AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

			Reference:	CA18/2/3/10392	
Aircraft Registration	ZS-CZR	**Date of Accident**	23 November 2023	**Time of Accident**	1430Z
Type of Aircraft	Piper, PA 28-180		**Type of Operation**	Training (Part 141)	
Pilot-in-command Licence Type	Commercial Pilot Licence (CPL)	**Age**	26	**Licence Valid**	Yes
Pilot-in-command Flying Experience	**Total Flying Hours**		1763.5	**Hours on Type**	229.3
Last Point of Departure	Vereeniging Airport (FAVV), Gauteng Province				
Next Point of Intended Landing	Vereeniging Airport (FAVV), Gauteng Province				
Damage to Aircraft	Substantial				

Location of the accident site with reference to easily defined geographical points (GPS readings if possible)

1.3 NM from Runway 03 threshold at GPS co-ordinates 26° 35' 31.80" South 027°56' 58.24" East, elevation 4 855 feet

Meteorological Information	Surface wind: 030°/ 5 kt; temperature: 30°C; dew point: 12°C; Visibility: CAVOK

Number of People On-board	1+1	**Number of People Injured**	0	**Number of People Killed**	0	**Other (On Ground)**	0

Synopsis

On Thursday, 23 November 2023, a flight instructor and a pilot on-board a Piper PA-28-180 aircraft with registration ZS-CZR took off from Vereeniging Airport (FAVV) in Gauteng province to conduct circuit (take-off and landing) training exercises. Visual meteorological conditions (VMC) by day prevailed at the time of the flight which was conducted under the provisions of Part 141 of the Civil Aviation Regulations (CAR) 2011 as amended.

The Grade 2 flight instructor was providing training to the pilot towards his Grade 3 instructor rating. According to the instructor pilot, a pre-flight inspection of the aircraft was conducted prior to take-off; no abnormalities were found. The aircraft had 70 litres of Avgas which equated to an endurance of 2 hours. The instructor pilot reported that they used Runway 03 for take-off and that the first circuit was uneventful. During the second circuit whilst on final approach at approximately 545 feet (ft) above ground level (AGL), the engine lost power. The flight instructor took control of the aircraft and engaged full rich mixture as well as increased throttle, but with no effect. He then scanned the area and identified an open field to the left of their flight path on which to conduct a forced landing. The aircraft's approach speed was 80 miles per hour. Before landing, the flight instructor selected the flaps to 40 degrees. During the landing roll, the nose gear stuck in a muddy hole and the aircraft nosed over. The accident occurred approximately 1.38 nautical miles (nm) from the threshold of Runway 03.

According to the carburettor icing chart, the aircraft probably experienced a serious icing condition which caused the engine to lose power. Although the aircraft experienced serious icing, the pilot could not recall other associated signs of carburettor icing.

Probable Cause/s and/or Contributory Factors

Lack of awareness of probable carb icing conditions and lack of application of carb heat. Subsequently, a forced landing was conducted which was unsuccessful.

SRP Date	21 January 2025	Publication Date	5 February 2025

Occurrence Details

Reference Number	**:** CA18/2/3/10392
Occurrence Category	**:** Accident (Category 1)
Type of Operation	**:** Training (Part 141)
Name of Operator	**:** Unitas Flying School
Aircraft Registration	**:** ZS-CZR
Aircraft Make and Model	**:** Piper, PA-28-180
Nationality	**:** Egyptian
Place	**:** Near Vereeniging, Gauteng Province
Date and Time	**:** 23 November 2023 at 1430Z
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 on 23 November 2023 at 1430Z. 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. Notification was sent to the State of Registry, Operator, Design, and Manufacturer 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 investigator did not dispatch to the accident site for this occurrence.

Notes:

1. *Whenever the following words are mentioned in this report, they shall mean the following:*
   Accident — this investigated accident
   Aircraft — the Piper, PA-28-180 i*nvolved 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 different 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

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Abbreviation	Description
°	Degrees
°C	Degrees Celsius
AIID	Accident and Incident Investigations Division
AMO	Aircraft Maintenance Organisation
ATO	Approved Training Organisation
CAR	Civil Aviation Regulations
CAVOK	Cloud and Visibility Ok
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
CPL	Commercial Pilot Licence
CRS	Certificate of Release to Service
CVR	Cockpit Voice Recorder
FAOR	O.R. Tambo International Airport
FAVV	Vereeniging Airport
FDR	Flight Data Recorder
ft	Feet
GPS	Global Position System
hPa	Hectopascal
kt	Knots
km	Kilometres
m	Metres
METAR	Meteorological Aerodrome Report
PIC	Pilot-in-Command
POH	Pilot's Operating Handbook
QNH	Barometric Pressure Adjusted to Sea Level
SACAA	South African Civil Aviation Authority
SAWS	South African Weather Service
UTC	Co-ordinated Universal Time
VFR	Visual Flight Rules
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 Thursday, 23 November 2023, a flight instructor and a pilot on-board a Piper PA-28-180 aircraft with registration ZS-CZR took off from Runway 03 at Vereeniging Airport (FAVV) in Gauteng province for circuit (take-off and landing) training exercise with the intention to land at the same airport. Visual meteorological conditions (VMC) by day prevailed at the time of the flight which was conducted under the provisions of Part 141 of the Civil Aviation Regulations (CAR) 2011 as amended.

1.1.2 The flight instructor with a Grade 2 rating was providing training to the pilot towards his Grade 3 instructor rating. According to the flight instructor, a pre-flight inspection of the aircraft was performed prior to take-off; no abnormalities were found. The aircraft had 70 litres of Avgas which equated to an endurance of 2 hours. The flight instructor reported that they used Runway 03 for take-off and exercises, and that the first circuit was uneventful. During the second circuit whilst on final approach at approximately 545 feet (ft) above ground level (AGL), the engine power reduced until there was complete loss of power. The flight instructor took control of the aircraft and applied full rich mixture as well as increased throttle (power), but there was no increase in power. He then opted to conduct a forced landing on an open field which was to the left of their flight path. The aircraft's approach speed was 80 miles per hour. Before landing, the pilot selected the flaps setting to 40 degrees.

1.1.3 During the landing roll, the aircraft struck a muddy hole and severed the nose wheel assembly after which the aircraft nosed over. The accident occurred approximately 1.38 nautical miles (nm) from the threshold of Runway 03.

1.1.4 The aircraft sustained damage to the nose wheel, vertical stabiliser, propeller blades, both wings and the forward section of the cabin. Both fuel tanks ruptured, and fuel leaked from the tanks but there was no post-impact fire. The crew was taken to the hospital for normal routine check after the accident; they were found to be fit. Post accident, the carburettor icing chart indicated that the aircraft probably experienced a serious icing condition which caused the aircraft to lose engine power. Although the aircraft experienced serious icing, the pilot could not recall any other associated signs of carburettor icing.

1.1.5 The accident occurred during daytime near FAVV at Global Positioning System (GPS) co-ordinates determined to be 26º35'31.80 South 027º56'58.24" East, at a field elevation of 4 855 feet (ft).

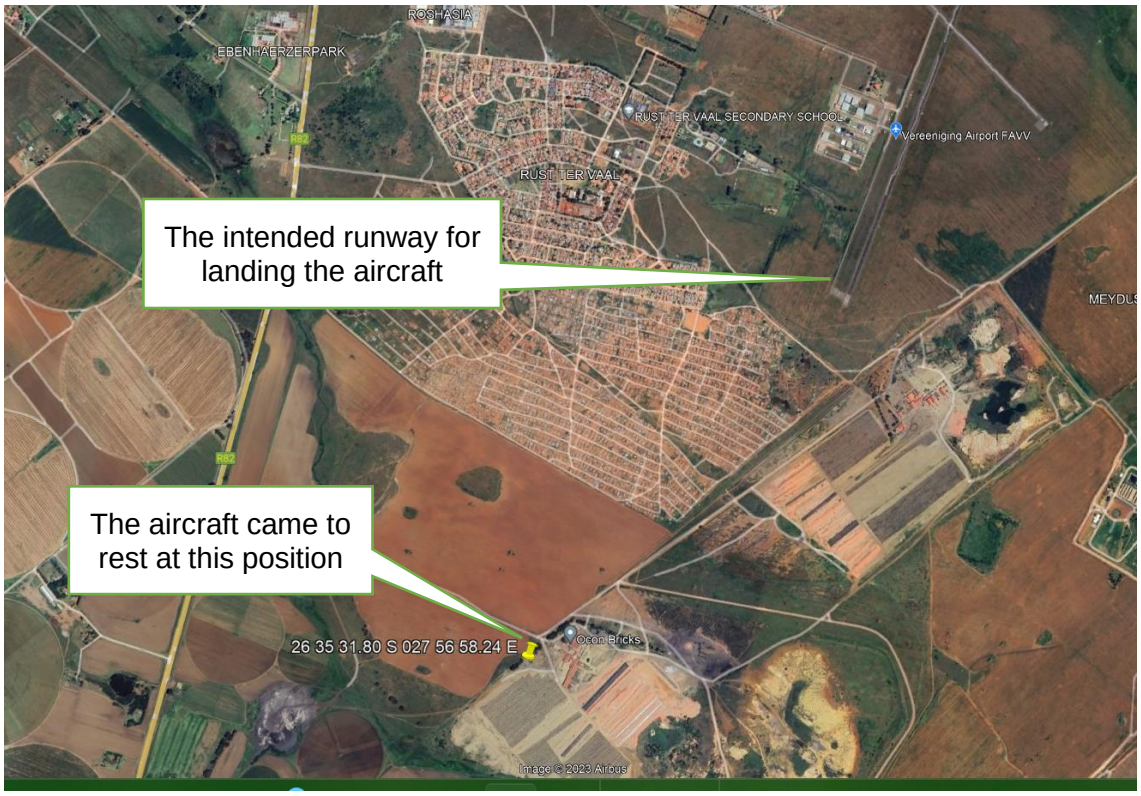

Figure 1: The yellow pin indicates the accident site. (Source: Google Earth)

1.2. Injuries to Persons

Injuries	Pilot	Crew	Pass.	Total On-board	Other
Fatal	-	-	-	-	-
Serious	-	-	-	-	-
Minor	-	-	-	-	-
None	2	-	-	2	-
Total	**2**	**-**	**-**	2	**-**

Note: Other means people on the ground.

1.3. Damage to Aircraft

1.3.1. The aircraft sustained substantial damage to the nose wheel assembly, vertical stabiliser, propeller blades, both wings, cabin area and both fuel tanks.

Figure 2: The aircraft as it came to rest. (Source: Pilot)

1.4. Other Damage

1.4.1. None.

1.5. Personnel Information

Pilot-in-command (Flight Instructor)

Nationality	Egyptian	Gender	Male	Age	26
Licence Type	Commercial Pilot Licence (CPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Instrument, Instructor Grade 2				
Medical Expiry Date	28 January 2024				
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	1 763.5
Total Past 24 Hours	0
Total Past 7 Days	3.2
Total Past 90 Days	217.2
Total on Type Past 90 Days	93.6
Total on Type	229.3

1.5.1 The flight instructor was initially issued a Commercial Pilot Licence (CPL) by the Regulator (SACAA) on 27 March 2019. The CPL was renewed on 21 March 2023 with an expiry date of 31 March 2024. He was issued a Grade 2 instructor rating on 21 March 2023 with an expiry date of 31 March 2024. His Class 1 medical certificate was issued on 1 February 2023 with an expiry date of 28 January 2024. The aircraft type was endorsed on his licence.

Pilot

Nationality	Egyptian	Gender	Male	Age	22
Licence Type	Commercial Pilot Licence (CPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Instrument				
Medical Expiry Date	31 March 2024				
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	222.5
Total Past 24 Hours	0
Total Past 7 Days	1.3
Total Past 90 Days	17.8
Total on Type Past 90 Days	12.8
Total on Type	51.2

1.5.2 The pilot was initially issued a Commercial Pilot Licence (CPL) by the Regulator (SACAA) on 20 July 2023 with the expiry date of 30 June 2024. His Class 1 medical certificate was issued on 31 March 2023 with an expiry date of 31 March 2024. The aircraft type was endorsed on his licence.

1.6. Aircraft Information

1.6.1 Aircraft Description (Source: Pilot's Operating Handbook [POH])

The Cherokee is powered by Lycoming 0-360-A4A four-cylinder, direct drive, horizontally opposed engine rate at 180 HP at 2700 RPM. It is furnished with a starter, 60 amperes 12-volt alternator, shielded ignition, vacuum pump drive, fuel pump, and a dry automotive type of carburettor air filter. The exhaust system is of the cross-over type to reduce back pressure and improve performance. It is made entirely from stainless steel and is equipped with dual mufflers. A heater shroud around the mufflers is provided to supply heat for the cabin and

windshield defrosting. The Sensenich 76EM8S5-60 fixed-pitch propeller is made from a one-piece alloy forging.

All structures are of aluminium alloy construction and are designed to ultimate load factors well in excess of normal requirements. All exterior surfaces are primed with etching primer and painted with acrylic lacquer. The wings are attached to each side of the fuselage by inserting the butt ends of the respective main spars into a spar box carry-through which is an integral part of the fuselage structure, providing in effect a continuous main spar with splices at each side of the fuselage. Ther are also fore and aft attached at the rear and at an auxiliary front spar.

The wing aerofoil section is a laminar flow type, NACA652-415 with the maximum thickness about 40% aft of the leading edge. This permits the main spar carry-through structure to be located under the rear seat providing unobstructed cabin floor space ahead of the rear seat.

Airframe:

Manufacturer/Model	Piper Aircraft Corporation	
Serial Number	28-518	
Year of Manufacture	1963	
Total Airframe Hours (At Time of Accident)	4969.3	
Last Inspection (Date & Hours)	27 October 2023	4922.0
Airframe Hours Since Last Inspection	47.3	
CRS Issue Date	27 October 2023	
ATF (Issue Date & Expiry Date)	31 August 2023	31 August 2024
C of R (Issue Date) (Present Owner)	16 November 2021	
Operating Category	Standard Normal Category	
Type of Fuel Used	Avgas 100LL	
Previous Accidents	None	

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

Engine:

Manufacturer/Model	Textron Lycoming / 0-360-A4J
Serial Number	L-18742-36A
Part Number	LW-13820
Hours Since New	1644.5
Hours Since Overhaul	TBO not yet reached

Propeller:

Manufacturer/Model	Sensenich / 76EM8-0-60
Serial Number	18678K
Part Number	05-00119
Hours Since New	1381.72
Hours Since Overhaul	TBO not yet reached

1.6.2 The aircraft had a Certificate of Airworthiness (C of A) that was issued by the Regulator on 18 August 2023 with an expiry date of 31 August 2024.

1.6.3 The last annual inspection of the aircraft was conducted on 23 October 2023. The aircraft maintenance organisation (AMO) which conducted the maintenance of the aircraft issued the Certificate of Release to Service (CRS) on 27 October 2023 at 4922.0 airframe hours with an expiry date of 31 October 2024 or at 5022.0 airframe hours, whichever comes first.

1.6.4 The AMO had an AMO Certificate that was issued by the Regulator on 27 October 2023 with an expiry date of 31 October 2024.

1.7. Meteorological Information

1.7.1. The weather information below was obtained from the Meteorological Aerodrome Report (METAR) that was issued by the South African Weather Service (SAWS), recorded at O.R. Tambo International Airport (FAOR) on 23 November 2023 at 0910Z. FAOR is located 89 kilometres (km) from the accident site.

Wind Direction	030°	Wind Speed	6 kt	Visibility	CAVOK
Temperature	30°C	Cloud Cover	None	Cloud Base	None
Dew Point	12°C	QNH	1025 hPa		

1.7.2 The weather information below was obtained from the SAWS website. It was issued for FAVV on 23 November 2023.

FAVV 231300Z AUTO 03007KT //// // ////// 32/12 Q1023=
FAVV 231400Z AUTO 32003KT //// // ////// 33/12 Q1022=
FAVV 231500Z AUTO 34007KT //// // ////// 32/13 Q1022=

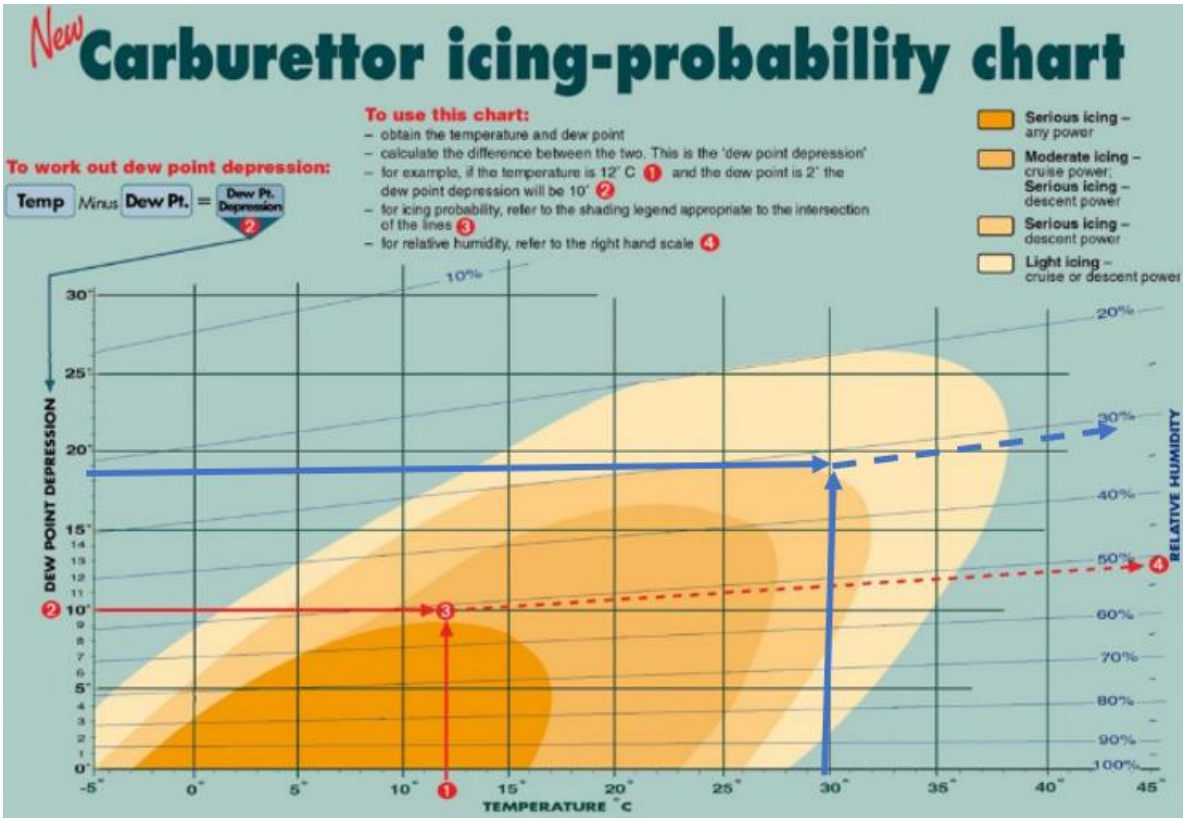

Figure 3: The carburettor icing probability chart.

1.7.3 The carburettor icing chart above indicates the dew point depreciation of 18°C at a temperature of 30°C which resulted in a relative humidity of 30% and a serious icing probability at descent engine power setting.

1.8. Aids to Navigation

1.8.1. The aircraft was equipped with standard navigational equipment as approved by the Regulator. 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 1.38 nautical miles (nm) from FAVV Runway 03 threshold at the following GPS co-ordinates: 26º35'31.80" South 027º 56'58.24" East, at a field elevation of 4 855ft.

Aerodrome Name	Vereeniging Airport (FAVV)
Aerodrome Location	Vereeniging, Gauteng Province
Aerodrome Status	Licensed
Aerodrome Co-ordinates	26º35’31.80” South 027º 56’58.24” East
Aerodrome Altitude	4 855 ft
Runway Headings	03 / 21 and 15 / 33
Runway Dimensions	1605 m X 22 m
Runway Used	03
Runway Surface	Tar
Approach Facilities	Nil
Radio Frequency	122.1 MHz

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 The wreckage was located within the parameters of a brick factory which was located approximately 1.38 nautical miles from the threshold of Runway 03. The aircraft was found in an inverted position. The nose gear had detached during the accident sequence.

Figure 4: The aircraft in an inverted position post-accident.

1.12.2 Both wings sustained damage during the impact sequence.

1.12.3 One of the propeller blades was found bent whilst the other blade was intact. The front section of the nose cone was damaged from the underside, an indication of impact with the ground.

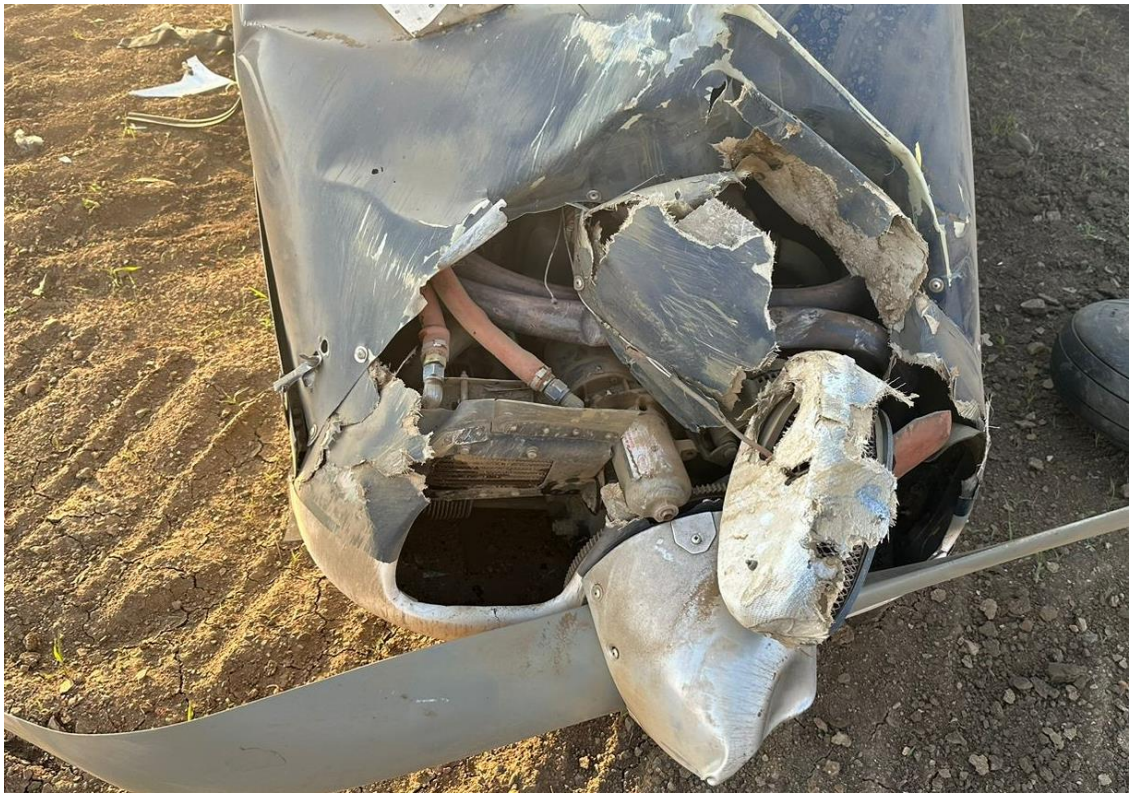

Figure 5: Damage to the nose cone.

1.13. Medical and Pathological Information

1.13.1 None.

1.14. Fire

1.14.1. There was no evidence of a pre- or post-impact fire.

1.15. Survival Aspects

1.15.1 The accident was considered survivable due to low impact and minimal damage to the cockpit structure. Both pilots were properly restrained with safety harnesses. The pilots were able to evacuate the aircraft without assistance.

1.16. Tests and Research

1.16.1. The two magnetos were bench-tested and found to be serviceable by the AMO. The carburettor was confirmed to be functioning properly. The engine was disassembled, and no abnormalities were detected.

1.17. Organisational and Management Information

1.17.1 The flight was conducted in accordance with the provisions of Part 141 of the CAR 2011 as amended.

1.17.2 The Approved Training Organisation (ATO) had a valid ATO Certificate that was issued on 1 November 2023 with the expiry date of 30 September 2028.

1.17.3 The AMO which conducted maintenance on the aircraft had an AMO Certificate that was issued by the Regulator on 27 October 2023 with an expiry date of 31 October 2024.

1.18. Additional Information

1.18.1. The following information is an extract from the Pilot's Operating Handbook:

ENGINE POWER LOSS IN FLIGHT

Fuel selector .....switch to tank containing fuel
Electric fuel pump .....ON
Mixture .....RICH
Carburetor heat .....ON
Engine gauges .....check for indication of cause of power loss
Primer .....check locked
If no fuel pressure is indicated, check tank selector position to be sure it is on a tank containing fuel.

When power is restored:
Carburetor heat.....OFF
Electric fuel pump.....OFF

1.18.2 The pilot indicated that the carburettor heat was selected to "OFF" at take-off as per the POH. It remained "OFF" until the accident occurred.

1.18.3 Engine roughness is usually due to carburettor icing which is indicated by a drop in RPM and may be accompanied by a slight loss of airspeed or altitude. If too much ice is allowed to accumulate, restoration of full power may not be possible, therefore, prompt action is

required. The following are the steps to be followed with rough running engine:

- Mixture -Adjust for maximum smoothness.
- Electric fuel pump – On
- Fuel Selector – Change to other tank to see if fuel contamination is the problem.
- Engine Gauges – Check for abnormal readings
- Magneto Switch – Left then Right then back to both

If roughness persists, prepare for a precautionary landing at pilot discretion.

1.18.3 The following information is an extract from Airplane Flying Handbook FAA-H-8083

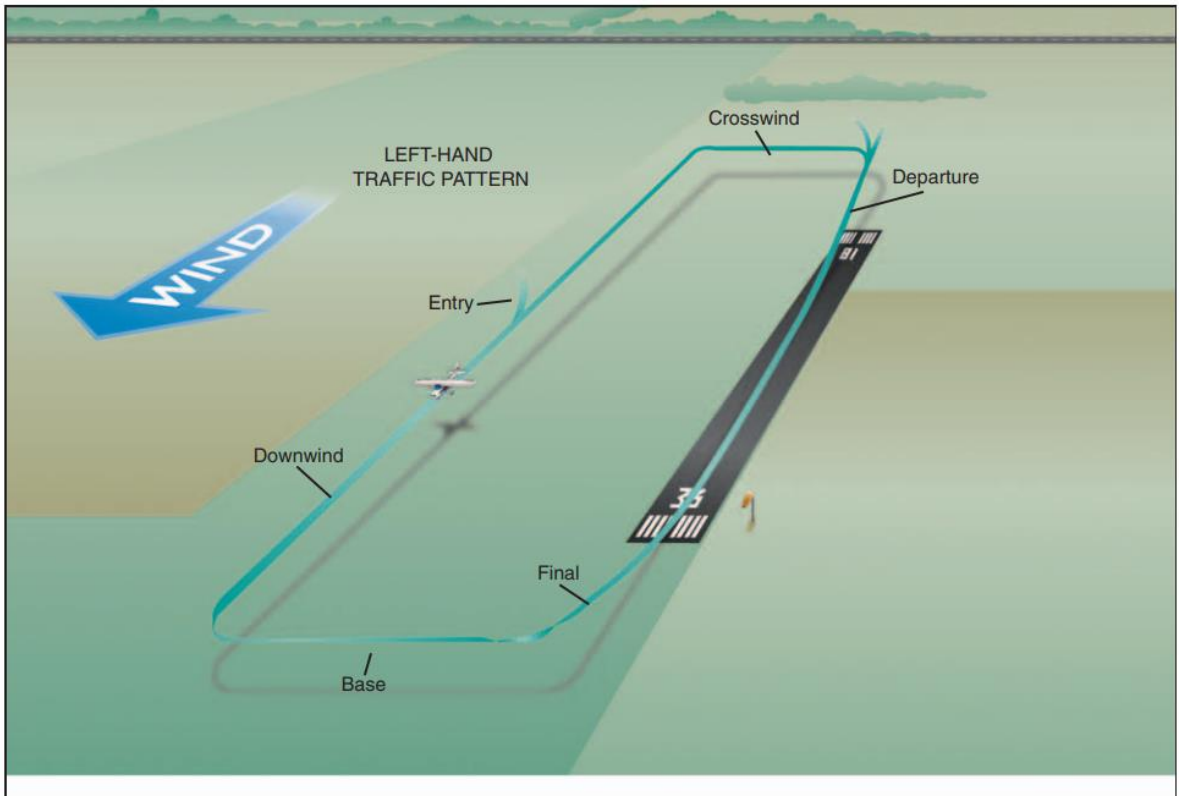

Figure 6: Standard pattern of a circuit.

- If the pilot extends the downwind leg while the carburettor heat is off, icing can start to set due to low power setting.
- The flight instructor and the pilot were focused on the exercises and, thus, did not notice the signs preceding the carburettor icing/engine failure.
- If the crew had flown a normal circuit, the aircraft would have reached the runway as they had stated that the aircraft was approximately 600ft AGL.
  (aircraft height 5400 feet – elevation 4855 = 545 AGL which is approximately 600ft).
- The teardown inspection was performed without the investigator present to witness the procedure. The AMO indicated that the engine did not sustain any mechanical damage.
- There was enough fuel on-board the aircraft to complete all the planned circuit (take-off and landing) exercises.

1.19. Useful or Effective Investigation Techniques

1.19.1. None.

2. ANALYSIS

2.1. General

From the available evidence, the following analysis was made with respect to this accident. This shall not be read as apportioning blame or liability to any organisation or individual.

2.2. Analysis

2.2.1 The flight instructor and the pilot had valid Commercial Pilot Licences and were medically fit to conduct the flight. The aircraft type was endorsed on their pilot licences. The flight instructor had a Grade 2 rating and was providing training to the pilot towards his Grade 3 instructor rating.

2.2.2 The last annual inspection of the aircraft was conducted on 23 October 2023. The AMO which conducted the maintenance had issued the Certificate of Release to Service (CRS) on 27 October 2023 at 4922.0 airframe hours with an expiry date of 31 October 2024 or at 5022.0 airframe hours, whichever comes first. The AMO had an AMO Certificate that was issued by the Regulator on 27 October 2023 with an expiry date of 31 October 2024. The magnetos were bench-tested and were found to be serviceable. The carburettor was found to be operative. The engine was stripped and there were no abnormalities found.

2.2.3 The post-accident engine inspection revealed no abnormalities. There was no indication of abnormality on the engine or any of the supplementary systems that could have contributed to the engine power loss. A review of the carburettor icing probability chart revealed a high chance of serious icing conditions at the time of the flight during approach for landing, which likely caused the undetermined loss of engine power. The pilots flew a wider-than-normal circuit and had configured the aircraft with flaps prior to landing; this prevented them from gliding to the runway following the loss of engine power. The flight instructor and the pilot were focused on the exercises and, therefore, did not notice signs of abnormality from the engine. If the crew had flown a normal circuit, the aircraft would have made it to the runway as they had stated that the aircraft was approximately 545 AGL.

2.2.4 The investigation determined that there was a probability of serious carburettor icing during descent and the pilots only reported reduced engine power followed by complete loss of engine power.

3. CONCLUSION

3.1. General

From the available evidence, the following findings, causes and contributing factors 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 conclusion 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.
- **Causes —** are actions, omissions, events, conditions, or a combination thereof, which led to this accident.
- **Contributing factors —** are actions, omissions, events, conditions or a combination thereof, which, if eliminated, avoided or absent, would have reduced the probability of the accident occurring, or would have mitigated the severity of the consequences of the accident. The identification of contributing factors does not imply the assignment of fault or the determination of administrative, civil, or criminal liability.

3.2. Findings

3.2.1 The flight instructor had a Grade 2 rating and was initially issued a Commercial Pilot Licence (CPL) by the Regulator on 27 March 2019. The CPL was renewed on 21 March 2023 with an expiry date of 31 March 2024. He was issued a Grade 2 instructor rating on 21 March 2023 with an expiry date of 31 March 2024.

3.2.2 The flight instructor had a Class 1 medical certificate that was issued on 1 February 2023 with an expiry date of 28 January 2024. The aircraft type was endorsed on his licence.

3.2.3 The pilot was issued an initial Commercial Pilot Licence (CPL) by the Regulator on 20 July 2023 with an expiry date of 30 June 2024.

3.2.4 The pilot had a Class 1 medical certificate that was issued on 31 March 2023 with an expiry date of 31 March 2024. The aircraft type was endorsed on his licence.

3.2.5 The aircraft was issued the Certificate of Registration (C of R) on 16 November 2021.

3.2.6 The aircraft had a valid Certificate of Airworthiness (C of A) that was issued on 18 August 1978. The latest C of A had an expiry date of 31 August 2024.

3.2.7 The ATO had a valid Approved Training Organisation (ATO) Certificate that was issued on 1 November 2023 with an expiry date of 30 September 2028.

3.2.8 The latest annual inspection of the aircraft was conducted on 27 October 2023. The AMO which conducted the inspection issued the aircraft's CRS on 27 October 2023 at 4922.0 airframe hours with an expiry date of 31 October 2024 or at 5022.0 airframe hours, whichever comes first.

3.2.9 The AMO had an AMO Certificate that was issued by the Regulator on 27 October 2023 with an expiry date of 31 October 2024.

3.2.10 The flight was conducted in accordance with the provisions of Part 141 of the CAR 2011 as amended.

3.3. Probable Cause/s

3.3.1 Lack of awareness of probable carb icing conditions and lack of application of carburetor heat. Subsequently, a forced landing was conducted which was unsuccessful.

3.4. Contributory Factor/s

3.4.1. None.

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