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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2015-1008; Directorate Identifier 2013-SW-064-AD; Amendment 39-18317; AD 2015-23-01]

RIN 2120-AA64

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

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: We are adopting a new airworthiness directive (AD) for Sikorsky Aircraft Corporation (Sikorsky) Model 269A, 269A-1, 269B, 269C, 269C-1, 269D, and TH-55A helicopters. This AD requires repetitively inspecting and lubricating the tail rotor (T/R) driveshaft splined fittings. This AD was prompted by a report that the T/R driveshaft can disconnect due to deterioration of the splined coupling. The actions are intended to detect and prevent excessive wear of the splined coupling, which could lead to failure of the T/R driveshaft and subsequent loss of control of the helicopter.

DATES: This AD is effective December 15, 2015.

The Director of the Federal Register approved the incorporation by reference of certain documents listed in this AD as of December 15, 2015.

ADDRESSES: For 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 sikorskywcs@sikorsky.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.

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-2015-1008; 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: Stephen Kowalski, Aviation Safety Engineer, New York Aircraft Certification Office, Engine & Propeller Directorate, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7327; email stephen.kowalski@faa.gov.

SUPPLEMENTARY INFORMATION:

Discussion

On April 22, 2015, at 80 FR 22436, the Federal Register published our notice of proposed rulemaking (NPRM), which proposed to amend 14 CFR part 39 by adding an AD that would apply to Sikorsky Model 269A, 269A-1, 269B, 269C, 269C-1, 269D, and TH-55A helicopters. The NPRM proposed to require, within 100 hours time-in-service (TIS), a one-time inspection and lubrication of the T/R driveshaft splined fittings and replacing a splined fitting and the T/R driveshaft if the fitting has excessive wear. If the helicopter has a T/R driveshaft grease fitting installed, the NPRM also proposed to require inspecting each grease fitting for certain conditions and replacing the grease fitting if necessary. The NPRM also proposed to require, at intervals not exceeding 100 hours TIS, inspecting the T/R driveshaft for straightness, twists, and scratches; inspecting each forward and aft T/R driveshaft splines for wear; and correcting the torque of each main transmission aft pinion nut. The proposed requirements were prompted by a report of excessive spline wear on the forward and aft T/R driveshaft spined fittings. The proposed requirements were intended to prevent failure of the T/R driveshaft and subsequent loss of control of the helicopter.

Since the NPRM was issued, the FAA Southwest Regional Office has relocated. We have revised the contact information throughout this Final Rule to reflect the new address.

Comments

We gave the public the opportunity to participate in developing this AD, but we did not receive any comments on the NPRM (80 FR 22436, April 22, 2015).

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.

Related Service Information Under 1 CFR Part 51

We reviewed Sikorsky 269 Alert Service Bulletin (ASB) B-299.1 for Model 269A, 269A-1, 269B, 269C, and TH-55A helicopters; 269C-1 ASB C1B-036.1 for Model 269C-1 helicopters; and 269D ASB DB-041.1 for Model 269D helicopters, each Revision 1 and dated February 24, 2012. Each ASB describes procedures for cleaning, inspecting, and lubricating the forward and aft T/R driveshaft splined fittings and returning to Sikorsky any parts that exceed wear limits. Each ASB also requires implementing a 100-hour TIS recurring inspection of the T/R driveshaft, coupling and internal stop, coupling drive splines, and the pinion nut by following the procedures in each model helicopter's Handbook of Maintenance Instructions. 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 of this AD.

Differences Between This AD and the Service Information

The Sikorsky ASBs require returning any splined fittings that exceed wear limits to Sikorsky, while this AD requires replacing those fittings and the T/R driveshaft.

Costs of Compliance

We estimate that this AD will affect 1,085 helicopters of U.S. Registry. We estimate that operators may incur the following costs in order to comply with this AD. At an average labor rate of \$85 per work-hour, inspecting and lubricating the T/R driveshaft splined fittings requires 1.8 hours, for a cost per helicopter of \$153 and a total cost of \$166,005 for the fleet. Inspecting the grease fittings requires 0.25 hour, for a cost of \$21 per helicopter and a total cost of \$22,785 for the fleet. Inspecting the driveshaft, fittings, internal stops, and drive spines requires 1.8 hours, for a cost per helicopter of \$153 and a total cost of \$166,005 for the fleet, per inspection cycle.

If required, replacing the T/R driving spline and driveshaft requires 1.6 work-hours, and required parts will cost about \$14,853, for a cost per helicopter of \$14,989.

If required, replacing a T/R driven spline and driveshaft requires 1.5 work-hours, and required parts will cost about \$14,836, for a cost per helicopter of \$14,964.

If required, replacing a grease fitting requires about 0.25 work-hour, and required parts will cost about \$5, for a cost per helicopter of \$26.

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 adding the following new airworthiness directive (AD):



2015-23-01 Sikorsky Aircraft Corporation (Type Certificate Previously Held by Schweizer Aircraft Corporation) Helicopters: Amendment 39-18317; Docket No. FAA-2015-1008; Directorate Identifier 2013-SW-064-AD.

(a) Applicability

This AD applies to Sikorsky Aircraft Corporation (Sikorsky) Model 269A, 269A-1, 269B, 269C, 269C-1, 269D, and TH-55A helicopters, certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as insufficient lubrication of a tail rotor (T/R) driveshaft splined fitting. This condition could result in excessive wear of the T/R driveshaft splines, which could lead to failure of the T/R driveshaft and subsequent loss of control of the helicopter.

(c) Effective Date

This AD becomes effective December 15, 2015.

(d) 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.

(e) Required Actions

(1) Within 100 hours time-in-service (TIS):

(i) Inspect each T/R driveshaft splined fitting for a crack, a break, excessive wear, galling, spalling, chipping, corrosion, heat discoloration, and distortion by following the Accomplishment Instructions, paragraphs 3.B.(1) through 3.B.(2), of Sikorsky 269 Alert Service Bulletin (ASB) B-299.1 for Model 269A, 269A-1, 269B, 269C, and TH-55A helicopters; 269C-1 ASB C1B-036.1 for Model 269C-1 helicopters; or 269D ASB DB-041.1 for Model 269D helicopters, each Revision 1 and dated February 24, 2012. If there is a crack, a break, excessive wear, galling, spalling, chipping, corrosion, heat discoloration, or distortion on any T/R driveshaft splined fitting, before further flight, replace the affected splined fitting and the T/R driveshaft.

(ii) If installed, inspect each T/R driveshaft grease fitting for looseness, presence of a check ball inside each fitting, and for proper operation and seating of each check ball. If any grease fitting is loose, missing a check ball, fails to properly operate, or if a check ball fails to seat, before further flight, replace the grease fitting.

(iii) Lubricate each driveshaft fitting by following the Accomplishment Instructions, paragraph 3.B.(6), of Sikorsky 269 ASB B-299.1 for Model 269A, 269A-1, 269B, 269C, and TH-55A helicopters; 269C-1 ASB C1B-036.1 for Model 269C-1 helicopters; or 269D ASB DB-041.1 for Model 269D helicopters, each Revision 1 and dated February 24, 2012.

(2) Within 100 hours TIS after the inspections required by paragraph (e)(1) of this AD, and thereafter at intervals not exceeding 100 hours TIS:

- (i) Remove the driveshaft from the gearbox and clean any grease from each end fitting.
- (ii) Inspect the driveshaft for straightness, a twist, and a scratch. If the driveshaft has any bends, twists, or scratches, before further flight, replace the driveshaft.
- (iii) Inspect the internal splines of each forward and aft fitting and each internal stop for wear. If there is any wear, before further flight, replace the fitting.
- (iv) Inspect the drive splines of each splined drive fitting for wear. If there is any wear, before further flight, replace the splined drive fitting.
- (v) Loosen the aft frame clamp and apply a torque of 750 to 1,000 inch-pounds to each main transmission aft pinion nut.

(f) Alternative Methods of Compliance (AMOCs)

(1) The Manager, New York Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: Stephen Kowalski, Aviation Safety Engineer, New York Aircraft Certification Office, Engine & Propeller Directorate, 1600 Stewart Ave., Suite 410, Westbury, NY 11590; telephone (516) 228-7327; email stephen.kowalski@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.

(g) Subject

Joint Aircraft Service Component (JASC) Code: 6500, Tail Rotor Drive.

(h) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) 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.

(i) Sikorsky 269 Alert Service Bulletin (ASB) B-299.1, Revision 1, dated February 24, 2012.

(ii) Sikorsky 269C-1 ASB C1B-036.1, Revision 1, dated February 24, 2012.

(iii) Sikorsky 269D ASB DB-041.1, Revision 1, dated February 24, 2012.

(3) For 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 sikorskywcs@sikorsky.com.

(4) 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.

(5) 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 October 30, 2015.

James A. Grigg,
Acting Assistant Manager, Rotorcraft Directorate,
Aircraft Certification Service.