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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2005-22168; Directorate Identifier 2005-NM-146-AD; Amendment 39-14234; AD 2005-17-13]

RIN 2120-AA64

Airworthiness Directives; Short Brothers Model SD3-60 Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule; request for comments.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for all Short Brothers Model SD3-60 airplanes. This AD requires an inspection of the rudder for damage, an inspection of the balance weight attachment for discrepancies, an inspection of the rudder horn spar and cleats for cracking and corrosion, and corrective action if necessary. This AD results from events in which fatigue cracking was found on the rudder horn spar. We are issuing this AD to detect and correct cracking and corrosion of the rudder horn spar, which could lead to detachment of the mass balance weight of the rudder. The detachment of the mass balance weight could jam or restrict the movement of the rudder, which could result in reduced controllability of the airplane. Loss of a mass balance weight could also damage other parts of the airplane, which could result in reduced controllability of the airplane, or could result in an injury to a person or damage to property on the ground.

DATES: Effective September 12, 2005.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of September 12, 2005.

We must receive comments on this AD by October 25, 2005.

ADDRESSES: Use one of the following addresses to submit comments on this AD.

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Government-wide rulemaking Web site: Go to <http://www.regulations.gov> and follow the instructions for sending your comments electronically.
- Mail: Docket Management Facility; U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590.
- Fax: (202) 493-2251.
- Hand Delivery: Room PL-401 on the plaza level of the Nassif Building, 400 Seventh Street, SW., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Contact Short Brothers, Airworthiness & Engineering Quality, P.O. Box 241, Airport Road, Belfast BT3 9DZ, Northern Ireland, for service information identified in this AD.

FOR FURTHER INFORMATION CONTACT: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98055-4056; telephone (425) 227-1175; fax (425) 227-1149.

SUPPLEMENTARY INFORMATION:

Discussion

The Civil Aviation Authority (CAA), which is the airworthiness authority for the United Kingdom, notified us that an unsafe condition may exist on all Short Brothers Model SD3-60 airplanes. The CAA advises that there have been reports of fatigue cracking found on the rudder horn spar. In one event, the rudder horn spar failed and the lower mass balance weights detached from the rudder horn spar, which caused structural damage to the rudder's front spar, rib 14, and outer skin. Cracking of the rudder horn spar, if not corrected, could lead to detachment of the mass balance weight of the rudder. The detachment of the mass balance weight could jam or restrict the movement of the rudder, which could result in reduced controllability of the airplane. Loss of a mass balance weight could also damage other parts of the airplane, which could result in reduced controllability of the airplane, or could result in an injury to a person or damage to property on the ground.

Relevant Service Information

Short Brothers has issued Alert Service Bulletin SD360-55-A22, Revision 1, dated August 4, 2005. The service bulletin describes procedures for doing a visual inspection of the rudder for damage and an inspection of the balance weight attachment for discrepancies (discrepancies include potential rudder restriction and detachment of the balance weight). The service bulletin also describes procedures for a detailed visual inspection of the rudder horn spar for cracking and corrosion, a borescope inspection of the cleats for cracking and corrosion, and corrective action if necessary. The corrective action includes replacement of the rudder horn spar and cleats as specified in Part C of the service bulletin and an optional temporary repair to the rudder horn spar that includes replacement of the cleats.

The CAA mandated the service bulletin and issued British airworthiness directive G-2005-0021, dated July 6, 2005, to ensure the continued airworthiness of these airplanes in the United Kingdom.

The service bulletin refers to Short Brothers Repair Drawing SD3-03-6825XB, dated July 2005, as the appropriate source of service information for doing the temporary repair to the rudder horn spar including replacement of the cleats.

FAA's Determination and Requirements of This AD

This airplane model is manufactured in the United Kingdom and is type certificated for operation in the United States under the provisions of section 21.29 of the Federal Aviation Regulations (14 CFR 21.29) and the applicable bilateral airworthiness agreement. Pursuant to this bilateral airworthiness agreement, the CAA has kept the FAA informed of the situation described above. We have examined the CAA's findings, evaluated all pertinent information, and determined that we need to issue an AD for products of this type design that are certificated for operation in the United States.

Therefore, we are issuing this AD to detect and correct cracking and corrosion of the rudder horn spar, which could lead to detachment of the mass balance weight of the rudder. The detachment of the mass balance weight could jam or restrict the movement of the rudder, which could result in reduced controllability of the airplane. Loss of a mass balance weight could also damage other parts

of the airplane, which could result in reduced controllability of the airplane, or could result in an injury to a person or damage to property on the ground. This AD requires accomplishing the actions specified in the service information described previously, except as discussed under "Differences Between the AD and the Service Bulletin."

Differences Between the AD and the Service Bulletin

When less than five cracks are detected in the rudder horn spar that are each 1 inch or less (and no cracks found on the cleats), Shorts Alert Service Bulletin SD360-55-A22 specifies to repetitively inspect every 25 flight cycles for up to 100 flight cycles. However, this AD does not permit further flight if any crack is detected in the rudder horn spar. We have determined that, because of the safety implications and consequences associated with that cracking, any crack found on the rudder horn spar must be repaired before further flight. In addition, the service bulletin does not specify what the corrective action is after 100 flight cycles. This AD requires either replacing the rudder horn spar with a new rudder horn spar and replacing the cleats, part number (P/N) SD3-33-6404XA and -6405XA, with new improved cleats; or doing the temporary repair and then replacing the rudder horn spar with a new rudder horn spar.

Clarification of Inspection Terminology

In this AD, the "visual inspection" specified in the service bulletin is referred to as a "general visual inspection." We have included the definition for a general visual inspection in a note in the AD.

In this AD, the "detailed visual inspection" specified in the service bulletin is referred to as a "detailed inspection." We have included the definition for a detailed inspection in a note in the AD.

Interim Action

We consider this AD interim action. If final action is later identified, we may consider further rulemaking.

FAA's Determination of the Effective Date

An unsafe condition exists that requires the immediate adoption of this AD; therefore, providing notice and opportunity for public comment before the AD is issued is impracticable, and good cause exists to make this AD effective in less than 30 days.

Comments Invited

This AD is a final rule that involves requirements that affect flight safety and was not preceded by notice and an opportunity for public comment; however, we invite you to submit any relevant written data, views, or arguments regarding this AD. Send your comments to the address listed under the ADDRESSES section. Include "Docket No. FAA-2005-22168; Directorate Identifier 2005-NM-146-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD that might suggest a need to modify it.

We will post all comments we receive, without change, to <http://dms.dot.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact with FAA personnel concerning this AD. Using the search function of that web site, anyone can find and read the comments in any of our dockets, including the name of the individual who sent

the comment (or signed the comment on behalf of an association, business, labor union, etc.). You may review the DOT's complete Privacy Act Statement in the Federal Register published on April 11, 2000 (65 FR 19477-78), or you may visit <http://dms.dot.gov>.

Examining the Docket

You may examine the AD docket on the Internet at <http://dms.dot.gov>, or in person at the Docket Management Facility office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The Docket Management Facility office (telephone (800) 647-5227) is located on the plaza level of the Nassif Building at the DOT street address stated in the ADDRESSES section. Comments will be available in the AD docket shortly after the Docket Management System receives them.

Authority for This Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. 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.

We are issuing this rulemaking 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 rulemaking action.

Regulatory Findings

We have determined that this AD will not have federalism implications under Executive Order 13132. This AD 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.

For the reasons discussed above, I certify that the regulation:

1. Is not a "significant regulatory action" under Executive Order 12866;
2. Is not a "significant rule" under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and
3. 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.

We prepared a regulatory evaluation of the estimated costs to comply with this AD and placed it in the AD docket. See the ADDRESSES section for a location to examine the regulatory evaluation.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 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. The Federal Aviation Administration (FAA) amends § 39.13 by adding the following new airworthiness directive (AD):

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).

2005-17-13 Short Brothers PLC: Amendment 39-14234. Docket No. FAA-2005-22168; Directorate Identifier 2005-NM-146-AD.

Effective Date

- (a) This AD becomes effective September 12, 2005.

Affected ADs

- (b) None.

Applicability

- (c) This AD applies to all Shorts Model SD3-60 airplanes, certificated in any category.

Unsafe Condition

(d) This AD results from events in which fatigue cracking was found on the rudder horn spar. The FAA is issuing this AD to detect and correct cracking and corrosion of the rudder horn spar, which could lead to detachment of the mass balance weight of the rudder. The detachment of the mass balance weight could jam or restrict the movement of the rudder, which could result in reduced controllability of the airplane. Loss of a mass balance weight could also damage other parts of the airplane, which could result in reduced controllability of the airplane, or could result in an injury to a person or damage to property on the ground.

Compliance

(e) You are responsible for having the actions required by this AD performed within the compliance times specified, unless the actions have already been done.

Service Bulletin

(f) The term "service bulletin," as used in this AD, means the Accomplishment Instructions of Shorts Alert Service Bulletin SD360-55-A22, Revision 1, dated August 4, 2005.

Inspections

(g) Within 5 flight cycles after the effective date of this AD, do a general visual inspection of the rudder for damage and of the balance weight attachment for discrepancies in accordance with Part A of the service bulletin.

Note 1: For the purposes of this AD, a general visual inspection is: "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 ensure visual access to all 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."

(1) If no damage and no discrepancy is found, no further action is necessary for this paragraph.

(2) If any damage or discrepancy is found, before further flight, do a detailed inspection of the rudder horn spar and a borescope inspection of the cleats for cracking and corrosion in accordance with Part B of the service bulletin.

Note 2: For the purposes of this AD, a detailed inspection is: "An intensive examination of a specific item, installation, or assembly to detect damage, failure, or irregularity. Available lighting is normally supplemented with a direct source of good lighting at an intensity deemed appropriate. Inspection aids such as mirror, magnifying lenses, etc., may be necessary. Surface cleaning and elaborate procedures may be required."

(h) At the applicable time specified in paragraph (h)(1) or (h)(2) of this AD, do a detailed inspection of the rudder horn spar and a borescope inspection of the cleats for cracking and corrosion in accordance with Part B of the service bulletin, unless the inspections have already been done as required by paragraph (g)(2) of this AD.

(1) For airplanes on which a heavy landing has occurred before the effective date of this AD, do the inspections within 20 flight cycles or 7 days after the effective date of this AD, whichever occurs first.

(2) For airplanes on which a heavy landing has not occurred before the effective date of this AD, do the inspections at the earlier of the times specified in paragraphs (h)(2)(i), (h)(2)(ii), and (h)(2)(iii) of this AD.

(i) For airplanes on which a heavy landing occurs after the effective date of this AD, do the inspections within 20 flight cycles or 7 days after the heavy landing occurred, whichever occurs first.

(ii) For airplanes that have accumulated 28,800 or more total flight hours, do the inspections within 20 flight cycles or 7 days after the effective date of this AD, whichever occurs first.

(iii) At the applicable time specified in Table 1 of this AD.

TABLE 1.—CERTAIN COMPLIANCE TIMES FOR PART B INSPECTIONS

For airplanes that—	Do the inspections—
Have accumulated 25,000 or less total flight cycles	Within 80 flight cycles or 28 days after the effective date of this AD, whichever occurs first.
Have accumulated more than 25,000 total flight cycles but less than 50,000 total flight cycles.	Within 40 flight cycles or 14 days after the effective date of this AD, whichever occurs first.
Have accumulated 50,000 or more total flight cycles	Within 20 flight cycles or 7 days after the effective date of this AD, whichever occurs first.

Corrective Actions

(i) If, during any inspection required by paragraph (g)(2) or (h) of this AD, no crack is found and any corrosion found is within the limits specified in the service bulletin, no further action is required by this paragraph.

(j) If any crack is found during any inspection required by paragraph (g)(2) or (h) of this AD, do the corrective action specified in paragraph (j)(1), (j)(2), or (j)(3) of this AD, as applicable, except as required by paragraph (k) of this AD.

(1) If any crack is found on the rudder horn spar and there is no crack on any of the cleats, do the actions specified in paragraph (j)(1)(i) or (j)(1)(ii) of this AD.

(i) Before further flight, replace the rudder horn spar with a new rudder horn spar and replace the cleats, part numbers (P/N) SD3-33-6404XA and -6405XA, with new cleats, in accordance with Part C of the service bulletin.

(ii) Before further flight, do the temporary repair in accordance with Short Brothers Repair Drawing SD3-03-6825XB, dated July 2005, and within 300 flight cycles, replace the rudder horn spar with a new rudder horn spar, in accordance with Part C of the service bulletin.

(2) If any crack is found on the rudder horn spar and any crack is found on any cleat, do the actions specified in paragraph (j)(2)(i) or (j)(2)(ii) of this AD.

(i) Before further flight, replace the rudder horn spar with a new rudder horn spar and replace all three cleats with new cleats, in accordance with Part C of the service bulletin.

(ii) Before further flight, do the temporary repair in accordance with Short Brothers Repair Drawing SD3-03-6825XB, dated July 2005, and within 300 flight cycles, replace the rudder horn spar with a new rudder horn spar, in accordance with Part C of the service bulletin.

(3) If any crack is found on any of the cleats and no cracks are found on the rudder horn spar, before further flight, replace the cleats with new cleats in accordance with Part C of the service bulletin or in accordance with Short Brothers Repair Drawing SD3-03-6825XB, dated July 2005.

(k) If, during any inspection required by paragraph (g)(2) or (h) of this AD, any corrosion is found that is outside the limits specified in the service bulletin, before further flight, replace the corroded part with a new part, in accordance with Part C of the service bulletin.

Actions Accomplished in Accordance With Previous Issue of Service Information

(l) Actions accomplished before the effective date of this AD in accordance with Shorts Alert Service Bulletin SD360-55-A22, dated July 6, 2005; and Short Brothers Repair Drawing SD3-03-6825XA, dated July 2005; are considered acceptable for compliance with the corresponding actions specified in this AD.

Alternative Methods of Compliance (AMOCs)

(m) The Manager, International Branch, ANM-116, FAA, Transport Airplane Directorate, has the authority to approve AMOCs for this AD, if requested in accordance with the procedures found in 14 CFR 39.19.

Related Information

(n) British airworthiness directive G-2005-0021, dated July 6, 2005, also addresses the subject of this AD.

Material Incorporated by Reference

(o) You must use Shorts Alert Service Bulletin SD360-55-A22, Revision 1, dated August 4, 2005; and Short Brothers Repair Drawing SD3-03-6825XB, dated July 2005; as applicable, to perform the actions that are required by this AD, unless the AD specifies otherwise. The Director of the Federal Register approved the incorporation by reference of this document in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Contact Short Brothers, Airworthiness & Engineering Quality, PO Box 241, Airport Road, Belfast BT3 9DZ, Northern Ireland, for a copy of this service information. You may review copies at the Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Room PL-401, Nassif Building, Washington, DC; on the Internet at <http://dms.dot.gov>; or at the National Archives and Records Administration (NARA).

For information on the availability of this material at the NARA, call (202) 741-6030, or go to http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html.

Issued in Renton, Washington, on August 12, 2005.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

[FR Doc. 05-16750 Filed 8-25-05; 8:45 am]

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