

**ADDENDUM TO AIRCRAFT ACCIDENT REPORT**

**CAA OCCURRENCE NUMBER 12/2242**

**HUGHES 369D**

**ZK-HXZ**

**CONTROLLED FLIGHT INTO LAKE**

**LAKE SUMNER**

**21 MAY 2012**



Photo courtesy of [www.nzcivair.blogspot.com](http://www.nzcivair.blogspot.com)

## Table of Contents

History .....	2
Engine inspection .....	3
Airframe inspection .....	3
Observation .....	3

## History

On 26 March 2014 the CAA released the final accident report into the accident on Lake Sumner. The report identified that the helicopter wreckage was not recovered due to the logistics required and associated risks of underwater recovery from a depth of 130 meters. The CAA investigation concluded that the pilot had suffered a loss of situational awareness resulting in the helicopter striking the surface of the lake.

Subsequent to the release of the CAA report, the New Zealand Police National Dive Team, the Royal New Zealand Navy and a local business contractor revisited the possibility of recovering the wreckage using their resources. The CAA supported the opportunity to examine the wreckage along with the helicopter manufacturer.

The Police National Dive Team coordinated the planning of the exercise and on 14 May 2015, the majority of the helicopter wreckage was recovered from the lake (refer figure 1). A subsequent engineering examination was conducted at a facility located at Christchurch Airport.



Figure 1. Damaged fuselage, after recovery

## **Engine inspection**

A thorough engine inspection was conducted. It was most likely the engine was operating normally and delivering power at the time of the accident. This is also supported by the amount of rotational damage observed to the main rotor head and blade root fittings.

## **Airframe inspection**

The main rotor head showed evidence of high rotational energy damage. This was based on the fact that every blade had been broken off near the blade root. Additionally, three of the blade pitch housings were destroyed with their respective laminated strap packs being completely separated.

The damage to the fuselage was considered to be consistent with a shallow angle high speed entry into the water. The front right forward corner of the helicopter was severely disrupted. This was as a consequence of the main rotor blades striking the water causing the helicopter to roll to the right on impact.

It was noted that the pilot's harness was unbuckled. It could not be determined whether the pilot released his harness or if it was inadvertently unlatched during the accident. The pathologist report stated that the pilot died due to drowning.

## **Observation**

The CAA started introducing the requirement to have a Safety Management System (SMS) for the majority of Aviation Certificate holders on a transitioning basis from 2016.

This will require certificate holders to proactively identify their operational hazards and have acceptable risk mitigations in place.

With relevance to this accident, an SMS should raise the awareness of an operator to identify and manage the risks to personnel if their aircraft are required to operate over or close to a water environment, over and above the existing minimum compliance levels.

Specifically, this may include helicopter operations in proximity to a lake, river or coastal shoreline. In such cases an operator might mitigate the risk by providing and requiring their pilots to wear an inflatable style life lifejacket.

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