

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA-2005-22757; Directorate Identifier 2005-SW-32-AD; Amendment 39-14345; AD 2005-22-01]

RIN 2120-AA64

#### Airworthiness Directives; Sikorsky Aircraft Corporation Model S-76A, B, and C Helicopters

**AGENCY:** Federal Aviation Administration, DOT.

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

---

**SUMMARY:** This amendment adopts a new airworthiness directive (AD) for the Sikorsky Aircraft Corporation (Sikorsky) Model S-76A, B, and C helicopters. This action requires certain inspections of the main rotor lower bifilar arm assembly in the attachment area around the lower bifilar lugs for a crack. If a crack is found on any bifilar lug, this AD requires replacing the bifilar arm assembly with an airworthy bifilar arm assembly. If no crack is found, this AD requires a one-time test for the required torque on the lug nuts and, if necessary, applying the required torque and conducting the torque stabilization tests. This amendment is prompted by four reports of cracked bifilars. The actions specified in this AD are intended to prevent failure of a bifilar lug, damage to the main rotor control system, and subsequent loss of control of the helicopter.

**DATES:** Effective November 10, 2005.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of November 10, 2005.

Comments for inclusion in the Rules Docket must be received on or before December 27, 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; or
  - 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. You

may get the service information identified in this AD from Sikorsky Aircraft Corporation, Attn: Manager, Commercial Tech Support, 6900 Main Street, Stratford, Connecticut 06614, phone (203) 386-3001, fax (203) 386-5983.

## Examining the Docket

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

**FOR FURTHER INFORMATION CONTACT:** Tracy Murphy, Aviation Safety Engineer, Boston Aircraft Certification Office, 12 New England Executive Park, Burlington, MA 01803, telephone (781) 238-7172, fax (781) 238-7170.

**SUPPLEMENTARY INFORMATION:** This amendment adopts a new AD for Sikorsky Model S-76A, B, and C helicopters. This action requires certain inspections of the main rotor lower bifilar arm assembly around the lower bifilar lugs for a crack. If a crack is found on any bifilar lug, this AD requires replacing the bifilar arm assembly with an airworthy bifilar arm assembly. If no crack is found, this AD requires a one-time test for the required torque on the lug nuts and, if necessary, applying the required torque and conducting the torque stabilization tests. This amendment is prompted by four reports of cracked bifilars. The actions specified in this AD are intended to prevent failure of a bifilar lug, damage to the main rotor system, and subsequent loss of control of the helicopter.

Sikorsky issued Alert Service Bulletin No. 76-65-62, dated December 14, 2004 (ASB), after receiving two reports of cracks in the lug areas of helicopters. Sikorsky states that cracked lugs were found despite the lower support lug joining being torqued and stabilized. For a bifilar with more than 1500 hours, the ASB specifies performing, within 100 flight hours from the issue date of the ASB, a one-time inspection of the lower bifilar support lugs for cracks in the lug attachment areas. These are considered interim actions until terminating action can be taken. Sikorsky has designed and is currently testing a new main rotor hub pilot fitting (pilot fitting).

Since Sikorsky issued the ASB, the FAA has received two more reports for a total of four reports of cracked bifilars. The additional reports indicate that cracks have become more severe. Therefore, this AD will require a repeat inspection of the arm assembly in addition to the inspections in the ASB. Also, this AD is effective for helicopters with a pilot fitting, part number (P/N) 76103-08003-101, which is different from what the ASB specifies. Investigation has shown the root cause of the failure is not the bifilar itself but the mating part that attaches the bifilar to the main rotor hub, called the pilot fitting. This fitting is transferring the load too abruptly into the bifilar. The ongoing fatigue testing is with the production bifilar and the redesigned pilot fitting. If the tests are successful, terminating action likely will include installing the new pilot fitting. The frequency of reports and the severity of the failures prompted this AD. In the most recent report, six of the six lugs had separated from the bifilar.

This unsafe condition is likely to exist or develop on other helicopters of these same type designs. Therefore, this AD is being issued to prevent failure of a bifilar lug, damage to the main rotor system, and subsequent loss of control of the helicopter. This AD requires the following for helicopters with a pilot fitting, part number (P/N) 76103-08003-101, with 1500 or more hours time-in-service (TIS):

- Within 50 hours TIS, unless accomplished previously, and thereafter at intervals not to exceed 50 hours TIS, inspect the bifilar arm assembly for a crack in the lug attachment area.
- If you find a crack on any bifilar arm assembly lug, before further flight, replace the bifilar arm assembly with an airworthy bifilar arm assembly.
- If no crack is found at the initial inspection, perform a one-time torque test. The torque test is not required at the recurring inspection intervals of the bifilar arm assembly.

Accomplish the actions by following the specified portions of the ASB described previously.

The short compliance time involved is required because the previously described critical unsafe condition can adversely affect the structural integrity of the helicopter. This AD requires the affected helicopters to be inspected and undergo a torque test within 50 hours TIS. If you find a crack in the bifilar lug attachment area, this AD requires replacing any unairworthy bifilar arm assembly with an airworthy bifilar arm assembly before further flight. Therefore, this AD must be issued immediately.

Since a situation exists that requires the immediate adoption of this regulation, it is found that notice and opportunity for prior public comment hereon are impracticable, and that good cause exists for making this amendment effective in less than 30 days.

We estimate that this AD will:

- Affect 216 helicopters,
- Take about 4 work hours for each inspection (including the torque stabilization tests), assuming 6 inspections per year, and 4 hours to replace the bifilars, assuming a total of 2 bifilar arm assemblies need replacing, and
- Cost about \$19,727 for a bifilar arm assembly.

Based on these figures, we estimate the total cost impact of the AD on U.S. operators to be \$376,934.

## 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 written data, views, or arguments regarding this AD. Send your comments to an address listed under ADDRESSES. Include "Docket No. FAA-2005-22757; Directorate Identifier 2005-SW-32-AD" at the beginning of your comments. We specifically invite comments on the overall regulatory, economic, environmental, and energy aspects of the AD. We will consider all comments received by the closing date and may amend the AD in light 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 with FAA personnel concerning this AD. Using the search function of our docket web site, you can find and read the comments to any of our dockets, including the name of the individual who sent the comment. 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>.

## 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 an economic evaluation of the estimated costs to comply with this AD. See the DMS to examine the economic evaluation.

### **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.

### **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 a new airworthiness directive to read as follows:

# 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/aircraft/safety/alerts/](http://www.faa.gov/aircraft/safety/alerts/)*

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).

**2005-22-01 Sikorsky Aircraft Corporation:** Amendment 39-14345. Docket No. FAA-2005-22757; Directorate Identifier 2005-SW-32-AD.

## Applicability

Model S-76A, B, and C, with a main rotor hub pilot fitting (pilot fitting), part number (P/N) 76103-08003-101, with 1500 or more hours time-in-service (TIS), installed, certificated in any category.

## Compliance

Required as indicated.

To prevent failure of a bifilar lug, damage to the main rotor system, and subsequent loss of control of the helicopter, accomplish the following:

(a) Within 50 hours TIS, and thereafter at intervals not to exceed 50 hours TIS, inspect the lower bifilar arm assembly for a crack in the lug attachment area. Conduct the inspection of the lower bifilar arm assembly by following the Accomplishment Instructions, paragraph 3.A.(1) through 3.A.(6), of Sikorsky Alert Service Bulletin No. 76-65-62, dated December 14, 2004 (ASB).

(1) If you find a crack on any bifilar arm assembly lug, before further flight, replace the bifilar arm assembly with an airworthy bifilar arm assembly.

(2) If no crack is found at the initial inspection, perform a one-time torque test. Perform the torque test and the additional torque procedures as stated in the Accomplishment Instructions, paragraph 3.B.(1) through 3.B.(3) of the ASB. The torque test is not required at the recurring inspection intervals of the lower bifilar arm assembly.

(b) To request a different method of compliance or a different compliance time for this AD, follow the procedures in 14 CFR 39.19. Contact the Boston Aircraft Certification Office, FAA, for information about previously approved alternative methods of compliance.

(c) Inspect the lower bifilar arm assembly and perform the torque test by following the specified portions of Sikorsky Alert Service Bulletin No. 76-65-62, dated December 14, 2004. The Director of the Federal Register approved this incorporation by reference in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Sikorsky Aircraft Corporation, Attn: Manager, Commercial Tech Support, 6900 Main Street, Stratford, Connecticut 06614, phone (203) 386-3001, fax (203) 386-5983. Copies may be inspected 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](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(d) This amendment becomes effective on November 10, 2005.

Issued in Fort Worth, Texas, on October 17, 2005.

David A. Downey,

Manager, Rotorcraft Directorate, Aircraft Certification Service.

[FR Doc. 05-21256 Filed 10-25-05; 8:45 am]

BILLING CODE 4910-13-P

SUPERSEDED