LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/3/2/1507						
Classification	Serious Incident	**Date**	26 September 2025		**Time**	1005Z	
Type of Operation	Private (Part 94)						
Location							
Place of Departure	Robertsvale Airfield in Gonubie Broads, East London, Eastern Cape Province	Place of Intended Landing	Robertsvale Airfield in Gonubie Broads, East London, Eastern Cape Province				
Place of Occurrence	Open area to the right of Runway 12, approximately 7.2 nautical miles (nm) north-east of Robertsvale Airfield in Gonubie Broads, East London, Eastern Cape Province						
GPS Co-ordinates	Latitude	32°55'34.79" S	Longitude	27°59'39.53" E	Elevation	656.17 ft	
Aircraft Information							
Registration	ZU-TEL						
Make; Model; S/N	I.C.P. Aviazione; Ventura 4 (Serial Number: 21-01-64-0018K)						
Damage to Aircraft	Minor	Total Aircraft Hours	18.1				
Pilot-in-command							
Licence Type	Private Pilot Licence (PPL)	Gender	Male	Age	60		
Licence Valid	Yes	Total Hours	1 306.10	Total Hours on Type	409.3		
Total Hours 30 Days	6.9	Total Flying on Type Past 90 Days	28.7				
People On-board	1+1	**Injuries**	0	**Fatalities**	0	**Other (on ground)**	0

What Happened

On Friday morning, 26 September 2025, a test pilot and a passenger (engineer) on-board a Ventura 4 aircraft with registration ZU-TEL took off on a proving flight from Robertsvale Airfield in East London, Eastern Cape province, with the intention to land back at the same airfield. The flight was conducted under visual meteorological conditions (VMC) by day in accordance with (IAW) the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011, as amended.

The pilot stated that a pre-flight inspection of the aircraft was conducted which included fuel checks for contamination; no anomalies were noted. Moreover, full power and flight control checks were conducted successfully before the pilot initiated the take-off roll from Runway (RWY) 12. The aircraft became airborne at an airspeed of approximately 65 miles per hour (mph) with engine power indicating 5 750 revolutions per minute (RPM). During the climb at an altitude of approximately 200 feet (ft) above ground level (AGL), the engine lost power, which the pilot attributed to a possible low fuel supply (due to a low fuel pressure indication).

The pilot initiated an immediate right turn toward a pre-identified emergency landing zone immediately outside the airfield and executed a forced landing. During the landing roll, the aircraft impacted a tree before it came to rest on the grass-covered grounds. After the aircraft had stopped, the pilot shut down the engine and, together with the engineer, exited the aircraft safely and uninjured. The aircraft was damaged during the serious incident sequence.

The serious incident occurred during daylight outside Robertsvale Airfield at Global Positioning System (GPS) co-ordinates determined to be 32°55'34.79" South 27°59'39.53" East, at an elevation of 656.17 feet (ft).

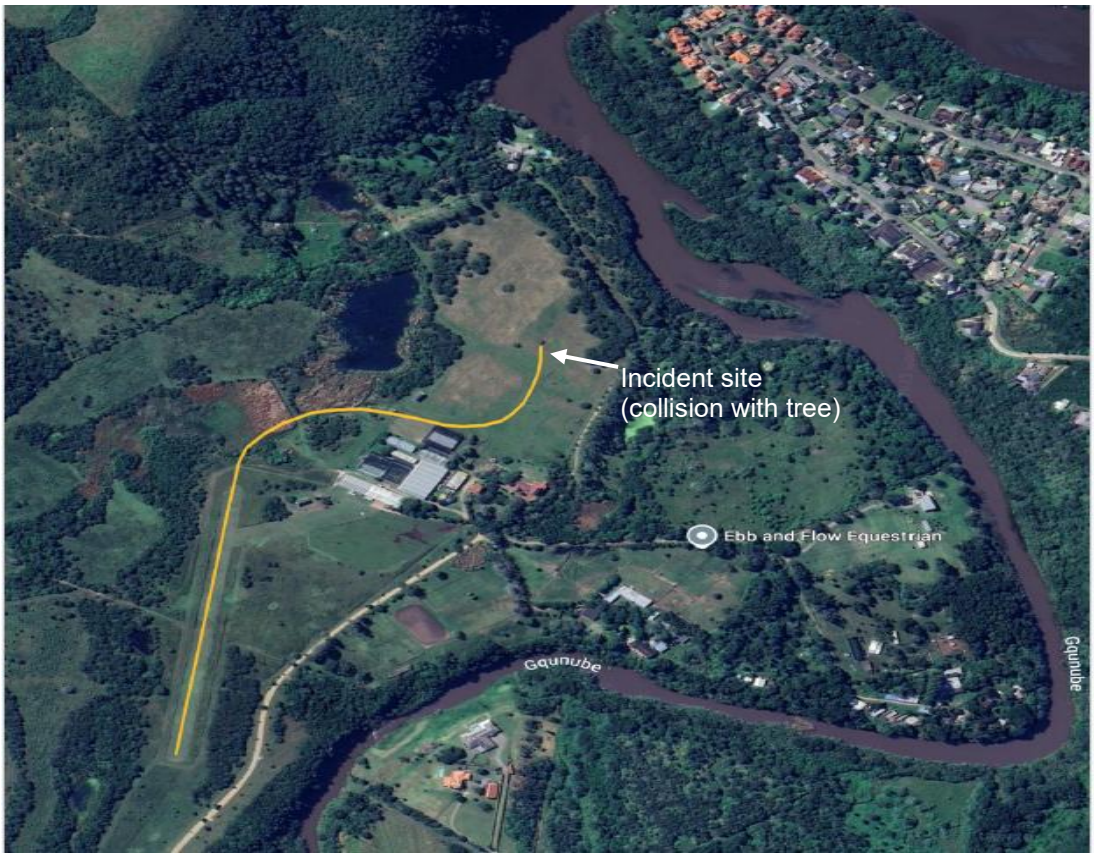

Figure 1: An aerial view of the approximate serious incident site. (Source: Google Earth)

Figure 2: The aircraft at the serious incident site. (Source: Operator)

Post-serious Incident Engine Examination

The aircraft was recovered to a SACAA-approved maintenance facility in East London where a detailed inspection was conducted by engineers. The ZU-TEL aircraft was equipped with a Rotax 912 ULS engine (Serial Number 10005629). Upon inspection, no mechanical damage was found with the engine. A shock-load inspection was performed on the reduction gearbox, and it did not reveal any mechanical defects. Both carburettors were dismantled and examined; no sign of damage was observed. However, the right-side carburettor bowl/float chamber (Figure 73-00-00-2, Item no 60) contained dirt (foreign objects) in the main jet chambers.

The induction system was inspected and found to be unobstructed. The ignition system was also examined with no evidence of damage or malfunction detected. The mechanical fuel pump displayed damage that appeared to be consistent with impact sustained during the serious incident sequence rather than a pre-existing fault.

In conclusion, the engine was found to be intact with no evidence of pre-impact damage or internal failure. An obstruction (foreign material) was discovered within the float chamber of the right-side carburettor, likely obstructing the main jet which caused fuel starvation to the right-side bank cylinders. This contamination resulted in an uneven air-fuel mixture (abnormally lean mixture) which led to reduced intermittent combustion efficiency and the subsequent loss of engine power. The source of foreign material could not be determined. At the time of the occurrence, the aircraft had accumulated approximately 18.1 flight hours of the 25-hour proving flight regime. Prior to the flight, the pitot-static test, mass and balance, equipment list and airframe logbook were completed and

signed by an approved person (AP) who had also released the aircraft to service for the 25-hour flight period.

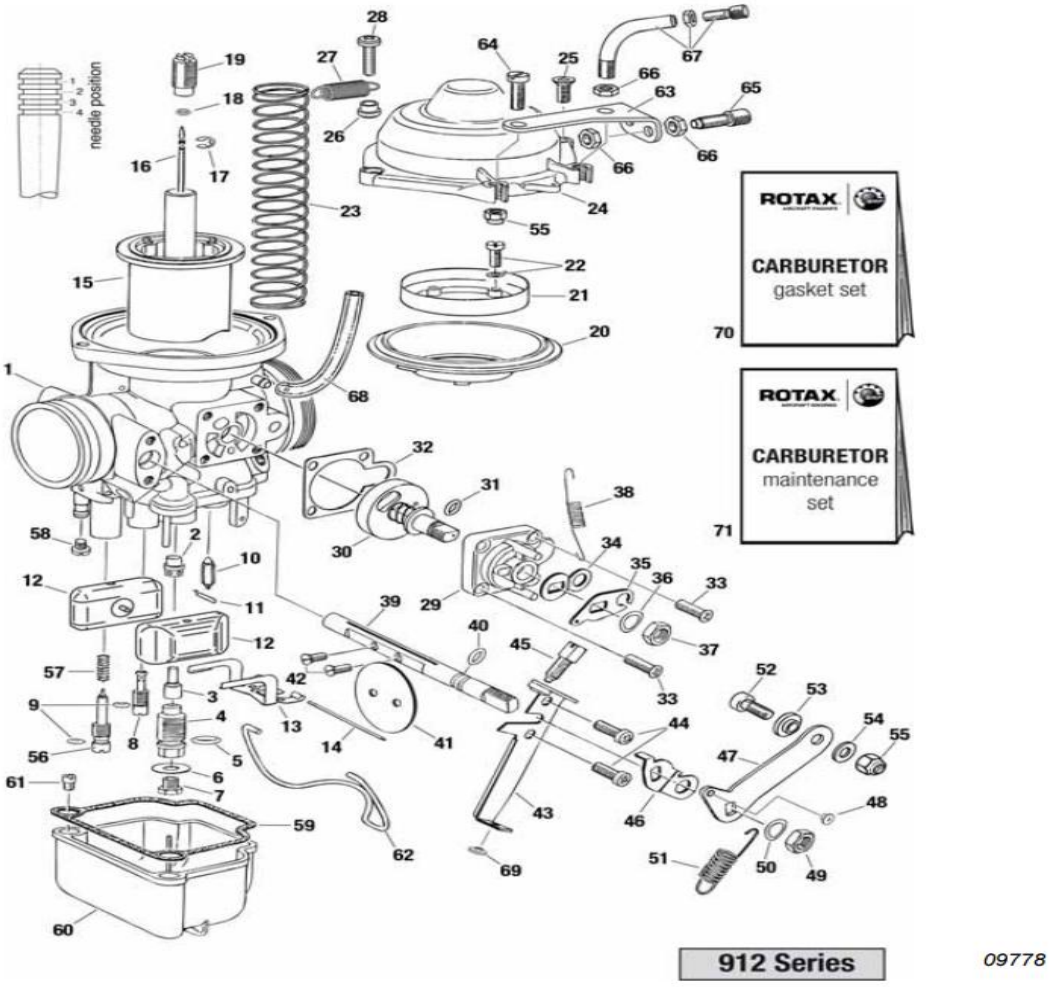

Fig. 73-00-00-2

Figure 3: The 73-00-00-2 carburettor single parts 912 series.
(Source: Rotax Illustrated Parts Catalogue [IPC])

Aircraft Description (Source: Ventura 4 Operators Manual)

The Ventura 4 is a high-wing, all-metal, two-seat light sport aircraft designed for recreational and training use. It features a tricycle landing gear configuration and is equipped with dual flight controls for pilot and co-pilot operation. The aircraft is powered by a Rotax 912 series engine, delivering reliable performance and fuel efficiency suitable for short-field operations and cross-country flights.

The Rotax 912 engine uses dual carburettors, one supplying each bank of cylinders, mounted in the induction system ahead of the intake manifolds. Each carburettor incorporates a float chamber (or float bowl) which maintains a constant fuel-level; from the float chamber the fuel is drawn through

the main jet into the venturi/air-throttle section where it is atomised and mixed with intake air. Since the Rotax 912 ULS employs dual carburettors to supply each cylinder bank independently, any restriction in one carburettor's fuel delivery directly affects the performance balance between the two sides of the engine. The induction system includes the venturi, throttle valve, intake manifold, air filter and associated plumbing. The carburettor must supply a correct fuel/air mixture under varying loads and altitudes. Proper operation of the fuel pump, filters, fuel lines and carburettor jets and float chambers is essential to deliver fuel uninterrupted and maintain mixture balance between the two carburettors. The Ventura 4 is constructed with a riveted aluminium airframe, offering strength and durability while maintaining a low empty weight (400 kg) with a MTOW of 800 kg.

Meteorological Information

The weather information below was obtained from the Meteorological Aerodrome Report (METAR) that was issued by the South African Weather Service (SAWS), recorded at King Phalo Airport (FAEL) on 26 September 2025 at 1000Z. The serious incident site was approximately 9 kilometres (km) from FAEL.

Wind Direction	180º	Wind Speed	11kt	Visibility	9999m
Temperature	21ºC	Cloud Cover	FEW	Cloud Base	4 500 feet (AGL)
Dew Point	12ºC	QNH	1024hPa		

Findings

1. Personnel Information

1.1. The pilot had a Private Pilot Licence (PPL) that was initially issued by the Regulator (SACAA) on 23 June 2009. The licence was reissued on 18 December 2024 with an expiry date of 31 December 2026. The pilot had flown a total of 1 306.10 hours of which 409.3 hours were on the aircraft type.

1.2. The pilot had a Class 2 aviation medical certificate that was issued on 5 May 2025 with an expiry date of 30 April 2026 with VML (valid only with correction for defective distant, intermediate and near vision) and HAL (valid only when hearing aids are worn) restrictions.

2. Aircraft Information

2.1. The aircraft was newly built by an approved person (AP) with valid certification. The aircraft was ground-checked by a SACAA-approved aircraft maintenance organisation (AMO) and a Declaration of Construction was issued on 24 July 2025.

2.2. The aircraft was issued a Certificate of Release to Service (CRS) on 1 August 2025 with an expiry date of 1 August 2026 or at 25 airframe hours, whichever comes first. The aircraft was deemed safe for the test flight.

2.3. The latest maintenance inspection of the aircraft was certified on 4 August 2025 or at 2.4 airframe hours. The aircraft had accrued 15.7 hours since the said inspection.

2.4. The aircraft had conformed with the design data and type approval (number J15/12/726). A statement of conformity was issued by an approved AMO on 4 August 2025 after a maintenance inspection was conducted; it was deemed safe for the proving flight.

2.5. The aircraft's calculated take-off weight of 576.6 kg was within the maximum allowable limit of 800 kg as specified in the operator's manual.

2.6. The engine was found to be mechanically intact with no evidence of pre-impact damage or internal failure. Foreign material discovered in the right-side carburettor float chamber likely obstructed the main jet, which contributed to fuel starvation.

3. Meteorological Information

3.1. Based on the FAEL weather report that was issued by the SAWS, the weather was not a contributing factor in this serious incident.

Probable Cause(s)

The engine power loss was due to fuel starvation on the right-side cylinder bank that was caused by foreign material in the right carburettor float chamber which obstructed the main jet.

Contributing Factor(s)

None.

Safety Action(s)

None.

Safety Message and/or Safety Recommendation/s

None.

About this Report

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 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.

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.

Purpose

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.

Disclaimer

This report is issued by:

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