

Aircraft type and registration: Bell 47G-5 G-BAYX

No & Type of engines: One Lycoming VO-435-B1A piston engine

Year of Manufacture: 1967

Date and time (GMT): 7 June 1986 at 1200 hrs

Location: Nr Claythorpe Manor, Authorpe, Lincs

Type of flight: Aerial application

Persons on board: Crew — 1 Passengers — None

Injuries: Crew — 1 (minor) Passengers — N/A

Nature of damage: Extensive airframe damage

Commander's Licence: Commercial Pilot's Licence (helicopters)

Commander's Age: 61 years

Commander's Total Flying Experience: 14021 hours (of which 4032 were on type)

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

The helicopter was engaged in spraying a liquid chemical mixture onto a 56 acre field of barley, the ground surface of which was undulating.

The pilot completed one spraying run in a northerly direction and turned to make a parallel run in the opposite direction. This was a downwind run with the northerly wind gusting up to 12 knots. At the southern end of the field the pilot was required to pull up steeply to avoid some tall trees on the opposite side of an adjacent road. It was his intention to turn 180° to the left prior to making a third parallel spray run. The helicopter, however, began to yaw to the right and the pilot, suspecting a failure of the tail rotor, closed the twist grip throttle and lowered the collective pitch lever in an attempt to check the yaw. The aircraft spiralled downwards to land heavily, but upright, at the southern edge of the field. There was no fire and the pilot was able to stop the engine before extricating himself from the severely damaged helicopter.

Subsequent examination of ground marks confirmed that there had been a tail strike. The pilot, however, was not aware that there had been any contact with the ground. His first indication of a control problem was when he experienced an uncommanded yaw to the right. At this stage eye witnesses noticed that the tail rotor had ceased to rotate.

The pilot considers that the accident was caused by the helicopter's attitude being more tail down than usual due to the relative tail wind, undulating ground, and excessive ground speed resulting from an inaccurate air speed indicator.

In addition, the pilot was seated in an unusually high position on thick seat cushions. This was to facilitate his view of the spray boom pressure gauges which would otherwise be masked by the yaw pedals.