



**United Kingdom  
Civil Aviation Authority**

**AIRWORTHINESS  
DIRECTIVE**

**AD No: G-2005-0021**

Issue Date: 6 July 2005

This AD is issued by the UK CAA acting for and on behalf of the European Aviation Safety Agency as the Primary Aviation Authority (ICAO Annex 8 Authority of State of Design) for the affected product(s).

Approved by the European Aviation Safety Agency under approval number 2005-6063 on 6 July 2005.

In accordance with Article 9(7)(b) of the Air Navigation Order 2000 as amended the following action required by this Airworthiness Directive (AD) is mandatory for applicable aircraft registered in the United Kingdom.

No person may operate an aircraft to which an AD applies except in accordance with the requirements of that AD unless otherwise agreed with the Authority of the State of Registry.

Type Approval Holders Name:

**SHORT BROTHERS PLC**

Type/Model Designation(s):

**SD3-60**

Type Certificate Data Sheet No: BA11

Superseded/ Revised ADs: None

**ATA 55 - RUDDER HORN SPAR - INSPECTION**

Manufacturer(s): Short Brothers PLC

Applicability: All Model SD3-60 aeroplanes.

**Reason:** There have been several in-service reports of cracking of the rudder horn spar. On one aircraft the cracking had progressed to the point where the spar failed and the lower mass balance weights detached from the rudder horn spar, causing secondary structural damage to the rudder's front spar, rib 14 and outer skin. Detailed inspection of the removed rudder also revealed cracking of the cleats that attach the ribs to the horn spar. Initial investigation by the Type Certificate Holder indicates that the cracking is attributable to fatigue. Failure to detect this cracking at an early stage could lead to release of the rudder mass balance weights, which could have an adverse affect on the controllability of the aircraft if rib 14 is penetrated by a balance weight with the potential for restricting movement or jamming of the rudder. Additionally, loss of a balance weight could cause damage to other parts of the aircraft, or, serious or fatal injury to persons other than the aircraft occupants. This includes the scenario where a liberated mass balance weight could come to rest on a runway and the debris presents a hazard to other aircraft.

A restriction or jamming of the rudder is considered to be potentially catastrophic.

**Effective Date:** Effective on receipt from 6 July 2005

**Compliance/Action:**

A.) For all aircraft, within 5 flights from receipt of this AD, inspect the rudder in accordance with Part A of Shorts Alert Service Bulletin SD360-55-A22 original issue or later EASA approved revision. If any damage is observed or suspected, inspect the rudder in accordance with Part B of Shorts Alert Service Bulletin SD360-55-A22 original issue or later EASA approved revision before further flight.

**And, if not accomplished concurrently with paragraph A of this AD.**

B.) For any aircraft that has experienced a heavy landing, within 20 flights or one week from receipt of this AD, whichever occurs first, inspect the rudder in accordance with Part B of Shorts Alert Service Bulletin SD360-55-A22 original issue or later EASA approved revision.

**Or**

C.) For aircraft that have accumulated 28,800 hours or 50,000 flight cycles, or greater, and have not experienced a heavy landing; within 20 flights or 1 week from receipt of this AD, whichever occurs first, inspect the rudder in accordance with Part B of Shorts Alert Service Bulletin SD360-55-A22 original issue or later EASA approved revision.

**Or**

D.) For aircraft that have accumulated between 25,000 and 50,000 flight cycles since new and have not experienced a heavy landing; within 40 flights or two weeks from receipt of this AD, whichever occurs first, inspect the rudder in accordance with Part B of Shorts Alert Service Bulletin SD360-55-A22 original issue or later EASA approved revision.

**Or**

E.) For aircraft that have accumulated less than 25,000 flight cycles since new and have not experienced a heavy landing; within 80 flights or four weeks from receipt of this AD, whichever occurs first, inspect the rudder in accordance with Part B of Shorts Alert Service Bulletin SD360-55-A22 original issue or later EASA approved revision.

Any damage observed when performing the inspections required by this AD must be assessed, monitored and repaired in accordance with the instructions provided in Shorts Alert Service Bulletin SD360-55-A22 original issue or later EASA approved revision.

**Reference Publications:** Shorts Service Bulletins may be obtained from Short Brothers PLC, PO Box 241, Airport Road, Belfast BT3 9DZ, Northern Ireland.

**Remarks:** Enquiries regarding this Airworthiness Directive may be directed to Civil Aviation Authority, Safety Regulation Group, Certification and Approvals Department, Aviation House, Gatwick Airport South, West Sussex, RH6 0YR, United Kingdom. Phone: +44 (0) 1293 573315 Fax: +44 (0) 1293 573976 e-mail: [department.certification@srg.caa.co.uk](mailto:department.certification@srg.caa.co.uk)

**Note:** This Airworthiness Directive was issued as an Emergency AD on 6 July 2005.