Australian Government

Australian Transport Safety Bureau

Loss of control involving a Piper PA-28R-201, VH-HVX

Orange Airport, New South Wales, 15 January 2014

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Aviation Occurrence Investigation
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Addendum

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Loss of control involving a Piper PA-28R-201, VH-HVX

What happened

Damage to VH-HVX

Source: NSW Police Force

On 15 January 2014, the pilot of a Piper PA-28 aircraft, registered VH-HVX, was undergoing a Commercial Pilot Licence test flight with a testing officer on board. At about 1330 Eastern Daylight-savings Time (EDT),[1] the aircraft departed from Bankstown and subsequently landed at Orange Airport, New South Wales, at about 1500, where the pilot and testing officer exited the aircraft for a short break. The aircraft had encountered moderate turbulence enroute and the pilot reported a slight overshoot on landing at Orange due to fluctuating wind conditions.

During the time on the ground at Orange Airport, the pilot observed the windsock indicating the wind varying from an easterly to a westerly direction and the speed fluctuating from 0 to about 15 kt. The temperature at Orange was about 33 ºC, and the aerodrome elevation was 3,115 ft. The pilot had calculated the density altitude[2] at Orange to be about 5,725 ft. He therefore planned to increase the indicated airspeed by about 5-10 kt during the take-off, to ensure adequate aircraft performance.

At about 1530, the pilot observed the wind to be from 110º at about 10-15 kt and configured the aircraft for a short field take-off from runway 11, selecting two stages of flaps. During the take-off run, the pilot and testing officer observed the aircraft performing normally and the pilot rotated the aircraft at about 55-60 kt indicated airspeed (IAS). The pilot then established the aircraft in an attitude to achieve a best angle-of-climb speed of about 72 kt IAS. The pilot reported that the stall warning horn sounded momentarily during the take-off due to turbulence.

When at about 50 ft above ground level (AGL) and about 65-70 kt IAS, the testing officer reduced the engine power to idle and stated “simulated engine failure”. The pilot immediately lowered the nose of the aircraft in an attempt to increase the airspeed and selected the third stage of flaps. At about 10 ft AGL, the pilot reported the aircraft was sinking and flared[3] the aircraft for landing. However, the aircraft continued to sink and landed heavily. The left main undercarriage collapsed and the aircraft slid along the runway and then veered off to the left, coming to rest outside the airstrip gable markers. The aircraft was substantially damaged and both pilots were uninjured.

The pilots reported that the stall warning did not sound during the descent and that a shift in the wind direction was the most likely cause of the accident.

Bureau of Meteorology data

The ATSB obtained the data from the Automatic Weather Station (AWS) at Orange Airport at one minute intervals, which showed significant variations in wind direction and speed at the time of the incident.

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1 Eastern Daylight-savings Time (EDT) was Coordinated Universal Time (UTC) + 11 hours.

2 Density altitude is the effective height the aircraft and engine is performing at. It is determined by atmospheric conditions. Density altitude is calculated from the local air pressure, temperature and elevation, relative to the International Standard Atmosphere (ISA) of 1013 hPa and 15 ºC at sea level.

3 The flare is the final nose-up pitch of landing the aeroplane to reduce rate of descent to about zero at touchdown.

Figure 1: Damage to VH-HVX

Source: Pilot

Safety message

This incident highlights the critical importance of considering local conditions such as wind, elevation and temperature, as well as the inherent risks of conducting simulated engine failure at low altitude.

General details

Occurrence details

Date and time:	15 January 2014 – 1530 EDT	
Occurrence category:	Accident	
Primary occurrence type:	Loss of control	
Location:	Orange Airport, New South Wales	
	Latitude: 33° 22.90' S	Longitude: 149° 07.98' E

Aircraft details

Manufacturer and model:	Piper Aircraft Corporation PA-28R-201	
Registration:	VH-HVX	
Serial number:	28R7837164	
Type of operation:	Flying training	
Persons on board:	Crew – 2	Passengers – Nil
Injuries:	Crew – Nil	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.