



Australian Government

Australian Transport Safety Bureau

Aircraft proximity event between a Janus glider, VH-IZI and a McDonnell Douglas 500N, VH-KXS

Bacchus Marsh (ALA), Victoria, 29 June 2013

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Addendum

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Aircraft proximity event between a Janus glider, VH-IZI and a McDonnell Douglas 500N, VH-KXS

What happened

On 29 June 2013, a Janus glider, registered VH-IZI (IZI), departed runway 27 at the Bacchus Marsh aeroplane landing area (ALA) to conduct a local flight (Figure 1). During the flight, the wind direction at the ALA changed, resulting in runway 19 becoming the active runway.

At about the same time, the pilot of a McDonnell Douglas 500N helicopter, registered VH-KXS (KXS), was conducting circuits (Figure 1). He was on his fifth circuit and had reported broadcasting on the common traffic advisory frequency (CTAF) immediately prior to turning base for runway 19.¹

Figure 1: VH-IZI and VH-KXS



Source: Faram Khambatta

At about 1430 Eastern Standard Time,² IZI joined the downwind leg of the circuit for runway 19. After ensuring the radio volume was turned up, the pilot reported broadcasting a downwind call on the CTAF. Towards the end of the downwind leg, while descending through about 500 ft, the passenger in the front seat of IZI observed a helicopter (KXS) in his 12 o'clock³ position. The pilot then observed KXS below him, on a diagonal track for runway 19 (Figure 2). The pilot estimated that KXS passed about 100 ft below IZI. He further reported that he did not hear any calls from the pilot of KXS on the CTAF.

When established on late base, at 500 ft, the pilot of KXS reported sighting IZI on downwind, in his 10 o'clock position, about 100 ft above and 100 m away. The pilot stated that he did not believe there was any risk of a collision with IZI and continued with the circuit. He reported that he did not hear a downwind call from IZI.⁴

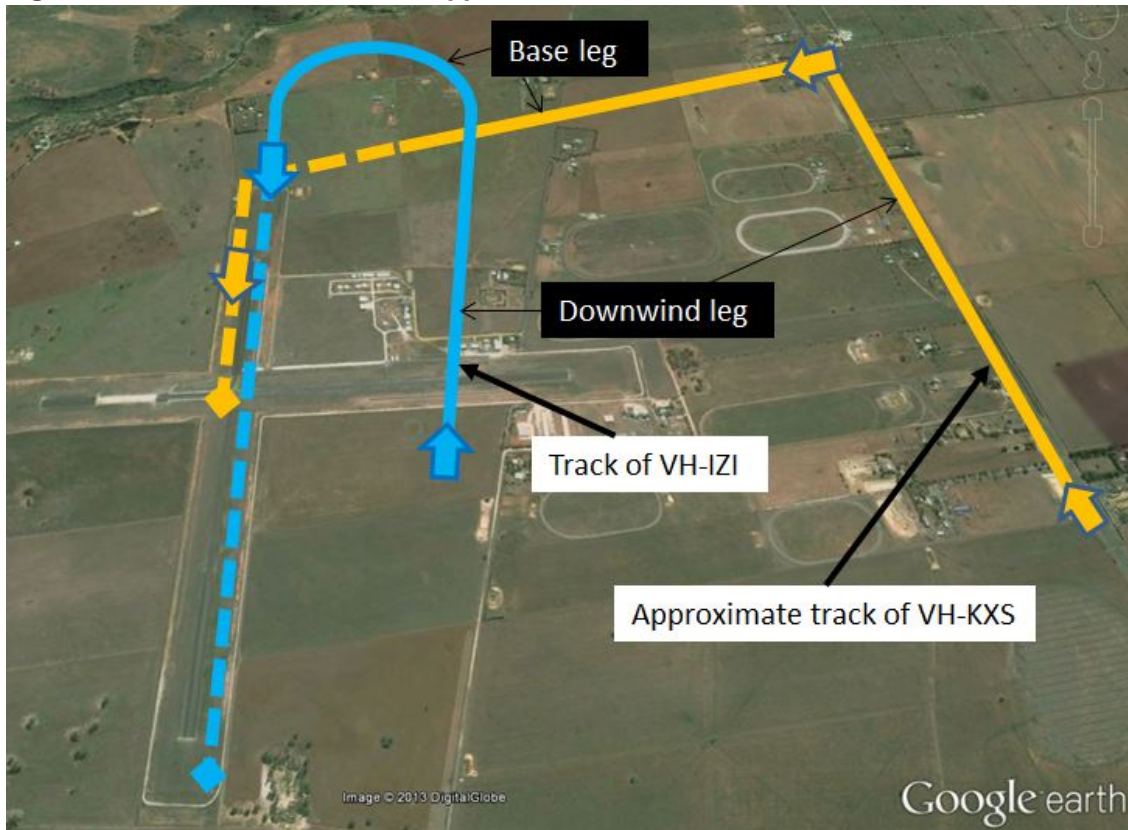
¹ Any radio broadcasts made by the pilots could not be verified as transmissions at Bacchus Marsh were not recorded.

² Eastern Standard Time (EST) was Coordinated Universal Time (UTC) + 10 hours.

³ 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.

⁴ The ATSB could not determine why neither pilot heard the broadcasts reportedly made by each other.

Figure 2: GPS track of VH-IZI and approximate track of VH-KXS



Source: Google earth; VH-IZI GPS data; VH-KXS pilot recollection

Bacchus Marsh gliding operations

Three gliding clubs operate at Bacchus Marsh (ALA). The En Route Supplement Australia (ERSA) for Bacchus Marsh indicated that gliding operations occur during hours of daylight. It also stated that gliders and tugs normally operate inside and below the standard 1,000 ft circuit, and when gliding operations are in progress, the active runway is the runway in use by the gliding operation.

Gliding Federation of Australia comments

The Gliding Federation of Australia identified that the limitations of unalerted see-and-avoid may have contributed to the incident as neither pilot heard any radio calls from the other. It also found that the limited forward and downward view from the rear seat due to the glider's natural blind spots and the large frame of the front seat occupant may have affected the pilot's ability to see KXS until it was in close proximity.

Safety message

The ATSB SafetyWatch highlights the broad safety concerns that come out of its investigation findings and from the occurrence data reported by industry. One of the focuses is safety around non-towered aerodromes (www.atsb.gov.au/safetywatch/safety-around-aeros.aspx).



The ATSB has issued a publication called *A pilot's guide to staying safe in the vicinity of non-towered aerodromes*, which outlines many of the common problems that occur at non-towered aerodromes, and offers useful strategies to keep yourself and other pilots safe. The report found that insufficient communication between pilots and breakdowns in situational awareness were the most common contributors to safety incidents in the vicinity of non-towered aerodromes.

In addition, issues associated with unalerted see-and-avoid have been detailed in the ATSB's research report *Limitations of the See-and-Avoid Principle*. The report highlights that unalerted see-and-avoid relies entirely on the pilot's ability to sight other aircraft. Broadcasting on the CTAF is known as radio-alerted see-and-avoid, and assists by supporting a pilot's visual lookout for traffic. An alerted traffic search is more likely to be successful as knowing where to look greatly increases the chances of sighting traffic. The report is available at www.atsb.gov.au/publications/2009/see-and-avoid.aspx.

The following publications provide information on operations at non-towered aerodromes:

- A pilot's guide to staying safe in the vicinity of non-towered aerodromes: [www.atsb.gov.au/publications/2008/ar-2008-044\(1\).aspx](http://www.atsb.gov.au/publications/2008/ar-2008-044(1).aspx)
- Operations at non-towered aerodromes - Be heard, be seen, be safe: carry & use your radio: www.casa.gov.au/wcmswr/_assets/main/pilots/download/nta_booklet.pdf
- Civil Aviation Advisory Publication (CAAP) 166-1(1) – Operations in the vicinity of non-towered (non-controlled) aerodromes: www.casa.gov.au/wcmswr/_assets/main/download/caaps/ops/166-1.pdf

General details

Occurrence details

Date and time:	29 June 2013 – 1430 EST	
Occurrence category:	Serious incident	
Primary occurrence type:	Aircraft proximity event	
Location:	Bacchus Marsh (ALA), Victoria	
	Latitude: 37° 44.00' S	Longitude: 144° 25.33' E

Schempp-Hirth Flugzeugbau GMBH Janus, VH-IZI

Manufacturer and model:	Schempp-Hirth Flugzeugbau GMBH Janus	
Registration:	VH-IZI	
Type of operation:	Gliding	
Persons on board:	Crew – 1	Passengers – 1
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Nil	

McDonnell Douglas 500N, VH-KXS

Manufacturer and model:	McDonnell Douglas 500N	
Registration:	VH-KXS	
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.