

[Federal Register: January 3, 2003 (Volume 68, Number 2)]
[Rules and Regulations]
[Page 257-259]
From the Federal Register Online via GPO Access [wais.access.gpo.gov]
[DOCID:fr03ja03-2]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2002-NM-84-AD; Amendment 39-13005; AD 2002-26-17]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 747 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment supersedes an existing airworthiness directive (AD), applicable to certain Boeing Model 747 series airplanes, that currently requires a one-time inspection to identify all alloy steel bolts on the body station 1480 bulkhead splice, and corrective action if necessary; and provides for optional terminating action for certain requirements of that AD. This amendment requires accomplishment of the previously optional terminating action. The actions specified by this AD are intended to prevent cracked or broken bolts, which could result in structural damage and rapid depressurization of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective February 7, 2003.

The incorporation by reference of certain publications, as listed in the regulations, was approved previously by the Director of the Federal Register as of May 8, 2002 (67 FR 19641, April 23, 2002).

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the Federal Aviation Administration (FAA), Transport Airplane Directorate, Rules Docket, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Rick Kawaguchi, Aerospace Engineer, Airframe Branch, ANM-120S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1153; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by superseding AD 2002-08-10, amendment 39-12718 (67 FR 19641, April 23, 2002), which is applicable to certain Boeing Model 747 series airplanes, was published in

the Federal Register on June 21, 2002 (67 FR 42204). The action proposed to continue to require a one-time inspection to identify all alloy steel bolts on the body station (BS) 1480 bulkhead splice, and corrective action if necessary. That action also proposed to mandate the previously optional terminating action.

Comments

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comments received.

Request to Remove Paragraph (f)

One commenter asks that paragraph (f) of the proposed AD be removed. The commenter states that paragraph (c) of the proposed AD conflicts with paragraph (f) because paragraph (f) states, "As of the effective date of this AD, no person may install an alloy steel bolt on the BS 1480 bulkhead splice on any airplane." The commenter notes that Boeing Alert Service Bulletin 747-53A2390, Revision 1, is referenced as the applicable source of service information in AD 2001-11-06, amendment 39-12248 (66 FR 31124, July 16, 2001); that AD is specified in paragraph (c) of the proposed AD. The commenter adds that paragraph (c) allows reinstallation of alloy steel bolts following a magnetic particle inspection, which creates the conflict between paragraphs (c) and (f).

The FAA partially agrees with the commenter. We agree that there is some inconsistency between the requirements of paragraphs (c) and (f) of the proposed AD, but we do not agree that paragraph (f) should be removed. The inspections to identify alloy steel bolts, as required by paragraph (a) of the proposed AD, are one-time only. An operator could install new alloy steel bolts in areas previously identified as having Inconel 718 bolts after doing the inspection. Unless proper records are maintained, an operator will not know whether the repetitive inspections of alloy steel bolts with no cracking, which is corrective action for the inspection required by paragraph (a), would apply. For clarification, we have changed paragraph (f) in this final rule to state, "Except as provided by paragraph (c) of this AD: As of the effective date of this AD, no person may install an alloy steel bolt on the BS 1480 bulkhead splice on any airplane."

Request to Change Paragraph (a)

One commenter asks that paragraph (a) of the proposed AD be changed to remove the term "detailed methods" as an inspection that can be used for identification of an alloy steel bolt. The commenter states that the referenced service bulletin contains no detailed instructions for identifying the bolts by a detailed visual inspection. The commenter adds that an operator may be able to identify the bolt by a visual inspection, but only if the operator knows the bolt codes marked on the heads of the alloy steel bolts.

We do not agree with the commenter. On page 34 of the referenced service bulletin, instructions are provided for a detailed inspection, including the bolt codes for identifying alloy steel bolts for Groups 3 and 4 airplanes. No change to the final rule is necessary in this regard.

Request to Change Paragraph (d)

One commenter asks that paragraph (d) of the proposed AD be changed so the wording is similar to that specified in paragraphs (b)(2) and (b)(3) of the proposed AD. The commenter states that paragraph (d) would require installation of Inconel 718 bolts per Boeing Alert Service Bulletin 747-53A2477. This requirement could contradict the requirements in AD 2001-11-06, which requires that inspections and repairs be done per Boeing Alert Service Bulletin 747-53A2390, Revision 1. Service Bulletin 747-53A2390, Revision 1, provides for the installation of several different sizes of Inconel

718 bolts, depending on which level of repair may be required, but the bolts may not be the same bolts specified in Service Bulletin 747-53A2477. The commenter adds that such inconsistency will lead to many requests for alternative methods of compliance.

We do not agree with the commenter that paragraph (d) of the proposed AD could contradict the requirements in AD 2001-11-06. The applicability section of this AD excludes airplanes on which the bulkhead splice areas have been modified in accordance with Plan "B" of AD 2001-11-06. If an operator has replaced alloy steel bolts with Inconel 718 bolts per Plan "B," no further action is required by this final rule. No change to the final rule is necessary in this regard.

Reporting Requirement

The service bulletin recommends that inspection findings be submitted to the manufacturer. However, this AD does not require that operators submit reports of inspection findings.

Conclusion

After careful review of the available data, including the comments noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the change previously described. The FAA has determined that this change will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 582 airplanes of the affected design in the worldwide fleet. The FAA estimates that 178 airplanes of U.S. registry will be affected by this AD.

The inspection that is currently required by AD 2002-08-10 takes approximately 58 work hours per airplane to accomplish (including access and close), at an average labor rate of \$60 per work hour. Based on these figures, the cost impact of the currently required actions on U.S. operators is estimated to be \$619,440, or \$3,480 per airplane.

The terminating action required in this AD action will take approximately 86 work hours per airplane to accomplish, at an average labor rate of \$60 per work hour. Required parts could cost as much as approximately \$1,414 per airplane. Based on these figures, the cost impact of the requirements of this AD on U.S. operators is estimated to be \$1,170,172, or \$6,574 per airplane.

The cost impact figures discussed above are based on assumptions that no operator has yet accomplished any of the requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The cost impact figures discussed in AD rulemaking actions represent only the time necessary to perform the specific actions actually required by the AD. These figures typically do not include incidental costs, such as the time required to gain access and close up, planning time, or time necessitated by other administrative actions.

Regulatory Impact

The regulations adopted herein 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. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (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. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (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. Section 39.13 is amended by removing amendment 39-12718 (67 FR 19641, April 23, 2002), and by adding a new airworthiness directive (AD), amendment 39-13005, to read as follows:

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
**Federal Aviation
Administration**

We post ADs on the internet at "www.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

2002-26-17 Boeing: Amendment 39-13005. Docket 2002-NM-84-AD. Supersedes AD 2002-08-10, Amendment 39-12718.

Applicability: Model 747 series airplanes, certificated in any category, line numbers 1 through 750 inclusive, excluding airplanes on which the bulkhead splice areas have been modified in accordance with Plan "B" of AD 2001-11-06, amendment 39-12248.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been otherwise modified, altered, or repaired in the area subject to the requirements of this AD. For airplanes that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (g) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To prevent cracked or broken bolts, which could result in structural damage and rapid depressurization of the airplane, accomplish the following:

Restatement of Certain Requirements of AD 2002-08-10

Inspection

(a) At the applicable time specified by paragraph (a)(1) or (a)(2) of this AD: Inspect the BS 1480 bulkhead splice to identify all alloy steel bolts by using a magnet or, if applicable, detailed methods, in accordance with Boeing Alert Service Bulletin 747-53A2477, dated February 28, 2002.

Note 2: For the purposes of this AD, a detailed inspection is defined as: "An intensive visual examination of a specific structural area, system, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at intensity deemed appropriate by the inspector. Inspection aids such as mirror, magnifying lenses, etc., may be used. Surface cleaning and elaborate access procedures may be required."

(1) For airplanes on which the bulkhead splice inspection specified by AD 2001-11-06 has NOT been accomplished within 15 months before May 8, 2002 (the effective date of AD 2002-08-10, amendment 39-12718): Inspect within 90 days after May 8, 2002.

(2) For airplanes on which the bulkhead splice inspection specified by AD 2001-11-06 HAS been accomplished within 15 months before May 8, 2002: Inspect within 18 months since the most recent inspection.

Corrective Actions

(b) For each alloy steel bolt found during the inspection required by paragraph (a) of this AD: Before further flight, inspect those bolts using torque test or ultrasonic methods to detect cracks or breakage, in accordance with Boeing Alert Service Bulletin 747-53A2477, dated February 28, 2002, except as required by paragraph (e) of this AD.

(1) For each uncracked and unbroken alloy steel bolt found: Repeat the inspection specified by paragraph (b) of this AD thereafter at least every 18 months, until the terminating action of paragraph (d) of this AD is accomplished.

(2) For any cracked or broken bolt found: Before further flight, replace it with an Inconel 718 bolt. Such replacement terminates the requirements of this AD for that bolt only.

(3) If any cracked or broken bolt is found anywhere along the splice during any inspection required by paragraph (b) of this AD: Before further flight, reinspect, using ultrasonic methods, any remaining alloy steel bolts that were initially inspected using torque test methods, and replace any cracked or broken bolt with an Inconel 718 bolt. Such replacement terminates the requirements of this AD for that bolt only.

Magnetic Particle Inspection

(c) Plan "A" inspections required by AD 2001-11-06 are acceptable for compliance with the inspection requirements of paragraph (b) of this AD, provided a magnetic particle inspection and applicable corrective actions are performed on any alloy steel bolt removed during any Plan "A" inspection before the bolt is reinstalled. The magnetic particle inspection and corrective actions must be performed in accordance with Boeing Alert Service Bulletin 747-53A2477, dated February 28, 2002, except as required by paragraph (e) of this AD.

New Requirements of This AD

Terminating Action

(d) Within 6 years after the effective date of this AD: Replace all alloy steel bolts in the BS 1480 bulkhead splice with Inconel 718 bolts, in accordance with Boeing Alert Service Bulletin 747-53A2477, dated February 28, 2002, except as required by paragraph (e) of this AD. Replacement of all alloy steel bolts terminates the requirements of this AD.

Exceptions to Service Information

(e) If Boeing Alert Service Bulletin 747-53A2477, dated February 28, 2002, specifies to contact Boeing for appropriate action: Before further flight, repair in accordance with a method approved by the Manager, Seattle Aircraft Certification Office (ACO), FAA; or per data meeting the type certification basis of the airplane approved by a Boeing Company Designated Engineering Representative who has been authorized by the Manager, Seattle ACO, to make such findings. For a repair method to be approved, the approval must specifically reference this AD.

Part Installation

(f) Except as provided by paragraph (c) of this AD: As of the effective date of this AD, no person may install an alloy steel bolt on the BS 1480 bulkhead splice on any airplane.

Alternative Methods of Compliance

(g) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Seattle ACO, FAA. Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Seattle ACO.

Note 3: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

Special Flight Permits

(h) Special flight permits may be issued in accordance with §§ sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the airplane to a location where the requirements of this AD can be accomplished.

Incorporation by Reference

(i) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 747-53A2477, dated February 28, 2002. This incorporation by reference was approved previously by the Director of the Federal Register as of May 8, 2002 (67 FR 19641, April 23, 2002). Although the service bulletin references a reporting requirement and completion of the attached Evaluation Form, such reporting and evaluation are not required by this AD. Copies may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. Copies may be inspected at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington; or at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington, DC.

Effective Date

(j) This amendment becomes effective on February 7, 2003.

Issued in Renton, Washington, on December 24, 2002.

Charles D. Huber,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 03-27 Filed 1-2-03; 8:45 am]

BILLING CODE 4910-13-P