Australian Government
Australian Transport Safety Bureau

Aircraft proximity event between a Beech B200C, VH-VAE and an unidentified glider

8 km SE of Benalla Airport, Victoria, 16 February 2013

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Addendum

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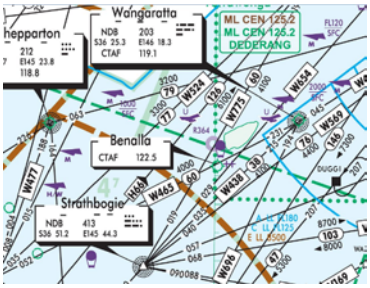
What happened

On 16 February 2013, a Beech B200C aircraft, registered VH-VAE (VAE), was being operated on an aero-medical flight under instrument flight rules (IFR). On board the aircraft were the pilot and a paramedic.

The aircraft was cleared by air traffic control at Flight Level (FL)[1] 150 from Essendon to Wangaratta, Victoria, via the Strathbogie IFR reporting point[2] (Figure 1). The flight path of VAE passed within about 5 NM of Benalla Airport.

Detail from ERC L2 chart



Source: Airservices Australia

At 1453 Eastern Daylight-saving Time,[3] VAE was about 15 NM from Wangaratta on descent through 6,000 ft above mean sea level, with an indicated air speed of 240 kt, when the pilot observed a white glider with red markings approaching at the same level. The pilot reported that the windscreen's central pillar may have obscured the approaching glider, as he first saw it about 150 m in front of his aircraft tracking from the 1230 to 1 o'clock position.[4] The glider passed the left side of the aircraft with separation reducing to about 70 m at the same altitude.

Due to the relative speeds of both VAE and the glider, the pilot of VAE did not have an opportunity to take evasive action, nor did he observe the glider take evasive action. The glider did not appear on VAE's traffic alert and collision avoidance system (TCAS),[5] nor were any broadcasts[6] heard from the glider pilot on the area very high frequency (VHF).

Attempts to identify the glider were unsuccessful.

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1 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 150 equates to 15,000 ft.

2 Reporting points are normally referenced to a radio-navigation aid, aerodrome, town or within 10 NM of a town or a geographical feature. Where this is not possible, names have been invented.

3 Eastern Daylight-saving Time (EDT) was Coordinated Universal Time (UTC) + 11 hours.

4 The clock code is used to denote the direction of an aircraft or surface feature relative to the current heading of the observer's aircraft, expressed in terms of position on an analogue clock face. Twelve o'clock is ahead while an aircraft observed abeam to the left would be said to be at 9 o'clock.

5 Traffic alert and collision avoidance system (TCAS) is an aircraft collision avoidance system. It monitors the airspace around an aircraft for other aircraft equipped with a corresponding active transponder and gives warning of possible collision risks.

6 'Broadcast' means a radio broadcast from an aircraft (or glider) on the appropriate frequency to provide advisory traffic information to other aircraft.

Gliding operations

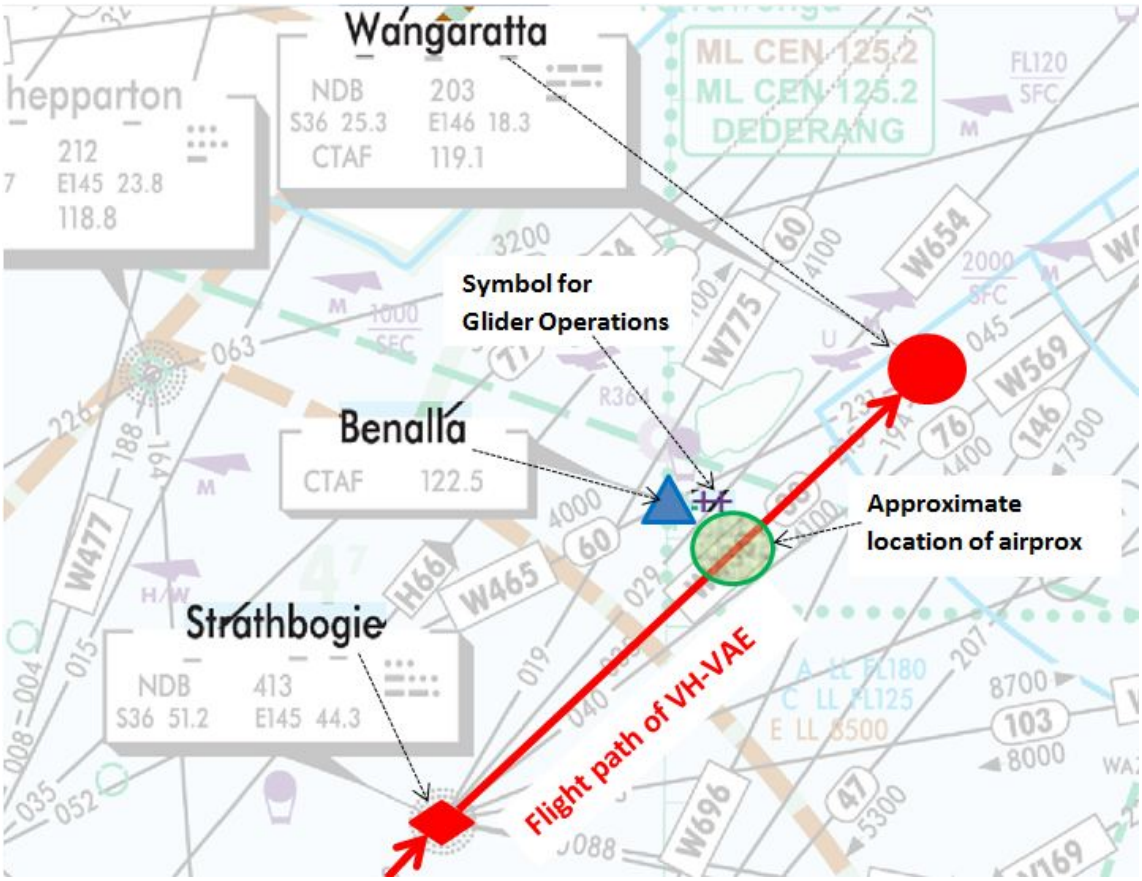
The Airservices Australia Aeronautical Information Publication (AIP) notes that glider pilots are encouraged, but not required, to monitor the area VHF when operating above 5,000 ft in Class G airspace. The AIP further states:

> Except for operations in controlled airspace, gliding operations may be conducted no-radio, or may be on frequencies 122.5MHZ, 122.7MHZ or 122.9MHZ, which have been allocated for use by gliders. … Except when operationally required to maintain communications on a discrete frequency listed above, glider pilots are expected to listen out on the area VHF and announce if in potential conflict.

The Gliding Federation of Australia's (GFA's) *Airways and Radio Procedures for Glider Pilots* states:

> The presence of a glider in an area into which a medium-sized aircraft may be descending at more than 200 knots is a clear case when "un-alerted" see and avoid is not sufficient and needs to be supplemented by use of radio.

Figure 1: Map showing VAE's track (red) and the Gliding Operations symbol at Benalla



Source: Underlying image from Airservices Australia

Industry liaison

In early 2012, and following a submission from the operator of VAE, the Civil Aviation Safety Authority (CASA) commenced a safety review into the level of risk from gliders in aircraft proximity (airprox) events in uncontrolled airspace. More recently, in response to discussions at a Regional Aviation Safety Forum and following advice from the ATSB of an increase in the number of airprox events across all categories of operations, CASA has established an Industry Airprox Working group to examine ways to reduce airprox events and enhance safety.

Safety message

When operating outside controlled airspace, it is the pilot's responsibility to maintain separation with other aircraft. For this, it is important that pilots utilise both alerted and unalerted see-and-avoid principles. Pilots should never assume that an absence of traffic broadcasts means an absence of traffic.

The use of transponders greatly enhances safety in non-controlled airspace. The AIP states that pilots of aircraft fitted with a transponder must activate it at all times during flight. Transponders can be detected by aircraft equipped with TCAS, allowing them to detect other aircraft and initiate avoidance action.

Issues associated with unalerted see-and-avoid have been documented in an ATSB research report *Limitation 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 increases the chance of sighting the traffic.

The *Limitations of the See-and-Avoid Principle* is available at www.atsb.gov.au/publications/2009/see-and-avoid.aspx

The following publications provide information that may assist pilots avoid airprox events:

- Staying clear of other aircraft in uncontrolled airspace www.atsb.gov.au/publications/2011/staying-clear-of-other-aircraft-in-uncontrolled-airspace.aspx
- Collision avoidance strategies and tactics www.aopa.org/asf/publications/sa15.pdf

A Flight Safety Australia article, *Sharing the skies – gliders* printed in Issue 87 July-August 2012, is available at www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD::pc=PC_93249

General details

Occurrence details

Manufacturer and model:	Hawker Beechcraft Corporation B200C	
Registration:	VH-VAE	
Type of operation:	Aerial work	
Occurrence category:	Serious incident	
Primary occurrence type:	Airprox	
Location:	8 km SE of Benalla Airport, Victoria	
	Latitude: 36° 36.52' S	Longitude: 146° 03.65' E
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.