



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2017-0640; Directorate Identifier 2017-CE-020-AD; Amendment 39-18969; AD 2017-15-09]**

**RIN 2120-AA64**

**Airworthiness Directives; Diamond Aircraft Industries GmbH Airplanes**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Final rule; request for comments.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for certain Diamond Aircraft Industries GmbH Model DA 42 airplanes. This AD requires installing engine exhaust pipe clamps with spring washers, repetitively inspecting the engine exhaust pipe clamps for cracks, and replacing the clamps if found cracked. This AD was prompted by cracks in the affected engine exhaust pipes, which could cause failure of the propeller regulating valve because of hot exhaust gases coming from the fractured pipes. We are issuing this AD to correct the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].

We must receive comments on this AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may send comments by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.
- Fax: (202) 493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590.
- Hand Delivery: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE, Washington, DC 20590, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this AD, contact Diamond Aircraft Industries GmbH, N.A. Otto-Straße 5, A-2700 Wiener Neustadt, Austria, telephone: +43 2622 26700; fax: +43 2622 26780; email: [office@diamond-air.at](mailto:office@diamond-air.at); Internet: <http://www.diamondaircraft.com>. You may review this referenced service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the Internet at <http://www.regulations.gov> by searching for locating Docket No. FAA-2017-0640.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0640; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments

received, and other information. The street address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Mike Kiesov, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4144; fax: (816) 329-4090; email: mike.kiesov@faa.gov.

**SUPPLEMENTARY INFORMATION:**

**Discussion**

AD 2017-01-12, Amendment 39-18779 (82 FR 5359, January 18, 2017) (“AD 2017-01-12”) requires either replacing the engine exhaust pipes with new design pipes or installing clamps on the old design pipes on Diamond Model DA 42 airplanes. AD 2017-01-12 is based on European Aviation Safety Agency (EASA) AD No. 2016-0156R1, dated November 23, 2016. EASA is the Technical Agent for the Member States of the European Community.

After issuance of AD 2017-01-12, we received reports of cracks on the new design engine exhaust pipes. To address this cracking issue, we issued AD 2017-11-08, Amendment 39-18907 (82 FR 24843, May 31, 2017) (“AD 2017-11-08”). AD 2017-11-08 requires repetitively inspecting the new design engine exhaust pipes installed on Diamond Model DA 42 airplanes and replacing any cracked pipes. AD 2017-11-08 is based on EASA AD No. 2017-0090, dated May 17, 2017.

Since issuance of AD 2017-11-08, we received reports of cracks found on the engine exhaust pipe clamps that were installed on the old design engine exhaust pipes as a requirement in AD 2017-01-12. The FAA and EASA are working concurrently on AD action for the United States and Europe. EASA recently issued AD No.: 2017-0120, dated July 13, 2017, to address actions similar to that of this FAA AD.

This condition, if not corrected, could result in hot exhaust gases coming from the fractured pipes and leading to an uncommanded engine in-flight shutdown or overheat damage, which could result in a forced landing, consequent damage, and occupant injury.

#### **Related Service Information under 1 CFR part 51**

Diamond Aircraft Industries GmbH has issued Mandatory Service Bulletin MSB 42-120/2, dated June 7, 2017, and Work Instruction WI-MSB 42-120, Revision 3, dated July 6, 2017. In combination, the service information describes procedures for installing engine exhaust pipe clamps with spring washers and inspecting the engine exhaust pipe clamps for cracks, with replacement if cracks are found. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section of the final rule.

#### **FAA's Determination**

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

#### **AD Requirements**

This AD requires accomplishing the actions specified in the service information described previously.

#### **FAA's Justification and Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because affected engine exhaust pipes could crack and cause hot gases to leak from fractured exhaust pipes and lead to an uncommanded engine

in-flight shutdown. Therefore, we find that notice and opportunity for prior public comment are impracticable and that good cause exists for making this amendment effective in less than 30 days.

**Comments Invited**

This AD is a final rule that involves requirements affecting flight safety and was not preceded by notice and an opportunity for public comment. However, we invite you to send any written data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES section. Include the docket number FAA-2017-0640 and Directorate Identifier 2017-CE-020-AD at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this AD.

**Costs of Compliance**

We estimate that this AD affects 130 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

<b>Estimated costs</b>				
<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>	<b>Cost on U.S. operators</b>
Install engine exhaust pipe clamps with spring washers	4 work-hours X \$85 per hour = \$340 (for both clamps)	\$100 (for both clamps)	\$440	\$57,200
Inspect engine exhaust pipe clamps	2 work-hours X \$85 per hour = \$170	N/A	\$170	\$22,100

We estimate the following costs to do any necessary replacements that will be required based on the results of the inspections. We have no way of determining the number of airplanes that may need these replacements:

**On-condition costs**

<b>Action</b>	<b>Labor cost</b>	<b>Parts cost</b>	<b>Cost per product</b>
Replace cracked clamps	4 work-hours X \$85 per hour = \$340 (for both clamps)	\$100 (for both clamps)	\$440

**Paperwork Reduction Act**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB control number. The control number for the collection of information required by this AD is 2120-0056. The paperwork cost associated with this AD has been detailed in the Costs of Compliance section of this document and includes time for reviewing instructions, as well as completing and reviewing the collection of information. Therefore, all reporting associated with this AD is mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at 800 Independence Ave., SW, Washington, DC 20591. ATTN: Information Collection Clearance Officer, AES-200.

**Authority for this Rulemaking**

Title 49 of the United States Code specifies the FAA’s authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. “Subtitle VII: Aviation Programs” describes in more detail the scope of the Agency’s authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, section 44701: “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

### **Regulatory Findings**

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

### **List of Subjects in 14 CFR Part 39**

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

### **Adoption of the Amendment**

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

### **PART 39 - AIRWORTHINESS DIRECTIVES**

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

**§ 39.13 [Amended]**

2. The FAA amends § 39.13 by adding the following new airworthiness directive (AD):

2017-15-09 **Diamond Aircraft Industries GmbH:** Amendment 39-18969; Docket No. FAA-2017-0640; Directorate Identifier 2017-CE-020-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Diamond Aircraft Industries (DAI) GmbH Model DA 42 airplanes, serial numbers 42.004 through 42.427 and 42.AC001 through 42.AC151, certificated in any category, that have:

(1) either a Technify Motors GmbH TAE 125-02-99 or TAE 125-02-114 engine installed; and

(2) DAI part numbers (P/N) D60-7806-00-01 and P/N D60-7806-00-02 engine exhaust clamps installed.

**(d) Subject**

Air Transport Association of America (ATA) Code 78: Engine Exhaust.

**(e) Reason**

This AD was prompted by cracks in the affected engine exhaust pipes, which could cause failure of the propeller regulating valve because of hot exhaust gases coming from the fractured pipes. We are issuing this AD to prevent an uncommanded engine in-flight shutdown or overheat damage, which could result in a forced landing,

consequent damage, and occupant injury.

**(f) Actions and Compliance**

Unless already done, do the actions in paragraphs (f)(1) through (6) of this AD.

(1) Before or upon accumulating 40 hours time-in-service (TIS) on the affected engine exhaust pipes or within the next 10 hours TIS after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), whichever occurs later, do the actions in paragraphs (f)(1)(i) and (ii) of this AD.

(i) Inspect each engine exhaust clamp for cracks following III.3 Action 3 – Inspection of exhaust clamp for cracks of the INSTRUCTIONS section of Diamond Aircraft Industries GmbH (DAI) Work Instruction WI-MSB 42-120, Revision 3, dated July 6, 2017, as specified in DAI Mandatory Service Bulletin MSB 42-120/2, dated June 7, 2017.

(ii) Reinstall any uncracked clamp or replace with a new clamp and incorporate spring washers following III.2 Action 2 – installation of additional exhaust clamp in the INSTRUCTIONS section of DAI Work Instruction WI-MSB 42-120, Revision 3, dated July 6, 2017, as specified in DAI Mandatory Service Bulletin MSB 42-120/2, dated June 7, 2017. See figure 1 to paragraph (f)(1)(ii) of this AD for additional information on the sequence of installation actions as identified in DAI Work Instruction WI-MSB 42-120, Revision 3, dated July 6, 2017. Credit is not given for installation of an engine exhaust clamp installed following DAI Work Instruction WI-MSB 42-120, Revision 1, dated December 14, 2016, (installation of exhaust clamp without spring washers), or DAI Work Instruction MSB-42-120, Revision 2, dated June 7, 2017.

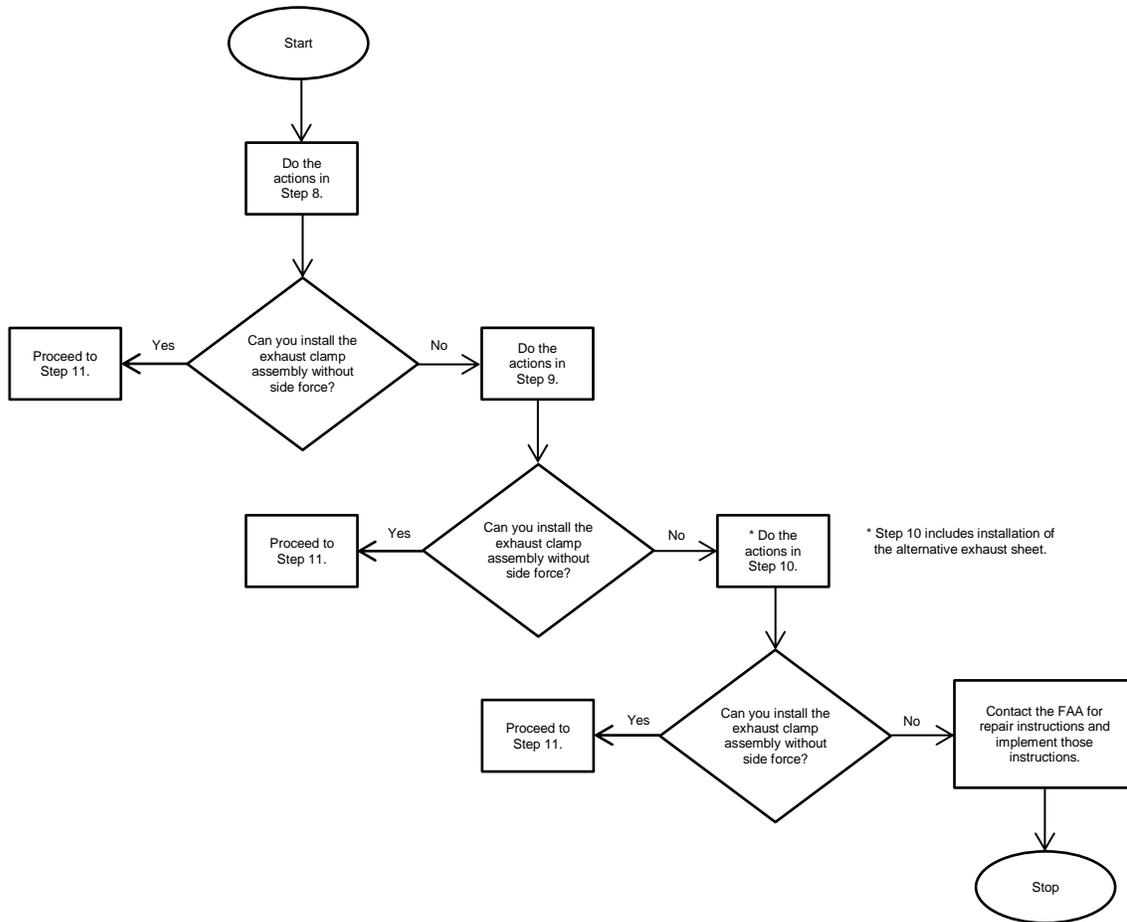


Figure 1 to paragraph (f)(1)(ii) of this AD:  
 Sequence of Actions for Exhaust Clamp Installation of  
 DAI Work Instruction WI-MSB 42-120, Revision 3, dated July 6, 2017

(2) Within 25 hours TIS after the installation required by paragraph (f)(1)(ii) of this AD and repetitively thereafter at intervals not to exceed 25 hours TIS, inspect each engine exhaust clamp for cracks following III.3 Action 3 – Inspection of exhaust clamp for cracks of the INSTRUCTIONS section DAI Work Instruction WI-MSB 42-120, Revision 3, dated July 6, 2017, as specified in DAI Mandatory Service Bulletin MSB 42-120/2, dated June 7, 2017.

(3) If any crack(s) is found on any engine exhaust clamp during any inspection required by this AD, before further flight, replace or modify the affected engine exhaust clamp(s) following III.2 Action 2 – installation of additional exhaust clamp in the INSTRUCTIONS section of DAI Work Instruction WI-MSB 42-120, Revision 3, dated July 6, 2017, as specified in DAI Mandatory Service Bulletin MSB 42-120/2, dated June 7, 2017.

(4) If during any replacement or modification required by this AD the exhaust clamp assembly cannot be installed without side force using step 10 of III.2 Action 2 – installation of additional exhaust clamp in the INSTRUCTIONS section of DAI Work Instruction WI-MSB 42-120, Revision 3, dated July 6, 2017, before further flight contact the FAA at the address specified in paragraph (i) of this AD to obtain and incorporate an FAA-approved repair/modification approved specifically for this AD. The FAA will coordinate with the European Aviation Safety Agency (EASA) and DAI for the development of a repair/modification to address the specific problem.

(5) The replacement required by paragraphs (f)(1)(ii) or (f)(3) of this AD does not terminate the repetitive inspections required by paragraph (f)(2) of this AD when DAI part numbers (P/N) D60-7806-00-01 and P/N D60-7806-00-02 engine exhaust clamps are installed.

(6) Within 10 days after any inspection where a cracked clamp is found or within 10 days after [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), whichever occurs later, report the results to the FAA at the address specified in paragraph (i)(1) of this AD and to DAI at the address specified in paragraph (j)(3) of this AD. Report all the information included in the Appendix to this AD.

**(g) Paperwork Reduction Act Burden Statement**

A federal agency may not conduct or sponsor, and a person is not required to respond to, nor shall a person be subject to a penalty for failure to comply with a collection of information subject to the requirements of the Paperwork Reduction Act unless that collection of information displays a current valid OMB Control Number. The OMB Control Number for this information collection is 2120-0056. Public reporting for this collection of information is estimated to be approximately 5 minutes per response, including the time for reviewing instructions, completing and reviewing the collection of information. All responses to this collection of information are mandatory. Comments concerning the accuracy of this burden and suggestions for reducing the burden should be directed to the FAA at: 800 Independence Ave. SW, Washington, DC 20591, Attn: Information Collection Clearance Officer, AES-200.

**(h) Alternative Methods of Compliance (AMOCs)**

(1) The Manager, Standards Office, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or local Flight Standards District Office, as appropriate. If sending information directly to the manager of the ACO, send it to the attention of the person identified in paragraph (i) of this AD.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

**(i) Related Information**

(1) For more information about this AD, contact Mike Kiesov, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4144; fax: (816) 329-4090; email: [mike.kiesov@faa.gov](mailto:mike.kiesov@faa.gov).

(2) Refer to MCAI EASA AD No.: 2017-0120, dated July 13, 2017, for related information. You may examine the MCAI on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2017-0640.

**(j) Material Incorporated by Reference**

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Diamond Aircraft Industries GmbH Mandatory Service Bulletin MSB 42-120/2, dated June 7, 2017.

(ii) Diamond Aircraft Industries GmbH Work Instruction WI-MSB 42-120, Revision 3, dated July 6, 2017.

(3) For Diamond Aircraft Industries GmbH service information identified in this AD, contact Diamond Aircraft Industries GmbH, N.A. Otto-Straße 5, A-2700 Wiener Neustadt, Austria, telephone: +43 2622 26700; fax: +43 2622 26780; email: [office@diamond-air.at](mailto:office@diamond-air.at); Internet: <http://www.diamondaircraft.com>.

(4) You may view this service information at the FAA, Small Airplane Directorate, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the FAA, call (816) 329-4148. It is also available on the Internet at <http://www.regulations.gov> by searching for locating Docket No. FAA-2017-0640.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202-741-6030, or go to: <http://www.archives.gov/federal-register/cfr/ibr-locations.html>.

**Appendix to AD 2017-15-09**

Airplane Serial Number: \_\_\_\_\_

Total Hours TIS of the Airplane: \_\_\_\_\_

Total Hours TIS Since Clamp was Installed: \_\_\_\_\_

Clamp was installed on:

- \_\_\_\_\_ Left-hand Engine Only
- \_\_\_\_\_ Right-hand Engine Only
- \_\_\_\_\_ Both Engines

Number of Inspections Since Found Cracked: \_\_\_\_\_

Clamp installed per: \_\_\_ Section 8, \_\_\_ Section 9, or \_\_\_ Section 10  
of subsection III.2 of Diamond Aircraft Industries GmbH Work Instruction WI-MSB  
42-120, Revision 3, dated July 6, 2017.

Clamp installed per the following Revision level of Diamond Aircraft Industries GmbH  
Work Instruction WI-MSB 42-120:

- \_\_\_\_\_ Original Issue
- \_\_\_\_\_ Revision 1
- \_\_\_\_\_ Revision 2

Issued in Kansas City, Missouri, on July 19, 2017.

Melvin Johnson,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.

[FR Doc. 2017-15669 Filed: 7/31/2017 8:45 am; Publication Date: 8/1/2017]