

Runway Distance Markers

The U.K. Air Accidents Investigation Branch (AAIB) has recommended a reassessment of runway distance markers for runways with “a profile that prevents the end of the paved surface from being in view continuously from the flight deck.”

The AAIB said that the International Civil Aviation Organization (ICAO) should conduct a reassessment of the advantages and disadvantages that the distance markers present for runway situational awareness. If the reassessment indicates that advantages would outweigh disadvantages, ICAO should encourage installation of the distance markers at “relevant civil airports,” the AAIB said.

The recommendation was one of seven that resulted from the AAIB investigation of a runway overrun that followed a brake failure on an Airbus A320 at Leeds Bradford International Airport in England. The AAIB final report on

the accident said that the airplane, registered in Jordan and being operated for a Spanish charter airline, had touched down just beyond the marked touchdown zone, with low autobrake selected. The pilots began manual wheel braking soon after the main wheels touched down, but the brakes stopped operating for about 17 seconds.

“A pronounced dip in the runway surface initially prevented the pilots from seeing the runway end,” the report said. The pilots used nosewheel steering to turn the airplane to the right, and it skidded to a stop with the nosewheels off the runway “shortly before the end of the paved surface and the start of a steep downslope,” the report said.

The 178 people in the airplane were not seriously injured. The AAIB said that



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the cause of the brake failure was “consistent with the effects of excessive noise in the electrical signals from the main wheel tachometers used to sense groundspeed.” Other AAIB recommendations called for the European Aviation Safety Agency to require replacement of the tachometer drive shafts and to require Airbus to “take measures aimed at ensuring that anomalies in A318/319/320/321 aircraft braking systems that may lead to loss of normal braking are clearly indicated to the flight crew.”

Radar Altimeter Requirement

All emergency medical services (EMS) helicopters used in nighttime operations should be equipped with functioning radar altimeters, the U.S. National Transportation Safety Board (NTSB) says.

The NTSB cited two recent nighttime accidents involving EMS helicopters, noting that both aircraft had “inoperative or erratically operative” radar altimeters. As a result of its investigations of those accidents, the NTSB issued two safety recommendations to the U.S. Federal Aviation Administration (FAA) to require operators to install radar altimeters and to ensure that minimum equipment lists for helicopters used in EMS specify that radar altimeters be operable during nighttime flights.

“Radar altimeters are needed to maintain ground clearance when visual references to terrain are limited during night conditions,” the NTSB said. “During low-altitude flight, a functioning

radar altimeter provides a pilot with constant information about the helicopter’s height above ground level and has an alerter function that can visually and/or aurally alert a pilot when the helicopter approaches and then descends below a pre-selected altitude.”

The two accidents cited were:

- The Jan. 10, 2005, controlled flight into terrain (CFIT) crash of a Eurocopter EC 135P2 into the Potomac River near Oxon Hill, Maryland, in nighttime visual meteorological conditions (VMC). The pilot and flight paramedic were killed, and the flight nurse received serious injuries. The NTSB said that the probable cause was the “pilot’s failure to identify and arrest the helicopter’s descent, which resulted in CFIT.” One of the contributing factors was the lack of an operable radar altimeter.
- The April 20, 2004, CFIT crash of a Bell 206L-1 in Boonville, Indiana, during a patient transport flight in nighttime VMC. The patient was killed, and the pilot, paramedic and flight nurse received serious injuries. The NTSB said that the probable cause was “the pilot’s inadequate planning/decision, which resulted in his failure to maintain terrain clearance.” The NTSB said that the pilot who had flown the helicopter before the accident flight reported that the radar altimeter was “operating erratically.”



U.S. Air Force

Inspections Recommended

Operators of Boeing 777s should be required to conduct regular inspections of external power receptacles and their protective cover guards to detect and repair worn or overheated pins and thermal damage, the U.S. National Transportation Safety Board (NTSB) says.

The safety recommendation, as well as several accompanying recommendations, follow the investigation of a Nov. 15, 2004, fire in the electrical/electronic equipment center compartment of a British Airways 777-200ER after the airplane arrived at Boston Logan International Airport. No one was injured in the incident, which the NTSB said was caused by “a combination of electrical arcing between the lower terminal studs at the primary power receptacle and misting hydraulic fluid from a ruptured nose landing gear (NLG) hydraulic line.” There was extensive thermal damage to the power receptacle, its protective cover guard, wiring and the hydraulic line.

The operator’s subsequent inspection found indications of overheating on contact pins in 55 percent of the 43 777s in its fleet. Twelve percent of the receptacles contained loose contact pins that displayed indications of melting.

The NTSB said that it was concerned that “the proximity of the NLG hydraulic line to the primary and secondary power receptacles makes it susceptible to damage resulting from uncontained electrical arcing that may occur.”

In August 2007, Boeing issued Service Bulletin 777-29-0032, which recommended installing fire-resistant tape around the hydraulic line in the area next to the receptacles. The NTSB said that the U. S. Federal Aviation Administration should issue an airworthiness directive to require operators to comply with the service bulletin.

The NTSB also called on the FAA to require Boeing to modify — and air carriers to install — protective cover guards for 777 primary and secondary

external power receptacles to “eliminate the possibility of debris entering the receptacles and causing electrical shorting and arcing between the receptacle studs.”



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Analyzing Pilot Error

Pilot error has declined as a cause of airline accidents, according to public health researchers who analyzed data from 558 airline mishaps that occurred in the United States between 1983 and 2002.

The report by researchers at the Johns Hopkins Bloomberg School of Public Health in Baltimore said that



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the overall rate of airline mishaps remained stable during the period studied, the proportion involving pilot error decreased by 40 percent and the rate of mishaps involving poor decision making by pilots decreased 71 percent.

The report, published in the January issue of *Aviation, Space, and Environmental Medicine*, said that the reduction in pilot error resulted from improved training and technology that aided pilot decision making.

The decrease in mishaps resulting from pilot error was offset by increases in mishaps involving other causes, including errors by air traffic controllers or ground personnel, the report said.

Researchers found an increase — from a rate of 2.5 to 6.0 per 10 million flights — in mishaps that occurred while aircraft were motionless on the ground or during pushback.

They also found decreases of about 70 percent each in mishaps related to weather, mishaps that involved “mishandling wind or runway conditions” and mishaps related to poor crew interaction.

CFIT in Australia

Controlled flight into terrain (CFIT) occurs rarely in Australia, but of 25 CFIT accidents between 1996 and 2005, 60 percent were fatal, the Australian Transport Safety Bureau (ATSB) says.

The ATSB report said that only one of the 25 CFIT accidents and two CFIT incidents involved regular public transport operations — the May 7, 2005, crash of a Transair Fairchild Metro 23 near Lockhart River in Queensland (ASW, 6/07, p. 28). Both pilots and all 13 passengers were killed in the crash; that number accounts for nearly one-third of all CFIT fatalities in Australia during the 10-year period.

Private/business flights accounted for 14 CFIT occurrences, charter operations accounted for eight, and “other aerial work general aviation” operations

accounted for four, the report said.

“In line with international experience, nearly two-thirds of CFIT accidents and incidents in Australia occurred in the approach phase of flight, of which half ... were during an instrument approach,” the report said.

“Approach phase CFIT occurrences were further analyzed on the basis of whether the accident or incident occurred during a visual or instrument approach. Of the 17 CFIT occurrences in the approach phase, 53 percent were conducting an instrument approach. ... The highest number of instrument approach CFIT occurrences involved satellite-based instrument approaches [67 percent, or



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six occurrences]. Of these, four occurrences involved an area navigation global navigation satellite system approach, which only came into service in Australia in the late 1990s, part way through the [period that was studied]. The implementation of approaches with vertical guidance would aid CFIT prevention on approaches previously only capable of providing lateral guidance.”

Online Bird Strikes

Aircraft operators and airport employees in the United Kingdom now can file reports of bird strikes online. The U.K. Civil Aviation Authority (CAA) introduced its new online reporting system on Jan. 1, with a reporting form on the CAA Web site.

The CAA said that online reporting — now the preferred method of reporting a bird strike — will be a more efficient way of managing bird strike data. Reporting of bird strikes became mandatory in 2004.

“Prior to bird strike reporting becoming mandatory, there was a large degree of under-reporting,” said Nick

Yearwood of the CAA Aerodrome Standards Department. “We believe that this automated procedure will make it quicker and easier for pilots and aerodrome officials to file bird strike reports. This will ensure that we have a more accurate record of bird strike events that we can share with the industry in order to improve bird control procedures.”



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In Other News ...

Air China Chairman **Li Jiexiang** has been named to replace **Yang Yuanyuan** as minister of the General Administration of Civil Aviation of China, published reports say. ... The **U.S. National Transportation Safety Board** has called on manufacturers of lithium batteries and electronic devices to work with air carriers and other organizations to disseminate guidance to flight crews and aircraft passengers about the safe carriage of secondary (rechargeable) lithium batteries (ASW, 1/08, p. 9). ... Regulatory changes in **Canada** will require implementation of safety management systems for airports and air traffic services (ASW, 1/08, p. 14). ... The **Civil Aviation Safety Authority of Australia** (CASA) has warned maintenance personnel to check fuel filters in piston-engine aircraft for silicone grease contamination. CASA says the grease may lead to a rough-running engine.

Compiled and edited by Linda Werfelman.