



[4910-13-P]

**DEPARTMENT OF TRANSPORTATION**

**Federal Aviation Administration**

**14 CFR Part 39**

**[Docket No. FAA-2013-0597; Directorate Identifier 2013-CE-016-AD; Amendment 39-17593; AD 2013-19-11]**

**RIN 2120-AA64**

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

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

**ACTION:** Final Rule.

**SUMMARY:** We are adopting a new airworthiness directive (AD) for Diamond Aircraft Industries GmbH Models DA 42, DA 42 NG, and DA 42 M-NG airplanes. This AD results from mandatory continuing airworthiness information (MCAI) issued by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as insufficient clearance between the rod end safety washer and the nose landing gear attachment lever causes the rod end to bend at each gear retraction sequence. We are issuing this AD to require actions to address the unsafe condition on these products.

**DATES:** This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**ADDRESSES:** You may examine the AD on the Internet at <http://www.regulations.gov/#!docketDetail;D=FAA-2013-0597>; or in person at Document Management Facility, U.S. Department of Transportation, Docket Operations,

M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC 20590.

For service information identified in this AD, contact Diamond Aircraft Industries GmbH, N.A. Otto-Str.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/contact/technical.php>. You may review copies of the 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.

**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](mailto:mike.kiesov@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an AD that would apply to the specified products. That NPRM was published in the *Federal Register* on July 8, 2013 (78 FR 40642). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

An incident was reported where a Diamond DA 42 aeroplane experienced an un-commanded rudder input and yaw after landing gear retraction, followed by restricted rudder travel. This situation caused the pilot to misinterpret this as an engine power loss. The rudder restriction could be removed by extending the landing gear and an uneventful landing was made.

Subsequent investigation results showed that the rod end of the nose landing gear (NLG) actuator, Part Number (P/N) X11-0006/2, had broken, causing the actuator to block the nearby rudder steering linkage. This failure was likely a result of insufficient clearance between the rod end safety washer and the NLG attachment lever, causing the rod end to bend at each gear retraction sequence.

This condition, if not detected and corrected, could result in reduced control of the aeroplane.

Prompted by this event, Diamond Aircraft Industries (DAI) issued Mandatory Service Bulletin (MSB) 42-099 / MSB 42NG-035, including Work Instruction (WI) WI-MSB-42-099 / WI-MSB 42NG-035 (published as a single document), providing instructions to identify and modify the affected NLG actuators, which includes installation of a new rod end bearing and safety washer.

For the reasons described above, this AD requires an inspection to identify the affected NLG actuators, P/N X11-0006/2, and, if an affected unit is installed, modification of the actuator.

This AD also prohibits installation of any affected P/N X11-0006/2 NLG actuators that may be held as spares, unless they are modified.

The MCAI references DAI MSB 42-099 and MSB 42NG-035 (co-published as one document), dated April 22, 2013, as the applicable service information. DAI subsequently issued revised Mandatory Service Bulletins MSB 42-099/1 and MSB 42NG-035/1 (co-published as one document), dated May 3, 2013, based on a change to the applicable P/N of the NLG actuator. This revision, MSB 42-099/1 and MSB 42NG-035/1 (co-published as one document), dated May 3, 2013, was referenced in the NPRM (78 FR 40642, July 8, 2013). You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-0597-0002>.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM (78 FR 40642, July 8, 2013) or on the determination of the cost to the public.

### **Conclusion**

We reviewed the relevant data and determined that air safety and the public interest require adopting this AD as proposed. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM (78 FR 40642, July 8, 2013) for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM (78 FR 40642, July 8, 2013).

### **Costs of Compliance**

We estimate that this AD will affect 170 products of U.S. registry. We also estimate that it would take about .5 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour.

Based on these figures, we estimate the cost of the AD on U.S. operators to be \$7,225, or \$42.50 per product.

In addition, we estimate that any necessary follow-on actions would take 2.5 work-hours and require parts costing \$235, for a cost of \$447.50 per product. We have no way of determining the number of products that may need these actions.

According to the manufacturer, some of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

### **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**

We determined that 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 this AD:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the 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.

### **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://www.regulations.gov>; 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 the NPRM, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone (800) 647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

### **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 AD:

2013-19-11 **Diamond Aircraft Industries GmbH**: Amendment 39-17593; Docket No. FAA-2013-0597; Directorate Identifier 2013-CE-016-AD.

**(a) Effective Date**

This airworthiness directive (AD) becomes effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

**(b) Affected ADs**

None.

**(c) Applicability**

This AD applies to Diamond Aircraft Industries GmbH Models DA 42, DA 42 NG, and DA 42 M-NG airplanes, all serial numbers, certificated in any category.

**(d) Subject**

Air Transport Association of America (ATA) Code 32: Landing Gear.

**(e) Reason**

This AD was prompted by mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as insufficient clearance between the rod end safety washer and the nose landing gear (NLG) attachment lever causes the rod end to bend at each gear retraction sequence. We are issuing this AD to detect and correct insufficient clearance between the rod end safety washer and the NLG attachment lever, which may cause the NLG actuator to break and possibly restrict rudder control, resulting in loss of control.

**(f) Actions and Compliance**

Unless already done, do the following actions as specified in paragraphs (f)(1) and (f)(2) of this AD:

(1) Within 100 hours time-in-service after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD) or 6 calendar months after [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), whichever occurs first, inspect the NLG actuator to identify the part number (P/N) and serial number (S/N). If a NLG actuator P/N X11-0006/2 is installed with a S/N between 0001 and 0155 (inclusive), modify the actuator by replacing the NLG rod end bearing and safety washer with new parts. Follow the INSTRUCTIONS section of Diamond Aircraft Industries GmbH Work Instructions WI-MSB 42-099 and WI-MSB 42NG-035 (co-published as one document), Revision 1, dated May 3, 2013, as specified in the Accomplishments/Instructions paragraph of Diamond Aircraft Industries GmbH Mandatory Service Bulletins MSB 42-099/1 and MSB 42NG-035/1 (co-published as one document), dated May 3, 2013.

(2) As of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER] (the effective date of this AD), do not install on any airplane an NLG actuator P/N X11-0006/2 with a S/N between 0001 and 0155 (inclusive), unless the actuator has been modified following the INSTRUCTIONS section of Diamond Aircraft Industries GmbH Work Instructions WI-MSB 42-099 and WI-MSB 42NG-035 (co-published as one document), Revision 1, dated May 3, 2013, as specified in the Accomplishments/Instructions paragraph of Diamond Aircraft Industries GmbH Mandatory Service Bulletins MSB 42-099/1 and MSB 42NG-035/1 (co-published as one document), dated May 3, 2013.

**(g) Other FAA AD Provisions**

The following provisions also apply to this AD:

(1) **Alternative Methods of Compliance (AMOCs):** 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. Send information to ATTN: 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. Before using any approved AMOC on any airplane to which the AMOC applies, notify your appropriate principal inspector (PI) in the FAA Flight Standards District Office (FSDO), or lacking a PI, your local FSDO.

(2) **Airworthy Product:** For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

**(h) Related Information**

Refer to MCAI European Aviation Safety Agency (EASA) AD No.: 2013-0121, dated June 4, 2013, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov/#!documentDetail;D=FAA-2013-0597-0002>.

**(i) 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 Work Instruction WI-MSB 42-099, Revision 1, dated May 3, 2013; and

(ii) Diamond Aircraft Industries GmbH Work Instruction WI-MSB 42NG-035, Revision 1, dated May 3, 2013.

Note 1 to paragraph (i)(2)(i) and (i)(2)(ii): Diamond Aircraft Industries GmbH Work Instructions WI-MSB 42-099, Revision 1, dated May 3, 2013; and WI-MSB 42NG-035, Revision 1, dated May 3, 2013, are co-published as one document.

(iii) Diamond Aircraft Industries GmbH Mandatory Service Bulletin MSB 42-099/1, dated May 3, 2013; and

(iv) Diamond Aircraft Industries GmbH Mandatory Service Bulletin MSB 42NG-035/1, dated May 3, 2013.

Note 2 to paragraph (i)(2)(iii) and (i)(2)(iv): Diamond Aircraft Industries GmbH Mandatory Service Bulletins MSB 42-099/1, dated May 3, 2013; and MSB 42NG-035/1, dated May 3, 2013, are co-published as one document.

(3) For Diamond Aircraft Industries GmbH service information identified in this AD, contact Diamond Aircraft Industries GmbH, N.A. Otto-Str.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/contact/technical.php>.

(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.

(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>.

Issued in Kansas City, Missouri, on September 16, 2013.

Pat Mullen,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.

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