

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10480						
Classification	Accident		Date	31 July 2024		Time	1520Z
Type of Operation	Private (Part 94)						
Location							
Place of Departure	Rhino Park Airfield, Gauteng Province		Place of Intended Landing		Kitty Hawk Airfield (FAKT) Gauteng Province		
Place of Occurrence	About 14 metres (m) from the edge of Runway 19 at Kitty Hawk Airfield, Gauteng Province						
GPS Co-ordinates	Latitude	25°51'24.00"S	Longitude	28°26'59.00"E	Elevation	4454.4 ft	
Aircraft Information							
Registration	ZU-CKU						
Make; Model; S/N	Shadow Lite CC; Jabiru SP (Serial Number: 421)						
Damage to Aircraft	Substantial			Total Aircraft Hours	945.5		
Pilot-in-command							
Licence Type	Private Pilot Licence (PPL) Aeroplane		Gender	Male		Age	19
Licence Valid	Yes	Total Hours	69.1		Total Hours on Type	2.9	
Total Hours 30 Days	2.9		Total Flying on Type Past 90 Days		2.9		
People On-board	1+0	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
On Wednesday, 31 July 2024, a pilot on-board a Jabiru SP aircraft with registration ZU-CKU was ferrying the aircraft (private flight) from Rhino Park Airfield to Kitty Hawk Airfield (FAKT), both in Gauteng province. 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. The pilot stated that the aircraft touched down deep on the first approach for Runway (RWY) 01 at FAKT; subsequently, he executed a go-around as the approach was unstable. During the second attempt, the aircraft landed at the correct spot (one-third of the runway), but the pilot stated that the brakes did not respond as expected. The aircraft continued to roll down the runway. Towards the end of it, he turned the aircraft to the right and exited the runway in the hope that the aircraft would come to a stop on the grass area. However, the nose gear wheel rolled over a ditch (which the pilot did not see), and the wooden propeller struck the ground and sustained damage. The pilot was unharmed. After the accident, the investigator, pilot and approved person (AP) tested the brakes and found them to operate adequately. The aircraft could not be pushed forward with manual brakes engaged and the emergency brakes in park position. The pilot could not explain why the brakes would not respond when engaged on the day of the accident flight. The hydraulic fluid level was checked, as well as the reservoir; the reservoir was found half-full (it did not indicate a minimum level). The brake lines were in good condition. There were signs of leakage or air gaps in the system. The brake pads on both main wheels were sufficient and the tyres did not have flat spots. The tarred-covered runway was							

dry on the day of the flight. RWY 01, which is 900 metres (m) long, has a downward slope of approximately 32 feet (ft) from the middle to the end.



Figure 1: The aircraft stopped after rolling over the ditch. (Source: Owner)



Figure 2: The damaged propeller blade. (Source: Owner)

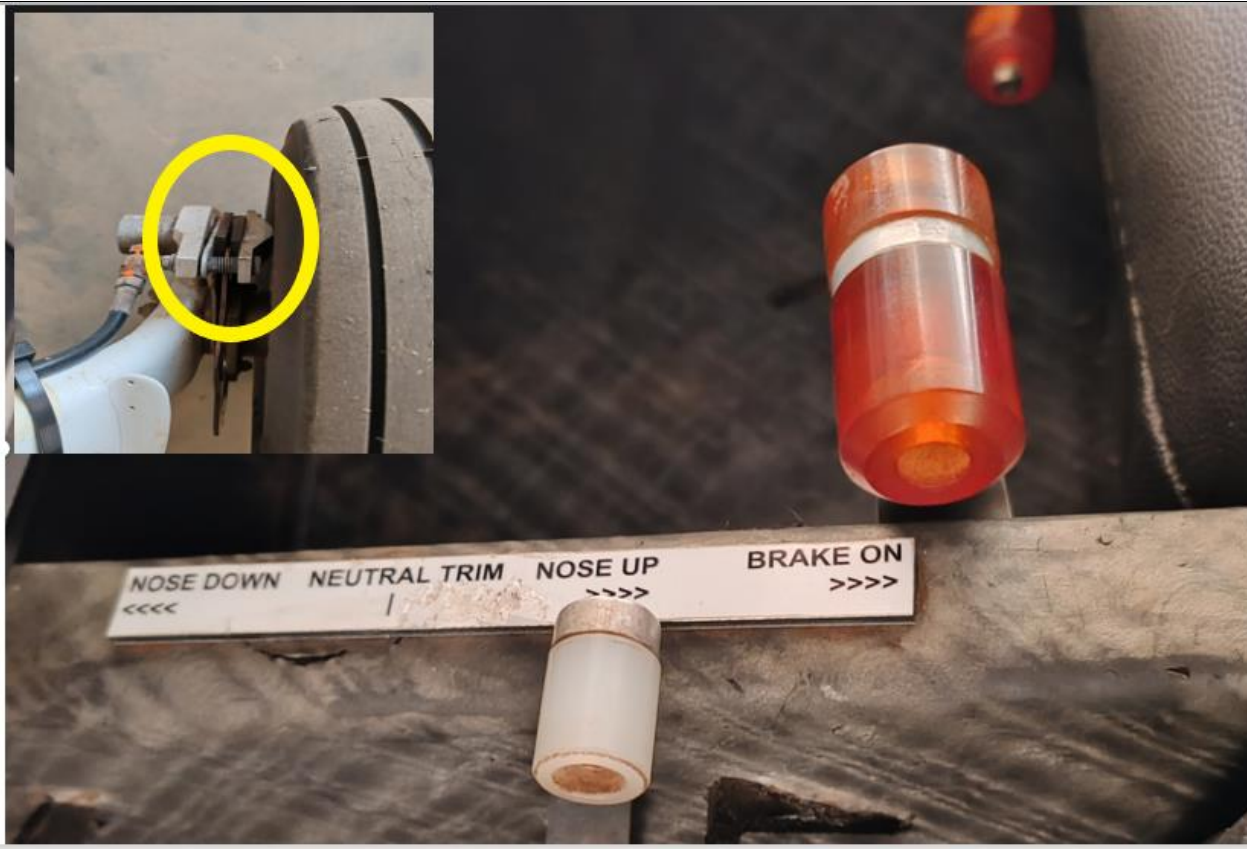


Figure 3: The hand brake (orange handle). Inset shows brake pads in an acceptable state. (Source: Owner)



Figure 4: Runway 01 indicates a downhill profile of 32 feet from top to bottom. (Source: Google Earth)

Findings
1. <u>Personnel Information</u> 1.1 The pilot had a Private Pilot Licence (PPL) that was initially issued on 7 July 2024 with an expiry date of 1 July 2025. The pilot had flown a total of 69.1 hours, of which 2.9 hours were on the aircraft type. The pilot completed the conversion to the aircraft type on 16 July 2024. 1.2 The pilot was issued a Class 2 aviation medical certificate on 13 December 2022 with an expiry date of 31 December 2027 with no limitations. 2. <u>Aircraft Information</u> 2.1 The last annual inspection that was conducted on the aircraft before the accident flight was carried out on 18 April 2024 at 940.4 airframe hours. The accident occurred at 945.0 airframe hours, which meant that the aircraft accrued 4.6 hours since the last inspection. 2.2 The aircraft had a valid Certificate of Airworthiness (C of A) that was initially issued by the Regulator (SACAA) on 27 June 2019. The latest C of A was issued on 26 June 2024 with an expiry date of 30 June 2025. The aircraft was airworthy when it was dispatched for the flight. 2.3 The aircraft's Certificate of Registration (C of R) was issued to the present owner on 23 August 2023. 2.4 The aircraft was issued a Certificate of Release to Service (CRS) on 30 June 2024 with an expiry date of 20 June 2025 or at 1040.4 airframe hours, whichever occurs first. 2.5 The aircraft maintenance organisation (AMO) that maintained the aircraft had a valid AMO Certificate that was issued on 31 August 2024 with an expiry date of 31 August 2025. The approved person (AP) had a valid AP Certificate with an expiry date of 22 January 2025. He had an airframe and engine rating on the aircraft type. 2.6 According to the AMO's record, they worked on the aircraft on 18 April 2024 and the brakes were found to be in an acceptable condition (see inset in Figure 3). 2.7 The investigating team and the AP inspected the aircraft's brake system, and it was found to be in good working condition.
Probable Cause(s)
It is likely that the pilot engaged (pressed) the rudder pedals when he should have engaged the hand brake to bring the aircraft to a stop.
Contributing Factor(s)
The pilot had more hours on aircraft type with rudder pedal brakes (toe-brakes).
Safety Action(s)
None.
Safety Message and/or Safety Recommendation/s
None.
About this Report
<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</i>

<i>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> <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>
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