



LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number		CA18/2/3/10601					
Classification	Accident	Date	20 August 2025			Time	0745Z
Type of Operation	Private (Part 94)						
Location							
Place of Departure	Mankwe Game Farm Private Airstrip, North West Province			Place of Intended Landing	Mankwe Game Farm Private Airstrip, North West Province		
Place of Occurrence	Mankwe Game Farm Private Airstrip runway						
GPS Co-ordinates	Latitude	025°14'12.13" S	Longitude	027°14'34.64" E	Elevation	3,637 ft	
Aircraft Information							
Registration	ZU-IZR						
Make; Model; S/N	Bat Hawk R (Serial Number: 0123)						
Damage to Aircraft	Substantial			Total Aircraft Hours	75.9		
Pilot-in-command							
Licence Type	Commercial Pilot Licence (CPL)		Gender	Female		Age	48
Licence Valid	Valid	Total Hours	348.1		Total Hours on Type	221.6	
Total Hours 30 Days	15		Total Flying on Type Past 90 Days			37.8	
People On-board	1+1	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Friday morning, 29 August 2025, a pilot and a passenger on-board a Bat Hawk R aircraft with registration ZU-IZR were engaged in a surveillance flight from Mankwe Game Farm private airstrip in North West province with the intention to land back at the same airstrip. Visual meteorological conditions (VMC) prevailed at the time of the flight which was conducted under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011, as amended.</p> <p>The pilot reported that she completed an uneventful aerial patrol over a friend's property in Pilanesberg. Good weather conditions prevailed at the time of the flight with light wind and air temperature of 23 degrees Celsius (°C). During approach to land on Runway 19 at the airstrip, the pilot stated that she maintained a stable approach speed of 40 knots (kts) with flaps set at three quarters (¾) due to the short runway which is approximately 200 metres (m) long and 12m wide. Approximately 6 feet (ft) above ground level (AGL) after the aircraft had flown over the runway threshold, the pilot initiated an early flare prior to touchdown. This resulted in a high sink rate which caused the aircraft to touch down hard with the left main landing gear.</p> <p>After touchdown, the left wheel pivoted and the aircraft swerved to the left and spun towards a sand barrier that was adjacent to the runway. The aircraft came to rest just beyond the sand barrier facing north-west. The pilot switched off all electrical systems and disembarked with the passenger; they were uninjured. The aircraft sustained damage to the landing gear and the nose section during the accident sequence.</p>							



Figure 1: The aircraft after the accident. (Source: Pilot)



Figure 2: Damage on the left-side main landing gear and windshield. (Source: Pilot).



Figure 3: The airstrip and its surrounds. (Source: Pilot)

Aircraft Operations and Performance (Source: Pilot's Operating Handbook)

The approach and landing procedure are as follows:

Approach

Pre-landing checks:

- 1. Check the fuel pump is on.*
- 2. Check harnesses are tight.*

The recommended approach speed is 45kts. IAS with power applied to maintain the required approach slope. It is recommended that full flaps be applied for all landings. Ensure flaps are lowered at speeds below 55kts IAS.

Landing

Short Field Landing

- 1. Select full flaps*
 - 2. Final approach speed - 40kts*
 - 3. Glide path just high enough to clear the obstacle at the approach end of the runway.*
 - 4. Flare - minimum float*
 - 5. After touchdown - flaps up*
- Maximum braking*

Findings

Personnel

1. The pilot had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator (SACAA) on 25 November 1996. The CPL was reissued on 18 October 2024 with an expiry date of 31 October 2025.
2. The pilot's Class 1 aviation medical certificate was issued on 26 September 2024 with an expiry date of 30 September 2025 with no restrictions.
3. The pilot was qualified and rated on the aircraft type and its series. The aircraft type was endorsed on her licence. The pilot had a total of 348.1 flight hours of which 221.6 hours were accrued on the aircraft type.
4. The pilot was qualified, licensed and medically fit to conduct the flight.

Aircraft

5. The aircraft had an Authority-to-Fly (ATF) Certificate that was issued by the Regulator on 22 November 2024 with an expiry date of 21 November 2025. The aircraft was registered to the current owner on 8 November 2023.
6. The last maintenance inspection of the aircraft was conducted on 8 October 2024 at 0 airframe hours after which a Certificate of Release to Service (CRS) was issued with an expiry date of 27 October 2025 or at 100 airframe hours, whichever comes first.
7. The pilot owned and operated the aircraft under the provisions of Part 94.
8. The maintenance of the aircraft was conducted by an approved person (AP) who had a valid AP Certificate that was issued by the Regulator on 14 March 2024 with an expiry date of 14 March 2026. The aircraft was endorsed on the AP's operational specifications.
9. The aircraft was licensed and serviceable with no defects noted at the time of the flight.

Environment

10. Good weather conditions prevailed at the time of the flight.
11. The airstrip is a short field runway surrounded by obstacles (trees); this therefore, provided limited overrun area.

Mission

12. The pilot had set the flaps at $\frac{3}{4}$ during approach instead of full flaps with reduced drag and increased float distance as the available runway length was short.

<p>13. The aircraft was flared too high at 6 feet (ft) above ground level (AGL) just above the threshold as the pilot was mindful of the short field. This resulted in a high sink rate and the subsequent hard landing.</p> <p>14. The hard impact momentarily caused the left wheel to pivot, and the pilot lost directional control. The aircraft departed the runway and impacted the sand barrier before it came to a full stop.</p>
<p>Probable Cause(s)</p>
<p>The aircraft landed hard after an early flare that led to a high sink rate. This resulted in a loss of directional control and the aircraft veered off to the left of the runway.</p>
<p>Contributing Factor(s)</p>
<ul style="list-style-type: none"> • Early flare initiation. • Incorrect flap selection as per the POH. • Incorrect technique for short field landing.
<p>Safety Action(s)</p>
<p>None.</p>
<p>Safety Message and/or Safety Recommendation/s</p>
<p>Pilots operating on short fields must follow the manufacturer's recommended procedures by maintaining the correct approach speed and flaring at the proper height. Using the correct technique reduces the risk of hard landings which could cause a loss of control, runway excursions or aircraft damage.</p>
<p>About this Report</p>
<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 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.</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>
<p>Purpose</p>
<p><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></p>
<p>Disclaimer</p>
<p><i>This report is produced without prejudice to the rights of the AIID, which are reserved.</i></p>

This report is issued by:

**Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**