



Australian Government

Australian Transport Safety Bureau

Runway excursion involving Piper PA-39, VH-MMN

Innamincka Township (ALA), South Australia, 26 October 2012

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Runway excursion involving Piper PA-39, VH-MMN

What happened

On 26 October 2012, a Piper PA-39 (Twin Comanche) aircraft, registered VH-MMN (MMN), departed Broken Hill, New South Wales to attend a 'fly-in' at the Innamincka Township aeroplane landing area (ALA), South Australia. On board the aircraft were the pilot and a passenger.

When approaching the ALA, the pilot heard a broadcast on the common traffic advisory frequency (CTAF) for an inbound aircraft. Shortly after, the pilot of MMN also broadcast a call on the CTAF advising he was 10 NM out and inbound. The pilot of MMN later broadcast another call on the CTAF, at which time the preceding aircraft had joined the circuit for runway 28.

MMN joined the circuit, and when on the downwind leg, the pilot noted that the windsock was indicating a strong crosswind. As a precaution, the pilot elected to increase the aircraft's airspeed for the approach by about 5 kts and selected $\frac{1}{2}$ flaps (about 15 degrees)¹.

The pilot turned the aircraft onto final about 200 ft higher than normal. At that time, the windsock was showing a 15 kt crosswind, from the south-west. The pilot focused on the crosswind and ensured that the aircraft remained aligned with the runway².

During the landing, at about 100 ft above the runway, the flare³ was commenced. The aircraft floated and touched down about a quarter the way along the runway. The pilot reduced the throttle setting to the idle position and applied light braking.

When the aircraft was about half way along the runway, the pilot realised that the aircraft's speed was too fast and he applied full braking. The pilot determined that it was too late to commence a go-around. He reported that the braking appeared to be ineffective due to the surface of the runway and the aircraft continued beyond the runway end. The left landing gear struck a depression, and then the aircraft spun to the left and came to rest in a 1 m deep gully. The pilot and passenger exited the aircraft and the aircraft sustained serious damage (Figure 1).

Airstrip information

The Innamincka Township ALA had one gravel runway aligned 100°/280°, about 1,000 m (980 m usable) in length. The pilot reported that the surface of the runway, particularly towards the end of runway 28, contained a lot of small loose stones, which may have affected the braking capacity of the aircraft during the landing roll. The pilot also stated that there were markings on the runway indicating that the aircraft's brakes had intermittently locked up during the landing. The pilot contacted the airport operator several days after the accident and was advised that the runway surface had since been rolled.

The pilot further reported that the ground prior to the threshold of runway 28 was rocky. Consequently, he elected to land further along the runway than normal to avoid the rough ground.

VH-MMN



Source: Pilot

¹ When a crosswind component in excess of 12 kts existed, the aircraft's pilot operating handbook stated that an above normal approach speed and partial or no flaps should be used.

² The pilot reported that the runway was reasonably narrow, about 15-20 m wide.

³ The flare, also known as the roundout, is the final nose-up of a landing aircraft to reduce the rate of descent to about zero at touchdown.

Figure 1: VH-MMN



Source: Pilot

Pilot comments

The pilot provided the following comments regarding the accident:

- **Landing type:** When a crosswind in excess of 12 kts existed, the pilot’s operating handbook (POH) for the Twin Comanche stated that an above normal approach speed and partial or no flaps should be used. While the pilot selected an approach speed of about 5 kts above the normal speed, he reported that he was being overly cautious and this was not in fact required. He also believed that he should have conducted a short field landing, retracted the flaps and applied heavy braking immediately after touchdown as stated in the POH.
- **QNH:** The pilot reported that the forecast area QNH⁴ was selected on the aircraft’s altimeter at the time as the actual local QNH⁵ for Innamincka was not known. The pilot stated that this may have affected his circuit altitude if the area and local QNH were different.
- **Airstrip information:** The pilot reported that he could have contacted the pilot of the preceding aircraft, who had landed shortly before MMN, to obtain the local QNH and gain a more accurate assessment of the wind conditions on the ground. The pilot of MMN was also advised by other pilots after the accident that they had considered the wind conditions to be difficult.
- **Go-around:** The pilot stated that one of the key lessons learnt from the accident was gaining an appreciation of the relationship between the operating conditions at the time and when to initiate a go-around.

Safety message

This accident demonstrates the importance of assessing the operational and environmental conditions at the time in order to determine the most suitable landing type. Pilots should also establish a decision point along the runway at which a go-around should be initiated if the requirements for a safe landing can no longer be met. Additionally, it highlights the benefits of using all available resources, including persons on the ground, for gathering information on the actual conditions. The following publications provide additional information on short field approaches and landings:

- <http://flighttraining.aopa.org/students/maneuvers/skills/shortsoftlanding.html>
- <http://flighttraining.aopa.org/students/maneuvers/skills/shortapproach.html>
- www.caa.govt.nz/fig/downloads/advanced-manoevres/short-field-takeoff-and-landing.pdf

⁴ Altimeter barometric pressure subscale setting to provide altimeter indication of height above mean seal level in that area. The area QNH is representative of the QNH of any location within a particular area.

⁵ The local QNH would have provided a more accurate indication of the aircraft’s operating altitude at Innamincka.

General details

Registration:	VH-MMN	
Manufacturer and model:	Piper Aircraft Corporation PA-39	
Type of operation:	Private	
Occurrence category	Accident	
Primary occurrence type:	Runway excursion	
Location:	Innamincka Township (ALA), South Australia	
	Latitude: S 27° 44.50'	Longitude: E 140° 44.70'
Persons on board:	Crew – 1	Passengers – 1
Injuries:	Crew – 1 (Minor)	Passengers – Nil
Damage:	Serious	

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.