



AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/8203	
Aircraft Registration	ZS-RKF	Date of Accident	3 November 2006	Time of Accident	0400Z	
Type of Aircraft	Robinson R22 (helicopter)		Type of Operation	Private		
Pilot-in-command Licence Type		Private	Age	31	Licence Valid	Yes
Pilot-in-command Flying Experience		Total Flying Hours	480		Hours on Type	480
Last point of departure		McRest camp (private farm) near Kuruman, North West Province				
Next point of intended landing		McRest camp (private farm) near Kuruman, North West Province				
Location of the accident site with reference to easily defined geographical points (GPS readings if possible)						
McRest camp at the following GPS coordinates: S26° 10' 396" E022° 35' 267"						
Meteorological Information		Surface wind: 090° @ 5kts; Temperature: 15°C; Visibility: CAVOK				
Number of people on board	1 + 1	No. of people injured	1	No. of people killed	0	
Synopsis		<p>The pilot, accompanied by his wife, took off from McRest Camp on a local flight to take aerial photographs of kudu. After takeoff the helicopter collided with power lines spanned across its flight path. The power lines were approximately 6.3m above ground level. The pilot indicated that since it was early morning, the sun had obscured his vision and he had not seen the wires.</p> <p>The pilot suffered no injuries, but his wife sustained two fractured ribs.</p> <p>The cabin, left-hand skid, main rotor and tail boom of the helicopter were damaged.</p>				
Probable Cause						
The helicopter collided with power lines after takeoff.						
IARC Date				Release Date		



AIRCRAFT ACCIDENT REPORT

Name of Operator : AP van Wyk
Name of Owner : Skietfontein Plase CC
Manufacturer : Robinson Helicopter Company
Model : R22 Beta
Nationality : South African
Registration Marks : ZS-RKF
Place : McRest Camp, Kuruman
Date : 3 November 2006
Time : 0400Z

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 3 November 2006, at about 0400Z, the pilot, accompanied by his wife, took off from McRest Camp on a local flight to take aerial photographs of kudu on the farm. After take off the helicopter collided with power lines spanned across its flight path. The power lines were approximately 6.3m above ground level. The pilot indicated that since it was early morning, the sun had obscured his vision and he had not seen the wires.

1.2 Injuries to Persons

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

1.3 Damage to Aircraft

1.3.1 The helicopter sustained substantial damage to the cabin, left-hand skid, main rotor and tail boom.

1.4 Other Damage

1.4.1 None.

1.5 Personnel Information

Nationality	South African	Gender	Male	Age	31
Licence Number	*****	Licence Type	Private (Helicopter)		
Licence valid	Yes	Type Endorsed	Yes		
Ratings	Game/Livestock cull rating				
Medical Expiry Date	10 January 2007				
Restrictions	Nil				
Previous Accidents	Nil				

Flying Experience

Total Hours	480
Total Past 90 Days	180
Total on Type Past 90 Days	180
Total on Type	480

1.6 Aircraft Information

1.6.1 Airframe

Type	Robinson R22 Beta	
Serial Number	2812	
Manufacturer	Robinson Helicopter Company	
Date of Manufacture	1998	
Total Airframe Hours (At time of Accident)	1 569	
Last MPI (Date & Hours)	22 September 2006	1 507.8
Hours since Last MPI	61.2	
C of A (Issue Date)	12 March 2008	
C of R (Issue Date) (Present Owner)	20 March 2001	
Operating Categories	Standard	

1.6.2 Engine

Type	Textron Lycoming
Serial Number	0-360-J2A
Hours since New	1 507.8
Hours since Overhaul	TBO not yet reached

1.7 Meteorological Information

1.7.1 No official meteorological information was obtained, since the weather was not a contributing factor to the accident. The data below was sourced from the pilot questionnaire:

Wind direction	090°	Wind speed	5 kts	Visibility	Fine
Temperature	15°C	Cloud cover	Nil	Cloud base	Nil
Dew point	Unknown				

1.8 Aids to Navigation

1.8.1 The helicopter was fitted with standard navigational aids certified for this type of aircraft and no reported failures were reported prior to the accident.

1.9 Communications

1.9.1 The pilot was operating in an unmanned aerodrome.

1.9.2 The helicopter was fitted with standard communication equipment certified for this type of aircraft and no abnormalities were reported prior to the accident.

1.10 Aerodrome Information

1.10.1 The accident occurred at McRest Camp, a private farm, at the following GPS coordinates: S26° 10' 396" 022° 35' 267".

1.11 Flight Recorders

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

1.12 Wreckage and Impact Information

1.12.1 The helicopter collided with power lines after take off and as the main rotor blades struck the ground, the helicopter rolled onto its left side, sustaining substantial damage to the fuselage, tail boom assembly, and main and tail rotor drive system.

1.12.2 The aircraft came to rest on its left side approximately 21.6m from the power lines.

1.12.3 Two fragments of the tail boom were found about 1m from the main wreckage on the right-hand side of the helicopter.

1.12.4 The tail boom exhibited evidence of severe impact on its left side.

1.12.5 The tail rotor drive shaft showed signs of tensional twisting. There was also rotational scoring on the inside of the tail boom consistent with tail rotor rotation on impact.



Figure 1. Front view of the helicopter, showing the considerable damage.

1.13 Medical and Pathological Information

1.13.1 The pilot held a valid, unrestricted medical certificate as a private pilot which was due to expire on 10 January 2007.

1.13.2 The pilot's wife suffered two fractured ribs and was released from hospital after two days.

1.14 Fire

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

1.15 Survival Aspects

1.15.1 There was no structural failure of the seatbelts or their attachments. Both occupants were properly restrained and the cabin sustained minimal damage, hence the accident was considered survivable.

1.16 Tests and Research

1.16.1 None.

1.17 Organisational and Management Information

1.17.1 This was a private flight.

1.18 Additional Information

1.18.1 None.

1.19 Useful or Effective Investigation Techniques

1.19.1 None.

2. ANALYSIS

2.1 Pilot

The pilot had a valid licence and was properly rated for the aircraft type. He was familiar with the area. He failed to maintain a proper lookout during a take off and collided with power lines. The power lines were approximately 6.3m above ground level.

2.2 Helicopter

The helicopter was properly maintained and there were no records of malfunction of the aircraft prior to the accident. The left skid collided with one of the power lines and the pilot lost control of the helicopter before the helicopters impact with the ground.

2.3 Environment

Visual meteorological conditions prevailed at the site on the day of the accident and the weather was fine with unrestricted visibility. The pilot indicated that since it was early morning the sun had obscured his vision and he had not seen the wires.

3. CONCLUSION

3.1 Findings

3.1.1 The helicopter had a valid certificate of registration and a valid certificate of airworthiness.

3.1.2 The maintenance records indicate that the helicopter was equipped and maintained in accordance with existing regulations and approved procedures.

3.1.3 There was no evidence of any defects or malfunction in the helicopter that could have caused, or contributed to, the accident.

3.1.4 The pilot was properly licensed and medically fit.

3.1.5 The pilot intended taking photographs.

3.1.6 The helicopter collided with power lines.

3.2 Probable Cause/s

3.2.1 The helicopter collided with power lines after take off.

4. SAFETY RECOMMENDATIONS

4.1 None

5. APPENDICES

5.1 None

Report reviewed and amended by the Advisory Safety Panel on 19 January 2010
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