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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2008-0618; Directorate Identifier 2007-NM-355-AD; Amendment 39-17844; AD 2014-09-09]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes. This AD was prompted by reports of two in-service occurrences on Model 737-400 airplanes of total loss of boost pump pressure of the fuel feed system, followed by loss of fuel system suction feed capability on one engine, and in-flight shutdown of the engine. This AD requires revising the maintenance program to incorporate a revision to the Airworthiness Limitations Section of the maintenance planning data (MPD) document. We are issuing this AD to detect and correct failure of the engine fuel suction feed of the fuel system, which, in the event of total loss of the fuel boost pumps, could result in dual engine flameout, inability to restart the engines, and consequent forced landing of the airplane.

DATES: This AD is effective July 1, 2014.

ADDRESSES: For service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet https://www.myboeingfleet.com. You may view this 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.

Examining the AD Docket

You may examine the AD docket on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2008-0618; 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 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 FURTHER INFORMATION CONTACT: Sue Lucier, Aerospace Engineer, Propulsion Branch, ANM-140S, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6438; fax: 425-917-6590; email: suzanne.lucier@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a second supplemental notice of proposed rulemaking (SNPRM) to amend 14 CFR part 39 by adding an AD that would apply to all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes. The second SNPRM published in the Federal Register on July 30, 2013 (78 FR 45898). The second SNPRM proposed to add Model 777F series airplanes to the applicability.

We preceded the second SNPRM with the first SNPRM, which published in the Federal Register on March 7, 2013 (78 FR 14722). The first SNPRM proposed to revise the maintenance program to incorporate a revision to the Airworthiness Limitations Section of the maintenance planning data (MPD) document.

We preceded the first SNPRM with a notice of proposed rulemaking (NPRM) that published in the Federal Register on June 6, 2008 (73 FR 32253). The NPRM was prompted by reports of two in-service occurrences on Model 737-400 airplanes of total loss of boost pump pressure of the fuel feed system, followed by loss of fuel system suction feed capability on one engine, and in-flight shutdown of the engine. The subject area on Model 777 airplanes is almost identical to that area on Model 737-400 airplanes; therefore, Model 777 airplanes may be subject to the unsafe condition revealed on Model 737-400 airplanes. The NPRM proposed to require performing repetitive operational tests of the engine fuel suction feed of the fuel system, and other related testing if necessary.

We are issuing this AD to detect and correct failure of the engine fuel suction feed of the fuel system, which, in the event of total loss of the fuel boost pumps, could result in dual engine flameout, inability to restart the engines, and consequent forced landing of the airplane.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the second SNPRM (78 FR 45898, July 30, 2013) and the FAA's response to each comment. FedEx concurs with the proposed requirements.

Request To Allow the Use of Later Revisions of the Maintenance Planning Document (MPD)

United Airlines (UAL) asked that we allow using the latest MPD revision of May 2013 for accomplishing the required actions. UAL stated that paragraph (l) of the second SNPRM (78 FR 45898, July 30, 2013) provides credit for doing the actions required by paragraph (g) of the second SNPRM before the effective date of the AD, if the actions were done using Revision February 2012 of the MPD. UAL suggested that credit for Revision May 2013 of the MPD also be included in paragraph (l) of the second SNPRM.

We agree to give credit for the latest revision of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, which is Revision dated June 2013; provided the revised "interval" specified in Appendix 1 of this AD is incorporated into the existing maintenance program within 90 days after the effective date of this AD. We have revised paragraph (i) of this AD accordingly.

Request To Clarify Reason for the Unsafe Condition

Boeing asked that we clarify the reason for the unsafe condition identified in the second SNPRM (78 FR 45898, July 30, 2013). Boeing asked that we provide additional clarification that there are no reports of any in-service events on Model 777 airplanes.

We acknowledge the commenter's concern, but do not find it necessary to clarify the unsafe condition further. We clarified the reason for the unsafe condition in the first SNPRM (78 FR 45898, July 30, 2013) per a similar request from Boeing regarding the fact that there had been no events on Model 777 airplanes. In light of this, we find that further clarification is not necessary. We have made no change to the final rule in this regard.

Change to Final Rule

We removed the on-condition costs specified in the "Costs of Compliance" section of this final rule because there are no on-condition actions.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD as proposed.

Costs of Compliance

We estimate that this AD affects 676 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Cost per product	Cost on U.S. operators
Maintenance Program Revision	1 work-hour × $85 per hour = $85	$85 per test	$57,460, per test.

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):

2014-09-09 The Boeing Company: Amendment 39-17844; Docket No. FAA-2008-0618; Directorate Identifier 2007-NM-355-AD.

(a) Effective Date

This AD is effective July 1, 2014.

(b) Affected ADs

None.

(c) Applicability

This AD applies to all The Boeing Company Model 777-200, -200LR, -300, -300ER, and 777F series airplanes, certificated in any category.

(d) Subject

Air Transport Association (ATA) of America Code 2800, Aircraft Fuel System.

(e) Unsafe Condition

This AD was prompted by reports of two in-service occurrences on Model 737-400 airplanes of total loss of boost pump pressure of the fuel feed system, followed by loss of fuel system suction feed capability on one engine, and in-flight shutdown of the engine. We are issuing this AD to detect and correct failure of the engine fuel suction feed of the fuel system, which, in the event of total loss of the fuel boost pumps, could result in dual engine flameout, inability to restart the engines, and consequent forced landing of the airplane.

(f) Compliance

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

(g) Maintenance Program Revision

Within 90 days after the effective date of this AD: Revise the maintenance program to incorporate the airworthiness limitation (AWL) identified in Appendix 1 of this AD, AWL No. 28-AWL-101, Engine Fuel Suction Feed Operational Test. The initial compliance time for accomplishing AWL No. 28-AWL-101 is within 7,500 flight hours or 3 years after the effective date of this AD, whichever is first.

(h) No Alternative Actions, Intervals, and/or Critical Design Configuration Control Limitations (CDCCLs)

After accomplishing the revision required by paragraph (g) of this AD, no alternative actions (e.g., tests), intervals, or CDCCLs may be used unless the actions, intervals, or CDCCLs are approved as an alternative method of compliance (AMOC) in accordance with the procedures specified in paragraph (j) of this AD.

(i) Credit for Actions Accomplished in Accordance With Previous Service Information

This paragraph provides credit for the actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using AWL No. 28-AWL-101, Engine Fuel Suction Feed Operational Test, of Section D.2., Engine Suction Fuel System, of Section 9, Airworthiness Limitations (AWLs) and Certification Maintenance Requirements (CMRs), D622W001-9, Revision February 2012, or Revision June 2013, of the Boeing 777 Maintenance Planning Data (MPD) Document, provided the revised "interval" specified in Appendix 1 of this AD is incorporated into the existing maintenance program within 90 days after the effective date of this AD.

(j) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Seattle Aircraft Certification Office (ACO), 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. Information may be emailed to: 9-ANM-Seattle-ACO-AMOC-Requests@faa.gov.

(2) Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the local flight standards district office/certificate holding district office.

(k) Related Information

(1) For more information about this AD, contact Sue Lucier, Aerospace Engineer, Propulsion Branch, ANM-140S, 1601 Lind Avenue SW., Renton, Washington 98057-3356; phone: 425-917-6438; fax: 425-917-6590; email: suzanne.lucier@faa.gov.

(2) For service information identified in this AD that is not incorporated by reference, contact Boeing Commercial Airplanes, Attention: Data & Services Management, P.O. Box 3707, MC 2H-65, Seattle, WA 98124-2207; telephone 206-544-5000, extension 1; fax 206-766-5680; Internet https://www.myboeingfleet.com.

(l) Material Incorporated by Reference

None.

Appendix 1 of AD 2014-09-09

AWL No.	Task	Interval	Applicability	Description
28-AWL-101	ALI	7,500 FH or 3 years, whichever is first	ALL	Engine Fuel Suction Feed Operational Test.
				An Engine Fuel Suction Feed Operational Test must be accomplished successfully on each engine individually. This test is required in order to protect against engine flameout during suction feed operations, and must meet the following requirements (refer to Boeing AMM 28-22-00):
				Fuel Tank Quantity Limitations:
				Engine No. 1
				a. The Center Tank Fuel Quantity must not exceed 5,000 lbs (2,270 kg).
				b. The Main Tank No. 1 Fuel Quantity must be between 1,400 lbs-1,600 lbs (600 kg-800 kg). NOTE: Excess fuel can be transferred to Main Tank No. 2.
				Engine No. 2
				a. The Center Tank Fuel Quantity must not exceed 5,000 lbs (2,270 kg).
				b. The Main Tank No. 2 Fuel Quantity must be between 1,400 lbs-1,600 lbs (600 kg-800 kg). NOTE: Excess fuel can be transferred to Main Tank No. 1.
				Test Procedural Limitations:
				1. The Fuel Cross-Feed Valve must be CLOSED.
				2. The APU Selector Switch must be OFF.
				3. Idle Engine Warm-up time of minimum two minutes with Boost Pump ON.
				4. Idle Engine Suction Feed (Boost Pump OFF) operation for a minimum of five minutes. NOTE: APU may be used to start the engines provided the Fuel Tank Quantity and Test Procedural Limitations are met. The test is considered a success if engine operation is maintained during the five-minute period and engine parameters (N1, N2, and Fuel Flow) do not decay relative to those observed with Boost Pump ON. A suction feed system that fails the operational test must be repaired or maintained, and successfully pass the Engine Suction Feed Operational Test prior to further flight.

Issued in Renton, Washington, on April 18, 2014.
Jeffrey E. Duven,
Manager, Transport Airplane Directorate,
Aircraft Certification Service.