

Maintenance Training

Maintenance personnel should receive more on-the-job training before they are permitted to perform critical work on aircraft, the U.S. National Transportation Safety Board (NTSB) says.

The NTSB, in two safety recommendations, called on the U.S. Federal Aviation Administration (FAA) to require that mechanics performing “required inspection item [tasks] and other critical tasks receive on-the-job training or supervision when completing the maintenance task until the mechanic demonstrates proficiency in the task.”

The FAA also should ensure that inspectors of required inspection items (RIIs) receive similar supervision, the NTSB said.

The NTSB cited a Dec. 14, 2008, incident in which an Air Wisconsin Bombardier CRJ100ER landed at Philadelphia International Airport with the left main landing gear retracted. The airplane’s left wing, aileron and flap were damaged substantially, but the three people in the airplane were not injured.

The NTSB investigation is continuing, but the board said that, because of its

preliminary findings, it is “concerned about training for mechanics and inspectors.”

The accident airplane’s main landing gear uplock assemblies were replaced during maintenance on Dec. 13 and 14. The task was identified on the work order as an RII — defined by the FAA as an item that could “result in a failure, malfunction or defect endangering the safe operation of the aircraft, if not performed properly or if improper parts or materials are used.”

The mechanic who performed the work on the left uplock assembly had not previously replaced an uplock assembly and had received no on-the-job training for the task, the NTSB said, adding that he was not supervised while performing the work. He said that he had relied on the airline’s maintenance manual and the mechanic who was working on the right uplock assembly for guidance while performing his work.

However, the NTSB said, the mechanic who replaced the right uplock assembly told investigators that it was the first time he had replaced an uplock assembly on a CRJ.

“When the incident mechanic replaced the left uplock assembly, the



U.S. National Transportation Safety Board

upper attachment bolt, nut and cotter pin assembly used to mount the left [main landing gear] uplock assembly to the structure were installed but did not engage the uplock assembly, which allowed the uplock assembly to pivot about the lower bolt,” the NTSB said. “Because the upper attachment bolt did not engage the uplock assembly, the left [main landing gear] remained in the up-and-locked position and did not respond to the pilot’s commands to lower prior to landing.”

The mechanic was not properly trained or supervised for the task, the NTSB said, adding that similar situations have occurred at other airline maintenance facilities.

Windshield Fires

Citing 11 reports in two decades of fire or flames on the windshields of Boeing 757s, 767s and 777s, the U.S. Federal Aviation Administration (FAA) has issued an airworthiness directive (AD) requiring operators to inspect or replace specific flight deck windows.



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The AD, which affects 1,212 U.S.-registered airplanes, is intended to prevent “smoke, fire or cracking of the inner layer of the forward viewing window,” the FAA said, noting that the problem is caused by loose electrical connections designed to heat the windows and prevent icing.

The AD offers operators two options: Either begin inspections of each of two window designs within 500 hours and continue them at specified intervals, or install a new, redesigned window.

The most recent of the windshield fires occurred May 16, 2010, when the crew of a United Airlines 757 reported a small fire on the flight deck and conducted an emergency landing at Washington Dulles International Airport. The fire was contained before landing, and none of the 112 people in the airplane was injured, the U.S. National Transportation Safety Board said.

Although there have been no windshield fires on 747s, the FAA said it would propose a similar AD later this year for those airplanes because of similarities in their windshields.

ALAR Tool Kit, Revisited

Flight Safety Foundation has released an updated version of its *Approach and Landing Accident Reduction (ALAR) Tool Kit* to include current data and a new section on runway excursions, developed from the Foundation's Runway Safety Initiative.

The original *ALAR Tool Kit* was released in 2000, and 40,000 copies have since been distributed worldwide. The Foundation has used the tool kit at more than 30 ALAR workshops around the world, including a May workshop organized in Lusaka, Zambia, by the AviAssist Foundation, one of the Foundation's regional affiliates.



Increased Inspections

The U.S. Federal Aviation Administration (FAA) has told operators of 138 Boeing 767s that they must conduct initial pylon inspections after 8,000 flights — not 10,000 flights, as had been required by a 2005 airworthiness directive (AD). The pylons attach the engines of the 767s to the wings.

The inspection must be performed within 90 days or 400 flights after the most recent inspection conducted in accordance with the AD.

The FAA also shortened the required interval for repetitive inspections to every 400 flights — instead of the previous requirement of every 1,500 flights.

The inspections are designed to check for cracking of the pylon mid-spar structural fittings and an adjacent structure. As an alternative to the inspections, operators may replace the fittings.

Since the AD's adoption, cracking has been reported in the mid-spar structural fitting of two 767s, the FAA said, warning that “undetected cracking could lead to fracture of the structural components, damage to the pylon and separation of the engine from the wing.”



Wikimedia

Wind Research

A Dec. 20, 2008, accident on a Denver runway in gusty crosswinds has prompted the U.S. National Transportation Safety Board (NTSB) to press for research and development of training programs to help pilots take off and land in adverse wind conditions.



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The NTSB called for research into mountain wave and downslope conditions at airports located downwind of mountainous terrain, including Denver International Airport (DEN), where the Continental Airlines Boeing 737-500 accident occurred. The airplane slid off the left side of a runway during takeoff and was substantially damaged by the post-crash fire. Six of the 115 people in the airplane were seriously injured.

The NTSB said the probable cause of the accident was the captain's “cessation of right rudder input ... when the airplane encountered a strong and gusty crosswind that exceeded the captain's training and experience.” Cited as contributing factors were the air traffic control system's failure to require the dissemination of critical wind information to air traffic controllers, and “inadequate crosswind training” for pilots because of “deficient simulator wind gust modeling.”

The accident investigation prompted 14 safety recommendations to the U.S. Federal Aviation Administration (FAA), including calls for archiving airport low-level wind shear alert system (LLWAS) data to be used in future research and collecting data on surface winds from a number of major U.S. airports, including DEN.

The data should be used in efforts to improve the delivery of crosswind and gusty wind alerts to air traffic controllers, the NTSB said. Other recommendations called for the development of runway selection programs that “consider current and developing wind conditions and include clearly defined crosswind components, including wind gusts” in selecting an active runway.

The NTSB also asked the FAA to require operators to ensure that pilot simulator training programs include scenarios involving realistic, gusty crosswind conditions.

Training Enhancements

The Russian Aviation Authorities should consider enhancing training requirements for air carrier pilots transitioning to new aircraft, the Russian Air Accident Investigation Commission (AAIC) says.

The suggestion was one of 40 safety recommendations that resulted from the AAIC's investigation of the Sept. 13, 2008, fatal crash of a Boeing 737-500 in Perm, Russia (see p. 18). The AAIC cited several training-related issues as contributing causes.

The agency recommended that the Russian Aviation Authorities "consider the practicability of increasing requirements to flight training programs and transition training programs and elaborate a mandatory syllabus minimum for every aircraft type in order to improve the level of training."

Another recommendation called for development of a crew resource management training program for crews of two-pilot airplanes, "and ensure this program is mandatory for flight personnel who transition from multicrew aircraft."

Among the other recommendations were calls for the Russian Aviation Authorities to:

- "Develop and implement English language proficiency requirements for flight personnel who fly aircraft with documentation in English, as well as maintenance personnel who maintain the above-mentioned aircraft"; and,



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- "Consider the practicability of using aircraft with Western-type attitude indicators at colleges of initial flight training."

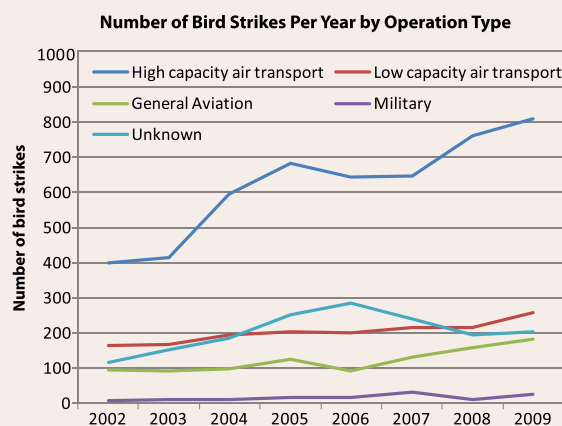
The AAIC also recommended that airlines take steps to ensure that their flight personnel strictly comply with standard operating procedures, develop measures to maintain safety when pilots transition to new aircraft types and "ensure that airline psychologists, when selecting applicants for transition training, pay more attention to their personal traits with regard to their emotional reaction and behavior in abnormal situations (increased workload, stress), and if they find negative traits, give particular recommendations as to whether these pilots are suitable for transition training."

Bird Strikes on the Rise

The number of bird strikes reported in Australia increased steadily from 2002 through 2009, the Australian Transport Safety Bureau (ATSB) says.

Throughout the eight-year period, 9,287 bird strikes were reported, including 1,477 in 2009, about double the number reported in 2002, the ATSB said. Of the 9,287 bird strikes, four resulted in injury and eight resulted in serious aircraft damage.

"The increase in the number of bird strikes ... is consistent with the increase in the number of high capacity



aircraft movements over the period, as well as a greater willingness of people in aviation to report safety occurrences to the ATSB," the agency said. Most of the bird strikes occurred within 5 km (3 nm) of an airport.

In Other News ...

The European Commission has issued the 14th update of its list of airlines banned from operating in the European Union. Two Indonesian air carriers — Metro Batavia and Indonesia Air Asia — were removed from the **blacklist**, which added Surinam's Blue Wing Airlines and expanded operating restrictions on Iran Air. ... The **SESAR Joint Undertaking**, which aims to unify European air traffic management systems, has endorsed 13 associate partners to participate in the program. ... Officials of the European Union and the United States have signed an agreement to launch the second stage of the **"Open Skies"** agreement designed, in part, to enhance regulatory cooperation.

Compiled and edited by Linda Werfelman.