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## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

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

**[Docket No. FAA-2007-0284; Directorate Identifier 2004-SW-06-AD; Amendment 39-15510; AD 2008-10-04]**

**RIN 2120-AA64**

#### **Airworthiness Directives; Sikorsky Aircraft Corporation Model S-61A, S-61D, S-61E, and S-61V Helicopters**

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

**ACTION:** Final rule.

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**SUMMARY:** This amendment adopts a new airworthiness directive (AD) for the specified Sikorsky Aircraft Corporation (Sikorsky) model helicopters that requires installing an electric chip detector on each engine and an on-board chip detector annunciation system. The AD also requires revising the Rotorcraft Flight Manual (RFM) to add procedures for crew response to the illumination of an on-board chip detector warning light. This AD also requires testing the engine chip detector system at specified intervals. This amendment is prompted by reports of Number 5 engine bearing failures. Failure of the bearing resulted in erratic movement of the high-speed, engine-to-transmission shaft (shaft), an oil leak, an in-flight fire, and an emergency landing. The actions specified by this AD are intended to detect an impending bearing failure, which if undetected and not addressed by appropriate crew action may result in an oil leak, a severed shaft housing, an uncontained in-flight fire, and a subsequent emergency landing.

**DATES:** Effective June 12, 2008.

The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of June 12, 2008.

**ADDRESSES:** You may get the service information identified in this AD from Sikorsky Aircraft Corporation, Attn: Manager, Commercial Technical Support, mailstop s581a, 6900 Main Street, Stratford, Connecticut, phone (203) 383-4866, e-mail address [tsslibrary@sikorsky.com](mailto:tsslibrary@sikorsky.com).

**Examining the Docket:** You may examine the docket that contains this AD, any comments, and other information on the Internet at <http://www.regulations.gov> or at the Docket Operations office, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue, SE., Washington, DC.

**FOR FURTHER INFORMATION CONTACT:** Kirk Gustafson, Aviation Safety Engineer, Boston Aircraft Certification Office, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803, telephone (781) 238-7190, fax (781) 238-7170.

**SUPPLEMENTARY INFORMATION:** A proposal to amend 14 CFR part 39 to include an AD for the specified model helicopters was published in the Federal Register on December 6, 2007 (72 FR 68766). That action proposed to require, within 60 days, installing an electric chip detector for the Number 5 bearing in both engines on the specified Sikorsky model helicopters with GE CT58 series engines. That action also proposed installing an on-board chip detector annunciation system and revising the Emergency Procedures section of the RFM to add procedures for crew response to the illumination of an on-board chip detector warning light. In addition, functional testing of the chip detector system at specified intervals was proposed.

We have reviewed Sikorsky Alert Service Bulletin No. 61B30-15A, Revision A, dated October 20, 2003 (ASB). The Sikorsky ASB describes procedures for installing an engine chip detector system that will provide an "in-cockpit monitoring system" as a means to detect metallic chips if bearing deterioration occurs in either engine. We have also reviewed General Electric (GE) Aircraft Engines CT58 Service Bulletin Number 72-0195, dated May 1, 2003 (SB). The GE SB describes procedures for installing an alternate electrical chip detector (either part number (P/N) 3018T72P01, cannon-type connector, or 3049T42P01, stud-type connector) to the power turbine accessory drive assembly.

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the two comments made by one commenter about two typographical errors in the Notice of proposed rulemaking (NPRM). In paragraph (a) of the NPRM, an engine chip detector is incorrectly shown as P/N 205T33P01 rather than P/N 2005T33P01. In paragraph (d), we referenced paragraph 3.F. of the Sikorsky ASB rather than 3.E.

We concur with the commenter and have changed the engine chip detector P/N from 205T33P01 to 2005T33P01 and have changed the referenced Sikorsky ASB paragraph from 3.E. to 3.F. in this AD.

After careful review of the available data, including the comments noted above, we determined that air safety and the public interest require the adoption of the rule with the changes described previously. These changes will neither increase the economic burden on any operator nor increase the scope of the AD.

This AD will affect 7 helicopters of U.S. registry, and it will take about 81.5 work hours per helicopter to install the engine chip detector and the on-board cockpit annunciation system. The repetitive tests will affect about 7 helicopters and require 6 tests per year and 1 work hour per test for 10 years of operating service. The average labor rate is \$80 per work hour. Required parts will cost about \$1,940 per helicopter. Based on these figures, we estimate the total cost impact of the AD on U.S. operators to be \$92,820 for the entire fleet.

## **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 AD docket 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:



**2008-10-04 Sikorsky Aircraft Corporation:** Amendment 39-15510. Docket No. FAA-2007-0284; Directorate Identifier 2004-SW-06-AD.

### **Applicability**

Model S-61A, S-61D, S-61E, and S-61V helicopters with GE CT 58 series engines installed, certificated in any category.

### **Compliance**

Required within 60 days, unless accomplished previously.

To detect an impending Number 5 engine bearing (bearing) failure, which if undetected and not addressed by appropriate crew action may result in an oil leak, severed shaft housing, an uncontained in-flight fire, and a subsequent emergency landing, do the following:

(a) Remove engine chip detector, part number (P/N) 2005T33P01, and install engine chip detector, P/N 3049T42P01 or 3018T72P01, in the engine power turbine accessory drive assembly of each engine. Install the chip detector by following the Accomplishment Instructions, paragraph 3.B., of General Electric Aircraft Engines CT58 Service Bulletin Number 72-0195, dated May 1, 2003.

Note: This AD neither requires installing GE CT58 engines nor replacing an engine power turbine accessory drive assembly that has a 5/16 inch magnetic plug port and applies only to Sikorsky Model S-61A, S-61D, S-61E, and S-61V helicopters with GE CT58 series engines installed.

(b) Install an on-board engine chip detector annunciation system by following the Accomplishment Instructions, paragraphs 3.B. or 3.C., as appropriate for the different manufacturers of the master warning caution panel, of the Sikorsky Aircraft Corporation Alert Service Bulletin No. 61B30-15A, Revision A, dated October 20, 2003 (Sikorsky ASB).

(c) After doing paragraph (b) of this AD, before further flight, perform a functional test of the engine chip detector system. Repeat the test at intervals not to exceed 150 hours time-in-service. Conduct the tests following the Accomplishment Instructions, paragraph 3.D., of the Sikorsky ASB.

(d) Insert the emergency procedures contained in the Accomplishment Instructions, paragraph 3.F., of the Sikorsky ASB for an on-board engine chip detector warning indicator light into the Emergency Procedures section of the applicable Rotorcraft Flight Manual.

(e) 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 Manager, Boston Aircraft Certification Office, Engine and Propeller Directorate, FAA, ATTN: Kirk Gustafson, Aviation Safety Engineer, 12 New England Executive Park, Burlington, MA 01803, telephone (781) 238-7190, fax (781) 238-7170, for information about previously approved alternative methods of compliance.

(f) Installing an engine chip detector shall be done by following the specified portions of General Electric Aircraft Engines CT58 Service Bulletin Number 72-0195, dated May 1, 2003. Installing an on-board engine chip detector annunciation system and performing a functional test of the engine chip detector system shall be done by following the specified portions of Sikorsky Aircraft Corporation Alert Service Bulletin No. 61B30-15A, Revision A, dated October 20, 2003. 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 Technical Support, mailstop s581a, 6900 Main Street, Stratford, Connecticut, phone (203) 383-4866, e-mail address [tsslibrary@sikorsky.com](mailto:tsslibrary@sikorsky.com). Copies may be inspected at the FAA, Office of the Regional Counsel, Southwest Region, 2601 Meacham Blvd., Room 663, Fort Worth, Texas, 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/code\\_of\\_federal\\_regulations/ibr\\_locations.html](http://www.archives.gov/federal_register/code_of_federal_regulations/ibr_locations.html).

(g) This amendment becomes effective on June 12, 2008.

Issued in Fort Worth, Texas, on April 23, 2008.

David A. Downey,  
Manager, Rotorcraft Directorate, Aircraft Certification Service.  
[FR Doc. E8-9787 Filed 5-7-08; 8:45 am]