

SERIOUS INCIDENT

Aircraft Type and Registration:	Airbus Helicopters EC120B Colibri, G-SWNG	
No & Type of Engines:	1 Turbomeca ARRIUS 2F turboshaft engine	
Year of Manufacture:	2008 (Serial no: 1532)	
Date & Time (UTC):	17 August 2017 at 11:30 hrs	
Location:	Wellesbourne, Warwickshire	
Type of Flight:	Private	
Persons on Board:	Crew - 1	Passengers - None
Injuries:	Crew - None	Passengers - N/A
Nature of Damage:	Right engine cowling and main rotor blades damaged	
Commander's Licence:	Private Pilot's Licence	
Commander's Age:	71 years	
Commander's Flying Experience:	341 hours (of which 195 were on type) Last 90 days - 26 hours Last 28 days - 12 hours	
Information Source:	Aircraft Accident Report Form submitted by the pilot	

Synopsis

The right engine cowling opened and struck the main rotor blades as the helicopter flared to land. The incident was caused by the three cowling latches remaining unlocked after maintenance completed prior to the flight. The pilot did not complete a walkaround inspection, prior to the flight, which should have identified the unlocked latches.

History of the flight

Prior to the flight the pilot carried out routine maintenance which included a compressor wash and an 'A' check. After completing the maintenance, the pilot left the helicopter for a short period of time. The pilot stated that when he returned to the helicopter, contrary to his normal practice, he forgot to complete a walkaround inspection of the helicopter before commencing the flight.

After flying for approximately one hour the pilot returned to land. During the flare he became aware of an unusual noise and landed immediately. Examination of the helicopter showed that the lower forward edge of the right engine cowling was damaged, the forward cowl latch assembly was missing and the centre latch had been damaged (Figure 1). Damage was also observed on the inboard sections of all the main rotor blades.

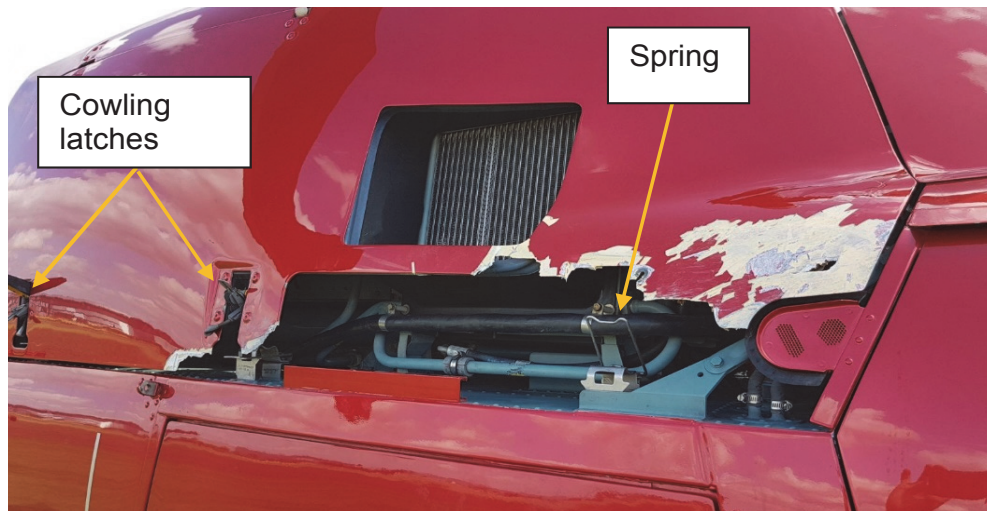


Figure 1

G-SWNG right engine cowling

EC120 engine cowl latches

The engine cowlings on the EC120B are hinged to open upwards. Each cowling is held in the closed position by three hooked latches which engage with fixings on the helicopter structure (Figure 2). Closing the main lever of each latch places the latch hook under tension, securing the cowling to the structure and locks the main lever in the closed position. The secondary lever will not close if the main lever is not in the locked position, providing a positive indication of an unlocked latch. When the secondary lever is closed a spring can then be moved over the tip of the secondary lever to prevent it from opening.

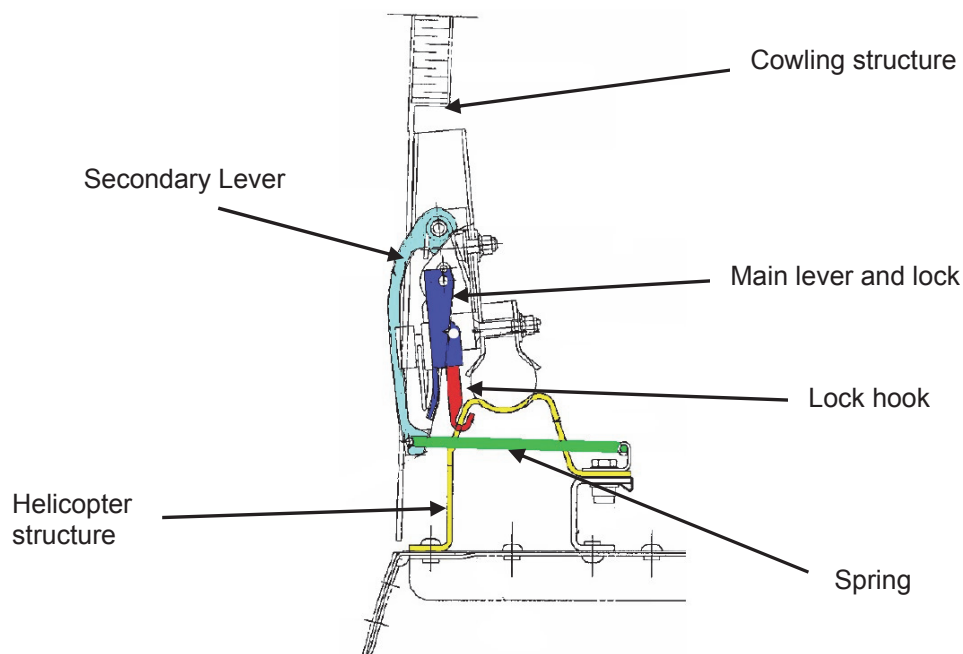


Figure 2

Engine cowling latch diagram (courtesy of Airbus Helicopters)

Aircraft examination

Examination of the helicopter by the authorised maintenance organisation confirmed that the damage to the main rotor blades had been caused by contact with the right engine cowling. Inspection of the remaining two cowling latches confirmed that there was no evidence of unusual wear or damage to the latch hooks or the parts of helicopter structure where the hooks engage. There was no evidence of distortion or adverse wear to any of the springs used to retain the secondary latch levers.

Previous events and safety action taken

As a result of a number of previous in-flight cowl opening events Eurocopter (now Airbus Helicopters) published Safety Information Notice No 2339-S-53 in June 2016. This highlighted the need to inspect the condition and function of the cowl latches during the Daily Inspection. In addition, the notice also advised that, for helicopters with a predominantly red colour scheme, the inside faces of the lock levers should be painted in a contrasting colour to the helicopter's colour scheme, to provide an increased visual cue of an unlocked cowl latch. The inner faces of G-SWNG's engine cowling lock levers had been painted in this manner.

Analysis and conclusions

The damage to the right engine cowling and main rotor blades was caused as a result of the cowling opening during the final stages of the helicopter's landing. The lack of damage and distortion to the remaining cowl latches, the helicopter structure onto which the latch hooks engaged and the latch springs confirmed that the latches had been unlocked prior to the flight.

In view of the maintenance activity immediately before the flight it is reasonable to conclude that the right engine cowling latches had not been correctly locked when the 'A' check was completed. Given that the inner faces of the latches had been painted in a contrasting colour to the helicopters paint scheme it is probable that this condition would have been observed by the pilot during a pre-flight walkaround inspection. The fact that the pilot left the helicopter for a short period of time before takeoff, coupled with the recent completion of routine maintenance, probably introduced sufficient interruption and distraction to the pilot's normal pre-flight routine to cause him to forget to carry out a pre-flight walkaround inspection.