

**Aviation Safety Investigation Report
198800135**

Bell 47 KH4

29 September 1988

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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: 198800135 **Occurrence Type:** Accident

Location: 165 km South West of Kununurra WA

Date: 29 September 1988 **Time:** 1030

Highest Injury Level: Nil

Injuries:

	Fatal	Serious	Minor	None
Crew	0	0	1	1
Ground	0	0	0	-
Passenger	0	0	0	2
Total	0	0	0	3

Aircraft Details: Bell 47 KH4

Registration: VH-KSU

Serial Number: 2082

Operation Type: Aerial Work

Damage Level: Substantial

Departure Point: 165 km SW of Kununurra
WA

Departure Time: N/A

Destination: Kununurra WA

Approved for Release: 24 April 1989

Circumstances:

The pilot was departing a confined pad amongst some small trees. He made a vertical take-off to about 20 feet and then commenced forward movement. The aircraft then began to descend and the pilot increased the collective pitch. The blades entered an overpitched condition and during the subsequent attempted landing the main rotor struck a tree. The pilot had flown in and out of the DEPARTURE pad a number of times, on the day of the accident, without encountering any difficulty. Immediately prior to the accident he had refuelled the aircraft to what he believed was approximately half tanks. Subsequent investigation indicated that the tanks were three quarters full. Temperature at the time of the accident was about five degrees above that for the pilot's earlier flights. The pilot was aware that a power check should be carried out at each lift off but he did not check the excess power available on this occasion. When the aircraft moved from the hover into forward flight there was insufficient power available to maintain rotor rpm when the pilot increased the collective pitch angle to stop the descent. It is possible that the terrain and wind conditions may have caused some mechanical turbulence which could have added to the amount of power required to transfer from the hover to forward flight.

Significant Factors:

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

1. Increasing temperature, a higher than expected fuel load and possible mechanical turbulence combined to reduce the safety margin for take off.
2. The pilot did not check the excess engine power available before attempting to depart on this particular flight.

3. The main rotor blades entered an overpitched condition during the DEPARTURE phase, and the pilot was unable to prevent the aircraft colliding with trees.