

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-1065; Directorate Identifier 2008-NM-126-AD; Amendment 39-15827; AD 2009-05-03]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 727 Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for certain Boeing Model 727 airplanes. This AD requires among other actions, installing new ground fault interrupter (GFI) relays for the main fuel tanks and the auxiliary fuel tank pumps. This AD also requires revising the FAA-approved maintenance program to incorporate new Airworthiness Limitations for the GFI of the boost pumps and for the uncommanded on system for the auxiliary fuel tank pumps. This AD results from fuel system reviews conducted by the manufacturer. We are issuing this AD to prevent an electrical fault in the fuel pump system, which might cause a connector or end cap to burn through and a subsequent fire or explosion inside the fuel pump or wing spar area. We are also issuing this AD to prevent uncommanded operation of the auxiliary fuel tank pumps, which can cause them to run dry. This condition will increase pump temperature and could supply an ignition source to fumes in the fuel tank, which can result in a consequent fire or explosion.

DATES: This AD is effective April 3, 2009.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in this AD as of April 3, 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: Binh Tran, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6485; 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 727 airplanes. That NPRM was published in the Federal Register on October 7, 2008 (73 FR 58509). That NPRM proposed to require, among other actions, installing new ground fault interrupter (GFI) relays for the main fuel tanks and the auxiliary fuel tank pumps. This AD also requires revising the FAA-approved maintenance program to incorporate new Airworthiness Limitations for the GFI of the boost pumps and for the uncommanded on system for the auxiliary fuel tank pumps.

Comments

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

Support for the NPRM

Boeing concurs with the contents of the NPRM.

General Comment Disagreeing With NPRM

Another commenter, Ralph Pascale, asserts that the current configuration of the boost pump circuits is adequate and does not need to be changed. The commenter feels that by installing the GFIs on the boost pumps according to the NPRM, there could be a condition where during a loss of all generators due to thunderstorms, electrical power is lost to the boost pumps and the possibility of the GFI tripping due to high voltage (getting hit by lightning) will prevent the boost pumps from supplying boosted pressure when electrical power is re-established, causing a triple flameout.

We infer that the commenter is requesting that we withdraw the NPRM. We do not concur. Loss of all generators resulting in loss of all boost pumps is a rare event, even without GFI installed for the boost pumps. The GFI has been tested for lightning threat to a level that is higher than the worst-case lightning threat that a Model 727 airplane would typically experience. Therefore, the risk to the boost pumps has not increased. We have not changed this final rule in light of the 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.

Costs of Compliance

We estimate that this AD will affect 199 airplanes of U.S. registry. The following table provides the estimated costs for U.S. operators to comply with this AD.

Table – Estimated costs

Action	Work hours	Average labor rate per hour	Parts	Cost per product	Number of U.S.-registered airplanes	Fleet cost
Installation of new GFI relays	Between 202 and 416 ¹	\$80	Between \$30,619 and \$59,785 ¹	Between \$46,779 and \$93,065 ¹	199	Between \$9,309,021 and \$18,519,935 ¹
Concurrent Requirements	Between 68 and 209 ¹	\$80	Between \$1,292 and \$10,470 ¹	Between \$6,732 and \$27,190 ¹	35	Between \$235,620 and \$951,650 ¹
Revision of FAA-approved maintenance program	1	\$80	None	\$80	199	\$15,920

¹ Depending on the airplane configuration.

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:



2009-05-03 Boeing: Amendment 39-15827. Docket No. FAA-2008-1065; Directorate Identifier 2008-NM-126-AD.

Effective Date

- (a) This airworthiness directive (AD) is effective April 3, 2009.

Affected ADs

- (b) None.

Applicability

(c) This AD applies to Boeing Model 727, 727C, 727-100, 727-100C, 727-200, and 727-200F series airplanes, certificated in any category; as identified in Boeing Alert Service Bulletin 727-28A0128, dated April 4, 2008.

Note 1: This AD requires revisions to certain operator maintenance documents to include new inspections. Compliance with these inspections is required by 14 CFR 91.403(c). For airplanes that have been previously modified, altered, or repaired in the areas addressed by these inspections, the operator may not be able to accomplish the inspections described in the revisions. In this situation, to comply with 14 CFR 91.403(c), the operator must request approval for an alternative method of compliance (AMOC) according to paragraph (j) of this AD. The request should include a description of changes to the required inspections that will ensure the continued operational safety of the airplane.

Unsafe Condition

(d) This AD results from fuel system reviews conducted by the manufacturer. We are issuing this AD to prevent an electrical fault in the fuel pump system, which might cause a connector or end cap to burn through and a subsequent fire or explosion inside the fuel pump or wing spar area. We are also issuing this AD to prevent uncommanded operation of the auxiliary fuel tank pumps, which can cause them to run dry. This condition will increase pump temperature and could supply an ignition source to fumes in the fuel tank, which can result in a consequent fire or explosion.

Compliance

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

Installation

(f) Within 60 months after the effective date of this AD, install new ground fault interrupter (GFI) relays for the main fuel tanks and the auxiliary fuel tank pumps and do all the other specified actions by accomplishing all the applicable actions specified in the Accomplishment Instructions of Boeing Alert Service Bulletin 727-28A0128, dated April 4, 2008.

Concurrent Requirements

(g) For airplanes identified as Groups 5 through 18 inclusive, in Boeing Alert Service Bulletin 727-28A0128, dated April 4, 2008: Concurrently with the installation required by paragraph (f) of this AD, do the actions specified in paragraphs (g)(1) and (g)(2) of this AD in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 727-28A0130, dated April 30, 2008.

(1) Install new ground blocks, track, switch mounting bracket, relay mounting bracket, toggle switches, and relays, and make changes to the wire bundles in the GFI relay panel in the electronic equipment bay.

(2) Install new circuit breakers and lights and make changes to wire bundles on the third crewman's P6 and P4 panels in the flight compartment.

Maintenance Program Revision

(h) Concurrently with accomplishing the installation required by paragraph (f) of this AD, revise the FAA-approved maintenance program by incorporating Airworthiness Limitations Nos. 28-AWL-16 and 28-AWL-17 of Section D of "Boeing 727-100/200 Airworthiness Limitations (AWLs)," Document D6-8766-AWL, Revision August 2007.

No Alternative Inspection or Inspection Intervals

(i) After accomplishing the action required by paragraph (h) of this AD, no alternative inspections or inspection intervals may be used, unless the inspections or intervals are approved as an alternative means of compliance (AMOC) in accordance with the procedures specified in paragraph (j) of this AD.

Alternative Methods of Compliance (AMOCs)

(j)(1) The Manager, Seattle Aircraft Certification Office (ACO), FAA, ATTN: Binh Tran, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle ACO, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 917-6485; 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.

Material Incorporated by Reference

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

Table 1 – Material incorporated by reference

Document	Revision	Date
Boeing Alert Service Bulletin 727-28A0128	Original	April 4, 2008
Boeing Alert Service Bulletin 727-28A0130	Original	April 30, 2008

(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, WA 98055. 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, WA, on January 30, 2009.

Stephen P. Boyd,
Assistant Manager, Transport Airplane Directorate,
Aircraft Certification Service.