

Aviation Human Factors Industry News

Volume V. Issue 11, May 29, 2009



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

Hello all,

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

★AMT Day: A Proud Heritage

★Tulsa M&E Donates Aircraft to Future Mechanics

★NTSB: Crashed Convair 580 had reversed elevator trim cables

★NTSB: Open Baggage Door Downed Chieftain

★Probe hears flaws in fatal plane crash

★Colgan rebuts overscheduling allegations; Senate plans June hearings

AMT Day: A Proud Heritage

May 24 recognizes the importance of AMTs

With 365 days in a year there is a day to celebrate almost every occasion. There are holidays like the 4th of July, Christmas, and Memorial Day; there are also days to celebrate anniversaries and birthdays. There are even months dedicated to recognizing and celebrating specific events. Taking time out of society's busy schedule to stop and recognize and celebrate these many different days helps bring awareness to the meaning behind these days.



But as an AMT you might ask, “Hey, is there a day out there that recognizes AMTs?” The answer is yes. Thanks in large part to Richard “Dilly” Dilbeck from the FAA’s Sacramento FSDO, this day is a reality. It was because of Dilbeck’s efforts that in 2002 California passed the first [Aviation Maintenance Technician Day Resolution](#) which specifically recognizes May 24 of each year as AMT Day. This resolution was not achieved overnight — not by a long shot. It was due to Dilly’s conviction, passion, and determination that he was able to have then Senator Knight introduce and pass this important resolution.

With California leading the way, other AMT Day resolutions started to be introduced and passed. The Aircraft Maintenance Technicians Association (www.amtausa.com), with the help of Maryann DeMarco and Bill O’Brien, was able to have U.S. Congressman Bob Filner (CA) introduce and pass a U.S. Congressional AMT Day Resolution bringing federal recognition to May 24. There are efforts to have the U.S. Senate introduce and pass a similar resolution.

Why May 24?

OK, so AMTs have a day to call their own. But what does it mean? And why May 24? This day was chosen in honor of [Charles E. Taylor’s birthday](#). Charles was the [Wright brother’s mechanic](#) who built by hand the first aircraft engine which enabled the Wright brothers, and the United States, to

lay claim to achieving the first controlled, powered flight. Charlie was always given recognition by Orville and Wilbur Wright for his achievements, but with the Wright brothers' passing and Charlie's nature of not looking for fame and fortune for doing what he loved, time quickly forgot Charlie's well-earned position in aviation's history books.

With the passing of AMT Day Resolutions, May 24 has become a day where the aviation industry can stop and recognize Charles E. Taylor and **today's skilled AMTs for their valuable contributions to aircraft maintenance industrywide**. This day belongs to every AMT who **carries the heavy responsibility** of providing safe, airworthy aircraft. Many companies are starting to specifically take AMT Day as a day of saying, "We realize the importance that AMTs provide to aviation. Year-round, in all types of weather and environments, AMTs tirelessly continue to raise the standards of their craft. AMT Day allows the industry and public to acknowledge this dedication and professionalism."

AMT Day allows the aviation industry to celebrate who Charles E. Taylor was and the thousands of men and women who have followed in his footsteps. These men and women are the true **"Faces Behind Safety"** in aircraft maintenance and May 24 allows the veil of anonymity to be lifted and the AMT craft and profession to be recognized.

Tulsa M&E Donates Aircraft to Future Mechanics

The Miguel Such Vocational School in San Juan, Puerto Rico, welcomes a new addition to its campus - **an American Airlines MD-80 aircraft**.

Executives with AA's Maintenance & Engineering base in Tulsa donated the

retired aircraft as a training tool for future mechanics. "The Miguel Such Vocational School is the only school in the Caribbean that offers aviation industry programs and other technical skills training that are approved by



the FAA," said Carmine Romano, Senior Vice President -- Maintenance & Engineering. "American Airlines is proud that **60 percent of our maintenance staff** in San Juan graduated from this fine school."

The donated aircraft, N428, was originally delivered to AA for commercial service on December 12, 1986, and was retired earlier this year. The MD-80 will now provide students with an opportunity for **hands-on training** with aircraft similar to those that the students may work on in their future careers. Past donations include a Boeing 727 landing gear and a CF-6 engine. The CF-6 engine was donated in December 2004, and the Boeing 727 landing gear was donated in September 2006 as part of a promise by Romano **"to adopt"** the school.

Since 2003, the school has also received **mentoring support from the AA SJU Aircraft Maintenance Department**. The mentoring program includes learning modules that count towards FAA required hours of practical training, as well as talks from former students about the aviation maintenance technician's role in everyday life. Computers with aviation maintenance software have been donated through the mentoring program, as well as books, chairs and desks.

NTSB: Crashed Convair 580 had reversed elevator trim cables

US investigators have confirmed that **elevator trim cables** on a Convair 580 freighter **had been reversed** before the aircraft crashed in Ohio last with the loss of all three occupants. The aircraft, operated by Air Tahoma, had **undergone maintenance** before the 1 September flight, including disconnection, rigging and reconnection of all flight-control cables in the empennage.

"On-site inspection of the accident airplane revealed that the elevator trim cables were reversed," says the National Transportation Safety Board in an update to the inquiry.

"As a result, when the pilot applied nose-up trim, the elevator trim system actually applied nose-



down trim."

It also points out that the flight-data recorder did not contain a record of the accident flight. The NTSB says the pilots "skipped" activation of this recorder while running through the checklist.

The 52-year old twin-engined aircraft, which had logged almost 72,000 hours, had taken off from Columbus' Rickenbacker Airport, on a short flight to Mansfield, when the crew immediately attempted to return. It failed to reach the runway and crashed into a cornfield.

In its update the NTSB states that an inspector did not, as was required, sign off cards for numerous checks during the aircraft's last phase inspection in August 2008. Among the items included in these checks was the crucial connection of elevator servo trim-tab cables.

After the inspection the aircraft did not fly until the fatal departure. The flight lasted just 2 min 40s, during which the cockpit-voice recorder showed the captain repeated the word 'pull' about 27 times while the pilots apparently battled in vain to trim the aircraft.

US FAA regulators revoked Air Tahoma's operating certificate following a review in the wake of the crash.

NTSB: Open Baggage Door Downed Chieftain

Maintenance Issues, Unapproved Latch, Appear To Have Contributed To Downing

It was a tragic accident... 6 people dead, and 4 injured... all because of the hazards of an open baggage door. The NTSB has recently issued a probable cause in the downing of a Kodiak AK Chieftain that suggests that an open baggage door and some of the maintenance issues associated it appear to have contributed to a no-win that precipitated "a rapid, nose- and right-wing-low descent" into water just after takeoff.



The airline transport pilot and nine passengers were departing in a twin-engine airplane on a 14 Code of Federal Regulations Part 135 air taxi flight from a runway adjacent to an ocean bay. According to the air traffic control tower specialist on duty, the airplane became airborne about midway down the runway. As it approached the end of the runway, the pilot said he needed to return to the airport, but gave no reason. The specialist cleared the airplane to land on any runway. As the airplane began a right turn, it rolled sharply to the right and began a rapid, nose- and right-wing-low descent. The airplane crashed about 200 yards offshore and the fragmented wreckage sank in the 10-foot-deep water. Survivors were rescued by a private float plane. A passenger reported that the airplane's nose baggage door partially opened just after takeoff, and fully opened into a locked position when the pilot initiated a right turn towards the airport.

The nose baggage door is mounted on the left side of the nose, just forward of the pilot's windscreen. When the door is opened, it swings upward, and is held open by a latching device. To lock the baggage door, the handle is placed in the closed position and the handle is then locked by rotating a key lock, engaging a locking cam. With the locking cam in the locked position, removal of the key prevents the locking cam from moving. The original equipment key lock is designed so the key can only be removed when the locking cam is engaged. Investigation revealed that the original key lock on the airplane's forward baggage door **had been replaced with an unapproved thumb-latch device**. A Safety Board materials engineer's examination revealed evidence that a plastic guard inside the baggage compartment, which is designed to protect the door's locking mechanism from baggage/cargo, appeared not to be installed at the time of the accident. The airplane manufacturer's only required inspection of the latching system was a visual inspection every 100 hours of service. Additionally, the mechanical components of the forward baggage door latch mechanism were considered "on condition" items, with no predetermined life-limit.

Absent findings of any other mechanical issues, it is likely the door locking mechanism was not fully engaged and/or the baggage shifted during takeoff, and contacted the exposed internal latching mechanism, allowing the cargo door to open. With the airplane operating at a low airspeed and altitude, the open baggage door would have incurred additional aerodynamic drag and further reduced the airspeed. The pilot's immediate turn towards the airport, with the now fully open baggage door, likely resulted in a sudden increase in drag, with a substantive decrease in airspeed, and an aerodynamic stall.

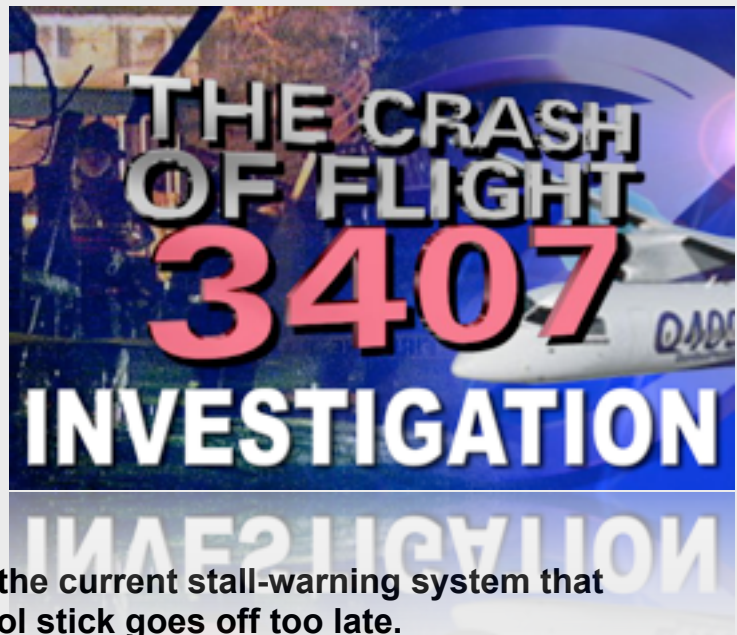
The National Transportation Safety Board determines the probable cause(s) of this accident as follows:

The **failure** of company maintenance personnel **to ensure that the airplane's nose baggage door latching mechanism was properly configured and maintained**, resulting in an inadvertent opening of the nose baggage door in flight. Contributing to the accident were the lack of information and guidance available to the operator and pilot regarding procedures to follow should a baggage door open in flight and an inadvertent aerodynamic stall.

Probe hears flaws in fatal plane crash

Witnesses say systems could be improved

Safety officials told an investigative panel last Thursday that an early-warning alarm could have alerted cockpit-crew members involved in a plane crash that killed 50 people to their dangerously slow speed. The National Transportation Safety Board member Debbie Hersman raised the idea on the third and final day of a hearing into the Colgan Air/Continental Connection Flight 3407 crash near Buffalo in February, saying the current stall-warning system that violently shakes the pilot's control stick goes off too late.



"I think this crew went from **complacency to catastrophe** in 20 seconds," Hersman said. **"The room is on fire at that point."**

NASA scientist and cockpit-safety expert Key Dismukes agreed with Hersman, saying the evidence collected by the aircraft's voice data recorder show the plane's pilot, Marvin Renslow, and co-pilot Rebecca Shaw **were distracted** and that an early-warning system alerting crew members to low speeds would be "well worth looking at."

More than six years ago, after a commuter plane crash in Minnesota that

killed eight people, including Sen. Paul Wellstone and his family, the NTSB recommended that the Federal Aviation Administration look into the issue. In 2006 the FAA told the board it had convened a team to study it and hoped to deliver results by 2007.

Safety expert Rory Kay of the Air Line Pilots Association told the panel that the **casual conversation** Renslow and co-pilot Shaw conducted during the last moments of the plane's **final descent contributed to their distraction**.

"When something is going on in the cockpit that requires both pilots to be tuned in and have **full situational awareness**," Kay said, "if they're talking about anything other than the operation at hand, that is problematic."

Fatigue also was a factor, Kay said, pointing to FAA "duty and rest" rules that have remained nearly the same for 60 years. The regulations require that crew members receive eight hours of rest within a 24-hour period, but evidence collected by the NTSB shows that Renslow and Shaw both **received little to no sleep the night before the flight** because of long-distance commutes from their respective homes in Florida and Seattle.

"An overhaul is absolutely past due," Kay said.

Hersman also voiced concerns about the low pay regional pilots receive and said that the relocation plans some airline operators undertake force crew members to **commute long distances** because they cannot afford to live close to their base. Hersman pointed to an e-mail she received from a Delta carrier pilot complaining about his company's plan to move 301 cockpit-crew members from Cincinnati to New York.

It's an enormous problem, Kay said, because an involuntary move may be "an entirely unattractive proposition and an impossible one." Kay alluded to a number of ways that the impact of commuting can be mitigated, including renting an apartment near the base with several other crew members.

But when "pilots are treated almost like migrant workers, moving around and chasing bases," Kay said, the **human cost of business decisions** must be taken into account.

NTSB investigation: <http://tinyurl.com/pkgxwj>

Colgan rebuts overscheduling allegations; Senate plans June hearings

Colgan Air attempted to **push back** against allegations that the pilots of the Q400 that crashed Feb. 12 near Buffalo did not get adequate rest prior to the flight because of **possible over-scheduling**, and the US Senate announced it will hold hearings next month to examine "stunning" issues raised by National Transportation Safety Board hearings on the accident.

At the hearings last week, it was revealed that First Officer Rebecca Shaw had been up for **nearly 36 hr.** prior to taking the right seat of the doomed aircraft after commuting all night from her home in Seattle, while Capt. Marvin Renslow had commuted to Newark from Tampa on Feb. 9 to begin a two-day trip on Feb. 10. According to NTSB, neither Shaw nor Renslow had accommodations other than the crew room at EWR.

"We want to emphasize that if there was a fatigue issue with [the pilots], **it was not due to their work schedule,**" Colgan said in a statement issued last week. "Colgan's flight crew schedule provided rest periods for each of them that were far in excess of FAA requirements."

Renslow was **off duty for 22 consecutive hours** before the flight and Shaw had been off for three days. **"The way they manage their rest time is their own business,"** Colgan VP-Flight Operations Harry Mitchel told board members. "We hire professionals. They should show up **fresh and ready** to fly that aircraft."

Sen. Byron Dorgan (D-N.D.), chairman of the Senate aviation operations, safety and security subcommittee, said his panel will hold hearings next month on "gaps in the existing airline safety system." He added, "The disclosures [relating to the Colgan crash] about crew rest, compensation, training and many other issues demonstrate the urgent need for Congress and the FAA to take actions to make certain the same standards exist for both commuter airlines and the major carriers."

