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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2016-9281; Directorate Identifier 2016-SW-033-AD; Amendment 39-18717; AD 2016-23-10]

RIN 2120-AA64

Airworthiness Directives; Sikorsky Aircraft Corporation Helicopters

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule; request for comments.

SUMMARY: We are adopting a new airworthiness directive (AD) for Sikorsky Aircraft Corporation Model S-76D helicopters. This AD requires revising the rotorcraft flight manual (RFM) to prohibit Barometric Altitude Hold (ALT) mode beyond a certain rate of climb or descent. This AD is prompted by a report of the autopilot being unable to maintain level flight during certain flight conditions. The actions specified by this AD are intended to prevent a significant pilot workload increase, pilot disorientation, and subsequent loss of control of the helicopter.

DATES: This AD becomes effective December 12, 2016.

The Director of the Federal Register approved the incorporation by reference of a certain document listed in this AD as of December 12, 2016.

We must receive comments on this AD by January 24, 2017.

ADDRESSES: You may send comments by any of the following methods:

- Federal eRulemaking Docket: Go to <http://www.regulations.gov>. Follow the online instructions for sending your comments electronically.
- Fax: 202-493-2251.
- Mail: Send comments to the U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590-0001.
- Hand Delivery: Deliver to the "Mail" address between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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-2016-9281; 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 (telephone 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

For 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 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-2016-9281.

FOR FURTHER INFORMATION CONTACT: John Coffey, Flight Test Engineer, Boston Aircraft Certification Office, Engine & Propeller Directorate, FAA, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7173; email john.coffey@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

This AD is a final rule that involves requirements affecting flight safety, and we did not provide you with notice and an opportunity to provide your comments prior to it becoming effective. However, we invite you to participate in this rulemaking by submitting written comments, data, or views. We also invite comments relating to the economic, environmental, energy, or federalism impacts that resulted from adopting this AD. The most helpful comments reference a specific portion of the AD, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit them only one time. We will file in the docket all comments that we receive, as well as a report summarizing each substantive public contact with FAA personnel concerning this rulemaking during the comment period. We will consider all the comments we receive and may conduct additional rulemaking based on those comments.

Discussion

We are adopting a new AD for Sikorsky Aircraft Corporation Model S-76D helicopters. This AD requires revising the "Automatic Flight Control System" section of the RFM Limitations by inserting a limitation prohibiting the use of the ALT mode during a rate of climb or descent greater than 1,000 feet/minute (fpm). This AD is prompted by a report of the autopilot being unable to maintain level flight in certain flight conditions. To explore the report further, the FAA conducted additional flight tests, which revealed that when the helicopter is at density altitudes greater than 13,000 feet and the autopilot is commanding either a climb or descent at rates greater than 1,000 fpm, and the ALT HOLD mode is then engaged, the autopilot is unable to maintain level flight when large collective inputs are applied. These conditions saturate the stability augmentation system (SAS) actuators, subsequently providing insufficient control response during the collective input. As a result, the helicopter may experience a dynamic response with roll excursions greater than 50 degrees of bank angle and yaw excursions greater than 70 degrees of heading. This condition could result in a significant increase in pilot workload, pilot disorientation, and loss of control of the helicopter.

FAA's Determination

We are issuing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other helicopters of this same type design.

Related Service Information Under 1 CFR Part 51

Sikorsky issued S-76D RFM SA S76D-RFM-000, Temporary Revision No. 7, approved May 19, 2016, which revises the Limitations section by prohibiting ALT mode during a rate of climb or descent greater than 1,000 fpm.

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.

AD Requirements

This AD requires, within 10 hours time-in-service (TIS), revising the Limitations section of the RFM by inserting a limitation stating that ALT mode shall not be engaged with a rate of climb or descent greater than 1,000 fpm.

Interim Action

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

Costs of Compliance

We estimate that this AD will affect 12 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, revising the RFM will require 0.5 work-hour, for cost of about \$43 per helicopter and \$516 for the U.S. fleet.

FAA's Justification and Determination of the Effective Date

Providing an opportunity for public comments prior to adopting these AD requirements would delay implementing the safety actions needed to correct this known unsafe condition. Therefore, we find that the risk to the flying public justifies waiving notice and comment prior to the adoption of this rule because the unsafe condition can adversely affect control of the helicopter, and the required corrective actions must be accomplished within 10 hours TIS.

Since an unsafe condition exists that requires the immediate adoption of this AD, we determined that notice and opportunity for public comment before issuing this AD are impracticable and contrary to the public interest and that good cause exists for making this amendment effective in less than 30 days.

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

We 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, 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):



2016-23-10 Sikorsky Aircraft Corporation: Amendment 39-18717; Docket No. FAA-2016-9281; Directorate Identifier 2016-SW-033-AD.

(a) Applicability

This AD applies to Model S-76D helicopters, certificated in any category.

(b) Unsafe Condition

This AD defines the unsafe condition as an inability of the autopilot to maintain level flight. This condition could result in a significant increase in pilot workload, pilot disorientation, and subsequent loss of control of the helicopter.

(c) Effective Date

This AD becomes effective December 12, 2016.

(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

Within 10 hours time-in-service, revise Section 1 Limitations, "Automatic Flight Control System" section, of the Rotorcraft Flight Manual by one of the following methods:

- (1) Insert Sikorsky S-76D SA S76D-RFM-000, Temporary Revision No. 7, approved May 19, 2016; or
- (2) Insert a copy of this AD; or
- (3) Make pen-and-ink changes to add the information in Figure 1 to paragraph (e) of this AD.

Barometric Altitude Hold (ALT) mode shall not be engaged with a rate of climb or descent greater than 1,000 fpm.

Figure 1 to Paragraph (e)

(f) Alternative Methods of Compliance (AMOCs)

(1) The Manager, Boston Aircraft Certification Office, FAA, may approve AMOCs for this AD. Send your proposal to: John Coffey, Flight Test Engineer, Boston Aircraft Certification Office,

Engine & Propeller Directorate, FAA, 1200 District Avenue, Burlington, Massachusetts 01803; telephone (781) 238-7173; email john.coffey@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: 2210, Autopilot System.

(h) 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.

(i) Sikorsky S-76D SA S76D-RFM-000, Temporary Revision No. 7, approved May 19, 2016.

(ii) Reserved.

(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: wcs_cust_service_eng.gr-sik@lmco.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 November 4, 2016.

Lance T. Gant,
Manager, Rotorcraft Directorate,
Aircraft Certification Service.