

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/3/2/1423						
Classification	Serious Incident	Date	23 July 2023	Time	1330Z		
Type of Operation	Private (Part 94)						
Location							
Place of Departure	Parys Aerodrome (FAPY), Free State Province		Place of Intended Landing	Parys Aerodrome (FAPY), Free State Province			
Place of Occurrence	Runway 24 at Parys Aerodrome						
GPS Co-ordinates	Latitude	26° 53' 09.15" S	Longitude	27° 30' 25.90" E	Elevation	4 694 ft	
Aircraft Information							
Registration	ZS-UZV						
Make; Model; S/N	H3 Aerospace GmbH & Co KG; Grob 109B (Serial Number: 6235)						
Damage to Aircraft	Minor		Total Aircraft Hours	±717.5			
Pilot-in-command							
Licence Type	Commercial Pilot Licence (CPL) Aeroplane		Gender	Male		Age	35
Licence Valid	Yes	Total Hours	1 195.0		Total Hours on Type	4.5	
Total Hours 30 Days	1.1		Total Flying on Type Past 90 Days	1.9			
People On-board	1 + 0	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On 23 July 2023, a pilot on-board a Grob 109B aircraft with registration ZS-UZV took off on a private flight from Parys Aerodrome (FAPY) in the Free State province with the intention to land back at FAPY. Visual meteorological conditions (VMC) by day prevailed at the time of the flight which was conducted under the provisions of Part 94 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot stated that he lost directional control of the aircraft during take-off on Runway 24 due to the crosswind component from the right after the tailwheel lifted off from the ground. This caused the propeller blades to strike the runway surface. Later, the pilot regained control of the aircraft and steered it to the runway centreline and rotated. The pilot flew a circuit and performed an uneventful full stop landing on Runway 24. The pilot was not injured during the incident. The aircraft's ground speed at the time of take-off was approximately 54 knots (kts). <i>According to the Grob 109B Flight Manual (FM), the recommended take-off speed is between 48-59 kts.</i></p> <p>During post-flight inspection, the pilot noticed that the propeller blade tips were damaged.</p>							



Figure 1: Aerial view of Runway 24 and the approximate area where the incident occurred.
(Source: Google Earth)



Figures 2 and 3: Damage sustained by the propeller blade tips. (Source: Pilot)

Weather Information for FAPY

The weather information below was obtained from the South African Weather Service (SAWS) on 23 June 2023 at 1400Z:

Dry-bulb temperature: 25°C
Dew point temperature: 06°C
Wind direction and speed: 340°, 06KT
Weather and clouds: N/A
QNH: 1023 hPa

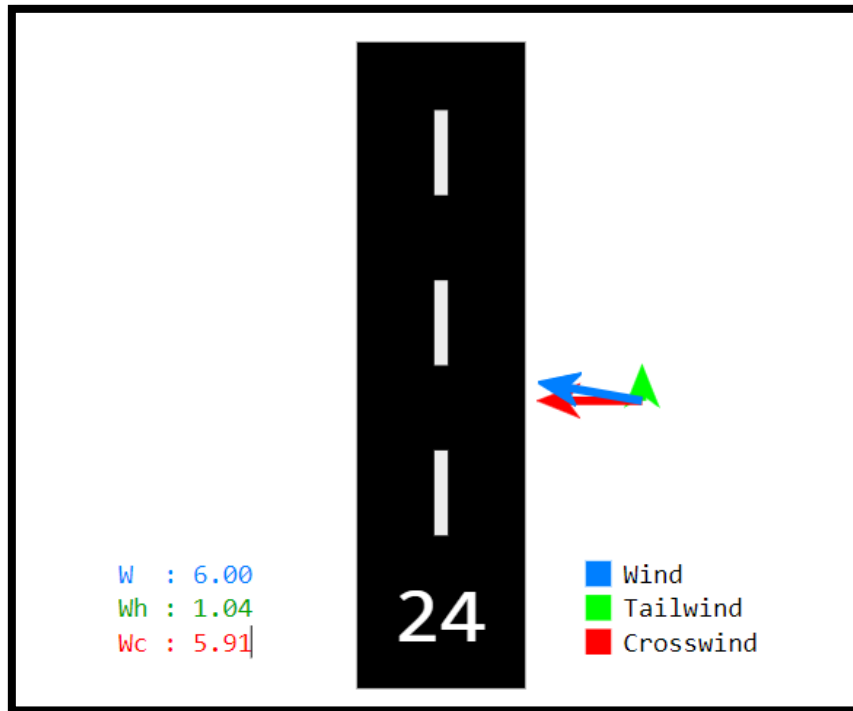


Figure 4: Crosswind component.

The wind blew north-westerly at approximately 6 kts to 7 kts at the time of the incident; the dew point depression was approximately 20°C which indicated dry conditions near the surface.

Findings

1. The pilot was initially issued a Commercial Pilot Licence (CPL) on 4 May 2015, and was renewed on 14 May 2023 with an expiry date of 30 June 2024. The pilot had flown a total of 1 195.0 hours of which 4.5 hours were on the aircraft type. The pilot had instrument and night ratings endorsed on his licence. He completed his conversion on the aircraft type on 16 February 2023, which was endorsed on his licence.
2. The pilot had a Class 2 aviation medical certificate that was issued on 15 May 2023 with an expiry date of 31 May 2028 with no medical restrictions. The pilot was properly licensed and medically fit to conduct the flight.
3. The last 100-hour Mandatory Periodic Inspection (MPI) on the aircraft was certified on 9 July 2022 at 613.0 airframe hours.
4. The aircraft was issued a Certificate of Release to Service (CRS) on 9 July 2022 with an expiry date of 9 July 2023 or at 713.0 airframe hours, whichever occurs first. The aircraft was flown a further 4.5 hours since the last MPI.
5. The aircraft had a valid Certificate of Airworthiness (C of A) which was initially issued on 29 June 2020. The C of A was last renewed on 22 August 2022 with an expiry date of 30 July 2023. The aircraft's Certificate of Registration (C of R) was issued to the current owner on 22 October 2019.

6. The aircraft took off with the crosswind component of approximately 5.91 kts. According to the aircraft's flight manual, page 27, the <i>maximum cross wind component for take-off and landing on dry and wet surfaces is 20 km/h (11 kts).</i>
Probable Cause(s)
Loss of directional control during take-off which caused the aircraft's nose to pitch down, followed by the propeller strikes on the runway.
Contributing Factor(s)
Failure to maintain directional control of the aircraft during take-off.
Safety Action(s)
None.
Safety Message and/or Safety Recommendation/s
None.
About this Report
<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>
<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>
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 to 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**