



AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:		CA18/2/3/10585	
Aircraft Registration		ZS-WXE	Date of Accident		18 May 2025	Time of Accident	1330Z
Type of Aircraft		RANS S-10 Sakota		Type of Operation		Private (Part 94)	
Pilot-in-command Licence Type		Commercial Pilot Licence		Age	39	Licence Valid	Yes
Pilot-in-Command Flying Experience		Total Flying Hours		5956.4	Hours on Type	±2.6	
Last Point of Departure		Middleburg Aerodrome (FAMB), Mpumalanga Province					
Next Point of Intended Landing		Middleburg Aerodrome (FAMB), Mpumalanga Province					
Damage to Aircraft		Destroyed					
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)							
Approximately 200m left of Runway 32 at Middleburg Aerodrome (FAMB) at GPS position: 25°41'25.94" South 029°26'39.04" East, an elevation of 4 860 feet (ft)							
Meteorological Information		Surface wind: 360°/5kt, temperature: 22°C, dew point 17°C, visibility: 9999m; QNH: 1022hPa					
Number of People On-board	1 + 1	Number of People Injured	0	Number of People Killed	2	Other (On Ground)	0
Synopsis							
<p>On Sunday, 18 May 2025, a pilot and a passenger on-board a Rans S-10 Sakota aircraft with registration ZS-WXE were engaged in a private flight from Middleburg Aerodrome (FAMB) in Mpumalanga province with the intention to land back at the same aerodrome. 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.</p> <p>At approximately 1320Z, the pilot conducted a pre-flight inspection of the aircraft and did not note anomalies. Thereafter, the pair taxied the aircraft to Runway (RWY) 32 for take-off. An eyewitness at the aerodrome stated that the take-off was uneventful. After take-off, the aircraft turned left downwind but did not climb to the circuit height of 1000 feet (ft) above ground level (AGL). As it was turning left base leg for RWY 32, it was in a left-wing low attitude. During the turn, it appeared as though the pilot had lost control of the aircraft. It later crashed about 200 metres (m) to the left of RWY 32; a post-impact fire erupted and consumed the aircraft. A farmer, who also witnessed the accident, rushed to the accident scene but when he arrived, the aircraft was destroyed. Both occupants were fatally injured.</p> <p>The investigation revealed that the aircraft was in a left-wing low at a low height AGL during the turn; this indicated a steep or skid turn which led to loss of control of the aircraft. The excessive bank angle likely exceeded the safe limits, which caused a stall. The aircraft nose-dived and crashed, followed by a post-impact fire.</p>							
Probable Cause/s							
The pilot lost control of the aircraft during a steep, uncoordinated turn at low height AGL, which led to an aerodynamic stall. The aircraft nose-dived and crashed, followed by a post-impact fire.							
Contributory Factors							
<ol style="list-style-type: none"> 1. Incorrect speed management. 2. Over-banking during a turn, which increased the structural load and stall speed. 3. Low-level operation, which limited the chance of a successful emergency or forced landing. 4. Pilot's loss of proficiency and unfamiliarity with the aircraft type. 							
SRP Date		13 January 2026		Publication Date		20 January 2026	

Occurrence Details

Reference Number : CA18/2/3/10585
Occurrence Category : Category 1 (Accident)
Type of Operation : Private (Part 94)
Name of Operator : Q Steyn
Aircraft Registration : ZS-WXE
Aircraft Make and Model : Rans Aircraft Corporation S-10 Sakota
Nationality : South African
Place : Middleburg Aerodrome, Mpumalanga Province
Date and Time : 18 May 2025 at 1330Z
Injuries : Two fatalities
Damage : Destroyed

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 18 May 2025 at 1350Z. 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. Notifications were sent to the State of Registry, Operator, and 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 investigators were dispatched to the accident site for this occurrence.

Notes:

- Whenever the following words are mentioned in this report, they shall mean the following:*
Accident — this investigated accident
Aircraft — the Rans S-10 Sakota involved in this accident
Investigation — the investigation into the circumstances of this accident
Pilot — the pilot involved in this accident
Report — this accident report
- 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
AGL	Above Ground Level
AIID	Accident and Incident Investigations Division
AMO	Aircraft Maintenance Organisation
AP	Approved Person
ATF	Authority-to-Fly
CAR	Civil Aviation Regulations
C of R	Certificate of Registration
CPL	Commercial Pilot Licence
CVR	Cockpit Voice Recorder
CRS	Certificate of Release to Service
DCA	Director of Civil Aviation
EMS	Emergency Medical Service
FAMB	Middleburg Aerodrome
FDR	Flight Data Recorder
ft	Feet
GPS	Global Positioning System
hPa	Hectopascal
km	Kilometres
kt	Knots
m	Metres
METAR	Meteorological Aerodrome Report
MTOW	Maximum Take-off Weight
QNH	Barometric Pressure Adjusted to Mean Sea Level
RWY	Runway
SACAA	South African Civil Aviation Authority
SAPS	South African Police Service
SAWS	South African Weather Service
Z	Zulu (Term for Universal Co-ordinated Time - Zero Hours Greenwich)

1. FACTUAL INFORMATION

1.1. History of Flight

- 1.1.1. On Sunday afternoon, 18 May 2025, a pilot and a passenger on-board a Rans S-10 Sakota aircraft with registration ZS-WXE were engaged in a private flight from Middleburg Aerodrome (FAMB) in Mpumalanga province with the intention to land back at the same aerodrome. The flight was conducted under visual meteorological conditions by day and under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011, as amended.
- 1.1.2. An eyewitness stated that the pilot and his family and friends (a total of 9 people) had arrived at FAMB on the morning of 18 May 2025; they parked their vehicle near the hangar where the aircraft was parked. Around 0930Z, the pilot rolled out the aircraft from the hangar and conducted a pre-flight inspection. Thereafter, he conducted a total of eight (8) uneventful low-level short flights below the circuit height of 1000 feet (ft) above ground level (AGL) in the vicinity of the aerodrome, as well as completed a flight with each member of his family and friends. For each of these flights the pilot used Runway (RWY) 20.
- 1.1.3. An eyewitness stated that later at around 1320Z, the pilot conducted a pre-flight inspection of the aircraft with no anomalies found. Thereafter, he boarded the aircraft with a passenger (his wife) and taxied to RWY 32 for take-off due to wind conditions favouring this runway at the time. After take-off, the aircraft turned left downwind but did not climb to the circuit height of 1000 ft AGL. It continued to fly at a height below 500 ft AGL; however, whilst turning left base for RWY 32, it was observed in a left-wing low attitude.
- 1.1.4. During the turn whilst at a left-wing low attitude, it appeared as though the pilot had lost control of the aircraft and it nose-dived before it crashed approximately 200 metres (m) to the left of RWY 32. A post-impact fire erupted and consumed the aircraft. A farmer who was approximately 1 kilometre (km) from the accident site rushed to the scene with a fire extinguisher after he had witnessed the crash. However, by the time he arrived at the scene, the aircraft was destroyed. Both occupants were fatally injured.
- 1.1.5. The accident occurred within the parameters of FAMB at Global Positioning System (GPS) co-ordinates determined to be 25°41'25.94" South 029°26'39.04" East, at an elevation of 4 860 ft.

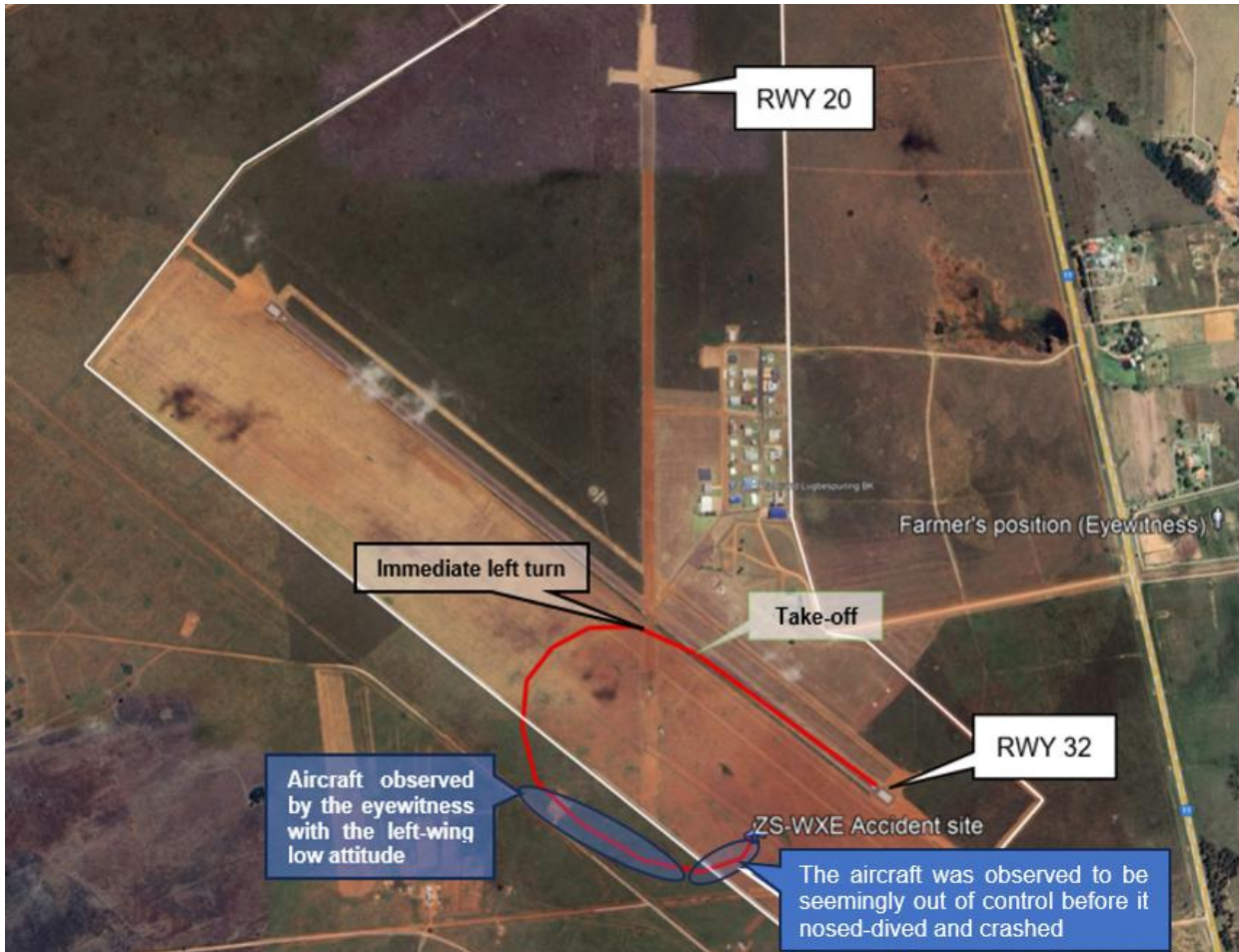


Figure 1: An aerial view of the aircraft's approximate flight path and the accident site.
(Source: Google Earth)

1.2. Injuries to Persons

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

Note: Other means people on the ground.

1.2.1. Both occupants were fatally injured.

1.3. Damage to Aircraft

1.3.1. The post-impact fuel-fed fire destroyed the aircraft.



Figure 2: The wreckage at the accident site. (Source: Emergency Medical Services [EMS])

1.4. Other Damage

1.4.1. None.

1.5. Personnel Information

Pilot-in-Command (PIC)

Nationality	South Africa	Gender	Male	Age	39
Licence Type	Commercial Pilot Licence (CPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Night, Instrument, Instructor Grade 3, and Agricultural Rating				
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	5 956.4
Total Past 24 Hours	Unknown
Total Past 7 Days	Unknown
Total Past 90 Days	29.2
Total on Type Past 90 Days	0
Total on Type	± 2.6

Note: The pilot's total flight hours could not be established as the pilot's logbook was outdated with the last recorded entry being 20 April 2025. No further records were provided or made available at the time of the release of this report.

1.5.1. The pilot had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator on 1 December 2009. The CPL was reissued on 13 May 2025 with an expiry date of 31 May 2026. His Class 1 aviation medical certificate was issued on 7 May 2025 with an expiry date of 31 May 2026.

1.5.2. According to the pilot's employer, he had returned to South Africa on 21 April 2025 after a stint in Zambia where he worked as a crop-spraying pilot. He was on vacation and was expected to return to Zambia on Friday, 23 May 2025, to resume his duty. The pilot's recent flying activity was primarily focused on operating Air Tractor aircraft for agricultural crop-spraying operations. Records showed that his first familiarisation flight on a S-10 Sakota type was conducted on 2 January 2024 with a flight instructor, during which 1.5 hours were flown. Thereafter, on 14 February 2025, he conducted a solo ferry flight of ZS-ZWE from Wonderboom Aerodrome (FAWB) to Middelburg Aerodrome (FAMB). The duration of the flight was just over an hour. After this ferry flight, available information indicated that the pilot did not fly the aircraft again for more than 90 days.

1.6. Aircraft Information

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



Figure 3: A file picture of the ZS-WXE aircraft. (Source: Owner)

The Rans S-10 Sakota is a light sport aircraft designed as a two-seat, semi-acrobatic, mid-wing aircraft type, equipped with a single engine. The aircraft is constructed with a welded steel cockpit

and a bolted aluminium tube rear fuselage. The fuselage, wings, and tail surfaces are covered in dope and fabric. The aircraft has a conventional landing gear. The aircraft could be flown solo for aerobatics or cross-country with two occupants on-board.

Airframe:

Manufacturer/Model	Rans Aircraft Incorporated/S-10 Sakota	
Serial Number	0491130	
Year of Manufacture	2021	
Total Airframe Hours (At Time of Accident)	± 208.2	
Last Inspection (Date & Hours)	9 February 2024	189.5
Hours Since Last Inspection	± 18.7	
CRS Issue Date	9 February 2024	
ATF (Issue Date & Expiry Date)	20 January 2025	31 March 2026
C of R (Issue Date) (Present Owner)	16 October 2016	
MTOW	456kg	
Type of Fuel Used	Mogas	
Operating Category	Private (Part 94)	
Previous Accidents	None	

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

Engine:

Manufacturer/Model	Rotax 912 UL
Serial Number	6770606
Hours Since New	189.5
Hours Since Overhaul	TBO not yet reached

Propeller:

Manufacturer/Model	Warp drive
Serial Number	T13395
Hours Since New	189.5
Hours Since Overhaul	TBO not yet reached

1.6.2. A review of the aircraft’s maintenance records, such as logbooks (airframe, engine, and propeller) and annual inspection logs, was conducted. According to the records, the last maintenance inspection of the aircraft was conducted on 9 February 2024 at 189.5 airframe hours after which a Certificate of Release to Service (CRS) was issued with an expiry date of 8 February 2025 or at 289.5 airframe hours, whichever comes first. No other records were found that showed the aircraft underwent an annual inspection as the CRS had lapsed.

1.6.3. The aircraft’s Authority-to-Fly (ATF) Certificate was reissued by the Regulator (SACAA) on 20 January 2025 with an expiry date of 31 March 2026. Although the ATF had an expiry date of 31

March 2026, at the time of the accident (18 May 2025) it was not valid as the CRS had lapsed on 8 February 2025 and there was no record of the aircraft being taken for maintenance. The Regulator had registered the aircraft under the current owner on 16 October 2018.

1.6.4. The aircraft's total airframe hours and component operating times could not be determined because the flight folio was not available. The total hours were obtained from a copy of the flight folio that was submitted to the Regulator during the ATF renewal. The investigating team was informed that the aircraft was only flown by the subject pilot after the ATF was renewed. Therefore, the most recent inspection information was considered for the aircraft's usage and operating history.

Airworthiness (Source: CAR Part 24.01.2)

24.01.2: (1) A non-type certificated aircraft, other than an aircraft classified in regulation [24.01.1 \(2\)\(h\)](#) to [\(j\)](#), may only be considered to be airworthy if that aircraft has:

- (a) been issued with an authority to fly or a proving flight authority or special flight permit, as the case may be, in terms of this Part;
- (b) been maintained in accordance with the provisions of Part 44;
- (c) no known condition which could make it unsafe for flight; and
- (d) on board, and in working order, the relevant communication and navigation equipment prescribed in Parts 94 and 96 as applicable for an operation of a particular type of aircraft.

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 Witbank Airport (FAWI) on 18 May 2025 at 1330Z.

Wind Direction	340°	Wind Speed	6kt	Visibility	CAVOK
Temperature	23°C	Cloud Cover	None	Cloud Base	None
Dew Point	02°C	QNH	1023hPa		

1.7.2. The table above shows a summary of the forecasted weather conditions closer to the estimated time of accident. The closest aerodrome with the meteorological data was FAWI. The visibility was ceiling and visibility OK (CAVOK) based on the satellite image in Figure 4. The METAR (table) shows a recorded northerly wind component ranging between 4 and 6 knots (kts) (about 8 to 12 kilometres per hour [km/h]). This indicated that there was light wind at the time of the flight. The widespread temperature and dew point indicated that the atmosphere was dry.

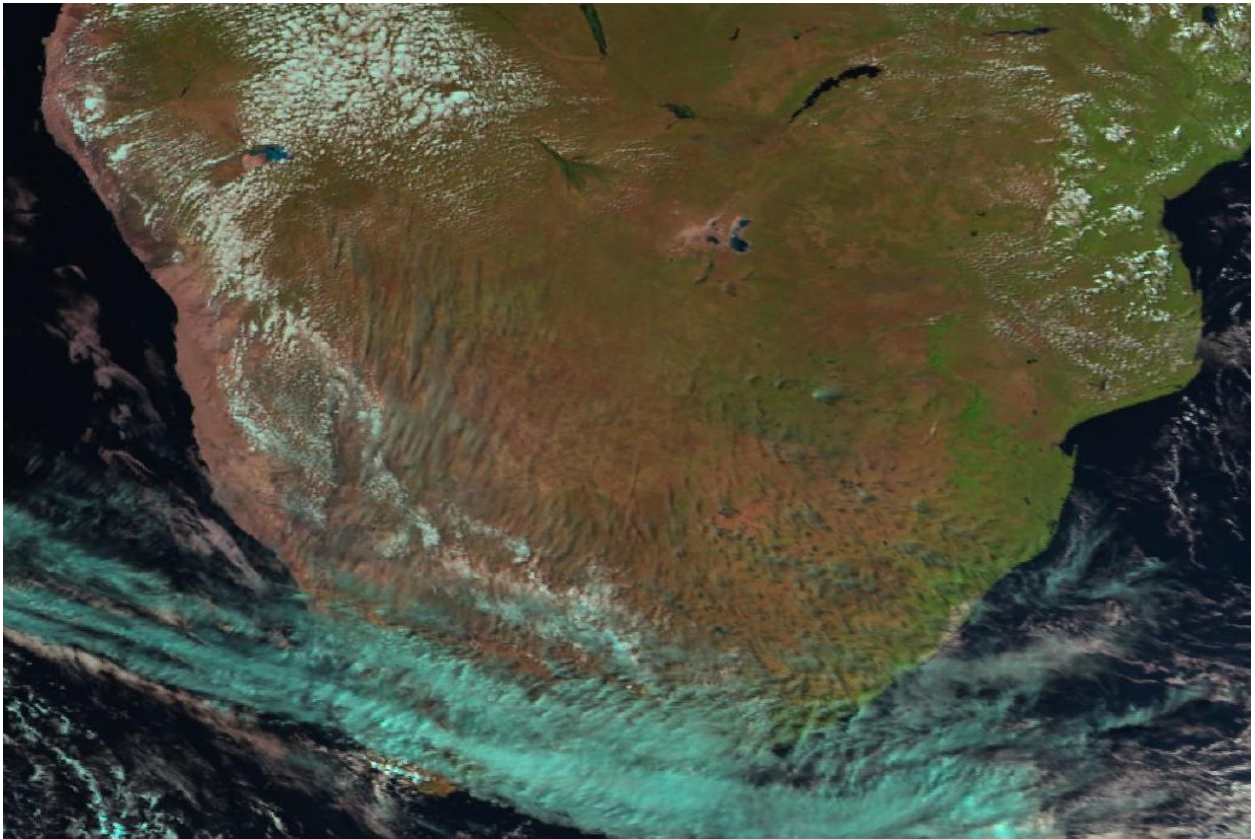


Figure 4: Satellite image taken at 1330Z. (Source: SAWS)

1.7.3. The satellite image above shows clear conditions over the north-eastern parts of the country where CAVOK conditions would have likely been reported at manned weather stations or aerodromes. The clear conditions coincided with the conditions expected in the area of high pressure.

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 before 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 before the flight.

1.10. Aerodrome Information

1.10.1. The accident occurred approximately 200m to the left of RWY 32 at FAMB.

Aerodrome Name	Middleburg Aerodrome (FAMB)	
Aerodrome Location	Mpumalanga Province	
Aerodrome Status	Licensed	
Aerodrome GPS co-ordinates	25°41'08.4" South, 029°26'26.0" East	
Aerodrome Elevation	4 885 ft	
Runway Headings	14/32	02/20
Dimensions of Runway Used	(1 800 X 15) m	(1 35 X 25) m
Runway Used	32	
Surface of Runway Used	Asphalt	
Approach Facilities	None	
Radio Frequency	127.950-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 accident site was confined to a radius of approximately 15m, about 200m left of RWY 32. The aircraft was destroyed by a post-impact fuel-fed fire. The wreckage was found facing east. Fragments of composite material were scattered on the ground from the point of impact to the resting position.



Figure 5: The wreckage.

1.12.2. The left wing was deformed from the wing tip with more damage on the leading edge, associated with the initial impact with the ground; its fragments had scattered as the wreckage propelled forward during the sequence of events (see Figure 4) and later impacted the engine's left side. The right-side wing sustained minimal damage during the accident sequence.



Figure 6: The condition of the right-side wing.



Figure 7: The positions of the broken propeller blades after the accident.

1.12.3. The wreckage was cut open by Emergency Medical Services (EMS) and the South African Police Service (SAPS) Forensic personnel during the removal of the two occupants. The engine appeared intact with damage only observed on the bottom side of the propeller spinner; two of the three propeller blades had broken off during the accident sequence.



Figure 8: The damaged engine.

1.12.4. Two of the three propeller blades were located near the engine; the third propeller blade was still attached to the engine and intact (see Figures 7 and 8). All engine controls and flight surface cable controls were accounted for and tested for continuity on site, and no anomalies observed.

1.13. Medical and Pathological Information

1.13.1. The accident was not survivable. On impact, the cockpit structure collapsed, trapping the pilot and the passenger inside. A post-impact fire erupted almost immediately, spreading rapidly and consuming the aircraft. Both occupants sustained fatal burn injuries. Medical examinations did not reveal any indication that the pilot had been incapacitated before the accident.

1.14. Fire

1.14.1. The aircraft was destroyed by a post-impact fuel-fed fire.

1.15. Survival Aspects

1.15.1. The accident was not survivable as there was a post-impact fire immediately after the crash, as well as that the occupants were trapped inside the cockpit. The attitude at which the aircraft impacted the ground compromised the safety of the occupants as it had collapsed. Parts of the cockpit were cut during the extraction of the occupants.

1.16. Tests and Research

1.16.1. The engine, a Rotax 912UL with serial number 6770606, was removed from the wreckage and taken to an approved aircraft maintenance organisation (AMO) for further examination. The teardown inspection was conducted on 3 June 2025, and the following observations were made:

- *The engine was intact with visible fire damage on the electrical cables.*
- *The engine was turning freely with no restrictions.*
- *There was evidence of impact damage on the front left side of the engine, which caused damage to the left-side exhaust manifold and oil filter.*
- *The propeller spinner and the propeller hub sustained impact damage.*
- *Both carburetors were intact with no anomalies.*



Figure 9: Damage on the left side of the engine.

The magnetic chip detector on the gearbox was clean (no metal particles). There was sufficient oil in the separate engine oil tank (dry-samp). There was no evidence of a mechanical failure on the engine that could have contributed or have caused an engine stoppage/failure.

1.17. Organisational and Management Information

1.17.1. The pilot operated the aircraft privately; he was one of four people who owned the aircraft. The aircraft was operated under the provisions of Part 94 of the CAR 2011, as amended.

1.17.2. The approved person (AP) who maintained the aircraft had an AP Certificate that was issued by the Regulator on 8 December 2024 with an expiry date of 7 December 2026. The aircraft type was endorsed on the AP's Certificate.

1.18. Additional Information

1.18.1. The aircraft was observed in a turn in a left-wing low attitude.

An extract from the Aircraft Flying Handbook (Source: FAA-8083-3a); Chapter 9: Aircraft Performance Manoeuvres:

Steep Turns

The FAA Aircraft Flying Handbook (FAA-8083-3a) explains that steep turns, using 45°–60° of bank, demand precise control because of higher load factors, increased stall speeds, and structural stress. Pilots must maintain altitude with coordinated use of elevator, aileron, rudder, and power while scanning the horizon for orientation. Errors often include poor clearing, altitude loss, overuse of rudder, and disorientation.

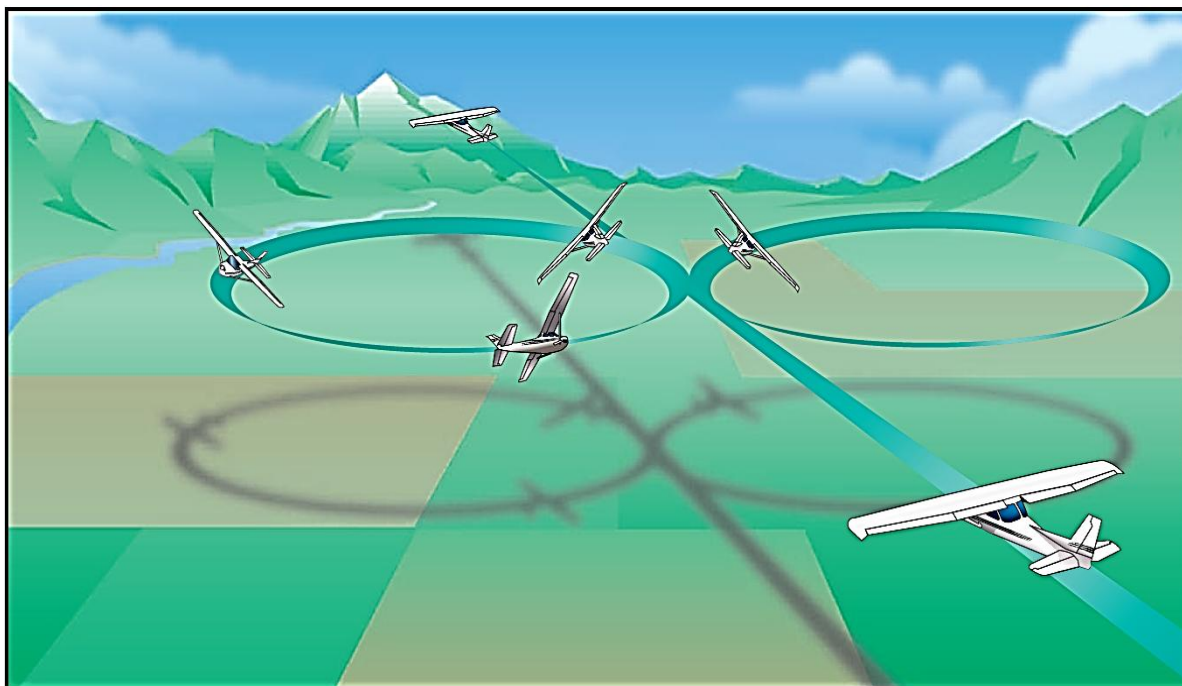


Illustration 1: Steep turn demonstration.

The FAA Airplane Flying Handbook (FAA-H-8083-3C) describes the cross-control stall as a dangerous result of uncoordinated flight, usually seen in a rushed base-to-final turn. Applying opposite aileron and rudder can induce a skidding stall and spin, often unrecoverable at low altitude. The FAA stresses that the correct response to an overshoot is a go-around, not forcing a steep skidding turn.

Together, these manoeuvres emphasise two critical lessons: steep turns highlight aircraft performance limits and precision control, while cross-control stalls stress the hazards of uncoordinated flight and poor decision-making in the pattern.

1.18.2. The pilot met Part 91.02.4 recency requirements for flying an aircraft of the same class. The last flight on this class type was recorded on 20 April 2025 during a crop-spraying operation. The pilot's recent flying activities involved a different aircraft with design and operations that differed from the accident aircraft.

91.02.4(1) *A pilot shall not act as PIC of an aircraft, or second-in-command (SIC) of an aircraft required to be crewed by more than one pilot, carrying passengers by day, unless such pilot has personally, within the 90 days immediately preceding the flight, carried out either by day or by night at least three take-offs and three landings in the same class or, if a type rating is required, type or variant of aeroplane, and in the case of a helicopter three circuits including three take-offs and three landings in the same type of helicopter as that in which such flight is to be undertaken. The landings required by this sub-regulation may be completed in an FSTD approved for the purpose. In the case of a tail-wheel aeroplane, each landing shall be carried out to a full-stop.*

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 pilot had a valid licence and was qualified and medically fit to operate the aircraft under the provisions of Part 94 of the CAR 2011, as amended.

2.2.2. The pilot had a total of 5 956.4 hours of flying experience of which about 2.6 hours were on the S-10 Sakota aircraft. The pilot had last flown the aircraft type approximately 12 months before the accident. Although he had been flying single-engine agricultural aircraft during that period, the design, performance and handling characteristics differed significantly from the aerobatic Sakota, which resulted in a loss of proficiency and limited transferability of his recent experience. This difference created a gap in type-specific competency.

2.2.3. The S-10 Sakota's light, tailwheel and aerobatic design demanded regular practise to maintain handling precision and control co-ordination. The pilot's limited experience on type, combined with the long gap since his last flight, likely reduced his ability to manage the aircraft's sensitive

handling. His recent agricultural flying might have given him confidence that did not accurately reflect his current skill level on the Sakota.

- 2.2.4. Although the aircraft's ATF expiry date was valid at the time of the flight, it was, however, invalid due to the expiry of the Certificate of Release to Service (CRS). In terms of the CAR Part 24.01.2, an aircraft requires both the ATF and current maintenance in accordance with Part 44 to be valid for the aircraft to be considered airworthy. In this case, the ATF was reissued by the Regulator, but the nearing of the CRS's lapse date was not identified. This created a discrepancy as the documentation suggested legal compliance, while the aircraft's actual maintenance status following the lapse of the CRS did not support continued airworthiness. The absence of an annual inspection after February 2025 meant that the aircraft was operated outside its required maintenance cycle. As a result, any potential defects or degradation of the airframe, engine or propeller remained unchecked, removing an important safety element and reducing the overall safety margin of the aircraft.
- 2.2.5. The approved person (AP) responsible for the aircraft maintenance had a valid AP Certificate that was issued on 8 December 2024; the AP was endorsed to maintain the aircraft type, which meant that the owners could have sought continued maintenance support from the AP. Instead, the AP was only engaged to assist with the renewal of the Authority-to-Fly (ATF) Certificate on 20 January 2025 while the Certificate of Release to Service (CRS) was still valid and due to expire on 8 February 2025. The reissue of the ATF was, therefore, based on the existence of a valid CRS at that time. Once the CRS had lapsed, no further maintenance inspections were conducted, and the opportunity to use the AP for ongoing maintenance oversight was not used. As a result, the aircraft was operated outside its required maintenance cycle, leaving it non-compliant with airworthiness requirements and without the safeguards provided by continued inspection.
- 2.2.6. On the day of the accident, an eyewitness observed the aircraft performing several short, low-level flights in the aerodrome's vicinity. During the aircraft's final flight, it departed RWY 32 and immediately entered a steep left turn at a very low altitude, seemingly to join the downwind leg for landing. Whilst in a turn, the aircraft was seen in a left-wing low attitude before the pilot lost control, suggesting that the pilot may have attempted a sharp or corrective manoeuvre to avoid overshooting the approach for the runway. According to the aircraft flight handbook, such steep turns increase aerodynamic load, raise stall speed, and could exceed handling limits. Conducted at a low height AGL, there was essentially no safety margin for recovery. It is likely that low airspeed, insufficient control inputs or inadequate power caused the aircraft to stall in the left-wing low turn, enter a nose-dive and, ultimately, crash.

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 pilot had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator on 1 December 2009. His renewed licence was issued on 24 May 2024 with an expiry date of 31 May 2025.
- 3.2.2. The pilot had a Class 1 aviation medical certificate that was issued on 7 May 2025 with an expiry date of 31 May 2026 with no restrictions.
- 3.2.3. The pilot had about 5956.4 total flying hours of which approximately 2.6 hours were on the aircraft type. Even with high total hours, the pilot had limited experience on the S-10 Sakota aircraft and had not flown it for about a year before the accident flight. Although the pilot had been flying agricultural aircraft, they are handled/operated differently from the aerobatic Sakota, which requires regular practise to stay proficient.
- 3.2.4. The long break and limited time on type likely reduced his ability to manage the aircraft's sensitive controls, while his recent flying experience may have given him confidence that did not match his actual familiarity with the S-10 Sakota.
- 3.2.5. The pilot and the passenger were fatally injured as they had succumbed to the burn injuries due to the post-impact fire that engulfed and destroyed the aircraft.

- 3.2.6. The aircraft's Authority-to-Fly (ATF) Certificate was reissued by the Regulator on 20 January 2025 with an expiry date of 31 March 2026. The Regulator had registered the aircraft under the current owner on 16 October 2018.
- 3.2.7. Although the aircraft's ATF at the time of the accident was valid in terms of the expiry date, it was in fact, invalid due to the expiry of the Certificate of Release to Service (CRS). In terms of the CAR Part 24.01.2, an aircraft requires both the ATF and current maintenance in accordance with Part 44 to be considered airworthy. The reissue of the ATF was, therefore, based on the existence of a valid CRS at that time.
- 3.2.8. The last maintenance inspection of the aircraft was conducted and certified on 9 February 2024 at 189.5 airframe hours after which a Certificate of Release to Service (CRS) was issued with an expiry date of 8 February 2025 or at 289.5 airframe hours, whichever comes first. The total airframe hours of the aircraft at the time of the accident could not be determined as the flight folio record was unavailable.
- 3.2.9. The approved person (AP) who maintained the aircraft had an AP Certificate that was issued by the Regulator on 8 December 2024 with an expiry date of 7 December 2026. The aircraft type was endorsed on the AP's Certificate.
- 3.2.10. The aircraft entered a steep turn at low altitude above ground level (AGL) after take-off, likely exceeding its aerodynamic and handling limits. This loss of control was consistent with a low-altitude aerodynamic stall which indicated that insufficient airspeed or inappropriate pilot control inputs directly contributed to the accident.

3.3. Probable Cause/s

- 3.3.1. The pilot lost control of the aircraft during a steep uncoordinated turn at low height AGL which led to an aerodynamic stall. The aircraft nose-dived and crashed, followed by a post-impact fire.

3.4. Contributory Factor/s

- 3.4.1. Incorrect speed management.
- 3.4.2. Over-banking during a turn, which increased the structural load and stall speed.
- 3.4.3. Low-level operation, which limited the chance of a successful emergency or forced landing.
- 3.4.4. Pilot loss of proficiency and familiarity with the aircraft type.

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

4.3. Safety Message:

4.3.1. In light of the occurrence, where the aircraft's Authority-to-Fly (ATF) was renewed near the expiry of its Certificate of Release to Service (CRS) and the subsequent maintenance required to validate the ATF not conducted, it is recommended that the Director of Civil Aviation (DCA) reviews and strengthen procedures to ensure timely maintenance. Specifically, provisions should be made to encourage early scheduling of required inspections before the CRS lapses, and to verify that all airworthiness-related inspections are completed and documented to validate the continued issuance of any airworthiness certification.

4.3.2. Although the pilot met general recency requirements under Part 91.02.4, his limited experience and extended period in flying the accident aircraft type contributed to a loss of control during a low-altitude manoeuvre.

- To mitigate similar risks, it is essential that pilots who have not flown a specific aircraft type within a class for more than 90 days, complete a refresher or familiarisation flight before carrying passengers.
- This is particularly vital when aircraft within the same class differ significantly in design, performance, and handling characteristics, such as between agricultural and aerobatic aircraft. Recent experience on one type may not translate into safe handling of another, especially if the aircraft demands higher precision or has sensitive control responses.

Recreational aviation organisations, flying clubs and regulatory authorities should actively promote this safety principle to ensure pilots maintain confidence and competence in the aircraft

they operate, thereby, reducing or mitigating the likelihood of accidents due to type-specific handling deficiencies.

5. APPENDICES

5.1. None.

This report is issued by:

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