



Australian Government

Australian Transport Safety Bureau

Hard landing – Cessna 172S, VH-EOP

Moorabbin Airport, Victoria – 2 September 2012

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Hard landing – Cessna 172S, VH-EOP

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What happened

On 2 September 2012, the pilot of a Cessna 172S aircraft, registered VH-EOP, was returning to Moorabbin Airport, Victoria, after having conducted a navigation training flight.

When on the final leg of the circuit, the pilot conducted his pre-landing checks and prepared the aircraft for landing. He reported that the approach was normal.

During the landing, at about 50-60 ft above the runway, the flare¹ was commenced. The pilot then attempted to initiate the hold-off by applying rearward pressure on the control column. However, the pilot reported that the control column would not move and was 'stuck'. An excessive rate of sink occurred, resulting in a hard landing on the nose and main landing gear, and the propeller. The pilot reported that, after bouncing twice, he applied left rudder and the aircraft veered off the runway, coming to rest on a grassed area. The pilot notified Moorabbin air traffic control of the situation, shutdown the aircraft, and exited. The aircraft sustained substantial damage as a result of the hard landing.

Soon after, the aircraft operator visually inspected the aircraft in-situ and noted that both the elevator and aileron controls would not move.

Aircraft examination

Both the pilot and aircraft operator reported that there were no pre-existing issues with the aircraft's control system prior to the accident.

A detailed examination determined that, as a result of the hard landing, the aircraft sustained damage to the propeller and engine firewall. The centre pedestal had been raised by about 1.3 cm, which had jammed the elevator control and distorted the aileron control (Figure 1). The examination was unable to determine why the control column did not move during the hold-off, as reported by the pilot.

Figure 1: Aircraft damage



Source: Aircraft operator

¹ The flare, also known as the roundout, is the final nose-up of a landing aircraft to reduce the rate of descent to about zero at touchdown.

Aircraft details

Manufacturer and model:	Cessna Aircraft Company 172S	
Registration:	VH-EOP	
Type of operation:	Flying training	
Location:	Moorabbin Airport, Victoria	
Occurrence type:	Aircraft control	
Persons on board:	Crew – 1	Passengers – Nil
Injuries:	Crew – Nil	Passengers – Nil
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.