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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 97–NM–311–AD; Amendment 39–10938; AD 98–25–12]

RIN 2120–AA64

Airworthiness Directives; Boeing Model 757–200 Series Airplanes Powered by Rolls-Royce RB211–535E4/E4B Engines

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 757–200 series airplanes, that requires repetitive inspections to detect cracking of the honeycomb core of the acoustic panels in the engine inlet, and repair, if necessary. This amendment also requires eventual replacement of the existing engine inlet with a new or serviceable inlet, which, when accomplished, terminates the repetitive inspections. This amendment is prompted by reports of cracking of the honeycomb core of the acoustic panels in the engine inlet, and incidents of pieces of the panels breaking off and being ingested into the engine. The actions specified by this AD are intended to detect and correct cracking of the honeycomb core of the acoustic panels in the engine inlet, which could result in reduced structural integrity of the engine inlet, and consequent engine shutdown or surge; or, in the event of a fan blade failure, separation of the inlet from the engine.

DATES: Effective January 19, 1999.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 19, 1999.

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: Kathrine H. Rask, Aerospace Engineer, Propulsion Branch, ANM–140S, FAA, Transport Airplane Directorate, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055–4056; telephone (425) 227–1547; 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 757–200 series airplanes was published in the **Federal Register** on March 26, 1998 (63 FR 14652). That action proposed to require repetitive inspections to detect cracking of the acoustic panels in the engine inlet, and repair, if necessary. That action also proposed to require eventual replacement of the existing engine inlet with a new inlet, which, when accomplished, terminates the repetitive inspections.

Comments Received

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

Support for the Proposed AD

One commenter supports the proposed rule.

Request To Revise Description of Unsafe Condition

One commenter states that the cracking problem with acoustic panels could more accurately be described as cracking of the honeycomb core of the acoustic panels. The commenter also states that the two ingestion incidents referred to in the Summary and Discussion sections of the proposed AD were not confirmed to be caused by panel cracking. In addition, the commenter states that testing was unable to provide conclusive evidence that the cause of the panel cracking was a resonance of the honeycomb structure of the core of the acoustic panels coinciding with the passing frequency of the fan blades. The commenter states that the testing indicated that high sound pressure levels can potentially damage the acoustic panels. The commenter requests that the proposed AD be revised to reflect this information.

The FAA concurs partially. The FAA concurs with the commenter that cracking of the acoustic panels occurred in the honeycomb core and has revised the final rule to specifically state that the cracking occurred in the honeycomb core of the acoustic panels.

The FAA concurs with the commenter that the two ingestion incidents were not confirmed to be caused by panel cracking. However, the proposed AD does not state that the two ingestion events were caused by panel cracking; it states that there have been two reported incidents in which portions of the acoustic panels were ingested into the engine.

In addition, the FAA concurs partially with the commenter's information regarding the cause of the cracking. The cause of the honeycomb cracking stated in the proposed AD was determined by the engine manufacturer and is discussed in Rolls-Royce Service Bulletin RB.211–71–B480. After further discussion with the airplane manufacturer, the FAA now understands that the cause of the cracking is most likely a combination of the high sound pressure levels and a resonance of the honeycomb structure. This information does not change the effect of the cracking; therefore, no change to the rule is necessary.

Request To Withdraw the Proposed AD

One commenter, the manufacturer of the acoustic panels, states that the engine inlet has been designed to remain attached to the engine during a fan blade failure event even with a 90-degree sector of the intake barrel failed or missing. The commenter believes that, because the attachment of the inlet attachment ring to the inlet is through the inlet backing skin, it is unlikely that failures in the honeycomb core would cause separation of the inlet from the engine during a fan blade failure event, as suggested in the proposed AD.

Although no specific request is made by this commenter, the FAA infers that the commenter does not agree that an unsafe condition exists and requests that the proposed AD be withdrawn. The FAA does not concur. The FAA does not agree with the commenter's assessment. In the structural analysis of the engine inlet referenced by the commenter, the airplane manufacturer assumes that up to a 90-degree sector of the intake barrel is failed or missing. The analysis assumes that all or part of the damage may be caused by the fan blade failure itself. Additionally, the inlet backing skin is the main load path of the engine inlet, but the honeycomb core is still required to maintain integrity of the remaining structure. Therefore, failures in the honeycomb core increase the likelihood of separation of the inlet from the engine in the event of a fan blade failure. The FAA finds that no change to the final rule is necessary.

Request To Allow Replacement with Serviceable Engine Inlets

Two commenters request that the FAA allow operators to replace damaged engine inlets with serviceable inlets that incorporate improved acoustic panels. The commenters state that new hardware is not required, and that production capability does not exist to manufacture new engine inlets for all affected Boeing Model 757–200 series airplanes within the compliance time of the proposed AD. The FAA concurs with the commenters that new hardware is not required. The FAA has revised the final rule to allow replacement of an affected engine inlet with a ''new or serviceable'' engine inlet that incorporates improved acoustic panels.

Request To Reference Latest Service Information

One commenter requests that the FAA add a reference to Rolls-Royce Service Bulletin RB.211–71–B480, Revision 2, dated July 17, 1998, to the proposed AD. The FAA concurs. This revision specifies larger areas of damage that may be repaired than the areas specified by Rolls-Royce Service Bulletin RB.211–71–B480, Revision 1, dated August 15, 1997 (which is cited in the proposal as the appropriate source of service information for accomplishment of the inspection requirements of the AD). The FAA has revised paragraph (a) of the final rule to include Rolls-Royce Service Bulletin RB.211–71–B480, Revision 2, dated July 17, 1998, as an additional source of service information.

Request To Allow Engine Manufacturer to Approve Repairs

One commenter states that repair instructions for damaged areas larger than the acceptance criteria have already been approved by Rolls-Royce and are currently in service.

Although no specific request is made by this commenter, the FAA infers the commenter request that the FAA allow operators to contact the manufacturer for repair instructions for damaged areas larger than the acceptance criteria. (For findings of damage outside the acceptance criteria, this AD requires replacement of the engine inlet acoustic panels, rather than contacting Rolls-Royce.)

The FAA does not concur with this request, because to do so would be delegating its rulemaking authority to the engine manufacturer. Furthermore, operators with airplanes that have repairs other than those repairs contained in the service bulletins are required to either replace those engine inlets with new or serviceable engine inlets that incorporate improved acoustic panels, or to obtain approval of an alternative method of compliance for the repairs. ''**NOTE 1**'' of this AD clearly states the need for requesting approval of an alternative method of compliance if the parts have been modified, altered, or repaired so that the performance of the requirements of this AD is affected. Requests for approval of an alternative method of compliance can be made in accordance with the provisions of paragraph (c) of this AD and should include the substantiation data for the structural integrity of the repair. No change to the rule is necessary in this regard.

Changes to Cost Impact Information

The FAA has been advised by Boeing that only 5 airplanes operated in the U.S. are still equipped with unmodified engine inlets. Accordingly, the FAA has revised the cost impact information, below, to reflect this information.

Changes to Service Bulletin References

The final rule has been revised to reference two appendices and a supplement to certain service information cited in the AD, as listed below. These references were omitted inadvertently from the proposed AD.

—Rolls-Royce Service Bulletin RB.211–71–B480, Revision 1, dated August 15, 1997, including Appendix 1, Revision 1, dated August 15, 1997, and Appendix 2, dated November 10, 1995.

—Rolls-Royce Service Bulletin RB.211–71–9958, Revision 1, dated August 26, 1994, including Supplement, dated March 18, 1994.

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 52 Model 757–200 series airplanes of the affected design in the worldwide fleet. The FAA estimates that 24 airplanes of U.S. registry will be affected by this AD.

Assuming both engines have inlets on which the improved acoustic panels have not been installed, it will take approximately 3 work hours per airplane (1.5 work hours per engine) to accomplish the required inspection, at an average labor rate is $60 per work hour. Based on these figures, the cost impact of this inspection required by this AD on U.S. operators is estimated to be $4,320, or $180 per airplane, per inspection cycle.

Assuming both engines have inlets on which the improved acoustic panels have not been installed, it would take approximately 4 work hours per airplane (2 work hours per engine) to accomplish the required replacement, at an average labor rate of $60 per work hour. Required parts will be provided by the engine manufacturer at no cost to the operator. Based on these figures, the cost impact of this modification required by this AD on U.S. operators is estimated to be $5,760, or $240 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. However, the FAA has been advised that new or serviceable engine inlets have been installed on 19 U.S.-registered airplanes in accordance with the requirements of this AD. Therefore, the future economic cost impact of the required inspection on U.S. operators is now only $900, or $180 per airplane, per inspection cycle; and the future economic cost impact of the required modification on U.S. operators is now only $1,200, or $240 per airplane.

Regulatory Impact

The regulations adopted herein will 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 final rule does not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

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 adding the following new airworthiness directive:

98–25–12 Boeing: Amendment 39–10938. Docket 97–NM–311–AD.

Applicability: Model 757–200 series airplanes equipped with Rolls-Royce RB211–535E4/E4B engines fitted with nose cowls having serial numbers 9001 through 9124 inclusive; 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 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 detect and correct cracking of the honeycomb core of the acoustic panels in the engine inlet, which could result in reduced structural integrity of the engine inlet, and consequent engine shutdown or surge; or in the event of a fan blade failure, separation of the inlet from the engine; accomplish the following:

(a) Within 60 days after the effective date of this AD, perform a detailed inspection to detect cracking of the honeycomb core of the acoustic panels in the engine inlet, in accordance with Rolls-Royce Service Bulletin RB.211–71–B480, Revision 1, dated August 15, 1997, including Appendix 1, Revision 1, dated August 15, 1997, and Appendix 2, dated November 10, 1995; or Revision 2, including Appendices 1 and 2, both dated July 17, 1998.

(1) If no cracking is detected, repeat the inspection thereafter at intervals not to exceed 650 hours time-in-service.

(2) If any cracking is detected, accomplish the requirements of paragraph (a)(2)(i) or (a)(2)(ii), as applicable.

(i) If cracking is within the acceptance standards provided in paragraph 2.A. of Appendix 1 of the service bulletin, repair within 350 hours time-in-service, in accordance with the service bulletin. Thereafter, repeat the inspection required by paragraph (a) of this AD at intervals not to exceed 650 hours time-in-service.

(ii) If cracking is outside the acceptance standards provided in paragraph 2.A. of Appendix 1 of the service bulletin, prior to further flight, replace the engine inlet with a new or serviceable engine inlet that incorporates improved acoustic panels, in accordance with Rolls-Royce Service Bulletin RB.211–71–9909, Revision 1, dated May 26, 1995; and Rolls-Royce Service Bulletin RB.211–71–9958, Revision 1, dated August 26, 1994, including Supplement, dated March 18, 1994. No further action is required by this AD for that engine inlet.

(b) Within 18 months after the effective date of this AD, replace both existing engine inlets with new or serviceable inlets that incorporate improved acoustic panels, in accordance with Rolls-Royce Service Bulletin RB.211–71–9909, Revision 1, dated May 26, 1995, and Rolls-Royce Service Bulletin RB.211–71–9958, Revision 1, dated August 26, 1994, including Supplement, dated March 18, 1994. Accomplishment of such replacement constitutes terminating action for the requirements of this AD.

(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, 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.

(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.

(e) The actions shall be done in accordance with the following Rolls-Royce service bulletins, as applicable, which contain the following list of effective pages:

Service Bulletin Reference and Date	Page Number	Revision level Shown on Page	Date Shown on Page
RB.211–71–9909 Revision 1, May 26, 1995	1, 3	1	May 26, 1995
	2, 4, 5	Original	January 7, 1994.
RB.211–71–9958 Revision 1, August 26, 1998	1, 3	1	August 26, 1994
	2, 4, 5	Original	March 18, 1994.
Supplement			
	1	Original	March 18, 1994.
RB.211–71-B480 Revision 1, August 15, 1997	1–4	1	August 15, 1997.
Appendix 1			
	1, 4	Original	November 10, 1995.

Service Bulletin Reference and Date	Page Number	Revision level Shown on Page	Date Shown on Page
	2, 3	1	August 15, 1997.
Appendix 2			
RB.211–71-B480 Revision 2, July 17, 1998	1–6 1–3 4	Original 2 1	November 10, 1995. July 17, 1998. August 15, 1997.
Appendix 1			
	1 2–4	Original 2	November 10, 1995. July 17, 1998.
Appendix 2			
	1, 3 2, 4–6	2 Original	July 17, 1998. November 10, 1995.

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.

(f) This amendment becomes effective on January 19, 1999.

Issued in Renton, Washington, on December 3, 1998.

John W. McGraw,

Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 98–32793 Filed 12–11–98; 8:45 am]

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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 96–NM–227–AD; Amendment 39–10941; AD 98–25–15]

RIN 2120–AA64

Airworthiness Directives; McDonnell Douglas Model MD–11 Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain McDonnell Douglas Model MD–11 series airplanes. This amendment requires inspections to detect attachment failures of the 12 attachments located on the No. 4 banjo fitting/pylon carry-through cap, and to detect cracking of the forward and aft flanges and bolt holes of the No. 4 banjo fitting; repair, if necessary; and replacement of the 12 attachments with new or serviceable parts. Such replacement terminates the repetitive inspections. This amendment is prompted by a report indicating that attachment bolts on the forward and aft flanges of the No. 4 banjo fitting and the pylon carry-through cap failed due to fatigue cracking. The actions specified by this AD are intended to prevent such cracking, which could result in reduced controllability of the airplane during flight and ground operations.

DATES: Effective January 19, 1999.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of January 19, 1999.

ADDRESSES: The service information referenced in this AD may be obtained from The Boeing Company, Douglas Products Division, 3855 Lakewood Boulevard, Long Beach, California 90846, Attention: Technical Publications Business Administration, Dept. C1–L51 (2–60). 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 FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California; or at the Office of the **Federal Register**, 800 North Capitol Street, NW., suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: John L. Cecil, Aerospace Engineer, Airframe Branch, ANM–120L, FAA, Transport Airplane Directorate, Los Angeles Aircraft Certification Office, 3960 Paramount Boulevard, Lakewood, California 90712; telephone (562) 627–5229; fax (562) 627–5210.

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 McDonnell Douglas Model MD–11 series airplanes was published in the **Federal Register** on September 17, 1998 (63 FR 49679). That action proposed to require inspections to detect attachment failures of the 12 attachments located on the No. 4 banjo fitting/pylon carry-through cap, and to detect cracking of the forward and aft flanges and bolt holes of the No. 4 banjo fitting; repair, if necessary; and replacement of the 12 attachments with new or serviceable parts. Such replacement would terminate the repetitive inspections.

Comments

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

Both commenters support the proposed rule.

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 as proposed.

Cost Impact

There are approximately 82 airplanes of the affected design in the worldwide fleet. The FAA estimates that 31 airplanes of U.S. registry will be affected by this AD.

The FAA estimates that it will take approximately 1 work hour per airplane to accomplish the required external visual inspection, at an average labor rate of $60 per work hour. Based on