

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/310449						
Classification	Accident	Date	6 May 2024			Time	0910Z
Type of Operation	Private (Part 91)						
Location							
Place of Departure	Crocodile's Nest Private Aerodrome, Thabazimbi, Limpopo Province			Place of Intended Landing	Deza Private Aerodrome, Thabazimbi, Limpopo Province		
Place of Occurrence	Deza Private Aerodrome, Thabazimbi, Limpopo Province						
GPS Co-ordinates	Latitude	24°15'45.57" S	Longitude	027°4'39.05" E	Elevation	3 090ft	
Aircraft Information							
Registration	ZS-MBH						
Make; Model; S/N	Cessna 402B (Serial Number: 402B-0381)						
Damage to Aircraft	Substantial			Total Aircraft Hours	9 125.5		
Pilot-in-command							
Licence Type	Commercial Pilot Licence (CPL)		Gender	Male		Age	33
Licence Valid	Yes	Total Hours	499.3		Total Hours on Type	172.1	
Total Hours 30 Days	37.5		Total Flying on Type Past 90 Days	90.6			
People On-board	1+6	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Monday morning, 6 May 2024, a pilot and six passengers on-board a Cessna 402B aircraft with registration ZS-MBH took off on a private flight from Crocodile Nest Private Aerodrome near Thabazimbi in Limpopo province to Deza Private Aerodrome, west of Thabazimbi, in the same province. Visual meteorological conditions (VMC) by day prevailed at the time of the flight. The flight was conducted under the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>According to the pilot, the flight from Crocodile Nest Private Aerodrome to Deza Private Aerodrome was approximately 15 minutes. The aircraft approached from the south-east and landed in a north-westerly direction on Runway 34, which is an upslope. During the landing roll as the aircraft slowed down with an indicated airspeed of 20-25 knots, it drifted to the left of the runway and the left wheel rolled over the soft sand. The left-wing tip tank impacted the trees on the side of the runway and broke off. As a result, the aircraft turned 90 degrees before it impacted another tree with its nose section. The aircraft sustained substantial damage and the occupants were not injured.</p> <p>After the accident, it was found that the first tree that the left-wing tip tank impacted was located approximately 98 metres (m) from the runway threshold. The farm owner of the land on which the private aerodrome is located stated that the runway is 1300m long and 20m wide. The tree line span alongside the length of the runway.</p>							

According to the Pilot's Operating Handbook (POH), the wingspan for this aircraft type is 12m. The pilot mentioned in the questionnaire that he misjudged the distance between the trees and the tip tank.



Figure 1: The aircraft after it had stopped. (Source: Pilot)



Figure 2: The first tree that the aircraft impacted.



Figure 3: The left-wing tip tank. (Source: Pilot)

Findings

Personnel Information

1. The pilot was initially issued a Commercial Pilot Licence on 25 March 2020. The licence was renewed on 14 August 2023 with an expiry date of 31 August 2024. The pilot had flown a total of 499.3 hours of which 172.1 hours were on the aircraft type. The aircraft type was endorsed on the pilot's logbook and licence.
2. The pilot was issued a Class 1 aviation medical certificate on 8 November 2023 with an expiry date of 30 November 2024. 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 aircraft prior to the accident flight was on 26 February 2024 at 9032.4 airframe hours.

4. The aircraft had a valid Certificate of Airworthiness (C of A) that was initially issued on 8 November 1988. The C of A was reissued with an expiry date of 30 November 2024.
5. The Certificate of Release to Service (CRS) was issued on 26 February 2024 with an expiry date of 25 February 2025 or at 9 127.1 hours, whichever comes first. There were no defects reported prior to the accident, therefore, the aircraft was airworthy when it was dispatched for the flight.
6. The Certificate of Registration (C of R) was issued to the current owner on 18 September 2020.
7. During the landing roll on the runway as the aircraft slowed down, the left main wheel rolled over the soft sand which caused the aircraft to veer off slightly to the left. This resulted in the left-wing tip tank and the nose section impacting the trees on the side of the runway before the aircraft stopped.

Probable Cause(s)

Loss of directional control during the landing roll which resulted in the left wheel rolling on the soft sand; the aircraft veered off to the left of the runway before the left-wing tip tank and the nose section impacted the trees.

Contributing Factor(s)

- Loss of situational awareness.
- Misjudging the distance between the left-wing tip and the tree.

Safety Action(s)

None.

Safety Message and/or Safety Recommendation/s

Safety message: Pilots who intend to land on dirt runways are urged to conduct a safety risk analysis as well as thoroughly inspect the area before committing to land.

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

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