

LIMITED SERIOUS INCIDENT REPORT

Reference Number	CA18/2/3/10055					
Classification	Serious Incident	Date	18 October 2021	Time	0630Z	
Type of Operation	Private (Part 91)					
Location						
Place of Departure	Botlierskop Game Reserve, Western Cape Province		Place of Intended Landing	Botlierskop Game Reserve, Western Cape Province		
Place of Occurrence	Boggomsbaai next to a beach, Western Cape Province					
GPS Co-ordinates	Latitude	S34° 16'.13. 4"	Longitude	E21°54'.47.5"	Elevation	45 feet
Aircraft Information						
Registration	ZS-PWH					
Model/Make	Robinson R44 Raven II (Serial No: 11760)					
Damage to Aircraft	Minor		Total Aircraft Hours	1738.8		
Pilot-in-command						
Licence Valid	Yes	Gender	Male	Age	51	
Licence Type	Private Pilot Licence (PPL)					
Total Hours on Type	7.2		Total Flying Hours	630.8		
People On-board	1 + 2	Injuries	0	Fatalities	0	Other (On Ground) 0
What Happened						
<p>On Monday morning, 18 October 2021, a pilot accompanied by two passengers on-board a Robinson R44 Raven II helicopter with registration ZS-PWH were on a private flight from Botlierskop Game Reserve, situated between Mossel Bay and George in the Western Cape Province, with the intention to return to the game reserve when the incident occurred. Visual meteorological conditions (VMC) by day prevailed at the time and no flight plan was filed. The helicopter was owned by the game reserve owner and is usually parked on the helipad situated at the game reserve. The pilot conducted a pre-flight inspection on the helicopter and no abnormalities were found. The helicopter had about 60 litres (L) of Avgas LL100 fuel in the tank. According to the pilot, he provided a short pre-flight briefing to the passengers. After the passengers had boarded the helicopter, the pilot made sure they were properly harnessed. He then started the engine and waited until the engine indications were within the green arch. Thereafter, the helicopter lifted off uneventfully and climbed to 500 feet (ft) above ground level (AGL), travelling at 70 knots indicated air speed (KIAS).</p>						

The pilot flew the helicopter in the south westerly direction towards Boggomsbaai area. En route, he heard a loud bang and felt a vibration on the controls. According to the pilot, the engine indications remained within limits. He then decided to execute a precautionary landing on the beach. During landing, the pilot appeared to have flared the helicopter incorrectly. This caused the aluminium main rotor to diverge, resulting in one (first) of the main rotor blades (Part no: C016-7, Serial no: 11818) striking the top part (monocoque shell) of the tail boom and damaging it; the tail-boom shaft remained intact. After the helicopter had settled on the ground, the pilot switched off the engine and the electrics. The helicopter sustained minor damages; no injuries were reported.

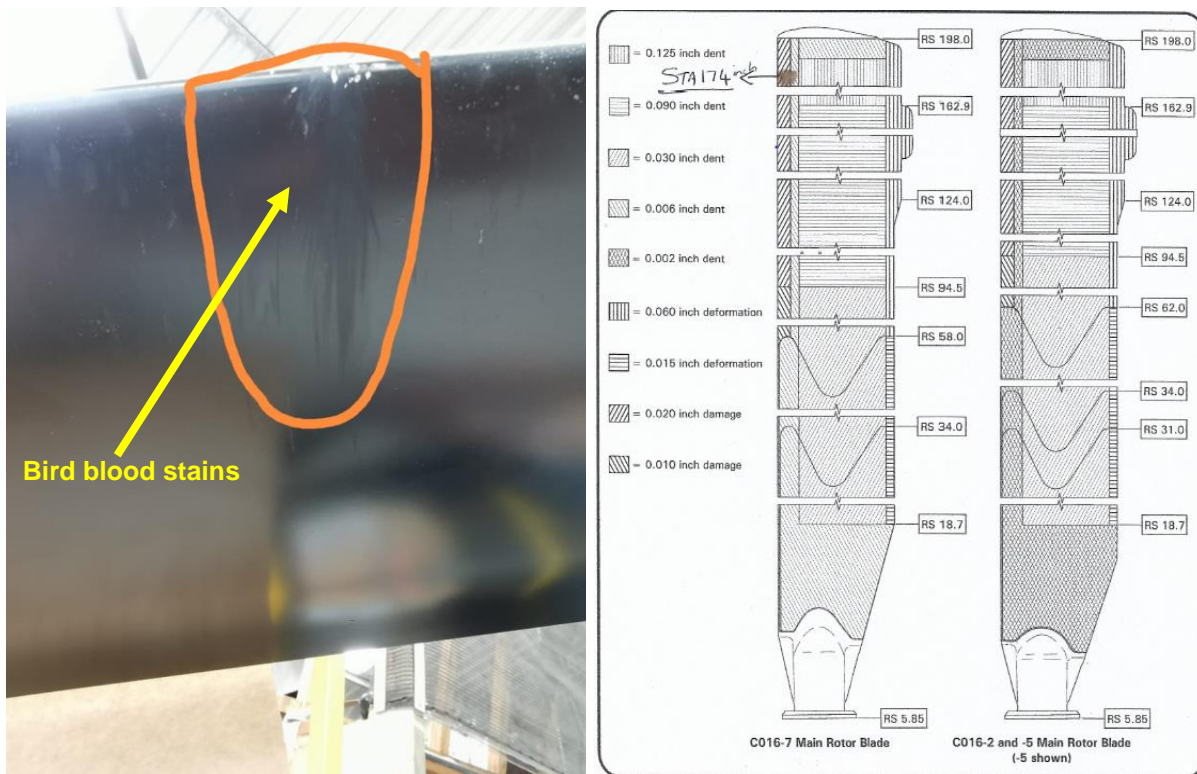


Figure 1: The helicopter after landing. (Source: Operator)



Figure 2: The severed tailboom skin. (Source: Operator)

During a walk-around inspection, there was evidence of a bird strike (blood stain) on the other (second) blade's lower section (Serial no: 11824, station No: 174), near the blade tip area. The bird that struck the blade was not found; therefore, the pilot could not tell the species of the bird. Inspection on the blades indicated no damage to the spars or skin-to-spars joint areas and disbonding or buckling on the aerofoil areas. The blade set was, thus, not replaced.



Figures 3 and 4: Bird impact point (left picture). The main rotor blade info from the aircraft maintenance manual (AMM) indicating the main rotor blade locations. (Source: Operator)

Examination of the pilot's file kept at the South African Civil Aviation Authority (SACAA) indicated that the pilot was correctly licensed and fit to undertake the flight on the day of the incident. The pilot had a Private Pilot Licence (PPL) with the helicopter type endorsement on it.

Post-accident examination of the helicopter maintenance records and other documentation revealed nil abnormalities or defects and showed that the helicopter was certificated, equipped and maintained in accordance with existing regulations and approved procedures. Examination of the helicopter flight folio indicated no open or differed maintenance items listed before the flight.

Probable cause:

Precautionary landing was carried out after a loud bang and vibration due to a bird strike, resulting in the tail boom being struck by the number 1 main rotor blade.

Contributory factor:

The pilot flared the helicopter too high during precautionary landing.

Safety Action/s

None.

Safety Message and/or Safety Recommendation/s

None.

Purpose of the Investigation
<i>In terms of Regulation 12.03.1 of the Civil Aviation Regulations (CAR) 2011, 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>
About this Report
<i>Decisions regarding whether to investigate, and the scope of an investigation are based on many factors, including the level of safety benefit likely to be obtained from an investigation. For this occurrence, no 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 brief report. The report has been compiled using information supplied in the initial notification, as well as follow-up information 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 accident.</i>
<i>This report provides an opportunity to share safety message/s in the absence of an investigation.</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>
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**