

Aviation Human Factors Industry News

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

Hello all,

To subscribe send an email to: rhughes@humanfactorsedu.com

In this weeks edition of *Aviation Human Factors Industry News* you will read the following stories:

★FAA Offers New Guidance On Aviation Fuel, Oil Specs

★NATA Puts Safety Training Programs Online

★Bone Tired? Make It Through The Day

★Depression Rates More Common in High-Income Countries, Study Says

★CDC: Practice Four Healthy Behaviors, Have a Longer Life

★Guaranteed to rattle your cage

★F16 vs. C-130

★NTSB to Hold Forum on Airplane Fuselage Structural Integrity

★It's departure time. Do you know where your tools are?

FAA Offers New Guidance On Aviation Fuel, Oil Specs

New Advisory Circular AC 20-24C The Result Of 11-Month Process

The FAA has responded to a rapid increase in the pace of development of fuels for aircraft with an [updated version](#) of a 25-year-old advisory circular, AC 20-24B. The new AC 20-24C took almost a year to finalize including the public comment period. It is dated July 29, 2011, but is just now showing up in electronic databases.

The new AC specifically accepts military, ASTM and other industry-consensus standards as acceptable for defining fuels and oils for turbine engines, as well as piston engines made by TCM and Lycoming, and makes clear that other standards are acceptable to the FAA provided they adequately define performance, and how it is to be measured.

The complexity of the topic is underlined by many of the public comments, which mischaracterized the circular as a regulation, or misinterpreted it as a requirement to use ASTM's process.

The new guidance allows definitions of new fuels based on performance criteria without regard to the feedstocks used to create them. This may lower the barriers to introductions of drop-in fuels made from biomass for both turbines and piston engines. It also provides a system for commonality in specifications for developing type certificates and STCs for fuels which may not work in legacy engines fleet-wide.

While traditional fossil-based oils used for engine lubrication are considered a lower priority for phase-out, for both economic and environmental reasons, the new AC 20-24C also covers their specifications.



FMI: www.faa.gov/documentLibrary/media/Advisory_Circular/AC%2020-24.pdf

NATA Puts Safety Training Programs Online

Association Has Launched 18 Modules Developed Following OSHA Guidelines

NATA has just made its 18 "Safety 1st" [safety and health training modules available online](#). These modules were developed using the Occupational Safety and Health Administration's (OSHA) standards and regulations and are specifically designed to train employees at aviation businesses.



NATA's 18 modules include back safety, bloodborne pathogens, cold stress, ergonomics, fall protection, fire extinguishers, forklift safety, hazard communication, hearing conservation, heat stress, ladder safety, lockout tagout, machine guarding, office safety, personal protective equipment and respiratory protection. Companies can buy only those modules applicable to their job. From office workers to maintenance technicians, line service personnel, pilots and more, the modules allow the user to create a curriculum that best meets their job requirements. [Each module averages 30 to 45 minutes in length and all 18 modules can be completed in approximately 10 hours.](#)

"The best news about this online training is that it is available any time your employees want to train and it can be accessed using existing Safety 1st online training credentials, said NATA Director of Safety and Training Amy Koranda. "With 18 modules to choose from, employees can take their time going through training concepts and, once complete, run through a quick exam to confirm their training."

NATA's Safety 1st Safety and Health Training for Aviation Facilities Online Training Features:

- Anytime, anywhere availability
- The latest best practices and industry standards
- Lessons illustrated with high-quality photos and diagrams
- Electronic reporting of student progress
- Universal login for PLST Online participants

NATA says the online training program allows operators to:

- Put safety first
- Instruct to one standard
- Improve operational efficiency and effectiveness
- Ensure safe employees and service
- Track student progress automatically; eliminate tedious training paperwork
- Stay current with the latest regulations
- Minimize time away from work

"With the range of NATA Safety 1st online educational modules now available, NATA members are realizing the convenience and financial benefits of adding Web-based training to their safety programs," said NATA President and CEO James K. Coyne.

FMI: http://nata.aero/plst/osha_curriculum.html

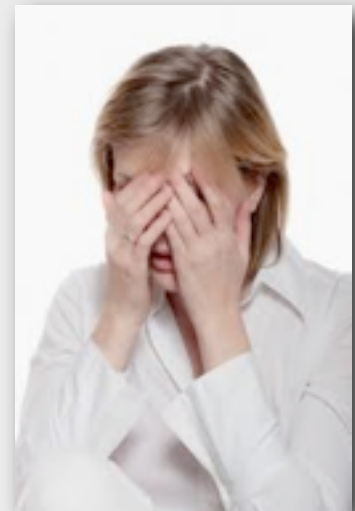
Bone Tired? Make It Through The Day

We know we're supposed to get a perfectly calibrated amount of sleep every night to perform our best. But late deadlines, howling children or emergencies get in the way. Following, you'll find 10 ways to stay awake after a late night.

Don't eat

I'm not telling you to fast, you want to keep food in your body. But we humans expend a whole lot of energy during the process of digestion. Simply food can intensify fatigue when trying to stay awake.

Instead of eating large meals, snack on several small snacks throughout the day. [You don't want the sugar spike followed by a crash.](#)



Or eat

Low carbohydrate fruits like apples, raspberries and grapefruits are great for boosting energy. Meat, bread and dairy will slow you down—better to stick with fruits, nuts and veggies. Spoonfuls of spicy salsa will keep you awake.

Better yet, sunflower seeds. Sunflower seed salt can help stimulate your taste buds and spitting out the shell requires action that can help to keep you awake. Just make sure to spit the seeds as quietly as possible so as to not annoy your coworkers.

Walk

A short walk, jumping jacks or push-ups can get your blood moving. Moving blood helps to energize your brain and your body. Outdoors, fresh air can also help to rouse your senses.

Cool it

Hot, stuffy places speed fatigue. If you need to stay awake, try to find a seat under an AC vent or next to an open window.

Cool it, part two

Splash cold water not only on your face, but also on the pulse area of your wrists. Drinking ice cold water can also help to wake you up.

Smell it

Perky scents can really help you stay awake. Your sense of smell can work in your favor. For better or worse, strong scents can make you more alert very quickly. Aromatherapists recommend rosemary and eucalyptus to help stimulate the nervous system and leave you feeling less tired. Studies also show that simply smelling peppermint can lessen fatigue by 15 percent, increase alertness by 30 percent and decrease frustration by 25 percent.) Similarly, studies show that simply smelling coffee can help keep you awake.

Distract yourself

Keeping your mind busy means you focus less on your fatigue. In a business meeting? Write down everything that is said to help you stay awake. To-do lists or dream planning can also help you stay awake. Motivational videos, texts or songs can also help bump up your energy level. Watch a TED talk, or listen to music that inspires you. Chatting with the coworker that makes you the happiest can also take your mind off your fatigue.

Be uncomfortable

Stay on your feet as much as you can. Have to sit down? Find the least comfortable chair in the office. Sit up straight and don't rest your head on anything—especially your hands. Like I said before, stay cold. Windows, vents and fans can help keep you awake.

Touch yourself

Acupressure offers several points that can help with extreme fatigue. Pulling down on your earlobes can help you stay awake when you're super drowsy. No one has to know. Using your tongue to tickle the top of your mouth cavity gives you a quick, annoying nerve jolt to help keep you awake.

Acupressure also tells us that massaging any of the following places on your body help to alleviate fatigue.

- Tap the top of your head with your fingers.
- Gently strike the back of your neck with your fingers.
- Tap the back of your hand between your thumb and index finger.
- Tap just below your knees.

Drink water

Dehydration can cause significant fatigue. Try a glass of cold water—and then another one, to help you maintain alertness. Bonus points for drinking too much? Running to the bathroom often enough will keep you on your feet.

Lighten up

Your body's circadian rhythms (its internal clock) are regulated by your exposure to light. Natural daylight can help to support that energy. Artificial light can work too, the brighter the better. Even just looking out the window can help with energy levels. Darkness makes you sleepy. Help your fatigue by turning on every light in the room.

A minty mouth

Chew peppermint gum or brush your teeth with minty toothpaste. The flavor/smell combination can help invigorate you. Brushing your teeth won't rot your teeth and will generate just enough physical activity to keep you awake.

Depression Rates More Common in High-Income Countries, Study Says

Women were twice as likely as men to suffer depression, and the major contributing factor was loss of a partner because of death, divorce, or separation.

Depression is more likely to strike in high-income countries than in poor ones, according to new research on depression rates across 18 countries worldwide.

The study, published July 25 in [BMC Medicine](#), found that the average lifetime prevalence of major depression in the 10 high-income countries in the study was 14.6 percent. In the eight low- and middle-income countries, the lifetime prevalence of major depression was 11.1 percent. The study also presents data on the impairment and demographic correlates of depression from 18 high- and low-middle income countries in the World Mental Health Survey Initiative. DSM-IV major depressive episodes (MDE) were evaluated in face-to-face interviews with 89,037 people using the World Health Organization's Composite International Diagnostic Interview (CIDI). The results found that the average age of MDE onset was 25.7 in high and 24 in low-middle income countries. Functional impairment was associated with recency of MDE. In high-income countries, younger age was associated with a 12-month prevalence, compared to several low-middle income countries, where older age was associated with greater likelihood of MDE.



Women were twice as likely as men to suffer depression, and the major contributing factor was loss of a partner because of death, divorce, or separation.

The study concluded that MDE is a significant public health problem across all regions of the world and is strongly linked to social conditions. Future research is needed to investigate the combination of demographic risk factors that are most strongly associated with MDE in the specific countries included in the WMH.

Below are percentages the study provided:

High-income:

- Japan: 6.6 percent
- Germany: 9.9 percent
- Italy: 9.9 percent
- Israel: 10.2 percent
- Spain: 10.6 percent
- Belgium: 14.1 percent
- New Zealand: 17.8 percent
- Netherlands: 17.9 percent
- United States: 19.2 percent
- France: 21 percent

Low- and middle-income:

- China: 6.5 percent
- Mexico: 8 percent
- India: 9 percent
- South Africa: 9.8 percent
- Lebanon: 10.9 percent
- Colombia: 13.3 percent
- Ukraine: 14.6 percent
- Brazil: 18.4 percent

CDC: Practice Four Healthy Behaviors, Have a Longer Life

Not smoking provided the most protection from dying from all of the causes examined.

People can live longer if they practice one or more healthy lifestyle behaviors— not smoking, eating a healthy diet, getting regular physical activity, and limiting alcohol—according to a study by the Centers for Disease Control and

During the study period, people who engaged in all **four healthy behaviors** were 63 percent less likely to die early, compared to people who did not practice any of the behaviors. Not smoking **provided the most protection** from dying from all of the causes examined. “If you want to lead a longer life and feel better, you should adopt healthy behaviors—not smoking, getting regular physical activity, eating healthy, and avoiding excessive alcohol use,” said CDC Director Thomas R. Frieden, M.D., M.P.H.”

People who engaged in all four healthy behaviors were 66 percent less likely to die early from cancer, 65 percent less likely to die early from cardiovascular disease, and 57 percent less likely to die early from other causes compared to people who did not engage in any of the healthy behaviors.



The study, “[Low Risk Lifestyle Behaviors and All-Cause Mortality: Findings from the National Health and Nutrition Examination Survey III Mortality Study](#),” is available online by the *American Journal of Public Health* at http://ajph.aphapublications.org/first_look.dtl.

Researchers analyzed data from CDC’s National Health and Nutrition Examination Survey (NHANES) III Mortality Study, a mortality follow-up of NHANES III survey participants aged 17 years and older who were recruited from 1988 to 1994 and followed through 2006.

The researchers defined low-risk health behaviors as never smoking, eating a healthy diet, moderate intensity or vigorous intensity physical activity, and moderate alcohol consumption. According to the 2010 Dietary Guidelines for Americans, men should drink [no more than two drinks per day](#); women, [one drink per day](#).

Among people in the CDC study, 47.5 percent had never smoked, 51 percent were moderate drinkers, 39.3 percent had a healthy diet, and 40.2 percent were adequately physically active. The percentage of people who reported low-risk behaviors did not differ significantly by gender. [Mexican-Americans](#) had more healthy behaviors compared to whites and African-Americans.

The authors noted the challenges in encouraging a large percentage of the U. S. population to adopt a healthy lifestyle. Although studies have shown only a small percentage of people have adopted all of these healthy lifestyle behaviors, significant progress has been made in decreasing the rate of people who smoke. This study adds to the mounting evidence of the substantial gain in life associated with healthy behaviors, and underscores the need for the clinical and public health communities to work together to promote greater adoption of these behaviors.

[Guaranteed to rattle your cage](#)

The Sonic Bomb, AKA The Bomb, is for guys of all ages who think they [might not wake up in the morning](#) – WRONG. At 113 db, this alarm is sure to rattle your windows and force your eyes open. And if that doesn’t put your feet on the floor, pulsating alert lights and Super Shaker™ bed vibrating unit will.



Specifications

· 113 db extra-loud alarm (with adjustable tone & volume control)

· [SS12VW Super Shaker™ bed vibrating unit](#)

http://www.youtube.com/watch?v=8czl67vYwaA&feature=player_embedded

F16 vs. C-130

A C-130 was lumbering along when a cocky F-16 flashed by.
The jet jockey decided to show off.

The fighter jock told the C-130 pilot, 'watch this!' and promptly went into a barrel roll followed by a steep climb. He then finished with a sonic boom as he broke the sound barrier. The F-16 pilot asked the C-130 pilot what he thought of that?

The C-130 pilot said, 'That was impressive, but watch this!'
The C-130 droned along for about 5 minutes and then the C-130 pilot came back on and said: 'What did you think of that?'
Puzzled, the F-16 pilot asked, 'What the heck did you do?'
The C-130 pilot chuckled. 'I stood up, stretched my legs, walked to the back, took a leak, then got a cup of coffee and a cinnamon roll.'

The moral of the story is....

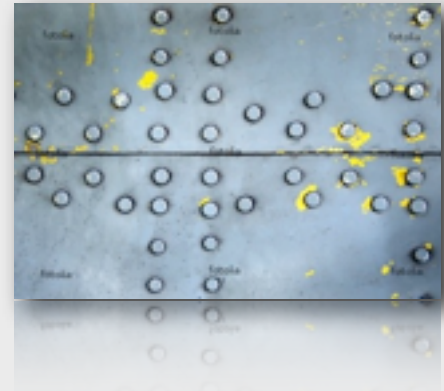
When you are young and foolish -
speed and flash may seem a good thing !

When you get older and smarter -
comfort and dull is not such a bad thing!

Us older folks understand this one.

NTSB to Hold Forum on Airplane Fuselage Structural Integrity

The National Transportation Safety Board is convening a public forum next month on [airplane fuselage structural integrity](#). Topics to be discussed during the forum include: airplane fuselage design, certification of fuselage structures, production quality assurance systems, in-service inspection programs and the future of non-destructive examination technologies. Event: Forum: Airplane Fuselage Structural Integrity Date/Time: September 21 and 22, 2011 - 9:00 a.m. (EST)



Location: NTSB Board Room and Conference Center 429 L'Enfant Plaza SW, Washington, DC

Note: The forum's agenda and participants will be announced in a future press release.

It's departure time. Do you know where your tools are?

Tool box shadow - a perfect safety net!

