

PRELIMINARY ACCIDENT REPORT

Accident and Incident Investigations Division

Accident
- Preliminary Report -
AIID Ref No: CA18/2/3/10110



Figure 1: ZU-IKI after landing (Source: Aircraft file).

Description:

On 10 February 2022 at 0930Z, a pilot accompanied by a passenger on-board a Jabiru 430 with registration ZU-IKI took off on a private flight from Robertson Aerodrome (FARS) with the intention to land at Morning Star Aerodrome, which is situated approximately 3 nautical miles (nm) north-east of Table View (next to the N7 roadway) in the Western Cape province. The flight was conducted under visual flight rules (VFR) by day and under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended. The aircraft flew westward over Robben Island, then south towards the Cape Peninsula coastline at 1500 feet above ground level (AGL). Whilst flying in the Cape Peninsula, the aircraft's engine stopped in-flight and the pilot executed a forced landing on a road in the Cape Point Nature Reserve. The two occupants on-board the aircraft were injured during the forced landing sequence; the aircraft was substantially damaged.

INTRODUCTION

Reference Number : CA18/2/3/10110
Name of Owner/Operator : AJ Crook
Manufacturer : Jabiru
Model : Jabiru 430 (S/N:912)
Nationality : South African
Registration Marks : ZU-IKI
Place : Cape Point Nature Reserve
Date : 10 February 2022
Time : 1110Z

Purpose of the Investigation:

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, 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.***

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.

Investigation Process:

The accident was notified to the Accident and Incident Investigations Division (AIID) on 10 February 2022 at about 1150Z. The investigator conducted an off-site investigation. The investigator co-ordinated with all authorities on site by initiating the accident investigation process according to CAR Part 12 and investigation procedures. The AIID is leading the investigation as the Republic of South Africa is the State of Occurrence.

Notes:

1. *Whenever the following words are mentioned in this report, they shall mean the following:*

- *Accident — this investigated accident*
- *Aircraft — the Jabiru JAB4 430 involved in this accident*
- *Investigation — the investigation into the circumstances of this accident*
- *Pilot — the pilot involved in this accident*
- *Report — this accident report*

2. *Photos and figures used in this report were taken from different sources and may have been adjusted from the original for the sole purpose of improving clarity of the report. Modifications to images used in this report were limited to cropping, magnification, file compression; or enhancement of colour, brightness, contrast; or addition of text boxes, arrows or lines.*

Disclaimer:

This report is produced without prejudice to the rights of the AIID, which are reserved.

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1. FACTUAL INFORMATION

1.1. History of Flight

- 1.1.1 On 10 February 2022 at 0930Z, a pilot accompanied by a passenger on-board a Jabiru 430 with registration ZU-IKI took off on a private flight from Robertson Aerodrome (FARS) with the intention to land at Morning Star Aerodrome, situated approximately 3 nautical miles (nm) north-east of Table View (next to the N7) in the Western Cape province. The flight was conducted under visual flight rules (VFR) by day and under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended.
- 1.1.2 The pilot reported that he conducted a pre-flight check, as well as uplifted 73 litres of fuel at FARS. After take-off, the pilot and the passenger flew towards Cape Town CBD, then west towards Robben Island; thereafter, routed south along the coast towards the Cape Peninsula at 1500 feet above ground level (AGL). At approximately 1110Z, the pilot heard a loud bang from the aircraft's engine, followed by a sudden loss of power. Thereafter, the aircraft's engine stopped, and the pilot could not restart the engine. The pilot then turned the aircraft left towards the land, made a MAYDAY call on frequency 125.80-Megahertz (MHz) (Special Rules West Uncontrolled Airspace) and reported 'I am going down', whilst attempting to make a forced landing.
- 1.1.3 A South African Air Force (SAAF) helicopter that was flying in the vicinity at the time heard the MAYDAY transmission on the same frequency and enquired about the ZU-IKI's position and their intentions. The pilot of ZU-IKI responded that they were approximately 6nm north of Cape Point and intended to do a forced landing on the road. There was no further communication between the pilots of the SAAF helicopter and the ZU-IKI.
- 1.1.4 The pilot then executed a forced landing on a road in the Cape Point Nature Reserve. During the landing roll, the left wing clipped the fynbos which was on the left of the road, and the aircraft ground looped (to the left) and came to rest with the nose in the fynbos. The SAAF helicopter pilot flew towards the direction given by the pilot of ZU-IKI and spotted the aircraft from the air.
- 1.1.5 Civilians from two vehicles and a motorcyclist were at the scene assisting the occupants of ZU-IKI whilst the SAAF helicopter pilot landed on the road close by. The pilot and the passenger of the ZU-IKI were injured, and the aircraft was substantially damaged; the propeller had detached from the hub during the landing sequence. The emergency services personnel were notified of the accident and the pilot and the passenger were rushed to a local hospital for treatment.
- 1.1.6 The SAAF pilot noted fuel leaking from the wings of the ZU-IKI aircraft; to prevent any possible post-impact fire, he opened the engine cowling and disconnected the battery. A cordless electric drill and a socket were found inside the engine bay. The aircraft sustained damage to the right wing, horizontal stabiliser, undercarriage, nose wheel, propeller and fuselage.
- 1.1.7 The accident occurred during day light in the Cape Point Nature Reserve at Global Positioning System (GPS) position determined to be 34°21'02.72"S 018°29'06.23"E at an elevation of 416 feet.



Figure 2: Aerial view of the Cape Point Nature Reserve where the accident occurred.
(Source: Google Earth)

1.2. Injuries to Persons

Injuries	Pilot	Crew	Pass.	Total On-board	Other
Fatal	-	-	-	-	-
Serious	1	-	1	2	-
Minor	-	-	-	-	-
None	-	-	-	-	-
Total	1	-	1	2	-

Note: Other means people on ground.

1.3. Damage to Aircraft

1.3.1 The aircraft was substantially damaged during the accident sequence.



Figure 3:The aircraft as it came to rest in the fynbos. (Source: EMS)

1.4. Other Damage

1.4.1 None.

1.5. Personnel Information

Nationality	South African	Gender	Male	Age	64
Licence Number	*****	Licence Type	Private Pilot Licence		
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	None				
Medical Expiry Date	31 August 2022				
Restrictions	Corrective lenses				
Previous Accidents	None				

Note: Previous accidents refer to past accidents the pilot was involved in, when relevant to this accident.

Flying Experience:

Total Hours	647.5
Total Past 24 Hours	0
Total Past 7 Days	9.9
Total Past 90 Days	28.9
Total on Type Past 90 Days	28.9
Total on Type	59

1.5.1 The pilot was initially issued a Private Pilot Licence (PPL) on 17 February 2021; he had undergone a competency evaluation on 22 January 2022 and was reissued the licence on the same day with an expiry date of 28 February 2024. The pilot had a Class II medical certificate issued on 3 August 2021 with an expiry date of 31 August 2022 and with a restriction to wear corrective lenses.

1.6. Aircraft Information

1.6.1 The Jabiru J430 is a four-seat composite high-wing light sport aircraft with a fixed tricycle undercarriage. The airframe is manufactured using Fibre Reinforced Plastic (FRP) material. The aircraft is powered by a 3300 cc air-cooled flat six-cylinder engine.

Airframe:

Manufacturer/Model	Shadow LITE cc	
Serial Number	912	
Year of Manufacture	2019	
Date of Manufacture	30 April 2019	
Total Airframe Hours (At Time of Accident)	103.3	
Last MPI (Date & Hours)	16 November 2021	75.5
Hours Since Last MPI	27.8	
ATF (Issue Date)	15 December 2020	
ATF Expiry Date	31 December 2022	
C of R (Issue Date) (Present Owner)	5 March 2020	
Type of Fuel Used in the Aircraft	Avgas 100 LL	
Operating Categories	Normal	
Previous Accidents	N/A	

Note: Previous accidents refer to past accidents the aircraft was involved in, when relevant to this accident.

Engine:

Manufacturer/Model	Jabiru 3300
Serial Number	33A2759
Hours Since New	103.3
Hours Since Overhaul	TBO not reached

Propeller:

Manufacturer/Model	2 Blade Composite
Serial Number	371
Hours Since New	103.3
Hours Since Overhaul	TBO not reached

1.7. Meteorological Information

1.17.1 The meteorological information was sourced from the South African Weather Service for 10 February 2022 at 1100Z.

Wind Direction	290°	Wind Speed	9 kt	Visibility	≥10000
Temperature	25°	Cloud Cover	SCT	Cloud Base	3500 feet
Dew Point	16°	QNH	1014		

1.8. Aids to Navigation

1.8.1 The aircraft was equipped with standard navigational equipment as approved by the Regulator (SACAA) for the aircraft type. There was no record indicating that the navigation system was unserviceable prior to the accident.

1.9. Communication

1.9.1 The aircraft was equipped with standard communication equipment as approved by the Regulator for the aircraft type. There was no record indicating that the communication system was unserviceable prior to the accident.

1.10. Aerodrome Information

1.10.1 The accident occurred at the Cape Point Nature Reserve, away from the aerodrome.

1.11. Flight Recorders

1.11.1 The aircraft was not equipped with a flight data recorder (FDR) or a cockpit voice recorder, (CVR) nor was it required by regulation to be fitted on this aircraft.

1.12. Wreckage and Impact Information

1.12.1 The aircraft landed on a road in the Cape Point Nature Reserve. The left wing made contact with the fynbos on the left-side of the road and ground looped counter-clockwise. The aircraft came to rest 90° across the road, sustaining damage to the right wing, horizontal stabiliser, undercarriage, nose wheel, propeller and fuselage.



Figure 4: The aircraft post-accident. (Source: EMS)

1.13 Medical and Pathological Information

1.13.1 The two occupants sustained injuries and were treated at a local hospital.

1.14 Fire

1.14.1 There was no evidence of a pre- or post-impact fire.

1.15 Survival Aspects

1.15.1 The accident was considered survivable as there was minimal impact force on the cockpit. Moreover, the pilot and passenger had made use of the safety harness.

1.16 Tests and Research

1.16.1 To be discussed in the final report.

1.17 Organisational and Management Information

1.17.1 The aircraft was operated privately under the provisions of Part 94 of the CAR 2011 as amended.

1.17.2 The aircraft was maintained by an Approved Person (AP) who was in possession of an authorised AP certificate that was issued by the Regulator on 28 February 2022 with an expiry date of 27 February 2024.

1.18 Additional Information

1.18.1 None.

1.19 Useful or Effective Investigation Techniques

1.19.1 None.

2. Findings

2.1 General

From the available evidence, the following preliminary findings were made with respect to this accident. These shall not be read as apportioning blame or liability to any particular organisation or individual.

To serve the objective of this investigation, the following sections are included in the conclusions heading:

- **Findings** — are statements of all significant conditions, events or circumstances in this accident. The findings are significant steps in this accident sequence, but they are not always causal or indicate deficiencies.

2.2 Findings

2.2.1 The pilot was initially issued a Private Pilot Licence (PPL) on 17 February 2021; he had undergone a competency evaluation on 22 January 2022 and was reissued the licence on the same day with an expiry date of 28 February 2024.

2.2.2 The pilot had a Class II medical certificate issued on 3 August 2021 with an expiry date of 31 August 2022 and with a restriction to wear corrective lenses.

2.2.3 The aircraft was issued a Certificate of Registration on 5 March 2020, and the Authority to fly on 15 December 2020 with an expiry date of 31 December 2022.

2.2.4 The flight was conducted by day under VFR and under the provisions of Part 94 of CAR 2011 as amended.

2.2.5 The aircraft was issued a Certificate of Release to Service on 5 February 2022 at 75.5 hours which would lapse at 200 airframe hours or on 31 December 2022, whichever comes first.

2.2.6 The aircraft was maintained by an AP with a certificate issued on 16 November 2021 and expiring on 31 December 2022.

2.2.7 The last mandatory periodic inspection (MPI) was carried out on 16 November 2021 at 75.5 airframe hours. The aircraft was flown for 27.8 hours after the last MPI.

2.2.8 The aircraft was forced landed on a road following an in-flight engine failure; the pilot and the passenger sustained serious injuries during the accident sequence.

3. On-going Investigation

3.1 The AIID investigation is on-going and the investigator will be looking into other aspects of this occurrence which may or may not have safety implications.

This report is issued by:

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