Australian Government
Australian Transport Safety Bureau

ATSB TRANSPORT SAFETY INVESTIGATION REPORT
Aviation Occurrence Investigation – AO-2007-065
Preliminary

Midair Collision
Latrobe Valley Aerodrome, Vic.
1 December 2007
Cessna 172 VH-EUI/Avid Flyer 28-0929

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Postal address: PO Box 967, Civic Square ACT 2608
Office location: 15 Mort Street, Canberra City, Australian Capital Territory
Telephone: 1800 621 372; from overseas + 61 2 6274 6440
Accident and incident notification: 1800 011 034 (24 hours)
Facsimile: 02 6247 3117; from overseas + 61 2 6247 3117
E-mail: atsbinfo@atsb.gov.au
Internet: www.atsb.gov.au

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Abstract

On 1 December 2007 an Avid Flyer ultra-light aircraft and a Cessna 172 aircraft collided in midair within the circuit area of the Latrobe Valley aerodrome. The pilot in the Avid Flyer was fatally injured and the Cessna 172 was safely landed.

The investigation is continuing.

THE AUSTRALIAN TRANSPORT SAFETY BUREAU

The Australian Transport Safety Bureau (ATSB) is an operationally independent multi-modal bureau within the Australian Government Department of Infrastructure, Transport, Regional Development and Local Government. ATSB investigations are independent of regulatory, operator or other external organisations.

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.

Purpose of safety investigations

The object of a safety investigation is to enhance safety. To reduce safety-related risk, ATSB investigations determine and communicate the safety factors related to the transport safety matter being investigated.

It is not the object of an investigation to determine blame or liability. However, 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.

Developing safety action

Central to the ATSB's investigation of transport safety matters is the early identification of safety issues in the transport environment. The ATSB prefers to encourage the relevant organisation(s) to proactively initiate safety action rather than release formal recommendations. However, depending on the level of risk associated with a safety issue and the extent of corrective action undertaken by the relevant organisation, a recommendation may be issued either during or at the end of an investigation.

The ATSB has decided that when safety recommendations are issued, they will focus on clearly describing the safety issue of concern, rather than providing instructions or opinions on the method of corrective action. As with equivalent overseas organisations, the ATSB has no power to implement its recommendations. It is a matter for the body to which an ATSB recommendation is directed (for example the relevant regulator in consultation with industry) to assess the costs and benefits of any particular means of addressing a safety issue.

About ATSB investigation reports: How investigation reports are organised and definitions of terms used in ATSB reports, such as safety factor, contributing safety factor and safety issue, are provided on the ATSB web site www.atsb.gov.au.

FACTUAL INFORMATION

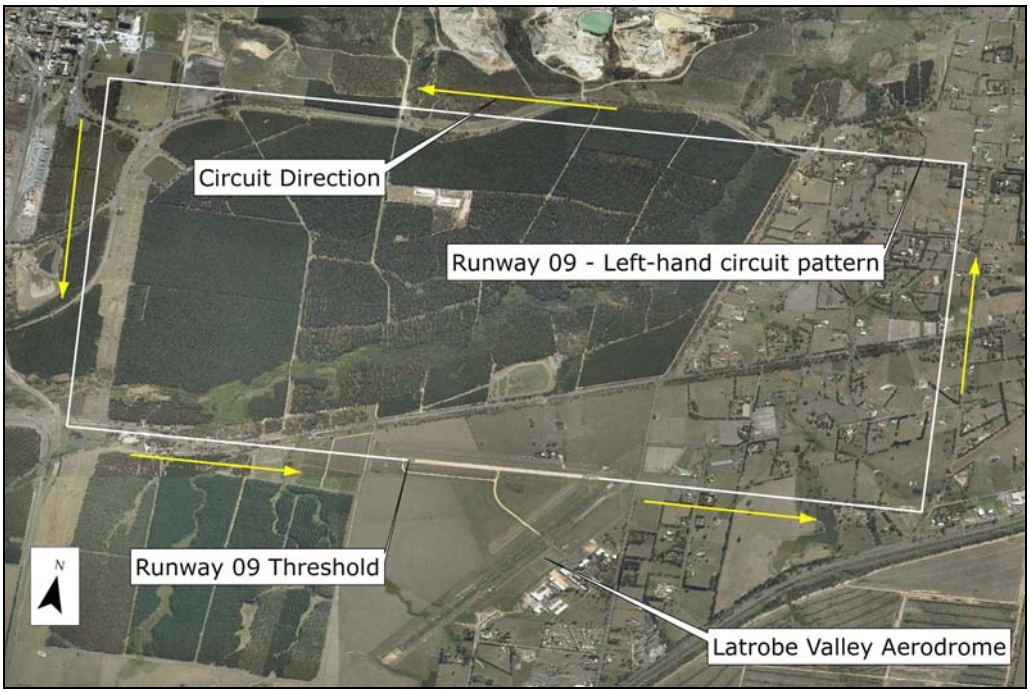
***Note**: The information contained in the preliminary report is derived from initial investigation of the occurrence. Readers are cautioned that there is the possibility that new evidence may come to light that alters the circumstances as depicted in this report.*

History of the flight

On 1 December 2007, at approximately 1130 Eastern Daylight-saving Time[1], an Avid Flyer ultra-light aircraft, registered 28-0929 (Avid), and a Cessna 172 aircraft, registered VH-EUI (Cessna), were conducting circuits at Latrobe Valley aerodrome, Vic. The wind direction required the use of runway 09 and the normal circuit direction on that runway was to the left (Figure 1). The Avid was being flown by an experienced pilot and the Cessna was being flown by a student pilot.

The pilot of the Cessna had conducted a series of three circuits with an instructor on board and, following those circuits, the instructor had assessed the pilot as being at a standard that would allow him to conduct further solo circuits. This required that the Cessna conduct a full-stop landing and taxi off the runway. After the instructor left the aircraft, the Cessna solo pilot took off and re-entered the circuit. At that time, there was another Cessna 172 with an instructor and student on board and a Jabiru ultra-light aircraft conducting circuits in addition to the Avid.

Figure 1: Latrobe Valley Aerodrome – Runway 09 Circuit Direction



The Cessna solo pilot flew one circuit, following the Avid, and conducted a touch and go. At this time, another Jabiru aircraft arrived at Latrobe Valley and the pilot

1 All times in this report are referenced to Eastern Daylight-saving Time which is Universal Coordinated Time plus 11 hours.

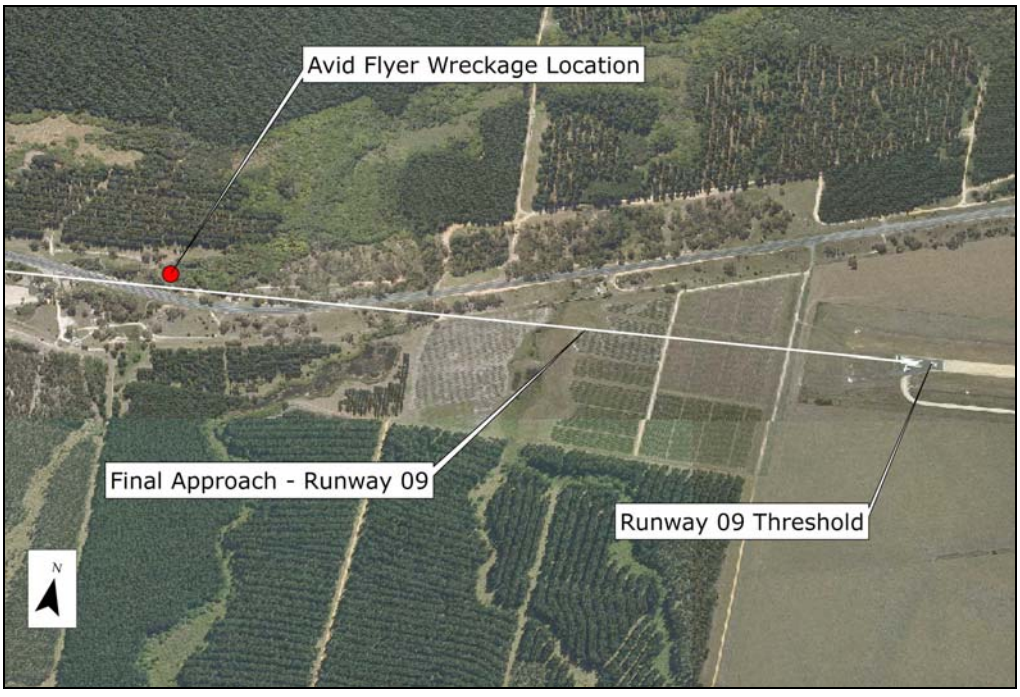
of that aircraft broadcast that he would enter the circuit on the crosswind leg. It was reported that the pilot of the Avid broadcast that he would adjust his circuit to accommodate the arrival of the Jabiru.

Sometime later, as the aircraft had progressed in the circuit, two aircraft attempted to make a radio broadcast together, and the instructor in the second Cessna 172 reported that he broadcast that there had been an over-transmission[2] and that the transmission indicated that both aircraft had called on final approach. In response to that broadcast, it was reported that the pilot of the Avid broadcast that 'he had the other aircraft in sight'. The instructor reported that he noticed that there appeared to be two aircraft in close proximity on final approach to runway 09. It was reported that shortly after that, the Cessna and the Avid collided while on final approach to runway 09.

Aircraft Wreckage Location

Following the collision, witnesses reported that the Avid appeared to spiral to the ground in an uncontrolled manner. The Avid came to rest upright, partially on the edge of a concrete and steel bridge, with the remainder in a small creek. That location was on an old road bridge that once formed part of the Old Melbourne Road (Figure 2). The wreckage was located slightly to the north of the final approach path to runway 09. The Avid was destroyed by impact forces and a post-impact fire.

Figure 2: Avid Flyer wreckage location relative to runway 09 final approach path



The solo pilot of the Cessna continued his approach, landed the aircraft and taxied back to the apron area of the aerodrome.

2 An over-transmission is when two aircraft attempt to broadcast at the same time and on the same frequency - the result is an unclear and broken transmission from both aircraft.

Aircraft Damage

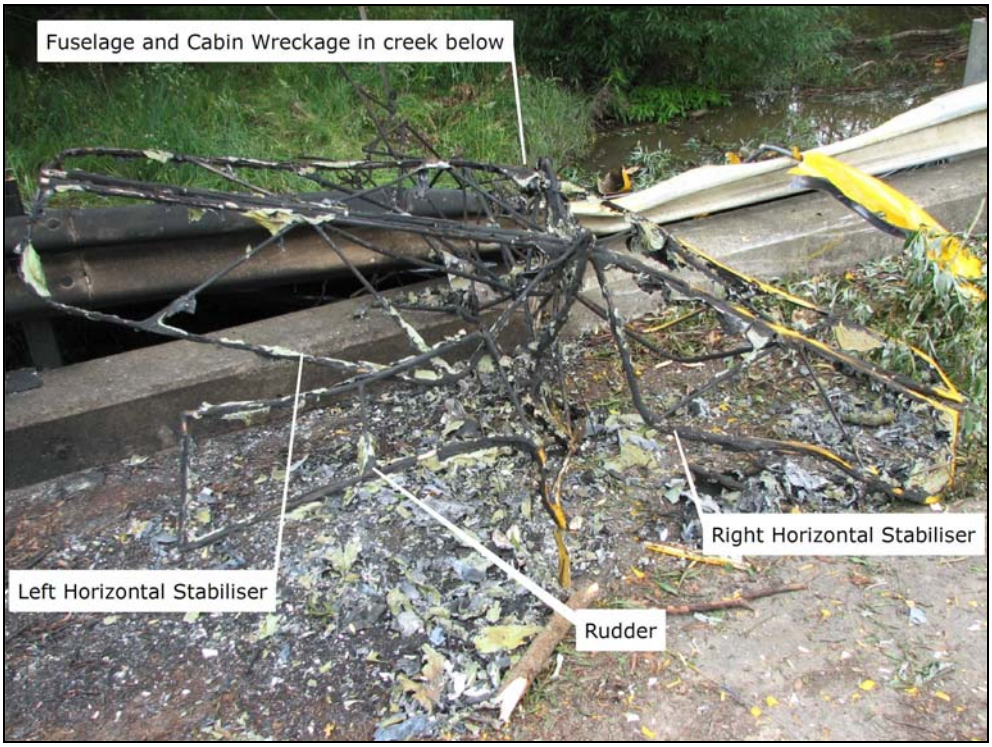
Initial examination of both aircraft indicated that the Cessna contacted the left wing of the Avid, from above and behind. Detailed examination of the positions of both aircraft at the point of impact is continuing.

Avid Flyer

The Avid remained essentially intact following the collision, with only the left wing control surface and the top section of the vertical stabaliser detaching. There was no propeller damage to the horizontal stabiliser of the Avid and the vertical stabiliser and rudder displayed damage consistent with being impacted from above (Figure 3). The top section of the vertical stabiliser was located some distance from the main wreckage. A section of the left wing control surface of the Avid was reported to have been entangled around the left wing root of the Cessna when it taxied to the apron area following the collision. All other components of the Avid were located at the main wreckage site.

A ballistic recovery parachute fitted to the Avid had not been activated and was not capable of being activated as the safety pin was still fitted to the firing mechanism.

Figure 3: Avid Flyer wreckage showing tail section



Cessna 172

The Cessna exhibited damage to the right wing and support strut, with additional minor damage to the propeller, spinner, cowling and windscreen (Figures 4 & 5). There were also minor scrape marks, consistent with the colour of the paint on the Avid, on the left wing.

Figure 4: Damage to the Cessna's right wing and support strut

Figure 5: Damage to the Cessna's propeller spinner

Pilot Information

Avid Pilot

The pilot of the Avid was 64 years old and held a Civil Aviation Safety Authority (CASA) issued private pilot licence and a recreational aircraft pilot's certificate. He was the registered owner of the Avid Flyer.

At the time of the accident he did not hold a current CASA issued medical certificate. He did however hold a current driver's licence, which is the basis for medical certification for his recreational aircraft pilot's certificate. A review of his logbook revealed that he had logged 2,414.5 hours aeronautical experience, with the majority of it in ultra-light aircraft.

Family members reported that the Avid pilot had conducted normal activities in the days leading up the accident and that he was adequately rested prior to commencing flying on the day of the accident.

Cessna Pilot

The pilot of the Cessna was a 16 year old Indian National who was undergoing training for his pilot's licence. He held a student pilot licence, a current class 2 medical certificate and had been certified as competent to fly the Cessna 172 aircraft solo.

He had logged 25.4 hours dual flying and 1.2 hours solo flying experience in the Cessna 172 aircraft at the time of the accident.

The pilot of the Cessna reported that he had rested and studied in the days leading up to the accident and was adequately rested prior to commencing the flight.

Meteorological Information

Weather conditions at Latrobe Valley aerodrome at the time of the accident were forecast to include scattered[3] cloud at approximately 1,400 feet above ground level and were forecast to improve during the day. The wind was forecast to be from 090 degrees true at 5 kts, increasing to 8 kts from 1100.

The Latrobe Valley automated weather observations at 1100 and 1130 indicated that the weather conditions were consistent with those forecast. The wind recorded at 1130 was from 060 degrees true at 12 kts. The recorded cloud amounts and heights were scattered at a height of 2,100 feet at 1100 and scattered at a height of 2,300 feet at 1130. The visibility recorded was in excess of 10 km.

Witness reports of the weather conditions at the aerodrome at the time of the accident were consistent with those forecast and recorded.

3 Scattered cloud denotes between 3/8 and half of the sky covered by cloud.

Aerodrome Information

Latrobe Valley aerodrome is defined as a non-towered aerodrome and uses standard Common Traffic Advisory Frequency (CTAF) procedures. When aircraft are operating in the vicinity of the aerodrome, pilots of radio equipped aircraft are required to make radio broadcasts at designated positions within the circuit and when arriving at the aerodrome. Radio transmissions are made on a discreet frequency of 126.0 MHz and are not recorded.

The aerodrome has two runways, one in the 09/27 direction and the other in the 03/21 direction. The airfield is used by both light aircraft and ultra-light aircraft on a regular basis.

Further Investigation

The investigation is continuing and will examine the following:

- aircraft impact relative positions and damage
- visibility from the cockpit of both aircraft
- aerodrome circuit procedures
- situational awareness training.