
AIRWORTHINESS DIRECTIVE

For the reasons set out in the background section, the CASA delegate whose signature appears below issues the following Airworthiness Directive (AD) under subregulation 39.001(1) of CASR 1998. The AD requires that the action set out in the requirement section (being action that the delegate considers necessary to correct the unsafe condition) be taken in relation to the aircraft or aeronautical product mentioned in the applicability section: (a) in the circumstances mentioned in the requirement section; and (b) in accordance with the instructions set out in the requirement section; and (c) at the time mentioned in the compliance section.

Sikorsky S-76 Series Helicopters

AD/S-76/75

Main Rotor Shaft - 2

**8/2007
DM**

Applicability: Model S-76A, B, and C helicopters equipped with a main rotor shaft assembly listed below:

- a. Part number 76351-09030-all dash numbers, and with a following serial number:

B015-00782 through B015-00791, B015-00811 through B015-00816,
E015-00844 through E015-00865, and E015-00908 through E015-00918.

- b. Part number 76351-09630-041, and with a following serial number:

C213-00436 through C213-00454, D213-00537 through D213-00545, and
D213-00575 through D213-00585.

Requirement: Perform an ultrasonic inspection of the main rotor shaft assembly for cracking:

1. For Model S-76A, B, and C helicopters equipped with a main rotor shaft assembly part number 76351-09630-041, remove and inspect the shaft assembly in accordance with the Accomplishment Instructions, paragraphs 3.B.(1)(a) through 3.B.(1)(d)5 of Sikorsky Alert Service Bulletin (ASB) No. 76-66-45A Revision A, dated 7 February 2007, or later FAA approved revision.
2. For Model S-76A helicopters equipped with a main rotor shaft assembly part number 76351-09030-all dash numbers, remove and inspect the shaft assembly in accordance with the Accomplishment Instructions, paragraphs 3.B.(1)(a) through 3.B.(1)(d)5 of ASB No. 76-66-46, dated 7 February 2007, or later FAA approved revision.

If a crack is detected, before further flight, replace the main rotor shaft assembly with a serviceable shaft assembly that has been ultrasonically inspected in accordance with Requirement 1 or 2, as applicable.

Reassemble the lower bearing housing assembly, install the main gear box, and perform the ground run leak test in accordance with the Accomplishment Instructions, paragraphs 3.B.(1)(f) through 3.B.(1)(l) of ASB No. 76-66-45A Revision A or ASB No. 76-66-46, as applicable; or later FAA approved revision.

Sikorsky S-76 Series Helicopters

AD/S-76/75 (continued)

Before installing an affected main rotor shaft assembly, ultrasonically inspect the shaft assembly in accordance with Requirement 1 or 2, as applicable; reassemble the lower bearing housing assembly, install the main gearbox, and perform the ground leak test as specified in the previous Requirement paragraph.

Note: FAA AD 2007-11-05 Amdt 39-15062 refers.

Compliance: For Requirement 1 and 2: Within 75 hours time in service after 15 June 2007, unless already accomplished.

This Airworthiness Directive becomes effective on 15 June 2007.

Background: The FAA received a report of cracking that had occurred during the manufacture of certain main rotor shafts. Undetected cracking in the main rotor shaft could result in separation of the main rotor, and subsequent loss of control of the helicopter.



David Villiers
Delegate of the Civil Aviation Safety Authority

6 June 2007