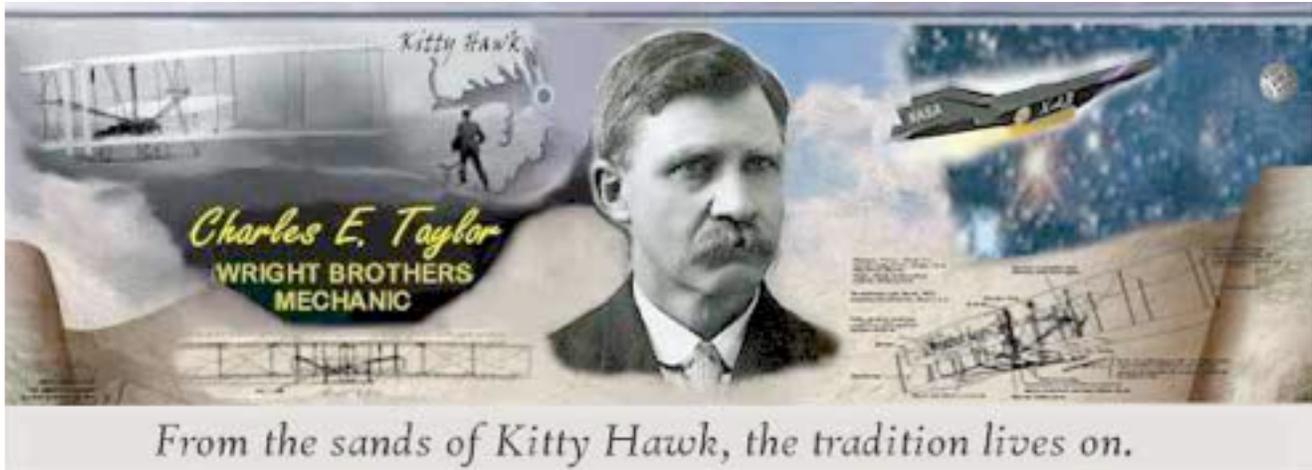


# Aviation Human Factors Industry News

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Hello all,

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## **Crucial Knowledge - HF OnLine 'Sampler' Video**

Crucial Knowledge has developed an **online “sampler” video** that gives viewers a brief overview of their four courses designed specifically to address **human factors** as it applies to aircraft maintenance. The video runs 16 minutes and includes segments from the courses “Introduction to Human Factors,” “The Dirty Dozen,” “Combating Complacency” and “Case Studies.”

“The Intro examines why there is such a push now for human factors,” explains Gary Burch, Program manager for Crucial Knowledge. “It explains what triggered this emphasis by reviewing significant maintenance-related catastrophes, and then goes on to describe popular human factors models, including Reason’s Theory, the MEDA process, the Iceberg model, the Dirty Dozen and others.”

“‘The Dirty Dozen’ video examines each of the twelve factors and offers safety nets, and ‘Combating Complacency’ looks at causes, and how to identify and prevent complacency in both individuals and organizations,” Burch said. “The ‘Case Studies’ video is a series of five scenarios based on actual events with essay questions at the end of each case.” Burch said. “Being a sampler, only snippets of each course are viewed, while the actual courses are each about an hour long and include tests, a printable student guide, and duration tracking to show how long each student spent taking each course.”



The sampler can be viewed, free of charge, at <http://www.crucialknowledge.info/sample> and using a username of “test” and a password of “drive.” For more information, contact Gary Burch, 301-412-5966.

The Crucial Knowledge aviation training schedule has been updated for the remainder of 2010. Details on all courses at [www.crucial-knowledge.info](http://www.crucial-knowledge.info)

Please note the AS9100 Revision C courses in Wichita in October (internal and lead auditor).

## SMS for Mechanics

There's a lot of talk in aviation circles about **safety management systems**, or SMS; but there's also a lot of confusion as to what it means, as well as, how it will impact maintenance, says John Goglia. It's important for mechanics to understand SMS is all about so they can contribute their thoughts and ideas as safety management systems develop and so they can be ready when SMS comes to their organization. **In simplest terms**, SMS is a structured process for managing safety and safety risk. It includes top-down policies for establishing safety processes, methods for identifying hazards, evaluating risk and actions to minimize those risks, and continual evaluation of those policies and their implementation.



While a number of aviation organizations, including air carriers, repair stations, and Part 91 operators, are voluntarily establishing SMS programs, SMS will become mandatory for many companies in the not-too-distant future. The International Civil Aviation Organization (ICAO), of which the United States is a member state, promulgated the requirement that **member states mandate** that covered organizations establish SMS. Covered organizations include those who provide products or services regulated under Parts 21, 119, 121, 125, 135, 141, 142, and 145 of the Federal Aviation Regulations.

The United States has accepted ICAO's mandate and is in the process of formulating regulations to implement that mandate. To that end, the FAA issued an Advanced Notice of Proposed Rulemaking (ANPRM) in 2009, soliciting public comments on a potential SMS rule for U.S. air carriers, repair stations, and product manufacturers, among others. To date, the FAA has established an Aviation Rulemaking Committee (ARC) composed of aviation industry experts to review public comments in response to the ANPRM and to advise the FAA on an SMS rule. The ARC is currently divided into three working groups, one of which is the Maintenance Working Group.

FAA's web site provides additional information on SMS and is updated regularly regarding the rulemaking activities (<http://www.faa.gov/about/initiatives/sms>).

### An example is worth 1,000 words

Here's a simplified example I use to demonstrate how SMS would work in the maintenance arena. Say an aircraft returns to the gate because the No. 2 generator on an engine is not working. An inspection of the generator reveals that one of the electrical connections was not properly secured. A logbook review indicates that this system had been previously worked on, repairs were made, and the aircraft was released for return to service. Thereafter, maintenance properly secures the electrical connections, closes up the aircraft, signs off the logbook, and sends it on its way.

**In a non-SMS environment**, that might be the end of the story. In an **SMS-world**, the event would be written up in accordance with established procedures, reviewed in accordance with those procedures, and a determination made as to the facts and circumstances that led to the electrical connections being improperly secured. (Similar to what Event Review Committees do under the Aviation Safety Action Program or ASAP.) **Human factors would be considered**, as well as the applicable manuals and any other relevant factors.

If, for example, it was determined that the connections were improperly secured because the mechanic hand-tightened the nut; and that this was done because no torque wrench was available, a SMS would develop training and procedures to mitigate the risks of a future occurrence.

This entire process would be fully documented and retained for analysis of whether the "fix" in fact corrected the problem. Continual evaluation of the effectiveness of risk mitigations is a hallmark

### Police investigate after SAS A340 runs over ground worker

Danish police are investigating a serious accident at Copenhagen Airport during which a **ramp worker was run over** by a Scandinavian Airlines aircraft.

The worker suffered serious injuries to both legs, the regional police force



says in a statement, adding that he was taken into surgery at the specialized Rigs hospital trauma centre in the Danish capital. Few details about the circumstances of last weeks accident have emerged. SAS Group states that the aircraft involved, an Airbus A340, was being maneuvered in a hangar at the time.

"They were **towing the aircraft into a hangar** and, during the process, very unfortunately [the worker] was **hit by the main wheels**," says a spokesman for the company. Danish air accident investigation authority Havarik commission could not immediately be reached for comment.

## Charter Pilot Pleads Guilty To Fraud

A pilot who admits that he **changed weight and balance calculations** and knew that a captain **was not fit to fly and said nothing** has pleaded guilty to federal charges in New Jersey. Francis Viera, of Fort Lauderdale, Fla., for Platinum Jet Management, based in Florida, and said he flew charters for the company although the company **wasn't properly certified** to offer such flights. Five others associated



with the company are facing various federal charges, which were brought after a company jet crashed in Newark in February 2005. The Bombardier Challenger CL-600-1A11 jet failed to take off, skidded through an airport fence, and ran into a warehouse, injuring 11 people in the airplane and 3 on the ground. Viera was not on board for the accident flight. The captain on that flight is among those facing charges.

The NTSB said in its **final report** that the jet was not within weight-and-balance limits and the center of gravity was well forward of the forward takeoff limit, which prevented the airplane from rotating. **Neither pilot properly checked the weight and balance before takeoff**. The NTSB also criticized the FAA for failing to exercise adequate oversight of the charter operator. Platinum Jet Management was flying under a Part 135 certificate held by another company.

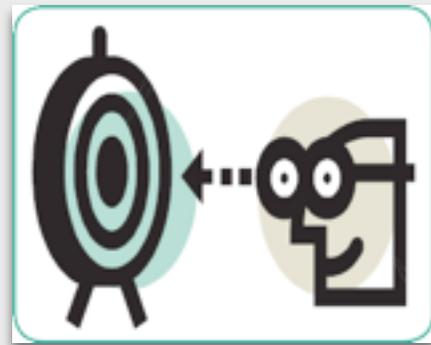
The company's pilots **routinely "improperly modified"** the weight-and-balance forms to show that the airplane was operating within its limits, the NTSB said. The safety board also said the FAA FSDO in Birmingham, Ala., contributed to the accident by failing to provide adequate oversight of the company's operations.

## **Investigators Suspect Pilot Distraction In Two Recent Airliner Incidents**

Federal air-safety officials are investigating whether pilot **distraction** was responsible for two recent dangerous runway incidents involving Allegiant Air and JetBlue Airways Corp.

The **safety lapses** didn't result in any fatalities, but the two separate close calls over the past few weeks have prompted renewed scrutiny of pilot attentiveness by government regulators and crash experts.

The latest investigations follow a string of other cockpit mistakes-some stretching back to 2009-highlighting the dangers of pilot **complacency or distraction**.



On August 26, a JetBlue Airways Airbus A320 blew four tires and experienced a landing-gear fire after touching down in Sacramento, Calif. Seven of the 86 passengers aboard the plane, en route from Long Beach, Calif., received minor injuries during the emergency evacuation on the runway.

Investigators subsequently determined that the pilots of JetBlue Flight 262 **inadvertently engaged the plane's parking brake** while approaching the airport at roughly 5,000 feet. According to preliminary findings of the National Transportation Safety Board, the first officer was at the controls when the plane touched down and "began a rapid deceleration." Four main landing gear tires deflated and main wheel rims were damaged.

Similar parking brake slip-ups have occurred on a number of other Airbus aircraft over the years, according to pilots, even though the planes are **designed to alert the crew** whenever the parking brake is engaged.

The safety board said neither pilot "recalled any abnormal indications or warnings" of braking system problems prior to landing.

A JetBlue spokesman said the carrier was cooperating fully with the safety board, but he declined further comment.

The Allegiant Air incident involved a McDonnell Douglas MD-82 jet that barely managed to take off from the Lake Charles, La. airport less than two weeks later. The plane damaged part of its landing gear after using the entire strip for its takeoff roll, and then striking lights at the end of the runway. The pilots, who apparently didn't realize the damage until they were alerted by air-traffic controllers, diverted and landed safely in Tunica, Miss. Allegiant Air's parent is Las Vegas-based Allegiant Travel Co.

An Allegiant spokeswoman declined to comment, except to say the airline was cooperating with investigators. An FAA spokesman declined to comment on the status of the agency's probe.

Federal regulators, safety-board investigators and pilot-union leaders appear particularly sensitive to suspected cockpit distraction after some high-profile examples. The most prominent incident occurred in October 2009, when the pilots of a Northwest Airlines jetliner cruising at 37,000 feet across the country lost radio contact with controllers for more than an hour. The plane overshot Minneapolis, its destination airport, by roughly 100 miles, before the cockpit crew realized the mistake.

Both pilots told investigators they became **distracted talking** about changing crew schedules and looking at a personal laptop opened on the flight deck.

The errant flight resulted in a Congressional outcry, stoked public outrage and led to FAA moves to revoke the licenses of the pilots. Ultimately, both pilots left the airline, which is now part of Delta Air Lines Inc.

Pilots "simply cannot allow **complacency and inattention to permeate and contaminate cockpits.**" Rory Kay, a top safety official at the Air Line Pilots Association, said during a recent public safety forum. Aviators must "comprehensively self-assess their fitness to fly," according to Capt. Kay, who flies for United Airlines.

A week before the Minneapolis incident, an experienced Delta crew on an overnight flight from South America **landed** a widebody Boeing 767 on a **75-foot wide taxiway** instead of a parallel, 150-foot wide runway at Atlanta's Hartsfield International Airport.

The weather and visibility were both good, and runways have different colored lights than taxiways. But investigators determined that **at the end of a 10-hour flight** from Rio de Janeiro, the **crew was distracted** by the illness of a senior pilot, several different landing instructions from controllers and the desire to taxi as quickly as possible to the terminal.

Between the fall of 2009 and the spring of 2010, pilots for two U.S. commuter airlines **failed to start up the second engines** of their jets before getting ready to take off. The unusual incidents prompted federal investigations and sparked comments by safety experts about the need to step up training to prevent pilot distractions that can result in dangerous errors. Both crews realized the mistake before their aircraft started to gain speed.

There also have been scores of pilot mistakes that escaped public notice. During 2008 and 2009, at least 20 crews flying for Comair, Delta's commuter arm, prepared to take off **without extending** the Canadair regional jet's flaps, movable panels at the rear of the wings essential to enhance lift. In each case, according to people familiar with details, automated cockpit warnings sounded before takeoff and there were no accidents. But the airline felt the need to **rewrite parts of its checklists** and review training procedures to assure proper flap deployment.

A Comair spokeswoman said Wednesday that the carrier's safety-reporting program "identified the need to reinforce the new procedure, and since that time, we have experienced no further incidents."

## **US Airways pilots raise concerns about rest rule**

The pilots' union at US Airways says a proposed federal rule on pilot working hours could **actually increase fatigue and threaten safety**.

The US Airline Pilots Association said recently the new rule would let airline managers schedule crews for one-fourth more flight time in a day and 60 percent more in a week.



Mike Cleary, president of the US Airline Pilots Association, said it "simply defies common sense" to have pilots fly more hours in a short period of time. He said **fatigue was a factor in many accidents**.

The union also complained about a proposal that pilots could work a **15-hour day** then be back on the job after a **9-hour break**, which it said wasn't long enough.

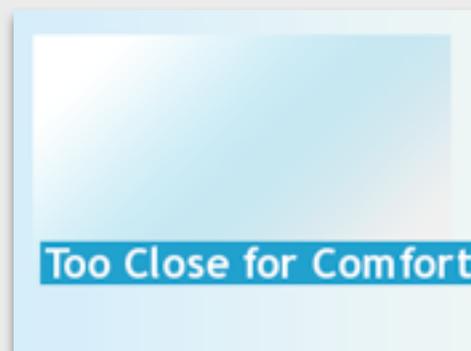
The union said it submitted testimony about the rule to the House aviation subcommittee.

The Federal Aviation Administration issued the proposed crew-rest rule on Sept. 10. It would shorten shifts for pilots who fly at night, but some who fly during the day could spend more time in the cockpit.

The rule would bar airlines from scheduling pilots to be on duty -- either flying or at the airport ready to fly -- **longer than 13 hours in a 24-hour period**, which is three hours less than current rules. But airlines could schedule pilots to start working between 7 a.m. and 1 p.m. and keep them in the cockpit for as much as 10 hours of actual flying -- **two more hours** than now allowed.

## **VIDEO: Delta 747 shunts tow-tractor at gate**

Video images have emerged depicting the moment that a Delta Air Lines Boeing 747-400 shunted a tow-tractor while preparing to park at an airbridge. The aircraft appears to be parked at New York JFK's Terminal 3, gate 6, with a tractor and ramp personnel approaching the nose-gear.



Too Close for Comfort

Another ramp worker seems to run towards the gate in order to stand in the line of sight of the cockpit and signal to the pilots, possibly showing the 'stop' instruction with raised crossed arms.

Shortly afterwards the **worker drops his arms and starts walking back towards the aircraft** but, seconds later, the 747 begins moving forward.

Two of the ground personnel **scatter from under the right-hand side of the jet**, with the connecting towbar for the tractor, while a third runs to the left. The aircraft travels about 10-15m, striking the tractor and pushing it backwards, before coming to a halt.

Images of the incident seem to have been taken from a surveillance camera, with a time-stamp which suggests the event took place on 14 August this year.

[http://nycaviation.com/forum/threads/37865-JFK-Incident-Delta-747-vs.-Tug-\(VIDEO\)](http://nycaviation.com/forum/threads/37865-JFK-Incident-Delta-747-vs.-Tug-(VIDEO))

## **Boeing sees need of million pilots, mechanics over 20 years**

Commercial aviation will need **466,650 pilots and 596,500 mechanics** over the next 20 years to service aircraft coming on stream, according to Boeing's crew assessment forecast.

Airlines will need an average of 23,300 new pilots and 30,000 new maintenance mechanics per year from 2010 to 2029, said the Boeing statement. The crew assessment forecast is based on Boeing's current market outlook, a comprehensive analysis of the commercial aviation market.



According to the forecast, **North America** will need the most pilots and maintenance workers - 97,350 and 137,000 respectively - but the largest growth in both pilots and maintenance workers will be countries in Asia-Pacific - 180,600 and 220,000 respectively.

In Asia, China will experience the greatest need for pilots and maintenance personnel - 70,600 and 96,400, respectively. Europe will need 94,800 new pilots and 122,000 of maintenance personal.

## **Picture This!**

**Up For Contractor Of The Year Award.**



