

**AAIB Bulletin No:** 3/94

**Ref:** EW/G93/11/05

**Category:** 2.3

**Aircraft Type and Registration:** Robinson R22 Beta, G-BPKH

**No & Type of Engines:** 1 Lycoming O-320-B2C piston engine

**Year of Manufacture:** 1987

**Date & Time (UTC):** 11 November 1993 at 1320 hrs

**Location:** 9 miles north east of Okehampton, Devon

**Type of Flight:** Private

**Persons on Board:** Crew - 1                      Passengers - 1

**Injuries:** Crew - None                      Passengers - None

**Nature of Damage:** Damaged beyond economic repair

**Commander's Licence:** Airline Transport Pilot's Licence with Flying Instructor Ratings

**Commander's Age:** 32 years

**Commander's Flying Experience:** 3,100 hours (of which 494 were on type)  
Last 90 days - 131 hours  
Last 28 days - 31 hours

**Information Source:** Aircraft Accident Report Form submitted by the pilot

The helicopter had been flying straight and level at 1,000 feet on the Regional Pressure Setting for approximately one hour and ten minutes. The speed was 90 kt and the manifold pressure between 22 and 23 inches Hg. The pilot visually identified his intended landing site about a mile away and began lowering the collective to commence a deceleration before descending to land. Almost instantly the low rotor RPM warning sounded and he noted that the engine RPM gauge needle was on its lower stop with the rotor RPM at about 75%. The pilot commented that he was not aware of any other indications or lights and that there was no significant yaw or change in noise levels.

The helicopter entered autorotation and he pushed the nose down to gain airspeed before flaring to regain rotor RPM. He recalled twisting the throttle grip to test for engine response but there was none. By now down to about 200 to 250 feet agl, the pilot prepared to touchdown in the only possible landing space. This involved negotiating some power cables running diagonally across his track followed by a sharp right turn towards a soft, recently-seeded barley field. Initial run-on was gentle and level for about the first 15 feet but, as the helicopter's full weight transferred to the skids, they dug into the field, the machine tipped onto its nose and twisted through 90° before coming to rest on its right side.

The pilot and passenger were uninjured and evacuated the machine, having switched off the fuel and electrical power. The operating company were then contacted using a mobile telephone.

The pilot has stated that he believes carburettor icing was the most probable cause of the engine failure. He had been doing routine applications of hot air every 15 minutes and had performed the last about 10 minutes earlier. He had since then flown on the outskirts of a rain shower with an ambient temperature of about 7°C at 1,000 feet. He commented on the rapidity of the failure and particularly on the lack of obvious cues until the low rotor RPM warning sounded. The operator advises that it is not currently envisaged that any in-depth examination will be carried out specifically to look for any other reason for the engine failure.