Aviation Safety Investigation Report 198803465

Hughes 269C Helicopter

26 June 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: 198803465 **Occurrence Type:** Accident
Location: Bortala Station (113km North of Mt Isa) QLD
Date: 26 June 1988 **Time:** 1048
Highest Injury Level: Serious
Injuries:

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

Aircraft Details: Hughes 269C Helicopter
Registration: VH-TES
Serial Number: 100888
Operation Type: Aerial Work (Stock Mustering)
Damage Level: Substantial
Departure Point: Bortala Station QLD
Departure Time: 1038
Destination: Bortala Station QLD

Approved for Release: February 28th 1989

Circumstances:

About ten minutes into the helimustering flight, the engine stopped with a loud bang. A downwind autorotational approach from a low altitude was attempted. The pilot used most of the rotor's energy in stretching the glide to a small, natural clearing. The helicopter then fell from tree top height (about 30 feet) onto rocky, sloping ground. It rolled over and slid several metres down the 14 degree slope. The No 1 connecting rod had failed and breached the engine crankcase. The connecting rod had failed from fatigue initiated overload. The fatigue was initiated from a galling spot on the inside of the big-end which occurred as a result of the relaxation of the bearing nip. It is probable that the relaxation of the bearing nip was caused by repeated engine overspeeds.

Significant Factors:

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

1. The engine stopped when the No 1 connecting rod failed due to a fatigue fracture which probably resulted from the engine being overspeed over a long period.

2. Probable long term improper operation of the manual throttle in high stress environment - mustering.

3. Engine failure occurred over terrain unsuitable for a forced landing.

4. Rotor RPM decayed, as the result of the pilot attempting to reach a clear area, to stage where the pilot was unable to avoid a heavy landing.

Reccomendations:

It is recommended that the Civil Aviation Authority consider the mandatory replacement of connecting rods at overhaul, and/or consider reducing the overhaul time limits for engines fitted to helicopters used in the mustering role or similar activities.