



Australian Government

Australian Transport Safety Bureau

Aircraft proximity event between Piper Chieftain, VH-EDV and Cessna 172 Hawk XP, VH-JQQ

9 km south of Moorabbin Airport, Victoria, 17 April 2013

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Aviation Occurrence Investigation
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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

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Addendum

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Aircraft proximity event between Piper Chieftain, VH-EDV and Cessna 172 Hawk XP, VH-JQQ

What happened

On 17 April 2013, at about 1016 Eastern Standard Time,¹ a Piper PA31-350 aircraft, registered VH-EDV (EDV), was returning from Flinders Island, Tasmania to Moorabbin Airport, Victoria. The flight was a non-scheduled freight charter, conducted under the instrument flight rules (IFR), with two pilots on board. The pilot in command, (PIC), was monitoring the pilot in command under supervision (ICUS) in the left seat.

During the descent to Moorabbin Airport, the aircraft entered visual meteorological conditions (VMC) and the pilot ICUS advised that he intended to track visually via the visual flight rules (VFR) reporting point at Carrum to Moorabbin. He was subsequently advised by Melbourne Centre air traffic control that there was no IFR traffic for the descent.

EDV then passed over Frankston, Victoria, on descent through about 2,000 ft above mean sea level.

At about the same time, a Cessna R172K (Hawk XP), registered VH-JQQ (JQQ), had departed Essendon Airport, via the Westgate Bridge and was heading southbound. The crew of the aircraft had completed a routine pipeline inspection in the Essendon control zone, and were in transit via the VFR Coastal Route (Figure 1) at 1,500 ft for another pipeline inspection in the Tyabb, Victoria area.

To remain in gliding distance of the coast, the pilot of the single-engine aircraft JQQ, elected to cross the coastline at Ricketts Point (Figure 1) and obtained a clearance from Moorabbin Tower to transit the western edge of the Moorabbin control zone. JQQ then proceeded to track about 1.5 NM off the coast, from Ricketts Point to Carrum at 1,500 ft.

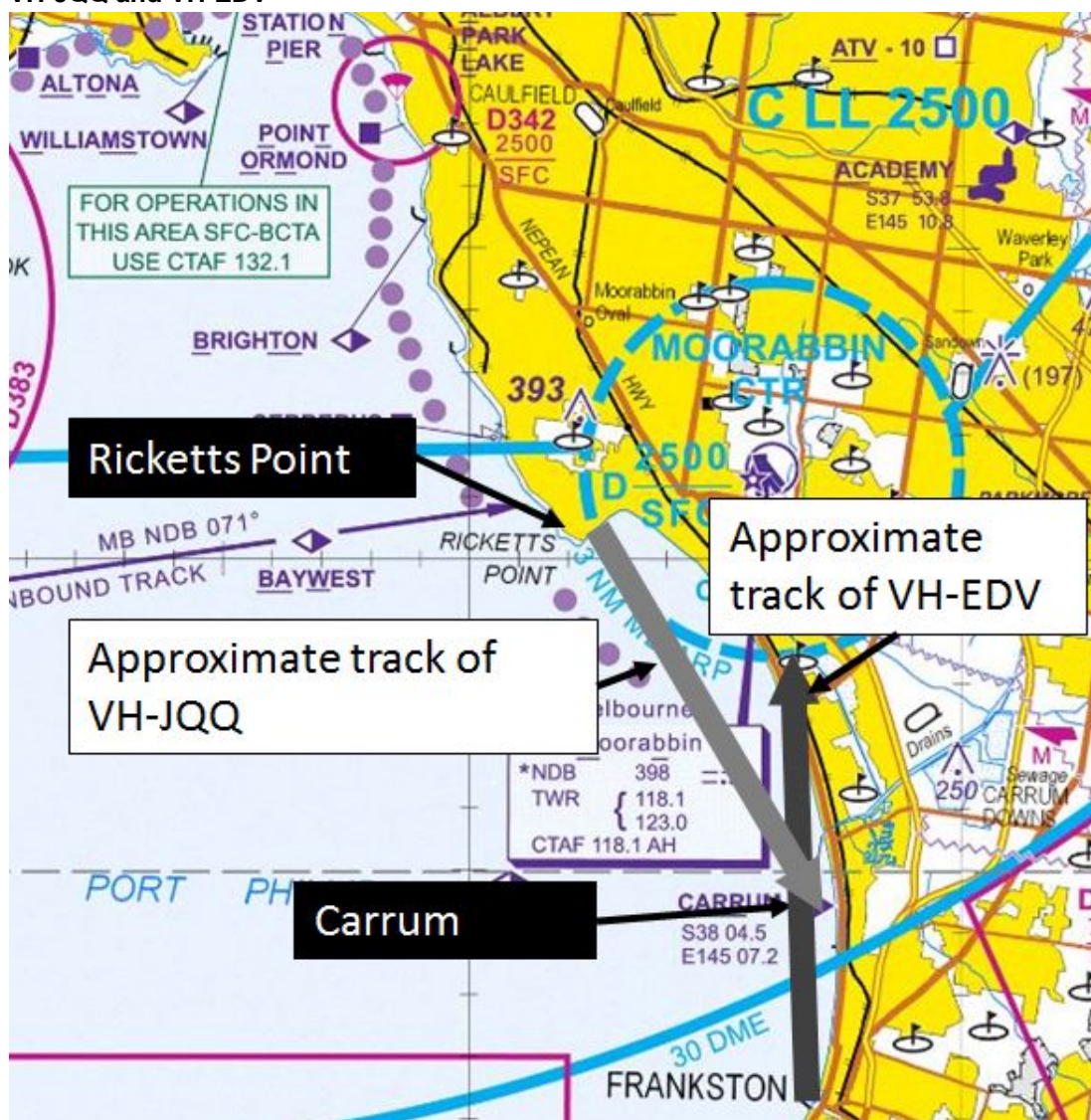
Piper Chieftain, VH-EDV



Source: Craig Murray

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

Figure 1: Excerpt from the Melbourne Visual Terminal Chart and approximate tracks of VH-JQQ and VH-EDV



Source: Airservices Australia

The pilot of EDV called Moorabbin Tower at Carrum, at 1,500 ft on a descent profile to arrive at the entry of Moorabbin control zone at the required altitude of 1,000 ft. This call was acknowledged by Moorabbin Tower and the aircraft was cleared to join final approach for runway 35 left (35L) and asked to report at 3 NM.

Less than a minute later, at about 1022, just over 5 NM south-west of Moorabbin, the pilot of JQQ saw EDV on a reciprocal track and the ICUS pilot in EDV saw the lights of JQQ. EDV commenced a descending turn to the right, as JQQ commenced a climb to the right, resulting in JQQ passing over EDV with about 200 ft vertical separation.

Pilot of VH-EDV comments

The PIC of EDV made the following comments:

- He had noticed that the volume on COMM1 was turned down as he had not heard a call clearly. He had hoped that this would trigger the pilot in command under supervision to turn it up.

- They had changed to Moorabbin QNH² at top of descent after receiving the Moorabbin Automatic terminal Information Service.³ They were transferred from Melbourne Centre to Moorabbin Tower at Carrum and given no IFR traffic.
- EDV was at about 1,250 ft at the time of the incident.

Pilot of VH-JQQ comments

The pilot of JQQ made the following comments:

- Shortly after reporting at Ricketts Point, he heard EDV report inbound from Carrum.
- He was not following the suggested VTC route as it is too far away from land to glide in case of engine failure from 1,500 ft, instead he crossed the coast at Ricketts Point then proceeded to track about 1.5 NM off the coast to Carrum.
- The altimeter was reading 1,500 ft and the controller advised that JQQ was on radar at an unverified 1,700 ft.

Publications

The suggested published VFR Coastal Route annotated on the Melbourne VTC (Figure 1) is about 1 NM off the coast, and to allow for the Moorabbin control zone, increases up to about 2NM off the coast from Ricketts Point to Carrum.

The Visual Pilot Guide for the Melbourne Basin (Figure 2) states that aircraft inbound to Moorabbin should track via and report at one of the VFR reporting points at a recommended altitude of 1,500 ft. It also states that aircraft tracking southbound via the Melbourne coastal route should maintain 1,500 ft.

² Altimeter barometric pressure subscale setting to provide altimeter indication of height above mean seal level in that area.

³ An automated pre-recorded transmission indicating the prevailing weather conditions at the aerodrome and other relevant operational information for arriving and departing aircraft.

Figure 2: Extract of Visual Pilot Guide: Melbourne coastal route



Source: Civil Aviation Safety Authority

Safety action

Whether or not the ATSB identifies safety issues in the course of an investigation, relevant organisations may proactively initiate safety action in order to reduce their safety risk. The ATSB has been advised of the following proactive safety action in response to this occurrence.

Operator of JQQ

As a result of this occurrence, the operator of JQQ has advised the ATSB that they are taking the following safety actions:

Review of route

The company is looking at the safest route to track from Westgate Bridge to Tyabb and have initiated consultation with Moorabbin Tower to determine the correct altitude for this leg.

Engineering inspection

Engineers serviced the transponder in JQQ.

Safety message

This incident highlights the importance of good flight planning and preparation, in particular complying with tracking instructions for VFR routes. It also highlights the importance of being aware of other aircraft potentially operating in the area, particularly around VFR approach points.

Issues associated with unalerted see-and-avoid have been documented in an ATSB research report *Limitations of the see-and-avoid principle*. Unalerted see-and-avoid relies entirely on the ability of the pilot to sight other aircraft. A traffic search in the absence of traffic information is less likely to be successful than a search where traffic information has been provided because knowing where to look greatly enhances the chance of sighting the traffic. The report is available at www.atsb.gov.au/publications/2009/see-and-avoid.aspx.

General details

Occurrence category:	Serious incident	
Primary occurrence type:	Aircraft proximity event	
Location:	9 km South of Moorabbin Airport, Victoria	
	Latitude: 38° 03.45' S	Longitude: 145° 04.85' E

Piper Chieftain, VH-EDV

Manufacturer and model:	Piper Aircraft Corporation PA-31	
Registration:	VH-EDV	
Type of operation:	Charter - Freight	
Persons on board:	Crew – 2	Passengers – Nil
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Nil	

Cessna 172, VH-JQQ

Manufacturer and model:	Cessna Aircraft Company 172	
Registration:	VH-JQQ	
Type of operation:	Aerial work - Survey	
Persons on board:	Crew – 2	Passengers – Nil
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Nil	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The Bureau 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.