

**Aviation Safety Investigation Report  
199301929**

**Hughes Helicopters  
Hughes 300**

**02 July 1993**

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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](http://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:** 199301929      **Occurrence Type:** Incident  
**Location:** 500m NE Moorabbin  
**State:** VIC      **Inv Category:** 4  
**Date:** Friday 02 July 1993  
**Time:** 1233 hours      **Time Zone** EST  
**Highest Injury Level:** None

**Aircraft Manufacturer:** Hughes Helicopters  
**Aircraft Model:** 269C  
**Aircraft Registration:** VH-IHV      **Serial Number:** 1070638  
**Type of Operation:** Instructional Dual  
**Damage to Aircraft:** Nil  
**Departure Point:** Moorabbin VIC  
**Departure Time:**  
**Destination:** Moorabbin VIC

**Crew Details:**

| <b>Role</b>      | <b>Class of Licence</b> | <b>Hours on<br/>Type</b> | <b>Hours Total</b> |
|------------------|-------------------------|--------------------------|--------------------|
| Pilot-In-Command | Commercial              | 3000.0                   | 7100               |

**Approved for Release:** Wednesday, October 26, 1994

The flying instructor advised that at 300 feet, after taking off to the north from the eastern grass at Moorabbin, he first heard an odd noise and then felt a violent vibration through the airframe. He also noticed that rotor RPM had begun to diminish. Immediately he lowered the collective, closed the throttle, and carried out an autorotation into an area just outside the airfield boundary. The engine continued to idle from the moment of closing the throttle.

Engineers found that the aft bearing on the lower pulley assembly had disintegrated internally and the forward bearing was rough. (This pulley assembly is part of the drive train which transmits engine power to the main gearbox via eight rubber belts.)

The bearing (part number 269A5050-78) which failed was lifed at 1800 hours. It failed at 741 hours total time in service and 246 hours since it was last inspected/greased. There was no evidence of lack of grease or overheating of the bearings.

**Significant Factor**

The following factor was considered relevant to the development of the incident:

1. The lower pulley aft bearing failed in flight.