



LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/3/2/1534						
Classification	Serious Incident		Date	19 February 2026		Time	1140Z
Type of Operation	Private (Part 91)						
Location							
Place of Departure	Plot 131, Uitzicht van der Hoff Road, Pretoria West, Gauteng Province		Place of Intended Landing	Gemsbok Lodge, Klerksdrop, North West Province			
Place of Occurrence	Approximately 5nm south-west of Wonderboom Airport (FAWB) at Plot 131, Uitzicht van der Hoff Road, Pretoria West, Gauteng Province						
GPS Co-ordinates	Latitude	25°43'37.36"S	Longitude	28°10'02.30"E	Elevation	4 192.9ft	
Aircraft Information							
Registration	ZS-FDV						
Make; Model; S/N	R44 Raven II (Serial Number: 11630)						
Damage to Aircraft	Substantial		Total Aircraft Hours	2 042.2			
Pilot-in-command							
Licence Type	Commercial Pilot Licence (CPL)		Gender	Male		Age	48
Licence Valid	Yes		Total Hours	1895.6		Total Hours on Type	1 751
Total Hours 30 Days	19		Total Flying on Type Past 90 Days	64			
People On-board	1+2		Injuries	0		Fatalities	0
						Other (on ground)	0
What Happened							
<p>On Thursday, 19 February 2026, a pilot and two passengers on-board a Robinson R44 Raven II helicopter with registration ZS-FDV took off on a private flight from Plot 131 at Uitzicht van der Hoff Road in Pretoria West, Gauteng province, with the intention to land at Gemsbok Lodge in Klerksdrop, North West province. 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 no anomalies were observed during the pre-flight inspection. At approximately 1140Z, the helicopter lifted off from a stationary mobile trailer platform (dolly), after which the pilot noticed low engine power and low rotor revolutions per minutes (rpm) on the instrument panel. The pilot promptly opted to abort take-off. Whilst attempting to land back on the trailer platform, the helicopter inadvertently touched down on the two perpendicular sides (see Figure 2) of the platform (dolly) near the right rear corner whereafter, it tilted backwards and further slipped. Subsequently, the tail boom struck the ground. The helicopter sustained substantial damage to the tail boom and tail rotor blades. None of the occupants sustained any injury.</p>							

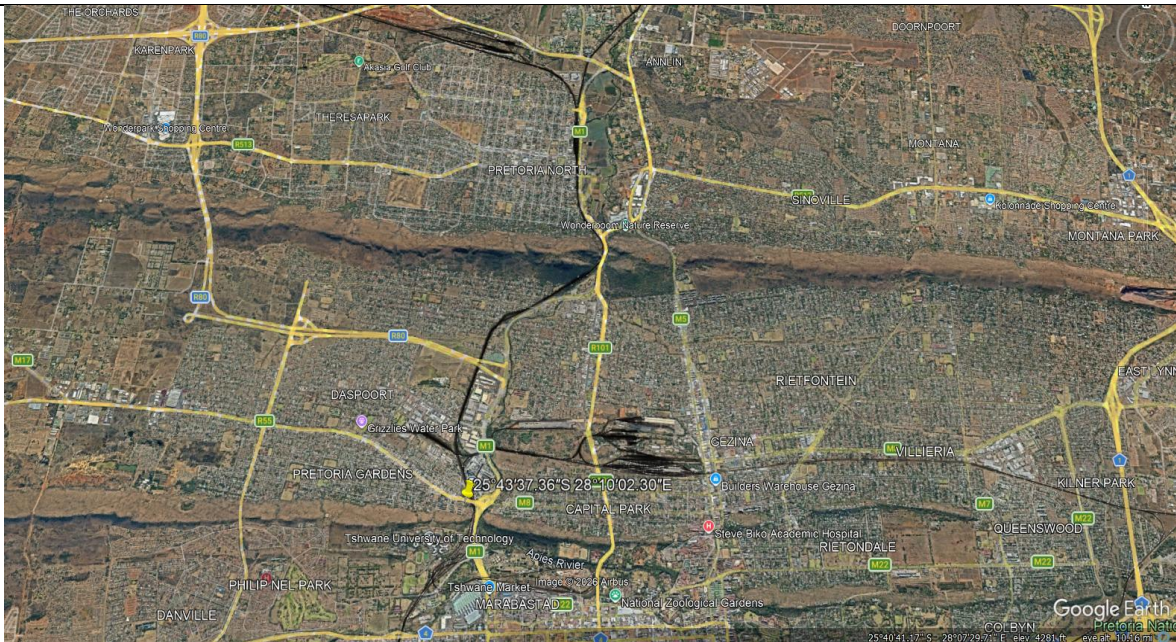


Figure 1: An aerial view of the serious incident site. (Source: Google Earth)



Figure 2: The resting position of the helicopter after the serious incident. (Source: The pilot)

Post-serious Incident Inspection

The aircraft maintenance organisation (AMO) conducted a post-engine inspection of the helicopter to check for any defects on the engine (Lycoming), rotor and fuel systems, including the throttle governor issues; none was found.

Meteorological Information

The official weather report was obtained from the South African Weather Service (SAWS). The weather information entered in the table below was recorded at 1100Z for Wonderboom Airport (FAWB) on 19 February 2026. The serious incident site was approximately 5 nautical miles (nm) from FAWB.

Wind Direction	060°	Wind Speed	05kt	Visibility	9999
Temperature	32°C	Cloud Cover	SCT	Cloud Base	2500ft
Dew Point	06°C	QNH	1017hPa		

Density Altitude Calculations

Airport Altitude
4192.9 ft

Air Temperature
32 °C

Dew Point Temperature
6 Dry Air Approximation

Airport QNH
1017 hPa

Results

Alt: 4192.9 ft | OAT: 32 °C | Dew Pt: 6 °C | QNH: 1017 hPa | RH: 19.67 %.

Pressure Altitude

4091

ft



Density Altitude

7047

ft



IN GROUND EFFECT AT 2 FOOT SKID HEIGHT
FULL THROTTLE
101-102% RPM
ZERO WIND

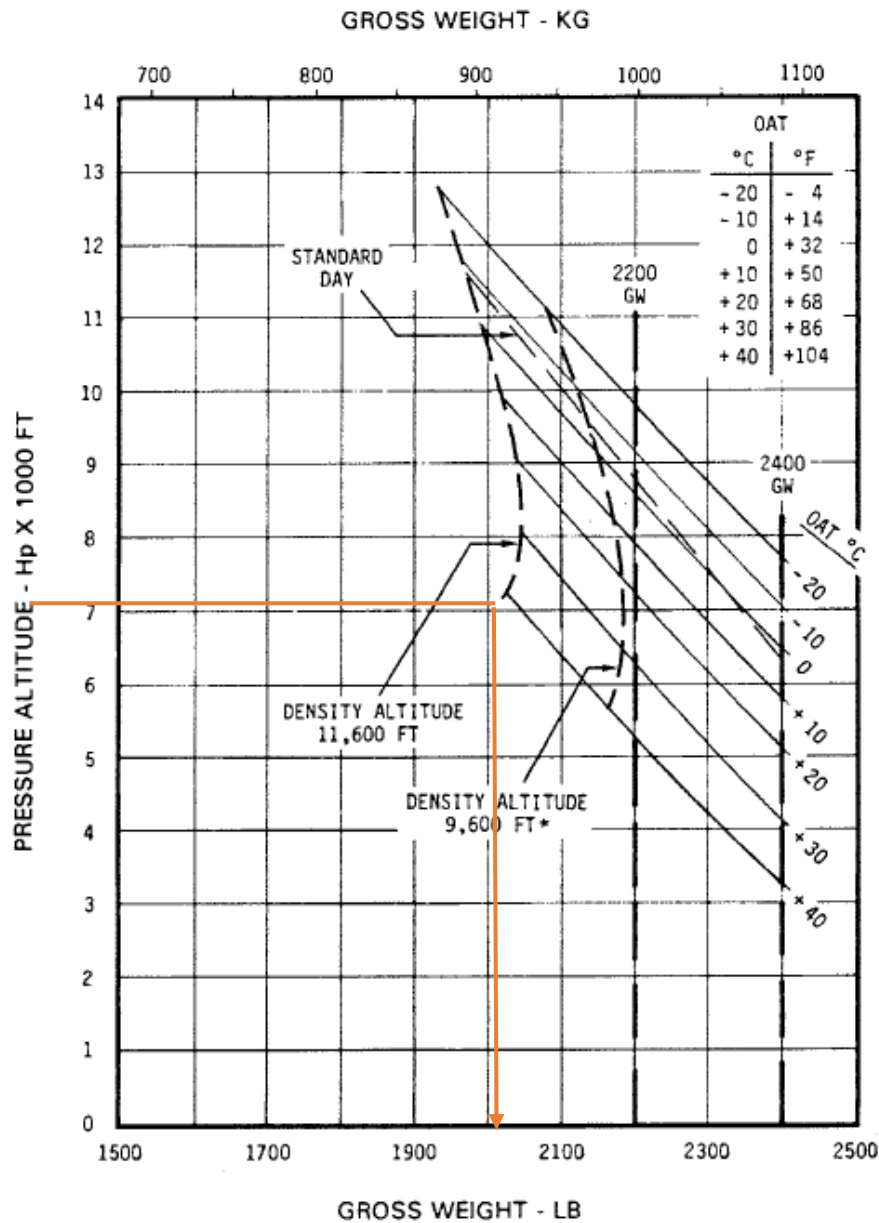


Figure 4: The ideal weight of the aircraft for the density altitude at the time of lift-off. (Source: POH)

The environmental condition prevailing on the day limited the helicopter to a take-off weight of 2 150lb (pounds) due to density altitude calculations; however, the helicopter had a gross weight of 2 342lb which was 192lb more than the required calculation, suggesting that the power required was more than the power available.

Findings
<p>1. <u>Pilot</u></p> <p>1.1. The pilot had a Commercial Pilot Licence (CPL) that was initially issued by the Regulator (SACAA) on 27 May 2016. The latest CPL was reissue on 3 June 2025 with an expiry date of 31 May 2026. The pilot's Class 1 aviation medical certificate was issued on 16 May 2025 with an expiry date of 31 May 2026.</p> <p>1.2. The pilot had a total of 1 895 hours of which 1 751 hours were accumulated on the helicopter type.</p> <p>2. <u>Helicopter</u></p> <p>2.1. The latest annual inspection of the helicopter was conducted and certified on 30 January 2026 at 2026.8 hours after which a Certificate of Release to Service (CRS) was issued with an expiry date of 30 January 2027 or at 2 176.8 hours, whichever comes first. The helicopter accumulated a total of 15.4 hours since the last MPI.</p> <p>2.2. The helicopter had a valid Certificate of Airworthiness (C of A) that was initially issued by the Regulator on 30 April 2007. The latest C of A had an expiry date of 30 April 2027. The aircraft's Certificate of Registration (C of R) was issued to the current owner on 14 June 2013.</p> <p>2.3. The maintenance inspection of the helicopter was conducted by an aircraft maintenance organisation (AMO) which had a valid AMO Certificate that was issued by the Regulator on 24 April 2025 with an expiry date of 30 April 2026. The helicopter was endorsed on the AMO's operational specifications.</p> <p>3. <u>Environment</u></p> <p>3.1. According to the density altitude chart, the required power exceeded the power available due to what the helicopter could handle; this resulted in a drop in the rotor revolutions per minute (rpm). The main rotor blades reached a critical stall region which caused them to drop and sever the tail boom.</p>
Probable Cause(s)
Loss of rotor revolutions per minute during lift-off.
Contributing Factor(s)
1. Failure to consider the effects of high-density altitude.
Safety Action(s)
None.
Safety Message and/or Safety Recommendation/s
None.

<p>About this Report</p> <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>
<p>Purpose</p> <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>
<p>Disclaimer</p> <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**