeling overwhelmed when he arrived in Nova Scotia the day after Swissair Flight 111 crashed off Peggy's Cove.

It was Sept. 3, 1998.

The wide-body jet had caught fire on a flight to Europe and plunged nose first in St. Margaret's Bay, its massive bulk pulverized into countless pieces now strewn across the ocean floor.

And somewhere out there on the horizon, in the aeronautical equivalent of a needle in a haystack, was the answer to the question: What caused Flight 111 to fall?

Over the next 4 1/2 years, Vance and many others would toil in one of the costliest and most complicated investigations in the history of aviation disasters.

"If we knew the enormity of the task when we arrived, we would have all probably run for home," said Vance, an investigator with the Ottawa-based Transportation Safety Board of Canada.

"This was probably the most technologically challenging investigation that has ever happened. Not only in terms of aircraft disasters but in any kind of disaster.

"This was enormously complex."

The MD-11 jet was 53 minutes into a flight to Geneva from New York when pilot Urs Zimmerman and co-pilot Stephan Loew reported smoke in the cockpit.

Over the next several minutes, as the pilots tried desperately to divert to Halifax, the spreading fire knocked out systems on the plane until it fell into the ocean, killing all 229 people aboard.

Over the ensuing days and weeks, hundreds of military personnel, police, coast guard crews and volunteers combed the water and shoreline in the grim and challenging task of recovering two million pieces of mangled plane parts.

USS Grapple, an American navy ship equipped with a giant vacuum, was brought in to suck up the remaining debris from the sea floor in a search for the tiniest shred of evidence.

The shattered pieces were taken to an aircraft hangar outside Halifax where TSB officials painstakingly pieced them together.

What they found was a chain of events that were as unusual in their circumstance as they were tragic in their outcome.

"A fire during a flight is very rare," Vance explained in a recent interview from his office in Ottawa.

So are crashes into the ocean.

In the case of Swissair Flight 111, the plane was intact until it hit the ocean and that allowed investigators to get a rare look at a fire's progress until the instant it was extinguished.

"We basically had a stoppage of time," said Vance. "I don't think that has ever happened and may never happen again.

"It gave us the opportunity to place the aircraft pieces back where they belong, trace the history of the fire, and see what it was actually doing."

The crash was also unusual in its ferocity. The jet struck the water at 560 kilometres an hour. The force of water invading the fuselage ripped the aircraft into small fragments as the jet exploded from the inside.

"Many of the pieces were smaller than the phone I'm speaking into," Vance said. "If you put a bomb on a aircraft and exploded it, it wouldn't do that."

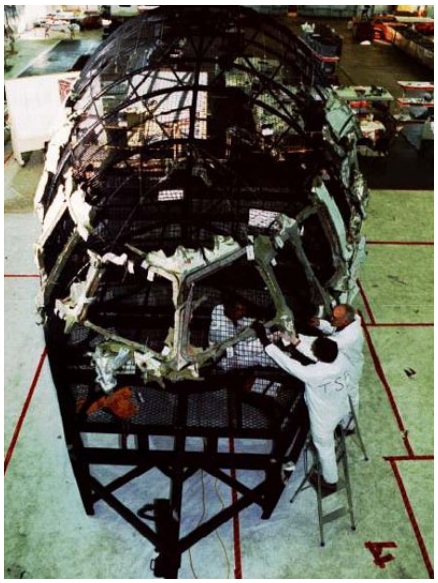
For 19 months, Vance and the others lived in a Halifax hotel while they searched for answers.

In 2003, they released a 337-page report that concluded the fire started when an arcing wire - a phenomenon in which a wire's coating is corroded and can lead to sparking - ignited a flammable insulation covering in the ceiling.

As the fire spread, electrical systems on the plane began to shut down, including the two cockpit recorders, which were later found to be blank during the final six minutes of flight.

The transport safety board spent $60 million on its investigation.

Its final report included 23 recommendations on everything from flight recorders and material flammability to in-flight firefighting and what pilots should do if they smell smoke.



The most notable recommendation called for the removal of thermal acoustic insulation blankets covered in metalized polyethylene terephthalate, or MPET, from aircraft.

Testing by the board showed that the blankets caught fire easily.

Airlines have since removed them from all aircraft.

However, Jonathan Seymour, a member of the TSB board, said further action is needed to mitigate the risks identified in 18 of the 23 recommendations, including ones concerning aircraft wiring and other potentially flammable insulation.

"We would like to see all the recommendations implemented," he said from his Vancouver office.

Seymour said that although MPET-covered insulation has been dealt with, action hasn't been taken to comprehensively review the remaining types of insulation in use.

The safety board also recommended that a testing regime be established to evaluate if aircraft wiring could fail under realistic operating conditions.

"The FAA has adopted an approach called 'in-service failure,' " said Seymour. "In other words, something has to fail first before you actually go and test it.

"And if it fails the test, then you take it out, which may work to a point but doesn't alter the fact there may be some residual risk there."

Still, Seymour doesn't want to be alarmist. He said air travel was safe before the Swissair crash and is even safer today.

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"It's just that obviously after 10 years you would have hoped that things would have moved on quite significantly further than they have," he said.

"It's frustrating that we're still that far away from where we might want to be after 10 years."

http://www.cbc.ca/natureofthings/swissair/swissair_flash.html

Zeppelin Starts Passenger Flights Over Bay Area

Airship Ventures is now up and running with its German-built Zeppelin, offering sightseeing flights to the general public in an airship, the first time such flights have been available in the U.S. in about seven decades. The company started media flights this week from Moffett Field, just south of San Francisco, and will start passenger operations on Friday. The ship will also fly from Oakland International Airport and from Charles Schultz Airport in the Napa Valley. The Zeppelin is almost 250 feet long. Large windows offer a 360-degree view, and the cabin seats up to 12 passengers, who are free to move around during the flight. The airship flies low and slow, topping out at about 1,200 feet AGL and 35 to 40 mph. Hour-long tours run about $500 per seat. The ship can also be chartered by the hour.

The company may fly the ship to EAA AirVenture or the Albuquerque balloon festival next year, if a sponsor steps up with funding. Airship Ventures' future business plans include the addition of a second Zeppelin airship, to be based on the U.S. east coast, followed by a third Zeppelin devoted to air shows, special events and scientific research missions. The company will also expand its facilities at Moffett Field, offering facilities for catered corporate and special events.

Project Runway: Testing How Tarmac Handles Jet-Plane Traffic

Runways are not like highways. Instead of supporting mere 80,000-pound big rigs zooming by at 70 mph, landing strips must handle 1.2 million-pound planes taxiing at a pavement-stressing crawl. (Jets are going too fast during landing to do any real damage.) To ensure tarmacs can take the abuse, the Federal Aviation Administration maintains the National Airport Pavement Test Facility near Atlantic City, New Jersey.

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Soon the FAA will be investigating the effects of a vexing new trend: huge cargo jets with 10-wheeled landing gear, like Russia's Antonov AN-124, that haul stuff like oil field pumps and locomotives.

Just setting up the tests is a supersize endeavor.

Before laying new pavement, engineers must rework the ground underneath—there's a big difference between, say, clay and sand. Then they layer on 50 inches of concrete or asphalt laced with up to 1,000 sensors.

Finally, it's time to rev up the test vehicle (shown above), which runs on rails and uses hydraulics to apply downward force of up to 75,000 pounds—per wheel.

If trials show that the big birds damage runways, airports like Houston's George Bush Intercontinental—which sees at least one Antonov a month—will have a tough decision: Rebuild the runways or tell oil companies to land elsewhere. Now that's pressure.

Glass To Replace Cockpit Windows?

NASA is working with Gulfstream to test a "fly-by-cam" system in which the pilot of a supersonic business jet would land the aircraft using a video feed from an HD camera. According to The Register the system is aimed at solving one of the vexing issues facing development of the speedy bizjets in that their design almost inevitably dictates a high angle of attack for landing and the long pointy nose of such aircraft obscures the forward view. Concorde designers solved the problem with the intensely complicated drooping nose but that's not likely practical for business jet-sized aircraft. So, the researchers are trying to convince the FAA that a camera in the nose is a replacement for the view out the windshield and they're inviting FAA pilots to test the theory themselves.

NASA and Gulfstream have been flying an F-18 with a camera set up for the pilot in the back seat to use for landing. A safety pilot with an unimpeded view sits in the front but so far he or she has been a passenger in the successful landing experiments. The FAA will reportedly get its chance to fly the system before the end of the year.

Look, up in the sky!

With the construction of the massive Udzar Hazy Center of the National Air and Space Museum at Dulles airport in Washington, the Smithsonian has finally been able to display the massive B-29 Enola Gay.

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The aircraft if famous for being the first to drop an atomic bomb on Hiroshima, the first time that such a weapon was used against an enemy.

Not many aviation museums can boast that they have a space shuttle, a Concorde supersonic airliner and a Boeing B-29 Superfortress on display, mostly because most museums don't have enough space to display such monstrous aircraft. The National Aviation Museum's new Udvar-Hazy centre near Dulles International Airport in Washington has the space to display these three planes and much more.

The museum consists of a long hangar that would be big enough to park a couple of zeppelins. The hangar has collections of aircraft from different eras displayed in groupings. There are early aircraft from World War I, more warplanes from World War II and a selection of Cold War jet fighters. One of the most historically significant World War II aircraft on display is the Enola Gay, the B-29 that dropped the atomic bomb on Hiroshima, Japan.

There is also a collection of commercial aircraft, including one of Air France's needle-nosed Concordes as well as helicopters, private aircraft, gliders and all sorts of other curious aircraft such as the first human-pedaled craft used to fly across the English Channel.

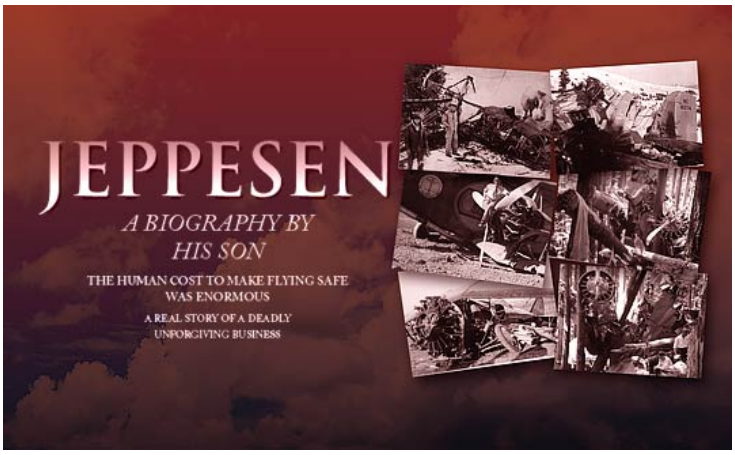
The museum not only has airplanes on the floor, but also hanging from the ceiling and has a clever set of walkways that let you get close to the suspended planes, thus increasing the effective display space of the museum.

The area that interested the kids most was the spacecraft collection which had the space shuttle Enterprise. It was the first shuttle that was used for glider tests and never actually got into space, but the kids didn't care. I imagine that when NASA does retire the shuttle fleet in a few years, one of those ships will replace the one on display.

Unlike the flagship museum on the Mall, this part of the aviation collection appeals more to airplane fanciers than children. There are much fewer hands-on displays to keep kids and their short attention spans interested. At least the museum is free to enter.

JEPPESEN a Biography of Captain Jeppesen By Richard Jeppesen

This is a behind the scenes, up close and personal story of my Dad, Elrey Borge Jeppesen, who quit high school and barnstormed his way to fame. Not many of the early Air Mail pilots lived, their wrecks are still scattered all over America. Their fellow pilots learned from the mistakes.



From Jenny's to Jets and on into space, the era of aviation my Dad flew in.

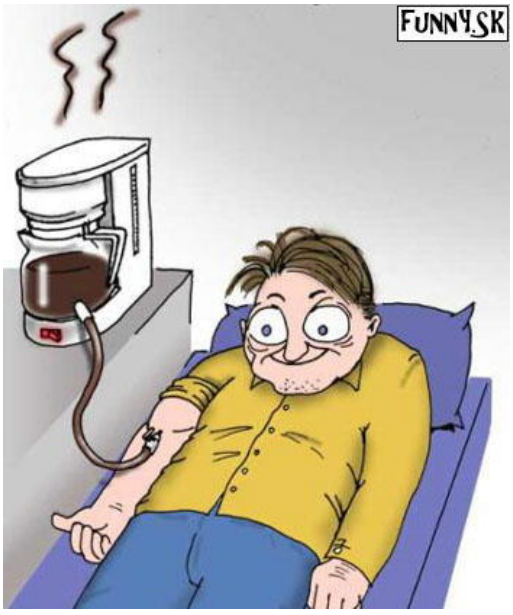
There were no Universities flight then. There were no aircraft construction standards. No regulations, no rules, and no airports either. Nobody knew how much turbulence an airplane could withstand and stay together. Nobody knew whether a plane could do a loop or a spin without the wings coming off. It was trial and error and to error was to die. These pioneers, risked their lives so that those that followed could learn from their mistakes. It was a deadly business.

This is a story of a man that created the Jeppesen Airway Manual. He was the one that first designed enroute procedures, let down procedures, approach procedures, missed approach procedures. This is the man that gave his fellow pilots a survival manual.

http://www.rfjeppesenbooks.com/index.html

The troublesome trio: caffeine, alcohol and nicotine

Caffeine



Caffeine is the most popular psychoactive drug in the world. It stimulates the body and mind, promotes wakefulness and can cause insomnia. It is found in coffee, tea, hot chocolate, cocoa, over-the-counter pain and cold medications, colas and other carbonated drinks.

The effects of caffeine last for 8 to 14 hours. This means it can have a significant effect on sleep at night and can cause insomnia even if consumed in the late afternoon, or early evening.

Despite its stimulating effects, many people develop a tolerance for caffeine, and apparently sleep well even after consuming the stimulant. Even if you think it doesn't have much of an effect on you, try this simple test:

Reduce your caffeine intake for a week and don't have any after lunch. Keep your sleep diary while you do this, and see what effect this has on your sleep quality, particularly your ability to get to sleep.

If you have difficulty sleeping, it is wise to limit your caffeine intake, particularly in the late afternoon and evening.

Alcohol

Alcohol is one of the most commonly used sleeping aids. However, alcohol affects sleep quality. Drinking alcohol shortly before bedtime can help you fall asleep but it is not a good strategy for dealing with insomnia. During the night, alcohol is metabolized at a rate of about one glass of wine, or approximately 8 ounces of beer, an hour. When all the alcohol has worn off, you suffer withdrawal effects. These can include symptoms such as shallow, disrupted sleep, increased amount of REM (rapid eye movement) sleep, increased dream recall, nightmares, sweating, and a faster heart rate.

In addition to affecting the quality of sleep, alcohol can cause other interruptions to your night's sleep, such as stomach irritation, headache and needing to use the bathroom. If you have half a bottle of wine before bed, alcohol concentration approaches zero about halfway through the night, and this is when you start to suffer disruption in your sleep.

The negative effects of alcohol on sleep continue for some time after the blood alcohol levels have become undetectable. Drinking in the afternoon can also disrupt sleep during the later half of the night, long after alcohol has disappeared from the blood. Although alcohol promotes sleep at the beginning of the night, it decreases sleep quality at the end of the night.

Combining caffeine and alcohol

Caffeine plays an important role in combating fatigue and sleepiness in most people. However, combining alcohol and caffeine during the evening can cause insomnia many hours later. Initially they have opposite effects; the sedative effects of alcohol counteract the arousing effect of caffeine so falling asleep is not difficult. However, because the alcohol wears off faster than caffeine, after three to four hours of sleep, the withdrawal effects of alcohol start to kick in while the caffeine levels are still high. The combination of arousal from alcohol withdrawal and the stimulating effect of the caffeine make staying asleep and having good restorative sleep very difficult.

Nicotine

Generally smokers tend to have a harder time falling sleep and staying asleep than non-smokers. Smokers tend to sleep about 30 minutes less a night than their non-smoking counterparts. Nicotine is a stimulant and can trigger a nasty cycle of cravings. You have a cigarette to help you feel relaxed, but when the nicotine has been metabolized, you get more cravings. As with drinking alcohol, when you have metabolized the nicotine in your body, you suffer withdrawal effects that may wake you up.

When giving up smoking, many people find that the withdrawal from nicotine causes their sleep quality to worsen. This often leads to difficulty falling sleep, and causes them to wake many times during the night resulting in sleepiness during the day. Unfortunately, nicotine patches do not seem to diminish sleep complaints associated with quitting smoking. However, once the cravings for nicotine wear off, sleep quality improves.

Marines invent chewing tobacco with a kick for combat conditions

The idea came like a bolt.

Or maybe it came from a Jolt, as in the energy drink.

A few months ago, two Marines waiting in line at a PX saw troops buying cases of chewing tobacco and energy drinks. They saw a new tobacco container, too. Waterproof.

What's next, one Marine joked to his friend. An energy dip?

Their eyes grew wide.

They snickered. Then they laughed. Inside their car, they chatted up the idea. Guys fighting in Iraq and Afghanistan chew. Too dangerous to smoke where a glowing ember could signal a position. But those 20-hour shifts can cause major fatigue.

Unless …

What if they could lace chewing tobacco with caffeine?

They found a Web site for tobacco chewers "where dippers meet."

Had anybody heard of this before? Would anybody be interested in chew with a kick?

"They went crazy," said Cpl. Steven Rundel, 26, of Louisburg, Kan., a fourth-generation Marine who is an aviation mechanic on fighter jets based at Beaufort, S.C. "We had to move on it."

Short on cash, Rundel charged the patent on his credit card. He and his buddy, Cpl. Matthew Doran, 34, of Lexington, Mass., scratched out a business plan. They found a tobacco entrepreneur, who found a tobacco company — Southern Smokeless Tobacco.

They call their new smokeless tobacco Revved Up. It's infused with "energy elements" similar to Red Bull. Prototypes came in two flavors: straight and wintergreen.

The two Marines know about the dangers of tobacco.

"But we're doing this because our boys in Iraq are already doing it," Rundel said. Chewing "is something they enjoy. And this might help them stay alive."

They keep hearing they have a winner. But the reality check for Rundel was the judgment of his father, Dan Rundel of Louisburg, a longtime chewing man. A man whose back jeans pocket has a permanent ring from his chew. A man who doesn't like fancy. Just taste.

His verdict?

"The flavor was very good, and surprisingly enough, I took a dip and immediately felt a buzz," he said. "That caffeine helped me focus in."

Next month, the two Marines will be sending their product, along with their hopes, to a national trade show for convenience stores.

Will their dreams go up in smoke?

Dan Rundel doesn't think so.

"We're all still in a state of shock about the fast pace that this has had. In a little less than a year, not many dreams can be fully formed.

"But this one is headed that way."

jetBlue AIRWAYS

Want More Muscle?

Eat a banana

You may think eating lots of protein gives you more muscle mass –but you should try potassium-packed fruits and vegetables instead, says a USDA study at Tufts University of older Americans.

Typically, muscle mass declines after age 50. But senior who ate lots of high-potassium foods were apt to have 3.6 more pounds of lean tissue mass then those who had half as much potassium.

Here's The Science: Researchers believe potassium counters the effects of foods, such as meat and cereal grains, that create 'acidic residues' in the body, promoting muscle wasting. Vegetables and fruits, includes citrus, paradoxically become alkaline in the body, helping to neutralize the acidity.

Good Sources: Potassium is high in bananas, dried apricots, cantaloupe, potatoes, sweet potatoes, winter squash, pumpkin, legumes, avocado, orange juice and tomato products.

Can You Decode Nonverbal Messages?

Question: What body part is the most accurate indicator of how we feel?

Answer: The foot.

According to former FBI agent Joe Navarro, who specialized in nonverbal communications, when we're happy, our feet will point straight up.

http://www.washingtonpost.com/wp-dyn/content/gallery/2008/06/23/GA2008062301669.html?sid=ST2008062201741

Picture This!

The manual laborer shown was burying the wire from a public-address speaker. Maybe he has great aim. Maybe he never has swung a pick before. Or maybe he just doesn't care if the next time he has to play "This little piggy went to market," there won't be a little piggy to go to market or to eat roast beef.

If this event had been a competition for the crappiest protective gear, we know who would have won in a walk.