

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10654						
Classification	Accident		Date	11 May 2026		Time	1200Z
Type of Operation	Training (Part 141)						
Location							
Place of Departure	Rustenburg Airfield (FARG), North West Province			Place of Intended Landing	Rustenburg Airfield, North West Province		
Place of Occurrence	Approximately 200 metres west of the Runway 16 threshold at FARG, North West Province						
GPS Co-ordinates	Latitude	25°38' 24.32"S	Longitude	27°15' 52.68"E	Elevation	3 700ft	
Aircraft Information							
Registration	ZS-VET						
Make; Model; S/N	Cessna, 172M Skyhawk (Serial Number: 172-60769)						
Damage to Aircraft	Substantial			Total Aircraft Hours	12 459.9		
Pilot-in-command							
Licence Type	Commercial Pilot Licence (CPL)		Gender	Male		Age	63
Licence Valid	Yes	Total Hours	10 600	Total Hours on Type	3032.2		
Total Hours 30 Days	14.5		Total Flying on Type Past 90 Days	24			
People On-board	2+0	Injuries	1	Fatalities	0	Other (on ground)	0
What Happened							
On Monday afternoon, 11 May 2026, a flight instructor (FI) and a student pilot (SP) on-board a Cessna 172M Skyhawk aircraft registered ZS-VET were conducting a training flight from Rustenburg Airfield (FARG) in North West province with the intention to land back at the same airfield. The flight was conducted under visual meteorological conditions (VMC) and under the provisions of Part 141 of the Civil Aviation Regulations (CAR) 2011, as amended. The FI stated that a pre-flight inspection of the aircraft was conducted during which no abnormalities were noted. After the flight preparation, the engine was started on the apron adjacent to the clubhouse and the aircraft was taxied approximately 1 kilometre (km) to the holding point of Runway 34 where the before-take-off checklist was completed with no anomalies recorded. The FI further stated that after take-off from Runway 34 with the aircraft approximately 150 feet (ft) above ground level (AGL) and whilst the SP was preparing to conduct the after-take-off checks, the engine stopped. He immediately took control of the aircraft and instructed the SP to stay back. He then turned the aircraft to the left to reach a clearing in front of the row of hangars but there was insufficient height to reach it. He, therefore, selected an area covered with trees on the opposite side							

of the fence to conduct a forced landing. The FI stated that there was insufficient time to complete all the engine failure after take-off (EFATO) checks, thus, he shut off the fuel supply by moving the fuel selector to the 'OFF' position and aimed to land on top the treetops. However, the aircraft missed the trees and came to rest on a bush-type terrain approximately 200 metres (m) west of Runway 16 threshold. The aircraft was substantially damaged. The FI sustained minor injuries, and the SP was not injured.

The accident occurred during daylight near Rustenburg Airfield at Global Positioning System (GPS) co-ordinates 25°38' 24.32" South 27°15' 52.68" East, at an elevation of approximately 3 700ft.



Figure 1: An aerial view of FARG. The red line shows the take-off direction and the approximate flight path.
(Source: Google Earth)



Figure 2: The aircraft after the accident. (Source: Operator)

The on-site investigation revealed that the left and right fuel tanks were filled to approximately 33 US gallons (125 litres). Fuel samples taken on site showed no visible contamination as the fuel colour and smell indicated the correct fuel grade, which was Aviation Gasoline 100 Low Lead (AVGAS 100LL). The aircraft was recovered from the accident site to an aircraft maintenance organisation (AMO) premises at FARG on the same day of the accident. The engine was removed and crated on 5 June 2026 and was sent to an approved AMO for further investigation. On 17 June 2026, the engine was placed on a test bench for inspection and testing with the investigation team in attendance.

The investigating team observed the following during the engine run:

- The engine started normally and operated without difficulty.
- The engine operated normally during throttle acceleration and deceleration.
- The engine speed revolutions per minute (rpm) drop was 80 rpm when switched between magnetos, which was within the manufacturer's specified limit. The difference in rpm drop between the left and the right magnetos was less than 50 rpm which was also within the manufacturer's specified limit.
- Inspection of the engine induction air filter revealed no evidence of contamination.
- The carburettor throttle control operated freely throughout its full range of travel.

Meteorological Information

The following weather information was obtained from the Meteorological Aerodrome Report (METAR) for FARG, recorded on 11 May 2026 at 1200Z.

Wind Direction	350°	Wind Speed	8kts	Visibility	9999m
Temperature	22°C	Dew Point	1°C	QNH	1017 hPa

Emergency Procedure: Engine Failure (Source: Pilot's Operating Handbook[(POH)])

Section 3

Prompt lowering of the nose to maintain airspeed and establish a glide attitude is the first response to an engine failure after take-off. In most cases, the landing should be planned straight ahead with only small changes in direction to avoid obstructions. Altitude and airspeed are seldom sufficient to execute a 180° gliding turn necessary to return to the runway.

Flight Instructor (FI)

The FI had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator (SACAA) on 14 July 2008. The licence was reissued on 22 June 2025 with an expiry date of 30 June 2026. The aircraft type was endorsed in his licence. The FI had a valid Instructor Grade 2 rating which was renewed on 26 March 2026 with an expiry date of 31 March 2029. The FI had a Class 1 aviation medical certificate that was issued on 22 April 2026 with an expiry date of 30 April 2027. The pilot had a restriction to wear corrective lenses.

Student Pilot (SP)

The SP had a Student Pilot Licence (SPL) that was issued on 20 October 2025 with an expiry date of 19 October 2026. The SP had a Class 2 aviation medical certificate that was issued on 22 September 2025 with an expiry date of 22 September 2030.

Aircraft

The aircraft's Certificate of Registration (C of R) was issued to the current owner on 17 November 1998. The original Certificate of Airworthiness (C of A) was issued on 7 February 1997, and the latest renewed C of A was valid until 31 March 2026.

Maintenance of the aircraft was conducted by the approved AMO. The last mandatory periodic inspection (MPI) of the aircraft was certified on 23 April 2026 at 12 388.4 airframe hours after which a Certificate of Release to Service (CRS) was issued with an expiry date of 22 April 2027 or at 12 488.4 airframe hours, whichever comes first. The aircraft had a total of 12 459.9 airframe hours at the time of the accident. It had accrued 27.8 hours since the last MPI.

Aircraft Maintenance Organisation (AMO)

The AMO had a valid AMO Certificate that was reissued by the Regulator on 31 May 2025 with an expiry date of 31 May 2026.

Findings

1. The flight crew was licensed and qualified to conduct the flight.
2. A review of the aircraft maintenance records indicated that the aircraft was maintained in accordance with the applicable maintenance requirements.
3. No outstanding defects were identified in the aircraft records that could be associated with the subsequent engine stoppage.
4. The Approved Training Organisation (ATO) had the necessary approvals and ratings to provide the training flight.
5. The fuel colour and smell indicated that it was AVGAS 100LL, and no visible contamination was identified at the accident site.
6. No anomalies were found with the ignition, induction, exhaust and fuel systems, and the engine was observed to be operating normally at all power settings on the test bench.
7. No anomalies were found with the airframe systems at the accident site.
8. The engine stopped at 150 feet (ft) during the initial climb phase.
9. Due to the insufficient height and speed after the left turn, the FI executed a forced landing on a bushy terrain.
10. The FI executed a left turn during the initial climb phase after take-off during which the engine stopped; this was not in line with the prescribed procedures.
11. The FI sustained minor injuries, and the SP was not injured.

12. The cause of engine failure could not be determined as the engine operated normally on the test bench.
Probable Cause
The engine stopped during the initial climb, which resulted in a forced landing on a bushy terrain. The cause of engine stoppage could not be determined.
Contributing Factor(s)
None.
Safety Action(s)
None.
Safety Message
None.
About this Report
<i>The decision to conduct a limited investigation is based on factors including whether the cause is known and if the evidence supporting the cause is clear, the level of safety benefit likely to be obtained from an investigation and that will determine the scope of an investigation. For this occurrence, a limited investigation has been conducted, and the Accident and Incident Investigations Division (AIID) has relied on the information submitted by the affected person/s and organisation/s to compile this limited report. The report has been compiled using information supplied in the initial notification, as well as from follow-up desk top enquiries to bring awareness of potential safety issues to the industry in respect of this occurrence, as well as possible safety action/s that the industry might want to consider in preventing a recurrence of a similar occurrence.</i> <i>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.</i>
Purpose
<i>In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011 and ICAO Annex 13, 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.</i>
Disclaimer
<i>This report is produced without prejudice to the rights of the AIID, which are reserved.</i>

This report is issued by:

**Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**