



Airworthiness Directive

AD No.: 2018-0069

Issued: 26 March 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:

AIRBUS HELICOPTERS

Type/Model designation(s):

EC 155 helicopters

Effective Date: 31 March 2018

TCDS Number(s): EASA.R.105

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2017-0201 dated 11 October 2017.

ATA 34 – Navigation – Flight / Ground Logic – Modification

Manufacturer(s):

Airbus Helicopters (AH), formerly Eurocopter, Eurocopter France

Applicability:

EC 155 B and EC 155 B1 helicopters, all serial numbers.

Definitions:

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

Groups: Group 1 helicopters are those in post-mod 0722B51 configuration. Group 2 helicopters are those in pre-mod 0722B51 configuration.

Reason:

It was identified that both Attitude Heading and Reference Systems (hereafter referred as AHRS1 and AHRS2) installed on EC 155 helicopters use the same FLIGHT/GROUND signal in deviation from the approved design specification, which indicates that the AHRS1 and AHRS2 must be supplied by independent signals to ensure their redundancy. If both AHRS1 and AHRS2 receive in flight a wrong GROUND status, as a result of a single failure, this will generate, during helicopter manoeuvres, a consistent error in computation of the attitudes and vertical speed, and consequently provide incorrect indications on both primary displays to the flight crew.



This condition, if not corrected, could lead to erroneous attitude and vertical speed indications, resulting in increased workload for the flight crew when the upper modes of Automatic Flight Control System are not engaged, possibly leading to reduced control of the helicopter during flight in instrumental meteorological conditions.

To address this potential unsafe condition, AH issued ASB EC155-34A033 to provide modification instructions to ensure independent FLIGHT/GROUND signal supply to each AHRS for Group 1 helicopters and EASA issued AD 2017-0201 to require that modification.

Since that AD was issued, AH issued ASB EC155-34A037 providing similar modification instructions for Group 2 helicopters.

For the reasons described above, this AD retains the requirements of EASA AD 2017-0201, which is superseded, and requires a modification to the connection and/or wiring of connector 11 ALPHA for Group 1 and Group 2 helicopters.

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

Required as indicated, unless accomplished previously:

Modification:

- (1) Group 1 helicopters: Within 12 months after 25 October 2017 [the effective date of EASA AD 2017-0201], modify the helicopter as specified in Table 1 of this AD, as applicable to pre- or post-mod 0731B89 configuration of the helicopter, in accordance with the instructions of the AH ASB EC155-34A033.

Table 1 – Modification

Configuration	Required Action(s)
Pre-mod 0731B89	Modify the connection to connector 11 ALPHA
Post-mod 0731B89	Modify the connection and the wiring to connector 11 ALPHA

- (2) Group 2 helicopters: Within 7 months after the effective date of this AD, modify the connection and the wiring to connector 11 ALPHA in accordance with the instructions of the AH ASB EC155-34A037.

Ref. Publications:

AH ASB EC155-34A033 original issue dated 19 July 2017, or Revision 1 dated 09 October 2017, or Revision 2 dated 30 January 2018.

AH ASB EC155-34A037 original issue dated 19 February 2018.

The use of later approved revisions of above-mentioned documents 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. Based on the required actions and the compliance time, EASA have decided to issue a Final AD with Request for Comments, postponing the public consultation process until after publication.
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: Airbus Helicopters Technical Support Department, 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 Request Management.

