

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/2/3/10430						
Classification	Accident	Date	9 March 2024		Time	1530Z	
Type of Operation	Training (Part 141)						
Location							
Place of Departure	Mahikeng Aerodrome (FAMM), North West Province		Place of Intended Landing		Mahikeng Aerodrome (FAMM), North West Province		
Place of Occurrence	Runway 04 at Mahikeng Aerodrome (FAMM)						
GPS Co-ordinates	Latitude	25°47'54.4" S	Longitude	25°32'53.19" E	Elevation	4 181 ft	
Aircraft Information							
Registration	ZS-CJG						
Make; Model; S/N	Piper Aircraft Corporation; PA-28-180 Cherokee (Serial Number: 28-2761)						
Damage to Aircraft	Substantial			Total Airframe Hours	8 449.4		
Pilot-in-command							
Licence Type	Student Pilot Licence (SPL)		Gender	Male		Age	18
Licence Valid	Yes	Total Hours	59.4		Total Hours on Type	40.8	
Total Hours 30 Days	40.8		Total Flying Hours on Type Past 90 Days		40.8		
People On-board	1 + 0	Injuries	0	Fatalities	0	Other (on the ground)	0
What Happened							
<p>On Saturday afternoon, 9 March 2024, a student pilot (SP) on-board a Piper PA-28-180 Cherokee aircraft with registration ZS-CJG was on a solo consolidation flight from Mahikeng Aerodrome (FAMM) in the North West province with the intention to land back at the same aerodrome. The flight was conducted under visual meteorological conditions (VMC) by day and under the provisions of Part 141 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The Approved Training Organisation (ATO) authorisation sheet with serial number 1091 indicated that the SP was authorised to fly circuits and three touch-and-go-landings on the day. The flight folio page serial number 00007 indicated that the aircraft had 48 gallons (181 litres) of fuel in the tanks. After completing a pre-flight inspection, the SP started the engine and taxied the aircraft to the holding point of Runway 04 where pre-departure checks were conducted; no abnormalities were noticed. The SP requested take-off clearance from the control tower on the very high frequency (VHF) 119.3 Megahertz (MHz). His request was granted, and he taxied the aircraft to the threshold of Runway 04. He then opened the throttle to 2 700 revolutions per minute (RPM) and commenced with the take-off roll. The aircraft rotated and climbed to the circuit height. The SP flew a circuit and, later, broadcasted his intention to the tower in preparation to land.</p>							

The aircraft was stable on final approach, and the flaps were extended to 40 degrees (°). The aircraft touched down on Runway 04. In preparation for another take-off, the SP retracted the flaps to 10° and opened the throttle to 2 700 RPM. During this process, the aircraft drifted to the right. The SP tried to recover the aircraft back to the centreline without success. As the aircraft continued to drift to the right, he applied the brakes excessively and the aircraft came to a halt on the grass beside the runway. The aircraft sustained substantial damage to the nose landing gear strut and propeller. The SP was not injured.

The accident occurred during daylight at Global Positioning System (GPS) co-ordinates determined to be 25°47'54.4" South 028°13'16.81" East, at an elevation of 4 181 feet (ft).



Figure 1: The main wheel tyre marks on the runway surface. (Source: Pilot)

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Figure 2: The aircraft as it came to rest on the right side of the runway. (Source: Pilot)

Meteorological Information

The meteorological aerodrome report (METAR) for FMM on 9 March 2024 at 1500Z was obtained from the South African Weather Service (SAWS) aviation website: www.aviation.weathersa.co.za

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Wind Direction	020°	Wind Speed	5 knots	Visibility	9999 m
Temperature	33°C	Cloud Cover	Nil	Cloud Base	CAVOK
Dew Point	12°C	QNH	1018hPa		

Crosswind Component (Source: e6bx.com/wind-components/)

The crosswind component at the time of the flight was calculated to be 1.71 knots from the left. A Piper PA-28-180 Cherokee aircraft has a maximum crosswind velocity of 17 knots at full (40°) flaps setting.

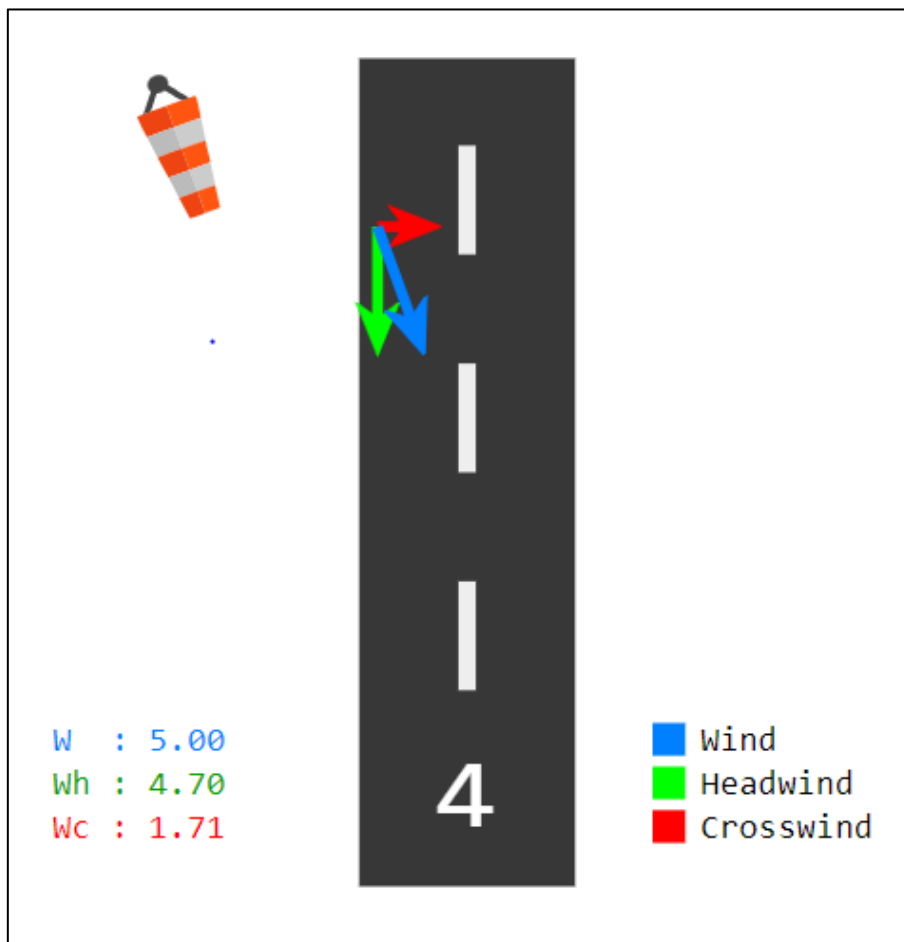


Figure 3: Calculated crosswind component.

Aerodrome

FAMM is a licensed aerodrome with a single asphalt runway. The runway is orientated 04/22 and is 1 371 metres (m) long and 45m wide. The Aerodrome Rescue and Firefighting (ARFF) service is available at FAMM.

Findings

1. Personnel Information

- 1.1 The student pilot (SP) had a Student Pilot Licence (SPL) that was initially issued on 3 August 2023. The SP had flown a total of 59.4 hours, of which 40.8 hours were on the aircraft type.
- 1.2 The SP was issued a Class 2 aviation medical certificate on 4 April 2023 with an expiry date of 30 April 2028. The SP had no restrictions listed on his medical certificate.

2. Aircraft Information

- 2.1 The last 100-hour mandatory periodic inspection (MPI) that was conducted on the aircraft before the accident flight was certified on 10 January 2024 at 8 350.8 airframe hours. The accident occurred at 8 449.4 total flight hours, meaning that the aircraft had accrued 98.6 hours since the last MPI.
- 2.2 The aircraft had a valid Certificate of Airworthiness (C of A) that was initially issued on 23 April 2018. The latest C of A had an expiry date of 30 April 2025. The aircraft was airworthy when it dispatched for the flight.
- 2.3 The aircraft's Certificate of Registration (C of R) was issued to the present owner on 31 January 2023.
- 2.4 The aircraft maintenance organisation (AMO) which conducted the MPI had an approval certificate that was issued on 19 June 2023 with an expiry date of 30 June 2024. The AMO had both Category A and C ratings listed on the certificate.
- 2.5 The aircraft was fitted with a Lycoming O-360-A3A engine with serial number L-8779-36A. The engine had accumulated 8 251.2 total time since new (TTSN).
- 2.6 A Sensenich 76EM855-0-60 propeller with serial number 31957K was fitted to the aircraft. The propeller had accumulated 2 564.62 TTSN.

3.	<u>Approved Training Organisation (ATO)</u>
3.1	The ATO was issued an Approval Certificate by the Regulator on 18 September 2023 with an expiry date of 30 September 2027.
3.2	The ATO Certificate was issued in accordance with (IAW) Part 141 of the CAR 2011 on 6 November 2020 with validity until 30 November 2025. The aircraft was endorsed on the ATO's Training Operations Specifications Certificate which was issued by the Regulator with validity from 18 September 2023 to 30 November 2024.
Probable Cause	
The SP did not compensate with the rudder during the take-off roll on Runway 04; consequently, he lost directional control of the aircraft which veered off to the right.	
Contributing Factors	
Lack of experience.	
Safety Action	
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 desktop inquiries 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	
<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 apportion blame or liability.</i>	
Disclaimer	
<i>This report is produced without prejudice to the rights of the AIID, which are reserved.</i>	

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