Australian Government
Australian Transport Safety Bureau

Collision with terrain involving a Mooney M20J, VH-JDY

Northam (ALA), Western Australia on 5 September 2014

ATSB Transport Safety Report
Aviation Occurrence Investigation
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Addendum

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Collision with terrain involving a Mooney M20J, VH-JDY

What happened

On 5 September 2014, at about 0815 Western Standard Time, the pilot of a Mooney M20J aircraft, registered VH-JDY, taxied for a solo training flight from Jandakot Airport to Northam aeroplane landing area (ALA), Western Australia. After conducting navigation and aerial work training exercises and at about 2,500 ft above mean sea level, the pilot commenced an approach to Northam. After selecting the common traffic advisory frequency (CTAF), the pilot of JDY heard the pilot of another aircraft broadcast at Northam joining on midfield crosswind for runway 14. The pilot of JDY then elected to also overfly the airfield and join midfield for a touch-and-go[1] on runway 14. When on final approach, the pilot observed the aerodrome windsock indicating a light crosswind.

After an uneventful touch-and-go, the pilot conducted a second circuit with a missed approach from about 600 ft on final. The pilot then intended to conduct a third circuit with a touch-and-go. When on final approach, the pilot trimmed[2] the aircraft in the approach configuration with full flaps (33°) and an airspeed of about 70 knots.

The pilot reported that, after flaring the aircraft for landing, it flew parallel to the ground for some distance and touched down about one third of the way along the runway. As the aircraft slowed, the pilot selected the flaps to 15° and applied full throttle along with right rudder to counteract the aircraft's tendency to yaw left. As the airspeed increased to about 65 knots, the pilot rotated the aircraft for take-off and applied forward pressure against the control column as the aircraft nose tendency was to pitch up due to the combination of trim, flap and power settings.

The pilot reported initially adopting a normal climb attitude after take-off. When at about 50 ft above ground level, the pilot observed that the aircraft had drifted to the right of the runway centreline and attempted to correct the drift by slightly reducing the right rudder input. The aircraft wings remained level, however shortly after the pilot corrected the direction of the aircraft, the nose pitched up. The stall warning sounded and the pilot applied full right rudder and pushed forward on the control column in an attempt to level the wings and recover from the stall.[3] The left wing dropped as the aircraft stalled, and it descended and collided with a hangar. The aircraft pivoted about the left wing and came to rest wedged between two hangars resulting in substantial damage (Figures 1 and 2).

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1 A touch-and-go is a practice landing where the aircraft is permitted to briefly touch down prior to lifting off.

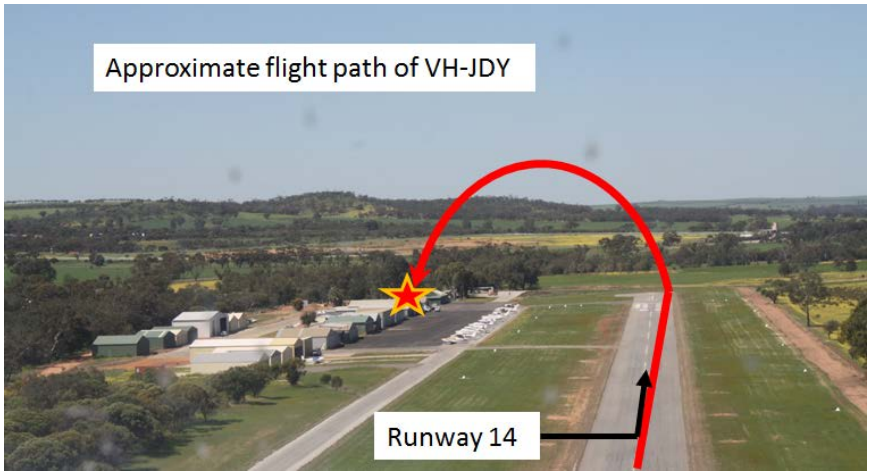
2 An aircraft is considered to be 'trimmed' in pitch when the pitching moment is zero. When 'in trim' the pilot is not required to exert force on the elevator control to maintain the aircraft's attitude.

3 An aerodynamic stall occurs when a wing is no longer producing enough lift to support an aircraft's weight.

Figure 1: Accident site and damage to VH-JDY

Source: Operator

Figure 2: Northam (ALA) and approximate flight path



Source: Operator

General details

Occurrence details

Date and time:	5 September 2014 – 1040 WST	
Occurrence category:	Accident	
Primary occurrence type:	Collision with terrain	
Location:	Northam (ALA), Western Australia	
	Latitude: 31° 37.55' S	Longitude: 116° 41.07' E

Aircraft details

Manufacturer and model:	Mooney Aircraft Corporation M20J	
Registration:	VH-JDY	
Serial number:	24-1681	
Type of operation:	Flying Training – Solo	
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 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.