



Airworthiness Directive

AD No.: 2020-0266

Issued: 08 December 2020

Note: This Airworthiness Directive (AD) 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.

This AD is issued in accordance with Regulation (EU) 748/2012, Part 21.A.3B. In accordance with Regulation (EU) 1321/2014 Annex I, Part M.A.301, the continuing airworthiness of an aircraft shall be ensured by accomplishing any applicable ADs. Consequently, no person may operate an aircraft to which an AD applies, except in accordance with the requirements of that AD, unless otherwise specified by the Agency [Regulation (EU) 1321/2014 Annex I, Part M.A.303] or agreed with the Authority of the State of Registry [Regulation (EU) 2018/1139, Article 71 exemption].

Design Approval Holder's Name:

AIRBUS HELICOPTERS

Type/Model designation(s):

AS 355 helicopters

Effective Date: 22 December 2020

TCDS Number(s): EASA.R.146

Foreign AD: Not applicable

Supersedure: None

ATA – Rotorcraft Flight Manual – N2 Speed Avoidance Range Limitation – Amendment / Placard – Installation

Manufacturer(s):

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

Applicability:

AS 355 E, AS 355 F, AS 355 F1 and AS 355 F2 helicopters, all serial numbers, if equipped with Rolls-Royce Corporation (formerly Allison) engine model 250-C20F.

Definitions:

For the purpose of this AD, the following definitions apply:

Affected part: Power Turbine (PT) 3rd stage wheels, having Part Number (P/N) 23065818, indicated as “enhanced wheel”; and PT 3rd stage wheels, having P/N 23065833, indicated as “non-enhanced wheel” in the ASB and the CEB.

The ASB: AH Alert Service Bulletin (ASB) AS355-71.00.21.

The CEB: Rolls-Royce Corporation (RRC) Commercial Engine Bulletin (CEB) A-1400 for 250-C20F and CEB A-72-4095 for 250-C20R engines (published as a single document) Revision 7.



Reason:

A number of fatigue failures have occurred on the affected parts. Investigation results showed that crack initiation at the hub trailing edge could occur in low-cycle fatigue and progress in high-cycle fatigue up to separation of the blade. RRC determined that detrimental vibrations could occur within a particular range of turbine speeds, below the normal operating range of this helicopter, which are a potential contributing factor to these failures.

This condition, if not corrected, can lead to fatigue failure of affected parts, possibly resulting in loss of engine power, release of debris and damage to the helicopter, with possible loss of control of the helicopter.

To address this potential unsafe condition, RRC issued the CEB, providing the applicable instructions to minimize the risk of power turbine failure and some corrective actions. Consequently, AH issued the ASB, complementing the CEB and providing instructions to update the Normal Procedures Section of the applicable Rotorcraft Flight Manual (RFM) or RFM Supplement (RFMS), and to install a placard (label) on the instrument panel depicting the PT speed range to be avoided.

For the reasons described above, this AD requires to implement an N2 speed range limitation into the applicable RFM or RFMS, and installation of a new placard.

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

Required as indicated, unless accomplished previously:

RFM Amendment:

- (1) Within 50 flight hours or 30 days, whichever occurs first after effective date of this AD, amend the applicable RFM or RFMS in accordance with the appendixes of the ASB, inform all flight crews and, thereafter, operate the helicopter accordingly.

Placard Installation:

- (2) Concurrently with the RFM(S) amendment as required by paragraph (1) of this AD, install a placard on the instrument panel in full view of both pilots, in accordance with the instructions of paragraph 3.B of the ASB.

Ref. Publications:

AH ASB AS355-71.00.21 original issue dated 08 October 2020.

The use of later approved revisions of the above-mentioned document is acceptable for compliance with the requirements of this AD.

RRC Alert CEB A-1400 for 250-C20 series and CEB A-72-4095 for 250-C20R series (published as a single document) Revision 07 dated 10 January 2019.



Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. This AD was posted on 23 October 2020 as PAD 20-169 for consultation until 20 November 2020. No comments were received during the consultation period.
3. Enquiries regarding this AD should be referred to the EASA Programming and Continued Airworthiness Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. Information about any failures, malfunctions, defects or other occurrences, which may be similar to the unsafe condition addressed by this AD, and which may occur, or have occurred on a product, part or appliance not affected by this AD, can be reported to the [EU aviation safety reporting system](#). This may include reporting on the same or similar components, other than those covered by the design to which this AD applies, if the same unsafe condition can exist or may develop on an aircraft with those components installed. Such components may be installed under an FAA Parts Manufacturer Approval (PMA), Supplemental Type Certificate (STC) or other modification.
5. For any question concerning the technical content of the requirements in this AD, please contact Airbus Helicopters Customer Support by raising a Technical Event through the Technical Request Management tool accessible through the [AirbusWorld Portal](#) (Keycopter Technical Request Management); or send by E-mail: TechnicalSupport.Helicopters@airbus.com or Telephone +33 (0)4.42.85.97.89.

