

Aviation Human Factors Industry News October 21, 2008

Vol. IV. Issue 41

Mechanics face manslaughter charge for Madrid air crash

The judge investigating the Madrid air crash that killed 154 people has called **three mechanics** for questioning on suspicion of manslaughter

The two technicians who checked the plane and cleared it for take-off on August 20 and Spanair's head of maintenance at Barajas airport **are facing charges** of 154 counts of negligent homicide for **failing to detect faults** that led to the tragedy.



Judge Javier Perez has launched a judicial investigation, independent from that of Spain's Civil Aviation authority to determine the causes of the crash.

Spanair flight JK5022 bound for the Canary Islands crashed on its second take-off attempt after the wing flaps failed to deploy. An **alarm system in the cockpit failed to warn pilots of the fault** and the twin jet engine rose about 40 feet before it veered to the right and slammed into the ground tail first.

The back of the aircraft broke apart and the fuselage bounced three times before crashing into a shallow ravine and bursting into flames. Only 18 people survived Spain's worst air accident in 25 years.

The preliminary report by Civil Aviation investigators absolved the pilots of any blame for the accident after data from the black box recorder showed **they had followed the correct procedures.**

Judge Perez is investigating whether the maintenance crew charged with repairing an earlier fault that led to the first take off attempt to be aborted were negligent in making the necessary repairs.

It appears that they may not have checked whether a problem detected in an air temperature gauge on the outside of the aircraft was caused by a mechanical fault that affected other parts of the plane. It has also emerged that the same aircraft **suffered problems with wing flap deployment on two occasions** in the days leading up to the crash.

Medical Helicopter Crash: It Has Happened Again

Workers with the Dupage County Coroner remove one of four bodies from the wreckage of a helicopter crash in Aurora, Il., Thursday, Oct. 16, 2008. Four people, including a 13-month-old girl, were killed when a medical evacuation helicopter crashed overnight in the Chicago suburb.



In what appears to be becoming a **tragic epidemic** of helicopter crashes, another medical helicopter has gone down in flames—this time in a Chicago suburb. Three crewmembers and the patient were killed.

Deepening this tragedy, and that of other recent medical helicopter crashes, is the fact that patients have already suffered great trauma, only to suffer more trauma, or to lose their lives when the craft that is supposed to play a role in saving their lives, instead contributes to, or causes their death.

The patient in the crash late last night, just before midnight, was **only 13 months old.**

Last Wednesday's crash was **the ninth in the last 12 months** involving an emergency air transport vehicle, and the third for Air Angels, and air ambulance company based at Clow Airport in Bolingbrook. A crash in August of last year was blamed on **mechanical problems**, but fortunately there were no injuries. The same, however, could not be said for a crash in 2003 that killed the pilot. It has since been determined that pilot error, and foul weather contributed to the crash.

However last week's helicopter crash remains a mystery. The CEO of Air Angels, Jim Adams, reportedly told the Chicago Tribune in the wee hours this morning that the pilot did not report any mechanical problems with the helicopter, and that weather was not an issue.

However, a report in the Chicago Tribune suggests that the Bell 222 helicopter **struck a radio tower** before it crashed last week. Rick Jakle, president of 1280 AM WBIG in Chicago said early this morning that the helicopter apparently clipped one of the radio tower's support wires. The tower extends 750 feet into the air, and by law is required to be lit, with strobes, to alert aircraft to its location at night.

However, it is not known if there is any provision for illuminating the thick support wires.

The Federal Aviation Administration and the National Transportation Safety Board will be investigating the crash.

Besides the child who died in the helicopter crash the pilot, a nurse, and a paramedic employed by the company all perished in the crash. There were no reports of survivors.

Critics are calling for an investigating into the entire air ambulance system, after nine fatal helicopter crashes in the last year. They cite a disturbing rise in the number of emergency air transport crashes, and wonder aloud if a system designed to save lives, may instead be taking them.

Jet fire under investigation - Update

David Kidder, Gregg County fire marshal, and investigators from the Federal Aviation Administration, Bombardier and Lear Jet are investigating the cause and origin of a **flash fire** to a Lear Jet 45 that occurred Wednesday at Aerosmith Aviation at the East Texas Regional Airport. A worker was burned and remains hospitalized today.

According to initial findings, the **cause** of the flash fire was a result of the **right main landing gear strut exploding during a precipitation test** on the jet.



According to Gregg County Sheriff 's Lt. Mike Claxton, the fire investigators said the precipitation test is **an electrical check** performed on aircraft to measure the ability of an aircraft to isolate itself from static electricity when flying through moist air.

Fire investigators told Claxton they believe that during the test, the **right main gear strut failed** and resulted in damage to the wing and fuel tank. That resulted in **a leak of jet fuel that ignited a fire** in the wheel well. The resulting fire and loss of integrity to the gear strut caused the plane to settle to the floor surface.

The burned worker, employed by Dallas-based Bombardier, remains in a Dallas burn hospital today, Claxton said. According to Kidder, the victim suffered burns to 25 percent of his body and was reported in fair condition Thursday morning.

[Update: Oxygen Bottle Ruptured Qantas 747](#)

Failure of an oxygen bottle caused the fuselage rupture of a Qantas Boeing 747-400 on July 25, say Australian accident investigators, confirmed early suspicions.



The event appears to have been **unique** in commercial aviation history. More importantly, the Australian Transport Safety Bureau (ATSB) **has no idea** how it can be prevented from happening again – particularly since the bottle fell into the sea and therefore cannot be examined.

“There’s nothing at this stage that the ATSB can identify that could have been done to prevent this,” said investigator Julian Walsh. “We don’t really know why the bottle failed. That’s the key question for the investigation.”

Although the bottle blasted into the cabin, no one was hurt in the incident, which occurred at 29,000 ft. The flight crew reacted within 20 seconds of the depressurization warning by reducing thrust on all engines and extending the speed brakes for a descent to 10,000 ft. They called ‘mayday’ on the regional air traffic control frequency, dumped excess fuel and approached and landed visually at Manila without further incident.

“The flight crew reported that many system failure messages were displayed, including all three instrument landing system, the left VHF omni-directional radio-range navigation instrument, the left flight management computer and the aircraft anti-skid braking system,” the bureau said in its preliminary report.

Early accounts seemed to suggest that the main part of the bottle, number four in a row of seven in the cargo bay just ahead of the right wing root, had blasted down and out of the fuselage while the valve at the tip had shot up into the cabin.

The bureau's preliminary report now make clear that discharge from the lower part of the bottle blew open the fuselage and propelled the main part of the bottle upward. The bottle burst through the main cabin deck, making a hole 20 cm. (8 in.) in diameter, then hit a door frame, a door handle and the overhead paneling before falling back out of the aircraft, leaving parts of the valve behind.

The **first officer's aileron cables were severed** in the accident, but the captain's cables on the other side of the aircraft were not. "Numerous electrical cables and cable bundles, routed through the lower aircraft fuselage near the point of rupture, had sustained damage or been severed by the rupture event," the bureau added.

Hong Kong disputes report blaming fatigue for Cathay ground collision

Flight standards authorities in Hong Kong are **disputing** Swedish investigators' findings that fatigue contributed to a **Cathay Pacific Boeing 747's** sustaining heavy damage after taxiing into its tow-tractor at Stockholm last year.

The jet had been pushed back from Stockholm Arlanda stand R9 for a service to Dubai but, shortly after the tow-tractor was disconnected from the nose-gear, the pilots started to taxi the aircraft **before a ground technician had given an unambiguous all-clear signal**.



It struck the tractor with its inboard left-hand Rolls-Royce RB211 engine. The rear of the vehicle penetrated the nacelle by 20-30cm (8-12in), heavily damaging the cowling, pumps, fuel lines and control units, and the engine began leaking fuel. Swedish investigation commission SHK found **both pilots had been awake for 18-20h** and that the time of the collision, **03:33** on 25 June 2007, **fell within the low-activity period of the body's circadian cycle**. It has concluded that both pilots **"were affected by fatigue"**.

But the Hong Kong Civil Aviation Department's flight standards division says: "It is noted that the crew had been rostered to have adequate rest and **there was no evidence** in the report that the crew suffered from fatigue."



Although the Schopf 356 tractor had been moved a short distance, **it remained out of the pilots' field of vision**. SHK says that, while the pilots read the normal checklist after engine start, it "did not contain any point" concerning a "clear signal" - a thumb-up gesture showing an aircraft is clear to taxi.

Only a [supplemental note](#) in the carrier's expanded checklist informed pilots that the ground dispatcher would "clearly display" to them the steering pin removed from the nose-gear.

While SHK attributes the collision to ["inadequate" checklists](#) regarding confirmation of an all-clear signal, the Hong Kong authority says it has "difficulty in agreeing" with this conclusion, pointing out that the tractor driver and ground dispatcher had not previously performed pushback for a 747.

"We are of the view that the cause or causes should be established with due [consideration of all factors](#) and supported by the facts established in the findings," it adds.

The Arlanda tow-tractor driver, who was preparing to move the vehicle clear when he heard the 747's engines powering up, hastily abandoned it and that none of the ground personnel was injured. The accident badly damaged the tractor. In its report into the event SHK adds that - despite the fuel leak, close to hot exhaust and electrical wiring - emergency services [were not summoned for nearly an hour.](#)

[Incorrect flight data led Qantas A330 to descend sharply: ATSB](#)

A Qantas Airways Airbus A330 that descended suddenly appears to have received [faulty data](#) from one of its units and this then played havoc with the aircraft's flight control system.



"At this stage of the investigation, the analysis of the available data indicates that the [air data inertial reference unit \(ADIRU\) 1](#) abnormal behavior [is the likely origin](#) of the event," the Australian Transport Safety Bureau (ATSB) says in a statement today, referring to an incident that occurred on 7 October while the Qantas A330 was enroute from Singapore to Perth.

"The faulty ADIRU unit continued to [feed erroneous and spike values](#), for various aircraft parameters, to the aircraft's flight control primary computers."

This "led to several consequences including: false stall and over-speed warnings, loss of altitude information on the captain's primary flight display and several centralized aircraft monitoring system warnings."

Because the ADIRU 1 generated very high, random and incorrect angles of attack it meant that "the flight control computers commanded a nose-down aircraft movement, which resulted in the aircraft pitching down to a maximum of 8.5 degrees."

It also "triggered a flight control primary computer pitch fault".

The ATSB says the crew responded in a timely fashion and helped prevent the aircraft's rapid descent from being even greater.

In its preliminary review released on 9 October the ATSB says the A330 descended about 650ft in about 20s, before returning to the cruising level of 37,000ft.

Then about 70s later the A330 descended about 400ft in about 16s before returning to the cruising level. In both instances the aircraft was pitched nose-down.

Of the 303 passengers and 10 crew on board 14 people were seriously injured, an additional group of up to 30 had serious enough injuries to receive medical treatment in hospital and up to a further 30 required first aid treatment, says the ATSB.



The Qantas pilots responded by making an emergency landing at Learmonth, a remote airport in northwest Western Australia and from there the passengers were put on other aircraft and flown to Perth.

In today's statement the ATSB says Airbus a few moments ago issued an operators information telex providing information about the incident along with recommendations to A330 and Airbus A340 operators that have aircraft fitted with the same type of ADIRU as on the Qantas aircraft.

The recommendations include "guidance and checklists for crew response in the event of an inertial reference system failure".

ATSB says it will issue a preliminary factual report within 30 days of the incident.

ADIRUs provide data with regards to the aircraft's air speed, altitude, position and altitude.



NAVAL SAFETY CENTER

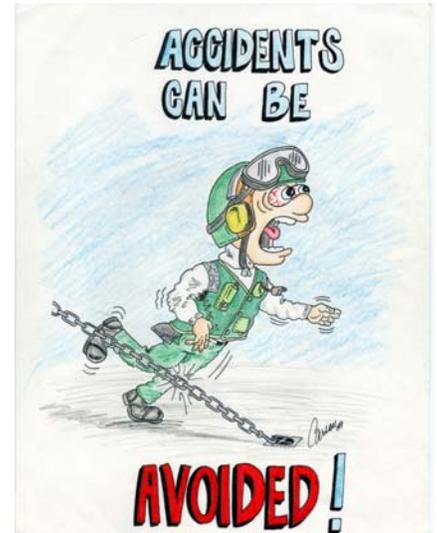
Work, Play, Live...Safely!

Maintenance Mishap Summary

Knowing that all maintenance is performed by the book, and only by the book, I shouldn't have anything to write about as far as "maintenance mishaps" or "malpractice", right? Well, I was wrong. Here are a few examples of our sailors that were following the publications but **are no longer able to use their hands** due to a moment of inattention by themselves or the help of shipmates.

An Airman working on an H-60 had his hand in between the hydraulic bay door and the airframe while another maintainer had shoved the bay door closed, **puncturing** the airman's hand.

Another sailor in the H-60 community **severed** their left index finger while folding the tail pylon.



These two incidents remind me of the time when I worked on H-60's. I was the "experienced" supervisor called out to assist one of my troopers who was having trouble lining up the main landing gear drag brace to the airframe. As I placed my finger inside the landing gear strut bushing to determine which way we need to "manipulate" the drag brace, and line up the bushings, my hard charging maintainer kicked the tire thinking that the strut would only move a fraction of an inch. Well, it didn't. I thought my finger was inside a **cigar cutter**. Fortunately, the motion didn't shear my finger off. I was lucky to see that I still had all five digits on my left hand when I finally got my finger out of the hole.

The bottom line is that **we are human**, working with machines that have **much thicker skin than we do**. This is not just for the H-60 folks, all platforms have their hazards. Brief ORM with your team prior to performing tasks, your comrades are sometimes the cause of injury. Most importantly, **always use caution** when putting your hands where they don't normally belong. These machines do bite hard.

2008 Fall Safety Campaign Video

The Army's Combat Readiness Center, and the Navy and Air Force Safety Centers have teamed up to produce a **fall safety campaign** video. Take a look at it, and see the tools and resources available to help you get through the fall and holiday season safely.



We spend a lot of time during the summer on the Critical Days of Summer campaign, and in this joint effort, we hope to provide useful information to members of each service.

http://www.safetycenter.navy.mil/Temp/fall_campaign/fall_campaign.wmv



[AOPA ASF Launches Free Online Safety Course](#)

AOPA Air Safety Foundation Friday announced the launch of a **free online course** called "**Do The Right Thing**" designed "to help pilots improve their decision-making skills" and reduce accidents by preventing the formation of **poor decision strings**. Based on its seminar titled "Do The Right Thing: Decision Making for Pilots," the online course presents pilots with five scenarios and a succession of decisions, each of which alters the outcome of the adventure. At the end, pilots "experience the consequences" of their decisions graphically through "innovative use of Microsoft Flight Simulator X." Decision trees built into the scenarios allow pilots to clearly see the virtual results of their decisions and how a break in the chain can successfully avert an accident that could otherwise be set in motion.



The course takes about an hour to complete, but may be stopped at any point (your progress is saved) and completed at your convenience. Completion of the course, which also involves a separate ten-question quiz, makes you eligible for credit in the FAA Wings proficiency program and potential insurance benefits for pilots who carry insurance through AOPA.

[Grand Opening Of Tuskegee Airmen National Historic Site](#)

Last Friday, Oct. 10, 2008, marked the grand opening and recognition of the Tuskegee Airmen National Historic Site at Moton Field, Tuskegee, Ala., now officially a national landmark. The site **serves as testament** to the all-black 99th Fighter Squadron and 332nd Fighter Group of World War II whose combat performance and civilian struggles have earned them legendary status.



The weekend's ceremonies were free and open to the public and saw the attendance of thousands, including a few of the surviving airmen.

The event recognized the first phase of the site's overall development -- phase two is due next April when the full site, including an iMax theater in a restored second hangar, is scheduled to open to the public.

The progress is the result of legislation passed by Congress in 1998 and signed by the president, appropriating \$29.1 million for phase one development. From 1941 through 1946, more than 990 pilots graduated from the flight training program at Tuskegee, with 450 going on to serve their country overseas.

The men were the nation's first black military pilots and **flew more than 700 bomber escort missions** and, according to the Tuskegee Airman Web site **never lost a bomber to enemy fighters.**

You're Safer On An Airplane

In an average year, **approximately 98,000 Americans die from infections they acquire in hospitals**, according to the Centers for Disease Control and Prevention. Many and perhaps most of these deaths could be avoided if well-understood sanitary methods, such as proper sterilization of equipment and **hand-washing**, were followed.

In addition to the toll from infections, **medical mistakes** kill 44,000-98,000 each year, states a report from the Institute of Medicine.



We don't know how these death rates measure up on a per capita basis against the health care systems of comparably developed nations. We do know that if we were sitting in the US Congress or the White House, and we were looking at picking the **low-hanging fruit** in eliminating mistakes and carelessness as a cause of human misery, suffering and death, we would probably want to do all we could to encourage hospitals to adopt things like mandatory standardized pre-operation checklists, incident-reporting systems and data-driven analysis to understand why mistakes occur and how to prevent them.

The air transport industry has been doing this kind of thing for years. That's probably one reason that air travel remains far safer than, say, a trip to the hospital for a routine procedure. Of course you wouldn't know this from watching Congress, which fixates on exceedingly rare breakdowns in aviation but appears not to have the **faintest interest** in what's happening in the operating room. Consider what occurred last spring after Southwest Airlines--a carrier with an exemplary safety record--was found to have operated 46 737s in violation of an FAA airworthiness directive. Not only were the chairman and CEO hauled in to testify before the cameras, but FAA was browbeaten as well.

Under political pressure, FAA's boss, the Dept. of Transportation, created an Independent Review Team to assess the agency's approach to safety regulation. Perhaps reading the Washington tea leaves, FAA already had opened its own special industry wide investigation into airline compliance with airworthiness directives.

Now the verdict is in: US airlines, despite losing billions of dollars this year, **are 98% compliant with ADs**. And DOT's panel of outside experts essentially validated the collaboration model that has led to a dramatic reduction in US airline accidents, while calling for a more arms' length relationship between airlines and inspectors

No one--outside of Congress--should be surprised at the findings. Consider that as of this writing, **more people in Manhattan have died from cranes crashing into their apartments within the past 12 months than in US commercial airline accidents. More people have died from eating tainted hot peppers or injecting contaminated Heparin, from tigers breaking out of the zoo and mauling bystanders, than have died in airline accidents.** Throw in crocodile attacks and jellyfish stings and the same statement can be made for Australia, another nation that recently has become fixated on the issue of aviation safety following the Qantas decompression event and a string of lesser incidents.

We don't know how much longer commercial aviation can continue to improve its safety record. There are well-known problem areas--Africa, South America and Russia/CIS--that ICAO and IATA **are working hard** to rectify. Disaster can strike anytime, as happened in Spain in August and Russia in September, and it is fully possible that before this editorial appears the industry will confront a new tragedy.

Nevertheless, we are fairly comfortable in predicting that grandstanding by politicians in Washington or Canberra (or Brussels) will do little to prevent one. The real safety work is being done in OEM technical labs, in flight simulators and **classrooms**, in data centers where incidents are recorded for study and in the numerous safety colloquiums and conferences that bring together manufacturers, airlines, airports, ATC, and safety regulators.

If politicians around the world truly wanted to help make aviation safer, they could unlock the purse strings and make some much-needed investment in critical infrastructure. But Congress can't even be bothered to pass a new FAA budget and European air traffic modernization is woefully underfunded.

Infection Control

Health & Safety Best Practices

Are your workers still dubious about the need to wash their hands after touching everyday objects? Show them this video of a day in the life of a commonly handled item.

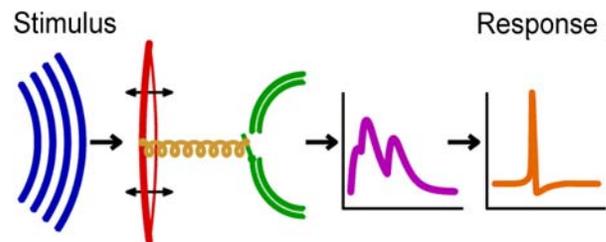
Type this link into your computer:

<http://www.safetyxchange.org/flvideo/money.asf>



Sound – It Can Make You Tired or Alert

Sound can invigorate you or send you to sleep. Don't believe me? Then just close your eyes for a few seconds and imagine that sounds of a rolling surf on the beach, or the smooth rushing of a mountain stream or the steady pitter-patter of rain storm and you'll probably be lulled to sleep in no time. In fact, these sounds are so effective that they are now electronically simulated in 'white noise' machines that many people use in their bedrooms.



Unfortunately, the same electronic 'white noise' is produced in less desirable places such as industrial control rooms, production areas, and even our cars and trucks, by the equipment that people are meant to watch alertly through the night.

'White noise,' the sound culprit in making us tired, is characterized by a constant frequency and amplitude (volume).

Just think of the dull, monotonous drone of computer equipment, or the cooling fans on the monitors of a control room, and you'll know what I'm talking about. Unfortunately, these 'white noise' sounds can be **problematic when working a night shift**.

The good news is that there are also sounds that **promote alertness**. For example, irregular or variable sounds, such as a **radio conversation**, or a honking horn, stimulate alertness. In fact, research has shown that **improvements can be made to alertness by increasing the amount of audio activity in a room**. However, if the sound's amplitude is too high or frequency too fast, it can be annoying and/or distracting and reduce performance.

Music, it turns out, typically falls within the variable frequency and amplitude fluctuation range known as **'pink noise.'** This sound range is stimulating to the brain, thereby **reducing errors** and improving response time.

Music with a beat, talk- radio programs, social conversations are particularly helpful in **maintaining alertness during monotonous tasks** such as driving or monitoring computers.

In general, it's a good idea to **make sound work for you**. For example, at work you should be aware of the sounds that are present in your workplace when working the **night shift**. Would you perceive them as being sounds that promote alertness or fatigue? If your workplace is **dominated by 'white noise'** it might be good to see if you can take step to introduce **alertness promoting sounds** to the environment. For example, some workplaces allow music, if there's a kill switch.

On the other hand, when you're home and trying to sleep, you should think about using 'white noise' to drone out distracting noises and help you fall asleep. A fan is great tool for helping you sleep during the day.

Book: If I Only Knew Then

Everyone can look back on their life and describe a **significant mistake** they've made and the **lesson they learned** from it. But how many of you would be willing to write it down and have the world read about it?

Charles Grodin found over eighty people to contribute to his collection of essays in *If I Only Knew Then...*, and the net profits from book sales go to HELP USA, a not-for-profit organization. HELP USA's mission is to empower the homeless and others in need to become self-reliant, an excellent cause in this reader's book.

Many of the contributors are celebrities such as Alan Alda, Carol Burnett and Ben Stiller. Others are accomplished and well-known people in the industries of politics, business and Hollywood.

Paul Newman, Rosie O'Donnell, Robert Redford-the list goes on and on. Deeper than just 'celebrity gossip,' these vignettes provide an inside look at what actors, artists, television personalities and others **have learned from life**-they share not only their wisdom, but the difficult ways they acquired it.

Charles Grodin has compiled the **life lessons** of many of his friends so that the rest of us can learn from their experiences. Meanwhile, Grodin is donating 100 percent of his book royalties to an organization that serves the homeless.

IF I ONLY KNEW THEN...

Learning from Our Mistakes

Charles Grodin

and friends and friends of friends

ALAN ALDA
MIKHAIL BARYSHNIKOV
CAROL BURNETT
WALTER CRONKITE
GOVERNOR MARIO CUOMO
PETER FALK
ART GARFUNKEL
PETE HAMILL
GOLDIE HAWN
SENATOR ORRIN G. HATCH
SHIRLEY MACLAINE
PAUL NEWMAN
ROSIE O'DONNELL
REGIS PHILBIN
ROBERT REDFORD
BEN STILLER
GENE WILDER
...and many more



Obviously, he's not in this for the money. Instead, he is genuinely trying to **pass along collective wisdom.**

Pick up this highly readable new book and start reading anywhere: you won't put it down!

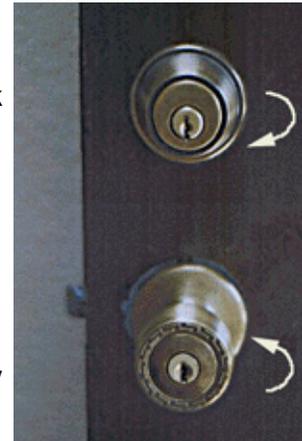
Armchair Interviews says: Charles Grodin is a comedian, actor and former talk show host.

Bad Human Factors Design



How do you unlock the door?

This picture shows the locks on our front door. To unlock the dead bolt lock (above), you turn the key to the right. To unlock the door knob lock (below), you turn the key to the left! That's pretty confusing! I checked a few other doors, and this seems to be the way they work too. I would hope they don't all work like this!



Design suggestion

Controls that have the same function should be operated in the same way. For example, both locks should be unlocked by turning the key in the same direction. This is an example of what is meant in human factors by "consistency" in design.

Food That Could Keep You Awake

Last week, we looked at different types of **food that can cause sleepiness**. On the flipside, there are plenty of foods and beverages that **can keep you up at night**, intentionally or not. The most widely known "pick me up" is caffeine. Caffeine is a stimulant that works by blocking the action of hormones in the brain that makes us feel sleepy. A strong dose of caffeine can stimulate the mind for a short time but also can cause an alertness crash as the effect wears off. The best way to benefit from the stimulating effect of caffeine is to consume small amounts frequently throughout the day. Certain foods can be associated with reflux events, which can cause coughing or choking while sleeping or attempting to sleep. **These foods include citrus fruits, chocolate, fatty and fried foods, garlic and onions, mint flavorings, spicy foods, or tomato-based foods, such as spaghetti sauce, chili and pizza.**



So stay away from that five-alarm chili, and remember not to eat or drink too much close to bedtime.

http://www.sleepfoundation.org/site/c.hulXKjM0lxF/b.2453615/apps/nl/content3.asp?content_id=%7B32BB1322-7AE9-425A-B9D9-5B43BF2FF9C9%7D¬oc=1



LED Battery Handle Probes – LED Handle + 1 Probe

The new Portable LED Fiberoptic probe is designed to illuminate hard-to-reach areas for visual inspection. The extension probes slip on and securely snap into place over the light source tip on the illuminator handle for a complete portable inspection system. The extensions come in three different angles, 0 degrees (straight), 90 degrees, and 45 degrees, each in diameters of 0.120-in., 0.058-in., and 0.030-in. to reach and illuminate areas with otherwise limited access. Powered by three AAA batteries (supplied with the unit) the new probe features a 1.25-Watt LED illuminator with a focusing lens to provide the same light output as a 3-Watt LED with less heat generated.



Since the LED is designed to last for more than 10,000 hours, there is no need for expensive bulb replacement. Constructed of stainless steel, the illuminator handle of the portable unit has an easy push-button on/off switch.



Type this link into your computer.

<http://www.titantoolsupply.com/catalog.asp?prodid=568624>

GO FIGURE

What does this number represent?

42,642

It's the number of people who were killed in police-reported traffic crashes in the United States in 2006.

Here are some other traffic safety statistics from the National Highway Traffic Safety Administration:

5,973,000 traffic crashes were reported to police in 2006

2,575,000 people were injured in police-reported traffic crashes in 2006

\$230.6 billion was the economic cost of motor vehicle crashes in 2000.



5 Safe Driving Practices

Don't Just Change Your Tires; Change Your Attitude

When it comes to workplace safety, just getting there can be half the battle. And with the arrival of fall, **longer hours of darkness and wet roads** can add to the hazards of commuting. But the one constant in our commute throughout the year is our **attitudes**. Often, it's what we think as much as what we do that gets us into traffic accidents. So while it's always a good idea to assess the conditions of your vehicle and route, it's also wise to assess and be prepared to change your attitudes toward driving.



Signs You Need a Driving Attitude Adjustment

These are some examples of the kind of thoughts that lead to traffic accidents. How many of them have crossed your mind recently?

- I can't afford new tires right now. I'll just have to stick with my old ones for another season.
- Never mind the weather. If the speed limit says 60, I'm going 60.

- If he doesn't get off my tail, I'm going to hit the brakes and teach him a lesson!
- The only way I'm going to get across this intersection is to make my left turn after the light turns red.
- Nothing is more important than getting to this meeting on time. I'll just text the client to let him know I'll be there soon.
- If I "boot it," I can make this yellow light.
- I've been driving for 20 years and haven't had an accident yet.
- Those pedestrians will just have to fend for themselves. After all, who's going to lose in a collision, me or them?
- I can't see behind me, but if I back up really slowly, the other traffic will have time to stop.

Signs of a Good Driving Attitude

The more of the above thoughts you think, the better the likelihood that you're going to end up in an accident. On the other hand, **positive attitudes** can keep you out of trouble. Do any of these thoughts sound familiar?

- Google map says it'll take 45 minutes to make the drive. But I don't know the route, so I'd better give myself some extra time.
- I'll just do a quick circle check of my vehicle before I start out.
- Seat belt on? Yup.
- Cell phone off? Yup.
- The speed limit says 60, but it's starting to rain, so I'll go a little slower because the roads will be slick.
- That car behind me is driving way too fast for these conditions. I'll get out of his way and give him some extra space.
- Traffic's heavy today. Better make sure I prepare and signal for my exit and lane changes well in advance.
- It's safer for me to nose out of this parking space. I'll back into the space so my car's facing out.

Conclusion

Most vehicle accidents are the result not of the machine but the **person** operating it. Be aware of your attitudes and give your undivided attention to your safe driving. And consider upgrading your driving skills. You don't have to be a poor driver to strive to become a better one.

October – National Fire Safety Month

In recognition of National Fire Safety Month in October, here is a reminder of several handy fire prevention tips to review with everyone at your operation.



1. Know the three elements that start a fire

Fuel, oxygen and heat are the essential ingredients. Take one out of the equation and blaze.

2. Types of fires, which classified according to fuel

- **Class A:** ordinary solid combustibles such as wood, paper and cloth
- **Class B:** liquids, gases (kerosene, propane, grease)
- **Class C:** electrical fires
- **Class D:** combustible metals (magnesium, sodium, titanium)
-

Only Class A fires can be put out with water. DO NOT use water on Class B, C or D fires.

3. Know how to use a fire extinguisher:

PASS

- . Pull and twist the pin
- . Aim the hose at the base of the fire
- . Squeeze the trigger
- . Sweep back and forth

4. R.A.C.E to safety

Dealing safely with a fire involves **R**escue, sounding the **A**larm, **C**onfining the fire and **E**vacuating individuals.

Cooking Oil Can be Dangerous

These days many people are avoiding fats and oils for a variety of health reasons. At the same time, deep-fryers are still a popular kitchen accessory in workplaces and homes. And that's where the other danger of using oil for cooking shows up. **Fire** officials in Beverly, MA, say they responded to three cooking oil fires in one week. The department is trying to inform the public of the dangers of, and correct way to battle, cooking oil **fires**.

Cooking oil can turn treats to tragedy

Cooking in oil can be bad for your health, and not just for the reasons nutritionists talk about.

According to the Beverly Fire Department, firefighters in the last week responded to three separate incidents of **kitchen fires** sparked by overheated cooking oil.



The alarming trend reflects national reports that zero in on the kitchen as the most frequent source of the average house fire.

The first incident occurred at 10:45 p.m. on Sept. 15, when a resident at 22 Home St. **accidentally overheated a pan of cooking oil, igniting a fire** that quickly spread to the bottom side of the range hood and damaged some cabinets, according to a press release from Capt. Peter O'Connor.

The second incident occurred Sept. 21, when another pot of oil was allowed to overheat and ignite on the stove. Fortunately for the resident, a neighbor heard her screams and was able to put out the **fire with a portable fire extinguisher**. The third incident occurred at the Callahan Center of Endicott College, when a burner was accidentally raised to a high heat with a pot of oil on it. The temperature of the oil was raised to its ignition temperature and flames erupted from the pot, O'Connor reported.

"A quick-thinking worker placed another pan over the pot in an effort to smother the flames, but the fire continued until a worker **discharged a fire extinguisher, knocking down the fire,**" O'Connor said. He added that this was the first such incident in recent history at the Callahan Center, where there is a very good record of safe practices and droves of students flock to eat every day. The press release did not specify what day the Callahan Center fire occurred. The Fire Department pointed out that the above incidents show that cooking oils, though an invaluable tool in the kitchen, **can be quite hazardous**. With easily attainable ignition temperatures, the oils can quickly ignite when left unchecked on the stove. The fast-moving fires can quickly spread beyond the pot, causing significant damage if not extinguished immediately.

The best defense is diligence," Deputy Chief William Walsh said. "Never leave any food on the stove unattended."

If you do have a cooking-oil fire, cover the pot with a tight-fitting lid and turn off the heat. Doing so deprives the fire of needed oxygen and also removes the heat, lowering the oil below its ignition temperature.

A fire extinguisher is also an important tool as long as you know how to use it. Fire extinguishers vary in types and sizes, and some are meant for use on very specific materials. Before you try to use a fire extinguisher, call 911 then ensure that it is rated for the type of fire you are trying to put out.

Improper application of a fire extinguisher can result in making the fire worse and possible personal injury.

Most extinguishers designed for kitchens are designed to be discharged from up to **10 feet away from the fire**. This distance keeps the user away from the fire and prevents the extinguishing agent from blasting the flaming oil out of the pan and all over the surroundings. Whenever there is any doubt about the capabilities of extinguishing a fire, the best course of action is to get out and call 911.

Picture This!

I'm not an inventor of ladders, but I know one thing: If I were, I wouldn't put wheels on them.

Don't get me wrong. I've seen those big rolling stair-step contraptions they have at building-supply places. They have a pair of locking wheels on one side that lock, but those are different.

Pictured this week is not a ladder. It is a **"Whoops!"** waiting to happen.

Wonder which aisle the splints and bandages are on?

