



COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF TRANSPORT

Reference No.

## AIRCRAFT ACCIDENT INVESTIGATION SUMMARY REPORT

SI/783/1022

Publication of this report is authorized by the Secretary under the provisions of Air Navigation Regulations 283 (1)

## 1. LOCATION OF OCCURRENCE

Six kilometres north-west of Harrietville, Vic.	Height a.m.s.l. 2500 feet	Date 19.4.78	Time (Local) 1440 hours	Zone EST
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## 2. THE AIRCRAFT

Make and Model Hughes 369HS Helicopter	Registration VH-CHD	Certificate of Airworthiness Valid from 23.10.75
Certificate of Registration issued to	Operator	Degree of damage to aircraft Destroyed
		Other property damaged -
Defects discovered  Nil		

## 3. THE FLIGHT

Last or intended departure point Wondiligong	Time of departure 1435 hours	Next point of intended landing Bright	Purpose of flight Forest burn-off	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
	Pilot	44	Commercial Helicopter	936	4681	Fatal

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

Name	Status	Degree of injury	Name	Status	Degree of injury
	Bombardier	Fatal		Navigator	Fatal

## 6. RELEVANT EVENTS

The helicopter was engaged on a program of controlled burning of forest floor debris for the Victorian Forests Commission. In carrying out this operation, it was flown some 250 feet above the forest at a forward speed of about 35 knots while delayed action incendiary devices (DAIDS) were dropped on selected areas. The DAIDS were about 18cm. long and were like large matches. The pilot flew the helicopter from the left control seat; the bombardier, who was responsible for dropping the DAIDS, occupied the front right seat; and the navigator, who directed the pilot to the areas to be burned, occupied the rear seat. The pilot had radio communication with Melbourne Flight Service Unit (FSU) and the bombardier with a Forests Commission base at Bright.

The door of the helicopter adjacent to the bombardier was modified to permit external attachment of a steel box as a container for 700 to 800 DAIDS. The door modification permitted the bombardier ready access to the box so that he could remove the DAIDS individually from the box, ignite them by striking their heads on a striker plate, and drop them to the forest floor below. The attachment mechanism also permitted the bombardier to jettison the box in flight if necessary.

The helicopter arrived at Bright and commenced forest burning-off operations in the area on the day prior to the accident. On the morning of the day of the accident, it operated in the Beechworth and Bright areas and these operations were completed about 1300 hours. It was then refuelled to capacity and a container box filled with DAIDS was attached to the right door. Another container box full of DAIDS was placed in the rear passenger compartment. After the three crew members had lunch, the helicopter departed from Bright for a further burn-off operation to the south-east.

The pilot, at 1346 hours, advised Melbourne FSU that he had departed Bright and, at 1415 hours, that he was 15 miles south of Bright and operations were normal. At about 1430 hours, the bombardier advised the Forests Commission base that they were looking for a place to land in order to replace the now empty DAIDS box attached to

#### 6. RELEVANT EVENTS (Cont)

the right door with the full box in the passenger compartment. No further radio communications were received from the helicopter.

The helicopter was seen to land in a field at about 1430 hours and, some five minutes later, return towards the burn-off area. When there was no response to attempted communication checks by Melbourne FSU, Search and Rescue action was initiated. The burnt out wreckage of the helicopter was located on the following day.

The helicopter had struck a large tree at a low forward speed and a low rate of descent. It then fell vertically to the ground and was virtually destroyed by fire. Detailed examination of the wreckage did not reveal evidence of any defect or malfunction of the helicopter which might have contributed to the accident. There was evidence, however, to indicate that ignition of a substantial number of DAIDS had occurred in the container box while it was attached to the door of the helicopter and that the box had been jettisoned shortly before the helicopter struck the tree.

#### 4. OPINION AS TO CAUSE

There is insufficient evidence to establish precisely the circumstances leading to this accident, however, it is evident that in-flight ignition of DAIDS in the container box was a major factor.

Approved for  
publication

*[Signature]*

Delegate of the Secretary

Date

14.7.80

## 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

Note. - Specifically excluded are: death from natural causes and fatal or serious injury to any person on board whether self-inflicted or inflicted by another person, or to ground support personnel before or after flight, or fatal or serious injury which is not a direct result of the operation of the aircraft, or which concerns stowaways.

- (b) the aircraft suffers substantial damage or is destroyed; or
- (c) the aircraft is missing or is completely inaccessible.

**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 or its accessories, or to propeller blades; bent fairings or cowlings; small dents or puncture holes in the skin; damage to wing tips, antennas, tires, or brakes.

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