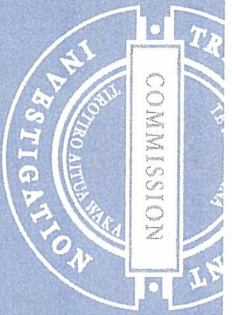


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ALBERTA ACCIDENT REPORT

No. 90-009T

HUGHES 269B ZK-HTU

Hammer Springs Domain

9 December 1990

Transport Accident Investigation Commission
Wellington - New Zealand

TRANSPORT ACCIDENT INVESTIGATION COMMISSION
AIRCRAFT ACCIDENT REPORT NO. 90-009T

Aircraft Type, Serial Number and Registration: Hughes 269B, 840132, ZK-HTU

Number and Type of Engines: 1 Lycoming HIO 360 A1A

Year of Manufacture: 1984

Date and Time: 9 December 1990, 2030 NZDT

Location: Hanmer Springs Domain

Type of Flight: Air Transport (joy rides)

Persons on Board: Crew 1 Passengers 2

Injuries: Crew Nil Passengers minor

Nature of Damage: Substantial - all major components

Pilot in Command's Licence: Commercial Pilot Licence (Helicopter)

Pilot in Command's Age: 30 years

Pilot in Command's Total Flying Experience: 350 hours; 300 on type

Information Sources: Transport Accident Investigation Commission Field Investigation

Transport Accident Investigation Commission
Wellington

Chief Commissioner
Transport Accident Investigation Commission

The attached report summarises the circumstances surrounding the accident involving Hughes 269B helicopter ZK-HTU on 9 December 1990 at Hanmer Springs Domain and includes suggested findings.

This report is submitted pursuant to Section 8(2) of the Transport Accident Investigation Commission Act 1990 for the Commission to review the facts and endorse or amend the findings as to the contributing factors and causes of the accident.

15 May 1991
R CHIPPINDALE
Acting Chief Executive

APPROVED FOR RELEASE AS A PUBLIC DOCUMENT

21 May 1991
M F DUNPHY
Chief Commissioner

1. FACTUAL INFORMATION

1.1 Joyriding operations had been delayed until 1900 hours, because of strong north-west winds. After the wind moderated the helicopter was postponed to Hamner and about six local flights were completed without event.

1.2 The operator's regular pad in Hamner was not in use as it was being resurfaced, so an alternative had been arranged. This was a small paddock about 70 m square, with a line of 80 foot tall trees on its western boundary. Power wires were along the eastern and southern boundaries and buildings and horses at the north. Steeply rising high terrain lay to the north-west, north and north-east.

1.3 The pilot's departure procedure was to climb almost vertically, heading north-west until above the trees before accelerating to a normal climb speed and then turning south on his route. He had generally encountered an increased headwind at tree top height which assisted the climb.

1.4 On the last departure the helicopter was accelerating through about 20 knots, above the trees, when a strong northerly gust was encountered. This rolled the helicopter left, causing it to turn downwind and start descending rapidly. The pilot rolled the helicopter level and partially lowered the collective, with full throttle, as the rpm had decayed to some extent.

1.5 The helicopter was descending downwind towards an open area on the domain when the pilot realised that it would not clear a high fence around tennis courts. He quickly turned it right and flared for a landing attempt in the courts but was unable to prevent a collision with the fence and a heavy landing.

1.6 Examination of the wreckage showed no evidence of any control malfunction and the rotors showed clear evidence of significant power at impact with the fence.

1.7 The helicopter was loaded to about 20 kg below the maximum authorised mass, with the CG within the limits.

1.8 The involuntary descent was probably caused only by the gust upset which turned the helicopter downwind and insufficient height was then available for recovery to be made.

1.9 The departure procedure used placed the helicopter in the "avoid" area of the Height/Velocity curve. While this might be accepted for some aerial work operations, it is not acceptably safe for passenger Air Transport operations. A Class 1 heliport with a take-off path permitting an autorotative landing (flight outside the "avoid" area of the Height/Velocity curve) is required by CASO 20.

1.10 If the helicopter had been at a normal climbing speed when it encountered the gust, the severity of the upset would have been much less.

1.11 The centre passenger seat was not equipped with a shoulder harness, as required by the Aircraft Flight Manual.

1.12 It has been observed that a number of Hughes 269 helicopters are similarly deficient while used for carrying centre seat passengers.

1.13 In 1982, after an accident where a centre seat passenger might have survived had he been wearing a shoulder harness, the Chief Inspector of Air Accidents made a recommendation to the Director of Civil Aviation that this airworthiness requirement be complied with.

21 May 1991

M F DUNPHY
Chief Commissioner

PLANE amend the date of the accident to read 8 December 1990.
AIRCRAFT ACCIDENT REPORT NO. 90-009T

ADDENDUM