TRANSPORT ACCIDENT INVESTIGATION COMMISSION
TE KOMIHANA TIROTIRO AITUA WAKA

AIRCRAFT ACCIDENT REPORT

No. 91-006

Robinson R22 Beta

ZK-HKM

Near Lake Isobel
21km west of Queenstown

2 March 1991

Transport Accident Investigation Commission
Wellington · New Zealand

Transport Accident Investigation Commission
Wellington

Chief Commissioner
Transport Accident Investigation Commission

The attached report summarises the circumstances surrounding the accident involving Robinson R22 Beta aircraft ZK-HKM near Lake Isobel, 21 km west of Queenstown on 2 March 1991 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.

27 February 1992

R CHIPPINDALE
Acting Chief Executive

APPROVED FOR RELEASE AS A PUBLIC DOCUMENT

12 March 1992

M F DUNPHY
Chief Commissioner

TRANSPORT ACCIDENT INVESTIGATION COMMISSION

AIRCRAFT ACCIDENT REPORT NO. 91-006

Aircraft Type, Serial Number and Registration:	Robinson R22 Beta; 1252 ZK-HKM
Number and Type of Engines:	1 Lycoming O-320-B2C
Year of Manufacture:	Not stated
Date and Time:	1210 NZDT; 2 March 1991
Location:	Near Lake Isobel, 21km west of Queenstown Latitude: 45° 01.4'S Longitude: 168° 28.8'E
Type of Flight:	Private
Persons on Board:	Crew: 1 Passengers: 1
Injuries:	Crew: 1 Nil Passengers: 1 Nil
Nature of Damage:	Substantial
Pilot in Command's Licence:	CPL-H
Pilot in Command's Age:	35
Pilot in Command's Total Flying Experience:	950 hours 924 on type
Information Sources:	Transport Accident Investigation Commission field investigation
Investigator in Charge:	Mr J J Goddard

1. NARRATIVE

1.1 The flight was to land the passenger by the south side of Lake Isobel, at 5300 feet amsl. The pilot had not landed at the site before. A small tramping pack was carried on the cargo hook.

1.2 As the lake was located in a mountainous cirque, the only clear approach was from the south and a missed approach was not practicable from late final.

1.3 A reconnaissance was flown and a landing point selected on a knoll. A power check suggested that a hover landing should be possible. The lake surface indicated no wind.

1.4 On short final approach the pilot found that the helicopter did not slow as she intended and on losing translational lift the rotor RPM started to decay while not fully arresting the sink.

1.5 She turned the helicopter to the right, away from the knoll toward lower but uneven ground to try to make a controlled landing. The landing was heavy, causing the left skid to collapse and the helicopter to roll over.

1.6 Full carburettor heat had been applied when power was reduced for the approach but had not been returned to the "COLD" position before landing. A subsequent flight check in the area indicated that this reduced maximum available manifold pressure by half an inch.

1.7 The hook load was not jettisoned.

1.8 Although the surface wind was calm, a tailwind component may have been present during the approach as a light southerly wind did commence at the site at about 1330 hours.

1.9 The mass of the helicopter was calculated to have been 15kg below the maximum authorised. Flight manual data indicated that hover out of ground effect was possible at 5300 feet in the ambient conditions.

2. FINDINGS

2.1 The pilot was appropriately licensed and experienced for the flight.

2.2 The aircraft had a valid Certificate of Airworthiness and Maintenance Release.

2.3 The aircraft was properly loaded.

2.4 The location of the landing site precluded a missed approach with this helicopter type when fully loaded.

2.5 A prior practice landing, with reduced load, had not been made.

2.6 Insufficient power was available for the attempted landing manoeuvre.

2.7 A heavy landing resulted from the attempt to land with insufficent power available.

2.8 The maximum power available was reduced by the use of the carburettor heat control.

2.9 The hook load was not jettisoned.

2.10 The power required for the landing manoeuvre may have been increased by an undetected tailwind during the approach.

12 March 1992

M F DUNPHY
Chief Commissioner