

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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Music Appreciation and Maintenance Human Factors

Dr. William Johnson is the FAA Chief Scientific and Technical Advisor for Human Factors in Aircraft Maintenance Systems. Johnson is a member of the Human Factors Advisory Group to the European Aviation Safety Agency (EASA). The group worked with EASA to define human factors aspects of the proposed safety management system regulations. When you don't understand or appreciate a particular music genre it "all sounds the same."

Let me explain. If don't like classical, opera, folk, rap, or hip hop music, when you hear those genres of music you can't differentiate among the artists; you can't identify the era of the recording; because you just don't care. When you like a certain genre of music, say rock or country, you know if the tune is old or new, the name of the artist, and you maybe even went to the concert. You appreciate the subtleties of your kind of music. You like the new stuff and even the old tunes. I have come to the conclusion that the analogy to music genres appreciation helps explain when individuals say **that all human factors initiatives are the same and have gone un** throw around comments like "HF is more than the Dirty Dozen, I Swiss Cheese." They know just enough buzzwords to be dangerous. They appreciate the artists, can't identify the subtleties of intervention, are not fans of "human factors." But, they are **the target fans** that are convinced of the value of HF programs.

Is there a solution?

It may be very difficult for an opera star to convince the county/rock fan to change their listening/appreciation and buying patterns. Each can exist without the other, so that is OK. That is not the same situation with regards to human factors in maintenance. **The industry needs everyone on board.** Success is not based on record sales but on the success of evolved safety cultures. That includes such programs as:

- **voluntary** reporting systems;
- detailed **root cause analyses** to determine HF contributing factors;



- continued [initial and recurrent HF](#) training for all employees including HF trainers;
- implementation [of fatigue risk management programs](#);
- addressing the [issues associated with failure](#) to follow procedures;
- [continuing participation](#) in government/industry HF forums; and more.

The fact that HF contributes to 80 percent of events is testimony that ongoing HF initiatives are absolutely necessary and must involve everyone.

[Catering to the fan base](#)

Music stars cater to their fan base, with an eye to adopt new listeners. They do that by establishing web sites, twitter accounts, newsletters, and other media. They get out on the concert tours to meet the loyalists. They release new albums to ensure continued fan loyalty. They may record a duo with an artist from another musical genre, like the recent Lionel Richie country album. These activities may also help grow the fan base. [Let's compare that to the promotion of human factors activities.](#)

First is the continued flow of fresh information. The FAA maintenance HF website has been around since 1995. It contains more than 1,700 human factors specific reports dating back to the initial series of maintenance human factors conferences, starting in 1988. In fact, it serves as the sole online source of a handpicked (by Hon. John Goglia, NTSB Ret.) collection of human factors related aircraft accidents dating back to the '50s. The site contains a variety of HF training media, and even fatigue assessment software that is updated almost monthly. The site is [currently undergoing complete interface revision](#) to be ready by Fall 2013.

There are many other sources for current material. The Civil Aerospace Medical Institute, with Flight Standards, publishes a quarterly maintenance human factors newsletter. It is one click away from the FAA HF home page. Other examples of timely digital media are the [Aviation Human Factors Industry News](#) (Roger Hughes) and the Cygnus AMT Weekly News (Ron Donner, AMT Society). Roger Hughes concentrates on HF while Ron Donner adds HF as it relates to weekly events.

The [Chief Scientist/Technical Advisor program, working with CAMI](#), conducts an annual small workshop to identify challenges and solutions related to maintenance human factors. That multi-disciplinary group, including HF naysayers, has consistently said that the [industry needs help with HF issues surrounding like:](#)

- technical documentation;
- worker fatigue;
- proving the payoff of HF interventions;

- effective local use of data from voluntary reporting;
- communicating HF issues;
- fostering a just culture; and more

Ongoing FAA HF activity is based on the recommendations from that workshop.

If there were HF concerts then the [FAA Maintenance Human Factors Symposia](#) would be the maintenance HF Woodstock. Those meetings had a positive impact over a 20-year period, starting in 1988. There has been a reduction in these over the last few years. FAA had the event in 2010 and the UKCAA had one in 2011. The [FAA Aviation Safety Action Program \(ASAP\) InfoShare](#) meeting has provided an excellent replacement forum for human factors information. In addition, there are occasional commercial international maintenance human factors conferences. In order to win over new advocates and to reinforce the fan base, a maintenance HF symposium is overdue.

When Lionel Richie joined with the county singers for an album of duets he created an extremely successful product. The same way, [human factors activities must harmonize with other programs](#). That should include voluntary reporting programs and the total safety management system, among others.

Finally, maintenance human factors must prove its value. The money/time spent must have a financial and/or safety return (see July 2012 AMT Magazine). EASA recently cited FAA's Return on Investment Process (See hfskyway.faa.gov) as a way [to show the financial and safety payback](#) on proposed SMS/Fatigue regulations. When you can demonstrate the impact of HF interventions it helps to win over supporters.

Keeping it fresh

The new hits must continue to emerge. New songs keep the fans and also ensure that "oldies but goodies" are revisited. Maintenance HF programs have been around since the late '80s. The old list of favorites includes the Dirty Dozen, the Swiss Cheese, and PEAR. But those old concepts/hits [must be reinforced with new information and new media](#). The new training materials from CASA (see September 2013 AMT Magazine) are an excellent example that can result from an investment in content, graphics, and multimedia. The FAA fatigue training materials and the movie, "[Grounded](#)," also exemplify the new materials.

Human factors trainers have relied on certain accidents for group work and discussions. If the aircraft was built before the students were born then you should consider new examples. The best stories seem to come from local voluntary reports and from the NASA Aviation Safety Reporting System (ASRS). Of course, the occasional NTSB reports provide great factual data.

No Grammy nominations

Maintenance human factors programs and interventions don't have an annual awards show. **Instead**, the payback and awards occur daily. Those awards are reduced worker injury, decreased aircraft damage, rework, or delay; and continuing flight safety.

When Maintenance Directions Are Subject to Interpretation by John Goglia

This story came to mind recently when I overheard a couple of employees talking about **two ways of interpreting** their boss's instructions for work he wanted done. For sure, both interpretations were literally correct – if you followed the plain meaning of his written directions. But one job – the harder, more tedious one – was



clearly the job he intended them to do. I am not sure what they decided to do in the end, but here is the story it reminded me of. Back in the early 1970s, USAir's predecessor airline, Allegheny Airlines, introduced Boeing 727s to their fleet. As is common with the introduction of new aircraft, company management wanted to stagger the replacement of the main landing gear brake assembly. Since the brake assembly is big and heavy, the line maintenance planning manager did not want to be faced with multiple replacements on the same shift which could easily have absorbed all the resources available to him at many of his line maintenance stations. So he would schedule removal and replacement of one of the brake assemblies early to avoid the possibility of having to remove more than one assembly on any given shift.

On one particular midnight shift, the maintenance printout for work that needed to be done stated "**replace any brake**" on the new 727. Well, I would bet every single mechanic knew exactly what these instructions meant. But one mechanic, the one to whom this work was assigned, was perhaps too clever by half. He decided that he would interpret these instructions quite literally.

By his interpretation, “replace any brake” meant that he had clearly been given a choice on which brake to replace; a choice which for him included whether to take on the long and tedious job of replacing the main landing gear brake or instead, the simpler, [easier job of replacing the nose wheel brake](#), which some 727s had.

Maybe it was the weather that day and the thought of a long, hard job in less than ideal conditions or he was just having a bad day, [but without asking for clarification](#) from his supervisor, he proceeded to replace the nose wheel brake. He signed off the work as accomplished and handed in the paperwork. No one noticed anything amiss until the day shift manager, in reviewing the paperwork from the night before, noticed what had happened.

Needless to say, the manager was not pleased. But when he reviewed the paperwork, he realized that [it was subject to interpretation](#) and the mechanic could not be disciplined. In the future, the direction to replace the main landing gear brake assembly was clearly spelled out.

But that wasn’t the only scheduling change that was made. Seems that for quite some time afterwards the usually random system of assigning maintenance tasks, always seemed to select this particular mechanic to replace the main landing gear brake assembly.

[Moral of the Story](#): Yes, management needs to give clear maintenance instructions. But employees who think they can take advantage of unclear instructions to skirt difficult tasks, should remember that management can have the last laugh.

Cognitive Insulation - Part II

Cognitive Insulation– Understanding why we don’t learn from our mistakes first appeared in Autumn 2012; the official magazine of the Voluntary Protection Programs Participants’ Association (VPPPA)

Understanding why we don’t learn from our mistakes. (The perspective offered here is based on thirty years of field research with workers and their work environment.)

By Kurt Rever, MS, MS

How does Cognitive Insulation occur?

Exploring cognition requires us to look into the information processing and the belief systems of individuals and groups. In other words, **it is how people think and create beliefs**. Our personal belief systems become a core of what drives our actions. For instance, if I believe that I can't get hurt doing a routine task, then my belief drives how I may pay little attention to details. The same belief will limit using my senses (visual, touch, smell) to assist me in differentiating a change in conditions (e.g., temperature change) associated with the task. Also, my belief in “routineness” is reinforced by having performed the task (successfully) hundreds of times with no incident. In short, my belief that I work safely has been reinforced by having had no accidents. **Years with no accidents promotes the use of ‘autopilot’ when approaching routine jobs.**



“Routine” drops your guard.

Much of Human Performance literature addresses human error that occurs when people approach tasks as “routine” situations. Consider the airline pilots who began a daily “routine” trip and believed that their electronic autopilot setting would signal when the airfield was near (their belief system). The signal malfunctioned and the flight overshot the destination. In this case, the pilots had assessed that the risk of using autopilot was acceptable. No matter the work environment, one’s expertise, one’s risk tolerance and one’s comfort level with the task **are conditions of human error which surround workers**. Statements such as “we’ve done it this way hundreds of times before” (a group belief system) are often associated with human error in routine situations. Experienced workers might consider the risk as minimal or nothing at all. So why do we tolerate risk? The simple answer is because the risk is perceived as low and the reward as high. The reasons behind cognitive insulation reflect a more complex answer.

Cognitive Insulation and Risk Tolerance

Among workers, I find that three characteristics [promote risk tolerance](#) in “routine” situations. These three characteristics are also the foundation of cognitive insulation. They are: 1. High Skill Training, 2. Many Years of Work Experience, 3. A History of Work with No Serious Injury. When combining these three characteristics, the worker insulates himself from conditions found in “routine” tasks. This insulation can interfere with the perception that routine work situations have risk or hidden hazards. I previously mentioned how it minimizes the other senses in detecting changes. Also, cognitive insulation [interferes](#) with integrating new safety learning or adjusting old, previously learned safety practices. The observed effects of cognitive insulation in the workplace reveal safety being performed with more tolerance to risk and less quality to protection. Cognitive insulation [minimizes](#) perception of risk, thus the need for [new](#) learning about safety conditions is also minimized. A routine task assignment may provoke a worker to mentally respond, “I haven’t needed the old safety learning, and so what is the value of the new?” The employee’s established belief system about “routine” tasks over-rides considering an upgrade (new safety learning).

Why do these three characteristics insulate?

This is because all three promote a belief that little cognitive processing, if you will, is needed to complete a routine work task. Recall when we were new and inexperienced and the task was new and fresh. There was much mental processing and anxiety for us to learn and perform. After a time the anxiety which kept us sharp and aware [dissolved](#) and a routine condition was created. Routineness and a minimal need to think and process information to perform work gave rise to an [autopilot-condition](#). Even though many of us experience this, working in autopilot greatly minimizes one’s attentiveness to hidden hazards. It lowers one’s sense of unease (anxiety) and concentration, which were present when first learning the task.

Individuals with High Skill Training, for instance, may minimize “routine” skill-related tasks. They automatically perceive any associated risk as acceptable. They rationalize this behavior with the belief that they have the skill to overcome any routine work-related hazard. [They are hard-wired to solve problems and succeed](#). Those with Many Years of Work Experience use their skills at the highest level and succeed at work-related challenges (mental and operational). These people may minimize routine situations and reject any [new](#) safety ideas.

They may rationalize by thinking, “I haven’t needed the old safety learning, and so what is the value of the new?” or, “I haven’t seen the need for it yet!” Those with a History of No Serious Injury may minimize routine situations and accept any risk (obvious or hidden) by thinking, “I haven’t been bitten yet!” Their attitude of, “cuts and strains [are a part of the job](#)” and are not “serious” leaves them less protected from hidden hazards. These three characteristics combined with risk tolerance create a challenge for injury prevention. Near-miss incidents are one step away from a serious incident.

[Breaking the cycle of cognitive insulation and risk tolerance.](#)

In the black ice incident above, acknowledging the situation and creating meaningful linkage are the [first steps toward break the cycle](#) of cognitive insulation. I stated, “If you acknowledge conditions (to yourself or others) surrounding the situation, you begin to create a meaningful link that will add layers of protection in the future.” That meaningful link, when mentally processed, can expand and create a deeper cognitive awareness of the situation (e.g., “outside temperature, location of underpass”). This is true even if the condition is intermittently experienced (e.g., “weeks later checking the outside temperature when approaching the underpass location”). [With each link](#), a deeper layer of awareness and protection is created, and bits of insulation are stripped away.

[Challenges to stripping away Cognitive Insulation](#)

A challenge to this theoretical application is found in individuals who are unable to identify or correct perceptions of error. [These people are never wrong and always right](#). As I said, belief systems are the core of what drives people’s actions. Even unhealthy belief systems are held onto tightly by people. A second challenge is a work culture that accepts and believes in “routine” tasks. If all levels of the organization believe “routine” tasks exist, then stripping away the insulation will be very difficult, but not impossible.

[Insulation stripped away – meaningful links created](#)

In my search for a tool to strip away cognitive insulation, I think of the motivational speakers who experienced life-changing injuries such as [Charlie Morecraft](#) in “[Remember Charlie](#),” and Tony Crow. They speak of their burns and blindness so effectively that many years later audience members can recall their situation. Neither of Charlie’s or Tony’s instances were near-miss. Rather, they were [severe life-changing injuries](#).

Cognitive insulation is embedded in each of the stories that can be found on the internet. How they present their lessons learned helps us to understand why we need to strip away cognitive insulation, for ourselves, our family, and our health. Creating meaningful links post near-miss will be of more benefit than post-catastrophic injury. A better understanding of cognitive insulation will assist in better training and better ability to adapt to hidden hazards in the field. Training should push the audience to create meaningful links, [to look differently](#) at routine tasks and near-miss situations.

[A Tool – peer-to-peer near-miss stories.](#)

A tool that will overcome cognitive insulation needs to be very powerful in order to replace a belief system of “routine.” Its strength must come from within the worker. It must be meaningful to the worker. “Meaningful,” in this instance, is defined by the skilled workers, not by me. Workers that I have interviewed related powerful elements they found in listening to and participating in occupational specific, [peer-to-peer near-miss stories](#).

One project I am working on is collecting near-miss stories of crafts professionals. These stories are from highly-skilled and experienced survivors of their own near-miss incidents. We have requested stories which they would tell to their children if they were entering the craft profession. All the near-miss stories have a shared quality that possibly could have resulted in serious life-changing consequences for the story teller. These stories are told in small groups, one peer to another and are occupation specific. The situations are very familiar to experienced crafts persons.

As near-miss stories are told, the [first step in breaking](#) the cognitive insulation cycle begins. The step that includes acknowledge the near-miss situation and create a meaningful linkage for themselves is evidence by the story teller’s awareness of the consequences they and their families could have suffered if theirs was a life changing injury and not a near-miss. This [“lesson learned”](#) typically become the story teller’s meaningful link. As a result, they often refer to it as part of a [mental checklist](#) that they review before moving ahead on a task. Others relate that their “spidey-sense” begins to tingle or that they had a gut-feeling. In short, the linkage has created a deeper and more powerful awareness of hidden hazards and potential consequences. [Consequences that we all want to avoid.](#)

Mr. Rever has worked in the field of Ergonomics and Human Performance in various work environments for over thirty years. He currently works with GE Aviation in the Northeast.

Say It Isn't So!

Spirit A319 still undergoing repairs after engine housing detaches

Spirit Airlines says an Airbus A319 that sustained an engine failure last month will return to service only late this year or in early 2014.

The [aircraft pylon](#) holding the powerplant [must be replaced](#), Spirit chief executive Ben Baldanza tells Flightglobal on the sidelines of the Boyd Group International Aviation Forecast Summit in Baltimore recently. "It's going to take a while," he says. "That's usually not something that is changed on an aircraft. It's going to be a six to eight week effort and it's already early November."



The International Aero Engines V2500 powerplant failed in-flight on the A319 on 15 October, which forced the Atlanta-bound aircraft to return to Dallas/Fort Worth International airport.

Baldanza says it is [still not clear what went wrong](#) with the engine, adding that investigations are ongoing. Spirit has estimated an additional [\\$10 million](#) in costs in the fourth quarter due to this incident.

Baldanza explains that this cost includes the expense of [wet-leasing at least one aircraft](#) to replace the A319 that is now out of service. While the airline usually has spare aircraft, it expects that it will be required to wet-lease an aircraft during the upcoming Thanksgiving holiday season to ensure that it operates all of its flights, says Baldanza. The \$10 million cost will not include the cost of fixing the engine, which will instead hang on the airline's balance sheet and will be amortized over time, he adds.

He estimates that the IAE V2500 engine involved in the incident had performed 1,200 - 1,400 cycles since its last restoration at the time of the incident. "We bought that engine new," says Baldanza.

Spirit expects to recover some of the \$10 million cost through some form of insurance or compensation, which will then be accounted for in the first or second quarter of 2014.

Secured Engine Cowlings Through Better Latching

Does current latch design continue to account for inspectability & maintainability?
Is a new and safer approach needed to secure engine cowlings?

By Rus Sutaria

Published June 2013.

The recent incident involving British Airways adds another installment to that which is the occasional drama of disappearing engine cowlings on Airbus A320's. There appear to be parallels with the JetBlue incident, and it is without reasonable doubt, that the debate regarding latching mechanisms will invoke the usual finger-pointing regarding design issues, not least an apparent inadequacy in terms of maintenance and operational practice.

A British Airways Airbus A320 suffered the total loss of cowlings for both No.1 and No. 2 engines (together with an apparent engine fire) whilst departing from London Heathrow Airport for Oslo on Friday May 24, 2013. The pilots immediately turned the aircraft back to the airport, where an emergency landing was expertly executed at 08:43 BST. The accident investigation is on-going, with a view to determining the probable cause of the incident.



This and previous incidents involving engine cowling latches, appear to have highlighted a potential human factors weakness, not only in terms of design, but also in terms of inspectability and maintainability. There are distinct differences to the design and functional approaches where correct engine cowl security is concerned, and an even wider variety of SOPs for both pilots and maintenance engineers to follow in the pursuit of safely secured engine cowlings.

It is interesting to note, that all of these instances occurred during either the take-off or climb-out phases of flight (most notable JetBlue A320 in 2010), and were the result of unlatched or incorrectly latched engine cowlings, following complex tasks like borescope inspections and maintenance of the IDG.

Although duplication inspections exist where engine maintenance is concerned, the circumstances of when engine duplication inspection is required, is perhaps not as clear as it should be. From the maintenance human factors perspective, it would not be surprising if the confusion surrounding duplication inspection, may be one of the causes of a potential failing that seems to crop-up not only on A320s but also on other aircraft types as well.

Pilots have become increasingly wary of this issue, and indeed captains direct their first officers to pay particular attention to ensuring engine cowlings are securely closed and locked. Some captains have even been reported going as far as to instruct close inspection by kneeling-down and taking a proper look at the latches. In all truth however, you really would have to be on your knees to be able have a clear view of the latches on some of the aircraft. Let's face it, which of us would want to do that on a wet ramp!

The problem here is two-fold, and revolves around redesign of latching mechanisms and the far more prevalent issue of inspectability of the same. Designing a foolproof system that completely eliminates the risk of incorrect or absent latching of engine cowlings is an unreasonable proposition. Any solutions will need to make an incorrectly secured or completely unsecured engine cowling far easier to spot by both maintenance personnel and pilots alike.

Previous experience suggests that there are other means by which these occurrences can be made apparent. An open cowling on the No. 3 engine of a B747-200B had been identified as a result of the flight-deck crew observing excessive vibration following the engine-start. A loose or insecure engine cowl has the tendency of magnifying natural engine vibrations, something that engine instrumentation should easily pick-up. In this instance, an alert flight-deck crew questioned the anomalous readings and decided to taxi the aircraft back onto stand so that an engineer could investigate and resolve the matter. Ultimately an ounce of prevention is always better than a pound of cure.

Hence a combination of improved inspectability through design and maintenance practices might just do the trick (Not least, closer attention to detail during the pilots' walk-round). It may also be a simple matter of equipping our engineers and even pilots with a simple tool like an inspection mirror, thus facilitating a better view of the underside of the engine and its associated latches.

On the other end of the spectrum a complex and undoubtedly more costly solution may be necessary in the form of ECAM or EICAS display messages that highlight unsecured or incorrectly secured engine cowls, in much the same way as open passenger and emergency exit doors would be indicated.

There can be no real conclusion to this problem short of better design, operational and maintenance practice. [The most worrying part of all this is the shortening odds with regard to a potential fatality.](#) If safety is the prevention of that which we do not want to happen, then we need to stop tinkering with this problem, and start resolving it!

Baggage Cart Wrecks Beech 1900

Some days it just doesn't pay to go to the airport. Canada's Transportation Safety Board is reporting that a Beech 1900D operated by Wasaya Airways was heavily damaged [by a baggage cart](#) in October at the northern Ontario village of Muskrat Dam. The aircraft was on the ramp with its engines running when [Murphy took over](#). "A strong gust of wind blew a baggage cart into the right propeller of the aircraft, and the cart was then flung underneath the fuselage and into the path of the left propeller," the TSB said in its daily roundup of aviation incidents.



The crew immediately shut down the engines but not before the props and engines were wrecked. Wasaya Airways is owned by a consortium of native groups in northwestern Ontario and operates 27 aircraft into remote villages throughout the sparsely populated region.

Human error cause of aircraft incident: report

Human error was behind a Virgin aircraft pitching forward after take off from Launceston Airport a preliminary report has found.

On January 4 a Boeing 737 was operating a scheduled passenger service from Launceston to Melbourne.

Soon after takeoff the flight crew, ``who were experiencing a relatively high workload at the time'', failed to switch to a different vertical flight mode.

As a result the airspeed slowly reduced. The crew **did not detect the reducing airspeed** until the aircraft was approaching the minimum maneuver speed at about 26,000 feet, the investigation found.

In response to the low speed, the crew reduced the aircraft pitch until it entered a shallow descent in an attempt to accelerate.

Proper acceleration was then established.

The Australian Transport Safety Bureau said its investigation was **focusing on the human factors** associated with auto-flight awareness.

A bureau spokeswoman said the final report isn't expected until late March.



19% Call in "Sick" to Catch Up on Sleep

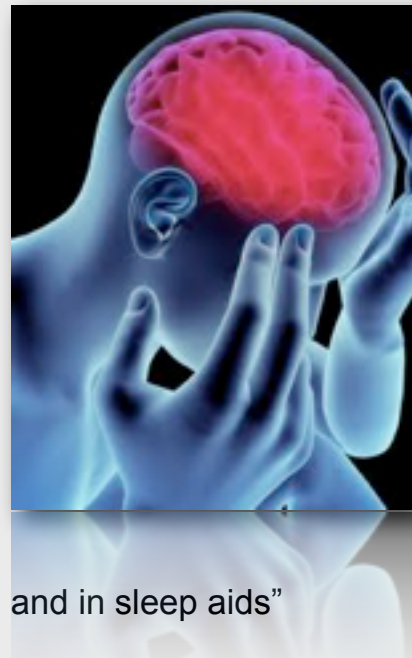
Nineteen percent of employees call in "sick" when they actually just want to catch up on sleep, according to a CareerBuilder study. The national survey was conducted online by Harris Interactive from August 13 to September 6, 2013 and included a representative sample of 3,484 workers and 2,099 hiring managers human resource professionals across industries and company sizes.



Apart from actual illness, [the other four most common reasons](#) employees call in sick are: they just don't feel like going to work (33%) or because they needed to relax (28%), they have a scheduled doctor's appointment (24%), or they want the time to run personal errands (14%).

Cold and flu season: a reminder for drug-impairment awareness

As the cold and flu season progresses, an open letter to pilots, [stressing the contribution of common medications](#) to some fatal loss-of-control aviation accidents, is getting renewed attention. First distributed over the summer, the letter was signed by FAA Administrator Michale Huerta, NBAA President and CEO Ed Bolen and the heads of 10 additional aviation industry groups. Among a working group's conclusion was a finding that "medications currently by the FAA are found to be present [as causal or contributory in approximately 12 percent](#) of fatal general aviation accidents. We are concerned that pilots might not be aware of the ubiquitous presence of sedating antihistamines in many over-the-counter treatments for common allergies, coughs and colds and in sleep aids"



[Read more about drug impairment awareness \(PDF 166kb\)](#)

Be ready to take on the day — every day!

Learn how you can [banish fatigue](#) and enjoy greater physical and mental energy starting now!

When you are "on your game," you know it. You think more clearly and quickly. You tackle daily chores more confidently and look forward with enthusiasm to whatever is next. You also know when you are "off your game."

If you find that you don't always have the pep you once did, you are not alone. Lack of energy is a common complaint. But the good news is that you can end the blahs. You can have more energy. **You can achieve more consistent alertness, stamina, and drive.** **Boosting Your Energy**, a new Special Health Report, will make you more "energy efficient." It explains how, by **instituting easy-to-adopt lifestyle changes**, you can dramatically increase your capacity for physical exertion and add to your powers of mental concentration.

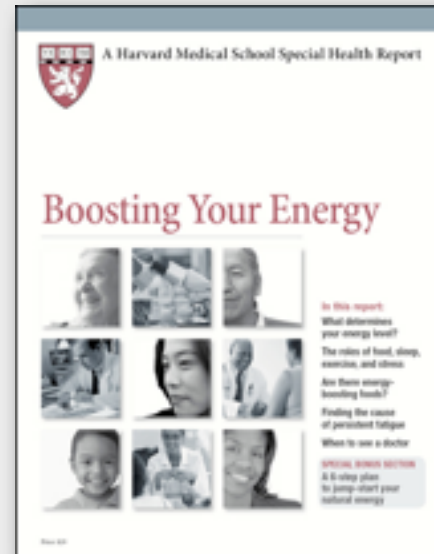
In this report, Harvard Medical School doctors will expand your understanding of the factors that affect your energy level, including the amount and type of stress you're under, your sleep habits, your exercise routine, and your diet.

As you read **Boosting Your Energy**, you'll be introduced to the sensible steps and strategies that will help you maintain your "get-up-and-go" for all the things you want — and need — to do.

You'll read about the **foods that fuel your muscles and your mind**. The report pinpoints low-glycemic-load foods that keep your energy on an even keel, highlights the vitamins and minerals that are key to efficient energy production, explains **why caffeine has the power it does**, and details why you should think twice before spending time and money on energy bars and sports drinks.

Boosting Your Energy will tell you about exercises that add to your energy reserves. You'll discover why some of us are morning people and others are night owls. **You'll get tips for lessening the effects of jet lag**. You'll be alerted to the consequences of too little or too much sleep. You'll find four ways to reduce energy-sapping stress. And you'll learn about a six-step plan to jump-start your natural energy.

There's no reason to face an energy shortage! Order your copy of **Boosting Your Energy now!**



<http://click.mail.health.harvard.edu/?qs=ff8dc195c539cc316aa83e6fc540ee943fab4581ece70d526b9516726bff64c38e1f091678b08616>

SAFE Resource Center

This month's feature: [Loss of Control In-Flight](#)

Loss of control in-flight (LOC-I) accidents remain at the forefront of safety issues that [affect general and commercial aviation](#). For strategies to address LOC-I and further educate all pilots, see what the experts have to say in this recent article, [Maintaining Aircraft Control](#).

Don't forget to check out related articles on this important topic. For more materials on safety, flight training, and other subjects, enter the members-only Resource Center, an exclusive benefit for those who join SAFE.



Find it in the SAFE Resource Center's section on Avoiding Loss of Control at <http://www.safepilots.org/resource-center/public-documents/avoiding-loss-of-control/>.

3 Steps to Stop Being Busy and Start Being Productive

Often you get to the end of the day and think, “[I was busy all day, but what did I accomplish?](#)”

Goals give us more than just a target to aim for -- they help us change our behavior today. Do you get the work that is most important to you done? [At the beginning of each day](#), there are three things you can do to ensure you're going to gain momentum.

The three steps I've found most helpful to regain and maintain focus are:

1. Determine what has your focus right now.

First you'll need to admit that something else has your attention. Ask yourself, "What is a typical workday like?" If possible, have someone audit your workflow over the course of a day or so. Ask them to tell you where it seems like you're losing focus and momentum. Knowing what currently disturbs your focus is the first step. How much quality time do you have for deep thinking, getting important tasks done, developing new ideas and building on old ones? Are you in a highly interruptive environment?



If you find yourself multitasking often, consider the following five-day-experiment. For just the next five days, schedule -- and stick to -- a few longer blocks of focused time to get important work done. Start with blocking just 30 to 45 minutes each day to focus on bigger projects and move them forward.

2. Cut "should" out of your vocabulary. You're better off without constantly "should-ing" yourself. Getting caught up in things you "should" do is a negative mindset that only clouds your focus and pulls you away from thinking about what you're accomplishing in the moment.

Of course we all have lists of things we "should" do. I initially reduced this list for myself simply by noticing where and when I engaged in that behavior. Stopping to reflect on one "should" at a time allowed me to attach an action step to it. That change alone lowered my anxiety.

If you're struggling to make a decision about what you should and should not be doing, breakdown the steps you need to take and weigh the pros and cons of focusing on the specific task at hand.

These focus activities make it easier to decide whether to say "yes" or "no," whatever the situation or question. Either way, you save time and get engaged faster in making your ideas happen, because you're one step closer to moving your focus away from asking "Should I?" to "How can I?"

3. Remove distractions. Realize that your focus is splintered in the face of distractions -- primarily visual and auditory.

What distractions around you decrease your productivity? Visual distractions include piles of papers or unfinished projects, and even sticky notes on your

computer. Auditory distractions are generally sounds that pull your focus from your project. Turn off dings, alarms, notification alerts, popups and sounds that you can control.

Distractions and interruptions can fool us into thinking we're being productive, while destroying your focus.

[Don't try to change everything at once](#). Select just one auditory or visual distraction and eliminate it. Give these small changes a week and see what happens. If your focus improves, continue distraction reduction.

Ultimately focus allows us to complete what's important to us. With a strong goal, a clear objective, and 10 to 15 minutes of focused time, you can move much farther and faster than you thought possible.

Inspiration!

A nine-foot statue of Korean War ace and Vietnam veteran Brig. Gen. James Robinson "Robbie" Risner still stands at the Air Force Academy in Colorado Springs, but the man himself was lost to the world with his passing at his home, Oct. 22. Throughout his career, Risner earned three Distinguished Flying Crosses, two Silver Stars, Eight Air Medals and two Air Force Crosses among his other awards and decorations. In the history of the Air Force only three other airmen have ever received more than one Air Force Cross, which is [awarded for extraordinary heroism](#). But, for some, Risner is best known for one particular aerial feat performed in combat in 1952. In September of 1952, while flying in combat along the Yalu River during the Korean War, the F-86 flown by his wingman Joe Logan was hit by flak and lost fuel. Risner asked Logan to shut down his engine and began to push Logan's jet with his own until they were clear of enemy controlled territory. As he did so, the pairing was jostled by turbulence and Risner's windscreen was coated in hydraulic fluid and jet fuel leaking from Logan's crippled jet. [The effort worked](#) and Logan was able to eject near Cho Do Island, which held an Air Force rescue detachment. Unfortunately, Logan hit the water, tangled in his chutes lines and drowned. Risner himself was forced to eject more than once, and one such incident led to his capture. He spent more than seven years in Hoa Lo prison, Vietnam, also known as the Hanoi Hilton, before finally being released in 1973. His ordeal is detailed in his book, [The Passing of the Night](#). James Robinson "Robbie" Risner suffered complications from a recent stroke and died at his home in Bridgewater, Va. He was 88 years old.

