

<b>Aircraft Type and Registration:</b>	Aerospatale AS350B1 Ecureuil, G-BVJE	
<b>No &amp; Type of Engines:</b>	1 Turbomeca Arriel 1D turboshaft engine	
<b>Year of Manufacture:</b>	1987	
<b>Date &amp; Time (UTC):</b>	23 February 2003 at 1320 hrs	
<b>Location:</b>	Loch a' Ghlinne Dhuirch, near Kyle of Lochalsh, Scotland	
<b>Type of Flight:</b>	Aerial Work	
<b>Persons on Board:</b>	Crew - 1	Passengers - None
<b>Injuries:</b>	Crew - None	Passengers - N/A
<b>Nature of Damage:</b>	Tail rotor and tail rotor gearbox damage	
<b>Commander's Licence:</b>	Airline Transport Pilot's Licence	
<b>Commander's Age:</b>	41 years	
<b>Commander's Flying Experience:</b>	9,581 hours (of which 1,376 were on type) Last 90 days - 18 hours Last 28 days - 15 hours	
<b>Information Source:</b>	Aircraft Accident Report Form submitted by the pilot	

The aircraft was engaged on forest firefighting operations using an underslung 'Bambi Bucket', which is a water collecting and dropping device. Water was being taken from a hill loch the surface of which was frozen for some distance out from the shoreline. The loch was in the lee of a steep sided hill and some 560 feet below its peak. The surface wind was estimated to be from 190° at 20 to 25 kt putting the loch immediately downwind of the hill.

During the latter stages of the aircraft's thirteenth approach to the loch, as the aircraft was descending through a height of approximately 100 feet, the pilot checked the position of the 'Bambi Bucket' using the underslung load mirror. When he looked up again he became aware that the aircraft's rate of descent was too high. A large amount of power was applied rapidly and the aircraft settled into a low hover. Apart from a momentary reduction in rotor rpm as the aircraft arrived at the hover, the pilot reported that there were no unusual mechanical noises, the engine and transmission temperatures and pressures were normal and the aircraft responded correctly to control inputs. That being the case, he continued with the task. However, about one and a half to two minutes later, as

the aircraft was transitioning away from picking up water, the tail rotor gearbox chip caution illuminated. The pilot released the water from the 'Bambi Bucket' and landed in the nearby village playing fields, which were being used as a landing site for the firefighting operations. The aircraft was shut down and, on inspection, particles of metal were found on the tail rotor gearbox chip detector. It was also apparent that the tail rotor blades had damage consistent with the tail rotor having struck the surface of the water.

The pilot stated that the last approach had followed the same flight path as the others. However, he concluded that a momentary lapse in concentration or a downdraft might have given rise to the high rate of descent which, although arrested, resulted in the tail rotor striking the surface of the water. The pilot also commented that the partially frozen state of the loch gave few clues as to the presence of turbulent or gusty wind conditions.