Australian Government
Australian Transport Safety Bureau

Engine failure involving an amateur built Pitts S1S, VH-URP

6 km S Lethbridge Airport (ALA), Victoria, 1 March 2014

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Aviation Occurrence Investigation
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Addendum

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Engine failure involving an amateur built Pitts S1S, VH-URP

What happened

VH-URP

Source: Pilot

On 1 March 2014, the pilot of an amateur built Pitts S1S, registered VH-URP, completed preparations for a world record attempt for the number of continuous rolls, to raise funds for medical research.

Due to low cloud in the area, the pilot elected to delay the initial departure time and to conduct the aerobatic flight in the local training area about 3 NM from Lethbridge aeroplane landing area (ALA), Victoria.

After successfully completing 987 rolls to the left, at about 2,000 ft above ground level (AGL), the pilot elected to return to Lethbridge. About 2 minutes later, when in the cruise, the engine spluttered and lost power. The pilot assumed the aircraft had a partial engine failure, and aimed to return to Lethbridge which was about 1 NM away. He completed the 'trouble' checklist, with no success in restoring engine power.

The aircraft was rapidly losing altitude and the pilot selected a paddock for a forced landing. After turning into wind, the aircraft was sinking quickly and the pilot realised it was unlikely to reach the selected paddock. He revised the aiming point for the landing to a closer field.

During the landing roll, the aircraft collided with a rock and nosed over, coming to rest inverted. The aircraft was substantially damaged (Figure 1).

Pilot comments

The pilot reported that the 'flop tube' may have become stuck. It supplies the engine with fuel from the top of the tank when the aircraft is inverted. This may have been resolved by rolling the aircraft inverted. However, this was not a safe option at low altitude, with a partial or complete engine failure.

The damage to the aircraft was assessed as being greater than the replacement cost therefore no post-accident engineering inspection was conducted to determine the cause of the engine failure.

Figure 1: Damage to VH-URP

Source: Pilot

Safety message

The pilot reported that the original plan was to conduct the manoeuvres overhead the airfield; a known safe landing area in case of engine failure. This incident highlights the importance of selecting a suitable landing field as soon as a forced landing appears necessary.

Once a suitable landing area has been selected, within easy gliding distance, the pilot should then plan the approach to the field. Once the plan has been commenced, the pilot can then attempt to rectify the cause of the engine malfunction.

General details

Occurrence details

Date and time:	1 March 2014 – 1400 EST	
Occurrence category:	Accident	
Primary occurrence type:	Engine failure or malfunction	
Location:	6 km S Lethbridge Airport (ALA), Victoria	
	Latitude: 37° 58.08' S	Longitude: 144° 05.33' E

Aircraft details

Manufacturer and model:	Amateur built Pitts S1S	
Registration:	VH-URP	
Serial number:	001	
Type of operation:	Aerobatics	
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 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.