Australian Government
Australian Transport Safety Bureau

Runway excursion involving a Cessna 404, VH-JOR

Pantijan (ALA), Western Australia, 12 April 2015

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Addendum

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Runway excursion involving a Cessna 404, VH-JOR

What happened

On 12 April 2015, the pilot of a Cessna 404 aircraft, registered VH-JOR (JOR), conducted pre-flight preparations at Broome Airport, Western Australia. The planned task involved a positioning flight from Broome to Derby, before a charter flight with five passengers, from Derby to Pantijan aeroplane landing area (ALA), Western Australia. The distance from Derby to Pantijan was 117 NM, with an estimated flying time of 49 minutes. The pilot reviewed information about the Pantijan airstrip in company documentation and using Google earth (Figure 1). He also arranged for the condition of the runway to be assessed by a contact person at Pantijan and the pilot of a helicopter scheduled to arrive at Pantijan before JOR.

Figure 1: Pantijan ALA

Source: Google earth

Prior to departing Broome, the pilot received information regarding the serviceability of the airstrip at Pantijan, from the contact person at the airstrip. He was advised that the grass beside the landing area was long, with some termite mounds outside the wingspan of the aircraft. He was also advised that the threshold of runway 02 had grass cover and that midway along the strip the surface was soft. The pilot understood that the contact person had walked the strip to assess its condition, but that no vehicle had been available to drive across the landing surface. Due to rising terrain at the northern end of the airstrip, the pilot was advised to regard the strip as one-way and to land on runway 02, and depart from runway 20.

After arriving in Derby, the pilot weighed the passengers and baggage and loaded the aircraft for the flight to Pantijan. Baggage was loaded into the aircraft lockers and also stowed at the rear of the aircraft and secured with a cargo net. Some bags were placed on a rear seat and secured with seatbelts. After loading the baggage and passengers, the aircraft departed from Derby at 1346 Western Standard Time (WST).

When about 80 NM from Pantijan, the pilot of JOR heard the pilot of the helicopter, who he had spoken to prior to departure, broadcast that he was conducting an approach to the airstrip in the direction of runway 02. The pilot of JOR responded with his current position and did not receive any further communications from the pilot of the helicopter. As JOR approached Pantijan, the pilot

observed fires in the area. The direction of the smoke indicated a tailwind of about 5 kt for a landing on runway 02.

At about 1430 WST, the aircraft arrived overhead Pantijan. The pilot slowed the aircraft, lowered the first stage of flap and descended to about 700 ft above ground level. He then conducted a circuit and a visual inspection of the entire length of the runway. The pilot observed that the runway was narrow and bordered by tall grass. The helicopter was parked adjacent to a shed about three quarters of the way along the runway and clear of the landing area. The sand on the airstrip appeared to be uniform in colour, with no obvious darker patches that may have indicated water. There was short grass at the threshold of runway 02 extending for about 200 m. A termite mound was located about half way along the runway and had been placed on its side and moved to the right of the runway centreline.

The pilot then conducted an approach to land on runway 02. The aircraft touched down at the pilot's aiming point, about 50 m beyond the threshold, and the pilot applied moderate braking. The aircraft continued along the centre of the runway and, as it slowed through about 60 kt, the pilot applied left rudder to turn the aircraft slightly to the left and increase separation from the overturned termite mound. He felt the rudder pedals move to the full left position and the aircraft turned to the left. The pilot immediately applied right rudder in an attempt to counteract the turn, but the aircraft initially continued to veer left towards the edge of the runway.

The left main landing gear momentarily lifted off the ground and the aircraft tipped to the right. As the aircraft veered off the runway and entered longer grass, the pilot regained control of the aircraft and it started to turn right and return towards the runway. The nose wheel then collided with a runway marker and collapsed, resulting in the aircraft nose contacting the ground and the aircraft skidded to a stop (Figure 2). The pilot secured the aircraft and assisted the passengers to disembark. One passenger had a cut to the back of the head from a loose object and another sustained a bleeding nose. Three other passengers and the pilot were not injured, however the aircraft sustained substantial damage.

Figure 2: Accident site

Source: Aircraft operator (edited by the ATSB)

Pilot comments

Following the accident, the pilot found that where he had commenced the left turn on the runway, the ground was soft and appeared to have previously held standing water, although the surface was dry at the time. The runway marker was a 44 gallon drum, cut in half longitudinally and laid on the ground and it was obscured by long grass (Figure 3).

None of the baggage had come loose in the cabin; the only unsecured objects were phones, cameras and water bottles.

The pilot stated that when facing similar circumstances, he would select a landing path that did not require any planned directional changes during the landing roll, until the aircraft has decelerated to a safe taxi speed.

Figure 3: Drum runway marker

Source: Aircraft operator

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 are taking the following safety actions:

- Company pilots operating beyond mobile phone coverage will be issued with a satellite phone. In this incident, access to a satellite phone may have enabled the aircraft pilot to communicate with the helicopter pilot on the ground and obtain further details regarding the condition of the airstrip.
- The operators of remote airstrips will be reminded to follow the company's runway inspection guide, which required a vehicle to assess the condition of the landing surface.

- All company pilots will be reminded of the importance of maintaining directional control on unimproved (sand or gravel) airstrips.

Safety message

Airfields that are used infrequently or seasonally, potentially pose significant hazards to aviation. This incident highlights the importance of identification and management of any risks that might be associated with such an airfield. Potential hazards may be hard to identify, with objects possibly obscured by vegetation. Changes in the runway surface can be hard to detect visually and without a vehicle or some means to apply a similar force to that of a landing aircraft.

General details

Occurrence details

Date and time:	12 April 2015 – 1432 WST	
Occurrence category:	Accident	
Primary occurrence type:	Runway excursion	
Location:	Pantijan (ALA), Western Australia	
	Latitude: 15° 57.15' S	Longitude: 125° 03.23' E

Aircraft details

Manufacturer and model:	Cessna Aircraft Company 404	
Registration:	VH-JOR	
Serial number:	4040642	
Type of operation:	Charter – passenger	
Persons on board:	Crew – 1	Passengers – 5
Injuries:	Crew – Nil	Passengers – 2 (Minor)
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.