

**Aviation Safety Investigation Report
199703381**

**Robinson Helicopter Co
R22 HP**

16 October 1997

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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: 199703381 **Occurrence Type:** Accident
Location: Elizabeth Downs Station
State: NT **Inv Category:** 4
Date: Thursday 16 October 1997
Time: 1800 hours **Time Zone** CST
Highest Injury Level: None

Aircraft Manufacturer: Robinson Helicopter Co
Aircraft Model: R22 HP
Aircraft Registration: VH-KHI **Serial Number:** 0167
Type of Operation: Commercial Aerial Mapping/Photo/Survey
Damage to Aircraft: Substantial
Departure Point: Mt Green NT
Departure Time: 1755 CST
Destination: Mt Green NT

Crew Details:

Role	Class of Licence	Hours on	
		Type	Hours Total
Pilot-In-Command	Commercial	1150.0	1350

Approved for Release: Tuesday, June 16, 1998

The helicopter departed Mount Green in a northerly direction at approximately 1755 CST, for a survey of the locations of Army personnel in the area who were manning Rapier missile sites. The pilot said that while approaching one of the sites, he descended to approximately 100 ft AGL, and commenced a left hand orbit while his passenger, an Army officer, was explaining the layout. When he was about half way through the turn and maintaining approximately 60 knots with about 30 degrees angle of bank, the nose suddenly yawed to the left, and the helicopter descended rapidly in a nose low attitude. The helicopter impacted the ground, and slid backwards into a thicket of small trees 2 to 3 metres high.

One main rotor blade had sustained a spar fracture approximately 14 cms from the blade tip. Blade weight segments were installed in this region and could not be found after the accident. A section of the blade skin and honeycomb core extending over a distance of approximately 34 cms from the blade tip had also been lost. The nature of damage displayed by the blade was consistent with an impact between the blade leading edge and a solid rocky object, at a point approximately 20-25 cms from the blade tip, while the blade was rotating.

A series of unusual paint transfer markings along the upper surface of the leading edge of one main rotor blade was noted during examination. The paint was dark green in colour. Abrasive scores through some of these markings indicated that paint transfer associated with contact with some other material or component occurred prior to collision with the ground. It was established that the blade had struck a ground-to-air missile casing which was painted dark green. The stage in the accident sequence at which this occurred could not be determined.