Aviation Safety Investigation Report 199003049

Robinson R22B

27 February 1990

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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: 199003049 **Occurrence Type:** Accident
Location: 45km NW of Katherine NT
Date: 27 February 1990 **Time:** 710
Highest Injury Level: Fatal
Injuries:

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

Aircraft Details: Robinson R22B
Registration: VH-HLB
Serial Number: 981
Operation Type: Aerial Work
Damage Level: Substantial
Departure Point: 42km NW of Katherine NT
Departure Time: 0700
Destination: 42km NW of Katherine NT

Approved for Release: 12th December 1990

Circumstances:

During a mustering flight, the spotter asked the pilot to drive some cattle towards the stock yards. The helicopter was flying slowly just above the tree canopy, when the spotter realised that something was wrong. Instead of turning to round up the cattle, the helicopter flew straight ahead, descending slowly. The pilot did not say anything but the experienced spotter noticed that he was busy moving the pedals and cyclic control. When the main rotor sliced into the overhanging canopy of a large tree, the spotter jumped from the helicopter. The main rotor stopped when it struck the trunk of the tree. The helicopter then fell to the ground, coming to rest on its right side. The helicopter was being operated at or beyond its Out of Ground Effect (OGE) hover capability. The OGE capability was reduced by an operating weight in excess of the aircraft's maximum permitted weight and a loss of flight performance, caused by an internally mistimed magneto and, possibly, excessive control movements made by the pilot. Although the pilot had received some training in low flying he had not received any training in the problems associated with operations in the mustering environment. The crash was probably survivable had the pilot's helmet remained on his head during the impact sequence. When the helmet was found, the chin strap was not fastened.

Significant Factors:

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

1. The pilot attempted an operation that was beyond his experience level.

2. One of the engines's magnetos had an internal timing fault which was probably the result of inadequate maintenance procedures.

3. The helicopter was unable to maintain an expected OGE hover because; (a) the aircraft's weight was excessive, (b) the engine was not capable of producing its full rated power because of the faulty magneto and (c) the control inputs made by the pilot in an attempt to rectify the situation may have further degraded the power available.

4. The pilot was unable to avoid colliding with a tree.