Aviation Safety Investigation Report 198900233

Bell 47 G3B1

15 March 1989

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NOTE: All air safety occurrences reported to the ATSB are categorised and recorded. For a detailed explanation on Category definitions please refer to the ATSB website at www.atsb.gov.au.

Occurrence Number: 198900233 **Occurrence Type:** Accident
Location: Kilarney Station NT
Date: 15 March 1989 **Time:** 1045
Highest Injury Level: Nil
Injuries:

	Fatal	Serious	Minor	None
Crew	0	0	1	1
Ground	0	0	0	-
Passenger	0	0	0	1
Total	**0**	**0**	**0**	**2**

Aircraft Details: Bell 47 G3B1
Registration: VH-WHF
Serial Number: 6763
Operation Type: Aerial Work
Damage Level: Destroyed
Departure Point: Kilarney Station NT
Departure Time: N/A
Destination: Kilarney Station NT

Approved for Release: 25th January 1990

Circumstances:

After becoming airborne the aircraft was climbed steeply in order to clear a 15 metre high powerline. As the aircraft cleared the powerline the passenger indicated that he wanted to proceed towards the left. The pilot turned the aircraft sharply and, as he did so, he noted a decrease in main rotor rpm. The pilot continued the left turn, until he was pointing towards a clear area, opened the throttle, lowered the collective control and dived towards the ground in an attempt to regain the lost rpm. The attempt was unsuccessful and the pilot elected to land. He raised the nose and increased collective pitch in an attempt to cushion the touchdown. The pilot's actions caused the main rotor blades to enter an overpitched condition and the aircraft touched down heavily. One skid collapsed and the main rotor struck the fuselage and the ground. No evidence was found that would indicate that the aircraft systems or components contributed to the accident. The steep climb out, to clear the powerline, required the pilot to use most of the excess power available. When the pilot entered a sharp left turn the additional aerodynamic load caused the main rotor rpm to reduce. There was no known reason why the pilot elected to turn abruptly under the particular circumstances. It is probable that the pilot, who had considerable experience on helicopters with low enertia rotor systems, expected the rpm to recover without difficulty. As a result he misjudged the height and performance change required and was forced to make a rushed decision to convert his attempt at rpm recovery to a landing.

Significant Factors:

The following factors were considered relevant to the development of the accident

1. The pilot carried out an abrupt manoeuvre, which resulted in a decrease in rotor rpm.

2. The pilot misjudged the performance change required to recover from the low rpm situation.

3. The excess rotor performance available was insufficient to cushion the landing.