



Airworthiness Directive

AD No.: 2018-0002

Issued: 04 January 2018

Note: This Airworthiness Directive (AD) is issued by EASA, acting in accordance with Regulation (EC) 216/2008 on behalf of the European Union, its Member States and of the European third countries that participate in the activities of EASA under Article 66 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 (EC) 216/2008, Article 14(4) exemption].

Design Approval Holder's Name:

LEONARDO S.p.A.

Type/Model designation(s):

AB139 and AW139 helicopters

Effective Date: 18 January 2018

TCDS Number(s): EASA.R.006

Foreign AD: Not applicable

Supersedure: None

ATA 46 – Information Systems – “Primus Epic” System Software – Software Update

Manufacturer(s):

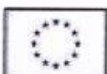
Leonardo S.p.A. Helicopters (formerly Finmeccanica S.p.A., Helicopter Division (FHD), AgustaWestland S.p.A., Agusta S.p.A.), AgustaWestland Philadelphia Corporation (formerly Agusta Aerospace Corporation).

Applicability:

AB139 and AW139 helicopters, serial number (s/n) 31005, 31006, 31008 to s/n 31157 inclusive and s/n 41001 to s/n 41023 inclusive, and AW139 helicopters s/n 31201 onwards and s/n 41201 onwards, equipped with “Primus Epic” system software release 7.4 (Phase 7 V1) or 7.7 (Phase 7 V3) or 7.10 (Phase 7 V4), as applicable.

Reason:

Spurious in-flight disconnections of the Automatic Flight Control System (AFCS) have been repeatedly reported over the past months. The investigation revealed that these AFCS disconnect events relate to un-commanded single channel autopilot disengagement for most of the cases, and also to some instances of untimely dual channel autopilot disengagement. It appeared to occur in random flight conditions and to be temporary disruptions of AFCS full availability as all functionalities could always be restored after disconnect by re-engaging the complete system through the AFCS control panel.



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All occurrences may not have been systematically reported by the flight crews and the total number of events could not be determined accurately, which results in potential uncertainty about the effective reliability of the helicopter AFCS function.

This condition, if not corrected, could lead to spurious degradation or unavailability of the full AFCS, possibly temporarily impairing the automated flight aid for the control of the helicopter, with detrimental increase of the crew overall workload.

To address this issue, Leonardo has designed an improved version of the "Primus Epic" system software (release 7.12 or 7.14 upgrade) of the helicopter and published Service Bulletin (SB) 139-500, providing instructions for embodiment of this software in service. As a precautionary measure, EASA decided that accomplishment of this action must be required.

For the reasons described above, this AD requires installation of the "Primus Epic" system software release 7.12 or 7.14 upgrade, as applicable, depending on helicopter configuration.

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

Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, "Primus Epic" system software 7.12, Part Number (P/N) 3G4600P00311 or P/N 3G4600P00312; or "Primus Epic" system software 7.14, P/N 3G4600P00411 or 3G4600P00412, as applicable depending on helicopter configuration, is hereafter collectively referred to as 'applicable "Primus Epic" system software' in this AD.

Software Upgrade:

- (1) Within 600 flight hours or 12 months, whichever occurs first after the effective date of this AD, install the applicable "Primus Epic" system software (see Note 1 of this AD) in accordance with the instructions of Leonardo SB 139-500.

Software Installation:

- (2) After modification of a helicopter as required by paragraph (1) of this AD, it is allowed to install "Primus Epic" system software version on that helicopter, provided this is the applicable "Primus Epic" system software (see Note 1 of this AD) or a later approved software version.

Ref. Publications:

Leonardo SB 139-500 original issue, dated 31 October 2017.

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

Remarks:

1. If requested and appropriately substantiated, EASA can approve Alternative Methods of Compliance for this AD.
2. This AD was posted on 15 December 2017 as PAD 17-173 for consultation until 29 December 2017. No comments were received during the consultation period.

3. Enquiries regarding this AD should be referred to the EASA Safety Information Section, Certification Directorate. E-mail: ADs@easa.europa.eu.
4. For any question concerning the technical content of the requirements in this AD, please contact: Leonardo S.p.A. Helicopters. E-mail: cse.aw139.AW@leonardocompany.com.



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