Australian Government

Australian Transport Safety Bureau

Aircraft proximity event between two Piper PA-28 aircraft, VH-LXH and VH-TAU

Moorabbin Airport, Victoria, 26 November 2012

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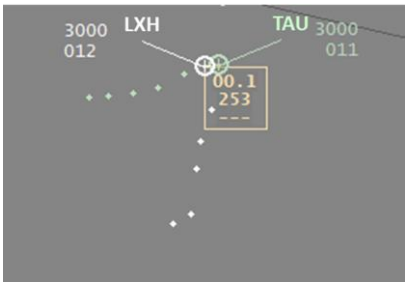
Aircraft proximity event between two Piper PA-28 aircraft, VH-LXH and VH-TAU

What happened

Incident



Source: Airservices Australia

On 26 November 2012, a flight instructor and student flight instructor of a Piper PA-28 (Warrior) registered VH-LXH (LXH) were conducting circuits on runway 17 Left (L) at Moorabbin Airport, Victoria.

When on the final approach leg of the circuit, at 1523 Eastern Daylight-saving Time,[1] LXH received a clearance from Moorabbin Tower air traffic control (ATC) to conduct a touch-and-go.

At 1526, the flight instructor and student pilot of another Warrior, registered VH-TAU (TAU), taxied to the holding point for runway 17L and advised ATC that they were ready to commence circuits. ATC advised TAU that they were cleared for takeoff and to follow the 'Cherokee' (LXH) that was currently on the runway.

LXH completed the touch-and-go and, shortly after, TAU commenced the takeoff on runway 17L.

At 1528, TAU was observed commencing the turn onto crosswind, at 700 feet above mean sea level (AMSL)[2]. At that time, LXH was on mid-crosswind, maintaining 1,100 feet (Figure1). The instructor of TAU noted that the turn was commenced at an earlier than normal position and advised the student to conduct the turn later on the next circuit. At that time, the instructor of LXH also observed TAU turn onto crosswind early and continued to monitor the aircraft. A review of the radar data indicated that the turn occurred earlier than other aircraft in the circuit.

LXH made a broadcast advising that they had turned onto downwind. Separation between LXH and TAU reduced to 0.3 NM laterally and 100 feet vertically (Figure 2).

Figure 1: Aircraft position at 1528

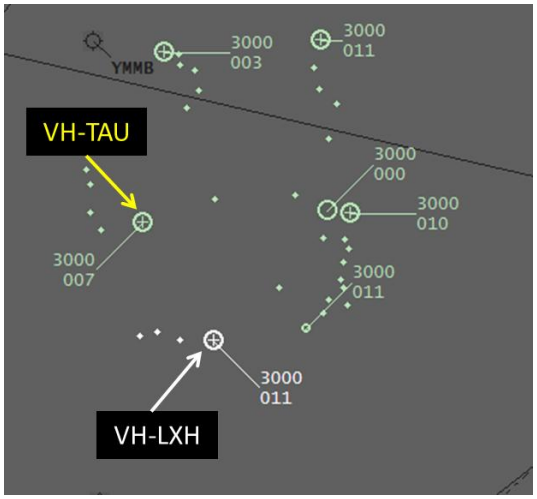
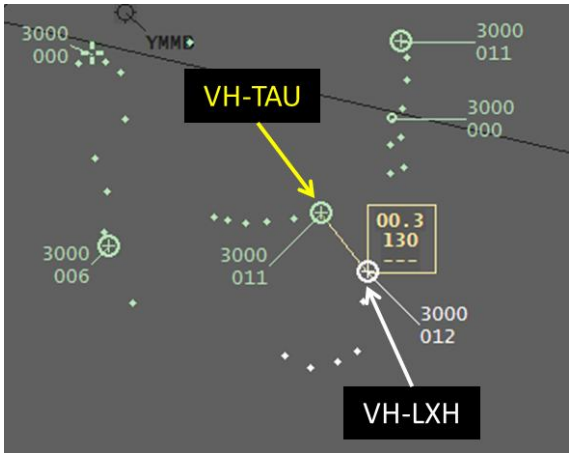


Figure 2: LXH on downwind



Source: Airservices Australia

[1] Eastern Daylight-savings Time was Universal Coordinated Time (UTC) +11 hours.
[2] Moorabbin Airport is at 50 ft AMSL

Soon after, TAU commenced the turn onto downwind. The instructor of LXH continued to monitor the location of TAU and at 1529, observed TAU pass 100 feet below (Figure 3). TAU then advised ATC that they had turned onto downwind, however, the end of the broadcast was partially over-transmitted. At that time, separation had reduced 0.1 NM laterally, with both aircraft at 1,100 feet. Air traffic control then advised another aircraft, VH-TAX (TAX) [3] to follow the 'Cherokee' on mid-downwind. The pilot of TAX acknowledged the call.

About 30 seconds later, the instructor of TAU observed LXH to the left and incorrectly advised ATC that they had traffic in their '3 o'clock'[4] position and asked if they were to be following that aircraft (Figure 4). LXH then advised ATC that TAU had cut them off. ATC confirmed that TAU was to follow LXH and that they should widen their circuit to ensure separation.

Both aircraft continued without further incident.

Figure 3: TAU passes underneath LXH

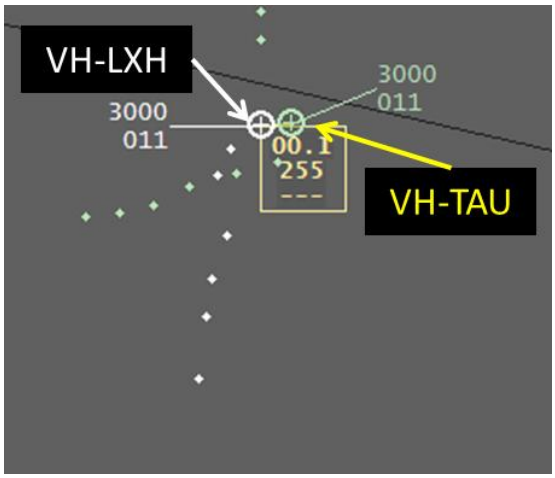
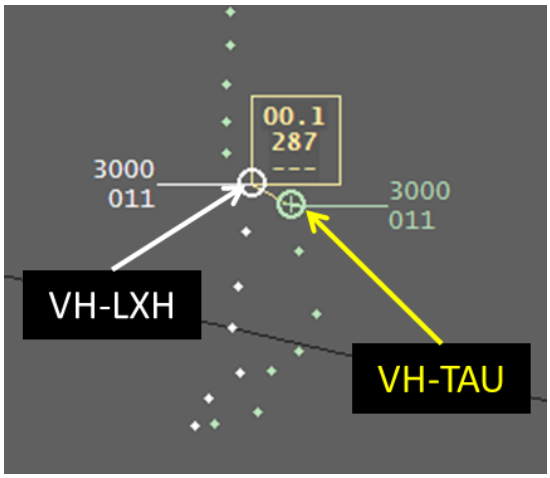


Figure 4: TAU sighted LXH



Source: Airservices Australia

Pilot comments

The instructor of TAU noted that he had not seen LXH and believed that he was meant to be following another Warrior, which was on late downwind.

The instructor of LXH commented that he had sighted TAU and recognised it was going to cross their flight path. He believed that it was better to remain predictable by maintaining a standard circuit than to carry out any avoiding actions. He also stated that he wanted to keep TAU in sight, and that carrying out an avoiding action may have hindered this. The instructor was confident that TAU would miss LXH.

Both pilots noted that there were a number of fixed-wing aircraft and helicopters operating in the circuit, and that, at times, it was busy on the Tower frequency.

Safety message

While ATC provides visual flight rules (VFR) aircraft with traffic information on other VFR aircraft in Class D[5] airspace, such as at Moorabbin, it is ultimately the pilot's responsibility to sight and maintain separation.

When operating in an area of high traffic density, it is crucial that pilots utilise both alerted and unalerted see-and-avoid techniques. Also, pilots should be mindful that when the circuit area is

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[3] TAX was another Piper PA-28 Warrior in the circuit that was ahead of LXH and TAU, on downwind.

[4] The instructor advised that he realised he should have correctly stated the traffic was in the '9 o'clock' position.

[5] Class D: all aircraft must obtain an airways clearance and communicate with ATC. Instrument flight rules (IFR) aircraft are positively separated from other IFR aircraft and are provided with traffic information on all VFR aircraft. VFR aircraft are provided with traffic information on all other aircraft.

busy, it is important to conform to the circuit pattern being employed at the time to ensure sufficient separation with preceding and following aircraft.

Further information on the limitations of the see-and-avoid principle is available at:

- www.atsb.gov.au/publications/1991/limit_see_avoid.aspx

Further information on Class D airspace and Moorabbin Airport, is available from the Civil Aviation Safety Authority at

- www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD::pc=PC_93379
- www.casa.gov.au/scripts/nc.dll?WCMS:STANDARD::pc=PC_90007

General details

Occurrence details

Primary occurrence type:	Airprox	
Occurrence category:	Serious incident	
Location:	Moorabbin Airport, Victoria	
	Latitude: S 37° 58.55'	Longitude: E 145° 06.13'

VH-LXH

Manufacturer and model:	Piper PA-28-161	
Registration:	VH-LXH	
Type of operation:	Flying training	
Persons on board:	Crew – 2	Passengers – Nil
Injuries:	Crew – Nil	Passengers – Nil
Damage:	None	

VH-TAU

Manufacturer and model:	Piper PA-28-161	
Registration:	VH-TAU	
Type of operation:	Flying training	
Persons on board:	Crew – 2	Passengers – Nil
Injuries:	Crew – Nil	Passengers – Nil
Damage:	None	

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.