



Australian Government

Australian Transport Safety Bureau

Loss of performance involving DH-82A (Tiger Moth), VH-DDA

Luskintyre Airport, NSW, 15 December 2012

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Loss of performance involving DH-82A (Tiger Moth), VH-DDA

What happened

On 15 December 2012, after conducting a pre-flight briefing, four DH-82A (Tiger Moth) aircraft departed runway 12 at Luskintyre Airport, NSW, for a practice formation flight. The pilot flying VH-DDA (DDA), the formation lead aircraft, was seated in the rear and was under instruction from the front seat pilot. The aircraft was operating at 15 kg below the maximum all up weight of 827 kg.

At about 1830 Eastern Daylight-saving Time¹, full power was applied for take-off. The instructing pilot later reported that normally the power was then reduced to 2,150 revolutions per minute (RPM) for the climb out to allow the second aircraft in the formation to catch up. However neither pilot reported reducing the power on this occasion. Passing through about 50 ft above ground level, the pilot flying noted that the aircraft was not climbing as expected and so he applied full power by moving the throttle fully forward² and lowered the nose of the aircraft slightly to gain speed. Both pilots later reported that they confirmed that the throttle was fully forward.

As there was insufficient distance remaining to land on the runway, and it had become evident that a forced landing was imminent, the instructing pilot input a slight left bank so that the left wing of DDA took the main force of the impact. The aircraft landed and struck a tree before coming to rest (Figure 1). Both pilots were able to undo their four-point harnesses and exit the aircraft without assistance, although the pilot flying received serious facial injuries.

A small fire caused by a fractured fuel line was quickly extinguished by ground crew and the aircraft sustained substantial damage.

ATSB comment

While both pilots reported that they had not reduced engine power after take-off, the accident was a result of decreasing airspeed and the aircraft being unable to recover following the reapplication of full power. The ATSB could not resolve this ambiguity.

The positive aspects of wearing full restraint harnesses, evacuating the aircraft quickly and extinguishing the fire ensured neither pilot experienced further injuries.

Aircraft damage



Source: Flight crew

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

² As a Tiger Moth does not have an accelerator pump, when full power is applied after power has been retarded, the aircraft will take about 4 to 5 seconds to respond.

Figure 1: Damage to left wing following impact with a tree



Source: Aircraft owner

Safety Message

Comprehensive pre-flight briefings are important for all flights to ensure each crewmember is aware of their respective roles as well as normal and non-normal operations. Information on pre-flight briefings can be found in CASA CAAP 5.14-2 (0): Flight Instructor Training (Aeroplane) available at:

http://www.casa.gov.au/wcmswr/assets/main/download/caaps/ops/5_14_2.pdf

Additional information on pre-flight briefings is also available at:

[http://www.skybrary.aero/index.php/Flight_Preparation_and_Conducting_Effective_Briefings_\(OG_HFA_BN\)](http://www.skybrary.aero/index.php/Flight_Preparation_and_Conducting_Effective_Briefings_(OG_HFA_BN))

The following ATSB investigation reports provide further reading on DH-82 aircraft accidents:

- AO-2012-017 – Collision with terrain – De Havilland DH-82A aircraft, VH-GVA, Maryborough Airport, Victoria, 27 January 2012 is available at:
www.atsb.gov.au/publications/investigation_reports/2012/aair/ao-2012-017.aspx
- AO-2011-005 – Collision with terrain – De Havilland, VH-WHW, SE 11 km Toowoomba Airport, Qld, 16 January 2011 is available at:
http://www.atsb.gov.au/publications/investigation_reports/2011/aair/ao-2011-005.aspx

General details

Registration:	VH-DDA	
Manufacturer and model:	De Havilland Aircraft Pty Ltd DH-82A	
Type of operation:	Private	
Occurrence category:	Accident	
Primary occurrence type:	Collision with terrain	
Location:	Luskintyre Airport, NSW	
	Latitude: 32°40.12' S	Longitude: 151°25.25' E
Persons on board:	Crew – 2	Passengers – 0
Injuries:	Crew – 1 (Serious), 1 (Nil)	Passengers – 0
Damage:	Substantial	

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.