Australian Government
Australian Transport Safety Bureau

Engine failure and collision with terrain involving Van's RV-9A, VH-KLV

39 km NNW of Albany Airport, Western Australia, 4 September 2016

ATSB Transport Safety Report
Aviation Occurrence Investigation
AO-2016-109
Final – 22 November 2016

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

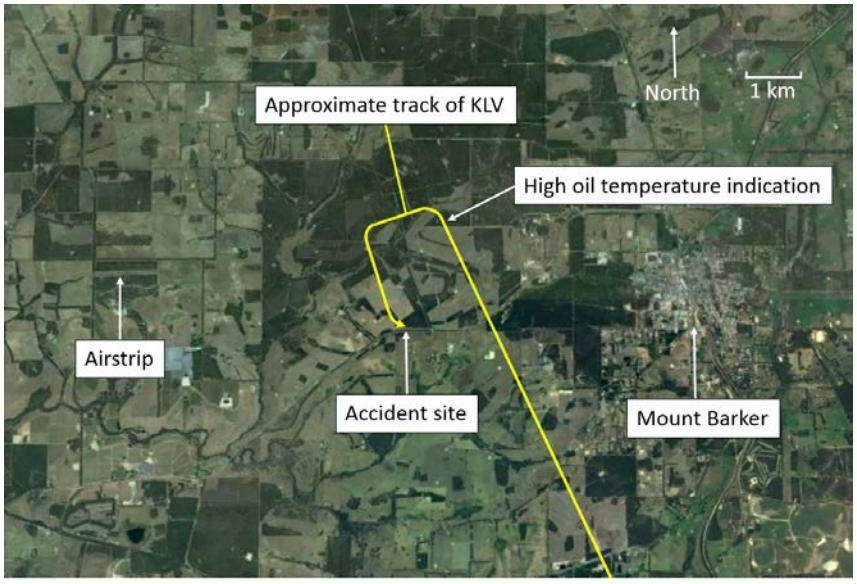
Engine failure and collision with terrain involving Van's RV-9A, VH-KLV

What happened

On 4 September 2016, at about 1655 Western Standard Time (WST), an amateur-built Van's RV-9A aircraft registered VH-KLV (KLV), departed Albany Airport, Western Australia (WA), for a flight to Jandakot Airport, WA. On board the private flight were a pilot and one passenger.

About 15 minutes into the flight, the aircraft was north-west of Mount Barker and climbing through about 4,000 ft. At this time, the pilot observed an oil temperature indication greatly exceeding the normal operating limit, all other engine indications appeared normal. The pilot immediately reduced power to idle and turned the aircraft towards an airstrip to the west of Mount Barker (Figure 1). As the aircraft descended through about 2,500 ft, the pilot assessed that they did not have sufficient altitude to glide to the airstrip. The pilot then elected to conduct a precautionary[1] landing.

Figure 1: Approximate flight path of VH-KLV



Source: Google maps, modified by ATSB

The pilot identified a section of disused road as suitable to conduct the precautionary landing and positioned the aircraft to make a curving approach to the road. At about 200 ft above ground level, the pilot detected the aircraft becoming low and applied power to continue the approach. The engine responded briefly before losing all power. The pilot identified that they did not have sufficient height to glide to the disused road. To avoid powerlines located next to the disused road, the pilot elected to fly the aircraft into trees.

The aircraft struck the tree canopy and slowed to a near stop before falling onto the disused road. The aircraft landed nose first before overturning and coming to rest inverted (Figure 2). The weight of the aircraft prevented the pilot from opening the sliding canopy. The pilot and passenger exited through the broken windscreen.

[1] A landing conducted when the pilot considers further flight inadvisable.

The pilot and passenger sustained minor injuries and the aircraft was substantially damaged.

Figure 2: VH-KLV after the accident

Source: Western Australia Police

Pilot comments

The pilot of VH-KLV provided the following comments:

- After the pilot identified the high oil temperature, they prepared for a precautionary landing. They did not consider a forced[2] landing until the engine failed.
- The pilot advised that when they are flying, they are always looking for places to land as if the engine fails there is only a short time to decide where to land.
- The aircraft is fitted with a four point harness. This worked extremely well and prevented more serious injuries.

Engineering examination

Due to the limited scope of this investigation a post-accident engineering examination was not conducted. The cause of the high oil temperature indication was not determined.

Safety message

This incident highlights the importance of actively managing an emergency situation. The pilot identified the abnormal engine indication and elected to conduct a precautionary landing while the engine continued to develop power. Once an engine malfunction is identified it is important to consider that remaining power may be inconsistent and unreliable.

The US Federal Aviation Administration airplane flying handbook chapter: *Emergency procedures* provides information on effective management of precautionary and forced landings.

The RV-9A is not an aerobatic aircraft, however, KLV was fitted with a four-point aerobatic type harness. Four-point harnesses provide superior occupant protection during an accident, in particular when an aircraft overturns. The fitment and use of the four-point harness most likely prevented more serious injuries to the occupants.

---

[2] An immediate landing made when the aircraft engine does not continue to produce power.

General details

Occurrence details

Date and time:	4 September 2016 – 1715 WST	
Occurrence category:	Accident	
Primary occurrence type:	Engine failure or malfunction	
Location:	39 km NNW of Albany Airport, Western Australia	
	Latitude: 34° 38.030’ S	Longitude: 117° 36.880’ E

Aircraft details

Manufacturer and model:	Amateur built aircraft, Van’s RV-9A	
Registration:	VH-KLV	
Serial number:	90509	
Type of operation:	Private – Pleasure/Travel	
Persons on board:	Crew – 1	Passengers – 1
Injuries:	Crew – 1 (Minor)	Passengers – 1 (Minor)
Aircraft 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 operations involving the travelling public.

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.