LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/3/2/1537						
Classification	Serious Incident	**Date**	20 February 2026		**Time**	0830Z	
Type of Operation	Private (Part 94)						
Location							
Place of Departure	Witbank Aerodrome (FAWI), Mpumalanga Province	Place of Intended Landing	Deneysville Airfield, Free State Province				
Place of Occurrence	Grass airstrip on a private farm, 30km south of Heidelberg, Gauteng Province						
GPS Co-ordinates	Latitude	26°49′46.5″ S	Longitude	28°22′37.9″ E	Elevation	5 131 ft	
Aircraft Information							
Registration	ZU-ESS						
Make; Model; S/N	Jabiru J430 (Serial Number: 506)						
Damage to Aircraft	Minor	Total Aircraft Hours	1 421.1				
Pilot-in-command							
Licence Type	Private Pilot Licence (PPL)	Gender	Male	Age	57		
Licence Valid	Yes	Total Hours	137.6	Total Hours on Type	92.6		
Total Hours 30 Days	0.5	Total Flying on Type Past 90 Days	1.8				
People On-board	1+1	**Injuries**	0	**Fatalities**	0	**Other (on the ground)**	0

What Happened

On Friday, 20 February 2026, a pilot and a passenger on-board a Jabiru J430 aircraft registered ZU-ESS were on a private flight from Witbank Aerodrome (FAWI) in Mpumalanga province to Deneysville Airfield in Free State 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 reported that he conducted a pre-flight inspection of the aircraft and did not identify anomalies. The aircraft had a total of 80 litres (L) of Avgas 100LL in the tanks. At 0545Z, the aircraft departed from FAWI and climbed to 6 400 feet (ft), cruising at a speed of 95 knots (kts). Whilst en route, approximately 30 kilometres (km) south of Heidelberg in Gauteng province, the pilot noticed that the engine revolutions per minute (RPM) indicator had failed. A moment later, the aircraft's Global Positioning System (GPS) unit failed. After the failure of the GPS unit, the pilot lost radio connectivity and functionality of other electronic instruments. He reported that he was concerned about a possibility of an on-board fire and, therefore, sought an ideal area on which to execute a precautionary landing.

At this point, the pilot felt the engine vibrating, however, the engine parameters were reading normal. He identified a grass airstrip on a farm ahead of his flight path. At this time, the aircraft was still too high, which prompted him to execute a go-around. He selected 30 degrees flaps whilst approaching at a speed of 60 kts. During landing, the aircraft impacted the runway surface hard (touched down hard) with the main landing gears and bounced. After the bounce, the engine vibration increased. The aircraft touched down again and, during the landing roll, the engine stopped. The aircraft came to a stop on the right side of the runway. The pilot switched off the ignition and disembarked from the aircraft. He then rotated the propeller by hand during which he noticed that the crankshaft rotated freely with no compression. The aircraft sustained minor damage to the propeller blades. The pilot and the passenger were not injured.

The serious incident occurred during daylight at GPS co-ordinates determined to be 26°49′46.5″ South 28°22′37.9″ East, at an elevation of 5131ft.

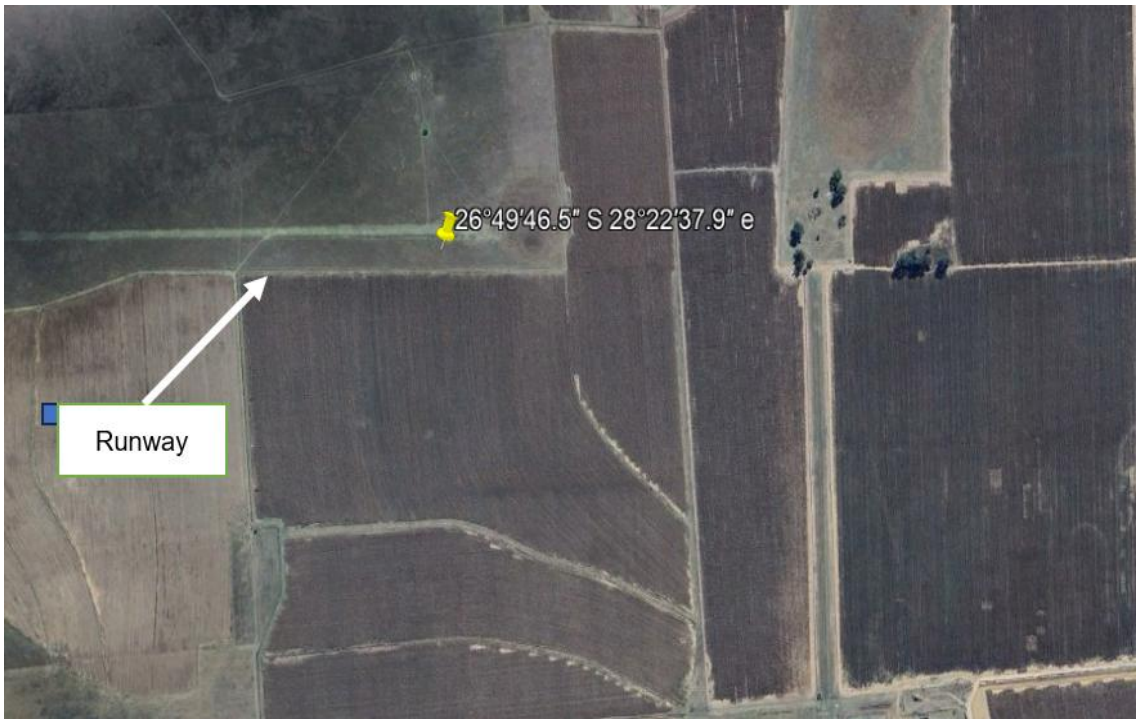

Figure 1: The grass runway used and the approximate accident site (yellow pin). (Source: Google Earth)

Figure 2: The aircraft next to the runway and the direction of landing (yellow arrow). (Source: Pilot)

Following the serious incident, the aircraft was recovered to an aircraft maintenance organisation (AMO) at Rhino Park in Gauteng province. The aircraft was powered by a Jabiru 3300 6-cylinder engine with serial number 33A1731. The aircraft documentation indicated that the engine was last overhauled on 8 June 2021 at 1331 hours. At the time of the serious incident, the engine had accumulated 1421.1 hours. A team of engineers removed the engine from the aircraft for a teardown inspection; these were the findings:

1. Scoring marks were found on the journals and metal shavings inside the crankcase.
2. The crankshaft with serial number 36424F-33A-104 had broken off between the Number 2 main journal and the Number 1 big end journal.
3. The crankshaft journals were measured, and the main journals were precisely 0.010 inches under the standard size of 0.050 inches stipulated in the engine overhaul manual JEM 001-20.
4. The main bearing shells fitted to the crankshaft were 0.010-inches under size, an indication of a mismatch between the bearing shells which resulted in excessive crankshaft end float or end play; consequently, this damaged the front side faces of the connecting rods.

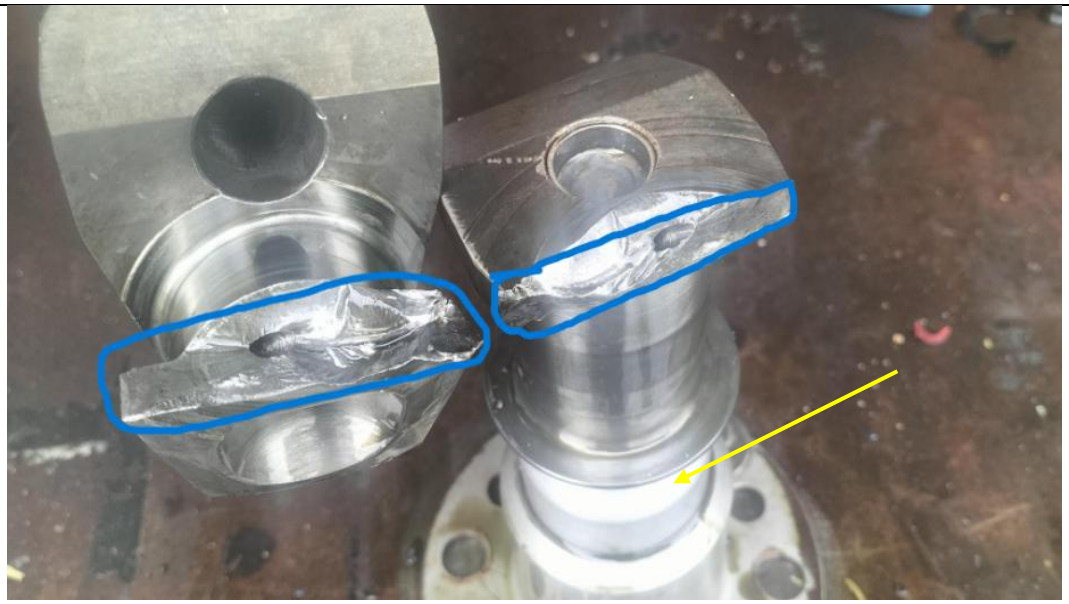

Figure 3: The broken crankshaft and scoring marks on the journal (yellow line).

Findings

1. The pilot had a Private Pilot Licence (PPL) that was initially issued by the Regulator on 21 December 2021. The licence was reissued on 20 December 2025 with an expiry date of 31 December 2026.

2. The pilot had a Class 2 aviation medical certificate that was issued on 29 September 2025 with an expiry date of 30 September 2026. The pilot had a restriction to wear suitable corrective lenses.

3. The pilot had a total of 92.6 flying hours accumulated on the aircraft type. The aircraft type was endorsed in his pilot licence.

4. The aircraft was registered to the current owner on 11 October 2019.

5. The last 100-hour annual inspection of the aircraft was conducted and certified on 30 September 2025 at 1417.5 total airframe hours after which a Certificate of Release to Service (CRS) was issued with an expiry date of 30 September 2026 or at 1 517.5 hours, whichever comes first. The aircraft had accrued 3.6 hours since the last inspection.

6. The aircraft had an Authority-to-Fly (ATF) Certificate that was initially issued by the Regulator on 26 March 2019. The ATF Certificate was reissued on 10 October 2025 with an expiry date of 30 November 2026.

7. The engine teardown inspection revealed that the crankshaft with serial number 36424F-33A-104 had broken off between the Number 2 main journal and the Number 1 big end

journal. The inspection also revealed incorrect bearing shells that were fitted to the crankshaft which resulted in excessive crankshaft end float.

Probable Cause

Unstable approach during a precautionary landing which resulted in the aircraft bouncing and the propeller striking the soft ground.

Contributing Factor

Poor landing technique.

Safety Action

None.

Safety Message and/or Safety Recommendation

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 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 issued by:

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