

Proposed Rules

Federal Register

Vol. 60, No. 4

Friday, January 6, 1995

This section of the FEDERAL REGISTER contains notices to the public of the proposed issuance of rules and regulations. The purpose of these notices is to give interested persons an opportunity to participate in the rule making prior to the adoption of the final rules.

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 94-NM-224-AD]

Airworthiness Directives; Boeing Model 747 Series Airplanes Equipped With General Electric Model CF6-80C2 Series Engines or Pratt & Whitney Model PW4000 Series Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the adoption of a new airworthiness directive (AD) that is applicable to certain Boeing Model 747 series airplanes. This proposal would require modification of the nacelle strut and wing structure, inspections and checks to detect discrepancies, and correction of discrepancies. This proposal is prompted by the development of a modification of the strut and wing structure that improves the fail-safe capability and durability of the strut-to-wing attachments, and reduces reliance on inspections of those attachments. The actions specified by the proposed AD are intended to prevent failure of the strut and subsequent loss of the engine.

DATES: Comments must be received by March 3, 1995.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 94-NM-224-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Boeing Commercial Airplane Group, P.O. Box 3707, Seattle, Washington 98124-2207. This information may be

examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

FOR FURTHER INFORMATION CONTACT: Tim Backman, Aerospace Engineer, Airframe Branch, ANM-121S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2776; fax (206) 227-1181.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 94-NM-224-AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 94-NM-224-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Discussion

The FAA has received numerous reports of fatigue cracking and/or corrosion in the strut-to-wing

attachments on Boeing Model 747 series airplanes. In two cases, cracking resulted in the failure of a strut load path and the subsequent loss of the number 3 engine and strut. In both cases, catastrophic accidents occurred when the number 3 engine and strut separated from the wing of the airplane and struck the number 4 engine, causing it to separate from the airplane. Investigation into the cause of these accidents and other reported incidents has revealed that fatigue cracks and corrosion in the strut-to-wing attachments, if not detected and corrected in a timely manner, can result in failure of the strut and subsequent separation of the engine from the airplane. Investigation also has revealed that the structural fail-safe capability of the strut-to-wing attachment is inadequate on these airplanes.

The FAA has previously issued 3 airworthiness directives (AD's) that address various problems associated with the strut attachment assembly on Model 747 series airplanes equipped with General Electric Model CF6-80C2 series engines or Pratt & Whitney Model PW4000 series engines. These AD's have required, among other things, inspection of the strut, midspar fittings, diagonal brace, and midspar fuse pins.

Explanation of Service Information

Boeing recently has developed a modification of the strut-to-wing attachment structure installed on certain Model 747 series airplanes equipped with General Electric Model CF6-80C2 series engines or Pratt & Whitney Model PW4000 series engines that significantly improves the load-carrying capability and durability of the strut-to-wing attachments. Such improvement also will substantially reduce the possibility of fatigue cracking and corrosion developing in the attachment assembly.

The FAA has reviewed and approved Boeing Alert Service Bulletin 747-54A2156, dated December 15, 1994, which describes procedures for modification of the nacelle strut and wing structure. This modification entails the following:

1. Providing a new fail-safe load path by installing a new dual side load fitting to the strut and the underwing structure and the associated wing back-up fitting, front spar post, and side links;

2. Installing a new titanium dual side load fitting to the strut aft bulkhead and

new 15-5 stainless steel midspar fittings;

3. Replacing the aft bulkhead assembly and overhaul of the spring beam;
4. Improving the strut-to-wing attachments by replacing the upper link and the diagonal brace;
5. Reworking the rib of wing station (WS)1140; and
6. Modifying the electrical wiring and hydraulics by rerouting certain wire bundles around the new dual side load fitting and installing new hydraulic tubes.

This alert service bulletin specifies that the modification of the nacelle strut and wing structure is to be accomplished prior to, or concurrently with, the terminating actions described in the service bulletins listed in paragraph I.C., Table 2, "Prior or Concurrent Service Bulletins," on page 7 of this alert service bulletin. These terminating actions include the following:

1. Replacement of the diagonal brace, midspar, and upper link fuse pins with new third generation 15-5 corrosion resistant steel fuse pins;
 2. Inspection and replacement of the bearings on the lower spar fitting of the outboard engine strut with new bearings;
 3. Installation of improved bushings in the strut-to-wing attach fittings; and
 4. Inspection and rework of improperly torqued fasteners.
- Paragraph III, NOTES 8, 9, 10, and 11 of the Accomplishment Instructions on page 91 of the alert service bulletin also describe procedures for inspections and checks to detect discrepancies of the adjacent structure, and correction of any discrepancies.

Explanation of the Provisions of the Proposed AD

Since an unsafe condition has been identified that is likely to exist or develop on other products of this same type design, the proposed AD would require modification of the nacelle strut and wing structure, inspections and

checks to detect discrepancies in the adjacent structure, and correction of discrepancies. The actions would be required to be accomplished in accordance with the alert service bulletin described previously.

The FAA has determined that long term continued operational safety will be better assured by design changes to remove the source of the problem, rather than by repetitive inspections. Long term inspections may not be providing the degree of safety assurance necessary for the transport airplane fleet. This, coupled with a better understanding of the human factors associated with numerous continual inspections, has led the FAA to consider placing less emphasis on inspections and more emphasis on design improvements. The proposed modification requirement is in consonance with these considerations.

Accomplishment of the modification of the nacelle strut and wing structure would terminate the inspections currently required by the following AD's:

AD No.	Amendment No.	Federal Register citation	Date of publication
93-17-07	39-8678	58 FR 45827	Aug. 31, 1993.
93-03-14	39-8518	58 FR 14513	Mar. 18, 1993.
92-24-51	39-8439	57 FR 60118	Dec. 18, 1992.

As a result of recent communications with the Air Transport Association (ATA) of America, the FAA has learned that, in general, some operators may misunderstand the legal effect of AD's on airplanes that are identified in the applicability provision of the AD, but that have been altered or repaired in the area addressed by the AD. The FAA points out that all airplanes identified in the applicability provision of an AD are legally subject to the AD. If an airplane has been altered or repaired in the affected area in such a way as to affect compliance with the AD, the owner or operator is required to obtain FAA approval for an alternative method of compliance with the AD, in accordance with the paragraph of each AD that provides for such approvals. A note has been included in this notice to clarify this requirement.

Cost Estimate

There are approximately 257 Model 747 series airplanes equipped with General Electric Model CF6-80C2 series engines or Pratt & Whitney Model PW4000 series engines of the affected design in the worldwide fleet. The FAA estimates that 36 airplanes of U.S.

registry would be affected by this proposed AD. The proposed modification would take approximately 6,253 work hours per airplane to accomplish, at an average labor cost of \$60 per work hour. The manufacturer would incur the cost of labor, on a prorated basis, with 20 years being the expected life of these airplanes. The total cost impact of the proposed AD on U.S. operators is based on the median age for the fleet of Model 747 series airplanes equipped with General Electric Model CF6-80C2 series engines or Pratt & Whitney Model PW4000 series engines, which is estimated to be 5 years. Required parts would be supplied by the manufacturer at no cost to the operators. Based on these figures, the total cost impact of the proposed AD on U.S. operators is estimated to be \$3,376,620, or \$93,795 per airplane. This cost impact figure does not reflect the cost of the terminating actions described in the service bulletins listed in paragraph I.C., Table 2, "Prior or Concurrent Service Bulletins," on page 7 of Boeing Alert Service Bulletin 747-54A2156, dated December 15, 1994, that are proposed to be accomplished prior to, or

concurrently with, the modification of the nacelle strut and wing structure. Since some operators may have accomplished certain modifications on some or all of the airplanes in its fleet, while other operators may not have accomplished any of the modifications on any of the airplanes in its fleet, the FAA is unable to provide a reasonable estimate of the cost of accomplishing the terminating actions described in the service bulletins listed in Table 2 of the Boeing alert service bulletin. As indicated earlier in this preamble, the FAA invites comments specifically on the overall economic aspects of this proposed rule. Any data received via public comments to this notice will aid the FAA in developing an accurate accounting of the cost impact of the rule. The cost impact figure discussed above is based on assumptions that no operator has yet accomplished any of the proposed requirements of this AD action, and that no operator would accomplish those actions in the future if this AD were not adopted. The FAA recognizes that the obligation to maintain aircraft in an airworthy condition is vital, but sometimes excessive. Because AD's

require specific actions to address specific unsafe conditions, they appear to impose costs that would not otherwise be borne by operators. However, because of the general obligation of operators to maintain aircraft in an airworthy condition, this appearance is deceptive. Attributing those costs solely to the issuance of this AD is unrealistic because, in the interest of maintaining safe aircraft, prudent operators would accomplish the required actions even if they were not required to do so by the AD.

A full cost-benefit analysis has not been accomplished for this proposed AD. As a matter of law, in order to be airworthy, an aircraft must conform to its type design and be in a condition for safe operation. The type design is approved only after the FAA makes a determination that it complies with all applicable airworthiness requirements. In adopting and maintaining those requirements, the FAA has already made the determination that they establish a level of safety that is cost-beneficial. When the FAA, as in this proposed AD, makes a finding of an unsafe condition, this means that the original cost-beneficial level of safety is no longer being achieved and that the proposed actions are necessary to restore that level of safety. Because this level of safety has already been determined to be cost-beneficial, a full cost-benefit analysis for this proposed AD would be redundant and unnecessary.

Regulatory Impact

The regulations proposed herein would not have substantial direct effects 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, in accordance with Executive Order 12612, it is determined that this proposal would not have sufficient

federalism implications to warrant the preparation of a Federalism Assessment.

For the reasons discussed above, I certify that 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); and (3) if promulgated, 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 copy of the draft regulatory evaluation prepared for this action is contained in the Rules Docket. A copy of it may be obtained by contacting the Rules Docket at the location provided under the caption

ADDRESSES.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Safety.

The Proposed Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration proposes to amend 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. App. 1354(a), 1421 and 1423; 49 U.S.C. 106(g); and 14 CFR 11.89.

§ 39.13 [Amended]

2. Section 39.13 is amended by adding the following new airworthiness directive:

Boeing: Docket 94-NM-224-AD.

Applicability: Model 747 series airplanes having line positions 679 through 1046 inclusive, equipped with General Electric Model CF6-80C2 series engines or Pratt & Whitney Model PW4000 series engines; certificated in any category.

Note 1: This AD applies to each airplane identified in the preceding applicability provision, regardless of whether it has been 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 use the authority provided in paragraph (d) to request approval from the FAA. This approval may address either no action, if the current configuration eliminates the unsafe condition; or different actions necessary to address the unsafe condition described in this AD. Such a request should include an assessment of the effect of the changed configuration on the unsafe condition addressed by this AD. In no case does the presence of any modification, alteration, or repair remove any airplane from the applicability of this AD.

Compliance: Required as indicated, unless accomplished previously.

To prevent failure of the strut and subsequent loss of the engine, accomplish the following:

(a) Within 80 months after the effective date of this AD, accomplish the modification of the nacelle strut and wing structure in accordance with Boeing Alert Service Bulletin 747-54A2156, dated December 15, 1994. All of the terminating actions described in the service bulletins listed in paragraph I.C., Table 2, "Prior or Concurrent Service Bulletins," on page 7 of Boeing Alert Service Bulletin 747-54A2156, dated December 15, 1994, must be accomplished in accordance with those service bulletins prior to, or concurrently with, the accomplishment of the modification of the nacelle strut and wing structure required by this paragraph.

(b) Perform the inspections and checks specified in paragraph III, NOTES 8, 9, 10, and 11 of the Accomplishment Instructions on page 91 of Boeing Alert Service Bulletin 747-54A2156, dated December 15, 1994, concurrently with the modification of the nacelle strut and wing structure required by paragraph (a) of this AD. Prior to further flight, correct any discrepancies in accordance with the alert service bulletin.

(c) Accomplishment of the modification of the nacelle strut and wing structure in accordance with Boeing Alert Service Bulletin 747-54A2156, dated December 15, 1994, constitutes terminating action for the inspections required by the following AD's:

AD No.	Amendment No.	Federal Register citation	Date of publication
93-17-07	39-8678	58 FR 45827	Aug. 31, 1993.
93-03-14	39-8518	58 FR 14513	Mar. 18, 1993.
92-24-51	39-8439	57 FR 60118	Dec. 18, 1992.

(d) 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 Aircraft Certification Office (ACO), FAA, Transport Airplane Directorate. 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 2: Information concerning the existence of approved alternative methods of compliance with this AD, if any, may be obtained from the Seattle ACO.

(e) 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.

Issued in Renton, Washington, on December 30, 1994.

S.R. Miller,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 95-307 Filed 1-5-95; 8:45 am]

BILLING CODE 4910-13-U

14 CFR Part 39

[Docket No. 94-NM-28-AD]

Airworthiness Directives; Boeing Model 767 Series Airplanes Equipped With General Electric CF6-80C2 Series Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: This document proposes the superseding of an existing airworthiness directive (AD), applicable to certain Boeing Model 767 series airplanes, that currently requires tests, inspections, and adjustments of the thrust reverser system. This action would add requirements for installation of a terminating modification on airplanes equipped with General Electric CF6-80C2 series engines, and repetitive operational checks of the electro-mechanical brake and the cone brake of the center drive unit following accomplishment of the modification. This action also would remove airplanes equipped with Rolls-Royce RB211-524 series engines from the applicability of the existing AD. This proposal is prompted by the identification of a modification that ensures that the level of safety inherent in the original type design of the thrust reverser system is further enhanced. The actions specified by the proposed AD are intended to prevent possible discrepancies that exist in the current thrust reverser control system, which could result in an inadvertent deployment of a thrust reverser during flight.

DATES: Comments must be received by March 3, 1995.

ADDRESSES: Submit comments in triplicate to the Federal Aviation Administration (FAA), Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 94-NM-28-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056. Comments may be inspected at this location between 9:00 a.m. and 3:00 p.m., Monday through Friday, except Federal holidays.

The service information referenced in the proposed rule may be obtained from Boeing Commercial Airplane Group,

P.O. Box 3707, Seattle, Washington 98124-2207. This information may be examined at the FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington.

FOR FURTHER INFORMATION CONTACT:

Lanny Pinkstaff, Aerospace Engineer, Propulsion Branch, ANM-140S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (206) 227-2684; fax (206) 227-1181.

SUPPLEMENTARY INFORMATION:

Comments Invited

Interested persons are invited to participate in the making of the proposed rule by submitting such written data, views, or arguments as they may desire. Communications shall identify the Rules Docket number and be submitted in triplicate to the address specified above. All communications received on or before the closing date for comments, specified above, will be considered before taking action on the proposed rule. The proposals contained in this notice may be changed in light of the comments received.

Comments are specifically invited on the overall regulatory, economic, environmental, and energy aspects of the proposed rule. All comments submitted will be available, both before and after the closing date for comments, in the Rules Docket for examination by interested persons. A report summarizing each FAA-public contact concerned with the substance of this proposal will be filed in the Rules Docket.

Commenters wishing the FAA to acknowledge receipt of their comments submitted in response to this notice must submit a self-addressed, stamped postcard on which the following statement is made: "Comments to Docket Number 94-NM-28-AD." The postcard will be date stamped and returned to the commenter.

Availability of NPRMs

Any person may obtain a copy of this NPRM by submitting a request to the FAA, Transport Airplane Directorate, ANM-103, Attention: Rules Docket No. 94-NM-28-AD, 1601 Lind Avenue, SW., Renton, Washington 98055-4056.

Discussion

On October 7, 1991, the FAA issued AD 91-22-02, amendment 39-8062 (56 FR 51638, October 15, 1991), applicable to Boeing Model 767 series airplanes equipped with Rolls-Royce RB211-524 series engines or General Electric CF6-80C2 series engines, to require tests,

inspections, and adjustments of the thrust reverser system. That action was prompted by an ongoing design review, resulting from an accident investigation from which it had been determined that, prior to the accident, the airplane apparently experienced an uncommanded in-flight deployment of a thrust reverser. Deployment of a thrust reverser in flight could result in reduced controllability of the airplane. The requirements of that AD are intended to ensure the integrity of the fail-safe features of the thrust reverser system by preventing possible discrepancies in the thrust reverser control system that can result in the inadvertent deployment of a thrust reverser during flight.

Since the issuance of AD 91-22-02, the FAA issued AD 94-17-03, amendment 39-8998 (59 FR 41647, August 15, 1994). AD 94-17-03 was issued to require inspections, adjustments, and functional checks of the thrust reverser system; installation of a terminating modification; and repetitive operational checks of the gearbox locks and the air motor brake following accomplishment of the terminating modification on Model 767 series airplanes equipped with Rolls-Royce RB211-524 series engines. In the preamble to AD 94-17-03, the FAA stated it would consider superseding AD 91-22-02 to remove the requirements for Model 767 series airplanes equipped with Rolls-Royce RB211-524 series engines from that AD, to specify that those requirements are contained in AD 94-17-03, and to require accomplishment of a terminating modification for Model 767 series airplanes equipped with General Electric CF6-80C2 series engines. This action proposes such requirements.

Explanation of Relevant Service Information

Since the issuance of AD 91-22-02, the FAA has reviewed and approved Boeing Service Bulletin 767-78-0047, Revision 3, dated July 28, 1994. The original issue of the service bulletin was cited in AD 91-22-02 as the appropriate source of service information for performing various tests, inspections, and adjustments required by that AD. Revision 3 of the service bulletin revises certain procedures specified in the Accomplishment Instructions of earlier revisions of the service bulletin. (The FAA has referenced this latest revision of the service bulletin as the appropriate source of service information for accomplishment of those actions after the effective date of this proposed AD.)

The FAA also has reviewed and approved Boeing Service Bulletin 767-78-0063, Revision 2, dated April 28,