Australian Government
Australian Transport Safety Bureau

Wheels up landing involving a Cessna 210, VH-ZMT

Ramingining aerodrome, Northern Territory, 4 June 2013

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Aviation Occurrence Investigation
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Addendum

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What happened

On 4 June 2013, a Cessna 210 aircraft, registered VH-ZMT, departed Elcho Island for Ramingining aerodrome, Northern Territory. The purpose of the flight was to pick up a passenger and return to Elcho Island about 15 minutes prior to last light.

The aircraft arrived at Ramingining and joined the downwind leg of the circuit for runway 09. The pilot completed his pre-landing checks, but inadvertently omitted to lower the landing gear and confirm that it had been extended.

When on final, the pilot was concentrating on the aircraft's airspeed and the touchdown point. He could not recall conducting his final checks, which included again confirming that the landing gear had been extended.

At about 100 ft, the pilot reduced the engine power to the idle position. During the landing flare,[1] the pilot felt that it was unusually smooth and the aircraft sank further than normal. The aircraft touched down and the pilot reported hearing a scraping sound and noticed that the propeller had come into contact with the ground. He then realised that the aircraft had landed with the landing gear retracted. The pilot stated that the aircraft's landing gear warning horn[2] did not sound at any stage during the landing.

Figure 1: VH-ZMT after landing

Source: Aircraft owner

1 The final nose-up of a landing aircraft to reduce the rate of descent to about zero at touchdown.

2 If the landing gear is not down and locked, and the throttle is reduced to the idle position, as in a landing approach, a landing gear unsafe warning horning will sound. The reason for the warning horn not activating could not be determined.

Pilot comments

The pilot provided the following comments regarding the accident and his inflight checks:

- He had a difficult passenger on board one of his previous flights and was 20 minutes behind schedule. As a result, the pilot reported that he was keen to get home, which had distracted him somewhat during the accident flight.
- The pilot checked the functionality of the landing gear warning horn during his daily pre-flight inspection, which operated as normal.
- When conducting his pre-landing checks, the pilot reported that he normally kept his hand on the landing gear lever until the gear had extended and the green landing gear down indicator light had illuminated. He also looked out the window to visually confirm the gear had extended.
- The pilot had considered arranging for someone else to conduct the flight to Ramingining, however, there was no other pilot available.

Safety action

Whether or not the ATSB identifies safety issues in the course of an investigation, relevant organisations may proactively initiate safety action in order to reduce their safety risk. The ATSB has been advised of the following proactive safety action in response to this occurrence.

Aircraft operator

As a result of this occurrence, the aircraft operator has advised the ATSB that they have issued a Flight Operation Service Notification to all pilots highlighting the requirement to follow checklists, including the pre-landing checklist.

Safety message

Broadly, distraction is defined as a process, condition or activity that takes a pilot's attention away from the task of flying. Research conducted by the Australian Transport Safety Bureau (ATSB) highlighted that, distractions were a normal part of everyday flying and that pilots generally responded to distractions quickly and efficiently, interspersing novel events with habitual, well-practiced sequences of actions. As a result of this, the impact of distraction on performance and aviation safety generally goes unnoticed. However, studies have also shown that pilots are vulnerable to distraction-related errors. This incident highlights the impact distractions can have on aircraft operations and the need for pilots to remain vigilant when completing checklists.

The following provide additional information on pilot distraction and

- Dangerous Distraction: An examination of accidents and incidents involving pilot distraction in Australia between 1997 and 2004: www.atsb.gov.au/publications/2005/distraction_report.aspx
- The United States Federal Aviation Administration (FAA) On Landings Part III pamphlet: www.faasafety.gov/files/gslac/library/documents/2011/Aug/56411/FAA%20P-8740-50%20OnLandingsPart%20III%20%5Bhi-res%5D%20branded.pdf
- YouTube video of an unintentional wheels up landing: www.flight.org/blog/2012/04/22/gear-up-landings-and-pilot-error/

General details

Occurrence details

Date and time:	4 June 2013 – 1751 CST	
Occurrence category:	Accident	
Primary occurrence type:	Wheels up landing	
Location:	Ramingining aerodrome, Northern Territory	
	Latitude: 12° 21.38' S	Longitude: 134° 53.85' E

Aircraft details

Manufacturer and model:	Cessna Aircraft Company 210L	
Registration:	VH-ZMT	
Serial number:	21059880	
Type of operation:	Charter	
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.