



## Airworthiness Directive Cancellation Notice

**AD No.:** 2017-0042-CN

**Issued:** 03 January 2022

Note: This Airworthiness Directive (AD) Cancellation Notice (CN) is issued by EASA, acting in accordance with Regulation (EU) 2018/1139 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 129 of that Regulation.

**Design Approval Holder's Name:**

AIRBUS HELICOPTERS

**Type/Model designation(s):**

AS 332 L2 and EC 225 LP helicopters

**Effective Date:** 03 January 2022

**TCDS Number(s):** EASA.R.002

**Foreign AD:** Not applicable

**Cancellation:** This Notice cancels EASA AD 2017-0042R1 dated 28 February 2017.

### **ATA 63 / 79 – CANCELLED: Main Rotor Drive / Engine Oil – Main Gearbox Oil Cooler – Inspection**

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**Manufacturer(s):**

Airbus Helicopters (AH), formerly Eurocopter, Eurocopter France, Aerospatiale

**Applicability:**

AS 332 L2 and EC 225 LP helicopters, all manufacturer serial numbers.

**Reason:**

Following a fatal accident that occurred in Norway to an EC 225 LP helicopter, involving in-flight detachment of the main rotor hub from the main gearbox (MGB), EASA issued Emergency AD 2016-0089-E to require a one-time inspection and the reporting of findings. Prompted by reported findings relating to the installation of the MGB upper deck fittings of the three MGB suspension bars, EASA issued Emergency AD 2016-0103-E, which superseded AD 2016-0089-E, to require further inspection to ensure correct installation of the MGB suspension bars and attachment fittings. After AD 2016-0103-E was issued, prompted by metallurgical findings of fatigue and surface degradation in the outer race of a second stage planet gear of the MGB epicyclic module, EASA issued Emergency AD 2016-0104-E, prohibiting flight of all AS 332 L2 and EC 225 LP helicopters. Subsequently, AH investigated possible accident contributory factors and determined that the likely cause relates to the rupture of the second stage planet gear found with fatigue and surface degradation. Although the root cause was not fully understood, it involved cracking of the planet gear bearing outer race, some spalling and propagation of a crack into the rim of the gear, finally resulting in its rupture. Prompted by these determinations, AH issued several Emergency Alert Service Bulletins to introduce the necessary instructions to allow return to service. Consequently,



EASA issued AD 2016-0199, ending the flight prohibition imposed by EASA Emergency AD 2016-0104-E, which was superseded, and requiring accomplishment of the actions specified in the related AH service publications. EASA AD 2016-0199 was primarily based on the better performance of the low stress planet gear configuration and improved close monitoring procedures as derived from testing performed in the scope of the investigation.

Since that AD was issued, further testing investigation delivered additional results as regards the close monitoring provisions. Those results indicated the need to amend the inspection regime in place with a one-time inspection of the oil cooler to acquire additional information on the condition of the MGB oil system. Consequently, EASA issued AD 2017-0042 (later revised) to require a one-time inspection of the MGB oil cooler, reporting of all findings to EASA and referencing AH Alert Service Bulletin (ASB) AS332 ASB 05.01.07 and EC225 ASB 05A049 (single document) Revision 3, which provided an acceptable method to inspect the MGB oil cooler.

Since EASA AD 2017-0042R1 was issued, EASA issued AD 2017-0134, requiring a modification to install a Full Flow Magnetic Plug (FFMP) device, enabling collection of MGB particles upstream of the oil cooler, and introducing repetitive inspections of MGB particle detectors. That AD also requires inspection of MGB oil cooler after FFMP installation. The deadline for implementation of above-mentioned measures was 30 October 2017. Consequently, it may be expected that all affected helicopters now have an FFMP device installed, and the associated MGB oil coolers and particle detectors are subject to inspections.

For the reasons described above, this Notice cancels EASA AD 2017-0042R1.

#### **Required Action(s) and Compliance Time(s):**

None

#### **Ref. Publications:**

Airbus Helicopters AS332 ASB 05.01.07 and EC225 ASB 05A049 (single document) Revision 3, dated 25 February 2017.

#### **Remarks:**

1. This AD-CN was posted on 10 November 2021 as PAD 21-167-CN for consultation until 08 December 2021. No comments were received during the consultation period.
2. Enquiries regarding this AD-CN should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: [ADs@easa.europa.eu](mailto:ADs@easa.europa.eu).
3. For any question concerning the technical content of this AD-CN, please contact: Airbus Helicopters (Technical Support), Aéroport de Marseille Provence 13725 Marignane Cedex, France, Telephone +33 (0)4 42 85 97 97, Fax +33 (0)4 42 85 99 66, Web portal: <https://keycopter.airbushelicopters.com> > Technical Requests Management, E-mail: [support.technical-dyncomp.ah@airbus.com](mailto:support.technical-dyncomp.ah@airbus.com), and [TechnicalSupport.Helicopters@airbus.com](mailto:TechnicalSupport.Helicopters@airbus.com).

