

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10416						
Classification	Accident	Date	1 February 2024		Time	0915Z	
Type of Operation	Private (Part 91)						
Location							
Place of Departure	Wonderboom Aerodrome (FAWB), Gauteng Province		Place of Intended Landing	Wonderboom Aerodrome (FAWB), Gauteng Province			
Place of Occurrence	Runway 29 at Wonderboom Aerodrome (FAWB)						
GPS Co-ordinates	Latitude	25° 26' 43" S	Longitude	028° 14' 27" E	Elevation	4 046 ft	
Aircraft Information							
Registration	ZS-ELL						
Make; Model; S/N	Piper; PA-28-140 (Serial Number: 28-041)						
Damage to Aircraft	Substantial			Total Aircraft Hours	13983.6		
Pilot-in-command							
Licence Type	Private Pilot Licence (PPL)		Gender	Male		Age	25
Licence Valid	Yes	Total Hours	89.6		Total Hours on Type	89.6	
Total Hours 30 Days	1.7		Total Flying on Type Past 90 Days	1.7			
People On-board	1 + 0	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Thursday, 1 February 2024, a pilot on-board a Piper PA28-140 aircraft with registration ZS-ELL took off from Wonderboom Aerodrome (FAWB) to conduct circuits and landings at the same aerodrome as part of an hour building. Visual meteorological conditions (VMC) prevailed at the time of the flight which was conducted under the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot reported that he conducted the first circuit and landing on Runway 29 (RWY 29) which was uneventful. However, during the second landing, he experienced a crosswind from the right. He stated that he did not compensate timeously for the crosswind and, thus, lost directional control. The aircraft veered off to the left of the runway and came to rest approximately 5 metres from the edge of the runway. The pilot was uninjured. The aircraft sustained substantial damage to the nose gear oleo, propeller, lower cowling and right-wing tip.</p> <p>The accident occurred at Global Position System (GPS) co-ordinates determined to be 25°26'43"S 028°14'27"E at an elevation of 4064 feet.</p>							



Figure 1: The layout of the landing site. (Source: Google Earth)



Figure 2: The aircraft after it came to a stop.

The weather information in the table below was obtained from the South African Weather Service (SAWS), prepared for FAWB on 1 February 2024 at 0900Z.

Wind Direction	030°	Wind Speed	5 knots	Visibility	10000 m
Temperature	25°C	Cloud Cover	SCT	Cloud Base	2000 feet
Dew Point	17°C	QNH	1026		

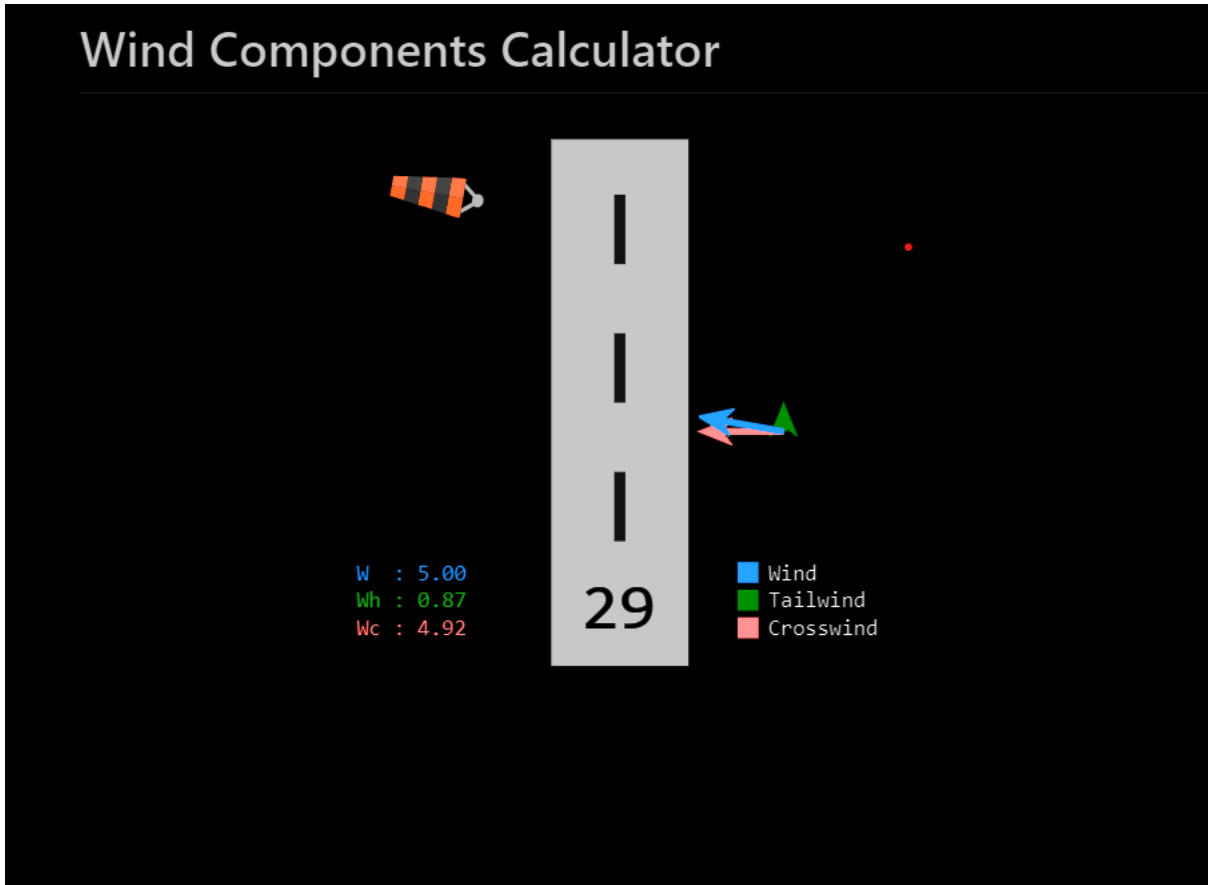


Figure 3: The wind component calculation. (Source: <https://e6bx.com/wind-components/>)

Cross Wind as a Factor in Runway Excursions (Source: <https://skybrary.aero/articles/cross-wind-landings>)

Investigation of runway excursions on landing where the crosswind has been a significant factor usually identify one or more of the following:

Inappropriate flight crew decision to attempt a landing

The origin of such a decision usually lies in ineffective flight crew. Sometimes this relates to the ‘original’ decision to commence an approach to land which later becomes clearly questionable but is not effectively reviewed. Other times, there may be an inappropriate ‘Land/Go Around’ decision which goes unchallenged. Both Operator Culture and Authority Gradients between flight crew members can play a role in both scenarios.

Findings

1. Personnel Information

- 1.1 The pilot had a Private Pilot Licence that was initially issued on 10 April 2018. The PPL was reissued on 4 October 2023 with an expiry date of 30 September 2025. The pilot had flown a total of 85.5 hours, of which 1.7 hours were flown as pilot-in-command on the aircraft type 90 days prior to the accident.
- 1.2 The pilot was issued a Class 2 aviation medical certificate on 25 August 2023 with an expiry date of 31 August 2028.
- 1.3 The approved training organisation was issued an Approved Training Organisation (ATO) Certificate by the Regulator (SACAA) on 28 September 2022 with an expiry date of 30 November 2027. This was a hire-and-fly flight from the ATO.

2. Aircraft Information

- 2.1 The mandatory periodic inspection (MPI) that was conducted on the aircraft prior to the accident flight was certified on 11 January 2024 at 13941.3 airframe hours. The aircraft had accrued 42.3 hours since the last inspection.
- 2.2 The aircraft had a valid Certificate of Airworthiness (C of A) that was originally issued on 24 June 2010. The latest C of A was renewed on 27 October 2023 with an expiry date of 31 October 2024. The maximum demonstrated crosswind component on the PA28 is 17 knots as per the Pilot's Operating Handbook (POH).
- 2.3 The aircraft's Certificate of Registration (C of R) was issued to the present owner on 18 December 2023. The aircraft's engine was last overhauled on 8 August 2023 at 410.5 hours. The engine had accrued 49.1 hours since overhaul at the time of the accident.
- 2.4 The aircraft was issued a Certificate of Release to Service (CRS) on 1 December 2023 with an expiry date of 1 December 2024 or at 13991.2 airframe hours, whichever occurs first.
- 2.5 The aircraft was maintained by an approved aircraft maintenance organisation (AMO) with an AMO Certificate that was issued by the Regulator on 15 August 2023 with an expiry date of 31 August 2024.

3.	<u>Meteorological Information</u>
3.1	The weather was a contributory factor to this accident as there was a 4.92 knots crosswind during landing, even though the crosswind condition was within the maximum 17 knots as per the POH.
4.	<u>Conclusion</u>
4.1	The aircraft experienced a crosswind from the right during the second circuit and landing. Thus, the pilot lost directional control and the aircraft veered off to the left of RWY 29.
Probable Cause	
Loss of directional control during landing which led to a runway excursion.	
Contributing Factor(s)	
None.	
Safety Action(s)	
None.	
Safety Message	
None.	
About this Report	
<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 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.</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>	
Purpose	
<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>	
Disclaimer	
<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**