Initial Report 2

ACCIDENT

Aircraft Type and Registration:	Eurocopter AS332L2 Super Puma, G-REDL
No & Type of Engines:	2 Turbomeca Makila 1A2 turboshaft engines
Year of Manufacture:	2004
Date & Time (UTC):	1 April 2009 at 1255 hrs
Location:	Approximately 11 miles north-east of Peterhead, Scotland
Type of Flight:	Commercial Air Transport (Passenger)
Persons on Board:	Crew - 2 Passengers - 14
Injuries:	Crew - 2 (Fatal) Passengers - 14 (Fatal)
Nature of Damage:	Helicopter destroyed
Commander's Licence:	Airline Transport Pilot's Licence
Commander's Age:	31 years
Commander's Flying Experience:	2,575 hours (of which 1,870 were on type) Last 90 days - 96 hours Last 28 days - 37 hours
Information Source:	AAIB Field Investigation

The investigation has determined that a failure within the epicyclic reduction gearbox module of the main rotor gearbox resulted in the rupture of the gearbox case, which allowed the main rotor head to separate from the helicopter. Examination of the remains of the epicyclic gearbox, and associated areas of the helicopter, continues apace with the aim of establishing as soon as possible the sequence of the failure and initiating cause.

Although two Alert Service Bulletins issued by Eurocopter have been mandated by EASA (Emergency Airworthiness Directive 2009-0087-E, dated 11 April 2009), which requires an enhanced monitoring procedure relating to the magnetic plug of the main rotor gearbox epicyclic reduction gear module, this procedure was in effect being carried out on the helicopter involved in the accident. This resulted from the discovery of a small chip of metallic debris on the epicyclic gearbox module chip detector some 34 flying hours before the failure. However, during the period between the discovery of the chip and the accident, no signs of an incipient gearbox failure were detected.

As the cause of the failure has yet to be identified, and the failure occurred without apparent warning to maintenance or flight crews, the following Safety Recommendation is made:

Safety Recommendation 2009-051

It is recommended that Eurocopter, with the European Aviation Safety Agency (EASA), develop and implement an inspection of the internal components of the main rotor gearbox epicyclic module for all AS332L2 and EC225LP helicopters as a matter of urgency to ensure the continued airworthiness of the main rotor gearbox. This inspection is in addition to that specified in EASA Emergency Airworthiness Directive 2009-0087-E, and should be made mandatory with immediate effect by an additional EASA Emergency Airworthiness Directive.