

Boeing 777 Vibration Monitors Added By BA After Smoke Events

SAFETY

British Airways (BA) is adding vibration monitors to the cooling fans and recirculation fans of its Boeing 777 fleet to detect bearing problems before the fans fail in flight.

The action comes after a "series of smoke events" in the cockpit of a 777-200 (G-VIIK) over the North Atlantic at 38,000 ft. en route to London Heathrow Airport from Philadelphia International Airport on Dec. 2, 2012.

According to a final report by Ireland's Air Accident Investigation Unit (AAIU), there were three separate smoke events in the cockpit that night, the last of which the captain described as "quite bad."

The crew declared an emergency, descended to 15,000 ft. and diverted to the Shannon Airport in Ireland. The first officer wore an oxygen mask during the incident but the captain did not, in order to be able to better communicate with air traffic controllers, according to the report.

During the descent, the pilots carried out the smoke checklist and were able to clear the smoke, but continued to Shannon due to the higher fuel burn at the lower altitude.

Investigators later determined that the bearing had failed in the right-hand equipment cooling supply fan, one of two that supply electronics and avionics at the front of the aircraft. The right-hand fan is the primary fan in the system, with the left-hand fan taking over if the primary fails, "and there is no evidence to suggest that this did not occur as specified," the AAIU says.

However, the breakdown of the bearing in the right-hand fan "allowed contact between internal rotating and stationary parts which caused local overheating and the subsequent smoke/burning smell," the report states. A status message in the cockpit had also indicated that the right-hand equipment cooling fan had failed.

BA told investigators that despite equipment cooling fan failures being "quite rare," with a failure rate of approximately one per year, the incident was the second such failure in two months, and the second diversion event due to fan failure since 2008. "[BA] also reported that 'smell in the cabin' events due to recirculation fan failures were quite common in their fleet, running at about one per month," the AAIU says.

The AAIU says BA is working with a "third party" vendor to fit vibration monitors to the recirculation fans in the 777 cabin as well as on the primary (right-hand) equipment cooling fans to determine in advance when bearings on the fans begin to fail.

For new 777s, Boeing has developed a bearing brake that stops the fan from turning "to prevent excess smoke from being generated," the AAIB says.

—John Croft, john.croft@aviationweek.com

Intertrade's Growth Helps Rockwell Collins Gain From Aftermarket Trends

MRO

Intertrade, which facilitated the establishment of the airliner surplus parts supplier business four decades ago, has added engine parts to its portfolio, completing its evolution from a one-product specialist to a full-service used-components supplier.

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