



AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8382	
Aircraft Registration	ZS-RPY	Date of Accident	2 November 2007		Time of Accident	0830Z
Type of Aircraft	Robinson R22 Beta II		Type of Operation	Private		
Pilot-in-command Licence Type		Private	Age	31	Licence Valid	Yes
Pilot-in-command Flying Experience		Total Flying Hours	803.2		Hours on Type	803.2
Last point of departure		Hunter's Moon (private farm) near Colesberg				
Next point of intended landing		Hunter's Moon (private farm) near Colesberg				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
Hunter's Moon (private farm) at GPS coordinates S30° 25".4' E024° 55".6'						
Meteorological Information		The weather was fine. Surface wind: 5 kts. Temperature: 20°C.				
Number of people on board	1 + 1	No. of people injured	1	No. of people killed	1	
Synopsis						
<p>The pilot, accompanied by a passenger, took off from Hunter's Moon farm near Colesberg on an animal-darting flight. He was familiar with the area. He lifted off approximately 100 m from electrical wires and about 400 m from telephone wires. The distance between these two sets of wires was approximately 300 m. His attention was focused on the distant telephone wires and noticed the electrical wires too late.</p> <p>The aircraft was destroyed, the pilot sustained serious injuries and the passenger was fatally injured.</p>						
Probable Cause						
<p>The helicopter collided with electrical wires spanning his flight path.</p> <p><u>Contributory factor:</u></p> <p>The pilot failed to maintain a proper lookout during takeoff.</p>						
IARC Date				Release Date		



AIRCRAFT ACCIDENT REPORT

Name of Owner : Dragon Peaks Park (PTY) LTD
Name of Operator : Steyl Game cc
Manufacturer : Robinson
Model : R22 BETA II
Nationality : South Africa
Registration Marks : ZS-RPY
Place : Hunter's Moon farm near Colesberg
Date : 2 November 2007
Time : 0830Z

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.

Purpose of the Investigation

*In terms of Regulation 12.03.1 of the Civil Aviation Regulations (1997), 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 establish legal liability**.*

Disclaimer

This report is given without prejudice to the rights of the CAA, which are reserved.

1. FACTUAL INFORMATION

1.1 History of Flight

1.1.1 On 2 November 2007, at approximately 0830Z, the pilot, accompanied by a passenger, took off from Hunter's Moon farm near Colesberg on a game-darting flight. According to the pilot, they darted the animals and sent the ground crew to recover them. The pilot then landed the helicopter, the passenger reloaded the dart gun and they took off again in search of other animals.

1.1.2 After takeoff, the pilot noticed telephone wires approximately 300 m ahead of him. While climbing to fly over these he suddenly noticed electrical wires ahead of him across his flight path. He applied power in an attempt to go over them but was not successful. The helicopter collided with them and impacted with the ground. The pilot sustained serious injuries, the passenger was fatally injured and the helicopter was destroyed.

1.2 Injuries to Persons

Injuries	Pilot	Crew	Pass.	Other
Fatal	-	-	1	-
Serious	1	-	-	-
Minor	-	-	-	-
None	-	-	-	-

1.3 Damage to Aircraft

1.3.1 The helicopter was destroyed.



Figure 1. The wreckage of the helicopter.

1.4 Other Damage

1.4.1 Damage was limited to the electrical wires.

1.5 Personnel Information

Nationality	South African	Gender	Male	Age	31
Licence Number	*****	Licence Type	Private		
Licence valid	Yes	Type Endorsed	Yes		
Ratings	Cull Rating				
Medical Expiry Date	30 November 2007				
Restrictions	None				
Previous Accidents	None				

Flying Experience

Total Hours	803.2
Total Past 90 Days	121.4
Total on Type Past 90 Days	121.4
Total on Type	746.2

1.6 Aircraft Information

Airframe

Type	R22 BETA II	
Serial Number	3465	
Manufacturer	Robinson Helicopter	
Year of Manufacture	2003	
Total Airframe Hours (At time of Accident)	1 751.7	
Last MPI (Date & Hours)	4 October 2007	1 691.4
Hours since Last MPI	60.3	
C of A (Issue Date)	7 August 2003	
C of R (Issue Date) (Present Owner)	5 September 2006	
Operating Categories	Standard	

Engine

Type	Lycoming O-360-J2A
Serial Number	L-39157-36A
Hours since New	1751.7
Hours since Overhaul	TBO not reached

The aircraft had been imported new, with the current main and tail rotors fitted. It had not been involved in any incident before the accident in question, hence the airframe hours and main and tail rotor hours were the same.

1.7 Meteorological Information

1.7.1 Weather information as obtained from the pilot's questionnaire:

Wind direction	Light and Variable	Wind speed	5 kts	Visibility	CAVOK
Temperature	30°C	Cloud cover	Nil	Cloud base	Nil
Dew point	Unknown				

1.8 Aids to Navigation

1.8.1 The aircraft was fitted with standard navigational equipment. No defects were reported prior to the accident.

1.9 Communications

1.9.1 The pilot was operating in an unmanned area. It is not known whether he was transmitting or not.

1.9.2 The aircraft was fitted with VHF radio equipment. No defects were reported prior to the accident.

1.10 Aerodrome Information

1.10.1 The accident occurred at Hunter's Moon farm at the following GPS co-ordinates: S30° 25.4' E024° 55.6'.

1.11 Flight Recorders

1.11.1 The helicopter was not fitted with a cockpit voice recorder (CVR) or a flight data recorder (FDR). Neither was required by regulations to be fitted to this type of aircraft.

1.12 Wreckage and Impact Information

1.12.1 The aircraft took off in a northerly direction approximately 100 m from the electrical wires. The pilot's attention was focused on the telephone wires approximately 300 m from the power cables.

1.12.2 The helicopter's skids made contact with the electrical wires, which caused the aircraft to nose over and strike the ground on its fuselage. On impact with the ground, the main rotor and tail boom separated from the wreckage. The distance from the main wreckage to the high-tension cables was approximately 63 m. These cables were about 5M above ground level. The cables did not break but the wrap lock tie was torn open. See the photograph below.



Photo 2: The wreckage of the helicopter near the high-tension cables.

1.12.3 The airframe and component system were inspected during the on-site investigations and were found to have been damaged during the accident sequence.

1.12.4 The tail boom was severed by the main rotor during the impact.



Figure 3. The severed tail boom.

1.13 Medical and Pathological Information

1.13.1 The pilot was admitted to the hospital with multiple fractures.

1.13.2 The passenger was fatally injured. The post mortem report revealed that he had died of skull basis fracture and diaphragm hernia with lung collapse.

1.14 Fire

1.14.1 There was no evidence of a pre- or post-impact fire.

1.15 Survival Aspects

1.15.1 The accident was considered non-survivable due to the damage caused to the helicopter and cabin area. These damages inflicted injuries to both pilot and passenger, fatally injuring the passenger. Both occupants were properly restrained with safety belts.

1.16 Tests and Research

1.16.1 Not applicable.

1.17 Organisational and Management Information

1.17.1 This was a game-darting and capturing flight. The pilot and passenger had bought the animals from the farmer.

1.17.2 The SACAA airworthiness department conducted an audit on AMO No. 247 on 19 October 2006 and on 18 October 2007. There were no findings.

1.18 Additional Information

1.18.1 The pilot was appropriately licensed in accordance with Regulation 61.47.1, which states the following:

An applicant for the issuing of a game or livestock cull rating shall:

(a) hold a valid private, commercial or airline transport pilot licence (helicopter)

(b) hold appropriate type rating; and

(c) have acquired the experience referred to in Regulation 61.47.2.

1.19 Useful or Effective Investigation Techniques

1.19.1 Not applicable.

2. ANALYSIS

2.1 Pilot

He was familiar with darting animals in that area. On the day of the accident, he took off approximately 100 m from electrical wires and about 400 m from telephone wires. The latter were approximately 300 m from the electrical wires. The pilot was focused on the distant telephone wires and failed to maintain a proper lookout during takeoff. He inadvertently collided with the electrical wires, which spanned across his flight path.

2.2 Aircraft

The aircraft was maintained according to relevant regulations and there were no defects reported prior to or during the accident flight.

2.3 Environment

The available information revealed that fine weather conditions prevailed in the area at the time, and the weather was therefore not a contributory factor to the accident.

3. CONCLUSION

3.1 Findings

- 3.1.1 The pilot had a valid private pilot's licence that was properly rated at the time of the accident. He also had a cull rating.
- 3.1.2 The pilot was focused on the telephone wires, which were approximately 300 m from the electrical wires. As a result, he inadvertently flew into the electrical wires, which spanned his flight path 100 m from the takeoff point.
- 3.1.3 According to available CAA records, the helicopter was properly maintained and there were no defects reported prior to or during the accident flight.
- 3.1.5 The pilot failed to maintain a proper lookout and inadvertently collided with the electrical power cables.
- 3.1.5 The tail boom separated from the aircraft during the impact sequence.
- 3.1.7 The weather did not contribute to the accident.

3.2 Probable Cause/s

- 3.2.1 The helicopter collided with electrical power cables spanned along its flight path.
- 3.2.2 Contributory factor: the pilot failed to maintain a proper lookout during takeoff.

4. SAFETY RECOMMENDATIONS

- 4.1.1 None

5. APPENDICES

- 5.1 None

Submitted through the office of the SM for ASP February 2010.

-END-