

PRELIMINARY ACCIDENT REPORT

Accident and Incident Investigations Division

Accident
- Preliminary Report -
AIID Ref No: CA18/2/3/10461



Figure 1: The ZS-URO aircraft after the accident. (Source: Pilot)

Description:

On Tuesday morning, 11 June 2024, a pilot and three passengers on-board a Cessna 182T Skyline aircraft with registration ZS-URO were on a private flight from Mooketsi Airstrip in Tzaneen, Limpopo province, to Esme 4 Farm airstrip, also in the same province when the accident occurred. The flight was conducted under visual meteorological conditions (VMC) by day and under the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011 as amended.

Whilst en route to Esme 4 Farm airstrip and overhead Giyane, the aircraft's engine lost power and the pilot executed a forced landing on D3732 public road. During the landing roll, the left wing impacted a tree; the aircraft was substantially damaged. One of the passengers sustained minor injuries during the accident.

Occurrence Details

Reference Number : CA18/2/3/10461
Occurrence Category : Category 1
Type of Operation : Private (Part 91)
Name of Operator : Bertie Van Zyl
Aircraft Registration : ZS-URO
Aircraft Make and Model : Cessna 182T
Nationality : South African
Place : D3732 public road
Date and Time : 11 June 2024 at 0635Z
Injuries : None
Damage : Substantial

Purpose of the Investigation

In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, this report was compiled in the interest of the promotion of aviation safety and the reduction of the risk of aviation accidents or incidents and not to apportion blame or liability.

All times given in this report are Co-ordinated Universal Time (UTC) and will be denoted by (Z). South African Standard Time is UTC plus 2 hours.

Investigation Process

The Accident and Incident Investigations Division (AIID) of the South African Civil Aviation Authority (SACAA) was notified of the occurrence involving a Cessna 182T aircraft which occurred on a gravel public road D3732 in Limpopo province on 11 June 2024 at 0635Z. The occurrence was classified as an accident according to the CAR 2011 Part 12 and the International Civil Aviation Organisation (ICAO) STD Annex 13 definitions.

The AIID has appointed an investigator-in-charge to commence with the full investigation. The IIC did not dispatch to the accident site. Notifications were sent to the State of Registry and Operator in accordance with the CAR 2011 Part 12 and the ICAO Annex 13 Chapter 4. The States did not appoint an accredited representative and/or advisor. The AIID will lead the investigation and issue the final report of this accident in accordance with the CAR 2011 Part 12 and the ICAO Annex 13.

The information contained in this preliminary report is derived from the information gathered during the on-going investigation into the occurrence. Later, an interim or final report may contain altered information in case new evidence is found during the on-going investigation that requires changes to the information depicted in this report.

The AIID reports are made available to the public at:

<https://www.caa.co.za/industry-information/accidents-and-incidents/>

Notes:

1. *Whenever the following words are mentioned in this report, they shall mean the following:*

Accident — this investigation accident

Aircraft — the Cessna 182T involved in this accident

Investigation — the investigation into the circumstances of this accident

Pilot — the pilot involved in this accident

Report — this accident report

- 2. Photos and figures used in this report were taken from various sources and may have been adjusted from the original for the sole purpose of improving clarity of the report. Modifications to images used in this report were limited to cropping, magnification, file compression; or enhancement of colour, brightness, contrast; or addition of text boxes, arrows, or lines.*

Disclaimer

This report is produced without prejudice to the rights of the SACAA, which are reserved.

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Abbreviation	Description
°	Degrees
°C	Degrees Celsius
ACCID	Accident
AGL	Above Ground Level
AIID	Accident and Incident Investigations Division
AMO	Aircraft Maintenance Organisation
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
CAR	Civil Aviation Regulations
CAVOK	Cloud and Visibility OK
CPL	Commercial Pilot Licence
CRS	Certificate of Release to Service
CVR	Cockpit Voice Recorder
FDR	Flight Data Recorder
ft	Feet
GPS	Global Positioning System
hPa	Hectopascal
kt	Knots
m	Metres
MHz	Megahertz
nm	Nautical Miles
QNH	Altitude Above Mean Sea Level
SACAA	South African Civil Aviation Authority
SAWS	South African Weather Service
VMC	Visual Meteorological Conditions
Z	Zulu (Term for Universal Co-ordinated Time - Zero Hours Greenwich)

1. FACTUAL INFORMATION

1.1. History of Flight

- 1.1.1. On Tuesday morning, 11 June 2024, a pilot and three passengers on-board a Cessna 182T Skyline aircraft with registration ZS-URO were on a private flight from Mooketsi Airstrip in Tzaneen, Limpopo province, to Esme 4 Farm airstrip in the same province when the accident occurred. The flight was conducted under visual meteorological conditions (VMC) by day and under the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011 as amended.
- 1.1.2. The pilot reported that whilst en route to Esme 4 Farm airstrip and overhead Giyane, the aircraft's engine lost power; as a result, the pilot elected to execute a forced landing on D3732 public road. During the landing roll, the left wing impacted a tree. The aircraft sustained substantial damage to the left wing, aileron, propeller and nose gear strut which collapsed. One of the passengers sustained minor injuries, and the rest of the occupants were not injured.
- 1.1.3. The accident occurred on D3732 public road at Global Positioning System (GPS) coordinates determined to be 23°34'00" South 030°09' 00" East, at an elevation of 2 300 feet (ft).

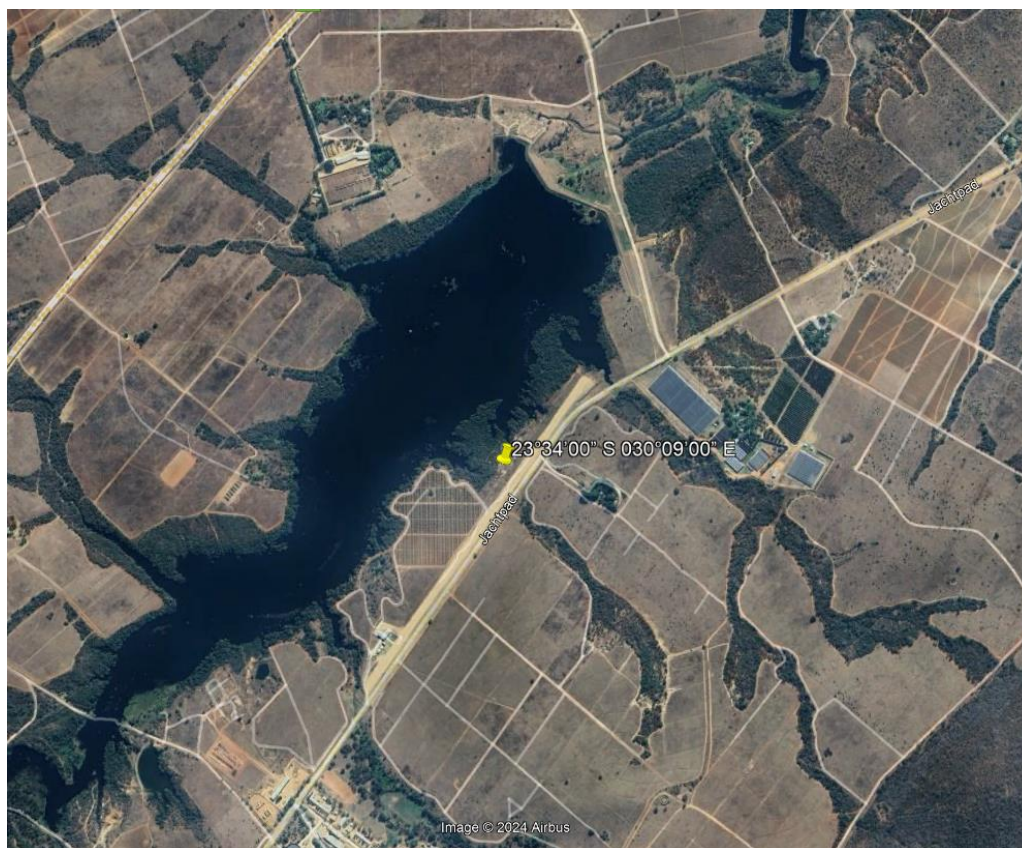


Figure 2: The accident site. (Source: Google Earth)

1.2. Injuries to Persons

Injuries	Pilot	Crew	Pass.	Total On-board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	-	-	1	1	-
None	1	-	2	3	-
Total	1	-	3	4	-

Note: Other means people on the ground.

1.3. Damage to Aircraft

- 1.3.1. The aircraft sustained substantial damage to the left wing, aileron, propeller and nose gear strut which collapsed.



Figure 3: The aircraft post-accident. (Source: Pilot)



Figure 4: The tree that the aircraft impacted. (Source: Pilot)

1.4. Other Damage

1.4.1. None.

1.5. Personnel Information

Nationality	South African	Gender	Male	Age	48
Licence Type	Commercial Pilot Licence (CPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Instrument, Night Flight and Agricultural				
Medical Expiry Date	31 May 2025				
Restrictions	None				
Previous Accidents	None				

Note: Previous accidents refer to past accidents the pilot was involved in, when relevant to this accident.

Flying Experience:

Total Hours	6 279.8
Total Past 24 Hours	3.8
Total Past 7 Days	17.7
Total Past 90 Days	92.0
Total on Type Past 90 Days	27.0
Total on Type	1 202.0

1.5.1. The pilot was initially issued a Commercial Pilot Licence (CPL) on 22 November 2017. The licence was renewed on 22 November 2023 with an expiry date of 30 November 2024.

1.5.2. The pilot was issued a Class 1 aviation medical certificate on 31 May 2024 with an expiry date of 31 May 2025 with no medical restrictions.

1.6. Aircraft Information

1.6.1. The following information was extracted from <https://cessna.txtav.com>

The Cessna 182 Skylane is an American four-seat, single engine light airplane built by Cessna of Wichita, Kansas. There is an option to add two child seats in the baggage area. Introduced in 1956, the 182 has been produced in a number of variants including a version with retractable landing gear and is the second most popular Cessna model after the 172 model. The 182T Skylane model is a four-seat light aircraft with fixed landing gear, powered by a fuel injected 230 hp (172 kW) Lycoming IO-540-AB1A5 piston engine with a gross weight of 3 100 lb (1 406 kg) for take-off, and 2 950 lb (1 338 kg) for landing. 182T Skylane model was certified on 23 February 2001 and, as of July 2015, it is the only variant in production.

Airframe:

Manufacturer/Model	Cessna Aircraft Company, C182T	
Serial Number	182-81030	
Year of Manufacture	2001	
Total Airframe Hours (At Time of Accident)	3 455.1	
Last Inspection (Date & Hours)	2 April 2024	3 437.9
Hours Since Last Inspection	17.2	
CRS Issue Date	2 April 2024	
C of A (Issue Date & Expiry Date)	31 April 2024	31 March 2025
C of R (Issue Date) (Present Owner)	11 June 2013	
Type of Fuel Used	Avgas 100LL	
Operating Category	Private (Part 91)	
Previous Accidents	None	

Note: Previous accidents refer to past accidents the aircraft was involved in, when relevant to this accident.

Engine:

Manufacturer/Model	Lycoming IO-540 A1A5
Serial Number	L-28123-48A
Part Number	N/A
Hours Since New	TBD
Hours Since Overhaul	TBO not yet reached

Propeller:

Manufacturer/Model	McCauley B3D36C431-C
Serial Number	051311
Part Number	N/A
Hours Since New	TBD
Hours Since Overhaul	TBO not yet reached

1.6.2. The aircraft's Certificate of Release to Service (CRS) was issued on 2 April 2024 at 3 437.9 hours with an expiry date of 1 April 2025 or at 3 536.7 hours, whichever comes first.

1.7. Meteorological Information

1.7.1. The weather information below was obtained from the pilot questionnaire.

Wind Direction	North-Easterly	Wind Speed	5kt	Visibility	CAVOK
Temperature	20°C	Cloud Cover	Broken	Cloud Base	2000 feet (AGL)
Dew Point	Unknown	QNH	Unknown		

1.8. Aids to Navigation

1.8.1. The aircraft was equipped with standard navigational equipment as approved by the Regulator (SACAA). There were no records indicating that the navigational equipment was unserviceable prior to the flight.

1.9. Communication

1.9.1. The aircraft was equipped with a standard communication system as approved by the Regulator. There were no recorded defects with the communication system prior to the flight.

1.10. **Aerodrome Information**

1.10.1. The accident occurred on D3732 public road.

1.11. **Flight Recorders**

1.11.1. The aircraft was neither equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR), nor was it required by regulation to be fitted to the aircraft type.

1.12. **Wreckage and Impact Information**

1.12.1. During the forced landing on D3732 public road, the aircraft's left wing impacted a tree before the aircraft stopped.

1.13. **Medical and Pathological Information**

1.13.1. None.

1.14. **Fire**

1.14.1. There was no pre- or post-impact fire.

1.15. **Survival Aspects**

1.15.1. The accident was survivable as the cabin structure was not damaged.

1.16. **Tests and Research**

1.16.1. To be discussed in the final report.

1.17. **Organisational and Management Information**

1.17.1. This was a private flight conducted under the provisions of Part 91 of the CAR 2011 as amended.

1.17.2. The aircraft was registered to the present owner on 11 June 2013.

1.17.3. The aircraft had a valid Certificate of Airworthiness (C of A) that was initially issued on 6 March 2018. The C of A was renewed on 31 March 2024 with an expiry date of 31 March 2025.

1.18. **Additional Information**

1.18.1. To be discussed in the final report.

1.19. **Useful or Effective Investigation Techniques**

1.19.1. None.

2. **FINDINGS**

2.1. **General**

From the available evidence, the following preliminary findings were made with respect to this accident. These shall not be read as apportioning blame or liability to any organisation or individual.

To serve the objective of this investigation, the following sections are included in the conclusions heading:

- **Findings** — are statements of all significant conditions, events, or circumstances in this accident. The findings are significant steps in this accident sequence, but they are not always causal or indicate deficiencies.

2.2. **Findings**

2.2.1. The pilot was initially issued a Commercial Pilot Licence (CPL) on 22 November 2017. The licence was reissued on 22 November 2023 with an expiry date of 30 November 2024. The aircraft type was endorsed on the pilot's licence and logbook.

2.2.2. The pilot was issued a Class 1 aviation medical certificate on 31 May 2024 with an expiry date of 31 May 2025 with no medical restrictions.

2.2.3. The aircraft had a valid Certificate of Airworthiness (C of A) that was initially issued on 6 March 2018. The C of A was renewed on 31 March 2024 with an expiry date of 31 March 2025.

2.2.4. The aircraft was issued a Certificate of Release to Service (CRS) on 2 April 2024 at 3 437.9 hours with an expiry date of 1 April 2025 or at 3 536.7 hours, whichever comes first.

2.2.5. The engine was recovered to the aircraft maintenance organisation (AMO) facility for further analysis after the accident.

3. ON-GOING INVESTIGATION

- 3.1. The AIID investigation is on-going, and the investigator will investigate other aspects of this occurrence which may or may not have safety implications.

4. SAFETY RECOMMENDATIONS

4.1. General

The safety recommendations listed in this report are proposed according to paragraph 6.8 of Annex 13 to the Convention on International Civil Aviation and are based on the conclusions listed in heading 3 of this report. The AIID expects that all safety issues identified by the investigation are addressed by the receiving States and organisations.

4.2. Safety Recommendation/s

- 4.2.1. None.

5. APPENDICES

- 5.1. None.

**This report is issued by:
Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**