

No: 9/87

Ref: 2c

Aircraft type and registration: Bell 47G-4A G-BERJ

No & Type of engines: 1 Lycoming VO-540-B1B3 piston engine

Year of Manufacture: 1966

Date and time (UTC): 28 June 1987 at 1115 hrs

Location: Lower Heathcote Farm, Leamington Spa, Warwickshire

Type of flight: Aerial Application

Persons on board: Crew — 1 Passengers — None

Injuries: Crew — None Passengers — N/A

Nature of damage: The aircraft was damaged beyond economical repair

Commander's Licence: Airline Transport Pilot's Licence (helicopters)

Commander's Age: 47 years

Commander's Total Flying Experience: 4820 hours rotary wing (of which 2561 were on type)

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

The flight was being conducted for the purpose of crop spraying and was treating a field which had a small wood in the southern corner. The helicopter had the customary, long, spray-boom attached, crosswise below the fuselage. The shape of the field was roughly triangular and, to fly round the periphery, in a clockwise direction, required a sharp turn to the right at the south corner. The wind at the time was 270° 8—10 knots.

As the helicopter approached the southernmost corner of the field, the sharp right turn was initiated during which, the pilot reports, a decay in rotor rpm occurred and that he was unable to prevent the aircraft descending into the rape-seed crop and tipping over onto its nose. He has subsequently suggested that this may have been the result of a sudden downdraught generated by the nearby trees, and believes that there was no engine malfunction.

The helicopter was damaged beyond economical repair, but the pilot suffered only scratches and bruises. He was wearing a full upper-torso restraint harness, which withstood the forces of impact. There was no fire.

The pilot held a valid Private Pilot's Licence for Landplanes in Group D, with a current medical certificate. His log books show that he commenced flying microlight aircraft in April 1982, and had been in regular flying practice since that date. By November 1986 he had recorded a total of 152 hours, and all this flying had been in microlight aircraft which incorporated a weight shift control system. At the beginning of January 1987 he negotiated the purchase of a Sirocco three-axis control microlight. As he was unfamiliar with this system of control he arranged for some dual instruction from a qualified flying instructor in a Shadow three-axis dual control aircraft. By 8 May 1987 he had completed 10 hours and 25 minutes of instruction in this aircraft, and all the instruction had been carried out from Full Sutton aerodrome.

The engineering examination of the aircraft revealed no defects in the aircraft or its engine which could account for the accident. The eye-witnesses description of the final stages of the flight suggest that once the aircraft started to descend and turn to the right from its final southerly heading, no attempt was made to restore the aircraft to straight and level flight. The Post Mortem report concludes that the final cause of the pilot's death was multiple injuries following impact with the ground. However, expert medical opinion also records that the pilot had suffered symptoms of myocardial ischaemia secondary to significant coronary artery disease.