

[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 35077 7/3/2001]

[Docket No. 98-NM-271-AD; Amendment 39-12296; AD 2001-13-15]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 757 Series Airplanes Equipped with Rolls Royce Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new **airworthiness** directive (AD), applicable to certain Boeing Model 757 series airplanes, that requires a one-time inspection to find wire chafing of the left and right engine fuel shutoff valve wire bundles at Power Plant Station 278 on each engine strut, and repair if necessary. This amendment also requires replacement of three wire support brackets with improved wire support brackets. This amendment is prompted by reports that such wire support brackets failed due to fatigue, which subsequently caused the fuel shutoff valve wire to chafe and to experience a short circuit. The actions specified by this AD are intended to prevent such conditions, which could result in either the possible ignition of fuel vapors in a flammable leakage zone or in the inability to stop the flow of fuel in the event of an engine fire.

DATES: Effective August 7, 2001.

The incorporation by reference of certain publications listed in the **regulations** is approved by the Director of the Federal Register as of August 7, 2001.

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: Stephen S. Oshiro, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-2793; fax (425) 227-1181.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation **Regulations** (14 CFR part 39) to include an **airworthiness** directive (AD) that is applicable to certain Boeing Model 757 series airplanes was published in the Federal Register on August 4, 1999 (64 FR 42050). That action proposed to require repetitive inspections to detect wire chafing of the left and right engine fuel shutoff valve wire bundles at Power Plant Station 278 on each engine strut, and repair if necessary. That action also proposed to require repetitive replacement of three wire support brackets with improved wire support brackets.

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.

Addition of Service Bulletin Information Notice

One commenter, the airplane manufacturer, indicates that during its investigation of the wire support bracket failure it established that Boeing Service Bulletin 757-54-0013, Revision 3, dated October 23, 1997 (cited in the proposal as the source of service information for doing the specified actions) contained an incorrect part number for an attachment fastener. The commenter adds that the part number was corrected in Boeing Information Notice 757-54-0013 IN 01, dated October 22, 1998.

The FAA infers that the commenter wants to add IN 01 to the service information cited in the final rule. Subsequent to receipt of this comment, we reviewed and approved Boeing Information Notice 757-54-0013 IN 02, dated April 8, 1999, which supersedes IN 01. IN 02 contains additional information for proper accomplishment of the modifications described in the service bulletin, as well as the corrected part number specified by the commenter. We concur with the commenter's request, but will add IN 02 to the service information cited in the final rule.

Revise Paragraph (a)

One commenter, the airplane manufacturer, states that it did an analysis of the new, improved wire support brackets to determine the fatigue level allowable. The analysis showed that the two lower aluminum brackets were undersized for the vibration environment in the aft strut area, and that the nickel alloy brackets were capable of withstanding the vibration environment, with fatigue allowables that exceed the stress levels by 80 percent. Analysis done on the third bracket showed that the aluminum brackets are also satisfactory. This analysis was conducted per standard Boeing practice for equipment in the nacelle and strut areas, using well-established stress values.

Based on the above information, the commenter states that replacing all 6 brackets every 12 months is unnecessary and will impose a considerable economic burden on affected operators. The commenter proposes revising paragraph (a) of the proposed rule as follows:

- Incorporate Boeing Service Bulletin 757-54-0013, Revision 3, dated October 23, 1997, within 12 months after the effective date of the AD. This would constitute terminating action for the proposed rule. Or
- For operators that do not incorporate the Revision 3 of the service bulletin, repetitively inspect the installation for chafing or damage of the wire bundle, and for cracked or fractured brackets. The repetitive inspection should be accomplished at intervals not to exceed 18 months, with bracket replacement if any evidence of cracking or damage is found.

The FAA partially agrees with the commenter's proposal, as follows:

We agree with the assessment that the replacement brackets specified in Revision 3 of the service bulletin are adequate to meet the strut vibration environment, and that incorporation of such replacement brackets would eliminate the need for the repetitive inspections and repetitive replacements of the wire support brackets specified in the proposed rule. Therefore, paragraphs (a) and (b) have been combined into paragraph (a) with the repetitive inspections and replacements omitted, and subsequent paragraphs have been re-numbered accordingly. Additionally, the preamble and the cost impact sections of the final rule have been changed.

We do not agree with the commenter's proposal to allow continued use of the existing brackets with repetitive inspections beyond the initial 12-month compliance time. The commenter did not submit adequate justification for allowing the continued use of these brackets, or extending the compliance time for the repetitive inspections from 12 to 18 months. The existing brackets can fail in service, and such failures could result in damage to wiring, ignition of fuel vapors in a flammable leakage zone, or loss of the fuel shutoff valve function. Considering these safety concerns, repetitive inspections without replacement of the wire support brackets after the doing the inspection would not adequately address the identified unsafe condition.

Withdraw Proposed Rule

One commenter asks that the FAA withdraw the proposed rule. The commenter provided in service data showing that airplanes which have replaced the wire support brackets per Boeing Service Bulletin 757-54-0013, Revision 3, have experienced no problems with the brackets. The commenter states that the annual bracket replacement (every 12 months) is not possible or practical because the repetitive bracket replacements would involve repetitive replacement of close tolerance fasteners, and would require repeated oversizing of the existing airplane mounting holes. This could result in the holes being too large for proper installation of the brackets. The commenter adds that a deviation to the proposed rule would be necessary each time the fasteners are replaced.

The FAA concurs with the commenter's assessment that the brackets that were replaced per Revision 3 of the service bulletin are adequate; however, we do not agree with the request to withdraw the proposed rule. Failure to install the replacement brackets per the referenced service bulletin could result in the unsafe conditions stated under the previous section titled "Revise Paragraph (a)." Also stated in that section is our intent to omit the repetitive inspections and repetitive bracket replacements specified in paragraph (a) of the proposed rule. Paragraph (a) of the final rule has been revised to require a one-time inspection and one-time replacement of the wire support brackets.

Reduce Compliance Time

One commenter asks that the FAA reduce the proposed compliance time for the initial inspection specified in paragraph (a) of the proposed rule from 12 months to 6 months after the effective date of the AD. The commenter states that 12 months is too long and notes that, based on previous administrative procedures and industry practices, it could be almost 18 months before an airplane is inspected. The commenter adds that this places the traveling public at an elevated risk and greatly reduces the margin of safety on the airplane.

The FAA does not agree. As discussed in the section "Differences Between Proposed Rule and Service Bulletin" in the preamble of the proposed rule, we find that a 12-month compliance time for the initial inspection would address the unsafe condition in a timely manner. In developing an appropriate compliance time for the proposed AD, we considered not only the manufacturer's recommendation, but the degree of urgency associated with addressing the subject unsafe condition, the average utilization of the affected fleet, and the time necessary to do the initial inspection/modification.

Operators are always permitted to accomplish the requirements of an AD at a time earlier than that specified as the compliance time; therefore, if an operator wants to do the initial inspection required by paragraph (a) of this AD earlier than 12 months after the effective date of the AD, the operator can do so. Therefore, no change to the compliance time for the initial inspection required by paragraph (a) of the final rule is necessary.

Extend Compliance Time

One commenter states that the proposed 12-month compliance timetable for the bracket replacement is unrealistic and asks that the compliance time be extended to 18 months. The commenter notes that it is currently implementing the modification at its C-check, and requires 18 months to modify its entire fleet. The commenter also states that the manufacturer has quoted a 22-month lead time for obtaining the necessary kits, which is not compatible with the timetable specified in the proposed rule.

The FAA does not agree. As stated above, we find that a 12-month compliance time for the initial inspection/modification is appropriate.

Fuel Shutoff Valve (FSOV)

One commenter notes that the FSOV can be closed using the redundant circuit routed on the front spar, as long as power is available to that circuit. The FAA agrees with the statement and infers that the commenter wants further explanation of the procedures available should this situation occur. This can occur only if the engine fuel cutoff switch is placed in the "cutoff" position before the engine fire handle is pulled. The procedural information is described in the Emergency Procedures section of the 757 Airplane Flight Manual.

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 changes previously described. The FAA has determined that these changes will neither increase the economic burden on any operator nor increase the scope of the AD.

Cost Impact

There are approximately 501 airplanes of the affected design in the worldwide fleet. The FAA estimates that 249 airplanes of U.S. registry will be affected by this AD.

It will take approximately 2 work hours to accomplish the required inspection and approximately 6 work hours per airplane to accomplish the required replacement. The average labor rate is estimated to be \$60 per work hour. Required parts will cost approximately \$525 per airplane. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be \$250,245, or \$1,005 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.

Sec. 39.13 [Amended]

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

AIRWORTHINESS DIRECTIVE



Aircraft Certification Service
Washington, DC

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

We post ADs on the internet at "av-info.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).

2001-13-15 Boeing: Amendment 39-12296. Docket 98-NM-271-AD.

Applicability: Model 757 series airplanes, certificated in any category, equipped with Rolls Royce engines.

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 request approval for an alternative method of compliance in accordance with paragraph (c) 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 a short circuit that could result in either the possible ignition of fuel vapors in a flammable leakage zone or in the inability to stop the flow of fuel in the event of an engine fire, accomplish the following:

Inspection/Corrective Action

(a) Within 12 months after the effective date of this AD, accomplish paragraphs (a)(1) and (a)(2) of this AD.

(1) Do a one-time detailed visual inspection of the wire bundles that pass through the three wire support brackets located at Power Plant Station (PPS) 278 on each engine strut, to find wire chafing. If any chafing is found, before further flight, repair the wire bundle per the Boeing Standard Wiring Practices Manual, Document D6-54446, Revision 23, dated August 1998.

(2) Replace all three existing wire support brackets located at PPS 278 on each engine strut with new, improved wire support brackets, per Boeing Service Bulletin 757-54-0013, Revision 3, dated October 23, 1997, as revised by Boeing Information Notice 757-54-0013 IN 02, dated April 8, 1999.

Note 2: For the purposes of this AD, a detailed visual 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."

Spares Paragraph

(b) As of the effective date of this AD, no person shall install a wire support bracket having P/N 287N1112-8, -9, -20, or -21 on any airplane.

Alternative Methods of Compliance

(c) 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. 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

(d) 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

(e) Except as provide by paragraph (a)(1) of this AD, the actions shall be done in accordance with Boeing Service Bulletin 757-54-0013, Revision 3, dated October 23, 1997, as revised by Boeing Information Notice 757-54-0013 IN 02, dated April 8, 1999. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. 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

(f) This amendment becomes effective on August 7, 2001.

Issued in Renton, Washington, on June 21, 2001.

Kalene C. Yanamura, Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.