

## SERVICE INFORMATION NO. SI-40-108

**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:

DA 40 and DA 40 F aircraft, all serial numbers (S/N), except those on which a nose landing gear leg part number (P/N) D41-3223-10-00\_1 or higher (\_2, \_3, etc.) is installed.

#### 1.2 Subject:

FAA Airworthiness Directive No. 2009-10-04  
Nose Landing Gear Leg – Inspection / Replacement  
ATA-Code: 32-20

#### 1.3 Reason:

FAA has issued the Airworthiness Directive No. 2009-10-04 addressing the inspection and replacement of the nose landing gear leg according to DAI MSB-40-046/3, MSB-D4-046/3.

The present Airworthiness Directive supersedes FAA AD No. 2007-17-06 and excludes all aircraft S/N, which already have a nose landing gear leg of a new design P/N D41-3223-10-00\_1 or higher (\_2, \_3, etc.) installed, from repetitive inspection.

#### 1.4 Information:

For detailed technical information refer to FAA Airworthiness Directive No. 2009-10-04 which is applicable without any further additions or restrictions.

### II. OTHERS

The FAA Airworthiness Directive No. 2009-10-04 is attached to this SI.

In case of doubt contact Diamond Aircraft Industries.

[Federal Register: May 13, 2009 (Volume 74, Number 91)]  
[Rules and Regulations]  
[Page 22435-22437]  
From the Federal Register Online via GPO Access [wais.access.gpo.gov]  
[DOCID:fr13my09-7]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2009-0240; Directorate Identifier 2009-CE-015-AD; Amendment 39-15899; AD 2009-10-04]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Diamond Aircraft Industries GmbH Model DA 40 and DA 40 F Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above to supersede an existing AD. 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:

A case was reported where the NLG leg of a DA 40 aircraft failed in the area of the nose gear leg pivot axle. The affected airplane was mostly operated on grass runways and used for training operations. The investigation showed that the failure was due to a fatigue crack that had developed in the pivot axle. Subsequent material inspections determined that these cracks may also develop on other aircraft, depending on the type of operation.

This condition, if not detected and corrected, could lead to further cases of NLG failure, possibly causing damage to the aircraft and injuries to occupants. To address and correct this unsafe condition, ACG issued AD A-2005-005 to require repetitive inspections of the NLG leg and, in case cracks are found, replacement of the NLG leg with a serviceable unit. Since that AD was issued, Diamond Aircraft Industries developed a redesigned NLG leg which is not affected by the cracking phenomenon addressed by AD A-2005-005.

We are issuing this AD to require actions to correct the unsafe condition on these products.

**DATES:** This AD becomes effective June 17, 2009.

On June 17, 2009, the Director of the Federal Register approved the incorporation by reference of Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/3, No. MSBD4-046/3, dated November 17, 2008, listed in this AD.

As of September 25, 2007 (72 FR 46549, August 21, 2007), the Director of the Federal Register approved the incorporation by reference of Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/1, No. MSBD4-046/1, dated April 25, 2007, listed in this AD.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> 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 FURTHER INFORMATION CONTACT:** Sarjapur Nagarajan, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4145; fax: (816) 329-4090; e-mail: [sarjapur.nagarajan@faa.gov](mailto:sarjapur.nagarajan@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 March 18, 2009 (74 FR 11505), and proposed to supersede AD 2007-17-06, Amendment 39-15164 (72 FR 46549, August 21, 2007). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states:

A case was reported where the NLG leg of a DA 40 aircraft failed in the area of the nose gear leg pivot axle. The affected airplane was mostly operated on grass runways and used for training operations. The investigation showed that the failure was due to a fatigue crack that had developed in the pivot axle. Subsequent material inspections determined that these cracks may also develop on other aircraft, depending on the type of operation.

This condition, if not detected and corrected, could lead to further cases of NLG failure, possibly causing damage to the aircraft and injuries to occupants. To address and correct this unsafe condition, ACG issued AD A-2005-005 to require repetitive inspections of the NLG leg and, in case cracks are found, replacement of the NLG leg with a serviceable unit. Since that AD was issued, Diamond Aircraft Industries developed a redesigned NLG leg which is not affected by the cracking phenomenon addressed by AD A-2005-005.

For the reasons described above, this EASA AD retains the requirements of ACG AD A-2005-005, which is superseded, and excludes aircraft from the applicability that have the improved NLG leg installed.

You may obtain further information by examining the MCAI in the AD docket.

### **Comments**

We gave the public the opportunity to participate in developing this AD. We received no comments on the NPRM or on the determination of the cost to the public.

## **Conclusion**

We reviewed the available data and determined that air safety and the public interest require adopting the AD as proposed.

## **Differences Between This AD and the MCAI or Service Information**

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow FAA policies. Any such differences are highlighted in a Note within the AD.

## **Costs of Compliance**

We estimate that this AD will affect 678 products of U.S. registry. We also estimate that it will take about 1 work-hour per product to comply with the basic requirements of this AD. The average labor rate is \$80 per work-hour.

Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$54,240 or \$80 per product.

In addition, we estimate that any necessary follow-on actions would take about 5 work-hours and require parts costing \$740, for a cost of \$1,140 per product. We have no way of determining the number of products that may need these actions.

## **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 DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
- (3) 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD Docket.

## **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 removing Amendment 39-15164 (72 FR 46549, August 21, 2007), and adding the following new AD:



**2009-10-04 Diamond Aircraft Industries GmbH:** Amendment 39-15899; Docket No. FAA-2009-0240; Directorate Identifier 2009-CE-015-AD.

**Effective Date**

(a) This airworthiness directive (AD) becomes effective June 17, 2009.

**Affected ADs**

(b) This AD supersedes AD 2007-17-06, Amendment 39-15164.

**Applicability**

(c) This AD applies to the following airplanes that:

(1) are certificated in any category; and

(2) are not equipped with a nose landing gear (NLG) leg part number (P/N) D41-3223-10-00-1 or higher (-2, -3, etc.).

<b>Model</b>	<b>Serial Nos. (S/N)</b>
DA 40	All S/Ns beginning with 40.006.
DA 40F	All S/Ns beginning with 40.F001. All S/Ns beginning with 40.FC001.

**Subject**

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

**Reason**

(e) The mandatory continuing airworthiness information (MCAI) states:

A case was reported where the NLG leg of a DA 40 aircraft failed in the area of the nose gear leg pivot axle. The affected airplane was mostly operated on grass runways and used for training operations. The investigation showed that the failure was due to a fatigue crack that had developed in the pivot axle. Subsequent material inspections determined that these cracks may also develop on other aircraft, depending on the type of operation.

This condition, if not detected and corrected, could lead to further cases of NLG failure, possibly causing damage to the aircraft and injuries to occupants. To address and correct this unsafe condition, ACG issued AD A-2005-005 to require repetitive inspections of the NLG leg and, in case cracks are found, replacement of the NLG leg with a serviceable unit. Since that AD was issued, Diamond Aircraft Industries developed a redesigned

NLG leg which is not affected by the cracking phenomenon addressed by AD A-2005-005.

For the reasons described above, this EASA AD retains the requirements of ACG AD A-2005-005, which is superseded, and excludes aircraft from the applicability that have the improved NLG leg installed.

## **Actions and Compliance**

(f) Unless already done, do the following actions:

(1) Inspect the nose landing gear (NLG) leg for cracks within the next 12 months after September 25, 2007 (the effective date retained from AD 2007-17-06), or within the next 200 hours time-in-service (TIS) after September 25, 2007 (the effective date retained from AD 2007-17-06), whichever occurs later. Do the inspection following Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/1, No. MSBD4-046/1, dated April 25, 2007, or Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/3, No. MSBD4-046/3, dated November 17, 2008.

(2) If any cracks are found during the inspection required in paragraph (f)(1) of the AD or during any inspection required in paragraph (f)(2)(ii) or (f)(3) of this AD, replace the NLG leg before further flight. Do the replacement following Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/1, No. MSBD4-046/1, dated April 25, 2007; or Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/3, No. MSBD4-046/3, dated November 17, 2008.

(i) Replacing a NLG leg with a part number (P/N) D41-3223-10-00-1 or higher (-2, -3, etc.) terminates the repetitive inspections required in this AD.

(ii) Replacing a NLG leg with a P/N D41-3223-10-00 requires repetitive inspections as specified in paragraph (f)(3) of this AD until a P/N D41-3223-10-00-1 or higher (-2, -3, etc.) is installed.

(3) If no cracks are found during the inspection required in paragraph (f)(1) of this AD or a cracked NLG leg is replaced with a P/N D41-3223-10-00 NLG leg, repetitively inspect thereafter at intervals not to exceed 12 months or 200 hours TIS, whichever occurs later, until a P/N D41-3223-10-00-1 or higher (-2, -3, etc.) is installed. Do these repetitive inspections following Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/3, No. MSBD4-046/3, dated November 17, 2008.

(i) If a repetitive inspection occurs before June 17, 2009 (the effective date of this AD), then you may use Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/1, No. MSBD4-046/1, dated April 25, 2007.

(ii) All inspections that occur after June 17, 2009 (the effective date of this AD), must be done following Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/3, No. MSBD4-046/3, dated November 17, 2008.

(4) After installing a P/N D41-3223-10-00-1 or higher (-2, -3, etc.) as a replacement part, installing a NLG leg P/N D41-3223-10-00 is no longer allowed.

## **FAA AD Differences**

Note: This AD differs from the MCAI and/or service information as follows: No differences.

## **Other FAA AD Provisions**

(g) 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: Sarjapur Nagarajan, Aerospace Engineer, FAA, Small Airplane

Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4145; fax: (816) 329-4090. 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.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act (44 U.S.C. 3501 et seq.), the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

## **Related Information**

(h) Refer to MCAI European Aviation Safety Agency (EASA) AD No. 2009-0016, dated January 22, 2009; Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/1, No. MSBD4-046/1, dated April 25, 2007; and Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/3, No. MSBD4-046/3, dated November 17, 2008, for related information.

## **Material Incorporated by Reference**

(i) You must use Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/1, No. MSBD4-046/1, dated April 25, 2007; and Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/3, No. MSBD4-046/3, dated November 17, 2008, to do the actions required by this AD, unless the AD specifies otherwise.

(1) The Director of the Federal Register approved the incorporation by reference of Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/3, No. MSBD4-046/3, dated November 17, 2008, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) On September 25, 2007 (72 FR 46549, August 21, 2007), the Director of the Federal Register previously approved the incorporation by reference of Diamond Aircraft Industries GmbH Mandatory Service Bulletin No. MSB40-046/1, No. MSBD4-046/1, dated April 25, 2007.

(3) For service information identified in this AD, contact Diamond Aircraft Industries GmbH, N.A. Otto-Strabe 5, A-2700 Wiener Neustadt; fax: 43-2622-26620; or e-mail: support@diamond-air.at.

(4) You may review copies of the service information incorporated by reference for this AD at the FAA, Central Region, Office of the Regional Counsel, 901 Locust, Kansas City, Missouri 64106. For information on the availability of this material at the Central Region, call (816) 329-3768.

(5) You may also review copies of the service information incorporated by reference for this AD 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/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

Issued in Kansas City, Missouri, on May 1, 2009.

Scott A. Horn,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.