



Australian Government

Australian Transport Safety Bureau

ATSB TRANSPORT SAFETY INVESTIGATION REPORT

Aviation Occurrence Report-200500654

Final

**Warning device event – Hamilton Island, Qld
15 February 2005
VH-TNX
de Havilland Canada DHC-8-102**



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Abstract

On 15 February 2005, a de Havilland Canada DHC-8-102 (Dash 8) aircraft, registered VH-TNX, was being operated on a scheduled passenger service from Hamilton Island to Cairns, Qld. The aircraft was in instrument meteorological conditions with significant turbulence reported by the pilot in command, who was the pilot flying (PF).

During the climb from Hamilton Island, the PF engaged the autopilot while manoeuvring to intercept the outbound track. During a right turn at 2,624 ft above mean sea level, the Enhanced Ground Proximity Warning System (EGPWS) bank angle advisory activated. That advisory was in the form of an aural alert to the flight crew of 'BANK ANGLE, BANK ANGLE' when a roll angle of 35 degrees was exceeded, and the aircraft was greater than 156 feet above ground level.

Recorded flight data indicated that, while the aircraft was being manually flown, the angle of right bank was increasing as the autopilot was engaged. The angle of bank momentarily reached a maximum of 34.9 degrees, which activated the EGPWS. The PF briefly disengaged and re-engaged the autopilot a number of times during the manoeuvring. That included disengaging the autopilot during a subsequent left turn that was required to make good the outbound track, before re-engaging the autopilot for the remainder of the flight.

A post-flight engineering inspection found no fault with the aircraft's number one Attitude Heading Reference System (AHRS) or with the flight guidance computer system (FGC1). However, as a precautionary measure, these systems were replaced.

THE AUSTRALIAN TRANSPORT SAFETY BUREAU

The Australian Transport Safety Bureau (ATSB) is an operationally independent multi-modal Bureau within the Australian Government Department of Transport and Regional Services. ATSB investigations are independent of regulatory, operator or other external bodies.

The ATSB is responsible for investigating accidents and other transport safety matters involving civil aviation, marine and rail operations in Australia that fall within Commonwealth jurisdiction, as well as participating in overseas investigations involving Australian registered aircraft and ships. A primary concern is the safety of commercial transport, with particular regard to fare-paying passenger operations.

The ATSB performs its functions in accordance with the provisions of the Transport Safety Investigation Act 2003 and Regulations and, where applicable, relevant international agreements.

Purpose of safety investigations

The object of a safety investigation is to enhance safety. To reduce safety-related risk, ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not the object of an investigation to determine blame or liability. However, an investigation report must include factual material of sufficient weight to support the analysis and findings. At all times the ATSB endeavours to balance the use of material that could imply adverse comment with the need to properly explain what happened, and why, in a fair and unbiased manner.

Developing safety action

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. The ATSB prefers to encourage the relevant organisation(s) to proactively initiate safety action rather than release formal recommendations. However, depending on the level of risk associated with a safety issue and the extent of corrective action undertaken by the relevant organisation, a recommendation may be issued either during or at the end of an investigation.

The ATSB has decided that when safety recommendations are issued, they will focus on clearly describing the safety issue of concern, rather than providing instructions or opinions on the method of corrective action. As with equivalent overseas organisations, the ATSB has no power to implement its recommendations. It is a matter for the body to which an ATSB recommendation is directed (for example the relevant regulator in consultation with industry) to assess the costs and benefits of any particular means of addressing a safety issue.

About ATSB investigation reports: How investigation reports are organised and definitions of terms used in ATSB reports, such as safety factor, contributing safety factor and safety issue, are provided on the ATSB web site www.atsb.gov.au.

FACTUAL INFORMATION

Reported Information

The information presented below, including any analysis of that information, was prepared principally from information supplied to the Bureau.

On 15 February 2005, a de Havilland Canada DHC-8-102 (Dash 8) aircraft, registered VH-TNX, was being operated on a scheduled passenger service from Hamilton Island to Cairns, Qld. The aircraft was in instrument meteorological conditions with significant turbulence reported by the pilot in command, who was the pilot flying (PF).

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