SOUTH AFRICAN CIVIL AVIATION AUTHORITY

Section/division **Accident and Incident Investigations Division** Form Number: CA 12-57

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10394						
Classification	Accident	**Date**	15 November 2023		**Time**	0540Z	
Type of Operation	Private (Part 94)						
Location							
Place of Departure	Grantham Private Airfield, Western Cape Province	Place of Intended Landing	Grantham Private Airfield, Western Cape Province				
Place of Occurrence	Rietvlei in the Karoo National Park, Western Cape Province						
GPS Co-ordinates	Latitude	32°36'34" S	Longitude	022°54'12" E	Elevation	2 708 ft	
Aircraft Information							
Registration	ZU-FMV						
Make; Model; S/N	Bantam; B22J (Serial Number: 11-0349)						
Damage to Aircraft	Substantial	Total Aircraft Hours	Unknown				
Pilot-in-command							
Licence Type	Private Pilot Licence (PPL)	Gender	Male	Age	51		
Licence Valid	Yes	Total Hours	435.2	Total Hours on Type	308.6		
Total Hours 30 Days	7.0	Total Flying on Type Past 90 Days	8.2				
People On-board	1+1	**Injuries**	0	**Fatalities**	0	**Other (on ground)**	0

What Happened

On 15 November 2023 at 0500Z, a pilot and a passenger on-board a Bantam B22J microlight took off from Grantham private airfield in the Western Cape province with the intention to fly overhead the Karoo National Park in search of rhinoceroses on the eastern side of the park before returning to the same take-off airfield. The private 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.

According to the pilot, he conducted the pre-flight inspection on the same morning. The microlight had approximately 40 litres (L) of 95 Octane fuel. The maximum fuel capacity for this aircraft is 50 L. The pilot stated that clear weather conditions prevailed at the time of the flight and the wind was calm. After the pre-flight inspection, the aircraft took off and routed towards the eastern side of the park, flying between 100 and 150 feet (ft) above ground level (AGL). During the flight, the park ranger called on the radio and requested that the microlight route north of Rietvlei, located inside the Karoo National Park, to identify a rhinoceros that was sedated. Upon arrival at Rietvlei, the pilot identified an open area that was previously used as a landing zone. The pilot flew overhead the landing zone about three times to assess its condition. The identified landing area was rocky. Thereafter, the pilot configured the aircraft for landing with full flaps at an indicated airspeed (IAS) of approximately 45 to

50 knots (kt). During the landing roll, the nose gear broke off, which resulted in the aircraft nosing over; it rested in an inverted position. Both occupants were not injured.

On the same day after the accident, a thunderstorm in the area caused further damage to the aircraft after being blown by strong winds about 200 metres from where it had initially rested.

The investigator made several efforts to acquire the aircraft's airframe hours from the pilot, but none was received at the time of finalising this report.

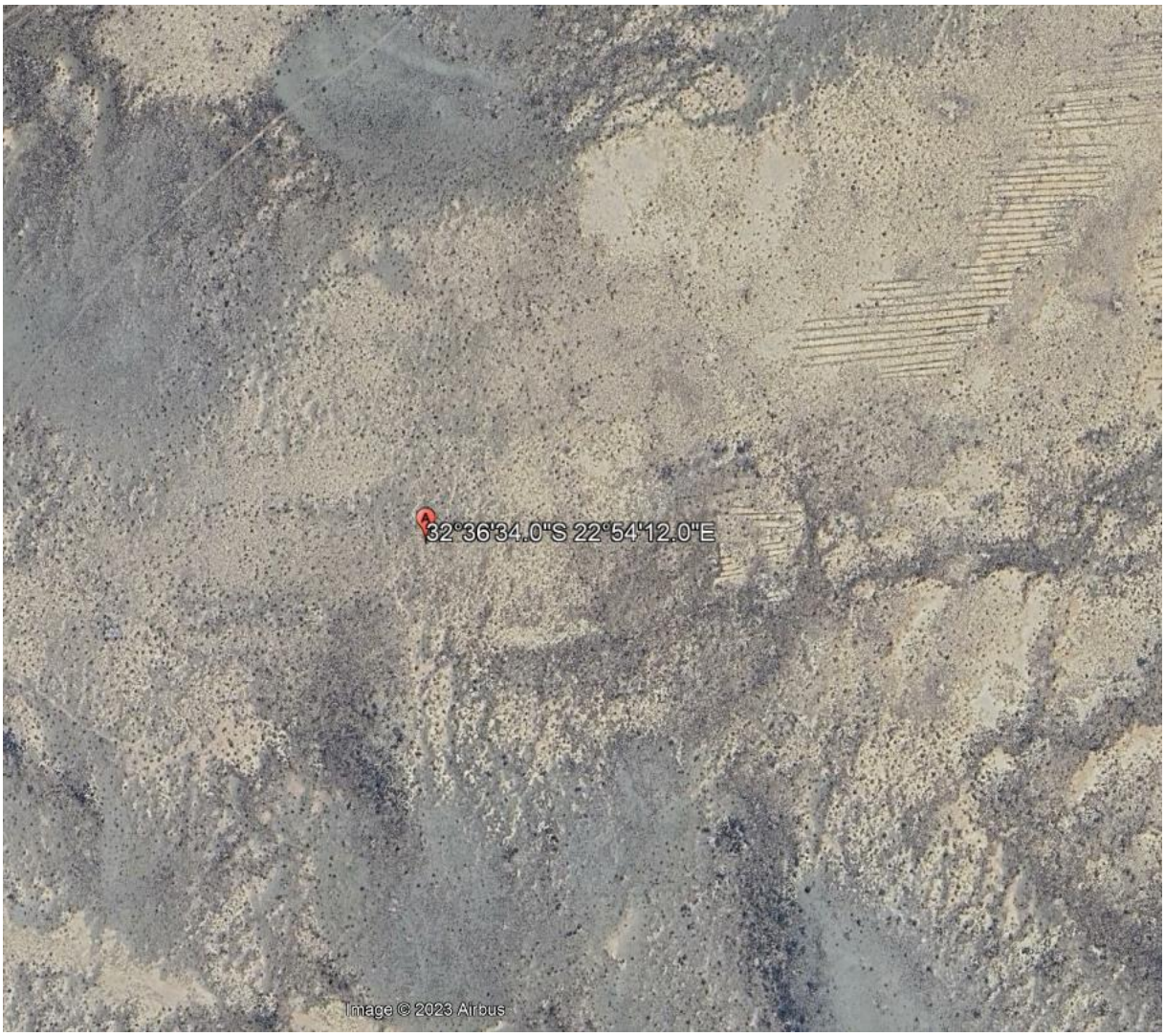

Figure 1: An overlay of the accident side. (Source: Google Earth)

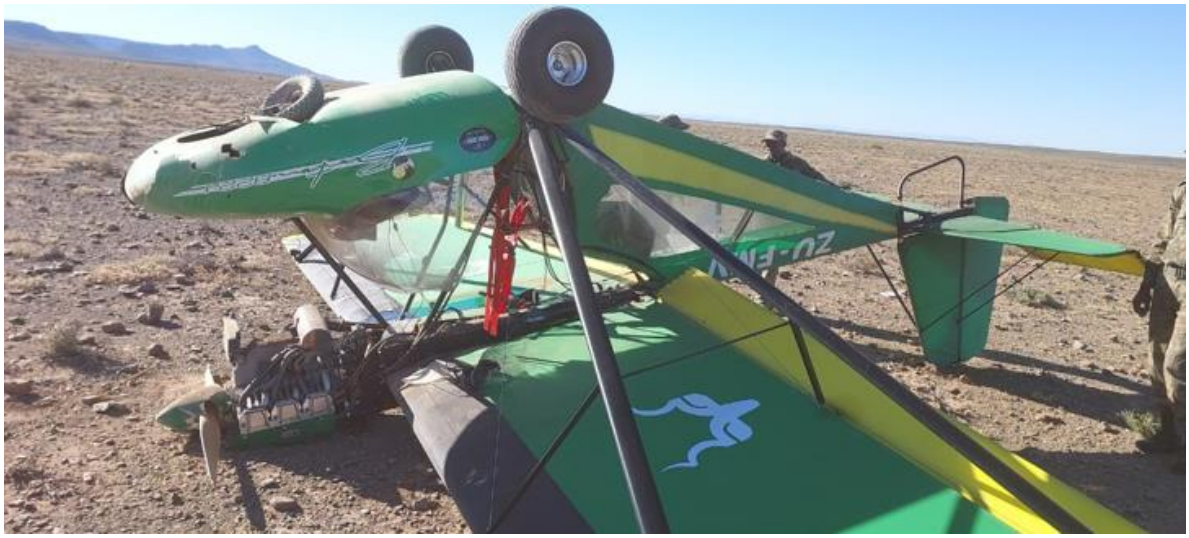

Figure 2: Aircraft after the accident. (Source: Pilot)

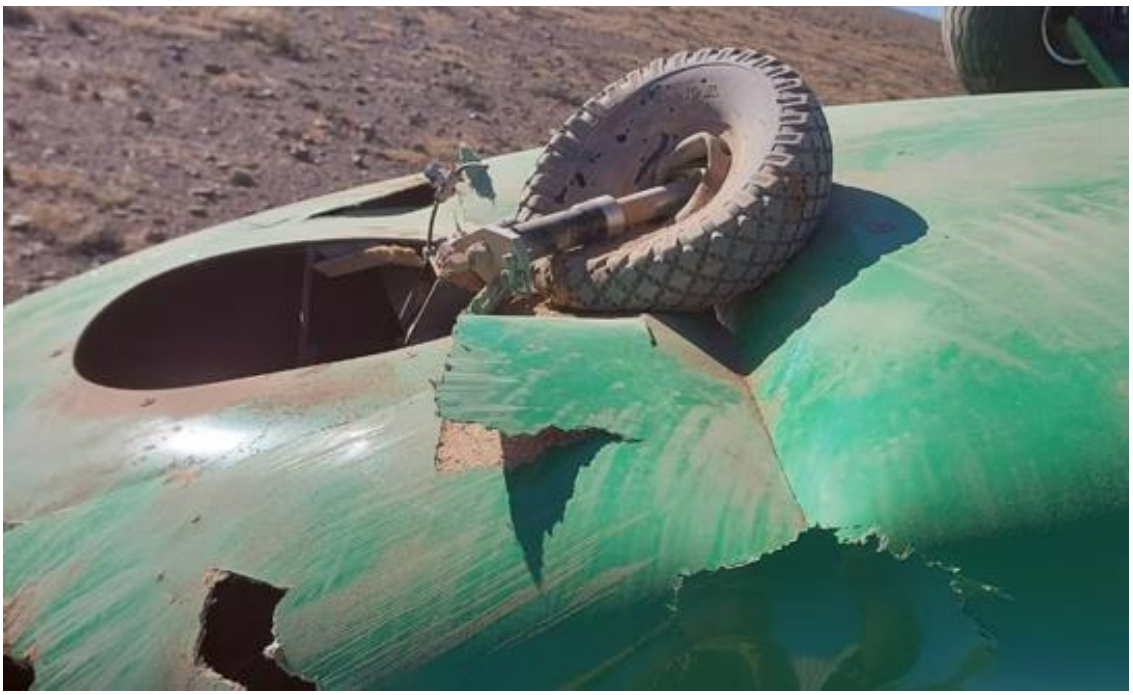

Figure 3: Damage sustained to the nose gear. (Source: Pilot)

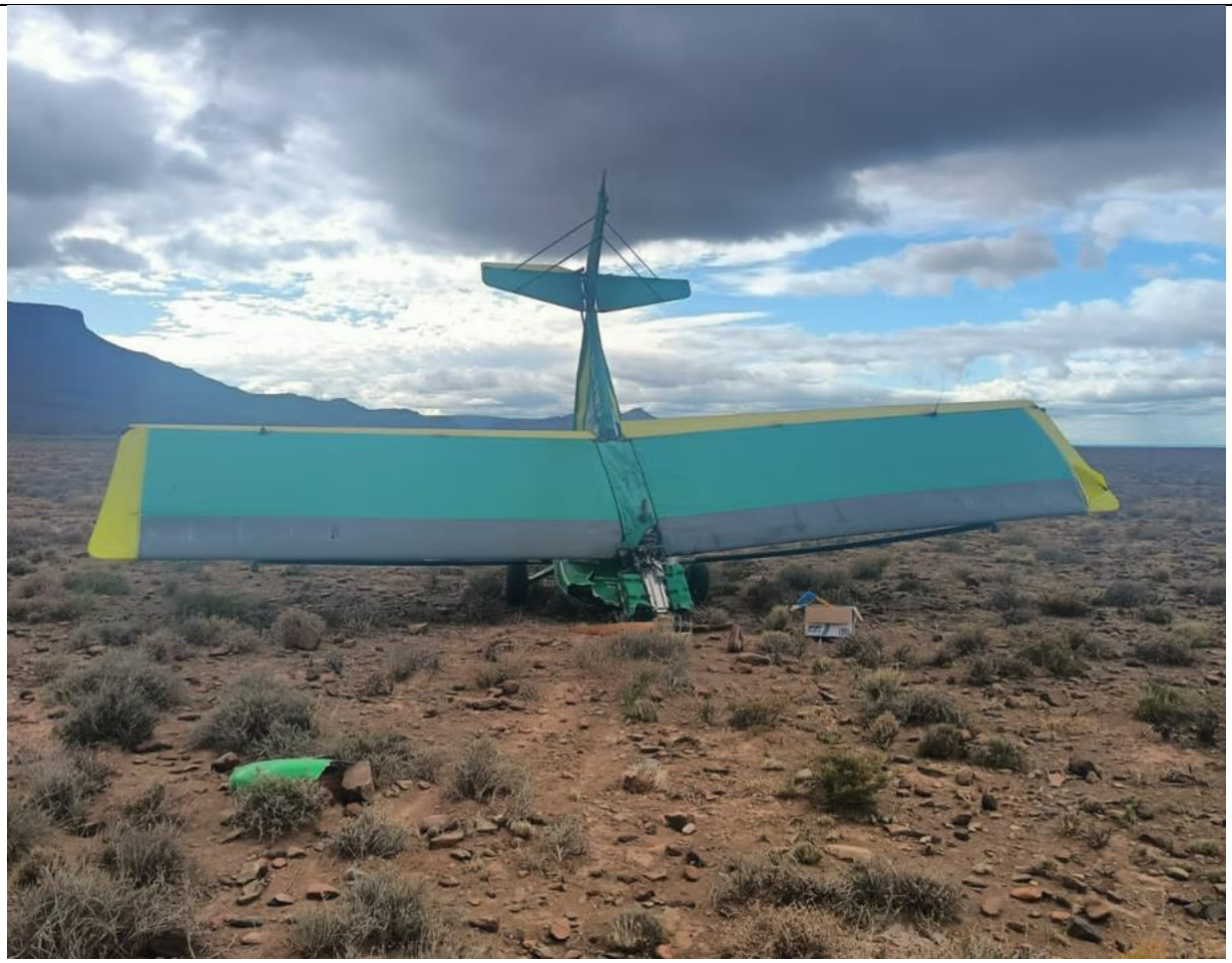

Figure 4: The microlight after it was positioned upright after the accident. (Source: Operator)

CAR Part 91.07.25 Approach and landing conditions

(1) Before commencing an approach to land, a PIC of an aircraft shall be satisfied that, according to the information available, the weather and the condition of the touch-down and runway area at an aerodrome intended to be used, a safe approach, landing or missed approach can be executed having regard to the performance information specified in an AFM or similar document.

(2) An approach to land shall not be continued below 1 000ft above aerodrome elevation, unless a PIC, based on the information available, is satisfied that—

(a) a runway surface condition permits a safe landing; and

(b) an aeroplane performance information indicates that a safe landing can be made.

CAR Part 91.02.7 Duties of PIC regarding flight preparation CAR Part

(1) The PIC of an aircraft shall not commence a flight unless he or she is satisfied that—

(n) according to the information available to him or her—

(i) in respect of an aeroplane, the condition of the runway intended to be used will not prevent a safe take-off at departure or a safe landing at the destination aerodrome or alternate aerodrome, as applicable;

Findings

Personnel Information

1. The pilot was initially issued a Private Pilot Licence (PPL) on 28 November 2012. The licence was reissued on 18 December 2022 with an expiry date of 31 December 2024. The pilot had flown a total of 435.2 hours of which 308.6 hours were on the aircraft type. The aircraft type was endorsed on his logbook and on the licence.

2. The pilot was issued a Class 2 aviation medical certificate on 7 December 2022 with an expiry date of 7 December 2023 with medical limitations (VCL and SSL). The pilot was properly licenced to conduct the flight and was medically fit in accordance with Part 67 of the CAR 2011.

Aircraft Information

3. The last mandatory periodic inspection (MPI) that was conducted on the microlight prior to the accident flight was on 9 June 2023 at 141.0 airframe hours.

4. The aircraft had a valid Authority to Fly (ATF) certificate that was initially issued on 14 June 2019. The ATF was reissued on 28 June 2023 with an expiry date of 30 June 2024.

5. The Certificate of Release to Service (CRS) was issued on 9 June 2023 with an expiry date of 30 June 2024 or at 241 hours, whichever comes first. The Certificate of Registration (C of R) was issued to the current owner on 5 December 2013. There were no defects reported prior to the accident flight, therefore, the aircraft was airworthy.

6. During landing on a rocky open field, the nose gear broke off which caused the aircraft to nose over.

7. The aircraft landed in an area that was not intended for take-off or landing of aircraft, thus, contravening the CAR Part 91.07.25 (1)(n)(i) read together with Part 91.02.7 (1)(n)(i).

8. The pilot stated that it was not the first time he landed an aircraft in that area. However, this information does not make the area safe for landing, hence, the resultant accident.

Probable Cause(s)
During landing in an area that was not authorised for take-offs and landings, the nose gear broke off which cause the aircraft to nose over.
Contributing Factor(s)
• Failure to adhere to the regulatory and manufacturer's prescripts.
Safety Action(s)
None.
Safety Message
In the interest of safety, pilots are urged to always adhere to the regulatory and manufacturer prescripts.
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 produced without prejudice to the rights of the AIID, which are reserved.

This report is issued by:
Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa