ACCIDENT

Aircraft Type and Registration:	AS350B2 Ecureuil, G-BXGA
No & Type of Engines:	1 Turbomeca Arriel 1D1 turboshaft engine
Year of Manufacture:	1991 (Serial no: 2493)
Date & Time (UTC):	16 October 2012 at 1313 hrs
Location:	1.5 nm south of Kettlewell, Yorkshire
Type of Flight:	Aerial Work
Persons on Board:	Crew - 1 Passengers - None
Injuries:	Crew - None Passengers - N/A
Nature of Damage:	Impact damage to tail rotor blades
Commander's Licence:	Commercial Pilot's Licence
Commander's Age:	66 years
Commander's Flying Experience:	16,127 hours (of which 2,335 were on type) Last 90 days - 132 hours Last 28 days - 30 hours
Information Source:	Aircraft Accident Report Form submitted by the pilot

Synopsis

The helicopter was approaching a field site, with an empty chain lifting sling suspended below. During the approach, the sling struck the tail rotor blades, producing a loud bang and a high frequency vibration. Cockpit indications were normal, and the pilot continued to a minimum power landing. The helicopter operator introduced a number of safety actions as a result of this and a similar, earlier accident.

History of the flight

The helicopter was engaged on an operation to move power line poles from a field site to a construction area, some 15 km away. After completing several uneventful return flights, the helicopter was returning to the field site when, as the helicopter was descending towards the site at 75 to 80 kt, the pilot heard a loud bang and felt a high frequency vibration.

Cockpit indications remained normal. As the landing site came into view, the pilot warned the ground crew by radio of the situation, jettisoned the empty lifting sling just before touchdown and carried out a minimum power landing without further incident. It was subsequently found that the empty chain lifting sling had made contact with both tail rotor blades, tail rotor driveshaft cover and the port horizontal stabiliser.

The pilot reported that the weather at the time was generally fine, although there was a westerly wind of 25 kt, gusting to 35 kt. He described some turbulence

near the hills, but not so much as to cause major concern.

Previous occurrence and safety action

A similar incident occurred to another of the operator's AS350B2 helicopters, G-ORKY, the previous week, on 8 October 2012 (AAIB report reference EW/G2012/10/07, in this Bulletin).

The helicopter operator conducted an internal investigation into the two accidents, which concluded that the sling had entered the tail rotors due to high airspeed. This was probably coupled with a descent and associated nose-up attitude, with turbulence being a contributory factor.

The chain lifting sling was 7 m long and covered in a cloth sheath. The helicopter operator conducted a flight trial which established that this sling angled further back in flight than a sling without a sheath, which was the type of sling originally trialled. The operator subsequently removed the cloth sheaths from the majority of the sling length, which was increased to 10 m. A Safety Bulletin was issued to all affected pilots and ground crew, highlighting the changes and stressing the need to adhere to the 80 kt speed limit, whilst being prepared to reduce speed further in unfavourable flight conditions.