No: 10/90 **Ref: EW/G90/06/19** **Category: 2b**

Aircraft Type and Registration:	Aerospatiale AS355F1, G-BPRJ	
No & Type of Engines:	2 Allison 250-C20B turboshaft engines	
Year of Manufacture:	1983	
Date and Time (UTC):	15 June 1990 at 0836 hrs	
Location:	Bristol Airport, Avon	
Type of flight:	Public Transport	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Right engine cowling door destroyed, two rotor blades damaged.	
Commander's Licence:	Airline Transport Pilot's Licence (Helicopters)	
Commander's Age:	46 years	
Commander's Total Flying Experience:	6,220 hours rotary wing (of which 43 were on type)	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Less than two minutes after take off from Bristol Lulsgate, the aircraft was called by ATC and the pilot informed that one of the cowlings on his aircraft had been reported open. The pilot reduced power and slowly raised the nose to bring back the speed before beginning a turn to the right to return to the airfield. As the turn was started, a slight lateral vibration was felt and the pilot realised that an engine or gearbox cowling had struck the main rotor. A safe landing was made on the south side of runway 27, less than a minute later.

The right engine cowling was attached at the hinge only, and the lower half was missing. A piece of cowling was lying separately on the ground, adjacent to the aircraft, and was found to have the rear latch attached to it, still in its locked position. After checking for further damage, the pilot made the short flight back across the airfield to the company's facilities with no further problems being encountered, but with the slight vibration still being present.

The pilot reported that he had positively latched the cowlings, and that this had been confirmed by a company mechanic who had observed his preparations.

AS 355 helicopters were subject to a CAA AD No 005-03-90, which implements a modification to the transmission and engine cowlings to provide a two point (fore and aft) restraint, to prevent them

contacting the main rotors should they open in flight. The AD was dated 2/4/90 and implementation was required within 2 months of that date. However the materials required for implementation of the modification were not available from the suppliers in time. For this reason the aircraft in question had been granted an exemption by the CAA on 13/6/90 and the modification had not been implemented at the time of the accident.

The materials required to implement the AD are still in short supply from the manufacturer and the pilot suggested that their production should be expedited in the light of this incident.