



Australian Government

Australian Transport Safety Bureau

Total power loss involving a Mooney M20J, VH-NFP

Canberra Airport, Australian Capital Territory, 2 June 2013

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Addendum

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Total power loss involving a Mooney M20J, VH-NFP

What happened

On 2 June 2013, the pilot of a Mooney M20J aircraft, registered VH-NFP (NFP), conducted his pre-flight checks at Canberra Airport, Australian Capital Territory for a private flight to Albury, New South Wales under the visual flight rules (VFR). The pilot was the sole person onboard.

The pilot had refuelled the aircraft in Albury on the previous flight and reported that the bowser had been surging, turning on and off and pumping air. As it had rained at Canberra Airport earlier in the morning, the pilot paid particular attention to conducting pre-flight fuel drains and checking for water, with none found.

During the take-off run, at about 1038 Eastern Standard Time,¹ the pilot reported that all cockpit indications were normal, the aircraft obtained full power and achieved the expected rotate speed followed by a positive rate of climb.

The pilot retracted the landing gear at about 100 ft above ground level. Within seconds of retracting the gear, the engine stopped. The pilot lowered the landing gear, switched fuel tanks and lowered the aircraft nose to increase airspeed. While he was conducting emergency checks, the aircraft descended and landed on the runway heavily on the left wing and landing gear, with the propeller striking the ground (Figure 1).

The aircraft rolled along the runway and stopped just past the intersection of the crossing runway. The aircraft was substantially damaged and the pilot sustained minor injuries.

An inspection of the aircraft and engine after the accident revealed water in the left wing fuel tank, fuel system and fuel injector lines. The pilot reported that he contacted the Mooney Service Centre and was advised that incorrect re-sealing of the M20 series aircraft fuel tanks could allow 1 to 2 litres of water to be retained in the wing, which could not be drained.

Figure 1: Left wing damage to VH-NFP



Source: Aircraft owner

Canberra Airport



Source: Google earth

¹ Eastern Standard Time (EST) was Coordinated Universal Time (UTC) + 10 hours.

Safety message

This incident highlights the importance of currency in emergency procedures training. A pre-takeoff safety briefing can remind the pilot of the procedure in event of an engine failure at low altitude. Controlling the aircraft at low altitude and maintaining airspeed can reduce the severity of these incidents.

The Australian Transport Safety Bureau publication *Avoidable Accidents No. 3 – Managing partial power loss after takeoff in single-engine aircraft*, available at www.atsb.gov.au/publications/2010/avoidable-3-ar-2010-055.aspx, provides advice on preparing for these incidents.

The Australian Mooney Pilots Association Newsletter August 2006, mooney.org.au/files/AMPA_Newsletter_Aug_2006.pdf has an article regarding fuel tank leaks and re-sealing.

The Civil Aviation Safety Authority *Flight Planning Kit*, available from the online store at www.thomaslogistics.com.au/casa/index.html, provides resources to assist pilots in flight planning.

General details

Occurrence details

Date and time:	2 June 2013 – 1038 EST	
Occurrence category:	Accident	
Primary occurrence type:	Total power loss	
Location:	Canberra Airport, Australian Capital Territory	
	Latitude: 35° 18.42' S	Longitude: 149° 11.70' E

Aircraft details

Manufacturer and model:	Mooney Aircraft Corporation M20J	
Registration:	VH-NFP	
Type of operation:	Private	
Persons on board:	Crew – 1	Passengers – Nil
Injuries:	Crew – 1 (Minor)	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.