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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. 2003-NM-166-AD; Amendment 39-13936; AD 2005-01-12]

RIN 2120-AA64

Airworthiness Directives; Boeing Model 757-200, -200PF, 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 757-200, -200PF, and -200CB series airplanes, that requires an inspection of certain ballscrews of the trailing edge flap system to find their part numbers, and replacement of the ballscrews with new, serviceable, or modified ballscrews if necessary. This action is necessary to prevent a flap skew due to insufficient secondary load path of the ballscrew of the trailing edge flaps in the event that the primary load path fails, which could result in possible loss of a flap and reduced controllability of the airplane. This action is intended to address the identified unsafe condition.

DATES: Effective February 14, 2005. The incorporation by reference of a certain publication listed in the regulations is approved by the Director of the Federal Register as of February 14, 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 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: Douglas Tsuji, Aerospace Engineer, Systems and Equipment Branch, ANM-130S, FAA, Seattle Aircraft Certification Office, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 917-6487; 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 757-200, -200PF, and -200CB series airplanes was published in the Federal Register

on April 1, 2004 (69 FR 17105). That action proposed to require an inspection of certain ballscrews of the trailing edge flap system to find their part numbers, and replacement of the ballscrews with new, serviceable, or modified ballscrews if necessary.

Comments

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

Request To Delay Issuance of Final Rule

One commenter requests that the FAA delay the issuance of the final rule until Boeing issues a service bulletin for relocating the rear spar air dam of the trailing edge (TE) from wing station (WS) 399 to WS 357, if we are planning to mandate the modification in another rulemaking action. The commenter states that this modification would move the air dam and the associated hydraulic, flight controls, and electrical systems inboard along the wing TE, which would mitigate collateral system damage in the event of a powered flap skew. The commenter also states that the Boeing service bulletin for this modification is expected to be released in the third quarter of 2004.

We do not agree with the request. We have determined that the modification described by the commenter addresses the result of a powered flap skew (i.e., potential collateral damage). The requirements of this AD address the potential cause of a flap skew (i.e., insufficient secondary load path of the ballscrew of the TE flaps in the event that the primary load path fails). It is this skew, which could adversely affect the controllability of the airplane, that needs to be corrected. In addition, the airplane manufacturer has not issued and we have not reviewed and approved the subject service bulletin. We do not consider it appropriate to delay the issuance of this final rule in light of the identified unsafe condition. When the service bulletin is issued, we will review it and may consider future rulemaking action. Therefore, no change to the final rule is necessary in this regard.

Requests To Revise Compliance Times

One commenter requests that, for operators having an overhaul requirement for a TE flap ballscrew in their maintenance schedule, the 36-month compliance time in the notice of proposed rulemaking (NPRM) for replacing any ballscrew having part number (P/N) S251N401-5 (Thomson Saginaw P/N 7820921) or S251N401-9 (Thomson Saginaw P/N 7821341) be revised to allow operators to either:

- Continue operation until the next unscheduled removal or scheduled overhaul, whichever occurs first; or
- Do the replacement at a later time, allowing them to continue operation until, for example, the next 4C-check.

The commenter states that its approved maintenance schedule requires overhaul of the TE flap ballscrews at 18,200 flight hours.

In line with the previous request, the same commenter also requests that we take into account recent installation of new or overhauled units. The commenter states that airplanes having ballscrews that have been installed recently (in a new or overhauled condition) will require replacement again soon. Also, these airplanes are subject to the same compliance time as airplanes having ballscrews that have been installed for many years.

In addition, three commenters request that the compliance time for the proposed inspection/replacement be extended for different reasons. Two commenters suggest that a compliance time of 48 months would coincide with the existing 24-month (or 6,000-flight hour/3,000 flight cycles, whichever occurs first) heavy maintenance schedule for Model 757 airplanes operated in a freighter configuration. One of the two commenters states that the 36-month compliance time would

impose unnecessary economic and operational burdens by requiring airplanes to be routed as a "special visit" to a heavy maintenance facility to comply with the NPRM. This commenter also notes that recorded findings of a time-controlled functional check at 18,000 flight hours are well within the manufacturer's required limits, and that no removal of the ballscrews have occurred due to wear. Instead of a 48-month compliance time, one of the two commenters also suggest either:

- The later of: 36 months or (12,000 flight hours or 6,000 flight cycles, whichever occurs first); or
- 48 months or 12,000 flight hours or 6,000 flight cycles, whichever occurs first.

The third commenter states that the proposed compliance time will require as many as three full-ship sets of modified ballscrew assemblies each month. The increased demand by all operators for modified assemblies will make the ballscrew assembly modification turn-around time a critical factor for compliance. This commenter also notes that industry has not reported any occurrence of a flap skew condition as a result of a failed ballscrew assembly. For these reasons, the commenter suggests that the compliance time should be extended from 36 months to 48 months.

We partially agree with the requests. We do not agree that it is necessary to revise the compliance time for the required replacement to account for recent installation of new or overhauled units. The requirements of this AD address a design deficiency (i.e., insufficient secondary load path of the ballscrew of the TE flaps in the event that the primary load path fails). This deficiency is not dependant upon wear or usage of the ballscrew as suggested by a commenter. Therefore, how recently a ballscrew has been replaced is irrelevant to correcting the subject design deficiency, unless the ballscrew has the improved secondary load path.

We agree that the compliance times for both the inspection and replacement, if necessary, can be extended somewhat to coincide with regularly scheduled maintenance visits. We intended to require those actions 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. However, accomplishing the required actions at the next 4C-check may, for some operators, significantly increase time and affect the probability of a ballscrew failure. Therefore, we have determined that extending the compliance times from the proposed 36 months to 48 months will provide an acceptable level of safety. Paragraph (a) of the final rule has been revised accordingly.

Requests To Revise Service Bulletins

One commenter requests that the wording of Boeing Alert Service Bulletin 757-27A0139, dated June 16, 2003 (cited in the NPRM as the appropriate source of service information for accomplishing the proposed inspection and replacement if necessary) be consistent with the NPRM. The commenter states that in several locations of the Accomplishment Instructions of the service bulletin, including Figure 1, it states to examine the ballscrews for its P/N, and if the P/N is either S251N401-5 or -9 (i.e., a pre-modified ballscrew), the ballscrew must be replaced. The commenter notes that the NPRM requires inspection and replacement, if necessary, within 36 months after the effective date of the AD. The service bulletin recommends the replacement with no allowance for time after the pre-modified unit has been found. The commenter contends that the service bulletin is very restrictive and difficult to adhere to. The commenter sent its request to Boeing too.

Boeing responded to the commenter by stating, "The compliance statement in the bulletin advises, `Boeing recommends that operators do the inspection and possible replacement given in this service bulletin in three years or less from the date on this service bulletin.' The intent means that as long as both conditions (inspection AND replacement) are satisfied with the three year window, operators are compliant."

Because paragraph 1.E., "Compliance" of Boeing Alert Service Bulletin 757-27A0139 recommends a compliance time of 36 months for accomplishing both the inspection and replacement, if necessary, we infer that the commenter is requesting that we ask Boeing to specifically revise the "Accomplishment Instructions" of that service bulletin to include compliance times. We do not agree.

Although the recommended compliance times are not cited in the Accomplishment Instructions of the referenced service bulletin, they are clearly cited in paragraph 1.E, "Compliance," as noted in Boeing's response discussed earlier. The wording of paragraph (a) of this AD is also clear that both the required inspection and the replacement, if necessary, must be done within 36 months after the effective date of this AD. When there are differences between an AD and the referenced service bulletin, the AD prevails. Therefore, we do not find it necessary to require Boeing to include compliance times in the Accomplishment Instructions of the referenced service bulletin.

One commenter requests that Thomson Saginaw Ball Screw Component Maintenance Manual (CMM) 27-51-20, dated November 15, 1998, be revised before issuance of the final rule to reflect the full intent of the part modification driven by Thomson Saginaw Service Bulletin 7900897, Revision C, included by reference in Boeing Alert Service Bulletin 757-27A0139. The commenter notes that, while the NPRM does not provide direct reference to Thomson Saginaw Service Bulletin 7900897, nor the CMM 27-51-20, it would require certain ballscrew assemblies to be replaced with new, serviceable, or modified ballscrews in accordance with Boeing Alert Service Bulletin 757-27A0139. The commenter further notes that Boeing Alert Service Bulletin 757-27A0139 recommends that the identified ballscrews be changed in accordance with the Thomson Saginaw service bulletin, which is written for accomplishment in conjunction with CMM 27-51-20.

The commenter states that, after initial modification, future component maintenance in accordance with CMM 27-51-20 could result in an old ball nut installation, thereby de-modifying the unit from the intent of the Thomson Saginaw service bulletin. The commenter believes that this de-modification could raise a question of compliance with the intent of the NPRM if the CMM is not revised to reflect the intent of the service bulletin changes.

We partially agree with the commenter's request. We agree that it is possible to install an un-modified ball nut having P/N 7820679 into a previously modified ballscrew, because CMM 27-51-20 does not distinguish between a modified and unmodified ball nut. However, we disagree with the commenter that it is necessary to delay issuance of this final rule until CMM 27-51-20 is revised, or that a revision to the CMM is necessary. All ball nuts have a nameplate that has the P/N of the ballscrew on it. The nameplate of older, unmodified ball nuts has either P/N S251N401-5 or -9 on it. As of the effective date of this AD, paragraph (b) of the AD prohibits installation of any ballscrew having P/N S251N401-5 or -9, on any airplane. We have determined that the requirements of this AD adequately address the identified unsafe condition. No change to the final rule is necessary in this regard.

Request To Deviate From Service Bulletin

One commenter requests that paragraph (a) of the NPRM be revised to deviate from the referenced service bulletin (i.e., Boeing Alert Service Bulletin 757-27A0139) by allowing the proposed inspection without removal of the aft fairing from the flap track as is currently specified in the service bulletin. The commenter notes that the service bulletin recommends accomplishing the removal in accordance with Boeing 767 Airplane Maintenance Manual (AMM) 27-51-31/201. The commenter states that the P/N on the subject ballscrews is located on a data plate that is fastened to the ball nut in a predetermined location as part of the component assembly. This location for the part identification is readily visible with the ballscrew assembly installed on the airplane without removal of the aft flap fairing. The commenter believes its suggestion would prevent unnecessary access and subsequent reinstallation and testing in the event the parts are not those that require replacement according to the AD.

We agree with the commenter that paragraph (a) should be clarified. Our intent was that the required inspection determine the P/Ns of the ballscrews, not the manner in which the P/Ns are identified. Therefore, the inspection required by paragraph (a) of this final rule does not have to be done in accordance Boeing Alert Service Bulletin 757-27A0139. We have revised paragraph (a) of the final rule accordingly.

Request To Clarify Terminating Action

To prevent any confusion about the terminating action, one commenter requests that paragraph (a) of the NPRM be clarified to indicate that accomplishing the actions specified in Boeing Alert Service Bulletin 757-27A0139 terminates the NPRM.

We do not agree. The replacement in paragraph (a) of this AD is only required if the P/N of the ballscrew is S251N401-5 (Thomson Saginaw P/N 7820921) or S251N401-9 (Thomson Saginaw P/N 7821341). Because some operators may not have to do the replacement, we find that referring to the replacement as terminating action for this AD is inappropriate. No change to the final rule is necessary in this regard.

Requests To Revise Cost Impact

One commenter requests that we consider reviewing the estimate in the Cost Impact section of the NPRM for accomplishing the proposed modification. The commenter states that the cost estimate does not account for the additional cost associated with the removal of the ball nut from the ballscrew or with new bearings, scraper/seals, inspections, assembly, and testing of the ballscrew. Another commenter states that the time estimated in the Cost Impact section of the NPRM for modifying the subject ballscrew assemblies is underestimated. The commenter believes it will take 8 work hours to modify one unit.

We do not agree that Cost Impact section of the NPRM needs to be revised. The Cost Impact section below describes only the direct costs of the specific actions required by this AD. Based on the best data available, the airplane manufacturer's and ballscrew manufacturer's service information specified the number of work hours (6 hours per ballscrew) necessary to do the removal, modification, and reinstallation of a ballscrew, if required. This number represents the time necessary to perform only the actions actually required by this AD. We recognize that, in doing the actions required by an AD, operators may incur incidental costs in addition to the direct costs. The cost analysis in AD rulemaking actions, however, typically does not include incidental costs such as the time required to gain access and close up, time necessary for planning, or time necessitated by other administrative actions. Those incidental costs, which may vary significantly among operators, are almost impossible to calculate. No change to the final rule 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 979 airplanes of the affected design in the worldwide fleet. The FAA estimates that 644 airplanes of U.S. registry will be affected by this AD.

It will take approximately 1 work hour per airplane to accomplish the required inspection at an average labor rate of $65 per work hour. Based on these figures, the cost impact of the AD on U.S. operators is estimated to be $41,860, or $65 per airplane.

Replacement of a ballscrew with a new or serviceable ballscrew, if required, will take about 3 work hours per ballscrew, at an average labor rate of $65 per work hour. Required parts will cost about $8,400 per ballscrew. Based on these figures, we estimate the cost of a repair to be $8,595 per ballscrew (there are two ballscrews per airplane).

Removal, modification, and reinstallation of a ballscrew, if required, will take about 6 work hours per ballscrew, at an average labor rate of $65 per work hour. Required parts will cost about $553 per ballscrew. Based on these figures, we estimate the cost of a repair to be $943 per ballscrew (there are two ballscrews 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, the FAA is charged 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).

2005-01-12 Boeing: Amendment 39-13936. Docket 2003-NM-166-AD.

Applicability: Model 757-200, -200PF, and -200CB series airplanes, line numbers 1 through 979 inclusive; certificated in any category.

Compliance: Required as indicated, unless accomplished previously.

To prevent a flap skew due to insufficient secondary load path of the ballscrew of the trailing edge flaps in the event that the primary load path fails, which could result in possible loss of a flap and reduced controllability of the airplane, accomplish the following:

Inspection and Corrective Action

(a) Within 48 months after the effective date of this AD, do an inspection of the ballscrews of the trailing edge flap system to find their part numbers (P/N). If the P/N of the ballscrew is S251N401-5 (Thomson Saginaw P/N 7820921) or S251N401-9 (Thomson Saginaw P/N 7821341), within 48 months after the effective date of this AD, replace the ballscrew with a new, serviceable, or modified ballscrew, in accordance with the Accomplishment Instructions of Boeing Alert Service Bulletin 757-27A0139, dated June 16, 2003.

Parts Installation

(b) As of the effective date of this AD, no person may install a trailing edge flap ballscrew, P/N S251N401-5 (Thomson Saginaw P/N 7820921) or S251N401-9 (Thomson Saginaw P/N 7821341), on any airplane.

Alternative Methods of Compliance

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

Incorporation by Reference

(d) Unless otherwise specified in this AD, the actions shall be done in accordance with Boeing Alert Service Bulletin 757-27A0139, dated June 16, 2003. 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

(e) This amendment becomes effective on February 14, 2005.

Issued in Renton, Washington, on December 29, 2004.
Kevin M. Mullin,
Acting Manager, Transport Airplane Directorate, Aircraft Certification Service.
[FR Doc. 05-281 Filed 1-7-05; 8:45 am]
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