AIRWORTHINESS DIRECTIVE

On the effective date specified below, and for the reasons set out in the background section, the CASA delegate whose signature appears below revokes Airworthiness Directive (AD) AD/ECUREUIL/134 and issues the following AD under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Eurocopter AS 350 (Ecureuil) Series Helicopters

AD/ECUREUIL/134 Starter-generator Damping Assembly 5/2009
Amdt 1 DM

Applicability: EUROCOPTER AS 350 B, BA, BB, B1, B2, B3 and EC 130 B4 helicopters, all serial numbers, if equipped with ARRIEL engines where Aircraft Parts Corporation (APC) starter-generators with Part Number (P/N) 150SG122Q or P/N 200SGL130Q without "004" marking on their name plates are installed.

Requirement:

1. Adjust and mark the APC starter-generator in accordance with the instructions of paragraph 2.B.2 of EUROCOPTER AS350 Alert Service Bulletin (ASB) No. 80.00.07 Revision 1 or EC130 ASB No. 80A003 Revision 1, as applicable to the helicopter version.

2. Do not install on a helicopter a starter-generator with P/N affected by this AD unless it has been adjusted and marked as required in the relevant ASB.

The use of later revisions of the documents listed in this AD is acceptable for compliance with the requirements of this AD.

Note: EASA AD 2009-0027 dated 18 February 2009 refers. This AD supersedes EASA AD 2009-0004.

Compliance: For Requirement 1 - Within 110 flight hours or 3 months, whichever occurs first after the effective date of this AD, unless previously accomplished.

For Requirement 2 - After the effective date of this AD.

This Amendment becomes effective on 12 March 2009.

Background: EUROCOPTER has received reports of engine flame-outs in operation. In all cases of engine flame-out there was a failure of the 41-tooth pinion in the engine accessory gear box.

All the concerned helicopters were equipped with starter-generators manufactured by the APC company (currently UNISON). In each case, it was found that the torque damping system of the starter-generator was inoperative.

Further investigations have been conducted to assess the efficiency of the 150SG and 200SGL-type generator damping systems, which have revealed that the failure of the torque damping system was due to an incorrect adjustment.

Eurocopter AS 350 (Ecureuil) Series Helicopters

AD/ECUREUIL/134 Amdt 1 (continued)

If the damping system is incorrectly adjusted, torque oscillations may not be limited and can induce bending stress on the 41-tooth pinion of the accessory gear box, contributing to the pinion failure. Such pinion failure causes the fuel pump to stop which results in an engine flame-out.

Pending additional investigations, this AD required an inspection of the alignment and torque of the APC starter-generator damping assembly and, in case of discrepancies, the accomplishment of corrective actions.

This amendment supersedes the original requirements of this AD, and now requires a new adjustment procedure which has proven to be more reliable and optimizes the performance of the APC starter-generator assembly.

James Coyne
Delegate of the Civil Aviation Safety Authority

2 March 2009