



## AIRCRAFT ACCIDENT REPORT AND EXECUTIVE SUMMARY

				Reference:	CA18/2/3/7514	
<b>Aircraft Registration</b>	ZS-HYT	<b>Date of Accident</b>	9 June 2002		<b>Time of Accident</b>	0905Z
<b>Type of Aircraft</b>	Robinson R22 Beta		<b>Type of Operation</b>		Game Capturing	
<b>Pilot-in-command Licence Type</b>		Commercial	<b>Age</b>	56	<b>Licence Valid</b>	Yes
<b>Pilot-in-command Flying Experience</b>		Total Flying Hours	10868		Hours on Type	unknown
<b>Last point of departure</b>		Mkuze District, Pongola				
<b>Next point of intended landing</b>		Mkuze District, Pongola				
<b>Location of the accident site with reference to easily defined geographical points (GPS readings if possible)</b>						
Leeukop Game Farm approximately 30km East of Pongola.						
<b>Meteorological Information</b>		Wind: 5kts/240° Temperature: 21°C Visibility: +10km				
<b>Number of people on board</b>	1+0	<b>No. of people injured</b>	0	<b>No. of people killed</b>	1	
<b>Synopsis</b>						
<p>On 9 June 2002, the helicopter was engaged in a game capturing operation and had been flying for over an hour before the accident occurred. The helicopter had executed three landings and three take-offs. During the last flight, while chasing the game and as the game was entering the boma, the helicopter went into a hover and started to turn anti-clockwise. The helicopter moved rearwards and the tail rotor of the helicopter hooked onto the top wire of the high-tension power line. The helicopter started to move rapidly rearwards and started to turn left through 45°. The nose of the helicopter dropped and it entered into an uncontrollable spin prior to crashing into the ground, fatally injuring the pilot.</p>						
<b>Probable Cause</b>						
<p>The tail rotor contacted the high tension wires, resulting in the helicopter entering an uncontrollable spin prior to crashing into the ground.</p>						
IARC Date				Release Date		



## AIRCRAFT ACCIDENT REPORT

**Name of Owner/Operator** : JJ Du Plessis  
**Manufacturer** : Robinson  
**Model** : R22 BETA  
**Nationality** : South African  
**Registration Marks** : ZS-HYT  
**Place** : Leeukop Game Farm 30 km East of Pongola  
**Date** : 9 June 2002  
**Time** : 0905Z

*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 interests 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 The helicopter departed from a farm 2km north of Mkuze at approximately 0600Z for a game-capturing operation, with the pilot as the sole occupant. The helicopter landed at the farm at approximately 0650Z. At approximately 0715Z the pilot and a passenger took off to look for a capture site and landed back at approximately 0730Z. The passenger was off-loaded and he proceeded to build a capture site. The helicopter took off again and landed closer to the site. According to the passenger, the wind had changed to a south-westerly direction. At approximately 0800Z the pilot took off again and flew for approximately 10 minutes, chasing the game into the capture site. As the helicopter passed the capture site, the helicopter contacted the power line and the witness heard the engine rev up. When he looked up, he observed the helicopter spinning. He did not observe the initial impact, but rushed to the scene of the accident and found the helicopter inverted. The pilot was still fastened with the safety belt, hanging from his seat.

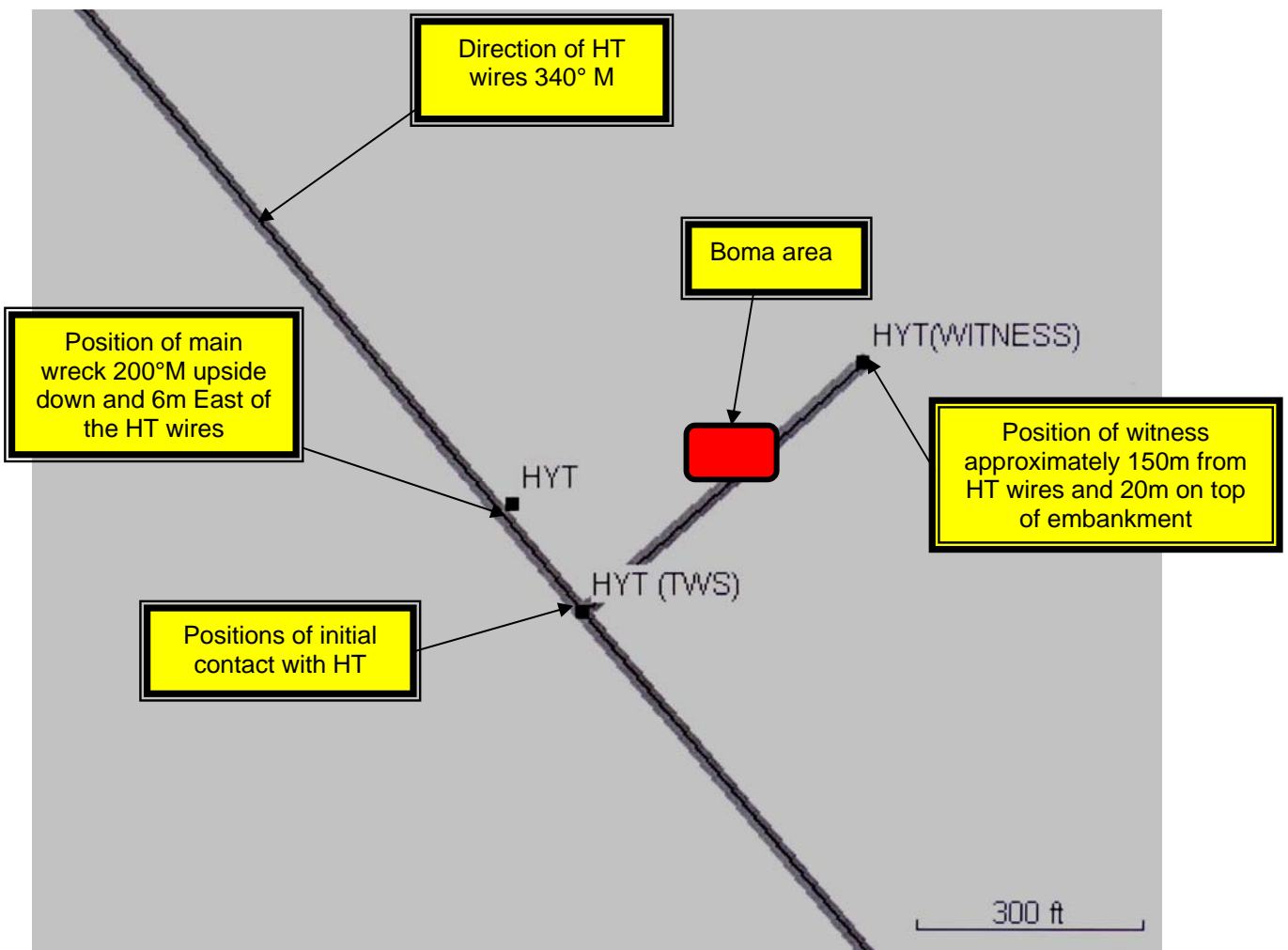


Figure: 1

1.1.2 Another witness standing east of the accident site (see Fig 1 above) observed the helicopter flying to the left of the power line in a southerly direction towards the boma. As the game was entering the boma, the helicopter went into a hover and started to turn anti-clockwise. The helicopter moved rearwards, then the tail of the helicopter hooked onto the top wire of the high-tension power line. The helicopter started to move rapidly rearwards and turned left through 45°. The nose of the helicopter dropped and it entered into a spin, prior to crashing into the ground.

1.1.3 The accident occurred during daylight conditions.



Figure: 2

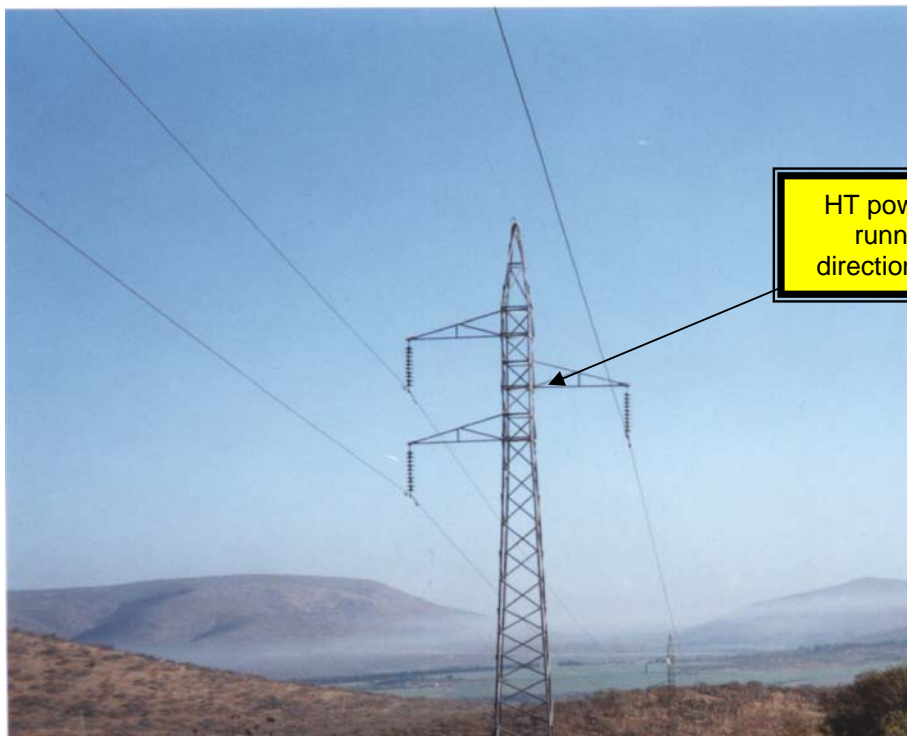


Figure: 3

## 1.2 Injuries to Persons

Injuries	Pilot	Crew	Pass.	Other
Fatal	1	-	-	-
Serious	-	-	-	-
Minor	-	-	-	-

### 1.3 Damage to Aircraft

1.3.1 The aircraft was substantially damaged on impact.

### 1.4 Other Damage

1.4.1 Damage was caused to the high tension wire.

### 1.5 Personnel Information

Nationality	South African				
Licence No	*****	Gender	Male	Age	56
Licence valid	Yes	Type Endorsed	Yes		
Ratings	Cull rating				
Medical Expiry Date	14 March 2003				
Restrictions	To wear corrective lenses				

Flying Experience:

Total Hours	10868 at last renewal on 15 March 2002
Total Past 90 Days	Unknown
Total on Type Past 90 Days	Unknown
Total on Type	Unknown

The pilot logbook could not be located during the course of the investigation. According to the CAA records, the pilot had 10868 hours during his last licence renewal on 15 March 2002.

### 1.6 Aircraft Information

**Airframe:**

Type	Robinson R22 Beta	
Serial Number	1397	
Manufacturer	Robinson	
Year of Manufacture	1990	
Total Airframe Hours (At time of Accident)	2020.1	
Last MPI (Date & Hours)	20 March 2002	1963
Hours since Last MPI	57.1	
C of A (Issue Date)	23 August 1990	
C of R (Issue Date) (Present owner)	11 March 2002	
Operating Categories	Standard	

## Engine :

Type	Lycoming O-320-B2C
Serial Number	L-16157-39A
Hours since New	2020.1
Hours since Overhaul	154.1

## 1.7 Meteorological Information

Wind direction	240°	Wind speed	5kts	Visibility	+ 10km
Temperature	21° C	Cloud cover	FEW020	Cloud base	None
Dew point	11°C				

Note: This information was supplied by the Aviation Weather Services based on the synopses and other meteorological data available at the Pongola automatic weather station at 0900Z.

## 1.8 Aids to Navigation

1.8.1 The aircraft was equipped with standard navigation instrumentation as per manufacture design. None were reported unserviceable prior to the accident or during the accident.

## 1.9 Communications

1.9.1 There was no communication between the accident aircraft and people on the ground.

1.9.2 The aircraft was equipped with standard communication systems and none were reported unserviceable prior to the accident or during the accident.

## 1.10 Aerodrome Information

1.10.1 The accident occurred at Leeukop Game Farm, approximately 30 km east of Pongola.

## 1.11 Flight Recorders

1.11.1 The aircraft was not fitted with flight data recorders, nor was this required by regulation.

## 1.12 Wreckage and Impact Information

1.12.1 The tail of the helicopter hooked onto the top wire of the high-tension power line. The helicopter then started to move rapidly rearwards and started to turn left through 45°. The nose of the helicopter then dropped and it went into a spin prior to



crashing into the ground. The helicopter had rolled over and ended up in an inverted position. The pilot had the seatbelt and harness fastened and was hanging from his seat.



Figure: 4 showing the helicopter inverted after crashing into the ground.

### **1.13 Medical and Pathological Information**

1.13.1 Numerous attempts were made, in vain, to obtain the autopsy report. It was then decided that the report should be concluded without the autopsy report, because it was not foreseen that it could have a bearing on the outcome of this report.

### **1.14 Fire**

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

### **1.15 Survival Aspects**

1.15.1 This accident was considered not survivable, due to the high impact forces associated with the aircraft spinning uncontrollably into the ground. The helicopter crashed in an inverted attitude, which resulted in the destruction of the cabin area. The pilot was left with no protection.

### **1.16 Tests and Research.**

1.16.1 None considered necessary.

## **1.17 Organisational and Management Information**

1.17.1 No information could be found that the flight was conducted in terms of a valid Air Operating Certificate (AOC).

## **1.18 Additional Information**

1.18.1 None.

## **1.19 Useful or Effective Investigation Techniques**

1.19.1 None.

## **2. ANALYSIS**

2.1 The helicopter had been engaged in a game capturing operation for over an hour when the accident occurred. During that time, it had done three landings and three take-offs. During the last flight while chasing the game and as the game was entering the boma, the helicopter went into a hover and started to turn anti-clockwise. The helicopter moved rearwards and the tail rotor of the helicopter hooked onto the top wire of the high-tension power line. The helicopter started to move rapidly rearwards and started to turn left through 45°. The nose of the helicopter dropped and it entered into an uncontrollable spin prior to crashing into the ground, fatally injuring the pilot.

2.2 It is possible that while chasing the game and directing it into the boma, the pilot became fixated with the game and forgot that there was high tension wire at the rear. It is also possible that the pilot was not aware of the high tension wires in the position where the helicopter was at the time. Both the two possible situations led to one consequence, that is the helicopter moved rearwards and the tail rotor contacted the high tension wire, resulting in the accident as described in 2.1 above.

## **3. CONCLUSION**

### **3.1 Findings**

3.1.1 The pilot was licensed and qualified for the flight in accordance with existing regulations.

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

3.1.3 The flight was not conducted under a valid Air Operating Certificate (AOC).

3.1.4 The weather was not considered to be a factor in this accident.

3.1.5 The tail rotor contacted the high tension wires.



### **3.2 Probable Cause/s**

- 3.2.1 The tail rotor contacted the high tension wires, resulting in the helicopter entering into an uncontrollable spin prior to crashing into the ground.

## **4. SAFETY RECOMMENDATIONS**

- 4.1 None.

-END-

Report reviewed and amended by the Advisory Safety Panel  
24 February 2009