

AIRCRAFT ACCIDENT REPORT No 7/2007

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REPORT ON THE SERIOUS INCIDENT TO AIRBUS A310-304, F-OJHI ON APPROACH TO BIRMINGHAM INTERNATIONAL AIRPORT 23 FEBRUARY 2006

Registered Owner:	CIE Kerman Aviation (a subsidiary of Mahan Air)
Operator:	Mahan Air
Aircraft Type:	Airbus A310-304
Nationality:	French
Registration:	F-OJHI
Place of Incident:	During the approach to Birmingham International Airport Latitude: 52° 21' N Longitude: 000° 47' W
Date and Time:	23 February 2006 at 1212 hrs All times in this report are UTC unless otherwise stated.

Synopsis

Air Traffic Control at Birmingham International Airport notified this serious incident to the Air Accidents Investigation Branch (AAIB) at 1240 hrs on 23 February 2006. The following Inspectors participated in the investigation:

Mr R J Tydeman	Investigator in Charge
Mr P Hannant	Operations
Mr S J Hawkins	Engineering
Mr M W Ford	Flight Recorders

The aircraft was on a scheduled flight from Tehran, Iran, to Birmingham International Airport in the United Kingdom (UK). Following an uneventful flight, the aircraft was radar vectored for a Localiser/DME approach to Runway 33. The aircraft commenced a descent from 2,000 ft to the published minimum descent altitude of

740 ft whilst still 11 nm from the runway threshold. At a point 6 nm from the runway the aircraft had descended to an altitude of 660 ft, which was 164 ft agl. The radar controller noted this descent profile and, through the tower controller, issued an immediate climb instruction. However, the crew had already commenced a missed approach, which they initiated when they received a GPWS alert. The aircraft was radar vectored for a second approach during which the flight crew again initiated an early descent. On this occasion, the radar controller instructed the crew to maintain their altitude and the crew successfully completed the approach. The aircraft landed safely from the second approach.

The investigation identified the following contributory factors:

1. The primary cause of the incident was the use by the crew of the incorrect DME for the approach at Birmingham International Airport.
2. There was also a substantial breakdown in CRM, which was partly due to the presence of a third flight crew member on the flight deck. He was not present during the approach briefing nor when the navigation information displayed was selected. He attempted to support the crew in their efforts to fly the approach but inadvertently re-enforced the commander's misinterpretation of the DME indications. This occurred despite the first officer initially recognising the discrepancy between the distance to the threshold and the distance displayed on the VOR/DME, and attempting to communicate this to the other members of the flight crew.
3. The ATCO at Birmingham International Airport was properly licensed and qualified.
4. The flight crew had the relevant meteorological information, and the conditions during the approach were above the required minima.
5. The glide slope element of the ILS to Runway 33 was not available due to work in progress and the flight crew had been notified correctly.
6. The flight crew were familiar with the Localiser/DME approach to Runway 33.
7. The commander and FO had briefed the approach prior to the top of descent in accordance with their SOPs.
8. The supernumerary captain joined the handling crew at some point during the initial approach phase; he had not been a party to the approach brief.
9. The FMC database did not contain the ILS/DME approach to Runway 33 at Birmingham International Airport.
10. The FMS auto-tuned the Honiley VOR/DME and this distance was displayed on the DME/RMI instrument because the crew did not put the VOR/NAV/ILS switch to the VOR position.
11. The commander and supernumerary captain used the DME/RMI distance display as the primary source to fly the procedure.
12. The aircraft was radar vectored for the Localiser/DME approach procedure and positioned on an intercept heading, but the

Three Safety Recommendations have been made.

Findings

1. The flight crew were properly licensed and qualified to conduct the flight, and were well rested. Their training, including CRM training, was in accordance with the operator's requirements.
2. The aircraft was certified, equipped and maintained in accordance with existing regulations and approved procedures. At the time of the incident there were no recorded Acceptable Deferred Defects that might have contributed to the incident.
3. The defect relating to AP 1 had not been entered into the aircraft's Technical Log.

- AFS did not track the localiser. However, the commander manually over-rode the AP, turning the aircraft to the left with up to 36° angle of bank.
14. The MDA of 740 ft was incorrectly set.
 15. The crew initiated an early descent, based on the Honiley VOR/DME distance, this was 5 nm before the correct descent point.
 16. The aircraft was not equipped with a TAWS as required by the UK CAA regulations.
 17. No standard calls were made during the approach.
 18. The radar controller identified the early descent and contacted the tower controller, who instructed the aircraft to climb immediately to 3,000 ft.
 19. The GPWS 'SINK RATE' warning sounded as the aircraft descended to a minimum height of 164 ft whilst 5 nm from the runway threshold.
 20. The commander disengaged the AFS and increased both the pitch attitude and the power just prior to receiving the climb instruction from the tower controller.
 21. The go-around was not flown in accordance with the operator's SOP, and during this manoeuvre the aircraft descended from 1,750 ft to 1,300 ft, before eventually stabilising at 3,000 ft.
 22. The flight crew did not identify the reason for the early descent during their discussions following the first approach.
 23. The aircraft was radar vectored for a second Localiser/DME approach procedure and positioned on an intercept heading, but the AFS did not track the localiser. Once again, the commander had over-ridden the AP, turning the aircraft to the left and exceeding 31° angle of bank.
 24. An early descent was again initiated, using the distance from the Honiley VOR/DME.
 25. The Radar controller observed the early descent and instructed the crew to return to 2,000 ft.
 26. The PF flew the approach without the AFS and landed the aircraft safely.

Safety Recommendations

The following Safety Recommendations were made:

Safety Recommendation 2007-109

It is recommended that Mahan Air should develop operating procedures for the presence of additional flight crew members occupying a seat on the flight deck.

Safety Recommendation 2007-110

It is recommended that Mahan Air should conduct a thorough review of its CRM training programme to ensure that it is both appropriate for their needs and produces consistent and acceptable results.

Safety Recommendation 2007-111

It is recommended that Mahan Air should expand its FMS database to include all approaches relevant to their route structure.