



Ref: 7776

**SOUTH AFRICAN CIVIL AVIATION AUTHORITY****ACCIDENT REPORT – EXECUTIVE SUMMARY**

<b>Aircraft Registration</b>	<b>ZS-RHF</b>	<b>Date of Accident</b>	18 March 2004	<b>Time of Accident</b>	1240Z
<b>Type of Aircraft</b>	ROBINSON R22 BETA		<b>Type of Operation</b>	Private	
<b>Pilot-in-command Licence Type</b>	Private	<b>Age</b>	65	<b>Licence Valid</b>	Yes
<b>Pilot-in-command Flying Experience</b>	Total Flying Hours	5 262.3	Hours on Type	1 320.9	
<b>Last point of departure</b>	Farm in the Naboomspruit area				
<b>Next point of intended landing</b>	Farm in the Naboomspruit area				
<b>Location of the accident site with reference to easily defined geographical points (GPS readings if possible)</b>					
Approximately 500m from the point of take-off					
<b>Meteorological Information</b>	Wind - 360/5, Temperature 24°C, CAVOK				
<b>Number of people on board</b>	1 + 0	<b>No. of people injured</b>	Nil	<b>No. of people killed</b>	Nil

**Synopsis**

The aircraft was refuelled to capacity prior to the pilot's departure on a flight from Polokwane en route to Wonderboom with a scheduled landing at a farm in the Naboomspruit area to discuss business. The flight from Polokwane to the farm was uneventful with all engine parameters indicating normal.

After conducting a flight around the farm, the pilot decided to uplift fuel before flying to Wonderboom. According to the pilot, shortly after lift off, the helicopter felt low on power with the RPM decaying to the lower half of the green arc on the instrument gauge. At a height of approximately 100-150 feet AGL the engine spluttered and failed whilst established over bush type terrain.

The pilot immediately initiated autorotative flight at an indicated airspeed of  $\pm 50$ mph. Action to avoid trees resulted in a rapid loss of height. On clearing the trees, the aircraft was too close to the ground to flare and contact with the ground took place in a level attitude with full collective pitch applied. The low rotor RPM light illuminated on the instrument panel and the audio warning sounded when the aircraft was approximately 15ft AGL (an indication that rotor RPM had decayed to below 97%).

According to the pilot, ground impact did not feel excessively heavy, with the left skid touching first followed by a bounce with the right skid digging into the soft ground, resulting in a roll-over to the right. Apart from a minor skin burn to the pilot's hand no other injuries were sustained.

**Probable Cause**

The engine failed as a result of fuel starvation, which was most probably caused by the presence of a vacuum that formed within the main fuel tank as a result of the blockage of the main fuel tank vent as well as the interconnecting tank vent.