

# Proposed Rules

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This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 25

[Docket No. NM364 Special Conditions No. 25-07-01-SC]

#### Special Conditions: Boeing Model 787-8 Airplane; Systems and Data Networks Security—Isolation or Protection From Unauthorized Passenger Domain Systems Access

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

**ACTION:** Notice of proposed special conditions.

**SUMMARY:** This notice proposes special conditions for the Boeing Model 787-8 airplane. This airplane will have novel or unusual design features when compared to the state of technology envisioned in the airworthiness standards for transport category airplanes. These novel or unusual design features are associated with connectivity of the passenger domain systems to the airplane critical systems and data networks. For these design features, the applicable airworthiness regulations do not contain adequate or appropriate safety standards for protection and security of airplane systems and data networks against unauthorized access. These proposed special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards. Additional special conditions will be issued for other novel or unusual design features of the Boeing Model 787-8 airplanes.

**DATES:** Comments must be received on or before May 29, 2007.

**ADDRESSES:** Comments on this proposal may be mailed in duplicate to: Federal Aviation Administration, Transport Airplane Directorate, Attention: Rules Docket (ANM-113), Docket No. NM364, 1601 Lind Avenue, SW., Renton,

Washington 98057-3356; or delivered in duplicate to the Transport Airplane Directorate at the above address. All comments must be marked Docket No. NM364. Comments may be inspected in the Rules Docket weekdays, except Federal holidays, between 7:30 a.m. and 4 p.m.

**FOR FURTHER INFORMATION CONTACT:** Will Struck, FAA, Airplane and Flight Crew Interface, ANM-111, Transport Airplane Directorate, Aircraft Certification Service, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-2764; facsimile (425) 227-1149.

#### SUPPLEMENTARY INFORMATION:

##### Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The most helpful comments reference a specific portion of the special conditions, explain the reason for any recommended change, and include supporting data. We ask that you send us two copies of written comments.

We will file in the docket all comments we receive as well as a report summarizing each substantive public contact with FAA personnel concerning these proposed special conditions. The docket is available for public inspection before and after the comment closing date. If you wish to review the docket in person, go to the address in the **ADDRESSES** section of this notice between 7:30 a.m. and 4 p.m., Monday through Friday, except Federal holidays.

We will consider all comments we receive on or before the closing date for comments. We will consider comments filed late if it is possible to do so without incurring expense or delay. We may change the proposed special conditions based on comments we receive.

If you want the FAA to acknowledge receipt of your comments on this proposal, include with your comments a pre-addressed, stamped postcard on which the docket number appears. We will stamp the date on the postcard and mail it back to you.

##### Background

On March 28, 2003, Boeing applied for an FAA type certificate for its new Boeing Model 787-8 passenger airplane. The Boeing Model 787-8 airplane will

be an all-new, two-engine jet transport airplane with a two-aisle cabin. The maximum takeoff weight will be 476,000 pounds, with a maximum passenger count of 381 passengers.

##### Type Certification Basis

Under provisions of 14 CFR 21.17, Boeing must show that Boeing Model 787-8 airplanes (hereafter referred to as "the 787") meet the applicable provisions of 14 CFR part 25, as amended by Amendments 25-1 through 25-117, except §§ 25.809(a) and 25.812, which will remain at Amendment 25-115. If the Administrator finds that the applicable airworthiness regulations do not contain adequate or appropriate safety standards for the 787 because of a novel or unusual design feature, special conditions are prescribed under provisions of 14 CFR 21.16.

In addition to the applicable airworthiness regulations and special conditions, the 787 must comply with the fuel vent and exhaust emission requirements of 14 CFR part 34 and the noise certification requirements of part 36. In addition, the FAA must issue a finding of regulatory adequacy pursuant to section 611 of Public Law 92-574, the "Noise Control Act of 1972."

Special conditions, as defined in § 11.19, are issued in accordance with § 11.38 and become part of the type certification basis in accordance with § 21.17(a)(2).

Special conditions are initially applicable to the model for which they are issued. Should the type certificate for that model be amended later to include any other model that incorporates the same or similar novel or unusual design feature, the special conditions would also apply to the other model under the provisions of § 21.101.

##### Novel or Unusual Design Features

The digital systems architecture for the 787 consists of several networks connected by electronics and embedded software. This proposed network architecture is used for a diverse set of functions, including the following.

1. Flight-safety-related control and navigation and required systems (Aircraft Control Domain).
2. Airline business and administrative support (Airline Information Services Domain).
3. Passenger entertainment, information, and Internet services

(Passenger Information and Entertainment Services Domain).

The proposed architecture of the 787 is different from that of existing production (and retrofitted) airplanes. It allows new kinds of passenger connectivity to previously isolated data networks connected to systems that perform functions required for the safe operation of the airplane. Because of this new passenger connectivity, the proposed data network design and integration may result in security vulnerabilities from intentional or unintentional corruption of data and systems critical to the safety and maintenance of the airplane. The existing regulations and guidance material did not anticipate this type of system architecture or electronic access to aircraft systems that provide flight critical functions. Furthermore, 14 CFR regulations and current system safety assessment policy and techniques do not address potential security vulnerabilities that could be caused by unauthorized access to aircraft data buses and servers. Therefore, a special condition is proposed to ensure that security, integrity, and availability of the aircraft systems and data networks are not compromised by certain wired or wireless electronic connections between airplane data buses and networks.

#### Applicability

As discussed above, these proposed special conditions are applicable to the 787. Should Boeing apply at a later date for a change to the type certificate to include another model incorporating the same novel or unusual design features, these proposed special conditions would apply to that model as well under the provisions of § 21.101.

#### Conclusion

This action affects only certain novel or unusual design features of the 787. It is not a rule of general applicability, and it affects only the applicant that applied to the FAA for approval of these features on the airplane.

#### List of Subjects in 14 CFR Part 25

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

The authority citation for these Special Conditions is as follows:

**Authority:** 49 U.S.C. 106(g), 40113, 44701, 44702, 44704.

#### The Proposed Special Conditions

Accordingly, the Administrator of the Federal Aviation Administration (FAA) proposes the following special conditions as part of the type

certification basis for the Boeing Model 787-8 airplane.

The design shall prevent all inadvertent or malicious changes to, and all adverse impacts upon, all systems, networks, hardware, software, and data in the Aircraft Control Domain and in the Airline Information Domain from all points within the Passenger Information and Entertainment Domain.

Issued in Renton, Washington, on April 5, 2007.

**Stephen P. Boyd,**

*Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.*

[FR Doc. E7-7065 Filed 4-12-07; 8:45 am]

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## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

**[Docket No. FAA-2007-27533; Directorate Identifier 2007-CE-022-AD]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Diamond Aircraft Industries GmbH Model DA 42 Airplanes**

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** We propose to adopt a new airworthiness directive (AD) for the products listed above. This proposed AD results from 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:

Shortly after an engine change, the aluminium fitting attached to the engine gearbox holding lines and fittings of the propeller control system was found to be cracked. This led to a pressure loss in the propeller control system following a control system malfunction and led to an in-flight engine shutdown.

The broken fitting is part of the engine installation and was initially a steel part. It was later modified by the engine manufacturer to an aluminium design.

Investigation determined that the area is critical for cracks due to combination of mass, material and installation torque values.

Diamond Aircraft Industries incorporated with Design Change MAM 42-184 an additional bracket into production airplanes to improve the installations and prevent vibration cracks.

The proposed AD would require actions that are intended to address the unsafe condition described in the MCAI.

**DATES:** We must receive comments on this proposed AD by May 14, 2007.

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

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.

- Fax: (202) 493-2251.

- Mail: Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001.

- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

#### Examining the AD Docket

You may examine the AD docket on the Internet at <http://dms.dot.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 proposed AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone (800) 647-5227) is in the **ADDRESSES** section. Comments will be available in the AD docket shortly after receipt.

**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.

#### SUPPLEMENTARY INFORMATION:

#### Streamlined Issuance of AD

The FAA is implementing a new process for streamlining the issuance of ADs related to MCAI. This streamlined process will allow us to adopt MCAI safety requirements in a more efficient manner and will reduce safety risks to the public. This process continues to follow all FAA AD issuance processes to meet legal, economic, Administrative Procedure Act, and **Federal Register** requirements. We also continue to meet our technical decision-making responsibilities to identify and correct unsafe conditions on U.S.-certificated products.

This proposed AD references the MCAI and related service information that we considered in forming the engineering basis to correct the unsafe condition. The proposed AD contains text copied from the MCAI and for this reason might not follow our plain language principles.