

**Aviation Safety Investigation Report
199600796**

**Robinson Helicopter Co
R22**

07 March 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.

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: 199600796 **Occurrence Type:** Accident
Location: Wando Vale Station
State: QLD **Inv Category:** 4
Date: Thursday 07 March 1996
Time: 1100 hours **Time Zone** EST
Highest Injury Level: None

Aircraft Manufacturer: Robinson Helicopter Co
Aircraft Model: R22 BETA
Aircraft Registration: VH-HVB **Serial Number:** 0564
Type of Operation: Commercial Aerial Mustering
Damage to Aircraft: Substantial
Departure Point: Wando Vale QLD
Departure Time:
Destination: Wando Vale QLD

Crew Details:

Role	Class of Licence	Hours on Type	Hours Total
Pilot-In-Command	Commercial		8000

Approved for Release: Wednesday, October 9, 1996

The pilot reported that the helicopter was being used to muster cattle. While manoeuvring at about 30 ft AGL and a speed of 10 knots the pilot said he heard a loud bang. He was able to conducted an immediate autorotative landing.

Post flight inspection found that the main rotor drive shaft flex plate had separated at the gearbox end. The flailing end had then cut into the fuel tank, as well as causing other damage in the area.

Specialist examination concluded that the flexplate failure was caused by fatigue crack growth. The fatigue crack initiated at a region of intergranular corrosion at the edge of the plate. The pilot reported that the failure occurred some 40.8 hours after the previous 100 hourly inspection. Because of the type of flexplate in use, a dye penetrant inspection had been conducted on the flexplate during that previous inspection. This was required by an Airworthiness Directive, which subjected all such flexplates to a special inspection every 100 hours until they were replaced by a new version of flexplate. A similar directive issued by the United States FAA required an inspection every 50 hours.