[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2012-1221; Directorate Identifier 2012-NM-151-AD]

RIN 2120-AA64

Airworthiness Directives; The Boeing Company

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to adopt a new airworthiness directive (AD) for certain The Boeing Company Model 777-200 and -300 series airplanes. This proposed AD was prompted by reports of hydraulic fluid contamination found in the strut forward dry bay. This proposed AD would require repetitive general visual inspections of the strut forward dry bay for the presence of hydraulic fluid, and related investigative and corrective actions if necessary. We are proposing this AD to detect and correct hydraulic fluid contamination of the strut forward dry bay, which could result in hydrogen embrittlement of the titanium forward engine mount bulkhead fittings, and consequent inability of the fittings to carry engine loads, resulting in the loss or departure of an engine. Hydraulic embrittlement could cause a through-crack formation across the fittings through which an engine fire could breach into the strut, resulting in an uncontained strut fire.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

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

• Fax: 202-493-2251.

• Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

• Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

For service information identified in this proposed 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 review copies of the referenced service information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW, Renton, WA. 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; 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 (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Kevin Nguyen, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6501; fax: 425-917-6590; email: kevin.nguyen@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under the ADDRESSES section. Include "Docket No. FAA-2012-1221; Directorate Identifier 2012-NM-151-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to http://www.regulations.gov, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

We received reports of hydraulic fluid contamination in the strut forward dry bay caused by the clogged and blocked forward strut drain lines not allowing fluids (water, fuel, engine oil and hydraulic) to drain properly, resulting in fluids backing up to the dry bay. The presence of hydraulic fluid and temperatures above 270 degrees Fahrenheit can cause hydrogen embrittlement of the titanium forward engine mount bulkhead fittings. This condition, if not corrected, could result in the inability of the forward engine mount bulkhead fittings to carry engine loads, resulting in the loss or departure of an engine; or cause a through-crack formation across the fittings through which an engine fire could breach into the strut, resulting in an uncontained strut fire.

Relevant Service Information

We reviewed Boeing Special Attention Service Bulletin 777-54-0028, dated May 25, 2012. The service information describes procedures for repetitive general visual

inspections for hydraulic fluid contamination of the strut forward dry bay, and related investigative and corrective actions if necessary. Related investigative actions include a detailed inspection for hydraulic fluid coking, heat discoloration, damage to sealant and primer, damage to leveling compound, cracking, and etching or pitting of the interior strut forward dry bay; a detailed and high frequency eddy current (HFEC) inspection for cracking, etching, or pitting of the bulkhead upper and lower fittings of the strut forward engine mount; and checking drain lines for blockage. Corrective actions include cleaning and restoring sealant, primer, and leveling compound of the detail parts in the strut forward dry bay; cleaning or replacing drain lines; and contacting the manufacturer for repair instructions and doing the repair.

The compliance time for the initial inspection is within 600 flight cycles or 12 months, whichever occurs first. The compliance times for the related investigative actions are before further flight. The compliance times for corrective actions vary between before further flight, and within 25 flight cycles or 10 days, whichever occurs first (depending on the condition). The repetitive inspection intervals do not exceed 1,200 flight cycles.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of these same type designs.

Proposed AD Requirements

This proposed AD would require accomplishing the actions specified in the service information described previously, except as discussed under "Differences Between the Proposed AD and the Service Information."

Differences Between the Proposed AD and the Service Information

Although the service bulletin specifies that operators may contact the manufacturer for disposition of certain repair conditions, this proposed AD would require operators to repair those conditions using a method approved by the FAA.

Costs of Compliance

We estimate that this proposed AD affects 55 airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

Estimated costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Repetitive general visual inspections	5 work-hours X $85 per hour = $425 per inspection cycle	$0	$425 per inspection cycle	$23,375 per inspection cycle

We estimate the following costs to do any actions that would be required based on the results of the proposed inspection. We have no way of determining the number of aircraft that might need these actions.

On-condition costs

Action	Labor cost	Parts cost	Cost per product
Detailed inspection	8 work-hours X $85 per hour = $680	$0	$680
Check drain lines (including cleaning or replacing)	5 work-hours X $85 per hour = $425	$0	$425
Detailed inspection and high frequency eddy current inspection	8 work-hours X $85 per hour = $680	$0	$680
Clean and restore sealant, primer and leveling compound	8 work-hours X $85 per hour = $680	$0	$680

We have received no definitive data that would enable us to provide a cost estimate for the on-condition repair specified in this proposed AD.

According to the manufacturer, some of the costs of this proposed AD may be covered under warranty, thereby reducing the cost impact on affected individuals. We do not control warranty coverage for affected individuals. As a result, we have included all costs in our cost estimate.

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

We determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would 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 this proposed regulation:

(1) Is not a "significant regulatory action" under Executive Order 12866,

(2) Is not a "significant rule" under the 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.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 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):

The Boeing Company: Docket No. FAA-2012-1221; Directorate Identifier 2012-NM-151-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE Federal Register].

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 777-200 and -300 series airplanes; certificated in any category; equipped with Pratt & Whitney 4000 engines; as identified in Boeing Special Attention Service Bulletin 777-54-0028, dated May 25, 2012.

(d) Subject

Joint Aircraft System Component (JASC)/Air Transport Association (ATA) of America Code 54, Nacelles/pylons.

(e) Unsafe Condition

This AD was prompted by reports of hydraulic fluid contamination found in the strut forward dry bay. We are issuing this AD to detect and correct hydraulic fluid contamination of the strut forward dry bay, which could result in hydrogen embrittlement of the titanium forward engine mount bulkhead fittings, and consequent inability of the fittings to carry engine loads, resulting in the loss or departure of an engine. Hydraulic embrittlement could cause a through-crack formation across the fittings through which an engine fire could breach into the strut, resulting in an uncontained strut fire.

(f) Compliance

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

(g) Inspection

Except as provided by paragraph (h)(1) of this AD, at the times specified in paragraph 1.E., "Compliance," of Boeing Special Attention Service Bulletin 777-54-0028, dated May 25, 2012: Do a general visual inspection for hydraulic fluid contamination of the interior of the strut forward dry bay, and do all applicable related investigative and corrective actions, in accordance with the Accomplishment Instructions of Boeing Special Attention Service Bulletin 777-54-0028, dated May 25, 2012, except as required by paragraph (h)(2) of this AD. Repeat the inspection thereafter at the times

specified in paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 777-54-0028, dated May 25, 2012. Except as required by paragraph (h)(3) of this AD, do all applicable related investigative and corrective actions at the times specified in paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 777-54-0028, dated May 25, 2012.

(h) Exceptions

(1) Where the Compliance time column of paragraph 1.E., "Compliance," of Boeing Service Bulletin 777-54-0028, dated May 25, 2012, refers to the compliance time "after the original issue date of this service bulletin," this AD requires compliance within the specified compliance time after the effective date of this AD.

(2) Where Boeing Special Attention Service Bulletin 777-54-0028, dated May 25, 2012, specifies to contact Boeing for repair: Except as required by paragraph (h)(3) of this AD, at the applicable times specified in paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 777-54-0028, dated May 25, 2012, repair, in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(3) Where paragraph 1.E., “Compliance,” of Boeing Special Attention Service Bulletin 777-54-0028, dated May 25, 2012, specifies a compliance time of “within 25 flight-cycles or 10 days, whichever occurs first,” this AD requires compliance within 25 flight cycles or 10 days after the most recent inspection required by paragraph (g) of this AD, whichever occurs first.

(i) 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.

(3) An AMOC that provides an acceptable level of safety may be used for any repair required by this AD if it is approved by the Boeing Commercial Airplanes Organization Designation Authorization (ODA) that has been authorized by the Manager, Seattle ACO, to make those findings. For a repair method to be approved, the repair must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(j) Related Information

(1) For more information about this AD, contact Kevin Nguyen, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6501; fax: 425-917-6590; email: kevin.nguyen@faa.gov.

(2) 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 review copies of the referenced service

information at the FAA, Transport Airplane Directorate, 1601 Lind Avenue SW, Renton, WA. For information on the availability of this material at the FAA, call 425-227-1221.

Issued in Renton, Washington, on November 21, 2012.

Ali Bahrami,
Manager,
Transport Airplane Directorate,
Aircraft Certification Service.

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