

AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

AS/735/1006

Publication of this report is authorised by the Director-General of Civil Aviation under the provisions of Air Navigation Regulation 283(1)

1. LOCATION OF OCCURRENCE

26 miles north-north-west of Coolgardie, W. A.	Height a.m.s.l. 1600 feet	Date 8.3.73	Time (Local) 1516 hours	Zone WST
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2. THE AIRCRAFT

Make and Model Hughes 369 HS Helicopter	Registration VH-UHO	Certificate of Airworthiness Valid from 1.10.1971 to 14.9.1979
Certificate of Registration issued to Airfast Services Pty. Ltd., Eleventh Street, Mascot, New South Wales.	Operator Airfast Services Pty. Ltd., Eleventh Street, Mascot, New South Wales.	Degree of damage to aircraft Destroyed
		Other property damaged Nil

Defects discovered

Engine compressor internal plastic lining severely eroded. Substantial accumulations of dust inside the engine. Coating of glass-like substance on inner surface of combustion liner and on the first and second stage turbine nozzle vanes.

3. THE FLIGHT

Last or intended departure point 27 miles north-north-west of Coolgardie	Time of departure 1515 hours	Next point of intended landing 26 miles north-north-west of Coolgardie	Purpose of flight Sediment Sampling	Class of operation Aerial Work
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4. THE CREW

Name	Status	Age	Class of licence	Hours on type	Total hours	Degree of injury
Ian Francis MALONEY	Pilot	31	Commercial Helicopter	1246	3734	Serious

5. OTHER PERSONS (All passengers and persons injured on ground)

Name	Status	Degree of injury	Name	Status	Degree of injury
Dirk J. ZEELBERG	Passenger	Nil	Robert Graeme JAMIESON	Passenger	Fatal
Richard Ian ROBERTSON	Passenger	Serious			

6. RELEVANT EVENTS

The sediment sampling on which the helicopter was engaged involved a series of flights, each of the order of two to four minutes duration. Between individual flights the aircraft remained on the ground with the engine running for the short period required for the rear seat passengers to disembark, collect sediment samples and re-embark for the flight to the next selected location. The passenger in the left hand rear seat would then signal, by tapping the pilot on the shoulder, that both rear seat occupants were strapped in and take off could commence. Conditions in the area were hot and dry and at each take off and landing the rotor wash raised large quantities of dust.

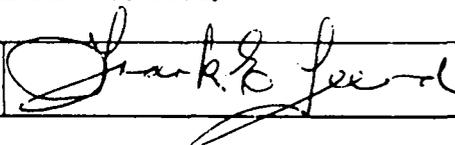
On this occasion the passengers re-boarded the aircraft and a normal take-off and climb out was made to a height of some 100-150 feet. The aircraft was accelerating through about 60 knots, above trees and towards a clear area which was to be the next landing point, when a loss of engine power occurred. The pilot lowered the collective pitch control and commenced a descent in an endeavour to reach the clear area ahead. He transmitted a distress radio call and, at a height of about 40 feet, the engine stopped completely. At a lower height the pilot attempted to check the forward speed and to arrest the descent, but his efforts had little effect and the aircraft struck the ground, tail rotor first, about 120 feet short of the clear area. The landing skids then touched down heavily, breaking off, and the aircraft subsequently came to rest in an almost upright attitude, some 70 feet beyond the point of initial impact. Three of the occupants left the aircraft unassisted and found the left hand rear seat passenger lying some 12 feet beyond the main wreckage. He later died from his injuries.

Subsequent examination of the engine revealed that it had been considerably affected by dust ingestion and the first stage turbine rotor blades were damaged by overheating. Inspection of the left rear seat safety buckle suggested that it was possible to gain a false impression that the buckle was properly fastened when in fact the locking action had not been fully accomplished.

OPINION AS TO CAUSE

The probable cause of the accident was that a progressive deterioration of the internal condition of the engine, arising from the environment in which the helicopter had been operated, was not detected before complete engine failure occurred.

Approved for publication


(Frank E. Yeend)
Delegate of the Director-General of Civil AviationDate
15.5.1974

DEFINITIONS

ACCIDENT - An occurrence associated with the operation of an aircraft which takes place between the time any person boards the aircraft with the intention of flight until such time as all those persons have disembarked and in which

- (a) any person suffers death or serious injury as a result of being in or upon the aircraft or by direct contact with the aircraft or anything attached to the aircraft; or
- (b) the aircraft suffers substantial damage.

FATAL INJURY - Any injury which results in death within 30 days.

SERIOUS INJURY - Any injury other than a fatal injury which

- (a) requires hospitalisation for more than 48 hours, commencing within seven days from the date the injury was received; or
- (b) results in a fracture of any bone (except simple fractures of fingers, toes or nose); or
- (c) involves lacerations which cause severe haemorrhages, nerve, muscle or tendon damage; or
- (d) involves injury to any internal organ; or
- (e) involves second or third degree burns, or any burns affecting more than five percent of the body surface.

MINOR INJURY - Any injury other than as defined under "Fatal Injury" or "Serious Injury".

DESTROYED - Consumed by fire, demolished or damaged beyond repair.

SUBSTANTIAL DAMAGE - Damage or structural failure which adversely affects the structural strength, performance or flight characteristics of the aircraft and which would normally require major repair or replacement of the affected component. The following types of damage are specifically excluded: engine failure, damage limited to an engine, bent fairings or cowling, dented skin, small punctured holes in the skin or fabric, taxi-ing damage to propeller blades, damage to tyres, engine accessories, brakes, or wingtips.

MINOR DAMAGE - Damage other than as defined under "Destroyed" or "Substantial Damage".