Australian Government
Australian Transport Safety Bureau

Wheels-up landing involving a Cessna 210, VH-MCE

Gove Airport, Northern Territory, on 11 November 2014

ATSB Transport Safety Report
Aviation Occurrence Investigation
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Addendum

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Wheels-up landing involving a Cessna 210, VH-MCE

What happened

On 11 November 2014, the pilot of a Cessna 210 aircraft, registered VH-MCE (MCE), conducted a charter flight from Numbulwar to Gove, Northern Territory, with five passengers on board. During the engine start, taxi, take-off and climb, the aircraft performed normally and all engine, electrical system and landing gear indications were normal.

During the cruise, about 60 NM from Gove, the ammeter gauge indicated a discharge. The pilot contacted a company pilot at Gove by mobile phone who advised to continue to monitor the ammeter, reduce the electrical load and to complete the checklist for electrical failure. The pilot switched off all electrics and checked the circuit breakers, none of which had popped. About 5 minutes after completing the checks, the pilot selected the alternator master switch back to ON and the gauge indicated a positive charge.

About 10-15 NM from Gove, the ammeter again indicated a discharge. The pilot switched all electrics off including the aircraft avionics and again contacted a company pilot on the ground at Gove. The company pilot then broadcast the base and final radio calls on the common traffic advisory frequency (CTAF) on behalf of MCE.

When at about 4 NM from Gove and 1,500 ft, the pilot selected the landing gear lever to the extended position. He heard the landing gear motor activate, so assumed the gear had fully extended. As the pilot reduced the engine power, the engine ran roughly and backfired loudly. An eyewitness on the ground at Gove Airport heard the engine backfire. The pilot observed the oil pressure gauge reading zero and the cylinder head temperature (CHT) decreasing. The passengers became unsettled hearing the loud backfiring, and the pilot asked them to remain calm and briefed the passengers for an emergency landing. The pilot observed that the flaps had not extended, but due to the distraction of the engine malfunction, did not look outside to confirm visually whether the landing gear was extended. The pilot carried out the engine trouble checks, and as the engine problem ruled out the option to go around, committed to landing the aircraft.

The aircraft landed just beyond the threshold and on the centreline of runway 31 with the wheels retracted. When the pilot realised the wheels were retracted, he immediately selected the fuel to OFF. The aircraft sustained substantial damage and the pilot and passengers were uninjured (Figure 1).

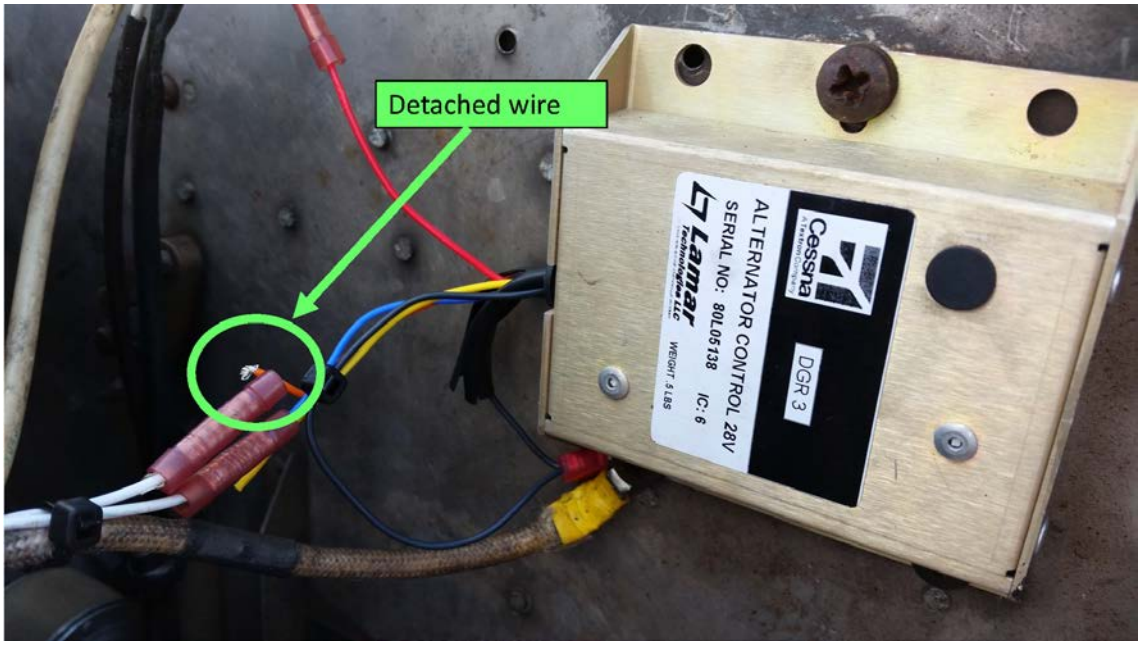
Figure 1: Wheels-up landing

Source: Operator

Engineering inspection

A detached electrical cable was found to have caused the alternator to stop charging the battery (Figure 2). The engine had not been inspected before the completion of the ATSB report and the cause of the engine issues were unknown.

Figure 2: Detached alternator wire



Source: Operator

Safety message

The pilot was aware that the flaps had not fully extended but was unware that the landing gear had not fully extended. Due to the distraction of the engine issues and passengers' reactions, the pilot omitted the external visual check of the landing gear. The pilot reported that even if he had observed the state of the landing gear prior to landing, he had already decided that there was no option to conduct a go-around due to the engine issues.

This incident highlights the impact distractions can have on aircraft operations, particularly during a critical phase of flight. Research conducted by the ATSB found that distractions were a normal part of everyday flying and that pilots generally responded to distractions quickly and efficiently. It also revealed that 13 per cent of accidents and incidents associated with pilot distraction between January 1997 and September 2004 occurred during the approach phase of flight. The study also identified four occurrences associated with checklists and suggested that, if a checklist is interrupted, pilots should consider returning to the beginning of the checklist to reduce the potential for error.

The Flight Safety Foundation suggests that, after a distraction source has been recognised and identified, the next priority is to re-establish situation awareness by conducting the following:

- *Identify*: What was I doing?
- *Ask*: Where was I distracted?
- *Decide/act*: What decision or action shall I take to get back on track?

The following provide additional information on pilot distraction:

- 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

- Flight Safety Foundation Approach-and-landing Briefing Note 2.4 – Interruptions/Distractions: http://flightsafety.org/files/alar_bn2-4-distractions.pdf
- 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 www.faasafety.gov/files/gslac/library/documents/2011/Aug/56411/FAA P-8740-50 OnLandingsPart III %5Bhi-res%5D branded.pdf

General details

Occurrence details

Date and time:	11 November 2014 – 1050 CST	
Occurrence category:	Accident	
Primary occurrence type:	Wheels-up landing	
Location:	Gove Aerodrome, Northern Territory	
	Latitude: 12° 16.17' S	Longitude: 136° 49.10' E

Aircraft details

Manufacturer and model:	Cessna Aircraft Company 210M	
Registration:	VH-MCE	
Serial number:	21062633	
Type of operation:	Charter - passenger	
Persons on board:	Crew – 1	Passengers – 5
Injuries:	Crew – Nil	Passengers – Nil
Damage:	Substantial	

About the ATSB

The Australian Transport Safety Bureau (ATSB) is an independent Commonwealth Government statutory agency. The ATSB 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.