

PRELIMINARY ACCIDENT REPORT

Accident and Incident Investigations Division

Accident
- Preliminary Report -
AIID Ref No: CA18/2/3/10541



Figure 1: ZS-LUG as it came to rest. (Source: Pilot)

Description:

On Wednesday, 1 January 2025, a pilot aboard a PA36-285 aircraft with registration ZS-LUG took off on a crop-spraying detail from Kirkwood Airstrip in the Eastern Cape province. The pilot completed seven uneventful spray runs before he returned to land on Runway 22 at the take-off airstrip. Approximately 300 metres into the landing roll, the right main landing gear failed and separated from the fuselage which caused the right wing and the propeller to strike the ground. The pilot was not injured; the aircraft sustained damage to the undercarriage, propeller, right wing and spray gear during the accident sequence.

Occurrence Details

Reference Number : CA18/2/3/10541
Occurrence Category : Accident (Category 1)
Type of Operation : Agricultural Operations (Part 137)
Name of Operator : Van Den Berg Lugbespuiting CC
Aircraft Registration : ZS-LUG
Aircraft Make and Model : Piper
Nationality : South African
Place : RWY 22 Kirkwood Airstrip, Eastern Cape Province
Date and Time : 1 January 2025 at 0605Z
Injuries : None
Damage : Substantial

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 and Incident Investigations Division (AIID) of the South African Civil Aviation Authority (SACAA) was notified of the occurrence involving a Piper PA36 which occurred at Kirkwood Airstrip, Eastern Cape province, on 1 January 2025 at 0750Z. The occurrence was classified as an accident according to the CAR 2011 Part 12 and the International Civil Aviation Organisation (ICAO) STD Annex 13 definitions.

The AIID has appointed an investigator-in-charge to conduct a full investigation. The investigator did not dispatch to the accident site. Notification was sent to the State of Operator in accordance with the CAR 2011 Part 12 and the ICAO Annex 13 Chapter 4. The State of Operator did not appoint an accredited representative and/or advisor. The AIID will lead the investigation and issue the final report of this accident in accordance with the CAR 2011 Part 12 and the ICAO Annex 13.

The information contained in this preliminary report is derived from the information gathered during the on-going investigation into the occurrence. Later, an interim or final report may contain altered information in case new evidence is found during the on-going investigation that requires changes to the information depicted in this report.

The AIID reports are made available to the public at:

<https://www.caa.co.za/industry-information/accidents-and-incidents/#occurrence-reports>

Notes:

- Whenever the following words are mentioned in this report, they shall mean the following:*
Accident — this investigated accident
Aircraft — the Piper PA36 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 SACAA, which are reserved.

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Abbreviation	Description
°	Degrees
°C	Degrees Celsius
AIID	Accident and Incident Investigations Division
A/C	Aircraft
ACCID	Accident
AGL	Above Ground Level
AMO	Aircraft Maintenance Organisation
CAA	Civil Aviation Authority
CAR	Civil Aviation Regulations
CAVOK	Ceiling and Visibility OK
CVR	Cockpit Voice Recorder
C of A	Certificate of Airworthiness
C of R	Certificate of Registration
CRS	Certificate of Release to Service
FAEL	East London Airport
FAPE	Port Elizabeth Airport
FDR	Flight Data Recorder
ft	Feet
GPS	Global Positioning System
hPa	Hectopascal
IIC	Investigator-in-Charge
kt	Knots
Lb	Pounds
L	Litres
m	Metres
METAR	Meteorological Aerodrome Report
MHz	Megahertz
nm	Nautical Mile
POH	Pilot's Operating Handbook
SACAA	South African Civil Aviation Authority
SAWS	South African Weather Service
TBO	Time Between Overhaul
UTC	Co-ordinated Universal Time
VDL	Corrective lenses for defective distant vision
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
QNH	Altitude Above Mean Sea Level
Z	Zulu (Term for Universal Co-ordinated Time - Zero Hours Greenwich)

1. FACTUAL INFORMATION

1.1. History of Flight

- 1.1.1. On Wednesday, 1 January 2025, a pilot aboard a PA36-285 aircraft with registration ZS-LUG took off from Kirkwood Airstrip in the Eastern Cape province to conduct crop-spraying on a field in the same location. The flight was conducted under visual flight rules (VFR) and under the provisions of Part 137 of the Civil Aviation Regulations (CAR) 2011 as amended.
- 1.1.2. The pilot reported that he conducted pre-flight checks and no anomalies were noted on the aircraft. He then loaded the chemical in preparation for the crop-spraying detail which was sufficient for seven spray runs. A total of eight runs were planned for this crop-spraying detail. At 0545Z, the aircraft took off in a northerly direction and completed seven uneventful crop-spraying runs in the nearby field.
- 1.1.3. The pilot stated that after the seventh spray detail, he routed back to Kirkwood Airstrip to uplift the load for the eighth spray run of the day. At approximately 0600Z, the aircraft landed on Runway (RWY) 22, and the aircraft veered off about 300 metres (m) to the right during the landing roll. The right main landing gear separated from the fuselage which caused the right-wing tip and the propeller to contact the runway surface.
- 1.1.4. The aircraft swung to the right and came to a stop on the runway facing east. The pilot shut down the aircraft and exited without assistance; he was uninjured. The aircraft sustained damage to the right main landing gear, right wing, propeller and the spray gear.
- 1.1.5. The accident occurred on Runway 22 at Kirkwood Airstrip, Sundays River Valley, 30 nautical miles (nm) north-west of Port Elizabeth Airport (FAPE) and at Global Positioning System (GPS) co-ordinates determined to be 33°25'49" South 025°23'48" East, at an elevation of 450 feet (ft).

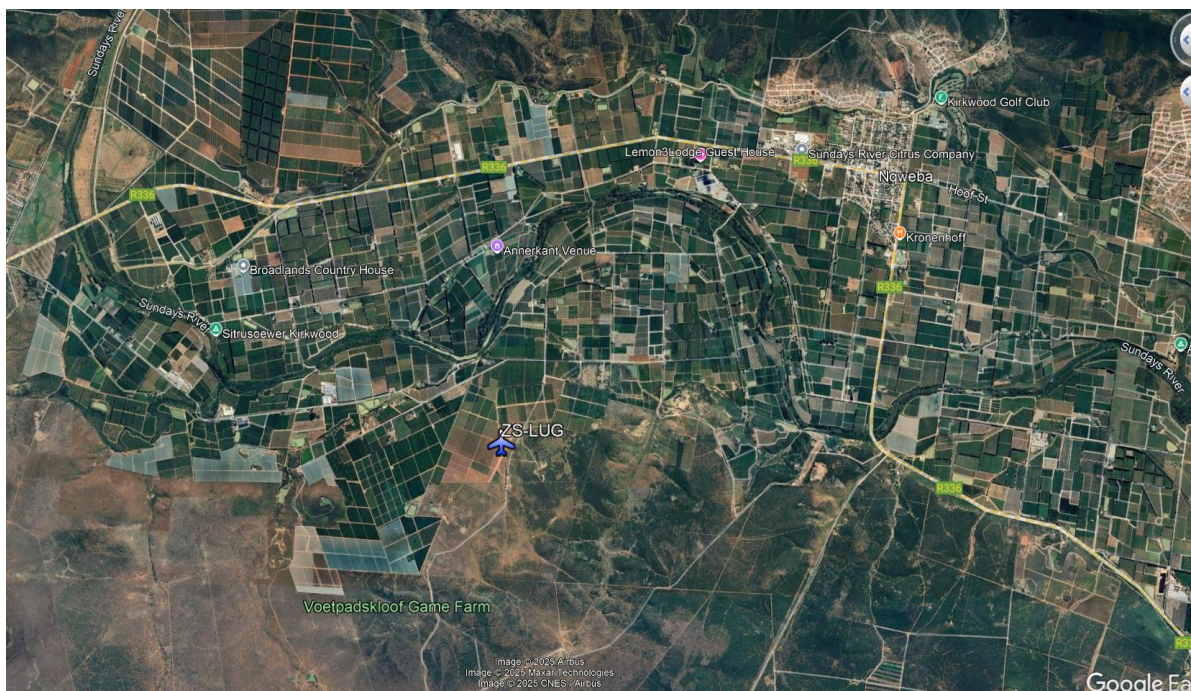


Figure 2: Aerial view of the accident site. (Source: Google Earth)

1.2. Injuries to Persons

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

Note: Other means people on the ground.

1.2.1. No person was injured.

1.3. Damage to Aircraft

1.3.1. The aircraft sustained damage to the right main landing gear, right wing, propeller and spray gear.

1.4. Other Damage

1.4.1. None.

1.5. Personnel Information

Nationality	Swazi	Gender	Male	Age	37
Licence Type	Commercial Pilot Licence (CPL)				
Licence Valid	Yes	Type Endorsed	Yes		
Ratings	Agricultural Pilot				
Medical Expiry Date	30 June 2025				
Restrictions	VDL				
Previous Accidents	None				

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

Flying Experience:

Total Hours	5200.9
Total Past 24 Hours	4.3
Total Past 7 Days	9.9
Total Past 90 Days	36.9
Total on Type Past 90 Days	35.4
Total on Type	35.4

1.5.1. The pilot was initially issued a Commercial Pilot Licence (CPL) on 8 June 2012 in accordance with (IAW) Part 61 of the CAR 2011. The licence was revalidated on 16 July 2024 with an expiry date of 30 June 2025.

1.5.2. The pilot was issued a Class 1 medical certificate on 1 July 2024 with an expiry date of 30 June 2025 with a restriction to wear suitable corrective lenses for defective distant vision (VDL).

1.6. Aircraft Information

1.6.1. The Piper PA36 is a low-wing, single-seat all-metal construction aircraft. The accident aircraft was powered by a single Pratt & Whitney PT6A-20A engine in tractor configuration. It had a conventional landing gear with a tailwheel.

Airframe:

Manufacturer/Model	Piper PA36-285	
Serial Number	36-7660005	
Year of Manufacture	1976	
Total Airframe Hours (At Time of Accident)	6 597.5	
Last Inspection (Date & Hours)	4 October 2024	6 593.5
Hours Since Last Inspection	4	
CRS Issue Date	4 October 2024	
C of A (Issue Date & Expiry Date)	9 December 2022	31 December 2025
C of R (Issue Date) (Present Owner)	26 September 2024	
Type of Fuel Used	Jet A1	
Operating Category	Part 137 Restricted	
Previous Accidents	None	

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

Engine:

Manufacturer/Model	Pratt & Whitney PT6A
Serial Number	PCE24059
Part Number	PT6A-20A
Hours Since New	6 166.8
Hours Since Overhaul	3 117.8

Propeller:

Manufacturer/Model	Hartzell
Serial Number	BUA22463
Part Number	HC-B3TN-3B
Hours Since New	Unknown
Hours Since Overhaul	41.60

1.7. Meteorological Information

1.7.1. The weather information below was obtained from the Meteorological Aerodrome Report (METAR) that was issued by the South African Weather Service (SAWS), recorded at FAPE on 1 January 2025 at 0600Z. FAPE is located 30 nautical miles (nm) south-east of the accident site.

FAPE 010600Z 34003KT 300V020 CAVOK 20/15 Q1014 NOSIG=

Wind Direction	340°	Wind Speed	3kt	Visibility	10 000 m
Temperature	20°C	Cloud Cover	CAVOK	Cloud Base	CAVOK
Dew Point	15°C	QNH	1014 hPa		

1.7.2. The weather conditions were not a contributing factor to this accident.

1.8. Aids to Navigation

1.8.1. The aircraft was equipped with standard navigational equipment as approved by the Regulator (SACAA). There were no records indicating that the navigational equipment was unserviceable prior to the flight.

1.9. Communication

1.9.1. The aircraft was equipped with a standard communication system as approved by the Regulator. There were no recorded defects with the communication system prior to the flight.

1.10. Aerodrome Information

1.10.1. The accident occurred on RWY 22 at Kirkwood Airstrip.

Aerodrome Name	Kirkwood Airstrip
Aerodrome Location	Eastern Cape Province
Aerodrome Status	Unlicensed
Aerodrome GPS coordinates	33°25'49" South, 025°23'48" East
Aerodrome Elevation	450 feet
Runway Headings	04/22
Dimensions of Runway Used	750 m x 30 m
Heading of Runway Used	220 degrees
Surface of Runway Used	Gravel
Approach Facilities	None
Radio Frequency	130.35 MHz

1.11. **Flight Recorders**

1.11.1. The aircraft was neither equipped with a flight data recorder (FDR) or a cockpit voice recorder (CVR), nor was it required by regulation to be fitted to the aircraft type.

1.12. **Wreckage and Impact Information**

1.12.1. The aircraft landed on RWY 22 at Kirkwood Airstrip and the right main gear failed and separated from the aircraft during the landing roll.

1.13. **Medical and Pathological Information**

1.13.1. None.

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 in the cockpit and the pilot had made use of the aircraft's 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 under the provisions of Part 137 of the Civil Aviation Regulations (CAR) 2011 as amended.

1.17.2. The operator was issued an Air Operating Certificate (AOC) by the Regulator on 29 August 2024 with an expiry date of 31 August 2025.

1.17.3. The aircraft was maintained by an approved aircraft maintenance organisation (AMO) with an AMO Certificate that was issued by the Regulator on 29 August 2024 with an expiry date of 31 August 2025.

1.18. **Additional Information**

1.18.1. To be discussed in the final report.

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 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 Commercial Pilot Licence (CPL) on 8 June 2012 in accordance with (IAW) Part 61 of the CAR 2011. The licence was revalidated on 16 July 2024 with an expiry date of 30 June 2025.
- 2.2.2 The pilot was issued a Class 1 medical certificate on 1 July 2024 with an expiry date of 30 June 2025 with a restriction to wear suitable corrective lenses for defective distant vision (VDL).
- 2.2.3 The aircraft was issued a Certificate of Registration (C of R) on 26 September 2024 under the current owner. The aircraft's Certificate of Airworthiness (C of A) was initially issued on 9 December 2022 with an expiry date of 31 December 2025. The operator was issued an Air Operating Certificate (AOC) by the Regulator on 29 August 2024 with an expiry date of 31 August 2025.
- 2.2.4 The aircraft was maintained by an approved aircraft maintenance organisation (AMO) with an AMO Certificate that was issued by the Regulator on 29 August 2024 with an expiry date of 31 August 2025.
- 2.2.5 The last mandatory periodic inspection (MPI) of the aircraft was conducted on 4 October 2024 at 6 593.5 hours and the aircraft was flown a further 4.0 hours before the accident flight. The aircraft was issued a Certificate of Release to Service (CRS) on 4 October 2024 with an expiry date of 3 October 2025 or at 6 593.5 hours, whichever occurs first.
- 2.2.6 The pilot completed seven uneventful crop-spray runs and, during the landing roll on RWY 22, the right undercarriage failed and separated from the fuselage. The aircraft veered off to the right and came to a stop on the runway facing east.

3 ON-GOING INVESTIGATION

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

4 SAFETY RECOMMENDATIONS

4.1 General

The safety recommendations listed in this report are proposed according to paragraph 6.8 of Annex 13 to the Convention on International Civil Aviation and are based on the conclusions listed in heading 3 of this report. The AIID expects that all safety issues identified by the investigation are addressed by the receiving States and organisations.

4.2 Safety Recommendation/s

- 4.2.1 None.

5 APPENDICES

- 5.1 None.

**This report is issued by:
Accident and Incident Investigations Division
South African Civil Aviation Authority
Republic of South Africa**