

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10505						
Classification	Accident	Date	28 September 2024		Time	1050Z	
Type of Operation	Private (Part 91)						
Location							
Place of Departure	Bundu Inn Airfield, North West Province		Place of Intended Landing	Middleburg Airfield (FAMB), Mpumalanga Province			
Place of Occurrence	Left of Runway 32 at Middleburg Airfield (FAMB), Mpumalanga Province						
GPS Co-ordinates	Latitude	25° 41.14' S	Longitude	029° 26.43' E	Elevation	4 886 ft	
Aircraft Information							
Registration	ZS-JUA						
Make; Model; S/N	Piper Aircraft; Cherokee PA-28-181 (S/N: 28-7690106)						
Damage to Aircraft	Substantial		Total Aircraft Hours	7 337.87			
Pilot-in-command							
Licence Type	Private Pilot Licence (PPL)		Gender	Male		Age	23
Licence Valid	Yes	Total Hours	95.8		Total Hours on Type	23.2	
Total Hours 30 Days	5.3		Total Flying on Type Past 90 Days	8.8			
People On-board	1 + 1	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Saturday, 28 September 2024, a pilot and a passenger on-board a Piper PA-28-181 Cherokee aircraft with registration ZS-JUA took off on a private flight from Bundu Inn Airfield in North West province to Secunda Airport (FASC) and Middleburg Airfield (FAMB), both located in Mpumalanga province. The purpose of the flight was for the pilot to build hours towards the issuance of the Commercial Pilot Licence (CPL). The flight was conducted under visual meteorological conditions (VMC) by day and under the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot reported that he conducted the pre-flight checks, and no anomalies were noted. The flight duration of 1 hour and 5 minutes to FASC and FAMB was uneventful. The wind was 350° at 14 knots (kts), gusting 26 kts on final approach for landing on the asphalt Runway 32. <i>The crosswind of 13 kts was calculated based on the wind conditions.</i></p> <p>During the roundout before touchdown, the aircraft drifted to the left of the runway's centreline because the pilot did not compensate for the crosswind. The pilot applied full power to attempt a go-around, but the aircraft sank and touched down hard on the grass surface, left of the runway. The pilot reduced the engine power and engaged the foot brakes. However, during the landing roll, the</p>							

pilot lost directional control, and the nose gear impacted the taxiway sign. As a result, the nose gear strut broke off and the propeller struck the ground. The aircraft came to a stop on the gravel area approximately 7 metres (m) to the left of the runway. The pilot and the passenger were not injured; however, the aircraft sustained substantial damage to the nose gear, propeller and lower engine cowling.



Figure 1: An overview of FAMB and the accident site. (Source: Google Earth)



Figure 2: The aircraft as it came to rest. (Source: Pilot)

Meteorological Information

The meteorological aerodrome report (METAR) was obtained from the South African Weather Service (SAWS) website, issued for Witbank Airfield (FAWI) on 28 September 2024 at 1100Z. FAWI is located approximately 15 nautical miles (nm) south-west of FAMB.

FAWI 071100Z AUTO 35014G26KT CAVOK 29/01 Q1017=

Wind Direction	350°	Wind Speed	14G26 kt	Visibility	9999 m
Temperature	29°C	Cloud Cover	CAVOK	Cloud Base	CAVOK
Dew Point	1°C	QNH	1017hPa		

Aircraft Performance: Crosswind (Source: Pilot's Operating Handbook (POH))

The crosswind component at the time of the accident was calculated to be approximately 13 kts. The aircraft had a demonstrated crosswind component of 17 kts.

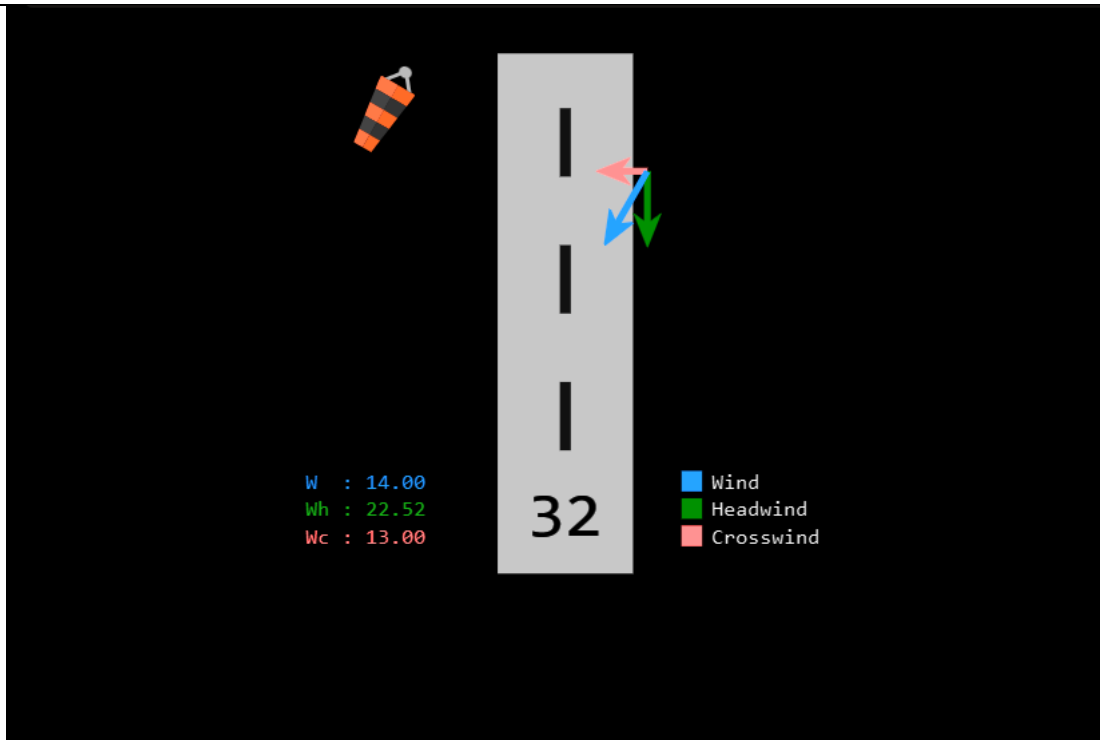


Figure 3: The wind component during landing. (Source: <https://e6bx.com/wind-components/>)

Findings

1. Personnel Information

1.1 The pilot had a Private Pilot Licence (PPL) that was initially issued on 2 October 2023. The PPL was reissued on 19 September 2024 with an expiry date of 30 September 2026. The pilot was properly licensed and qualified to undertake the flight.

1.2 The pilot was issued a Class 2 aviation medical certificate on 12 April 2024 with an expiry date of 12 April 2029 with no restrictions. He had a total of 23.3 hours on the aircraft type and 8.8 hours in the preceding 90 days.

1.3 The pilot was building hours towards his CPL and did not have extensive experience in managing challenging wind conditions in critical stages of the flight, yet.

2. Aircraft Information

2.1 The last mandatory periodic inspection (MPI) of the aircraft was conducted and certified on 3 May 2024 at 7 284.1 airframe hours. The aircraft had accrued 53.77 hours since the last MPI.

2.2 The aircraft had a valid Certificate of Airworthiness (C of A) that was initially issued on 3 October 2016. The C of A was renewed on 6 March 2024 with an expiry date of 30

November 2025. The aircraft's Certificate of Registration (C of R) was issued to the present owner on 5 July 2022.

2.3 The aircraft was issued a Certificate of Release to Service (CRS) on 6 March 2024 with an expiry date of 5 March 2025 or at 7 384.22 airframe hours, whichever occurs first. The aircraft was properly certified and serviceable prior to the flight.

2.4 The aircraft was maintained by an aircraft maintenance organisation (AMO) with an AMO Certificate that was issued by the Regulator (SACAA) on 3 August 2023 with an expiry date of 3 August 2024.

2.5 The aircraft drifted to the left of the runway and landed hard; the pilot lost directional control and the aircraft veered off and impacted a taxiway sign. Consequently, the nose gear strut broke off. The pilot and the passenger were not injured during the accident sequence.

3. Environment

The reported wind condition on the day was 350° at 14 kts, gusting 26 kts with a calculated crosswind of 13 knots.

Probable Cause(s)

Loss of direction control during the landing roll because of failure to compensate for the crosswind which caused the aircraft to veer off to the left of the runway and, subsequently, impacted a taxiway sign.

Contributing Factor(s)

The pilot did not compensate for the crosswind and gusting wind conditions during landing.

Safety Action(s)

None.

Safety Message and/or Safety Recommendation/s

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

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