

# Aviation Human Factors Industry News

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From the sands of Kitty Hawk, the tradition lives on.

Hello all,

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★And Much More

## U.S. Navy Maintenance Officer's Comments for year ending 2013

LCDR Richard Thousand, Aviation Maintenance Officer, Naval Safety Center

As I review the mishap stats for the end-of-year reports, I'm disappointed in how we did in FY13. The first key number that caught my attention is the nearly 10 percent increase in maintenance-related Class B and C mishaps. While the overall trend has been encouraging in recent years, this mishap-rate increase is a concern we need to analyze and correct.

We flew almost 100,000 flight hours less than the previous year. Less flying should mean less maintenance and fewer mishaps. No, I'm not that naive. I understand that less flying means more time to get to those gripes

you never seemed to have time for. Shouldn't there have been less pressure on maintenance with the reduction in flight requirements? Whether you're in high-tempo or low-tempo operations shouldn't dictate the quality of your work. Do the job right — every-time! Everyone depends on you.

One thing that didn't change this past year from previous years was the top causal factors. We're again targeting human factors as our primary weak area. Let's improve the way we do business by using the pubs, following procedures and checklists, and communicating. Supervisors need to get away from the desks. Supervisor is a job, not a title.



## Human Error the Greatest Threat to Aviation Safety

“Human error is now the principal threat to flight safety,” according to an article by Don Harris in the February 2014 issue of The Psychologist, the magazine of the British Psychological Society.

Harris, a member of the human systems integration group at Coventry University, said there's **actually more to the problem** than simply pointing to human weaknesses. "Although there is increasing recognition of the importance of the human component in aviation safety, further work is required. The **science base and regulations still lag behind** changes in the nature of modern flight operations." Aviation psychology is, of course, designed to help reduce **human error**. Interestingly, Harris questions the relevance of Jim Reason's Swiss cheese model of error prevention in an era when many new airlines around the world operate without the benefit of an organizational system like the one upon which Reason's work relies. "Today more work is outsourced and contracted out," he said. "Airlines operate into a wide range of airports (none of which they own), and **maintenance is often provided by third parties**. Some low-cost carriers may not even own their aircraft, or employ their own ground and check-in personnel. In extreme cases, they don't even employ their own pilots...the person making the final error **may not be one of the victims** of [an impending] accident. Safety management now **has to extend beyond** the immediate organization." To Harris that means realizing that aviation psychology "needs to take an integrated, long-term approach to tracking human-related costs and safety issues, significant wide-ranging benefits will accrue."



[http://www.thepsychologist.org.uk/archive/archive\\_home.cfm?volumeID=27&editionID=236&ArticleID=2411](http://www.thepsychologist.org.uk/archive/archive_home.cfm?volumeID=27&editionID=236&ArticleID=2411)

## **Champions for Safety**

### **NTSB Safety Compass**

### **The Official Blog of the NTSB Chairman**

On February 12, 2009, a Colgan Air, Inc., plane operating as Continental Connection flight 3407, departed Newark airport en route to Buffalo, New York. Approximately 5 miles from the airport, the regional jet tragically crashed into the Clarence Center neighborhood killing all 49 passengers and crew members on board, and 1 person on the ground.



In the wake of catastrophic transportation accidents, the families left behind are often [the biggest champions for change](#). Today the loved ones of those killed 5 years ago on Continental Connection 3407 will mark the anniversary with a candlelight vigil at the crash site – the same spot where they came together a few days after the accident and resolved to improve transportation safety.

Through our investigation, the NTSB determined that the accident was caused by the [inappropriate responses and actions](#) by the flight crew during flight. Colgan Air's inadequate procedures for airspeed selection and management during approaches in icing conditions contributed to the cause of the accident. The NTSB's investigation [identified several additional safety issues](#) and our recommendations focused on strategies to address flight crew monitoring failures, pilot professionalism, fatigue, remedial training, and pilot training records, just to name a few. Twenty-five recommendations were made in order to prevent similar accidents. Following the 2009 crash, the loved ones of many of the passengers killed in the accident launched a campaign to advocate for many safety issues identified in the NTSB's investigation. Their efforts were instrumental in the passage of the [Airline Safety and Federal Aviation Administration Extension Act of 2010](#), which President Obama signed in August 2010. The legislation mandated numerous improvements addressing pilot training, qualifications and fatigue and also included a provision designed to ensure that airline tickets clearly reflect which airline is actually operating each flight. From this legislation, we have seen new regulations that address flight and duty time. This past November, the FAA issued a new regulation requiring increased training, including simulator training on stalls, like the event encountered by the crew of Flight 3407.

Today, as the family members mark the five-year anniversary of the accident, their loss is still painful. But their achievements are [a testament](#) to their continued love for those who perished. We are grateful to these families who continue to be tireless champions for change.

<http://safetycompass.wordpress.com/>

<https://www.govtrack.us/congress/bills/111/hr5900/text>

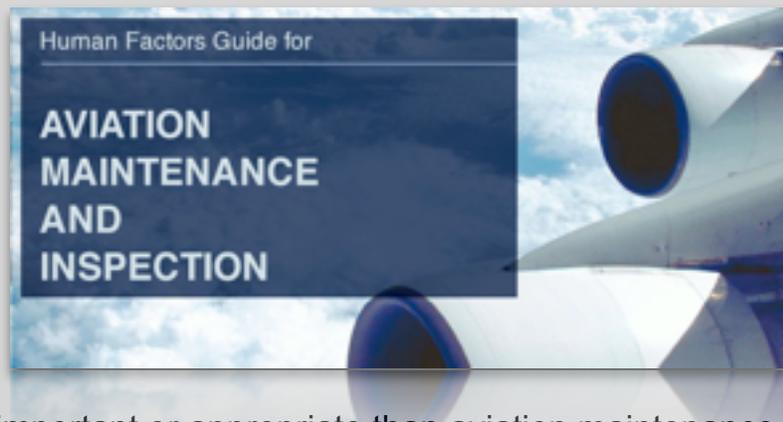
## **Human Factors Guide for Aviation Maintenance and Inspection**

The discipline of Human Factors began in the aviation industry and has matured along with it. Human factors methods [are always aimed](#) at ensuring the safety and efficient performance of humans in human-machine systems. In no

domain is this focus more important or appropriate than aviation maintenance.

The safety of global commercial aviation depends in large part on the people who maintain aircraft. International aviation regulatory authorities have required formal human factors (HF) training in aviation maintenance organizations for a number of years. While the U.S. Federal Aviation Administration (FAA) has not enacted regulations requiring maintenance HF training, it has provided [HF-specific guidance](#) since the mid 1990's.

Originally published in 1996, the Human Factors Guide for Aviation Maintenance and Inspection (HF Guide) was revised and supplemented in 1998, at which time it was moved to the Internet in a web-based framework.



Since 1998, many changes have occurred in aviation maintenance. International and domestic regulations have been introduced and modified. Third-party maintenance has grown dramatically. Aging fleet issues have put more stringent inspection and repair requirements on maintainers and maintenance organizations. Also, of course, the science and practice supporting the guidelines in the 1998 HF Guide has evolved.

The web-based document you are now viewing is the successor to previous versions of the HF Guide. Some chapters have been deleted and others have been added. All chapters [have been updated](#) to reflect the current state of regulations and HF knowledge and practice.

As with previous versions, this HF Guide is not aimed at professional human factors practitioners. Rather, our goal is to provide non-practitioners with enough information to allow them to recognize and take into account [human capabilities and limitations](#). Therefore, the guidance we provide relates more to analysis and evaluation than to design.

In addition to the content available in your Internet browser, you can download a print version (PDF) of each chapter with a simple mouse click. The content in the print version is the same as the online content, however the print versions have been formatted to make the hard copy attractive and easy-to-read.

Thank you for using the HF Guide. [Please let us know](#) if you have any comments or suggestions related to its content, layout, perspective, or any other element. You can reach us directly at the following link: [Bill.Johnson-DR@faa.gov](mailto:Bill.Johnson-DR@faa.gov).

<http://www.hf.faa.gov/hfguide/index.html>

## **Pushback tractor hits jet at BWI**

On Sunday, February 16, a ground worker has been slightly hurt after a pushback tractor hit the nose of a parked American Airlines jet at Baltimore/Washington International Thurgood Marshall Airport.

An American spokesman said Monday that nobody on Flight 140 was injured and the MD-80 has been taken out of service. Kent Powell says the 119 passengers were being put on other flights to Dallas-Fort Worth International Airport.

Powell says the **five-person crew** was on the jet Sunday afternoon during boarding for the trip to Texas when the ground crew was hooking a tow bar to the front gear. Investigators are trying to determine why the tractor hit the landing gear and the nose cone that contains radar equipment. No damage estimate was released.

A contract worker was treated for a minor knee injury.



## **Navigating the Gray Areas of Ethics for Mechanics by John Goglia**

Almost every week a mechanic or a mechanic's group will raise an ethical issue in our conversations. The black and white issues are just that, black and white. Signing off for an annual or 100-hour inspection when you haven't done one is obviously **not OK** from an ethical standpoint, not to mention a clear violation of the Federal Aviation Regulations that can have significant consequences for your livelihood. The same is true for signing off for a repair that you have not done.



### **Rushed jobs**

But what about the gray areas? The two most frequently discussed issues in my experience, are the rushed jobs and what to do when the maintenance manual or task cards **are wrong**. In the first instance, the question revolves around signing off work that you're asked to do in a shorter amount of time than you normally require or would like. Is a rushed annual still an annual that you can ethically and legally sign off for? Of course, the answer depends on how rushed.

Do a job too quickly and you risk missing some potentially significant airworthiness problems. Do a job too slowly and you risk missing out on additional income or angering your boss.

But the point of this article is not to answer the question of how fast is too fast, but to get you [to start planning ahead for those rush jobs](#) so that you can spend your time more effectively and consequently feel comfortable that the time saved has [not negatively affected the quality of the work](#) you have been assigned.

As soon as work is assigned or contracted for, make sure the most up-to-date paperwork, manuals, airworthiness directives, etc., are reviewed and [understood](#). Don't wait until the aircraft actually shows up at the shop to do this. It will eat up unnecessary time that could be spent doing the tasks necessary. Many times, I see mechanics at large and small shops waiting until an aircraft arrives to get the paperwork ready. Usually, this work can be done before the aircraft even arrives in the shop. This is also a good time to ensure that you have [all the tools ready and properly calibrated](#), as necessary. If a special tool is required, securing access to it ahead of the aircraft's arrival will make the job go faster and more smoothly.

### [What if the paperwork is wrong?](#)

The other issue that comes up frequently is what to do when the paperwork is wrong — or at least you believe it to be wrong. Clearly you can't [ethically](#) do a maintenance job that you believe is incorrect just because the paperwork says to do it that way. On the other hand, you don't have the authority to deviate from the paperwork. And, of course, just because you think the paperwork is wrong doesn't mean that it is wrong. The problem I usually find is that the shop where the mechanic works — be it a repair station, an air carrier, or a one-person operation — [hasn't planned ahead](#) for this pretty common problem.

The time to figure out the process for dealing with incorrect paperwork is not in the middle of a repair where time pressures are significant. The time to put the process in place is now. Every shop needs to have a process in place for getting paperwork issues resolved so that a mechanic is not left to make decisions on his or her own. Then it's up to every mechanic who identifies a problem with the paperwork [to follow the process to get it corrected](#), whether that requires an engineering order or other approval. So if you're in a shop that doesn't have a process in place, ask management to establish one. It's in their best interests, too.

## **FAA Proposes \$204,050 Civil Penalty Against Sierra Academy of Aeronautics**

The U.S. Department of Transportation's Federal Aviation Administration (FAA) is proposing a \$204,050 civil penalty against Sierra Academy of Aeronautics of Atwater, Calif., for allegedly operating nine Cessna 152 airplanes when they were not in compliance with Federal Aviation Regulations. The FAA alleges Sierra mechanics **failed to inspect the planes' seat locking pins** according to the requirements of an Airworthiness Directive (AD). The FAA issued the AD following reports of seats slipping when a latch pin was not properly engaged, which could lead to the pilot losing control of the airplane.



Sierra allegedly operated the nine aircraft on a total of 358 flights, including instruction and rental flights, when they had not been properly inspected. The FAA also alleges Sierra **improperly recorded a maintenance log entry** for one of the aircraft.

Sierra has 30 days from the receipt of the FAA's enforcement letter to respond to the agency.

## **FAA Proposes \$78,000 Civil Penalty Against Amazon Fulfillment Services**

The U.S. Department of Transportation's Federal Aviation Administration (FAA) is proposing a \$78,000 civil penalty against Amazon Fulfillment Services of North Las Vegas, Nev., for allegedly violating U.S. Department of Transportation Hazardous Materials Regulations.

The FAA alleges that on August 29, 2013, Amazon Fulfillment Services **shipped a quart of high gloss enamel paint** on a FedEx Corp. aircraft from Lexington, Ky., to Corpus Christi, Texas, where workers discovered that leaking paint had soaked through the shipping box. Paint is considered to be a Hazard Class 3 Flammable Liquid.

Investigators determined the shipment was **not accompanied by shipping papers** to indicate the hazardous nature of its contents and it **was not marked, labeled or packed** in accordance with the Hazardous Materials Regulations. The box also contained no hazardous material inner packing, such as inserts or absorbent materials. Finally, the package failed to protect against a release of hazardous material into the environment under normal transportation conditions. Amazon Fulfillment Services has 30 days from the receipt of the FAA's enforcement letter to respond to the agency.

## **Asiana Seeks Cockpit Culture Change After Crash**

South Korea's Asiana Airlines is changing its pilot training and encouraging its flight crews **to talk more** in a bid to change a corporate culture that US investigators said may have been a factor in a crash at San Francisco Airport last year.

A hearing into the July 6 crash, where three people died and more than 180 were injured, revealed that **one of the pilots said he did not feel he had the authority** to abort a low-speed landing as people at a "higher level" had to make that decision. "It's a reality that within our country there is a leaning toward a **patriarchal culture** and many pilots work and fly within the strict military order," chief executive Kim Soo-cheon told reporters on Monday.

The airline has, since September, strengthened pilot training, set up out-of-office gatherings and recommended all members of the flight crew address each other with **honorifics** while working, **regardless of rank**, Kim said.

Yamamura Akiyoshi, senior executive vice president in charge of safety since December, added that Asiana was also seeking to **encourage staff to report problems without fearing possible penalties**.

Another factor highlighted in the December hearing was pilots' **reliance on the autopilot to maintain airspeed**. One of the pilots also said **he was stressed** about manually flying the plane.

The US National Transportation Safety Board investigation into the crash of the Boeing 777 is still ongoing and both Kim and Yamamura declined to give details about the probe.



## FAA Bars Airline Pilots From Personal Use of Electronic Devices in Cockpits

### The New Rule Takes Effect In Two Months

The Federal Aviation Administration issued final regulations barring airline pilots from using [laptops, cellphones or other electronic devices](#) for personal reasons while on duty in the cockpit.

The rule, which was released Tuesday and takes effect in two months, mandates prohibitions that were previously called for by Congress and included years ago in a non-binding advisory document issued by the FAA.

The move also parallels FAA rules issued more than 30 years ago requiring a so-called "[sterile cockpit](#)" in which personal discussions and other distractions are banned below certain altitudes.

The FAA said the rule "codifies existing FAA policies and procedures" applying to both cargo and passenger carriers.

In addition, individual airlines have included the issue in updated training curricula.

The dangers of aviators [distracted by electronic devices](#) created a furor five years ago, when a Northwest Airlines crew overshoot its destination by more than 100 miles because the pilots were engaged in a [personal discussion](#) and looking at their laptops. The plane landed safely, but the distracted crew was out of radio contact with air-traffic controllers for more than 70 minutes.

The FAA also cited a 2011 medical helicopter crash, which killed the pilot and three other onboard, [as an example of distractions](#) caused by electronic devices.

The rule follows a conclusion by the National Transportation Safety Board that the FAA's earlier non-binding advisory circular was inadequate. The safety board also has advocated moves to crack down on texting and other electronic distractions by train engineers, marine operators and individual drivers.



The FAA rejected arguments by some pilots that personal uses of such electronic devices sometimes enhance safety by alleviating cockpit boredom, lethargy and loss of concentration during cruise portions of flights.

The agency also indicated **it might** extend the ban to small turboprop aircraft and charter operators.

## **Blue Light May Fight Fatigue Around the Clock**

Exposure to short wavelength, or blue light, **during the biological day** directly and immediately improves alertness and performance, according to new research from Brigham and Women's Hospital (BWH). These findings are published in the February issue of *Sleep*.

"Our previous research has shown that blue light is able to **improve alertness during the night**, but our new data demonstrates that these effects also extend to daytime light exposure," says Shadab Rahman, PhD, a researcher in BWH's Division of Sleep Medicine and lead author of this study.

"These findings demonstrate that prolonged blue light exposure during the day has an alerting effect." In order to determine which wavelengths of light were most effective **in warding off fatigue**, the BWH researchers teamed with George Brainard, PhD, a professor of neurology at Thomas Jefferson University, who developed the specialized light equipment used in the study. Researchers compared the effects of blue light with exposure to an equal amount of green light on alertness and performance in 16 study participants for 6.5 hours over a day. Participants then rated how sleepy they felt, had their reaction times measured, and wore electrodes to assess changes in brain activity patterns during the light exposure.

The researchers found that participants exposed to blue light **consistently rated themselves as less sleepy**, and had quicker reaction times and fewer lapses of attention during the performance tests, compared to those who were exposed to green light. They also showed changes in brain activity patterns that indicated a more alert state.



“These results contribute to our understanding of how light impacts the brain and open up a new range of possibilities for [using light to improve human alertness, productivity, and safety](#),” explains Steven Lockley, PhD, neuroscientist at BWH and senior investigator of the study. “While helping to improve alertness in night workers has obvious safety benefits, [day shift workers](#) may also benefit from better quality lighting that would not only help them see better but also make them more alert.”

Researchers note that the next big challenge is to figure out how to deliver better lighting. While natural light is ideal, many people do not have access to daylight in their schools, homes, or work places. In addition to improvements in daylight access, the advent of new, more controllable lighting technologies may help enable researchers to develop “[smart](#)” lighting systems designed to maximize the beneficial effects of light for human health, productivity, and safety.

- See more at: <http://www.sleepreviewmag.com/2014/02/blue-light-fight-fatigue/#sthash.1C1BxNw4.dpuf>

<http://www.journalsleep.org/ViewAbstract.aspx?pid=29311>

## **Aviation Training Academy Online Courses Approved for IA Renewal Credit**

FAA has approved the following courses for IA renewal credits: Hazardous Materials Awareness Training Online, General Aviation Fire Safety Online, and [Human Factors](#), It All Starts with Maintenance

Aviation Training Academy (ATA) announces the FAA has approved the following courses for [IA renewal credits](#): Hazardous Materials Awareness Training Online, General Aviation Fire Safety Online, and Human Factors, It All Starts with Maintenance in live seminar presentation at your facility. The Human Factors course is not currently available online, [but planned for availability in 2014](#).



“The Hazardous Materials Awareness course curriculum includes material on the new documents, formatting, labeling, signal words and pictograms of the OSHA newly mandated Globally Harmonized System. OSHA’s deadline for this training passed on December 1, 2013” so this is a great opportunity for those who have not yet complied to get up to speed”, states Dave Ware with ATA. The cost of this online training is \$89.95 and is available through ATA’s website <http://aviationta.aero>

**Other courses offered by ATA** directed toward airport operations, specifically, FBOs, corporate flight departments, municipalities, fueling agents, line service technicians, and mechanics include; Line Service Technician Certification; 14 CFR 139 Supervisor Certification; 14 CFR 139 Auditor’s Practical Checklist for Completing 14 CFR139 Inspection; FBO Preparation for the 14 CFR 139 Inspection, and Self Fueling Operations.

All courses meet the latest industry training standards for aviation support personnel and Aviation Training Academy certification is provided at the successful completion of each course. “ This training is both an affordable and convenient way to accomplish I/A Renewal Training, especially with the March 31, 2014 deadline for completed training quickly approaching” stated DeborahAnn Cavalcante, partner in ATA.

About Aviation Training Academy (ATA)

“ATA provides the industry with comprehensive and standardized training and continued education of professional aviation ground support personnel. ATA is dedicated to being the premier provider of aviation training”, stated Walter P. Chartrand long time “World Class” industry trainer and partner at Aviation Training Academy (ATA).

ATA’s no membership fees philosophy provides standardization of training in a flexible format, eliminates training related travel expense, and can be accomplished on your schedule.

You can contact Aviation Training Academy at [aviationta.aero](http://aviationta.aero), email [info@aviationta.aero](mailto:info@aviationta.aero), or by telephone at 757.348.5862

## How Caffeine Sharpens Your Memory

Coffee is one of the most popular beverages in the world for lots of reasons, including that it gives people a pleasure lift in the morning. New research shows that it also helps their memory. Researchers had 160 people who were not regular coffee drinkers look at pictures of objects; five minutes later they gave them either a placebo or a tablet containing **200 milligrams of caffeine**-about the amount contained in a strong cup of coffee. The next day, participants were shown a broader set of images and asked to identify which ones were new, old, or similar. The caffeinated group was more likely to recognize slight differences in the pictures, such as a yellow rubber duck that was fatter than the one they'd seen the day before. "Without these tricky similar items, we would have found no effect of caffeine." University of California, Irvine, neuroscientist Michael Yassa tells Forbes.com. "However, using these items requires the brain to make a more difficult discrimination-what we call **pattern separation**, which seems to be the process that is enhanced by caffeine." It's that form of memory that people use, for example, to recall where they last parked the car. Caffeine's effect depends on the dosage, however: Researchers found that 100-milligram tablets don't improve memory, while 300-milligram doses cause headaches and jitteriness.



## Should Uber Be Responsible For Driver Recklessness?

The transportation app Uber matches ride-seekers with drivers. Drivers must keep checking their phones to catch customers, and critics say that may have **dangerous consequences** on the road. Is Uber responsible for the risk?

A man named Syed Muzaffar drove for Uber, the San Francisco-based company that makes money selling car rides.



He lives in a suburb of San Francisco and on New Year's Eve, he says, he was in the city for the sole purpose of picking up partygoers who needed a ride. His night ended early and tragically, around 8 p.m., when he turned a corner and hit a family in a crosswalk.

"The mother sustained facial fractures," says Police Sgt. Eric Mahoney, who is investigating the case. "The 4-year-old boy suffered abrasions on his face, and the 6-year-old girl was fatally injured."

Last week the surviving victims filed a civil lawsuit in California, saying that Uber is responsible for damages.

Police are still investigating if the driver was using his Uber app while driving, as he claims, and whether that played any role in the collision. Mahoney says it's very possible. [Uber drivers have to look at their smartphones constantly](#), to see when there's a new request for a ride and the customer's GPS location.

"It's easier to ignore a text from a friend until you stop," Mahoney says. "It's a lot harder to ignore a text when that's how you feed your family."

Uber employees declined an interview. A company statement says while the man was an Uber driver, he is an independent contractor, not an employee, and he was not on the clock. The company's million-dollar insurance policy only kicks in when the driver has a passenger.

But lawyer Steven Clark, who is not a party in the suit, says there's a wide open question: ["Why is Uber not responsible for that driver who was negligent?"](#)

Uber uses social media to match drivers and passengers. The company also asks drivers to hang out on the streets — especially during peak times like New Year's Eve — so they can respond to new requests quickly. Drivers even get rated by their response time.

"They are out there to derive economic benefit for Uber and for themselves, and therefore if Uber shares in the profits, they should share in the responsibility," Clark says.

Another question the lawsuit raises is whether Uber [creates new risks on the road](#). Ride-sharing could be more safe than taxicabs because drivers get specific, named passengers. It could also be less safe, because drivers have to keep checking their phones.

"I probably glance at my phone, kind of like your rearview mirror-glance, about every six seconds or so," says Kristen Gardner, who joined the ride-sharing industry a few months back. "It's like, rearview mirror, phone, road. Rearview mirror, phone, road."

Uber is a darling in Silicon Valley, valued at about \$4 billion.

Clark says the lawsuit could set a new precedent that makes other social media companies suddenly responsible for background checks and damages. Whether it's a car-sharing service or a dating service like Match.com, [a lot can go wrong](#).

"So if someone is injured or killed because they've met someone through a social media site and they've paid a fee for that, are the courts going to take this case and extrapolate it to liability in other social media business models?" Clark asks.

As the lawsuit works its way through court, Uber is racing to add new cities to its ride-sharing fleet.

## **7 ways to snack smarter**

Have you upgraded your snacks in the interest of more healthful eating? Perhaps you've traded in your afternoon candy bar for an energy bar or have become a fan of baked potato chips or fat-free ice cream. Maybe you're willing to pay a little extra when the label says "organic" or "natural." It's a great idea [to choose snacks wisely](#). But many foods that seem to be a great nutrition value aren't. Bran muffins and cereal bars can be packed with unhealthy fats and added sugar. Fat-free foods often contain lots of added salt and sugar.



### **Here are 7 tips for smarter snacking.**

1. **Go for the grain.** Whole-grain snacks — such as whole-grain low-salt pretzels or tortilla chips and high-fiber, whole-grain cereals — can give you some energy with staying power.
2. **Bring back breakfast.** Many breakfast foods can be repurposed as a nutritious snack later in the day. How about a slice of whole-grain toast topped with low-sugar jam? Low-sugar granola also makes a quick snack.
3. **Try a “hi-low” combination.** Combine a small amount of something with healthy fat, like peanut butter, with a larger amount of something very light, like apple slices or celery sticks.
4. **Go nuts.** Unsalted nuts and seeds make great snacks. Almonds, walnuts, peanuts, roasted pumpkin seeds, cashews, hazelnuts, filberts, and other nuts and seeds contain many beneficial nutrients and are more likely to

leave you feeling full (unlike chips or pretzels). Nuts have lots of calories, though, so keep portion sizes small.

5. **The combo snack.** Try to eat more than one macronutrient (protein, fat, carbohydrate) at each snacking session. For example, have a few nuts (protein and fat) and some grapes (carbohydrates). Try some whole-grain crackers (carbohydrates) with some low-fat cheese (protein and fat). These balanced snacks tend to keep you feeling satisfied.
6. **Snack mindfully.** Don't eat your snack while doing something else like surfing the Web, watching TV, or working at your desk. Instead, stop what you're doing for a few minutes and eat your snack like you would a small meal.
7. **You can take it with you.** Think ahead and carry a small bag of healthful snacks in your pocket or purse so you won't turn in desperation to the cookies at the coffee counter or the candy bars in the office vending machine.

## **CHARLIE VICTOR ROMEO IN 3-D Movie.**

When you board an airplane, you put your life in the hands of the pilot and co-pilot. What happens in the cockpit when these professionals are faced with impending disaster? *CHARLIE VICTOR ROMEO* (code for "cockpit voice recorder") dramatizes actual black box recordings of six harrowing airline

emergencies, using the sparest of elements to foreground the unabashedly heroic of these unsung men and women. Adapted from a critically-acclaimed theatrical production, the movie – shot and projected in 3-D – puts you in the cockpit as they do everything possible to land under near-impossible circumstances: a plane that can only make right turns; blown engines due to bird strikes; or failed hydraulics, resulting from maintenance negligence.



## Inspiration

### The cactus coated marshmallow man!

When Jim O'Connor's students at St. Francis High School in La Canada, Calif., learned where the Vietnam veteran and math teacher spends his free time outside of the classroom, their respect for him multiplied exponentially.



<http://www.cbsnews.com/videos/a-tough-math-teachers-tender-heart-of-gold/>