

EMERGENCY AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

www.faa.gov/aircraft/safety/alerts/

DATE: April 17, 2009

AD #: 2009-09-51

This Emergency Airworthiness Directive (AD) is prompted by mandatory continuing airworthiness information (MCAI) issued by the European Aviation Safety Agency (EASA), which is the Technical Agent for the Member States of the European Community. EASA notified us of an accident that occurred April 1, 2009 on a Eurocopter Model AS332L2 helicopter. Although the cause of the accident is still under investigation, EASA advises that the “cause of the accident seems to be connected with degradation of the epicyclic module of the main gearbox (MGB), the root cause of which is still to be determined.” EASA further advises that “In the light of this information, the detection of any contamination of the MGB is of utmost importance as a precautionary measure.” The EASA Emergency AD applies to both the Model AS332L2 helicopters and the Model EC225LP helicopters because both helicopter models use a similar epicyclic reduction gear module (module). This AD applies only to the Model EC225LP helicopters because there are currently no Model AS332L2 helicopters on the U.S. registry. Also, this AD differs from the EASA AD in that the EASA AD specifies that the module be disassembled, inspected, and then reinstalled when particles are detected on the magnetic plug of the module, allowing flight operations until another particle is detected. This AD requires, before further flight, determining if the “CHIP” detector light previously illuminated. If the “CHIP” detector light did illuminate and it illuminated because of a metal particle on the magnetic plug of the module, or if you cannot determine from the maintenance records which chip detector caused the the “CHIP” detector light to illuminate or whether the detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting, replace the module with an airworthy module before further flight, replacing the module with an airworthy module is required before further flight. Also required before further flight is inspecting the MGB module magnetic chip detector electrical circuit and determining whether the system is functioning properly, including whether the “CHIP” detector light annunciates on the instrument panel (Vehicle Monitoring System Screen). Finally, this AD requires replacing the module with an airworthy module if the “CHIP” detector light illuminates, stays illuminated after the “CHIP” detector switch is turned to the “CHIP PULSE” setting, and you determine that a metal particle on the module magnetic plug caused that illumination. This AD is an interim action. We anticipate additional rulemaking once the cause of the accident is determined and the manufacturer develops a terminating action. This AD is being issued to prevent failure of the MGB and subsequent loss of control of the helicopter.

Eurocopter has issued Emergency Alert Service Bulletin No. 05A017 (ASB). The ASB is dated April 10, 2009 and describes procedures for inspecting both the magnetic plug on the MGB epicyclic reduction gear module and the chip collector, and procedures for replacing the epicyclic reduction gear module if necessary.

EASA, which is the Technical Agent for the Member States of the European Community, has issued EASA AD No. 2009-0087-E, dated April 11, 2009, to correct an unsafe condition for the

Eurocopter Model AS332L2 and EC225LP helicopters. EASA advises that the “investigation is still in progress” and that the cause of the accident “seems to be connected with a degradation of the epicyclic module of the MGB, the root cause of which is still to be determined.” Therefore, we are issuing this AD to prevent failure of the MGB and subsequent loss of control of the helicopter.

This helicopter model is approved by the aviation authority of France, and is approved for operation in the United States. Pursuant to our bilateral agreement with France, EASA has notified us of the unsafe condition described in the MCAI. We are issuing this AD because we evaluated all information provided by EASA and determined the unsafe condition exists and is likely to exist or develop on other Eurocopter Model EC225LP helicopters of the same type design. Therefore, this AD requires the following before further flight:

- Determining if, within the last 200 hours time-in-service (TIS), the “CHIP” detector light illuminated because of a metal particle on the magnetic plug of the module, part number 332A32-5021-01M, and if so, whether the “CHIP” detector light stayed illuminated after the chip detector switch was turned to the “CHIP PULSE” setting to activate the “fuzz burn-off” feature. If the “CHIP” detector light illuminated because of a metal particle on the magnetic plug of the module, and the “CHIP” detector light stayed illuminated after the chip detector switch was turned to the “CHIP PULSE” setting, or if you cannot determine from the maintenance records which chip detector caused the the “CHIP” detector light to illuminate or whether the detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting, replacing the module with an airworthy module is required before further flight.

- Inspecting the MGB module magnetic chip detector electrical circuit and determining whether the system is functioning properly, including whether the “CHIP” detector light annunciates on the instrument panel (Vehicle Monitoring System Screen).

Thereafter, this AD requires replacing the module with an airworthy module if the “CHIP” detector light illuminates, stays illuminated after the “CHIP” detector switch is turned to the “CHIP PULSE” setting, and you determine that a metal particle on the module magnetic plug (rather than the main reduction gear (lower MGB), the flared housing (mast assembly), the intermediate gearbox (IGB), or the tail rotor gearbox (TGB)) caused the “CHIP” detector light to illuminate.

This rule is issued under 49 U.S.C. Section 44701 pursuant to the authority delegated to me by the Administrator, and is effective immediately upon receipt of this emergency AD.

2009-09-51 EUROCOPTER FRANCE Directorate Identifier 2009-SW-16-AD.

Applicability: Model EC225LP helicopters with an epicyclic reduction gear module (module), part number 332A32-5021-01M, installed, certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the main gearbox (MGB) and subsequent loss of control of the helicopter, accomplish the following:

(a) Before further flight:

(1) Determine from the maintenance records whether, within the last 200 hours time-in-service (TIS), the “CHIP” detector light illuminated because of a metal particle on the magnetic plug of the module, and if so, whether the “CHIP” detector light stayed illuminated after the chip detector switch

was turned to the “CHIP PULSE” setting to activate the “fuzz burn-off” feature. If those records indicate that the “CHIP” detector light illuminated because of a metal particle on the magnetic plug of the module, and the “CHIP” detector light stayed illuminated after the chip detector switch was turned to the “CHIP PULSE” setting, replace the module with an airworthy module before further flight. If you cannot determine from the maintenance records which chip detector caused the the “CHIP” detector light to illuminate or whether the detector light stayed illuminated after the “CHIP” detector switch was turned to the “CHIP PULSE” setting, replace the module with an airworthy module before further flight. A module with a magnetic plug that attracted a metal particle which activated the “CHIP” detector light within the last 200 hours TIS and was not extinguished when the “CHIP PULSE” was activated is unairworthy.

(2) Inspect the MGB module magnetic chip detector electrical circuit and determine whether the system is functioning properly, including whether the “CHIP” detector light annunciates on the instrument panel (Vehicle Monitoring System Screen).

(b) Thereafter, if the “CHIP” detector light illuminates, stays illuminated after the “CHIP” detector switch is turned to the “CHIP PULSE” setting, and you determine that a metal particle on the module magnetic plug (rather than the main reduction gear (lower MGB), the flared housing (mast assembly), the intermediate gearbox (IGB), or the tail rotor gearbox (TGB)) caused the “CHIP” detector light to illuminate, replace the module with an airworthy module.

(c) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Manager, Safety Management Group, FAA, ATTN: Gary Roach, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, Fort Worth, Texas 76137-0111, telephone (817) 222-5130, fax (817) 222-5961, for information about previously approved alternative methods of compliance.

(d) Special flight permits will not be issued.

(e) Copies of the applicable service information may be obtained from American Eurocopter Corporation, 2701 Forum Drive, Grand Prairie, TX 75053-4005, telephone (972) 641-3460, fax (972) 641-3527, or at <http://www.eurocopter.com>.

(f) Emergency AD 2009-09-51, issued April 17, 2009, becomes effective upon receipt.

Note: The subject of this AD is addressed in European Aviation Safety Agency (EASA) AD No. 2009-0087-E, dated April 11, 2009.

FOR FURTHER INFORMATION CONTACT: Gary Roach, Aviation Safety Engineer, FAA, Rotorcraft Directorate, Regulations and Policy Group, Fort Worth, Texas 76137-0111, telephone (817) 222-5130, fax (817) 222-5961.

Issued in Fort Worth, Texas, on April 17, 2009.

Mark R. Schilling,
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Aircraft Certification Service.