[Federal Register Volume 82, Number 24 (Tuesday, February 7, 2017)]
[Rules and Regulations]
[Pages 9489-9492]
From the Federal Register Online via the Government Publishing Office [www.gpo.gov]
[FR Doc No: 2017-01341]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-7261; Directorate Identifier 2016-NM-004-AD; Amendment 39-18783; AD 2017-02-04]

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 certain The Boeing Company Model 747-200B, 747-300, 747-400, 747-400D, and 747-400F series airplanes. This AD was prompted by a report of cracking in both the aluminum strut side skin, and corrosion resistant steel (CRES) outer spring beam support fitting. This AD requires inspections, related investigative and corrective actions, and a fastener installation modification. We are issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective March 14, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of March 14, 2017.

ADDRESSES: For service information identified in this final rule, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet https://www.myboeingfleet.com. You may view this 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. It is also available on the Internet at http://www.regulations.gov by searching for and locating Docket No. FAA-2016-7261.

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-2016-7261; 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: Bill Ashforth, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office (ACO), 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6432; fax: 425-917-6590; email: bill.ashforth@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain The Boeing Company Model 747-200B, 747-300, 747-400, 747-400D, and 747-400F series airplanes. The NPRM published in the Federal Register on June 21, 2016 (81 FR 40205). The NPRM was prompted by a report of cracking in both the aluminum strut side skin, and corrosion resistant steel (CRES) outer spring beam support fitting. The NPRM proposed to require repetitive high frequency eddy current (HFEC) inspections for cracking in the strut side skin, an open-hole HFEC inspection for cracking, applicable related investigative and corrective actions, and a fastener installation modification. We are issuing this AD to detect and correct cracking of the strut side skin and spring beam support fitting; such cracking could result in the failure of the outer spring beam support fitting, which could cause separation of a strut and engine from the airplane during flight.

Comments

We gave the public the opportunity to participate in developing this AD. The following presents the comments received on the NPRM and the FAA's response to each comment.

Requests To Include Additional Clarification of Service Information

Boeing, Delta Airlines (DAL), and KLM Royal Dutch Airlines (KLM) requested that we revise paragraphs (g), (h), and (i) of the proposed AD to include Boeing Service Bulletin Information Notice 747-54A2245 IN 02, dated February 11, 2016; and Boeing Service Bulletin Information Notice 747-54A2245 IN 03, dated May 13, 2016. The commenters all mentioned that without the information contained in the requested information notices, the requirements of the proposed AD cannot be fully accomplished.

We partially agree with the request to revise paragraphs (g), (h), and (i) of this AD to include new information that clarifies how to accomplish the required tasks specified in this AD. However, there is new service information that includes the same additional information. We have revised this AD to refer to Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, as the appropriate source of service information to use for the actions required by this AD. Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, includes additional information discovered during validation of Boeing Alert Service Bulletin 747-54A2245, dated December 18, 2015. Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, clarifies the procedures for the fastener removal, drill ream, and spot facing steps, and provides additional access instructions, but does not include any new actions. Additionally, we have added a new paragraph (j) to this AD to give credit for actions performed before the effective date of this AD, using Boeing Alert Service Bulletin 747-54A2245, dated December 18, 2015. We have redesignated subsequent paragraphs accordingly.

Request To Clarify the Unsafe Condition Statement

Boeing requested that we revise the unsafe condition statement by clarifying the location of the cracking. Boeing reported that cracking has been found not only in the strut side skin, but also in the spring beam support fitting.

We agree with the request to clarify the unsafe condition statement. We have revised the Discussion section of this final rule, and paragraph (e) of this AD accordingly. The unsafe condition statement has been removed from the SUMMARY section of this final rule.

Request To Revise the Costs of Compliance

Boeing requested that we revise the Costs of Compliance to reflect updated work-hours to do the inspection. Boeing specified that the hours necessary to do the inspection were re-evaluated to be 4 work-hours, and the new information was disclosed in Boeing Service Bulletin Information Notice 747-54A2245 IN 01, dated December 23, 2015.

We agree with the request, and have revised the Costs of Compliance section of this final rule to reflect the updated work-hours.

Request To Revise Compliance Time for Repetitive Inspections

KLM requested that we revise the compliance time for the repetitive inspections from 500 flight cycles to 1,250 flight cycles. KLM pointed out that during the 747 Structures Task Group meetings organized to support strut modification, Boeing had established a design goal to tolerate one major load path failure and still meet regulatory requirements with a longer inspection interval. KLM also indicated that the time required for the repetitive inspections is a large burden.

We disagree with the request to revise the compliance time for the repetitive inspections. In 1993, the Model 747 Structures Task Group did not foresee this level of damage occurring. Through damage tolerance analysis, the original equipment manufacturer (OEM) has determined that 500 flight cycles is the maximum number of flight cycles that provides an acceptable level of safety, and the FAA agrees with that analysis. Additionally, as discussed previously, the OEM has revised the time required to do the repetitive inspections from 291 work-hours to 4 work-hours in the new service information referenced previously, reducing the burden to operators. We have not revised the compliance time for the repetitive inspections; however, we have revised this AD to refer to the new service information referenced previously.

Request To Clarify How Certain Parts May Be Used for Terminating Action

DAL requested clarification of the use of certain parts (fillers) for the terminating action required for all airplanes. DAL pointed out that certain parts are specifically named to include the airplane engine model (CF6-80C2), and that this could preclude the terminating action or lead to a non-compliant installation for airplanes with Pratt & Whitney (PW) 4000 engines installed.

We agree with the request for clarification because it should make this AD easier to interpret. We have revised paragraph (h) of this AD to specify that part numbers 321U2400-5600, 321U2400-5601, and 321U2400-5602 may be used for airplanes with General Electric CF6-80 engines and PW4000 engines.

Conclusion

We reviewed the relevant data, considered the comments received, and determined that air safety and the public interest require adopting this AD with the changes described previously and minor editorial changes. We have determined that these minor changes:

- Are consistent with the intent that was proposed in the NPRM for correcting the unsafe condition; and
- Do not add any additional burden upon the public than was already proposed in the NPRM.

We also determined that these changes will not increase the economic burden on any operator or increase the scope of this AD.

Related Service Information Under 1 CFR Part 51

We reviewed Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016. The service information describes procedures for repetitive HFEC inspections for cracking in the strut side skin, an open-hole HFEC inspection for cracking, applicable related investigative and corrective actions, and a fastener installation modification. This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

We estimate that this AD affects 320 airplanes of U.S. registry. We estimate the following costs to comply with this AD:

Estimated Costs

Action	Labor cost	Parts cost	Cost per product	Cost on U.S. operators
Inspection	4 work-hours × $85 per hour = $340 per inspection cycle	$0	$340 per inspection cycle	$108,800 per inspection cycle.
Modification	Up to 490 work-hours × $85 per hour = $41,650	56,414	Up to $98,064	Up to $31,380,480.

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):

2017-02-04 The Boeing Company: Amendment 39-18783; Docket No. FAA-2016-7261; Directorate Identifier 2016-NM-004-AD.

(a) Effective Date

This AD is effective March 14, 2017.

(b) Affected ADs

None.

(c) Applicability

This AD applies to The Boeing Company Model 747-200B, 747-300, 747-400, 747-400D, and 747-400F series airplanes, certificated in any category, equipped with General Electric (GE) CF6-80 series engines or Pratt & Whitney PW4000 series engines; as identified in Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016.

(d) Subject

Air Transport Association (ATA) of America Code 54; Nacelles/pylons.

(e) Unsafe Condition

This AD was prompted by a report of cracking in both the aluminum strut side skin, and corrosion resistant steel (CRES) outer spring beam support fitting. We are issuing this AD to detect and correct cracking of the strut side skin and spring beam support fitting; such cracking could result in the failure of the outer spring beam support fitting, which could cause separation of a strut and engine from the airplane during flight.

(f) Compliance

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

(g) Repetitive Inspections

Except as provided by paragraphs (i)(1) and (i)(2) of this AD, at the applicable compliance time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, do a surface high frequency eddy current (HFEC) inspection for cracking of the strut side skin, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, except as required by paragraph (i)(3) of this AD. Repeat the inspection thereafter at the applicable times specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, until the actions required by paragraph (h) of this AD are done. If any cracking is found, do the actions specified in paragraph (h) of this AD before further flight.

(h) Terminating Actions

Within the applicable compliance time specified in paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, except as provided by paragraphs (i)(1) and (i)(2) of this AD: Do a fastener hole open-hole HFEC inspection for cracking, applicable related investigative and corrective actions, and a fastener installation modification, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, except as required by paragraph (i)(3) of this AD. Do all applicable related investigative and corrective actions before further flight. Part numbers 321U2400-5600, 321U2400-5601, and 321U2400-5602 may be used for modification of airplanes with GE CF6-80 engines and PW4000 engines. Doing the actions required by this paragraph terminates the repetitive inspections required by paragraph (g) of this AD.

(i) Exceptions to Service Information

(1) Where Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, specifies a 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) The Condition column in table 1 and table 2 of paragraph 1.E., "Compliance," of Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, refers to total flight cycles "at the original issue date of this service bulletin." This AD, however, applies to the airplanes with the specified total flight cycles as of the effective date of this AD.

(3) Although Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016, specifies to contact Boeing for repair instructions, and specifies that action as "RC" (Required for Compliance), this AD requires repair before further flight using a method approved in accordance with the procedures specified in paragraph (k) of this AD.

(j) Credit for Previous Actions

This paragraph provides credit for the actions specified in paragraphs (g) and (h) of this AD, if those actions were performed before the effective date of this AD, using Boeing Alert Service Bulletin 747-54A2245, dated December 18, 2015.

(k) 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 paragraph (l)(1) 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, modification, or alteration 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. To be approved, the repair method, modification deviation, or alteration deviation must meet the certification basis of the airplane, and the approval must specifically refer to this AD.

(4) Except as required by paragraph (i)(3) of this AD, for service information that contains steps that are labeled as Required for Compliance (RC), the provisions of paragraphs (k)(4)(i) and (k)(4)(ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator's maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(l) Related Information

(1) For more information about this AD, contact Bill Ashforth, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle ACO, 1601 Lind Avenue SW., Renton, WA 98057-3356; phone: 425-917-6432; fax: 425-917-6590; email: bill.ashforth@faa.gov.

(2) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (m)(3) and (m)(4) of this AD.

(m) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(i) Boeing Alert Service Bulletin 747-54A2245, Revision 1, dated September 20, 2016.

(ii) Reserved.

(3) For Boeing service information identified in this AD, contact Boeing Commercial Airplanes, Attention: Contractual & Data Services (C&DS), 2600 Westminster Blvd., MC 110-SK57, Seal Beach, CA 90740-5600; telephone 562-797-1717; Internet https://www.myboeingfleet.com.

(4) You may view this 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.

(5) You may view this 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/cfr/ibr-locations.html.

Issued in Renton, Washington, on January 12, 2017.

Michael Kaszycki,

Acting Manager, Transport Airplane Directorate,

Aircraft Certification Service.