

**ACCIDENT**

<b>Aircraft Type and Registration:</b>	Robinson R44 Astro, G-ROZI	
<b>No &amp; type of Engines:</b>	1 Lycoming O-540-F1B5 piston engine	
<b>Year of Manufacture:</b>	1996	
<b>Date &amp; Time (UTC):</b>	16 June 2006 at 1200 hrs	
<b>Location:</b>	York Racecourse	
<b>Type of Flight:</b>	Private	
<b>Persons on Board:</b>	Crew - 1	Passengers - 3
<b>Injuries:</b>	Crew - None	Passengers - None
<b>Nature of Damage:</b>	Extensive	
<b>Commander's Licence:</b>	Private Pilot's Licence	
<b>Commander's Age:</b>	39 years	
<b>Commander's Flying Experience:</b>	166 hours (of which 79 were on type) Last 90 days - 15 hours Last 28 days - 4 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

**Synopsis**

On final approach to a landing site when close to maximum weight and with a light surface wind and high ambient temperature, the pilot was aware of the 'LOW RPM' warning activating and the aircraft sinking. He attempted to increase power but the helicopter touched down heavily. Once on the ground, the rpm recovered and the helicopter lifted off again; it turned through approximately 90° before the pilot regained control and landed.

**History of the flight**

The pilot had planned his flights to collect some friends and take them to York Racecourse. He completed his normal external and pre-flight checks and noted that G-ROZI appeared fully serviceable. Having obtained

the weights of his passengers, he calculated that he could uplift some extra fuel and flew to Sandtoft Aerodrome where he refuelled and then flew onwards to a private site to collect his friends.

The weather was good with a light surface wind, no cloud below 4,000 ft amsl and an air temperature of about 20°C. With his passengers on board, the pilot had calculated that the aircraft's weight would be 1,065 kg compared to the maximum permitted gross weight of 1,089 kg. He was seated in the right front seat and dual controls were fitted.

The flight to York was initially uneventful and the pilot selected full carburettor heat prior to his descent to

the landing site. His approach was northerly with a final turn to line up on the helicopter landing site in an easterly direction. Everything appeared normal until the pilot levelled G-ROZI for the final hover before touchdown. As he did so, the 'LOW RPM' warning activated and he was aware of the helicopter sinking. He applied more power but was unable to prevent the subsequent heavy landing. On the ground, the rpm increased and the helicopter lifted off again; it turned through about 90° before the pilot regained control and touched down in an upright attitude. After the pilot had shut down the engine and switched off the fuel valve

and electrics, all the occupants vacated the helicopter through their respective doors.

The helicopter's airframe suffered extensive distortion damage during the heavy landing. Regarding the cause of the accident, the pilot subsequently confirmed that his front seat passenger remained well clear of the controls during the flight. On reflection, he considered that the heavy landing was the result of a combination of a very light wind, high air temperature and being close to the maximum permitted weight.