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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2010-1152; Directorate Identifier 2009-CE-026-AD; Amendment 39-16589; AD 2011-03-05]**

**RIN 2120-AA64**

**Airworthiness Directives; Dornier Luftfahrt GmbH Models Dornier 228-100, Dornier 228-101, Dornier 228-200, Dornier 228-201, Dornier 228-202, and Dornier 228-212 Airplanes**

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

**ACTION:** Final rule.

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**SUMMARY:** We are superseding an existing airworthiness directive (AD) for the products listed above. 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:

The TC Holder received from operators, whose fleets are operated in demanding operating-conditions and with very frequent Short Take-Off and Landing (STOL) operations, reports of cracks located in the web of fuselage frame 19. On 05 February 2007, EASA issued Airworthiness Directive (AD) 2007-0028 which mandated Alert Service Bulletin (ASB) 228-266 and required an inspection of the frame 19 on all Dornier 228 aeroplanes. In addition, the TC Holder also initiated a flight-test campaign including strain measurements as well as finite element modelling and fatigue analyses to better understand the stress distribution onto the frame 19 and the associated structural components.

The results of these investigations confirmed that STOL operations diminish extensively the fatigue life of the frame 19.

Fuselage frame 19 supports the rear attachment of the Main Landing Gear (MLG). This condition, if not corrected, could cause rupture of frame 19, leading to subsequent collapse of a MLG.

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

**DATES:** This AD becomes effective March 14, 2011.

On March 14, 2011, the Director of the Federal Register approved the incorporation by reference of Dornier 228 Time Limits/Maintenance Checks Manual, Temporary Revision No. 05-27, dated August 4, 2008, listed in this AD.

As of June 26, 2007 (72 FR 28591, May 22, 2007), the Director of the Federal Register approved the incorporation by reference of RUAG Alert Service Bulletin No. ASB-228-266, dated December 1, 2006, listed in this AD.

**ADDRESSES:** You may examine the AD docket on the Internet at <http://www.regulations.gov> or in person at the Docket 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 RUAG Aerospace Services GmbH, Dornier 228 Customer Support, P.O. Box 1253, 82231 Wessling, Germany; telephone: + 49 (0) 8153-302280; fax: + 49 (0) 8153-303030. 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:** Greg Davison, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4130; fax: (816) 329-4090.

## **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 November 18, 2010 (75 FR 70623), and proposed to supersede AD 2007-11-03, Amendment 39-15060 (72 FR 28591; May 22, 2007). That NPRM proposed to correct an unsafe condition for the specified products. The MCAI states that:

The TC Holder received from operators, whose fleets are operated in demanding operating-conditions and with very frequent Short Take-Off and Landing (STOL) operations, reports of cracks located in the web of fuselage frame 19. On 05 February 2007, EASA issued Airworthiness Directive (AD) 2007-0028 which mandated Alert Service Bulletin (ASB) 228-266 and required an inspection of the frame 19 on all Dornier 228 aeroplanes. In addition, the TC Holder also initiated a flight-test campaign including strain measurements as well as finite element modelling and fatigue analyses to better understand the stress distribution onto the frame 19 and the associated structural components.

The results of these investigations confirmed that STOL operations diminish extensively the fatigue life of the frame 19.

Fuselage frame 19 supports the rear attachment of the Main Landing Gear (MLG). This condition, if not corrected, could cause rupture of frame 19, leading to subsequent collapse of a MLG.

For the reasons described above, this new AD requires installation of reinforcements and butt straps on frame 19 at the lower part of the fuselage for aeroplanes used in

operations where this frame may be subject to high stress and recurring inspections of that frame for all aeroplanes.

## **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 17 products of U.S. registry. We also estimate that it will take about 6 work-hours per product to comply with the basic requirements of this AD. The average labor rate is \$85 per work-hour. Required parts will cost about \$0 per product.

Based on these figures, we estimate the cost of this AD to the U.S. operators to be \$8,670 or \$510 per product.

## **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 39-15060 (72 FR 28591; May 22, 2007) and adding the following new AD:



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**2011-03-05 Dornier Luftfahrt GmbH:** Amendment 39-16589; Docket No. FAA-2010-1152; Directorate Identifier 2009-CE-026-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective March 14, 2011.

**Affected ADs**

- (b) This AD supersedes AD 2007-11-03, Amendment 39-15060.

**Applicability**

(c) This AD applies to Dornier Luftfahrt GmbH Model Dornier 228-100, Dornier 228-101, Dornier 228-200, Dornier 228-201, Dornier 228-202, and Dornier 228-212 airplanes, all serial numbers, that are certificated in any category.

**Subject**

- (d) Air Transport Association of America (ATA) Code 53: Fuselage.

**Reason**

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

The TC Holder received from operators, whose fleets are operated in demanding operating-conditions and with very frequent Short Take-Off and Landing (STOL) operations, reports of cracks located in the web of fuselage frame 19. On 05 February 2007, EASA issued Airworthiness Directive (AD) 2007-0028 which mandated Alert Service Bulletin (ASB) 228-266 and required an inspection of the frame 19 on all Dornier 228 aeroplanes. In addition, the TC Holder also initiated a flight-test campaign including strain measurements as well as finite element modelling and fatigue analyses to better understand the stress distribution onto the frame 19 and the associated structural components.

The results of these investigations confirmed that STOL operations diminish extensively the fatigue life of the frame 19.

Fuselage frame 19 supports the rear attachment of the Main Landing Gear (MLG). This condition, if not corrected, could cause rupture of frame 19, leading to subsequent collapse of a MLG.

For the reasons described above, this new AD requires installation of reinforcements and butt straps on frame 19 at the lower part of the fuselage for aeroplanes used in

operations where this frame may be subject to high stress and recurring inspections of that frame for all aeroplanes.

## **Actions and Compliance**

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

(1) For all airplanes, within 25 hours time-in-service (TIS) after June 26, 2007 (the effective date of AD 2007-11-03), visually inspect the affected fuselage frame 19 using the instructions in Dornier 228 RUAG Alert Service Bulletin No. ASB-228-266, dated December 1, 2006.

(2) If any crack is found during the inspection required in paragraph (f)(1) of this AD, before further flight, contact RUAG Aerospace Services GmbH, Dornier 228 Customer Support, P.O. Box 1253, 82231 Wessling, Germany; telephone: +49-(0)8153-30-2280; fax: +49-(0)8153-30-3030; e-mail: customersupport.dornier228@ruag.com for FAA-approved repair instructions and incorporate the repair on the airplane.

(3) After accomplishment of paragraph (f)(1) or (f)(2) of this AD, as applicable, repetitively thereafter do Structural Significant Item (SSI) Task No. 53.37 of Structure Inspection Program of Dornier 228 Time Limits/Maintenance Checks Manual, Temporary Revision No. 05-27, dated August 4, 2008, at intervals not to exceed 2,400 landings or 72 months, whichever occurs first.

(g) If the number of landings is unknown, calculate the compliance times of landings in this AD by using hours TIS. Multiply the number of hours TIS by 0.8 to come up with the number of landings. For the purpose of this AD:

(1) 800 landings equals 1,000 hours TIS; and

(2) 1,600 landings equals 2,000 hours TIS.

## **FAA AD Differences**

Note: This AD differs from the MCAI and/or service information as follows:

(1) The MCAI requires different compliance times for airplanes operated in different conditions. The FAA is not able to enforce compliance times based on airplane operations since there is no way of determining the amount of operations in different conditions. To ensure the unsafe condition is addressed adequately and timely, we are requiring the inspection for all airplanes following a guideline combining number of landings and life limits.

(2) The service information allows flight with known cracks provided they do not exceed a certain limit. FAA policy does not allow flight with cracks in primary structure. Since the fuselage is considered primary structure, we are mandating repair before further flight after any crack is found.

## **Other FAA AD Provisions**

(h) 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: Greg Davison, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4130; 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, 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.

## **Related Information**

(i) Refer to MCAI European Aviation Safety Agency (EASA) AD No.: 2009-0085, dated April 14, 2009; RUAG Alert Service Bulletin No. ASB-228-266, dated December 1, 2006; and Dornier 228 Time Limits/Maintenance Checks Manual, Temporary Revision No. 05-27, dated August 4, 2008, for related information. For service information related to this AD, contact RUAG Aerospace Services GmbH, Dornier 228 Customer Support, P.O. Box 1253, 82231 Wessling, Germany; telephone: + 49 (0) 8153-302280; fax: + 49 (0) 8153-303030. 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.

## **Material Incorporated by Reference**

(h) You must use RUAG Alert Service Bulletin No. ASB-228-266, dated December 1, 2006; and Dornier 228 Time Limits/Maintenance Checks Manual, Temporary Revision No. 05-27, dated August 4, 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 Dornier 228 Time Limits/Maintenance Checks Manual, Temporary Revision No. 05-27, dated August 4, 2008, under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) On June 26, 2007 (72 FR 28591, May 22, 2007), the Director of the Federal Register previously approved the incorporation by reference of RUAG Alert Service Bulletin No. ASB-228-266, dated December 1, 2006.

(3) For service information identified in this AD, contact RUAG Aerospace Services GmbH, Dornier 228 Customer Support, P.O. Box 1253, 82231 Wessling, Germany; telephone: + 49 (0) 8153-302280; fax: + 49 (0) 8153-303030.

(4) 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.

(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 January 25, 2011.

John Colomy,  
Acting Manager, Small Airplane Directorate,  
Aircraft Certification Service.