

**Aviation Safety Investigation Report
198902598**

Hughes Lightwing LW-02

25 February 1989

Readers are advised that the Australian Transport Safety Bureau investigates for the sole purpose of enhancing transport safety. Consequently, Bureau reports are confined to matters of safety significance and may be misleading if used for any other purposes.

Investigations commenced on or before 30 June 2003, including the publication of reports as a result of those investigations, are authorised by the CEO of the Bureau in accordance with Part 2A of the Air Navigation Act 1920.

Investigations commenced after 1 July 2003, including the publication of reports as a result of those investigations, are authorised by the CEO of the Bureau in accordance with the Transport Safety Investigation Act 2003 (TSI Act). Reports released under the TSI Act are not admissible as evidence in any civil or criminal proceedings.

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: 198902598
Location: Oakdale NSW
Date: 25 February 1989
Highest Injury Level: Nil
Injuries:

Occurrence Type: Accident

Time: 1615 Approx.

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

Aircraft Details: Hughes Lightwing LW-02
Registration: 25-0081
Serial Number: N/K
Operation Type: Private
Damage Level: Substantial
Departure Point: The Oaks NSW
Departure Time: 1600 Approx.
Destination: The Oaks NSW

Approved for Release: 22nd February 1990

Circumstances:

About twelve minutes after departure and while cruising at 1200 feet above the ground the engine speed reduced from 5200 to 2000 rpm. This was accompanied by a mechanical knocking noise and severe vibration. The pilot immediately shut down the engine down to prevent possible damage . He carried out an emergency landing into the most favourable area within gliding distance. On touchdown the aircraft decelerated rapidly nosed over and came to rest inverted. It was not apparent from the air that the grass in the paddock was about half a metre high. The crankshaft had fractured at the centre pin between the bearing and the helical gear. The fracture was caused by fatigue attributed to extensive cracking. It was not possible to determine if the cracking had been present since manufacture or initiated from a propeller strike event some 60 hours prior to the failure when the engine was installed in a different aircraft. No log books are required for this type of engine hence the complete history of the engine could not be determined. This accident was not the subject of an on-scene investigation.

Significant Factors:

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

1. Engine crankshaft failed due to fatigue.
2. Long vegetation in emergency landing field.

Reccomendations:

It is recommended that the Civil Aviation Authority consider a requirement for airframe and engine log books for this category of aircraft particularly those with the potential for commercial operations such as flying training.