Aviation Safety Investigation Report 199601434

Robinson Helicopter Co R22

06 May 1996

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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.

Aviation Safety Investigation Report

199601434

The Bureau did not conduct an on scene investigation of this occurrence. The information presented below was obtained from information supplied to the Bureau.

Occurrence Number: 199601434 **Occurrence Type:** Accident
Location: Gogo Station, 9km S Fitzroy Crossing
State: WA **Inv Category:** 4
Date: Monday 06 May 1996
Time: 1630 hours **Time Zone** WST
Highest Injury Level: Minor
Injuries:

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

Aircraft Manufacturer: Robinson Helicopter Co
Aircraft Model: R22 BETA
Aircraft Registration: VH-JNT **Serial Number:** 1108
Type of Operation: Non-commercial Aerial Mustering
Damage to Aircraft: Substantial
Departure Point: Gogo Station WA
Departure Time: 1600 WST
Destination: Gogo Station WA

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Private	450.0	2450

Approved for Release: Tuesday, June 4, 1996

The pilot was flying the helicopter sideways,15 ft above the ground, as he attempted to herd a bull into a paddock. He felt a shudder through the tail rotor pedals and the helicopter immediately began to rotate to the right. Full left pedal did not stop the rotation. After two and a half turns the pilot was able to land the helicopter, cushioning the touchdown with the collective control.

During the landing the tail rotor struck a fence. A ground witness reported that the tail rotor system appeared intact until the collision. The engine was already stopped when the pilot attempted to shut it down after landing. The fuel tank contained 60 L of fuel and no water was evident. Wind strength at the time of the accident was reported to be 5 kt.

Sideways movement, shuddering in the tail rotor pedals and loss of directional control to the right are all precursors or symptoms of a condition, in helicopters, commonly known as loss of tail rotor effectiveness. In this state the airflow through the tail rotor is reduced by the sideways movement and the relative wind (the combined effect of the actual wind and the direction of movement of the helicopter). As a result, the tail rotor can no longer supply sufficient thrust to counter the turning effect caused by the rotation of the main rotor system and the helicopter will yaw to the right. If the effect is severe enough, application of left pedal may aggravate the situation.

The evidence indicates that loss of tail rotor effectiveness is the most likely factor in this accident.