

LIMITED OCCURRENCE INVESTIGATION REPORT – FINAL

Reference Number	CA18/3/2/1386						
Classification	Serious Incident	Date	11 May 2022		Time	1015Z	
Type of Operation	Private Flight (Part 91)						
Location							
Place of Departure	Kwalata Game Farm, Gauteng Province		Place of Intended Landing	Kwalata Game Farm, Gauteng Province			
Place of Occurrence	Kwalata Game Farm						
GPS Co-ordinates	Latitude	25° 23' 19.49" S	Longitude	28° 19' 06.42" E	Elevation	3 602 feet	
Aircraft Information							
Registration	ZS-RKK						
Make; Model; S/N	Robinson Helicopter; R44 Raven II (Serial Number: 11338)						
Damage to Aircraft	Minor		Total Aircraft Hours	1 802.8			
Pilot-in-command							
Licence Type	Private Pilot Licence (Helicopter)		Gender	Male	Age	46	
Licence Valid	Yes	Total Hours	3 051	Total Hours on Type	3 051		
Total Hours 90 Days	70		Total Flying on Type Past 90 Days	70			
People On-board	1 + 1	Injuries	0	Fatalities	0	Other (on ground)	0
What Happened							
<p>On Wednesday, 11 May 2022 at approximately 1000Z, a pilot and a gunner on-board a Robinson R44 Raven II helicopter with registration ZS-RKK took off from Kwalata Game Farm helipad in Gauteng province to capture game on the same farm. Visual meteorological conditions (VMC) by day prevailed at the time of the serious incident. No flight plan was filed for the flight. The private flight was conducted under the provisions of Part 91 of the Civil Aviation Regulations (CAR) 2011 as amended.</p> <p>The pilot is the owner of the game farm and the helicopter. In this flight, the pilot was seated on the right-side of the helicopter. He stated that they intended to capture four (4) blesboks using a net gun. The gunner, who was sitting behind the pilot, spotted a blesbok that was to be captured. The pilot then flew the helicopter closer to it, but the blesbok moved to the right of the helicopter. The pilot then banked the helicopter to the right to track closer and, at that moment, the gunner fired the net gun towards the blesbok. However, one of the net weights struck one of the helicopter's main rotor blades. The pilot stated that no vibration was felt. He then headed back to the helipad to inspect the damage. During the inspection, the pilot identified a dent on the trailing edge of one of the main rotor blades. None of the occupants was injured.</p>							

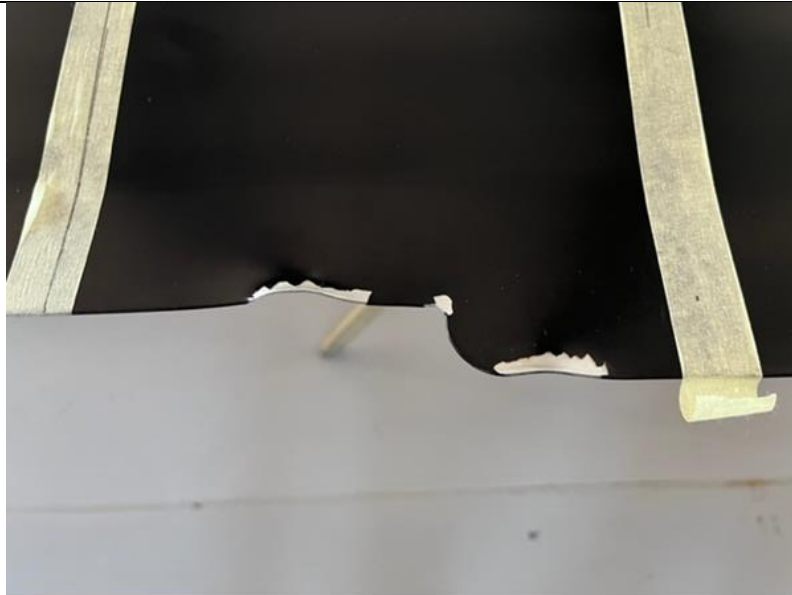


Figure 1: Damage on the main rotor blade. (Source: Pilot)

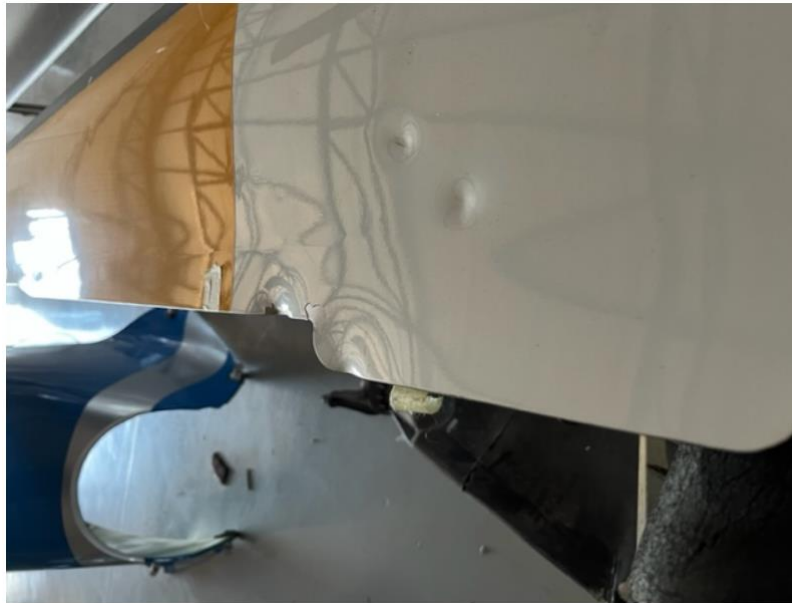


Figure 2: Top view of the damage on the trailing edge and the dents caused by the net weights. (Source: Pilot)



Figure 3: Demonstration of the net gun. The inset pictures show the net weights. (Source: <https://www.helicopterwildlifeservices.com/wildlife-services/> and https://www.pecosales.com/product_pages/products.php?mi=79353&itemnum=)

Findings

- i. The pilot was initially issued a Private Pilot Licence (PPL) on 7 December 2011. He did his revalidation on 18 August 2021 and was reissued his licence on 12 October 2021 with an expiry date of 31 August 2023. The culling rating was endorsed on his licence in accordance with the provisions of Part 61.09.1(2)(a) of the CAR 2011 as amended.
- ii. The pilot had flown 70 hours during the past 90 days, including the accident flight which had a duration of 15 minutes.
- iii. The helicopter had two occupants on-board at the time of the serious incident; weight and balance was not compromised.
- iv. No person was injured and the pilot performed a successful precautionary landing.
- v. The flight was conducted under the provisions of Part 91 of the CAR 2011 as amended.
- vi. The helicopter was issued a Certificate of Release to Service (CRS) on 2 March 2022 with an expiry date of 1 March 2023 or at 1827.1 hours, whichever occurs first unless the helicopter is involved in an accident or becomes unserviceable, in which case the certificate is invalid for the duration of the period.
- vii. The Certificate of Airworthiness (CoA) was renewed on 31 August 2021 with an expiry date of 31 August 2022.
- viii. The pilot banked the helicopter to the right to track closer and the gunner fired the net gun towards the blesbok; however, one of the net weights struck one of the main rotor blades.

Probable Cause
The net gun weight struck one of the main rotor blades' trailing edge and the pilot decided to conduct a successful precautionary landing.
Contributing Factor/s
None.
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**