Australian Government
Australian Transport Safety Bureau

Two turbulence events involving a Boeing 737, VH-VZY and a Bombardier DHC-8-402, VH-QOP

5 July 2013 and 7 July 2013

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Published by: Australian Transport Safety Bureau
Postal address: PO Box 967, Civic Square ACT 2608
Office: 62 Northbourne Avenue Canberra, Australian Capital Territory 2601
Telephone: 1800 020 616, from overseas +61 2 6257 4150 (24 hours)
Accident and incident notification: 1800 011 034 (24 hours)
Facsimile: 02 6247 3117, from overseas +61 2 6247 3117
Email: atsbinfo@atsb.gov.au
Internet: www.atsb.gov.au

Addendum

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What happened

The ATSB was advised of two turbulence related events that occurred on 5 July 2013 and 7 July 2013, involving VH-VZY and VH-QOP respectively.

VH-VZY

On 5 July 2013, a Qantas Boeing 737 aircraft, registered VH-VZY, departed Perth, Western Australia on a scheduled passenger service to Canberra, Australian Capital Territory.

Keep your seat belt fastened

Source: ATSB

At about 2139 Eastern Standard Time,[1] while descending through 8,000 ft, the aircraft encountered severe turbulence for about 2 minutes. The flight crew reported that they experienced difficulties with maintaining their assigned altitude of 7,500 ft for about 1 minute and the aircraft descended to 7,200 ft. The flight crew made a passenger announcement over the public address system and turned the seat belt sign on. They also advised air traffic control (ATC) of the turbulence and subsequent altitude excursion.

A cabin crew member positioned in the rear of the aircraft sustained minor injuries. The flight continued without further incident.

VH-QOP

On 7 July 2013, a Sunstate Airlines Bombardier DHC-8-402 aircraft, registered VH-QOP, was being operated on a scheduled passenger service from Wagga Wagga to Sydney, New South Wales. The first officer (FO) was designated as the pilot flying.

During the cruise, while in clear conditions, maintaining flight level (FL)[2] 210, the aircraft experienced severe turbulence. The turbulence ceased for about 2 seconds and moderate turbulence was then experienced. The aircraft pitched upwards by 5°, the right wing dropped by 7°, and the airspeed increased by about 20 kt. In response, the captain reduced engine power, the autopilot was disconnected and the aircraft was manually flown by the FO. The seat belt sign was turned on. Once the aircraft's airspeed reduced, the autopilot was re-engaged. Overall, the turbulence encounter lasted for about 6 seconds.

In response to the turbulence, the two cabin crew members positioned at the rear of the aircraft immediately sat down. The cabin crew noted that a passenger, who had been standing, was injured. The captain contacted the cabin crew and was advised of the injured passenger. The captain made a passenger announcement and the seat belt sign was turned off to allow the cabin crew to assist the passenger. The FO advised ATC that they had experienced turbulence.

During the descent into Sydney, the cabin crew further advised the flight crew that the passenger appeared to have sustained a broken or dislocated ankle. About 10 minutes after the event, one of the cabin crew members reported also having sustained an ankle injury. After securing the cabin for landing, the injured cabin crew member was unable to continue duties. The flight crew were advised accordingly and the aircraft landed without further incident.

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1 Eastern Standard Time (EST) was Coordinated Universal Time (UTC) + 10 hours.

2 At altitudes above 10,000 ft in Australia, an aircraft's height above mean sea level is referred to as a flight level (FL). FL 210 equates to 21,000 ft.

Safety message

Turbulence is a weather phenomenon responsible for the abrupt sideways and vertical jolts that passengers often experience during flights, and is the leading cause of in-flight injuries to passengers and cabin crew.

Research conducted by the Australian Transport Safety Bureau (ATSB)[3] identified that 99 per cent of people on board an aircraft receive no injuries during a typical turbulence event. However, passengers and cabin crew not wearing a seat belt can be thrown around without warning. Between January 1998 and May 2008, 339 turbulence events were reported to the ATSB by the airlines, which resulted in over 150 minor and serious injuries. Almost all in-flight turbulence injuries can be avoided by:

- Putting your seatbelt on and keeping it fastened when you are seated.
- Paying attention to the safety demonstration and any instructions given by the cabin crew.
- Reading the safety information card in your seat pocket.

General details

Boeing 737, VH-VZY

Date and time:	5 July 2013 – 2139 EST	
Occurrence category:	Incident	
Primary occurrence type:	Turbulence	
Location:	near Canberra Airport, Australian Capital Territory	
	Latitude: 35° 18.42' S	Longitude: 149° 11.70' E
Manufacturer and model:	The Boeing Company 737-838	
Registration:	VH-VZY	
Operator:	Qantas Airways Limited	
Type of operation:	Air transport – high capacity	
Persons on board:	Crew – 7	Passengers – 162
Injuries:	Crew – 1 (Minor)	Passengers – Nil
Damage:	Nil	

Bombardier DHC-8-402, VH-QOP

Date and time:	7 July 2013 – 0950 EST	
Occurrence category:	Incident	
Primary occurrence type:	Turbulence	
Location:	191 km east-north-east of Wagga Wagga Airport, New South Wales	
	Latitude: 34° 36.55’ S	Longitude: 149° 26.47’ E
Manufacturer and model:	Bombardier DHC-8-402	
Registration:	VH-QOP	
Operator:	Sunstate Airlines	
Type of operation:	Air transport – high capacity	
Persons on board:	Crew – 4	Passengers – 44
Injuries:	Crew – 1 (Minor)	Passengers – 1 (Minor)
Damage:	Nil	

[3] *Staying Safe against In-flight Turbulence:* www.atsb.gov.au/publications/2008/ar2008034.aspx

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB is governed by a Commission and is entirely separate from transport regulators, policy makers and service providers. The ATSB's function is to improve safety and public confidence in the aviation, marine and rail modes of transport through excellence in: independent investigation of transport accidents and other safety occurrences; safety data recording, analysis and research; and fostering safety awareness, knowledge and action.

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.

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

It is not a function of the ATSB to apportion blame or determine liability. At the same time, 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.

About this report

Decisions regarding whether to conduct an investigation, and the scope of an investigation, are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, a limited-scope, fact-gathering investigation was conducted in order to produce a short summary report, and allow for greater industry awareness of potential safety issues and possible safety actions.