

[Federal Register: December 7, 2010 (Volume 75, Number 234)]  
[Rules and Regulations]  
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[DOCID:fr07de10-2]

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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2010-0845; Directorate Identifier 2010-CE-044-AD; Amendment 39-16534; AD 2010-25-01]**

**RIN 2120-AA64**

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

**AGENCY:** Federal Aviation Administration, DOT.

**ACTION:** Final rule.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD requires changing the emergency open doors procedure by incorporation of a temporary revision into the FAA-approved airplane flight manual (AFM) for all airplanes. This AD also requires replacement of the passenger door retaining bracket with an improved design retaining bracket for certain airplanes. This AD was prompted by several reports of the rear passenger door departing the airplane in flight. We are issuing this AD to change the emergency open doors procedure and retrofit the rear passenger door retaining bracket, which if not corrected could result in the rear passenger door departing the airplane in flight.

**DATES:** This AD is effective January 11, 2011.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of January 11, 2011.

**ADDRESSES:** 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; e-mail: office@diamond-air.at; Internet: <http://www.diamond-air.at>. 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.

#### **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 this AD, the regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is 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:** Mike Kiesov, Aerospace Engineer, FAA, Small Airplane Directorate, 901 Locust, Room 301, Kansas City, Missouri 64106; telephone: (816) 329-4144; fax: (816) 329-4090; e-mail: mike.kiesov@faa.gov.

## **SUPPLEMENTARY INFORMATION:**

### **Discussion**

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to include an airworthiness directive (AD) that would apply to the specified products. That NPRM published in the Federal Register on August 25, 2010 (75 FR 52292). That NPRM proposed to require a retrofit of the rear passenger door retaining bracket for certain airplanes. The NPRM also proposed to change the emergency open doors procedure by incorporation of a temporary revision into the FAA-approved AFM for all airplanes.

### **Comments**

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the proposal and the FAA's response to each comment.

#### **Request To Shorten the Compliance Time**

Robert Hasiak fully supported this AD action and stated that a door falling out of the sky over the general public is a safety hazard and that the sooner this is fixed, the safer we will be. We infer that the commenter wants us to shorten the compliance time from the proposed 6 months.

The FAA does not agree that 6 months is an unreasonable compliance time to address this situation. This 6-month compliance time is consistent with the service bulletin in that the time for compliance closely coincides with June 11, 2011 (the compliance time in the service bulletin). It also coincides with the appropriate risk level the FAA, the Austro Control Group (ACG), and European Aviation Safety Agency (EASA) agreed with. The FAA has determined that the actions of this AD and the compliance time address the unsafe condition in the interim until further analysis is done by Diamond Aircraft Industries GmbH (Diamond), EASA, and the FAA. We are not changing the AD based on this comment.

#### **Request To Revise the Airplane Flight Manual Procedures**

David Wood stated that the door departure while the aircraft is in flight happens when someone realizes the door is only being retained by the safety latch and then tries to close the door completely. This causes the safety latch to disengage and the door to depart the aircraft. The commenter suggests the following: "DO NOT TRY TO CLOSE THE DOOR ON TAKEOFF ROLL, CLIMB, CRUISE, DESCENT, OR UNTIL VERY SLOW LANDING ROLL." We infer that he wants the language added to the emergency open doors procedure in the AFM.

We agree with the commenter's assessment of the unsafe condition and the need to revise the emergency open doors procedure. However, we disagree on the suggested language. Diamond has issued Temporary Revision TR-MÄM 40-428, dated April 30, 2010. This revision changes the emergency open doors procedure to "Land at the next suitable airfield" when it is determined the rear door is unlocked. The revision also adds a warning to not attempt to lock the rear door in flight. The

FAA has determined the action in this AD of adding the temporary revision to the AFM addresses the unsafe condition. We are not changing the AD based on this comment.

### **Request To Include the Model DA42**

Villis Ostitis of the Thielert Engine Owners Group commented that the Model DA 42 has the same door design and the same unsafe condition. He recommended that the AD also apply to the Model DA 42.

The FAA has discussed the potential of the rear door departing the Model DA 42 aircraft in flight with ACG, EASA, and Diamond. The FAA has determined the actions of this AD and the compliance time address the unsafe condition in the interim for the Model DA 40. Further analysis is being done for the Model DA 42. We may consider future rulemaking action on the Model DA 42 based on that analysis. We are not changing the AD based on this comment.

### **Request To Disconnect the Front Canopy Latch Sensor From the Door Open Indicator**

Villis Ostitis of the Thielert Engine Owners Group commented that the door open annunciation illuminates regardless whether it is the front canopy or the rear door that is not latched. The commenter states that since these aircraft do not have air conditioning it is common practice to taxi with the canopy in the partially open setting, illuminating the door open annunciation. As a result, the pilot ignores the annunciation and is unaware that the rear door might not be properly latched. The commenter also states that passengers that have not been trained in the use of the doors may not be able to identify an incorrect latch position.

To correct the problem, the commenter suggests the wiring be modified to remove the front canopy latch sensor from the door open annunciation. In this proposed configuration the door open annunciation would only illuminate when the rear door was not properly latched and alert the pilot to the unsafe condition.

The FAA does not agree nor disagree with the proposed comment. Rather, the FAA is investigating this matter with ACG, EASA, and Diamond.

Diamond is now planning a design and flight test review to determine the overall safety issues with regard to this recommendation, which could take a few months to complete.

In the interim, the FAA has determined that the actions of this AD address the unsafe condition until further analysis is done. The FAA may consider further rulemaking action based on the evaluation. We are not changing the AD based on this comment.

### **Conclusion**

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting the AD as proposed—except for minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

### **Costs of Compliance**

We estimate that this AD affects 699 airplanes of U.S. registry.

We estimate the following costs to comply with this AD:

### Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Revise the AFM (all airplanes)	.5 work-hour X \$85 per hour = \$42.50	Not Applicable	\$42.50	\$29,707.50
Retrofit the passenger door retaining bracket (428 airplanes)	2 work-hours X \$85 per hour = \$170.00	\$75.00	\$245.00	\$104,860.00

### 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):



**2010-25-01 Diamond Aircraft Industries GmbH:** Amendment 39-16534; Docket No. FAA-2010-0845; Directorate Identifier 2010-CE-044-AD.

**Effective Date**

(a) This AD is effective January 11, 2011.

**Affected ADs**

(b) None.

**Applicability**

(c) This AD applies to Diamond Aircraft Industries GmbH Models DA 40 and DA 40F airplanes, all serial numbers (S/N), that are certificated in any category.

**Subject**

(d) Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 52, Doors.

**Unsafe Condition**

(e) This AD was prompted by several reports of the rear passenger door departing the airplane in flight. We are issuing this AD to change the emergency open doors procedure and retrofit the rear passenger door retaining bracket, which if not corrected could result in the rear passenger door departing the airplane in flight.

**Compliance**

(f) Comply with this AD within the compliance times specified, unless already done.

<b>Actions</b>	<b>Compliance</b>	<b>Procedures</b>
(1) <u>For all S/N</u> : Incorporate Diamond Aircraft Temporary Revision TR-MÄM 40-428, page 3-37b, dated April 30, 2010, into the FAA-approved airplane flight manual.	Within 6 months after January 11, 2011 (the effective date of this AD).	Follow Diamond Aircraft Temporary Revision TR-MÄM 40-428, Cover Page, dated April 30, 2010.

(2) <u>For Model DA 40, S/N 40.006 through 40.009, 40.011 through 40.081, 40.084, and 40.201 through 40.749; and Model DA 40F S/N 40.FC001 through 40.FC009:</u> Replace the rear passenger door retaining bracket with an improved design retaining bracket.	Within 6 months after January 11, 2011 (the effective date of this AD).	Follow Diamond Aircraft Industries GmbH Mandatory Service Bulletin NO. MSB 40-070 / NO. MSB D4-079 / NO. MSB F4-024, dated April 30, 2010; and Diamond Aircraft Industries GmbH Work Instruction WI-MSB 40-070 / WI-MSB D4-079 / WI-MSB F4-024, dated April 30, 2010.
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### Alternative Methods of Compliance (AMOCs)

(g)(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 the Related Information section of this AD.

(2) Before using any approved AMOC, notify your Principal Maintenance Inspector or Principal Avionics Inspector, as appropriate, or lacking a principal inspector, your local Flight Standards District.

### Related Information

(h) 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; e-mail: [mike.kiesov@faa.gov](mailto:mike.kiesov@faa.gov).

### Material Incorporated by Reference

(i) You must use the service information contained in table 1 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

**Table 1 – All material incorporated by reference**

Document	Revision	Date
Diamond Aircraft Temporary Revision TR-MÄM 40-428, Cover Page and page 3-37b	Not Applicable	April 30, 2010
Diamond Aircraft Industries GmbH Mandatory Service Bulletin NO. MSB 40-070 / NO. MSB D4-079 / NO. MSB F4-024	Not Applicable	April 30, 2010
Diamond Aircraft Industries GmbH Work Instruction WI-MSB 40-070 / WI-MSB D4-079 / WI-MSB F4-024	0	April 30, 2010

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

(2) 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; e-mail: [office@diamond-air.at](mailto:office@diamond-air.at); Internet: <http://www.diamond-air.at>.

(3) You may review copies of the 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.

(4) You may also review copies of the service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at an NARA facility, 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 November 23, 2010.

Earl Lawrence,  
Manager, Small Airplane Directorate,  
Aircraft Certification Service.