



Airworthiness Directive

AD No.: 2017-0086

Issued: 12 May 2017

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:

DIAMOND AIRCRAFT INDUSTRIES GmbH

Type/Model designation(s):

DA 40 D aeroplanes

Effective Date: 26 May 2017

TCDS Number(s): EASA.A.022

Foreign AD: Not applicable

Supersedure: None

ATA 76 – Engine Controls – Electronic Control Unit – Modification

Manufacturer(s):

Diamond Aircraft Industries (DAI) GmbH (Austria), Shandong Bin Ao Aircraft Industries Company, Ltd (China)

Applicability:

DA 40 D aeroplanes, serial numbers (s/n) 40.080, 40.084, D4.001 to D4.399 inclusive and 40.DS001 to 40.DS179 inclusive.

Note: DA 40 D aeroplanes, s/n from 40.DS180 and from D4.400 onwards are equipped with an improved water separator Part Number (P/N) D60-9076-14-01 in production.

Reason:

Manifold Air Pressure (MAP) sensors installed in the Electronic Control Unit (ECU) were found damaged on aeroplanes in service. Investigation determined that operation in humid climate can lead to the accumulation of water in the MAP lines and failure of the MAP sensor. In conditions below zero degrees Celsius, the accumulated water can freeze and break the MAP sensor housing. Subsequent water ingress into the ECU can lead to a failure of the ECU.

This condition, if not corrected, could lead to loss of power, possibly resulting in reduced control of the aeroplane.



DAI developed a water separator, P/N D60-7614-40-00, to improve the serviceability of the ECU, and published Recommended Service Bulletin (RSB) D4-083, original issue, together with the associated Work Instruction (WI) RSB D4-083, original issue (single document). This design improved the situation but was found not to be effective under all operating conditions. Consequently, DAI developed an improved design water separator, P/N D60-9076-14-01, and published RSB D4-083/1 and WI RSB D4-083, Revision 1 (single document). Further analysis indicated the need for mandatory action, and DAI published Mandatory Service Bulletin (MSB) D4-104 original issue and WI-RSB D4-083, Revision 2 / WI-MSB D4-104, original issue (single document) to provide installation instructions.

For the reason described above, this AD requires modification of the ECU through installation of a water separator with the improved design.

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

Required as indicated, unless accomplished previously:

Modification:

- (1) Within 200 flight hours or 12 months, whichever occurs first after the effective date of this AD, modify the aeroplane by installing an improved design water separator, P/N D60-9076-14-01, in the MAP lines of the ECU in accordance with the instructions of DAI MSB D4-104.

Credit:

- (2) Modification of an aeroplane, accomplished before the effective date of this AD in accordance with the instructions of DAI RSB D4-083/1, is acceptable to comply with the requirements of paragraph (1) of this AD for that aeroplane.

Parts Installation:

- (3) From the effective date of this AD, do not install on any aeroplane a water separator P/N D60-7614-40-00.

Ref. Publications:

DAI RSB D4-083 original issue including WI-RSB D4-083 original issue, both dated 12 January 2011, or DAI RSB D4-083/1 including WI-RSB D4-083 Revision 1, both dated 06 November 2015.

DAI MSB D4-104 original issue, including WI-RSB D4-083 Revision 2 / WI-MSB D4-104 Revision 2, all dated 08 April 2016, or DAI MSB D4-104/1, dated 27 April 2016, including WI-RSB D4-083 Revision 2 / WI-MSB D4-104 Revision 2, both dated 08 April 2016.

The use of later approved revisions of these 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. This AD was posted on 12 April 2017 as PAD 17-048 for consultation until 10 May 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: Diamond Aircraft Industries GmbH, Austria, Telephone +43 2622 26700, Fax +43 2622 26780, E-mail: airworthiness@diamond-air.at.

