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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-1364; Directorate Identifier 2008-NM-103-AD; Amendment 39-15928; AD 2009-12-05]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-300, -400, and -500 Series Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 737-300, -400, and -500 series airplanes. This AD requires modifying the control power wiring of the normal supply fan and the low flow sensor for the equipment cooling system of the electronic flight instrument system (EFIS). This AD results from a report of loss of both the normal EFIS cooling supply and the indication of EFIS cooling loss due to a single failure of the battery bus, causing eventual power-down of the EFIS displays; the standby attitude indication is also powered by this battery bus. We are issuing this AD to prevent loss of all attitude indications from both the standby indicator and EFIS displays, which could decrease the ability of the flightcrew to maintain the safe flight and landing of the airplane.

DATES: This AD is effective July 16, 2009.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in the AD as of July 16, 2009.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1, fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

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 (telephone 800-647-5527) is the 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: Suk Jang, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6511; fax (425) 917-6590.

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 certain Boeing Model 737-300, -400, and -500 series airplanes. That NPRM was published in the Federal Register on January 12, 2009 (74 FR 1153). That NPRM proposed to require modifying the control power wiring of the normal supply fan and the low flow sensor for the equipment cooling system of the electronic flight instrument system (EFIS).

Comments

We gave the public the opportunity to participate in developing this AD. We considered the comments received.

Supportive Comments

Boeing and Continental Airlines support the actions in the NPRM.

Request To Add an Alternate Method of Compliance

Lufthansa German Airlines asks that we add a method acceptable for compliance with the corresponding requirements of the NPRM. Lufthansa notes that, as specified in paragraphs (f), (g)(1), and (g)(2) of the NPRM, actions done in accordance with Boeing Alert Service Bulletin 737-21A1156, Revision 1, dated October 23, 2007; or Boeing Alert Service Bulletin 737-21A1156, dated June 20, 2006; are acceptable for compliance. Lufthansa adds that these actions prevent loss of all attitude indications from both the standby indicator and EFIS displays in case of battery bus failure. (The following is a clarification of the commenter's description of acceptable sources of service information specified in this AD: Boeing Alert Service Bulletin 737-21A1156, Revision 2, dated December 11, 2008, is the source of service information referred to in the NPRM for accomplishing the specified actions. Actions done previously in accordance with Boeing Alert Service Bulletin 737-21A1156, Revision 1, dated October 23, 2007; or Boeing Alert Service Bulletin 737-21A1156, dated June 20, 2006 (for Groups 1 and 2 airplanes identified in Boeing Alert Service Bulletin 737-21A1156, Revision 1), are acceptable for compliance with the corresponding requirements of this AD.)

Lufthansa asks that we consider another method to address this unsafe condition, which is to append an abnormal procedure task to the flight crew operations manual in case of battery bus failure to specify setting the equipment cooling switch to alternate if the battery bus fails. This would allow the alternate supply fan to still cool the EFIS displays and prevent them from failing.

We disagree with the commenter's request to add this additional method of compliance to the AD requirements. The identified unsafe condition is loss of all attitude indications from both the standby indicator and EFIS displays, which could decrease the ability of the flightcrew to maintain the safe flight and landing of the airplane. Although we recognize the commenter's suggestion provides some safety mitigation for the unsafe condition, the inherently unsafe design of the EFIS cooling system

must be corrected to ensure that flightcrews are equipped with attitude indications. Therefore, after the modification of the control power wiring of the EFIS cooling system is done, revising the flightcrew operations manual is not necessary and is not acceptable as an alternate method of compliance to this AD. We have made no change to the AD in this regard.

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.

Costs of Compliance

We estimate that this AD will affect 263 airplanes of U.S. registry. The following table provides the estimated costs for U.S. operators to comply with this AD.

| Estimated Costs | | | | | | |
|------------------------------|-------------------|------------------------------------|--------------|-------------------------|--|-------------------|
| Action/Airplane group | Work hours | Average labor rate per hour | Parts | Cost per product | Number of U.S.-registered airplanes | Fleet cost |
| Groups 1 & 2 modification | 3 | \$80 | \$0 | \$240 | 153 | \$36,720 |
| Group 4 modification | 2 | \$80 | \$0 | \$160 | 113 | \$18,080 |

Currently, there are no Group 3 airplanes on the U.S. Register. However, if an affected airplane is imported and placed on the U.S. Register in the future, the required actions would take about 5 work hours, at an average labor rate of \$80 per work hour. Based on these figures, we estimate the cost of this AD for Group 3 airplanes to be \$400 per airplane.

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), 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.

You can find our regulatory evaluation and the estimated costs of compliance in the AD Docket.

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:



2009-12-05 Boeing: Amendment 39-15928. Docket No. FAA-2008-1364; Directorate Identifier 2008-NM-103-AD.

Effective Date

(a) This airworthiness directive (AD) is effective July 16, 2009.

Affected ADs

(b) None.

Applicability

(c) This AD applies to Boeing Model 737-300, -400, and -500 series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 737-21A1156, Revision 2, dated December 11, 2008.

Unsafe Condition

(d) This AD results from a report of loss of both the normal electronic flight instrument system (EFIS) cooling supply and the indication of EFIS cooling loss due to a single failure of the battery bus, causing eventual power-down of the EFIS displays; the standby attitude indication is also powered by this battery bus. We are issuing this AD to prevent loss of all attitude indications from both the standby indicator and EFIS displays, which could decrease the ability of the flightcrew to maintain the safe flight and landing of the airplane.

Compliance

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

Modification

(f) Within 24 months after the effective date of this AD: Modify the control power wiring of the normal supply fan and the low flow sensor for the equipment cooling system of the EFIS, by doing all the applicable actions specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 737-21A1156, Revision 2, dated December 11, 2008.

Credit for Actions Done Using Previous Service Information

(g)(1) Actions done before the effective date of this AD in accordance with Boeing Alert Service Bulletin 737-21A1156, Revision 1, dated October 23, 2007, are acceptable for compliance with the corresponding requirements of this AD.

(2) For Groups 1 and 2 airplanes identified in Boeing Alert Service Bulletin 737-21A1156, Revision 1, dated October 23, 2007: Actions done before the

effective date of this AD in accordance with Boeing Alert Service Bulletin 737-21A1156, dated June 20, 2006, are acceptable for compliance with the corresponding requirements of this AD.

Alternative Methods of Compliance (AMOCs)

(h)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, ATTN: Suk Jang, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle ACO, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6511; fax (425) 917-6590; has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19.

(2) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Before using any approved AMOC on any airplane to which the AMOC applies, notify your principal maintenance inspector (PMI) or principal avionics inspector (PAI), as appropriate, or lacking a principal inspector, your local Flight Standards District Office. The AMOC approval letter must specifically reference this AD.

Material Incorporated by Reference

(i) You must use Boeing Alert Service Bulletin 737-21A1156, Revision 2, dated December 11, 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 this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, Washington 98124-2207; telephone 206-544-5000, extension 1, fax 206-766-5680; e-mail me.boecom@boeing.com; Internet <https://www.myboeingfleet.com>.

(3) You may review copies of the service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington. For information on the availability of this material at the FAA, call 425-227-1221 or 425-227-1152.

(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 NARA, call 202-741-6030, or go to: http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on June 1, 2009.
Stephen P. Boyd,
Acting Manager, Transport Airplane Directorate,
Aircraft Certification Service.