

## Blank Screens

Citing recent incidents in which Airbus A320 electronic displays blanked out and aircraft systems became inoperable, the U.S. National Transportation Safety Board (NTSB) is recommending action to require compliance with an Airbus service bulletin to provide for automatic reconfiguration of the AC essential bus power supply after a failure.

The NTSB, in similar safety recommendations to the European Aviation Safety Agency (EASA) and the U.S. Federal Aviation Administration (FAA), said that the two agencies should “require all operators of Airbus A320 family aircraft to modify these aircraft in accordance with Airbus Service Bulletin A320-24-1120.”

Additional recommendations called on the two agencies to require Airbus to develop a modification that would provide an additional power source to operate the standby attitude indicator for at least 30 minutes in the event of an AC 1 electrical bus failure and require operators to incorporate the modification as soon as possible.

In addition, the NTSB said the agencies should “require all operators of A320 family aircraft to develop new procedures, if necessary, and to provide flight crews with guidance and simulator training regarding the symptoms and resolution procedures for the loss of flight displays and systems in conjunction with an AC 1 electrical bus failure.”

One incident cited by the NTSB occurred Jan. 25, 2008, when a United Airlines A320 returned to Newark Liberty International Airport (EWR) in New Jersey, U.S., soon after departure in daytime visual meteorological conditions (VMC),



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because three of the six electronic displays went blank and several aircraft systems, including all radios, were inoperative.

“The pilots leveled the aircraft at their first assigned altitude of 2,500 ft, elected to return to the field and landed at EWR with several aircraft systems inoperative, including the airplane’s transponder, the traffic alert and collision avoidance system and the standby attitude indicator,” the report said.

A preliminary investigation found that there was a fault in the AC 1 electrical bus, which caused a loss of power in other electrical buses in the airplane and the resulting failure of a number of displays and systems.

The NTSB cited a similar incident involving a British Airways A319 after departure from London Heathrow Airport in nighttime VMC on Oct. 22, 2005 (see story, p. 57) and said that Airbus has identified 49 similar events, seven of which resulted in failure of all six flight displays.

## Concorde Criminalization

Flight Safety Foundation and two pilots’ unions have denounced the decision by French prosecutors to file criminal charges against Continental Airlines, two Continental employees and three former aviation officials in connection with the fatal July 25, 2000, crash of an Air France Concorde in Paris (*ASW*, 3/08, p. 12).

Published reports said that a trial is expected to begin early in 2009 for the airline, its employees, the former head of training for the French civil aviation authority and two former senior members of the Concorde program for Airbus.

The International Federation of Air Line Pilots’ Associations (IFALPA) said that it “deplores” the decision to prosecute and that prosecution will “do nothing to

improve the safety of the air transport system.”

The Air Line Pilots Association, International (ALPA) denounced France’s “archaic approach to this tragic event” and called it “a step backwards for global aviation safety.”

Flight Safety Foundation President and CEO William R. Voss said, “These manslaughter charges appear rather dubious and shortsighted. Absent willful intent or highly egregious conduct, we seriously question the basis for putting companies and aviation professionals through the ordeal of criminal prosecutions. In addition, we’re very concerned that criminal prosecutions will discourage the free flow of information from

operators to management to regulators, to the detriment of aviation safety.”

The crash killed all 109 people in the airplane and four on the ground. The French Bureau d’Enquêtes et d’Analyses (BEA) said the crash occurred when the Concorde — on its takeoff roll — ran over a piece of metal that had fallen off a Continental McDonnell Douglas DC-10 that had departed on the same runway. The resulting tire failure sent tire pieces and other debris into one of the Concorde’s engines and a fuel tank. Fire and loss of control preceded the airplane’s crash, the BEA said.



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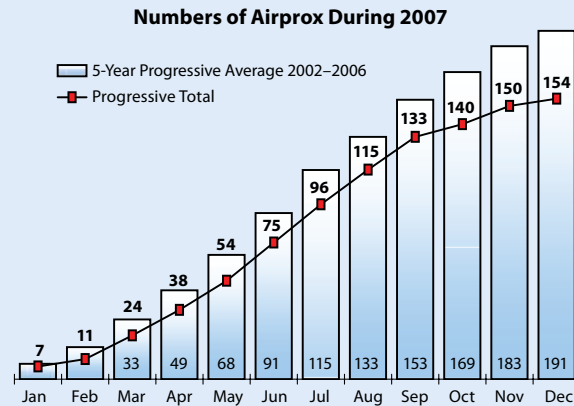
### Slight Decline in U.K. Airprox Incidents

The U.K. Airprox Board recorded 154 airprox incidents in 2007, down from 159 the previous year. For the second consecutive year, commercial air transport aircraft were not involved in any “actual risk of collision” incidents.

The 154 incidents included 65 involving at least one commercial air transport aircraft; of the 65 incidents, five were characterized as “risk-bearing” — the lowest number in the 1998–2007 reporting period, the board said. In 2006, 75 incidents involved commercial transport aircraft.

The report “reveals that the improvements in flight safety of recent years are being maintained and in many cases, bettered,” said Airprox Board Director Peter Hunt.

The board defines an airprox as “a situation in which, in the opinion of a pilot or controller, the distance between aircraft, as well as their relative positions and speed, have been such that the safety of the aircraft was, or may have been, compromised.”



Source: U.K. Airprox Board

### More Than ‘See and Avoid’

The “see and avoid” principle is not always sufficient to ensure safety of flight, and regulators should consider on-board collision protection systems and other technological means of identifying potential conflicts in congested airspace near Toronto, the Transportation Safety Board of Canada (TSB) says.

The TSB recommendation followed investigation of the Aug. 4, 2006, midair collision west of Caledon, Ontario, of a Cessna 172P and a Cessna 182T in which all three people in the two airplanes were killed.

“Until technological or other solutions are mandated, a significant risk of collision between VFR aircraft will continue to exist in controlled airspace around Canada’s high-density airports,” said Don Enns, the TSB regional manager of air investigations.

### Understanding ‘Mistrim’ Takeoffs

Pilots of Bombardier Challenger airplanes should be trained to recognize the importance of proper takeoff stabilizer trim settings and to understand the characteristics of both normal and “mistrim” takeoffs, the U.S. National Transportation Safety Board (NTSB) says.

The NTSB cited a Feb. 2, 2005, accident in which a Bombardier Challenger 600 overran a runway at Teterboro Airport in New Jersey, U.S., crashed through an airport perimeter fence and struck a vehicle on a six-lane highway before hitting a building and coming to a stop. Nine people in the airplane and one person in the building received minor injuries in the crash, and the airplane was destroyed.

During its investigation, the NTSB examined the airplane’s rotation characteristics during a normal takeoff and a mistrim takeoff, in which the center of gravity (CG) is at one limit of its allowable range and the stabilizer position is set to the opposite CG limit.

NTSB investigators found that, “in the mistrim scenario, with the CG at the most forward limit and with the horizontal stabilizer at the nose-down limit ... the airplane did not rotate, even with full nose-up elevator control, until it was significantly above the nominal rotation speed. ... The [NTSB] is concerned that the delayed rotation characteristics of this condition may



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cause pilots to believe that their airplanes will not fly, leading them to abort takeoff at a speed well above the takeoff decision speed ... with possibly catastrophic results.”

As a result of the investigation, the NTSB issued safety recommendations calling on the U.S. Federal Aviation Administration (FAA) to encourage operators of Challenger airplanes to provide training that informs pilots about mistrim takeoff characteristics. An accompanying recommendation said that the FAA should include in the final version of Advisory Circular 25-7C language that accomplishes the intent of a European Joint Aviation Requirements notice of proposed amendment stating that “reasonably expected variations in service from the established takeoff procedures,” including out-of-trim conditions, should not result in unsafe flight characteristics.

## Fuel Tank Safety

Operators and manufacturers of transport category airplanes with center fuel tanks will be required to take steps to greatly reduce the risk of a catastrophic fuel tank explosion, according to a final rule published by the U.S. Federal Aviation Administration (FAA).

The rule establishes “a performance-based set of requirements that set acceptable flammability exposure values in tanks most prone to explosion or require the installation of an ignition mitigation means in an affected fuel tank.” It calls for commercial passenger airplanes to be equipped with technology that will neutralize or eliminate flammable gasses from fuselage fuel tanks located under the wing.

In its discussion of the problem, the rule cites fuel tank explosions in two airplanes — a Trans World Airways Boeing 747 near Long Island, New York, U.S., on July 17, 1996, and an Avianca 727 in

Bogotá, Colombia, on Nov. 27, 1989. The two accidents killed a total of 337 people.

In each of those crashes and in several others, investigators found that at the time of the explosion, the center wing fuel tank contained flammable vapors in its ullage — the portion of the tank not containing liquid fuel.

After the TWA crash, FAA researchers developed a system of replacing oxygen in the fuel tank with inert gas — a process known as inerting that, by eliminating flammable vapors, also eliminates any potential for ignition. The Boeing Co. has developed a similar system.

“We want to do everything possible to make sure safety examiners won’t have



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to investigate another plane shattered by an exploding tank,” U.S. Transportation Secretary Mary Peters said.

Mark V. Rosenker, chairman of the U.S. National Transportation Safety Board (NTSB), which for years had advocated adoption of a fuel tank inerting requirement, said that the FAA action “represents a significant step toward avoiding future aviation accidents of this nature.”

## Maintenance Red Tape

The Civil Aviation Safety Authority of Australia (CASA) says it has streamlined procedures used in licensing qualified aircraft maintenance personnel with experience outside Australia or in the military. CASA’s actions are aimed at increasing numbers of licensed aircraft maintenance engineers in Australia.

Under the new procedures, licensed maintenance personnel from six nations — Canada, France, Germany, Italy, the Netherlands and the United Kingdom — will no longer be required to undergo additional technical examinations before being permitted to work in Australia.

“The aviation industry always needs engineers and by cutting red tape, we can open up new opportunities for new people with the right

qualifications to fill critical vacancies,” said CASA CEO Bruce Byron.



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## In Other News ...

The **European Aviation Safety Agency** has issued the first

European single production organization approval certificate to Airbus. The “single” certificate replaces national production organization approvals that had been issued by French, German, Spanish and U.K. national aviation authorities. ... The **U.S. Federal Aviation Administration** says it plans to install runway status lights at 20 more major airports over the next three years and to provide up to US\$5 million to test cockpit displays intended to enhance pilots’ awareness of runway positions (see story, p. 46). ... **Flight Safety Foundation** and the **AviAssist Foundation** have begun a campaign to raise awareness of aviation safety issues among lawmakers in East and Southern Africa.

Compiled and edited by Linda Werfelman.