

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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American Airlines lauds NY worker's 70-year career

American Airlines is celebrating the **seven-decade service** of a New York mechanic who turns 87 next month and has no plans to retire.

Azriel "Al" Blackman was 16 when he started as an apprentice mechanic in July of 1942, long before bag fees, airport security or even the introduction of the jet engine. He was paid 50 cents an hour

Seventy years later, he still reports to work every day at American's aircraft maintenance hangar at John F. Kennedy International Airport.

"I don't consider it work, really," Blackman said Wednesday. "If you like what you do, it's not work."

The Fort Worth, Texas-based airline invited Blackman to ride on a vintage DC-3 to mark his anniversary with the company.

The aircraft, the Flagship Detroit, is owned by a nonprofit foundation that has restored it to a historically accurate approximation of what it looked like when it was in passenger service for American from 1937 to 1947.

Its 21 seats are smaller than 21st-century airline seats, and there are no overhead bins.

Blackman sat in the cockpit as the plane swung around to lower Manhattan, up the Hudson River to the George Washington Bridge and back.

Back on the ground, he said modern jet engines are more reliable than vintage engines like the DC-3's.

"These leak oil all over the place," Blackman said. "When they're not leaking oil, it's not good. They're not running well."

Mustachioed and dapper in his lime-green reflective vest with "crew chief" on the back, Blackman said the industry has changed over the years.



"Today it's all money, banking, CPAs, computers," he said. "But I've yet to see a computer go out and fix anything that we broke."

He shook his head when asked what advice he'd give to someone starting out in his line of work now.

"Most of the big carriers have folded because they couldn't compete," Blackman said. "And those that are still in business outsource a good part of their work. **It's tough to make a living in the business today.**"

Blackman started working for American Export Airlines, which later merged into American. He was drafted into the Army and served two years in Korea, then returned to his mechanic's job in New York.

He and his wife, Delores, had two children; she died last year.

"My dear wife, when she was alive, she used to tell me, 'Go to work, bum,'" he said. "'Go play with your friends.'"

Arsa To Congress: Maintain U.S. Leadership in Mx

The Aeronautical Repair Station Association (Arsa) submitted a written statement to the U.S. Senate subcommittee on aviation operations, safety and security detailing the **important role aviation maintenance services play** in ensuring the of the American aerospace industry. It describes the substantial and positive economic impact aviation repair stations have on the U.S. economy, highlights the important role Bilateral Aviation Safety Agreements play in ensuring competitiveness, and discusses the negative effect the **current ban** on new FAA foreign repair station certificates is having on U.S. companies.

Repair stations form the backbone of global aviation, and Congress should be exploring ways to promote U.S. leadership in maintenance services.

Unfortunately, the United States competitive advantage in aviation maintenance **is at risk** because of congressional micromanagement and TSA inaction," Daniel Fisher, vice president of legislative affairs for Arsa, told AIN.



Fisher said the current ban on FAA foreign repair station certificates is restricting the ability of American companies to take advantage of rapidly growing markets and compete overseas. According to Fisher, Arsa urges lawmakers to pursue policies that respect bilateral agreements, encourage exports and allow U.S. repair stations, which are predominantly small and medium-sized companies, [to grow and compete internationally](#).

<http://www.arsa.org/files/ARSA-SenateAviationSubcommitteeWrittenStatement-20120717.pdf>

Throttle lever error nearly destroyed Dash 8's engines

Protections include triggers under the levers and a warning sign

Propeller overspeed almost wrecked both powerplants after Widerøe crew pulled levers below flight-idle setting. Norwegian investigators have revealed that a Widerøe Bombardier de Havilland Dash 8-100 [came close](#) to double engine failure after the pilots [inadvertently retarded](#) the throttle levers to below the flight-idle position. Both propellers were subjected to overspeed as the crew drew the levers back beyond a safety stop mechanism while reducing thrust in heavy turbulence.



The "uncontrollably high" rotation speeds, exceeding 1,500rpm, severely damaged the right-hand Pratt & Whitney PW121 engine, says Norwegian investigation board SHT, and only ["mere chance"](#) prevented similar damage to the remaining powerplant. SHT adds that the overspeed generated a "deafening" noise in the cockpit, rendering communication impossible.

During the incident the aircraft - which had been at 8,870ft (2,700m), descending towards Sørkjosen - lost 760ft in altitude before the crew regained control and shut the right-hand engine down. SHT says the pilots had to run through the shutdown procedure twice [after missing a crucial](#) propeller feathering step.

Flight-data recorder information shows the aircraft had banked more than 58° to the right, and pitched down by nearly 20°, before returning to stable flight. It also drifted 30° off course. The crew opted to return to Tromsø, the departure point, and executed a single-engined landing. None of the 17 passengers and three crew members was injured.

Widerøe short-runway operations [often require pilots to pull the throttle levers behind flight-idle on landing](#). The levers have a safety stop - a trigger which must be lifted 5mm - to prevent accidental selection during flight.

In its inquiry into the 21 February 2006 event, SHT has recommended Bombardier introduces "measures" to prevent propeller overspeed on the type.

Since February 2010, Widerøe has been modifying certain Dash 8s to reduce the risk of recurrence. The airline also points out that its Q400s have a different power lever function, which offers better protection than earlier Dash 8 variants.

NTSB: Pilot killed in Nevada crash was low on gas

A fighter pilot on a Navy training mission told air traffic controllers he was [running out of gas](#) before he crashed and died at Fallon Naval Air Station in March.

Retired Capt. Carroll LeFon had been playing the enemy in an Israeli-built F-21 before attempting to land at the base 60 miles east of Reno. The National Transportation Safety Board hasn't ruled on a cause but raised the fuel issue in a preliminary report on Wednesday.

The NTSB said LeFon abandoned two initial attempts to land at Fallon and diverted to Reno but found the same snowy and windy conditions there. Headed back to Fallon, he told controllers he was in "a critical fuel state" before he maneuvered toward one runway, then another and crashed into a concrete building.



Giant jet lands at wrong, tiny airport

A massive C-17 landed at the wrong Tampa airport.

MacDill Air Force Base is where it was supposed to land. Instead it came to a screeching halt on Davis Island's airport four miles away.

"MacDill's air strip is 11,000 foot long. This one's **only 3,400** so it's almost triple the length over there," said witness Ryan Gucwa.



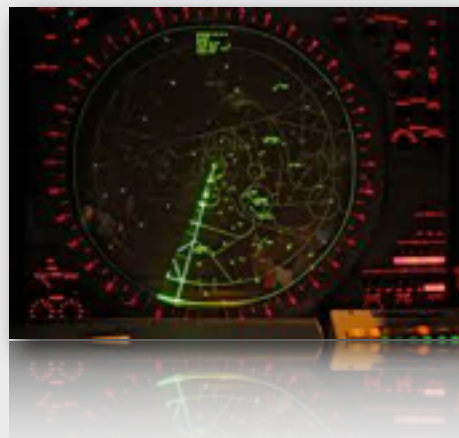
"The thrust reversers went on full blast. It was sound-deafening and there was rubber coming from the tires. And he stopped just about 10 feet short of the end of the runway," said witness Don Sipola. The Air Force is investigating to see if it was **pilot error or not**.

<http://r20.rs6.net/tn.jsp?>

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DOT IG Reviews ATC Error Reporting System

The DOT Inspector General has released an audit of FAA's **voluntary reporting system** for air traffic controller errors, and concluded that significant improvements are necessary to make the reporting program effective in identifying and addressing aviation safety risks.



The Air Traffic Controller Error Reporting System (ATSAP), a voluntary non-punitive reporting program for air traffic controllers to report safety concerns, such as [operational errors and events](#) that present hazards to aviation, needs to have significant improvements before ATSAP will be able to effectively identify and address the [root causes](#) of safety risks, the IG said. For example, due to ATSAP provisions designed to protect controller confidentiality, much of the ATSAP data that FAA collects are not validated, raising questions about the effectiveness of these data for analyzing safety trends.

The IG made 10 recommendations to improve FAA's implementation of ATSAP and to strengthen internal controls, use of data, and performance management within the program.

FAA program gives amnesty for sleeping, report says

U.S. Federal Aviation Administration program created for early detection of safety problems has been used by some air-traffic controllers to [escape punishment](#) for sleeping on duty, a report said.

Controllers have been allowed to report poor personal conduct rather than the kind of problems the program was intended to find, the Transportation Department inspector general's office said Monday. "The intent of the reporting program is to improve aviation safety, not to provide amnesty to controllers who like to watch movies or take a nap while on the job," said Rep. John Mica, chairman of the House Transportation and Infrastructure Committee.

The FAA program, known as Air Traffic Safety Action, was modeled on successful programs at airlines. It was intended to discover [potential systemic safety risks](#) before they become serious. The FAA encouraged reporting of performance lapses by preventing controllers from being punished as retribution. for making reports.

The program shows promise as a tool to promote increased safety reporting, the inspector general said.

In a small number of the 41,000 reports filed through December, the FAA allowed employees to report falling asleep, viewing a personal video player while at their positions and refusing to take handoffs of responsibility for flights in a timely manner, making them [immune from disciplinary action](#), the inspector general said.



"Accepting reports of this nature may lead to the incorrect perception that ATSAAP is an amnesty program where reports are automatically accepted," according to the report.

More than 60 percent of the 21,462 U.S. air traffic control employees who are eligible to make reports have submitted **at least one** to the program, the National Air Traffic Controllers Association said in a statement today.

"The bottom line is that since the beginning of implementation in 2008, no other safety program has identified and fixed more local and systemic problems," Steve Hansen, chairman of the labor union's safety committee, said in a statement that didn't address the criticisms about misuse of the program.

At least five FAA air traffic controllers were reported to be sleeping on the job last year. Transportation Secretary Ray LaHood pledged to fire three air traffic controllers caught sleeping in Seattle, Miami and Knoxville.

Miscommunication Cited in Glider Crash Report - Accident occurred July 15, 2011 in Hollywood, Maryland

Sunday, July 15 marked the one-year anniversary of a glider crash in St. Mary's County. The accident, which occurred at approximately 3:35 p.m. near St. Mary's County Regional Airport in Hollywood, claimed the life of the craft's co-pilot, James Michael Dayton, 55 of Mechanicsville.

The aircraft, a Slingsby T-49B glider, sustained heavy damage when it collided with trees while maneuvering for a landing.

A preliminary report issued last year by the National Transportation Safety Board

(NTSB), indicated Dayton, and the glider's pilot, Nicholas John Mirales, 53 of Prince Frederick, were attempting to make an emergency landing in the median of Route 235 but missed the mark. The glider had just been released from the plane that was towing it prior to the ill-fated flight.



On June 28, the NTSB adopted a “brief of accident” regarding the incident. It concluded, “The National Transportation Safety Board determines the probable cause(s) of this accident as follows: the glider pilot’s **improper response** to the “check spoilers” signal from the tow pilot. Contributing to the accident was the glider pilot’s **failure to confirm** that the spoilers were closed and locked before takeoff, and the glider pilot’s improper crew coordination response to the ‘check spoilers’ signal from the tow pilot.”

According to the brief, NTSB investigators spoke with the tow plane pilot. “He explained that, before the flight, the proper signals for ‘too fast’ or ‘too slow’ were discussed but no others,” the brief stated. “He added that he had discussed signaling with the glider’s copilot many times previously but that he had not recently discussed the rudder-wag signal, which means ‘check spoilers.’ After takeoff, he noted that the tow plane’s performance was as expected, but the climb rate was not. He checked the glider in his rearview mirror and noted that **the spoilers were deployed**. The tow plane pilot provided the internationally recognized (in the glider community) rudder-wag signal, and, instead of stowing the spoilers, the glider **released from the tow**.”

How to avoid thunderstorms, wind shear and other nasty stuff

Did you know that "weather" is a major cause of fatal GA accidents

and has the highest rate of fatalities, over 80%. Yet, few pilots have an in-depth knowledge of weather, or get all the details they need before every flight.

It's understandable, weather is complex - it's hard to find the time to study it. Also, there are tons of websites providing online weather information and it's hard to navigate through all this information.

The "Aviation Weather Series" was developed to solve these specific challenges for pilots.



<http://pilotworkshop.com/weather/special.htm>

Boneheaded Engineering Department

A recent Aviation Maintenance Alerts published by the FAA highlights a problem that should never, ever come up in aerospace: [a design that allows mechanics to install something opposite the way intended](#). In this case, according to AC [43-16A No. 407](#), mechanics installed the elevators on a Piaggio Avanti upside down. After doing so, the mechanics were even able to rig the elevators according to the aircraft maintenance manual (AMM) instructions. Although the elevators had been installed upside down, the twin turboprop was able to fly—and fly it did. According to the FAA’s maintenance alert, “During flight, this reversed elevator installation greatly influenced elevator trim authority— additionally causing the airplane [yoke to be in a noticeably different longitudinal position](#).” The alert goes on to note that Piaggio has added a note to the AMM, warning mechanics about this potential problem. The FAA added, “A simple way to ensure the correct elevator is installed on the proper side is to [verify the location of the static wicks](#)—they must be on the upper surface of the elevator.” That this upside-down elevator installation and what mechanics thought was proper rigging could happen is a dangerous example of [poor engineering practices](#). It reminds me of an incident that happened to my friend, the acclaimed cinematographer Robert E. Fulton, when he flew his Cessna 180 to South America to do some aerial filming. While there, a local maintenance outfit offered to strip the paint off the 180; Robert liked the polished-aluminum look, and the price was right.



When he returned to the U.S., a puzzled Robert relayed to Fred, his expert mechanic, that he couldn’t figure out why the 180 seemed to fly funny. During landing, he just couldn’t get as much elevator authority and couldn’t raise the nose as much as before. Fred spent hours looking at the airplane, checking cable runs, control travel and so on. As he was measuring the travel of the elevators, Fred happened to look underneath the airplane and he noticed a big dent in one of the elevators. He mentioned this to Robert, and finally the rest of the story became clear. The South American mechanics, it turned out, had dropped something heavy on one of the elevators while stripping the paint. The clever fellows figured out that they could [flip the elevators over to conceal the dent](#); they didn’t realize that although the elevators looked identical after being flipped, the reversal changed the way the airplane flew.

And they [never told](#) Robert about their little accident. Luckily, Robert managed to fly from South America back to Massachusetts without crashing.

This is another example of engineers designing a product [that can easily be messed up](#) by inattentive mechanics. But wait, there's more.

The AMM illustration showing how the trim-tab cable should have been installed on the trim drum in the Beech 1900 [was backwards](#), according to the FAA [Airworthiness Directive](#) that resulted from an Aug. 26, 2003, fatal crash. "The figures in the applicable maintenance manuals depict the elevator trim cable drum at 180 degrees from the installed position and show the open, keyed side of the drum instead of the flat side of the drum. Following these figures when installing the control cables on the forward control cable drum could reverse the action of the elevator manual trim system," the AD stated. The text of the AMM was correct, [but the illustration was wrong](#). What was really wrong with this situation is that the system was designed such that a maintenance error could cause the elevator trim system to function in reverse.

One more example, which almost killed an A320-load of passengers and crew. This is the [Lufthansa Papa Whiskey](#) incident on March 21, 2001, where the pilots skillfully figured out that the captain's aileron controls were backwards, while the copilot's controls worked normally. The A320's left wingtip dropped within a few feet of the ground during takeoff before the copilot took over and straightened the airplane. It turned out that a mechanic [mistakenly reversed two wires](#) on an electrical plug assembly that contains 420 connections. No one detected the error because cockpit instruments showed that the controls worked correctly; nobody moved the captain's sidestick and watched for correct aileron travel after the job was done.

Certainly, there are holes in the maintenance procedures in all of these situations. Mechanics must follow the AMM carefully and verify proper operation after any job, but the fundamental issue is that engineers designed these flawed systems. And the flawed design of these systems allowed mechanics to cause a problem, instead of making it impossible for mechanics to create a problem where there was none before.

[The solution to this is simple](#). Engineers need to get out from behind their computers and spend more time not only watching mechanics work, but maybe even working with mechanics. Engineers need to see how easy it is to take their wonderful designs and inadvertently mess them up. Their designs can't rely on an alert mechanic or pilot noticing that the static wicks are on the top or bottom of the elevators. At the same time,

it wouldn't hurt for engineers to see how confound difficult they make it to get at certain components and the deleterious effect that has on safety, [but that's another story](#).