Australian Government
Australian Transport Safety Bureau

Collision with terrain involving a Liberty XL-2, VH-CZT

Moorabbin Airport, Victoria on 27 February 2015

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Addendum

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Collision with terrain involving a Liberty XL-2, VH-CZT

What happened

On 27 February 2015, the pilot of a Liberty XL-2 aircraft, registered VH-CZT, conducted a private flight to practice circuits at Moorabbin Airport, Victoria. At the completion of the first circuit, the pilot flared the aircraft to land on runway 17 Left (17L). The main landing gear contacted the runway and the aircraft bounced into the air. The pilot immediately applied full power and conducted a go-around.

Damage to VH-CZT

Source: Airport operator

The pilot then conducted a second circuit and established the aircraft on final approach to the runway about 3-4 kt slower than the previous approach. The aircraft touched down normally and the pilot then performed a touch-and-go and continued the circuit.

At about 1236 Eastern Daylight-saving Time (EDT), the pilot conducted a third approach to runway 17L. He reported closely monitoring the airspeed during the approach. As he attempted to flare the aircraft for the landing, it collided with the runway. The aircraft then bounced into the air and the pilot initiated a go-around by applying full power and slight forward pressure on the control stick. Instead of climbing away, the aircraft struck the runway again and veered to the left. The pilot applied right rudder in an attempt to counteract the left yaw and the aircraft again became airborne before colliding with the runway and skidding towards the grass to the left of the runway. The pilot felt something contact the left main landing gear. He then reduced the throttle to idle, selected the fuel, master, magnetos and avionics switches to OFF and exited the aircraft.

During the accident sequence, the main landing gear collapsed and the propeller and left wingtip struck the runway, resulting in substantial damage (Figure 1). The pilot was not injured.

Figure 1: Damage to VH-CZT

Source: Airport operator

Pilot comments

The pilot reported that he had completed most of his flying in high-wing aircraft and the XL-2, as a low-wing aircraft, behaved differently when close to the ground. It was also lighter and required more gentle control inputs than aircraft he had flown previously. It was the first time he had flown that aircraft without a passenger or second pilot on board.

Weather

The Aerodrome Terminal Information Service (ATIS)[1] current at the time of the incident indicated that the wind was from 180-250° at up to 15 kt, with a crosswind up to 15 kt on the runways in use (17 Left and 17 Right).

Safety message

This incident highlights how different aircraft types and configurations can affect the approach profile and landing characteristics. The visual cues and the control inputs required to conduct safe landings vary depending on many factors including aircraft design and performance, weight and balance, and environmental conditions including wind strength and direction.

General details

Occurrence details

Date and time:	27 February 2015 – 1236 EDT	
Occurrence category:	Accident	
Primary occurrence type:	Collision with terrain	
Location:	Moorabbin Airport, Victoria	
	Latitude: 37° 58.55' S	Longitude: 145° 06.13' E

Aircraft details: VH-CZT

Manufacturer and model:	Liberty Aerospace XL-2	
Registration:	VH-CZT	
Serial number:	0101	
Type of operation:	Private	
Persons on board:	Crew – 1	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

[1] An automated pre-recorded transmission indicating the prevailing weather conditions at the aerodrome and other relevant operational information for arriving and departing aircraft.

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.