Australian Government
Australian Transport Safety Bureau

Aircraft proximity event between a Beech B200C, VH-AMQ and a Ventus glider, PH-1234

22 km ENE of Griffith Airport, New South Wales, 6 Janauary 2013

ATSB Transport Safety Report
Aviation Occurrence Investigation
AO-2013-009
Final – 17 May 2013

Released in accordance with section 25 of the *Transport Safety Investigation Act 2003*

Publishing information

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Addendum

Page	Change	Date

Aircraft proximity event between a Beech B200C, VH-AMQ and a Ventus glider, PH-1234

What happened

A Schempp-Hirth Ventus 2cT

Source: Michael Clarke

On 6 January 2013, at about 1402 Eastern Daylight-saving Time,[1] a Hawker B200 aircraft, registered VH-AMQ (AMQ), was inbound to Griffith from Sydney, New South Wales, on an aero-medical retrieval flight. Onboard the aircraft were the pilot and a flight nurse.

When 25 NM to the east of Griffith, the pilot of AMQ broadcast his position and intentions on the Griffith common traffic advisory frequency (CTAF). At that time, the aircraft was descending through 8,500 ft and tracking for a straight-in approach using the runway 24 area navigation global naviation satellite system (RNAV (GNSS)) approach. The pilot advised he would call again when closer to the airport.

The pilot of a Schempp-Hirth Ventus glider, with the Netherlands registration of PH-1234 (1234), replied to AMQ's broadcast, advising that he was12 NM east of the airport, at 3,300 ft, and tracking to the north. At that time, 1234 was pursuing a thermal along the Cocoparra Range, east of Griffith, which lies almost at right angles to the RNAV approach for runway 24 (Figure 1).

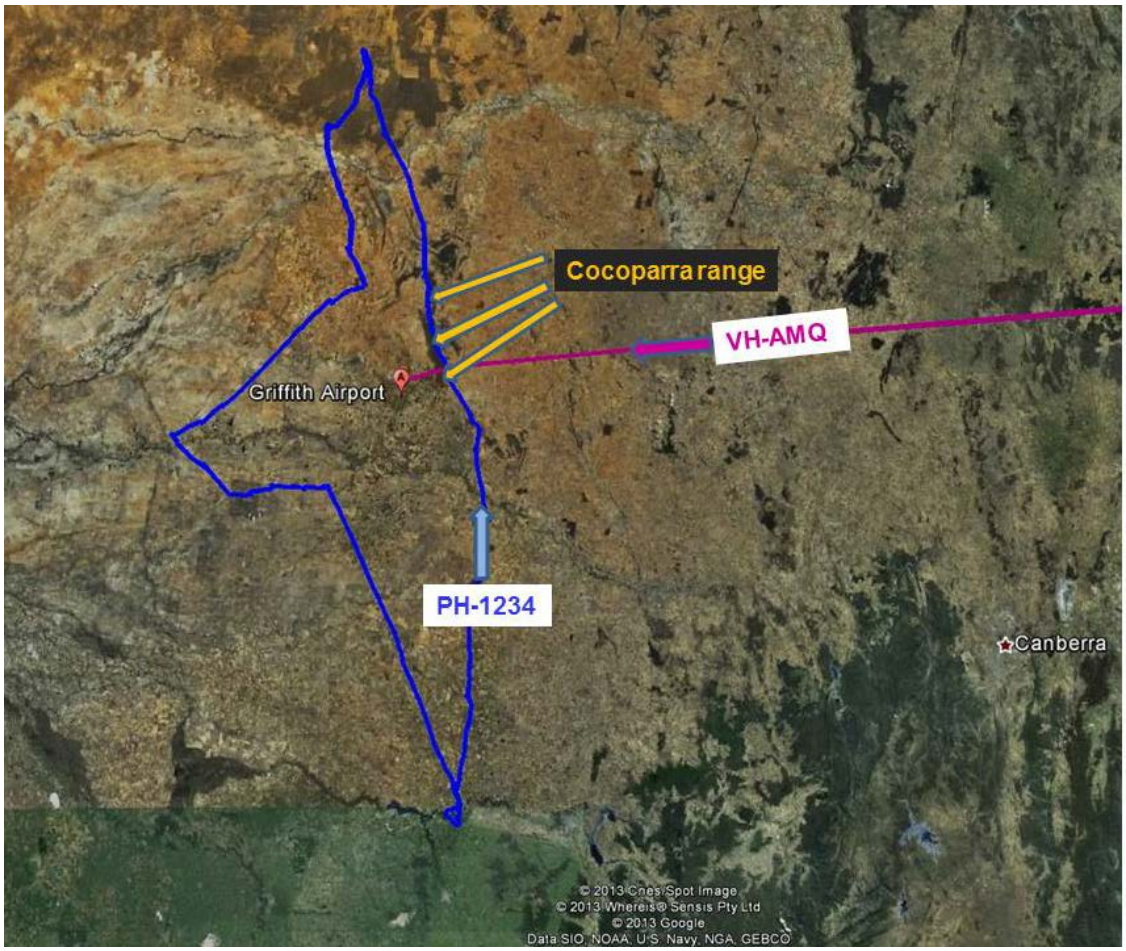
Several fire-bombing aircraft landing and taking off from both runway 06 and 24 were also broadcasting on the CTAF. These aircraft were being coordinated by a ground-controller also on frequency.

After clarifying the number of fire-bombing aircraft, the pilot of AMQ broadcast on the CTAF when 13 NM to the east, descending through 4,500 ft, and requested 1234's current position. Another glider, VH-HDE, from a group of over 30 involved in a friendly competition transitting the area, responded that he was at about 5,000 ft.

Shortly after, the pilot of AMQ reported that the aircraft's traffic alert and collision avoidance system (TCAS) indicated 'traffic 800 ft below'. The pilot made visual contact with a climbing glider. He broadcast on the CTAF that AMQ was in the two o'clock high position relative to the glider. Initiating avoiding action, the pilot of AMQ discontinued the RNAV approach, and commenced a right turn and shallow climb. Shortly after, at about 1405 (Figure 2), AMQ passed about 275 m laterally and 62 ft vertically over 1234. Both pilots commented on the CTAF the closeness of the event.

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

Figure 1: Flight paths of VH-AMQ and PH-1234



Source: Google earth

Pilot experience and comments (VH-AMQ)

The pilot of AMQ held an Air Transport Pilot (Aeroplane) Licence with over 11,000 hours total flight time.

The pilot commented that the CTAF was very busy, and although the weather was good, a single-pilot, high performance aircraft on descent, dictates a high workload for the pilot. The added requirement to safely self-separate visually from such a diverse mix of traffic adds yet another dimension to the workload.

The pilot noted the following:

- As he had broadcast the aircraft's position and intentions, he made the assumption that the glider pilot would appreciate the potential conflict.
- As he had only heard 1234 as a potential conflict, he made the assumption that this was the traffic dislayed on the TCAS.
- To enhance situation awareness, when broadcasting to visual flight rules (VFR) traffic, the pilot uses generic terms such as north-east, rather than approach specific instrument flight rules (IFR) terminology.
- There was no Notice to Airmen (NOTAM)[2] issued regarding gliding activity in the area.
- He did not realise there was a large group of gliders in the area.

[2] NOTAMs are used to advise pilots of hazards and provide information that is of direct operational significance.

- He suggested an educational approach may assist all users sharing uncontrolled airspace. In particular, a poster showing how instrument approaches, utilising up to three different entry points can operate to within 15 NM of an aerodrome, may better facilitate understanding between VFR and IFR pilots.

Pilot experience and comments (PH-1234)

The pilot of 1234 had previously held a fixed-wing Commerical Pilot's licence, IFR rating, and had been a Flight Engineer on the Boeing 747-300. He had about 3,500 gliding hours, including over 1,000 hours of those gained in Australia.

The pilot noted the following:

- He was part of a group of gliders conducting an on-line competition[3]. A triangular course was flown from Corowa, New South Wales via the Griffith area among other places, back to Corowa.
- He had broadcast on the Griffith CTAF when 20 NM south-east of the airport, and again in response to AMQ's first inbound call.
- He assumed the pilot of AMQ would know his position from his broadcast, so did not make direct contact with him.
- The glider was also fitted with a Mode S transponder and automatic dependent surveillance-broadcast (ADS-B) capability[4]. When the transponder is switched on, it goes automatically to the standby (non-active) mode. The pilot activates the altitude mode by pressing the mode button, this is part of his pre-takeoff checklist. The pilot believed the transponder was transmiting Mode S; however, it was was not transmitting ADS-B. The transponder antenna on 1234 was fitted to the lower right side of the fuselage under the wing. The pilot suggested that the position of the antenna may have influenced the ability of AMQ's transponder to interrogate the signal.
- He had commenced flying a thermal over the Cocoparra range, but as it was not suitable, he resumed gliding in a northerly direction.
- When he first saw AMQ, the aircraft was very close, and had commenced a shallow climbing right turn.

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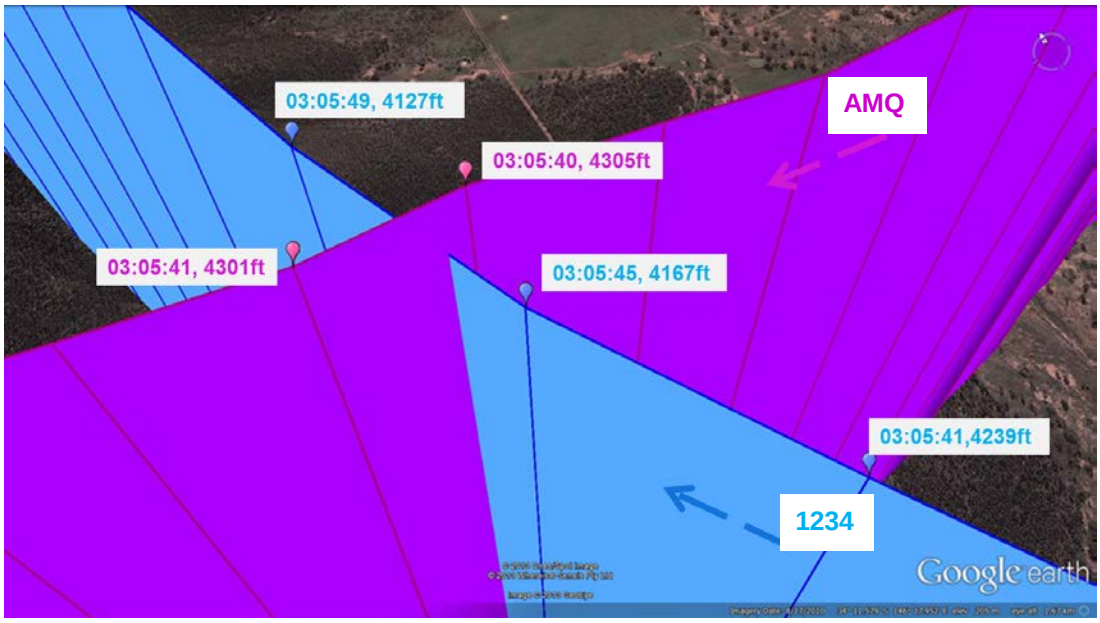
[3] An on-line gliding competition was not an organised competition, but rather the rapid registration and recording of cross-country soaring flights without the requirement of a flight declaration, in order to enable a centralised comparison of current preformances. Any glider pilot could upload their tracks electronically to www.onlinecontest.org/olc-2.0/gliding after they completed a private cross-country flight. Glider pilots from around the world uploaded their flight details, which provided the basis for an on-line competition and scoring between pilots. In this instance, a number of pilots elected to conduct pirvate flights towards an on-line competition, in the same location and at the same time.

[4] ADS-B is an air traffic surveillance technology that enables aircraft to be accurately tracked by air traffic controllers and other pilots without the need for conventional radar.

Figure 2: Close-up of airprox between VH-AMQ and PH-1234[5]



Source: Google Earth

Gliding Federation of Australia (GFA) comments

The Gliding Federation of Australia (GFA) advised that gliders operating within Australian airspace are only required to have one radio. Most gliders do not carry power generating equipment, relying on batteries for power, hence carry only the minimum of powered avionics equipment. To enhance safety, and mitigate an elevated risk of a collision between gliders when flying in large numbers, it was common practice to use a discrete glider frequency, along with a vigilant lookout to maintain separation. A list of frequencies was available in the Airservices Australia Aeronautical Information Publication (AIP).

The GFA noted that the on-line competition was not organised or formally sanctioned by the GFA.

The GFA also suggested that guidance material alerting general aviation (GA) pilots about the danger of flying in proximity to common IFR approach routes would assist in keeping all parties safe.

ATSB comment

In 2012, 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. Many regional airlines, industry groups including the Gliding Federation of Australia are members of this group.

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.

[5] Times in the figure are Coordinated Universal Time (UTC)

Operator of VH-AMQ and the Gliding Federation of Australia (GFA)

As a result of this occurrence, the operator of AMQ and the GFA have taken the following action:

- The GFA will email the operator of AMQ before gliding events, where there is expected to be increased levels of glider activity. Although some of these events may be promulgated in NOTAMs, the GFA will provide additional detail regarding the number of gliders and the proposed tracks and altitudes.

In addition, the operator of AMQ will be incorporating an article about this incident in their next company safety newsletter.

Local gliding club

As a result of this occurence, the local gliding club has taken the following action:

- Disscussed this near miss in the briefing to the pilots and undertook to continue reminding pilots about position reports and transponder use.

Safety message

In areas 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. The use of ADS-B provides additional information to equipped aircraft.

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

- CAAP 166-1(1) provides advice in relation to making radio broadcasts to reduce the risk of coming in close proximity with other aircraft: www.casa.gov.au/wcmswr/_assets/main/download/caaps/ops/166-1.pdf

General details

Occurrence category:	Serious incident	
Primary occurrence type:	Aircraft proximity event	
Location:	22 km ENE of Griffith Airport, New South Wales	
	Latitude: 34° 11.20' S	Longitude: 146° 17.35' E

Hawker Beechcraft B200, VH-AMQ

Manufacturer and model:	Hawker Beechcraft Corporation B200C	
Registration:	VH-AMQ	
Type of operation:	Aerial work	
Persons on board:	Crew – 1	Passengers – 1
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Nil	

Schempp-Hirth Ventus, PH-1234

Manufacturer and model:	Schempp-Hirth Flugzeugbau GMBH, Ventus 2cT (18m)	
Registration:	PH-1234	
Type of operation:	Private	
Persons on board:	Crew – 1	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.