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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-6968; Directorate Identifier 2015-SW-020-AD; Amendment 39-18950; AD 2017-14-06]

RIN 2120-AA64

Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters (Type Certificate Previously Held by Schweizer Aircraft Corporation)

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are superseding airworthiness directive (AD) 93-17-13 for Schweizer Aircraft Corporation and Hughes Helicopters, Inc. (now Sikorsky Aircraft Corporation) (Sikorsky) Model TH55A, 269A, 269A-1, 269B, and 269C helicopters. AD 93-17-13 required installing tachometer markings and inspecting the lower coupling driveshaft (driveshaft). This new AD requires repetitive inspections of the driveshaft and expands the applicability to include Model 269C-1 helicopters. This AD is prompted by reports of accidents because of driveshaft failures. The actions of this AD are intended to prevent the unsafe condition on these products.

DATES: This AD is effective August 25, 2017.

The Director of the Federal Register approved the incorporation by reference of certain documents listed in this AD as of August 25, 2017.

The Director of the Federal Register approved the incorporation by reference of a certain other publication listed in this AD as of October 20, 1993 (58 FR 51770, October 5, 1993).

ADDRESSES: For Schweizer or Sikorsky service information identified in this final rule, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email wcs_cust_service_eng.gr-sik@lmco.com. You may review a copy of the referenced service information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. It is also available on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6968.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2016-6968; or in person at the Docket Operations Office between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this AD, any incorporated-by-reference service information, the economic evaluation, any comments received, and other information. The street address for the Docket Operations Office (phone: 800-647-5527) is U.S. Department of Transportation, Docket Operations Office, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

FOR FURTHER INFORMATION CONTACT: Blaine Williams, Aerospace Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7161; email blaine.williams@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

We issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 to remove AD 93-17-13, Amendment 39-8684 (58 FR 51770, October 5, 1993) and add a new AD. AD 93-17-13 applied to Schweizer Aircraft Corporation and Hughes Helicopters, Inc. (now Sikorsky) Model TH55A, 269A, 269A-1, 269B, and 269C helicopters. AD 93-17-13 required within 30 days or 100 hours time-in-service (TIS), whichever occurs first and thereafter every 300 hours TIS, visually inspecting for cracks, machining steps, manufacturing tool marks, surface defects, and lack of cleanup during the production grinding operation. AD 93-17-13 also required installing engine and rotor tachometer markings and replacing any unairworthy driveshaft before further flight.

The NPRM published in the Federal Register on January 5, 2017 (82 FR 1267) and was prompted by a safety analysis by Sikorsky that determined the initial and recurrent inspection intervals and inspection method required by AD 93-17-13 were not adequate to detect all corrosion, pits, nicks, scratches, dents, and cracks. Accidents due to driveshaft failures continued to occur after AD 93-17-13 was issued. Therefore, the NPRM proposed to require, within 25 hours TIS and thereafter at intervals not to exceed 150 hours TIS, visually inspecting the driveshaft. If there are no cracks, corrosion, or other damage, the NPRM proposed performing a magnetic particle inspection. If there is a crack or other damage, the NPRM proposed to require replacing the driveshaft before further flight. The NPRM also proposed adding tachometer markings if not previously performed. Expanding the applicability to include Model 269C-1 helicopters was also proposed because these helicopters were not manufactured when AD 93-17-13 was issued but have the applicable driveshafts installed. Finally, the NPRM proposed to include specific part-numbered driveshafts to the applicability because Sikorsky is developing a new driveshaft that we do not expect to be subject to this AD.

Comments

We gave the public the opportunity to participate in developing this AD, but we received no comments on the NPRM.

FAA's Determination

We have reviewed the relevant information and determined that an unsafe condition exists and is likely to exist or develop on other products of these same type designs and that air safety and the public interest require adopting the AD requirements as proposed.

Interim Action

We consider this AD to be an interim action. The design approval holder is developing a replacement driveshaft that will address the unsafe condition identified in this AD. Once the replacement driveshaft is developed, approved, and available, we might consider additional rulemaking.

Related Service Information Under 1 CFR Part 51

We reviewed Sikorsky 269C Helicopter Alert Service Bulletin B-307, Basic Issue, dated December 18, 2014, and Sikorsky 269C-1 Helicopter Alert Service Bulletin C1B-043, Basic Issue, dated December 18, 2014 (ASBs). The ASBs call for a one-time visual and magnetic particle inspection of the driveshaft and driveshaft assembly for damage. The ASBs advise that the driveshaft be sent to Sikorsky and replaced if damaged. The inspection is to be accomplished within 25 hours TIS or within 180 days from the ASBs' issue date, whichever comes first. Sikorsky has since revised its maintenance manual to incorporate these inspections every 150 hours TIS.

We also reviewed Schweizer Aircraft Service Bulletin B-257.1, dated May 21, 1993 (ASB B-257.1). ASB B-257.1 calls for a one-time inspection to look for drive-shaft defects; installing declutched limit markings on the engine/rotor tachometer to reinforce operating limits; and prohibiting engine declutched operations above 1600 RPM.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Differences Between This AD and the Service Information

The Sikorsky service information calls for the initial inspection to be completed within 180 days or 25 hours TIS. This AD requires that the initial inspection to be completed within 25 hours TIS only. The service information requires contacting Sikorsky if a certain part-numbered driveshaft is installed, emailing information to Sikorsky, and returning damaged parts to Sikorsky; this AD does not.

Costs of Compliance

We estimate that this AD affects 619 helicopters of U.S. Registry and that labor costs average \$85 per work hour. Based on these estimates, we expect the following costs:

- We estimate that the visual and magnetic particle inspections of the driveshaft requires 11 work hours for a cost of \$935 per helicopter and \$578,765 for the U.S. fleet per inspection cycle.
- Replacing the driveshaft, if needed, costs about \$4,574 for parts. No additional labor costs are necessary.
- Installing engine and rotor tachometer markings requires 0.5 work-hour for a labor cost of about \$43. The cost of parts is minimal.

Interim Action

We consider this AD to be an interim action. The design approval holder is developing a replacement driveshaft that will address the unsafe condition identified in this AD. Once the replacement driveshaft is developed, approved and available, we might consider additional rulemaking.

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

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 this AD:

- (1) Is not a "significant regulatory action" under Executive Order 12866;
- (2) Is not a "significant rule" under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979);
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction; and
- (4) 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 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 removing Airworthiness Directive (AD) 93-17-13, Amendment 39-8684 (58 FR 51770, October 5, 1993) and adding the following new AD:



2017-14-06 Sikorsky Aircraft Corporation (Type Certificate Previously Held By Schweizer Aircraft Corporation): Amendment 39-18950; Docket No. FAA-2016-6968; Directorate Identifier 2015-SW-020-AD.

(a) Applicability

This AD applies to Model TH55A, 269A, 269A-1, 269B, 269C and 269C-1 helicopters, with a lower coupling driveshaft (driveshaft) part number (P/N) 269-5412, 269A5504, 269A5504-003, 269A5504-005, 269A5559, or 269A5559-003 installed, certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as failure of a driveshaft. This condition could result in loss of power to the rotor system and subsequent loss of helicopter control.

(c) Affected ADs

This AD supersedes AD 93-17-13, Amendment 39-8684 (58 FR 51770, October 5, 1993).

(d) Effective Date

This AD becomes effective August 25, 2017.

(e) Compliance

You are responsible for performing each action required by this AD within the specified compliance time unless it has already been accomplished prior to that time.

(f) Required Actions

(1) Within 25 hours time-in-service (TIS), install engine and rotor tachometer markings in accordance with Part II of Schweizer Aircraft Service Bulletin B-257.1, dated May 21, 1993.

(2) Within 25 hours TIS and thereafter at intervals not to exceed 150 hours TIS:

(i) Visually inspect the driveshaft for corrosion, a pit, a nick, a scratch, a dent, and a crack in accordance with the Accomplishment Instructions, paragraph 3.B.(1) through 3.B.(6) of Sikorsky 269C Helicopter Alert Service Bulletin B-307, Basic Issue, dated December 18, 2014 (269C ASB), or Sikorsky 269C-1 Helicopter Alert Service Bulletin C1B-043, Basic Issue, dated December 18, 2014 (269C-1 ASB), whichever is applicable for your model helicopter, except we do not require that you use a Sikorsky recommended vendor list. If there is any corrosion, a pit, a nick, a scratch, a dent, or a crack, replace the driveshaft before further flight.

(ii) If there is no corrosion and no pits, nicks, scratches, dents, and cracks, magnetic particle inspect the driveshaft for a crack in accordance with paragraph 3.C.(1) of the 269C ASB or 269C-1 ASB, whichever is applicable for your model helicopter. This magnetic particle inspection must be performed by a Level II or higher technician with the National Aerospace Standard 410 or equivalent

certification who has performed a magnetic particle inspection within the last 12 months. If there is a crack, replace the driveshaft before further flight.

(g) Credit for Actions Previously Completed

Compliance with paragraph (a)(1) of AD 93-17-13, Amendment 39-8684 (58 FR 51770, October 5, 1993) before the effective date of this AD is considered acceptable for compliance with the actions specified in paragraph (f)(1) of this AD.

(h) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Boston Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Blaine Williams, Aerospace Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, 12 New England Executive Park, Burlington, Massachusetts 01803; telephone (781) 238-7161; email blaine.williams@faa.gov.

(2) For operations conducted under a 14 CFR part 119 operating certificate or under 14 CFR part 91, subpart K, we suggest that you notify your principal inspector, or lacking a principal inspector, the manager of the local flight standards district office or certificate holding district office before operating any aircraft complying with this AD through an AMOC.

(i) Additional Information

For Schweizer or Sikorsky service information identified in this AD, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email wcs_cust_service_eng.gr-sik@lmco.com. You may review a copy of information at the FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177.

(j) Subject

Joint Aircraft Service Component (JASC) Code: 6300, Main Rotor Drive System.

(k) Material Incorporated by Reference

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

(2) You must use this service information as applicable to do the actions required by this AD, unless the AD specifies otherwise.

(3) The following service information was approved for IBR on August 25, 2017.

(i) Sikorsky 269C Helicopter Alert Service Bulletin B-307, Basic Issue, dated December 18, 2014.

(ii) Sikorsky 269C-1 Helicopter Alert Service Bulletin C1B-043, Basic Issue, dated December 18, 2014.

(4) The following service information was approved for IBR on October 20, 1993 (58 FR 51770, October 5, 1993).

(i) Schweizer Aircraft Corporation Service Bulletin B-257.1, dated May 21, 1993.

(ii) Reserved.

(5) For Schweizer or Sikorsky service information identified in this AD, contact Sikorsky Aircraft Corporation, Customer Service Engineering, 124 Quarry Road, Trumbull, CT 06611; telephone 1-800-Winged-S or 203-416-4299; email wcs_cust_service_eng.gr-sik@lmco.com.

(6) You may view this service information at FAA, Office of the Regional Counsel, Southwest Region, 10101 Hillwood Pkwy., Room 6N-321, Fort Worth, TX 76177. For information on the availability of this material at the FAA, call (817) 222-5110.

(7) You may view this service information that is incorporated by reference 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 Fort Worth, Texas, on July 3, 2017.

Scott A. Horn,
Acting Manager, Rotorcraft Directorate,
Aircraft Certification Service.