SERVICE INFORMATION NO. SI 42-210/1

Supersedes SERVICE INFORMATION NO. SI 42-210

NOTE: SI's are used only:
1) To distribute information from DAI to our customers.
2) To distribute applicable information/documents from our suppliers to our customers with additional information.
Typically there is no revision service for SI's. Each new information or change of that will be sent along with a new SI.

I. TECHNICAL DETAILS

1.1 Airplanes affected:

Type: DA 42, DA 42 M
Serial numbers: 42.004 through 42.427
42.AC001 through 42.AC151
42.M001 through 42.M027
Only airplanes with a TAE 125-02-99 or TAE 125-02-114 engine which were NOT modified via MSB 42-120 are affected.

1.2 Subject:

EASA AD 2016-0156R1 Exhaust Pipe Replacement

ATA-Code: 78-00

1.3 Reason:

EASA has issued Airworthiness Directive No. 2016-0156 mandating a modification if certain exhaust pipe part numbers are installed. Since EASA AD 2016-0156 was issued, cracks were identified on modified exhaust pipes during an inspection. Furthermore, it was determined that the additional brackets provide a level of safety equivalent to the modified exhaust pipes. Due to this EASA revised AD No. 2016-0156 reducing the applicability, excluding certain post-mod aeroplanes, to allow only installation of the additional brackets as final solution and to remove the prohibition of reinstallation of unmodified exhaust pipes.

1.4 Information:

For detailed technical information refer to EASA AD No. 2016-0156R1 which is applicable without any further additions or restrictions.

II. OTHERS

EASA AD No. 2016-0156R1 is attached to this Service Information.

In case of doubt contact Diamond Aircraft Industries GmbH.

Airworthiness Directive

AD No.: 2016-0156R1

Issued: 23 November 2016

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:	Type/Model designation(s):
DIAMOND AIRCRAFT INDUSTRIES GmbH	DA 42 and DA 42 M aeroplanes

Effective Date:	Revision 01: 23 November 2016 Original issue: 16 August 2016
TCDS Number(s):	EASA.A.005 and EASA.A.513
Foreign AD:	Not applicable
Revision:	This AD revises EASA AD 2016-0156 dated 02 August 2016.

ATA 78 – Engine Exhaust – Exhaust Pipes – Replacement

Manufacturer(s):
Diamond Aircraft Industries GmbH (Austria), Diamond Aircraft Industries Inc. (Canada)

Applicability:
DA 42 and DA 42 M (both Normal and Restricted category) aeroplanes, manufacturer serial numbers, 42.004 up to 42.427 inclusive, 42.AC001 up to 42.AC151 inclusive, 42.M001 up to 42.M027 inclusive, if equipped with TAE 125-02-99 engines (modification MÄM 42-198 or Optional Service Bulletin (OSB) 42-046) or TAE 125-02-114 engines (modification OÄM 42-252 or OSB 42-107), except those that have been modified in service in accordance with the instructions of Mandatory Service Bulletin (MSB) 42-120, original issue.

Reason:
Two cases were reported of uncommanded engine in-flight shutdown (IFSD) on DA 42 aeroplanes. Subsequent investigations identified these occurrences were due to failure of the propeller regulating valve, caused by hot exhaust gases coming from fractured engine exhaust pipes. The initiating cracks on the exhaust pipes were not detected during previous inspections, since those exhaust pipes are equipped with non-removable heat shields that do not allow inspection for certain sections of the exhaust pipe.

This condition, if not corrected, could lead to further cases of IFSD or overheat damage, possibly resulting in a forced landing, with consequent damage to the aeroplane and injury to occupants.

To address this potential unsafe condition, Diamond Aircraft Industries (DAI) developed an exhaust pipe without a directly attached integral heat shield that allows visual inspection over the entire exhaust pipe length. DAI issued MSB 42-120 and relevant Working Instruction (WI) WI-MSB 42-120, providing instructions to install the modified exhaust pipes. As an interim measure, an additional bracket was designed to hold the exhaust pipe in place in case of a pipe fracture.

Consequently, EASA issued AD 2016-0156, requiring replacement of the exhaust pipes with pipes having new design, and prohibiting (re)installation of the previous design pipes.

Since that AD was issued, cracks were identified on modified exhaust pipes during an inspection. Furthermore, it was determined that the additional brackets provide a level of safety equivalent to the modified exhaust pipes. Consequently, DAI revised MSB 42-120, allowing installation of the additional brackets as alternative to the installation of the modified exhaust pipes.

For the reasons described above, this AD is revised to reduce the Applicability, excluding certain post-mod aeroplanes, to allow only installation of the additional brackets as final solution and to remove the prohibition of reinstallation of unmodified exhaust pipes.

Required Action(s) and Compliance Time(s):
Required as indicated, unless accomplished previously:

Note 1: For the purpose of this AD, an “affected exhaust pipe” is an exhaust pipe having DAI P/N D60-9078-06-01, or Technify P/N 52-7810-H0001 02, or Technify P/N 52-7810-H0001 03, or Technify P/N 52-7810-H0001 04.

Note 2: For the purpose of this AD, the flight hours (FH) in Table 1 of this AD are those accumulated on 16 August 2016 [the effective date of the original issue of this AD] since first installation of an affected exhaust pipe. If those FH are not known, the total time accumulated by the aeroplane since its first flight applies instead.

(1) Within the compliance time as identified in Table 1 of this AD, accomplish the actions as required by paragraph (1.1) or (1.2) of this AD.

(1.1) Install additional clamps on each affected exhaust pipe in accordance with the instructions of Section III.2 of DAI WI-MSB 42-120.

(1.2) Replace each affected exhaust pipe with a modified exhaust pipe and modify the aeroplane by installing heat shielding in accordance with the instructions of Section III.1 of DAI WI-MSB 42-120.

(2) [MERGED WITH PARAGRAPH (1) OF THIS AD]

(3) [MERGED WITH PARAGRAPH (1) OF THIS AD].

Table 1 – Clamps Installation / Exhaust Pipe Replacement

FH Accumulated (see Note 2 of this AD)	**Compliance Time**
1 300 or less	Before the exhaust pipe exceeds 1 500 FH since first installation on an aeroplane (see Note 2 of this AD)
More than 1 300	Within 200 FH or 12 months, whichever occurs first after 16 August 2016

(4) [DELETED]

Ref. Publications:

DAI MSB 42-120 original issue, dated 24 June 2016, or revision 01, dated 10 November 2016.

DAI WI-MSB 42-120 original issue, dated 24 June 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. The original issue of this AD was posted on 01 July 2016 as PAD 16-097 for consultation until 29 July 2016. 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.