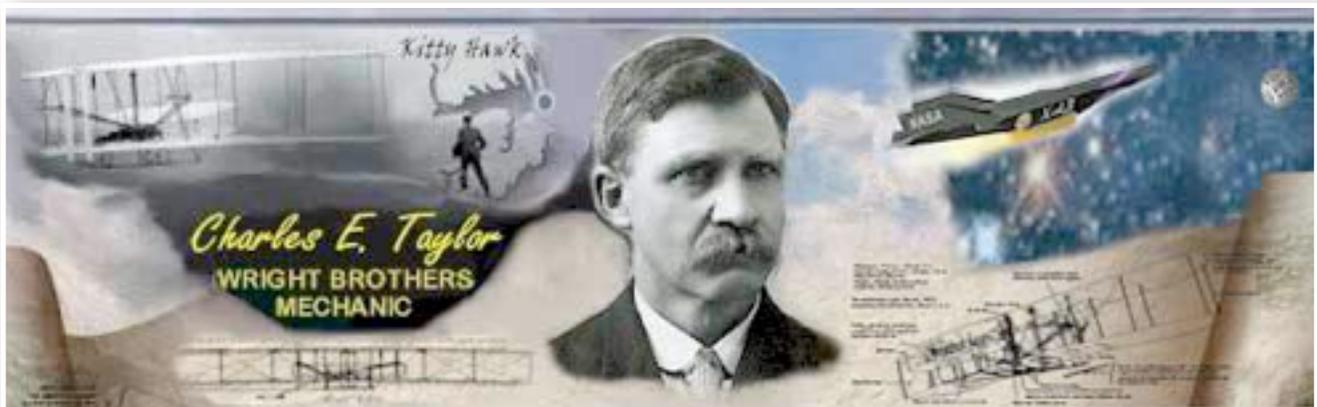


Aviation Human Factors Industry News

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

Hello all,

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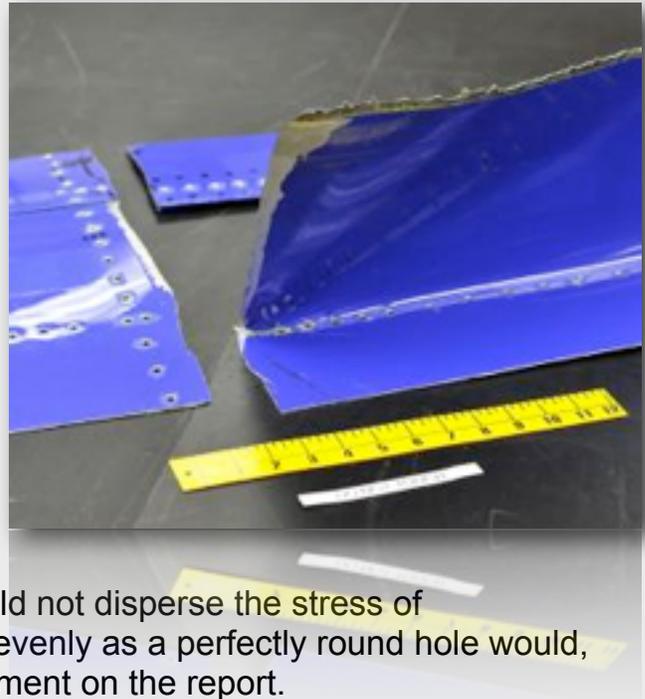
★Tips for the Last Break

NTSB Reports Flaws In 737 Rivets

NTSB inspectors examining parts of the Southwest 737 fuselage that ruptured in flight on April 1 reported that they found [some rivets didn't fit properly](#) into their holes, and some of the holes were slightly offset or irregular in shape. While the update was purely factual, with no analysis, The New York Times said that to experts, the findings [may reveal manufacturing defects](#). "It means the assembly was wrong, it means the wrong tools were used, it means they were careless in drilling the holes, and maybe the drill was dull," John J. Goglia, a former NTSB member, told the Times.

Rivet holes that are irregular in shape would not disperse the [stress of pressurization/depressurization cycles](#) as evenly as a perfectly round hole would, Goglia told the Times. Boeing had no comment on the report.

The flight was at 34,000 feet when the rupture occurred opening a hole in the fuselage 9 inches wide and 59 inches long, causing depressurization of the cabin. The flight crew conducted an emergency descent and diverted to Yuma International Airport, Yuma, Ariz. The aircraft has been delivered to Southwest in June 1996, and at the time of the accident, it had accumulated 48,740 hours of service and 39,781 cycles (a cycle is a takeoff and landing), the NTSB said. Inspections that were mandated after the accident turned up four 737s with crack indications at a single rivet and one with crack indications at two rivets. All of those aircraft had flown between 40,000 and 45,000 cycles, the NTSB said. The NTSB investigation is continuing.



Aircraft Maintenance Duty Time Limits

A recent notice was published by the FAA in the federal register regarding a [reinterpretation/clarification of the current maintenance rest and duty time limits](#). It will be open and available for comment until June 13, 2011.



<http://edocket.access.gpo.gov/2011/2011-9236.htm>

Solution for fatigued aviation workers eludes FAA

The Federal Aviation Administration told a government watchdog nearly two years ago that it was prepared to let air traffic controllers [sleep or rest during work shifts](#) when they weren't directing aircraft. It still hasn't happened. When the FAA proposed new limits on airline pilots' work schedules to prevent fatigue last year, [it rejected its own research](#) recommending that pilots be allowed to take naps during the cruise phase of flight — typically most of a flight when the plane is neither climbing nor descending — so that they are refreshed and alert during landings.



And an FAA committee that has been working for several years on new work rules to [prevent fatigue among night-shift airline mechanics](#) has made little progress, said one committee member. Allowing naps during breaks on overnight shifts was dismissed as a nonstarter.

In a 24/7 industry like aviation, [fatigue is a fact of life](#). Managing work schedules to minimize fatigue can make the difference between life and death. There have been 14 aviation accidents with 263 fatalities since 1993 in which fatigue was cited as the cause or a contributing factor, according to the National Transportation Safety Board.

Yet the FAA has struggled unsuccessfully for decades to revamp workplace rules for controllers, pilots and mechanics despite a consensus that fatigue is one of the industry's most pressing safety issues. While recognizing the problem is easy, developing workable solutions acceptable to airlines, labor unions and government regulators is tough. Money is a factor. So are public perceptions.

The issue has taken on a new urgency after at least five recent incidents of controllers falling asleep on the job while working overnight shifts. In two cases, controllers have been fired.

"It's tough to see controllers facing firing when the problem of (midnight) shift sleep deprivation has been acknowledged by the FAA," said Rick Perl, a retired controller in Oxnard, Calif. "Sacrificial lambs is how it feels to me."

In a sixth incident, a controller working an overnight shift was suspended for watching a movie on a portable DVD player while he was supposed to be monitoring air traffic. Present and former controllers have told The Associated Press that it's not unusual for controllers on overnight shifts at radar facilities when traffic is light to watch movies, play online poker, and read magazines to help them stay awake.

The alternative, they said, is to spend eight hours in a dimly lit room staring at a radar scope while trying not to fall asleep. The controllers asked not to be identified so as not to jeopardize their jobs or the jobs of coworkers.

Industry and labor officials give FAA Administrator Randy Babbitt credit for doing more than past agency chiefs to address the fatigue problem. Last year, the agency proposed the first new limits on work schedules for pilots in decades. But industry-supported legislation in Congress, if passed, could create major obstacles to the rules becoming final.

Babbitt also signed a contract with the National Air Traffic Controllers Association in 2009 that, among other things, required the agency create a working group with the union to address controller fatigue. FAA held off on its plan to allow sleep or rest by controllers during their shifts when not working air traffic to allow the working group time to address the issue, said spokeswoman Sasha Brown.

In January, after a year and a half of work, the group briefed Babbitt on 12 recommendations. One was that controllers be allowed sleeps breaks for as long as two hours when working overnight shifts. Sleep experts say scheduled naps during night shifts — [especially between about 1 a.m. and 5 a.m.](#) when even well-rested people naturally crave sleep — help keep workers alert when they return to their duties.

Another recommendation was that controllers be allowed to sleep during the 20 to 30 minute breaks they typically receive every few hours during day shifts. Currently, the FAA forbids sleeping on the job, even during breaks.

Babbitt was "abundantly enthusiastic about us moving forward," said Peter Gimbrere, who is spearheading the controllers association's fatigue effort.

But the administrator and Transportation Secretary Ray LaHood flatly rejected both nighttime naps and on-break snoozes after publicity about controllers falling asleep.

"We don't pay people to sleep at work at the FAA," Babbitt told AP last week. "I don't know anybody that pays anybody to sleep unless you're buying people to have sleep studies."

Patrick Forrey, a former president of the controllers' union, called that position "unfortunate and political."

"People think, 'Why are we paying people to take a nap?' " Forrey said in an interview. "It doesn't necessarily play well with the public, especially in an economy like today."

Paul Rinaldi, the current controllers association president, said Friday that he intends to press the FAA to adopt all 12 recommendations.

"The recommendations are based on advice from NASA and the military and in line with international air traffic control best practices," he said in a statement. Actions the FAA has taken recently to address the fatigue problem — adding a second controller on overnight shifts at more than two dozen airports and giving controllers an extra hour between work shifts — have "barely scratched the surface," he said.

FAA is reviewing the recommendations, said spokeswoman Laura Brown.

Curt Graeber, a former NASA scientist who conducted FAA-funded sleep studies of pilots, wasn't surprised that the FAA hasn't embraced napping for controllers. Graeber was a member of an FAA committee in the early 1990s that drafted an advisory to airlines permitting pilot napping and setting out ground rules.

"We thought everything was fine. We submitted the draft advisory circular (to the FAA), everyone agreed with it, and then everything stopped," said Graeber, now chairman of the International Civil Aviation Organization's fatigue task force. But other countries and the European Aviation Safety Agency used the FAA draft circular and research to write their own regulations permitting pilot napping, he said.

Many pilots acknowledge privately that they've dozed off in the cockpit at times, especially while cruising when the workload is light. But critics say there's greater risk in not having two pilots available at all times than there is that a pilot may doze off.

Graeber disagreed. "Look at it this way" he said, "would you rather have your pilot taking a nap while you are having your steak in the back (of the plane), or falling asleep on the approach into Hong Kong?"

Meanwhile, the FAA's committee working on new work rules for [reducing fatigue among aircraft maintenance workers](#) "is going nowhere," said safety consultant John Goglia, a former NTSB board member who began his career as an airline mechanic.

Airlines don't want new rules because they would complicate their scheduling and they'd have to hire more people, he said. Unions also don't want new rules because "they're working tons of overtime to make up for the pay cuts that they took."

But that doesn't mean mechanics aren't struggling to stay awake, especially during slow periods, Goglia said.

"Everybody who works nights in aviation knows if you're not busy you're going to fall asleep because you're chronically fatigued," he said.

NTSB: student pulled wrong control to cause helicopter crash

A student's [error](#) caused a helicopter crash April 6 at South Valley Regional Airport, according to a preliminary report from the National Transportation Safety Board. The crash was the seventh in the last six years for Upper Limit Aviation, a Salt Lake flight school whose safety record has come under fire from former employees. According to the report, the student and an instructor were returning to the airport at the tail end of a lesson shortly after noon when the student pulled a "mixture control" knob, cutting power to the engine. The student meant to apply carburetor heat, [an adjacent control](#), the report states.



The instructor started an emergency landing from 300 feet above the ground, but "his selected landing site turned out to be a school yard with children present." The report does not identify the school.

The helicopter crashed nearby, leaving it with substantial damage and both passengers with minor injuries.

Sean Reid, the school's co-owner and chief flight instructor, praised the instructor for preventing any fatalities, saying the landing could have been smooth if not for the last-minute diversion away from the school.

Typically, Reid said, a student **must identify the correct control and get verbal confirmation from the instructor** before activating it. But in this case, the student removed a guard from the mixture control and pulled it without warning, he said.

"The student had been briefed (on proper procedures)," Reid said. "He didn't have his head in the game."

In an interview, Upper Limit's former chief pilot, Karl Cotton, said he believes the school's instructors — usually recent graduates without a great deal of experience — are not being properly trained. The instructor in the April 6 accident had 433 hours of flight time in all aircraft, a little more than double the time needed to earn a certificate.

NTSB: Repair error probably caused plane crash that killed Bellevue pilot

The probable cause of a single-engine plane crash that took the life of its Bellevue pilot last year was the failure of a maintenance crew **to properly tighten a throttle cap**, the National Transportation Safety Board has found. Shane Sullivan, president of insurance brokerage firm Cascade Risk Placement, died when his plane lost power and crashed near Morton, Lewis County, as he was returning from a business trip to California on March 19, 2010. A passenger, the company's operations manager, Rebecca Carroll, 38, was seriously injured.



Sullivan, 39, was flying the Cirrus SR22 from Concord, Calif., to Renton Municipal Airport when the plane lost power and he attempted to make an emergency landing at Strom Field in Morton. The plane failed to reach the airport, instead crashing into trees in the front yard of a house off Highway 508, 2 ½ miles from the airport.

The NTSB ruled in a report dated April 12 that **an inadequately tightened cap on the throttle and metering assembly inlet came loose** during the flight and led to a loss of engine power "due to fuel starvation."

The plane had been flown for only 11 hours since it was serviced at Auburn Flight Service, where the cap was installed "finger tight" after three cracked engine cylinders were replaced, investigators found. The manufacturer's maintenance procedures require the cap be torqued and a leak check performed.

The director of maintenance told the NTSB he had signed off on the work and returned the plane to service. However, a technician who worked on the plane told the NTSB he had run the engine but hadn't done a final inspection or signed the work order showing that service was complete. The technician also had not entered the Cirrus into a logbook of all planes he certified as airworthy or not.

The plane was equipped with the Cirrus Airplane Parachute System, which is designed to deploy a parachute for the entire plane but which Sullivan apparently did not attempt to deploy, according to the NTSB.

Sullivan sent a Mayday alert and told air traffic controllers before the crash, "I'm west of Strom airport, trying to make the field."

"Everyone at Auburn [Flight Service] feels very badly about this tragic accident and as we would about any tragic accident where people were injured or killed. But because the matter is in litigation, we can't comment any further on the facts," said Dave Schoeggl, attorney for the aviation company.

Carroll has filed a personal-injury lawsuit against Auburn Flight Service, Sullivan's wife and his estate. "We haven't yet completed our investigation to come to our own conclusions about what happened," said Schoeggl, who is defending the company in the lawsuit.

Human factors to blame for fatal crash of Air India Express flight from Dubai

"Dirty Dozen"

Indian accident investigators have said that the captain of a Boeing 737-800 from Dubai had been sleeping for more than an hour before attempting a poor steep descent into Mangalore airport. A co-pilot who suggested three times for suggesting a go-around, was also considered too "submissive" and allowed the domineering Serbian captain to continue the attempt which ultimately led to the fatal crash. The first officer was also shown as erroneously confirming the aircraft was on the correct approach through pressure by the captain.

Indian press reports suggest [the two had fallen out](#) weeks before they were paired for the Dubai flight.

The inquiry unearthed a number of [contributing human factor causes](#) to the May 22, 2010 crash in which only eight of the 166 people on board survived and has called on airlines to focus more on [human factors training](#).

The Air India Express IX812 had left Dubai with 160 passengers and six crew. Weather conditions were fine but because Mangalore radar was unavailable, the aircraft had to follow a shorter descent.

India's Directorate General of Civil Aviation says the crew failed to prepare the descent profile properly, and the jet was much higher than it should have been for the instrument landing system approach to runway 24.

In the report, investigators say that cockpit voice recordings recorded [typical breathing patterns of deep sleep](#) from the Serbian pilot Zlatko Glusica, lasting for 1h 28 min, until just 21 min before the accident. These recordings indicated that the captain slept for at least 1h 40 min.

The investigation report claims that co-pilot HS Ahluwalia, may have been reluctant to wake him because of resentment between the pair and so shortly after 55-year-old Glusica awoke, he began to land the plane despite the advice of his first officer to "go around".

The report said the [suspected communication breakdown](#) between the pair played a part in the disaster and such issues need to be addressed.

As a result the aircraft was not correctly prepared for the descent and stable approach and in order to find the instrument landing system signals the pilot increased the descent rate to nearly 4,000ft/min despite several automated warnings from ground-proximity systems.

Air India Express internal rules only allow the captain to make the landings on Mangalore's table-top runway. The captain on the fatal flight had made 16 previous landings at the airport.

The Flight-data recorder shows the aircraft crossing the runway threshold at 200 ft rather than at the prescribed 50 feet and much faster. As a result it didn't touch down until 1600 metres along the runway leaving just 860 metres

The 737-800 failed to stop before overrunning the runway. Its right wing collided with the localizer antenna and the aircraft dropped off the edge of a steep gorge. In its inquiry report the ministry says the prolonged sleep by the captain, particularly during the [overnight circadian low period](#), could have led to "[sleep inertia](#)" and possibly "impaired judgement" over the approach shortly after he woke.

Ethiopian crash pilots were relatively new to 737-800

Lebanese investigators have disclosed that the captain and co-pilot of the Ethiopian Airlines Boeing 737-800 which crashed off Beirut last year each had **relatively little experience in their respective positions** on the aircraft.

Inexperienced
Drivers

In a progress report on the inquiry into the January 2010 accident, the Lebanese transport ministry states that while the captain's overall flight time totaled more than 10,000h only 188h were logged in command of the type. The first officer on the twinjet had only 673h of which 350h were on the 737-700/800.

Previously the captain had been in command of Fokker 50 turboprops - clocking up more than 1,000h - before achieving his 737-700/800 rating in October 2009. He was released to command the type on 3 December 2009, just 53 days before the crash.

While the inquiry report states that he had over 3,700h as pilot-in-command, it says nearly 2,500h were on "different light and spray aircraft". He had been previously rated as a co-pilot on the Boeing 757 and 767, as well as the 737-200.

Both pilots on the fatal flight, ET409 to Addis Ababa, had flown for 4.7h in the previous 24h, and had arrived in Beirut as crew on the inbound service ET408.

Tips for the Last Break

The last break of the night shift is an ideal time to pause and conduct a brief **self-evaluation**. Doing so can help you avoid the tendency to let up during the final of the shift and make **foolish mistakes**. During your self-check, try to out how tired you are. For example, how long would it take you to fall asleep at that moment? If your felling sub-par and could fall asleep within 30 seconds, ask a co-worker to make and extra effort to **look out for you** for the rest of the shift.

