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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NM-221-AD; Amendment 39-13958; AD 2005-03-02]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 737-300, -400, and -500 Series Airplanes; and Model 757-200 and -200CB Series Airplanes

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment adopts a new airworthiness directive (AD), applicable to certain Boeing Model 737-300, -400, and -500 series airplanes; and Model 757-200 and -200CB series airplanes, that requires inspection of the applicable body station frames for open body station frames and related investigative/corrective actions; and installation of lanyard hook brackets and lanyard assemblies under the air conditioning overhead ducts, as applicable. This action is necessary to prevent loosened or disconnected overhead ducts from causing ceiling panels to drop below the minimum height of the evacuation zone for the passenger cabin, which could result in inadequate height for safe exit in the event of an emergency evacuation. This action is intended to address the identified unsafe condition.

DATES: Effective March 9, 2005.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of March 9, 2005.

ADDRESSES: The service information referenced in this AD may be obtained from Boeing Commercial Airplanes, 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. 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 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/code_of_federal_regulations/ibr_locations.html.

FOR FURTHER INFORMATION CONTACT: Keith Ladderud, Aerospace Engineer, Cabin Safety and Environmental Systems Branch, ANM-150S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6435; fax (425) 917-6590.

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 737-300, -400, and -500 series airplanes; and Model 757-200 and -200CB series airplanes was published in the Federal Register on May 11, 2004 (69 FR 26054). That action proposed to require inspection of the applicable body station frames for open body station frames and related investigative/corrective actions; and installation of lanyard hook brackets and lanyard assemblies under the air conditioning overhead ducts, as applicable.

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 for an Optional Terminating Action

Two commenters request that we add Boeing Service Letter 757-SL-21-057-A, including Attachments I and II, dated March 24, 2004, as an alternative method of compliance (AMOC) for the installation of lanyards on Boeing Model 757 series airplanes. As justification, one commenter states that the duct manufacturer has created replacement overhead ducts with nearly 50 percent greater ultimate strength than the ducts delivered on the affected airplanes. The commenter also asserts that, because of the reduced duct dimensions and air loads, there has not been any tension failure of ducts forward of station 550 or aft of station 1389 on Model 757-200 series airplanes.

The other commenter states that the new, improved overhead ducts eliminate the need to install lanyards, since they are more robust and resistant to de-coupling, delamination, moisture ingress, and breakaway at attach points. The commenter also points out that the FAA has approved these ducts through the parts manufacturer approval process.

We agree with the commenters. Since issuance of the proposed AD, we have reviewed Boeing Service Letter 757-SL-21-057-A, including Attachments I and II, dated March 24, 2004. For certain Model 757 series airplanes, the Boeing service letter describes procedures for replacing the original design foam ducts with new, improved foam ducts. We find that this optional replacement adequately addresses the unsafe condition in this AD on certain Model 757-200 and -200CB series airplanes. The optional replacement would eliminate the need for the general visual inspection and corrective actions, if applicable, required by paragraph (c) of this AD. Therefore, we have inserted a new paragraph (d) into this final rule and relettered the subsequent paragraphs accordingly.

Request To Extend Compliance Time

One commenter requests that we extend the compliance time for installing lanyards from 60 months to at least 63 months, so affected operators can perform the installation during a scheduled heavy maintenance interval. The commenter states the 60-month interval does not correspond with any maintenance interval for Boeing Model 757 series airplanes or with the Maintenance Review Board (MRB) heavy maintenance visit (4C), which is scheduled at a 72-month interval. The commenter also asserts that airplane downtime would be significant if the proposed installation is scheduled outside of a heavy maintenance visit. As justification for the request, the commenter says that failure of the ducts is evident by the appearance of the ceiling panels, which could be discovered

and corrected during the MRB zonal inspection of the main cabin that occurs every 18 months (at 1C). In its experience, the commenter believes this interval is sufficient. The commenter also states " * * a 63-month compliance time would leave one interval at no more than (allowing for prior yield loss) 12 months which would be less than the 1C interval."

We agree with the commenter's request to extend the compliance time. We intended to require the inspection and installation of lanyards at intervals that would coincide with regularly scheduled maintenance visits for the majority of the affected fleet, when the airplanes would be located at a base where special equipment and trained personnel would be readily available, if necessary. Based on the information supplied by the commenters, we now recognize that 72 months corresponds more closely to the interval representative of most of the affected operators' normal maintenance schedules. We have revised paragraphs (b)(1), (b)(2), and (c) of the final rule to require a compliance time of 72 months. We do not consider that this extension will adversely affect safety.

Request To Withdraw Proposed AD

One commenter objects to requiring an AD to address the unsafe condition in Boeing Special Attention Service Bulletin 737-21-1131, Revision 2, dated April 18, 2002, because of the large expense of complying with the proposed AD. For its 67 affected airplanes, the commenter states that it would cost \$1,500,000, and that the manufacturer would not offer any reimbursement for this expense. The commenter also states that the price of the modification kit increased 40 percent after issuance of the proposed AD. We infer that the commenter is asking us to withdraw the proposed AD.

We do not agree with the inferred request, since the installation of lanyards is necessary to prevent loosened or disconnected overhead ducts from causing ceiling panels to drop below the minimum height of the evacuation zone for the passenger cabin. This condition could result in inadequate height for safe exit in the event of an emergency evacuation. While we acknowledge the concern of the commenter, we cannot control the cost of the manufacturer's modification kit or get involved in any discussion related to reimbursement from the manufacturer. The cost impact of this AD is based on the best data available provided to us by the manufacturer. No change to this AD is necessary in this regard.

Request To Allow Repetitive Inspections and Optional Terminating Action

Two commenters request that, as an alternate method of compliance, we allow repetitive inspections of the overhead ducts and replacement of deteriorating ducts before they fail. One commenter requests specifically that the repetitive inspections are done at every C-check, and that the replacement is done in accordance with Boeing Service Letter 757-SL-21-057-A, including Attachments I and II, dated March 24, 2004. The commenter states that this service letter provides procedures for installing improved overhead ducts, which substantially increases the structural support for the ducts and ceiling panels. The commenter provides no justification for the repetitive inspections.

The other commenter believes that regular inspections of the overhead ducts for air leakage and the addition of repetitive inspections of the duct holding clamps/brackets and ceiling supports to the regular inspection of the overhead duct assembly by borescope method would sufficiently address the unsafe condition in the proposed AD. The commenter asserts that these inspections would allow early and proper action to prevent the unsafe condition. The commenter states that its proposed AMOC is adequate, since it has never discovered the unsafe condition addressed by the proposed AD on any of its own or its customer's affected airplanes.

We do not agree with the commenters' request to allow repetitive inspections of the overhead ducts. However, as stated in our response to a previous comment, we agree that replacement of the overhead ducts in accordance with Boeing Service Letter 757-SL-21-057-A adequately addresses the unsafe condition in this AD for certain Model 757-200 and -200CB series airplanes and eliminates the need for the actions required by paragraph (c) of this AD.

We have investigated the potential for repetitive inspections of the overhead ducts, either by borescope or other methods, as an alternative to installing lanyards and have determined that an inspection program is impracticable due to the nature of the duct design and failure mode. It has been shown that, over time, the overhead ducts will deteriorate. In addition, operators have reported overhead ducts with air leakage, moisture ingress, delamination, broken isolator mounts, and support mounts that have pulled through the duct. Furthermore, the manufacturer has told us that it cannot identify the specific damage to the air ducts, which would indicate where failure (the ceiling panels dropping into the passenger evacuation zone) is imminent.

While there have been very few reported instances where the overhead duct failed and consequently allowed the panels to fall into the passenger cabin, such a failure has been encountered. This failure has been linked to a deficiency in the design of the affected airplanes and could cause the inboard edge of the ceiling panel to be in the passenger evacuation zone. This situation will impede egress in the event of an emergency evacuation.

Request To Revise Cost Impact

One commenter questions our estimate of 27 work hours for installing lanyards in the proposed AD, where the service bulletin estimates 39 work hours, which includes time to gain access to the area. The commenter states that installing the attach brackets for the lanyards involves significant problems in gaining access and working in a confined space. The commenter also states that a review of the work required for its fleet of Model 757 series airplanes indicated that the estimate in the service bulletin is already very conservative. We infer that the commenter requests that we revise the Cost Impact for this AD.

We do not agree with the inferred request because the purpose of the Cost Impact section is only to estimate the costs of compliance with the AD. As stated in this and the proposed AD, 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. Therefore, no change to this AD is necessary in this regard.

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 2,187 airplanes of the affected design in the worldwide fleet. The FAA estimates that 984 airplanes of U.S. registry will be affected by this AD. The following table shows the estimated cost impact for airplanes affected by this AD. The average labor rate is \$65 per work hour. The estimated maximum total cost for all airplanes affected by this AD is \$10,607,648.

TABLE.—COST IMPACT

Model	U.S. registered airplanes	Work hours per airplane	Labor cost per airplane	Parts cost per airplane	Total cost
737–300, –400, and –500 series airplanes.	665	28 (Identify the body frames, install support brackets; rework and install insulation; install lanyard and hook brackets).	\$1,820	\$6,925 to \$9,650 (Depending on overhead duct installation configuration).	\$5,815,425 to \$7,627,550 (Depending on overhead duct installation configuration), or \$8,745 to \$11,470 per airplane.
757–200 and –200CB series airplanes.	319	27 (Examine station frame, install bracket, lanyard, and insulation).	1,755	7,587	\$2,980,098, or \$9,342 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.

Authority for This Rulemaking

The FAA's authority to issue rules regarding aviation safety is found in Title 49 of the United States Code. 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.

This rulemaking is promulgated 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 AD.

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 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 "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).

2005-03-02 Boeing: Amendment 39-13958. Docket 2003-NM-221-AD.

Applicability

This AD applies to the airplanes listed in Table 1 of this AD, certificated in any category:

TABLE 1.—APPLICABILITY

Boeing model	As listed in
Model 737-300, -400, and -500 series airplanes.	Boeing Special Attention Service Bulletin 737-21-1131, Revision 2, dated April 18, 2002.
Model 757-200 and -200CB series airplanes.	Boeing Special Attention Service Bulletin 757-21-0088, dated April 18, 2002.

Compliance

Required as indicated, unless accomplished previously.

To prevent loosened or disconnected overhead ducts from causing ceiling panels to drop below the minimum height of the evacuation zone for the passenger cabin, which could result in inadequate height for safe exit in the event of an emergency evacuation, accomplish the following:

Service Bulletin References

(a) The term "service bulletin," as used in this AD, means the applicable service bulletins listed in Table 1 of this AD.

Inspection and Related Investigative/Corrective Actions

(b) For Model 737-300, -400, and -500 series airplanes, do the actions required in paragraphs (b)(1) and (b)(2) of this AD at the specified compliance times, in accordance with the Accomplishment Instructions of the service bulletin.

(1) Within 72 months after the effective date of this AD, do a general visual inspection at the applicable body station frames for open body station frames; and, before further flight, do all the related investigative/corrective actions, as applicable; by accomplishing all of the actions in paragraph 3.B. of the service bulletin.

Note 1: For the purposes of this AD, a general visual inspection is defined as: "A visual examination of an interior or exterior area, installation, or assembly to detect obvious damage, failure, or irregularity. This level of inspection is made from within touching distance unless

otherwise specified. A mirror may be necessary to enhance visual access to all exposed surfaces in the inspection area. This level of inspection is made under normally available lighting conditions such as daylight, hangar lighting, flashlight, or droplight and may require removal or opening of access panels or doors. Stands, ladders, or platforms may be required to gain proximity to the area being checked."

(2) Within 72 months after the effective date of this AD, do the actions required in paragraph (b)(2)(i) or (b)(2)(ii) of this AD, as applicable.

(i) For Groups 1 and 3 airplanes identified in the service bulletin: Install the lanyard hook brackets and each lanyard assembly under the air conditioning (AC) overhead ducts in accordance with paragraph 3.C. of the service bulletin.

(ii) For Group 2 airplanes identified in the service bulletin: Install the lanyard hook brackets and the lanyard assemblies under the AC overhead ducts by accomplishing all of the actions in paragraph 3.D. of the service bulletin.

(c) For Model 757-200 and -200CB series airplanes: Within 72 months after the effective date of this AD, do a general visual inspection of the applicable body station frames for open body station frames; and, before further flight, do all the corrective actions, as applicable; by accomplishing all of the actions in the Accomplishment Instructions of the service bulletin.

Optional Terminating Action

(d) For Model 757-200 and -200CB series airplanes: Accomplishing the replacement of the original design foam ducts with Saint-Gobain design foam ducts by doing all of the actions in Attachments I and II of Boeing Service Letter 757-SL-21-057-A, dated March 24, 2004, terminates the actions required by paragraph (c) of this AD.

Credit for Actions Accomplished Per Previous Service Bulletins

(e) Actions accomplished before the effective date of this AD per Boeing Special Attention Service Bulletin 737-21-1131, original release, dated December 20, 2001; or Revision 1, dated January 25, 2002; are acceptable for compliance with the requirements of paragraph (b) of this AD.

Alternative Methods of Compliance

(f) In accordance with 14 CFR 39.19, the Manager, Seattle Aircraft Certification Office, FAA, is authorized to approve alternative methods of compliance (AMOCs) for this AD.

Incorporation by Reference

(g) Unless otherwise specified by this AD, the actions shall be done in accordance with Boeing Special Attention Service Bulletin 737-21-1131, Revision 2, dated April 18, 2002; and Boeing Special Attention Service Bulletin 757-21-0088, dated April 18, 2002; as applicable. The optional terminating action, if accomplished, shall be done in accordance with Boeing Service Letter 757-SL-21-057-A, including Attachments I and II, dated March 24, 2004. 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 Airplanes, 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 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/code_of_federal_regulations/ibr_locations.html.

Effective Date

(h) This amendment becomes effective on March 9, 2005.

Issued in Renton, Washington, on January 18, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-1722 Filed 2-1-05; 8:45 am]

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