

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

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## Boeing Completes First 787 Dreamliner Maintenance Training Class

Boeing today announced that it has completed the **first maintenance training class** for the 787 Dreamliner. The class consisted of **10 mechanics** from 787 launch customer ANA (All Nippon Airways) and two regulators from the Japan Civil Aviation Bureau (JCAB). The mechanics, who the training last week, are the first of 150 ANA mechanics to be trained by Boeing over the next seven months. They spent **more than 30 days learning** how to maintain the world's most advanced commercial jetliner, including 20 days of theoretical training, two days of engine runs and taxi testing, five days of practical training and five days of troubleshooting exercises. To conclude the training, students conducted component identification exams on production airplanes, as well as troubleshooting exams in the full flight simulator.



To support the all-new 787, Boeing Training & Flight Services, a division of Commercial Aviation Services, Boeing Commercial Airplanes, has developed an **all-digital, Internet-based teaching system** for maintenance training, along with training tools that connect real-time to a virtual airplane and airplane systems.

"Getting our mechanics trained and prepared is essential to being ready to take delivery of the airplane later this year," said Michihide Kono, vice president of Engineering and Maintenance for ANA. "This is an important milestone for our ANA team and we are delighted to see the continued progress on the program."

The curriculum is designed to **focus on performance-based training** that incorporates real-world simulated maintenance scenarios for a more immersive training experience.

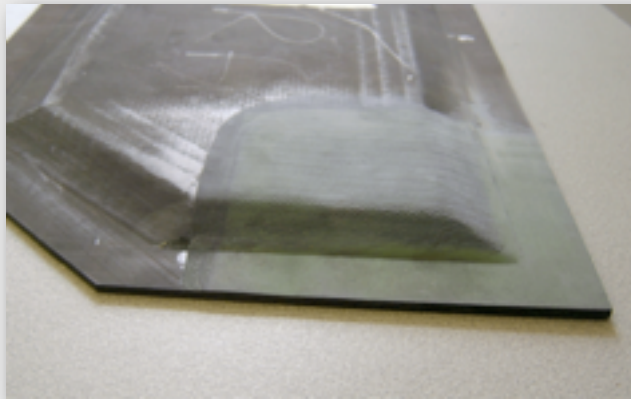
"The use of personal tablet computers, interactive computer-based training, three-dimensional images and desktop simulation makes it possible to deliver training more efficiently," said Sherry Carbary, vice president of Boeing Training & Flight Services, Commercial Aviation Services, Boeing Commercial Airplanes. "Our team is committed to providing our customers with the resources and tools they need to be successful."

The 787 comes with digital tools and databases **that replace volumes** of printed materials. The graphic and textual database has point-and-click features for more details, allowing mechanics to navigate through documents quickly to get the information they need to do their jobs.

"This milestone is another important step along the way to being service-ready," said Mike Fleming, director of 787 Services and Support, Boeing Commercial Airplanes. "Our goal is to make entry into service a seamless experience for our customers."

## **Composite Maintenance Technology Course Begins May 3**

The **online** Composites Maintenance Technology course, offered through the National Center for Aviation Training, will be offered again beginning 3. This course is offered in conjunction with Wichita State University's National Institute for Aviation Research and the Wichita Area Technical College. The **eight-week course** will focus on critical composite materials maintenance and repair safety issues.



Discussion boards are an essential part of the eight-week course and involve experts in the field of composites maintenance. The current course, now in its sixth week, includes the following discussion leaders:

- Peter Smith, Boeing Technical Fellow (retired) with over 50 years of experience in the aerospace industry with focus on stress analysis and composites repair

- Eric Chesmar, Senior Staff Engineer, Component Technical Services – Structures, United Airlines
- Todd Herrington, Principal Engineer (composites) - Delta Airlines
- Hank Offermann, former FAA Engineer with expertise in certification of composite aircraft

The course will be instructed by Charles Seaton, who has more than 30 years of industry experience in composites design and manufacturing. In addition, discussion leaders of a caliber similar to those in the current course will be involved to bring real-world expertise to the discussions.

Prior students have noted that the involvement of experienced practitioners in online discussions brings **practical industry perspectives** to the class, **enriching the learning experience** in a unique way. Students participate in these discussions at their own convenience, and at a time which they individually select.

For full details on the online course, visit the NIAR website [www.niar.wichita.edu/media/webcourse.asp](http://www.niar.wichita.edu/media/webcourse.asp). To enroll, visit the registration site. Contact Laura Rhoades, NIAR communication coordinator, at 316-978-3873 with questions.

## **Training That Won't Put Your Employees To Sleep!**

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## Truck Smashes Hangared Aircraft

Two California Dept. of Fish and Game aircraft were destroyed early last Saturday when they **were rammed by a runaway pickup**. The aircraft were in a hangar at Hemet-Ryan Field in Southern California when the pickup the back wall and stacked them up against the hangar door. Before hitting the hangar, the truck sheared off a fire hydrant and went through a wrought iron fence. The mishap occurred at about **2:30 a.m.** and the driver was nowhere to be found when emergency personnel arrived.



One report estimated the value of the aircraft, one of which was a high-wing twin, at about \$1 million. They were used for tracking wildlife. At our deadline it wasn't known if the driver was hurt. Firefighters mopped up some spilled fuel at the scene.

## Spanair crash prompts FAA best practices list

The US FAA has created a specific website that directs airline officials to a large number of documents and studies the agency says can be considered **best practices** in the areas of checklist design, training,, **crew resource management** and **error trapping**.

The action comes as a result of initial findings from an August 2008 crash of a Spanair MD-82 on takeoff from Spain's Madrid Barajas International airport.



"This investigation is ongoing, but initial findings identify the need for safety improvements in carrier operations," says the FAA in an Information for Operators publication released earlier this month.

"Consolidation of the numerous resources which provide information and guidance on air carrier operations and procedures, including checklist design, facilitates the use of these resources."

Preliminary reports from the Spanish authorities have indicated that the pilots **failed to carry out the required flap and slat position checks** before departure, and likely attempted to take off with the high-lift devices stowed. The aircraft failed to gain lift and crashed off the departure end of the runway, killing 154 of the 172 passengers and crew on board.

## **FAR/AMT 2010 1/2 eBook**

The complete **FARs for AMTs 2010 1/2** presented as an easy to use single file , extensively bookmarked, searchable, and printable with all FAA through February 2010 plus links to additional pending April 2010 changes. **There is no easier way** to access the information you need as you need it. This is the most complete and up-to date version compiled in February 2010 including all sections as published in both the Jeppesen and ASA versions combined. It is a complete reference that brings you up to date with all pertinent FAR amendments.

Also includes newest edition of the **Inspection Authorization Study Guide**. FAA-G-8082-11B

Significant FAR/AMT changes since the 2010 edition

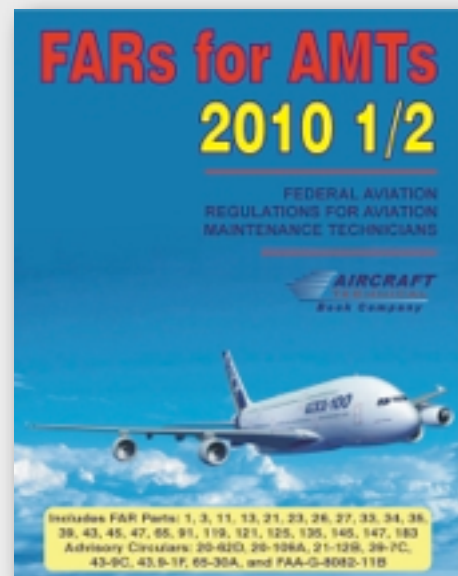
**PART 1 - Definitions and Abbreviations**

**PART 21 - Certification for products and parts**

**PART 23 - Airworthiness standards**

**PART 26 - Continued airworthiness and improvements**

**PART 27 - Airworthiness standards: normal category rotorcraft**



**PART 33 - Airworthiness standards: aircraft engines**

**PART 43 - Maintenance, preventative maintenance, rebuilding, alterations**

**PART 45 - Registration Marking**

**PART 121 - Operating requirements**

**PART 125 - Certification of transport aircraft**

**PART 135 - Operating requirements of commuter and on-demand aircraft**

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## **Man falls asleep on Air Canada flight, wakes up on empty plane in a hangar**

An Air Canada passenger says he was left sleeping for 90 minutes after his flight arrived in Vancouver. The flight from Calgary landed at its destination, **completely deplaned and taxied to a hangar** before Kris Lines was awoken. The Globe and Mail of Toronto notes Lines' wake-up nudge didn't come from a "flight attendant or a fellow passenger, but **a shocked mechanic**, in a cavernous airplane hangar, where the head of sports law at Staffordshire University had been asleep for an hour and a half on the plane after the aircraft had landed ... ."

Lines says the mechanic told him: **"Don't worry, take all the time you want:** The flight landed an hour and a half ago." Lines adds: "He was as surprised as I was to see me there."

"I'm a heavy sleeper, so I drank Coca-Cola on the transatlantic leg to help stay awake," Lines is quoted as saying by The Gazette of Montreal. "I hadn't been drinking alcohol." He's also concerned about the security implications of the incident, according to the Toronto Sun.



Lines sent a complaint to Air Canada, which responded with an e-mail response and an offer for 20% off his next flight. The airline also offered an explanation, though the Gazette writes "Lines says he's not satisfied with the airline's claim that the flight attendant **was preoccupied** with several wheelchair passengers and didn't check the rest of the cabin."

Still, he doesn't plan to pursue the complaint any further. "Nobody I know has seen the inside of Vancouver airport hangars before. It's a nice thing to regale people with," he says to the Globe and Mail.

## New York Spearheads First Occupational Health Awareness Week

The **nation's first** Occupational Health Awareness (OHA) Week is just around the corner. Thanks to the efforts of a unique state-supported network of occupational health centers working closely with workers, labor organizations, health and safety advocates, local agencies, and legislators in New York state, the event is taking place **April 25 to May 1**. The goal of the week is to increase awareness of the need for **healthy workplaces** and a **reduction in work-related death and disability**.



Each year **millions of workers are disabled and thousands more lose their lives** as a result of job-related injuries and illnesses in the United States. In New York state alone, nearly 280,000 workers each year are reported to become ill or injured as a result of their work, and more than **220** lose their lives. The tragedy, note OHA planners, is that workplace-related illness and injury are generally preventable.

OHA Week founders, the New York state Occupational Health Clinics Network (OHCN), supported by the NYS AFL-CIO, NYCOSH, and state legislators, among others, see OHA Week as a special opportunity to promote, support, and acknowledge the importance and benefits of worker health and safety in every workplace, every single day of the year. Encouraging occupational health & safety education and prevention initiatives, they urge employers, workers, organizations, and policy makers to **"TAKE UP THE CHALLENGE!"** of OHA Week -- by planning or



participating in activities and actions marking a new or renewed commitment to the health and safety of workers.

Employers as well as unions, policy makers, advocate organizations, and workers themselves can take an active role in promoting a healthy and productive workplace, organizers note. **With a legal responsibility to protect their workforce**, employers also can reduce worker's compensation and related costs and improve productivity by committing to providing safe and healthy work.

Enhancing the week's impact, OHA Week is being held in conjunction with Workers Memorial Day, April 28, which traditionally serves as a nationwide day of remembrance to recognize U.S. workers who die and become disabled each year on the job. OHA Week supporters want to honor all those who have died, become disabled, or lost a loved one on the job by doing what they can to help make sure **workers return safely home** to their families each and every day.

The Occupational Health Clinic Network is the nation's only state-based occupational health clinic network and is comprised of 11 regionally based clinical centers, including one with a specific focus on agricultural medicine. The network was created in 1987 to offer specialized medical diagnoses, high-quality care, and support services for workers with occupational illnesses. Its member centers of excellence use multidisciplinary teams of physicians, industrial hygienists, health educators, and social workers working closely with workers, labor organizations, employers, and others to help prevent, diagnose, and treat work-related illness and injury. The OHCN offers prevention consultation and advice to employees and employee groups, employers, health care professionals, and others, partnering with unions and employers to help **identify unsafe conditions, evaluate the risks to workers, and methods to eliminate or reduce the risks**.

Also offering support of the week and ongoing occupational health and safety initiatives for workers state and nationwide are the NYS AFL-CIO and other unions, COSH groups, professional organizations, immigrant advocate groups, government agencies, and legislators.

To join in supporting OHA Week and share with others how you may be able to participate, e-mail your name, organization, and a description of your activity to [OHAweek@yahoo.com](mailto:OHAweek@yahoo.com). For more information on ways to participate and to get help, if needed, check out <http://ohaweek.groupsite.com/main/summary>.

## The Health Risks of Shift Work

In the U.S., about 8.6 million people perform shift work, whether they have a night job or rotate shifts during the week. For many, it's a **rite of passage** in their careers; for others, it's a financial necessity. But there's a growing sense that shift work **could be taking a serious toll** on their health. "There is strong evidence that shift work is related to a number of serious health conditions, like cardiovascular disease, diabetes, and obesity," says Frank Scheer PhD, a neuroscientist at Harvard Medical School and Brigham and Women's Hospital in Boston. "These differences we're seeing can't just be explained by lifestyle or socioeconomic status."



Shift work is also linked to stomach problems and ulcers, depression, and an increased risk of accidents or injury.

### **The Many Faces of Shift Workers**

According to the National Sleep Foundation, a shift worker is not just someone who works nights, but anyone who works outside a steady 9 to 5 schedule.

The millions of shift workers in the U.S. include **aircraft technicians**, police officers, firefighters, nurses, doctors, pilots, waitresses, truck drivers, and many more professionals. Even a personal trainer who works out at the gym with clients in the early mornings and evenings is a shift worker.

As shift work has become more widespread in the U.S., the health risks have become a focus both for researchers and for the businesses that employ shift workers. How serious are those dangers -- and can they be reduced? **Unfortunately, we don't have all the answers yet.**

### **How Does Shift Work Affect Us?**

Experts say that shift work could have a serious impact on our health in at least two ways. Some of it may have to do with the lifestyle that shift work encourages. The rest has to do with our **biology**.

In terms of lifestyle, working odd hours leads to some obvious problems. People who do shift work tend to have **sleep disturbances and sleep loss**.

They might feel isolated, since their jobs cut them off from their friends and families. They might find it harder to exercise regularly, and may be prone to eat junk food out of a handy vending machine, says Scheer.

But Scheer and other experts believe a significant part of the problem with shift work is **physiological**. On a fundamental level, being awake at odd or irregular hours fights with our biological rhythms. Shift work disrupts the circadian rhythm -- our internal body clock that is keyed to natural daylight and darkness.

Because circadian rhythm affects how the body functions, disrupting it can throw everything out of whack -- including our cardiovascular system, metabolism, digestion, immune system, and hormonal balance. That appears to have serious consequences.

### **Short-Term Health Effects of Shift Work**

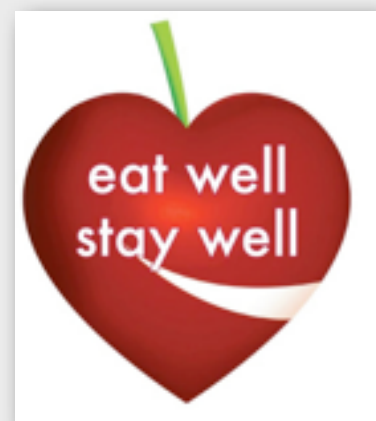
The short-term health effects of shift work are clear. Even if you're not a shift worker yourself, you've probably experienced the equivalent effects -- maybe after a transatlantic flight, an all-nighter in college, or a few nights with a wailing newborn. Aside from the obvious fatigue, effects include:

- Gastrointestinal symptoms like upset stomach, nausea, diarrhea, constipation, and heartburn
- Increased risk of injuries and accidents
- Insomnia
- Decreased quality of life
- General feeling of being unwell

## **Top 10 Ways to Stay Well**

Workplace wellness is the result of **good health habits** practiced on and off the job. Encourage your workers to incorporate these practices into their lives: Exercise briskly for at least 20 minutes three or more times a week.

1. Drink plenty of water. Build your diet around a variety of fruits, vegetables and whole grains.
2. Eat lightly.
3. Limit your consumption of fats, sugar, salt and chemical additives.



4. **Maintain a healthy weight for your height.**
5. **Have your blood pressure checked regularly, and learn to manage any blood pressure problems.**
6. **Avoid excessive exposure to the sun. Cover up and use a sunscreen.**
7. **Get enough sleep.**