



Section/division **Accident and Incident Investigations Division**

Form Number: CA 12-57

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number		CA18/2/3/10663					
Classification	Accident		Date	20 June 2026		Time	1321Z
Type of Operation	Private (Part 94)						
Location							
Place of Departure		Oudtshoorn Airport (FAOH), Western Cape Province		Place of Intended Landing		Prince Albert Airfield (FAPC), Western Cape Province	
Place of Occurrence		Open field, south of Swartberg Pass					
GPS Co-ordinates	Latitude	33°23'21.82" S	Longitude	22°06'30.14" E	Elevation	2 863ft	
Aircraft Information							
Registration		ZU-EDE					
Make; Model; S/N		Jabiru; J430 (Serial Number: 266)					
Damage to Aircraft		Substantial		Total Aircraft Hours		2 182.4	
Pilot-in-command							
Licence Type	Private Pilot Licence (PPL)		Gender	Male		Age	19
Licence Valid	Yes	Total Hours	104.7		Total Hours on Type	9.5	
Total Hours 30 Days		4.1		Total Flying on Type Past 90 Days		5.7	
People On-board	1 + 1	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
On Saturday, 20 June 2026, a pilot and a passenger on-board a Jabiru J430 aircraft registered ZU-EDE took off on a private flight from Oudtshoorn Airport (FAOH) to Prince Albert Airfield (FAPC), both in the Western Cape province. The flight was conducted under visual meteorological conditions (VMC) by day and under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011, as amended. The pilot stated that he conducted a pre-flight inspection of the aircraft and no anomalies were identified. The aircraft had approximately 133 litres (L) of Aviation Gasoline 100 Low Lead (Avgas 100LL) in the tanks. Fuel sampled from the header tank was free of contamination, the engine oil quantity was within the prescribed limits, and the oil dipstick was correctly secured and rechecked for tightness. The pilot also stated that the newly installed MGL's electronic flight instrument system (EFIS) screen froze (stopped displaying data) before departure. As the system was still undergoing testing and calibration, the engine gas temperature (EGT), ammeter and tachometer indications were not considered as dependable; therefore, the pilot relied on the aircraft's analogue engine instruments for indications.							

The aircraft departed from FAOH's Runway 22; it routed overhead Swartberg Pass, which is also in the Western Cape.

Approximately 20 minutes after departure whilst climbing to flight level (FL) 085, the aircraft abruptly yawed and rolled to the right with severe airframe vibrations. Simultaneously, the pilot observed a decrease in engine speed on the analogue tachometer from approximately 2 900 revolutions per minute (rpm) to between 1 400 and 1 200 rpm, resulting in insufficient engine power to maintain a straight and level flight. The pilot and the passenger also noticed a strong odour of burning oil as the analogue oil pressure indication began to decrease. Considering the loss of engine performance, the pilot executed a 180-degree left turn towards a field on which to conduct a forced landing. He selected the emergency frequency 121.5-Megahertz (MHz) and transmitted a MAYDAY call, to which a pilot from another airline responded and notified Cape Town International Airport (FACT) on frequency 124.7-MHz and, thus, the search and rescue (SAR) service was activated.

Whilst on base leg of the forced landing approach, the engine stopped and the propeller continued to windmill. The pilot selected flaps setting three and, in preparation for the touchdown, he switched off the master electrical switch, magnetos and the main fuel selector. The aircraft landed facing into the wind on a slightly rising terrain. During the landing roll, the uneven surface significantly reduced braking effectiveness despite maximum braking being applied. The aircraft rolled for approximately 500 metres (m) before it impacted a perimeter fence at an estimated groundspeed of about 85 knots (kts). After the impact, the aircraft nosed over (inverted position) before it stopped.

The pilot and the passenger disembarked from the aircraft without assistance and moved to a safe distance. Both occupants sustained minor injuries; the aircraft was substantially damaged. After the accident, both occupants were examined at Prince Albert Provincial Hospital. The passenger was discharged after the examination whilst the pilot underwent further medical assessments, including radiographic imaging at Mediclinic Durbanville the following day.



Figure 1: An aerial view of the approximate accident site. (Source: Google Earth)



Figure 2: The wreckage at the accident site. (Source: Pilot)

Post-accident Engine Teardown Inspection

The engine teardown examination was conducted at Rhino Park Airfield in Gauteng province on 14 July 2026 to determine whether any pre-existing mechanical defects could have contributed to the accident.

The crankcase, crankshaft, connecting rods, pistons, cylinders, camshaft and valve train were all found in satisfactory condition with no evidence of abnormal wear, overheating, stoppage, catastrophic internal failure, valve failure or foreign objects. The lubrication system, including the oil pump and galleries, was also free of blockage or contamination, and there was no evidence of oil starvation.

The ignition, induction and fuel systems were serviceable. The carburettor was mechanically sound, although the check lever was missing its retaining nut. The lever remained correctly positioned and securely held by its spring with no evidence that the missing nut affected the carburettor operation during the flight. The propeller attachment, reduction drive and accessory drive components were also free from defects that could have affected engine performance.

The teardown inspection found no pre-existing mechanical failure or defect capable of explaining the in-flight engine power loss. Other than the missing carburettor check lever retaining nut which did not interfere with the operational effectiveness of the aircraft, all components were in satisfactory condition and operated normally.

Meteorological Information

The weather information in the table below was obtained from the Meteorological Aerodrome Report (METAR) that was issued by the South African Weather Service (SAWS), recorded at Oudtshoorn Airport (FAOH) weather station on 20 June 2026 at 1300Z. The accident site was approximately 27.7 nautical miles (nm) from FAOH.

Wind Direction	-	Wind Speed	-	Visibility	>10km
Temperature	19°C	Cloud Cover	CAVOK	Cloud Base	>5000
Dew Point	12°C	QNH	1020hPa		

Icing Formation Probability Calculation

Temp -Dew Point=Dew Point Depression

Dew Point (DP) Depression=19°C-12°C

DP depression=7°C

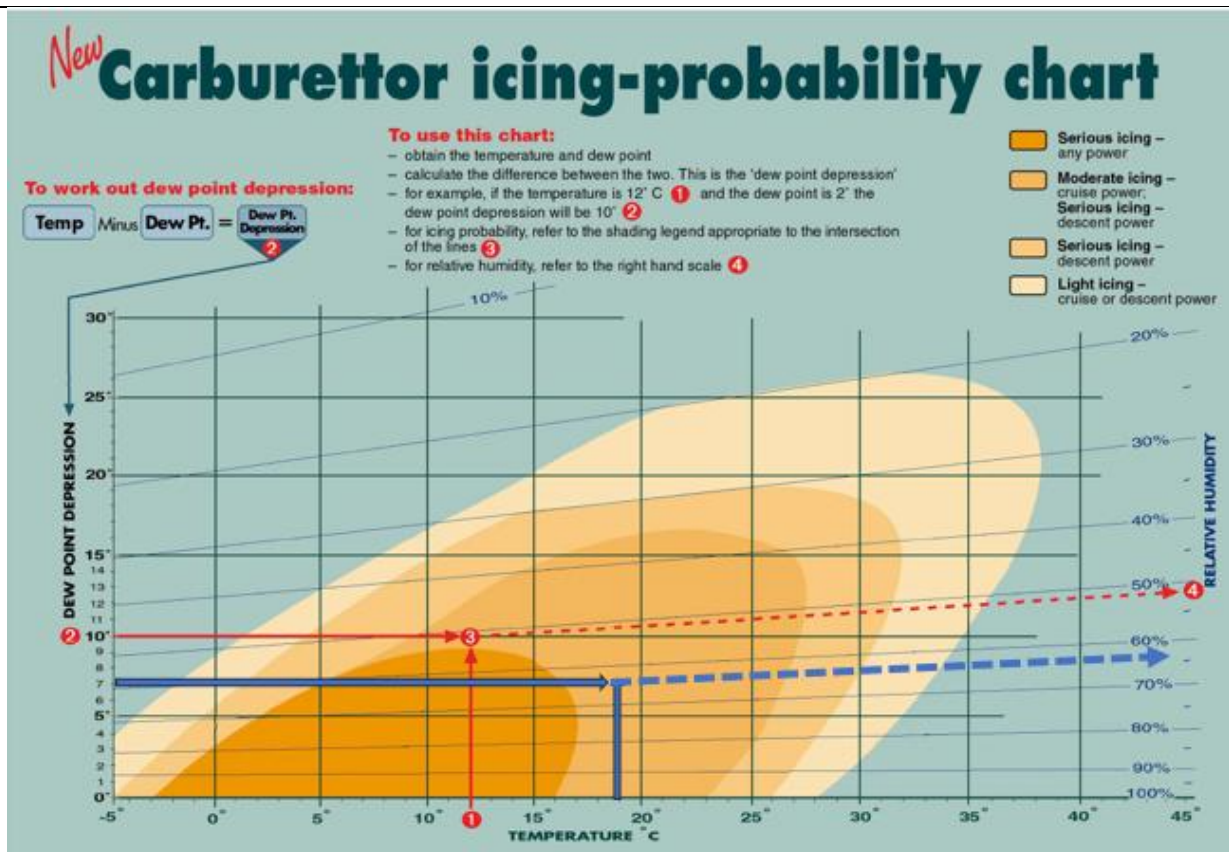


Figure 3: Carburetor probability Icing Chart calculation.

The provided atmospheric conditions indicated a significant chance of carburetor icing probability with a relative humidity at approximately 65%, and moderate ice formation during cruise power setting and serious icing during descent power settings.

The aircraft was on a climb during which the engine lost power, followed by an engine stoppage during descent.

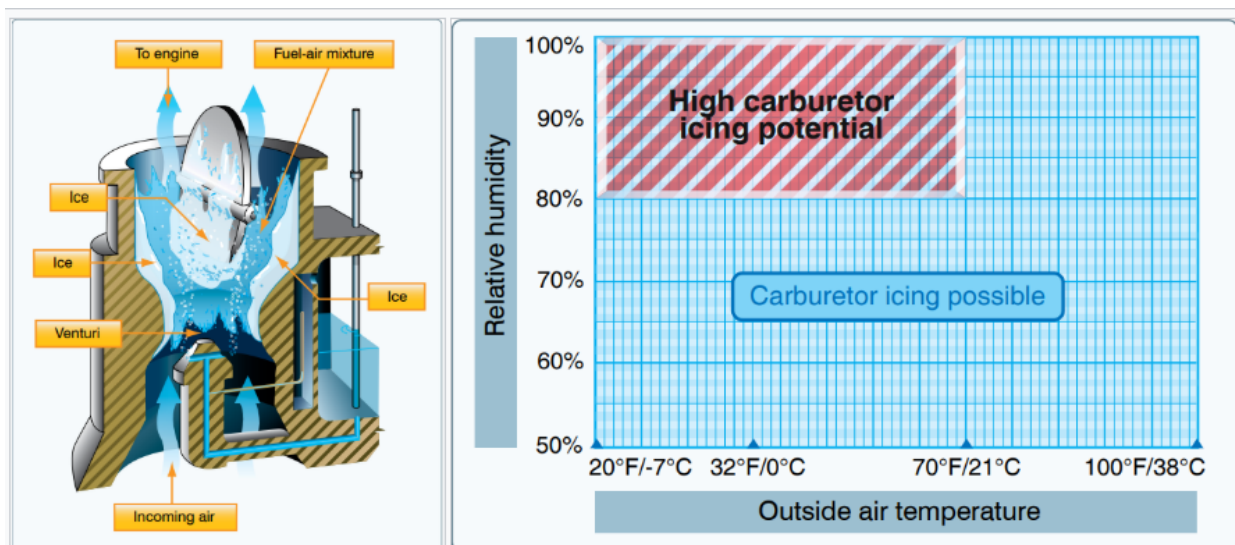


Figure 4: Carburetor icing effect and the related relative humidity.

International Civil Aviation Organisation (ICAO) Manual of Aircraft Accident and Incident Investigation (Doc 9756), Part III- Investigation, Chapter 5, paragraphs 5.4.76 - 5.4.78

According to the ICAO, induction icing (carburettor icing) may develop within a reciprocating engine carburettor when the cooling effect associated with airflow through the venturi and fuel evaporation reduces the induction air temperature sufficiently for moisture to condense and freeze. Such icing may occur in clear air and at ambient temperatures well above 0°C, provided atmospheric moisture is present. As ice accumulates within the induction system, the airflow to the engine is progressively restricted, resulting in a reduction in engine power output. Consequently, the reduction in available engine power may adversely affect aircraft performance, including a reduced rate of climb or an inability to maintain the required climb gradient.

Pilot

The pilot had a Private Pilot Licence (PPL) that was initially issued by the Regulator (SACAA) on 6 October 2025. The licence was reissued on 21 July 2026 with an expiry date of 30 September 2026. The aircraft type was endorsed in the pilot's licence. He had flown a total of 104.7 hours of which 9.5 hours were on the aircraft type. The pilot had a Class 2 aviation medical certificate that was issued on 8 April 2026 with an expiry date of 30 April 2027. The pilot had no restrictions on his medical certificate.

Aircraft

The last annual inspection of the aircraft was conducted and certified on 8 August 2025 at 2 133.8 airframe hours. The aircraft had accrued 48.6 hours after the said inspection. The aircraft had a valid Authority-to-Fly (ATF) Certificate that was initially issued on 7 May 2019. The latest ATF had an expiry date of 31 August 2026. The aircraft Certificate of Registration (C of R) was issued to the present owner on 15 June 2021. The aircraft had a Certificate of Release to Service (CRS) that was issued on 8 August 2025 with an expiry date of 8 July 2026 or at 2 232.9 airframe hours, whichever occurs first.

Engine Teardown Results

The engine teardown examination found that the carburettor check lever retaining nut was missing. However, the check lever had remained correctly positioned and secured, retained by its spring mechanism. No evidence was found to indicate that this condition adversely affected the operation of the carburettor.

The aircraft had a recently installed backup MGL engine monitoring system which was unserviceable prior to departure (failed to display engine data). As the system was still undergoing testing and calibration, its EGT, ammeter and tachometer indications were not considered reliable, and the pilot conducted the flight using the aircraft's analogue engine instruments.		
Findings		
1. The pilot was qualified and properly licensed to undertake the flight. 2. The aircraft maintenance organisation (AMO) which conducted maintenance on this aircraft had a valid AMO Certificate that was issued by the Regulator. 3. The aircraft records indicated that it was properly maintained. 4. The aircraft lost engine power during a climb, followed by an engine stoppage whilst descending. A forced landing was conducted on a field during which the aircraft impacted a perimeter fence and nosed over; it rested invertedly. 5. The engine power loss and the subsequent stoppage were likely due to carburettor icing, given the prevailing meteorological conditions and engine operating conditions. Post-accident examination of the engine revealed no defects that could explain engine stoppage. 6. The pilot and the passenger were not injured, and the aircraft was substantially damaged.		
Probable Cause(s)		
Loss of engine power and the subsequent engine stoppage likely due to carburettor icing resulted in an unsuccessful forced landing during which the aircraft impacted a perimeter fence and nosed over.		
Contributing Factor(s)		
Carburettor icing conditions.		
Safety Action(s)		
None.		
Safety Message and/or Safety Recommendation/s		
None.		
About this Report		
<i>The decision to conduct a limited investigation is based on factors including whether the cause is known and 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 desktop 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**