



Australian Government

Australian Transport Safety Bureau

Ground proximity event between Dornier DO228, VH-VJN and a vehicle

Brisbane Airport, Queensland, 8 October 2013

ATSB Transport Safety Report

Aviation Short Investigation

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Addendum

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Ground proximity event between Dornier DO228, VH-VJN and a vehicle

What happened

On the evening of 8 October 2013, at about 1842 Eastern Standard Time (EST),¹ a Dornier DO228 aircraft, registered VH-VJN (VJN) (inset photograph), was taxiing to the company hangar at Brisbane Airport, Queensland after the completion of a charter flight.

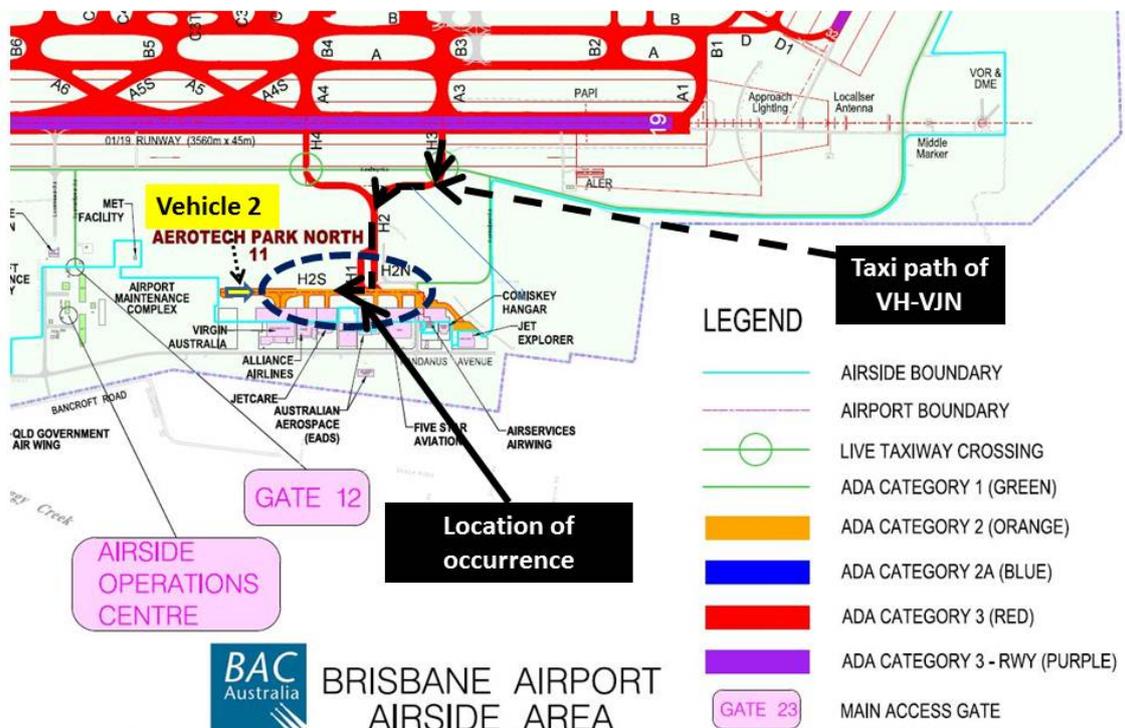
The crew taxied VJN via taxiway 'Hotel 3' (H3), 'Hotel 2' (H2), and then via a right turn onto 'Hotel 2 South' (H2S) (Figure 1). As per company policy, the aircraft was taxied at a maximum speed of 9 kt during turns. During the 90° turn from H2 to H2S the pilot saw a vehicle approaching from the opposite direction along H2S. The vehicle had headlights on, but no flashing light. The captain reported he manoeuvred the aircraft to the right by 2-3 m and braked firmly. During this manoeuvre the captain observed the vehicle brake, and turn right onto the grass. The vehicle passed close to the aircraft's left wingtip.

VH-VJN



Source: George Canciani

Figure 1: Brisbane Airport



Source: Brisbane Airport Corporation

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

Captain comments (VH-VJN)

- The captain regularly passed vehicles on H2S, but they always moved off the taxiway onto the grass until the aircraft had safely passed. However, on this occasion, he reported the vehicle continued straight ahead toward the aircraft, with no obvious deviation in direction or speed.
- The captain suggested that a possible solution was for conditional use of vehicles on the taxiway, particularly given the increase in aircraft movements along H2. This could include restricting vehicle entry onto H2 (H2, H2S and H2N) when an aircraft was taxiing on H3 or H2 toward H2S until the aircraft is well clear.

Holden Rodeo driver comments

The driver of the incident vehicle (vehicle 2), a single cab Holden Rodeo, was following a company engineering van (vehicle 1)². Both vehicles were exiting the company hangar using the hangar service road in accordance with the procedure detailed in the En Route Supplement Australia (ERSA)³ and the Airside Driver's Handbook. The vehicle headlights were on, and vehicle 2 was travelling at about 25 km/hr. As vehicle 2 was approaching taxiway H2, the driver noticed VJN about 250 m away. The aircraft had both taxi lights and the anti-collision beacon visible.

The driver of vehicle 2 advised that both vehicles had been travelling in the designated area. He reported that VJN made the turn from H2 onto H2S a little wide, putting the aircraft's left wing into the designated driver area. To maintain separation both vehicle 1 and 2 left the sealed section of the taxiway onto the grass and continued driving.

Brisbane Airport Corporation (BAC) comments

BAC conducted an internal investigation into the incident and identified the following:

- To date, the driver of vehicle 1 had not been identified.
- Aircraft movements at Brisbane have increased from 123,000 in 2004 to 222,000 in 2013. At the time of the incident, there were about 1,700 vehicles approved to access to the taxiway Hotel system. The report also outlined relevant sections of the *BAC Airside Drivers Handbook – Version November 2012*⁴ (extracts below). This publication details basic safety rules to ensure the safe and orderly movement of passengers, aircraft and vehicles.

Section 1.10

To ensure safe operation of vehicles in the vicinity of aircraft of Brisbane Airport, drivers

- must give way to pedestrians at all times
- must give way to moving aircraft at all times even when the aircraft are under tow
- must stay well clear of aircraft when their red anti-collision beacons are operating.

Section 1.11

Drivers of vehicles and equipment must ensure safe distances are maintained at all times to operating aircraft. The aircraft to object required separation for an aircraft such as VJN operating on an apron taxi lane is 4.5 m.

Section 2.8: Taxiway Hotel requirements

All drivers should be aware that both taxiway H2N and H2S are designated as an 'apron' for vehicles requiring access to the maintenance facilities. The remaining sections of taxiway Hotel system is designated for aircraft movement ONLY.

² Vehicle 1 was ahead of vehicle 2 and did not pose a risk to VH-VJN.

³ En Route Supplement Australia produced by Airservices Australia details information about special procedures at each airport

⁴ <http://www.bne.com.au/sites/all/files/content/files/November%202012%20Airside%20Drivers%20Handbook.pdf>

Section 1.35: Unpaved/grassed areas

Unless expressly directed by air traffic control (ATC), the parking of vehicles/equipment or travel across or onto unpaved areas is not to be undertaken.

BAC recommendations

- BAC constructs roads that would mitigate vehicles traversing the aprons of taxiways H2S and H2N.
- To consider if the Hotel taxiway system and the nearby Mike taxiway system be restricted to Category 3 (currently Category 2)⁵ and above authority to drive airside (ADA) holders, thus requiring an ATC clearance to operate in the area.

Safety message

The ATSB published a research paper on ground operation occurrences at Australian Airports over a 10 year period. Of the 282 ground occurrences reported to the ATSB between 1 January 1998 and 31 December 2008, about 37 per cent of those incidents occurring as the aircraft approached a gate, were attributed to near collisions with vehicles. This report is available at: www.atsb.gov.au/publications/2009/ar2009042.aspx.

Two recent reports of ground proximity events reported to the ATSB are:

- On 22 July 2013, the captain of an Aero Commander aircraft had to apply full brakes to avoid a collision with a fast moving ground safety vehicle at Brisbane Airport.
- On 26 August 2013, the captain of a Boeing 737 had to brake firmly to avoid a collision with a security vehicle using an authorised airside road at Sydney Airport, New South Wales. The airside road had ‘give-way-to-aircraft’ signage at the intersection of the taxiway and airside road; however, the driver of the security vehicle did not see the aircraft approaching from about 90° from the left. The security vehicle stopped abruptly about 10 m from the nose of the stationary aircraft. This incident also occurred at night. The ATSB investigation report (AO-2013-135) is available at: www.atsb.gov.au/publications/investigation_reports/2013/aair/ao-2013-135.aspx

General details

Occurrence details

Date and time:	8 October 2013 - 1842 EST	
Occurrence category:	Serious incident	
Primary occurrence type:	Ground proximity event	
Location:	Brisbane Airport, Queensland	
	Latitude: 27° 23.05' S	Longitude: 153° 07.05' E

Aircraft details: VH-VJN

Manufacturer and model:	Dornier Werke GmbH DO 228-202	
Registration:	VH-VJN	
Serial number:	8040	
Type of operation:	Charter - Passengers	
Persons on board:	Crew – 2	Passengers – Unknown
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Nil	

⁵ In Category 2 vehicle operations, drivers do not need to obtain a clearance from ATC.

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.