

MD 902 Explorer (NOTAR), G-HPOL

AAIB Bulletin No: 9/2004	Ref: EW/G2004/03/23	Category: 2.2
INCIDENT		
Aircraft Type and Registration:	MD 902 Explorer (NOTAR), G-HPOL	
No & Type of Engines:	2 Pratt & Whitney PW207E turboshaft engines	
Year of Manufacture:	2000	
Date & Time (UTC):	30 March 2004 at 1730 hrs	
Location:	Airborne, near Worksop, Nottinghamshire	
Type of Flight:	Public Transport	
Persons on Board:	Crew - 1	Passengers - 2
Injuries:	Crew - None	Passengers - None
Nature of Damage:	Nine of thirteen fan blades found to be damaged	
Commander's Licence:	Air Transport Pilot's Licence	
Commander's Age:	54 years	
Commander's Flying Experience:	11,950 hours (of which 880 were on type)	
	Last 90 days - 49 hours	
	Last 28 days - 1 hour	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

History of Flight

Whilst in cruise flight, following a normal departure from Staverton, Gloucestershire, an observer seated in the rear of the helicopter noticed an unusual noise. The noise was described as being similar to a seat being moved, but came from above and behind the observer rather than from the helicopter seating area. There were no other abnormal indications, either in the cockpit or in the cabin. Ten minutes later an advisory warning of 'CHECK NOTAR BALANCE' indicated on the Integrated Instrument Display System (IIDS). A precautionary landing was then carried out at Leconfield, Humberside.

Following the landing, three tests were carried out to check the anti torque NOTAR fan balance; all of these indicated that the fan was unbalanced and well outside the prescribed limits. An access panel in the tail boom was removed to inspect the fan, and this revealed that nine of the thirteen fan blades had been damaged and that some damage had occurred to the fan liner. A full inspection of the inside of the tail boom was carried out, but there were no signs of any 'foreign objects' which could have damaged the fan. A full inspection of the helicopter did not reveal any missing fasteners, panels or other items that could have been ingested or fallen into the fan duct area of the tail boom.

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The fan was replaced and the damaged blades were sent to the helicopter manufacturer for further investigation. At the time of writing, there was no evidence to suggest that any inherent defect within the fan assembly had caused the damage, but should any such evidence come to light then it will be reported upon in a future edition of the AAIB Bulletin. The aircraft had been returning to Leconfield after an Annual Check when the incident occurred.