

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10397						
Classification	Accident	Date	2 December 2023	Time	1550Z		
Type of Operation	Private (Part 91)						
Location							
Place of Departure	Koppie-Alleen Farm near Perdekop, Mpumalanga Province		Place of Intended Landing	Klipfontein Farm near Ermelo, Mpumalanga Province			
Place of Occurrence	Klipfontein Farm, Mpumalanga Province						
GPS Co-ordinates	Latitude	26°39'09.05" S	Longitude	030°00'55.89" E	Elevation	5 471ft	
Aircraft Information							
Registration	ZS-OCW						
Make; Model; S/N	Cessna Aircraft Company; 182S (Serial Number: 182-80087)						
Damage to Aircraft	Substantial			Total Airframe Hours	2 471.3		
Pilot-in-command							
Licence Type	Private Pilot Licence		Gender	Male		Age	65
Licence Valid	Yes	Total Hours	896.0		Total Hours on Type	896.0	
Total Hours 90 Days	11.0		Total Flying Hours on Type Past 90 Days	11.0			
People On-board	1 + 1	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Saturday afternoon, 2 December 2023, a pilot and a passenger on-board a Cessna 182 aircraft with registration ZS-OCW took off on a private flight from Koppie-Alleen Farm near Perdekop in Mpumalanga province with the intention to land at Klipfontein Farm near Ermelo in the same province. Visual meteorological conditions (VMC) by day prevailed at the time of the flight which was conducted under the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>According to the pilot, they took off at 1510Z from Koppie-Alleen Farm to Klipfontein Farm, situated 8 nautical miles (nm) south of Ermelo. The pilot stated that he bought Klipfontein Farm a few months prior to the accident flight and had constructed a grass-covered runway orientated 11/29 on a hill, with Runway 11 having a downslope and Runway 29 an upslope. The prevailing wind at the time of the flight was light and variable at about 5 knots. Therefore, the pilot decided to land on Runway 29 to take advantage of the upslope.</p> <p>The pilot reported that initially, the glare from the sun was not a problem, but when the aircraft was closer to the ground, the glare became problematic. He thought that all was well, however, he was not sure how far the wheels were in relation to the ground at that stage. Moreover, he had forgotten about Runway 29 being an upslope. The pilot waited for the wheels to touch the ground, but the nose wheel touched the surface first and collapsed. As a result, the aircraft nearly overturned, but the left</p>							

wing touched the surface of the runway and prevented the aircraft from overturning. The aircraft came to a stop on the runway in a nose-down attitude; it sustained substantial damage during the landing sequence. No person was injured during the accident. The pilot stated that this was his second landing on this runway.

The accident occurred during day light at Global Positioning System (GPS) co-ordinates determined to be 26°39'09.05" South 030°00'55.89" East, at an elevation of 5 471 feet (ft).

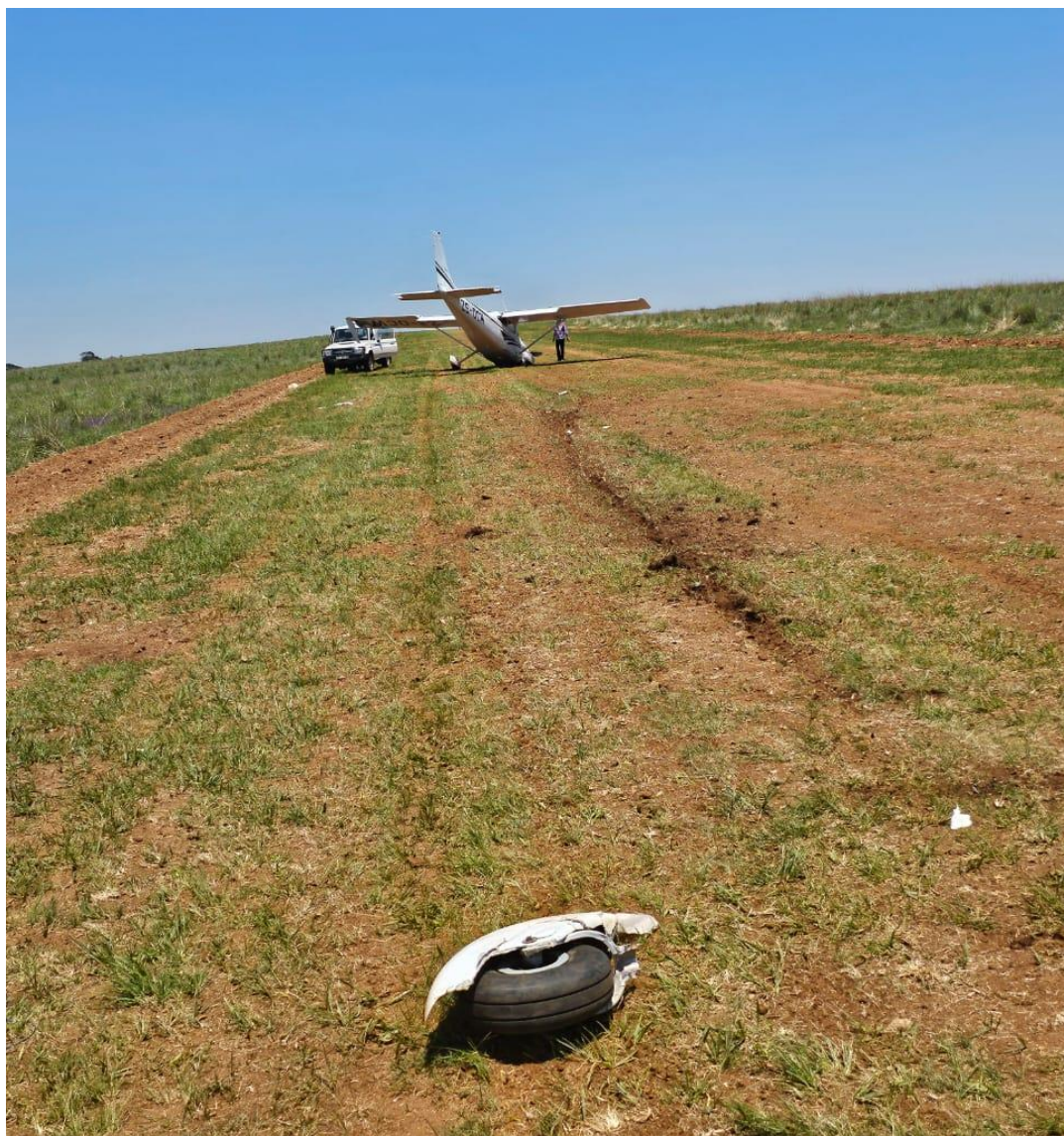


Figure 1: The aircraft as it came to rest with the severed nose gear fork in the foreground. (Source: Pilot)



Figure 2: A view of the aircraft and the upslope runway. (Source: Pilot)



Figure 3: A closer view of the damage to the propeller and the lower fuselage. (Source: Pilot)

Meteorological Information:

The weather information in the table below was obtained from the pilot questionnaire (form CA 12-03).

Wind Direction	Light	Wind Speed	5kts	Visibility	9999 m
Temperature	26°C	Cloud Cover	Nil	Cloud Base	CAVOK
Dew Point	Unknown	QNH	Unknown		

Sunset Time

Source: <https://www.timeanddate.com/sun>

The official sunset time for Ermelo on 2 December 2023 was 1640Z at 245° (true heading).

Findings

1. Personnel Information

- 1.1 The pilot had a Private Pilot Licence (PPL) that was initially issued on 5 September 2018. His last skills test was conducted on 30 August 2023 with an expiry date of 31 August 2025. The pilot had flown a total of 896.0 hours, all on the aircraft type.
- 1.2 The pilot was issued a Class 2 aviation medical certificate on 29 March 2023 with an expiry date of 31 March 2024.
- 1.3 The pilot landed 45 minutes before the official sunset time on Runway 29, which resulted in him facing the setting sun as he was approaching to land on an upslope runway.

2. Aircraft Information

- 2.1 The last maintenance inspection that was conducted on the aircraft prior to the accident flight was certified on 23 March 2023 at 2 424.5 airframe hours. A further 46.8 hours were flown on the aircraft after the maintenance inspection.
- 2.2 The aircraft had a valid Certificate of Airworthiness (C of A) that was initially issued on 20 February 1998. The latest C of A had an expiry date of 28 February 2024. The aircraft was airworthy when it dispatched for the flight.
- 2.3 The aircraft's Certificate of Registration (C of R) was issued to the present owner on 3 October 2011.

2.4	The aircraft was issued a Certificate of Release to Service (CRS) on 23 March 2023 with an expiry date of 22 March 2024 or at 2 524.5 airframe hours, whichever occurs first.
Probable Cause	
The pilot applied an incorrect landing technique on an upslope runway, which led to the nose wheel contacting the runway first and was severed. The aircraft came to rest in a nose-down attitude on the runway.	
Contributing Factors	
(i)	The pilot opted to land on Runway 29 during the late afternoon, which was a landing into the setting sun and effected his depth of perception. The pilot landed 45 minutes before the official sunset time.
(ii)	Lack of familiarity with the runway as this was the second time the pilot landed on this runway.
Safety Action(s)	
None.	
Safety Message	
In the interest of safety, pilots who operate at unmanned aerodromes are advised to follow the unmanned aerodrome joining procedure prior to committing to land.	
About this Report	
<p><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 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></p> <p><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></p>	
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