

No: 8/90

Ref: EW/G90/06/03

Category: 2c

Aircraft Type and Registration: Robinson R22 Beta, G-BOEY

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

Year of Manufacture: 1988

Date and Time (UTC): 12 June 1990 at 1345 hrs

Location: Redhill Aerodrome, Surrey

Type of Flight: Commercial (Training)

Persons on Board: Crew - 2 Passengers - None

Injuries: Crew - None Passengers - N/A

Nature of Damage: Cross tubes and right skid bent. Tail boom severed by main rotor.

Commander's Licence: Airline Transport Pilot's Licence (H) with Instrument and Assistant Flying Instructor ratings

Commander's Age: 32 years

Commander's Total Flying Experience: Rotary Wing - 3,501 hours (of which 97 were on type)

Information Source: Aircraft Accident Report Form submitted by the pilot

The accident occurred during the instructor's fourth instructional flight of the day. He was nearing the end of a one hour exercise teaching circuits and emergencies. He had demonstrated an engine off landing which he initiated by closing the throttle when the helicopter had taken-off and climbed to 300 feet. A successful touch down was completed on the designated grass area to the west of runway 01. The wind was 360° at 7 kt. The instructor then briefed his student on the technique for a low level engine off landing following a normal transition to forward flight. At a height of 50 to 60 feet and with an airspeed of about 65 knots the instructor closed the throttle, lowered the collective pitch lever and flared the helicopter. Approaching the ground the helicopter was levelled and ran on with a high forward speed. Due to the rough and uneven nature of the touch down area, the helicopter bounced twice and then slewed to the left before coming to rest upright, but with the right skid displaced following upward bending of the cross tubes. The main rotor had severed the tail boom at about the mid point and the detached tail rotor assembly came to rest adjacent to a point midway between the helicopter's second bounce and its final position.

The instructor was aware of written instructions relating to the practice of engine failures after take-off. The instruction read "This is not to be practised at a height below 200 feet and windspeed of less than

10 knots, and not to be practised at all by solo students. The practices should be arranged to terminate inside the airfield boundary".

The instructor considers that when planning the final exercise he had temporarily confused the conditions for an engine failure after take-off and one from the low level cruise. Since the accident the training school has revised and expanded the instructions for engine off practises at low level.