

No: 4/83

Ref: EW/C816/01

Aircraft: Aerospatiale AS350B Squirrel G-MAHO
(light single engine helicopter)

Year of Manufacture:

Date and time (GMT): 14 March 1983 at 1550 hrs

Location: River Humber, south of Hull

Type of flight: Aerial photography

Persons on board: Crew - 1 Passengers - 2

Injuries: Crew - 1 minor Passengers - 2 fatal

Nature of damage: Aircraft destroyed, ship's foremast damaged

Commander's Licence: Airline Transport Pilot's Licence (Helicopters)

Commander's Age: 35 years

Commander's total flying experience: 4800 hours (of which 1000 are on type)

The aircraft had been chartered to carry out filming of the Humber estuary. The aircraft arrived at Spurn Head Coastguard Station, at approximately 1215 hrs on 14 March, in order to pick up the camera crew and prepare the aircraft by removing the starboard doors and fitting a 'Continental' camera mount. The Continental mount comprises a counter balanced camera suspension arm and a sideways facing seat bolted to the starboard door ledge, with a 'T' bar outside and below the ledge for the cameraman's feet. On this occasion the film director was occupying the front left hand seat of the aircraft, from which the dual flying controls had been removed, and was holding two or three film magazines which he was to pass to the cameraman as the necessity arose. Life jackets were provided and stowed in a position of easy access to all the occupants of the aircraft; they were not however then, or subsequently, donned.

The normal aircraft checks and a passenger briefing were carried out and the aircraft took off after approximately one hour on the ground, completed the initial task of filming the area of Spurn Head and departed for Humberside Airport where the aircraft was refuelled, taking off again at 1503 hrs.

During this flight, the Technical Log and some maps became dislodged from their stowage and were thereafter held, together with the film magazines, on the lap of the passenger in the front left hand seat of the aircraft. The flight was carried out at varying and safe heights. Having arrived at the port area, it was decided to film a 'sequence' starting with a river pilot boat which was proceeding from the confluence of the rivers Hull and Humber to the MV Zussow, a small tanker stemming the tide just to the south of that point. It was decided to make a 'pull away' shot so as to embrace the pilot boat arriving at the tanker, with the Hull ports in the background.

The prevailing westerly wind and the position of the camera in the aircraft determined that, in order to accomplish this shot, the helicopter (facing west) should be flown backwards and sideways (to port) in an approximately south-easterly direction, roughly parallel to the track of the pilot boat. An observer on the bridge of the MV Zussow noted that, when he first saw it, the helicopter was some 100-150 metres away with its tail pointing directly at the bridge of the ship.

During the course of this film sequence, the film magazines, maps and the Technical Log fell off the director's knee onto and around the collective pitch lever, at the same time pulling the pilot's headset askew. The pilot states that the collective lever was jammed and that when he had recovered from the distraction of these two events, he realised that the aircraft was accelerating backwards. This was followed virtually immediately by the impact which took place at 1550 hrs between the helicopter's main rotor and the foremast of the MV Zussow, causing extreme damage to the former and chopping the foremast in two some 40 feet above the waterline. The pilot of the aircraft came to the surface and dived back to the submerged wreckage three times but was then thrown a lifebuoy and pulled aboard the pilot launch. The two film crew did not surface.

The pilot has subsequently stated that although he had 'armed' the inflatable floats, there was no time to 'fire' the inflation bottles. The float inflation switch is positioned at the extreme rear of the centre console and requires the pilot to remove his hand from the collective lever to operate it. The wearing of life jackets would not in this instance have saved the lives of the two film crew, who were later found to have suffered incapacitating impact injuries and remained strapped in their seats.

The attention of the CAA has been drawn to the position of the float inflation bottle firing switch, and the absence of immersion float switch actuators on this type of helicopter.