Australian Government
Australian Transport Safety Bureau

Loss of control involving a Piper PA-28R-200, VH-MMU

Birdsville aerodrome, Queensland, 6 September, 2013

ATSB Transport Safety Report
Aviation Occurrence Investigation
AO-2013-146
Final - 10 Decmeber 2013

Released in accordance with section 25 of the *Transport Safety Investigation Act 2003*

Publishing information

Published by: Australian Transport Safety Bureau
Postal address: PO Box 967, Civic Square ACT 2608
Office: 62 Northbourne Avenue Canberra, Australian Capital Territory 2601
Telephone: 1800 020 616, from overseas +61 2 6257 4150 (24 hours)
Accident and incident notification: 1800 011 034 (24 hours)
Facsimile: 02 6247 3117, from overseas +61 2 6247 3117
Email: atsbinfo@atsb.gov.au
Internet: www.atsb.gov.au

Addendum

Page	Change	Date

Loss of control involving a Piper PA-28R-200, VH-MMU

What happened

VH-MMU at the accident site

Source: Queensland Police Service

On 6 September 2013, at about 1220 Eastern Standard Time,[1] a Piper PA-28R-200 aircraft, registered VH-MMU, was being operated on a private flight from White Cliffs, New South Wales to Birdsville, Queensland. On board the aircraft were the pilot and a passenger.

At the time, the annual Birdsville horse race meeting was being held. Consequently, Airservices Australia released Aeronautical Information Publication Supplement (AIP SUP) H87/13 and issued a Notice to Airmen (NOTAM) detailing the arrival/departure procedures for the duration of the race meeting.

At about 1230, the pilot commenced a descent to 1,500 ft above ground level (AGL) overhead the racecourse, as stipulated in the AIP SUP.

During the flight, the pilot and passenger obtained updated weather information from an iPad tablet computer. The passenger, also a pilot, was trialling the electronic in-flight information for the first time. From this, the pilot reported the winds had been fluctuating, at times indicating 010 °T at 10 kt, but as they approached Birdsville, the wind was 040 °T at 10-15 kt.

The pilot and passenger discussed the most appropriate runway to use for landing. As the aircraft approached the race course, they heard the pilot of another aircraft on the common traffic advisory frequency (CTAF) using runway 32, so elected to join the circuit for this runway. They were aware that this would result in a significant crosswind component, but had concluded that they would fit in with the traffic, and that the runway length (1,732 m) was sufficient, even with the reduced headwind.

The aircraft joined the circuit for runway 32 at 1,000 ft above ground level (AGL). While joining the circuit, the pilot extended the landing gear and prepared the aircraft for landing.

When on the downwind leg of the circuit, the pilot noted that the only other aircraft operating in the CTAF at that time had landed and was clear of the runway. When late downwind, the pilot reduced the aircraft's airspeed from 120 kt to 110 kt and lowered the first stage of flap. Shortly after, he selected the second stage of flap. He recalled having an indicated airspeed of about 85 kt on base and with the third stage of flap lowered 75 kt on final approach. .

During the race meeting, the approach to runway 32 placed the aircraft over raised ground and a high fence, where much of the crowd were situated. To remain at a safe height above the crowd, the passenger, a more experienced pilot, suggested that the pilot keep the aircraft at least 50 ft above the runway threshold and then flare soon after.

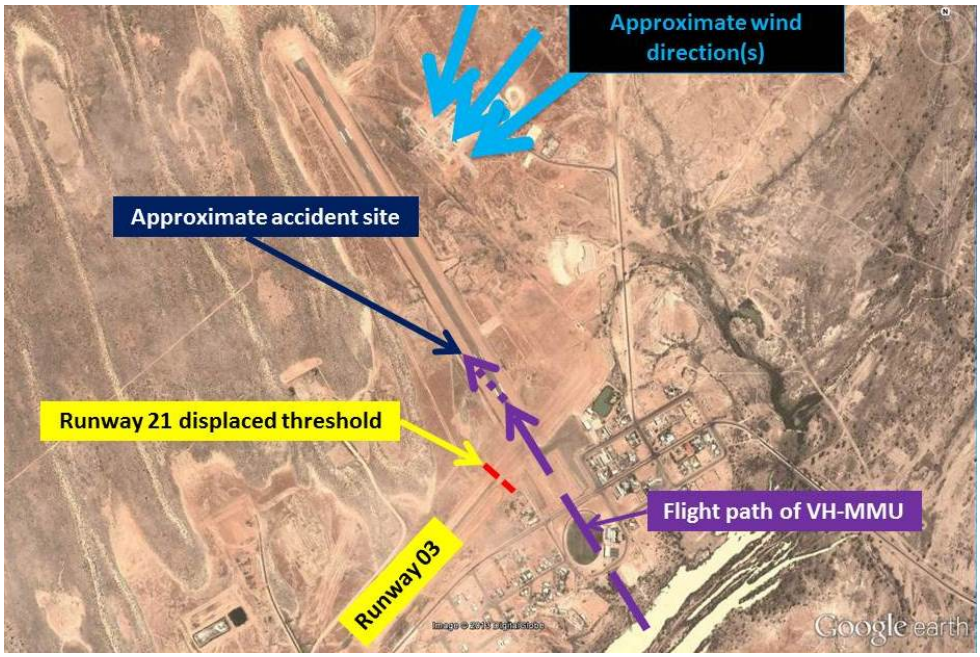
The pilot attempted to comply with this suggestion and prepared for the landing flare, but the passenger advised him that they were too high and not to reduce the engine power until the aircraft was in a safer landing configuration. The pilot lowered the aircraft's nose slightly and initiated the flare. The aircraft landed firmly on the main landing gear, then bounced once or twice. As the aircraft bounced, the pilot felt the crosswind move the aircraft to the left of the runway. The pilot still believed he could safely complete the landing and elected to continue.

---

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

He attempted to keep the aircraft aligned with the runway and slow down. To allow for the crosswind, the pilot held the ailerons at full deflection. However, as the aircraft drifted to the left in the crosswind, the left main wheel struck a graded mound on the side of the runway. The aircraft stopped abruptly and rotated in an anticlockwise direction, resulting in the right landing gear entering a ditch. The aircraft continued over the mound for about another 10 ft, before coming to rest (Figure 1).

Figure 1: Landing flight path of VH-MMU



Source: Google earth

The pilot checked on his passenger before both egressed through the exit door on the passenger side of the aircraft. They remained clear of the aircraft until emergency services arrived. Both the pilot and passenger sustained minor injuries and the aircraft was substantially damaged (Figure 2).

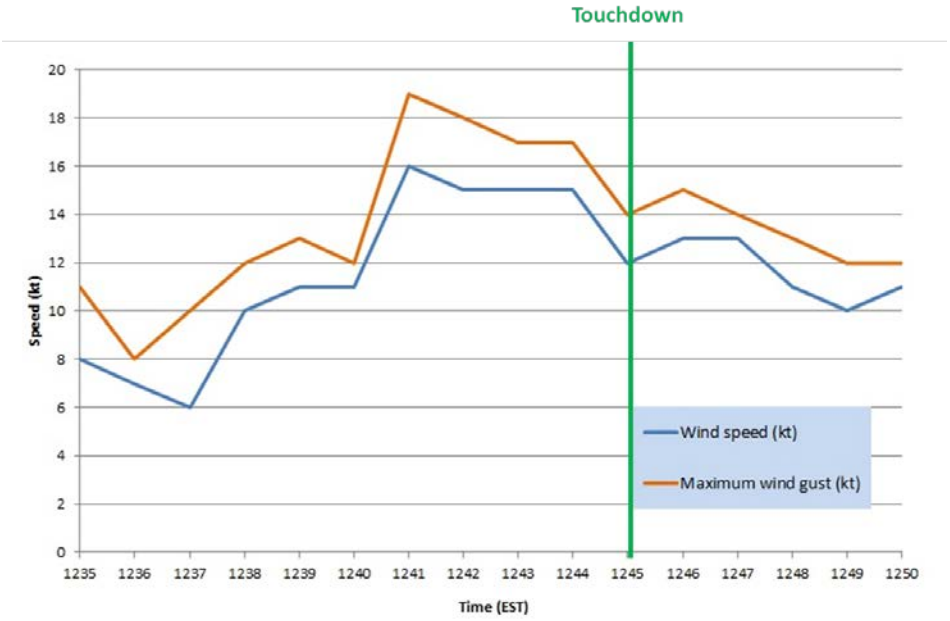
Figure 2: VH-MMU damage

Source: Queensland Police Service

Meteorological information

The Bureau of Meteorology (BoM) provided the ATSB with one-minute interval data recorded by the Birdsville automatic weather station (AWS). A graphical representation of the wind speed (kt) and maximum wind gust (kt) between 1235 and 1250 is shown in Figure 3

Figure 3: Bureau of Meteorology one-minute data



Source: Bureau of Meteorology

Birdsville race meeting operations

AIP Supplement (AIP SUP) H87/13

The AIP SUP provided comprehensive instructions for arriving and departing aircraft for the duration of the race meeting. Normal CTAF procedures applied; however, to assist with the large increase in aircraft movements, additional procedures were put in place. This included a reduction in the runway length available and restrictions on the use of runways 03/21. The following is an extract from *Section 5 – Runways* of the AIP SUPP:

> In the event of adverse wind conditions making the use of RWYs 14 or 32 hazardous for arriving aircraft, RWY 21 will be available at reduced length. Due to aircraft parked on the eastern end of this runway, RWY 03 will only be available for landings under exceptional circumstances. Pilots should consult NOTAM for LDAs,[2] TORAs,[3] TODAs[4] and their aircraft flight manuals and plan appropriately for contingency measures in this regard.

NOTAM information

The NOTAM current for Birdsville on 6 September 2013 also advised that the runway 21 threshold was displaced by 381 m and that this was appropriately marked (Figure 1). This effectively reduced the length of runway 03/21 to 819 m.

---

2 Landing distance available: the length of runway declared available and suitable for the ground run of an aircraft landing.

3 Take-off run available: the length of runway declared available and suitable for the ground run of an aircraft taking off.

4 Take-off distance available: the length of the take-off run available, plus the length of any clearway available.

Pilot comments

The pilot reported that the change from his normal routine of landing close to the threshold, the distraction of approaching over a crowd, and dealing with fluctuating wind conditions, increased his workload when landing at an unfamiliar aerodrome. In hindsight, he stated that he should have conducted a go-around earlier in the approach or gained approval to use runway 03.

Safety message

It is important to be aware that the presence of others may influence your decision-making process. Their apparent ability does not mean that others can achieve the same outcome. To be competent, pilots must know, and fly within their own personal limitations on that particular occasion. The following provide additional information on decision making scenarios:

- Decision making for general aviation pilots: www.easa.europa.eu/essi/egast/2011/04/decision-making/
- General Aviation Pilot's Guide to Preflight Weather Planning, Weather Self-Briefings, and Weather Decision Making: www.faa.gov/pilots/safety/media/ga_weather_decision_making.pdf

General details

Occurrence details

Date and time:	6 September 2013 - 1245 EST	
Occurrence category:	Accident	
Primary occurrence type:	Loss of control	
Location:	Birdsville aerodrome, Queensland	
	Latitude: 25° 53.85' S	Longitude: 139° 20.85' E

Aircraft details

Manufacturer and model:	Piper Aircraft Corporation PA-28R-200	
Registration:	VH-MMU	
Serial number:	28R-7335343	
Type of operation:	Private	
Persons on board:	Crew – 1	Passengers – 1
Injuries:	Crew – 1 (Minor)	Passengers – 1 (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.