



Airworthiness Directive

AD No.: 2020-0008

Issued: 20 January 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:

DIAMOND AIRCRAFT INDUSTRIES GMBH

Type/Model designation(s):

DA 42 and DA 42 M aeroplanes

Effective Date: 03 February 2020

TCDS Number(s): EASA.A.005 and EASA.A.513

Foreign AD: Not applicable

Supersedure: This AD supersedes EASA AD 2017-0074 dated 28 April 2017.

ATA 27 – Flight Controls – Flap Control System / Bellcrank Assembly – Inspection / Modification

Manufacturer(s):

Diamond Aircraft Industries GmbH (Austria), Diamond Aircraft Industries Inc. (Canada) and CETC Wuhu Diamond Aircraft Manufacture Co. (China)

Applicability:

DA 42, DA 42 M, DA 42 M-NG and DA 42 NG aeroplanes (including those certified in the Restricted category), all manufacturer serial numbers.

Definitions:

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

The applicable MSB: Diamond Aircraft Industries (DAI) Mandatory Service Bulletin (MSB) 42-126/1 (Revision 1) and MSB 42NG-066/1 (published as a single document), which includes Work Instruction WI-MSB 42-126 and WI-MSB 42NG-066.

Affected part: Flap bellcranks, having Part Number (P/N) D60-2757-11-00, up to and including Revision "F".

Groups: Group 1 aeroplanes are those that have an affected part installed. Group 2 aeroplanes are those that do not have an affected part installed.



Reason:

Occurrences were reported of finding cracks and deformation on certain flap bellcranks. Investigation results identified frequent high load conditions as the cause for these events.

This condition, if not detected and corrected, could lead to failure of the flap bellcrank, possibly resulting in reduced control of the aeroplane.

To address this potential unsafe condition, DAI issued MSB 42-126 / 42NG-066 and the corresponding WI MSB 42-126 / 42NG-066 (single document), providing inspection and modification instructions. Consequently, EASA issued AD 2017-0074 to require modification of the flap control system by installing two spacers to replace a single long spacer, repetitive inspections of the flap bellcrank, and, depending on findings, replacement of the flap bellcrank with an improved part. That AD also provided an optional terminating action by installing an improved flap bellcrank.

Since that AD was issued, it was determined that early 'Revisions' of P/N D60-2757-11-00 flap bellcranks are no longer acceptable and should be removed from service. Prompted by that determination, DAI issued the applicable MSB, as defined in this AD, to provide the relevant instructions.

For the reason described above, this AD retains the requirements of EASA AD 2017-0074, which is superseded, expands the Applicability, and requires removal from service of certain affected parts.

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

Required as indicated, unless accomplished previously:

Inspection(s):

- (1) For Group 1 aeroplanes: Within the compliance time as specified in Table 1 of this AD and, thereafter, at intervals not to exceed 200 flight hours (FH), inspect the affected part in accordance with the instructions of the applicable MSB.

Table 1 – Initial Inspection of Flap Bellcrank (see Note 1 of this AD)

FH Accumulated	Compliance Time
More than 500 FH, or FH unknown	Within 100 FH or 6 months, whichever occurs first after the effective date of this AD
500 FH or less	Before exceeding 600 FH

Note 1: Unless indicated otherwise, the FH specified in Table 1 of this AD are those accumulated, on the effective date of this AD, by the affected part since new (first installation on an aeroplane).

Modification:

- (2) Concurrent with the first inspection as required by paragraph (1) of this AD, modify the flap control system by installing two spacers P/N DS BU2-10-06-0065-C, where the flap actuator rod end bearing is connected to the flap bell crank in accordance with the instructions of the applicable MSB.



- (3) For aeroplanes with an affected part up to Revision “d” installed: Concurrent with the first inspection as required by paragraph (1) of this AD, replace the affected part in accordance with the instructions of the applicable MSB.

Corrective Action(s):

- (4) If, during any inspection as required by paragraph (1) of this AD, discrepancies are found, as identified in the applicable MSB, before next flight, replace the affected part in accordance with the instructions of the applicable MSB.

Credit:

- (5) Inspection(s), corrective action(s) and modification on an aeroplane, accomplished before the effective date of this AD in accordance with the instructions of the original issue of DAI MSB 42-126 / 42NG-066, as applicable, are acceptable to comply with the initial requirements of paragraphs (1) and (4) of this AD, and with the modification requirements of paragraph (2) of this AD, respectively, for that aeroplane.

Terminating Action:

- (6) Modification of a Group 1 aeroplane by installing a P/N D60-2757-11-00_01 improved flap bellcrank in accordance with the instructions of the applicable MSB constitutes terminating action for the repetitive inspections required by paragraph (1) of this AD for that aeroplane.

Part Installation:

- (7) From the effective date of this AD, do not install (see Note 2 of this AD) on any aeroplane a flap bellcrank P/N D60-2757-11-00, up to and including Revision “d”.

Note 2: Removing an affected part from an aeroplane, for reasons other than to comply with this AD, and re-installing that part on the same aeroplane during the same maintenance visit, is not ‘install’ as specified in paragraph (7) of this AD.

Ref. Publications:

DAI MSB 42-126 / 42NG-066 original issue dated 27 March 2017, or MSB 42-126/1 / 42NG-066/1 (published as a single document) Revision 1 dated 14 November 2019.

The use of later approved revisions of the above-mentioned 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 November 2019 as PAD 19-204 for consultation until 12 December 2019. 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](#).
5. 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.

