Aviation Safety Investigation Report 198800728

Hughes 269C

17 August 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: 198800728 **Occurrence Type:** Accident
Location: Alice Springs N.T.
Date: 17 August 1988 **Time:** 1159
Highest Injury Level: Minor
Injuries:

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

Aircraft Details: Hughes 269C
Registration: VH-SIH
Serial Number: 1290006
Operation Type: Aerial Work
Damage Level: Substantial
Departure Point: Alice Springs N.T.
Departure Time: 1153
Destination: Alice Springs N.T.

Approved for Release: 13 January 1989

Circumstances:

The pilot was cooling the engine down at 2500 RPM after completing a circuit and normal landing. Suddenly, a hard, high frequency bounce developed and the helicopter bounced left skid low followed by a 45 degree yaw to the left. The pilot had tightened the control frictions after landing and he attempted to release these as he fought for control of the helicopter. He was unable to release the control frictions and the cyclic control grip was broken during his attempts to restrain the movement of this control. The engine stopped without input from the pilot and the aircraft came to rest. The period of ground resonance had been about 5 seconds. During the preflight inspection the pilot had noticed that the front left landing gear was slightly under-inflated, although he considered it to be within normal limits. However, the correct landing gear damper inflation is critical in the prevention of ground resonance in this type of helicopter and the Pilot's Flight Manual contains a caution to this effect. Incorrect or unequal landing gear damper pressure can markedly alter the resonance response of the undercarriage system of the helicopter. If a rotor head vibration is induced, for whatever reason, and it is in sympathy with the resonance response of the undercarriage system, then ground resonance will occur. The cause of the rotor vibration that initiated this occurrence of ground resonance could not be established.

Significant Factors:

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

1. Inadequate preflight inspection. The landing gear damper should have been more thoroughly examined once an indication of under-inflation was detected.

2. The front left hand landing gear damper was under-inflated.

3. Ground resonance ensued.