

**Aviation Safety Investigation Report**  
**198703499**

**Hughes 369HS**

**31 August 1987**

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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).**

**Occurrence Number:** 198703499                      **Occurrence Type:** Accident  
**Location:** Running Creek, 56km WSW of Coolangatta QLD  
**Date:** 31 August 1987                      **Time:** 950  
**Highest Injury Level:** Nil  
**Injuries:**

|              | Fatal    | Serious  | Minor    | None     |
|--------------|----------|----------|----------|----------|
| Crew         | 0        | 0        | 1        | 1        |
| Ground       | 0        | 0        | 0        | -        |
| Passenger    | 0        | 0        | 0        | 0        |
| <b>Total</b> | <b>0</b> | <b>0</b> | <b>0</b> | <b>1</b> |

**Aircraft Details:** Hughes 369HS  
**Registration:** VH-HED  
**Serial Number:** 520384S  
**Operation Type:** Aerial Work  
**Damage Level:** Substantial  
**Departure Point:** Running Creek QLD  
**Departure Time:** N/A  
**Destination:** Running Creek QLD

**Approved for Release:** February 27th 1989

#### **Circumstances:**

The helicopter was carrying 360 litres of water based Herbicide and about 90 litres of fuel when it took off the second time that morning. Flying activity had commenced later than planned due to local fog and low cloud in the area to be sprayed. A level area on the bank of the creek was used for loading and the pilot availed himself of the open space over the creek to accelerate before commencing a climb out to the treatment area. This technique involved an immediate loss of ground effect as the helicopter moved off the elevated creek bank. The aircraft failed to achieve translational flight and the pilot "sensed" a power loss as it descended towards the fast flowing creek. The left skid fractured when it struck a log protruding from a low island. The impact rotated the helicopter through 180 degrees causing the pilot to lose sight of the only reasonable landing area on the opposite bank. The helicopter settled and balanced on sloping ground whilst the engine wound down due to fuel starvation caused by a fuel feed line separation in the initial impact. As the rotor system slowed down, the helicopter fell onto its damaged left side. The pilot was using a pad that was not suitable for the operation. The pad was limited by a fence line at one side which was high enough to prevent operations over it at high all up weights and a creek at the other side which caused an immediate loss of ground effect as soon as the helicopter moved off the pad. Trees and high terrain prevented other take-off options. The pilot was using the potential energy of pad height above the creek to gain airspeed quickly and early translational flight. On this occasion he did not obtain translational flight and the helicopter descended into the creek. The pilot overpitched the main rotor blades causing a loss of RPM and power. The engine and fuel components were examined in detail and no mechanical reason for a power loss was discovered. The helicopter was fitted with a spray system that was not authorised for the type in Australia, the performance combination of helicopter and spray system was unknown.

#### **Significant Factors:**

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

1. The aircraft was overloaded.
2. The aircraft was operated with an unauthorised spray system.
3. Inadequate supervision of the pilot's operations by the Company.
4. Pilot selected unsuitable area for operations (take-off, landing).
5. Pilot failed to maintain adequate rotor RPM during the take off.