

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number		CA18/2/3/10469									
Classification		Accident		Date		02 July 2024	Time		1000Z		
Type of Operation		Training (Part 141)									
Location											
Place of Departure		Rand Airport (FAGM), Gauteng Province		Place of Intended Landing			Rand Airport (FAGM), Gauteng Province				
Place of Occurrence		Open field outside Klipriver Airfield in Meyerton, Gauteng Province									
GPS Co-ordinates		Latitude		26°27'8.95"S		Longitude		28° 6'11.83"E	Elevation		4 765ft
Aircraft Information											
Registration		ZS-FKL									
Make; Model; S/N		Bellanca; Citabria 7CKAB (Serial Number: 88)									
Damage to Aircraft		Substantial			Total Aircraft Hours		3 399.8				
Pilot-in-command											
Licence Type		Commercial Pilot Licence (CPL)		Gender		Male		Age	59		
Licence Valid		Yes	Total Hours		2072.8		Total Hours on Type		238.9		
Total Hours 30 Days		4.8			Total Flying on Type Past 90 Days			13.4			
People On-board		2+0	Injuries		0	Fatalities		0	Other (on ground)		0
What Happened											
<p>On Tuesday, 2 July 2024, a Grade 2 flight instructor (FI) and a pilot under training (with a Private Pilot Licence) on-board a Citabria 7KCAB aircraft with registration ZS-FKL were conducting a type conversion training from Rand Airport (FAGM) with the intention to land at the same airport. Visual meteorological conditions (VMC) by day prevailed at the time of the flight which was conducted under the provisions of Part 141 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The FI stated that a pre-flight inspection of the aircraft was conducted and nothing abnormal was found. The aircraft had approximately 63 litres (l) of Aviation Gasoline 100 Low Lead (Avgas 100LL) on-board. The pilot was the pilot flying (PF), and the flight instructor was the pilot monitoring (PM). Good weather conditions prevailed at the time of the flight. The aircraft took off and proceeded to Klipriver Airfield in Meyerton, situated 13 nautical miles (nm) south-east of FAGM for touch-and-go landing practise.</p> <p>The PF reported that they completed two successful circuits with three-point landings. On the third circuit, the intention was to conduct a wheeler landing (main gear and tail in level position). The aircraft touched down about 190 metres (m) from the threshold of the runway at 70 miles per hour (mph) and it bounced; the propeller struck the ground on the second touchdown, about 200m from the threshold. The FI took control of the aircraft and initiated a return to FAGM.</p> <p>After rotation, the aircraft climbed to about 6 feet (ft) above ground level (AGL) but encountered severe propeller vibrations and, thus, was unable to climb further. After flying over the runway intersection at a low altitude, the aircraft lost speed. This necessitated the crew to initiate a forced</p>											

landing. The FI chose an open field north of Runway 02 to conduct the forced landing, however, there were anthills on the field. To avoid the anthills, the FI slightly turned the aircraft to the right, but it touched down with its right-wing first, followed by the right main gear and then the left main gear. The landing gear detached, and the propeller blades struck the ground.

The aircraft skidded on its belly and came to a stop a few metres from where the landing gear had detached, with the left-wing tip touching the ground. The aircraft was substantially damaged; however, the occupants were not injured.

The following weather information was obtained from the pilot questionnaire (Form number: CA12-03):

Wind direction: north-west; wind speed: ± 5 kt; visibility: 1 000 feet (ft); air temperature: $\pm 20^{\circ}\text{C}$.



Figure 1: The aircraft at the accident site. (Source: Operator)



Figure 2: Front view of the aircraft with the damaged propeller blades. (Source: Operator)

Findings

1. The FI had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator (SACAA) on 2 April 2013. The CPL was reissued on 26 June 2023 with an expiry date of 30 June 2024. The FI applied for a 30-day extension on his licence on 13 June 2024. The validity of the licence was extended from 1 July 2024 in terms of the CA61.01.05 (6) (h) with an expiry date of 30 July 2024.
2. The FI's aviation medical certificate was issued on 31 October 2023 with an expiry date of 3 November 2024. The FI had a total of 2 072.8 hours of which 238.9 were on the aircraft type. He also had a Grade 2 flight instructor, night and instrument ratings endorsed on his licence.
3. The FI's qualifications, experience and medical fitness aligned with the regulatory requirement for safe flight operation.
4. The pilot had a Private Pilot Licence (PPL) that was initially issued by the Regulator on 3 May 2024 with an expiry date of 30 May 2025. His Class 2 aviation medical certificate was issued on 3 February 2019 with an expiry date of 31 December 2024.
5. The pilot had 95.3 hours of flying experience with approximately 2.4 hours accumulated on the aircraft type.
6. The aircraft had a Certificate of Airworthiness (C of A) that was initially issued by the Regulator on 21 November 2013. The C of A was reissued on 22 November 2023 with an expiry date of 30 November 2024. The Certificate of Registration (C of R) was issued to the current owner on 4 October 2010.

7. The mandatory periodic inspection (MPI) was certified on 16 November 2023 at 3 359.1 total airframe hours. The Certificate of Release to Service (CRS) was issued on 16 November 2023 at 3 359.1 airframe hours with an expiry date of 15 November 2024 or at 3 459.1 airframe hours, whichever comes first. The aircraft had 3 399.8 airframe hours at the time of the flight. The aircraft accrued 40.7 hours after the last MPI.
8. The aircraft was operated under the Approved Training Organisation (ATO) with a valid ATO Certificate that was issued by the Regulator on 20 April 2021 with an expiry date of 30 April 2026. The aircraft was also endorsed under the ATO's Operation Specifications Certification.
9. All certifications for registration and airworthiness were followed, and documentation was consistent with the regulatory requirements.
10. There was sufficient fuel on-board the aircraft.
11. Good weather conditions prevailed at the time of the flight.

Probable Cause(s)

Unsuccessful forced landing after a loss of thrust due to severe vibrations caused by the damaged propeller blades.

Contributing Factor(s)

Improper landing technique that led to a propeller strike.

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 desktop 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**