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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **14 CFR Part 39**

**[Docket No. FAA-2007-27866; Directorate Identifier 2007-NM-055-AD; Amendment 39-15027; AD 2007-08-09]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Short Brothers Model SD3-60 SHERPA, SD3-SHERPA, SD3-30, and SD3-60 Airplanes**

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

**ACTION:** Final rule; request for comments.

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**SUMMARY:** We are adopting a new airworthiness directive (AD) for the products listed above. This AD results from mandatory continuing airworthiness information (MCAI) originated by an aviation authority of another country to identify and correct an unsafe condition on an aviation product. The MCAI describes the unsafe condition as:

An analysis of the cable operated control system installed on the SD3 aircraft types that use MS 21260 type end fittings has identified a number of potentially unsafe conditions due to a combination of failures \* \* \*.

The failure of certain control cables could result in the loss of certain critical systems. For example, the loss of the low pressure (LP) fuel control cable in combination with a single failure of a fuel condition control cable on the same engine can cause the loss of the capability to shut down the engine in the event of an engine fire. This AD requires actions that are intended to address the unsafe condition described in the MCAI.

**DATES:** This AD becomes effective May 8, 2007.

The Director of the Federal Register approved the incorporation by reference of certain publications listed in the AD as of May 8, 2007.

We must receive comments on this AD by May 23, 2007.

**ADDRESSES:** You may send comments by any of the following methods:

- DOT Docket Web site: Go to <http://dms.dot.gov> and follow the instructions for sending your comments electronically.
- Fax: (202) 493-2251.

- Mail: Docket Management Facility, U.S. Department of Transportation, 400 Seventh Street, SW., Nassif Building, Room PL-401, Washington, DC 20590-0001.
- 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.
- Federal eRulemaking Portal: <http://www.regulations.gov>. Follow the instructions for submitting comments.

## **Examining the AD Docket**

You may examine the AD docket on the Internet at <http://dms.dot.gov>; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, the regulatory evaluation, any comments received, and other information. The street address for the Docket Office (telephone (800) 647-5227) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

**FOR FURTHER INFORMATION CONTACT:** Todd Thompson, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149.

## **SUPPLEMENTARY INFORMATION:**

### **Streamlined Issuance of AD**

The FAA is implementing a new process for streamlining the issuance of ADs related to MCAI. This streamlined process will allow us to adopt MCAI safety requirements in a more efficient manner and will reduce safety risks to the public. This process continues to follow all FAA AD issuance processes to meet legal, economic, Administrative Procedure Act, and Federal Register requirements. We also continue to meet our technical decision-making responsibilities to identify and correct unsafe conditions on U.S.-certificated products.

This AD references the MCAI and related service information that we considered in forming the engineering basis to correct the unsafe condition. The AD contains text copied from the MCAI and for this reason might not follow our plain language principles.

### **Discussion**

The European Aviation Safety Agency (EASA), which is the technical agent for the Member States of the European Community, has issued EASA Emergency Airworthiness Directive 2007-0039-E, dated February 16, 2007 (referred to after this as “the MCAI”), to correct an unsafe condition for the specified products. The MCAI states:

Following the identification of a failed propeller RPM (revolutions per minute) cable end fitting and an LP (low pressure) fuel lever cable end fitting on an SD3 aircraft, several subsequent occurrences of control cable end fittings (type MS21260) with signs of pitting corrosion or cracking have been reported to Bombardier Shorts. All reported instances being identified during ground maintenance inspections on the SD3 fleet. Bombardier Shorts have performed examinations on the failed cable end fittings and established the root cause of failure as stress corrosion cracking of the SAE-AISI 303 stainless steel material they are manufactured from, initiated by pitting corrosion on the surface. The root cause of the stress corrosion is sustained tensile stress in a corrosive (warm, humid and salty) atmosphere.

An analysis of the cable operated control systems installed on the SD3 aircraft types that use MS 21260 type end fittings has identified a number of potentially unsafe conditions due to a combination of failures that may result from this common mode cause.

The failure of certain control cables could result in the loss of certain critical systems. For example, the loss of the LP fuel control cable in combination with a single failure of a fuel condition control cable on the same engine can cause the loss of the capability to shut down the engine in the event of an engine fire. You may obtain further information by examining the MCAI in the AD docket.

### **Relevant Service Information**

Shorts has issued the following service bulletins. The actions described in this service information are intended to correct the unsafe condition identified in the MCAI.

- Shorts Alert Service Bulletin SD3 Sherpa-76-A02, Revision 1, dated January 24, 2007.
- Shorts Alert Service Bulletin SD330-76-A09, Revision 1, dated January 24, 2007.
- Shorts Alert Service Bulletin SD360 Sherpa-76-A03, Revision 1, dated January 24, 2007.
- Shorts Alert Service Bulletin SD360-76-A12, Revision 1, dated January 24, 2007.

### **FAA's Determination and Requirements of This AD**

This product has been approved by the aviation authority of another country, and is approved for operation in the United States. Pursuant to our bilateral agreement with the State of Design Authority, we have been notified of the unsafe condition described in the MCAI and service information referenced above. We are issuing this AD because we evaluated all pertinent information and determined the unsafe condition exists and is likely to exist or develop on other products of the same type design.

### **Differences Between the AD and the MCAI or Service Information**

We have reviewed the MCAI and related service information and, in general, agree with their substance. But we might have found it necessary to use different words from those in the MCAI to ensure the AD is clear for U.S. operators and is enforceable. In making these changes, we do not intend to differ substantively from the information provided in the MCAI and related service information.

We might also have required different actions in this AD from those in the MCAI in order to follow FAA policies. Any such differences are highlighted in a NOTE within the AD.

### **FAA's Determination of the Effective Date**

An unsafe condition exists that requires the immediate adoption of this AD. The FAA has found that the risk to the flying public justifies waiving notice and comment prior to adoption of this rule because of the number of control cable assemblies that were deemed not to be airworthy when evaluated against specific inspection criteria. Therefore, we determined that notice and opportunity for public comment before issuing this AD are impracticable and that good cause exists for making this amendment effective in fewer than 30 days.

### **Comments Invited**

This AD is a final rule that involves requirements affecting flight safety, and we did not precede it by notice and opportunity for public comment. We invite you to send any written relevant data, views, or arguments about this AD. Send your comments to an address listed under the ADDRESSES

section. Include “Docket No. FAA-2007-27866; Directorate Identifier 2007-NM-055-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of this AD. We will consider all comments received by the closing date and may amend this AD because of those comments.

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 we receive about this AD.

### **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 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 this AD:

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.

### **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 FAA amends § 39.13 by adding the following new AD:



**2007-08-09 Short Brothers PLC:** Amendment 39-15027. Docket No. FAA-2007-27866; Directorate Identifier 2007-NM-055-AD.

**Effective Date**

- (a) This airworthiness directive (AD) becomes effective May 8, 2007.

**Affected ADs**

- (b) None.

**Applicability**

- (c) This AD applies to all Shorts Model SD3-60 SHERPA, SD3-SHERPA, SD3-30, and SD3-60 airplanes, certificated in any category.

**Subject**

- (d) Engine controls.

**Reason**

- (e) The mandatory continued airworthiness information (MCAI) states:

Following the identification of a failed propeller RPM (revolutions per minute) cable end fitting and an LP (low pressure) fuel lever cable end fitting on an SD3 aircraft, several subsequent occurrences of control cable end fittings (type MS21260) with signs of pitting corrosion or cracking have been reported to Bombardier Shorts. All reported instances being identified during ground maintenance inspections on the SD3 fleet. Bombardier Shorts have performed examinations on the failed cable end fittings and established the root cause of failure as stress corrosion cracking of the SAE-AISI 303 stainless steel material they are manufactured from, initiated by pitting corrosion on the surface. The root cause of the stress corrosion is sustained tensile stress in a corrosive (warm, humid and salty) atmosphere.

An analysis of the cable operated control systems installed on the SD3 aircraft types that use MS 21260 type end fittings has identified a number of potentially unsafe conditions due to a combination of failures that may result from this common mode cause.

The failure of certain control cables could result in the loss of certain critical systems. For example, the loss of the low pressure (LP) fuel control cable in combination with a single failure of a fuel condition control cable on the same engine can cause the loss of the capability to shut down the engine in the event of an engine fire.

## **Actions and Compliance**

(f) Unless already done, do the following actions.

(1) Within 30 days after the effective date of this AD, inspect the affected cable assembly end fittings in accordance with the applicable service bulletin specified in Table 1 of this AD.

(2) If no pitting/corrosion or cracking is found, within 12 months after the inspection required by paragraph (f)(1) of this AD, and thereafter at intervals not to exceed 12 months, repeat the inspection of the cable assembly end fittings in accordance with the applicable service bulletin specified in Table 1 of this AD. Replacing the cable assembly with a new cable assembly in accordance with the applicable service bulletin terminates the repetitive inspection intervals of this paragraph for the replaced cable assembly.

(3) When pitting/corrosion or cracking is found during any inspection required by this AD, before further flight, replace the affected cable assembly with a new cable assembly in accordance with the applicable service bulletin specified in Table 1 of this AD.

(4) After any replacement done in accordance with paragraph (f)(2) or (f)(3) of this AD, repeat the inspection required by paragraph (f)(1) of this AD for the replaced cable assembly at intervals not to exceed 180 months.

(5) Do the actions in paragraphs (f)(1), (f)(2), (f)(3), and (f)(4) of this AD in accordance with the Accomplishment Instructions of the applicable Shorts Alert Service Bulletin listed in Table 1 of this AD.

**Table 1 – Service Bulletins for Applicable Actions**

<b>Shorts Alert Service Bulletin</b>	<b>Revision Level</b>	<b>Date</b>
SD3 Sherpa-76-A02	1	January 24, 2007
SD330-76-A09	1	January 24, 2007
SD360 Sherpa-76-A03	1	January 24, 2007
SD360-76-A12	1	January 24, 2007

## **FAA AD Differences**

Note: This AD differs from the MCAI and/ or service information as follows: No differences.

## **Other FAA AD Provisions**

(g) The following provisions also apply to this AD:

(1) Alternative Methods of Compliance (AMOCs): The Manager, International Branch, ANM-116, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. Send information to ATTN: Todd Thompson, Aerospace Engineer, International Branch, ANM-116, FAA, Transport Airplane Directorate, 1601 Lind Avenue, SW., Renton, Washington 98057-3356; telephone (425) 227-1175; fax (425) 227-1149. Before using any AMOC approved in accordance with § 39.19 on any airplane to which the AMOC applies, notify the appropriate principal inspector in the FAA Flight Standards Certificate Holding District Office.

(2) Airworthy Product: For any requirement in this AD to obtain corrective actions from a manufacturer or other source, use these actions if they are FAA-approved. Corrective actions are considered FAA-approved if they are approved by the State of Design Authority (or their delegated agent). You are required to assure the product is airworthy before it is returned to service.

(3) Reporting Requirements: For any reporting requirement in this AD, under the provisions of the Paperwork Reduction Act, the Office of Management and Budget (OMB) has approved the information collection requirements and has assigned OMB Control Number 2120-0056.

## Related Information

(h) Refer to MCAI European Aviation Safety Agency (EASA) Emergency Airworthiness Directive 2007-0039-E, dated February 16, 2007, and the Shorts service information listed in Table 2 of this AD.

**Table 2 – Related Information**

<b>Shorts Alert Service Bulletin</b>	<b>Revision Level</b>	<b>Date</b>
SD3 Sherpa-76-A02	1	January 24, 2007
SD330-76-A09	1	January 24, 2007
SD360 Sherpa-76-A03	1	January 24, 2007
SD360-76-A12	1	January 24, 2007

## Material Incorporated by Reference

(i) You must use the service information specified in Table 3 of this AD to do the actions required by this AD, unless the AD specifies otherwise.

**Table 3 – Material Incorporated by Reference**

<b>Shorts Alert Service Bulletin</b>	<b>Page Number</b>	<b>Revision Level</b>	<b>Date</b>
SD3 Sherpa-76-A02	1, 6	1	January 24, 2007
	2-5, 7-16	Original	January 10, 2007
SD330-76-A09	1, 6	1	January 24, 2007
	2-5, 7-19	Original	January 10, 2007
SD360 Sherpa-76-A03	1, 6	1	January 24, 2007
	2-5, 7-16	Original	January 10, 2007
SD360-76-A12	1, 6	1	January 24, 2007
	2-5, 7-16	Original	January 10, 2007

(1) The Director of the Federal Register approved the incorporation by reference of this service information under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) For service information identified in this AD, contact Short Brothers, Airworthiness & Engineering Quality, P.O. Box 241, Airport Road, Belfast BT3 9DZ, Northern Ireland.

(3) You may review copies 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/cfr/ibr-locations.html>.

Issued in Renton, Washington, on April 6, 2007.

Ali Bahrami,

Manager, Transport Airplane Directorate, Aircraft Certification Service.

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